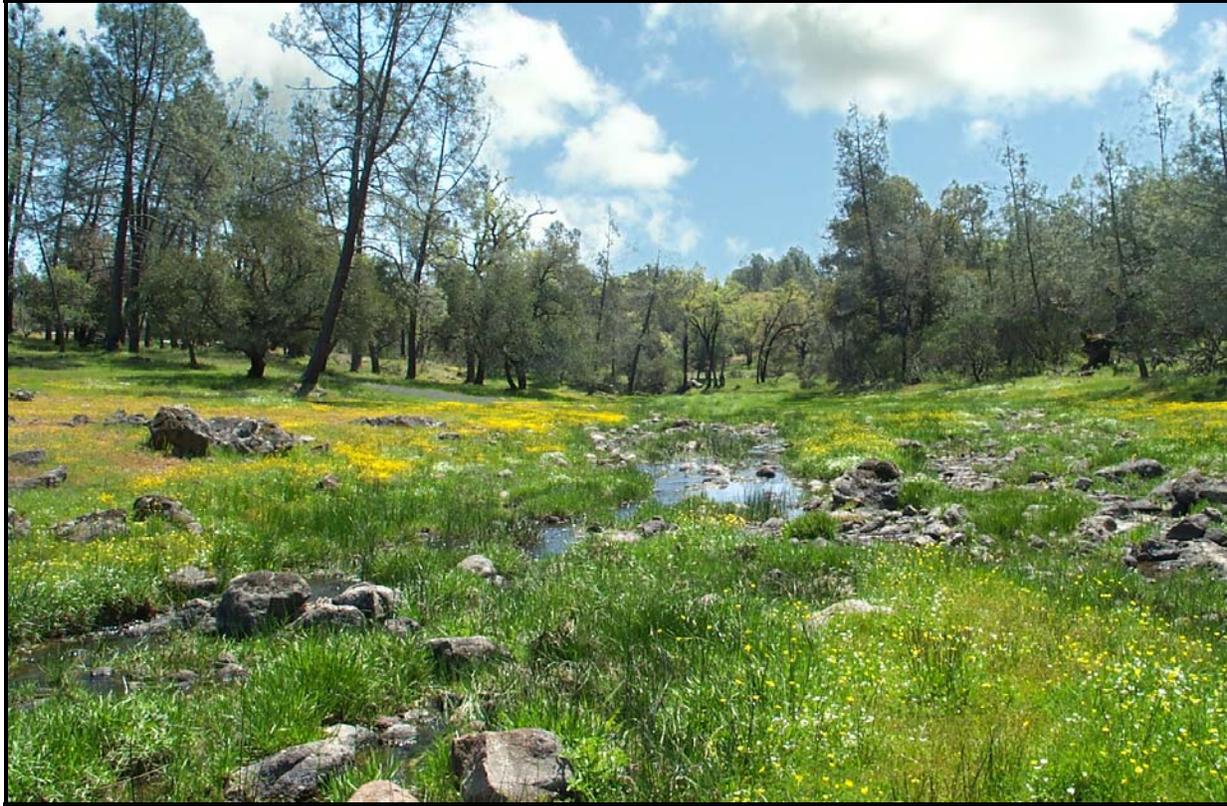




## CONSERVATION



*Preserving Napa County's natural resources is vital to a healthy and sustainable environment.*

## INTRODUCTION

This Conservation Element provides goals, policies, and action items related to open space conservation as well as a wide range of other topics that together comprise the natural environment of Napa County, including its natural resources and its water resources. The goals and policies contained in this element also address climate change and sustainable practices for environmental health related to water, energy conservation, air pollutant, greenhouse gas emissions, clean energy generation, and similar issues. Policies and action items in this element consider the cumulative effects of development described in the Agricultural Preservation and Land Use Element by incorporating feasible mitigation measures from the Environmental Impact Report (EIR) associated with the 2005-2008 General Plan Update, and articulate when future development projects will be required to assess and mitigate project-specific impacts.

*Note to the Reader: Please consult the Agricultural Preservation and Land Element for related policies about agricultural open space; and consult the Recreation and Open Space Element for related policies about open space for recreational purposes.*



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## CONSERVATION IN NAPA COUNTY

Napa County has for many years been committed to the conservation of sensitive resources and has been at the forefront of both protecting agricultural land and providing for the conservation of natural resources including surface and ground water, soils, fisheries, wildlife, important plant species, and habitats.

An outgrowth of its commitment to agricultural preservation and urban-centered growth, the county's commitment to open space conservation has been extraordinarily successful when compared to other Bay Area counties. Over 89 percent of Napa County is considered "open space," in the sense that it is reserved for non-urban uses, and minimum parcel sizes of 40 to 160 acres apply to 93 percent of the unincorporated county.

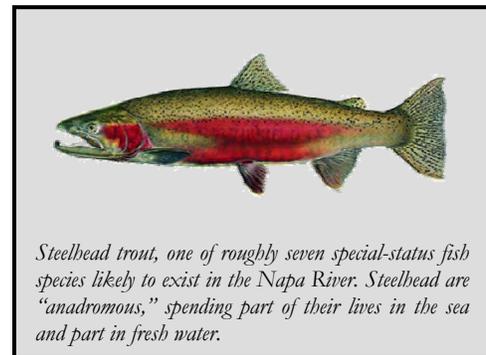


Napa County's Conservation Regulations, approved by the Board of Supervisors in 1991, established procedures for review of projects that might have an effect on water quality or other natural resources issues and were intended to balance the desires for environmental and agricultural sustainability. By minimizing erosion from construction and agricultural activities, the regulations protect against excessive soil loss, prevent the decline of water quality, and guard against the loss of economic productivity of the county's lands.

Since 1991, Napa County's conservation efforts have included reports by the Napa River Watershed Task Force (Phase I – May 1999 and Phase II – September 2000) and establishment of the Watershed Information Center and Conservancy (WICC) on May 21, 2002. The WICC is an advisory body to the Board of Supervisors and includes representatives from every jurisdiction in the county as well as members with technical expertise. As an apolitical organization focusing on information exchange and outreach, the WICC plays an increasing role in the collection of water quality monitoring data and support of stream restoration efforts. (For more information, see [www.napawatersheds.org](http://www.napawatersheds.org).)

## NATURAL RESOURCES

California is known globally as a region having significant biodiversity (e.g., a “hot spot” for biological diversity), where species diversity is high (Myers et al. 2000, Stein et al. 2000). Napa County is located within the California Floristic Province, the portion of the state west of the Sierra Crest, which is known to be particularly rich in endemic plant species (Hickman 1993, Stein et al. 2000).<sup>1</sup> Compared to California as a whole, Napa County has an unusually diverse array of habitats and natural biodiversity and has been described, along with the northern San Francisco Bay Area, as a region containing “world-class biodiversity”.<sup>2</sup> Napa's varied topography, landscape of peaks and valleys, rolling hills, numerous microclimates, and many creeks, streams, and rivers all combine to create one of the 25 most biologically diverse counties in the United States. Napa County is home to nearly 150 “special-status” species. Two plant species found in the county are found nowhere else in the world (Napa bluegrass and *Calistoga* popcorn flower), and nine additional plant species are only found in Napa County and its neighboring counties.



Napa County has particularly diverse plant life, including oak woodlands, grasslands, mixed serpentine chaparral, mixed willow riparian forests, redwood forests, and vernal pools. Although Napa County occupies less than ½ percent of California's land, it contains 32 percent of the state's native flora. Approximately 114 special-status plant species have been observed in Napa County, and qualities of habitat suggest there may be more.

Special-status species are plants and animals that are legally protected under federal or state regulations and are designated as endangered, rare, or threatened. Other species of local concern or habitats of limited

<sup>1</sup> Napa County Baseline Data Report (BDR), 2005.

<sup>2</sup> Conservation Vision 2010, Land Trust of Napa County, 2004.



distribution<sup>3</sup> can be considered “special-status” in some contexts, and species preservation and a healthy natural environment cannot be achieved without consideration for habitat protection, including significant plant communities. According to the California Oak Foundation, Napa County, with approximately 167,450 acres of oak woodlands comprising 33 percent of the county, has the highest density of oak woodlands in the state. The Foundation also makes note of the county’s numerous significant natural plant communities, including wetlands/marsh, grassland, chaparral, and forests (Garman & Firman, *Oaks 2040: The Status and Future of Oaks in California*, California Oak Foundation, November 2006).<sup>4</sup>

Napa County is also home to many wildlife species, including many rare, threatened, and endangered species. To date, 24 special-status wildlife species have been found in the county, and habitat suggests there may be 44 more. The coniferous forests of the northwest county provide homes for the threatened northern spotted owl, and the baylands of the southern county are home to over 130 species of birds, including the endangered California clapper rail. The rivers, creeks, and streams of Napa’s watersheds provide habitat for many species of plants, fish, invertebrates, and amphibians, including the threatened California red-legged frog.

This biota—or combination of the “flora and fauna” of the bio-community—provides real and measurable values to the county, including erosion control, water quality enhancement, natural beauty and ecological cohesiveness. As a result, habitat destruction, fragmentation, or land use conversions represent threats to the high level of biodiversity and special-status species in the county. Specific threats include natural regime disturbance (flooding and fire), human development, non-native invasive species, overgrazing, hydrologic modifications, wildlife exclusion fencing, conversion of natural habitats, disease, and certain non-native pests.

This Element addresses the natural resource threats and challenges mentioned above by articulating policies and actions to conserve, protect, and manage the county’s wide array of natural resources, including specific protection of special-status species, preservation and enhancement of biodiversity and natural habitats, support for continued resource monitoring and use of adaptive management methods.<sup>5</sup> These conservation policies and their action items complement policies related to agricultural preservation, open space, and urban-centered growth presented in other elements of this General Plan.

## WATER RESOURCES

Water is one of the most complex issues related to land use planning, development, and conservation; it is governed and affected by hundreds of federal, state, regional, and local mandates pertaining to pollution, land use, mineral resources, flood protection, soil erosion, reclamation, etc. Every year, the state legislature considers hundreds of bills relating to water issues, and in Napa County, more than two dozen agencies have some say in decisions and regulations affecting water quality and water use.

This Element addresses water resources by providing background information, goals, policies, and action items related to water quality, quantity, and conservation by highlighting the importance of water supply

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<sup>3</sup> Habitats of limited distribution are natural communities in the County that are considered sensitive due to limited local distribution, encompassing less than 500 acres of cover within the County, and are considered by local biological experts to be worthy of conservation.

<sup>4</sup> <http://www.californiaoaks.org/html/2040.html>

<sup>5</sup> Adaptive management is a challenging blend of scientific research, monitoring, and practical management that allows for experimentation and provides the opportunity to “learn by doing,” by modifying management practices as necessary based on real-time data about their effectiveness and changing environmental conditions.



planning and monitoring and the importance of protecting natural systems that provide water for consumptive uses, including groundwater supplies.

## **Watersheds**

Healthy functioning watersheds are vital for a healthy environment and healthy economy, and Napa County has made great strides in acknowledging and protecting these natural systems. The residents of the county rely on healthy watersheds to provide adequate water for domestic and agricultural purposes as well as to support the existence, use, and enjoyment of natural resources. Many things we do on land affect the health and function of our watersheds. Watersheds are complex, dynamic systems, containing various parts that continually adapt to internal and external changes. The Napa River watershed, containing the Napa River and its tributaries, has long been important assets in Napa County's ecology, environment, and development, and is today the focus of community interest, enlightened stewardship, and hands-on habitat restoration efforts.

## **The Napa River Watershed**

The Napa River travels 55 miles from the headwaters of Mt. St. Helena to the delta feeding San Pablo Bay through varied landscapes of forested mountain slopes, vineyards, urban areas, open pasture, grasslands, industrial zones, and marshes, providing many different habitats for fish and wildlife characteristic of coastal inland streams and rivers of northern California. With the exception of a small portion in Solano County, the Napa River watershed is approximately 245,724 acres (includes roughly 11,530 acres of marshlands discussed later), lies almost entirely within the boundaries of Napa County, and is home to most of the county's residents and developed areas. It is estimated that 95 percent or more of the entire population of Napa County lives in the Napa River watershed.

Contained by Mt. St. Helena to the north, the Mayacamas Mountains to the west, Howell Mountain, Atlas Peak, and Mt. George to the east, and the Napa-Sonoma Marsh to the south, the Napa River drains a 426-square-mile watershed that discharges to the San Pablo Bay. Relative to other watersheds in the San Francisco Bay Area, the Napa River watershed remains predominately rural, with only 34 square miles developed for urban uses. The remainder of the watershed consists of agricultural production (mostly vineyards) and undeveloped open space.

The Napa River basin supports a diverse assemblage of fish and wildlife. The basin is home to nearly sixteen intact communities of native fish species, including steelhead, fall-run Chinook salmon, Pacific and river lamprey, hardhead, tule perch, and Sacramento splittail (Leidy 1997). Such native fish diversity is unsurpassed in Central Valley and Sierra streams, suggesting that the Napa River should be a priority watershed for native fish and aquatic wildlife conservation (Leidy 2000, Stillwater Sciences 2004, CEMAR 2007).<sup>6</sup> In this regard, the Napa River basin is often referred to as an "anchor watershed."<sup>7</sup>

Throughout the Bay-Delta region, the abundance and distribution of resident steelhead and Chinook salmon have substantially diminished since the 1940s. The Napa River is estimated to have historically supported 6,000 to 8,000 steelhead and as many as 2,000 to 4,000 Coho salmon. By the late 1960s, however, Coho

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<sup>6</sup> Leidy, R.A., G.S. Becker, B.N. Harvey. 2005. Historical distribution and current status of steelhead/rainbow trout in streams of the San Francisco Estuary, California. Center for Ecosystem Management and Restoration, Oakland, CA.

<sup>7</sup> San Francisco Estuary Watersheds Evaluation: Identifying Promising Locations for Steelhead Restoration in Tributaries of the San Francisco Estuary, Center of Ecosystem Management and Restoration, Draft March 2007.



salmon were no longer observed, and steelhead had declined to an estimated 2,000 adults. The existing run of steelhead is believed to be less than a few hundred adults (Stillwater Sciences 2004). Little information is available to determine the historical abundance of Chinook salmon. However, the Napa River's hydrology and habitat suggests that Chinook habitat was historically available. In recent years, both juvenile and adult Chinook salmon have been observed in the Napa River and its lower major tributaries, including within newly created floodplains terraces, below the Napa First Street Bridge. An ongoing effort to monitor the abundance and relative distribution of Chinook in the Napa River watershed is currently under way. Since 2004 and annually thereafter, the Napa County Resource Conservation District (RCD) has conducted annual spawning surveys of adult Chinook salmon. Although longer-term monitoring is needed, initial findings indicate the Napa River main stem and lower reaches and several large tributaries are supporting a small, reproducing, broadly dispersed population of Chinook salmon (RCD 2007).

There are several efforts currently under way to increase general understanding of river processes and improve the health of the Napa River watershed. For example, construction is currently under way on the Napa River Flood Reduction Project, which incorporates "Living River Principles" (LRP)<sup>8</sup> and includes reconnecting the river to its historic flood plain, maintaining the natural slope and width of the river, retaining natural channel features such as mud flats, shallows, and sand bars, and supporting a continuous fish and riparian corridor along the river. In addition, well over \$4.5 million has been obtained over the last five years by several resource conservation groups and stewardships to restore, enhance, and protect water quality, plant and animal habitat, natural stream processes, and community relationships throughout the watershed.<sup>9</sup>



The Napa River Marshes occupy the southern end of the Napa River watershed and amount to roughly 11,530 acres. Much of this area was "reclaimed" around the turn of the century for agricultural purposes, namely cattle grazing and hay. In the 1950s, much of the land in this area was converted to salt ponds. The Cargill Salt Company stopped producing salt in the ponds and sold the evaporator ponds to the State of California, which assigned ownership and management to the Department of Fish and Game. Restoration of this area has long been a vision for local resource agencies, conservationists, and municipalities. The North Slough Tidal Marsh Restoration Project was completed in 2006, and the area is now part of the largest tidal restoration project on the west coast of the United States and one of many restoration projects throughout the San Francisco Bay Area (Napa River Salt Marsh Restoration Project, Final EIS, June 2004). Currently there is an effort under way to re-establish and actively manage nearly 10,000 acres of historic wetlands, sloughs, and tidal areas in and around the mouth of the

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<sup>8</sup> A "living" Napa River system functions properly when it conveys variable flows and stores water in the floodplain, balances sediment input with sediment transport, provides good quality fish and wildlife habitat, maintains good water quality and quantity, and provides recreation and aesthetic values. A "living" Napa River conveys equilibrium and harmony with all that it touches and resonates this through the human and natural environment.

<sup>9</sup> As of October 2007; Napa County Resource Conservation District based upon various known efforts and reports submitted to the Department of Conservation, in compliance with the state's Watershed Coordinator Grant Program, 2001-2007.



Napa River (Napa River Unit).<sup>10</sup> A key component of this regional restoration effort is the Napa Plant Site Restoration (NPSR) project. The NPSR project is located near the City of American Canyon and entails the enhancement and restoration of 1,460 acres of wetlands and associated habitats to benefit estuarine biota including waterfowl, shorebirds, fishes, and small mammals. The project would re-establish wildlife corridors and connectivity of habitats and includes establishment of public access to the site to provide a variety of recreational and educational opportunities (Napa Plant Restoration Project, DEIR, February 2006).

These efforts and others help to sustain the valuable services the Napa River offers to the community's present and future generations. There has been a growing interest in local watershed partnerships and collaborative stewardships over the past several years, resulting in significant on-the-ground watershed improvements including removal of fish barriers, stream restoration and/or enhancement, focused watershed assessment, and integrated resource planning and project implementation to conserve many listed and locally significant plant and animal species. Collaboration among many watershed partners is expanding and taking a more regional focus. Private and public partnerships are sharing resources and coordinating educational and outreach efforts to maximize efficiency and meet multiple resource needs.

### **Other Watersheds**

There exists a number of major surface water basins in Napa County. Most are constructed reservoirs and function as key water supplies for municipal consumption. The major water supply reservoirs in the Napa County from north to south include:

- Kimball Reservoir (serving Calistoga)
- Friesen Lakes (serving Howell Mountain Mutual Water Company)
- Bell Canyon Reservoir (serving St. Helena)
- Lake Berryessa (serving Lake Berryessa Resort Improvement District, Napa Berryessa Resort Improvement District, Spanish Flat Water District, Solano Irrigation District—serving various municipalities in Solano County)
- Lake Hennessey (serving Napa)
- Rector Reservoir (serving Yountville, State of California Veterans Home, Department of Fish and Game, and Napa State Hospital)
- Milliken Reservoir (serving Napa)
- Lake Curry (serving Vallejo)
- Lake Madigan (watershed only—serving Vallejo)

Although the Napa River drains the largest watershed in the county, other important watersheds cover the balance of the county: Putah Creek, Suisun Creek, and Napa River Marshes.

The Putah Creek watershed is approximately 231,358 acres and encompasses lands in four counties, but the majority of the watershed lies within Napa County. Putah Creek's source is in Lake County; after passing

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<sup>10</sup> Napa Sonoma Marsh Restoration Project, <http://www.napa-sonoma-marsh.org/>



through Napa County, the creek crosses Solano County before entering the Sacramento River in Sacramento County.

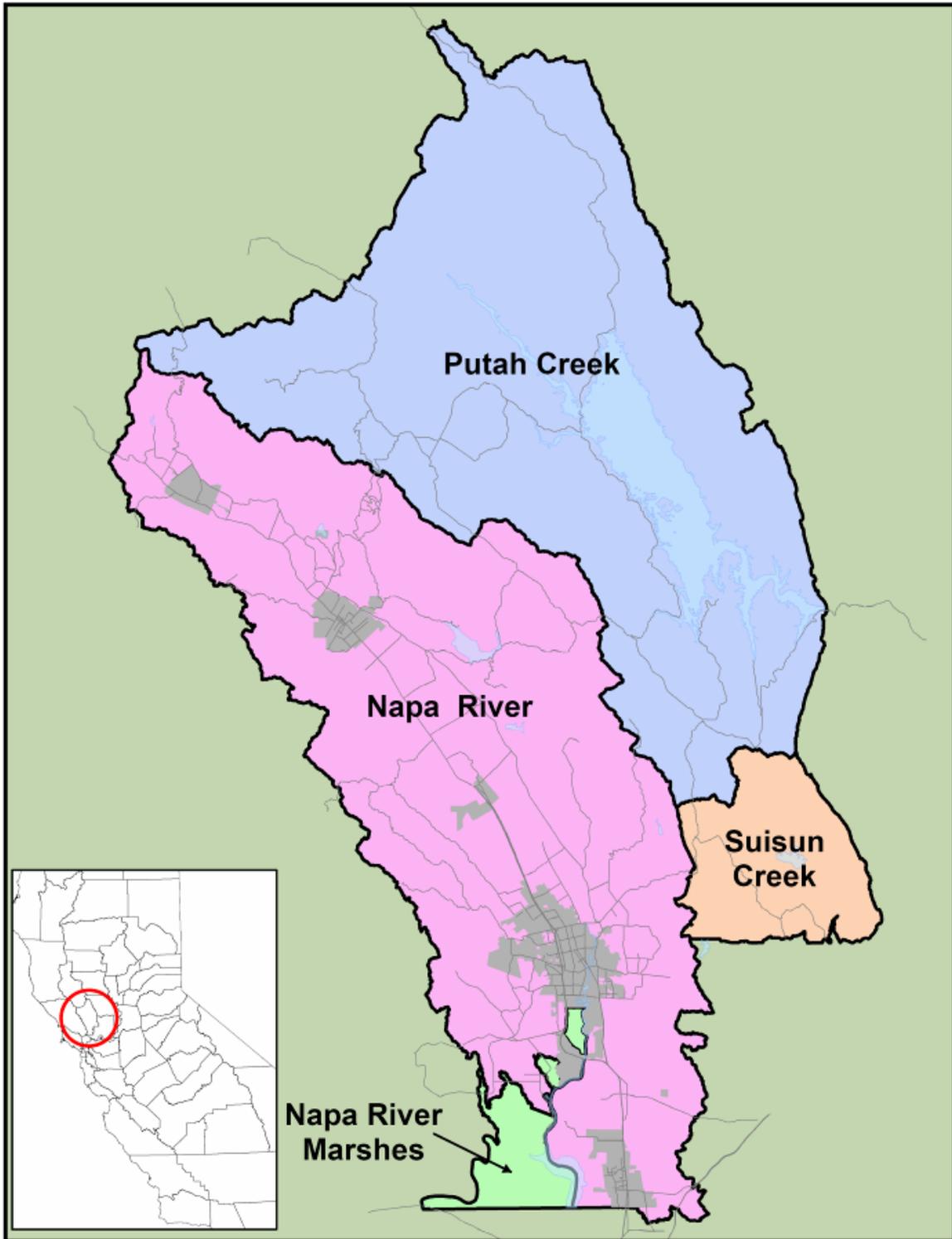
Flanked by Howell Mountain and Atlas Peak on the west and the Blue Ridge and Vaca Mountains on the east, Putah Creek today feeds Lake Berryessa (which began forming when Monticello Dam was built in 1957). Major land uses in the watershed are recreation and rangeland, although there are limited residences and vineyards. The watershed supports a unique assemblage of natural communities including serpentine chaparral, grasslands, oak savanna, oak and mixed oak/coniferous woodlands, riparian, freshwater lake, and cliff habitats.

The Suisun Creek Watershed is approximately 30,386 acres and falls within both Solano and Napa Counties. Only a portion of the upper part of the watershed is in Napa County. Separated from the Napa Valley by Mt. George in the west and bounded by the Vaca Mountains on the east, the watershed contains the upper reaches of Suisun Creek (which eventually empties into Suisun Marsh and Suisun Bay) and several of its tributaries including Wooden Valley and Gordon Valley Creeks. Farms, ranches, residences, and vineyards are found in this watershed, along with oak woodlands and grassland habitats and Lake Curry, a municipal water supply reservoir.

This Element speaks to the county's watersheds and the resources they provide by offering a number of goals, policies, and action items related to watershed conservation and protection. In doing so, this Element provides specific action items related to watershed management and monitoring and stresses the importance of adaptive watershed management strategies.



**FIGURE CON-1: MAJOR NAPA COUNTY WATERSHEDS**



*Source: Napa County Planning Dept., 2007*



## Water Quality

Napa County has accomplished much since the Napa River was listed as a water quality “impaired” water body by the State Water Resources Control Board (SWRCB), in compliance with requirements of the federal Clean Water Act in 1987-1990.<sup>11</sup>

In 1991, the Board of Supervisors enacted the Conservation Regulations (Napa County Code Chapter 18.108), which are implemented by the Conservation, Development and Planning Department to address issues related to erosion control and stream setbacks. The intent of these regulations was to protect lands from excessive soil loss and maintain or improve water quality of watercourses by minimizing soil erosion from earthmoving, vegetation removal, and grading activities related to agriculture and structural projects. In addition, these regulations include setbacks from streams and rivers to preserve riparian areas and other natural habitats. In 1994 and 2002, additional sensitive domestic and municipal watershed protection measures were added to the county’s Conservation Regulations to ensure enhanced water quality protection in these areas. Some of those additional protections include vegetation retention requirements, shortened grading season, oversight of erosion control installations, special geologic stability assessments, and conservative sizing of water conveyance and detention facilities.

In 2004, under mandates from the state, the National Pollutant Discharge Elimination System (NPDES) was implemented by the Department of Public Works, which requires the county to ensure that storm water and erosion measures are provided for on all structural (non-agricultural) development projects. The intent of this program is to minimize polluted runoff, during the construction phase and post-construction phase of the project, to the extent possible.

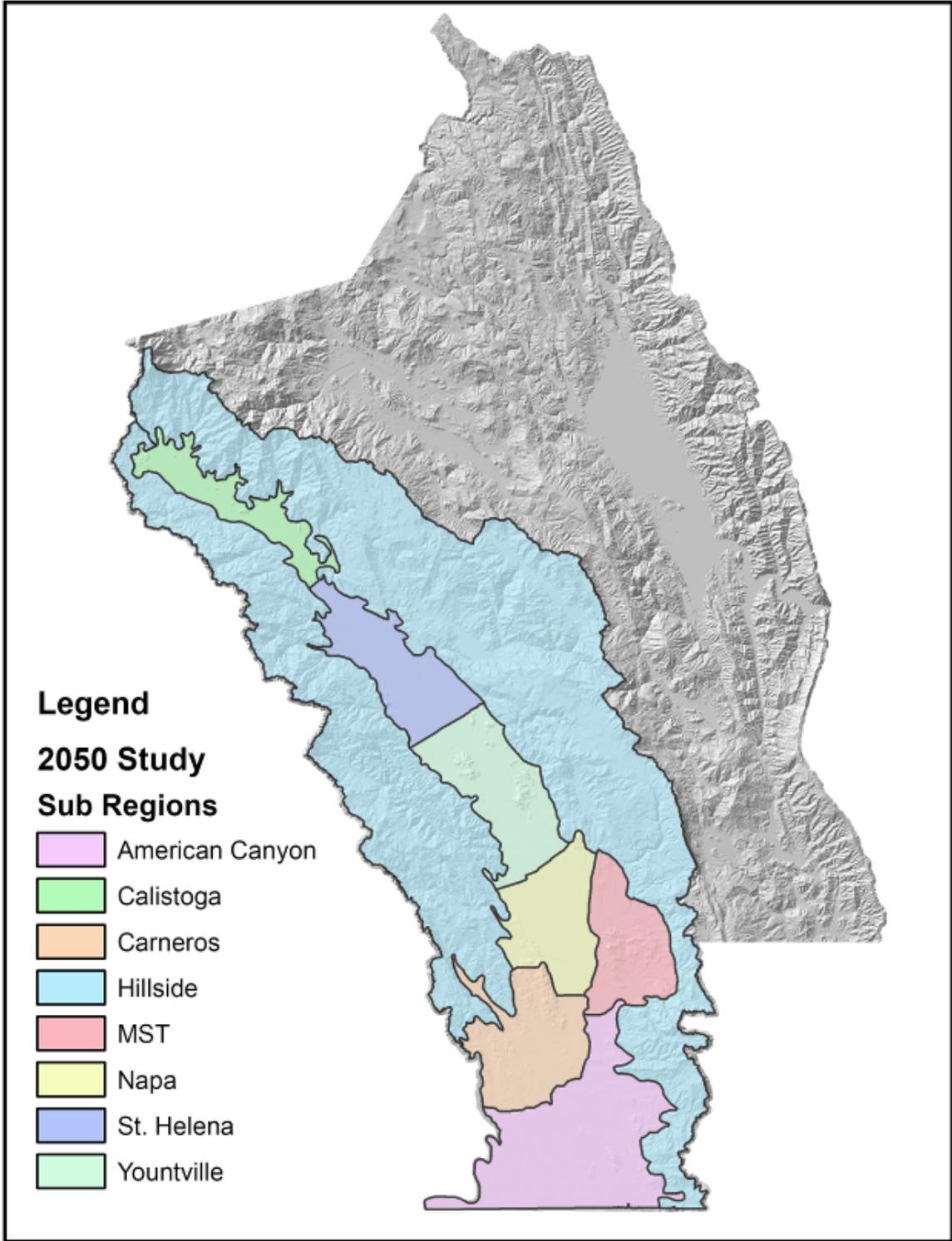
At the state and regional level, a listing of a water body as “impaired” triggers development of standards and implementation plans known as Total Maximum Daily Loads (TMDLs) for each water quality pollutant, and these standards and implementation plans are ultimately codified in amendments to the Basin Water Quality Control Plan. At their present stage of development (2007), it appears that the TMDLs related to the Napa River will identify limited locations for water quality monitoring and corrective actions related to pathogens, acknowledge the effectiveness of the county’s Conservation Regulations when it comes to sedimentation and controlling erosion from agricultural operations, support public-private partnerships related to river restoration and bank stabilization, and require improvements to public and private roads to address erosion and sediment loading. The role of existing dams and reservoirs in preventing sediment from reaching areas downstream and in reducing flows is also acknowledged.

This Element of the General Plan contains various policies that address water quality issues and opportunities throughout Napa County. Policies included in the Plan range from specific actions and compliance mechanisms to a broad range of support of locally led volunteer-based efforts aimed to improve the quality of the county’s waters.

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<sup>11</sup> The Napa River’s water quality is considered impaired due to the presence of nutrients, pathogens (disease-causing organisms), and sediment. Regionally, the Putah Creek Watershed (Lake Berryessa) is listed as impaired for mercury, and the San Pablo Bay, into which the Napa River drains, has been listed as impaired for almost a dozen reasons.

**FIGURE CON-2: NAPA VALLEY GROUNDWATER SUB-REGIONS**



*Source: 2050 Groundwater Study, Baseline Data Report*



## Water Supply, Conservation, and Reuse

The unincorporated areas of Napa County rely principally on groundwater resources and surface water collection, while the incorporated areas rely on local reservoirs and regional water providers. Principal exceptions include the county's Airport Industrial Area, which relies on municipal water from the cities of Napa and American Canyon; the Silverado area, which relies on municipal water from the City of Napa; a number of small communities around Lake Berryessa, which rely on water from the lake; and other developed areas like Angwin and Circle Oaks, which rely on a variety of private water suppliers.

There are three main groundwater basins in Napa County: the North Napa Valley Basin (NNV), Milliken-Sarco-Tulocay (MST), and Carneros. The NNV is the largest basin, extending from just north of Napa to the northwestern end of the valley just north of Calistoga. The MST basin is the second largest groundwater basin in the county, located adjacent to the city of Napa along the eastern edge of the valley floor. The Carneros basin is a very small basin at the southern end of the county. The MST basin is considered a Groundwater Deficient Area as groundwater levels have been in decline primarily since 1975 due to increases in agricultural uses. (Figure CON-2 shows the location of the MST and other groundwater sub-basins in Napa Valley.<sup>12</sup>)

The Napa County Board of Supervisors adopted a groundwater ordinance in 1996, and revised it in 2003. The ordinance is intended to regulate the extraction and use, and promote the preservation of the county's groundwater resources. Periodic review and revisions to the ordinance to identify groundwater areas in decline or projected decline are essential components of the ordinance. Compliance with this ordinance applies to development of new water systems or improvements to an existing water system that may use groundwater. Because the MST basin is considered a groundwater deficient area, additional regulations and review requirements under the California Environmental Quality Act (CEQA) have effectively required a "no net increase" in groundwater use associated with discretionary actions requiring county approval.

The Napa County Flood Control and Water Conservation District recently conducted a study, the "2050 Napa Valley Water Resources Study," comparing available Napa Valley water supplies to existing and future water demands through the year 2050. The study analyzed various water supply resources in eight sub-regions throughout the greater Napa Valley (Figure CON-2). The study conducted a focused analysis of water supplies serving the unincorporated areas of the valley and identifies a groundwater basin ("Main Basin") that includes the unincorporated areas in the vicinity of Calistoga, St. Helena, Yountville, Napa, and American Canyon. The groundwater in this basin primarily serves agricultural uses, with less than 1 percent pumped for urban uses.

Projecting water needs involves planning for "wet" and "dry" years, having adequate supplies, and having enough storage and capacity to hold and deliver needed water. According to predictions, during wet years, with ample rainfall, there is currently and will be enough water for all users, though not everyone has enough capacity to store what they need. Projections for dry years, however, shows users in both Napa's incorporated and unincorporated areas may not have enough water to meet all their needs through the year 2050. In other words, both municipal water supplies and groundwater supplies may face challenges during the lifetime of this General Plan—challenges that will need to be addressed through constructive collaboration or they will ultimately constrain even the limited land use changes and development decisions permitted under this Plan.

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<sup>12</sup> Source: Baseline Data Report.



While groundwater use is not a significant source for municipal uses, groundwater typically serves as the main water supply source to meet water demands in the unincorporated areas of the county. These demands in the Napa River Watershed are estimated to be approximately 39,500 acre-feet annually (afa) in the year 2000 and are projected to increase up to approximately 51,500 afa in the year 2050. This increase in demand is predominantly a result of existing vineyards ultimately being converted to denser plantings (i.e. increased vine density per unit area) (West Yost & Associates, 2005).

The “2050 Study” identifies potential water supply projects that may be pursued to reliably meet existing and future demands. It also cautions municipalities considering groundwater use and urges aggressive pursuit of recycled water as a supply for non-potable (irrigation) water. Additionally groundwater monitoring is recommended. The Napa Sanitation District (NSD) has initiated planning for provision of recycled water to the MST and Carneros areas.

This Element of the General Plan contains a number of policies that address water supply, conservation, and reuse. The Plan contains policies supporting the protection of surface and groundwater resources, as well as policies that require the county to monitor groundwater supplies where publicly owned wells exist, and encourage voluntary private monitoring of the county’s groundwater resources. The Element further includes policies that reinforce the development and use of recycled water as a means of meeting future water supply demands.

## CLIMATE PROTECTION AND SUSTAINABLE PRACTICES FOR ENVIRONMENTAL HEALTH

Like most communities in the Bay Area, Napa County consumes far more energy than it produces. Only about 8 percent of the county’s peak electricity demand is met by energy generated within the county; 92 percent of Napa’s energy is delivered from outside the county through facilities and services provided by Pacific Gas and Electric (PG&E). Napa County does not have a natural gas producing facility and therefore must import all natural gas consumed in the county. Table CON-A provides a listing of the existing (2005) electrical generating facilities in the county that generate roughly 0.5 megawatts (mw) or more.

**TABLE CON-A:  
EXISTING ELECTRICAL GENERATING FACILITIES IN NAPA COUNTY  
GENERATING APPROX. 0.5 MW OR MORE**

	<b>Monticello Dam</b>	<b>American Canyon Power Plant</b>	<b>Napa State Hospital</b>	<b>Pacific Union College</b>	<b>Yountville COGEN</b>	<b>Soscol Water Recycling Facility</b>
<b>Facility Type</b>	Hydroelectric	Waste to energy	Oil/gas	Oil/gas	Oil/gas	Waste to Energy
<b>Primary Fuel</b>	Hydro	Landfill gas	Natural gas	Natural gas	Natural gas	Methane
<b>Capacity (Mega Watts)</b>	11.9	1.76	1.6	1.38	3.0	.415
<b>Year On-Line</b>	1983	1985	1984	2005	1986	2001
<b>Owner</b>	Solano Irrigation District	Gas Recovery Systems Inc.	Napa State Hospital	Pacific Union College	Yountville Cogen Association	Napa Sanitation District

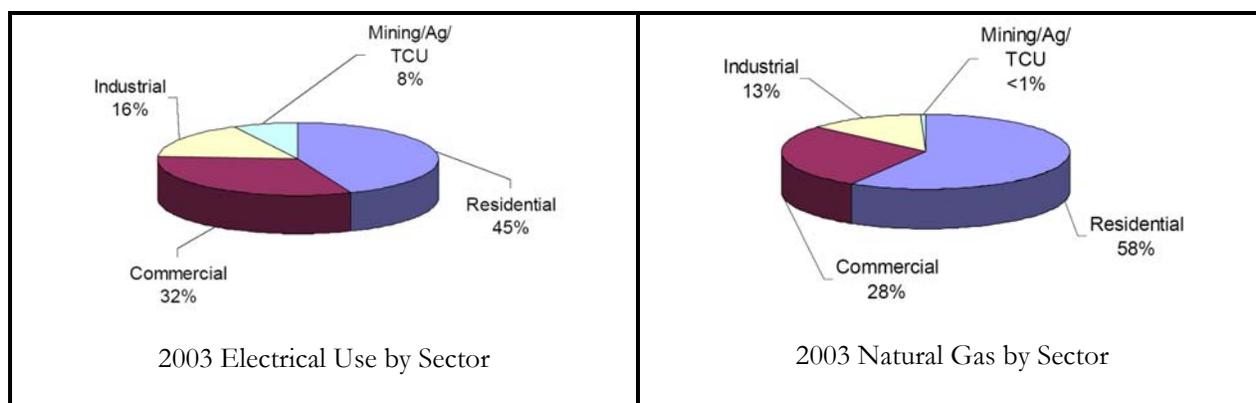
Source: California Energy Commission, 2005.

Most of the county’s energy—both electrical and natural gas—is consumed in residential settings, followed by the commercial and industrial sectors. Other notable energy consumers, including communication systems and agriculture, account for very small portions of overall demand; however, they constitute the sectors with the most significant growing demands (see Figure CON-3 below).

In general, more energy in the county is consumed as natural gas than as electricity, although the past decade has shown a considerable trend in the opposite direction. In the early 1990s, Napa consumed 70 percent more of its energy in the form of natural gas than as electricity. By 2006, natural gas consumption exceeded electricity consumption by only 21 percent. Total actual gas consumption by residential consumers has decreased, despite increasing population numbers.

Overall, the total amount of energy in the form of natural gas and electricity used in all of Napa County (including incorporated jurisdictions) between 1993 and 2003 (the most recent data available at the time of this General Plan Update) has been increasing. In this period, the peak annual demand was 106.8 barrel of oil equivalents (BOE) in 2000, increasing about 2.5 percent per year on average.

**FIGURE CON-3: ENERGY USE IN NAPA COUNTY**



*Source: Baseline Data Report, California Energy Commission*

In recent years, the amount of energy generated in Napa County has also increased.<sup>13</sup> In FY2005-2006 alone, over 70 projects involving solar energy installations were approved in unincorporated Napa County, and as of December 31, 2006, Napa County was generating more solar energy per capita than any other Bay Area county.

<sup>13</sup> According to the Baseline Data Report, PG&E calculated generation capacity of 21.92 MW and consumption of 235 MW for Napa County in 2004.



**TABLE CON-B:  
BAY AREA SOLAR INSTALLATIONS BY COUNTY AS OF 12/31/2006**

<b>County</b>	<b>Total Watts</b>	<b>Population</b>	<b>Watts/Capita</b>
Alameda	20,726,148	1,448,905	14.30
Contra Costa	8,516,489	1,010,787	8.43
Marin	5,691,157	246,960	23.04
<b>Napa</b>	<b>6,778,614</b>	<b>132,764</b>	<b>51.06</b>
San Francisco	4,549,299	739,426	6.15
San Mateo	4,543,339	699,610	6.49
Santa Clara	11,662,934	1,699,052	6.86
Solano	4,543,184	411,593	11.04
Sonoma	11,978,200	466,477	25.68
<b>Bay Area Total</b>	<b>82,374,941</b>	<b>7,105,240</b>	<b>11.59</b>

*Source: Northern California Energy Association, 2007*

Growing concerns about climate change have focused attention on energy generation and energy use. Climate change is presently known to be both naturally occurring and induced by increases in the amounts of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases (GHGs) emitted into the earth's atmosphere. Greenhouse gases are not currently (2006) regulated as pollutants, although the State of California has adopted legislation in the form of the Global Warming Solutions Act of 2006, which mandates that statewide greenhouse gas emissions be reduced to 1990 levels by 2020.

Because Napa County is primarily rural, the amount of greenhouse gases generated is small compared to the other counties in the Bay Area and in statewide or global terms. However, like all other areas worldwide that contribute to global warming, Napa County will be affected by climate change and shares a responsibility to address this issue. The County's efforts will focus on reductions in the two major sources of greenhouse gases in the county: the use of energy derived from the burning of fossil fuels and the use of fossil fuels in motor vehicles. Transportation is the largest single contributor of greenhouse gas emissions in Napa County and is likely to remain so.

The terrain and climate that make the Napa Valley so valuable for grape-growing also make it susceptible to poor air quality. In the summer and fall, wind patterns transport air pollutants from the San Pablo Bay into the Napa Valley. Because the valley is widest at its southern end and narrows to the north, the mountains surrounding the valley serve as effective barriers to the prevailing northwesterly winds, and so the pollutants are trapped and cannot disperse.

Air quality standards are established by national and state laws, and specific standards are adopted at the regional level. The Bay Area is currently a "non-attainment" area for ozone (state and federal standards) and particulate matter (state standards), meaning Bay Area air pollutant emissions exceeds these standards. Air quality in Napa County is currently measured at only one monitoring station, which is located on Jefferson Street in the City of Napa.



## **Particulate Matter**

Suspended particulate matter (PM) in the air column can be coarse or fine (and in between) and comes primarily from natural processes like wind-blown dust or soil. The finest particles result from combustion and burning such as fuel burned in cars and trucks, power plants, factories, fireplaces, and wood stoves.

The level of fine particulate matter in the air is a public health concern because it can bypass the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. The health effects vary depending on a variety of factors, including the type and size of particles. Research has demonstrated a correlation between high PM concentrations and increased mortality rates. Elevated PM concentrations can also aggravate chronic respiratory illnesses such as bronchitis and asthma. In addition to damaging human health, particulates can also retard plant growth. Napa County has exceeded state standards for PM<sub>10</sub> or PM<sub>2.5</sub> (dust particles with a width of 10 microns and 2.5 microns, respectively) within three of the last five years (2002, 2004, 2006).

## **Carbon Monoxide**

Carbon monoxide (CO) is an odorless, colorless gas that is formed by the incomplete combustion of fuels. Motor vehicle emissions are the dominant source of CO in the Napa region. Regionally, CO emissions have decreased significantly in recent years, and carbon monoxide levels in Napa County are declining. The Napa region has attained both state and national CO standards and has not violated them since 1999. These improvements are due largely to the introduction of cleaner burning motor vehicles and motor vehicle fuels.

## **Solid Waste**

Currently (2006), the County has in place the following plans related to solid waste:

- 2002 Napa Countywide Integrated Waste Management Plan
- Summary Plan (Countywide)
- Siting Element (Countywide)
- Source Reduction and Recycling Elements (SRRE) (American Canyon, City of Napa, Upper Valley Agency (UVA), remaining unincorporated County)
- Household Hazardous Waste Elements (HHWE) (American Canyon, City of Napa, UVA, remaining unincorporated County)
- Non-Disposal Facility Elements (NDFE) (American Canyon, City of Napa, UVA, remaining unincorporated County)

In addition, the County in 1991 adopted a "Waste Source Reduction and Recycled Product Content Procurement Policy" intended to reduce the amount of waste generated by the County's operations and encourage firms serving the County to use recycled materials.

There are five solid waste service providers and two joint power agencies/authorities in Napa County. Solid waste service providers include the Upper Valley Disposal Service (UVDS), Berryessa Garbage Service (BGS), Napa Recycling and Waste Services (NRWS), Napa County Recycling and Waste Services (NCRWS), and American Canyon Recycling and Disposal (ACRD). The joint power agencies/authorities in the County



include the Upper Valley Waste Management Agency (UVWMA) and the Napa Vallejo Waste Management Authority (NVWMA). These joint power agencies do not provide solid waste collection disposal services.

The UVWMA was formed to provide the coordination of economic and regional waste management services to meet the requirements set forth in the California Integrated Waste Management Act of 1999. The UVWMA includes Yountville, St. Helena, Calistoga, and the northern unincorporated portions of the County. The NVWMA includes the cities of Napa, Vallejo, and American Canyon and the southern portion of the unincorporated County. The NVWMA was formed to coordinate all solid waste services within its watershed. The NVWMA owns and operates the Devlin Road Recycling and Transfer Station, the Hazardous Waste Collection Facility, and the American Canyon Sanitary Landfill (now closed).

UVDS collects and disposes solid waste and recycling materials at the Clover Flat Landfill, which is located at 4380 Silverado Trail, just south of Calistoga. The Clover Flat Landfill is permitted to receive up to 600 tons of waste daily and has an ultimate permitted volumetric capacity of 5,100,000 cubic yards. This facility has a remaining capacity of 2,615,644 cubic yards as of September 2005 and is permitted through 2021, although the facility will likely be able to operate for at least 10 years beyond that date. Berryessa Garbage Service uses the Potrero Hills Landfill in Solano County, which is permitted to receive up to 4,330 tons of waste daily and has 8,200,000 cubic yards of remaining capacity as of January 2006.<sup>14</sup>

The NRWS, NCRWS, and ACRD transport waste to the Devlin Road Recycling and Transfer Facility, which receives an average of 560 tons of waste daily and has permitted capacity to handle up to 1,440 tons of solid waste per day. The waste is ultimately disposed of at the Keller Canyon Landfill in Contra Costa County which is permitted to receive 3,500 tons of waste per day. As of January 2004, the Keller Canyon Landfill had 64.8 million cubic yards of remaining capacity and has enough permitted capacity to receive solid waste through 2030, which is its anticipated closure date (California Integrated Waste Management Board, April 2006).

This Element contains policies intended to complement solid waste plans already in place. Policies in this Element promote waste reduction and recycling and provide siting criteria for waste disposal facilities.

## MANAGED PRODUCTION OF RESOURCES

Preserving open space resources to meet the community's conservation goals while also addressing local needs for productive raw natural materials (e.g., primarily aggregate/gravel, sand, and stone, and to a lesser extent merchantable timber) requires a balanced approach. Napa County is not a vast producer of raw natural materials; however timber and aggregates (which includes sand and gravel) are produced on a limited scale.

### Forest Resources

At the turn of the century into the 1900s, timber harvesting was a productive and profitable industry in Napa County. Thousands of acres of Napa's forests were logged each year, with some of Napa's lumber going to help rebuild the city of San Francisco after the 1906 earthquake and fire.

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<sup>14</sup> California Integrated Waste Management Board ([www.ciwmb.gov](http://www.ciwmb.gov)); disposal site(s) capacity is estimated in volume (cubic yards), whereas receipt of waste is weighed (i.e., in tons) on a daily basis.



Today Napa has approximately 40,000 acres of land that contains commercial timber species.<sup>15</sup> This 40,000 acres of identified timberland is solely accounted for by forest species composition and does not include other factors such as soil type that influences the CAL FIRE's determination and jurisdiction of what is and is not managed timberland under the Forest Practices Act (Napa County BDR, 2005). Most of the County's timberland is located in five areas (in descending order): the Western Mountains, the Eastern Mountains, Livermore Ranch, Pope Valley, and Angwin. Most timber harvesting in Napa County is a one-time cutting of forests and the conversion of timberlands into vineyards. However, a limited amount of sustainable yield timber harvesting does take place in the county, and this Element, together with the Agricultural Preservation and Land Use Element, contains policies supporting this activity.

## **Mineral Resources**

Despite some historic mining activities, the geologic opportunities for future mineral extraction in Napa County are not clearly known, and state mineral resource zone (MRZ) maps do not exist for the bulk of the County. There are currently three mines in Napa County designated as active by the State Department of Conservation, Office of Mine Reclamation:

- Napa Quarry (Syar Industries, Inc.)
- Pope Creek Quarry (Don Wesner, Inc.)
- American Canyon Quarry (Syar Industries, Inc.) (initiated reclamation in July, 2007)

Only one of these—Napa Quarry—is a significant mine. Located on hill slopes southeast of the City of Napa, the Napa Quarry (formerly Basalt Rock Quarry) first opened in the early 1900s. Today it generates about 500,000 tons of basalt rock each year for use as concrete aggregate.

The Pope Creek Quarry produced an average of 8,000 tons of aggregate over the last five years from their hard rock quarry.

This Element contains specific goals and policies that address open space as it pertains to the conservation of natural resources, agricultural land, and rangeland. Additionally, this Element stresses the preservation of forests and woodlands and conservation and prudent management of the County's mineral resources for current and future generations.

## **Geothermal Resources**

Geothermal resources are subsurface thermal, mineral and energy resources. Areas of significant geothermal potential (e.g., waters and/or mass) are known to exist in several areas of Napa County. Historically, geothermal resources in the region have stimulated resort development and mineral water bottling facilities. Today geothermal resources are used on a limited scale; however, in the future the resource may offer some potential use in lieu of imported energy. At present, there are a small number of public and private facilities in Napa County utilizing geothermal resources to complement building energy requirements. Advanced geothermal systems of this kind utilize geothermal bore fields (wells) and an underground closed-loop system for heating and cooling. A structure's thermal control needs are achieved through an energy exchange

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<sup>15</sup> California Forest Practice Rules, Title 14, California Code of Regulations, species Group A and those in Group B that are found on lands where the species in Group A now exist or have grown naturally.



between the building and the earth's thermal mass. Used in this manner, geothermal energy is considered a clean, renewable, and sustainable energy source.

Successful efforts to address the challenges of climate change begin at the local level and include the implementation of environmentally sustainable practices designed to meet present and future energy needs. This Element of the General Plan contains numerous policies and actions that directly address climate change, energy conservation, and environmental sustainability.

## VINEYARD DEVELOPMENT

Grapes have been grown in Napa County since the first half of the 19<sup>th</sup> century, although the pace of vineyard development and the acreage of producing vineyards increased most noticeably in the period from the mid 1970s to the present. Today (2006) there are approximately 49,657 acres<sup>16</sup> of developed vineyard area spread throughout the County's valleys and hillsides, representing about 9.8 percent of the County's total land area. The spread of vineyards and the economic success of the wine industry have directly benefited open space conservation in Napa County by staving off the residential subdivisions that have altered the landscape of so many California communities in the last 30 years.

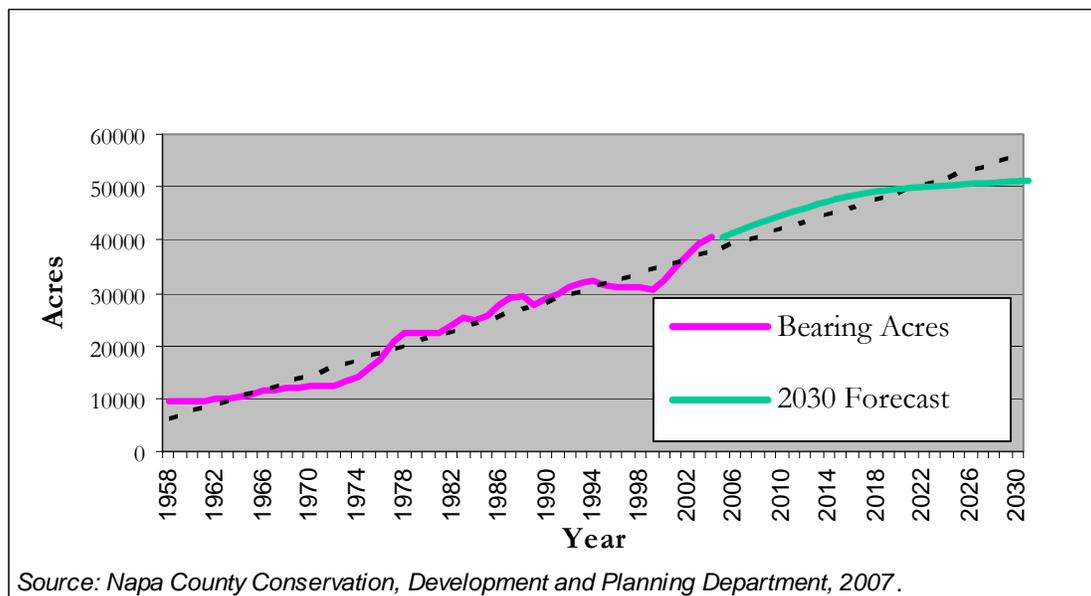
While there is no doubt there will be additional vineyards in the future, it is difficult to predict the pace and quantity of new acreage that will be developed with any certainty because of the number of factors involved. Some of these factors change over time while others are immutable. Factors include, first of all, whether the land has the characteristics (*terroir*) suitable for growing grapes (e.g., soil, exposure, climate, slope). Another factor is physical accessibility. Other factors are economic (e.g., whether the land can be profitably cultivated, the availability of capital, and the anticipated market for wine grapes), and others are environmental (e.g., topography, water availability) and regulatory (e.g., endangered species, whether a vineyard is allowed on certain lands because of legal restrictions for slope >30 percent).

Figure CON-4 illustrates a projection of future vineyard development potential that was intended to inform analyses in the Environmental Impact Report associated with the 2008 General Plan Update. Based on historical trends, pending applications, available/suitable lands, and professional judgment, this projection of about 10,000 additional acres—an increase of 20 to 25 percent over 25 years—is thought to be somewhat high, although it can serve as a useful outside limit, beyond which the countywide cumulative impacts of vineyard development have not been adequately assessed. As discussed below and as reflected within the policies and action items presented in this Element, vineyard development—even within this projected cumulative limit—requires responsible land stewardship.

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<sup>16</sup> Napa County 2006 Agricultural Crop Report accounted for 45,136 total (bearing and non-bearing) vine-acres (i.e., net producing fields). The 49,657 acres of vineyard accounted for above are gross vineyard acres, derived from July 2006 aerial photography, and include vineyard avenues and turnarounds associated with a vineyard's footprint and operational needs.

**FIGURE CON-4: COUNTYWIDE WINE GRAPE ACREAGE TREND LINE (1958-2004) & FORECAST (TO 2030)**



## Environmentally Responsible Vineyards

Napa County grape growers are leaders in environmentally responsible vineyard development and vineyard management practices. These practices include soil loss and conservation strategies addressing sediment contributions to the Napa River, utilization of water conservation strategies and groundwater monitoring, integrated pest management (IPM) and application of vineyard-related chemicals in a manner that protects the long-term production of soils and ensures vineyard runoff does not impact off-site water bodies and aquatic resources, and collaborative and non-invasive strategies for addressing crop diseases or pests, like the glassy winged sharp shooter, that are potentially devastating for the industry.

Most importantly, viticultural practices are constantly evolving, and Napa County grape-growers stay abreast of best management practices to ensure that vineyards remain sustainable over the very long term. Just as vineyards themselves are periodically replanted for a number of reasons, including changes in consumer tastes, the need for a root stock that is more naturally resistant to an emerging pest or disease or simply a decrease in productivity due to the age of the vines, vineyard development and vineyard management practices are always improving.

Various programs and agencies exist to support the grape growers' efforts to farm sustainably. The Napa Sustainable Winegrowing Group (NSWG), an ad-hoc group of local grapegrowers, vintners, local government, and educational organizations, has been promoting sustainable agriculture in Napa County since 1995. Through monthly educational meetings, scheduled grower forums, and annual seminars in Spanish and English, NSWG identifies and promotes winegrowing practices that are economically viable, socially responsible, and environmentally sound. As of July 2007, NSWG membership represented 24,008 acres of farmed land (primarily vineyards) and 24,594 acres of wild/unfarmed land in Napa County. The NSWG is coordinated with assistance from the Napa County Resource Conservation District (RCD), a special state-established local non-regulatory district whose mission is to promote responsible watershed management

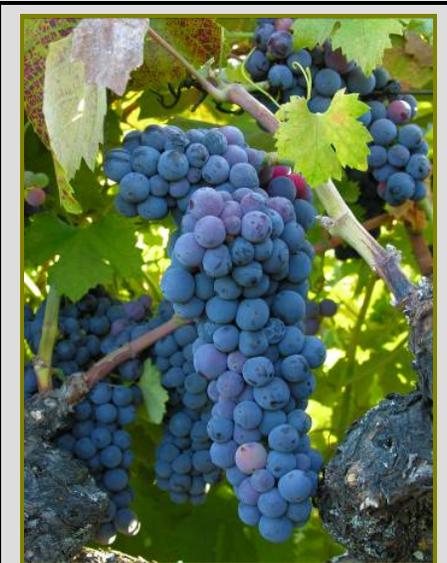


through voluntary community stewardship and technical assistance. Since 1945, the RCD has facilitated natural resource conservation through community involvement, education, assessment, planning, and implementation. The RCD and the local office of the U.S. Department of Agriculture's Natural Resources Conservation Services (NRCS) work closely together and are committed to using cooperative and scientifically sound methods to ensure that the natural resources of Napa County's watersheds are sustained, conserved, restored, and protected within a landscape of productive agriculture, growing urban areas, and wild lands.

Stream and creek stewardships are increasingly being formed, with assistance from the Napa County RCD, NRCS, and others to facilitate coordinated restoration and maintenance of the County's watercourses among landowners and managers. The Rutherford Dust Society is spearheading a collaborative stewardship effort to restore and maintain the health of the Napa River within the Rutherford Appellation. In 2002, a collaboration of farming and conservation groups, with assistance from the RCD and NRCS, developed a "Napa Green Certified Land" program to help individual grape growers develop farm plans and land management practices that restore and sustain aquatic habitat and improve water quality. Now known as "Napa Green Certified Land/Fish Friendly Farming," the program provides an incentive-based method for creating and sustaining environmental quality and habitat on private land. Landowners and managers enroll in the program, learn environmentally beneficial management practices, and carry out ecological restoration projects.<sup>17</sup> The focus is on the land manager as the central figure in achieving and sustaining environmental quality. This approach ensures long-term environmental improvements and sustainable agriculture and implements the principles of state and federal environmental regulations. Various resource agencies participate in the certification process and serve as an objective third party in the program.

As of October 2007 there were approximately 21,777 acres enrolled in the Napa Green Certified Land/Fish Friendly Farming program or are in the process of being certified. There are also 69 farms, including approximately 1,686 acres of vineyards registered as organic with the Napa County Agricultural Commissioner, and many additional acres in the process of registering.

Regulatory agencies and County government also play a role in ensuring that vineyard development and vineyard practices are environmentally responsible. State and federal agencies protect special-status species, critical habitats, wetlands, and other water resources. The County's grading, stormwater, and Conservation Regulations protect County lands from excessive soil loss that could threaten local water quality and ultimately lead to loss of economic productivity. The Conservation Regulations affect development and maintenance standards of new and replanted vineyards on land slopes greater than 5 percent. Ongoing environmental benefits of the Conservation Regulations go far beyond the soil loss issue protecting valuable natural resources. Specifically, they provide for stream setbacks based on a sliding scale directly correlated to the slope of the land adjacent to the stream or waterway. These setbacks are primarily intended to be protective of water quality, aquatic habitats, and special-status fish



**vi ti cul ture**, noun.

"The cultivation or culture of grapes especially for wine making."  
-Merriam-Webster Online Dictionary

<sup>17</sup> <http://www.fishfriendlyfarming.org>

species, but they also provide for significant terrestrial habitat preservation and wildlife movement. Similarly, the Conservation Regulations require retention of 40 to 60 percent of the vegetation existing on June 16, 1993 on parcels within sensitive domestic water supply drainages.<sup>18</sup> Protecting drinking water through this requirement also accomplishes habitat preservation and other environmental benefits.

The goals and policies of this Conservation Element are intended to recognize and support positive industry trends, private-public partnership efforts, and effective elements of the existing regulatory framework. Grape growers and local government understand that only by protecting our natural resources will we ensure our continued ability to benefit from cultivation of the earth.

## OPEN SPACE CONSERVATION GOALS AND POLICIES

**Goal CON-1:** The County of Napa will conserve resources by determining the most appropriate use of land, matching land uses and activities to the land’s natural suitability, and minimizing conflicts with the natural environment and the agriculture it supports.



**Glassy Winged Sharpshooter**

This insect carries the bacterium (*Xylella fastidiosa*) that causes Pierce’s disease. The bacterium damages the water transport system of grapevines and ultimately kills them. Although this insect pest has not become established in Napa County as of 2007, the Glassy Winged Sharpshooter is considered to be a major threat to the County’s wine industry. The County, along with state and other local agencies, is working to prevent the spread of this insect.

## OPEN SPACE CONSERVATION POLICIES

Policy CON-1: The County will preserve land for greenbelts, forest, recreation, flood control, adequate water supply, air quality improvement, habitat for fish, wildlife and wildlife movement, native vegetation, and natural beauty. The County will encourage management of these areas in ways that promote wildlife habitat renewal, diversification, and protection.

Policy CON-2: The County shall identify, improve, and conserve Napa County’s agricultural land through the following measures:

- a) Limit growth to minimize urban development on agricultural land and reduce conflict with the agricultural operations and economy.
- b) Provide a permanent means of preservation of open space land for agricultural production.

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<sup>18</sup> Sensitive domestic water supply drainages are defined as including the following lakes and reservoirs: Kimball, Rector, Milliken, Bell Canyon, Hennessey (including Friesen Lakes), Curry, and Madigan.



- c) Require that existing significant vegetation be retained and incorporated into agricultural projects to reduce soil erosion and to retain wildlife habitat. When retention is found to be infeasible, replanting of native or non-invasive vegetation shall be required.
- d) Encourage the use of recycled water, particularly within groundwater deficient areas, for vegetation enhancement, frost protection, and irrigation to enhance agriculture and grazing.
- e) Encourage inter-agency and inter-disciplinary cooperation, recognizing the agricultural commissioner's role as a liaison and the need to monitor and evaluate pesticide and herbicide programs over time and to potentially develop air quality, wildlife habitat, or other programs if needed to prevent environmental degradation.
- f) Minimize pesticide and herbicide use and encourage research and use of integrated pest control methods such as cultural practices, biological control, host resistance, and other factors.
- g) Encourage the use of Williamson Act contracts and use techniques to preserve agricultural lands.
- h) Coordinate with municipalities' adopting and implementing policies, such as large lot zoning and urban limit lines, to limit urban expansion and encourage development of vacant land in areas already urbanized.

Policy CON-3: The County shall support sustainable agricultural practices, private stewardship programs and activities, and the formation and activities of volunteer stewardship groups in all three major watersheds, particularly agricultural appellation, river, and watershed-based organizations by:

- a) Supporting grant applications,
- b) Facilitating access to data, and
- c) Working to achieve increased landowner participation in sustainable practices and stewardship groups as needed.

Policy CON-4: The County recognizes that preserving watershed open space is consistent with and critical to the support of agriculture and agricultural preservation goals.

Policy CON-5: The County shall identify, improve, and conserve Napa County's rangeland through the following measures:

- a) Providing a permanent means of preservation of open space areas for rangeland.
- b) Encouraging responsible brush removal techniques with adequate environmental safeguards, leaving uncleared islands and peninsulas to provide cover for wildlife.
- c) Staging land conversion operations to minimize adverse environmental impact on the watershed.
- d) Encouraging livestock management activities to avoid long-term destruction of rangeland productivity and watershed capacity through overgrazing, erosion, or damage to riparian areas.



## CONSERVATION

- e) Encouraging replanting of depleted areas to restore rangeland productivity and/or restore native biological resource values.
- f) Coordinating rangeland management programs with those of other counties, the State of California, and the federal government in areas where vegetation conversion programs are planned.
- g) Protecting trees and shrubs on rangelands for wildlife habitat and aesthetic purposes and encouraging alternate uses of rangelands, such as wildlife and open space, if grazing is phased out.

Policy CON-6: The County shall impose conditions on discretionary projects which limit development in environmentally sensitive areas such as those adjacent to rivers or streamside areas and physically hazardous areas such as floodplains, steep slopes, high fire risk areas and geologically hazardous areas.

*Note to the Reader: Please also see related policies contained within the Safety Element.*

Policy CON-7: The County shall enact and enforce regulations which maintain or improve the current level of environmental quality found in Napa County. The County shall uniformly and fairly enforce codes and regulations and shall, with respect to enforcing regulations related to environmental quality, assign high priority to abatement of violations that may constitute actual or potential threats to public health or safety or that may cause significant environmental damage. Enforcement actions shall be designed to discourage significant damage and future violations.

Policy CON-8: The County will use financial and other incentives to encourage voluntary dedication in easement or fee title to the County of Napa or its designee (such as a local non-profit land trust) of significant habitat areas, as appropriate, to ensure long-term protection for fish and wildlife resources and protection of agricultural lands and open space.

Policy CON-9: The County shall pursue a variety of techniques and practices to achieve the County's Open Space Conservation policies, including:

- a) Exclusive agriculture zoning or Transfer of Development Rights.
- b) Acquisition through purchase, gift, grant, bequest, devise, lease, or otherwise, the fee or any lesser interest or right in real property.
- c) Williamson Act or other incentives to maintain land in agricultural production or other open space uses.
- d) Requirements for mitigation of development impacts, either on-site or at other locations in the county or through the payment of in-lieu fees in limited circumstances when impacts cannot be avoided.

*Note to the Reader: Please see the Recreation and Open Space Element for policies related to protection and acquisition of open space including prohibitions on the use of eminent domain.*



## NATURAL RESOURCES GOALS AND POLICIES

- Goal CON-2:** Maintain and enhance the existing level of biodiversity.
- Goal CON-3:** Protect the continued presence of special-status species, including special-status plants, special-status wildlife, and their habitats, and comply with all applicable state, federal, or local laws or regulations.
- Goal CON-4:** Conserve, protect, and improve plant, wildlife, and fishery habitats for all native species in Napa County.
- Goal CON-5:** Protect connectivity and continuous habitat areas for wildlife movement.
- Goal CON-6:** Preserve, sustain, and restore forests, woodlands, and commercial timberland for their economic, environmental, recreation, and open space values.
- Goal CON-7:** Identify and conserve areas containing significant mineral deposits for future use and promote the reasonable, safe, and orderly operation of mining and extraction and management activities, where environmental, aesthetic, and adjacent land use compatibility impacts can be adequately addressed.

## NATURAL RESOURCES POLICIES

- Policy CON-10: The County shall conserve and improve fisheries and wildlife habitat in cooperation with governmental agencies, private associations and individuals in Napa County. [Implemented by Action Item CON NR-2]
- Policy CON-11: The County shall maintain and improve fisheries habitat through a variety of appropriate measures, including the following as well as best management practices developed over time (also see Water Resource Policies, below):
- a) Consider the feasibility of using reclaimed wastewater as a means of maintaining adequate water flow to support fish life and reduce pollution of the Napa River.
  - b) Consider all feasible ways to maintain and restore sufficient flows and channel characteristics necessary for fish passage consistent with state and federal guidelines.
  - c) Undertake and publicize water use conservation strategies necessary to protect and prolong the duration of in-stream flows for aquatic resources including migrating anadromous fish such as steelhead and Chinook salmon.



- d) Encourage and support programs and efforts related to fishery habitat restoration and improvement including steelhead presence surveys, development and utilization of hydraulic modeling, and removal of fish barriers.
  - e) Manage the removal of invasive vegetation and the retention of other riparian vegetation to reduce the potential for increased water temperatures and siltation and to improve fishery habitat.
  - f) Pursue consolidated and streamlined regulatory review of fisheries and wildlife habitat restoration projects.
  - g) Encourage the retention of large woody debris in streams to the extent consistent with flood control considerations.
  - h) Encourage the use of effective vegetated buffers between urban runoff and local storm drains.
  - i) Promote and support forest management efforts and fire reduction practices in coordination with the California Department of Forestry and Fire Protection that reduce fuel loads and provide protection for water quality and fish habitat.
  - j) Require mitigation of gravel removal activities so they result in no net adverse effects to streambed attributes, temperature, habitat, and water quality necessary for native fisheries health. This may include restoration and improvement of impacted areas (e.g., gravel areas and pools and woody-debris areas). Gravel removal that results in adverse impacts to native fisheries shall be determined to have a significant impact under CEQA. [Implemented by Action Item CON NR-3]
  - k) Implement sediment reduction measures in sand and gravel operations and other high sediment-producing land uses.
  - l) Control gravel removal and degradation from stream beds to minimize the adverse effects upon the spawning and feeding areas of fish.
  - m) Control sediment production from mines, roads, development projects, agricultural activities, and other potential sediment sources.
  - n) Implement road construction and maintenance practices to minimize bank failure and sediment delivery to streams.
  - o) Enforce boat speed limits to reduce damage to warm water game fish fisheries.
- [Implemented by Action Item CON NR-2]

Policy CON-12: Public water development projects shall provide an adequate release flow of water to preserve fish populations and public access to the water via public lands. [Implemented by Action Item CON NR-2]

Policy CON-13: The County shall require that all discretionary residential, commercial, industrial, recreational, agricultural, and water development projects consider and address impacts to wildlife habitat and avoid impacts to fisheries and habitat supporting special-status species to the extent feasible. Where impacts to wildlife and special-status species cannot be avoided, projects shall include effective mitigation measures and management plans including provisions to:



- a) Maintain the following essentials for fish and wildlife resources:
  - 1) Sufficient dissolved oxygen in the water.
  - 2) Adequate amounts of proper food.
  - 3) Adequate amounts of feeding, escape, and nesting habitat.
  - 4) Proper temperature through maintenance and enhancement of streamside vegetation, volume of flows, and velocity of water.
- b) Ensure that water development projects provide an adequate release flow of water to preserve fish populations.
- c) Employ supplemental planting and maintenance of grasses, shrubs and trees of like quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife and special-status species and maintain the watersheds, especially stream side areas, in good condition.
- d) Provide protection for habitat supporting special-status species through buffering or other means.
- e) Provide replacement habitat of like quantity and quality on- or off-site for special-status species to mitigate impacts to special-status species.
- f) Enhance existing habitat values, particularly for special-status species, through restoration and replanting of native plant species as part of discretionary permit review and approval.
- g) Require temporary or permanent buffers of adequate size (based on the requirements of the subject special-status species) to avoid nest abandonment by birds and raptors associated with construction and site development activities.
- h) Demonstrate compliance with applicable provisions and regulations of recovery plans for federally listed species.

[Implemented by Action Item CON NR-2 and 4]

Policy CON-14: To offset possible losses of fishery and riparian habitat due to discretionary development projects, developers shall be responsible for mitigation when avoidance of impacts is determined to be infeasible. Such mitigation measures may include providing and permanently maintaining similar quality and quantity habitat within Napa County, enhancing existing riparian habitat, or paying in-kind funds to an approved fishery and riparian habitat improvement and acquisition fund. Replacement habitat may occur either on-site or at approved off-site locations, but preference shall be given to on-site replacement.

Policy CON-15: The County shall establish and update management plans protecting and enhancing the County's biodiversity and identify threats to biological resources within appropriate evaluation areas, and shall use those plans to create programs to protect and enhance biological resources and to inform mitigation measures resulting from development projects. [Implemented by Action Item CON NR-2]



*Note to the Reader: Please also see Water Resources section of this Element, Policies CON-42 and -63, Action Items CON WR-2 and -5, and Climate Protection and Sustainable Practices for Environmental Health Policy 73.*

Policy CON-16: The County shall require a biological resources evaluation for discretionary projects in areas identified to contain or potentially contain special-status species based upon data provided in the Baseline Data Report (BDR), California Natural Diversity Database (CNDDDB), or other technical materials. This evaluation shall be conducted prior to the approval of any earthmoving activities. The County shall also encourage the development of programs to protect special-status species and disseminate updated information to state and federal resource agencies. [Implemented by Action Item CON NR-5]

Policy CON-17: Preserve and protect native grasslands, serpentine grasslands, mixed serpentine chaparral, and other sensitive biotic communities and habitats of limited distribution. The County, in its discretion, shall require mitigation that results in the following standards:

- a) Prevent removal or disturbance of sensitive natural plant communities that contain special-status plant species or provide critical habitat to special-status animal species.
- b) In other areas, avoid disturbances to or removal of sensitive natural plant communities and mitigate potentially significant impacts where avoidance is infeasible.
- c) Promote protection from overgrazing and other destructive activities.
- d) Encourage scientific study and require monitoring and active management where biotic communities and habitats of limited distribution or sensitive natural plant communities are threatened by the spread of invasive non-native species.
- e) Require no net loss of sensitive biotic communities and habitats of limited distribution through avoidance, restoration, or replacement where feasible. Where avoidance, restoration, or replacement is not feasible, preserve like habitat at a 2:1 ratio or greater within Napa County to avoid significant cumulative loss of valuable habitats.

(Also see Policies CON-30 regarding wetlands, and Policy CON-26 regarding riparian and aquatic habitats.)

Policy CON-17.5: Periodically review and revise as necessary the list of sensitive biotic communities subject to Policy CON-17, above.

Policy CON-18: To reduce impacts on habitat conservation and connectivity:

- a) In sensitive domestic water supply drainages where new development is required to retain between 40 and 60 percent of the existing (as of June 16, 1993) vegetation on-site, the vegetation selected for retention should be in areas designed to maximize habitat value and connectivity.



- b) Outside of sensitive domestic water supply drainages, streamlined permitting procedures should be instituted for new vineyard projects that voluntarily retain valuable habitat and connectivity, including generous setbacks from streams and buffers around ecologically sensitive areas.
- c) Preservation of habitat and connectivity of adequate size, quality, and configuration to support special-status species should be required within the project area. The size of habitat and connectivity to be preserved shall be determined based on the specific needs of the species.
- d) The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat.
- e) The County shall require new vineyard development to be designed to minimize the reduction of wildlife movement to the maximum extent feasible. In the event the County concludes that such development will have a significant impact on wildlife movement, the County may require the applicant to relocate or remove existing perimeter fencing installed on or after February 16, 2007 to offset the impact caused by the new vineyard development.
- f) The County shall disseminate information about impacts that fencing has on wildlife movement in wild land areas of the County and encourage property owners to use permeable fencing.
- g) The County shall develop a program to improve and continually update its database of biological information, including identifying threats to wildlife habitat and barriers to wildlife movement.
- h) Support public acquisition, conservation easements, in-lieu fees where on-site mitigation is infeasible, and/or other measures to ensure long-term protection of wildlife movement areas.

Policy CON-19: The County shall encourage the preservation of critical habitat areas and habitat connectivity through the use of conservation easements or other methods as well as through continued implementation of the Napa County Conservation Regulations associated with vegetation retention and setbacks from waterways.

Policy CON-20: The County shall monitor biodiversity and habitat connectivity throughout the County and apply appropriate adaptive management practices as necessary to achieve applicable Natural Resources Goals. Changing conditions may include external forces such as changing state or federal requirements, or changes in species diversity, distribution, etc. [Implemented by Action Item CON NR-5]

Policy CON-21: The County shall initiate and support efforts relating to the identification, quantification, and monitoring of species biodiversity and habitat connectivity throughout Napa County. [Implemented by Action Item CON NR-5]

Policy CON-22: The County shall encourage the protection and enhancement of natural habitats which provide ecological and other scientific purposes. As areas are identified, they should be delineated on environmental constraints maps so that appropriate steps can be taken to appropriately manage and protect them.



Policy CON-23: The County shall work with local resource and land management agencies to develop a comprehensive approach to controlling the spread of non-native invasive species and reducing their extent on both public and private land, including developing an invasive weed ordinance. The Invasive Weed Ordinance shall include among other things regulatory standards for construction activities that occur adjacent to natural areas, including riparian and/or intermittent streams or watercourses, to inhibit the establishment of noxious weeds through accidental seed import.

Policy CON-24: Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, and wildlife habitat through appropriate measures including one or more of the following:

- a) Preserve, to the extent feasible, oak trees and other significant vegetation that occur near the heads of drainages or depressions to maintain diversity of vegetation type and wildlife habitat as part of agricultural projects.
- b) Comply with the Oak Woodlands Preservation Act (PRC Section 21083.4) regarding oak woodland preservation to conserve the integrity and diversity of oak woodlands, and retain, to the maximum extent feasible, existing oak woodland and chaparral communities and other significant vegetation as part of residential, commercial, and industrial approvals.
- c) Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 ratio when retention of existing vegetation is found to be infeasible. Removal of oak species limited in distribution shall be avoided to the maximum extent feasible.
- d) Support hardwood cutting criteria that require retention of adequate stands of oak trees sufficient for wildlife, slope stabilization, soil protection, and soil production be left standing.
- e) Maintain, to the extent feasible, a mixture of oak species which is needed to ensure acorn production. Black, canyon, live, and brewer oaks as well as blue, white, scrub, and live oaks are common associations.
- f) Encourage and support the County Agricultural Commission's enforcement of state and federal regulations concerning Sudden Oak Death and similar future threats to woodlands.

[Implemented by Action Item CON NR-7]

Policy CON-25: The County shall disseminate information to land owners regarding habitat conservation and other natural resources goals and build partnerships to accomplish effective outreach regarding policies, incentives, and regulations.

Policy CON-26: Consistent with Napa County's Conservation Regulations, natural vegetation retention areas along perennial and intermittent streams shall vary in width with steepness of the terrain, the nature of the undercover, and type of soil. The design and management of natural vegetation areas shall consider habitat and water quality needs, including the needs of native fish and special status species and flood protection where appropriate. Site-specific setbacks shall be established in coordination with Regional Water Quality Control Boards, California Department of Fish and Game, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration National Marine Fisheries



Service, and other coordinating resource agencies that identify essential stream and stream reaches necessary for the health of populations of native fisheries and other sensitive aquatic organisms within the County's watersheds.

Where avoidance of impacts to riparian habitat is infeasible along stream reaches, appropriate measures will be undertaken to ensure that protection, restoration, and enhancement activities will occur within these identified stream reaches that support or could support native fisheries and other sensitive aquatic organisms to ensure a no net loss of aquatic habitat functions and values within the county's watersheds.

Policy CON-27: The County shall enforce compliance and continued implementation of the intermittent and perennial stream setback requirements set forth in existing stream setback regulations, provide education and information regarding the importance of stream setbacks and the active management and enhancement/restoration of native vegetation within setbacks, and develop incentives to encourage greater stream setbacks where appropriate.

Incentives shall include streamlined permitting for certain vineyard proposals on slopes between 5 and 30 percent and flexibility regarding yard and road setbacks for other proposals.

[Implemented by Action Item CON NR-1]

Policy CON-28: To offset possible additional losses of riparian woodland due to discretionary development projects and conversions, developers shall provide and maintain similar quality and quantity of replacement habitat or in-kind funds to an approved riparian woodland habitat improvement and acquisition fund in Napa County. While on-site replacement is preferred where feasible, replacement habitat may be either on-site or off-site as approved by the County.

Policy CON-29: The County shall coordinate its efforts with other agencies and districts such as the Resource Conservation District and share a leading role in developing and providing outreach and education related to stream setbacks and other best management practices that protect and enhance the County's natural resources. [Implemented by Action Item CON NR-5]

Policy CON-30: All public and private projects shall avoid impacts to wetlands to the extent feasible. If avoidance is not feasible, projects shall mitigate impacts to wetlands consistent with state and federal policies providing for no net loss of wetland function.

Policy CON-31: The County shall maintain and improve marshland habitat in the southern part of the county through a variety of appropriate measures, including:

- a) Utilize reclaimed wastewater for salinity control and management of marshlands, meadows, and salt ponds.
- b) Establish County Policy for promoting wildlife habitat use within marshland areas such as Coon Island, Fly Bay, Devil's Slough, North Slough, the area between Napa Slough and South Slough, Fagan Slough Peninsula, (Cargill) Napa Plant Restoration



Site, Bull Island, all of the berm areas between the top of the levee and center of the slough, and other nearby marshland and meadowlands.

- c) Encourage environmental study, a viewing platform, and wildlife preserve at the (Cargill) Napa Plant Restoration Site, Fagan Slough Area. Work with the California Department of Fish and Game to implement this policy. [Implemented by Action Item CON NR-5]
- d) Restrict the location or construction of structures on levees by large lot zoning because of environmental health problems, potential flood hazard, and impacts to wildlife habitat.
- e) Monitor rise in sea level and the resulting migration of marshlands and wetlands using adaptive management strategies to modify County practices when warranted.

Policy CON-32: The County shall maintain and improve slough and tidal mudflats habitat with appropriate measures, including the following:

- a) Filling, dredging, draining, and polluting of mudflats and sloughs should be restricted to provide an adequate supply of oxygen, retain habitat, and maintain food organism production to conserve fish and wildlife and reduce pollution.
- b) Utilize reclaimed wastewater for salinity control of mudflats and sloughs where needed.
- c) Evaluate proposed marinas and harbors with regard to alternative sites with first priority for wildlife habitat and impact on scarce landforms such as marshlands.
- d) Dredging for marina construction and maintenance requires a heavy public subsidy while serving a small portion of the total citizenry. Consideration should be given to having construction and maintenance dredging done by private enterprise rather than public agencies.
- e) Prevent filling of existing river areas, berm areas, salt ponds, wetlands, and marsh areas because these areas are important for public health and safety as their water surfaces lower the air temperatures, they serve as irreplaceable fish and wildlife habitat, they are subject to amplified earthquake movement and subsoil liquefaction, and they support oxygen-producing plants.

Policy CON-33: The County shall encourage waterfowl in shallow, open shoreline areas of reservoirs by planting appropriate vegetation for waterfowl food, when feasible.

Policy CON-34: The County shall seek to identify the need for aggregate and timber resources and provide for the sustainable use and management of resources in the County in a manner that is compatible with environmental conditions.

Policy CON-35: The County shall encourage active forest management practices to preserve and maintain existing forests and timberland, allowing for their economic and beneficial use.

Policy CON-36: The County shall encourage and support property owners' requests for use of the Timber Preserve (TP) zoning district, as allowed by county code.



*Note to the Reader: Please see the Agricultural Preservation and Land Use Element for additional policies related to timber resources.*

- Policy CON-37: The County shall identify, improve, and conserve mineral and aggregate resources and ensure the long-term production and supply as follows:
- a) The County shall request that the State Department of Conservation conduct a countywide study to assess the location and value of mineral and aggregate resources.
  - b) Identify known mineral resources on the General Plan Land Use Map or in the Baseline Data Report, based on mapping prepared by the State of California.
  - c) Apply zoning for mineral resource areas and appropriate surrounding areas to allow for resource management and future resource availability.
  - d) Fulfill the County's responsibilities under the Surface Mining and Reclamation Act (SMARA).
  - e) Encourage compatible use of resource areas such as low density recreation, wildlife habitat, or agriculture and protect resource areas from incompatible uses.
  - f) Continue to enforce established policy on geothermal energy exploration and development (Napa County Code Title 16), considering the potential adverse environmental effects such as noise pollution, air pollution, water pollution, and poorly located transmission lines that can accompany improper geothermal development.
- Policy CON-38: The County shall identify, improve, and conserve Napa County's sand and gravel resources, preventing removal of streambed sand and gravel in any manner that would cause adverse effects on water quality, fisheries, riparian vegetation, or flooding.
- Policy CON-39: Resource extraction activities (e.g., mining and geothermal development) shall fully address environmental implications, such as air pollution, visual distractions, siltation of nearby streams, increase in surface runoff, removal of underground water by pumping, increase in erosion or landslide hazard, disposal of chemical wastes, creation of impervious layers and surface compaction, extent of vegetation removal, and site rehabilitation procedures.
- Policy CON-40: Encourage the ongoing reclamation of sand and gravel mining areas through the implementation of reclamation plans. In conformance with state law, all mining operations shall have up-to-date reclamation plans and adequate financial assurances to the satisfaction of the County.

## NATURAL RESOURCES GOALS/POLICIES ACTION ITEMS

- Action Item CON NR-1: Amend the Conservation Regulations to offer incentives such as a streamlined review process for new vineyard development and other projects that incorporate environmentally sustainable practices that avoid or mitigate significant environmental impacts. [Implements Policy 27]



Action Item CON NR-2: The County shall seek grant funding and other support and establish a fisheries monitoring program(s) consistent with the efforts of the Watershed Information Center and Conservancy of Napa County in order to track the current condition of special-status fisheries and associated habitats in the County's watersheds. Programs will include tracking the effectiveness of BMPs, mitigation measures and ongoing restoration efforts for individual projects in the watersheds, and the implementation of corrective actions for identified water quality issues that are identified as adversely impacting fisheries. Monitoring programs shall be conducted in coordination with the State and Regional Water Boards, California Department of Fish and Game, U.S. Fish and Wildlife Service, and National Oceanic and Atmospheric Administration National Marine Fisheries Service to the extent necessary. [Implements Policies 10-15]

Action Item CON NR-3: The County shall amend its Local Procedures for Implementing CEQA to require gravel removal projects to result in no net adverse effects to stream temperature, bed attributes, or habitat necessary for native fisheries' health. This may include restoration and improvement of impacted habitat areas (e.g., gravel areas and pools and woody-debris areas). [Implements Policy 11(j)]

Action Item CON NR-4: The County shall adopt an ordinance that prohibits construction activities within the channel of any waterway identified to contain existing or potential spawning habitat for special-status fish species during limited time periods of spawning activities. [Implements Policy 13]

Action Item CON NR-5: The County shall maintain and update the Biological Resources and Fisheries chapters of the BDR as necessary to provide the most current data and mapping. Updates shall be provided online and made available for review at the Conservation, Development and Planning Department. The following specific data sets and maps shall be updated as needed:

- a) The County's Biological Database (through the use of the California Department of Fish and Game's California Natural Diversity Database (CNDDDB) and information from the California Native Plant Society (CNPS)), including the addition of biological data to expand and improve the accuracy of the database and its usefulness to the public;
- b) Databases and mapping of sensitive biotic communities and habitats of limited distribution;
- c) Databases and mapping of oak woodlands and related sensitive biotic communities;
- d) Databases and mapping of riparian woodlands and related sensitive biotic communities;
- e) Databases and mapping of sloughs and tidal mudflats and related sensitive biotic communities.

[Implements Policies 16, 20, 21, 29, and 31(c)]



Action Item CON NR-6: The County shall adopt protocols to be followed, including a methodology for analyzing the need for buffers, and establish setbacks where discretionary projects are proposed on parcels that may contain sensitive biotic communities or habitats/communities of limited distribution or sensitive natural communities. [Implements Policy 17]

Action Item CON NR-7: The County shall adopt a voluntary Oak Woodland Management Plan to identify and mitigate significant direct and indirect impacts to oak woodlands. Mitigation may be accomplished through a combination of the following measures:

- a) Conservation easement and land dedication for habitat preservation;
- b) Payment of in-lieu fees; and/or
- c) Replacement planting of appropriate size, species, area, and ratio.

[Implements Policy 24]

## WATER RESOURCES GOALS AND POLICIES

**Goal CON-8:** Reduce or eliminate groundwater and surface water contamination from known sources (e.g., underground tanks, chemical spills, landfills, livestock grazing, and other dispersed sources such as septic systems).

**Goal CON-9:** Control urban and rural storm water runoff and related non-point source pollutants, reducing to acceptable levels pollutant discharges from land-based activities throughout the county.

**Goal CON-10:** Conserve, enhance and manage water resources on a sustainable basis to attempt to ensure that sufficient amounts of water will be available for the uses allowed by this General Plan, for the natural environment, and for future generations.

**Goal CON-11:** Prioritize the use of available groundwater for agricultural and rural residential uses rather than for urbanized areas and ensure that land use decisions recognize the long-term availability and value of water resources in Napa County.

**Goal CON-12:** Proactively collect information about the status of the county's surface and groundwater resources to provide for improved forecasting of future supplies and effective management of the resources in each of the County's watersheds.



**Goal CON-13:** Promote the development of additional water resources to improve water supply reliability and sustainability in Napa County, including imported water supplies and recycled water projects.

## WATER RESOURCES POLICIES

Policy CON-41: The County will work to protect Napa County's watersheds and public and private water reservoirs to provide for the following purposes:

- a) Clean drinking water for public health and safety;
- b) Municipal uses, including commercial, industrial and domestic uses;
- c) Support of the eco-systems;
- d) Agricultural water supply;
- e) Recreation and open space; and
- f) Scenic beauty.

Policy CON-42: The County shall work to improve and maintain the vitality and health of its watersheds. Specifically, the County shall:

- a) Use all available sources of assistance to protect and enhance the Napa River and its tributaries and watershed to meet or exceed water quality standards imposed by state and federal authorities (e.g., pursue grants and other funding opportunities to assist in the identification, testing, and improvement of individual septic as well as community waste disposal systems, and to support watershed monitoring/sampling and scientific understanding to inform and develop effective and targeted management options in an adaptive and locally driven manner).
- b) Reduce water pollutants through education, monitoring, and pollutant elimination programs (e.g., watershed education and monitoring programs identified in the Watershed Information Center and Conservancy (WICC) Strategic Plan and Napa County/Resource Conservation District (RCD) Watershed Programs, and pollution reduction goals outlined in Napa County's Phase II National Pollution Discharge Elimination System (NPDES) General Permit from the State Water Board).
- c) Support voluntary cooperative efforts in watershed planning to identify and establish habitat enhancement goals on various reaches of the Napa River and its tributaries, including, but not limited to, the development of localized watershed management plans, project identification, implementation and monitoring to support adaptive management (e.g., Napa Green Certified Land/Fish Friendly Farming, Rutherford Dust Restoration Team, Resource Conservation District's Stewardship Program, on- and off-site habitat protection and mitigation programs, and dozens of other active efforts currently planned or now underway).
- d) Support environmentally sustainable agricultural techniques and best management practices (BMPs) that protect surface water and groundwater quality and quantity (e.g., cover crop management, integrated pest management, informed surface water withdrawals and groundwater use).



- e) Promote and support the use of recycled water wherever feasible, including the use of tertiary treated water, to help improve supply reliability and enhance groundwater recharge.
- f) Support completion of the federal, state, and local government flood control projects that contribute to the health of Napa County's watersheds.
- g) Recognize that unmanaged forests and watersheds can have unintended adverse environmental consequences such as increasing the threat and intensity of wild land fires, which could lead to widespread erosion and degradation of water quality. Support voluntary efforts by landowners to reduce fuel loads in forests and watersheds to reduce this threat.
- h) Recognize that efforts to protect and preserve water for wildlife habitat and watershed health in Napa County can have long term benefits related to adequate water supplies and water quality. [Implemented by Action Items CON WR-1, 4, and 7]

Policy CON-43: Pursuant to the Open Space and Conservation goals and policies that conserve open space and recreational resources, the County shall protect and enhance watershed lands, including the downstream delivery of essential watershed resources and benefits from headwater channels. The County's efforts shall include:

- a) Preserving and where economically feasible restoring the density and diversity of water dependent species and continuous riparian habitats based on sound ecological principles; and
- b) Supporting the acquisition, development, maintenance and restoration of habitat lands for wildlife and watershed enhancement where clearly consistent with General Plan policies.

Policy CON-44: The County shall identify, improve, and conserve Napa County's surface water resources through the following measures:

- a) Evaluate and develop land use policies resulting in the appropriate density and mix of impervious surface and stable vegetation cover to improve water quality and reduce surface water pollution and siltation within domestic water supply watersheds.
- b) Encourage public agencies and private individuals to explore environmentally sensitive ways to store winter runoff in consultation with the State Department of Water Resources and other regulatory agencies.
- c) Promote a balanced approach to managing reservoir outflows, particularly municipal supply reservoirs, through coordination with cities and town to maintain a reliable water supply for domestic uses, minimize flooding, and preserve fish habitat and riparian vegetation.
- d) Work with other agencies to develop a comprehensive understanding of potential deficiencies in surface water supplies, and coordinate with private property owners on a voluntary basis to collect additional surface water data and implement an expanded voluntary monitoring effort to ensure development of effective water



management and conservation strategies where appropriate. [Implemented by Action Items CON WR-1, 4, and 7]

Policy CON-45: Protect the County's domestic supply drainages through vegetation preservation and protective buffers to ensure clean and reliable drinking water consistent with state regulations and guidelines. Continue implementation of current Conservation Regulations relevant to these areas, such as vegetation retention requirements, consultation with water purveyors/system owners, implementation of erosion controls to minimize water pollution, and prohibition of detrimental recreational uses. [Implemented by Action Item CON WR-3]

Policy CON-46: Napa County's past, present, and future are intertwined with that of the Napa River; therefore, the County is committed to improving and sustaining the health of the river, through attaining water quality and habitat enhancement goals, supporting public access to the river for visual appreciation and recreational purposes, and completing federal, state, and local flood control projects that are consistent with "living rivers" principles.

Policy CON-47: The County shall comply with applicable Water Quality Control/Basin Plans as amended through the Total Maximum Daily Load (TMDL) process to improve water quality. In its efforts to comply, the following may be undertaken:

- a) Monitoring water quality in impaired waterbodies identified by the Regional Water Quality Control Board(s).
- b) Addressing failing septic systems in the vicinity of Murphy, Browns Valley, and Salvador Creeks and throughout the County, should they be found to exist.
- c) Retrofitting County-maintained roads to reduce sediment caused by runoff.
- d) Supporting voluntary habitat restoration and bank stabilization efforts, with particular focus on the main stem and main tributaries of the Napa River.
- e) Ensuring continued effectiveness of the National Pollution Discharge Elimination System (NPDES) program and storm water pollution prevention.
- f) Ensuring continued effectiveness of the County's Conservation Regulations related to vineyard projects and other earth-disturbing activities.
- g) Addressing effects related to past and current mining, grazing, and other activities to the extent feasible.
- h) Amending the County's Conservation Regulations or County Code to address excessive sediment delivered to waterways as required by state law, particularly as it relates to private roads and rural unimproved (i.e., dirt or gravel) roads.
- i) Developing outreach and education programs to inform land owners and managers about improving surface water quality (e.g., rural and private road maintenance, soil and vegetation retention, construction site management, runoff control, etc.) and cooperating with other governmental and non-governmental agencies seeking to establish waiver or certification programs. [Implemented by Action Item CON WR-4]



Policy CON-48: Proposed developments shall implement project-specific sediment and erosion control measures (e.g., erosion control plans and/or stormwater pollution prevention plans) that maintain pre-development sediment erosion conditions or at minimum comply with state water quality pollution control (i.e., Basin Plan) requirements and are protective of the County's sensitive domestic supply watersheds. Technical reports and/or erosion control plans that recommend site-specific erosion control measures shall meet the requirements of the County Code and provide detailed information regarding site specific geologic, soil, and hydrologic conditions and how the proposed measure will function.

Policy CON-49: The County shall develop and implement a water quality monitoring program (or programs) to track the effectiveness of temporary and permanent Best Management Practices (BMPs) to control soil erosion and sedimentation within watershed areas and employ corrective actions for identified water quality issues (in violation of Basin Plans and/or associated TMDLs) identified during monitoring. [Implemented by Action Item CON WR-4]

Policy CON-50: The County will take appropriate steps to protect surface water quality and quantity, including the following:

- a) Preserve riparian areas through adequate buffering and pursue retention, maintenance, and enhancement of existing native vegetation along all intermittent and perennial streams through existing stream setbacks in the County's Conservation Regulations (also see Policy CON-27 which retains existing stream setback requirements).
- b) Encourage flood control reduction projects to give full consideration to scenic, fish, wildlife, and other environmental benefits when computing costs of alternative methods of flood control.
- c) The County shall require discretionary projects to meet performance standards designed to ensure peak runoff in 2-, 10-, 50-, and 100-year events following development is not greater than predevelopment conditions.
- d) Maintain minimum lot sizes of not less than 160 acres in Agriculture, Watershed, and Open Space (AWOS) designated areas to reflect desirable densities based on access, slope, productive capabilities for agriculture and forestry, sewage disposal, water supply, wildlife habitat, and other environmental considerations.
- e) In conformance with National Pollution Discharge Elimination System (NPDES) requirements, prohibit grading and excavation unless it can be demonstrated that such activities will not result in significant soil erosion, silting of lower slopes or waterways, slide damage, flooding problems, or damage to wildlife and fishery habitats.
- f) Adopt development standards, in conformance with NPDES Phase II requirements, for post-construction storm water control.
- g) Address potential soil erosion by maintaining sections of the County Code that require all construction-related activities to have protective measures in place or installed by the grading deadlines established in the Conservation Regulations. In

addition, the County shall ensure enforceable fines are levied upon code violators and shall require violators to perform all necessary remediation activities.

- h) Require replanting and/or restoration of riparian vegetation to the extent feasible as part of any discretionary permit or erosion control plan approved by the County, understanding that replanting or restoration that enhances the potential for Pierce's Disease or other vectors is considered infeasible.
- i) Encourage management of reservoir outflows (bypass flows) to maintain fish life and riparian (streamside) vegetation.
- j) Encourage minimal use of chemical treatment of reservoirs to prevent undue damage to fish and wildlife resources.
- k) Prohibit new septic systems in areas where sewage treatment and disposal systems are available and encourage new sewage treatment and disposal systems in urbanized areas where there is high groundwater recharge potential and existing concentrations of septic systems.

Policy CON-50.5: Recognize the importance of water resources that guard against flooding and attenuate floodwaters including those rivers, creeks, streams, flood corridors, riparian habitat, and lands that may accommodate floodwater important for the purposes of groundwater recharge and stormwater management as those areas identified on the County's adopted Federal Emergency Management Agency (FEMA) Flood Insurance Rate Mapping (FIRM)<sup>19</sup>. (see also Policy SAF-25 and Figure SAF-3)

Policy CON-51: Recognizing that groundwater best supports agricultural and rural uses, the County discourages urbanization requiring net increases in groundwater use and discourages incorporated jurisdictions from using groundwater except in emergencies or as part of conjunctive-use programs that do not cause or exacerbate conditions of overdraft or otherwise adversely affect the County's groundwater resources.

Policy CON-52: Groundwater is a valuable resource in Napa County. The County encourages responsible use and conservation of groundwater and regulates groundwater resources by way of its groundwater ordinances. [Implemented by Action Items CON WR-6 and 9]

Policy CON-52.5: Over time, the County should seek ways to increase the institutional capacity and level of expertise within the County related to groundwater issues.

Policy CON-53: The County shall ensure that the intensity and timing of new development are consistent with the capacity of water supplies and protect groundwater and other water supplies by requiring all applicants for discretionary projects to demonstrate the availability of an adequate water supply prior to approval. Depending on the site location and the specific circumstances, adequate demonstration of availability may include evidence or calculation of groundwater availability via an appropriate hydrogeologic analysis or may be satisfied by compliance with County Code "fair-share" provisions or applicable State

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<sup>19</sup> Flood Insurance Rate Map, Napa County, California, Map Number 06055CIND0A (index sheet), Effective Date: September 26, 2008



law. In some areas, evidence may be provided through coordination with applicable municipalities and public and private water purveyors to verify water supply sufficiency.

Policy CON-53.5: Before authorizing any new exportation of water from the County, the County shall ensure an adequate, long term supply of ground and surface water for agriculture, conservation, domestic, industrial, and recreational uses in affected areas/watersheds.

Policy CON-54: The County shall maintain or enhance infiltration and recharge of groundwater aquifers by requiring all projects in designated groundwater deficient areas as identified in the County's groundwater ordinance (County Code Chapter 13.15) be designed (at minimum) to maintain a site's predevelopment groundwater recharge potential, to the extent feasible, by minimizing impervious surfaces and promoting recharge (e.g., via the use of water retention/detention structures, use of permeable paving materials, bio-swales, water gardens, cisterns, and other best management practices). [Implemented by Action Item CON WR-5]

Policy CON-55: The County shall consider existing water uses during the review of new water uses associated with discretionary projects, and where hydrogeologic studies have shown that the new water uses will cause significant adverse well interference or substantial reductions in groundwater discharge to surface waters that would alter critical flows to sustain riparian habitat and fisheries or exacerbate conditions of overdraft, the County shall curtail those new or expanded water uses. [Implemented by Action Item CON WR-6]

Policy CON-56: The County shall discourage the drilling or operation of any new wells in known areas of saltwater intrusion until such time as a program has been approved and funded which will minimize or avoid expansion of salt water intrusion into useable groundwater supplies.

Policy CON-57: The County shall work with appropriate agencies and districts to develop an understanding of potential groundwater deficiencies and coordinate with private property owners to voluntarily collect groundwater data, including implementing effective water management and conservation strategies and encouraging exploration and use of alternative (e.g., non-groundwater) water supplies where feasible to further conserve existing groundwater resources. [Implemented by Action Items CON WR-8 and 9]

Policy CON-58: Recognizing the difficulty of assessing and resolving groundwater problems, the County shall periodically review and update groundwater policies and ordinances as new studies and monitoring data become available to protect the County's surface water and groundwater resources, and implement various protective recommendations outlined in the 2050 Napa Valley Water Resources Study as appropriate (West Yost & Assoc., 2005). [Implemented by Action Item WR-9]

Policy CON-59: The County shall disseminate available information (online or in report format) on groundwater levels on an aggregated drainage basin level or other aggregated scale that is appropriate based on data availability and confidentiality. [Implemented by Action Item WR-5]



Policy CON-60: The County shall promote cost-effective water conservation and water efficiency measures that reduce water loss, waste, and water demand through the following measures:

- a) Taking a leadership role in water conservation efforts, by monitoring and publicly reporting on the County's water use, using low flow fixtures, drought-tolerant landscaping, drip irrigation, recycled water use where available and appropriate, periodic water use "audits" and other strategies to conserve water at all County-owned and operated facilities.
- b) Requiring the use of water conservation measures in areas served by municipal supplies to improve water use efficiency and reduce overall demand including, but not limited to, working cooperatively with all water providers and with developers to incorporate water conservation measures into project designs (e.g., as recommended by the California Urban Water Conservation Council), and coordination with water providers to continue to develop and implement water drought contingency plans to assist County citizens and businesses in reducing water use during periods of water shortages and emergencies.
- c) Seeking cooperative partnerships with government agencies, non-profit organizations, private industry groups, and individuals in furthering water conservation strategies in Napa County.

[Implemented by Action Item CON WR-9]

Policy CON-60.5: All aspects of landscaping from the selection of plants to soil preparation and the installation of irrigation systems should be designed to reduce water demand, retain runoff, decrease flooding, and recharge groundwater.

Policy CON-61: The County shall coordinate and collaborate with other agencies to identify, improve, and conserve Napa County's community and municipal water supply resources as follows:

- a) Environmentally sustainable water supply projects should receive priority attention, including development of sustainable alternative water supplies such as the use of recycled water or other options for non-potable uses in Carneros and the MST groundwater basins.
- b) Manage potential disruptions in water supply from reduced Sierra snow-pack and related drought conditions to ensure a stable water supply in the future by purchasing additional supplies or entitlements, including opportunities to purchase dry year water supplies, modifying standard operational procedures and/or facilities to enhance the availability of local water resources, and planning for water supply treatment facilities and delivery systems to urbanized areas of the county.

[Implemented by Action Item CON WR-7]

Policy CON-62: As stated in Policy AG/LU-74, the County supports the extension of recycled water to the Coombsville area to reduce reliance on groundwater in the MST groundwater basin and exploration of other alternatives. Also, the County shall identify and support ways to utilize recycled water for irrigation and non-potable uses to offset dependency on



groundwater and surface waters and ensure adequate wastewater treatment capacity through the following measures:

- a) Require (as part of continued implementation of County Code Title 13 Division 2 provisions associated with sewer systems) verification of adequate wastewater service for all development projects prior to their approvals. This requirement includes coordination with wastewater service purveyors to verify adequate capacity and infrastructure either exists or will be available prior to operation of the development project.
- b) Use wastewater treatment and reuse facilities where feasible to reclaim, reuse, and deliver treated wastewater for irrigation and possible potable use depending on wastewater treatment standards.
- c) Require proposals for non-residential construction in the Airport Industrial Area and lower Milliken-Sarco-Tulocay Creeks Area to incorporate dual plumbing to allow for the use of non-potable/recycled water when such water becomes available.
- d) Encourage the use of non-potable/recycled water wherever recycled water is available and require the use of recycled water for golf courses where feasible.

Policy CON-63: The County will support the work of the Watershed Information Center and Conservancy (WICC) Board as a clearinghouse for watershed information, a forum for citizen and interagency discussion and cooperation, and development and coordination of watershed monitoring efforts and strategic planning. [Implemented by Action Items CON WR-4, 7, 8, and 9]

Policy CON-64: The County shall monitor the rise in sea levels and resulting saltwater intrusion into surface waters and use adaptive management strategies to modify County practices when warranted. [Implemented by Action Item CON WR-4, 8, and 9]

## WATER RESOURCES ACTION ITEMS

Action Item CON WR-1: Develop basin-level watershed management plans for each of the three major watersheds in Napa County (Napa River, Putah Creek, and Suisun Creek). Support each basin-level plan with focused sub-basin (drainage-level) or evaluation area-level implementation strategies, specifically adapted and scaled to address identified water resource problems and restoration opportunities. Plan development and implementation shall utilize a flexible watershed approach to manage surface water and groundwater quality and quantity. The watershed planning process should be an iterative, holistic, and collaborative approach, identifying specific drainage areas or watersheds, eliciting stakeholder involvement, and developing management actions supported by sound science that can be effectively implemented. [Implements Policies 42 and 44]

Action Item CON WR-2: [Reserved]

Action Item CON WR-3: Update the Conservation Regulations to establish an appropriate protective buffer (e.g., a special protection zone) in areas that drain toward any intake structure associated with the County's sensitive domestic water supply



drainages, requiring specific development and performance measures to protect water quality and balance property owners' ability to use their land and stipulating that discretionary projects must be located outside of the protective buffer wherever this is feasible. [Implements Policy 45]

Action Item CON WR-4: Implement a countywide watershed monitoring program to assess the health of the County's watersheds and track the effectiveness of management activities and related restoration efforts. Information from the monitoring program should be used to inform the development of basin-level watershed management plans as well as focused sub-basin (drainage-level) implementation strategies intended to address targeted water resource problems and facilitate restoration opportunities. Over time, the monitoring data will be used to develop overall watershed health indicators and as a basis of employing adaptive watershed management planning. [Implements Policies 42, 44, 47, 49, 63, and 64]

Action Item CON WR-5: Identify, map, and disseminate information on groundwater recharge areas, to the extent feasible, and provide educational materials and resource information on ways of reducing and limiting the development of non-pervious surfaces in those areas. [Implements Policy 54 and 59]

Action Item CON WR-6: Establish and disseminate standards for well pump testing and reporting and include as a condition of discretionary projects that well owners provide to the County upon request information regarding the locations, depths, yields, drilling and well construction logs, soil data, water levels and general mineral quality of any new wells. [Implements Policy 52 and 55]

Action Item CON WR-7: The County, in cooperation with local municipalities and districts, shall perform surface water and groundwater resources studies and analyses and work toward the development and implementation of an integrated water resources management plan (IRWMP) that covers the entirety of Napa County and addresses local and state water resource goals, including the identification of surface water protection and restoration projects, establishment of countywide groundwater management objectives and programs for the purpose of meeting those objectives, funding, and implementation. [Implements Policy 42, 44, 61 and 63]

Action Item CON WR-8: The County shall monitor groundwater and interrelated surface water resources, using County-owned monitoring wells and stream and precipitation gauges, data obtained from private property owners on a voluntary basis, data obtained via conditions of approval associated with discretionary projects, data from the State Department of Water Resources, other agencies and organizations. Monitoring data shall be used to determine baseline water quality conditions, track groundwater levels, and identify where problems may exist. Where there is a demonstrated need for additional management actions to address groundwater problems, the County shall work collaboratively with property owners and other stakeholders to prepare a plan for managing groundwater supplies pursuant to State Water Code Sections 10750-10755.4 or other applicable legal authorities. [Implements Policy 57, 63 and 64]



- Action Item CON WR-9: The County shall adopt a Water-Efficient Landscape Ordinance for multifamily residential, industrial, and commercial developments regarding the use of water-efficient landscaping consistent with AB 325. [Implements Policy 52, 57, 58, 60, 63 and 64]
- Action Item CON WR-9.5: The County shall work with the SWRCB, DWR, DPH, CalEPA, and applicable County and City agencies to seek and secure funding sources for the County to develop and expand its groundwater monitoring and assessment and undertake community-based planning efforts aimed at developing necessary management programs and enhancements.

## CLIMATE PROTECTION AND SUSTAINABLE PRACTICES FOR ENVIRONMENTAL HEALTH GOALS AND POLICIES

- Goal CON-14:** Promote policies to ensure the long-term sustainability of Napa County, including its environment, economy, and social equity.
- Goal CON-15:** Reduce emissions of local greenhouse gases that contribute to climate change.
- Goal CON-16:** Promote the economic and environmental health of Napa County by conserving energy, increasing the efficiency of energy use, and producing renewable energy locally.
- Goal CON-17:** Reduce air pollution and reduce local contributions to regional air quality problems, achieving and maintaining air quality in Napa County which meets or exceeds state and federal standards.
- Goal CON-18:** Provide sufficient long-term solid waste disposal capacity for the County consistent with California Integrated Waste Management Act (Public Resources Code section 40000, et seq.) requirements.

*Note to the Reader: Please see the Open Space Conservation and Water Resources sections above for additional policies regarding water conservation and sustainable practices related to habitat preservation and forest, and open space management.*

## CLIMATE PROTECTION AND SUSTAINABLE PRACTICES FOR ENVIRONMENTAL HEALTH POLICIES

- Policy CON-65: The County shall support efforts to reduce and offset greenhouse gas (GHG) emissions and strive to maintain and enhance the County's current level of carbon sequestration functions through the following measures:



- a) Study the County's natural, agricultural, and urban ecosystems to determine their value as carbon sequesters and how they may potentially increase.
- b) Preserve and enhance the values of Napa County's plant life as carbon sequestration systems to recycle greenhouse gases.
- c) Perpetuate policies in support of urban-centered growth and agricultural preservation preventing sprawl.
- d) Perpetuate policies in support of alternative modes of transportation, including transit, paratransit, walking, and biking.
- e) Consider GHG emissions in the review of discretionary projects. Consideration may include an inventory of GHG emissions produced by the traffic expected to be generated by the project, any changes in carbon sequestration capacities caused by the project, and anticipated fuel needs generated by building heating, cooling, lighting systems, manufacturing, or commercial activities on the premises. Projects shall consider methods to reduce GHG emissions and incorporate permanent and verifiable emission offsets.
- f) Establish partnerships with experts, trade associations, non-governmental associations, and community and business leaders to support and participate in programs related to global climate change.

[Implemented by Action Items CON CPSP-1 and 2]

Policy CON-66:

The County shall promote the implementation of sustainable practices and green technology in agriculture, commercial, industrial, and residential development through the following actions:

- a) Project Construction
  - 1) Utilize recycled, low-carbon, and otherwise climate-friendly building materials such as salvaged and recycled content materials for buildings, hard surfaces, and landscaping materials.
  - 2) Minimize, reuse, and recycle construction-related waste.
  - 3) Utilize alternative fuels in construction equipment and require construction equipment to utilize the best available technology to reduce emissions.
- b) Education and Outreach
  - 1) Assure that County staff is trained to provide guidance, if requested, to residents and agricultural, commercial, and industrial users on sustainable practices and green technology.
  - 2) Cooperate with and develop partnerships with public, private, and non-profit groups to further the knowledge and implementation of sustainable practices.
  - 3) Encourage residential, commercial, industrial, processing, and agricultural projects to develop methods to reduce and capture CO<sub>2</sub> produced and emitted and to sequester that which is captured.



- c) Residential Development
  - 1) Increase the supply of affordable and workforce housing to encourage local workers to live in the County, minimize commuting and reduce greenhouse gas emissions.
  - 2) Consistent with policies in the Agriculture Preservation and Land Use Element, residential development shall be focused in urbanized areas.

Policy CON-67: The County shall promote and encourage “green building” design, development, and construction through the achievement of Leadership in Energy and Environmental Design (LEED) standards set by the U.S. Green Building Council, the Green Point Rated system standards set by Builditgreen.org, or equivalent programs. Actions in support of this policy shall include:

- a) Audit current County practices to assess opportunities and barriers to implementation of current sustainable practices.
- b) Amend the County Code as necessary to remove barriers to and encourage “green” construction.
- c) Develop new County buildings as “green buildings,” utilizing sustainable construction and practices.
- d) Encourage all new large development projects and major renovation of existing facilities to be based on Green Building Council standards utilizing sustainable construction and practices to achieve a minimum LEED rating of Silver, or comparable level on the Green Point Rated system per standards set by Builditgreen.org or other comparable updated rating systems.
- e) Support state and federal incentive programs that offer rebates and cost sharing related to the implementation of “green building” standards and LEED certification.

[Implemented by Action Item CON CPSP-3]

Policy CON-68: The County shall promote research and the development and use of advanced and renewable energy technology through the following actions:

- a) Use expedited permit processing or other incentives as promotion mechanisms.
- b) Assist in securing grants to support the implementation of photovoltaic, wind, and other renewable energy technologies to provide a portion of the County’s energy needs.
- c) Encourage the use of renewable energy resources in residential, commercial, industrial, and agricultural projects and uses.

[Implemented by Action Item CON CPSP-4]

Policy CON-69: The County shall provide incentives and opportunities for the use of energy-efficient forms of transportation such as public transit, carpooling, walking, and bicycling. This shall include the provision and/or the extension of transit to urban areas where development densities (residential and nonresidential) would support transit use, as well as bus turnouts/access, bicycle storage, and carpool/vanpool parking where appropriate.



## CONSERVATION

- Policy CON-70: The County shall seek to increase the amount of energy produced through locally available energy sources, including establishing incentives for, and removing barriers to, renewable and alternative energy resources (solar, wind) where they are compatible with the maintenance and preservation of environmental quality. [Implemented by Action Items CON CPSP-4 and 5]
- Policy CON-71: The County shall encourage the use of bio-fuels and geothermal resources where feasible and environmentally sustainable.
- Policy CON-72: The County shall seek to reduce the energy impacts from new buildings by applying Title 24 energy standards as required by law and providing information to the public and builders on available energy conservation techniques, products, and methods available to exceed those standards by 15 percent or more.
- Policy CON-73: The County shall monitor the ecological effects of climate change in Napa County over time, including sea level rise, effects on water resources, local microclimates, native vegetation, agriculture, and the economy. Consistent with the principle of adaptive management, the County shall adapt policies and operations to address identified effects as feasible.
- Policy CON-74: The County shall evaluate new technologies for energy generation and conservation and solid waste disposal as they become available, and shall pursue their implementation as appropriate in a manner consistent with the principle of adaptive management. This evaluation shall include review of promising technological advances which may be useful in decreasing County greenhouse gas (GHG) emissions, increase in renewable energy that is generated locally, and review of the County's success in meeting targets for GHG emission reductions. [Implemented by Action Item CON CPSP-4]
- Policy CON-75: The County shall work to implement all applicable local, state, and federal air pollution standards, including those related to reductions in GHG emissions. [Implemented by Action Item CON CPSP-6]
- Policy CON-76: The County shall minimize air pollutant emissions from all County facilities and operations to the extent feasible, consistent with the County's desire to provide a high level of public service.
- Policy CON-77: All new discretionary projects shall be evaluated to determine potential significant project-specific air quality impacts and shall be required to incorporate appropriate design, construction, and operational features to reduce emissions of criteria pollutants regulated by the state and federal governments below the applicable significance standard(s) or implement alternate and equally effective mitigation strategies consistent with BAAQMD's air quality improvement programs to reduce emissions.

*Note to the Reader: Please see the Circulation Element for more policies on transportation demand management. The County shall emphasize "demand management" strategies which seek to reduce single-occupant vehicle use in order to achieve state and federal air quality plan objectives and shall seek to ensure that public transit is a viable and attractive alternative to the use of private motor vehicles.*



In addition to these policies, the County's land use policies discourage scattered development which contributes to continued dependence on the private automobile as the only means of convenient transportation. The County's land use policies also contribute to efforts to reduce air pollution.

Policy CON-78: The County shall support intergovernmental efforts directed at stringent tailpipe emission standards and inspection and maintenance programs for all feasible vehicle classes, and revisions to BAAQMD's Ozone Attainment Plan to accelerate and strengthen market-based strategies consistent with the General Plan. [Implemented by Action Item CON CPSP-6]

Policy CON-79: The County shall ensure that all County vehicles conform with applicable emission standards at the time of purchase and throughout their use. To the extent feasible, the County shall purchase the lowest emitting vehicles commercially available to meet County vehicle needs.

Policy CON-80: The County shall seek to reduce particulate emissions and avoid exceedences of state particulate matter (PM) standards by:

- a) Providing information regarding low emitting fireplaces to property owners who are constructing or remodeling homes.
- b) Fireplaces or wood stoves for new development shall comply with current local and state emission standards for wood-burning stoves or shall be fueled by natural gas.
- c) Disseminating information in support of the BAAQMD's "Spare the Air Tonight" program (and other related programs) when PM exceedences are projected to occur.
- d) Disseminating information regarding agricultural burn requirements established by the BAAQMD.
- e) Requiring implementation of dust control measures during construction and grading activities and enforcing winter grading deadlines.

Policy CON-81: The County shall require dust control measures to be applied to construction projects consistent with measures recommended for use by the BAAQMD.

Policy CON-82: The County shall require applicants seeking demolition permits to demonstrate compliance with any applicable BAAQMD requirements, particularly those related to asbestos-containing materials (ACMs) and exposure to lead paint. [Implemented by Action Item CON CPSP-6]

Policy CON-83: The County shall prepare and disseminate maps showing areas where soils are known to contain naturally occurring asbestos and shall require enhanced dust suppression measures for grading and construction projects in these areas consistent with BAAQMD requirements.

Policy CON-84: The County shall require the establishment and maintenance of adequate buffer distances or filters or other equipment modifications for new sources of toxic air contaminants (TACs) and odors near proposed or existing sensitive receptors consistent



with local and state regulatory requirements and guidelines. [Implemented by Action Item CON CPSP-6]

*Note to the Reader: See the Community Character Element for additional policies related to odors.*

Policy CON-85: The County shall utilize construction emission control measures required by CARB or BAAQMD that are appropriate for the specifics of the project (e.g., length of time of construction and distance from sensitive receptors). These measures shall be made conditions of approval and/or adopted as mitigation to ensure implementation. [Implemented by Action Item CON CPSP-6]

Policy CON-86: The County shall implement the 2002 Napa County Countywide Integrated Waste Management Plan, consistent with California Integrated Waste Management Act (Public Resources Code section 40000 et seq) requirements, including the plan's Summary Plan, Siting Element, Source Reduction and Recycling Element (SRRE); Household Hazardous Waste Element (HHWE) and Non-Disposal Facility Element (NDFE). [Implemented by Action Item CPSP-6]

Policy CON-87: The County shall promote solid waste source reduction, reuse, recycling, composting and environmentally-safe transformation of waste. The County shall seek to comply with the requirements of AB 939 with regard to meeting state-mandated targets for reductions in the amount of solid waste generated in Napa County.

Policy CON-88: The County shall provide information to businesses and residents on available options to implement waste reduction targets. Other actions may include:

- a) Actively promoting a comprehensive, consistent, and effective recycled materials procurement effort among other governmental agencies and local businesses.
- b) Encouraging all companies that do business in Napa County to recycle and reuse construction scraps, demolition materials, concrete, industrial waste, and green waste.

Policy CON-89: The County itself shall be a leader in promoting waste reduction and recycling through a variety of means when feasible, including:

- a) Adopting requirements for the use of recycled base materials (e.g., recycled raw batch materials, rubberized asphalt from recycled tires, and other appropriate materials), if practicable, in requests for bids for public roadway construction projects.
- b) Procurement policies and procedures, which facilitate purchase of recycled, recyclable, or reusable products and materials where feasible.
- c) Requiring contractors to provide products and services to the County, including printing services, demonstrating that they will comply with the County's recycled materials policies.
- d) Providing recycling centers at County facilities to the public free of charge.



Policy CON-90: The County shall support efforts to provide solid waste resource recovery facilities and household hazardous waste collection facilities convenient to residences, businesses, and industries.

Policy CON-91: Encourage the maximum protection of all environmental values at solid waste disposal sites by the adoption of standards of planning, design, construction, operation, and maintenance, including:

- a) Location away from residential areas.
- b) Screening from view.
- c) Good road access, not through residential areas.
- d) No inhabited areas downwind from the site because dust and odor problems can occur in even the most carefully conducted operations.
- e) Location to prevent flooding and pollution and contamination of surface and ground water.
- f) Haul distance standards.

Policy CON-92: The County shall support and encourage the re-use and development of lands for open space and recreational purposes following the implementation of landfill closure programs.

## CLIMATE PROTECTION AND SUSTAINABLE PRACTICES FOR ENVIRONMENTAL HEALTH ACTION ITEMS:

Action Item CON CPSP-1: The County shall develop a greenhouse gas (GHG) emissions inventory measuring baseline levels of GHGs emitted by County operations through the use of electricity, natural gas, fossil fuels in fleet vehicles and County staff commute trips, and shall establish reduction targets. [Implements Policy CON-65]

Action Item CON CPSP-2: The County shall conduct a GHG emission inventory analysis of all major emission sources in the County by the end of 2008 in a manner consistent with Assembly Bill 32, and then seek reductions such that emissions are equivalent to year 1990 levels by the year 2020. Development of a reduction plan shall include consideration of a “green building” ordinance and other mechanisms that are shown to be effective at reducing emissions. [Implements Policy CON-65]

Action Item CON CPSP-3: The County shall conduct an audit within the next five years of County facilities to evaluate energy use, the effectiveness of water conservation measures, production of GHGs, use of recycled and renewable products and indoor air quality to develop recommendations for performance improvement or mitigation. The County shall update the audit periodically and review progress towards implementation of its recommendations. [Implements Policy CON-67]



## CONSERVATION

Action Item CON CPSP-4: The County shall map Napa County’s biomass, wind, geothermal, solar photovoltaic, solar thermal, biofuel, landfill gas, and other potential renewable energy sources and partner with other organizations and industry to disseminate information about the potential for local energy generation. [Implements Policies CON-68, 70, and 74]

Action Item CON CPSP-5: The County shall quantify increases in locally generated energy between 2000 and 2010, and establish annual numeric targets for local production of “clean” (i.e., minimal GHG production) energy by renewable sources, including solar, wind, biofuels, waste, and geothermal. [Implements Policy CON-70]

Action Item CON CPSP-6: The County shall periodically review and update the County Code to be consistent with requirements of CARB and the BAAQMD. [Implements Policies CON-75, 78, 82, 84, 85 and 86]