MARIN COUNTY

AGRICULTURAL ECONOMIC ANALYSIS

FINAL REPORT

November 2003

Prepared for:
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I. INTRODUCTION/FINDINGS

This report analyzes the economic issues currently facing agriculture in Marin County, with a primary focus on the impact of estate developments on agricultural lands. This analysis is intended to assist County decision-makers in formulating policies and programs that will maintain and support the future of Marin County's agriculture. It provides a background for the Agricultural Element of the General Plan.

This report addresses the following major topics:

- A review of the Baxter-McDonald-Smart study of 1973 – what was relevant 30 years ago, what is still relevant;
- Analysis of the impact of large estates on agricultural viability, including:
  - Costs and income of undeveloped agricultural land;
  - The impact of residential development on costs; and
  - Analysis of the current state of County-wide agricultural lands.
- Farm economics issues, addressing the key issues facing:
  - Organic vegetable farms;
  - Vineyards;
  - Dairies; and
  - Livestock operations
- Fiscal analysis – what are the County government costs and revenues attributable to agriculture.

Key Findings:

Baxter, McDonald & Smart Review: The major problem in 1973 was that agricultural lands were subject to speculation for subdivision into suburban housing. Today, the major issue is high value estate development. The concern, however, is similar - that land costs can be driven up beyond agriculture's ability to pay, thus discouraging maintaining agricultural use.

Impact of Large Estates:

- Grazing land under Williamson Act contract *without* residential improvements brings in more income for agricultural leases than the estimated costs of land ownership. Net income (not including debt service for land purchase) ranges from $7.46 to $21.23 per acre depending on parcel size.
- Adding high value residential development drives up land ownership costs beyond what agricultural income can cover, usually by large orders of magnitude (depending on parcel size and extent of improvements).
- On five case study parcels, proposed developments would shift the cost/income balance to large shortfalls in all but one case.
- Landholding costs far in excess of the potential agricultural income will, in the long term, be a disincentive to continued agricultural operations.
- County ranches over 60 acres account for 85% of the privately-owned agriculturally-zoned land. Of that, 14% of the acreage is assessed at values over $2,000 per acre. The three ranches assessed at over $14,000 per acre represent only 5% of the private agriculturally-zoned ranch acreage but 59% of the total assessed value (AV).
- Fortunately, the 86% of over 60-acre ranches with values ranging from $55 to $2000 per acre have estimated costs well below average lease rates for grazing land.
- It is timely for policy makers to develop approaches that will protect agricultural use from "gentrification" into non-productive estates.

Farm Economics:

- Organic Farms - Analysis of a hypothetical organic farm operation in Marin County shows that almost all crops can be profitable based on current estimated average costs and income. The most critical variable is successful marketing of products.
- Vineyards – Based on current estimated average costs and income, a Marin County vineyard should be profitable after four years. Value added for producing wine as part of the operation can ensure a market for the grapes and substantially increase potential profits.

- Dairies – While the number of dairies and cows in the County has decreased, milk output has increased. The County's dairies can benefit from value added products (such as cheese and yogurt), but face challenges of cost and availability of pasturelands.
- Livestock – The main operations are for raising cows and calves. Two operators are finding a niche in the higher-priced grass fed beef market.

Fiscal: Marin County agriculture contributes a significant net surplus to the County general fund of $1.3 million annually. Additionally, property taxes from agriculture generate almost $10.3 million annually to education and other County funds.

Note that almost 75% of the assessed value is from agricultural parcels under 60 acres in size. Large ranch holdings contribute relatively little in property taxes but also require less County services.

II. BAXTER-MCDONALD STUDY REVIEW

Thirty years ago, Marin County undertook a thorough review of its policies relating to agriculture. The goal was to protect and support the County's farmlands, which were increasingly endangered by urban/suburban development and speculative land values.

As part of that review, Baxter, McDonald and Smart Inc. conducted an analysis, dated September 1973. The 1973 report summarized the key issues as follows:

> "The question of the viability of agriculture in Marin is, simply stated, whether or not a rancher can and will stay in business or whether others will enter agriculture over the foreseeable future... We have determined that it is possible to make a living from ranching in Marin at the present time....
>
> "Whether a rancher will stay in business can best be described as an uncertainty over the land use – residential or agricultural – that will be predominant in west Marin in future years. Because of the potential value of these lands for residential development, making management decisions which commit the land to continued agricultural use means forgoing possible large capital gains from its sale for development purposes. The possibility that increased densities will be permitted in west Marin, however uncertain, has led many ranchers to regard their operations in an interim fashion: they put in enough work to cover their expenses and taxes while waiting for an optimum time when they can sell or develop.
>
> "Even those who do not wish to sell or develop are affected by the uncertainty. Due to the incompatibility of agriculture with high-intensity development, these ranchers are uncertain about their future prospects in the event that development is permitted. Their uncertainty makes them hesitant about taking on long-term loans for necessary capital improvements.
>
> "However, the analysis of economic and social attitudes done during the present study leads to the conclusion that:
>
> GIVEN SOME ASSURANCE THAT RURAL MARIN WILL BE PROTECTED FROM INCOMPATIBLE DEVELOPMENTS AND THAT PRIORITY IS GIVEN TO THE NEEDS OF AGRICULTURE WITHIN ITS REALM, PEOPLE WILL CONTINUE TO RANCH IN MARIN OVER THE FORESEEABLE FUTURE."

The Baxter, McDonald, and Smart report also noted that, even if marginal revenues from farming are not equal to marginal costs, there are other non-economic reasons

for farmers to maintain their operations in Marin, such as the environmental beauty, carrying on family traditions, and enjoying the community of family operated ranches.

In addition, the Baxter, McDonald & Smart report made recommendations, summarized as follows:

> "1. The County should improve its ability to assist ranchers in making necessary ranch improvements...
> "2. The County should adopt policies designed to ensure that any rural residential development is compatible with its agricultural neighbors.... Development rights should be purchased [where necessary].
> "3. Alternative land uses of both agricultural and recreational natures are available and should be encouraged [as] a more viable alternative than residential development in terms of agricultural compatibility."

Looking back over the 30-year time period since 1973, it is on the one hand gratifying to see how effective the County's policies have been in maintaining its agricultural land and economy, and on the other hand ironic that the issues in 2003 are almost identical to those faced in 1973.

The County has achieved success in consistent application of large lot sizes and agricultural use zoning, removing much of the speculative value increases - not to mention residential subdivisions - which would have otherwise occurred. This has been coupled with the effective program of Marin Agricultural Land Trust (MALT) to purchase agricultural open space easements and lease-back arrangements from the Point Reyes National Seashore and Golden Gate National Recreation Area (GGNRA) guaranteeing long-term agricultural use. In addition, the County continues to offer support to farmers, such as in meeting environmental regulations, making farm improvements, and developing marketing strategies.

What was not anticipated 30 years ago was that some landowners or buyers would use large agriculturally-zoned parcels essentially for estate development. High-value residential development keeps the large acreage intact, but it undermines the economics and the "will" to maintain agricultural use. This new (but similar) challenge is the major focus of this 2003 report.

III. IMPACT OF LARGE ESTATES ON AGRICULTURAL VIABILITY

The major problems identified in 1973 were that agricultural lands were subject to speculation for development rather than farming value. Today, the speculation is not so much for subdivision into suburban housing but is for high value estate development. The concerns are the same, however:

- Land costs can be driven up beyond agriculture's ability to pay for the taxes, insurance and maintenance costs association with the land;
- New estate owners may not be interested in making long-term investments in agricultural improvements, or even accommodating agricultural use; and
- There can be land-use conflicts between non-agricultural residents and commercial agricultural operations.

Viability of agricultural use still rests on whether the farmer or rancher can and will stay in business and whether others will enter into agriculture in the foreseeable future.

In this section we will look at:

- the costs and income of grazing land without residential improvements;
- the impact residential development has on the cost/income balance (based on average cost and income factors as well as specific case study parcels); and
- the current status of agricultural parcels county-wide.

A. Costs and Income of Agricultural Land

Livestock grazing land, which represents over 90% of the County's agricultural acreage, has fairly constant costs and returns per acre. Much of this land is hilly and unirrigated; its basic value is for growing grass, which can support a fairly predictable number of sheep or cows, which in turn provide income to the rancher from wool, meat, or dairy sales. Up until recently, there has been a balance, on average, between land ownership costs and agricultural income, helping to keep Marin County's grazing lands in productive use.

Table 1 estimates and compares the land costs and income from hypothetical average agricultural parcels of various sizes (without non-agricultural improvements). The major costs associated with the agricultural use of these lands include:

- Property taxes;
- Insurance; and
- Fence maintenance.

These are discussed below.

1. Property Tax: A large proportion of Marin's agricultural acreage is under Williamson Act (Land Preservation Act) contract, which limits the Assessor's evaluation to the agricultural value, rather than potential market value, of the land. The Assessor uses a conservative lease rate of $21 per acre for grazing lands. The Assessor calculates the capitalized value of that lease rate annually. For this analysis, we used a 3-year average of 7%, plus 1% risk and 1% property tax, for a capitalization rate of 9%. Based on that capitalization rate on annual lease income, the assessed value (AV) averages $233 per acre, for a tax cost of $2.33 per acre.

2. Insurance: According to knowledgeable insurance brokers, insurance for unimproved grazing lands can range from $500 for a 60-acre parcel up to $2,000 for a 2,000-acre parcel. The cost per acre decreases as parcel size increases, as estimated in the footnote of Table 1.

3. Fence Maintenance: A major expense for landowners for grazing operations is installing, repairing and replacing fencing. In the footnote of Table 1 we estimate the costs based on square parcels with cross fencing of 40-acre pastures. Assuming fencing costs at $4 per linear foot, with replacement required every ten years, fence costs will average $0.40 per linear foot per year. Smaller parcels have more linear feet of fencing per acre than larger parcels. Thus cost of fence maintenance can vary from an estimated $11.88 per acre for a 60-acre parcel down to $5.10 per acre for a 2,000 acre parcel. Actual costs vary based on the parcel's shape, the amount of cross fencing, the level of maintenance, and the quality of the fencing.

The total of these three major cost factors ranges from $22.54 per acre for a 60-acre parcel down to $8.43 per acre for a 2,000-acre parcel. (We have not included other costs such as water development or utilities which could vary widely by parcel.)

The income attributable to land can be either from the landowners' own grazing operations or from leasing their land to a ranch operator. The going lease rates in Marin range from $20 to $35 per acre for grazing land; we have used an average of $30 income generated per acre. It should be noted that lease rates will vary widely depending on factors such as slopes, soils, accessibility, size of parcel, and length of lease.

Comparing estimated costs with income, we see in Table 1 that grazing land without residential improvements can generally bring in more income than it costs. Even on a small hypothetical 60-acre parcel, costs of $22.54 per acre are exceeded by lease income of $30.00 per acre, for a net income of $7.46 per acre, or $447 annually for the parcel. For larger parcel sizes, the total costs per acre are reduced, and thus the net income per acre increases. For example a 400-acre parcel is estimated to generate a net income of $18.40 per acre or $7,359 for the whole parcel. A 2,400-acre parcel would have a net income of $21.23 per acre, or a total of $50,961 for the parcel.

Both the costs and potential income from grazing use of unimproved agricultural land are fairly fixed. The rancher may be able to improve income to some degree through skilled operations, capital investments, effective marketing and value-added products. Unpredictable weather, disease or the overall economy could also affect costs and income. These factors, however, are overshadowed by the impact of residential development.

B. Impact of Residential Development

The major wild card in the agricultural land cost/income balance is property value increase for new residential improvements. High-value estate development on the County's agricultural lands drives up the land ownership costs for both property taxes and insurance. This can tip the scales so that the cost of land ownership exceeds (by orders

of magnitude) what the agricultural income can cover. This may result in the owner of the new estate having little motivation to continue the traditional grazing use.

It should be noted that some owners of high value improved parcels may maintain agricultural use, even with little economic incentive to do so, because of other factors, such as family tradition and the esthetics of a pastoral setting. From an economics viewpoint, however, if agricultural income is no longer significant in offsetting ownership costs, the agricultural use becomes less likely, especially into the future as high-value parcels change ownership.

1. Potential Impact Analysis

Table 2-A estimates the increased assessed value and landowner's costs from a range of potential residential developments. The costs depend largely on the size of the residential development, so we have analyzed a range from an 1,800 sq. ft. to a 14,000 sq. ft. development (which could include one or more guest houses in addition to a main residence). The County Assessor uses a construction cost for housing of $175 per sq. ft. Other structural improvements (e.g. barns, garages) are estimated at an average of 50% of residential value, based on data from the case study (discussed below). In addition, we estimate that the site of the residence plus land-related improvements (e.g. driveways, well, septic systems) will add $300,000 per developed acre to total value. In all, the property value increase ranges from $772,500 for a 1,800 sq. ft. residence up to $6.1 million for a 14,000 sq. ft. development.

The estimated added costs to the landowner of these improvements include:

- Property tax, at 1% of the added value; and
- Insurance, at 0.2% of the added value.

Thus annual costs of land ownership for the added residential development range from $9,270 for a 1,800 sq. ft. home up to $72,900 for a 14,000 sq. ft. residential development.

Table 2-B spreads these added costs on a per acre basis to the entire parcel. The smaller the parcel, the higher the cost per acre will be for the residential development. For example, the 1,800 sq. ft. development would add annual costs of $155 per acre to a 60-acre parcel, compared to $4 per acre on a 2,400-acre parcel.

Finally, Table 2-C shows the impact of adding these residential-related land costs to the net lease income of undeveloped agricultural land (from Table 1). As noted above, without non-agricultural improvements, all parcel sizes had a positive net income, with a higher profit margin for larger parcels. When the ownership costs of large estate development are added, costs overwhelm potential income in most cases. The discrepancy between costs and income can be by orders of magnitude. For example:

- On a 60-acre parcel, even a moderate 1,800 sq. ft. residence results in costs exceeding income by $147 per acre.
- On a 400-acre parcel that would net $18.40 income per acre for agricultural use, adding a 7,000 sq. ft. residential development results in an $73 per acre net cost;
- On a 200-acre parcel, a 14,000 sq. ft. development results in a net cost of $349 per acre.

The scenarios that are close to break-even or still show a net income are the moderate 1,800 to 3,500 sq. ft. residences on larger parcels and the 7,000 sq. ft. development only on the largest 2,400-acre parcel size.

2. Case Study Parcels

While the foregoing discussed hypothetical cases, Table 3 shows the actual proposed (or in one case completed) developments on five case study parcels. These sample parcels, identified by the Planning Department, are proposed for (or have recently added) substantial improvements. They range in size from 60 to 845 acres. For each sample parcel, we describe:

- the existing unimproved land value;
- the proposed added value to land and structures; and

- the costs and agricultural income balance prior to and after the proposed improvements.

As summarized in Table 3-A, the assessed value of these sample case study parcels before and after improvements ranges widely:

- For the 60-acre Matthews parcel, before improvements assessed value (AV) is $6,468 per acre; after improvements it would be $25,344 per acre.
- For the 100-acre Moritz parcel, the $12,427 per acre existing land value rises to $27,309 per acre after improvements.
- For the 210-acre Hansen-Brubaker parcel, base land is valued at $4,024 per acre, rising to $9,362 per acre after improvements.
- For the 446-acre Patrick Brennan parcel, the land is valued at $432 per acre, rising to $1,629 per acre with the recently completed development.
- For the 845-acre Hick's Mountain Ranch parcel, the base land is valued at $1,558 per acre. After improvements, this would rise to $12,845 per acre.

Note that the scope of proposed improvements also ranges widely:

- A modest 1,850 sq. ft. residence on the Patrick Brennan parcel;
- Mid-range 3,500 to 4,000 sq. ft. residences with varying amount of related improvements on the Matthews, Moritz, and Hansen Brubaker parcels; up to
- Eight residences totaling 33,200 sq. ft. plus related improvements for the large Hick's Mountain Ranch parcel.

Each of the case study parcels and their proposed developments are described in detail in Appendix A. Appendix A also compares the total developed assessed values of these parcels with other parcels of similar size and zoning, illustrating that proposed high value improvements far exceed typical current values in the County.

Table 3-B compares the before and after improvement land costs with potential agricultural income on a per acre basis. The land costs included in this analysis are property tax, insurance (for both land and improvements), and fencing, using the same factors as Tables 1 and 2 above.

Before improvements, the parcels range from small net incomes to significant net costs. After proposed improvements, however, all of the parcels have costs exceeding potential agricultural income.

- Hick's Mountain Ranch goes from above break-even net income of $6 per acre to a net cost of $143 per acre after improvements.
- Patrick Brennan goes from a net income of $15 per acre to a small net cost of $7 per acre.
- Hansen-Brubaker is below break-even, at a net cost of $21 per acre, without development, but goes to a net cost of $103 per acre after development.
- Moritz has the highest pre-improvement costs, at $106 per acre, which would double to $332 per acre after development.
- Matthews, with a net cost of $47 per acre before improvement, rises to $307 net cost after improvement.

While these landowners may choose to sustain higher annual costs for the benefits of their rural estate lifestyle, landholding costs in the range of three to ten times the potential agricultural income will, in the long term, be a disincentive to continued agricultural operations.

C. Current Status of County-Wide Agricultural Lands

High-value residential developments adversely impact agricultural viability, both in theory and in current specific cases. This section looks at the County Assessor's data to determine how much land has already been affected and recommends corrective measures.

Table 4 shows Countywide Assessor's data on public and privately-owned lands designated for agriculture. Of the total 173,119 acres, just over 41,000 are publicly owned. Much of this acreage is leased for grazing, contributing substantially to the County's agricultural economy. Because of its public ownership, however, it is not threatened by

residential development. We will therefore focus on the 132,000 acres of privately-owned agriculturally-zoned lands.

As shown, parcels under 60 acres account for about 9% of the privately-owned agricultural lands while representing almost 75% of the assessed value. Much of this is due to residential value on these small parcels. About 5% of the privately-owned acreage and assessed value is in separate parcels over 60 acres in size. The lion's share (85%) of privately-owned acreage (112,436 acres) is in identified ranch units over 60 acres, often comprising several Assessor's parcels. These ranches are the most significant for purposes of protecting the County's grazing land.

Table 5 and 6 further analyze the 112,436 acres of Marin County ranches. As shown in Table 5-A, these 209 ranches range from 60 to 2,500 acres in size, with most (80%) from 200 to 1,600 acres. Generally, the larger sized ranches have a lower assessed value per acre. For example, the 1,200 to 1,600 acre ranches, with 16% of the acreage, represent less than 4% of AV, at an average of $537 per acre. The 100 to 200 acre ranches, in contrast, have an average AV of $2,308 per acre.

The exception to this picture is the largest sized ranches. These seven ranches, with 14% of the ranch acreage, account for almost 57% of the assessed value, at an average of almost $9,000 per acre. This anomaly is due to two ranches with high value large-scale developments, disproportionate to grazing land values.

As discussed above, the landowner's annual costs for such lands include property taxes, fence maintenance and replacement, and land-related liability insurance. Table 5-B estimates the average land costs as they apply to these various ranch sizes. The combination of property tax, insurance and fencing costs range from almost $78 per acre for the smaller 60 to 100 acre ranches down to only $12 per acre for the 1,200 to 1,600 acre ranches. From 200 acres through 1,600 acres, the estimated costs per acre are less than average lease rates of $30 per acre. Again, the largest ranches are anomalous, with costs over $104 per acre due to the two ranches with unusually high assessed values.

Table 6 looks at the same 112,436 acres of ranches grouped by their average assessed value per acre. Here we find that 86% of the acreage is assessed at between $55 and $2,000 per acre. The three ranches with the highest average values (over $14,000 per acre) account for 5% of the acreage but almost 59% of the total AV. The 37 ranches that range from $2,000 to $14,000 per acre represent an additional 9% of the acreage and 18% of the total AV.

Table 6-B shows the impact of estimated costs per acre for property tax, insurance and fencing to these ranches. In a nutshell, for the 86% of the ranch acreage valued at under $2,000 per acre, estimated costs are significantly below average lease rates of $30 per acre. (Again note that actual lease rates vary based on soils, slopes, access, lease length and other factors.) Ranches valued between $2,000 and $4,000 per acre (another 6% of the acreage) are on the margin, with costs of $42 per acre somewhat exceeding the average $30 per acre lease rate. In contrast, ranches from $4,000 to $14,000 AV per acre have costs of almost $100 per acre; and the three ranches of over $14,000 AV per acre have costs over $310 per acre.

So far only a limited number of the County's agriculturally-zoned ranches (8% of the privately-owned ranch acreage) are affected by high value development that overwhelms potential income for grazing use. Keeping land values (and thus costs) in balance with agricultural income is critical to maintaining long-term agricultural viability. Fortunately, this problem is being addressed at an early stage. Just as the County was able, through zoning and other policies and support efforts, to reduce land speculation for subdivision of agricultural lands, it is timely to develop approaches that will again protect and stabilize agricultural use from "gentrification" into non-productive estates.

County policy-makers should explore approaches to maintaining an "agriculture-friendly" ratio of land costs to lease income. Such approaches may include:

1. Define a reasonable ratio of lease income to land related costs, including placing a ceiling on the value of non-agricultural improvements. The economic analysis above could be applied on an area-specific basis to determine income and cost factors in order to limit

the impact of proposed new development, or an overall ceiling could be placed on the size of farm residences. The acceptable level is a policy decision that balances the long-term economic viability of agricultural use with the expectation of landowners to build a livable residence on a ranch.

2. Other measures to enhance long-term agricultural viability could include installing agricultural improvements, such as water development, land leveling (if appropriate) and financing animal waste disposal or watering facilities. If appropriate to the site and soil capacity, higher value crops such as vine or vegetable acreage could be developed. The landowner could also finance annual agriculture-related costs such as weed control, access roads, and fence maintenance.

Table 1: Land Cost vs. Lease Income

Ranch size	Per Acre Insurance (1)	Fence cost (1)	Prop. Tax (2)	Total Land Cost	Lease Income	Net Income per Acre	Per Ranch Net Income Total
60	$8.33	$11.88	$2.33	$22.54	$30.00	**$7.46**	$447
100	$6.00	$10.33	$2.33	$18.66	$30.00	**$11.34**	$1,134
200	$3.50	$8.54	$2.33	$14.38	$30.00	**$15.62**	$3,125
400	$2.13	$7.14	$2.33	$11.60	$30.00	**$18.40**	$7,359
800	$1.25	$6.49	$2.33	$10.07	$30.00	**$19.93**	$15,943
1,600	$0.78	$6.09	$2.33	$9.20	$30.00	**$20.80**	$33,278
2,400	$0.63	$5.81	$2.33	$8.77	$30.00	**$21.23**	$50,961

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(1) Insurance and Fencing Costs

Ranch size	Insurance Costs Per Ranch	Per Acre	Fencing Costs Perimeter	Cross Fence	Total	Cost @$.40/ft	Per Acre
60	$500	$8.33	1,617	165	1,782	$713	$11.88
100	$600	$6.00	2,087	495	2,582	$1,033	$10.33
200	$700	$3.50	2,952	1,320	4,272	$1,709	$8.54
400	$850	$2.13	4,174	2,970	7,144	$2,858	$7.14
800	$1,000	$1.25	5,112	4,620	9,732	$3,893	$6.49
1,600	$1,250	$0.78	5,903	6,270	12,173	$4,869	$6.09
2,400	$1,500	$0.63	6,600	7,920	14,520	$5,808	$5.81

Fence maintenance costs based on square parcels with cross fencing in 40 acre quarter sections
Average $4 per linear foot for replacement fence - 10 year life = $0.40 foot year
Source: Stephanie Larson UC Coop Extension, Sonoma County 707-565-2621.
Insurance Sources:
Larry File, Broker: United International Insurance 559-226-1205
Larry Walsh lwalsh@entertainmentinsurance.com

(2) Property Tax based on Williamson Act Assessment

		Per Acre
Lease rate for land		$21
Capitalization rate		
Income (3 year average)	7%	
Risk	1%	
Property Tax	1%	
Total Capitalization rate	9%	
Capitalized Value		$233
Property Tax @ 1%		$2.33

Source: Nelson Gemmels, County Assessors Office

Table 2: Cost vs. Income With Added Residential

A - Residential Costs

Residential Size in Sq. Ft.	< - - - Residential Size 1,800	3,500	7,000	- - - > 14,000
Residential AV @$175/sq.ft.	$315,000	$612,500	$1,225,000	$2,450,000
Improvements @ 50%	$157,500	$306,250	$612,500	$1,225,000
Residential Land in Acres	1.0	2.0	4.0	8.0
Residential Land AV @$300K/Ac	$300,000	$600,000	$1,200,000	$2,400,000
Total Added AV	$772,500	$1,518,750	$3,037,500	$6,075,000
Costs				
Property Tax @1.0%	$7,725	$15,188	$30,375	$60,750
Insurance @ 0.2% AV (1)	$1,545	$3,038	$6,075	$12,150
Total Added Costs	**$9,270**	**$18,225**	**$36,450**	**$72,900**

B - Added Residential Cost Per Acre by Ranch Size

Ranch Size				
60	$155	$304	$608	$1,215
100	$93	$182	$365	$729
200	$46	$91	$182	$365
400	$23	$46	$91	$182
800	$12	$23	$46	$91
1,600	$6	$11	$23	$46
2,400	$4	$8	$15	$30

C - Net Income vs. Residential. Costs Per Acre by Ranch Size

Ranch size	Net Ranch Income (2)	< - - Ranch Income Less Residential Cost			- - >
60	$7.46	($147.04)	($296.29)	($600.04)	($1,207.54)
100	$11.34	($81.36)	($170.91)	($353.16)	($717.66)
200	$15.62	($30.73)	($75.50)	($166.63)	($348.88)
400	$18.40	($4.78)	($27.17)	($72.73)	($163.85)
800	$19.93	$8.34	($2.85)	($25.63)	($71.20)
1,600	$20.80	$15.01	$9.41	($1.98)	($24.76)
2,400	$21.23	$17.37	$13.64	$6.05	($9.14)

(1) Strong Associates estimate of insurance costs

(2) Net Income per Acre from Table 1.

Table 3: Case Study - Lease Income to Cost Analysis

A- Parcel Description

	A	B	C	D	E
Name	Matthews	Moritz	Hansen Brubaker	Patrick Brennan	Hick's Ranch
Parcel #'s	121-120-31	188-90-13	106-220-22	106-110-1	121-10-1 121-10-3
Parcel Size in Acres	60.0	99.5	209.6	446.0	845.2
Land Value					
Existing	$368,069	$1,237,114	$843,654	$192,451	$1,316,672
Residential Acres	1.0	1.0	1.0	1.0	10.0
Added Land AV	$300,000	$305,000	$344,400		$2,600,000
Improvement Value					
Residential Sq. ft.	3,588	4,100	3,449	1,850	33,200
Residential Value	$538,200	$703,000	$603,575	$323,750	$5,810,000
Related Improvements	$294,395	$473,448	$170,960	$210,414	$1,129,600
Total Improvement Value	$832,595	$1,176,448	$774,535	$534,164	$6,939,600
Total Land + Improvements	$1,520,664	$2,718,562	$1,962,589	$726,615	$10,856,272

B - Costs/Income

Existing Land Costs/Income per Acre					
Land Value / Acre	$6,468	$12,427	$4,024	$432	$1,558
Property Tax Cost	$65	$124	$40	$4	$16
Land Insurance Cost (1)	$8	$8	$6	$6	$4
Fence Cost (1)	$12	$12	$10	$10	$9
Total Costs	$77	$136	$51	$15	$24
Lease Income	$30	$30	$30	$30	$30
Net Costs/Income	**($47)**	**($106)**	**($21)**	**$15**	**$6**
Ratio of Lease Income to Total Costs	2.6	4.5	1.7	0.5	0.8
Costs/Income With Improvements per Acre					
Land plus Improvement Value / Acre	$25,344	$27,309	$9,362	$1,629	$12,845
Property Tax Cost	$253	$273	$94	$16	$128
Improvement Insurance Costs (2)	$63	$68	$23	$4	$32
Land Insurance Cost	$8	$8	$6	$6	$4
Fence Cost	$12	$12	$10	$10	$9
Total Costs	$337	$362	$133	$37	$173
Lease Income	$30	$30	$30	$30	$30
Net Costs/Income	**($307)**	**($332)**	**($103)**	**($7)**	**($143)**
Ratio of Lease Income to Total Costs	11.2	12.1	4.4	1.2	5.8

(1) From Table 1
(2) From Table 2

Table 4: County-Wide Agricultural Zoned Land

	Acres	% of Acres	Assessed Value	Per Ac Value	% of AV
Publicly Owned Ag Land					
Parcels under 60 acres	9,396				
Numbered Ranches over 60 acres	31,667				
Subtotal	**41,063**		$0		
Privately Owned Land					
Parcels under 60 acres	12,208	9.2%	$943,336,182	$77,272	74.6%
Parcels over 60 acres	7,412	5.6%	$66,924,280	$9,029	5.3%
Numbered Ranches over 60 acres	112,436	85.1%	$253,887,412	$2,258	20.1%
Subtotal	**132,056**	100.0%			100.0%
Total	**173,119**		$1,264,147,874	$7,302	

Source: County Assessor's Office

Table 5: County Wide Ag Land - Ranches Sorted by Size

A - Description of Ag Ranches

< - Ranch size - > From	To	Total Ranch Count	Total Acres	% of Total Ac	Average Ranch size	Assessed Value Total	% of Total AV
60	100	9	731	1%	81	$4,001,764	1.6%
101	200	39	5,887	5%	151	$13,590,034	5.4%
201	400	67	19,693	18%	294	$26,888,928	10.6%
401	800	49	28,483	25%	581	$42,259,685	16.6%
801	1,200	25	23,632	21%	945	$13,897,997	5.5%
1,201	1,600	13	17,952	16%	1,381	$9,648,650	3.8%
1,601	2,500	7	16,058	14%	2,294	$143,600,354	56.6%
Total All Parcels		209	112,436	100%	538	$253,887,412	100.0%

B - Estimated Costs per Acre

< - Ranch size - > From	To	AV	PropertyTax @1.1% of AV	Insurance(1)	Fencing	Total Costs Per Acre	Est. Net Income (2)
60	100	$5,474	$60.22	$6.63	$10.90	$77.75	($47.75)
101	200	$2,308	$25.39	$4.19	$9.19	$38.77	($8.77)
201	400	$1,365	$15.02	$2.45	$7.70	$25.17	$4.83
401	800	$1,484	$16.32	$1.57	$6.52	$24.41	$5.59
801	1,200	$588	$6.47	$1.29	$5.87	$13.64	$16.36
1,201	1,600	$537	$5.91	$1.01	$5.45	$12.38	$17.62
1,601	2,500	$8,943	$98.37	$0.84	$4.98	$104.19	($74.19)

(1) Insurance costs for land only. Does not include improvement value insurance.

(2) Assumes an average lease income of $30 per acre.

Table 6: Ranches Sorted by Assessed Value per Acre

A - Description of Ag Ranches

< - Per Ac AV - >		Ranch	Total	% of	Average	AV Total	% of AV
From	To	Count	Acres	Total Ac	Ranch size		
$55	$200	27	17,744	16%	657	$2,730,616	1.1%
$201	$400	33	23,209	21%	703	$7,022,128	2.8%
$401	$600	28	16,168	14%	577	$8,110,997	3.2%
$601	$800	26	14,458	13%	556	$9,754,849	3.8%
$801	$1,200	25	13,447	12%	538	$13,698,013	5.4%
$1,201	$2,000	30	11,465	10%	382	$17,300,244	6.8%
$2,001	$4,000	19	6,775	6%	357	$19,604,939	7.7%
$4,001	$14,000	18	3,801	3%	211	$26,613,621	10.5%
$14,001	$33,000	3	5,370	5%	1,790	$149,052,005	58.7%
Total All Parcels		209	112,436	100%		$253,887,412	100.0%

B - Estimated Costs per Acre

< - Per Ac AV - >		AV	PropertyTax	Insurance(1)	Fencing	Total Costs	Est. Net
From	To		@1.1% of AV			Per Acre	Income (2)
$55	$200	$154	$1.69	$1.47	$6.10	$9.27	$20.73
$201	$400	$303	$3.33	$1.44	$6.04	$10.81	$19.19
$401	$600	$502	$5.52	$1.57	$6.34	$13.43	$16.57
$601	$800	$675	$7.42	$1.62	$6.35	$15.39	$14.61
$801	$1,200	$1,019	$11.21	$1.64	$6.40	$19.24	$10.76
$1,201	$2,000	$1,509	$16.60	$1.18	$4.16	$21.94	$8.06
$2,001	$4,000	$2,894	$31.83	$2.43	$7.95	$42.21	($12.21)
$4,001	$14,000	$7,002	$77.02	$5.18	$15.28	$97.48	($67.48)
$14,001	$33,000	$27,755	$305.31	$0.91	$5.12	$311.34	($281.34)

(1) Insurance costs for land only. Does not include improvement value insurance.

(2) Assumes an average lease income of $30 per acre.

IV. FARM ECONOMICS ISSUES

Marin County had 133,444 acres of land in agricultural use in 2000, according to the U.S. Department of Agriculture. Of this, 177 acres were in vegetable and non-grape fruit production, 94 acres were in vineyards, 6,065 acres were used for livestock feed crops (hay and silage), and the remaining acreage was used as pasture for livestock grazing.

This section of the report will focus on four components of the County's agriculture:

- Organic vegetable farms;
- Vineyards;
- Dairy operations; and
- Livestock operations.

A. Organic Vegetable Farming

Both cost and revenue estimates vary widely based on a variety of factors, including some beyond control (such as weather and national economy) and some partially controllable (such as regulatory costs, erosion or crop damage, and marketing success). See Appendix B-1 for a detailed cost/income analysis of a hypothetical 40-acre organic farm with a variety of different crops. The analysis shows that almost all crops can be profitable based on current estimated average costs and income.

On the cost side, most growers own their own land and (until a change of ownership occurs) are not adversely impacted by annual land costs. We estimate annual rent or ownership cost at $400 per acre, or $250 per crop-acre. Some farmers lease land in this cost range. Much of the cropland is adjacent to wetlands that cannot be developed. Limited acreage is available.

The proximity to creeks, wetlands or publicly owned lands makes many of these farms subject to strict regulations by a variety of government agencies, including both State and federal fisheries, wildlife, and water quality agencies. In some cases, the

requirements of these agencies can be at cross-purposes with the County's goals of protecting and supporting agriculture, forcing farmers to make large capital investments or simply to stop their operations altogether.

Potential income from each crop varies widely depending both on the yield and the price per unit. Clearly these are the biggest variables in the economic performance of each crop and the overall farm.

In the past, Marin County's organic growers had a secure market niche that included fairly large retail outlets such as Whole Foods. Unfortunately for the small-scale farmers, organic production has now become a big business, with large commercial farms supplying an increasing share of the market, at highly competitive prices.

The growers and Marin County's policy makers will need to work creatively together to help keep these farms viable. Some of the marketing strategies that should be aggressively pursued include:

- Direct marketing, possibly through a collective broker, to consumers, restaurants, and farmers' markets;
- Expanding direct sales to new markets, for example to local schools, hospitals and senior residences;
- Establishing a collective permanent farmers' market and marketing; and
- Educating local residents on the advantages of buying locally.

B. Vineyards

Marin County currently has limited acreage in vineyards, 94 acres in 2000, compared to its neighbors to the north (Napa, Sonoma, and Mendocino Counties). Vineyards require labor- and capital-intensive investment with no or very low yields for the first three years. After that period, they can be very profitable but, as with any crop, are subject to fluctuations in demand and price. Wine grapes have recently experienced a drop in sales income.

Appendix B-2 estimates per acre costs and income over time from a hypothetical 40-acre Marin County vineyard operation. The first three years involve major investments (including land, planting and cultivation, and water) with no or minimal yields. Note that land costs for new and expanding vineyards, estimated at $20,000 per acre (or $1,200 per acre per year), are much higher than for organic farms. By year 4, vineyards should begin producing a small net profit. From 5 on, they show a good annual profit (over $2,000 per acre).

Two Marin wine grape growers are also producing their own wines. This value added agricultural product provides a guaranteed market for the grapes and increases the income to the operator as the prestige of the wine grows.

C. Dairies

Milk and milk products have dominated agricultural sales in Marin for over 125 years. Between 1950 and 2000, however, the number of dairies in Marin County decreased from 200 to 31, and the number of head of dairy cattle decreased from approximately 20,000 to 12,000. Despite this downward trend in dairies and animal numbers, countywide milk production has increased slightly, going from 1.95 million pounds in 1964 to 2.25 million pounds in 2000, due to increased milk production per cow and other improvements in farming practices. About 20% of the Bay Area's milk comes from Marin dairies. (Source: Marin County "Key Trends, Issues, & Strategies Report" December 2002)

In general, Marin County dairies raise their own heifers (calves up to 2 or 3-years old, before they have their first calf and begin milking), mostly on pasturage. Some heifers may be sold (or bought) to keep the desired number of dairy cows for the operation. A few ranchers have gone exclusively into raising and selling heifers, without running a dairy operation. Once the cows are milking, they are kept in more concentrated areas, fed primarily on imported feed.

Dairies are much more intensive operations than livestock grazing, requiring up to 12 employees for a 200-cow dairy (usually milking twice a day), extensive capital

investments, importing of feed to maintain balanced nutrition and healthy milk production, veterinarian services, good access to transportation, and so forth. While operating costs are higher, so are potential returns. Dairies may pay up to $70 or $75 per acre per year for good pastureland that is convenient to their operation.

Some of the assets of Marin's dairies are:

- A well-established organic dairy business that has a strong and growing market niche;
- The grasslands along the coast have a higher moisture content, minimizing the need for supplemental feed or irrigation;
- The milk and milk products from the coastal grassland-fed cows have a unique flavor that is popular, especially for gourmet cheeses; and
- A few dairies have successfully gone into value added products, primarily cheese and yogurt, that enhance income from their operations.

On the other hand, challenges facing Marin's dairies include:

- Rising land costs for pasture areas on private lands;
- The pasture use of federal lands, for example Pt. Reyes National Seashore, is leased rather than owned, discouraging the long-term investments required to a successful dairy operation.

D. Livestock Operations

Livestock ranches in Marin County are predominantly cow/calf operations. Typically, the rancher maintains a herd of cows that calve every year (usually in early Fall). The calves nurse and graze until June or July when, at an average weight of about 750 pounds, they are sold for beef. One rancher in Sonoma County is doing Spring calving, with a new calf able to reach about 450 pounds by June or July, without requiring as much import feed. Few of the County's ranches buy stockers, that is weaned calves of about 650 pounds, with the goal of grass feeding them to add another 200 pounds per cow.

With a typical Fall calving operation (calves being born from mid-August to mid-October), the rancher will need to import hay from late summer until the grass is ample to feed both the cows and calves. Depending on when the rain starts, this may be from early February to late March. The amount of forage crop can vary widely from year to year based on rainfall and of course also varies with the soil, slope and vegetation conditions of the land. Wildlife grazing can have a minor impact on how much forage is available for the cattle. Grass production can range from about 1,800 to 7,000 pounds per acre per year (some of which is left to protect the next year's crop).

Generally, ranchers need from 6 to 15 acres per head (which includes both cow and calf). Whether from grass or supplemental feed, each animal unit needs about 1,000 pounds of feed per month, or about six tons per year. Imported feed can range from about $60 to $105 per ton depending on quality.

An operation needs a minimum of about 100 head of cattle to have enough calves to make the weight of a truck shipment. A 200-head ranch gives more flexibility for marketing. Thus a viable ranch unit could range from 600 acres (for example in coastal areas where grass is relatively lush) to over 2,000 acres. In this range of 100 to 200 head (with cow and calf counting as one head), one rancher runs the operation single-handedly, with only occasional specialized help. Ranches generally have no employees.

At least two operators are innovating by going into the grass-fed beef market. There is a growing market for grass fed beef, and these products demand a higher price that generally exceeds the increased operating costs. These operations take full advantage of Marin's proximity to a large, relatively wealthy urban area. Most of the grass fed beef is marketed through direct sales either via the Internet or to specialty meat markets and restaurants.

In addition to cattle livestock, some Marin ranchers also raise sheep. This sector, however, has been shrinking due primarily to problems of predators (coyotes) and

international market competition (mostly from Australia and New Zealand). Marin County has an innovative program of paying sheep ranchers (out of the General Fund) to implement non-lethal controls for predators and to reimburse losses due to predators.

It should be noted that a portion of the publicly owned Point Reyes National Seashore is leased for livestock grazing, making a significant contribution to the County's agricultural economy. These leases are based on animal units per month (AUMs), rather than per acre, which allows the public agency to control extent and seasons of use.

V. FISCAL ANALYSIS

In addition to the value of agriculture for food supply, jobs, income, and land management, Marin County's agricultural economy also contributes significantly to County government revenues. As discussed below and shown in Table 5, agriculture generates significantly more revenues than it requires in County costs, yielding a net annual surplus of **$1.3 million** (or $7.50 per farm acre) to the general fund.

In addition, the County's farms contribute $8.1 million in property taxes to education, $1.7 million to fire and utility districts, and over $0.4 million to County Library and Marin Open Space funds.

A. Revenues

The major source of revenue is from property tax. The assessed value of all agricultural lands in Marin County is almost $559 million and the value of improvements on agricultural property an additional $705 million, totaling $1.26 billion in assessed value (AV) in 2001-02. It is interesting to note that parcels under 40 acres in size represent only 6% of the agricultural land acreage but over 70% of the AV. The 94% of the acreage that is in parcels over 40 acres is valued at $350 million, with most of that concentrated in the highest value parcels (as noted above in Table 4).

The total property tax revenue is 1% of the total AV, or $12.6 million annually. Of that, the County general fund receives an average net, after shifts to the education fund, of 18.7% (the actual percentages vary by tax rate area, as detailed in Appendix C). Thus the County receives an estimated **$2,365,000** from this source. In addition, agriculture annually contributes $8.1 million in property taxes to education, $1.7 million to fire and utility districts, and $440,000 to County Library and Marin Open Space funds (shown in Appendix C).

Supplementing the property tax revenue is the State's subvention of taxes from lands under Williamson Act contracts. This adds **$235,000** annually to the County's revenues.

The County's revenue from Cooperative Extension operations includes State and federal subventions, grant funds, and gifts, amounting to almost **$703,000** annually. Revenues generated for the County's Agricultural Commissioner's office include fees for environmental protection/ pest control services and consumer protection inspections, as well as the agricultural share of gas tax revenues, coming to over **$527,000** annually.

In addition, there are an estimated 2,392 residents associated with agriculture – an agricultural work force of 1,415, times the ratio of workforce-to-residents of 1.69 (from George Goldman, Cooperative Extension). Each resident will generate the same estimated per person revenues as all County residents. At an average of $721 per person, this accounts for an additional **$1,724,000** in annual revenues. See Appendix C for a detailed analysis of revenues and costs attributed to population (such as judicial, welfare, and most services) versus land and other sources (such as property tax and business-related sources). Some items (such as sales tax and interest) are split proportionately between population and other sources.

Total annual revenues from agriculture to Marin County's general fund in 2001-02 are thus estimated at **$5.55 million**, as summarized in Table 5. Note that these estimates do not reflect potential cutbacks in local revenues that may result from current State budget shortfalls.

B. Costs

The itemized budget costs directly attributable to agriculture are for:

- The Cooperative Extension support services and grant-funded programs, amounting to **$907,000** in 2001-02; and

- The Agricultural Commissioner's Office pest control, consumer protection, apiary and report services, coming to **$1,068,00** annually.

In addition, the people-related costs of serving agricultural residents (at the $953 per person average of all unincorporated area residents) come to **$2.28 million** per year. (Note that residents of unincorporated areas bear both county-wide costs and added sheriff costs of serving only the unincorporated area. Again see Appendix C for details.)

Total agriculture-related costs are thus **$4.26 million** annually.

Comparing revenues and costs, as shown in Table 5, agriculture yields a **net surplus** of **$1.3 million** annually to the general fund, or $7.50 per acre of agricultural land. In other words, for each $1.00 in costs, agriculture generates $1.31 in revenues.

Table 7: Fiscal Impact of Agriculture on County General Fund

Revenues				
Property Tax Revenue		Assessed Value (1)	Prop Tax @1%	County Total
Land		$558,933,232		
Improvements		$705,214,642		
Total		$1,264,147,874	$12,641,479	
County's Share (1)	18.71%			$2,365,451
Williamson Act Subvention				$235,000
Cooperative Extension (3)				
Federal Subvention			$67,410	
State (University of Cal. Budget)			$369,753	
Gifts			$2,500	
Grants			$262,953	$702,616
Ag Commissioner - Fees for services (3)				
Environmental Protection - Pest control			$313,761	
Consumer Protection & Inspection			$5,503	
Apiary & Reports			$0	
Gas Tax (9265)			$207,416	$526,680
Population Related Revenues		Ag pop (2)	Rev/pop (4)	
		2,392	$720.62	$1,723,558
Total Revenue from Agriculture				**$5,553,305**
Costs				
Cooperative Extension				
Grant Funded programs			$262,953	
Coop Extension Agricultural Support			$644,218	$907,171
Ag Commissioner				
Environmental Protection - Pest control			$959,223	
Consumer Protection & Inspection			$91,588	
Apiary & Reports			$16,922	$1,067,733
Population Related Costs		Ag pop (2)	Cost/pop (5)	
		2,392	$953.45	$2,280,432
Total Cost from Agriculture				**$4,255,336**
Net Revenue from Agriculture		County Ag acres		**$1,297,970**
Revenue per Acre		173,119		$7.50

(1) See Appendix A: Ag Share of County Prop. Tax

(2) Ag population estimated based on ratio to ag work force:

Ag work force (George Goldman-Coop Ext.)	1,415
Ratio of population to workforce (ABAG)	1.69
Ag population	2,392

(3) Coop Extension and Ag Commissioner Annual Reports

(4) County Pop-related Revenues	Revenue/Cost	Population	Per person
County wide	$180,084,068	249,900	$720.62
(5) County Pop-related Costs			
County wide	$218,140,224	249,900	$872.91
Unincorporated area	$5,549,545	68,900	$80.54
Total	$223,689,769		$953.45

Note: For (4) & (5) see Appendix B: Budget Analysis 2001-2002

APPENDIX A: CASE STUDY ANALYSIS OF SAMPLE PARCELS

We have analyzed five sample parcels, identified by the Planning Department, that are proposed for (or have recently added) substantial improvements. Three of the samples are zoned C-APZ-60; two are zoned ARP-60. They range in size from 60 to 845 acres. Each is described below. Tables A-1 through A-5 include detailed parcel data and a comparison of each parcel, before and after improvements, with the average values per acre of selected parcels of similar size and zoning.

The 60-acre **Matthews** parcel, zoned ARP-60, is located on Old Rancheria Road, Nicasio. The land supports 4 horses and goats, with a base AV of $6,468 per acre. The proposed improvements would include a residence, two garages, a barn, and added land value totaling over $1.1 million, bringing total AV to **$25,344** per acre. The similarly zoned parcels (ranging from 41 to 93 acres) have an average AV of $10,854 per acre. The improved Matthews parcel would thus be **2.3** times that average value. Note that seven of the 28 similar parcels have improvement values of $500,000 or more, with per acre total AV similar to Matthews; one of those substantially exceeds Matthews, with a total AV of $35,600 per acre.

The 99.5-acre **Moritz** parcel, on Highway 1 near Bolinas, is zoned C-APZ-60. The land currently supports 20-25 head of cattle, with a year-round stream, a well, and 34 acres of irrigated pasture, plus $126,600 of existing improvement AV. The base *land* value is $12,427 per acre, and the base improvement value is $1,272 per acre, totaling $13,700 per acre. The proposed improvements include a primary residence, a cottage, garage, and barn, plus added land AV (driveway, septic, grading, residential site, etc.) totaling almost $1.5 million. These will bring the total AV to **$28,581** per acre. In contrast, the sample of 25 similarly zoned parcels, ranging from 63 to 136 acres, have an average total AV of $2,712 per acre. The improved Moritz parcel would be **10.5** times that average value. Only one of the similar parcels exceeds Moritz' improved value.

The **Hansen/Brubaker** parcel, with 210 acres, is zoned C-APZ-60 (with no overlay). The base land AV is $844,000, or $4,024 per acre. The property, located on Shoreline Highway near Marshall, currently supports 35 head of cattle on slopes from 10-14%. Proposed development is for $775,000 of structural improvements (residence, guest house, barn and garage), plus an estimated $344,000 added AV to the land (grading, driveway, septic system, and residential site assessment). These improvements will raise the total AV to **$9,362** per acre. In contrast, the selected similar parcels (same zoning, using the smaller parcel size for a conservative comparison, with other parcels ranging from 160 to 207 acres) have an average total value of $1,155 per acre. Thus the improved Hansen/Brubaker property will be **8.1** times the value of similar parcels.

The 446-acre **Patrick Brennan** parcel, on Marshall/Petaluma Road, is zoned C-APZ-60 with an A60 overlay. The improvements on this parcel (including a 1,850 sq. ft. residence) were already added to the tax roll in 1999, bringing the total assessed value (AV) to **$1,629** per acre. There is a relatively small sample of other parcels with the same zoning: 18 parcels ranging from 139 to 584 acres. The average total AV of these comparable parcels is $613 per acre. Thus the improved Brennan parcel is **2.7** times the average value of the similar parcels, with only two of the 18 other parcels at or exceeding its AV per acre.

The **Hick's Mountain Ranch**, on Petaluma Road near Nicasio, comprises two parcels totaling 845 acres. Zoned ARP-60, the land currently supports 30-70 head of cattle on 10-14% slopes. The current base AV is $1,558 per acre. The proposed improvements include eight residences, several garages and barns, plus land improvements such as grading, driveways, and residential sites, which combined add over $10 million in value, bringing the total AV to **$12,845** per acre. The similar parcels average 344 acres (comparable to the smaller Hick's Mountain parcel), and have a total AV averaging $889 per acre. Hick's Mountain's improved value will therefore be **14.4** times the average of similar parcels, with only one other parcel at a comparable value.

APPENDIX A: Parcel Detail

A-1: Matthews Parcel

Base: Description of Parcel (1)

APN	Zoning	Acres	Land AV	Land AV/ac	Impr AV	Impr AV/ac	Total/ac
121-120-31	ARP-60	60	$388,069	$6,468	$0		**$6,468**
Proposed Added Value (2)			$300,000		$832,595		
Total			$688,069	$11,468	$832,595	$13,877	**$25,344**
Average of similar parcels (3)				$6,254		$4,600	**$10,854**
Ratio of improved parcel to similar parcels				1.8		3.0	**2.3**

(1) 200 Old Rancheria Road, Nicasio.
Land supports 4 horses and goats. Proposed 3 ac of vines and small vegetable garden (private use?)

(2) Description of proposed improvements

Land AV			Total Value		
Grading Septic, well			$150,000		
Land for home 1ac @$150,000			$150,000		
Added Land AV			**$300,000**		
Improvement AV	Sq.ft.	Val/sf			
Residence	3,588	$150	$538,200		
Garage	550	$85	$46,750		
2nd Garage	937	$85	$79,645		
Barn	1,920	$50	$96,000		
Other	480	$150	$72,000		
Added Improvement AV			**$832,595**	294,395	54.7%

(3) Matthews - Similar Parcels (from 40.9 to 93.4 acres)

Prop APN	Zoning	Acres	Land AV	Land AV/ac	Impr AV	Impr AV/ac	Lnd+Imp/ac
121-50-6	ARP-60	93.4	$40,645	$435	$0	$0	$435
121-180-12	ARP-60	48.1	$42,863	$891	$18,602	$387	$1,278
121-160-5	ARP-60	46.6	$123,736	$2,657	$27,245	$585	$3,242
121-70-27	ARP-60	61.7	$187,582	$3,042	$61,431	$996	$4,038
153-190-27	ARP-60	87.0	$384,948	$4,425	$0	$0	$4,425
121-70-43	ARP-60	53.5	$242,460	$4,534	$0	$0	$4,534
121-290-8	ARP-60	66.6	$381,078	$5,725	$0	$0	$5,725
121-120-26	ARP-60	47.9	$161,918	$3,383	$144,091	$3,011	$6,394
121-100-22	ARP-60	58.9	$280,214	$4,755	$111,227	$1,888	$6,643
121-120-30	ARP-60	66.9	$463,644	$6,927	$0	$0	$6,927
121-160-51	ARP-60	61.0	$442,345	$7,257	$0	$0	$7,257
121-120-29	ARP-60	40.9	$311,213	$7,600	$0	$0	$7,600
121-190-7	ARP-60	73.3	$354,185	$4,833	$234,590	$3,201	$8,034
121-120-33	ARP-60	59.6	$521,050	$8,745	$0	$0	$8,745
121-160-35	ARP-60	67.4	$632,133	$9,373	$0	$0	$9,373
121-200-4	ARP-60	79.3	$501,454	$6,326	$247,734	$3,125	$9,452
121-70-42	ARP-60	61.5	$186,461	$3,030	$404,330	$6,570	$9,599
121-70-32	ARP-60	67.0	$371,240	$5,541	$274,992	$4,105	$9,646
121-70-28	ARP-60	59.0	$249,081	$4,218	$327,621	$5,548	$9,767
121-160-31	ARP-60	42.1	$217,453	$5,163	$254,403	$6,041	$11,204
121-70-11	ARP-60	89.6	$281,718	$3,143	$784,031	$8,747	$11,890
121-70-45	ARP-60	68.9	$496,111	$7,199	$869,299	$12,615	$19,814
121-270-41	ARP-60	56.4	$1,147,365	$20,345	$0	$0	$20,345
121-250-50	ARP-60	65.3	$844,287	$12,934	$498,762	$7,641	$20,575
121-70-31	ARP-60	60.9	$294,530	$4,836	$973,397	$15,984	$20,821
121-120-32	ARP-60	56.7	$409,440	$7,222	$824,061	$14,534	$21,756
121-270-40	ARP-60	66.1	$631,791	$9,559	$826,672	$12,508	$22,067
121-120-27	ARP-60	57.7	$826,852	$14,322	$1,229,333	$21,293	$35,614
Total		1,763.4	$11,027,797		$8,111,821		
Average (/28)		63.0	$393,850	**$6,254**	$289,708	**$4,600**	**$10,854**

APPENDIX A continued
A-2: Moritz Parcel

Base: Description of Parcel (1)

APN	Zoning	Acres	Land AV	Land AV/ac	Impr AV	Impr AV/ac	Total/ac
188-90-13	C-APZ-60	99.5	$1,237,114	$12,427	$126,643	$1,272	**$13,699**
Proposed Added Value (2)			$305,000		$1,176,448		
Total			$1,542,114	$15,491	$1,303,091	$13,090	**$28,581**
Average of similar parcels (3)				$1,588		$1,124	**$2,712**
Ratio of improved parcel to similar parcels				9.8		11.7	**10.5**

(1) Land supports 20 to 25 head of beef cattle or 5 ac per cow. Supplemental feeding needed 12 to 25 tons
Total yield of 38 ac is 61,500 lb. 20 cows @8,400lb per cow year is 168000 lb. or 37% of required intake
Year round stream and 4.9 gpm well. 34 ac of irrigated pasture

(2) Description of proposed improvements

Land AV	Lin.ft.	Val/ft.	Total		
Driveway	2,200	$25	$55,000		
Septic/Well			$50,000		
Grading			$50,000		
Land for home 1ac @$150,000			$150,000		
Added Land AV			**$305,000**		
Residential AV	Sq Ft	Val/sf			
Primary Residence	2,900	$170	$493,000		
Cottage	1,200	$175	$210,000		
Garage	1,130	$100	$113,000		
Barn	4,096	$88	$360,448		
Added Improvement AV	9,326		**$1,176,448**	$838,448	170.1%

(3) **Moritz - Similar Parcels (from 63.2 to 135.8 acres)**

Prop APN	Zoning	Acres	Land AV	Land AV/ac	Impr AV	Impr AV/ac	Lnd+Imp/ac
100-20-22	C-APZ-60	63.2	$12,881	$204	$0	$0	$204
100-50-9	C-APZ-60	63.8	$61,839	$969	$134,703	$2,111	$3,080
188-90-6	C-APZ-60	67.2	$2,136,645	$31,796	$463,056	$6,891	$38,687
100-20-12	C-APZ-60	67.2	$14,321	$213	$0	$0	$213
104-40-31	C-APZ-60	68.0	$585,045	$8,601	$0	$0	$8,601
166-10-32	C-APZ-60	70.7	$66,630	$942	$210,095	$2,972	$3,914
100-20-7	C-APZ-60	71.5	$13,440	$188	$0	$0	$188
100-40-9	C-APZ-60	76.6	$62,916	$821	$286,430	$3,737	$4,558
100-50-8	C-APZ-60	77.0	$13,800	$179	$0	$0	$179
100-50-38	C-APZ-60	84.0	$82,758	$985	$377,679	$4,496	$5,481
100-100-3	C-APZ-60	85.9	$19,306	$225	$0	$0	$225
100-20-21	C-APZ-60	87.0	$15,641	$180	$0	$0	$180
100-30-9	C-APZ-60	92.5	$17,046	$184	$0	$0	$184
100-20-8	C-APZ-60	96.9	$22,002	$227	$0	$0	$227
104-40-3	C-APZ-60	101.5	$16,095	$159	$0	$0	$159
100-50-19	C-APZ-60	102.3	$161,787	$1,582	$4,893	$48	$1,630
100-50-6	C-APZ-60	105.2	$46,106	$438	$438,107	$4,164	$4,603
100-100-4	C-APZ-60	106.4	$21,745	$204	$0	$0	$204
100-100-13	C-APZ-60	107.3	$45,222	$421	$330,904	$3,084	$3,505
100-20-26	C-APZ-60	121.5	$142,822	$1,175	$376,288	$3,097	$4,272
100-20-13	C-APZ-60	122.6	$23,141	$189	$0	$0	$189
100-20-3	C-APZ-60	125.1	$66,173	$529	$25,663	$205	$734
100-50-31	C-APZ-60	125.9	$31,063	$247	$2,901	$23	$270
100-100-15	C-APZ-60	134.2	$28,452	$212	$0	$0	$212
119-40-28	C-APZ-60	135.8	$40,751	$300	$0	$0	$300
Total		2,359.3	$3,747,627		$2,650,719		
Average (/25)		94.4	$149,905	**$1,588**	$106,029	**$1,124**	**$2,712**

APPENDIX A continued
A-3: Hansen/Brubaker Parcels

Base: Description of Parcel (1)

APN	Zoning	Acres	Land AV	Land AV/ac	Impr AV	Impr AV/ac	Total/ac
106-220-20	C-APZ-60	0.0	$0				
106-220-22	C-APZ-60	209.6	$843,654	$4,024			
Total Base		209.6	$843,654	$4,024	$0		**$4,024**
Proposed Added Value (2)			$344,400		$774,535		
Total			$1,188,054	$5,667	$774,535	$3,695	**$9,362**
Average of similar parcels (3)				$602		$553	**$1,155**
Ratio of improved parcel to similar parcels				9.4		6.7	**8.1**

(1) Land supports 35 head of beef cattle (age 2 to 10) or 10 ac per cow.
Existing well. Plans for a 12-14 GPM well +2-2500 Gal Storage tanks
Address: 18000 Shoreline Hwy. - near Marshall: Slopes 10%to 14%

(2) Description of proposed improvements

Land AV	Lin.ft.	Val/ft.	Total Value			
Grading etc.			$100,000			
Driveway	3,720	$20	$74,400			
Septic			$20,000			
Land for home 1ac @$150,000			$150,000			
Added Land AV			**$344,400**			
Improvement AV	Sq.ft.	Val/sf				
Residence	3,113	$175	$544,775			
Guest house	336	$175	$58,800			
Barn	1,920	$50	$96,000			
Garage	937	$80	$74,960			
Added Improvement AV			**$774,535**	$424,160	77.9%	Imp to House

(3) Hansen/Brubaker - Similar Parcels (from 160.1 to 206.5 acres)

Prop APN	Zoning	Acres	Land AV	Land AV/ac	Impr AV	Impr AV/ac	Lnd+Imp/ac
100-90-13	C-APZ-60	199.7	$33,789	$169	$0	$0	$169
100-20-11	C-APZ-60	193.5	$34,599	$179	$0	$0	$179
100-20-23	C-APZ-60	173.5	$31,073	$179	$0	$0	$179
100-100-29	C-APZ-60	162.9	$32,924	$202	$0	$0	$202
100-30-24	C-APZ-60	171.5	$38,594	$225	$0	$0	$225
100-20-19	C-APZ-60	166.9	$34,248	$205	$3,825	$23	$228
104-40-10	C-APZ-60	169.4	$39,040	$230	$0	$0	$230
100-50-42	C-APZ-60	198.6	$51,703	$260	$8,333	$42	$302
100-20-20	C-APZ-60	182.2	$47,197	$259	$12,230	$67	$326
100-20-17	C-APZ-60	206.5	$54,024	$262	$32,600	$158	$419
100-40-24	C-APZ-60	188.5	$52,812	$280	$50,764	$269	$549
100-30-7	C-APZ-60	160.6	$79,553	$495	$36,384	$227	$722
100-50-37	C-APZ-60	183.8	$60,565	$330	$73,686	$401	$731
100-30-23	C-APZ-60	167.5	$60,430	$361	$72,830	$435	$795
106-210-10	C-APZ-60	203.1	$103,875	$511	$58,810	$290	$801
100-20-27	C-APZ-60	193.6	$64,266	$332	$97,712	$505	$837
100-100-22	C-APZ-60	164.2	$54,183	$330	$84,969	$517	$847
104-130-1	C-APZ-60	162.8	$67,552	$415	$71,424	$439	$854
100-50-40	C-APZ-60	167.0	$118,392	$709	$45,860	$275	$983
100-50-16	C-APZ-60	160.4	$41,017	$256	$128,260	$800	$1,055
100-20-16	C-APZ-60	163.2	$66,434	$407	$111,736	$685	$1,092
100-50-29	C-APZ-60	160.2	$98,848	$617	$83,344	$520	$1,137
100-100-5	C-APZ-60	167.3	$61,686	$330	$224,472	$1,198	$1,529
100-50-27	C-APZ-60	160.1	$116,040	$725	$172,798	$1,079	$1,804
100-40-30	C-APZ-60	161.2	$336,931	$2,090	$220,494	$1,368	$3,458
106-220-35	C-APZ-60	169.6	$655,969	$3,867	$0	$0	$3,867
104-130-47	C-APZ-60	184.4	$82,952	$450	$668,705	$3,627	$4,077
100-100-17	C-APZ-60	199.8	$469,821	$2,352	$482,846	$2,417	$4,769
Total		4,962	$2,988,717		$2,742,082		
Average per Parcel (/28)		177.2	$106,740	$602	$97,932	$553	$1,155

Parcel sizes range from 160.1 to 206.5 acres

APPENDIX A continued

A-4: Patrick Brennan

Base: Description of Parcel (1)

APN	Zoning	Acres	Land AV	Land AV/ac	Impr AV	Impr AV/ac	Total/ac
106-110-1	C-APZ-60,A	446	$192,451	$432	$534,164	$1,198	**$1,629**
Proposed Added Value (2)							
Average of similar parcels (3)				$310		$303	**$613**
Ratio of improved parcel to similar parcels				1.4		3.9	**2.7**

(1) 9800 Marshall/Petaluma Road, Marshall
This staff report was written in 1996. The description of development and Ag operations is not as detailed

(2) Single Family residence (1,850 Sq. Ft.) added in 1999; already on the tax roll.

(3) Patrick Brennan - Similar Parcels (from 138.6 to 584.4 acres)

Prop APN	Zoning	Acres	Land AV	Land AV/ac	Impr AV	Impr AV/ac	Lnd+Imp/ac
104-120-10	C-APZ-60,A60	282.3	$33,871	$120	$0	$0	$120
104-120-1	C-APZ-60,A60	340.6	$38,301	$112	$12,444	$37	$149
104-110-2	C-APZ-60,A60	374.4	$56,315	$150	$0	$0	$150
104-110-9	C-APZ-60,A60	334.3	$52,006	$156	$12,767	$38	$194
100-60-13	C-APZ-60,A60	187.6	$39,670	$211	$2,529	$13	$225
102-140-16	C-APZ-60,A60	168.8	$38,812	$230	$0	$0	$230
104-50-10	C-APZ-60,A60	338.9	$85,471	$252	$0	$0	$252
106-230-1	C-APZ-60,A60	534.2	$97,173	$182	$71,057	$133	$315
100-50-43	C-APZ-60,A60	268.4	$69,395	$259	$47,262	$176	$435
100-60-12	C-APZ-60,A60	179.8	$68,431	$381	$49,084	$273	$654
100-30-11	C-APZ-60,A60	149.4	$56,419	$378	$60,024	$402	$780
100-90-4	C-APZ-60,A60	179.3	$59,505	$332	$90,192	$503	$835
106-110-6	C-APZ-60,A60	584.4	$292,728	$501	$198,235	$339	$840
104-110-10	C-APZ-60,A60	387.4	$71,777	$185	$258,357	$667	$852
100-60-33	C-APZ-60,A60	241.4	$111,264	$461	$98,222	$407	$868
100-30-10	C-APZ-60,A60	138.6	$53,394	$385	$123,205	$889	$1,274
106-210-12	C-APZ-60,A60	157.2	$136,050	$865	$121,865	$775	$1,640
104-110-6	C-APZ-60,A60	415.5	$269,697	$649	$451,076	$1,086	$1,735
Total		5,262.6	$1,630,279		$1,596,319		
Average (/18)		292.4	$90,571	**$310**	$88,684	**$303**	**$613**

APPENDIX A continued
A-5: Hick's Mountain Ranch Parcels

Base: Description of Parcel (1)

APN	Zoning	Acres	Land AV	Land AV/ac	Impr AV	Impr AV/ac	Total/ac
121-10-1	ARP-60	453.3	$95,703	$211			
121-10-3	ARP-60	391.9	$1,220,969	$3,116			
Total Base		845.2	$1,316,672	$1,558	$0		**$1,558**
Proposed Added Value (2)			$2,600,000		$6,939,600		
Total			$3,916,672	$4,634	$6,939,600	$8,211	**$12,845**
Average of similar parcels (3)				$549		$340	**$889**
Ratio of improved parcel to similar parcels				8.4		24.2	**14.4**

(1) Land supports 30 to 70 head of beef cattle or 16 ac per cow.
Year round stream. Plans for a ?? GPM well +20,000 underground water tank
11100 Pt. Reyes - Petaluma Road, near Nicasio: Slopes 10% to 14%

(2) Description of proposed improvements

Land AV						Acres	Val/unit	Total Value
Grading etc.							$800,000	$800,000
Driveway (Lin.ft.) - Unpaved roads							$300,000	$300,000
10 Acres at Residential Value - @ $150,000/acre						10	$150,000	$1,500,000
Added Land AV								**$2,600,000**
Improvement AV	1	2	3 & 4	5 & 6	7 & 8	Total Sq.ft.		
Residences	12,000	3,800	8,500	2,400	6,500	33,200	$175	$5,810,000
Garages	1,170	936	1,250		864	4,220	$85	$358,700
Barn	1,920			5,000	4,500	11,420	$50	$571,000
Barn garage	940					940	$85	$79,900
Other	800					800	$150	$120,000
Added Improvement AV								**$6,939,600**

(3) Hick's Mountain Ranch - Similar Parcels (from 134.1 to 511.2 acres)

Prop APN	Zoning	Acres	Land AV	Land AV/ac	Impr AV	Impr AV/ac	Lnd+Imp/ac
121-100-25	ARP-60	379.9	$31,392	$83	$0	$0	$83
121-20-4	ARP-60	257.5	$22,192	$86	$0	$0	$86
121-40-3	ARP-60	358.3	$38,748	$108	$0	$0	$108
121-100-23	ARP-60	252.1	$29,805	$118	$0	$0	$118
106-230-9	ARP-60	507.3	$87,360	$172	$0	$0	$172
121-20-3	ARP-60	327.2	$50,969	$156	$17,353	$53	$209
121-40-8	ARP-60	402.8	$56,786	$141	$30,065	$75	$216
121-50-18	ARP-60	343.2	$80,434	$234	$0	$0	$234
121-270-17	ARP-60	148.2	$41,877	$283	$17,622	$119	$402
121-100-4	ARP-60	442.6	$118,138	$267	$72,661	$164	$431
121-50-30	ARP-60	155.5	$39,176	$252	$34,680	$223	$475
106-230-5	ARP-60	371.2	$80,759	$218	$99,208	$267	$485
121-120-1	ARP-60	511.2	$104,186	$204	$169,027	$331	$534
121-60-6	ARP-60	300.1	$71,718	$239	$88,968	$297	$536
121-60-5	ARP-60	417.3	$126,402	$303	$97,417	$233	$536
121-10-2	ARP-60	408.8	$97,292	$238	$127,593	$312	$550
121-60-4	ARP-60	507.1	$136,535	$269	$183,079	$361	$630
121-50-41	ARP-60	308.9	$97,705	$316	$123,749	$401	$717
121-70-9	ARP-60	445.0	$111,550	$251	$222,207	$499	$750
121-40-2	ARP-60	356.4	$82,890	$233	$200,646	$563	$796
121-30-17	ARP-60	186.4	$162,391	$871	$0	$0	$871
121-100-29	ARP-60	254.4	$304,465	$1,197	$41,500	$163	$1,360
121-40-5	ARP-60	401.2	$476,833	$1,188	$104,040	$259	$1,448
121-50-32	ARP-60	303.2	$134,096	$442	$480,493	$1,585	$2,027
121-20-1	ARP-60	459.7	$1,376,838	$2,995	$0	$0	$2,995
121-30-30	ARP-60	134.1	$949,774	$7,083	$928,550	$6,925	$14,008
Total		8,939.6	$4,910,311		$3,038,858		
Average per Parcel (/26)		343.8	$188,858	$549	$116,879	$340	$889

APPENDIX B-1: Organic Vegetable - Income/Cost Analysis

Foot notes for Appendix B

(1 Labor $12: tractor/pickup $6 $18.00 /hour
(2 Labor $9.00
(3 Water Costs per ac. ft. $300.00
(4 Land Rent: 50 acres farmed equals 80 producing
(5 Investment Costs (assume a 50 ac farm)

	Cost	Depreciation Years	Annual Dep. Cost	Annual Interest @6%	Combined Cost
Building farm storage	$10,000	20	$500	$600	
Caretaker mobile home	$75,000	20	$3,750	$4,500	
Fuel Tanks	$5,000	20	$250	$300	
Storage bins	$12,000	10	$1,200	$720	
Tools	$15,000	15	$1,000	$900	
Tractors (2)	$70,000	12	$5,833	$4,200	
Truck - 3/4 and 2 ton	$50,000	7	$7,143	$3,000	
Trailer - Harvest utility	$7,000	15	$467	$420	
Discs - 2	$15,000	12	$1,250	$900	
Cultivators - 2	$7,000	12	$583	$420	
Multi crop tools	$20,000	10	$2,000	$1,200	
Specific crop tools	$35,000	10	$3,500	$2,100	
Land level/terrace/tile/rip	$100,000	10	$10,000	$6,000	
Drip/Sprinkle irrigation syste	$100,000	10	$10,000	$6,000	
Total (80 acres)	$521,000		$47,476	$31,260	$78,736
Per acre			$593	$391	$984

A - Green cabbage

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	3.25	$18.00	$59
Irrigate/weed/thin/pest (2)	35	$9.00	$315
Compost/pest mgnt.	1	$290.00	$290
Planting costs	1	$35.00	$35
Total Cultivation			**$826**
Harvest			
Equipment (1)	1.95	$18.00	$35
Pick labor (2)	130	$9.00	$1,170
Material (boxes)	600	$1.45	$870
Broker fees	1	$85.00	$85
Total Harvest			**$2,160**
Overhead Costs			
Assessments (organic fees)	1	$40.00	$40
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,374**
Water cost	Ac.Ft.		
Water	1.63	$300.00	$489
Total Cost			**$4,849**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	250	550	
Income per box	$9.00	$15.00	
Total Income	$2,250	$8,250	**$5,250**
Net Income			**$401**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	31,500	394
Good	45,000	563

(a) Carton weight in pounds 80

APPENDIX B Continued

B - Cauliflower

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	6.4	$18.00	$115
Irrigate/weed/thin/pest (2)	56.8	$9.00	$511
Compost/pest mgnt.	1	$290.00	$290
Planting costs	1	$250.00	$250
Total Cultivation			**$1,294**
Harvest			
Equipment (1)	0.2	$18.00	$4
Pick labor (2)	320	$9.00	$2,880
Material (boxes)	160	$6.45	$1,032
Broker fees	1	$100.00	$100
Total Harvest			**$4,016**
Overhead Costs			
Assessments (organic fees)	1	$60.00	$60
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,394**
Water cost	Ac.Ft.		
Water	1.42	$300.00	$426
Total Cost			**$7,130**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	600	900	
Income per box	$7.00	$12.00	
Total Income	$4,200	$10,800	**$7,500**
Net Income			**$370**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	12,000	600
Good	17,000	850

(a) Carton weight in pounds 20

C - Cucumbers

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	4.85	$18.00	$87
Irrigate/weed/thin/pest (2)	42.2	$9.00	$380
Compost/pest mgnt.	1	$240.00	$240
Planting costs	1	$130.00	$130
Total Cultivation			**$965**
Harvest			
Equipment (1)	0.2	$18.00	$4
Pick labor (2)	280	$9.00	$2,520
Material (boxes)	900	$0.90	$810
Broker fees	1	$110.00	$110
Total Harvest			**$3,444**
Overhead Costs			
Assessments (organic fees)	1	$35.00	$35
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,369**
Water cost	Ac.Ft.		
Water	1.21	$300.00	$363
Total Cost			**$6,140**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	600	900	
Income per box	$6.00	$11.00	
Total Income	$3,600	$9,900	**$6,750**
Net Income			**$610**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	17,500	500
Good	30,000	857

(a) Carton weight in pounds 35

APPENDIX B Continued

D - Garlic

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	7.21	$18.00	$130
Irrigate/weed/thin/pest (2)	71.2	$9.00	$641
Compost/pest mgnt.	1	$320.00	$320
Planting costs	1	$970.00	$970
Total Cultivation			**$2,188**
Harvest			
Equipment (1)	0	$18.00	$0
Pick labor (2)	445	$9.00	$4,005
Material (boxes)	726	$1.00	$726
Broker fees	1	$50.00	$50
Total Harvest			**$4,781**
Overhead Costs			
Assessments (organic fees)	1	$90.00	$90
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,424**
Water cost	Ac.Ft.		
Water	1.21	$300.00	$363
Total Cost			**$8,756**

Income	Low	High	Average
Yield per acre in boxes	80%	20%	
Number of boxes	300	500	
Income per box	$17.00	$55.00	
Total Income	$5,100	$27,500	**$9,580**

Net Income	**$824**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	16,500	330
Good	20,000	400

(a) Carton weight in pounds 50

E - Leaf Lettuce

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	3.35	$18.00	$60
Irrigate/weed/thin/pest (2)	27.3	$9.00	$246
Compost/pest mgnt.	1	$290.00	$290
Planting costs	1	$80.00	$80
Total Cultivation			**$804**
Harvest			
Equipment (1)	0.2	$18.00	$4
Pick labor (2)	96	$9.00	$864
Material (boxes)	650	$1.00	$650
Broker fees	1	$80.00	$80
Total Harvest			**$1,598**
Overhead Costs			
Assessments (organic fees)	1	$25.00	$25
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,359**
Water cost	Ac.Ft.		
Water	1.46	$300.00	$438
Total Cost			**$4,198**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	400	700	
Income per box	$5.00	$10.00	
Total Income	$2,000	$7,000	**$4,500**

Net Income	**$302**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	20,500	410
Good	32,500	650

(a) Carton weight in pounds 50

APPENDIX B Continued

F - Romaine Lettuce

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	3.35	$18.00	$60
Irrigate/weed/thin/pest (2)	27.3	$9.00	$246
Compost/pest mgnt.	1	$290.00	$290
Planting costs	1	$110.00	$110
Total Cultivation			**$834**
Harvest			
Equipment (1)	0.2	$18.00	$4
Pick labor (2)	88	$9.00	$792
Material (boxes)	760	$1.00	$760
Broker fees	1	$75.00	$75
Total Harvest			**$1,631**
Overhead Costs			
Assessments (organic fees)	1	$25.00	$25
Office, Insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,359**
Water cost	Ac.Ft.		
Water	1.46	$300.00	$438
Total Cost			**$4,261**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	300	750	
Income per box	$6.00	$11.00	
Total Income	$1,800	$8,250	**$5,025**
Net Income			**$764**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	27,000	540
Good	35,000	700

(a) Carton weight in pounds 50

G - Red Onions

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	5.35	$18.00	$96
Irrigate/weed/thin/pest (2)	86.2	$9.00	$776
Compost/pest mgnt.	1	$290.00	$290
Planting costs	1	$160.00	$160
Total Cultivation			**$1,450**
Harvest			
Equipment (1)	3.75	$18.00	$68
Pick labor (2)	73	$9.00	$657
Material (boxes)	1400	$1.00	$1,400
Broker fees	1	$100.00	$100
Total Harvest			**$2,225**
Overhead Costs			
Assessments (organic fees)	1	$42.00	$42
Office, Insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,376**
Water cost	Ac.Ft.		
Water	2.29	$300.00	$687
Total Cost			**$5,737**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	600	1,300	
Income per box	$4.00	$9.00	
Total Income	$2,400	$11,700	**$7,050**
Net Income			**$1,313**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	38,500	770
Good	65,000	1,300

(a) Carton weight in pounds 50

APPENDIX B Continued

H - Yellow Onions

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	6.75	$18.00	$122
Irrigate/weed/thin/pest (2)	86	$9.00	$774
Compost/pest mgnt.	1	$290.00	$290
Planting costs	1	$160.00	$160
Total Cultivation			**$1,473**
Harvest			
Equipment (1)	3.75	$18.00	$68
Pick labor (2)	83	$9.00	$747
Material (boxes)	1182	$1.00	$1,182
Broker fees	1	$105.00	$105
Total Harvest			**$2,102**
Overhead Costs			
Assessments (organic fees)	1	$42.00	$42
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,376**
Water cost	Ac.Ft.		
Water	2.29	$300.00	$687
Total Cost			**$5,638**

Income	Low	High	Average
Yield per acre in boxes	70%	30%	
Number of boxes	600	1,300	
Income per box	$4.00	$11.00	
Total Income	$2,400	$14,300	**$5,970**
Net Income			**$332**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	38,500	770
Good	65,000	1,300
(a) Carton weight in pounds	50	

I - Non-Staked Snap Peas

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	2.9	$18.00	$52
Irrigate/weed/thin/pest (2)	28.7	$9.00	$258
Compost/pest mgnt.	1	$0.00	$0
Planting costs	1	$55.00	$55
Total Cultivation			**$493**
Harvest			
Equipment (1)	0.33	$18.00	$6
Pick labor (2)	500	$9.00	$4,500
Material (boxes)	645	$1.00	$645
Broker fees	1	$65.00	$65
Total Harvest			**$5,216**
Overhead Costs			
Assessments (organic fees)	1	$36.00	$36
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,370**
Water cost	Ac.Ft.		
Water	1.13	$300.00	$339
Total Cost			**$7,418**

Income	Low	High	Average
Yield per acre in boxes	60%	40%	
Number of boxes	400	700	
Income per box	$13.00	$18.00	
Total Income	$5,200	$12,600	**$8,160**
Net Income			**$742**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	4,000	400
Good	6,000	600
(a) Carton weight in pounds	10	

APPENDIX B Continued

J - Non-Staked Snow Peas

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	2.9	$18.00	$52
Irrigate/weed/thin/pest (2)	28.6	$9.00	$257
Compost/pest mgnt.	1	$0.00	$0
Planting costs	1	$55.00	$55
Total Cultivation			**$492**
Harvest			
Equipment (1)	0.33	$18.00	$6
Pick labor (2)	250	$9.00	$2,250
Material (boxes)	645	$1.00	$645
Broker fees	1	$65.00	$65
Total Harvest			**$2,966**
Overhead Costs			
Assessments (organic fees)	1	$22.00	$22
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,356**
Water cost	Ac.Ft.		
Water	1.13	$300.00	$339
Total Cost			**$5,153**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	300	500	
Income per box	$10.00	$16.00	
Total Income	$3,000	$8,000	**$5,500**
Net Income			**$347**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	4,000	400
Good	6,000	600
(a) Carton weight in pounds	10	

K - Green Bell Peppers

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	6.2	$18.00	$112
Irrigate/weed/thin/pest (2)	54	$9.00	$486
Compost/pest mgnt.	1	$236.00	$236
Planting costs	1	$600.00	$600
Total Cultivation			**$1,561**
Harvest			
Equipment (1)	0.4	$18.00	$7
Pick labor (2)	320	$9.00	$2,880
Material (boxes)	645	$1.00	$645
Broker fees	1	$100.00	$100
Total Harvest			**$3,632**
Overhead Costs			
Assessments (organic fee	1	$40.00	$40
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,374**
Water cost	Ac.Ft.		
Water	2.29	$300.00	$687
Total Cost			**$7,255**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	600	1,000	
Income per box	$6.00	$12.00	
Total Income	$3,600	$12,000	**$7,800**
Net Income			**$545**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	23,000	657
Good	33,000	943
(a) Carton weight in pounds	35	

APPENDIX B Continued

L - Red Bell Peppers

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	6.2	$18.00	$112
Irrigate/weed/thin/pest (2)	54	$9.00	$486
Compost/pest mgnt.	1	$236.00	$236
Planting costs	1	$600.00	$600
Total Cultivation			**$1,561**
Harvest			
Equipment (1)	0.4	$18.00	$7
Pick labor (2)	220	$9.00	$1,980
Material (boxes)	600	$1.00	$600
Broker fees	1	$100.00	$100
Total Harvest			**$2,687**
Overhead Costs			
Assessments (organic fee	1	$40.00	$40
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,374**
Water cost	Ac.Ft.		
Water	2.29	$300.00	$687
Total Cost			**$6,310**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	400	800	
Income per box	$6.50	$14.00	
Total Income	$2,600	$11,200	**$6,900**
Net Income			**$590**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	23,000	657
Good	33,000	943
(a) Carton weight in pounds	35	

M - Sweet Corn

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	3.15	$18.00	$57
Irrigate/weed/thin/pest (2)	15.2	$9.00	$137
Compost/pest mgnt.	1	$357.00	$357
Planting costs	1	$50.00	$50
Total Cultivation			**$728**
Harvest			
Equipment (1)	0.2	$18.00	$4
Pick labor (2)	58	$9.00	$522
Material (boxes)	415	$1.00	$415
Broker fees	1	$50.00	$50
Total Harvest			**$991**
Overhead Costs			
Assessments (organic fees)	1	$25.00	$25
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,359**
Water cost	Ac.Ft.		
Water	2.46	$300.00	$738
Total Cost			**$3,816**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	200	400	
Income per box	$5.00	$15.00	
Total Income	$1,000	$6,000	**$3,500**
Net Income			**($316)**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	9,000	180
Good	20,000	400
(a) Carton weight in pounds	50	

APPENDIX B Continued

N - Winter Squash - Large Variety

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	3.85	$18.00	$69
Irrigate/weed/thin/pest (2)	30.05	$9.00	$270
Compost/pest mgnt.	1	$357.00	$357
Planting costs	1	$50.00	$50
Total Cultivation			**$874**
Harvest			
Equipment (1)	0.2	$18.00	$4
Pick labor (2)	160	$9.00	$1,440
Material (boxes)	850	$1.00	$850
Broker fees	1	$50.00	$50
Total Harvest			**$2,344**
Overhead Costs			
Assessments (organic fees)	1	$40.00	$40
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,374**
Water cost	Ac.Ft.		
Water	1.79	$300.00	$537
Total Cost			**$5,129**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	500	850	
Income per box	$5.00	$11.00	
Total Income	$2,500	$9,350	**$5,925**
Net Income			**$796**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	25,000	500
Good	40,000	800
(a) Carton weight in pounds	50	

O - Winter Squash - Small Variety

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	3.85	$18.00	$69
Irrigate/weed/thin/pest (2)	30.05	$9.00	$270
Compost/pest mgnt.	1	$300.00	$300
Planting costs	1	$80.00	$80
Total Cultivation			**$847**
Harvest			
Equipment (1)	0.2	$18.00	$4
Pick labor (2)	134	$9.00	$1,206
Material (boxes)	320	$1.00	$320
Broker fees	1	$50.00	$50
Total Harvest			**$1,580**
Overhead Costs			
Assessments (organic fees)	1	$40.00	$40
Office, Insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,374**
Water cost	Ac.Ft.		
Water	1.79	$300.00	$537
Total Cost			**$4,338**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	500	850	
Income per box	$3.00	$11.00	
Total Income	$1,500	$9,350	**$5,425**
Net Income			**$1,087**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	25,000	500
Good	40,000	800
(a) Carton weight in pounds	50	

P - Mixed Melons

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	1	$60.00	$60
List beds/cultivate/plant (1)	5.5	$18.00	$99
Irrigate/weed/thin/pest (2)	20	$9.00	$180
Compost/pest mgnt.	1	$235.00	$235
Planting costs	1	$420.00	$420
Total Cultivation			**$1,062**
Harvest			
Equipment (1)	0	$18.00	$0
Pick labor (2)	0	$9.00	$0
Material (boxes)	800	$3.10	$2,480
Broker fees	1	$75.00	$75
Total Harvest			**$2,555**
Overhead Costs			
Assessments (organic fees)	1	$30.00	$30
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,364**
Water cost	Ac.Ft.		
Water	3.75	$300.00	$1,125
Total Cost			**$6,106**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of boxes	500	900	
Income per box	$5.00	$11.00	
Total Income	$2,500	$9,900	**$6,200**

Net Income	**$94**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	17,000	567
Good	25,000	833

(a) Carton weight in pounds 30

Q - Strawberries

Costs	Time	Cost/Unit	Total/ac.
Cultivation costs			
Disk/chisel/pickup (1)	3.75	$18.00	$68
Cover crop allocation	0	$60.00	$0
List beds/cultivate/plant (1)	0	$18.00	$0
Irrigate/weed/thin/pest (2)	740	$9.00	$6,660
Compost/pest mgnt.	1	$1,000.00	$1,000
Planting costs	28000	$0.04	$1,120
Total Cultivation			**$8,848**
Harvest			
Equipment (1)	0	$18.00	$0
Pick labor (2)	1600	$9.00	$14,400
Material (boxes)	0	$3.10	$0
Broker fees	1	$75.00	$75
Total Harvest			**$14,475**
Overhead Costs			
Assessments (organic fees)	1	$30.00	$30
Office, insurance, sanitation			$100
	Acres		
Land Rent (4)	0.625	$400	$250
Investment cost share (5)			$984
Total Overhead			**$1,364**
Water cost	Ac.Ft.		
Water	2	$300.00	$600
Total Cost			**$25,287**

Income	Low	High	Average
Yield per acre in boxes	50%	50%	
Number of Flats	1,700	3,000	
Income per box	$9.00	$14.00	
Total Income	$15,300	$42,000	**$28,650**

Net Income	**$3,363**

Per Knott's Handbook for Vegetable Growers: Per ac. yields Nationwide

	Pounds	Carton (a)
Average	17,000	1,889
Good	25,000	2,778

(a) Carton weight in pounds 9

APPENDIX B-2: Wine Grapes - Income/Costs Analysis

Costs: per Acre	Year 1	Year 2	Year 3	Year 4	Year 5 on
Cultural Costs					
Prune/train vines: chop/weed /cultiv	$486	$735	$897	$733	$733
Mildew Insect fertilize wire remove	$90	$251	$276	$282	$282
Pickup truck	$180	$180	$180	$180	$180
Harvest					
Yield per acre (In tons)	0.0	0.0	1.5	3.5	6.0
Cost of harvest @$150 ton	$0	$0	$225	$525	$900
Overhead					
Office/insurance/consultants/repair	$700	$700	$750	$800	$800
Depreciation & interest (1)	$1,586	$1,586	$1,586	$1,586	$1,586
Land cost (6% interest on $15,000)	$900	$900	$900	$900	$900
Water: 1.17 Ac.ft /year @ $300	$351	$351	$351	$351	$351
Interest on startup costs (2)					$693
Annual Cost	$4,293	$4,703	$5,165	$5,357	**$5,732**
Income					
Yield per acre in tons	0.0	0.0	1.2	3.5	4.0
Price per ton (3)			$2,000	$2,040	$2,000
Total Income @$1,600/ton			$2,400	$7,140	**$8,000**
Net Income after costs					**$2,268**

(1) Interest and Depreciation Schedule

	Total (40 ac.)	Per Acre	< - Depreciation Period	- > Cost	Interest @6%
Building	$20,000	$500	20	$25	$30
Land Level/terrace/tile	$32,000	$800	10	$80	$48
Irrigation system	$80,000	$2,000	10	$200	$120
Tools/ATV/equipment	$40,000	$1,000	5	$200	$60
Clearing ripping	$24,000	$600	20	$30	$36
Hardware	$12,000	$300	4	$75	$18
Plants vines	$96,000	$2,400	20	$120	$144
Trellis install	$100,000	$2,500	10	$250	$150
Total				$980	$606
Total: Depreciation plus Interest/acre					$1,586

(2) Cumulative net cost at year 4, @ 6% Interest

	Year 1	Year 2	Year 3	Year 4
Cost	$4,293	$4,703	$5,165	$5,357
Income	$0	$0	$2,400	$7,140
Cost at year e	$4,293	$4,703	$2,765	($1,783)
Cumulative c	$4,293	$9,254	$12,574	$11,545
Add 6% Inter	$258	$555	$754	**$693**
Cumulative c	$4,551	$9,809	$13,328	

(3) Income from wine grapes

	2001	2000
Total Co inco	$465,938	235104
County produ	228.4	116.5
price paid per	$2,040	$2,018

Appendix C-1: Agriculture Share of County Property Tax Revenue

	TRA Average (1)	Fund Share (2)	Net to Fund	Ag Prop Tax
County General	28.28%	66.16%	18.71%	**$2,365,451**
County Library	3.51%	72.65%	2.55%	**$322,467**
Marin Open Space	1.11%	90.04%	1.00%	**$126,358**
Fire/ PUD	15.19%	87.61%	13.31%	**$1,682,188**
Residual (Educ/Other)	51.91%		64.43%	**$8,145,014**
Total	100.00%		100.00%	**$12,641,479**

(1) Sample of unincorporated Tax Rate Areas distribution of fund revenue factors:

			< - -	Tax Rate Area Sample		- - - - >
Description	Fund #	Average	94010	56011	60020	76003
County General	101002	0.282812	0.271846	0.280363	0.254682	0.324357
County Library	101158	0.035111	0.033749	0.034807	0.031619	0.040269
Marin Open Space	105010	0.011101	0.010670	0.011004	0.009996	0.012732
Fire/ PUD	NA	0.151890	0.191429	0.086408	0.154999	0.174725

(2) Total County ERAFT (Educ.) tax shift

	Gross Tax	To ERAFT	Net to Fund	Fund Ratio
County General	$97,371,337	$32,947,051	$64,424,286	66.16%
County Library	$5,605,298	$1,532,945	$4,072,353	72.65%
Marin Open Space	$3,825,566	$380,868	$3,444,698	90.04%
Fire/ PUD	$215,100	$26,654	$188,446	87.61%

Appendix C-2: County Budget Analysis (2001-02)

		County Wide	Unincorp	Total
Revenues				
	Population related	$180,084,068	NA	$180,084,068
	Other (1)	$102,642,310	NA	$102,642,310
	Agriculture		$279,404	$279,404
	Total	$282,726,378	$279,404	$283,005,782
	Per Person Revenue (2)	**$720.62**		**$720.62**
Costs				
	Population related	$218,140,224	$5,549,545	$223,689,769
	Other (1)	$46,152,835	$3,699,697	$49,852,532
	Agriculture	$0	$196,942	$196,942
	Total	$264,293,059	$9,446,184	$273,739,243
	Per Person Cost (2)	**$872.91**	**$80.54**	**$953.45**
Net	Population related	($38,056,156)	($5,549,545)	($43,605,701)
	Per Person	**($152.29)**	**($80.54)**	**($232.83)**

(1) Includes land related budget items such as property tax - See Appendix Detail below

(2) County Wide Population	249,900
Unincorporated Population	68,900

Appendix C: Detail County Budget Analysis - P. 1

		< - - Allocation % - - - >				< - - - Allocation Amount - - - >				
Revenues	2001-2	Pop	Other	bcpop	Ag	Pop related	Other	Mixcpop / other	Ag	Total
Taxes	Budget	related		/other						
Property tax Secured	$55,681,248		100%			$0	$55,681,248	$0	$0	$55,681,248
Property tax Unsecured	$2,067,845		100%			$0	$2,067,845	$0	$0	$2,067,845
Property Tr. Tax	$2,650,328		100%			$0	$2,650,328	$0	$0	$2,650,328
Other Property Tax	$8,798,542		100%			$0	$8,798,542	$0	$0	$8,798,542
Aviation Tax	$122,505	100%				$122,505	$0	$0	$0	$122,505
Sales Tax	$3,149,769		0%	100%		$0	$0	$3,149,769	$0	$3,149,769
Transient Occ Tax	$1,538,240	50%	50%			$769,120	$769,120	$0	$0	$1,538,240
Supplemental Assessment	$5,718,688			100%		$0	$0	$5,718,688	$0	$5,718,688
Total Tax	**$79,727,165**					$891,625	$69,967,083	$8,868,457	$0	**$79,727,165**
Licenses, Permits & Franchises										
Franchises	$437,346			100%		$0	$0	$437,346	$0	$437,346
EC Solid Waste	$287,436		100%			$0	$287,436	$0	$0	$287,436
EC Small Wells	$72,275		100%			$0	$72,275	$0	$0	$72,275
EC SM Public	$30,565		100%			$0	$30,565	$0	$0	$30,565
Food Plan Ck	$41,214	100%				$41,214	$0	$0	$0	$41,214
Pool plan Ck	$5,008		100%			$0	$5,008	$0	$0	$5,008
Permit Fees	$11,485			100%		$0	$0	$11,485	$0	$11,485
Dog Lic	$160,316	100%				$160,316	$0	$0	$0	$160,316
Weights & Measure Fee	$39,283		100%			$0	$39,283	$0	$0	$39,283
Pesticide Lic	$4,290		100%			$0	$4,290	$0	$0	$4,290
Business Lic Fee	$840,760		100%			$0	$840,760	$0	$0	$840,760
Business Lic Resid (cable e	$543,158		100%			$0	$543,158	$0	$0	$543,158
Food Permits	$711,764		100%			$0	$711,764	$0	$0	$711,764
Housing Permits	$232,177		100%			$0	$232,177	$0	$0	$232,177
Pump truck permits	$18,571		100%			$0	$18,571	$0	$0	$18,571
Public Pool permit	$141,921		100%			$0	$141,921	$0	$0	$141,921
Septic tank permit	$385,705		100%			$0	$385,705	$0	$0	$385,705
Underground Storage	$317,286		100%			$0	$317,286	$0	$0	$317,286
Building plan Ck review	$813,672		100%			$0	$813,672	$0	$0	$813,672
Const Permit	$1,546,890		100%			$0	$1,546,890	$0	$0	$1,546,890
Road permit	$59,070		100%			$0	$59,070	$0	$0	$59,070
Total	**$6,700,192**					$201,530	$6,049,831	$448,831	$0	$6,700,192
Fines Forfeitures & Penalties										
Court costs p9	$3,389,593	100%				$3,389,593	$0	$0	$0	$3,389,593
Court costs p10	$1,817,147	100%				$1,817,147	$0	$0	$0	$1,817,147
Total	**$5,206,740**					$5,206,740	$0	$0	$0	$5,206,740
Use of Money/property										
Interest Income	$9,763,849			100%		$0	$0	$9,763,849	$0	$9,763,849
Rental Income	$2,076,567			100%		$0	$0	$2,076,567	$0	$2,076,567
Total	**$11,840,416**					$0	$0	$11,840,416	$0	$11,840,416
Other governments										
State - Ag pest	$71,722				100%	$0	$0	$0	$71,722	$71,722
Ag Gas Tax	$201,082				100%	$0	$0	$0	$201,082	$201,082
Welfare	$23,482,830	100%				$23,482,830	$0	$0	$0	$23,482,830
Abandoned Vehicle	$85,894	100%				$85,894	$0	$0	$0	$85,894
Veh Realign	$9,146,750	100%				$9,146,750	$0	$0	$0	$9,146,750
Highway user tx	$3,090,000	100%				$3,090,000	$0	$0	$0	$3,090,000
Bus Lic Tx Highway car	$1,342,000	100%				$1,342,000	$0	$0	$0	$1,342,000
Motor Veh in Lieu Tax	$14,807,915	100%				$14,807,915	$0	$0	$0	$14,807,915
State Human aid p13	$5,123,108	100%				$5,123,108	$0	$0	$0	$5,123,108
State Human aid p14	$5,603,816	100%				$5,603,816	$0	$0	$0	$5,603,816
State Human aid p15	$3,950,717	100%				$3,950,717	$0	$0	$0	$3,950,717
State Human aid p16	$1,303,268	100%				$1,303,268	$0	$0	$0	$1,303,268
AID for Agriculture	$6,600				100%	$0	$0	$0	$6,600	$6,600
Weights and Measure	$4,749	100%				$4,749	$0	$0	$0	$4,749
State Human aid p17	$10,156,393	100%				$10,156,393	$0	$0	$0	$10,156,393
State Human aid p18	$4,868,610	100%				$4,868,610	$0	$0	$0	$4,868,610
Federal Human aid p19	$3,638,257	100%				$3,638,257	$0	$0	$0	$3,638,257
Federal Human aid p20	$7,578,806	100%				$7,578,806	$0	$0	$0	$7,578,806
Fed/State Human p 21	$5,971,903	100%				$5,971,903	$0	$0	$0	$5,971,903
Sales Tax State	$20,397,621			100%		$0	$0	$20,397,621	$0	$20,397,621
Federal Human aid p22	$10,728,963	100%				$10,728,963	$0	$0	$0	$10,728,963
Fed/State Human p 23	$6,359,356	100%				$6,359,356	$0	$0	$0	$6,359,356
Fed/State Human p 24	$1,308,869	100%				$1,308,869	$0	$0	$0	$1,308,869
Total	**$139,229,229**					$118,552,204	$0	$20,397,621	$279,404	$139,229,229

Appendix C - Detail P. 2		< - - Allocation % - - - >				< - - - Allocation Amount			- - - >	
Revenues	2001-2 Budget	Pop related	Other	bcpop /other	Ag	Pop related	Other	Mix:pop / other	Ag	Total
Charges for Service										
Audit Accounting fees	$142,156			100%		$0	$0	$142,156	$0	$142,156
Property Tax Administration	$1,127,034		100%			$0	$1,127,034	$0	$0	$1,127,034
Human service fees p24	$2,293,283	100%				$2,293,283	$0	$0	$0	$2,293,283
Planning Eng. Fees	$1,302,830		100%			$0	$1,302,830	$0	$0	$1,302,830
Election services	$576,008	100%				$576,008	$0	$0	$0	$576,008
Probation	$4,039	100%				$4,039	$0	$0	$0	$4,039
Estate fees	$344,402		100%			$0	$344,402	$0	$0	$344,402
Court fees p.26	$821,696	100%				$821,696	$0	$0	$0	$821,696
Legal/medical fees p.27	$2,800,478	100%				$2,800,478	$0	$0	$0	$2,800,478
Legal/medical fees p.28	$2,841,271	100%				$2,841,271	$0	$0	$0	$2,841,271
Library fees	$226,925	100%				$226,925	$0	$0	$0	$226,925
Park Fees	$120,161	100%				$120,161	$0	$0	$0	$120,161
Total	**$12,600,283**					$9,683,861	$2,774,266	$142,156	$0	$12,600,283
Other revenues										
People related park fees p2	$313,444	100%				$313,444	$0	$0	$0	$313,444
Park fees p30-31	$886,253	100%				$886,253	$0	$0	$0	$886,253
People fees p30-31	$796,025	100%				$796,025	$0	$0	$0	$796,025
Mix property/people p30-31	$1,763,386			100%		$0	$0	$1,763,386	$0	$1,763,386
Property fees p32-33	$941,980		100%			$0	$941,980	$0	$0	$941,980
People fees p32-33	$3,069,408	100%				$3,069,408	$0	$0	$0	$3,069,408
Mix property/people p32-33	$18,708,849			100%		$0	$0	$18,708,849	$0	$18,708,849
Property fees p34	$4,560		100%			$0	$4,560	$0	$0	$4,560
People fees p34	$297,291	100%				$297,291	$0	$0	$0	$297,291
Mix property/people p34	$920,561			100%		$0	$0	$920,561	$0	$920,561
Total	**$27,701,757**					$5,362,421	$946,540	$21,392,796	$0	$27,701,757
Total All Revenues	**$283,005,782**					$139,898,381	$79,737,720	$63,090,277	$279,404	$283,005,782
Ratio Pop / Other					100%	63.7%	36.3%			
Mix allocated to Pop / Other						$40,185,687	$22,904,590	$63,090,277		
Total with Mix added						**$180,084,068**	**$102,642,310**		**$279,404**	$283,005,782

Appendix C - Detail P. 3

Costs	2001-2 Budget	Allocation % Pop related	Other	bcpop /other	Ag	Allocation Amount Pop related	Other	Mbcpop / other	Ag	Total
General Government										
Legislative	$3,861,551			100%		$0	$0	$3,861,551	$0	$3,861,551
Auditor-controller Tres, retir	$4,941,079			100%		$0	$0	$4,941,079	$0	$4,941,079
Assessor-Recorders	$4,851,960		100%			$0	$4,851,960	$0	$0	$4,851,960
County Councel	$2,412,926	100%				$2,412,926	$0	$0	$0	$2,412,926
Human Resource	$2,476,583	100%				$2,476,583	$0	$0	$0	$2,476,583
Elections	$1,762,780	100%				$1,762,780	$0	$0	$0	$1,762,780
Communications Sherrif	$3,533,268	100%				$3,533,268	$0	$0	$0	$3,533,268
Communication - other	$2,571,314			100%		$0	$0	$2,571,314	$0	$2,571,314
Property Mgnt	$4,225,371		100%			$0	$4,225,371	$0	$0	$4,225,371
Plant Acq. County	$16,868,919			100%		$0	$0	$16,868,919	$0	$16,868,919
Plant Acq. Parks	$511,155	100%				$511,155	$0	$0	$0	$511,155
Promotion	$30,000	100%				$30,000	$0	$0	$0	$30,000
Other General	$21,667,775			100%		$0	$0	$21,667,775	$0	$21,667,775
Public Protection						$0	$0	$0	$0	
Judicial	$20,227,272	100%				$20,227,272	$0	$0	$0	$20,227,272
Sheriff Admin	$2,081,248	60%	40%			$1,248,749	$832,499	$0	$0	$2,081,248
Unincorporated Patrol	$9,249,242	60%	40%			$5,549,545	$3,699,697	$0	$0	$9,249,242
Investigagation	$1,514,866	100%				$1,514,866	$0	$0	$0	$1,514,866
Civil and Court	$3,357,783	100%				$3,357,783	$0	$0	$0	$3,357,783
Major Crimes	$1,116,627	100%				$1,116,627	$0	$0	$0	$1,116,627
Vehicle	$172,798	100%				$172,798	$0	$0	$0	$172,798
Other Sheriff	$546,643			100%		$0	$0	$546,643	$0	$546,643
Detention and Correction						$0	$0	$0	$0	
All	$19,037,082	100%				$19,037,082	$0	$0	$0	$19,037,082
Fire Protection										
All	$13,048,318		100%			$0	$13,048,318	$0	$0	$13,048,318
Protective Inspection										
Engineering etc.	$2,912,944		100%			$0	$2,912,944	$0	$0	$2,912,944
Other Protection										
Land planning	$6,351,175		100%			$0	$6,351,175	$0	$0	$6,351,175
People services	$2,971,743	100%				$2,971,743	$0	$0	$0	$2,971,743
Detention correction Grants	$1,590,364	100%				$1,590,364	$0	$0	$0	$1,590,364
Public Ways (roads)										
Roads	$9,989,868	50%	50%			$4,994,934	$4,994,934	$0	$0	$9,989,868
Airport	$603,321	100%				$603,321	$0	$0	$0	$603,321
Planning	$124,405		100%			$0	$124,405	$0	$0	$124,405
Health and Sanitation						$0	$0	$0	$0	
Health services	$21,821,814	100%				$21,821,814	$0	$0	$0	$21,821,814
Health 2	$26,704,641	100%				$26,704,641	$0	$0	$0	$26,704,641
Hospital	$426,057	100%				$426,057	$0	$0	$0	$426,057
Health programs	$5,148,512	100%				$5,148,512	$0	$0	$0	$5,148,512
Rural Programs	$4,009,971	100%				$4,009,971	$0	$0	$0	$4,009,971
Public Assistance										
Administration	$21,376,594	100%				$21,376,594	$0	$0	$0	$21,376,594
Juvinal Court	$34,003	100%				$34,003	$0	$0	$0	$34,003
Various services	$3,052,944	100%				$3,052,944	$0	$0	$0	$3,052,944
Veterans Services	$75,653	100%				$75,653	$0	$0	$0	$75,653
Public assistance programs	$13,762,932	100%				$13,762,932	$0	$0	$0	$13,762,932
Library Service	$7,007,115	100%				$7,007,115	$0	$0	$0	$7,007,115
Agricultural Ed										
Coop Extension	$196,942				100%	$0	$0	$0	$196,942	$196,942
Recreation and Culture										
Parks	$3,052,932	100%				$3,052,932	$0	$0	$0	$3,052,932
Veterans services	$2,458,753	100%				$2,458,753	$0	$0	$0	$2,458,753
Total Costs	$273,739,243					$182,043,717	$41,041,303	$50,457,281	$196,942	$273,739,243
Less Unincorporated County only						$5,549,545	$3,699,697			
Total County Wide Costs						$176,494,172	$37,341,606			$213,835,778
Percentage between Population and Land						82.5%	17.5%			100.0%
Add in Mix of Both 'Costs'						$41,646,052	$8,811,229	$50,457,281		$50,457,281
Total with Mix added						$218,140,224	$46,152,835			$264,293,059

APPENDIX D-1: Contact List

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Bill Barkley, Rancher
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Brian Crawford, Planner, Marin County Community Development Agency
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David Evans, Rancher
Bob Giacomini, Dairy Operator
Mike Gail, Rancher
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Steve Kinsey, Marin County Supervisor, District 4
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Stephanie Larson, Farm Advisor, Marin-Sonoma Co. Cooperative Extension
Margaret Moster, Staff, Marin County Auditor Controller
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Steve Schwartz, Executive Director, California Farmlinks
Al Sokolow, Public Policy Specialist, Cooperative Extension
Joan C. Thayer, Marin County Assessor-Recorder
Warren Weber, Organic vegetable grower

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