

CHAPTER 10
AGRICULTURAL RESOURCES

CHRONOLOGY OF UPDATE

NOVEMBER 30, 2005—VERSION 1



AGRICULTURAL PATTERNS

PURPOSE

The purpose of this chapter is to provide a comprehensive inventory of existing agricultural resources in Napa County. This chapter documents agricultural distribution and production, as well as the relative importance of agriculture in Napa County and the local economy. Land conversion trends, current and future threats to agriculture, and potential productive agricultural lands are also identified.

**NAPA COUNTY BASELINE DATA REPORT:
AGRICULTURAL RESOURCES**

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LIST OF ACRONYMS AND ABBREVIATIONS

AP	Agricultural Preserve
AW	Agricultural Watershed
BDR	Baseline Data Report
CDC	California Department of Conservation
CDF	California Department of Forestry and Fire Protection
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
EIR	Environmental Impact Report
FMMP	State Farmland Mapping and Monitoring Program
FPP	Farmland Protection Program
FPR	Forest Practice Rules
FRPP	Farm and Ranch Lands Protection Program
LAFCO	Local Agency Formation Commission
NGO	Non-Governmental Organization
NRCS	Natural Resources Conservation Service
PRC	Public Resources Code
RCD	The Napa County Resource Conservation District
RPF	State Registered Professional Forester
SSURGO	Soil Survey Geographic Database
TCP	Timber Conversion Permit
THP	Timber Harvest Plan
USDA	United States Department of Agriculture

INTRODUCTION

This chapter provides an account of agricultural resources within Napa County. It discusses the federal, state, and local policies and regulations that govern Napa's agricultural resources. Presented in this chapter are the methods used to identify and quantify agricultural resources, including prime farmland, prime grazing land, and potential future agricultural land. The extent and intensity of existing agricultural activities are additionally documented. For the purposes of this chapter, the County has been divided into the following 11 evaluation areas:

- Lower Napa Valley (Carneros, Napa River Marshes, and Jamieson/American Canyon)
- Napa Valley Floor
- Western Mountains
- Livermore Ranch Area
- Angwin Area
- Eastern Mountains (excludes Angwin Area)
- Pope Valley
- Central Interior Valleys (Chiles, Capell, and Soda valleys and adjoining uplands)
- Southern Interior Valleys (Wooden and Gordon Valleys and adjoining uplands)
- Berryessa Area (includes adjoining uplands and subsidiary valleys to Berryessa Valley)
- Knoxville Area (includes Upper Putah Creek Area)

PURPOSE

The purpose of this chapter is to provide a comprehensive inventory of the existing agricultural resources in Napa County. This chapter identifies the distribution of agricultural resources within the County as a whole and characterizes the resources in detail within 11 evaluation areas (listed above). This chapter documents agricultural production and agriculture's relative importance in the County and local economy, documents local and Countywide land conversion trends, identifies current and future threats to agriculture, and identifies potential productive agricultural lands. The purpose of this chapter is also to provide a scientific basis for future Countywide, regional, and site-specific level assessments of project impacts and the evaluation of mitigation measures, conservation proposals, and enhancement opportunities for agricultural resources in Napa County.

This chapter provides the existing conditions section for the agricultural resources discussion in a planned Countywide General Plan Update; serves as a basis to evaluate current and future policies in the County at the local and Countywide level as they relate to agricultural resources protection; and documents the methods and definitions used to establish a Countywide searchable agricultural resources database.

SPECIALIZED TERMS

- *Irrigated Farmland.* Prime Farmland, Unique Farmland, and Farmland of Statewide Importance (as defined by the State Farmland Mapping and Monitoring Program [FMMP]).
- *Mass wasting.* Mass wasting is defined as the down slope movement of rock and regolith near the Earth's surface mainly due to the force of gravity.
- *Non-Irrigated Farmland.* Farmland of Local Importance, Grazing Land, Urban and Built-up Land, Other Land, and Land Committed to Nonagricultural Use (as defined by the FMMP).
- *Viticulture.* The cultivation or culture of grapes especially for wine making

POLICY CONSIDERATIONS

Federal, state and local policies relevant to agricultural resources in Napa County are described below. Local agricultural policies for evaluation areas are described where applicable.

FEDERAL POLICIES

FARM AND RANCLAND PROTECTION PROGRAM

The Farm and Ranchland Protection Program (FRPP) is authorized under 7 CFR Part 1491. The Farm Security and Rural Investment Act of 2002 repealed the Farmland Protection Program (FPP), established by the federal Agriculture Improvement and Reform Act of 1996, and authorized a new farmland protection program. The goal of the FRPP is to protect farm and ranch lands that contain prime, unique or statewide and locally important soils or historic and archeological resources from conversion to non-agricultural uses. The program is intended to preserve valuable farm and ranch lands for future generations. The FRPP objectives are to assist eligible entities in acquiring perpetual conservation easements to: 1) protect topsoil from conversion to non-agricultural uses, and 2) ensure that the agricultural capacity of the soils remains viable for future generations. To be eligible, the farm or ranch land must contain prime, unique, statewide or locally important farmland, or contain historic or archaeological resources and be subject to a pending easement offer from a state, Tribal, or local governmental entity or Non-Governmental Organization.

Within Napa County's 11 evaluation areas (totaling approximately 485,000 acres); approximately 51,000 acres are active agricultural land, containing primarily vineyards with smaller areas of crops and orchards. Approximately 53,800 acres are grazing land. Agriculture is the leading source of revenue for Napa County. Wine grapes alone, produced in 2004, were valued at \$350 million, and total agriculture in 2004 was valued at \$357 million.

According to the Natural Resources Conservation Service (NRCS), as of June 2005, there are no lands in Napa County currently enrolled in this program nor does the likelihood exist that land will be enrolled in the future (Blake 2005). Due to the high market value of land in Napa County, there is little incentive for landowners to enroll in the program as they would only receive a few thousand dollars an acre.

The Farm and Ranchland Protection Program is used relatively lightly in the U.S., and the land nationwide that is enrolled in this program is often located in places where land is threatened by development. With Napa County's land use rules and regulations protecting farmland, this program is not necessarily needed (Blake 2005).

NATURAL RESOURCES CONSERVATION SERVICE

The NRCS provides local landowners with experienced professional advice about soil and water development and conservation. This process of local people working to assess community conservation needs, make decisions and implement solutions is called Locally Led Conservation. At the local level, the NRCS administers an agricultural program known as EQIP (Environmental Quality Incentives Program) which offers financial and technical help to assist eligible participants install or implement structural and management practices on eligible agricultural land.

STATE POLICIES

State policies related to agricultural resources include the Williamson Act and legislation related to the FMMP.

WILLIAMSON ACT

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, has its roots in the immediate post-World War II period. During that time California's agricultural and open space lands began to face dramatically increasing conversion pressures from population growth, new commercial enterprises, and rising property taxes. Valuable farmland began disappearing at an increasing rate as conversion to urban uses became the only financially viable alternative for many landowners. The Williamson Act evolved, and continues to evolve, as a statewide strategic response to these pressures.

The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Private land within locally-designated agricultural preserve areas is eligible for enrollment under contract. The minimum term for contracts is ten years. However, since the contract term automatically renews on each anniversary date of the contract, the actual term is essentially indefinite unless non-renewal procedures are enacted by the landowner or county.

The Williamson Act Program has remained stable and effective as a mechanism for protecting agricultural and open space land from premature and unnecessary urban development. Participation in the program has been steady, hovering at about 16 million acres enrolled under contract statewide since the early 1980s. This number represents about one third of all privately held land in California, and about one half of all the state's agricultural land. Every indication points to an indefinite continuation of this level of participation into the future.

Napa County currently has approximately 69,000 [see table provide below] acres of land under Williamson Act Contracts (Aubrey 2005).

Type	Contracts	Acres
A	244	11,950.26
E	1	453,1307.19
F	20	3,086.01
H	308	53,967.16
TOTAL	573	69,003.43*

*as of 08/10/05

FARMLAND MAPPING AND MONITORING PROGRAM

Authority for the Farmland Mapping and Monitoring Program comes from Government Code Section 65570(b) and Public Resources Code Section 612. Government Code Section 65570(b) requires the Department of Conservation to collect or acquire information on the amount of land converted to or from agricultural use for every mapped county and to report this information to the Legislature. This chapter is due biennially (every two years) on or before June 30 of every even-numbered year. Public Resources Code Section 612 requires the Department to prepare, update, and maintain Important Farmland Series Maps and other soils and land capability information. Other legislation related to the Farmland Mapping and Monitoring Program is Government Code Section 51283(d), which provides for funding, and Public Resources Code Section 21060.1, which defines agricultural land for California Environmental Quality Act purposes (State Farmland Mapping and Monitoring Program 1994a).

COUNTY POLICIES

The Napa County Agricultural Commissioner's Office is responsible for the implementation of federal, state and local regulatory programs within Napa County. Specifically, these programs are designed to protect people and the environment and promote agriculture within the County of Napa. The Agricultural Commissioner also oversees the Pesticide Use Enforcement Programs, which ensures that pesticides (including herbicides, fungicides, insecticides, etc.) are used safely, appropriately, and in accordance with state law. Program components include the enforcement of state and federal worker protection standards, licensing and restricted material laws, and other laws and regulations designed to protect people and the environment (Kemmerer 2004).



Organic Farming Practices

The Napa County Weed Management Area is a county-based group composed of diverse stakeholders interested in weed control coordinated by the Napa County Agricultural Commissioner's Office.

The Napa County Weed Management Area has been officially formed. Their memorandum of understanding was approved in 2005 (Kemmerer 2005).

The goal of the NCWMA is to significantly reduce the impact of harmful non-native weeds in Napa County in order to:

- increase rangeland and cropland values
- decrease agricultural production costs
- maintain the health of native plant communities
- increase the aesthetic and recreational value of park land and natural areas
- decrease road, park, garden and watershed maintenance costs
- reduce fire hazard and fire control costs
- reduce flood hazard and soil erosion.

Policy recommendations have not yet been formed.

NAPA COUNTY GENERAL PLAN POLICIES

The Napa County General Plan sets forth comprehensive long-term land use goals and policies for the County. The Land Use Element of the Napa County General Plan details existing land uses throughout the County, as well as goals and policies to guide land use planning and development. This element provides standards that apply to land use classifications, including standards regarding intent, general uses, minimum parcel size, and maximum density. In addition to policies in the Land Use Element, the Conservation and Open Space Element also contains policies related to agricultural resources. Napa County's current General Plan policies related to agriculture are as follows:

LAND USE ELEMENT

- GOAL 1—To plan for agriculture and related activities as the primary land uses in Napa County and concentrate urban uses in the County's existing cities and urban areas.
- GOAL 3—To determine what the land is best suited for; to match man's activities to the land's natural capabilities and minimize conflict with the natural environment.

- GOAL 5a—Ensure the long-term protection and integrity of those areas identified in the General Plan as Agricultural, Open Space, or undevelopable.
- 1.10 WATERSHED PROTECTION—The County will protect the public interest in drainage systems and water impoundments from sedimentation, siltation, and contamination and ensure that urban, agricultural, and resource development projects utilize sound short-term and long-term erosion control measures.
- 2.3 RECREATIONAL FACILITIES ON AGRICULTURAL LANDS—The County will encourage recreational uses on lands designated for agriculture only where those uses will meet the recreational needs of Napa County residents and are beneficial to residents of Napa County, will not deplete or degrade natural resources on which nearby or onsite agriculture depends, and where the type of recreation would not be adversely affected by commencement, intensification, or continuation of local agricultural activity.
- 2.4 OPEN SPACE CHARACTER OF RURAL RESIDENTIAL USES—Recreational uses permitted on lands designated for agriculture, watershed and/or open space shall be limited in density, intensity, need for public services, impacts on the natural environment, and growth inducement. Such uses shall maintain the character of the surrounding area, require a minimum of public support services (such as paved roads, emergency services, or law enforcement), a minimum of impervious surfaces, structures, natural landform alteration or other introduced or constructed features inconsistent with a rural environment, and shall not significantly contribute to the likelihood that additional non-agricultural uses of agricultural land will be proposed to support or be accessory to the continued existence of the recreational uses.
- 3.1 AGRICULTURE-ECONOMIC ROLE—The County will enact and enforce regulations which will retain agriculture as a major source of income and employment in Napa County.
- 3.2 AGRICULTURAL PRESERVE—The County will initiate studies to evaluate means, methods, advantages, and disadvantages of placing the existing agricultural preserve plus potential agricultural acreage under permanent land use protective controls. The County will develop additional types of Agricultural Preserves suitable for localized conditions in such places as Carneros, Coombsville and Congress, Foss, Gordon, Capell, Chiles and Pope Valleys; and hillside viticultural areas.
- 3.3 AGRICULTURAL SUPPORT SYSTEM—The County will develop a coordinated plan to promote an agricultural support system including physical components (such as farm labor housing, equipment supply and repair) and institutional components (such as 4-H, FFA, agricultural education and experimentation).
- 3.4 AGRICULTURAL TAXATION—The County will initiate studies of tax assessment policies which recognize the long term intent of agricultural zoning and the fact that agricultural land uses require a minimum of public expenditure for protection and servicing.

- 3.5 AGRICULTURAL—Urban Relationships -The County will develop planning concepts and zoning standards designed to minimize conflicts arising from encroachment of urban uses into agricultural areas. Land in proximity to existing urban areas currently in mixed agricultural and rural residential uses will be treated as Residential Country Areas and further parcelization of these areas will be discouraged. Day care centers will be allowed in agricultural areas where there is a finding there is and will be no conflict with agricultural use of the vicinity.
- 3.6 AGRICULTURAL ZONING—The County will establish minimum agricultural parcel sizes which reflect the availability of natural resources, in order to assure that agricultural areas can be maintained as economic units.
- 3.7 FARM LABOR HOUSING—The County will develop standards in the General Plan and Zoning Ordinance to allow agriculturalists to construct farm labor housing appropriate for the support of long-term agriculture in Napa County. Permanent or seasonal farm labor housing may only be provided where there is a need for full-time farm employment by at least one employee who would be a resident of the unit on the site. This need must be demonstrated to exist on the site of the farm labor housing, and/or on neighboring lands owned or controlled by the applicant, and/or on lands in the vicinity of the residential unit under the ownership or control of the applicant for which agricultural employees require housing.
 - a) *Seasonal Farm Labor Housing*—Seasonal farm labor housing may be provided in agricultural areas without regard to the location of farm employment when the housing is under public agency ownership or control.
- 3.8 GRAZING LANDS—The County will protect agricultural lands used for grazing, even though they may not be considered prime soils; excepting those lands south of Soscol Ridge which are shown in Figure 14 of the General Plan as planned for urban development.
- 3.9 HILLSIDE AGRICULTURE—The County, working in conjunction with the Soil Conservation Service, will monitor hillside agricultural operations, and in conjunction with the Soil Conservation Service, establish standards for terracing, contour planting, and maintenance of permanent cover crops on slopes exceeding 15%.
- 3.10 PRIME AGRICULTURAL LANDS—The County will reserve prime agricultural lands for agricultural use.
- 3.11 PROCESSING OF AGRICULTURAL PRODUCTS—Agriculture includes the production and processing of food and fiber, the growing of crops, produce and feed as well as the raising of livestock and animals. In the case of wineries, processing includes tours and tasting, retail sales of wine produced by or for the winery partially or totally from Napa County grapes, activities for the education and development of consumers and members of the wine trade with respect to wine produced by or at the winery, and limited non-commercial food service, provided any such activities are clearly accessory to the principal use of the facility as an agricultural processing facility. No

other use or development of a parcel located in an agricultural area shall be permitted unless it is needed for the agricultural use of the parcel, except as provided in Policies 3.7 and 3.7(a) above. The processing of agricultural products often takes on an industrial character which will be subject, in general, to the same kinds of regulations as other industrial uses.

- 3.12 RIGHT-TO-FARM—The County will affirm and protect the right of agriculture operators in designated agricultural areas to continue their agricultural practices, even though established urban uses in the general area may foster complaints against those agricultural practices. The existence of a “Right-To-Farm” policy will be indicated on all parcel maps approved for locations in or adjacent to designated agricultural areas.
- 3.13 WINERY LOCATION AND DESIGN—Wineries and related activities will, where practical, be located on sites off of prime soils areas and should be designed to convey the attractiveness associated with existing Napa Valley wineries.
- 3.14 WATER SUPPLY—The County will initiate studies to develop a comprehensive understanding of the potentials and deficiencies of surface and underground water supplies in Napa County.
- 3.15 FORESTRY—The County will encourage active forest management practices including timely harvesting to preserve existing forests. The County will encourage timber plantations for fuel wood production.
- 5.4 COMMERCIAL AREAS—Policies recognizing commercial uses in certain areas designated as Agricultural Watershed and Open Space and Agriculture Resource by the General Plan and permitting expansions thereof within the existing commercially zoned portion of such parcels.
 - a) In addition to those commercial facilities located in areas designated as urban on the Napa County Land Use Plan Map, there currently are a number of existing parcels partially or entirely commercially-zoned as well as a small number of non-commercially-zoned parcels fronting upon the west side of the Napa River south of the city of Napa, which are designated as “Agricultural, Watershed and Open Space” and “Agricultural Resource” on the Napa County Land Use Map. Commercial zoning and/or commercial use of most of these parcels pre-date the current General Plan and in many instances the original General Plan as well. Some of the existing commercial establishments provide important services to surrounding agricultural and open-space recreational areas.

The purpose of this policy is to recognize in the Napa County General Plan the commercial nature of the commercially-used portions of such parcels, and to allow additional commercial development in these locations under only three circumstances: where existing commercial uses can expand on land which is already zoned commercially; where pre-existing, lawfully established marine-commercial uses exist on parcels without commercial zoning but which otherwise would be eligible for marine-commercial zoning; and to the extent that a minimum



Horse Corral, Carneros Area



Typical Agriculture

parcel size is specified in commercial zone districts as of February 1, 1991, the parcel is already developed with an existing permitted commercial use on the portion commercially-zoned, and the amount of land so zoned did not meet that minimum. This policy recognizes that due to the small number of such parcels, their limited capacity for commercially-viable agriculture due to pre-existing uses and/or size, location and lot configuration, and the minimal impact such commercial operations and expansions will have on adjacent agricultural or open space activities or the agricultural and open space character of the surrounding area, such limited development will not be detrimental to the Agriculture, Watershed or Open Space policies of the General Plan. Therefore such development is consistent with all of the goals and policies of the General Plan.

- b) All existing commercial establishments qualifying under Policy 5.4(a) that are currently located within a commercial zoning district shall be allowed to continue to operate and use the existing buildings and/or facilities. Additional commercial uses which are permitted by the existing commercial zoning of the parcel shall be permitted on that portion of the parcel zoned commercial. Request that a non-conforming use be permitted to convert to a conforming use shall also be permitted on that portion of the parcel zoned commercial.
 - c) Existing restaurants qualifying under Policy 5.4(a) that are currently located within a commercial zoning district shall be allowed to increase the number of seats accommodated within existing buildings and/or facilities on any parcel designated as a historic restaurant combination zoning district. Due to the small number of such restaurants, limited seating expansions within existing commercial buildings and facilities will not be detrimental to the Agriculture, Watershed or Open Space policies of the General Plan.
- 8.3 PUBLIC/QUASI-PUBLIC LANDS—On parcels which are designated “Agricultural Resource” or “Agriculture, Watershed and Open Space” on the Napa County Land Use Map, existing uses of the type specified in Policy 8.1 shall be allowed to continue to operate and to use the existing buildings and/or facilities but shall be allowed to expand in size and volume of business only for the purpose of modernizing the facilities and meeting additional demonstrated public needs.

CONSERVATION AND OPEN SPACE ELEMENT

OPEN SPACE FOR MANAGED PRODUCTION OF RESOURCES

C. AGRICULTURAL LAND

3. Conservation Policy

- (a) Limit growth to minimize urban development on prime soils and reduce conflict with the agricultural operations and economy.
- (c) Provide a permanent means of preservation of open space for agricultural production by utilizing, wherever possible, methods such as the Williamson Act, exclusive permanent agriculture zoning

or acquisition by purpose, gift, grant, bequest, devise, lease or otherwise, the fee or any lesser interest or right in real property and lease-back to agriculturalists.

- (e) 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 adapted vegetation shall be required.
- (h) Encourage Williamson Act contracts for agricultural lands adjoining cities by adopting and implementing policies such as large lot zoning, urban limit lines, etc., to limit urban expansion and encourage development of vacant land in areas already urbanized.
- (i) Encourage the establishment of a green belt of land used for agriculture, wildlife habitat, recreational or other suitable open space purposes in the American Canyon Area along North Slough, Fagan Creek, American Canyon Creek, and the Eucalyptus Tree Grove to west of Oat Hill.
- (j) Establish minimum lot sizes of not less than 40 acres in prime soil areas and 160 acres in non-prime soil and watershed areas for the purpose of preserving open space uses in appropriate locations.

LAND USE DESIGNATIONS

The Napa County General Plan contains land use designations for agricultural uses. The designations specify the intent of the designation, general uses allowed, minimum parcel size, and maximum dwelling size. The two designations for agriculture are 1) Agriculture, Watershed and Open Space, and 2) Agricultural Resource.

The Agriculture, Watershed and Open Space designation is intended for areas predominately used for agriculture, processing of agricultural products, and single-family dwellings. This designation is also intended for areas where watershed areas, reservoirs, floodplain tributaries, geologic hazards, or soil conditions make the land unsuitable for urban development or where urban development would adversely impact those uses and where the protection of agriculture, watersheds, and floodplain tributaries, and erosion is essential to general health, safety, and welfare. The minimum parcel size for this designation is 160 acres with a maximum of one residential dwelling per parcel.

The Agricultural Resource designation is used to identify valley and foothill areas of the County where agriculture is, and should continue to be, a predominant land use. Uses incompatible with agriculture and open space should be precluded, including urban type uses. General uses are the same as the Agriculture, Watershed and Open Space designation with a 40 acre minimum parcel size and a maximum of one residential dwelling per parcel.

LEGISLATION

Voters in Napa County have passed two pieces of local legislation related to agriculture: Measure A and Measure J as described below.

MEASURE A

The Slow Growth Initiative, Measure A, is a voter approved initiative that required the County to prepare and adopt a Growth Management System Element as part of the Napa County General Plan. The Growth Management System of the General Plan describes the derivation of the annual dwelling unit allocation, the division of the annual allocation into housing type categories, the timing and methods used for issuing building permits, and the required provisions for affordable housing.

The Growth Management System Element satisfies the state requirement for the County to plan for development of its fair share of the regional housing need and outlines an annual growth rate calculation and building permit allocation. The building permit allocation describes categories of dwellings, exempted types of development, location of growth, timing, and defines affordable housing.

MEASURE J

Napa County's Agricultural Lands Preservation Initiative, also known as Measure J, was approved by the voters on November 6, 1990. Measure J ensures that until December 31, 2020 the general plan provisions governing intent & maximum building intensity, and those governing minimum parcel size may not be changed to reduce the minimum parcel size except by vote of the people. In addition, lands designated as "Agricultural Resource" or "Agriculture, Watershed and Open Space" on the Napa County General Plan Land Use Map adopted by the Board of Supervisors on September 8, 1975, as amended through February 1, 1990 may not be redesignated to another land use category except by a majority vote of the people, the land is annexed to a city, or redesignated by the Board of Supervisors pursuant to procedures set forth in the initiation and only if certain findings can be made. The general plan at the time of adoption of Measure J provided for a minimum parcel size of 40 to 160 acres for lands designated "Agriculture, Watershed and Open Space"; and a minimum parcel size of 40 acres for lands designated "Agricultural Resource". General Plan amendments involving lands designated as "Agricultural Resource" or "Agriculture, Watershed and Open Space" cannot be implemented without a majority vote. Measure J also stipulates that all new growth must be accommodated within the urban limit lines of existing communities.

NAPA COUNTY ZONING ORDINANCE

The Napa County Zoning Ordinance contains three agricultural zoning designations: the Agricultural Watershed (AW), Agricultural Preserve (AP), and the Agricultural Combination (:A) district. The AW zoning classification is intended for those areas of the County where the predominant use is agriculturally oriented; or where watershed areas, reservoirs and floodplain tributaries are presently

located or where development would adversely impact on all such uses; and where the protection of agriculture, watersheds, and floodplain tributaries from fire, pollution, and erosion is essential to the general health, safety and welfare.

The AP zoning classification is applied to the fertile valley and foothill areas of Napa County containing existing agriculture and where agriculture should continue to be the predominant land use, where uses incompatible to agriculture should be precluded, and where the development of urban-type uses would be detrimental to the continuance of agriculture and the maintenance of open space. The :A combination district classification is applied in predominantly residential areas where agriculture is and should continue to be a compatible land use.

The County Code also contains a Right to Farm (Chapter 2.94, County Code) provision, which states that the County has determined that the highest and best use for agricultural land is to develop or preserve lands for the purposes of agricultural operations. The County will not consider the inconveniences or discomforts arising from agricultural operations to be a nuisance if such operations are legal, consistent with accepted customs and standards, and operated in a non-negligent manner. The County requires that prior to the issuance of a permit, lease, license, certificate, or other entitlement for use of a parcel adjacent to agricultural land that the owner(s) of the property must sign a statement acknowledging that they are aware of the "right to farm" policy of the County. Agricultural operation includes all operations necessary to conduct agriculture including, but not be limited to, preparation, tillage, and maintenance of the soil or other growing medium, the production, irrigation, frost protection, cultivation, growing, raising, breeding, harvesting, or processing of any living organism having value as an agricultural commodity or product, and any commercial practices performed incident to or in conjunction with such operations on the site where the agricultural product is being produced, including preparation for market, delivery to storage or to market, or to carriers for transportation to market.

Agricultural zoning provides for one unit to 40 acres residential density in the County's AP zone on the Valley floor, and 40 to 160 acre minimums in the agricultural watershed (AW) covering the hillsides.

The Napa County Zoning and Stormwater Management and Discharge Control Ordinance (No. 1240, Chapter: 16.28) requires that prior to commencement of a project involving grading, earthmoving, or land disturbance of any kind on slopes greater than 5%, an erosion control plan must be prepared by a qualified professional and approved by the County unless Standard Erosion Control Measures are permitted (e.g., the project is specifically exempt from review under Sections 18.108.070[A] or 18.108.050 of the Napa County Code) (Napa County 2004). Since the Hillside Ordinance (also known as the Conservation Regulations, or Ordinance 991) became law in September of 1991, most new developments proposed for sites with ground slopes of 5% or greater are permitted only after County approval of Erosion Control Plans submitted by the applicant. The Napa County Resource Conservation District (RCD) reviews all new developments and some replants, passing on its recommendations to Napa County Conservation, Development, and Planning Department, which makes the actual approval.

Voters in Napa County have passed two pieces of local legislation related to agriculture: Measure A and Measure J.

NAPA COUNTY RESOURCE CONSERVATION DISTRICT

The RCD, which represents most of Napa County, is charged with protecting and enhancing the resources within the district boundaries. Originally established to aid farmers and ranchers in their soil erosion control efforts, and to provide assistance in water conservation, the districts have expanded their services to communities, school districts, economic development programs, river basin and watershed projects, environmental improvement programs and local sub-basin landowner stewardships.

METHODOLOGY

DEFINITION OF STUDY AREA

The study area for the agricultural resources discussed in this section includes the unincorporated areas of Napa County. To facilitate local area planning and analysis of agricultural resources, the County was initially divided based on its major physiographic features (mountain ranges and intervening valleys) and jurisdictional divisions (i.e., towns and cities versus county unincorporated lands) into 13 evaluation areas. The boundaries of these areas were then adjusted to better reflect areas with differing climate, predominant land uses, and types of agriculture found there. The result was the 11 evaluation areas used in this chapter. Making this division allowed areas having distinctive agricultural uses to be analyzed independently from the rest of the County.

The Unincorporated Areas of Napa County included in this chapter are Lower Napa Valley (Carneros, Napa River Marshes, and Jamieson/American Canyon), Napa Valley Floor, Western Mountains, Livermore Ranch Area, Angwin Area, Eastern Mountains (excludes Angwin Area), Pope Valley, Central Interior Valleys (Chiles, Capell, and Soda valleys and adjoining uplands), Southern Interior Valleys (Wooden and Gordon Valleys and adjoining uplands), Berryessa Area (includes adjoining uplands and subsidiary valleys to Berryessa Valley), and the Knoxville Area (includes Upper Putah Creek Area).

TECHNICAL APPROACH

Existing farmlands and vineyards within the County have been identified using available information from the following sources:

- Napa County Agricultural Commissioner Report (2005) and discussions with staff
- 2002 Digital Orthophotography for entire County – delineated existing vineyards and orchards

- County Assessor Parcel/Land Use Data – reclassified in coordination with County staff
- Williamson Act Grazing Contracts
- State Crop Reporting Service

Farmland conversion trends were analyzed using available information from the following sources:

- Farmland Mapping and Monitoring Data, 1992 – 2002, created by the California Department of Conservation, Division of Land Resource Protection
- Farmland Conversion Reports for Napa County
- USDA crop information
- State Crop Reporting Service
- County Agricultural Commissioner Reports

The following sources were used in identifying agricultural land suitability (potential productive soils/land suitability) including Timberlands and Prime Rangeland:

- US Department of Agriculture, Natural Resources Conservation Service SSURGO (Soil Survey Geographic Database)
- Existing classifications verified with NRCS and County staff

Existing USDA Soil Surveys for Napa County were also reviewed to determine agricultural soil types meeting the criteria for Prime Farmland.

Planning documents and ordinances for Napa County relating to agricultural resources were reviewed. Historical farmland conversion trends were analyzed to determine implications of potential agricultural conversion. Projections of future agricultural development were made based on soil data, current County zoning, County and City land use designations, state policies, County legislation, County General Plan policies and Countywide land use trends.

Maps associated with this chapter are presented at the end of the chapter, and include Existing Agriculture; Potential Timber Producing Areas; Potential Rangeland; Potential Croplands; and Other Potentially Productive Soils.



Napa Valley Floor

AGRICULTURAL RESOURCES

INTRODUCTION

This section provides a summary of existing agricultural resources in Napa County, historic crop production, and estimated economic contribution. Summary tables of historic crop production over the last twenty years, including changes in the production of black and white wine grapes are provided. The agricultural soil classification system and soil types in Napa County are described. Prime farmlands are described for each evaluation area and areas suitable for potential agricultural expansion are identified. The section also includes a discussion of surrounding agricultural and non-agricultural uses and the location of existing agricultural resources with respect to agricultural preserves established by the Napa County Zoning Ordinance.

EXISTING AGRICULTURAL RESOURCES

FARMLANDS AND GRAZING LAND

Agricultural areas are widespread throughout the County, with vineyards and rangeland located in portions of every evaluation area (see Map 10-1). The 11 evaluation areas in Napa County analyzed in this chapter (approximately 485,000 acres) have approximately 51,000 acres (or 10.5% of the total evaluation areas) of active agricultural land consisting primarily of vineyards with smaller areas of crops and orchards (Napa County Conservation Development and Planning Department, 2005a). The County does not track the amount of acres in production of miscellaneous row crops.

Grazing Land is defined in Government Code §65570(b)(3) as: "...land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock." The minimum mapping unit for Grazing Land is 40 acres. Grazing Land does not include land previously designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance, and heavily brushed, timbered, excessively steep or rocky lands which restrict the access and movement of livestock (State Farmland Mapping and Monitoring Program 1994a).

Napa County has approximately 53,800 acres of existing grazing land (or 11% of the total evaluation areas) (Napa County Conservation Development and Planning Department, 2005a).

Table 10-1 shows the existing farmland in Napa County and Table 10-2 shows the existing amount of rangeland in Napa County (see Map 10-1, Existing Agriculture).

Table 10-1: Existing Farmland in Napa County (2005)

Evaluation Area	Acres
Angwin Area	657
Berryessa Area	0
Central Interior Valleys	1,525
Eastern Mountains	4,286
Knoxville Area	45
Lower Napa Valley	9,043
Livermore Ranch Area	84
Napa Valley Floor	25,581
Pope Valley	3,782
Southern Interior Valleys	1,580
Western Mountains	3,990
Totals	50,573

Source: Napa County Conservation Development and Planning Department, 2005a

Table 10-2: Existing Grazing Land in Napa County (2005)

Evaluation Area	Acres
Angwin Area	24
Berryessa Area	7,827
Central Interior Valleys	4,329
Eastern Mountains	7,579
Knoxville Area	5,489
Lower Napa Valley	4,696
Livermore Ranch Area	74
Napa Valley Floor	649
Pope Valley	8,842
Southern Interior Valleys	7,632
Western Mountains	6,659
Total	53,800

Source: Napa County Conservation Development and Planning Department, 2005a

CROP PRODUCTION

HISTORIC CROP PRODUCTION AND ECONOMIC CONTRIBUTION

While Napa County is known as a premier wine grape growing region, a small variety of agricultural crops are also grown. In 2004, the largest amount of orchard acreage is devoted to walnuts and olives, at approximately 116 acres and 146 acres, respectively. Other orchard crops grown in the County are almonds, apples, apricots, cherries, figs, nectarines, peaches, pears, persimmons, plums, prunes, and citrus. Row crops include strawberries, specialty salad greens, and vegetables such as tomatoes, corn,



Vineyards

Agricultural areas are widespread throughout the County, with vineyards and rangeland located in portions of every evaluation area.



Strawberry Field

artichokes, and beans. Napa County also produces hay, flowers, and cut Christmas trees and nursery stock such as ornamental plants, bedding plants, aquatic plants, and indoor decorative plants (King 2004).

Agriculture is the leading source of revenue for Napa County. Wine grapes alone, produced in 2004, were valued at \$350 million with the value for the most part having increased over the years. Total agriculture in 2004 was valued at \$357 million, down from \$393 million in 2003. Tables 10-3a and 10-3b list recent and historic crop production, respectively, including acreage, crop yields, and total crop values for the County. In the following tables, irrigated pastures and range acreage are considered crops.

Row crops and orchards are clustered primarily along the Napa Valley Floor evaluation area. Pockets of orchards are located in portions of the Western Mountains, Lower Napa Valley (Carneros, Napa River Marshes, and Jamieson/American Canyon), Eastern Mountains, Livermore Ranch, Pope Valley, Central Interior Valley, and Southern Interior Valleys evaluation areas. The Western Mountains evaluation area contains areas of olives, walnuts, citrus, and small amounts of other types of fruits. Olives, walnuts, pears, and prunes are grown in the Lower Napa Valley evaluation area. The Livermore Ranch Area contains fruit and nut tree orchards. The Pope Valley, Central Interior Valley, and Southern Interior Valleys evaluation areas have small areas where fruits, nuts, and olives are grown. Table 10-4 shows the types of orchards in Napa County and the acreage devoted to different orchard crops.

Table 10-3a: Napa County Recent Crop Production, Yields, and Total Value

Crop	2004			2003		
	Acres	Yield/Acre	Total Value	Acres	Yield/Acre	Total Value
Black Wine Grapes	30,526	2.84	\$283.1 million	29,144	3.20	\$314.5 million
White Wine Grapes	9,913	3.34	\$66.4 million	9,962	3.57	\$70.1 million
<i>Total Wine Grapes</i>	<i>40,439</i>	<i>6.18</i>	<i>\$349.5 million</i>	<i>39,106</i>	<i>6.77</i>	<i>\$384.6 million</i>
Walnuts	116	.24	\$25,100	131	.31	\$34,400
Olives	146	2.65	\$225,600	96	1.4	\$57,300
Strawberries	—	—	\$215,000	—	—	—
Miscellaneous Fruits & Nuts	—	—	\$27,800	—	—	\$67,000
All Vegetables	—	—	\$136,500	—	—	\$182,000
Oat Hay	193	3.43	\$62,700	520	3.5	\$154,700
Poultry and Other Animal Products	—	—	\$437,900	—	—	\$453,000
Livestock	—	—	\$2.28 million	—	—	\$2.44 million
Pasture & Rangeland	—	—	\$343,000	—	—	\$397,790
Floral & Nursery Crops	—	—	\$3.97 million	—	—	\$4.54 million
<i>Agricultural Production Total</i>	—	—	<i>\$357,214,600</i>	—	—	<i>\$392,929,000</i>

Source: Napa County Agricultural Commissioner 2004

Table 10-3b: Napa County Historic Crop Production, Yields, and Total Value

Crop	2002			1992			1982		
	Acres	Yield/Acre	Total Value	Acres	Yield/Acre	Total Value	Acres	Yield/Acre	Total Value
Black Wine Grapes	26,853	3.4	—	16,995	4.37	—	13,174	3.99	—
White Wine Grapes	10,219	3.8	—	14,160	4.31	—	10,994	4.20	—
<i>Total Wine Grapes</i>	<i>37,072</i>	<i>3.5</i>	<i>\$380 million</i>	<i>31,155</i>	<i>4.34</i>	<i>\$167.7 million</i>	<i>24,168</i>	<i>4.08</i>	<i>\$76.3 million</i>
Walnuts	111	0.31	\$31,000	309	0.54	\$229,000	748	0.60	\$514,000
Prunes*	—	—	—	—	—	—	88	0.38	\$23,000
Miscellaneous Fruits & Nuts	N/A	N/A	\$148,000	N/A	N/A	\$201,000	N/A	N/A	\$149,000
Vegetables (includes miscellaneous field crops)	N/A	N/A	\$193,000	N/A	N/A	\$247,000	N/A	N/A	\$475,000
Small Grains**	—	—	—	100	N/A	\$8,000	1,200	N/A	\$106,000
Hay	540	3.0	\$126,000	2,500	2.25	\$270,000	3,000	2.0	\$408,000
Irrigated Pastures	350	N/A	\$42,000	900	N/A	\$112,000	425	N/A	\$34,000
Range	95,000	N/A	\$394,000	100,000	N/A	\$400,000	120,000	N/A	\$636,000
Floral & Nursery Crops	N/A	N/A	\$4.66 million	N/A	N/A	\$2.2 million	N/A	N/A	\$2.7 million
<i>Agricultural Production Total</i>			<i>\$385.6 million</i>			<i>\$171.4 million</i>			<i>\$81.3 million</i>

*Category not included in 1992 and 2002 reports.

**Category not included in 2002 report.

Source: Napa County Agricultural Commissioner 1982, 1992, 2002.



Nursery

Table 10-4: Orchard Crop Acreages

Crop	Acreage
Almonds	0.03
Apples	9.45
Apricot	0.03
Cherry	0.83
Fig	0.11
Citrus	3.12
Nectarine	0.22
Olives	112.04
Peach	2.28
Pear	3.07
Persimmon	0.46
Plum	0.28
Prune	2.47
Walnut	130.55
<i>Total</i>	<i>264.94</i>

Source: Napa County Agricultural Commissioner 2004

The acreage of wine grapes grown in Napa and the economic contribution of grapes to Napa County have steadily increased over the last century. Throughout the 1920s, 30s, and 40s, prunes were the highest value crop in Napa County. Grapes, walnuts, and pears were important crops during these times, as well. Beginning in the 1950s, wine grape production began expanding and by the early 1960s wine grapes were the highest value crop in Napa County. Since that time, fruit and nut orchards have declined in acreage (Napa County Agricultural Commissioner 1932, 1942, 1952, 1962, 1973, 1982, 1992, 2002).

Since 1982, the increase in wine grapes has resulted in a doubling in total value of the wine grape crop. Floral and nursery crops have increased, nearly doubling in value since 1982. Today, the production of wine grapes and floral and nursery crops account for the highest economic contribution to the agricultural economy of Napa County; although the floral and nursery contribution is a very small percentage of the economic contribution compared to that of wine grapes. Prunes are no longer produced in any viable quantity and walnut, vegetables, hay, and rangeland acreage has steadily decreased in recent decades.

Napa County produces a variety of both black and white wine grapes. The amount of acreage planted in black varieties has steadily increased over the past several years and by 2002 the acreage of black varieties had tripled compared to the acreage of white varieties. The acreage devoted to several white varieties has increased over time, such as Chardonnay, Sauvignon Musque, and Viognier, although these increases remain small in comparison to the increases black varieties have experienced and do not offset the total decrease in acreage devoted to white varieties. Among black varieties, the acreage of Cabernet Franc, Cabernet Sauvignon, Merlot, Pinot Noir, Sangiovese, and Syrah has increased by significant amounts (National Agricultural Statistics Service 2004). The varieties of grapes grown in Napa County are likely to change over time due to varying consumer demand for certain types of wine. Tables 10-5 and 10-6 show the acreages of white and black grape varieties in production since 1982 and also illustrates the changes in varieties and acreage that have occurred over a 20 year period per the Napa County Agricultural Commissioner's Office.

The County Agricultural Commissioner's office counts the total number of vines planted in each vineyard while the County Conservation and Development Department uses aerial photographs of vineyard blocks and GIS to estimate the gross number of planted acres. This analysis did not remove actual un-planted areas, such as vineyard avenues or staging areas, as did the Agricultural Commissioner's estimate. As a result, the Conservation Department's estimate of total planted acres is usually larger than that the Agricultural Commissioner's estimate.

Table 10-5: 1982-2002 Changes in Production of Black Grape Varieties

Black Varieties	1982	1992	2002	1982-2002	1982-2002
	Acres	Acres	Acres	Numeric Change	Percentage Change
Alicante Bouschet	20			-20	-100.0%
Barbera	12		23	11	91.7%
Cabernet Franc	194	722	961	767	395.4%
Cabernet Sauvignon	5,755	10,367	16,472	10,717	186.2%
Carignane	159		10	-149	-93.7%
Charbono	84	36	45	-39	-46.4%
Dolcetto			18	18	100.0%
Early Burgundy	60			-60	-100.0%
Gamay (Napa)/Valdiguie	1,043	395	126	-917	-87.9%
Gamay Beaujolais	429	66		-429	-100.0%
Grenache	23		16	-7	-30.4%
Grand Noir	26			-26	-100.0%
Grignolino	18			-18	-100.0%
Malbec	9		142	133	1477.8%
Mataro	6			-6	-100.0%
Merlot	716	3,029	7,428	6,712	937.4%
Meunier/Pinot Meunier			96	96	100.0%
Petite Sirah	838	397	439	-399	-47.6%
Petit Verdot		79	304	304	100.0%
Pefosco/Mondeuse	66			-66	-100.0%
Pinot Meunier		156		0	100.0%
Pinot Noir	2,313	2,685	2,804	491	21.2%
Pino St. George	73			-73	-100.0%
Primitivo			27	27	100.0%
Ruby Cabernet	11			-11	-100.0%
Sangiovese		189	523	523	100.0%
Syrah (French)/ Shiraz	30		804	774	2580.0%
Tempranillo			13	13	100.0%
Tannat	7			-7	-100.0%
Zinfandel	2,121	2,253	1,714	-407	-19.2%
Other Blacks	18	174	111	93	516.7%
Total Blacks	14,031	20,546	32,076	18,045	128.6%

Source: Napa County Agricultural Commissioner 1982, 1992, 2002.

The acreage of wine grapes grown in Napa and the economic contribution of grapes to Napa County have steadily increased over the last century. Since 1982, the increase in wine grapes has resulted in a doubling in total value of the wine grape crop. Floral and nursery crops have increased, nearly doubling in value since 1982. Today, the production of wine grapes and floral and nursery crops account for the highest economic contribution to the agricultural economy of Napa County.



Winery

Table 10-6: 1982-2002 Changes in Production of White Grape Varieties

White Varieties	1982	1992	2002	1982-2002	1982-2002
	Total Acres	Total Acres	Total Acres	Numeric Change	Percentage Change
Burger	108			-108	-100.0%
Chardonnay	5,177	11,000	8,087	2,910	56.2%
Chenin Blanc	2,297	1,189	141	-2,156	-93.9%
Flora	82	13	9	-73	-89.0%
Folle blanche	55			-55	-100.0%
French Colombard	397	60		-397	-100.0%
Gewurztraminer	495	107	20	-475	-96.0%
Grey Riesling	307	53		-307	-100.0%
Green Hungarian	60			-60	-100.0%
Malvasia bianca	6			-6	-100.0%
Melon	31			-31	-100.0%
Muscat of Alexandria	6			-6	-100.0%
Muscat blanc	137	76	56	-81	-59.1%
Palomino	66			-66	-100.0%
Pinot blanc	226	138	32	-194	-85.8%
Pinot gris/Pinot Grigio			176	176	100.0%
Red Veltliner	6			-6	-100.0%
Roussanne			7	7	100.0%
Saint Emilion	45			-45	-100.0%
Sauvignon blanc	2,338	2,921	1,881	-457	-19.5%
Sauvignon Musque			82	82	100.0%
Sauvignon vert	105		5	-100	-95.2%
Semillion	190	356	207	17	8.9%
Sylvaner	107			-107	-100.0%
Viognier		32	118	118	100.0%
White Riesling	1,400	400	137	-1263	-90.2%
Other Whites	28	62	38	10	35.7%
Total Whites	13,561	16,405	10,996	-2,565	-18.9%

Source: Napa County Agricultural Commissioner 1982, 1992, 2002.

AGRICULTURAL SOIL TYPES

A more detailed discussion of the soils of Napa County is provided in the geological resources chapter of the baseline data report (BDR). Napa County is comprised of over 80 different types of soils. The most predominant soil type is Bressa-Dibble Complex (30 to 50% slope) which accounts for 12.3% of the soil in the County. Other predominant soils types in the County include Henneke Gravelly Loam (30 to 75% slope) at 10.9%, Maymen-Millsholm-Lodo Association (30 to 75% slope) at 6.2%, Bressa-Dibble Complex (50 to 75% slope) at 4.4%, Hambright Rock Outcrop Complex (30 to 75% slope) at 3.8%, Forward Gravelly Loam (30 to 75%) at 3.7%, Sobrante Loam (30 to 50% slope) at 3.0%, Rock Outcrop-Kidd Complex (50 to 75% slope) at 2.9%, and Bale Clay Loam (0 to 2% slopes) at 2.4%. Of these predominating soil types, only Bale Clay Loam is classified as Prime Farmland or Farmland of Statewide Importance. Rock outcrops account for 2.2% of Napa County soils. All other soils types compose less than 2% of soil in Napa County.

SURROUNDING AGRICULTURAL AND NON-AGRICULTURAL USE

Due to the predominance of agricultural land in Napa County, much its agricultural lands are surrounded by other agricultural land, vineyards, or rural residential uses. The Upper Napa Valley Floor primarily consists of Prime Farmland with areas of urban and built-up land surrounded by agricultural uses. Non-agricultural areas with the closest adjacency to agriculture are located in the Lower Napa Valley area where the Napa Valley Floor meets the Carneros and Jamieson/American Canyon area. Areas internal to the Lower Napa Valley evaluation area also contain residential uses adjacent to vineyard and agricultural lands, particularly in the Jamieson/American Canyon area.

AGRICULTURAL PRESERVES

In addition to the Williamson Act, as previously described, Napa County has additional mechanisms for retaining land in agricultural uses. The AP designation in the Napa County Zoning Ordinance is applied to lands in the fertile valley and foothill areas of Napa County where the County feels that agriculture is and should continue to be the predominant land use. These lands may or may not be located in Williamson Act contracts as each parcel of land is evaluated for inclusion in the Williamson Act on a parcel by parcel basis. Additionally, parcels under Williamson Act contracts that lie outside of the AP zoning district are themselves "agricultural preserves." At the time of adoption of the Agricultural Preserve designation in 1968, approximately 23,000 acres became protected under the ordinance. Currently, 31,009 acres in Napa County are protected under the AP designation (Napa County 2005b).

Beyond agricultural zoning, Napa County has some of California's strongest policies for preserving farmland as a result of both voter initiatives and legislative actions by local governments. These policies include: (1) voter passage in 1990 of Measure J, which prevents the rezoning of agricultural properties for development without further voter approval; (2) voter approval in 1980 of Measure A, a cap on



Typical Vineyard Row

building permits in unincorporated areas to allow only a 1% annual population increase; and (3) adoption of a Rural Urban Limit Line by the city of Napa in 1975.

In addition to the Agricultural Preserves, private mechanism exists for preserving land. The Land Trust of Napa County is a non-profit organization that holds more than 33,000 acres of private land protected from development (Faragher 2005). This land is held in either conservation easements (20,000 acres) or owned-in-fee by the Land Trust. Conservation easements are created through a signed agreement by the owner that limits development rights or retains agricultural uses forever. These lands remain in private ownership and management, but landowners voluntarily restrict future development on their properties (Faragher 2005). With the exception of Alston Park and the Newell Open Space (which were preserved specifically as public parks), these properties are not open to public use; however, some land has permitted access on a limited basis. The Land Trust also owns lands outright, either purchased through grant funds or donated, and which will remain undeveloped. Some of these lands are transferred to government natural resource agencies or other nonprofit foundations (Johnson 2004).

URBAN LAND

As discussed previously, urban and built-up lands are located throughout the Napa Valley Floor and mostly consist of the incorporated cities in Napa County including American Canyon, Napa, Yountville, St. Helena and Calistoga. Outside of the city limits, Napa County has little urban land, the majority of which is located in the Angwin area. Small developed areas also exist around Jamieson/American Canyon, Lake Berryessa, Pope Valley and the Eastern Mountains.

Some of these urban areas, located in both the County and individual cities, also have small pockets of land zoned for agricultural use that are preserved for such uses (McDowell 2004). Tables 10-20, shown later in this chapter, provide a list of the total acreage of urban and built-up land located in each evaluation area.

AGRICULTURAL RESOURCE CONVERSION TRENDS

AGRICULTURAL CLASSIFICATION SYSTEM

The FMMP has classified soils in Napa County. This classification system was developed by the State Department of Conservation's Division of Land Resource Protection and was based on the system developed by the USDA Soil Conservation Service Land Inventory and Monitoring System.

The State FMMP defines Prime Farmland, Unique Farmland and Farmland of State Importance as Irrigated Farmland and the other categories (Farmland of Local Importance, Grazing Land, Urban and Built-up Land, Other Land, and Land Committed to Nonagricultural Use) as Non-Irrigated Farmland.

PRIME FARMLAND

Prime Farmland is land which has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods. Prime Farmland must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

FARMLAND OF STATEWIDE IMPORTANCE

Farmland of Statewide Importance is land other than Prime Farmland which has a good combination of physical and chemical characteristics for the production of crops. It must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

UNIQUE FARMLAND

Unique Farmland is land which does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, that has been used for the production of specific high economic value crops at some time during the two update cycles prior to the mapping date. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to current farming methods. Examples of such crops may include oranges, olives, avocados, rice, grapes, and cut flowers. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

FARMLAND OF LOCAL IMPORTANCE

As defined by the state, Farmland of Local Importance is either currently producing crops, has the capability of production, or is used for the production of confined livestock. Farmland of Local Importance is land other than Prime Farmland, Farmland of Statewide Importance or Unique Farmland. This land may be important to the local economy due to its productivity or value. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use. In a few counties the local advisory committee has elected to additionally define areas of Local Potential (LP) farmland. This land includes soils which qualify for Prime Farmland or Farmland of Statewide Importance, but generally are not cultivated or irrigated. However, the Board of Supervisors in each County within the state has the authority to adopt or recommend changes to the category of Farmland of Local Importance.

In Napa County, Farmland of Local Importance includes areas of soils that meet all the characteristics of Prime Farmland or of additional Farmland of Statewide Importance with the exception of irrigation. These farmlands include dryland grains, haylands, and dryland pasture (California Department of Conservation 2000).



Agriculture related activity

As shown in Table 10-7, nearly 8% of the land area of Napa County is classified as Prime Farmland or Farmland of Statewide Importance.

Since 1992 very little Prime Farmland has been committed to nonagricultural use. Very little conversion of Irrigated Farmland to Urban and Built-Up uses occurred in 2001. The greatest and most obvious trend in Napa County is the conversion of Farmland of Local Importance, Grazing Land, or Other Land to Irrigated Farmland.

Table 10-7: Napa County Land Summary

Land Type	Acres	Percent of Land Area
Prime Farmland	31,158	6.16%
Farmland of Statewide Importance	8,990	1.78%
Unique Farmland	17,136	3.39%
Farmland of Local Importance	18,004	3.56%
<i>Important Farmland Subtotal</i>	<i>75,288</i>	<i>14.88%</i>
Grazing Land	184,409	36.45%
<i>Agricultural Land Total</i>	<i>259,697</i>	<i>51.34%</i>
Urban and Built-up Land	21,110	4.17%
Other Land	202,621	40.05%
Water	22,431	4.43%
<i>Total Land Area</i>	<i>505,859</i>	<i>100%</i>

Source: California Department of Conservation 2002

Table 10-8 shows the acreage of agricultural land within each evaluation area. The greatest amounts of Prime Farmlands are located in the Napa Valley Floor area, at over 24,000 acres. The Pope Valley/Central Interior Valleys area has the second greatest amount of Prime Farmlands, although this amount is much less than the Napa Valley Floor, with a total of less than 4,000 acres.

While not considered as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance are all important agricultural assets to Napa County. Vineyards do well in these other soils, and in some cases it is preferable for them to be located on soils that are not classified Prime Farmland. The Lower Napa Valley (Carneros, Napa River Marshes, and Jamieson/

American Canyon) contains the greatest amount of Farmland of Statewide Importance, with the Napa Valley Floor having the second greatest amount. The Western Mountains and Napa Valley Floor includes the highest acreages of Unique Farmlands, at approximately 4,450 and 3,900 acres, respectively. The largest concentrations of Farmland of Local Importance are located in the Pope Valley/Central Interior Valleys and Lower Napa Valley. The Berryessa and Knoxville areas contain the largest amount of grazing lands. Although the Berryessa area is composed of more acres of agricultural land than all the other evaluation areas, the vast majority of this acreage is grazing land. The greatest amounts of high quality agricultural soils are located in the Napa Valley Floor, an area currently intensely developed with agricultural uses.

COUNTYWIDE CONVERSION TRENDS

Since 1992 very little Prime Farmland has been committed to nonagricultural use. No Important Farmlands were converted to nonagricultural uses from 1992 to 1994. From 1994 to 1996, 11 acres of Prime Farmland was converted. More conversion occurred in the time period of 1996 to 1998, with 192 acres of Farmland of Local Importance and 103 acres of Grazing Land committed to nonagricultural uses. From 1998 to 2000, 73 acres of Prime Farmland, 24 acres of Farmland of Statewide Importance, and 1,817 acres of Farmland of Local Importance was committed to nonagricultural uses. During this same time period, 128 acres of grazing land was converted to nonagricultural use (State Farmland Mapping and Monitoring Program 2000). The amount of rangeland has decreased in the County over the last 20 years by over 20%. According to the Napa Agricultural Commission office, conversion of grazing land to vineyards is generally slowing down (Clark 2004).

Very little conversion of Irrigated Farmland to Urban and Built-Up uses occurred in 2001. The acreage was so small that the Farmland Mapping and Monitoring Program noted that one conversion occurred, but did not report the acreage. Some conversions consisting of approximately 360 acres of Farmland of Local Importance or Grazing Land to Urban and Built-Up uses occurred in the southern part of Napa County (State Farmland Mapping and Monitoring Program 2001). Examples of recent urbanization in Napa County include the 130-acre La Vigne Homes development in American Canyon and a 60-acre industrial development near the interchange of Highways 29 and 12 (California Department of Conservation 2005b).

Table 10-8: Evaluation Areas Agricultural Soils

	Lower Napa Valley	Napa Valley Floor	Western Mountains	Livermore Ranch	Angwin	Eastern Mountains	Pope Valley/Central Interior Valleys	Southern Interior Valleys	Berryessa Area	Knoxville Area
Prime Farmland	2,006.4	24,010.8	247.2	15.1	53.4	714.9	3,922.5	993.3	0.022	38.3
Farmland of Statewide Importance	5,446.7	2,629.4	311.8	0	276.1	561.4	375.7	86.9	0.012	89.3
Unique Farmland	3,280.7	3,918.8	4,451.6	54.6	424.5	3,590.8	1,702.1	570.5	0.017	1.8
Farmland of Local Importance	5,086.9	1,560.2	653	140.3	100.1	1,587.7	5907.4	1,150.1	1767.4	1999.9
Grazing	8,319.2	1,255.8	8,791.1	525.9	0	23,503.7	27,588.9	23,593.4	50,555.6	35,656.8
<i>Total</i>	<i>24,139.9</i>	<i>33,375</i>	<i>14,454.7</i>	<i>735.9</i>	<i>854.1</i>	<i>29,958.5</i>	<i>39,496.6</i>	<i>26,394.6</i>	<i>52,323.0</i>	<i>37,786.1</i>

Source: Napa County Agricultural Commissioner 2004

Between 2000 and 2002, 6,370 acres of Irrigated Farmland was converted to Farmland of Local Importance, Grazing Land, or Other Land while 514 acres of Irrigated Farmland was converted to Urban and Built-up land. The County experienced some unusual changes from Urban and Built-Up Land to Irrigated Farmland (692 acres) in areas near the City of Napa boundary, which were due to an increase in the density of grapevine plantings to the point that some lands were reclassified (Clark 2004).

The greatest and most obvious trend in Napa County is the conversion of Farmland of Local Importance, Grazing Land, or Other Land to Irrigated Farmland. This conversion has taken place on parcels ranging in size from 10 acres to 260 acres. Between 2000 and 2002, approximately 8,385 acres were converted from Farmland of Local Importance, Grazing Land, or Other Land to Irrigated Farmland. This conversion of agricultural land from one type to another is due to the conversion of lower economic value grazing lands or orchards into higher value vineyards (which accounted for many of the acres of irrigated farmland created). Table 10-9 displays land use conversions in Napa County between 2000 and 2002.

Table 10-9: Land Use Conversion from 2000 to 2002 in Napa County

Land Use Category	Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	Subtotal Important Farmland	Grazing Land	Total Agricultural Land	Urban and Built-up Land	Other Land	Water Area	Total Converted to Another Use
Prime Farmland to:	--	2	15	643	660	19	679	347	870	0	1,896
Farmland of Statewide Importance to:	4	--	7	292	303	6	309	84	300	0	693
Unique Farmland ^{1,2} to:	64	27	--	10	101	1,305	1,406	83	2,925	0	4,414
Farmland of Local Importance ³ to:	1,143	734	10	--	1,887	8	1,895	610	161	0	2,666
<i>Important Farmland Subtotal</i>	<i>1,211</i>	<i>763</i>	<i>32</i>	<i>945</i>	<i>2,951</i>	<i>1,338</i>	<i>4,289</i>	<i>1,124</i>	<i>4,256</i>	<i>0</i>	<i>9,669</i>
Grazing Land to:	21	8	1,976	11	2,016	--	2,016	166	242	0	2,424
<i>Agricultural Land Subtotal</i>	<i>1,232</i>	<i>771</i>	<i>2,008</i>	<i>956</i>	<i>4,967</i>	<i>1,338</i>	<i>6,305</i>	<i>1,290</i>	<i>4,498</i>	<i>0</i>	<i>12,093</i>
Urban and Built-up Land ⁴ to:	416	182	94	334	1,026	213	1,239	--	867	0	2,106
Other Land ² to:	677	393	3,423	65	4,558	62	4,620	1,096	--	0	5,716
Water Area to:	0	0	0	0	0	0	0	0	0	--	0
TOTAL Acreage Converted to:	2,325	1,346	5,525	1,355	10,551	1,613	12,164	2,386	5,365	0	19,915

NOTE: According to the FMMP, Irrigated Farmland includes Prime Farmland, Unique Farmland and Farmland of Statewide Importance

¹ Conversion to Prime Farmland primarily due to corrections made to soil unit identification

² Conversion between Unique Farmland, Grazing Land and Other Land primarily the result of the use of digital imagery to delineate more distinct field boundaries.

³ Conversion to Prime Farmland primarily due to new vineyards planted throughout the County.

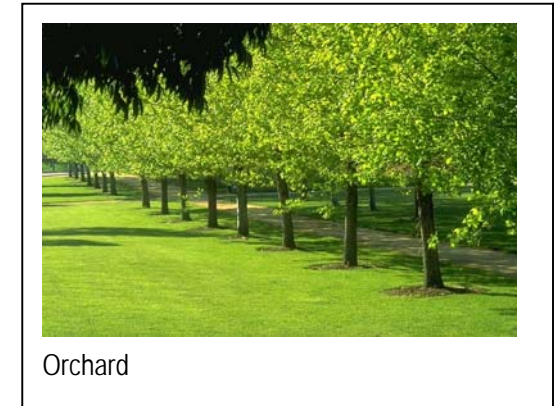
⁴ Conversion from Urban and Built-up Land primarily the result of the use of digital imagery to delineate more distinct urban boundaries.

Source: FMMP 2000, 2002

EVALUATION AREA CONVERSION TRENDS

The following tables, Tables 10-10 through 10-20, show agricultural conversions that have occurred in each of the evaluation areas for every two years between 1992 and 2002. Acreage presented in the following tables are approximate and do not always include every area of an evaluation area. Data was derived from the State Farmland Mapping and Monitoring Program (State Farmland Mapping and Monitoring Program 1994b, 1996, 1998, 2000, 2002). Important Farmland maps for California are compiled using USDA-NRCS Soil Surveys and current land use information using eight mapping categories that are generally explained below. The minimum mapping unit is 10 acres. Units of land smaller than 10 acres are incorporated into the surrounding map categories. The land uses described in the following tables are defined by the FMMP as follows:

Prime Farmland. Contains the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.



Orchard



Vineyards

Farmland of Statewide Importance. Similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland. Consists of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance. Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Grazing Land. Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit is 40 acres.

Urban and Built Up Land. Occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.

Other Land. Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Water. Perennial water bodies with an extent of at least 40 acres and areas which fall outside of the NRCS soil survey were not mapped by the FMMP.

The FMMP data shows that each of the 11 evaluation areas have unique trends concerning land use conversion between 1992 and 2002. For example, in the Lower Napa Valley, the Angwin Area, Eastern Mountains and the Central Interior Valley urban and built-up lands have steadily increased over the years. Other areas like the Western Mountains, Pope Valley and the Berryessa Areas have remained constant or have decreased their urban and built-up lands. Urban and built-up land data was not available for the Napa Valley Floor, the Livermore Ranch Area, the Southern Interior Valleys, and the Knoxville Area.

Grazing land has shown an overall decrease in acreage for the majority of the evaluation areas. Land designated as Prime Farmland has shown an overall increase in acreage in the Lower Napa Valley, the Napa Valley Floor, Pope Valley, and the Central Interior Valleys. Land designated as Prime Farmland has decreased in acreage overall in the Livermore Ranch Area, the Angwin Area, the Eastern Mountains, the Southern Interior Valleys and the Knoxville Area. The Western Mountains and the Eastern Mountains have fluctuated in acreage of Prime Farmland.

Table 10-10: Lower Napa Valley Land Use Conversion

Lower Napa Valley Land Use	1992 acres	1994 acres	1996 acres	1998 acres	2000 acres	2002 acres
Urban and Built Up Land	2,491	2,641	2,687	2,777	3,035	3,296
Grazing Land	9,565	9,485	9,485	8,662	8,562	8,351
Farmland of Local Importance	8,926	8,835	8,702	7,530	5,854	5,090
Prime Farmland	1,493	1,424	1,424	1,677	1,905	1,954
Farmland of State Importance	3,817	3,805	3,893	4,542	5,023	5,399
Unique Farmland	1,773	1,777	1,775	1,977	2,754	3,093
Water	1,856	1,853	1,854	1,854	1,715	1,715
Other Land	10,985	11,058	11,058	11,859	11,993	12,026

Source: FMMP 1994b, 1996, 1998, 2000, 2002

Table 10-11: Napa Valley Floor Land Use Conversion

Napa Valley Floor Land Use	1992 acres	1994 acres	1996 acres	1998 acres	2000 acres	2002 acres
Prime Farmland	21,569	22,413	22,418	22,619	24,009	24,011
Farmland of State Importance	1,914	1,954	1,954	1,960	2,458	2,629
Unique Farmland	5,611	4,754	4,754	4,887	3,918	3,919
Water	0.1	0.1	0.1	0.1	0.0	0.0
Other Land	9,726	9,572	9,537	9,428	9,170	9,093

Source: FMMP 1994b, 1996, 1998, 2000, 2002

Table 10-12: Western Mountains Land Use Conversion

Western Mountains Land Use	1992 acres	1994 acres	1996 acres	1998 acres	2000 acres	2002 acres
Urban and Built Up Land	323	311	311	311	317	290
Grazing Land	9151	9,153	9,153	9,163	8,915	8808
Farmland of Local Importance	701	561	561	563	749	652
Prime Farmland	258	258	258	250	182	247
Farmland of State Importance	352	352	352	338	318	312
Unique Farmland	4,181	4,471	4,471	4,422	4,571	4,464
Other Land	36,604	36,445	36,445	36,504	36,499	36,780

Source: FMMP 1994b, 1996, 1998, 2000, 2002

Table 10-13: Livermore Ranch Area Land Use Conversion

Livermore Ranch Area Land Use	1992 acres	1994 acres	1996 acres	1998 acres	2000 acres	2002 acres
Grazing Land	84	66	66	66	66	66
Farmland of Local Importance	–	–	–	–	12	12
Prime Farmland	36	36	36	36	15	15
Unique Farmland	97	97	97	97	82	55
Other Land	13,209	12,642	12,642	12,642	12,665	12,693

Source: FMMP 1994b, 1996, 1998, 2000, 2002

Table 10-14: Angwin Area Land Use Conversion

Angwin Area Land Use	1992 acres	1994 acres	1996 acres	1998 acres	2000 acres	2002 acres
Urban and Built Up Land	669	669	669	669	672	747
Grazing Land	–	–	–	–	21	–
Farmland of Local Importance	187	187	187	186	120	100
Prime Farmland	89	89	89	89	76	53
Farmland of State Importance	257	257	257	234	253	276
Unique Farmland	362	393	393	374	392	425
Other Land	3,279	3,248	3,248	3,290	3,310	3,242

Source: FMMP 1994b, 1996, 1998, 2000, 2002

Table 10-15: Eastern Mountains Land Use Conversion

Eastern Mountains Land Use	1992 acres	1994 acres	1996 acres	1998 acres	2000 acres	2002 acres
Urban and Built Up Land	497	548	548	603	582	712
Grazing Land	24,482	24,535	24,485	24,437	23,762	23,561
Farmland of Local Importance	1,208	1,144	1,144	1,144	1,630	1,587
Prime Farmland	866	972	868	868	693	714
Farmland of State Importance	514	551	553	544	550	561
Unique Farmland	2,012	1,959	2,116	2,405	2,874	3,581
Water	899	945	941	941	941	941
Other Land	51,043	50,917	50,915	50,628	50,538	49,914

Source: FMMP 1994b, 1996, 1998, 2000, 2002

Table 10-16: Pope Valley Land Use Conversion

Pope Valley Land Use	1992 acres	1994 acres	1996 acres	1998 acres	2000 acres	2002 acres
Urban and Built Up Land	82	82	82	82	82	80
Grazing Land	13,813	13,707	13,562	13,522	11,865	11,848
Farmland of Local Importance	3,920	3,823	3,735	3,634	4,639	4,379
Prime Farmland	1,721	1,849	1,957	1,938	2,372	2,599
Farmland of State Importance	258	258	261	254	212	259
Unique Farmland	724	780	963	1,131	1,334	1,360
Water	264	264	248	248	248	247
Other Land	17,696	17,688	17,645	17,643	17,701	17,681

Source: FMMP 1994b, 1996, 1998, 2000, 2002

Table 10-17: Central Interior Valleys Land Use Conversion

Central Interior Valleys Land Use	1992 acres	1994 acres	1996 acres	1998 acres	2000 acres	2002 acres
Urban and Built Up Land	36	36	36	36	38	38
Grazing Land	15,682	15,602	15,601	15,612	15,662	15,738
Farmland of Local Importance	1,786	1,767	1,768	1,768	1,600	1,503
Prime Farmland	1,255	1,333	1,333	1,323	1,281	1,324
Farmland of State Importance	121	121	123	123	97	117
Unique Farmland	264	274	274	274	453	342
Other Land	11,349	11,360	11,358	11,358	11,361	11,430

Source: FMMP 1994b, 1996, 1998, 2000, 2002

Table 10-18: Southern Interior Valleys Land Use Conversion

Southern Interior Valleys Land Use	1992 acres	1994 acres	1996 acres	1998 acres	2000 acres	2002 acres
Grazing Land	24,253	24,247	24,227	24,227	23,908	23,595
Farmland of Local Importance	877	903	942	942	1,173	1,150
Prime Farmland	1,135	1,131	1,092	1,092	947	989
Farmland of State Importance	40	40	40	40	60	87
Unique Farmland	89	89	89	89	302	571
Water	373	373	378	378	378	378
Other Land	2,705	2,757	2,772	2,772	2,772	2,770

Source: FMMP 1994b, 1996, 1998, 2000, 2002

Table 10-19: Berryessa Area Land Use Conversion

Berryessa Area Land Use	1992 acres	1994 acres	1996 acres	1998 acres	2000 acres	2002 acres
Urban and Built Up Land	507	507	515	515	515	442
Grazing Land	51,708	51,826	51,817	51,817	50,899	50,939
Farmland of Local Importance	1,332	1,332	1,298	1,298	1,763	1,767
Water	19,149	19,149	19,054	19,054	19,054	19,054
Other Land	22,834	22,866	22,998	22,998	23,451	23,479

Source: FMMP 1994b, 1996, 1998, 2000, 2002

Table 10-20: Knoxville Area Land Use Conversion

Knoxville Area Land Use	1992 acres	1994 acres	1996 acres	1998 acres	2000 acres	2002 acres
Grazing Land	36,506	36,464	36,450	36,489	35,781	35,795
Farmland of Local Importance	1360	1,360	1,360	1,274	1,972	1,990
Prime Farmland	43	43	43	42	32	38
Farmland of State Importance	--	--	--	31	112	89
Unique Farmland	86	86	86	86	15	2
Water	67	62	59	59	59	59

Source: FMMP 1994b, 1996, 1998, 2000, 2002

FUTURE AGRICULTURAL RESOURCE CHANGES

This section of the chapter includes a discussion of the likely future agricultural resource changes in Napa County and the implications of such changes based on existing plans and policies. Economically-driven projections of future agricultural development are also discussed. Presently, there are no projects under County review that could affect future agricultural resource changes in Napa County (Lederer 2004).

AGRICULTURAL SUITABILITY

SOIL QUALITY

Napa County contains several types of soils that are classified as Prime Farmland by the U.S. Department of Agriculture. Soils types within Napa County meeting the criteria for Prime Farmland are listed below in Table 10-21.

Table 10-21: Napa County Soils Classified as Prime Farmland

Soil Type	
Bale loam, 0 to 2% slopes	Perkins gravelly loam, 2 to 5% slopes
Bale clay loam, 0 to 2% slopes	Perkins gravelly loam, 5 to 9% slopes
Bale clay loam, 2 to 5% slopes	Pleasanton loam, 0 to 2% slopes
Clear Lake clay, drained	Pleasanton loam, 2 to 5% slopes
Clear Lake clay, overwashed	Tehama silt loam, 0 to 5% slopes
Cole silt loam, 0 to 2% slopes	Yolo loam, 0 to 2% slopes
Cole silt loam, 2 to 5% slopes	Yolo loam, 2 to 5% slopes
Coombs gravelly loam, 0 to 2% slopes	Rincon clay loam, 0 to 2% slope
Coombs gravelly loam, 2 to 5% slopes	Rincon clay loam, 2 to 9% slopes
Diablo clay, 5 to 9% slopes	Yolo silty clay loam
Maxwell clay, 2 to 9% slopes	

Source: USDA Natural Resources Conservation Service, 2003

POTENTIAL EXPANSION OF AGRICULTURAL ACTIVITIES

POTENTIAL CROPLAND/PRIME FARMLAND

Soils classified as Prime Farmland (as shown above in Table 10-21) that are currently not being used for agriculture and have the potential to support agricultural activities are known as potential cropland. Napa County's 11 evaluation areas analyzed in this chapter currently have a total of approximately 51,000 acres of potential cropland (see Map 10-2). Table 10-22 lists the acreage of potential cropland by evaluation area.

Table 10-22: Potential Cropland (Prime Farmland)

Evaluation Area	Acres
Angwin	236.58
Berryessa	905.81
Central Interior Valleys	2,736.14
Eastern Mountains	1,450.86
Knoxville Area	876.6
Livermore Ranch	40.16
Lower Napa Valley	5,637.97
Napa Valley Floor	31,938.57
Pope Valley	4,735.93
Southern Interior Valley	1,883.74
Western Mountain	787.39
County Total	51,229.75

Source: SSURGO, 2004

OTHER POTENTIALLY PRODUCTIVE SOILS

Non-Prime Farmland soils currently not being used for agriculture that have the potential to support agricultural activities are known as other potentially productive soils. Napa County's 11 evaluation areas analyzed in this chapter currently have a total of approximately 87,000 acres of other potentially productive soils. Table 10-23 lists these soils by evaluation area (see Map 10-3).

Table 10-23: Other Potentially Productive Soils (Non-Prime Farmland)

Evaluation Area	Acres
Angwin	2,723.18
Berryessa	6,074.00
Central Interior Valleys	6,506.63
Eastern Mountains	19,126.71
Knoxville Area	7,679.54
Livermore Ranch	2,950.91
Lower Napa Valley	5,986.35
Napa Valley Floor	11,979.49
Pope Valley	7,409.86
Southern Interior Valley	6,785.71
Western Mountain	9,825.53
<i>County Total</i>	<i>86,687.91</i>

Source: SSURGO, 2004

POTENTIAL RANGELAND/GRAZING LAND

Napa County's 11 evaluation areas analyzed in this chapter currently have approximately 136,000 acres of potential rangeland (or grazing land), which is land suitable for grazing that is not currently being used for this purpose (see Map 10-2). Table 10-24 below lists high and medium rated potential rangeland by evaluation area; the rating was based on dry weight production levels (medium = 1808-2600 pounds/acre and high = 2601-3200 pounds/acre).

With respect to the conversion of land uses, the Knoxville Area has lost several thousand acres of grazing land over recent years as the Calif. Department of Fish and Game has made several purchases of large tracts of land and has since excluded grazing in those areas. This doesn't mean that grazing will always be excluded, but that has been the result so far.

Table 10-24: Potential Rangeland

Evaluation Area	Rating	Acres
Angwin	High	--
	Medium	--
	<i>Total</i>	<i>--</i>
Berryessa	High	19,567.11
	Medium	14,837.52
	<i>Total</i>	<i>34,404.63</i>
Central Interior Valleys	High	1,004.42
	Medium	10,626.01
	<i>Total</i>	<i>11,630.43</i>
Eastern Mountains	High	654.92
	Medium	14,004.16
	<i>Total</i>	<i>7,488.24</i>
Knoxville Area	High	4,738.41
	Medium	16,453.8
	<i>Total</i>	<i>21,192.21</i>
Livermore Ranch	High	346.39
	Medium	251.58
	<i>Total</i>	<i>597.97</i>
Lower Napa Valley	High	3,165.61
	Medium	7,019.91
	<i>Total</i>	<i>10,176.52</i>
Napa Valley Floor	High	209.2
	Medium	1,920.47
	<i>Total</i>	<i>2,129.67</i>
Pope Valley	High	2,855.54
	Medium	8,961.6
	<i>Total</i>	<i>11,817.14</i>
Southern Interior Valley	High	1,557.69
	Medium	21,479.38
	<i>Total</i>	<i>23,037.07</i>
Western Mountain	High	1,802.58
	Medium	4,512.43
	<i>Total</i>	<i>6,315.01</i>
<i>Totals</i>	<i>Total High: 35,902 acres</i>	<i>Total Medium: 100,067 acres</i>

TOTAL Potential Rangeland: 135,969 acres

Source: California Department of Conservation 2002



POTENTIAL TIMBERLAND

Timber harvesting within Napa County is governed by the California Department of Forestry and Fire Protection (CDF) Forest Practice Program. The program adheres to rules set out in the CALIFORNIA FOREST PRACTICE RULES, Title 14, California Code of Regulations, Chapters 4, 4.5 and 10. As described in 14 CCR 895.1 of these rules, commercial timber species means those species listed in Group A and those in Group B that are found on lands where the species in Group A are now growing naturally or have grown naturally in the recorded past for the Northern and Coast Forest Districts (see list of species by group type below).

GROUP A

- Coast Redwood (*Sequoia sempervirens*)
- Incense Cedar (*Libocedrus decurrens*)
- Douglas Fir (*Pseudotsuga menziesii*)
- Port Orford Cedar (*Chamaecyparis lawsoniana*)
- Grand Fir (*Abies grandis*)
- California Red Fir (*Abies magnifica*)
- Western Hemlock (*Tsuga heterophylla*)
- White Fir (*Abies concolor*)
- Western Redcedar (*Thuja plicata*)
- Jeffrey Pine (*Pinus jeffreyi*)
- Bishop Pine (*Pinus muricata*)
- Ponderosa Pine (*Pinus ponderosa*)
- Monterey Pine (*Pinus radiata*)
- Sugar Pine (*Pinus lambertiana*)
- Sitka Spruce (*Picea sitchensis*)
- Western White Pine (*Pinus monticola*)

GROUP B

- Tanoak (*Lithocarpus densiflorus*)
- Golden Chinkapin (*Castanopsis chrysophylla*)
- Red Alder (*Alnus rubra*)
- Pepperwood (*Umbellularia californica*)
- White Alder (*Alnus rhombifolia*)
- Oregon White Oak (*Quercus garryana*)
- Eucalyptus (*Eucalyptus* species)
- California Black Oak (*Quercus kelloggii*)
- Pacific Madrone (*Arbutus menziesii*)

The BDR presents maps depicting where these species generally occur. In order for a landowner to obtain permission to harvest commercial timber, a Timber Harvest Plan (THP) must be prepared by a state registered professional forester (RPF) and submitted to CDF for review and approval. The THP is reviewed for its conformance with the Forest Practice Rules, which implement the provisions of the

Z'berg-Nejedly Forest Practice Act of 1973 in a manner consistent with other laws, including but not limited to, the Timberland Productivity Act of 1982, the California Environmental Quality Act (CEQA) of 1970, the Porter Cologne Water Quality Act, and the California Endangered Species Act.

The Forest Practices Act established a set of rules known as the Forest Practice Rules (FPRs) to be applied to forest management related activities (i.e. timber harvests, fire hazard removal, etc.) for ongoing forest management of a given site. The process for reviewing timber harvest operations functions through the mechanism of the THP which primarily includes the review of proposed silvicultural methods applied to the harvest, and the potential environmental impacts of those methods. The FPRs include standards that function as mitigation measures. As such, the THP review process was determined to be a functional equivalent to CEQA. However, Timber Conversion Permits (TCPs) are considered discretionary under CEQA. While TCPs require a THP, the projects impacts are only analyzed and covered under the Forest Practices Act to the extent provided by the required THP (i.e. only timber harvest related activities are covered under the THP and not necessarily the potential impacts related to the subsequent land use). To obtain a TCP an applicant is also required to have a THP even though the silvicultural method is "conversion" forest is being completely removed and converted to a non-timberland use.

It is CDF's intent that a THP shall not be approved which fails to adopt feasible mitigation measures or alternatives from the range of measures set out or provided for in the Forest Practice Rules which would substantially lessen or avoid significant adverse environmental impacts resulting from timber harvest activities. The Forest Practice Rules and THP review process has been certified by the Secretary of the Resources Agency as functionally equivalent to CEQA. Section 21080.5 of the Public Resources Code (PRC) provides that a regulatory program of a state agency shall be certified by the Secretary for Resources as being exempt from the requirements for preparing Environmental Impact Reports (EIRs), Negative Declarations, and Initial Studies if the Secretary finds that the program meets the criteria contained in that code section. A certified program remains subject to other provisions in CEQA such as the policy of avoiding significant adverse effects on the environment where feasible. These rules are intended to provide the exclusive criteria for reviewing THPs. However, while the authority to approve a THP rests with the Department of Forestry, the County of Napa has an opportunity to review and comment on THP's. For THP's involving the permanent conversion of timberland to non-timberland uses (i.e. to a residential or agricultural use) a Timberland Conversion Permit (TCP) is required by CDF. Projects requiring a TCP are considered discretionary and are subject to local land use regulations and the requirements of CEQA.

Napa County's 11 evaluation areas analyzed in this chapter currently have approximately 40,000 acres of potential timberland. This 40,000 acres is limited solely to the criteria of species composition and does not include other factors, such as soil type, that can influence CDF's determination (and ultimate jurisdiction) of what is or is not timberland. Table 10-25 below lists potential timberland by timber group and County evaluation area.

Table 10-25: Potential Timberland

Evaluation Area	Group A	Group B	Totals
Angwin	1,520	342.01	1,862.01
Berryessa	0	164	164
Central Interior Valleys	414	876	1,290
Eastern Mountains	7,374	3,501	10,875
Knoxville Area	0	77	77
Livermore Ranch	4,094	2,522	6,616
Lower Napa Valley	0	1.2	1.2
Napa Valley Floor	916.1	158	1,074.1
Pope Valley	2,507	747	3,254
Southern Interior Valley	0	427	427
Western Mountains	12,943	1,959	14,902
<i>County Total</i>	<i>29,768.1</i>	<i>10,774.21</i>	<i>40,542.31</i>

Source: SSURGO, 2004

IMPLICATIONS OF POTENTIAL AGRICULTURAL CONVERSION

Significant conversion of agricultural land is not expected to occur in Napa County and there are currently no indications that there will be any changes to existing agricultural land uses (Clark 2004). Napa County currently has approximately 69,000 acres of land under Williamson Act Contracts. Participation in the program has been steady, hovering at about 16 million acres enrolled under contract statewide since the early 1980s. Every indication points to an indefinite continuation of this level of participation into the future. In addition to the numerous Williamson Act Contracts held in Napa County, County Agricultural Preserve designations, local legislation including Measures A and J, County General Plan policies limiting urban expansion, and the holdings of the Land Trust of Napa County all contribute to the preservation of agricultural land in Napa County.

However, the agricultural land in Napa County will continue to face development pressure in the foreseeable future. The California Department of Finance projects that the County's population will increase from 125,800 in 2000 to 158,400 by 2020 (California Department of Conservation 2005b). Although the focus of development in Napa County is typically within existing cities and not on expanding city lines, there is however the chance that some incorporated cities would need to expand in the future should growth be inevitable in order to keep a city economically viable. In this case, there is the potential for the conversion of agricultural lands to urban and built-up lands.

Cities in Napa County have established urban-limit lines that determine the boundary as to where urbanization can occur. American Canyon, incorporated in 1992, has the most fluid urban-limit line while other cities in Napa County have firm urban-limit lines which were set years ago. The city limits of

Calistoga, St. Helena, and Town of Yountville are larger than their respective urban limit lines and existing agriculture will most likely stay zoned as such as long as growth stays the same as it has for the last 50 years. On the other hand, the cities of Napa and American Canyon are almost built to their parameters. The City of Napa's Sphere of Influence was recently expanded by LAFCO, which added three areas of County land, two of which are designated as agricultural lands (McDowell 2004). In American Canyon, the filling in of new lands is occurring and the consuming of more agricultural lands is likely (McDowell 2004). Furthermore, American Canyon has recently designated a portion of agricultural County land, located north of Watson Lane, south of South Kelly Road, and east of Hwy 29, as a Special Study area. This land could one day be desired for residential land considering the growing City of American Canyon's interest (McDowell 2004).

In the near future, it appears more likely that future farmland conversion would occur by type of farmland, rather than the conversion of agricultural lands to non-agricultural uses. As seen in historical conversion trends for the County a total of 9,669 acres of important farmlands were converted to another type of important farmland between 2000 and 2002 while only 1,290 acres went from agricultural/grazing land to urban/built-up lands. As discussed previously the greatest and most obvious trend in Napa County, as well as for each evaluation area, has been the conversion of Farmland of Local Importance, Grazing Land, or Other Land to Irrigated Farmland (which include Farmland of Statewide Importance, Prime Farmland and Unique Farmland).

ECONOMICALLY-DRIVEN PROJECTIONS

As discussed previously, agriculture is the leading source of revenue for Napa County. Wine grapes alone, produced in 2004, were valued at \$350 million and total agriculture for Napa County in 2004 was valued at \$357 million. Napa County has some of the strictest regulations concerning non-agricultural use of agricultural lands making it difficult to use this land for anything other than agricultural purposes and therefore conversion of agricultural land is not likely (Clark 2004).

However, as seen historically in Napa County, the conversion of agricultural land from one type to another has occurred due to the conversion of lower economic value grazing lands or orchards into higher value vineyards, these types of conversions are likely to continue to occur in the future considering the profitability of growing grapes in Napa County. The largest amount of agricultural acreage in the County consists of grazing/rangeland; however it is a relatively low value crop.

Low grape prices are likely to have a temporal effect on agricultural expansion. For many who plant grapes in the County, developing a vineyard or purchasing existing vineyard land is an investment. Lands that have a suitable climate and irrigation water source will continue to develop, but lands in hillside terrain are increasingly more difficult to get conversion or erosion control plan permits for. This has dramatically slowed the expansion of vineyard development over the past five or six years, and will likely continue to be a deterrent. Lands with flat terrain are becoming a rarity, and many parcels have only small, non-economic pockets of flat land. Grazing land is decreasing, but in many instances is related less to the expansion of vineyards as it is to marginal returns for grazing or land lease (Blake 2004).

As described previously, existing County policies protect agricultural lands and the revenue that they provide. According to Policy 3.1 of the Land Use Element of the Napa County General Plan "The County will enact and enforce regulations which will retain agriculture as a major source of income and employment in Napa County." Furthermore, Policy 3.6 states "The County will establish minimum agricultural parcel sizes which reflect the availability of natural resources, in order to assure that agricultural areas can be maintained as economic units" (County of Napa 1998).

CONCLUSIONS AND REPORT UPDATE RECOMMENDATIONS

COUNTYWIDE

Within Napa County's 11 evaluation areas analyzed in this chapter; approximately 51,000 acres are active agricultural land, containing primarily vineyards with smaller areas of crops and orchards. Approximately 53,800 acres are grazing land (Napa County Conservation Development and Planning Department, 2005a). Agriculture is the leading source of revenue for Napa County. Wine grapes alone, produced in 2004, were valued at \$350 million and total agriculture in 2004 was valued at \$357 million.

The greatest and most obvious trend in Napa County is the conversion of Farmland of Local Importance, Grazing Land, or Other Land to Irrigated Farmland. This conversion has taken place on parcels ranging in size from 10 acres to 260 acres. Between 2000 and 2002, approximately 8,385 acres were converted from Farmland of Local Importance, Grazing Land, or Other Land to Irrigated Farmland. This conversion of agricultural land from one type to another is mostly due to the conversion of lower economic value grazing lands or orchards into higher value vineyards (which accounted for many of the acres of irrigated farmland created).

Napa County's 11 evaluation areas analyzed in this chapter currently have a total of 51,230 acres of potential cropland; 86,688 acres of other potentially productive soils; 135,969 acres of potential rangeland (or grazing land); and 40,542 acres of potential timberland (all numbers approximate).

AREA-SPECIFIC

According to the FMMP, the 11 evaluation areas all show their own unique trends concerning land use conversion between 1992 and 2002. For example, in the Lower Napa Valley, the Angwin Area, Eastern Mountains and the Central Interior Valley urban and built-up lands have steadily increased over the years. Other areas like the Western Mountains, Pope Valley and the Berryessa Areas have remained constant or have decreased their urban and built-up lands.

Grazing land has shown an overall decrease in acreage for the majority of the evaluation areas. Prime Farmland acreage has shown an overall increase in the Lower Napa Valley, the Napa Valley Floor, Pope Valley, and the Central Interior Valleys. Prime Farmland acreage has decreased overall in the

Livermore Ranch Area, the Angwin Area, the Eastern Mountains, the Southern Interior Valleys and the Knoxville Area. The Western Mountains and the Eastern Mountains have fluctuated in acreage of Prime Farmland.

The Napa Valley Floor has an overwhelmingly greater amount of potential cropland compared to the other 10 evaluation areas with approximately 32,000 acres; containing 60% of the total existing potential cropland. The second largest concentration of potential cropland exists in the Lower Napa Valley with approximately 5,600 acres. Of the 11 evaluation areas, the Eastern Mountains contain the largest amount of other potentially productive soils with approximately 19,000 acres or 22% of the total as well as containing most of the total crop value.

The Berryessa, Knoxville, and Southern Interior Valley areas contain the greatest amount of potential rangelands, a use that is likely to continue due to the restrictions set forth in Policy 3.2 of the Napa County General Plan's Land Use element which states that the County "will develop additional types of Agricultural Preserves suitable for localized conditions in such places as Carneros, Coombsville and Congress, Foss, Gordon, Capell, Chiles and Pope Valleys; and hillside viticultural areas." Combined the three areas contain more than 78,000 acres of potential rangelands or 58% of the total.

Together the Eastern and Western Mountains contain the majority of the potential timberlands in the 11 evaluation areas with approximately 26,000 acres or 64% of the total.

Another factor that may strongly influence the conversion of land to irrigated farmland is the availability and quality of water. Many of the areas in the eastern regions of Napa County have very limited water resources, and in some areas where there is water, the boron concentration can be too high for crop production.

The water quality regulatory environment in Napa County has been and will continue to change in ways that will affect agriculture. The Putah Creek watershed is now within the Conditional Agricultural Discharge Waiver program implemented by the Central Valley Regional Water Quality Control Board and the Napa River watershed will have sediment and pathogen Total Maximum Daily Loads (TMDLs) imposed by the Bay Area Regional Water Quality Control Board. Various types of agriculture have been identified by the Board as sources of the sediment and pathogen contaminants.

REPORT UPDATE RECOMMENDATIONS

Several steps should be taken in order to keep this Agricultural Resources analysis current.

Only the most current relevant County policies and regulations should be included in this analysis including those contained in the Napa County General Plan and the Napa County Code (which designates agricultural land zoning and includes the Right to Farm provisions under Chapter 2.94 AGRICULTURE AND RIGHT TO FARM). Revisions may be needed to this analysis after any General Plan or Zoning Ordinance or Code updates occur, depending on their relevance to agriculture and agricultural resources.

Currently, voters in Napa County have passed two pieces of legislation related to agriculture: Measure A and Measure J. Future measures affecting agricultural resources should also be accounted for in this analysis and it is recommended that this analysis be updated after the results of County elections on these matters have been determined.

Although there is currently no land in the federal Farm and Ranchland Protection Program, should any land be added, it would need to be recorded in this analysis. State policies related to the protection of agricultural resources include the Williamson Act and legislation related to the Farmland Mapping and Monitoring Program. Any updates to these programs and/or additions to agricultural preserves should be reflected in this analysis.

To continue the level of detail of the Existing Farmland data, it will be important to incorporate both Land Use and Napa County Agricultural Commissioner's farmland data annually into GIS updates. Crop production, yields, and changes in production can be revised to reflect current data per the Napa County Agricultural Commissioner's office which maintains crop reports in their agricultural crop database. As of June 2005, data from 1921 to 2004 is available on the Agricultural Commissioner's web-site. This analysis should be updated and concurrently each year a crop report is made available. Information for the previous year is usually made available in the month of April. The Napa County Agricultural Commissioner's office can also provide valuable information regarding future agricultural resource changes.

As discussed previously, the County Agricultural Commissioner's office counts the total number of vines planted in each vineyard while the County Conservation and Development Department uses aerial photographs of vineyards and GIS to estimate the gross number of planted acres. As a result, the Conservation Department's estimate of total planted acres is usually larger than the Agricultural Commissioner's estimate. Therefore, when updating this Agricultural Resources analysis, either a note should be made clearly distinguishing these differences and the reasons for the differences, or else, and perhaps more streamlined, an agreed upon approach should be employed by both departments so that the results are only one set of consistent numbers thereby avoiding any confusion.

Agricultural conversion trends can be kept current using data from the California Department of Conservation's FMMP Reports which has been documenting changes in agricultural land use in California since 1984. This report is due biennially (every two years) on or before June 30 of every even-numbered year. As of June 2005, 2000–2002 conversion data is available for all counties in California and 2002-2004 data has been released for select counties (Napa County not yet included).

The SSURGO data used to determine potential future cropland, other potentially productive soils, potential rangeland, and potential timberland should be updated to include the most recent data. SSURGO data used in this chapter was from 2003–2004. Future SSURGO data can be used to compare with the data in this chapter in order to determine how land uses have changed.

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Map 10-1: Existing Agriculture

Map 10-2: Agriculture (Potential Cropland, Rangeland and Timberland)

Map 10-3: Other Potentially Productive Soils