

Appendix E

Agricultural Resources Report



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Humboldt 2025
General Plan
Update
**Agricultural
Resources and
Policies**
A Discussion
Paper for
Community
Workshops



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Prepared by
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Community Development Services

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Agricultural Resources and Policies

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Community Workshops

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Table of Contents

Chapter	Page
I . Introduction	
Background	I-1
Focus	I-2
Sources	I-2
Next Steps	I-2
1. Inventory of Agricultural Lands (NR2b)	
1.1. Agricultural Resources in Humboldt County	1-1
1.1.1. Delta Lands	1-3
1.1.2. River and Mountain Alluvial Lands	1-5
1.1.3. Grazing Lands	1-7
1.2. Economics of Humboldt Agriculture	1-9
1.2.1. Dairy and Milk Production	1-10
1.2.2. Nursery Production	1-12
1.2.3. Livestock Production	1-13
1.2.3(A) Cattle	1-14
1.2.3(B) Sheep	1-14
1.2.3(C) Goats	1-14
1.2.4. Field and Row Crops	1-16
1.2.5. Organic and Specialty Crops	1-16
1.2.6. Other Crops	1-18
1.3. Typical Farm Size	1-19
1.3.1. Beef Production	1-20
1.3.2. Dairy Production	1-20
1.3.3. Sheep Production	1-20
1.3.4. Row Crops	1-21
1.4. Conversion of Agricultural Lands	1-22
1.4.1. National Trends in Conversion	1-23
1.4.2. Effects of Conversion	1-24
1.4.2(A) Fragmentation	1-24
1.4.2(B) Conflicts of Ag Activities	1-24
1.4.2(C) Transportation of Products	1-25
1.4.2(D) Loss of Support Services	1-25
1.4.2(E) Cumulative Effects	1-26
1.4.3. Humboldt County Trends	1-27
1.4.3(A) Subdivisions	1-28

1.4.3(B) Certificate of Compliance	1-30
1.4.3(C) Rezones	1-31
1.4.3(D) Conditional Uses	1-31
1.4.3(E) Illegal Subdivisions	1-33
1.4.3(F) Public Acquisition	1-33
1.5. Trends in Agricultural	1-34
2. County Programs, Policies and Incentives that Provide Protection to Agricultural Lands (NR2d)	
2.1. Protection through Plan and Zone changes	2-2
2.1.1. General Plan Policies	2-2
2.1.2. Zoning Ordinances	2-2
2.1.3. Differential Tax Assessment Programs	2-3
2.2. Protection through Incentive Programs	2-4
2.2.1. Conservation Easements	2-5
2.2.2. Open Space Districts	2-5
2.2.3. Federal and State Programs	2-6
2.3. Policies that Support Small Farmers	2-7
2.4. Critical Choice Issues	2-8
2.4.1. Issue 1	2-8
2.4.2. Issue 2	2-9
2.4.3. Issue 3	2-10
2.4.4. Issue 4	2-10
3. Regulatory Framework	
3.1. Federal Regulations	3-1
3.1.2. Clean Water Act	3-1
3.2. State Regulations	3-3
3.2.1. Williamson Act	3-3
3.2.1(A) County Implementation	3-3
3.2.2. Coastal Act	3-9
3.3. Local Regulations	3-11
3.3.1. General Plan Policies	3-11
3.3.1(A) General Plan Land Use Designations	3-12
3.3.2. Coastal Zone Policies	3-12
3.3.3. Zoning Ordinance	3-13
3.3.4. Merger Ordinance	3-13
4. Policy Options	
4.1. Issue 1	4-1

4.2. Issue 2	4-3
4.3. Issue 3	4-4
4.4. Issue 4	4-5

Bibliography

Appendices

A.	Agricultural Land Classification Systems	A-1
	Agriculture Production Statistics	Volume 2
	Department of Census Farm Statistics	Volume 2
	Humboldt County Agricultural Survey	Volume 2
B.	Policy Options Worksheets	B-1

List of Figures

	PAGE
Figure 1: Existing Agricultural Use	1-2
Figure 2: Subdivision Activity in Humboldt County, 1985-2001	1-28
Figure 3: Subdivisions and Certificates of Compliance Permits in Agricultural Lands in Humboldt County, 1985-2002	1-29
Figure 4: Agricultural Preserve Lands in Humboldt County, 2002	3-5
Figure 5: Grazing Areas, Agricultural Preserves and Prime Ag Lands in Humboldt County, 2002	3-6

List of Tables

Table 1. Agricultural Lands by Watershed, 2002.	1-1
Table 2. Humboldt County Agricultural Cash Income, 2001.	1-9
Table 3. Humboldt County Livestock Production, 1980 - 1997.	1-13
Table 4. Typical Farm Size, Humboldt County, 2002.	1-19
Table 5. Agricultural Land Conversion Estimates, Humboldt County, 1985-2001	1-27
Table 6. Reclassification of Agricultural Resource Lands to Other Zoning Districts, 1985-2000	1-32
Table 7. Public Acquisitions of Agricultural Resource Lands, Humboldt County, 1985-2001	1-33
Table 8. Humboldt County Farm Statistics, 1997.	1-34
Table 9: Humboldt County Agricultural Preserve Enrollment Statistics, 2002.	3-4
Table 10. Williamson Act Terminations by Selected Category, 1985-2002.	3-8

Introduction

The *Agricultural Resources* report is part of Phase II of the General Plan Update. This second phase of updating the General Plan entails gathering data, examining the changed situation since the most recent General Plan update, and preparing to look ahead to the year 2025.



BACKGROUND

The protection of agricultural resources and open space was a key concern raised during the public scoping meetings for the General Plan Update. The *Critical Choices Report*, prepared by the County in March of 2000, compiled the public input received during Phase I, and made recommendations for Phase II of the program. The following issues scored high with regard to agricultural resources in the Critical Choices Report.

- Develop County programs to provide incentives for preservation (e.g., conservation easements, TDR's, economic incentives);
- Develop programs that recognize and encourage smaller agriculture operations (intensive uses, organic and micro-agriculture) and allow smaller parcels in the Williamson Act;
- Implement County-wide protection policies through Plan and zone map changes.

The *Critical Choices Report* was presented to the Humboldt County Board of Supervisors, and the Board gave specific direction for updating the Humboldt County General Plan with regards to agricultural resources. The following choices from the *Critical Choices Report* illustrate the decisions for direction related to agricultural resources that were developed in that effort:

NR2d: “Revise plan and zone designations and apply to individual parcels to implement county-wide protection policies. Develop County programs to provide additional incentives for preservation, such as conservation easements, Transfer of Development Rights, and agriculture industry economic development. Develop programs that recognize and encourage smaller agricultural operations (intensive agriculture, organic and micro-agriculture), such as allowing smaller parcels into Williamson Act Contracts and establishing Farm and Security Zones”.

In September, 2002, the Department of Community Development Services released the *Natural Resources and Hazards Report* prepared by Dyett and Bhatia. Chapter 4 of this report describes Humboldt County's agricultural resources, with an emphasis on production. The *Natural Resources and Hazards Report* includes a discussion of the regulatory framework and addresses the policy framework and some options that respond to issues related to agricultural

resources. County staff and the agricultural community found the chapter lacked detail in the inventory and analysis of agricultural resources and recommended a more thorough review of the issues.

The purpose of the *Agricultural Resources Report* is to provide a more detailed inventory of agricultural resources (including a summary of economic information) and to implement the directives of *NR2d*. The Report also provides additional analysis of policy options developed by Dyett and Bhatia in the *Natural Resources and Hazards Report* pursuant to the directives of *NR2d*.

FOCUS

The *Agricultural Resources Report* is an effort to further address the issues related to the direction given by the Board of Supervisors in the Critical Choices Report and expand on the information presented in Chapter 4 of the *Natural Resources and Hazards Report* prepared by Dyett and Bhatia (September 2002). The first section describes the agricultural economy, general agricultural conditions and land use by watershed. The second section focuses on the directive of *NR2d* and the issues presented in the *Natural Resources and Hazards Report*. Thirdly, the regulatory framework is described; and the final section addresses the policy options related to the issues discussed in both the Critical Choices and *Natural Resources and Hazards Report*.

SOURCES

The primary sources for this paper have been the *Natural Resources and Hazards Report*, the Humboldt County Community Development Services Department (which includes the Building and Planning divisions and the Office of Economic Development), Humboldt County Agricultural Commissioner, Humboldt County Extension Service, Farm Bureau, organizations and individuals that commented on the *Natural Resources and Hazards* report, and the general literature. Maps for this paper have been prepared using County GIS data. It is important to note that the County GIS database is still in the process of being refined. New data are still being made available and will continue to refine our understanding of the County's current conditions.

NEXT STEPS

Consistent with the themes in the Critical Choices Report, several additional reports are being or have been prepared: Moving Goods and People, Natural Resources and Hazards Report, Forest Resources Report and this Agricultural Resources Report. In addition, "sketch plans" will be developed, depicting alternative land use scenarios and circulation patterns for the County. The primary purpose of these reports and plans is to solicit public review and comment regarding updating the County General Plan.

After public input, information in the various individual reports and plans will ultimately be incorporated into one comprehensive Phase II Report, which will provide policy options for

each of the General Plan themes. The Phase II Report will be presented to the public and County decision makers.

The next steps in the process involve public and stakeholder review of the *Agricultural Resources Report* and comment on the policy options through a deliberative workshop process. Then, the policy options and applicable comments will be presented to the Board of Supervisors for final selection of policies to be included in the General Plan Update process.

Humboldt County General Plan Update
Agricultural Resources Report

1. Inventory of Agricultural Resource Land(Critical Choices Directive NR2b)

1.1 AGRICULTURAL RESOURCES IN HUMBOLDT COUNTY

Humboldt County has distinct regions, even within watersheds. These lands can be divided by their land type, such as delta land, river and mountain alluvial flats, and upland grazing. Some areas are actively engaged in ranching, row crops, and specialty agriculture while others have focused more on housing development or park land acquisition.

Following is a discussion of the current state of agriculture enterprises and land by land type and watershed. Table 1 illustrates general agricultural land use and soil type per watershed, and Figure 1 illustrates general locations of agricultural land use.

Table 1*: Agricultural Lands by Watershed

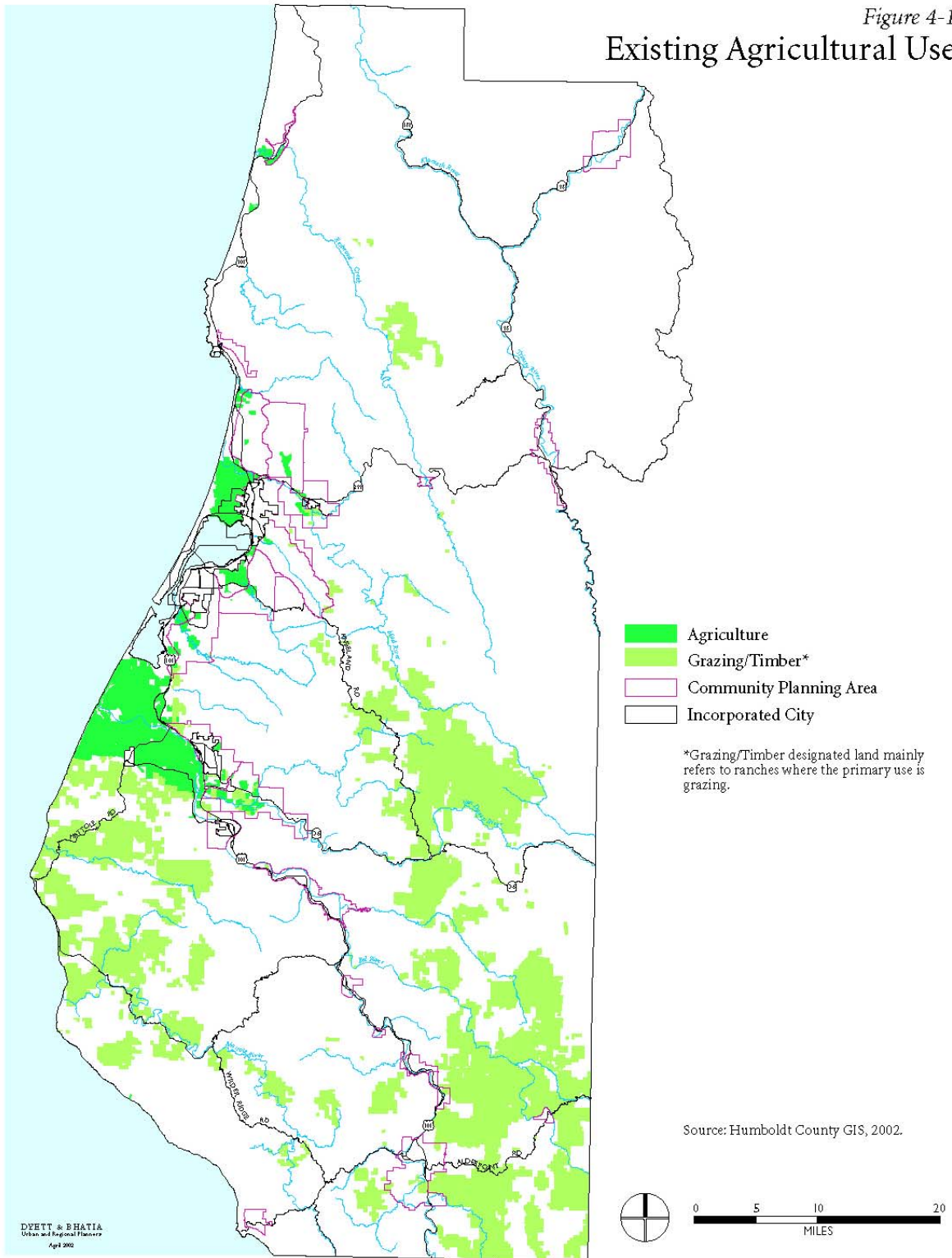
Watershed	Agriculture	Grazing & Timber	Total Acres	Grade 1 Acres	Potential Ag Land	Williamson Act Lands
Eureka Plain	11,436	1,403	12,840	2,884	80	1,886
Lower Eel	32,651	33,014	65,666	17,600	259	29,083
Lower Klamath	0	746	746	0	2,597	474
Lower Trinity	0	0	0	912	219	0
Mad River	2,359	19,022	21,381	4,043	1,218	14,788
Mattole	18	73,796	73,814	1,576	855	70,096
Middle Main Eel	0	68,964	68,964	664	723	64,537
Redwood Creek	901	6,360	7,262	1,053	1,672	6,372
South Fork Eel	0	39,957	39,957	242	2,714	35,949
South Fork Trinity	0	0	0	1	409	0
Trinidad	752 0	0	752	715	5,903	0
Van Duzen	2,012	51,846	53,858	3,471	1,206	49,880
Total	50,130	295,108	345,238	33,160	17,855	273,064

Source: Humboldt County GIS, 2002.

*Note: The total agricultural acreage tabulated by the Humboldt County GIS mapping program is lower than both the Department of Agricultural Census statistics and the County Agricultural Commissioners figures. This is primarily a result of the difference in the allocation of "grazing" lands (the County Agricultural Commissioner reports a total of 470,000 acres as "rangelands", where the County classifies only 295,105 as "rangelands") and the classification of large lot subdivisions as agriculturally productive lands by the Department of Census. The County is currently in the process of obtaining the 2002 Department of Agricultural Census information to include in the County GIS system for future reporting.

Humboldt County General Plan Update
Agricultural Resources Report

Figure 4-1
Existing Agricultural Use



Humboldt County General Plan Update
Agricultural Resources Report**1.1.1 DELTA LANDS**

The highly productive delta soils of the Mad River and the Eel River, north and south of Humboldt Bay respectively, provide the basis for significant agricultural resources. East of the bay are also smaller flood plains from Elk River, Freshwater, Jacoby, Beith, and Janes Creeks. These regions can be characterized as prime agriculture soil, flood plains, deep loam soils ranging in sand and clay content. The main towns were settled on these flats near Humboldt Bay. The cities of Arcata, Fortuna, and Ferndale, and the unincorporated area of McKinleyville, are all located on prime agricultural soil. Proximity to market and soil quality spotlight all these regions as prime for small market farms, but land prices are high.



Note: Interviews with local individuals captured the agricultural issues, descriptions, and interests presented below.

Eel River Watershed –

- Ferndale: At issue are the economic viability of small dairies and dairy consolidation, wastewater management, and keeping this an open space region. Niche marketing to increase value-added enterprise is of interest.
- Fortuna: As a center of timber/grazing interests, not much ag land has been lost to the city since 1980. Dairies have not changed much in 20 years. Within the city, buildable land is available. There is little interest in greenbelt delineation.
- Loleta: Issues include the decreasing ‘mom and pop’ operations by the consolidation of dairies, the conversion of dairy cows to beef cattle (animal numbers are essentially the same), and the increased leasing of land. Goat dairies are increasing. The flood plain is low and flooding occurs frequently.

Eureka Plain Watershed –

- Elk River: Siltation is an issue. Agriculture has decreased even with little change in dairy farms, grazing and orchards. Land ownership doesn’t change often and the minimum lot split allowed is 20 acres.
- Freshwater: Decline in cattle ranching, converting ag lands to residential property, costly land, flooding, invading blackberries on prime lands, and filling the flood plains are issues.
- Jacoby Creek: Public and land trust acquisitions with forest and creek restoration work create recreational and educational opportunities. Further opportunity for specialty ag enterprise interests some.

Humboldt County General Plan Update
Agricultural Resources Report**Mad River Watershed –**

Arcata: At issue is dairy consolidation (from 1980-2000 about 30 dairy operations were lost between Arcata and Blue Lake). Arcata is supportive of greenbelts and the protection of AE lands. Specialty organic farms and goat dairies increased on the bottoms and Sun Valley Floral Farm has tripled production since 1991.

McKinleyville: Grazing diminished with the expansion of housing and mini-ranches. Protection of AE lands supports the opportunity for specialty ag enterprise and the steady growth of organic blueberries & nursery farms.

Humboldt County General Plan Update
Agricultural Resources Report**1.1.2 RIVER AND MOUNTAIN ALLUVIAL LANDS**

Alluvial soils along the rivers can be characterized as prime bottom land and mountain agricultural soils used for pasture, hay and specialty farming. Some of the lower river flat lands are replenished by seasonal flooding. Recreation and State Park acquisitions have reduced the available farmland in this area. It is a focus area for tourism. Much of the region is well suited for small farms because of soil quality and proximity to market.



Note: Interviews with local individuals captured the agricultural issues, descriptions, and interests presented below.

Eel (Lower, South Fork & Middle Fork) –

An aerial map dated 1947 of the Eel River shows nearly every little flat along the river as being farmed from Rio Dell to Garberville. Subdivision of lands around towns occurred mostly pre-1980. The Eel River Valley is deep, relatively narrow and floods which slows development. Regional small farms are close to market and relish the prime soil. Farming competes with recreation, tourism and state park use.

Pepperwood: State park land dominates land use with some small scale farming.

Holmes Flat: Being on the west side of the freeway offers easy access for commuters. Farmers make use of the deep flood plain soils. Lots sizes (2.5-10 acres) are conducive to a trend towards horse ranching.

Shively: The row crop farms of the mid-century are mostly hay now. A valuable asset for farming, prime soils with dry farm potential encourage the growth in specialty agriculture. College of the Redwoods farm gives educational assistance. Development pressure is reduced by being on the east side of river.

Garberville: At issue is the potential loss of prime agriculture land in the Tooby Flat area. Interest in vineyards is growing, especially if the region has wine appellation¹ distinction. If sited carefully, vineyards can be dry-farmed.

Lower Klamath Watershed –

Orleans: Watershed damage by private grazing on public lands concern citizens. The slow steady growth of specialty ag farms promote local food/farms interests. With a different wine appellation than southern Humboldt, vineyards are on the increase.

¹ Authorized regionally distinct areas used for bottling and marketing.

Lower Trinity Watershed –

Willow Creek: Interests include specialty ag farms, conservation easements, promotion of local food/farms, and vineyard growth with its own wine appellation. Sun Valley Floral Farms operates 40 acres of nursery production, partly organic.

Hoopa: Invasive blackberries are an issue. Before the timber harvesting of the 1950's, vast gardens and farms took advantage of the beautiful alluvial soil. Now, little farming and small gardens prevail.

Cape Mendicino / Mattole Watersheds –

Petrolia: Historically (1880-1980), orchards occupied the Uplands, currently most acreage is used for grazing with a sprinkling of vineyards. Small farms increased on the flats from Honeydew to Petrolia.

Van Duzen Watershed –

This region has issues with water availability.

Alton Close proximity to cities invites mini ranches and loss of ag lands to housing development.

to Hydesville The area encourages homesteads and sprawl.

Mad River Watershed –

Market immediacy and soil quality make this a prime region for small market farms.

Blue Lake: Issues are dairy consolidation and increasing land prices. Specialty ag farms show a slow steady growth.

Maple Creek: The area demonstrates a slow steady growth in specialty ag farms.

Trinidad: Lack of water development restricts residential and agricultural expansion. LAFCO recently denied new water hook-ups without annexation. Wells provide water for some sites. Although the County identified potential agriculture lands east of Trinidad, the Community Plan considers this region to be timber resource, not commercial agriculture.

Humboldt County General Plan Update
Agricultural Resources Report**1.1.3 GRAZING LANDS**

These lands can be characterized as upland soils, which support annual grassland, oaks, madrone, etc. This is critical land for open space conservation. Grazing on these lands is light, ranging from 5 - 25 acres per animal. With the spread of ‘Holistic Resource Management’ information, more ranchers are rotational or ‘day’ grazing which optimizes land use, but requires more fencing. There is interest within the ranching community to develop niche markets, i.e. local grown, hormone free, grass-fed, or organic.



Subdividing grazing land, including patent parcels, is of concern. There may be potential for creative clustering of development, if development is legal and desired, rather than breaking up large tracts. On subdivided parcels (10-160 acres), there is some conversion of grazing land to fir and other native species of forest. Fir and madrone re-establish more easily than oak, as wild boar and deer eat the oak acorns and saplings. Many residential homesteads have small orchards and food gardens. Estimates of food cultivation on homesteads are approximately 10% in commercial production, 20-40% in neighborhood production & food barter, and the rest in personal food consumption. Water availability is critical to control subdivision & overdraw by agriculture production.

Note: Interviews with local individuals captured the agricultural issues, descriptions, and interests presented below.

Cape Mendicino / Mattole Watersheds –

This is an important grazing land/open space/watershed management area. Well organized watershed councils are in this region. Water supply is an issue for some sites.

Ettersberg: Nurseries and organic row crops increased growth in small farm production. Increased homestead sites (~ 40 acres) expanded home orchards small farm development. Homesteaders also plant native trees. A decrease in sheep production encourages unsolicited tree growth. Cattle proliferate on grazing land.

Redwood Valley –

In the last 40 years, the domination of sheep grazing transferred to cattle. Also Grazing land has reverted to fir forest, especially in the Park. Interest in row crop or other specialty farming is low, but experimental vineyards utilize small acreage.

Eel (Lower, South Fork & Middle Fork) Watersheds –

Garberville: The area is valued for open space and grazing lands. Dry-farm vineyards experienced some growth.

Humboldt County General Plan Update
Agricultural Resources Report

Van Duzen Watershed –

Hydesville: Zoned ag, the area is mostly rural residential. Some residential land has returned to fir forest.

Humboldt County General Plan Update
Agricultural Resources Report**1.2 ECONOMICS OF HUMBOLDT AGRICULTURE**

By California standards, Humboldt County's agricultural production is small, a mere \$110 million appetizer on the \$27 billion banquet table of farm goods produced annually by the state². However, agriculture is a large part of the economy, sustaining hundreds of farm and ranch families and workers. Over 25% of the lands are in some form of agriculture. While the number of farms has been in decline over the last decade, the agricultural industry had seen an increase in employment of 37% since 1985, accounting for 2.2% of the employment sector³. This is primarily a result of the expansion of Sun Valley Bulb Farm in the Arcata bottoms.

Excluding timber production values, Humboldt County ranked 36th in the state for gross value for agriculture production (with timber receipts, it ranked 18th). The top four agricultural crops, as producing by value in 2001, see Table 2:

- 1) Milk and Dairy products – \$43 million;
- 2) Nursery Stock – \$34 million;
- 3) Livestock – \$23 million; and
- 4) Field Crops – \$8 million.

Table 2: Humboldt County Agriculture Cash Income

	Field Crops	Vegetable Crop	Fruit & Nut	Nursery Stock	Livestock/ Poultry	Livestock/ Dairy Prod	Total
2001	\$8,998,750	\$952,000	\$506,850	\$33,952,000	\$22,347,800	\$42,972,000	\$109,729,400
2000	\$7,972,300	\$814,190	\$430,246	\$32,859,191	\$21,020,200	\$33,636,400	\$96,732,527
1999	\$8,200,500	\$763,208	\$111,568	\$25,806,000	\$19,936,281	\$38,283,000	\$93,100,557
1998	\$8,177,800	\$676,000	\$91,000	\$23,226,500	\$14,548,760	\$39,055,200	\$85,775,260
1997	\$8,223,780	\$897,050	\$78,000	\$22,576,611	\$12,443,189	\$36,067,700	\$80,286,330
1996	\$7,039,600	\$836,000	\$27,000	\$18,319,000	\$10,830,537	\$34,709,000	\$71,761,137
1995	\$7,054,000	\$836,000	\$27,000	\$18,319,000	\$11,226,000	\$30,589,000	\$68,051,000
1994	\$7,379,000	\$872,000	\$32,000	\$20,274,000	\$12,278,000	\$30,681,000	\$71,516,000
1993	\$7,411,000	\$1,103,000	\$100,000	\$20,940,000	\$15,289,000	\$27,065,000	\$71,908,000
1992	\$7,407,000	\$1,039,000	\$129,000	\$17,923,000	\$15,300,000	\$28,836,000	\$70,634,000
1991	\$6,642,000	\$1,107,000	\$500,000	\$4,947,000	\$6,773,000	\$27,025,000	\$46,994,000
1980	\$8,136,830	\$1,082,043	\$43,878	\$4,023,394	\$6,320,105	\$19,891,481	\$39,497,731

Source: Department of Food and Agriculture Resources Directory, 2001.

Agricultural operations are etched more deeply into the cultural and aesthetic landscape than economic data can convey. The ranches that spread out across the lower Eel River and the Arcata Bottoms provide habitat for migrating waterfowl and shorebirds. Wide-open spaces create images of stirring beauty with meandering sloughs and cows foraging in fields of grass. This setting is available for all residents to enjoy and often provides inspiration for local artists, preserving historical settings on canvas.

Following is a brief discussion of the major agricultural commodities found in Humboldt County. Data on agricultural land conversion trends will conclude the chapter.

² Prosperity! Review, 2002 and Humboldt County Department of Agriculture, 2002

³ California Employment Development Department, 2001

Humboldt County General Plan Update
Agricultural Resources Report**1.2.1 DAIRY AND MILK PRODUCTION**

The largest agricultural industry is dairy production. Dairying started in Humboldt County long before the turn of the century utilizing the natural openings in the coastal hill country such as Table Bluff and Bear River. The industry began as an important milk supplier for the San Francisco Bay Area in the mid-to-late 1800's. However, after World War II, better refrigeration and transportation technologies caused the bulk of California's dairy industry to shift to the San Joaquin Valley, which is now responsible for producing 70% of California's milk production.



The value of dairy production has continued to increase steadily. According to the 1980 Humboldt County Agricultural Report, the value of milk produced in 1980 was estimated at a little under \$20,000,000 (this value is not adjusted to compensate for inflation). By 2001, Humboldt County dairies grossed approximately \$43,000,000.

Although these dairies produce about 1 percent of the state's total supply of milk (California ranks number 1 in milk production, producing almost 20% of all milk products in the United States), locally the industry is important and provides jobs for about 400 people and enough raw milk to keep four milk processors in operation. The largest processor, Humboldt Creamery Association, provides jobs for over 100 employees and produces nationally and internationally-distributed products, such as ice cream for Costco stores and powdered milk. Local milk producers also supply two local cheese factories, one of which supplies Romano cheese for a major national brand of salad dressings.

County dairy operators must compete with large operators in the San Joaquin valley. Often, dairy profit lies in the balance of feed costs and milk prices. Dairy operators seek to meet unstable market conditions by getting bigger and more efficient. In the 1950's, the average California dairy herd numbered 40 cows; by 1979, it was over 300 (Hight, 2000). In the San Joaquin valley and other major dairy regions, dairies contain 2,000 cows or more, confining their animals in mechanized barns with food and water delivery systems.

Keeping their animals on pasture year-round, Humboldt County's dairies typically run herds of between 200 and 400 dairy cows. Local dairy ranchers feel the same pressures to increase productivity and expand their herds (Hight, 2000). However, the ample rainfall and mild climate create cost-effective pastureland with little need for heat or air-conditioning for the cows and goats, unlike dairies in the Central Valley. With these cost savings the small local dairies are able to compete with dairies located in Central Valley.

California dairy operators "pool" their milk together for pricing and processing purposes. The California Department of Agriculture determines the valuation for raw milk on a monthly basis. Every dairy operator in the state gets paid the same price for raw milk going into this pool. Dairy operators have little recourse in the pricing strategy, and valuation can swing dramatically as a result of increases in supply and demand or economic cycles in the US economy. According to Rich Ghilarducci from Humboldt Creamery, the valuation of milk during 2001 was high which resulted in good profit margins for dairy operators; however, 2002

Humboldt County General Plan Update
Agricultural Resources Report

and the first quarter of 2003, milk prices have been extremely low, causing an economic downturn for dairy operators. Added operating expenses as a result of new regulations, such as the installation of manure ponds for water quality control purposes, can further stress a marginal operation.

Dairies lands provide rural landscapes shaping cultural and aesthetic values endemic to this area. Open spaces, grazing cows, rambling sloughs, migrating waterfowl and shorebirds inspire residents, tourists and artists with peaceful vistas and rural character. Dairies successfully combine two economic niches: the tourist industry and the milk products industry.

Humboldt County General Plan Update
Agricultural Resources Report**1.2.2 NURSERY PRODUCTION**

Nursery production is a viable niche industry flourishing in the coastal “fog belt” where temperatures remain moderate year-round. The County Agricultural Commissioner estimated 2001 sales of flowers and nursery products at \$34 million. The California Department of Food and Agriculture has reported the gross value for nursery production for the year 2000 at \$32 million (Table 2). Local floral products have gained national reputations and are able to command top prices, making the industry remarkably profitable.



Two forest-tree nurseries and dozens of specialty plant growers were responsible for some of that production, but Sun Valley Floral Farms, located in the Arcata Bottoms, generated the bulk of the value. Sun Valley Farms is the single largest agricultural employer with a workforce of approximately 270 people on about 280 acres. The operation has grown since its start in 1991 to become one of the top three flower distributors in the U.S. The operation produces more than 50 million flowers a year from a 1.5 million square-foot greenhouse complex.

The proximity of Sun Valley Farms to residential development in the Arcata Bottoms often brings conflict associated with the construction and operation of green houses, such as noise, lights and the use of agricultural chemicals. Sun Valley uses an array of synthetic pesticides to control fungi, weeds and pests, making it the largest farm chemical user. New federal standards may restrict or eliminate the company’s ability to use some agriculture chemicals in the future; however, according to company data, Sun Valley already cut its chemical usage by 60% between 1994 and 1997, and continues to look for ways to produce nursery products in a more environmentally friendly fashion.

Simpson Timber also contributes to the nursery industry through their production of redwood seedlings. Simpson Timber Company began its Tree Improvement Program for redwoods about 15 years ago and today raises about 2.5 million seedlings a year (Hight, 2000). Over half of these seedlings are utilized for re-forestation of Simpson lands, and the remainder is sold on the open market. The company also donates tens of thousands of seedlings to local schools and to stream-restoration projects.

Nursery production is dominated by the Sun Valley Floral Farms Corporation, but there are other owner-operated nurseries in the County. Nursery businesses range from small greenhouse production of herbs, flowers and house plants for sale at farmers markets; to large bedding plants, trees and bamboo production for landscaping; and wetland plant production for restoration.

Humboldt County General Plan Update
Agricultural Resources Report**1.2.3 LIVESTOCK PRODUCTION**

The two major livestock industries in the County are cattle and sheep production. While cattle production has maintained a consistent market level production over the last twenty years, sheep production has undergone a steady decline (see Table 3). Goat production, for milk and meat, is a small but growing industry.

Table 3: Humboldt County Livestock Production*

	1997	1992	1987	1982	1980**
Cattle and Calves:					
Total (animal units)	69,201	75,603	70,544	70,293	28,000
Farms (#)	501	618	645	686	n/a
<i>Beef Cows:</i>					
Total (animal units)	21,815	22,312	22,416	23,249	
Farms (#)	340	382	393	415	
<i>Milk Cows:</i>					
Total (animal units)	18,962	18,862	18,349	15,575	
Farms (#)	133	178	201	199	
Cattle and Calves Sold:					
Total (animal units)	33,568	40,974	38,012	40,970	
Farms (#)	480	578	625	643	
Sheep and Lambs:					
Total (animal units)	4,507	13,777	20,519	23,776	26,000
Farms (#)	83	128	139	152	n/a
Hogs and Pigs:					
Total (animal units)	800	318	691	844	
Farms (#)	30	40	48	70	

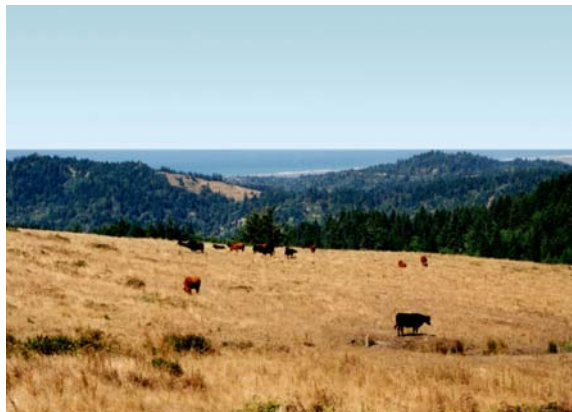
*US Census of Agriculture - Humboldt County Statistics

**1984 General Plan Agriculture Report, US Agriculture Census Data

Humboldt County General Plan Update
Agricultural Resources Report

1.2.3(A) CATTLE PRODUCTION

Cattle-ranching has a long history in Humboldt County and currently supports over 250 ranching families (John Fulkenstrom, 2003). Although not a large industry economically, beef production utilizes almost 470,000 acres of grazing land within the County (areas not in timber production). Consistently producing over the last five years between 27,000 to 29,500 head (including culled dairy cows), combined revenues reached between \$6.7 million to \$12.7 million (*Prosperity!*, 2002). Table 3 indicates total cattle inventory (including dairy cows) close to 71,000 head in 2001.



Most cattle ranches are operated as a “cow-calf” operation. Ranchers run herds of female cows expected to produce a calf every year. The calves are raised on pastures locally for six to eight months, and then sold to a feedlot out of county. Ranchers keep 10 to 15 percent of their female heifer calves as replacement cows. A producing cow lives eight to twelve years prior to being sold for processing. A few cow-calf ranches operate in the bottomlands, but most are upland dry land grazing operations, located in the interior.

In recent years, ranchers have been affected by the same price reductions impacting ranchers throughout the western U.S. Many local operators have been able to survive by harvesting their timber, custom beef marketing ventures⁴ and enrollment in certified beef programs⁵. These “value-added” strategies allow local ranchers the ability to get higher prices locally for their products.

1.2.3(B) SHEEP PRODUCTION

As a historical leader for the northcoast region (1981 Humboldt County Agriculture Report) sheep production peaked during the 1950’s with over 140,000 sheep. Typical ranch sizes at the time ranged from 7,000 acres in the Garberville area, to 1,800 acres in the Mattole Valley and South Coast regions. After World War II, ranchers began shifting to hardier cattle being easier on range grass than sheep. Wool and lamb prices also went into long-term slumps during the 1960’s causing a further decline in the market. Today, few commercial sheep ranches remain in operation (Table 3).

1.2.3(C) GOAT PRODUCTION

Twenty-five years ago it would have been hard to find a goat in Humboldt County, but now there is a thriving goat milk and cheese industry, and a fledgling goat meat industry. The county has two successful goat cheese making companies, Cypress Grove and Capricious Cheese.

⁴ i.e.: Antibiotic, steroid and hormone-free Northcoast Co-op brand beef

⁵ i.e.: Harris Ranch Partnership for Quality

Humboldt County General Plan Update
Agricultural Resources Report

From a small family business 20 years ago, Cypress Grove has grown about 30% a year. Dairies from Loleta, Ferndale, and the Arcata Bottoms, approximately 400 goats, provide half the necessary supply of milk for daily cheese production. Imported goat milk from Southern California supplies the balance. Future plans for the company include moving to expanded facilities, increasing cheese production, plus adding a tasting room featuring fresh produce together with other 'value-added' agricultural products from Humboldt County.

Capricious Cheese is a farmstead cheese operation, only using milk from the 100 goats milked on that farm. It is expanding by developing a coalition with other farmstead cheese-makers.

Goat meat is a smaller industry than the milk, only 54 animals were slaughtered in 2002, but with the growing Hispanic communities in the county, demand is slowly growing.

Goats are basically browsers, eating pasture grasses, brush, grass and alfalfa hay, and grain. Locally, farmers estimate that seven goats can be raised on one acre of high quality pasture ground.

Humboldt County General Plan Update
Agricultural Resources Report**1.2.4 FIELD CROPS AND ROW CROPS**

Beans, hay/grass, alfalfa, oats and silage grow in tillable soils typically located around the lowland areas (LaBoyteaux, 2003). Production of field crops peaked in 1977 with a gross market value of \$10,217,000. By 1991, it dropped to a gross market value of \$6,642,000. Values have risen fairly steadily from 1991 to 2001 as outlined in Table 2. Acres harvested steadily rose approximately 10% over the last ten years (1997 Census of Agriculture). The specific location of field crops can vary from year to year and exact



mapping and determination of acres harvested can be difficult. Rural residential areas in the lowlands are often “hayed” in the early summer months, producing 3 to 10 acres of hay/grass. This acreage is not accounted as in agricultural use; however, it does factor into the economic figures for agricultural production.

Row crops, primarily vegetables, are grown in good soils around Orleans, Willow Creek, Blue Lake, Bayside, the Eel and Van Duzen river valleys, Metropolitan, Shively, Holmes and as far south as Garberville. Vegetable crops have declined over the ten-year period outlined in Table 2, with a recent upward fluctuation. Fruit and nut crops are produced near Fortuna, Willow Creek, Orleans, and Mattole Valley. These crops fluctuated dramatically in value between 1991 and 2000.

1.2.5 ORGANIC AND SPECIALTY CROPS

Humboldt’s economic development strategy, *Prosperity!*, recognizes specialty agriculture as one of the seven base industries. Included in the *Prosperity!* definition of specialty agriculture are all agricultural activities other than dairy and timber. The crops previously discussed in this report, cattle, sheep, goats, and field crops, are included in specialty agriculture for the *Prosperity!* program, but they are not covered here. This section will discuss the other diverse specialty agriculture operations, such as organic farms, fruit and vegetable production, medicinal herbs, vineyards, small nursery production, flowers, and specialty spinning wools.

Organic fruit and vegetable farms are a small but growing industry. In 1992 there were 31 registered organic farmers increasing to 71 in 2002. This approximates a 10% yearly increase, similar to the growth rate in the state as a whole. In 2001, 415 acres were registered in County organic production. There were 168 acres in vegetable crops, 54 acres in fruit, 46 acres of vineyards, 22 acres in nursery and floral, and 9 acres of herbs, while one dairy is 115 acres (Eicher, 2002).

Eighty percent of the organic farms operate on 5 acres or less, ten percent are on 5 to 10 acre parcels, and ten percent are larger than 15 acres. Gross revenue from local organic farms were a total of \$1,035,790. Eighty percent of the organic farmers reported incomes less than \$10,000, while 11% were over \$25,000. For many organic farmers, it is assumed, farming does not represent their sole income. These farms can be found from Orleans in the north-east to Ettersberg in the south. The major growing areas are northern Humboldt, near Humboldt Bay;

Humboldt County General Plan Update
Agricultural Resources Report

eastern Humboldt, along the Trinity-Klamath rivers; and southern Humboldt, along the Eel River.

County fruit production dates back to the mid-nineteenth century. The warm inland valleys are particularly good for stone fruit production (peaches, plums), while the pome fruits (apples, pears) do well on the coast and inland, depending upon the variety. Blueberries and other small fruit production increased on the Mad River plain. According to the Agricultural Commissioner, gross revenue for fruit/nut production decreased between 1992 and 1996, from \$129,000 to \$27,000, but has been increasing since. The gross revenue for fruit/nut crops in 1997 was \$78,000, and in 2001 it was \$506,850. Approximately one-quarter of the 2001 revenue earned in fruit production was in organic product.

Diverse micro-climates produce vegetable crops from artichokes to zucchini. Cool weather crops like lettuce, peas and brassica prosper around Humboldt Bay, while warm weather crops like tomatoes and peppers thrive in the river valleys. Gross value of vegetable crops decreased from \$1,039,000 in 1992 to \$952,000 in 2001. About one-half of the 2001 revenue earned from vegetable crops was organic.

A small but growing trend has been the conversion of local dairies to certified organic dairies. Currently, three dairies are already certified organic, four are in transition and five are considering this transition (Eicher, 2003). Federal regulations governing organic standards require that all organically managed dairy animals have access to pasture. The County is well-suited for organic dairies because the dairies here are already pasture-based. The regulations also require that the pasture is organically managed and the land must be free from prohibited materials, such as synthetic fertilizers, for a minimum of three years. The cows themselves must be organically managed for a year before their milk can be sold as organic (also, no antibiotics can be administered to an organic dairy cow). Because this trend is so recent, no economic data is available for organic milk produced locally.

Both inland and coastal climates support the production of herbs, depending on the variety. Herb farms range in size from .25 to 3 acres. A cooperative of herb growers and wildcrafters formed an herb processing cooperative in 1995, but poor professional management led to its demise. The value-added concept of local herb processing is still potentially viable.

Vineyards are a growing specialty agricultural enterprise. Currently there are eight small wineries in the County. Similar to the herb farms, vineyards are small, .25 to 5 acre farms. The May 2002 UCCE Organic Agriculture reported 46 acres in organic grape production, which one local winemaker (Briceland Winery) estimated to be approximately 75% of the total acreage in grape production.

As stated previously sheep have been on the decline since WWI and today there are just a few small operations. However, there has been an increase in other small animal fiber production. Hand-spinners and weavers raise llamas and rabbits for a home-based cottage industry (Hight, 2000). This is a small, but growing industry.

The 1984 General Plan reported a net importation of specialty crops, such as beef, pork, fruits, and vegetables. This is still true in 2002. Thus there is a continued “need to provide for future production of essential food supplies; promote the continued presence of agriculture in the County; and conserve and utilize lands where agriculture is or can become economically viable.”

Humboldt County General Plan Update
Agricultural Resources Report**1.2.6 OTHER CROPS**

It should also be noted that Humboldt County is part of a region of northern California termed the “Emerald Triangle” (consisting of Humboldt, Mendocino, and Trinity counties). The name refers to the region’s large number of illegal marijuana growing operations. These growers are not included in official government tallies of agricultural outputs and sales, but could be a significant economic factor in agriculture production.

1.3 TYPICAL FARM SIZE

The minimum parcel size necessary to conduct agricultural operations is quite variable. Within the County there are topographic and climatic extremes which can inhibit or encourage agricultural use of the land. Soil type, water availability and climate greatly influence production rates and agricultural uses of the land. Because of these variables, it is difficult to compute an all-encompassing formula to determine appropriate parcel sizes in agricultural areas.



The dominating physical features include two major mountain systems and four primary rivers. The Klamath Mountains dominate the northeast, while the Coast Range dominates the west, running north to south. These two mountainous regions have varied soil types impacting the vegetation and agricultural use of the land. Running to the north west are major river systems, the Eel (and its major tributary, the Van Duzen), the Klamath (and its major tributary the Trinity), the Mad and the Mattole Rivers. Each river system has distinct bottomlands and growing conditions affecting the type of agricultural land use.

The coastal mountains and the Pacific Ocean are the main weather determinants. While inland temperatures vary greatly (from below freezing to over 110 degrees), the maritime coastal climate varies only a 10-degree average daily temperature between winter and summer. From October to April, about 90% of all precipitation falls. Rainfall may average less than 40 inches a year along Humboldt Bay, but more than 100 inches a year rain in the mountains that drain the Mattole and Bear Rivers (Humboldt County Agricultural Report, 1984).

Table 4: Typical Farm Size, Humboldt County***

Agricultural Use	1980 Typical Size/Acres	2002 Typical Size/Acres
Beef Production –	(Average 200 cows)	(Average 250 cows)
Coastal rangeland area:	1,400	1,750
Intermediate rangeland area:	3,000	3,750
Intermountain rangeland area:	5,000	6,250
Dairy Production –		(Average of 200 milk cows)
65Cow/grade B irrigated bottomland:	90	300*
115 Cow/gradeA irrigated bottomland:	150	
Sheep Production –	(Average of 1000 sheep)	(Average of 1250 sheep)
Coastal rangeland area:	1,800	2,270
Mattole Valley rangeland area:	5,000	6,250
Garberville rangeland area:	7,000	8,750
Row Crops**	15 – 150	10 – 150**

* Rich Ghilarducci, Humboldt Creamer (see discussion in section 3.3b for average herd size)

** John LaBoyteaux, Humboldt County Farm Bureau (see discussion in section 3.3d)

*** It should be stressed that the ranch sizes presented in Table 4 are typical for the County of Humboldt. They are by no means to be construed as averages. The typical ranch size as identified by Table 4 has the potential to return a profit to the farm operator.

The University of California Cooperative Extension prepared descriptions of typical ranch/farm sizes for various locations in Humboldt County according to agricultural use of the land for the 1984 General Plan Update. Extension staff was consulted to update these figures for farm production for 2002 (John Laboyteaux of the Farm Bureau provided data for row and field crops, and Rich Ghirlarducci of Humboldt Creamery supplied generalized information regarding dairy operations). Information was requested on the necessary acreage to support a farm family based upon type of operation (dairy, beef production, sheep production and row crops). Table 4 offers a comparison of typical farm sizes for 1980 and 2002. Caution must be used when reviewing these figures to note that every farm operation is different and this information is based upon certain assumptions in water availability, soil type and best management practices.

1.3.1 BEEF PRODUCTION - TYPICAL RANCH SIZE

Acreage requirements for beef production vary greatly throughout the County. County Extension staff estimated a typical ranch operation needs an average of 250 head of cattle to support a farm family and gave the following determinations:

Coastal rangeland	1 steer per 7 acres	1,750 acre ranch
Intermediate rangeland	1 steer per 15 acres	3,750 acre ranch
Intermountain rangeland	1 steer per 25 acres	6,250 acre ranch

These typical ranch sizes should not be construed as averages. They illustrate the potential ranch size returning a profit to the operator.

1.3.2 DAIRY PRODUCTION - TYPICAL FARM SIZE

Dairy operations were categorized in the 1984 General Plan Agricultural Background Report as "Grade A" or "Grade B" based on the construction and operation of the milking parlor. The majority of dairies now qualify as "Grade A" due to the renovations required by the Clean Water Act and Non Point Source Pollution regulations.

Today, the milking parlor has no relevance to typical dairy sizes. The valuation of the "pooled" milk product determines the economic operation (see Section 1.2.1 for further clarification).

Extension staff estimated (and Rich Ghirlarducci, of Humboldt Creamery confirmed) a typical dairy operation needs approximately 200 cows to return a profit. For irrigated bottomlands, one cow unit requires 1.5 acres of forage; therefore, a dairy requires approximately 300 acres, assuming no supplemental feeding is occurring.

1.3.3 SHEEP PRODUCTION - TYPICAL FARM SIZE

Acreage requirements for sheep production are similar to that of cattle. County Extension staff recommends using a conversion factor of 5:1 to determine herd size; therefore, a typical ranch operation needs an average of 1000 head of sheep to support a farm family. Assuming no supplemental feeding occurs and 1 cow unit equals 5 sheep:

Coastal rangeland	1 unit per 9 acres	2,270 acre ranch
Intermediate rangeland	1 unit per 25 acres	6,250 acre ranch

Humboldt County General Plan Update
Agricultural Resources Report

Intermountain rangeland 1 unit per 35 acres 8,750 acre ranch

These approximations illustrate a ranch size with the potential to return a profit.

1.3.4 ROW CROPS - TYPICAL FARM SIZE

The productivity of row crops is dependent on numerous factors including soil, climate, available irrigation, management practices, proximity to market and/or distribution and trucking and product valuation. It is therefore difficult to give an exact acreage for a typical farm size. Under the best growing conditions, (prime agricultural soils, available irrigation, mild climate, long growing season, intensive management practices and close proximity to markets) it has been estimated that 10 acres would be the smallest parcel size needed to support a farm family (John LaBoyteaux, 2003). It should be stressed, however, that there is no typical or average row crop farm size for the County, but rather a wide range of size. Row crops are often raised as part of a larger more diversified operation. Caution must be used when utilizing this number (10 acres) in that this size is a minimum that has the potential to provide a modest livelihood to the farm operator under perfect growing conditions. This parcel size has no relation to part time or “hobby” farms where the main source of income comes from a source other than the farm operation.

1.4 CONVERSION OF AGRICULTURAL LAND IN HUMBOLDT COUNTY

The issue of agricultural and timberland conversion to urban uses was identified as a concern in the 1985 Framework Plan, and continues to be identified as one of the major issues facing the County. The *Critical Choices Report* documented that protection of agricultural resources and open space was a key concern raised during the public scoping meetings for the General Plan Update. A majority of the citizens responded that the County should put more effort into protecting agricultural resources from conversion to other uses.



A study of Humboldt's agricultural land conversion identified substantial amounts of agricultural land recently lost to production through zone reclassifications, subdivisions, and conditionally permitted uses which conflict with agricultural operations. In addition to conversion occurring as a result of General Plan amendments and new subdivisions, land is also being converted through the Certificate of Compliance process, which involves recognition of historic parcels that may be substandard to minimum parcel sizes and densities established by the General Plan.

Agricultural land is generally considered to be directly "lost" or "converted" when any of the following happen:

- subdivision of agricultural lands (either through parcel maps, lot line adjustments or certificates of compliance).
- rezoning agricultural lands to a non-agricultural use (residential, commercial or industrial)
- zoning agricultural land into parcel sizes that are too small for realistic agricultural use (conversion into hobby farms or ranchettes)
- conditional use permits which allow uses that are incompatible with agricultural use

Converting a tract of agricultural land to a non-farm use results in long-term consequences. First, development immediately exhausts the agricultural productivity of the reallocated tract. Often this development causes the preferential conversion of highly productive land (characteristics of quality farmland, (e.g., flat or well drained soils) are often sought for development). Scattered residential development increases the potential for nuisance conflicts, indirectly reducing the agricultural productivity of remaining farms. Second, loss in terms of the opportunity foregone from the agricultural, open space, and environmental benefits would be experienced indefinitely. Finally, keeping land in agricultural uses also saves local governments money in infrastructure costs necessary to serve residential developments.

Humboldt County General Plan Update
Agricultural Resources Report**1.4.1. NATIONAL TRENDS IN AGRICULTURAL LANDS CONVERSION**

The loss of agricultural land to development pressures and other uses has increasingly become an issue of local, regional, and national concern in the United States. Estimates of the agricultural land converted annually to non-agricultural uses vary between 800,000 acres to more than 3 million nationwide. The Natural Resources Inventory of the U.S. Natural Resources Conservation Service estimates that over 3 million acres of farm, timber, and ranch land was developed into other uses each year between 1992 and 1997. The American Farmland Trust, a non-profit organization that monitors agricultural activities nationwide, estimates that more than 6 million acres of agricultural land was converted to development between 1992-1997.

The rate of conversion of prime land in the United States was 30 percent faster, proportionally, than the rate for non-prime land from 1992-1997. During this time period, the US population has grown by 17%, while the urbanized land area grew by 47% (American Farmland Trust, 2002). Over the past 20 years, the acreage per person for new housing almost doubled, with 10 plus acre housing lots now accounting for 55% of the land developed.

More important than the exact rate of conversion is the location of rapidly changing land use. Less than one-fifth of U.S. land is high quality and we are losing this finest land to development at an accelerating rate. Much of the land being lost is prime or unique farmland, disproportionately located near cities. Urbanization is rapidly moving beyond the suburbs. As a result, competition has developed for incompatible uses of agricultural land. Land allocated to farming provides a flow of both market and nonmarket benefits to society (e.g., crop production and open space). These same lands, on the other hand, are sought by developers for profitable building sites.

The state of California has experienced the greatest loss of agricultural lands over the last few decades, where some estimates place the amount of farmland lost at more than 50,000 acres a year since 1950 (Nisbet, 1993). The Natural Resources Inventory indicates that the state lost over 85,000 acres of prime farmland between 1992-1997, an increase of 15% over the previous five year study period. Much of this conversion has been fueled by the tremendous growth of the California economy and subsequent population boom. During the 1980s, California grew by 25%, and another 13% during the 1990s to a 2000 U.S. Census population of nearly 34 million.

Much of the agricultural land loss has occurred in the rapidly urbanizing and suburbanizing portions of the state, particularly in southern California and around the San Francisco Bay Area⁶. However, in the past decade this growth has begun to rapidly spill over into previously agriculture-dominated areas in the state, particularly the Great Central Valley. A recent study estimates that the population of the Valley will triple by the year 2040, consuming 1 million additional acres of agricultural land in a region that produces one-quarter of the total U.S. food supply (American Farmland Trust, 1995). Other agricultural areas that are more isolated from the major coastal population centers of the state have not seen the same rates of dramatic growth and development pressure, but are still losing significant amounts of agricultural land.

⁶ Michael Smith & Deborah Giraud; *Traditional Land Use Planning Regulations and Agricultural Land Conversion: A Case Study from a Rural Northern California County*; Paper presented at the 63rd annual meeting of the rural sociological society in Washington D.C., August 13-17, 2000; 20 p

1.4.2 EFFECTS OF AGRICULTURAL LANDS CONVERSION

The conversion of agricultural land to other uses obviously diminishes the inventory of land available for crop production. However, in addition to reducing the quantity of agricultural lands, conversion impacts remaining agricultural lands in many qualitative ways. As surrounding lands are converted to suburban and urban uses, remaining farms and ranches are impacted by the fragmentation of agricultural lands, by conflicts over farming and ranching activities, by transportation challenges and by the loss of support services and infrastructure. On the other hand, conversion of agricultural land is generally driven by population growth. Population growth may also have some positive effects on agricultural operations that are positioned to take advantage of local markets. The following report examines the qualitative impacts of agricultural land conversion on remaining farms and ranches in Humboldt County.

1.4.2 (A) FRAGMENTATION OF AGRICULTURAL LANDS

Fragmentation of agricultural lands impacts remaining farming and ranching operations in two ways. First, as farms and ranches within a predominantly agricultural region are converted to other uses, the remaining operations become surrounded by additional neighbors, increasing the potential for conflict at the urban /agriculture interface (see the discussions of conflicts over agricultural activities and transportation issues to follow). Second, fragmentation reduces parcel size, thus reducing the amount of contiguous land available for agriculture. Commodity crops (cattle, dairies, etc.) are particularly vulnerable to fragmentation. These agricultural uses require large contiguous blocks of land for farmers and ranchers to achieve the economies of scale necessary to hold down per unit production costs. This type of fragmentation can also impact water availability. As commercial agricultural lands are subdivided into suburban ranchettes, water use may rise. Groundwater resources may also be impacted, both by decreased efficiency by ranchettes, and by increased numbers of residential wells.

Fragmentation also drives up land values. Even land that is zoned for agriculture increases in value as nearby land is developed. Such speculation prices potential farmers and ranchers out of the market. As described earlier in the report, farmers and ranchers are aging. As conversion of agricultural land drives up land values, fewer young farmers will be able to enter the industry (either through inheritance or purchase).

1.4.2(B) CONFLICTS OVER AGRICULTURAL ACTIVITIES

Suburban residents may object to the sights, smells, and sounds associated with commercial agricultural production. Despite Humboldt County's right to farm ordinance, agricultural operations can be a source of conflict between agricultural operators and suburban residents. Conflicts arise because of the sights, sounds and smells inherent in farming and ranching, and because of misunderstandings between farmers and the larger community. As fewer people in Humboldt County come from an agricultural background, the potential for these types of conflicts increases.

Examples of conflicts over agricultural activities include complaints about seasonal operations, like planting and harvesting. Because some crops have a very short window in which they must be planted or harvested, these activities may take place around the clock. If everyone surrounding a particular farm is also farming their land, such activities are generally accepted. Where an operation is adjacent to suburban development, however, neighbors may (and often do) complain about 24 hour per day operations. At certain times of the year, livestock

Humboldt County General Plan Update
Agricultural Resources Report

operations may create noise, dust and substantial fly populations. Neighboring landowners who are not familiar with livestock production may find these to be nuisances. In some cases restrictions on the application of pesticides on fields adjacent to subdivisions, businesses or schools may eliminate a farmer's ability to grow particular crops in what becomes a *de facto* buffer zone. Odors from the application of fertilizer, manure, or bio-solids, as well as composting activities, can create conflicts with non-agriculture neighbors, as well.

Suburban and urban land uses can also create conflicts for farmers and ranchers. Many suburban landowners in Humboldt County grow fruit trees and gardens. These crops, if left unmanaged, may harbor or attract pests that can damage commercially grown crops as well. The glassy-winged sharpshooter was likely introduced to Northern California from nursery products used for urban and suburban landscaping. Regulatory agencies are concerned that livestock diseases and pests may be similarly introduced.

The objections and misunderstandings cited above are directly related to a lack of knowledge regarding agricultural production among urban and suburban residents. As fewer people are directly involved in production agriculture, the production practices used on farms and ranches are increasingly foreign to many county residents.

1.4.2 (C) TRANSPORTATION OF AGRICULTURAL PRODUCTS

Population growth creates additional traffic. As more people reside in traditionally agricultural regions, transportation infrastructure (roads) generally does not keep pace with the rate of traffic growth. Agricultural traffic (mostly machinery and trucks) must compete for space with commuter and residential traffic. Differences in vehicle speeds and size can create potentially dangerous situations (both for suburban residents and for equipment operators). Livestock operators are also impacted by increased traffic. In more rural settings, livestock may be driven from pasture to pasture using public and private roads. As roads become more congested, livestock producers are forced to use trucks and trailers.

Transportation facilities can also lead to increased fragmentation – even at the individual farm level. Conversion of agricultural land also impacts transportation options for remaining farmers and ranchers. Transportation facilities are generally designed to accommodate environmental factors and/or engineering requirements. These facilities rarely, if ever, address agricultural issues. Consequently, individual farming operations may be bisected by new transportation corridors, adding to operating expenses .

1.4.2(D) LOSS OF SUPPORT SERVICES AND INFRASTRUCTURE

A viable agricultural sector requires access to a variety of support services, including supply companies, equipment dealers, transportation providers, pesticide applicators, as well as processors and marketers. In turn, these support services require a critical mass of agricultural producers to remain viable. As agricultural land becomes fragmented by conversion to other uses (and fewer farmers and ranchers remain in an area), these support services generally move out of the area. Regional examples include the loss of processing facilities for canning tomatoes and sugar beets in the Sacramento area. In recent years, tomato and sugar beet producers in the Sacramento Valley have been forced to plow crops under rather than harvest then because of the loss of processing capacity (Placer County Agricultural Study, 2002).

Humboldt County General Plan Update
Agricultural Resources Report

1.4.2(E) CUMULATIVE EFFECTS

Notwithstanding the positive outcomes of population growth described in the *Building Communities Report, 2000*, conversion of agricultural lands has an overall negative effect on remaining farms and ranches. Fragmentation, conflicts over agricultural operations, loss of transportation options and loss of support services may accelerate the decisions of remaining farmers and ranchers to leave the industry or the area. Combined with local, state and federal regulations that are detrimental to agriculture, as well as with increasing costs for imports and declining market prices, these factors make many farmers and ranchers pessimistic about the future of the industry.

Humboldt County General Plan Update
Agricultural Resources Report**1.4.3 HUMBOLDT COUNTY TRENDS IN AGRICULTURAL LAND CONVERSION**

Although it is not experiencing the rapid population increase and intensive development pressure that other areas of California face, agricultural land is being lost to production in Humboldt County, despite strongly-worded policies advocating farm and forestland protection. Agricultural zoning in and of itself is not a sufficient tool for protection due to the ability of political bodies to change the zoning based on a simple majority vote (Colyer, 1998; Coughlin, 1991; Daniels and Bowers, 1997).

In Humboldt County, approximately 60,000 acres of agricultural resource lands were involved in a permitted land use activity or public acquisition that may have resulted in a conversion of agricultural lands (Table 5). Of the 162 applications received for the rezoning of resource production lands between 1985-2000, only two were denied. Not all of the zoning changes involved the land being designated into non-resource production uses such as residential or commercial, but many of the changes probably led to the loss of agricultural production because of the parcelization of properties into sizes too small for continued viable agricultural operation. Smith et al found that the agricultural lands protected by the stricter Coastal Act policies remained for the most part in agricultural production; most of the conversion occurred in the inland grazing and timber lands where numerous tracts of rural “ranchettes” have been created.

*Table 5: Agricultural Land Conversion Estimates Humboldt County, 1985-2001**

<i>Type Of Activity</i>	<i>Acreage</i>
Subdivisions	5,000
Certificate of Compliance (Determination of Status)	16,500
Rezoning*	15,000
Illegal Subdivisions (Tooby Ranch)	13,000
Public Acquisitions**	11,000
TOTAL	60,500

* *Michael Smith & Deborah Giraud; Traditional Land Use Planning Regulations and Agricultural Land Conversion, 2001*

** Includes acreage from the Mattole Ecological Reserves

It must be noted that not all permit activities (i.e. re-zones, subdivisions, certificate of compliance or conditional use permits) necessarily remove agricultural lands from production. Often, these types of permit approvals can result in reducing the size of the property below a size that can sustain a viable agricultural operation; however, staff did not review the permit approvals for ultimate land use. Many of these areas under review may be in some form of agricultural production. Conversely, these areas may not have been in commercial agricultural production prior to permit approval, and caution should be used when utilizing these conversion numbers.

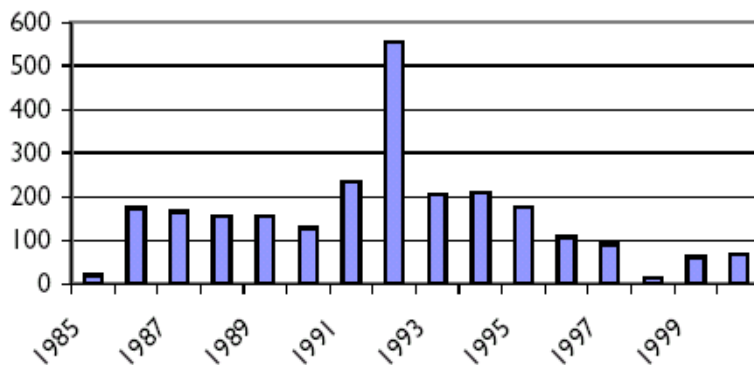
Following is a discussion of agricultural land conversions that may have occurred through the County permitting process.

1.4.3(A) SUBDIVISION

Since 1985, the County has approved 531 subdivisions, creating a total of 2,945 residential lots. Figure 2 shows approvals on a yearly basis, and Figure 3 shows the geographic distribution. An additional 241 lots have been approved through the tentative subdivision map stage; these lots will be legally created once the conditions of approval of the tentative map have been met and the final subdivision map is recorded.

The majority of the subdivisions processed by the County since 1985 have occurred in the R-1 or RS zone; however, over 29% (152 applications) have occurred in an agricultural resource zone. After review of these files, over 90% occurred on properties containing over 10 acres in size, with an average of 40 acres. Of these 137 applications processed, 481 residential lots were created on over 5,000 acres. The majority of these lots created are of a size too small for the production of agriculture as the main economic use of the property.

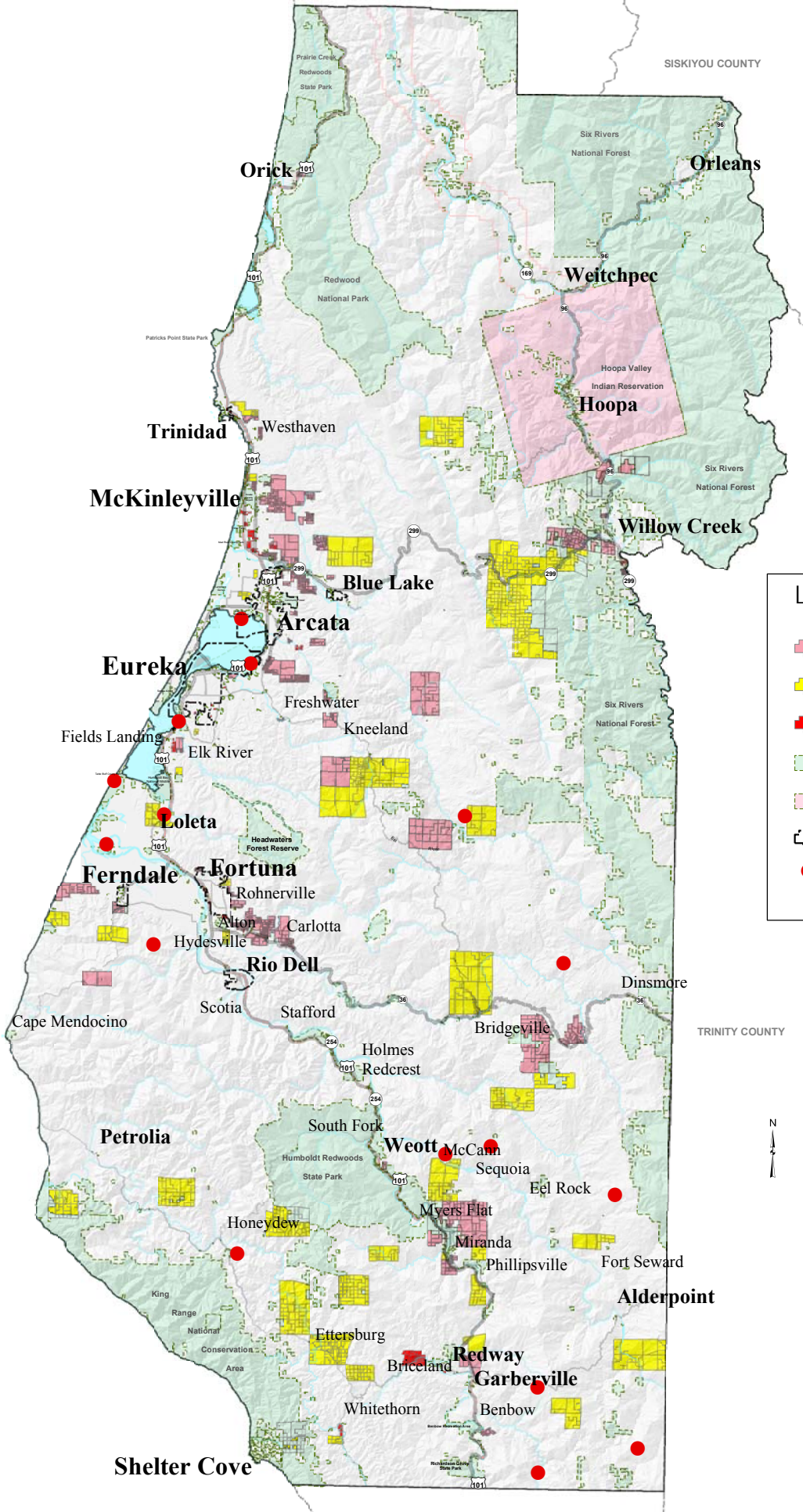
Figure 2: Subdivision Activity: Number of Lots Approved by Year, 1985-2000



It is likely nearly all of the large lot subdivisions over the past 15 years have been on agricultural and timberlands. These changes are primarily reflective of the breakup of old family ranches. While timber production on these areas is likely still viable, the viability of the dry land cattle grazing historically present on these areas has likely been lost. Therefore, these changes have been less significant with respect to the timber economy and more significant with respect to the agricultural economy, particularly beef cattle and sheep ranching. The dairy lands of the Eel River and Humboldt Bay areas have been more stable and subject to less conversion, although development pressures and compatible use issues are still significant issues.

It must be noted that not all subdivisions necessarily remove agricultural lands from production. Often, these types of permit approvals can result in reducing the size of the property below a size that can sustain a viable agricultural operation; however, staff did not review the permit approvals for ultimate land use. Many of these areas under review may be in some form of agricultural production and caution should be used when utilizing these conversion numbers.

Subdivisions and Certificates of Compliance in Agricultural Resource Areas



Legend

- Approved Subdivision 1985-2001**
- Certificate of Compliance 1985-2001**
- Active Tentative Subdivision 2002**
- Parks/Open Space*
- Reservation/Tribal Land*
- City Boundary*
- Converted or Out of Production Ranches*

** Locations are keyed to Assessor's Book and Page and not actual parcel locations.*

This map is intended for display purposes and should not be used for precise measurement or navigation. Data has not been completely checked for accuracy.

ArcMap 8.2 Map File: Humcol\c:\aprs\subcertcomp.mxd

Adobe Acrobat File: H:\gis\1\admin\resources\aglands\subcertcomp.pdf

Map compiled by Humboldt County Community Development Services (HCCDS) - Advance Planning Division, February 2003.



Humboldt County General Plan Update
Agricultural Resources Report

1.4.3(B) CERTIFICATE OF COMPLIANCE (DETERMINATION OF STATUS)

In addition to conventional methods of creating legal parcels (i.e., through subdivisions pursuant to the Subdivision Map Act), certificate of compliance/determination of status projects have sometimes been used to establish new parcels. A Certificate of Compliance is a legal document, which certifies that a parcel of land complies with the Subdivision Map Act. In other words, it is a document that states that a particular parcel of real property has been legally created. There are a number of different ways to subdivide real property. The most common way is by tract map or parcel map. These processes are recognized by the State of California and by Humboldt County as being legal means of subdividing. However, many parcels were created long before these processes became widely accepted. Generally, if a parcel was created without using a process established by the Subdivision Map Act, yet was created prior to a specific date, then it is considered to be legally created.

The issuance of a Certificate of Compliance simply means that the parcel complies with the Subdivision Map Act. It does not mean that it complies with the Zoning Ordinance, Building Code, General Plan, or any other law or ordinance. Additionally, the issuance of a Certificate of Compliance does not necessarily mean that the lot has an approved means of access. Zoning, building codes, and access are not criteria used to determine the issuance of a Certificate of Compliance. It is feasible that a Certificate of Compliance can be issued for a parcel that is otherwise “unbuildable.”

In the time period between 1985 and 1995, approximately 179 lots were created in the County through Certificates of Compliance. Of all the Certificate of Compliance applications submitted since 1985, one quarter have been on agricultural and timberlands, affecting more than 18,000 acres. After review of the files, over 16,500 acres contained an agricultural zoning designation. The issuance of these Certificates created additional residential lots reducing the overall production capacity of the original agricultural units. Furthermore, since 1985 more than one half (53 percent) of all the lot line adjustment applications have been on agricultural and timberlands, affecting more than 16,000 acres. The majority of these lots are in rural areas, as shown in Figure 3.

It must be noted that not all certificate of compliance/determination of status necessarily remove agricultural lands from production. Many of the large ranch parcels in the County have split zoning with a mix of Agriculture Exclusive and TPZ lands. As some of these ranches change hands, recognition of historic property boundaries occurs. In some cases, this may precede breakup of some large ranch holdings or it may be for purposes of establishing more logical management units. Staff did not review the permit approvals for current land use or ultimate land use. Many of these areas under review may be in some form of agricultural production, or they may not have been in commercial agricultural production in the first place. Staff has tracked these types of permit approvals as they may result in conversion by reducing legal lots below a size that can sustain a viable agricultural operation. Caution should be used when utilizing these conversion numbers.

1.4.3(C) REZONES

Michael Smith of Humboldt State University, and Deborah Giraud of the County Extension Service reviewed the rezoning applications processed by the County during the period 1985-2000 and found that 160 rezone applications were approved (Table 6)⁷. Forty-five of these

⁷ Michael Smith & Deborah Giraud; *Traditional Land Use Planning Regulations and*

Humboldt County General Plan Update
Agricultural Resources Report

cases did not involve natural resource production lands (zoned agriculture, timber production, or unclassified). Of the 115 applications involving resource lands, 34 involved parcels zoned Agriculture Exclusive (AE). Seven of these cases resulted in the land being rezoned to non-resource production uses, such as residential or commercial development, while 14 parcels were rezoned from AE to another less restrictive agricultural zone, with smaller minimum lot sizes. The other 13 cases involving land originally zoned AE involved conversion to a timber production (TPZ) designation, and thus did not involve land going out of resource production.

Twenty-five cases involved requests to rezone Agricultural General (AG) designated lands to something else. In seven cases, the zoning was changed to a non-agricultural use; while in 13 others, the zoning was changed to an AG zone with a smaller lot size. The other five cases involved a rezone to a timber production (TPZ) designation. Thirty-three cases involved lands originally zoned Unclassified (U), most of which were in agricultural production; of these zone requests all were approved (Table 6). Nine of the parcels were rezoned to non-resource production designations such as commercial, industrial, and recreational. The other cases involved rezoning to timber and agricultural designations, although in many cases at minimum lot sizes below 20 acres.

While only 1,412 acres were converted from agricultural use zoning to a non-agricultural use, another 13,628 acres were changed from one agricultural use zoning category to another AG zoning category, usually with smaller minimum lot sizes. Although this only constitutes a conversion of 2.6% of the County's total land in agricultural production, it is of course not an insignificant amount, especially in light of the relatively low level of population growth and development pressure occurring in the County during the study period. Not surprisingly, the highest percentage occurred near the population centers around Humboldt Bay. Thus, while the overall rate of conversion may seem small for the County as a whole, conversions are locally a more significant impact in the more-populated areas of the County and involve rich alluvial soils near Humboldt Bay that comprise the County's best agricultural soils.

1.4.3(D) CONDITIONAL USE PERMITS

The issuance of Conditional Use Permits (CUPs) for non-agricultural uses on lands zoned for agricultural use is another method in which land is potentially lost to agricultural production. Michael Smith of Humboldt State University, and Debra Giraud of the County Extension Service also reviewed the impact of issuing Conditional Use Permits on lands zoned for agriculture. While certain approved uses are not likely to affect the viability of continued farm use (such as cell phone and radio towers), others likely lead to the eventual loss of production.

The most common CUP request was for a secondary dwelling unit; other approved CUPs included a bed and breakfast, a cabinet shop, a campground, chain saw sales and service, an equipment warehouse, mini storage units, a restaurant parking lot, tool manufacturing and distribution, a tow truck yard, trout rearing, a truck maintenance facility, truss manufacturing,

Agricultural Land Conversion: A Case Study from a Rural Northern California County; Paper presented at the 63rd annual meeting of the rural sociological society in Washington D.C., August 13-17, 2000; 20 p

Humboldt County General Plan Update
Agricultural Resources Report

Table 6. Reclassifications of Agricultural Resource Lands to Other Zones or Smaller Parcels in

ZR Category*	Number of Cases	Number of Cases Reporting Acreage	Sum of Acres Reported	Mean Acres per Case	Estimate of Total Acres
1a. AE to Non-Agricultural	7	6	810	135	945
1b. AE to Smaller Parcel AE or AG	14	7	310	44	620
1c. AE to TPZ	13	3	615	205	2,665
Total AE Zone Reclassifications	34	16	1,735	N/A	4,230
2a. AG to Non-Agricultural	7	6	145	24	169
2b. AG to Smaller Parcel AG	13	6	169	28	366
2c. AG to TPZ	5	2	18	9	45
Total AG Zone Reclassifications	25	14	332	N/A	580
3a. TPZ to Non-Agricultural	7	1	5	5	35
3b. TPZ to AE or AG	16	15	5,962	397	6,359
Total TPZ Zone Reclassifications	23	16	5,967	N/A	6,394
4a. U to Non-Agricultural	9	4	117	29	263
4b. U to AE or AG	11	8	1,807	226	2,485
4c. U to TPZ	13	9	753	84	1,088
Total U Zone Reclassifications	33	21	2,677	N/A	3,836
Total Agricultural Resource to Non-Agricultural (1a+2a+3a+4a)	30	17	1,077	N/A	1,412
Total Agricultural Resource to Other Agricultural Resource (1b+1c+2b+2c+3b+4b+4c)	85	50	9,634	N/A	13,628
Total Non-Agricultural to Agricultural Resource	1	1	420	420	420
Total Non-Agricultural to Other Non-Agricultural	44	7	56	8	352
Total Zone Reclassifications Approved	160	75	11,187	N/A	15,812

Humboldt County, 1985-2000

For the purposes of this analysis, "Agricultural Resource" zones include AE, AG, TPZ, and U. "Non-Agricultural" zones include all other zone classifications.

Humboldt County General Plan Update
 Agricultural Resources Report

vitamin marketing, and a wood waste recovery operation. Clearly, many of these uses are incompatible with continued viable agricultural use.

1.4.3(E) ILLEGAL SUBDIVISIONS

Illegal subdivisions are currently not tracked within Humboldt County. Enforcement only occurs when the property owner wishes to develop the property and requests a permit approval. The Assessors Office notifies the Planning Department of the potential parcelization of a property, and Planning Staff makes a note of the activity on the staff zoning reference maps.

Currently, the County has become aware of the illegal subdivision of a large ranch in Southern Humboldt that also is under Williamson Act Contract. The former Tooby Ranch is a ±13,000 acre Agricultural Preserve (Class B, Grazing). It was formed in 1977 and operated as a single ownership unit until 2000 when it was sold. The most recent owners subsequently sold much of the ranch to third parties, subdividing the property without the benefit of county permits. The County Board of Supervisors directed staff to determine if the land conveyances and current activities on the former Tooby Ranch constitute an action inconsistent with the executed Land Conservation Contract. Because of the nature of the subdivision, the County will most likely proceed with enforcement action.

1.4.3(F) PUBLIC ACQUISITIONS

An additional conversion issue that has long been a topic of debate is conversion by public acquisition, highlighted most recently by the Headwaters Forest Reserve acquisition, which removed 7,500 acres from timber production. During the period between 1985 and 2002, over 18,000 acres of agricultural resource lands were purchased by a public or non-profit agency for a primary use other than agricultural production (see Table 7). While such conversions maintain the open space values of the lands, they are often lost to the economic sector. It must be noted, however, that many of these public lands continue some form of agricultural production as a secondary use such as cattle grazing or the harvest of grass hay. Often agricultural production is used as a management tool for the public agency; and is not viewed as the primary land use for the property.

Table 7: Public Acquisitions Of Agricultural Resource Lands Humboldt County, 1985-2001

Agency	Acreage
Bureau of Land Management*	6,016
US Fish and Wildlife	1,200
State Fish and Game (and State Lands)	3,380
City of Eureka**	296
Non-profits (Land Trusts)	145
TOTAL	11,037

* includes portion of the Mattole Headwater Ecological Reserves which contains a mix of grazing and timberlands.

**2002 Humboldt County GIS

Humboldt County General Plan Update
Agricultural Resources Report**1.5 TRENDS IN AGRICULTURE**

Agriculture is an important component of both the local economy and character. Yet, conversion of farmland to other uses has been the trend in recent decades. Despite protection policies in the Framework Plan, the conversion of agricultural lands to non-agricultural uses has been occurring at an alarming rate. Approximately 3,000 to 5,000 acres of agricultural lands has been converted to non-agricultural use each year since 1964. Rangeland has been converted to both timber production and rural subdivision. Productive farmland near population centers is often being replaced with poorer farmland that requires more energy and costs for transportation, fertilization, and irrigation (Dyett and Bhatia, 2002).

Every county in the northern region of the state of California, has lost acreage of agricultural land between 1982 and 1997 (Bartholomy, 2002). This region uses much less of a percentage of its land for food production than any other region in the state. The Northern California region as a whole uses 11% of its land for agricultural production compared with 28% of California. Humboldt, with 25% of its land in agriculture, has the second largest amount of farm acreage in the region, the highest percentage of land used for farming and the highest market value of products (NASS, 1997).

In a fifteen year period studied by the U.S. Census of Agriculture (1982-1997), the number of farms in the County declined from 876 to 792, while the acreage in farms declined from 648,820 to 584,538 (Table 8). According to the 1997 Census of Agriculture, between 1992 and 1997, 13,228 acres or two percent of farmland and 82 farms were lost. The average farm size increased in those five years from 684 acres to 738 acres. The number of full time farmers also decreased 13 percent from 482 to 417.

Table 8: Humboldt County Farm Statistics*

	1997	1992	1987	1982
Number of Farms	792	874	890	876
Land in Farms (acres)	584,538	597,766	616,267	648,820
Average Size of Farms	738	684	692	741
Farm by Size:				
1 to 9 acres	134	139	134	120
10 to 49 acres	190	193	207	233
50 to 179 acres	200	243	253	227
180 to 499 acres	108	136	138	135
500 to 999 acres	45	49	49	52
1,000 acres or more	115	114	109	109
Total Cropland:				
Farms	570	595	634	632
Acres	51,228	58,209	56,649	60,477
Harvested Cropland (acres)	15,233	13,655	13,512	16,355
Irrigated Land (acres)	17,630	15,775	13,466	19,627

*US Census of Agriculture - Humboldt County Statistics

Humboldt County General Plan Update
Agricultural Resources Report

Aging individual landowners is another trend in agriculture, particularly in cattle ranching (Anderson, 2002). Many of these individual ownerships will go through some sort of intergenerational transfer in the next 20 years. Often times with such property transfers, tracts will be broken up and parcel sizes reduced. For some of these property transfers, unfunded estate taxes could force some degree of subdivision.

This trend can also be seen in the timber industry as well (many of the large cattle ranchers manage timber harvest operations on these ranches, and may be included in these statistics). As of 1994, as estimated 2.5 million individual forest owners nationwide were 65 years or older and hold 23.5% of the total privately owned forests (Best and Wayburn (2001). An additional 2 million owners were estimated to be between 55 and 64.

2. County Programs, Policies, and Incentives that Provide Protection to Agricultural Lands (Critical Choices Directive NR2d)

The County held numerous meetings to engage the public in determining the major issues to be addressed in the General Plan Update. County staff compiled the responses received during this phase into the Critical Choices Report and presented the findings to the Board of Supervisors on April 17, 2001. A majority of the citizens responded that the County should put more effort into protecting agricultural resources from conversion to other uses.

Recent surveys of attitude toward agriculture land in the County (Ben Moorehead, 2003) demonstrate that 73% of the general public say the County should give high priority to conserving the agriculture lands, and 94% thought it was important to keep agriculture lands in productive enterprise (see Appendix A).

The directives from the Critical Choices Report for agricultural resources focused on three areas. These included:

- Implement Countywide protection policies through Plan and zone map changes.
- Develop County programs to provided incentives for preservation (e.g., conservation easements, TDR's, economic incentives); and
- Develop programs that recognize and encourage smaller agriculture operations (intensive uses, organic and micro-agriculture) such as allowing smaller parcels in the Williamson Act and establishing Farmland Security Zones (please note that the mechanisms for establishing Farmland Security Zones were implemented in the County in the summer of 2002).

Following is a general discussion of these issues and how they relate to agricultural resources in Humboldt County. Chapter 3 focuses on the current County regulations and Chapter 4 offers proposed polices based upon the issues articulated during the Critical Choices Report scooping meetings.

2.1 COUNTY-WIDE PROTECTION POLICIES THROUGH PLAN AND ZONE CHANGES

A wide variety of land use planning techniques are employed to stem the loss of agricultural land. Common techniques used throughout the country and the state is General Plan policies, zoning ordinances and differential property tax assessment. Following is a general discussion of each; with further exploration of the issues pertinent to Humboldt County found in Section 2.4.

2.1.1 GENERAL PLAN POLICIES

Under California planning law, the County General Plan is the constitution guiding land use planning. The General Plan outlines policies for land use activities within the jurisdiction. The polices are meant to articulate the intent and interests of the citizens and serve to guide the administration in making decisions regarding land use and development, along with other interests. From the General Plan, the County or city writes zoning ordinances to serve as the implementing device for policies of the General Plan.

The state's General Plan law specifically mandates the preparation of open space and conservation elements, which must address natural and managed resources. General Plan policies and zoning have varying effects on agricultural land preservation. Most experts agree that in the long run, policies in themselves are ineffective because of the inherent flexibility of zoning; over time, political pressures to develop land to other uses often prevail.

2.1.2 ZONING ORDINANCES

Zoning is a constitutional power of the state to prevent land uses that threaten the safety, health, morals, and general welfare of the public. Zoning ordinances are written primarily to influence urban land use, but in rural regions land classifications are zoned. Rural land zoning is customarily determined by region and soil type, and describes the activities allowed on a site, minimum acreage, and maximum number of housing units.

Minimum lot size is used to insure low residential density in rural areas. Unfortunately, two, five, or even ten acre residential parcel size restrictions do little more than scatter development and consume or cripple prime farmland. Even if the minimum lot size is forty acres or more, an ordinance does nothing directly to prohibit nonagricultural uses of the tract.

There are two major types of agricultural zoning: exclusive farm zoning and non-exclusive farm zoning. True exclusive farm zoning allows no non-agricultural uses whatsoever on the land, while non-exclusive zoning allows some other uses on a portion of the property. In the U.S., only Hawaii and Oregon have true agriculture exclusive zones. Non-exclusive farm zoning may identify areas of agricultural importance, but in practice it does little to retain land in agriculture when the ordinances are subject to variances, zoning amendments, and special exceptions.

Some agriculture exclusive zoning is developed as a voluntary creation of agricultural districts by landowners. The benefits that farmers obtain by voluntarily joining an agricultural district may include differential assessment, protection against nuisance ordinances, and limits on public investments for non-farm improvements. Basic standards for reviewing district petitions should be outlined in the County Zoning Ordinance, if not at the state level. Like any zoning

Humboldt County General Plan Update
Agricultural Resources Report

ordinance, however, its effectiveness can be undermined by a zoning authority's lax supervision of rezoning and variance requests.

Open space zoning relies on the principal of cluster development, whereby new homes are clustered onto part of the development parcel. Clustering allows the remainder to be preserved as productive farmland or unbuilt open space. Since only the density and not the number of houses is changed, open space zoning can permanently protect a substantial portion of some development tract's agricultural productivity without decreasing the development potential for both landowner and developer.

Most states also have some type of right-to-farm law that can be applied at the local level. These laws protect farmers operating near residential areas from nuisance lawsuits stemming from carrying out normal farm operations that produce dust, odors, chemicals, and animal waste. These laws vary considerably by state regarding the degree of protection and areas of operation covered. While such laws can help farming remain a viable enterprise in a community, they are not an effective tool for preventing land conversion in the face of intense development pressure.

2.1.3 DIFFERENTIAL TAX ASSESSMENT PROGRAM

Some type of differential tax assessment program, also known as a property tax relief program, is offered in all 50 states in the U.S. These programs allow local tax officials to assess farmland at its agricultural use value, rather than its value for other (presumably higher value) uses such as residential or commercial development. Four states, including California, have the most restrictive type of these programs that use provisional agreements that require agricultural land to remain in agricultural production through a legally binding contract.

California was one of the first states (Iowa was the first in 1939) to enact such a program with the passage of the California Land Conservation Act (commonly called the Williamson Act) in 1965. The intent of the Williamson Act is to preserve a maximum amount of open space and agricultural land to conserve the state's economic resources, to maintain the agricultural economy assuring a food supply for future residents and to discourage premature and unnecessary conversion of agriculture land to urban uses. Agricultural land owners who wish to take part in the voluntary program must be part of a designated "Agricultural Preserve" which is in most cases 100 acres or larger, but is as low as 10 acres for prime agriculture lands in some California counties. Farmers enter into a contract in which they agree not to convert their land to other uses for a 10-year period. The "Super Williamson Act," provides additional property tax benefits for landowners who commit to keeping their property in agriculture for at least 20 years.

While preferential tax assessment programs are successful in helping many farmers keep their land in agricultural production, most experts agree that the programs do not work well on their own to prevent farmland conversion in the face of intense development pressure, because of their voluntary nature and the inability of tax reductions to match the valuation of land in some areas.

2.2 COUNTY-WIDE PROTECTION POLICIES THROUGH INCENTIVES

Incentive-based agricultural protection programs are beginning to receive increased support throughout the county. These types of programs include transfer of development rights programs, right-to-farm ordinances, and federal/state programs that partner with landowners to encourage stewardship. While over 70% of both agricultural producers and the general public support the use of some type of incentive-based protection program throughout the county, there is less support for taxes to fund this type of program. Following is a general description for each type of program.

2.2.1 PURCHASE AND TRANSFER OF DEVELOPMENT RIGHTS PROGRAMS

The purchase of development rights (PDR) is a process where willing landowners can sell conservation easements to governmental agencies or nonprofit organizations. PDR involves the purchase of a deed restriction on qualified farmland that restricts the future use of the land to agricultural or open space uses, either permanently or for a specified period of time. While the farmer retains the right to sell or transfer the land, it remains subject to the deed restriction precluding any future development or activities that may negatively impact its agricultural viability. An owner of agricultural land may also donate a conservation easement to a governmental agency or charitable organization and receive a charitable deduction.

Conservation easements are beneficial to landowners and to the public for the following reasons:

- Conservation easements help keep land in the family because a landowner can generate needed capital without selling off the land.
- Conservation easements can accomplish public land conservation goals while the landowner retains ownership of the land.
- Conservation easements can have tax advantages for the landowner.
- Conservation easements are an efficient use of public funds. They protect conservation values of the land, but cost the public less money than buying land-in-fee.

A program for transfer of development rights (TDR) allows landowners to sell their development rights to a developer. In turn, the developer may use them to develop qualified lands at higher densities than allowed under existing zoning laws. A TDR program allows local governments to steer development to desirable areas (such as those with sufficient infrastructure) while assuming little financial burden. Counties and cities use this technique, but it remains one of the least prevalent options used for preserving farmland because of its complexity.

Purchase of land-in-fee, or the outright purchase of private lands for public values, is a more costly approach to land conservation, and is considered less desirable by farmers and ranchers. Lands are purchased by governmental agencies or nonprofit organizations from willing landowners, for the purpose of conservation, agriculture, ecological, public health, or open space values. These lands are managed either by government agencies, a local land trust, or county open space program. Sometimes lands are purchased as land-in-fee, a conservation easement is placed on the land, and then the parcel is resold with development restrictions.

Humboldt County General Plan Update
Agricultural Resources Report

Money to purchase conservation easements and land-in-fee is raised by various methods, including public grant moneys, public bond measures, real estate transfer taxes, sales tax revenues, and developer extractions. Agricultural conservation easements have become increasingly popular and successful in other northern California areas, such as Sonoma and Marin Counties.

2.2.2 INHERITANCE TAX AND CONSERVATION EASEMENTS

Inheritance, or estate taxes, on land can be very costly to a family and often result in the subdivision of lands. Planning for a conservation easement on resource or conservation lands can reduce the estate value, and thus reduce the tax.

A conservation easement is where a landowner relinquishes certain rights of land development to a land trust, or municipal conservation district. The rights are given up to promote environmental and community development benefits of fish and wildlife habitat restoration, riparian zones, agriculture production viability, sustainable forestry, etc. The easement is negotiated on individual terms with each landowner, and most often reduces the ability to subdivide the property and/or determines sustainable practices of resource production.

The easement must be donated, or sold at a bargain price, for the landowner to receive tax benefits. The easement lowers the financial value of the estate of a landowner. The value of the easement, appraised by a certified appraiser and approved by the IRS, can be considered a charitable donation for income tax, capital gains, and estate tax reduction. Conservation easements can be established during the lifetime of the landowner, or in the will upon death. Timing of the creation of the easement is critical for different tax benefits, and it is recommended that landowners contact a tax professional for advice.

2.2.3 AGRICULTURE/OPEN SPACE CONSERVATION DISTRICTS

An Agriculture / Open Space Conservation District ("District") can be proposed by the County Board of Supervisors ("Board"), under Government Code Section 65562 and Section 5500 et seq. of the California Public Resources Code. The Board would define the powers of the District and appoint an advisory committee to work with county staff on District management. The creation of a special District is passed by a majority of the voters.

The District would have the ability to accept conservation easements and lands in fee. Lands acquired for open space in the county are from willing sellers only; no lands are obtained by eminent domain. The District could work cooperatively with land trusts in the region to manage and monitor these lands.

The District can be formed separate from giving it any authority to impose a tax. The District could develop educational materials for the general public and land managers, to discuss land, water and resource conservation issues, and to promote best management practices in resource use and land conservation.

If it is determined necessary to develop funds for the District, a ballot measure may be introduced to impose a small tax. Other California counties have found a (0.25%) sales tax very effective at providing funds for open space, as both residents and tourists pay for the funding. The tax measure could be introduced later, after public education and appreciation for open space has been developed. A tax proposal must be passed by two-thirds of the voters.

Humboldt County General Plan Update
Agricultural Resources Report**2.2.4 FEDERAL/STATE PROGRAMS FOR AGRICULTURE LAND PROTECTION**

- The Farm Security and Rural Investment Act of 2002 (Farm Bill) Farmland Protection program - funding for purchase of conservation easements on agriculture and ranching lands.
- Conservation of Private Grazing land program - program that works with willing landowners to address natural resource concerns, while enhancing the economic and social stability of grazing land enterprises, and the rural communities that depend on them.
- Resource Conservation and Development program - technical assistance available for communities to plan and implement sustainable communities, prudent land use, and sound management.
- Conservation Security program - financial and technical assistance to practice good stewardship on agriculture lands, improve soil, water, and related resources.
- Wildlife Habitat Incentives program - federal technical and financial assistance to landowners to develop wildlife habitat development plans that are compatible with agriculture.
- Environmental Quality Incentives program - promotes agricultural production and environmental quality as compatible. Farmers and ranchers receive financial and technical assistance to implement conservation practices on eligible agriculture lands.
- Natural Heritage Preservation Tax Credit Act of 2000 - program that provides a state income tax credit of up to 55 percent for conservation easements on agricultural and habitat lands.
- Grasslands Reserve program - provides funding for conservation easements on working ranches, similar to the Farmland Protection Program.

2.3 POLICIES THAT SUPPORT SMALLER FARM OPERATIONS

Every country that has progressed from a poor, rural condition to a sustained higher income level has based that process on dynamic, small-scale farms. The United States was a nation of small-scale farmers until about 1930 when the trend to off-farm migration and larger farms became well established. By that time only about 30% of the population was dependent on farming for a living. In 1935 there were about 6.8 million small farmers, whereas today there are only approximately 2 million.

It is difficult to categorize a small-scale farm. The USDA Agricultural Statistical Service defines small farms and ranches as operations with less than \$250,000 in gross annual sales. Most small-scale farmers earn only about \$23,000 in net cash income annually as production costs absorb more than 80% of gross sales (USDA Agricultural Statistical Service, 2003). Most often, small-scale farms are family owned and operated businesses.

In Humboldt County, “small-scale” farm is almost synonymous with “organic farms” or “specialty farms”. As was discussed in Chapter 1, eighty percent of the organic farms operate on 5 acres or less, ten percent are on 5 to 10 acre parcels, and ten percent are larger than 15 acres. Gross revenue from local organic farms were a total of \$1,035,790, with eighty percent of the organic farmers reported incomes less than \$10,000, while 11% were over \$25,000. For many organic farmers, it is assumed; farming does not represent their sole income.

Zoning and General Plan policies can provide some protection and incentives for the operation of small-scale farms. However, based upon interviews during the preparation of this document, the development of economic assistance programs was the most often requested County assistance program by small-scale producers. Desire to locate or develop “niche” markets for local products, development of “value-added” products or assistance in global competitiveness for local products were a few examples cited as ways the County could support small-scale farmers.

Following is a list of possible strategies the County could implement to assist small-scale farming operations:

- Streamline the regulation process
- Reduce the regulatory burden for agricultural operations
- Develop economic development programs that can assist small-scale enterprises
- Keep agricultural land prices reasonable. Protect suburban development from encroaching into productive farm areas to prevent the premature rise in land costs (and thus promoting the cycle of land conversion).
- Make loan process more accessible to small farmers

Further discussion on these items and other possible county policies that help promote the viability of small farms can be found in the upcoming “Issues” section and Chapter 4.

2.4 CRITICAL CHOICE ISSUES

Although there are many factors contributing to the profitability of agriculture and the sustainability of Humboldt's agricultural economy, only a few can be controlled or manipulated. These include regulation of the amount of farmland lost to rural and urban development, insurance that subdivision of farmland will not adversely effect agricultural production, prevention of land use conflict, and utilization of legal tools to maintain and preserve farm acreage. During the preparation of the Critical Choices Report, key questions were formulated that addressed issues raised during the scoping sessions of Phase 1. Each key question or issue raised in the Critical Choices Report that relate to agriculture resources and Directive NR2d is discussed below. Proposed policies relating to these issues are presented in Chapter 4.

2.4.1 ISSUE 1

• How are agricultural lands converted to other uses and what are the trends in conversion under the current policies?

Agriculture lands in Humboldt County have historically been converted in the following ways:

- * Certificate of Compliance (patent parcel) titles on large ranch lands resulting in subdivision,
- * public purchase of grazing land for parks, and of farms near the bay to re-establish wetlands, development of wildlife habitat and riparian restoration
- * urban and manufacturing development on the fringes of population centers around Humboldt Bay,
- * allowance for mobile homes on flood plains,
- * large lot subdivision or 'country' homestead real estate,
- * poor estate planning and high land inheritance taxes,
- * builders prefer the flat agriculture building sites over steeper hillsides,
- * Rezoning (public officials are pressured to allow conversion to encourage economic development),
- * issuance of conditional use permits

Approximately 87,000 acres of farmland were converted to other uses between 1964 – 1982 (1980 Humboldt County Agricultural Report). The Humboldt County Agriculture Commissioner estimates that approximately 100,000 acres were converted between 1982 - 2002. Utilizing these numbers, the trend in conversion has been approximately 3,000 to 5,000 acres of agricultural lands converted to non-agricultural use each year since 1964. Some of this converted land was ranchland and has been subdivided to large homesteads (20-160 acres) and is still productive land, but is utilized mostly for small garden and orchard production, along with forest regeneration.

Currently, only 47 percent of farmland in the County is actively preserved under the Williamson Act (utilizing the acreage figures from the Department of Census). Of this amount, only 2% is located on prime agricultural soils (approximately 7.5% of all prime ag lands are in Williamson Act program). The County may wish to actively pursue increasing these acreages, in particularly, the lands with prime agricultural soils.

The General Plan states that the '**optimum**' amount of agriculture land shall be conserved, and agriculture production maintained and promoted in parcels large enough for an economic base. The '**optimum**' amount of agriculture land lends itself to interpretation, especially when

Humboldt County General Plan Update
Agricultural Resources Report

people are unfamiliar with agriculture enterprises, and the current world market for commodity products is depressed. Current world agriculture economic conditions make development on local AE and AG lands seem sensible to encourage the economy, and housing industry, but these agriculture conditions are dependent on subsidies for oil and water, and cheap labor in developing countries, which are circumstances that may be short lived.

The words ‘**parcels large enough for economic base**’ is another subjective judgment that is difficult for decision makers to truly understand. An economic base for size of agriculture parcels is dependent upon the type of enterprise and scale of production. Humboldt County agriculture operations range from mountain grazing land requiring a few thousand acres, to two-acre truck farms near the cities.

The large grazing lands represent a cultural and historic land use that is as important today as it was one hundred year ago. These lands are usually in ranching and timber operations, and are the primary private lands that provide open space. It is critical to keep enough lands in grazing to maintain a critical mass for the business and support industries to be economically viable.

Yearly collection of data concerning agricultural land conversion is specified in the County’s current policies, but in practice has not been rigorously followed. To amend this, the County could lead an inter-agency effort to coordinate data collection. The agencies should include the Agriculture Commissioners office, UC Cooperative Extension, County Planning, and the citizens watershed associations that have formed over the last 10 - 20 years.

2.4.2 ISSUE 2

• *What are the relationships between the economic viability of agricultural land and agricultural land protection? How can viability be enhanced through County programs and policies?*

When land is economically viable as agriculture, the pressure of conversion to other uses is lower. The key to maintaining a healthy agricultural base in Humboldt County is ensuring the sustainability of the industry. The fields in which Humboldt is most able to compete are dairy, floral and greenhouse production, and specialty agriculture like organic foods and natural meats. Niche production is the most economically viable choice for Humboldt County Agriculture.

Policies and programs aimed at supporting agriculture can increase its economic viability. The marketing of Humboldt agricultural products should be a regional goal. The ranching, dairy, and small scale farming industries could benefit from the natural, healthy image of Humboldt County’s open space grasslands and pastures, beautiful rivers and bottom lands to value add to their product.

There are programs within the County’s Small Business Development Center, such as business and marketing planning, that could assist the large and small-scale farmer. The County could do more outreach to the farmers to let them know these services exist, and to tailor the services to the farmers needs. These services could be expanded to include information about state and federal programs available to farmers, and to include estate planning. Courses could be offered to address local interests of Holistic Resource Management; agro-ecological planning; best management practices for ranching and farming; etc.

Other issues identified that would assist county ranchers and farmers to be more economically viable are the easing of the permitting process for agriculture related structures, streamline regulatory programs and utilizing one lead agency to interact with farmers, make application to

Humboldt County General Plan Update
Agricultural Resources Report

the Williamson Act program easier and less costly, and support transportation development. Additionally, industries such as shipping, agricultural equipment and supplies sales, and processing facilities are important to the industry.

2.4.3 ISSUE 3

• How to increase the supply of small agricultural parcels to enhance the viability of small-scale agriculture without promoting agriculture land conversion through subdivision?

Recent trends in dairy and beef farm size have been towards larger farms, but the small-scale producer is a growing enterprise in the County. The County may wish to accommodate small-scale producers; however, caution should be used so that these areas do not encourage sprawl development patterns on prime agriculture land by planning for very small enterprises, which results in large lot subdivisions. Land prices, especially on prime soils, have risen dramatically, which makes it very difficult for agriculture to be viable. The County could stem this trend with very strongly worded policies to deter development from agriculture exclusive lands.

Economic development programs can assist small-scale enterprise, maybe more than zoning. It is generally thought that a minimum of 10 acres is necessary for a specialty agriculture enterprise to be the primary source of income. Subdivision activity has reduced the productivity of agriculture lands by converting it to residential or other uses. Some of the large subdivisions, the 20 to 160 acres parcels, are becoming forest lands either by design or natural progression when grazing animals are removed from the landscape. County conversion research indicates that when agriculture land is subdivided, less than 15% stays in commercial agriculture production.

The Williamson Act places a minimum on parcel size. This minimum is usually 10 acres for prime farmland and 40 acres for non-prime farmland, however since the soils in Humboldt have not yet been mapped by the Farmland Mapping and Monitoring Program, prime and non-prime soils have not yet been identified. Currently the National Soil Conservation Service is conducting a thorough mapping of agricultural soils in the County, which will be complete by 2008.

2.4.4 ISSUE 4

• What is an optimum combination of agricultural land protection programs, incentives, and regulatory policies?

In selecting among policy options for agricultural resources, striking the right balance is very important. The guiding principle should be to provide enough flexibility in implementation to respond to different needs throughout the County without adversely affecting critical resources or ongoing farming, dairy and livestock operations.

Probably the most effective long-term agricultural land protection tool is a county wide-open space district and program. The County is in need of a broad, resource based forum for discussion and planning.

Public concern for agriculture and open space conservation in Humboldt County has made it apparent that land use could benefit from integrated resource planning and the development of a countywide Open Space program. County lands support a combination of resource interests such as timber, agriculture, watershed, fisheries, tourism, recreation, ranching, housing, open space, and tribal lands. Citizens have expressed interest in the coordination of planning across

Humboldt County General Plan Update
Agricultural Resources Report

disciplines to optimize land and resource use, along with conservation.

To develop an open space/resource district the County would initiate a committee with representatives from agriculture, open space, forestry, fisheries, tourism, wildlife, Native American interests, and recreation, to develop a conservation strategy and funding options for the open space/resource lands. Conservation values of the program would be for wildlife, agriculture, forestry, riparian, wetland, cultural, ecological, public health, or open space. This program would work only with willing landowners. Land conservation would include the purchase of development rights for conservation easements, and outright purchase or land-in-fee. An open space program would work closely with land trusts to develop a conservation strategy and funding options for the conservation of open space/resource lands.

An open space program should include regularly scheduled educational sessions for the Planning Commission and the Board of Supervisors to keep them abreast of land development and resource issues within the County.

It is clear that as Humboldt County prepares to update its General Plan and zoning ordinances, it will have to improve its implementation policies for agricultural land protection, primarily in the areas outside of the Coastal Zone. This study emphasizes that this will likely have to occur through other tools besides zoning. As many studying farmland protection have noted, any one protection tool in isolation is almost always ineffective. Rather, a variety or package of tools (such as agricultural zoning coupled with urban growth boundaries and a purchase of development rights program) that are well-integrated is required (Daniels, 1998; Daniels and Bowers, 1997).

3. Regulatory Framework

3.1 FEDERAL REGULATIONS

3.1.1. SECTIONS 404 AND 208 OF THE FEDERAL CLEAN WATER ACT

The Clean Water Act of 1972 was the first federal legislation to address pollution caused by stormwater runoff from the landscape. Over half of the pollution in this nation's water bodies is caused by agriculture, forestry, mining, urban and construction activities (nonpoint source pollution). The Act also identified the need to protect wetlands from unwarranted human disturbance. Two sections of the Clean Water Act establishing the legal framework for nonpoint source pollution control are Section 208 and Section 404.

Section 404 of the Clean Water Act established a regulatory program for the disposal of dredged or fill materials in the waters and wetlands of the United States. This section is regulated by the U.S. Army Corps of Engineers with EPA oversight. Much debate and litigation has occurred over what constitutes "waters and wetlands of the United States". The following definition is used to administer the Section 404 permit program:

"...those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Under Section 404, an exemption exists for silvicultural (i.e. timber management), farming or ranching activities. In order to meet the silvicultural exemption, the activity must be a normal, ongoing silvicultural activity that will not convert a wetlands to an upland site. The activity must also comply with best management practices guidelines for forested wetlands. A written management plan or evidence of historical use will help to demonstrate if it is an ongoing activity.

Section 208 of the Clean Water Act required all states to assess damages to water quality from nonpoint source pollution and to develop either regulatory or non-regulatory programs to control them. The state's Section 208 program must meet U.S. Environmental Protection Agency's (EPA) approval. The lead agency for developing these programs in California is the State Water Resources Control Board. In establishing non-regulatory nonpoint source pollution programs as required under Section 208, states were required to develop Best Management Practices (BMPs) for the major land uses, as well as an implementation schedule.

In January 2000, the State Water Resources Control Board and the California Coastal Commission developed the California's Management Measures for Polluted Runoff (CAMMPR) in order to improve implementation of the California Nonpoint Source Pollution (NPS) Control Program. The program included management measures to be applied to land use activities known to be major causes of NPS pollution; and additional management measures to be applied when minimal measures prevent areas from meeting the Clean Water Act requirements.

The State Water Resources Control Board has also implemented statewide water quality regulations for dairies, in an attempt to prevent discharges of contaminated water. This is accomplished by preventing farm animals from entering any surface waters and setting design and operational regulations aimed at containing all contaminated discharges resulting from dairy operations. The

Humboldt County General Plan Update
Agricultural Resources Report

NRCS and Humboldt County have coordinated efforts to help aid dairy farmers in retrofitting existing dairy operations to meet these standards.

Farmers are being required to install manure storage ponds on their property in order to contain contaminated discharges and improve water quality on lands surrounding dairy farms in the Eel River Delta area. The liquid manure is held in storage ponds until it can be safely applied to grazing lands. Application of liquid manure during irrigation when seasonally appropriate will yield a cost savings in replacement of fertilizer. Some storage ponds will displace approximately one acre of grazed agricultural wetlands at each project site (dependent on the size of dairy operation), which may warrant mitigation for loss of wetlands. Discussions are ongoing between Federal, State and County agencies to determine the correct coordination of these regulations affecting dairy operations.

The County implemented the Grading and Erosion Control Ordinance (2000) and Streamside Management Area regulations to help prevent and mitigate nonpoint source pollution. Further management strategies have been identified for agricultural activities to improve water quality (for further details, see the Humboldt County Natural Resources and Hazards Report, Volume II, 2002). The General Plan Update will implement these management strategies.

3.2 STATE REGULATIONS

3.2.1 AGRICULTURAL PRESERVES (WILLIAMSON ACT LANDS)

The California Land Conservation Act of 1965, better known as the Williamson Act, created a program for counties to protect viable agricultural land by offering a tax incentive to property owners for keeping their land in agricultural production. The intent of the program is to preserve a maximum amount of open space and agricultural land to conserve the state's economic resources, to maintain the agricultural economy assuring a food supply for future residents and to discourage premature and unnecessary conversion to urban uses. Nearly 16 million of the state's 30 million acres of farm and ranch land are currently protected under the Williamson Act.

The Act provides an arrangement where private landowners voluntarily restrict their land to agricultural and compatible open space uses under a contract with the County, known as a Land Conservation Contract. Property owners wishing to receive a tax break through the Williamson Act must follow an application process with the County and may need to form an Agricultural Preserve.

The Williamson Act contract is an enforceable restriction on land and is binding on successors to both the landowner and the local government. The minimum term for a contract is ten years, and the contract is automatically renewed annually, unless either party gives advance notice on non-renewal. Contracts may also be canceled immediately, terminating the restriction to agricultural uses, only if the local legislative body finds that it would be consistent with the Act and in the public interest.

The Department of Conservation governs the program at the state level. The County initiates local Guidelines and Policies in accordance with the Act. The program is administered locally, through a combined effort of the Assessor's office, planning staff and County Counsel. The Assessor determines the value of the land under contract with a restricted value, based on income capability rather than market value, giving tax relief to property owners. In 1971, to help offset the revenue loss to counties, the Legislature enacted the Open Space Subvention Act which provides an annual subvention payment from the state. In 2002, this subvention amounted to \$39 million statewide, of which Humboldt County received roughly \$211,000. The future of this subvention funding is in question due to the current state budget crisis.

3.2.2(A) COUNTY IMPLEMENTATION OF THE WILLIAMSON ACT

Humboldt County Board of Supervisors first adopted guidelines for the Williamson Act locally on June 24, 1969. The Board, in June of 2002, adopted the first comprehensive update to the local Guidelines since 1978 to reflect major changes to the Williamson Act, including the 1998 adoption of Government Code Section 51296, otherwise known as the Farmland Security Zone (FSZ). The FSZ allowed property owners enrolled in this program to have the option of extended contracts, from 10 years to a 20-year term, and in exchange, receive an additional 35% tax reduction. The FSZ is designed for prime lands or lands designated on the Important Farmland Series Maps and applies to lands lying within 3 miles of the adopted Sphere of Influence of incorporated cities.

From 1972 to 1981, nearly 243,000 acres were put under Williamson Act contracts in the County. Currently, there are just over 273,000 acres in the program (in 145 established preserves), indicating that participation has not significantly increased over the past 20 years.

Humboldt County General Plan Update
Agricultural Resources Report

The majority of land placed into agricultural preserves in Humboldt County occurred between 1973 and 1979. Proposition 13, which was passed in 1979, greatly affected the number of new enrollees into the program (Humboldt County Agricultural Background Report, 1981). Proposition 13 “rolled back” the base market value of land for taxation purposes to the 1975 tax rates. The tax advantages resulting from being in Williamson Act contract became less appealing in comparison to the tax relief from Proposition 13, without any land restrictions. It is anticipated, however, that landowners will continue to utilize the contract program as changes in ownership raise the post proposition 13 taxes above Williamson Act Contract levels. Additionally, in June 2002, the Board took steps to address this disincentive and Humboldt County became only the fifth county in California to adopt Section 423.3 of the Revenue and Taxation Code, permitting the Assessor to grant a maximum 10% reduction to the Proposition 13 Factored Base Year Value for participating Williamson Act properties.

By 1981, approximately 243,000 acres were under Williamson Act Contract, of which 747 acres were rated prime agricultural lands. Of that total, about 75,498 acres were additionally protected under the County’s Timber Production Zone (this acreage is not considered “enrolled” in the Williamson Act Program by the state Department of Conservation, and does not receive state subvention monies). Since that time, the amount of land in contract has grown modestly, with an average growth rate of 1.4% per year. As of December, 2002, over 1400 parcels of land, or approximately 274,173 acres are under Williamson Act Contract, of which 4,787 acres are rated as prime agricultural lands (see Table 9).

Table 9: Humboldt County Agricultural Preserve Enrollment Statistics*

	Prime	Non-Prime	Total
1984**	747	165,575	166,322
1991	3,607	192,526	196,133
1992	3,853	193,216	197,069
1993	3,853	193,216	197,069
1994	3,853	193,916	197,769
1995	3,853	193,609	197,462
1996	3,853	194,126	197,979
1997	3,853	194,126	197,979
1998	3,853	193,772	197,625
1999	3,853	192,524	196,377
2000	4,787	187,730	192,516
2001	4,787	187,730	192,516
2002	4,787	187,730	192,516

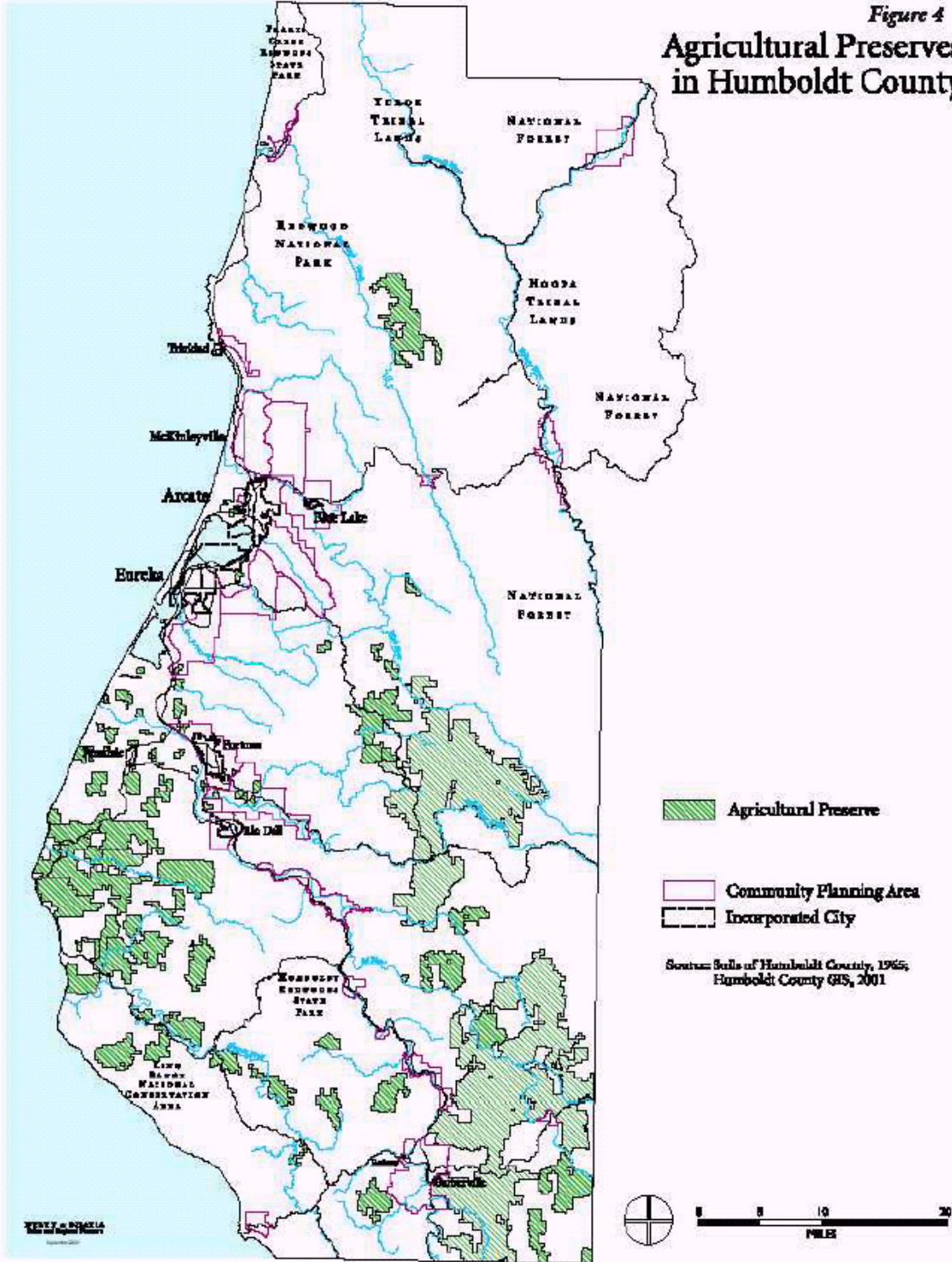
*Department of Conservation; Enrollment Statistics

**1984 General Plan Agriculture Report

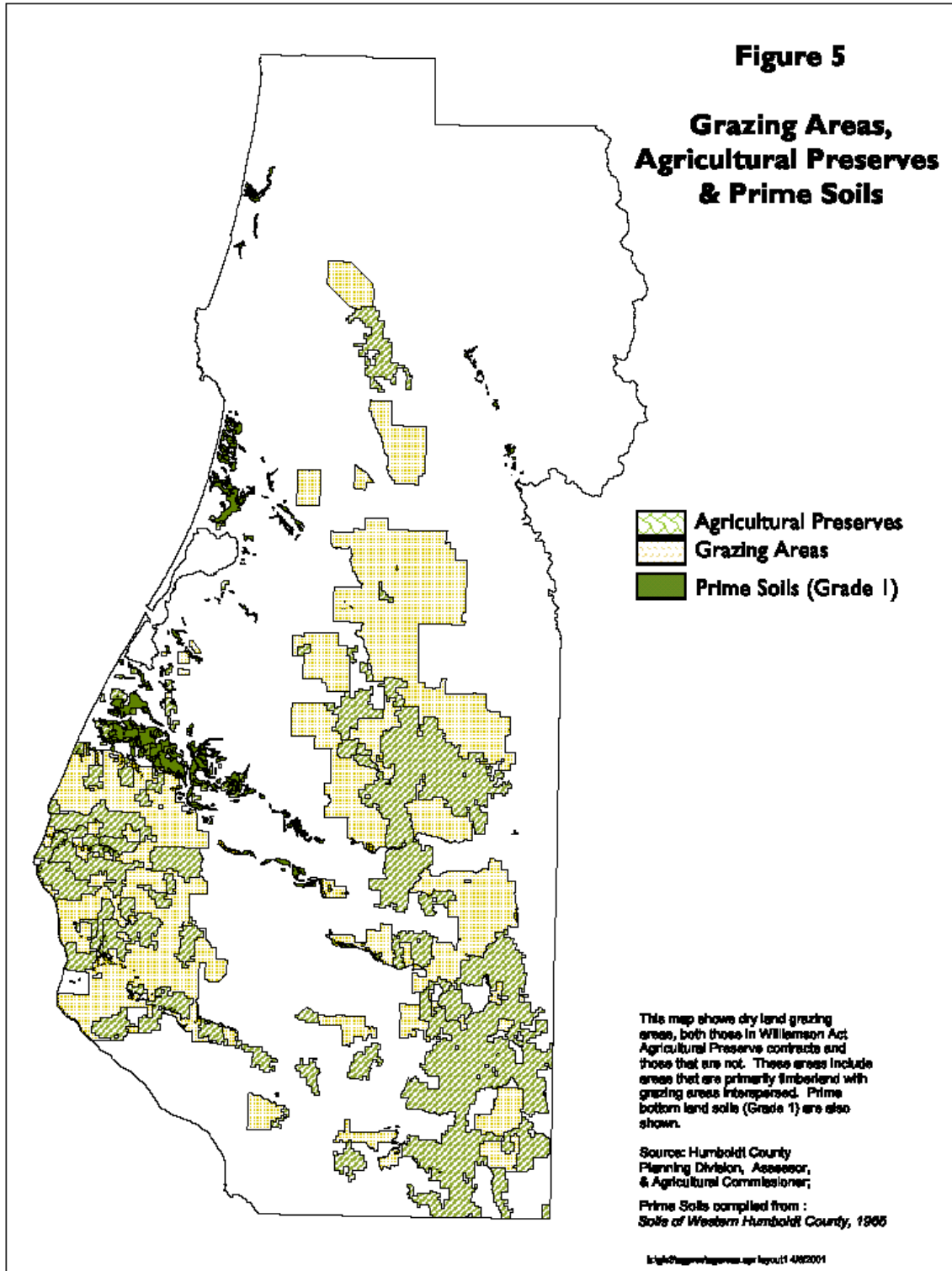
Of this total, 81,657 acres are also protected under the County’s Timber Production Zone (the County only receives subvention money for approximately 192,516 acres of agriculturally producing lands). These preserves are generally located in the southern portion of the Coastal Zone and the southeastern portion of the County (see Figures 4 and 5).

Humboldt County General Plan Update
Agricultural Resources Report

Figure 4
**Agricultural Preserves
in Humboldt County**



Humboldt County General Plan Update
Agricultural Resources Report



Humboldt County General Plan Update
Agricultural Resources Report

To qualify for Land Conservation Act contracts in Humboldt County, land must comply with certain requirements. These requirements include the existence and size of the agricultural preserve area, the zoning classification of the land, and the agricultural capability of the land. Additionally, to be eligible for the establishment of an Agricultural Preserve, the agricultural property must meet the criteria for one of the four “classes” (A, B, C or D) of Agricultural Preserve Contracts. A summary of the criteria for each of the four classes is listed below.

Class A Prime Land Preserve

- The preserve area must be at least 100 acres in size with no individual ownership parcel less than 20 acres.
- The land must be zoned AE (Agricultural Exclusive).
- The land must be prime agricultural land (as defined under the Williamson Act guidelines).

Class B Grazing Land Preserve

- The preserve area must be at least 600 acres in size with no individual ownership parcel less than 160 acres.
- The land must be zoned AEB5 (160) (Agriculture Exclusive, 160 acre minimum).
- The land shall be non-prime agricultural land of statewide significance as defined by the Secretary of Resources.

Class C Cropland Preserve

- The preserve area should not be less than 100 acres with no individual ownership parcel of less than 20 acres.
- The land must be zoned for agricultural purposes and provided for minimum parcel sizes.
- The land shall consist of prime and/or non-prime agricultural land, as defined by the Secretary of Resources.

Class D Unique Farmland and Dairy Agricultural Preserve and Contract

- The preserve area should not be less than 10 acres of prime agricultural land or not less than 40 acres of tillable non-prime land of statewide or local significance.
- The land must be zoned for agricultural purposes and provided for minimum parcel sizes.
- The land shall consist of prime and/or non-prime agricultural land, as defined by the Secretary of Resources.
- The lands must not qualify for inclusion in either Class A, B or C Preserve categories.

The specifics of these agricultural requirements are spelled out in the County’s Williamson Act Guidelines adopted June 11, 2002 (Resolution No. 02-53). Generally the following findings must be made to establish Agricultural Preserves:

- A. That the proposed preserves are consistent with the County’s General Plan (Section 51234 Government Code); and

Humboldt County General Plan Update
 Agricultural Resources Report

- B. That the land to be included in the agricultural preserve contract is, and will continue to be, used for the purposes of producing agricultural commodities for commercial purposes, and uses compatible with agriculture.

Once land is voluntarily restricted by land conservation contract, the County requires that the land be used for producing of agricultural commodities for commercial purposes and uses compatible with agriculture. In any one year, a minimum of 50 percent of the contracted land must be under production. This allowance permits a portion of the lands to remain fallow or in crop rotation, or to address market or other conditions (e.g., drought). Additionally, the County’s Guidelines permit the Board to suspend the production standard for good cause, including retirement or the sudden death or illness of the owner/operator.

The County is responsible for monitoring contract compliance with the Williamson Act and county Guidelines. Failure on the part of a property owner to comply with the terms of the contract or Guidelines could result in the County seeking a judicial remedy or initiating non-renewal. The County’s monitoring and enforcement efforts are intended to keep the program efficient in an era of lean state budgets while maintaining the overall integrity of the program that has benefited the agricultural community in Humboldt County.

Table 10: Williamson Act Terminations By Selected Category (Acres) 1985-2002

Year	Non-renewal Expiration	Public Acquisition	Cancellation
2002	248	0	0
2001-00	0	0	0
1999	1,248	0	0
1998	354	0	0
1997-96	0	0	0
1995	412	0	0
1994-91	0	0	0
1990	0	321	0
1989	0	0	14
1988	0	0	0
1987	0	146	0
1986-85	0	0	0
Totals	2,262	467	14

Source: Department of Conservation, 2003

The program has been successful in terms of the amount of ranchland placed in the system, but only 47 percent of all agricultural lands in the County are actively preserved under the Williamson Act (utilizing acreage figures from the Department of Census). Most of the grazing lands are currently enrolled in the program, while much of the prime agricultural lands in Humboldt County (primarily the dairies on the bottomlands) have not historically utilized the tax reduction benefits of the Williamson Act. Originally, landowners were wary of the land restrictions required as a part of the Contracts. After the passage of Proposition 13, however, values for prime agricultural lands were not significantly lower than Williamson Act contracts.

Under the Williamson Act, the base share value for prime agricultural lands are higher due to the increased “market rent” value, therefore a higher tax rate is given to prime agricultural lands. The

recent Board action to allow an additional 10% reduction to Proposition 13 Factored Base Year Value (per Revenue and Taxation Code Section 423.3) could help reduce this disincentive and increase representation among these land owners.

3.2.2 COASTAL ACT OF 1976

The 1976 California Coastal Act sets out a series of policies to protect and enhance the California Coastal Zone. This legislation requires counties to adopt separate policies and zoning for areas within the state-designated coastal zone which are often more restrictive in terms of land use than policies that apply to other areas in the County.

The Coastal Act of 1976 required the County to have a Local Coastal Program certified by the State Coastal Commission. The Coastal Act's policies guide coastal zone conservation and development decisions to protect California's coastal resources and provide for their wise use. These state policies call for:

- ☛ Providing for maximum public access to and recreational use of the coast, consistent with private rights and environmental protection.
- ☛ Protecting marine and land resources-including wetlands, rare and endangered habitats, environmentally sensitive areas, tidepools, and stream channels.
- ☛ Maintaining productive coastal agriculture lands.
- ☛ Directing new housing and other development to urbanized areas with adequate services rather than allowing a scattered, sprawling, wasteful pattern of subdivision.
- ☛ Protecting the scenic beauty of coastal landscape.
- ☛ Locating any needed coastal energy and industrial facilities where they will have the least adverse impact.

The protection of agriculturally productive lands is a very high priority in Coastal Act policies. The Act established policies that requires the maximum amount of agricultural land remain in agriculture to protect the agricultural economy, and to minimize conflicts between agriculture and urban uses, thus preventing premature conversion of agriculturally productive lands. The following section provides the policies contained in the Coastal Act that pertains to agricultural lands in the Coastal Zone.

3.3.2(A) COASTAL ACT POLICIES (PUBLIC RESOURCES CODE)

§ 30241

The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through all of the following:

- (a) By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban land uses.
- (b) By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses

Humboldt County General Plan Update
Agricultural Resources Report

or where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.

(c) By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250.

(d) By developing available lands not suited for agriculture prior to the conversion of agricultural lands.

(e) By assuring that public service and facility expansions and nonagricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.

(f) By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b), and all development adjacent to prime agricultural lands shall not diminish the productivity of such prime agricultural lands.

§ 30241.5:

(a) If the viability of existing agricultural uses is an issue pursuant to subdivision (b) of Section 30241 as to any local coastal program or amendment to any certified local coastal program submitted for review and approval under this division, the determination of “viability” shall include, but not be limited to, consideration of an economic feasibility evaluation containing at least both of the following elements:

(1) An analysis of the gross revenue from the agricultural products grown in the area for the five years immediately preceding the date of the filing of a proposed local coastal program or an amendment to any local coastal program.

(2) An analysis of the operational expenses, excluding the cost of land, associated with the production of the agricultural products grown in the area for the five years immediately preceding the date of the filing of a proposed local coastal program or an amendment to any local coastal program.

For purposes of this subdivision, “area” means a geographic area of sufficient size to provide an accurate evaluation of the economic feasibility of agricultural uses for those lands included in the local coastal program or in the proposed amendment to a certified local coastal program.

(b) The economic feasibility evaluation required by subdivision (a) shall be submitted to the commission, by the local government, as part of its submittal of a local coastal program or an amendment to any local coastal program. If the local government determines that it does not have the staff with the necessary expertise to conduct the economic feasibility evaluation, the evaluation may be conducted under agreement with the local government by a consultant selected jointly by local government and the executive director of the commission.

§ 30242:

All other lands suitable for agricultural use shall not be converted to nonagricultural uses unless (1) continued or renewed agricultural use is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250. Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.

3.3 LOCAL REGULATIONS

The existing 1984 Humboldt County General Plan has generally strong language and policies for protecting agricultural land and timber lands (particularly prime agricultural land) from conversion to other uses. The Plan's stated **overall goal** for agriculture in the County is:

“The optimum amount of agricultural land shall be conserved for and maintained in agricultural use to promote and increase Humboldt County’s agricultural production”
(Humboldt County Board of Supervisors, 1984:32).

An extensive set of **policies** related to agriculture are established in both the County General Plan (Framework Plan) and the California Coastal Act, which is implemented by the County's Local Coastal Program. Many of the policies address conservation of agricultural resources and promotion of agricultural production.

3.3.1 GENERAL PLAN POLICIES

1. Agricultural lands shall be conserved and conflicts minimized between agricultural and non agricultural uses through the following:
 - A. By formulation of logical boundaries separating urban and rural areas and when necessary, buffer areas to minimize land use conflicts.
 - B. By focusing future conversions in areas where land use conflicts would not threaten the viability of existing agriculture.
 - C. By promoting in-filling to achieve a more logical urban/agricultural boundary.
 - D. By allowing development of uneconomical or marginally viable agricultural lands, or agricultural lands already severely limited by conflicts with urban uses to limit the market pressures for conversion of more productive lands.
 - E. By assuring that public service facility expansions and non-agricultural development do not inhibit agricultural viability through degraded water supplies, access systems, air quality, and other relevant considerations, such as increased assessment costs.
 - F. By broadening the utility of agricultural preserves and the Williamson Act Program to accommodate and encourage intensively managed farms.
2. The conversion of economically viable agricultural lands shall be monitored and reported annually.
3. In-filling shall be encouraged for all development.
4. Prime agricultural land should be retained in parcel sizes large enough to provide for an economic management base.
5. The County shall support predator control programs to reduce livestock depredation.
6. Vegetation management programs (controlled burning, etc.) shall be supported where they improve the availability and quality of rangeland for livestock and wildlife, reduce the hazard of disastrous wildfires and increase water quality and quantity.
7. Areas with General Plan designations of Agriculture Exclusive should not be annexed to cities or

Humboldt County General Plan Update
Agricultural Resources Report

service districts providing sewer service unless it is in the public interest.

8. The County Planning Department and Board of Supervisors will request the Local Agency Formation Commission to utilize the County's General Plan in advising the County on the appropriate level of services to be provided in the County's unincorporated areas.
9. Agricultural production requiring smaller parcels and more intensive management, including aquaculture shall be encouraged wherever feasible consistent with the Remote Rural Development Section 2550 and other policies of this section.
10. The conversion of agricultural land should only be considered where continued agricultural production is not economically feasible and proposed development is consistent with Remote Rural Development Section 2550.
11. Affirm and support the public services provided by County Government which are necessary in maintaining a viable agricultural products industry.

3.3.1(A) GENERAL PLAN LAND USE DESIGNATIONS

Land use designations describe the land character, primary and compatible uses, and the dwelling density range. The land use designations in the 1984 General Plan are:

- 1) AE-agriculture exclusive for prime lands, minimum 20 acres (allows 1 dwelling unit per 20 acres);
- 2) AG-agriculture grazing for non-prime, locally significant ag soils, minimum 40 acres (allows 1 dwelling unit per 20 - 160 acres);
- 3) AL-agriculture lands, marginal lands for resource production, residences, and cottage industry (allows 1 dwelling unit per 20 - 160 acres);
- 4) AR-agriculture rural (allows 1 dwelling unit per 5 - 20 acres);
- 5) AS-agriculture suburban (allows 1 dwelling unit per 2.5 - 5 acres).

For over 20 years the County has had land use policies that at their core reflected the desire to conserve agriculture land, but agricultural land is still being converted at a rate many determine to be too fast. Flexible interpretation of agriculture land preservation policies and the drive for economic maximization of land value lead to more agriculture land conversion than is desirable.

3.3.2 COASTAL ZONE POLICIES

It is important to note that the General Plan and zoning policies in Humboldt County differ in areas immediately adjacent to the Pacific Ocean because of the 1976 California Coastal Act. This legislation requires counties to adopt separate policies and zoning for areas within the state-designated coastal zone which are often more restrictive in terms of land use than policies that apply to other areas in the County. For example, the Coastal Act contains strong protections for natural resource features and habitats, viewsheds, public access, and agricultural land preservation (primarily for aesthetic reasons). The coastal zoning regulations include an Agriculture Exclusive zone that ranges from a minimum parcel size of 20 acres up to a maximum of 600 acres, and a Rural Residential Agricultural zone (similar to inland Agriculture General designation) with a minimum lot size of 1 acre and a maximum of 40 acres (Humboldt County Board of Supervisors, 2000).

Humboldt County General Plan Update
Agricultural Resources Report

Humboldt County has adopted six local Coastal Plans that implement the Coastal Act Policies regarding agricultural resources in the County. The policies within each Coastal Plan varies dependent upon the conditions of the planning area.

Humboldt County's Local Coastal Plans were developed in the early 1980's with implementing regulations approved in 1985. To date, no comprehensive updates have been undertaken (the McKinleyville, Humboldt Bay and Eel River Plans were reviewed and partially updated during the preparation of the 1992 Beaches and Dunes Management Plan). The County is currently in the process of revising the inland portion of the General Plan (last revised in 1984).

3.3.3 ZONING ORDINANCE

From the General Plan, the County or city writes zoning ordinances to serve as the implementing device for policies and land use designations of the General Plan. The Humboldt County Zoning Ordinance (**Inland**) provides agricultural protection through zoning with two agricultural zone classifications. The zone classifications are Agriculture Exclusive (AE) and Agriculture General (AG). The **AE zone** is designated for areas that are used for agricultural production almost exclusively, the construction of residences is limited. The **AG zone** is designated for areas in which agriculture is the predominant use and rural residential uses are a secondary use. Agriculture zoning is specific and tells what can or cannot be done on parcels. Most all the Agriculture Exclusive (AE) zoned land also has an AE land use designation, while Agriculture General (AG) zoned land has varied land use designations, including AG, AL, AR, AS, and rural residential.

The **coastal zoning** regulations include an Agriculture Exclusive (AE) zone and a Rural Residential Agricultural (RA) zone. The **AE zone** ranges from a minimum parcel size of 20 acres up to a maximum of 600 acres, and the **RA zone** (similar to inland Agriculture General designation) with a minimum lot size of 1 acre and a maximum of 40 acres (Humboldt County Board of Supervisors, 2000).

The Zoning Ordinance also contains a "**B-7**" **Combining Zone** which allows for greater flexibility in the size of lots in resource areas as long as the overall density conforms to the General Plan Land Use Designation.

In isolated parts of the County, large areas have never been studied in detail by county planners and still retain a zoning designation of **Unclassified (U)**. Much of the land zoned in this manner is agricultural land; the lot size for this zone is 6,000 square feet. The upcoming soil survey, expected to be finalized in 2008, will benefit the soil classification effort of these regions.

3.3.4 HUMBOLDT COUNTY MERGER ORDINANCE, HCC327.5

The State of California amended sections of the Subdivision Map Act (California Government Code Sections 66451.10 et seq.) in 1984 to provide local governments (through the passage of local ordinances), the authority to merge parcels that do not conform to standards of minimum parcel size under its local zoning regulations. In 1986, the County amended the existing Merger Ordinance (previously known as HCC Section 317-64) to reflect these changes in state law. The "new" Merger Ordinance (HCC 327.5) provides for new merger of properties, continued merger of certain resource lands merged by operation by law and voluntary merger of parcels of land.

Merger is defined in the Ordinance as:

Humboldt County General Plan Update
Agricultural Resources Report

“...the joining of two or more contiguous parcels or units of improved or unimproved land, which are held by the same owner or owners, into one parcel or unit of land pursuant to this chapter. Parcels or units include, but are not limited to, lots created by the division or subdivision of land, lots created by deed or record of survey, and US patent parcels.”

The Board of Supervisors established that Article II, the requirements and implementing standards for new mergers, would only be implemented on parcels within the County that are zoned Timber Production Zone (TPZ) and those parcels that are in a Williamson Act Contract. Contiguous parcels (or units of lands, including patent parcels) would be merged if these parcels did not conform to the standards for minimum parcel under the applicable zoning regulations (certain restrictions apply). However, prior to the County “merging” these properties, a “Notice of Merger” must be filed with the County Recorders office. The County has elected not to utilize the new merger process to date, and therefore, no properties have been merged in Humboldt County under Article II.

The Board of Supervisors established that Article III, the requirements and implementing standards for continued mergers, would only be implemented on parcels within the County that are “enforceably restricted” by a Williamson Act Contract. Contiguous parcels (or units of lands, including patent parcels) would be merged if these parcels did not conform to the standards for minimum parcel size under the applicable zoning regulations. The conditions for continued merger include:

“If any parcel of land which merged by operation of law as provided and described in § 327.5-13, but for which a notice of merger is not recorded before January 1, 1988, and one or more of the merged parcels or units of land is within one of the categories specified in subdivisions 1 through 5 of subsection (B) of § 327.5-3 of this Chapter, the parcels of land shall be deemed not to have merged unless all of the following conditions exist:

- (a) The parcels or units are contiguous and held by the same owner.*
- (b) One or more of the contiguous parcels or units do not conform to minimum parcel size under the applicable County General Plan, specific plan, or zoning ordinances.*
- (c) At least one of the affected parcels is underdeveloped by any structure for which a building permit was issued or for which a building permit was not required at the time of construction, or is developed only with an accessory structure or accessory structures, or is developed with a single structure, other than an accessory structure, that is also partially sited on a contiguous parcel or unit.*
- (d) The parcels or units which do not conform to minimum parcel size were not created by a recorded parcel or final map.*

If all conditions described in subdivision (a), (b), (c), and (d) above exist, only a parcel or unit of land which does not conform to minimum parcel size shall remain merged with a contiguous parcel.”

A Notice of Merger must also be filed with the County Recorders office prior to the County legally “merging” parcels affected under **continuous merger**. This has not happened to date. However, County Counsel has determined that lands in Williamson Act Contracts with substandard parcels are considered “merged” under **continuous merger**, and the County will file a Notice of Merger (if substandard parcels exist) when any of the following occur: 1) a permit application is received that could affect the configuration of the existing parcels (such as a Lot Line Adjustment); 2) additional property is added to existing contracted lands; or 3) a new application for Williamson Act Contract is submitted to the County.

Humboldt County General Plan Update
Agricultural Resources Report

Prior to filing a Notice of Merger, Planning staff must review all historical deeds that transferred property within the contracted lands in order to determine the legal number and configuration of existing parcels. This is usually accomplished by processing a Determination of Status Permit. If substandard parcels are determined to exist, the property owner then decides which parcels they want merged in order to meet zoning minimums. A Notice of Merger must then be recorded prior to issuance of any other permit or contract approvals.

Voluntary mergers are usually owner-initiated parcel mergers. The Code provides that an Advisory Agency (currently, the Planning Director) may approve voluntary mergers of contiguous parcels under common ownership if the parcel resulting from the merger meets applicable health, building and zoning requirements and that approving the merger would not create health or safety problems. Voluntary mergers generally come into play at the time a building permit is being secured for construction on a site and it is determined that the size of the parcel will not satisfy health, building or zoning standards. An example might be where there is not adequate area on the parcel to locate the primary and reserve leachfield areas but the applicant also owns an undeveloped contiguous site, which if “combined” with the developed parcel would meet the requirement.

Merging substandard parcels in resource areas is another land preservation tool available to the County to protect agricultural resource lands. The County could expand Section 327.5-1 (“Purpose”) to include non-contracted agricultural resource lands under new merger protection found in the provisions of Article II. A Notice of Merger could be filed for substandard parcels in resource areas prior to any planning permits being issued. This could prevent the current trend of subdivision by Certificate of Compliance for patent parcels. It must be noted that Filing Notice of Mergers may result in a long arduous process that can consume massive amounts of staff time researching title documents and incur legal action against the County.

4. Policy Options

This section focuses on proposed policy options as they relate to agricultural resource issues identified in the Critical Choices Report, and discussed in Chapter 2. These key questions help frame the issues for policy options for agricultural resources. The policy evaluation worksheets that will be used to guide discussion of these issues are in the Appendix. These worksheets are provided as a tool for members of the public to evaluate policy options and indicate preferences for accepting, modifying or rejecting these options.

4.1 ISSUE 1: PROPOSED POLICY OPTIONS TO PREVENT CONVERSION OF AGRICULTURAL LANDS

Farmland may be converted for one of the following reasons: direct conversion to urban uses, falling idle due to conflicts with nearby urban uses, subdivision, and urban related open space. The conversion process involves the complex interplay of a number of factors, including: farm profitability, urban growth, land value, personal lifecycle considerations, community expectations, and government incentives and regulations. Currently, only 47% percent of farmland is actively preserved under the Williamson Act program, and only 2% of this is located on prime agricultural soils. While Arcata and McKinleyville have adopted an Urban Limit Line, Eureka has not. Creating limits on urban growth can reduce pressures for conversion and conflicting land uses.

- **Option 4.1 Support the efforts of existing private non-profit land trusts and their efforts to protect working landscapes in Humboldt County (coordinated with Option 2.6 contained in the Natural Hazards Report).** Land trusts can acquire or accept as donations conservation easements for agricultural lands, which can offer tax benefits to property owners. The American Farmland Trust has model deeds for “Agricultural Open Space Conservation easements” that can be used by those interested in participating in such a program. Alternatively, as previously suggested, the County could work with established trusts, such as the American Farmland Trust or the North Coast Regional Land Trust, who have specific expertise in this area.
- **Option 4.1(a) Support the creation of a countywide Open Space District and an Open Space / Resource Advisory board.** This committee could include all resource interests such as agriculture, forestry, fisheries, open space, and recreation. This would be for purposes of development of a strategic plan and funding mechanisms for a county Open Space program. The Committee would conduct a yearly resource use and open space education program for the Planning Commission and the Board of Supervisors This committee could assist ranchers & farmers with conservation easements.
- **Option 4.1(b) Actively promote the Williamson Act program to local agricultural operators, particularly those in prime agricultural areas.** Make Williamson Act application and protection more accessible to farmers. Educate smaller scale (AE-15 acre)

Humboldt County General Plan Update
Agricultural Resources Report

landowners about application to smaller parcels. Research methods to reduce application cost.

- **Option 4.1(c) Support no net loss of Agriculture Exclusive (AE) land.** Prohibit conversion of AE designated land unless it is determined by OS/Resource committee, Planning Commission, & the Board of Supervisors that project is in the public interest and the loss shall be mitigated by protection of an equal amount of similar or higher quality agricultural land by agricultural or conservation easement as part of the cost of conversion.
- **Option 4.1(d) Provide density bonuses for cluster development during the division of resource lands in Community Planning Areas only, including the recognition of patent parcels, by requiring the enrollment in an agricultural or conservation easements for the remainder parcel.** Allow minimum parcel sizes below zoning or plan designation for division in agricultural resource areas if the remainder piece is determined to be of a size that can support a viable agricultural operation. Cluster developments could occur next to roads or existing developed areas.
- **Option 4.1(e) Monitor the conversion of agricultural lands and provide annual reporting to the Board of Supervisors.** Coordinate the collection of data and GIS information with county assessor, agriculture commissioner, UC extension, and citizen watershed groups to collect the best data of land and resource use possible. Coordinate with the Department of Agriculture Census collection service to incorporate their findings into the County's GIS database.
- **Option 4.2 Support creation of greenbelts and agricultural buffers where agricultural operations may pose land use conflicts.** Pesticide and fertilizer use and safety issues posed by farm equipment and operations can pose land use compatibility issues that may be minimized by creation of agricultural buffers.

4.2 ISSUE 2: PROPOSED POLICY OPTIONS TO ENHANCE ECONOMIC VIABILITY OF AG LANDS:

When land is economically viable as agriculture, then the pressure of conversion to other uses is lower. The key to maintaining a healthy agricultural base in Humboldt County is ensuring the sustainability of the industry. The marketing of Humboldt agricultural products should be a regional goal. Easing the permitting process for agriculture related structures is another way policies can be supportive. Ensuring adequate water availability for future agricultural uses should be considered prior to export of water resources out of county.

- **Option 4.3 Continue to use a Right-to-Farm Ordinance to enhance and encourage agricultural activities within the County.** To minimize liabilities of existing farming, livestock and dairy operations related to nuisance suits, the County has adopted a right-to-farm ordinance. This ordinance puts new rural residents on notice about impacts of farm operations and makes it more difficult for homeowners to claim that their property values have been affected by adjacent farming activity. This ordinance also provides a mechanism for mediation where disputes arise, as an alternative to litigation.
- **Option 4.3(a) Export of water out of County shall not occur until future water needs for regional agricultural uses are determined to be adequate.** Prior to approval of any water exportation projects, the County agricultural needs for future and potential production must be determined and a finding made that the water exportation project will not adversely impact the viability of the agricultural industry and local markets.
- **Option 4.3(b) Continue to support Ag Exempt building and Alternative Owner Builder regulations in rural agricultural areas.** Allow for alternative and recycled building materials to be utilized for agriculture related structures, with approved methodologies that assure safety, but allow for eased permitting.
- **Option 4.3(c) Develop programs within the County economic development department that assist Humboldt county farmers and ranchers to promote strong local product identity and enhance economic viability of agricultural operations.** Promote county agriculture with tourism. Re-develop “farm trails” maps (direct sales farm maps) and actively support farmers markets. Develop programs within the County Economic Development Department to assist with niche market development, i.e. grass-fed, natural meats; research support services necessary for small scale meat production, such as USDA approved poultry processing plant, mobile slaughtering unit; institutional purchasing of local foods; farm-to-school efforts. Outreach to farm and ranch business owners regarding county business development services, federal and state farm programs available to farmers and ranchers and programs that assist ranchers & farmers with tax and estate planning.

4.3 ISSUE 3: PROPOSED POLICY OPTIONS TO INCREASE SMALL AG OPERATIONS WITHOUT PROMOTING AGRICULTURAL CONVERSION THROUGH SUBDIVISION:

Recent trends in farm size have been towards larger farms. While small-scale agriculture can be competitive and productive especially in the niche markets, the Williamson Act places a minimum on parcel size. This minimum is usually 10 acres for prime farmland and 40 acres for non-prime farmland, however since the soils in Humboldt County have not yet been mapped by the Farmland Mapping and Monitoring Program, prime and non-prime soils have not yet been officially identified. The allowance for smaller farm sizes for intensive agricultural operations may result in conversion of prime agricultural areas if proper regulations are not in place.

- **Option 4.4 Create zoning provisions that allow for reduced lot size for small-scale, intensive agriculture – either a new AE-15 zone or an AI Agriculture Intensive zone.** This zoning option may be limited to areas where such agricultural development would be economically viable and be limited to community plan areas. Such a zone might be appropriate along the rivers, but is not needed for dairies or other large-scale agricultural activities. Protection of “core” agricultural districts must be evaluated prior to designation. Participation in an agricultural preserve program or granting agricultural easements may be a condition of approval.
- **Option 4.4(a) Actively support a FarmLINK program in the County that matches up landowners with young farmers who need land.** See Option 4.1(a)

4.4 ISSUE 4: PROPOSED POLICY OPTIONS TO ENSURE AN OPTIMUM COMBINATION OF AGRICULTURAL LAND PROTECTION PROGRAMS, INCENTIVES AND REGULATORY POLICIES:

In selecting among policy options for agricultural resources, striking the right balance is very important. A combination of programs that work in one county may not be appropriate for another. The optimum combination is one that stakeholders can support – there is not a right “technical” answer; the ultimate decision is political, following a public review process. The guiding principle should be to provide enough flexibility in implementation to respond to different needs throughout the County without adversely affecting critical resources or ongoing farming, dairy and livestock operations.

- **Option 4.4(b) Annual educational workshops should be scheduled to keep Williamson Act Committee members, Planning Commission & Board of Supervisors informed of current agricultural issues.** No combination of policies, incentives or regulation will work if the decision makers are not familiar with agriculture and other resource uses in the County. Regularly scheduled educational workshops for both the Board of Supervisors and the Planning Commission need to occur in order to keep the decision makers informed.

4.4.1 CONCLUSION

Although there are many factors contributing to the profitability of agriculture and the sustainability of Humboldt’s agricultural economy, only a few can be controlled or manipulated through planning. These include policies that provide protection of farmland, regulation of the amount of farmland lost to rural and urban development, insurance that subdivision of farmland will not adversely effect agricultural production, and prevention of land use conflict.

The options proposed above are intended to reflect a balance; comments during community workshops will help. County staff and the consultant team refine the proposed policies, eliminating those that are not acceptable and adding others that will meet local needs.

Humboldt County General Plan Update
Agricultural Resources Report**BIBLIOGRAPHY**

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Humboldt County General Plan Update
Agricultural Resources Report

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Humboldt County General Plan Update
Agricultural Resources Report
Appendix A

Humboldt County General Plan Update
Agricultural Resources Report
Appendix A

AGRICULTURAL LAND CLASSIFICATION SYSTEMS

The land best suited for a wide range of agricultural uses has been called “prime” agricultural land. There is neither a single fixed definition nor prescribed system for classifying lands as “prime”. A number of different systems of agricultural land classification are in use in the United States. Following is a description of each type of land classification system and the effects of these systems on determining prime agricultural lands in Humboldt County.

USDA Land Capability Classification System

The most widely used land classification system in the United States is the USDA Land Capability Classification System. It is an interpretative classification system for agricultural purposes, which uses soil and climate data to place delineated soil areas into groups of similar management options. The basic foundation of this system is the soil mapping unit found in soil survey reports. Arable soils are placed into groups based upon their potential (or limitation) for sustained production of cultivated crops. Non-arable soils are grouped according to their potential for production of permanent vegetation and to their risks of soil damage if mismanaged.

Soil designation of Classes I and II are considered “prime” agricultural land in this system. This is an interpretation of grouping based upon many factors. Class I soils have virtually no limitations that restrict their use, while those in Class II have some limitations that reduce the production options (such as slope, soil erodibility, salinity, wetness, etc.). Classes III and IV are less capable soils, but can be utilized for more permanent crops such as hay, orchards and vineyards. Therefore, the primary purpose of the Land Capability Classification System was to group agricultural lands according to recommended conservation management practices.

USDA Land Inventory and Monitoring System

Another widely utilized system of classification in the United States is the USDA Land Inventory Monitoring (LIM) system. The primary purpose of the LIM system was to inventory and evaluate the nation’s best farmland. The specific criteria for designating prime agricultural lands according to the LIM system include: (1) an adequate moisture supply; (2) a warm enough temperature and long enough growing season; (3) a pH between 4.5 and 8.5 in the root zone; (4) a water table that is maintained at a sufficient depth during the growing season; (5) a specific sodium percentage and conductivity/saturation extract rate within the root zone; (6) no flooding more often than once in 2 years; (7) a specific slope and erodibility ratio; (8) a specific permeability ratio; and (9) a surface layer containing limited large rock fragments. A tenth criteria was added for prime agricultural lands for the state of California that required soils to have a minimum rooting depth of 40 inches.

The LIM system further defines (1) unique farmland, (2) additional farmland of statewide importance, and (3) additional farmland of local importance. “Unique farmland” is land other than prime that is used for the production of specific high-value crops such as artichokes, avocados, dates, and melons. “Additional farmland of statewide importance” is land of statewide importance for the production of food, feed, fiber, forage, grown on non-prime or non-unique farmlands. The criteria for defining farmlands as having “statewide importance”, is determined by the appropriate state agency. “Additional farmland of local importance” covers those local farmland areas that are of concern to cities or counties for the cultivation of crops that are not identified as prime, unique, or statewide importance. This category was

Humboldt County General Plan Update
Agricultural Resources Report
Appendix A

included to allow flexibility in determining which areas should be preserved at the local level.

Storie Index

The Storie Index Rating (SIR) expresses numerically the relative degree of suitability of a soil for general intensive agriculture. Storie published this system for rating land based upon the productivity data from a number of major soil categories in California during the 1920's and 30's. Soils were rated for quality along a 100 percent scale, on each of four factors: character of soil profile and depth, texture, slope, and a composite of other factors (nutrient level, pH, erosion). These four factors were then multiplied together to produce the composite index rating, thus a poor rating in any one factor may greatly affect the overall grade. The rating of soils according to this method, the Storie Index Grade, expresses the relative suitability of the soil for general intensive agriculture.

The definition of prime agriculture land was not a part of the SIR, but Storie Index Grade 1 soils (those with a composite index rating from 80 to 100) are considered "excellent", and are well suited to general intensive agriculture. They are easily worked, very productive, and irrigation is simple and efficient. Grade 2 soils (index rating 60-80) are moderately well suited for agriculture and Grade 3 (index rating 40-60) indicates only fair suitability. Grades 4, 5, and 6 (index rating below 40) indicate poor suitability for agriculture.

California Legislative Definition

Of the three previously described soils classification systems, only the USDA-LIM system explicitly defines "prime" agricultural lands. This is mainly because the determination of what is considered "prime" is based upon a policy definition rather than scientific data.

The California Land Conservation Act, or "Williamson Act" of 1965 defines prime as a combination of soil properties and/or economic considerations (California Government Code Sec 51200-51295). To qualify as prime land, the parcel must meet one of the following criteria: USDA Class I or II, Storie Index 80 – 100, land that returned an annual gross value of not less than \$200 per acre for three of the past five years, livestock supporting land with a carrying capacity of at least one animal unit per acre, or land planted with fruit or nut trees, vines, bushes or crops that have a nonbearing period of less than five years and that will normally return \$200 per acre per year during the commercial bearing period.

The broad definition of "prime" was made on the basis that many of California's specialty crops are not grown on Class I and II lands. Additional categories within the Williamson Act were provided to allow for protection of these areas; however, as a "non-prime" unit. The Williamson Act definition is also used as the definition of prime agricultural land for those areas in the Coastal Zone as specified in the California Coastal Act.

Soils Survey Within Humboldt County

The County's agricultural soils were mapped in 1965 in a cooperative project between the Department of Soils and Plant Nutrition, University of California, Davis, and the County of Humboldt utilizing the Storie Index Rating classification. Because this system does not rate soils as "prime", the County requested for the General Plan Update in 1984 that the Area Soil Scientist for the USDA Soil Conservation Service (now known as the Natural Resources Conservation Service, NRCS) correlate the soil series used in the Soils of Western Humboldt

Humboldt County General Plan Update
Agricultural Resources Report
Appendix A

County with the SCS Land Capability Classification System. This report was prepared, and was to be used on an interim basis until an USDA Land Capability Classification System Survey was conducted (see Appendix A).

The original 1965 survey included the alluvial and terrace lands on many of the drainageways within the County. The survey area covered about 125,000 acres of alluvial and terrace lands primarily located around Humboldt Bay (see Appendix A for index maps). The majority of the mountainous portions of the County were not surveyed.

The NRCS is currently in the process of mapping the soils in Humboldt County to a USDA Land Capability Classification System with a projected target completion date of 2008. As of December, 2002, approximately one-third of the County has been mapped. These areas include: 28% of Central Humboldt, 30% of Redwood National Park, 90% of the Hoopa “square”, 10% of southern Humboldt and 12% of northern Humboldt (Azan, 2002). Staff from the NRCS has indicated that site specific mapping information will be released as it is generated; however, this information will be released on a “provisional” basis only.

The mapping of soils within Humboldt County to a USDA Land Capability Classification System will provide additional benefits to the County and agricultural producers besides updated soils information. State subvention monies are higher for lands determined to be prime (a smaller amount of agricultural lands qualify as “prime” under the Storie Index). Grant funding is available through the Farm Bill to those areas that have been mapped utilizing the USDA soils classification system. Currently, farmlands in Humboldt County are not eligible for this funding source unless the soils were individually mapped utilizing the USDA soils classification system.

The state of California has a quite detailed Farmland Mapping and Monitoring Program (FMMP) run by the Department of Conservation (beginning in 1980) that tracks farmland loss every two years; unfortunately, Humboldt is one of four (out of 58) counties in the state that is not tracked because detailed soil surveys have never been completed for the County (Medvitz, 1999). With the completion of the USDA Survey, Humboldt County will be eligible to be included in this program.

A New Definition of Prime Agricultural Lands

The USDA defines prime farmland as the land best suited to food, feed, forage, fiber, and oilseed crops. Prime farmland produces the highest yields with minimal inputs of energy and economic resources, and farming it results in the least damage to the environment. However, problems created by direct and indirect effects of development indicate that, within the context of land use planning and zoning, the definition of prime agricultural land must be based on more than the traditional measures of soil productivity and crop yields. Instead, prime or select farmland should be defined by a combination of productivity and location. In the rural and urban fringe areas of today, the distance to residential development is becoming an increasingly important spatial characteristic affecting production.

Location can be incorporated in the definition of prime or select agriculture in the following ways. First, soils of moderate or even low productivity should share the prime agriculture designation if such soils are surrounded by large expanses of undeveloped, highly productive soils. Second, productivity should become secondary to location characteristics if the area in question supports confined feeding operations. Not only does separation by distance reduce the nuisance element associated with this important aspect of agriculture, but separation distance also provides surrounding farmland capable of supporting economical waste

Humboldt County General Plan Update
Agricultural Resources Report
Appendix A

assimilation through land application of manure. Third, the designation of prime agriculture should be extended to include unique farmland located within expanding metropolitan areas.

The current definition of prime farmland employed by the USDA and the Natural Resources Conservation Service (NRCS) specifically excludes highly productive soils from the “prime” status if they occur in urban or “built-up” areas. This exclusion ignores the fact that farmland located within a highly developed area provides market and nonmarket benefits to society. While small “in-town” farming operations often provide higher-valued crops (such as fruits and vegetables) to consumers, they also provide open space, scenic values, and related amenity benefits. Such benefits are important in a planning and zoning context since they are public goods and can contribute to a community’s “quality of life.”

APPENDIX B - Policy Options Worksheets

Agricultural Resources - Existing Policies	<i>Retain</i>	<i>Modify</i>	<i>Delete</i>	<i>Comments</i>
<p>1. Agricultural lands shall be conserved and conflicts minimized between agricultural and non agricultural uses through the following:</p> <ul style="list-style-type: none"> A. By formulation of logical boundaries separating urban and rural areas and when necessary, buffer areas to minimize land use conflicts. B. By focusing future conversions in areas where land use conflicts would not threaten the viability of existing agriculture. C. By promoting in-filling to achieve a more logical urban/agricultural boundary. D. By allowing development of uneconomical or marginally viable agricultural lands, or agricultural lands already severely limited by conflicts with urban uses to limit the market pressures for conversion of more productive lands. E. By assuring that public service facility expansions and non-agricultural development do not inhibit agricultural viability through degraded water supplies, access systems, air quality, and other relevant considerations, such as increased assessment costs. F. By broadening the utility of agricultural preserves and the Williamson Act Program to accommodate and encourage intensively managed farms. 				
<p>2. The conversion of economically viable agricultural lands shall be monitored and reported annually.</p>				
<p>3. In-filling shall be encouraged for all development.</p>				
<p>4. Prime agricultural land should be retained in parcel sizes large enough to provide for an economic management base.</p>				
<p>5. The County shall support predator control programs to reduce livestock depredation.</p>				
<p>6. Vegetation management programs (controlled burning, etc.) shall be supported where they improve the availability and quality of rangeland for livestock and wildlife, reduce the hazard of disastrous wildfires and increase water quality and quantity.</p>				
<p>7. Areas with General Plan designations of Agriculture Exclusive should not be annexed to cities or service districts providing sewer service unless it is in the public interest.</p>				
<p>8. The County Planning Department and Board of Supervisors will request the Local Agency Formation Commission to utilize the County's General Plan in advising the County on the appropriate level of services</p>				

to be provided in the County's unincorporated areas.				
9. Agricultural production requiring smaller parcels and more intensive management, including aquaculture shall be encouraged wherever feasible consistent with the Remote Rural Development Section 2550 and other policies of this section.				
10. The conversion of agricultural land should only be considered where continued agricultural production is not economically feasible and proposed development is consistent with Remote Rural Development Section 2550.				
11. Affirm and support the public services provided by County Government which are necessary in maintaining a viable agricultural products industry.				

Proposed Policies: Agricultural Resources	<i>Responds to Phase I Issues; New Policy Direction (N)</i>	<i>Provides Economic Benefits</i>	<i>Provides Environ- mental Benefits</i>	<i>Requires Minimal Public Costs</i>	<i>Public Preference (Yes, No or Modify)</i>	<i>Comments</i>
Option 4.1 Support the efforts of existing private non-profit land trusts and their efforts to protect working landscapes in Humboldt County (coordinated with Option 2.6 contained in the Natural Hazards Report).	✓	✓	✓	✓		
Option 4.1(a) Support the creation of a countywide Open Space District and an Open Space / Resource Advisory board.	✓	✓	✓	✓		
Option 4.1(b) Actively promote the Williamson Act program to local agricultural operators, particularly those in prime agricultural areas.	✓	✓	✓	✓		
Option 4.1(c) Support no net loss of Agriculture Exclusive (AE) land.	✓	✓	✓			
Option 4.1(d) Provide density bonuses for cluster development during the division of resource lands in Community Planning Areas only, including the recognition of patent parcels, by requiring the enrollment in an agricultural or conservation easements for the remainder parcel.	✓	✓	✓	✓		
Option 4.1(e) Monitor the conversion of agricultural lands and provide annual reporting to the Board of Supervisors.	✓		✓	✓		
Option 4.2 Support creation of greenbelts and agricultural buffers where agricultural operations may pose land use conflicts.	✓	✓	✓	✓		
Option 4.3 Continue to use a Right-to-Farm Ordinance to enhance and encourage agricultural activities within the County.	✓	✓	✓	✓		
Option 4.3(a) Export of water out of County shall not occur until future water needs for regional agricultural uses are determined to be adequate	✓		✓			
Option 4.3(b) Continue to support Ag Exempt building and Alternative Owner Builder regulations in rural agricultural areas.	✓	✓	✓	✓		
Option 4.3(c) Develop programs within the County economic	✓	✓	✓			

development department that assist Humboldt county farmers and ranchers to promote strong local product identity and enhance economic viability of agricultural operations.						
Option 4.4 Create zoning provisions that allow for reduced lot size for small-scale, intensive agriculture – either a new AE-15 zone or an AI Agriculture Intensive zone.	✓	✓	✓	✓		
Option 4.4(a) Actively support a FarmLINK program in the County that matches up landowners with young farmers who need land.	✓	✓	✓	✓		
Option 4.4(b) Annual educational workshops should be scheduled to keep Williamson Act Committee members, Planning Commission & Board of Supervisors informed of current agricultural issues.	✓			✓		