

ORGANIC AGRICULTURE IN HUMBOLDT COUNTY, FROM SOCIAL
MOVEMENT TO ECONOMIC DEVELOPMENT: INTERVIEWS WITH ORGANIC
DAIRY AND ROW CROP FARMERS

By

Allyson L. Carroll

A Thesis

Presented to

The Faculty of Humboldt State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

In Social Sciences

August, 2006

ORGANIC AGRICULTURE IN HUMBOLDT COUNTY, FROM SOCIAL
MOVEMENT TO ECONOMIC DEVELOPMENT: INTERVIEWS WITH ORGANIC
DAIRY AND ROW CROP FARMERS

By

Allyson L. Carroll

Approved by the Master's Thesis Committee:

Judith Little, Major Professor Date

Michael Smith, Committee Member Date

Steven Hackett, Committee Member Date

Selma Sonntag, Graduate Coordinator Date

Christopher Hopper, Dean for Research and Graduate Studies Date

ABSTRACT

Organic agriculture is a concept that has evolved with its history, representing a farming method, social movement, and growing industry. Some analysts have critiqued organic agriculture as losing its grassroots soul and representing the conventional model of agriculture rather than an alternative to it. In order to ascertain current perceptions of organic agriculture from growers themselves, I interviewed 17 organic farmers in Humboldt County, California. These in-depth interviews focused on farmers' rationale for certifying organic, values behind their farming style, associations with social movements, views of the federal regulations, and personal and regional economics. I interviewed both organic dairy and row crop farmers in order to compare groups and gain a spectrum of viewpoints. This study represents a place-based snapshot, particular to Humboldt County, California, a relatively rural and isolated area in need of viable economic development options.

For the interviewed dairy farmers, organic agriculture represented a combination of an economic opportunity to maintain their multi-generational family farms combined with a farming method that reflected their existing techniques. The row crop growers articulated a range of reasons for certifying organic including a commitment to values, access to markets, and product credibility. Both populations of farmers expressed strong values of land and animal stewardship underlying their farming styles. Many of the row crop growers strongly associated with the organic social movement and spoke of ways to further refine articulations of sustainable agriculture that reach beyond organic. The dairy farmers generally did not associate with the social movement while still

exemplifying values and methods that capture some of the core ideals of the movement. Both types of farming fit into the region's economic development strategy. The organic dairy industry captures a strong export-based opportunity, while many row crop growers placed emphasis on the importance of their local markets and reciprocal relationships with the community. Organic agriculture in Humboldt County helps maintain open spaces, a rural quality of life, and a cultural identity of long-existing dairy farms combined with newer row crop farms on the cusp of the sustainable agriculture movement.

ACKNOWLEDGEMENTS

I would like to acknowledge the assistance provided by my committee in preparing and editing this study: Judith Little, Michael Smith, and Steven Hackett. Cynthia Werner helped with formatting of the work. I thank Annie Eicher of the Organic Farming Program for her plentiful assistance, especially in the early stages of formulating a thesis topic and providing contacts and information. Annie's work with the Organic Farming Program has been a great benefit to Humboldt County. I am truly thankful to the farmers who participated in this study. With extremely busy schedules, these farmers took the time to meet and talk with me in order to convey a better understanding of organic agriculture in Humboldt County. I would also like to thank my friends and family for their love and support, especially my beautiful daughter Leela.

TABLE OF CONTENTS

LIST OF ACRONYMNS	xii
INTRODUCTION	1
LITERATURE REVIEW	4
Food As A Link Between Nature And Culture	4
Historical Roots and Trends of Modern Agriculture	7
Agricultural Inputs and Outputs	9
Farm Consolidation	11
Productivity.....	14
Monocultures	15
Distancing	16
History of Dairy Farming	17
Conventional Milk Pricing	18
Sustainable Agriculture	19
Ecological Sustainability	19
Economic Sustainability	20
Social Sustainability	20
Organic Agriculture and Sustainability	21
History of Organic Agriculture: From Farming Method to Social Movement to Industry	22
Early Articulations of the Organic Farming Method.....	22
Emergence of the Organic Movement.....	24
The Organic Movement: Alternative Food Production, Consumption, and Distribution	26

Decentralization	28
California Leads State Level Regulation of Organic.....	29
Federal Regulations	32
National Organic Program Standards	33
Organic Livestock and Dairy	35
Organic From the Consumer’s Perspective.....	36
Growth of the Organic Market	38
Current Critiques and Paradoxes of Organic Agriculture	39
Farmers’ Reasons for Converting to Organic	42
Economics of Organic From the Farmers’ Perspective.....	44
Economic Development	46
Economic Development Broadly Defined.....	47
Models of Local Economic Development	48
HUMBOLDT COUNTY, CALIFORNIA	51
Geography	51
Social Statistics	52
Economy.....	53
Review of <i>Prosperity! - The North Coast Strategy</i>	53
A Geography and Economy of Isolation.....	54
A Combination of Cultures	56
Bioregionalism.....	58
AGRICULTURAL HISTORY AND PATTERNS IN HUMBOLDT COUNTY	60
Agriculture in California	60

Economic and Land Use Descriptions of Agriculture in Humboldt County	61
The Dairy Industry in Humboldt County.....	63
Organic Agriculture in Humboldt County.....	65
Marketing for Humboldt County’s Organic Growers.....	68
Marketing for Humboldt County’s Organic Dairies.....	72
Pressures on Humboldt County Agricultural Land	72
METHODS	74
Previous Research	74
Study Participants.....	75
Data Collection.....	76
Interview Format.....	77
Data Analysis	78
RESULTS AND ANALYSIS.....	79
Background on Organic Dairy Farmers and Organic Row Crop Growers.....	79
Farm Demographics: Location, Acreage, Employees, Land Ownership	79
External Benefits of Humboldt County Farms	81
Farming Background	82
Family History	82
Reasons for Farming.....	83
Perspectives from Organic Dairy Farmers in Humboldt County.....	84
Rationale for Going Organic	85

Values Behind Farming	88
Social Movement Aspects of Organic Farming.....	90
Going Back to the Way Grandpa Farmed.....	92
Pasture Based Management.....	92
Considerations for Organic Dairy Farming	94
Antibiotics.....	94
Chemical Fertilizers and Controls	97
Feed.....	97
Transition Period.....	99
Mindset of Dairy Farmers	100
Paperwork	101
Milk Prices.....	101
Trends of Local Dairy Farms and Organic Certification as an Avenue to Stay in Business	103
Local Economy	105
Humboldt Creamery and Marketing.....	106
Beyond Organic and Thoughts on the Federal Rule.....	108
Income	109
A Wise Decision and the Future of Organic Dairying	109
Perspectives from Organic Row Crop Growers in Humboldt County	110
Rationale for Going Organic	110
Face-to-Face Interactions and CSA Farmers' Rationale for Not Certifying Organic.....	112
Values Behind Farming.....	113

Social Movement Aspects of Organic Farming.....	114
CSA Farmers.....	116
Thoughts and Critiques on Federally Regulated Organic Agriculture	117
From Grassroots Movement to the Masses.....	118
Considerations for Organic Row Crop Growers	120
CCOF Was More Stringent.....	120
Organic Seed.....	121
Paperwork and Cost	122
Beyond Organic	123
Markets	124
Regional Economy.....	126
Income	127
DISCUSSION.....	129
Descriptions of Humboldt County’s Organic Dairy Farmers and Row Crop Growers.....	129
Rationale for Going Organic	137
Values Behind Farming.....	140
Social Movement Aspects of Organic Farming	141
Effect of the Federal Rule	144
Beyond Organic.....	145
The Importance of Localness and Community	146
Technical Viewpoints from the Organic Farmers	149
Organic Agriculture and Economic Development in Humboldt County	151

Ecological, Cultural, and Social Benefits of Organic Farming in Humboldt County	157
CONCLUSIONS.....	159
Table 1: Demographics of Interviewed Organic Row Crop Growers and Dairy Farmers	162
Figure 1: Map of Humboldt County, California	163
WORKS CITED	164
APPENDIX A: INTERVIEW SCHEDULE.....	174

LIST OF ACRONYMS

CCOF – California Certified Organic Farmers

COFA – California Organic Foods Act

FDA – Food and Drug Administration

HCCDS – Humboldt County Community Development Services

HCDCDS – Humboldt County Department of Community Development Services

NCGA – North Coast Growers' Association

NMPF – National Milk Producers Federation

NOP – National Organic Program

NOSB – National Organic Standards Board

OECD – Organisation for Economic Co-operation and Development

OFPA – Organic Foods Production Act

OFRF – Organic Farming Research Foundation

rBGH – recombinant bovine growth hormone

USDA – United States Department of Agriculture

INTRODUCTION

Organic agriculture represents a concept that has morphed and evolved over time, with different meanings for different people. What has existed for centuries to millennia became termed organic agriculture first as a farming method. Then, organic agriculture came to represent a social movement in the late 1960s and early 1970s as a response to the ever-prevalent post-World War II agricultural trends such as industrialization and consolidation. As organic products grew in popularity, certifications became necessary and an organic industry developed. Since the early 1990s, the organic market has been growing steadily at a 20% annual rate, helping to bring about federal regulations of organic certification. This growing market share and USDA oversight have prompted critiques of organic agriculture falling into the conventional model of agriculture, representing what it once set out to counter (Buck *et al.*, 1997; DeLind, 2000; Vos, 2000; Pollan, 2001; Guthman, 2004). Given this conventionalization debate, it is important to gain first-hand perspectives of growers themselves, inquiring about their rationale for certifying organic and their views on economic and social incentives. A primary focus of this study is to understand farmers' motives for certifying organic. The dynamics between these motives, the farmers' deep-rooted values, and associations with social movements are also explored.

This is a place-based study, focusing on the viewpoints of organic dairy and row crop farmers in Humboldt County, California. Humboldt County is a relatively rural

region of natural beauty geographically isolated on California's North Coast. The county has a rich history of dairy farming since the mid-nineteenth century and was also home to some of the original organic and back-to-the-land farmers in the 1960s and 1970s. As with many rural regions, Humboldt County's natural resource-based economy has been dwindling over the past several decades and the area is in need of appropriate economic development. Another goal of this study is to better understand how organic agriculture fits into Humboldt County's economic development strategy.

This work is divided into chapters to guide the reader through background information, methods, results and analysis, discussion of the main findings, and a summary of conclusions. Chapter II begins with a review of the existing literature on topics relevant to this study. This review starts by grounding the concept of agriculture throughout its history, reviewing both its primal associations and its modern trends such as industrialization. The concept of sustainable agriculture is introduced, with organic agriculture once capturing its essence. A history of organic agriculture follows, tracing the term through its representation of a farming method, a social movement, and an industry. The social movement aspects of organic agriculture draw on associations with the 1960s and 1970s counterculture and environmental movements. As the organic movement grows in popularity, a history of its regulation is presented, from state-level certifications such as the ideal-driven CCOF to the much criticized federal-level USDA regulations passed in 2002 after a decade of formulation. Critiques and paradoxes of the current manifestations of organic agriculture are then presented, followed by a review of studies focusing on organic farmers' rationale for converting. This chapter also relates

economic aspects of organic agriculture, including consumers' perceptions and farmers' considerations. The chapter closes with an overview of economic development and the prevalent model of the economic base theory.

Given the place-based character of this study, Chapter III presents an overview of Humboldt County, California, focusing on geography, social statistics, economy, and culture. Chapter IV narrows the focus to the agricultural history and patterns in Humboldt County. The region's distinctiveness compared to the rest of California is reviewed, as Humboldt County maintains multi-generational and family farms compared to the industrial face of California's agriculture. Economic and land use statistics are reported. A summary of the dairy industry and organic agriculture in Humboldt County are also presented, including histories and market options.

Chapter IV summarizes the method of semi-standardized in-depth interviewing used in this study. Chapter V presents the results of these interviews organized by farmer type and themes. The themes of farm demographics and background, reasons for farming, rationale for certifying, values behind farming, social movement aspects of organic farming, technical considerations and difficulties of organic farming, marketing, regional economy, and income are presented with corresponding quotes from the interviewees. Chapter VI guides the reader through a discussion of the findings of this study, presenting a picture of what organic agriculture means to the organic growers of Humboldt County and how it fits into the region's economy and culture. Chapter VII presents the major conclusions of this study.

LITERATURE REVIEW

In order to better understand the meaning of organic agriculture in its current context, it is helpful to review the literature on relevant topics. The following sections focus on the background of agriculture itself, the major changes to agricultural systems during the past century, and the emergence of organic agriculture as a social movement and as an industry. Furthermore, a consideration of economic development provides the framework for viewing organic agriculture as it fits into the regional economy.

Food As A Link Between Nature And Culture

Food provides the essential nutrients of life, intimately linking all people to the land for their health and survival. This immediate connection to the land for sustenance reflects the “most vital, constant, and concrete” manifestations of humans’ place within and dependence upon the natural world (Worster, 1990, p.1092). Today, the majority of the world’s populations live in societies contingent upon agriculture for their food supply, placing agriculture of vital importance to our existence.

Since its origins around 9,000 B.C.E., agriculture has catalyzed major shifts in natural and cultural ecology. The emergence of agriculture initiated a transition away from the hunter-gatherer lifestyle, which had been the basis of the existence of *Homo sapiens* for some 300,000 years prior (Harper & Le Beau, 2003). While groups of people who hunted game and/or collected edibles may have practiced certain levels of land management to improve their food supply (e.g., fire management), agricultural management reflects a more involved control of food production. On a global scale, the

onset of agricultural societies set into motion a major decline of the earth's natural biodiversity as small groups settled and cultivated land (Badgley, 2002; Harmon, 2002). In addition, human populations grew in association with agriculture, although there remains debate as to whether population pressures catalyzed agricultural food production or whether such food production triggered population growth (Duncan, 1996). In general, this population growth associated with agriculture is thought to have expanded in a positive feedback cycle to a certain degree, whereby increased food supplies and population growth propelled each other (Harmon, 2002; Harper & Le Beau, 2003). As human populations shifted to agricultural societies, their relationship with the natural world changed as well.

Over the thousands of years since the onset of agriculture, people have selected for crop varieties and animal breeds that thrive in specific places and suit their tastes, creating a wide evolutionary base of agrobiodiversity that has been passed down through generations as heirlooms of crops and culture. Agrobiodiversity reflects the immediacy of the coevolution of societies and their agricultural varieties and has been called "the greatest expression of collaboration between people and nature" (Plenderleith, 1999, p.287). Accordingly, agricultural systems and crop varieties possess the quality of being an expression of culture rooted in an intimate relationship with a particular place. Food further expresses culture as regional crops are combined for unique flavors and food is often tightly linked to a culture's religion, traditions, and celebrations. Ultimately, food is viewed not only as sustainer of life but also as a vehicle for creativity, passion, and beauty in its cultivation, preparation, and tradition (SlowFood USA, 2003). Today,

agrobiodiversity and food systems reflect one of the primary place-based connections between people and the natural world.

The current trends of agriculture threaten agrobiodiversity and bring into question how we view our relationship with the land and our food. The story of modern agriculture draws from the major trends of the past several centuries that have provided the basis for what is generally called the environmental crisis. Trends such as industrialization, capitalism, consolidation of power, and globalization combined with deep-rooted cultural values provide the framework for the occurrence of systematic environmental harms. Inevitably, the harms caused to particular places also affect the people dependent upon these places.

As the effects of these trends have been experienced, a growing body of thought on environmental ethics and philosophy continues to be articulated. The environmental movement in the United States has historically focused on the concept of preserving a “pristine” wilderness, analogous with a separation of humans from the natural world. Environmental historian William Cronon (1996) finds many historical roots for this perception and rebukes with a call for an acknowledgement that humans are “inextricably tied to the ecological systems that sustain their lives” (p.87). Many strains of modern environmentalism recognize the need to break this dualistic division between nature and culture. For example, environmental justice advocate Giovanna Di Chiro (1996) calls for recognition that “people are an integral part of what should be understood as the environment” (p.301). Environmental historian Richard White (1996) contends that progress towards a healthy relationship with nature lies in an understanding of “our own

bodily labor” as he views the body as an intersection between nature and culture via the function of work (p.173). As environmentalists call for the reunification of humans’ place *within* the natural world, agriculture can provide a site for this reconnection.

Although modern industrial agriculture often exemplifies environmental harms or people’s disconnection from the natural world that sustains us, agriculture in its primary form maintains many aspects of our immediate dependence on the land. As elaborated on by Vos (2000), the agrarian lifestyle captures the “middlescape,” or the space between the city and the wilderness, between culture and nature. Agrarian philosophers such as Wendell Berry (1981) and Wes Jackson (1987) attest to the role of farmer as land steward. Such thought is akin to the philosophy of Aldo Leopold (1949) who reasoned, “a land ethic changes the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it” (p.204). As our modern food systems tend to blur the immediacy of our relationship with the land, alternative forms of agriculture such as organic farming maintain an explicit component of land stewardship and connection with the natural world.

Historical Roots and Trends of Modern Agriculture

As with many current environmental issues, the global trends of the past several centuries have provided the context for our modern system of agriculture. Trends of industrialization, capitalism, consolidation of power in corporations, and globalization frame the evolution of modern agriculture. The emergence of the current system of global, industrial agriculture can be illuminated by the history of agriculture in the United States. Currently, the United States is the driving force of the global food system and is a

disproportionately large consumer on the global level (Deumling *et al.*, 2003).

Accordingly, understanding the history and trends of agriculture in the United States is also relevant for food systems across the world. This overview will follow some of the major trends of the past century and their resultant ecological, economic, and social consequences.

The United States has had a strong agrarian tradition since its origin when Europeans brought their farming techniques with them as the backbone of their new society in America. For these first settlers, agriculture was comprised of small farms scattered throughout the thirteen original colonies. Thomas Jefferson's "agrarian ideal" provided a moral model for civic virtue in the new United States (Kemmis, 1990, p.19). Euro-Americans and their agricultural systems spread west with the Homestead Act of 1862, which provided 160 acres of free land to settlers who would live on the land and cultivate part of it (Knobloch, 1996). Settlers made their way across America bringing their European farming techniques with them, but it was the occurrence of World War I and II that provided great momentum for changes in agriculture and sparked the development of our current system.

During World War I, the Great Plains was called upon to supply Europe with a large portion of their grain supply. This effectively transitioned the United States into a powerful player in the international food economy and supported its emerging role as a world power. Subsequent power farming on the Great Plains ultimately led to the Dust Bowl, a vivid example of the unsustainable nature of industrial agriculture that can decimate the land and the communities dependent upon it (Worster, 1992). In the post-

World War I period, agriculture in the United States maintained its emphasis on productivity, with California leading the way (Gottlieb, 2001). Many of the technologies developed and utilized for the World Wars became integrated in the United States' food system (Kroese, 2002). The trends of mechanization, increased inputs, and larger farm sizes continued through the World War II era. During the post-World War II "Green Revolution" crops such as sugar cane, maize, wheat, rice, and soy beans were bred to produce increased yields; however, these strains were nutritionally inferior and dependent upon the inputs of more water, fertilizers, pesticides, and equipment. The philosophy of the Green Revolution was applied to less developed countries around the world, establishing a global food system of monocultures as it "wiped out thousands of crops and crop varieties, substituting them with monocultures of rice, wheat, and maize across the Third World" (Shiva, 1997, p.107). Currently, global agro-economies are being shaped by the consolidation of power by transnational agricultural corporations.

Agricultural Inputs and Outputs

Viewing farms as systems of production with inputs and outputs frames the major ecological and economic trends affecting food systems. Often, social consequences result from these trends. On an agroecological level, a farm can be thought of as an system containing biotic and abiotic components that functionally interact through energy flows and nutrient cycling and are modified by the levels of input management (Altieri, 1995). A particular agroecosystem can be placed in the larger spatial and temporal framework by considering the inputs and outputs to the system. The flow of energy through an agroecosystem is regulated by the amount of inputs to the system, including

solar energy, physical energy from human and animal labor, mechanized energy such as tractors, and chemical energy such as fertilizers (Altieri, 1995). Agroecological health rests upon techniques that recognize the balance of inputs and outputs to the system over time and space.

A major critique of the modern industrial system of agriculture is its dependence on off-farm inputs, such as fertilizers, pesticides, irrigation water, and farm equipment or machinery. Many of these inputs are nonrenewable, fossil-fuel based, and/or energy intensive. Accordingly, such inputs do not utilize the regenerative capacities of agroecological systems. This leads to increasingly inefficient systems, reflected by the paradox that food production often uses more energy than it produces. Using a life-cycle assessment, Heller and Keoleian (2000) conclude, “it takes about 7.3 units of (primarily) fossil energy to produce one unit of food energy in the U.S. food system” (p.42). Most of industrial agriculture’s consumption of fossil fuels occurs in the post-production phase, which includes processing, packaging, transportation, storage, and retail.

A significant outcome of the transition to industrial agriculture has been the increased use of fossil fuel based fertilizers and industrial chemicals for herbicides and pesticides. For example, pesticide use increased fortyfold between 1950 and 1980 (Gottlieb, 2001). The use of chemical controls on a farm often establishes an addictive cycle, since many pesticides also eliminate the population of natural predators while pests form resistance, thus predicating the use of more pesticides. Pesticide use has been a major example of environmental and social consequences of chemical farming. Rachel Carson’s (1962) *Silent Spring* exposed the harmful effects of pesticides on the

environment outside the farm, such as the bioaccumulation of some toxins as they pass through the food chain. Nevertheless, today the United States applies twice the amount of pesticides used as when *Silent Spring* was first published (Ingram *et al.*, 2002).

Pesticides reach the consumer as remnants on produce; in 1998, the Food and Drug Administration (FDA) reported pesticide residues in over 35% of the food tested (Kimbrell, 2002). The farm workers directly exposed to the carcinogens feel the most immediate effects of pesticide use. Cesar Chavez brought national attention to this issue with his organizing and boycotts with the United Farm Workers to protect the mostly Chicano migrant farm worker population from the use of agro-chemicals. Although many people are aware of the dangers of pesticide use, it remains an issue that is still affecting farm workers, consumers, and the environment.

Farm Consolidation

The industrialization of farms and the use of off-farm inputs require the additional input of capital. With the need for large amounts of capital, aspiring farmers are often excluded and small farmers who want to remain competitive on this level must depend on the use of credit (Beus & Dunlap, 1990). This dynamic contributes to the post-World War II trend of consolidation that is expressed by a decrease in the number of farms in the United States that coincides with an increase in the number of acres per farm (Horn & McDermott, 2001). Farmers became caught in the trap of “get big or get out,” whereby they had to increase acreage and inputs to compete at the higher levels of production, which in turn generated higher costs and depressed crop prices (Berry, 1977; Horne & McDermott, 2001; Carolan, 2003). A “dual farm structure” of large and small farms

resulted; post-World War II, farm wealth transitioned from being spread across many small farms to being concentrated in fewer larger farms (Browne, 1992, p.19). Many of the remaining small farmers needed to supplement their income with off-farm jobs.

This tendency towards bigger farms controlled by fewer people devastated rural communities and farm families throughout the United States. In 1940 farmers comprised 18% of the labor force, compared to 2.7% in 1995 (Horne & McDermott, 2001). The loss of farms and farm jobs has been associated with a disintegration of agricultural communities. Many communities lost their economic foundation and cultural roots as small farms could not compete with larger industrial farms. The seminal study by Goldschmidt (1978) proposes a negative relationship between the scale of farm operation and rural community quality of life. Goldschmidt (1978) focuses on data from the 1940s comparing two communities in the Central Valley of California. Much of the subsequent literature on the Goldschmidt hypothesis generally corroborates Goldschmidt's findings while offering some limitations, such as questioning the applicability of the hypothesis to regions other than the Central Valley (Green, 1985; Lobao *et al.*, 1993). In another example of the negative effects of agricultural industrialization, a study of 200 communities across the U.S. revealed that poverty increases as farm size increases (Kimbrell, 2002). Wendell Berry (1981) aptly critiques the effects of large-scale industrial farming as he states, "there comes a point . . . when *more* begins to imply *worse*" (p.105). Browne (1992) refers to the post-World War II years as the "great transformation of rural America" where rural residents were no longer self-employed and transitioned from natural resource related jobs to manufacturing and service related jobs

(p.20). The transition from agri-culture to agri-business has contributed to a loss of cultural diversity and a destabilizing of rural communities across the United States and across the world.

Currently, many of the critiques of agribusiness focus on the consolidation of the food supply by corporations. Concentrated corporate ownership exists on the national (e.g., four companies control 84% of American cereal production) and global levels (e.g., two companies control 70-80% of the world's grain trade) (Deumling *et al.*, 2003). The increasing concentration of agriculture into fewer and fewer hands has moved the control of agricultural land and supplies from the local level to the corporate level (Barker, 2002).

The issues of genetic engineering and seed ownership represent contemporary debates in agriculture. Genetically modified (GM) crops entered the agricultural market in the 1990s, as a product of "life sciences" companies such as Monsanto. Over the past decade, there has been significant consolidation of life sciences companies, narrowing transnational corporate control of agro-biotechnology. Transgenic, or genetically modified, crops contain the gene(s) of another plant or even species that have been artificially inserted, as opposed to traditional plant breeding. The issue of genetically engineered crops has generated much controversy surrounding the topics of human health concerns, environmental concerns, the evolution of super-resistant weeds and pests, contamination of organic crops, and socio-economic concerns (GrowGMOFree, 2005). Furthermore, biotech companies' patenting of their hybrid seed and narrowing their ownership in the seed market restricts farmers' ability to save seed and decreases the

proliferation of open-pollinated, heirloom varieties that can adapt to diverse natural conditions.

Productivity

The production aspect of agriculture captures its primary ecosystem service of providing food and fiber. The production of biomass, or net primary productivity, of the agroecosystem contributes to the output of the farm (Soule & Piper, 1992). Modern industrial agriculture places a strong emphasis on *short-term* productivity without considering sustained productivity or externalities. The goal of maximum product yield continues to drive modern agriculture and supports the use of large industrial monoculture farms; however, critiques of this strategy exist.

The use of the concept of “yield” lies at the heart of this discussion. Yield is defined as production per unit of a single crop and biases the productivity of large monocultures (Rossett, 1999; Kimbrell, 2002). Total output per unit may be a more appropriate measure, as it captures the productivity of more than one crop. When viewed this way, small polyculture farms can actually produce more per unit area than larger monoculture farms (Rossett, 1999; Kimbrell, 2002). Although production of biomass is the primary agroecosystem service, maximum yield does not necessarily indicate a healthy agroecosystem. The *sustained* production of a farm depends on the healthy functioning of that agroecosystem. As Wes Jackson (1987) states, modern agriculture is “primarily production oriented, while nature’s emphasis is upon preserving *potential*” (p.8). The vigor of the agroecosystem relies upon the flow of energy through the system and the nutrient cycling in addition to the actual output of biomass. As an old English

farmers' proverb says, "Live as if you are going to die tomorrow, but farm as if you are going to live forever" (Duncan, 1996, p.1).

Monocultures

Modern agriculture depends upon the use of monocultures, whereby only one variety of a crop is grown, often in large quantities with industrial farming techniques for export from the community. Monocultures represent a simplification of the agroecosystem (Worster, 1990). From the on-farm perspective, the benefits of polycultures over monocultures includes more efficient use of resources, reduction of disease and pests, weed suppression, insurance against crop failure, and increased biomass productivity and stability (Altieri, 1995; Keller & Brummer, 2002). From a larger agricultural perspective, a diverse genetic foundation allows variations for adaptation to change and for crop improvements (Soule & Piper, 1992).

The variety of crops that support the agro-industrial system is increasingly small. According to Mander's (2002) report of Food and Agriculture Organization (FAO) data, 75% of genetic diversity in agriculture was lost over the past century. While people consume around 7,000 species of plants, only 150 species are commercially important, and about 100 compose 90% of the world's current food crops (Thrupp, 1999). The trend of global monocultures affects communities across the world, as neoliberal economic institutions often establish market-based structural adjustment reforms, which lead many countries to trade local food self-reliance for a hand in the global system of industrial agri-business (Carolan, 2003; Heyck, 2002). In the classic scenario, societies drive development by exporting monocultures to the global market while subsidized

imports become the foundation of their food supply. Local people across the world are losing their place-specific expressions of culture and economic self-reliance.

Distancing

Farmer and economist Brewster Kneen (1989) frames the trends of modern agriculture in terms of *distancing*. The term distancing is applied on several levels and encompasses the physical distancing of people from their food supply, the distancing of food from its original state through processing and packaging, the economic distancing as growers receive less money for their crops, and the social distancing as people lose cultural ties to their food (Kneen, 1989). Within the current food system people are physically separated from their food supply in terms of proximity, as exemplified by the statistic that food in the United States travels an average of 1,500 miles to its consumer (Deumling *et al.*, 2003). As food expresses a specific place, such distancing accentuates a division between people and the place that they inhabit. Furthermore, with the main source of food being located far away, people are dependent on the infrastructure of the larger food system and the resources necessary to maintain it.

These various aspects of separation also create an economic distancing of farmers from consumers. For every dollar spent on food, seventy-five cents goes to processors, packagers, shippers, advertisers, and retailers (Kloppenburger *et al.*, 1996). This economic distancing adds to the trends of small farmers going out of business and declining economic foundations for rural communities. Rather than having agricultural systems physically and economically based in local places, the current system is based in the “nowhere/everywhere” of long distance global trade and the laboratory of genetic

engineers (Kloppenburger *et al.*, 1996, p.37). Kloppenburger and his colleagues (1996) aptly sum up the harmful effects of distancing by stating that it represents our separation from the knowledge of how and by whom our food is produced, processed, and transported and that “ultimately, distancing disempowers” (p.38). Supporting locally produced food composes a strong component of sustainable agriculture.

History of Dairy Farming

The history of dairy farming generally parallels the story of agriculture reviewed above. However, there remain some noteworthy distinctions to be discussed. Milk itself is a food laden with cultural context, especially given its role as the primary food source for mammalian infants. Humans began drinking the milk of other animals after the domestication of animals around 9,000 B.C.E. (True, 2003). Since this time, milk has taken on many social meanings for different societies. In the United States, milk is a centerpiece of nutrition and is often thought of as the “perfect food” (DuPuis, 2002, p.17). As with the rest of agriculture in the United States, the early history of dairy farming fit the mold of small farms producing foodstuffs for their households and local communities.

During the Progressive Era, milk started its transition to one of the most highly regulated foods. Milk reform represented one prong of the broader food safety and sanitation movements of the late 1800s (DuPuis, 2002). In 1861, Louis Pasteur discovered pasteurization, a process of heating and cooling to destroy harmful bacteria in liquids (Brennan, 2003). By the 1890s, pasteurization was applied to milk, leading to both reduced risk of disease transport and enhanced keeping quality (DuPuis, 2002).

With pasteurization, milk effectively transitioned into a more industrial product, as distributors could now handle larger volumes and reach a wider range of areas (DuPuis, 2002). As consumers began to expect clean, affordable milk as a foundation of their diet, producers had to overcome the seasonality of cows naturally being dry during the winter months. Farmers who milked during the winter months had increased expenses of feed and associated costs in order to keep the cows producing. As with other forms of farming, overcoming seasonality is a common trait of an industrial approach.

Industrial dairy farming utilizes the classic approach of increased productivity over quality of product without a consideration of externalities. According to sociologist E. Melanie DuPuis (2002), dairy farmers “increasingly became the tender for this increasingly expensive machine” with the tasks of fueling the cow and preventing disease (p.137). The dairy industry experienced a trend of consolidation towards fewer farms with more cows per farm. Industrial dairy farming techniques may include the use of hormones, the use of antibiotics over preventative medicine, confinement in feedlots, a grain-based diet over a ruminant’s natural grass-based diet, and the use of herbicides to control for weeds.

Conventional Milk Pricing

The pricing of milk is a major factor in a dairy farmer’s economic equation. Milk prices are federally established and based on what commodity prices such as butter and cheese trade at the Chicago Mercantile Exchange (McKay, 2004). Before 2000, milk prices were based on “complex price surveys in Wisconsin, Minnesota and other dairyland states” (McKay, 2004). As the pricing of conventional milk tends to “fluctuate

wildly,” larger farms are favored since their economies of scale can handle such price variations (Buechner, 2003). Overall, conventional dairy farmers are at the will of a variable milk-pricing scheme that swings with economic cycles or supply and demand (Humboldt County Department of Community Development Services, 2003).

Sustainable Agriculture

Alternatives to the current system of agriculture often point to a more sustainable approach. The critiques of conventional agriculture bring to question the market failures of a system that does not account for true costs or externalities, such as the effect on the environment, on natural resources, on food quality, and on the social structure of communities (Oelhaf, 1978). Although the specifics of sustainable agriculture vary, recurring themes include ecological, economic, and social sustainability (Esbjornson, 1992; Hassanein, 1999; Horne & McDermott, 2001; Stagl, 2002).

Ecological Sustainability

Ecological sustainability often refers to the use of farming techniques with a holistic view of the farm itself and its affect on the broader environment. More sustainable agroecosystems have highly regenerative capacities that can maintain tight nutrient cycling and energy flows while minimizing off-farm inputs. Soil building with cover crops and manures, crop rotations, promotion of agrobiodiversity, integrated pest management, and conservation tillage capture some of the main techniques that promote healthy agroecosystems. The philosophy of organic farming focuses primarily on the soil building aspect of ecological sustainability, while the regulations of organic farming focus on restricting certain inputs such as chemical pesticides and fertilizers.

Ecological sustainability also captures the farms affect on the broader environment outside its boundaries. Positive aspects include the provision of wildlife habitat. Much of the refinement of the concept of ecological sustainability has come in response to the negative aspects that conventional agriculture has had on the environment, including pesticide and waste runoff, soil erosion, excessive water use, and the use of non-renewable inputs.

Economic Sustainability

Economic viability remains of great concern for farmers, as net real income is 10% less than it was in 1940 (Kittredge, 1996). As economic hardships push many farmers out of business, it is essential that some form of economic justice be reclaimed for farmers. Economic sustainability resonates with agricultural decentralization, or moving from a centralized system where a few agri-businesses receive large profits towards a more local system where smaller farmers receive a fair wage for their crops which, in turn, supports the economic foundation of communities (Berry, 1981; Hassanein, 1999; Carolan, 2003). Direct agricultural markets, often based on face-to-face links between producers and consumers, cut out the middleman and offer an avenue for small-scale growers to reclaim business lost to large corporate producers and distancing (Hinrichs, 2000). Economic sustainability remains a keystone factor for many farmers today.

Social Sustainability

Social aspects of sustainability speak to the benefits of reestablishing *agri-culture* within its social context, which would address many of the inequalities resulting from the

current system of global agri-*business* (Hassanein, 1999). Creating self-reliant communities that are not dependent upon other places is a key component of social sustainability. Local, direct agriculture creates social capital in communities, providing for relationships based on trust and reciprocity (Pretty, 2002). Sustainable systems of agriculture also promote a cultural reconnection of people to the land that sustains them (Berry, 1971; Berry, 1981; Vitek & Jackson, 1996; Pretty, 2002). Agricultural systems that consider social components provide an avenue for economic development and stability for communities.

Social sustainability recognizes the integral role that farmers and farmhands play in our food systems and promotes safe and healthy working conditions (OECD, 2003). The health of farmworkers in association with pesticide use has been a galvanizing issue for social aspects of agricultural sustainability. The effects of these pesticides on the health of the consumer have also brought the issue of food safety to the forefront of discussions about agricultural systems. In addition, social sustainability focuses on the concepts of social justice and food security.

Organic Agriculture and Sustainability

There are a variety of articulations of farming systems that provide alternatives to the conventional system and attempt to reach a higher level of sustainability. Among these approaches are organic farming, biodynamic farming, biointensive farming, Fukuyoka no-till farming, and wild farming. While each of these articulations has a unique focus, they share many of the same basic principles; the differences among these methods vary less than their differences with the conventional system (Oelhaf, 1978). Of

these forms of alternative agriculture, organic farming has become one of the most accepted and common alternatives to the conventional system. As Rigby and Caceres (2001) note, “There is no dispute that sustainable agriculture and organic farming are closely related. There is however disagreement on the exact nature of this relationship” (p.26). Organic farming began as a more comprehensive critique on conventional agriculture, combining ecological, economic, and social aspects. Subsequently, the regulation and increasing market potential of the organic label have led to questions about organic agriculture’s role as primary representative of alternatives to conventional agriculture, as will be discussed further throughout this work.

History of Organic Agriculture: From Farming Method to Social Movement to Industry

The term organic has evolved given its contextual history. In the initial articulations of the term, organic farming represented a *method* of farming. It was only after mainstream agriculture took major shifts away from traditional farming techniques that organic came to represent a *social movement* or stance. As the popularity of organic products grew, the term organic became regulated and, again, morphed. The market opportunity of organic products created an organic *industry* where motives for participation now included market interest in addition to social beliefs.

Early Articulations of the Organic Farming Method

Although organic farming methods have been practiced for centuries or millennia, the explicit articulations of the term in the West originated in early twentieth-century England with advocates such as Sir Albert Howard and Lady Eve Balfour. After spending nearly thirty years as an experimental researcher in India, Sir Albert Howard

began to express the viewpoint that the health of the soil was immediately linked to the health of the animals and the plants (Conford, 2001). Although Howard did not use the word “organic,” his conception of the soil as a living process and his techniques of building composts formed the foundations of the organic method of agriculture (Belasco, 1989). Howard’s work was paralleled by the thoughts of Rudolf Steiner, an Austrian who expressed a more spiritually focused biodynamic method of farming. Both organic and biodynamic methods placed a strong emphasis on the connection between the method of cultivation and the health of the consumer of the agricultural products (Conford, 2001). Lady Eve Balfour promoted the organic approach to farming through her work as the first president of and co-founder of the Soil Association and author of *The Living Soil* (1943). In these early articulations, the term organic maintained its traditional sense of the word, referring to “having the character of living creatures” and denoting a holistic view of food systems (Oelhaf, 1978, p.113). Organic farming referred to a method of farming that was holistic and focused primarily on the health of the soil through attention to chemical-free soil fertility and use of composts and manures.

Organic farming gained much popularity through the work of American J.I. Rodale. In 1940 Rodale began experimenting with Howard’s soil-building, no-chemical style of organic farming on his land in Emmaus, Pennsylvania, where the Rodale Institute is now based (Belasco, 1989; Conford, 2001). Rodale combined his passion for organic farming with his publishing business, founding the *Organic Gardening and Farming* magazine in 1942, which became a major periodical promoting the organic farming

method. Over the years, the Rodale Press became an important player in the history of organic agriculture.

Emergence of the Organic Movement

Although Howard, Balfour, and Rodale expressed criticisms of the industrialization of agriculture, they focused primarily on the methods of organic farming (Vos, 2000; Conford, 2001). However, over the next several decades, organic farming evolved from representing a set of farming techniques to capturing a social movement that countered the mainstream food system. As organic farming historian Phillip Conford (2001) explained, “If organic methods have existed for centuries, the organic movement could begin only once an alternative to them existed” (p.17). Accordingly, as the post-World War II agricultural developments accelerated major shifts in food systems, organic agriculture grew as a social critique of these trends. It was during the late 1960s and early 1970s that organic farming “emerged as a rather more radical and visible social movement” reacting to the times (Vos, 2000, p.246). The growth of Rodale Press’ *Organic Gardening and Farming* from 60,000 subscribers in 1958 to around 800,000 in the early 1970s, captures the rise of the organic movement (Gottlieb, 2001). As the movement grew in popularity, the term organic began to take on more meaning to more people.

The organic movement formed as a response to the trends of the times and was able to combine several ideologies into a movement based on the primacy of our food systems. Guthman (2004) traces the ideology of the organic movement to four social movements: alternative production technologies, the health and pure food crusades, the

1960s counterculture, and the modern environmental movement. Alternative production technologies refer to the technical aspects of organic farming often centered around the health of the soil. Food safety concerns stem from late nineteenth century industrialization and meshed with a more recent focus on food as it relates to health. Food scares of the late 1980s, such as the Alar scare, brought such issues to the forefront of the nation's mind and sparked an increase in organic consumption and transition. The influence of the counterculture and environmentalism further frame the history of the organic movement.

Much of the history and imagery of the organic movement conflates with the history of the late 1960s counterculture, which had a strong center in the San Francisco Bay Area (Belasco, 1989; Guthman, 2003). The counterculture provided a significant statement in American history, with explicit political stances such as questioning the war in Vietnam, combined with new forms of cultural expression and lifestyle. Part of this urban-based counterculture began a "back-to-the-land" movement, with a desire to live a simpler life with a greater connection to the natural world (Gottlieb, 1993; Vos, 2000; Guthman, 2004). While much of the popular history of this time focuses on the more provocative aspects (e.g., sex and drugs) of the counterculture and associated communal lifestyles, many of these back-to-the-landers contributed to a new breed of small-scale farmer committed to organic methods. This group did not generally come from a lineage of farming families, but rather *chose* the farming lifestyle as a way of life and cultural statement (Ingram & Ingram, 2005). Organic farming provided the techniques for back-to-the-landers who were sustaining themselves on the land. The close relationship

between the organic movement and the counterculture has led to a common perception of organic farmers as “hippie farmers,” which has colored much of the recent history of organic agriculture (Guthman, 2004).

In some ways the development of the organic movement parallels that of the environmental movement; however, there remain some noteworthy differences. Rachel Carson’s (1962) *Silent Spring* marked a pivotal occasion for the environmental movement, bringing into question commercial agriculture’s use of synthetic pesticides such as DDT. Although this initial topic for the environmental movement focused on agriculture, the further development of environmentalism in the United States tended to focus on the concept of a pristine wilderness and often vilified agriculture. The philosophy of the organic movement directly challenges such dualisms and, instead, attempts “a radical gesture of reconciliation with nature” (Vos, 2000, p.246). Accordingly, the heart of the organic movement could provide a site for “‘new’ environmentalism where concerns about food safety, land use and social justice are converging with a politics of re-localization”; however, the growth of the organic market has called this role into question (Buck *et al.*, 1997, p.3).

The Organic Movement:
Alternative Food Production, Consumption, and Distribution

During the late 1960s and early 1970s, the meaning of organic grew to represent more than a method of farming; it referred to a philosophy that captured alternative modes of food production, distribution, and consumption (Belasco, 1989; Pollan, 2001). The food production ideals essentially kept with the traditional teachings of organic

farming, focusing on soil health through composts and manures. Organic farming considered the farm system holistically, refuting a reliance on chemical inputs. The organic movement accepted other alternative agricultural techniques such as biodynamic farming, given that these alternative methods countered conventional agriculture with holistic methods (Oelhaf, 1978). However, of all these methods, organic farming grew as the overarching term to capture an entire social movement.

The food distribution aspects associated with the organic movement often took the form of health food stores and co-ops, expressing more decentralized modes of distribution compared to the growing infrastructure of agri-business. Whereas conventional food systems trended towards centralization and dependence on the energy use of long-distance transportation, the organic movement emphasized more direct markets (Belasco, 1989). Food cooperatives became an important site for food distribution and a hub for thought for the organic movement. These cooperatively owned retail markets provided an outlet for small-scale organic farmers and became an important avenue for sharing information and organizing.

The development of a “countercuisine” or a statement on food consumption rounded out the different facets of the socially conceived term organic (Belasco, 1989; Guthman, 2004). In general, the countercuisine focused on organically grown, non-processed food that was often touted as being healthier than the additive-laden, processed food filling mainstream markets. In her wide-reaching 1971 book *Diet for a Small Planet*, Francis Moore Lappe made an ecologically based case for vegetarianism, supporting organic food production and consumption. Also in 1971, Alice Waters

opened her Chez Panisse restaurant in Berkeley, serving a “California cuisine” with fresh, local, seasonal, organically produced food (Guthman, 2004). Waters’ Chez Panisse helped develop the consumption side of the organic market, adding further interpretation to the term organic.

Decentralization

The concept of decentralization provided an underlying theme for many of the articulations of the organic movement. The issue of decentralization has arisen many times throughout the history of the United States. Thomas Jefferson provided some of the most relevant thoughts on the topic, as he touted decentralized agrarian societies as the foundation of communities in the United States (Kemmis, 1990). With the post-World Wars trends of agriculture in the United States, mainstream agriculture moved towards a more centralized infrastructure and organization. As Wendell Berry wrote in 1981, a major weakness of such a system is the “absolute dependence on an enormous and intricate – hence fragile – economic and industrial organization” (p.118). In response, the organic movement called for a more self-reliant foundation for our food systems. For example, as the Rodale Press’s *Organic Gardening and Farming* grew in popularity over the late 1960s, it promoted not only the technical aspects of organic farming, but also espoused social approaches such as “decentralizing the economy at all levels” and the formation of “communities small enough to be reasonably self-regulating and self-supporting” (Gottlieb, 2001, p.234). The organic movement “inverted the bigger-is-better formula” of conventional agriculture, calling for small, diversified farms with comparably more labor-intensive techniques, and more direct and regional

marketing (Belasco, 1989, p.73). As explored below, the increasingly centralized regulation of the organic industry threatens aspects of its inherently decentralized ideology.

California Leads State Level Regulation of Organic

By the early 1970s, the term organic conjured a range of interpretations as it entered the lexicon of more and more people. With the growth of organically produced food in the marketplace, the need for clearer definitions to inform consumers became increasingly important. The ensuing definitions of “organic” focused on the production aspect of the term, rather than trying to capture the more elusive socially driven aspects of distribution, consumption, and philosophy. The first attempt to formally define organic came from the Rodales who established a certification program in 1972 and classified organically grown food as coming from soil with 3% minimum humus content (Guthman, 2004). With its member base in California, the Rodale program evolved into the California Certified Organic Farmers (CCOF) in 1973. CCOF grew to represent one of the more influential players in the history of organic regulations. At its onset, CCOF began as “a ragtag group of about fifty mostly hippie farmers” associated with the counterculture and the back-to-the-land movement (Guthman, 2004, p.112). Nevertheless, CCOF also earned a reputation of being organized and committed to organic agriculture. The CCOF label conveyed legitimacy to the consumer by defining the standards of organically grown and verifying the practices of the participants (Buck *et al.*, 1996). Certifying organizations appeared in other places with significant numbers of organic farmers and organic consumers. Oregon Tilth followed as the next certifying

organization and about a dozen regional certification organizations existed by the end of 1974 (Guthman, 2004). These regionally based certification organizations provided the first step in regulating the term organic.

With third party certifiers such as CCOF in place, organically grown produce became a more common and accepted entity in the marketplace. The growing market niche for organic products contributed to both higher demand and more opportunity for confusion and fraud. CCOF and other private certification organizations were self-regulatory, as the member farmers themselves organized the certifications by setting the standards and doing the inspections (Ingram & Ingram, 2005). With the market growing, organic distributors and marketers, the group with the most to gain from more formal regulations, pushed for legislative recognition of organic (Guthman, 2004). In 1974, Oregon passed a law defining organic (Ingram & Ingram, 2005). In 1979 (and amended in 1982) the first Organic Food Act passed in California, providing a legal definition for organic; however, with an explicit lack of enforcement, the act had no true effect on the regulation of organically produced food (Guthman, 2004).

The 1980s marked a period of expansion for the organic market. Consumer interest grew in the early part of the decade, naturally dictating a need for clear definitions of organic products as a basic act of consumer information and protection. A few cases of fraud highlighted these needs. However, as Ingram and Ingram (2005) explain, the real changes to the regulatory system for organic took effect as a response to the “economic, environmental, and social ills” of conventional agriculture. Specifically, the issue of food safety greatly concerned consumers and sparked interest in organic

food. Consumers began to question the residual effects of consumption of crops treated with pesticides and livestock treated with antibiotics and hormones. These concerns grabbed the nation's attention during several food scares, most notably the Alar scare in 1989 which exposed the carcinogenic effects of a synthetic growth regulator sprayed on orchards so that apples would ripen at a similar time (Ingram & Ingram, 2005; Guthman, 2004). As a result of food scares such as the Alar controversy reaching the mainstream consumers' consciousness, organic and "chemical-free" produce sales increased and reached supermarkets such as Safeway (Ingram & Ingram, 2005). On the heels of such scares, organizations such as CCOF saw increases in membership as producers wanted to get a piece of the developing market niche (Guthman, 2004). Given the consumers' desire for clear information about their food and producers' concern about new entrants into the market, CCOF and others pushed for more stringent regulations, resulting in California's passing of the California Organic Foods Act (COFA) of 1990.

The California Organic Foods Act of 1990 represented the first legislation that both defined organic production practices and provided for enforcement; however, enforcement only applied to cases of confirmed violation while inspection and verification of growing practices were not required (Buck *et al.*, 1996). COFA allowed growers the option of either registering or certifying with the state, leading to some controversy since there is less verification of "registered organic" than "certified organic" (Buck *et al.*, 1996). Farmers who needed the legitimacy of certification for a certain market (i.e., interstate trade, retail contracts) spent the extra effort and money to certify while other farmers simply registered (Guthman, 2004). Accordingly, organic

participants jumped in the years after COFA, as registration was a cheap and easy mode of entry into the organic market (Guthman, 2004). COFA established a list of allowable materials as a major part of the definition of organic, a precedent that still shapes organic definitions today.

Federal Regulations

In addition to California, about 30 other states passed legislation governing organic production by 1990 and relied on private certification programs (Guthman, 2004). The various definitions of organic caused several concerns that prompted federal regulation of the term. As consumer demand increased with a growing market for organic products, consistent labeling became necessary to alleviate consumer confusion. The various state definitions were becoming an increasing deterrent for interstate commerce. National standards provided an avenue to deal with unequal state definitions and claims of fraud.

As part of the 1990 farm bill, Congress passed the Organic Foods Production Act (OFPA) beginning the process of federally mandated regulations for organic food production. As part of the OFPA, the National Organic Standards Board (NOSB) assumed the task of establishing the national standards for organic for submission to the United States Department of Agriculture (USDA). A long ten-year process followed this initial legislation before national standards on the definition of organic were agreed upon.

The NOSB generally provided suggestions to the USDA attuned to needs of the organic community. However, industry and regulatory players generated a “counter-response” to the USDA that was more accepting of industrial agriculture (Gottlieb, 2001,

p.238). The resultant proposed organic rule released by the USDA in December 1997 generally ignored the suggestions of the NOSB. Accordingly, the proposed rule generated much controversy as it was considered a “watery set of standards” that read “like a public repudiation of the organic tradition” (Gottlieb, 2001, p.238; Vos, 2000, p.247). The focus of the controversy surrounded the Big Three, a set of stipulations proposing the allowance of food irradiation, genetically engineered organisms, and sewage sludge under the definition of organic. As Vos (2000) notes, the irony of the proposed allowance of the Big Three is that they were already controversial topics even within the mainstream agro-food system itself. Nearly 300,000 public comments opposed the proposed rule, an outcry exceeding response for any previous USDA action (Gottlieb, 2001). The proposed rule was sent back for revisions and the Big Three were eventually removed and prohibited in the final National Organic Program (NOP) standards.

Some of the discussion surrounding the proposals for the federal regulations questioned the influence that the industrial agro-food players were having on the process and outcome. While farmers wanted to alleviate consumer confusion over the term organic, the influx of agro-food players into the organic industry was seeming to now create more confusion over what exactly organic food was (Vos, 2000). A myriad of questions arose about what should or should not be considered organic.

National Organic Program Standards

The final OFPA rule passed in 2002 and established the NOP’s standards. The structure of the definition of organic in the federal rule primarily rests on the use of the

National List of allowable and prohibited substances (Vos, 2000). The National List registers the synthetic substances that may be used and the nonsynthetic substances that cannot be used. Defining what materials are acceptable for organic production has produced some controversy. Generally, the materials have been divided into the categories of allowed, regulated, and prohibited, with regulated referring to questionable materials with certain restrictions (Guthman, 2004). The National List works to limit the amount of synthetic and/or harmful fertilizers, controls, and amendments that farmers input to their system.

Essentially, organic crop production refers to food grown without the use of prohibited substances on land that has been organic for at least three years prior to harvest (rules differ for organic livestock, as discussed below). The federal rule states that the producer must use organically grown seeds, seedlings, and plant stock when “commercially available” and always in the case of edible sprouts (NOP, 2005, p.47). In addition, the NOP standards call for plans to manage for soil fertility with crop rotations, cover crops, erosion minimization, and green manures and for preventative practices for pests, weeds, and diseases. However, there are not strict regulations regarding the issues of soil fertility and preventative practices. The bulk of the organic definition that can be specifically directed or monitored rests with the list of allowable and prohibited inputs. This contrasts to the weight that the original advocates of the organic movement placed on the process of growing food organically rather than simply on the allowable inputs. So, while the federally regulated definition of organic does preclude many harmful substances from the production of the food and places some emphasis on organic seed

and soil fertility, it does not reach deeper into the aspects of production, distribution, or consumption that shaped the organic movement.

Organic Livestock and Dairy

Organic regulations on livestock have some different nuances than those dealing with plant crops. To be considered organic, newborn livestock must be under organic methods since the last third of gestation. Otherwise, dairy animals must be under organic management for a year prior to production of the milk. The animals must receive organic feed and ruminants must have access to pasture. All livestock must have access to the outdoors and clean living conditions. The NOP regulations restrict the use of growth hormones, antibiotics, and materials on the prohibited list. As the organic regulations attempt to capture conditions of a healthy soil leading to healthy plants, likewise, the regulations for livestock capture the essence of preventative medicine rather than relying on antibiotics. However, the organic regulations state, “The producer must not withhold medical treatment from a sick animal to maintain its organic status” (NOP, 2005, p.51). Preventative measures include rotational grazing, balanced diet, sanitary housing, and stress reduction; in addition, animals may be vaccinated against disease (Organic Farming Research Foundation, 2005). As with all organic production, records and management plans must be kept.

Some of the standards for organic livestock and dairy have been under review and revision. One of the major debates has been around the “access to pasture” clause. While the original federal regulations require that ruminant animals have “access to pasture,” it did not provide further specifications. After public debate and comment the

formal recommendation by the NOSB to the NOP in August 2005 states, “The Organic System Plan should have the goal of providing a significant portion of the total feed requirements as grazed feed but not less than 30% dry matter intake on an average daily basis during the growing season but not less than 120 days per year” (NOSB, 2005). This 120 day access to pasture rule provides clearer definitions than had existed.

Organic From the Consumer’s Perspective

As shown through its history, “organic” exemplifies a concept and word that is not easily defined, morphs through time, and takes on different meanings for different people. With the growing consumer popularity of organic food in the 1980s and 1990s, many of the current discussions of the driving forces of the organic market focus on the consumers’ perception of organic food. Furthermore, considerations of promoting philosophically organic and other forms of sustainable agricultural products depend in part on the purchasing leverage and choices of the consumer.

As discussed earlier, many of the original consumers of organic food attached strong ideals to their food choices, often relating to a more direct connection with the land and a deliberate choice refuting agri-business. These early consumers were a small group of people getting their food from local farms or local natural food stores and co-ops. After this socially oriented group of consumers, much of the next wave of growth in the popularity of organic food was associated with the gentrification of organic food. Guthman (2003) traces the development of organic food from what Belasco (1989) calls “countercuisine” to what critics call “yuppie chow” with the organic salad mix being the symbolic food for this transition and Alice Waters’ Chez Panisse in Berkeley, CA, and

other similar restaurants providing a nexus. After Chez Panisse's opening in 1971, Waters maintained a commitment to local, seasonal, organic food; nevertheless, the chic and popularity of her restaurant and those similar to it cultivated a new culture of organic consumer. Guthman (2003) points to the salad mix as instrumental in this transition; initially consumers viewed organic food as a "systematic alternative to industrialized food" whereas the organic salad mix came to represent a "specialty item" and niche product (p.52).

The food scares of the late 1980s and 1990s initiated a surge in consumer demand for organic food on a broader national level. Given the risk and health concerns associated with food safety issues, consumers began to turn to organic as a means to ensure the quality of the food entering their bodies. Drawing off the NIMBY (Not in My Backyard) form of politics whereby people do not want toxics in their neighborhoods, organic food now correlated with a NIMB (Not in My Body) mentality whereby people refuse questionable items in their bodies (DuPuis, 2002). The controversy over recombinant bovine growth hormone (rBGH or rBST) exemplifies the NIMB dynamic. As a regulator of hormones, rBGH increases lactation, and therefore, increases milk production in cows. After its contentious early 1990s approval by the Food and Drug Administration (FDA), rBGH became the first commercial biotechnology product and a central target of the growing movement opposing the use of genetically engineered food (DuPuis, 2002). Given that the organic standard ensured consumers that their food was free of genetically engineered products, the growth of the anti-genetically engineered food movement spawned an increase in consumer demand of organic food. Of particular

importance was the growth of the organic dairy market in correlation with the anti-rBGH movement.

Today's consumer of organic food does not fit neatly into one category. Rather, recent market research shows that consumers purchase organic food for a number of varied reasons including philosophical reasons, health concerns, environmental concerns, and social concerns (OECD, 2003). In an "increasingly health conscious marketplace," consumers may purchase organic food regardless of environmental or social concerns (DeLind, 2000). As DuPuis (2002) reveals, many organic milk consumers consider themselves "mainstream," meaning that they do not see their consumption as part of any wider social movement (DuPuis, 2002). According to consultant Jerry Dryer, "Organic dairy is mainstream. Two-thirds of the organic milk and cream is delivered to consumers via conventional supermarkets, not the 'health food stores' frequently associated with the organic of days gone by" (Organic Trade Association, 2005b). With such a myriad of rationales for organic consumption, organic clearly has a variety of meanings among consumers.

Growth of the Organic Market

The combination of these varied consumers of organic food continues to propel the growth of the organic market. Since the 1990s, the organic food market sustained a 20% annual growth rate (Ingram & Ingram, 2005). In a 2003 report, the Organisation for Economic Co-operation and Development (OECD) called the organic sector "generally the most rapidly growing sector of agriculture, at anything between 15-30% annually" (p.9). This growth starts from a low base, with the organic sector composing about 2% of

the total agricultural market (Organic Trade Association, 2005a). However, the organic market continues to expand. The Organic Trade Association (2005b) reports that the organic market in the United States is projected “to reach a value of \$30.7 billion by 2007, with a five-year compound annual growth rate of 21.4 percent between 2002 and 2007.” As the organic sector continues to grow, it increasingly becomes a part of mainstream food systems. For example, 2003 statistics reveal that supermarkets and grocery stores, mass merchandisers, and club stores handled 44% of total organic food sales; independent natural product and health food stores and natural grocery chains handled 47%; and direct sales through farmers’ markets, co-ops, foodservice operations, and exports account for 9% (Organic Trade Association, 2005a). The organic market’s shift to the mainstream has raised concerns about whether organic agriculture still represents the alternative system that it began as.

Current Critiques and Paradoxes of Organic Agriculture

As conveyed through its history, organic agriculture’s origins in the United States represented a social movement, whereby producers and consumers consciously chose a method and product differing from mainstream agriculture. With growing consumer popularity and market opportunity in the organic sector, organic agriculture effectively transitioned from a social movement to also include an industry. Mainstream agribusiness continues to incorporate organic products into its market strategies and gain footing in the organic market. While some analysts point to the environmental and human health benefits of increased organic production and sales by mainstream agriculture, others describe organic agriculture as simply being incorporated by

conventional agriculture and losing its status as the most promising alternative to mainstream agribusiness.

Over the past several years, many scholars have articulated a growing paradox of organic agriculture whereby its continued market and consumer favor actually threaten the movement's ability to support the philosophical ideals upon which it began (DeLind, 2000; Vos, 2000, Campbell, 2001; Pollan, 2001, 2003; Guthman, 2004). With this newfound success, entrants into the organic market now compose both those with ideological and economic incentives. Buck *et al.* (1997) describe a "bifurcation among organic growers" between large operations specializing in "the mass production of a few high-growth, high-profit crops" and smaller farmers representing the original organic philosophy, using "artisanal methods" to grow a variety of crops and considering the health of the soil and the farm system (p.8). The conventionalization argument, based largely on Buck *et al.* (1997), contends that organic is simply becoming part of the conventional food system. DeLind (2000) supports this contention, noting that the distribution and economic aspects of today's organic market are looking increasingly like the conventional model rather than representing an alternative. Banks and Marsden (2001) believe that "the opportunities for profit available in the expanding organic market are now . . . leading to a side-lining of the social and local agendas that formerly played a major role in defining 'organics'" (p.118). With these new entrants, food may be certified organic while still supporting systems that are environmentally, economically, and/or socially unjust.

While the conventionalization debate raises important questions about the current nature of organic agriculture, Hall and Mogyorodó (2001) remind that “the structure of beliefs within the organic community is much more complex than a simple conventional vs. alternative orientation” (p.416). Furthermore, Coombes and Campbell (1998) refute “the tendency in recent organics research to regard the processes [of appropriation and substitution] as universal and universalizing” (p.130). Accordingly, place-specific research is warranted in order to better understand the new face of organic agriculture.

Many analysts point to the federal organic standards as the decisive split between the organic movement and the burgeoning organic industry. While the OFPA created a necessary uniformity for the definition of organic, it also facilitated interstate trade, essentially shifting the market away from more local transactions. With the federal standards, smaller farmers lost control of their niche market and many of the ideological values behind the term organic were sacrificed in the rule-making process (Pollan, 2001, 2003). Laura DeLind (2000) aptly describes this scenario as encompassing an “inherent irony – that as organic food and farming are increasingly integrated into national-level agricultural policy, they are increasingly threatened by the disintegration of the very principles upon which they depend” (p.201). As Hudson and Hudson (2003) explain, long-distance trade has the tendency to obscure the social and environmental conditions of production, as the consumer in a capitalistic system tends to view a product as a relationship between things rather than between people. As a result come legitimate concerns about the marginalization of the small-scale organic farmer and the co-option of the organic reputation.

As with many social movements, the organic movement now faces the barrier of being enveloped by the larger entity that it set out to challenge. As Campbell (2001) explains, co-option is a common obstacle to social movements, as the established entity tends to bend without breaking, pulling the social movement towards the center. In scenarios of co-option the social movement gets accepted “as a legitimate policy actor, but without fundamental gains in policy action” (Ingram & Ingram, 2005). Organic agriculture exemplifies the dynamic nature of social change and now represents a range of motivations and practices from its participants resulting in some “contradictory pressures” (Rigby & Caceres, 2001, p.35). This scenario points to big picture topics such as the limitations of green consumerism as a mode for social change (Ingram & Ingram, 2005). It also frames more specific questions about the future of the organic movement and its effect on other forms of sustainable agriculture. The dynamics of the so-called co-option of organic agriculture continues to morph the term “organic” and generate discussion about the future and meaning of organic agriculture.

Farmers’ Reasons for Converting to Organic

One way to investigate the co-option and conventionalization debates is to address the reasons why farmers convert to organic techniques. Identifying farmers’ rationale for converting allows for a better understanding of the dynamic between economic and social motives. Furthermore, as Rigby and Caceres (2001) assert, understanding the range of motives for adopting organic techniques also informs the discussion of the relationship between organic and sustainable agriculture.

Several studies have been done categorizing farmers based on their motivations for converting to organic. Fairweather (1999) looks at elimination factors, motivations, and constraints of farmers and identifies at least four types of organic farmer: pragmatic, committed, hopeful, and frustrated. Pragmatic organic farmers would change to conventional production if price premiums decreased, while committed organic farmers would remain organic. Hopeful organic describes farmers who hope to convert to organic after constraints are addressed, such as finding the right organic crop to grow. Frustrated organic farmers face elimination factors to conversion, such as financial or family commitments. In a similar study, Darnhofer *et al.* (2005) identify three categories of organic farmer based on their motivations: committed organic, pragmatic organic, and environment-conscious but not organic. Committed organic farmers are “deeply rooted in the founding philosophy of organic farming” and “economic considerations are secondary” (Darnhofer *et al.*, 2005, p.48). Pragmatic organic farmers are not primarily interested in “health, ethical, or sustainability aspects,” but, rather, “perceive organic farming as offering a good prospect for securing an income” (Darnhofer *et al.*, 2005, p.48). Darnhofer *et al.* (2005) also identify a group as environment-conscious but not organic farmers. This group contains several subtypes, including those who are resistant to the bureaucracy and regulations of organic and those who already have a sound customer base founded on trust and product quality. Both Fairweather (1999) and Darnhofer *et al.* (2005) agree that there is a diversity of motivations for organic farming. Focusing on dairy farmers, Padel (2002) also notes that there are a number of variables likely to influence the conversion decision, including external factors such as farm-

specific circumstances (e.g., animal health) and personal circumstances. Padel (2002) identifies the price premium as a “very important trigger” for conversion (p.290). These studies reveal various motivations that come into play for farmers’ decision-making on the conversion process.

Economics of Organic From the Farmers’ Perspective

Whether the farmer is coming from a philosophical standpoint, from a business perspective, or somewhere in between, there undoubtedly remain some basic economic factors to be addressed. Looking at the costs and benefits of being certified organic provides one way to assess these factors. Organic farming may have increased costs compared to mainstream agriculture, but, in return, the grower generally receives a higher price premium for the product. It should be noted that many of these costs are compared to industrial agriculture’s standards, which often do not take into account true costs and, rather, leave negative externalities to be absorbed by society. When considering an analysis of organic farming from society’s viewpoint, the benefits of the health of the land, the creation of rural jobs, and long-term yields generally add up to make organic farming a wise decision. Nevertheless, when an individual farmer is deciding whether being certified organic is an economically viable option, several main factors come into play.

In general, organic farming includes the cost of certification, higher labor costs, higher feed and/or seed costs, and a slightly lower short-term yield compared to conventional techniques. The cost of certification has become a form of economic rent, which tends to be a hindrance for smaller farmers often preventing their access to markets

such as to nation-wide distribution (Buck *et al.*, 1997). For growers of row crops, the often prohibitively high cost of organic seed continues to be a much-debated issue. In a similar vein, for dairy farmers, the cost of organic feed for the time when the cows are not on pasture often presents an economic hurdle. However, organic farming removes the costs of inputs such as pesticides, herbicides, chemical fertilizers, and antibiotics. A profile of eight organic dairy farmers in Ontario revealed that organic farms' expenses were 23% lower than conventional farms' "because of their reduced levels of purchased inputs such as seeds, livestock feeds, and livestock replacements, and especially their nonpurchase of synthetic fertilizers, biocides, hormones, and feed additives" (Sholubi *et al.*, 1997, p.134). Of course, the cost-benefit analysis varies for specific farms and specific regions.

On top of these costs of farming and certification, organic techniques may produce a lower short-term yield than chemically driven conventional agriculture. The Organic Farming Research Foundation (OFRF) (2005) refers to a study revealing that organic crops yielded 95% of crops grown under "conventional, high-input conditions." Another study revealed milk yields commonly around 10% lower than conventional yields (Padel & Lampkin, 1994). The transition period is often a time of the greatest financial stress for farmers. During this time farmers often experience the highest decrease in yields as the soil and/or animals are establishing themselves while also having the increased costs of organic seed and/or feed (OFRF, 2005). Once a farm is certified, these costs and slightly decreased yields are balanced by the increased price

premium received for an organic product. Each individual farmer must consider how this increased selling price balances with the costs of organic farming.

An economic analysis over the long-term may influence a farmer's decision-making. For example, organic farming may result in bountiful yields and lower costs over the long-term as the farm becomes more self-regulating and requires fewer inputs. Milk pricing is an important factor for dairy farmers to consider. As Jim Hight (2000) explains, "Dairy profits lie in the balance between feed costs and milk prices" (p.1). As conventional milk prices have a history of wild fluctuations, organic prices in the United States have remained steady (Buechner, 2003). As organic farms increase in number, a farmer must also consider future economic projections for the price of organic products. A study of dairy farms in Ontario revealed net farm income as 52% higher than for the average conventional farm (Sholubi *et al.*, 1997). Again, economic conditions vary by farm and by region.

Economic Development

Rural communities across America have been experiencing a general transformation of their economic foundations. A basis of this transformation is the transition from agricultural communities to those based on manufacturing and service (Browne, 1992). Some rural communities have traditionally based their economies on resource extraction, such as agriculture, logging, mining, and fishing. However, these communities often find themselves in a "boom and bust" pattern, whereby the unsustainable export of the resource generates a short-term influx of money that eventually comes to an end as the resource has been exploited (Freudenburg, 1992).

Without a diverse economic base, the bust of natural resource dependent communities leaves residents facing increasing poverty. The loss of family-owned rural farms across the United States has significantly contributed to the rural economic decline. Wendell Berry (2000) critiques this perspective of the economy as he states, “Every economy is, by definition, a land-using economy. If we are using our land wrong, then something is wrong with our economy” (p.21). Given the state of rural economies throughout the United States, many communities are focusing on strategies for improving economic development.

Economic Development Broadly Defined

Economic development is a cornerstone goal for many communities. Generally speaking, development refers to advances that positively affect individual and social well-being (Galston & Baehler, 1995). Traditionally, economic development has aimed towards improving material indicators such as providing jobs, increasing per capita income, and decreasing poverty, while placing less emphasis on indicators such as quality of life and environmental concerns (Power, 1996a). While these monetary factors remain of primary concern, many communities are beginning to recognize the importance of more qualitative indicators. For example, rather than simply considering factors such as local money income, Power (1996b) suggests that a more apt equation for local economic well-being would also consider factors such as local cost of living and the value of noncommercial environmental qualities.

Sustainable development begins to capture this more holistic view of economic growth for communities. The most common definition of sustainability comes from the

Brundtland Commission which defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Our Common Future, 1987). A basic economic underpinning of sustainability addresses the externalities of a market system. Externalities refer to the positive or negative impacts of market exchanges that are not considered in the economic allocation of resources, thus leading to an inefficient use of these resources (Hackett, 2001). Open pastures creating a viewshed for the public exemplifies a positive externality, while the runoff of manure into a river system exemplifies a negative externality. Much of the philosophy behind sustainability parallels the conceptual framework for healthier systems of agriculture, considering inputs and outputs over time and space. Expanding the notion of capital provides another key concept for understanding the more qualitative aspects of economies. In addition to the traditional concept of financial capital, recognizing other forms of capital such as natural, social, human, and cultural capital provides a more complete view of the function of an economic system. Sustainable rural development combines the goals of economic growth, improvement of social conditions, and conservation of natural values (Pugliese, 2001). Some researchers have established links between organic agriculture and sustainable rural development and call for more research on the topic (Banks & Marsden, 2001; Pugliese, 2001).

Models of Local Economic Development

One of the classic models for framing local economic development is the economic base approach. This theory rests primarily on the importance of exports

bringing money into to the local or regional economy. Accordingly, the underlying notion of the economic base theory is that communities depend on imports from other places. Thus, the main way to grow the economic base (e.g., jobs, income) is to export goods that are in demand elsewhere (Hackett, 2001). The economic base model isolates the key industries that drive the local economy and focuses on developing these industries in order to “inject” money into the local economy (Power, 1996a). This money then sustains local jobs and circulates money to supporting businesses in a community such as supermarkets and hospitals. Accordingly, the multiplier effect refers to money injected into the community from the sale of exports being multiplied as it flows through these supporting businesses (Hackett, 2001). In summary, the export base theory (or economic base theory) divides the local economy into two sectors: the economic base sector that exports goods and brings money in and the “nonexport, nonbasic, residentiary” sector that sells its goods within the community (Shaffer, 1989, p.28).

Although the export economic base theory is one of the most common ways of thinking about local economies, critiques exist about the limitations of this theory. Power (1996a) argues that the economic base theory allows for only a partial understanding of the local economy, which alone would foster dependence and volatility for local communities as opposed to self-reliance. It is through the workings of import/export dependent economies that economic booms and busts are transmitted, while important factors such as the quality of the living environment are not taken into account (Power, 1996a). This rings true for many rural communities whose economic base rests on extracting natural resources. The economic base theory is not the entire picture of how

local economies work and is more suitable for short-term analyses (Power, 1996a; Shafer, 1989).

One of the most significant critiques of the economic base theory is its secondary status for businesses that produce goods for the local community. The import-substitution theory of economic development brings these businesses to the forefront of the local economy alongside the exporting base industries. By producing goods locally rather than importing them, import substitution prevents leakage of money from the community and increases the multiplier effect (Hackett, 2001). As Hackett (2001) points out, economies of scale must be considered as the market price of the import being substituted may decline as other communities continue to pursue export development strategies; however, a community's social and cultural capital may supplement this difference with a higher willingness to pay for locally produced goods and services.

This study situates economic development within the place of Humboldt County, California. Humboldt County officials and residents recognize the need for economic development and place organic agriculture in the county's development strategy. The following chapter presents an overview of Humboldt County, California, in order to better understand this place-based study.

HUMBOLDT COUNTY, CALIFORNIA

Humboldt County provides a unique, place-based setting for an exploration of the contemporary role of organic agriculture. The following descriptions of the geography, social statistics, economy, and culture of Humboldt County provide a background for understanding the current dynamics of organic agriculture in the county and how organic agriculture plays into economic development strategies. Figure 1 (at the end of the text) shows a map of Humboldt County with key geographic features.

Geography

Humboldt County lies on the North Coast of California, approximately 275 miles north of San Francisco. The county covers 2.3 million acres and provides a home to about 130,000 residents. The landscape of the county varies and includes mixed coastal redwood forests to inland oak woodlands, expanses of coastline to wild river systems, open ranches of grazing land to pockets of small farms. Eureka is the county's seat with the largest population of almost 30,000 residents. The majority of the county lives near the coast, while the communities of Willow Creek, the Hoopa Reservation, and Orleans support the inland population. About 25% of the county is public land; with 497,649 acres of federal land, 81,331 acres of state land, 10,487 acres of local land, and 89,543 acres of tribal land (Humboldt County Community Development Services, 2002). Of the tribal land, the Hoopa Reservation makes up the majority with over 87,000 acres. Over 25% of Humboldt County is agricultural land, as will be described in detail in the following chapter.

Several major river systems run through Humboldt County, creating distinct growing and climate conditions. The major rivers include the Klamath (with its major tributary the Trinity), the Eel (with its major tributary the Van Duzen), the Mad, and the Mattole (HCDCDS, 2003). The Klamath Mountains and the Coast Range create climate variations between the temperate coast and the interior regions with their more extreme annual temperature ranges. The coastal region stretches from steep rocky cliffs to the fertile flatlands surrounding Humboldt Bay. Some of the county's prime agricultural soil has developed along the delta soils of the Mad and Eel River and along Humboldt Bay (HCDCDS, 2003). Alluvial lands at the mouths of and along the river systems create productive agricultural land. Upland soils that support annual grasslands are well suited for grazing land.

Social Statistics

Socio-economic statistics for Humboldt County reveal issues of poverty and the need for economic development. Area residents bring in relatively low incomes: the 2000 census data reports the per capita individual income in Humboldt County as \$17,203, while it was \$22,711 in California and \$21,587 for the United States (U.S. Census Bureau, 2005). This contributes to high poverty rates in the county; according to 2000 census data, 19.5% of Humboldt County's population is living in poverty, as compared to 14.2% for California and 12.4% for the United States (U.S. Census Bureau, 2005). At the same time, housing prices have risen significantly in the past several years, making it more difficult for the average family to afford housing. The Humboldt Association of Realtors (HAR) (2005) reports that the housing affordability index, based

on average income and housing prices, has dropped in Humboldt County from almost 50% in 1999 to around 15% in 2005.

Economy

Traditionally, Humboldt County's economy has rested on natural resource industries such as timber, fishing, and agriculture. In more recent history, Humboldt County's timber industry and resource based economy has experienced the decline felt by many rural communities across the Pacific Northwest. The recent sources of growth in the county's economy have been in services, retail sales, and state and local government (Hackett, 1999). Humboldt County's economic bases of timber, agriculture, and fishing have all experienced decades of decline while still remaining important aspects of the county's economy and culture. As is the trend with rural areas with high natural amenities, Humboldt County is attracting some in-migration and has a growing tourism industry (Thrush, 1999). Nevertheless, the county is in need of economic development, as is addressed by the Prosperity! strategy reviewed in the following section.

Review of Prosperity! - The North Coast Strategy

Given its current economic and social statistics, Humboldt County needs sound economic development strategies to build a healthier future for its residents. The county recognizes this need and continues to formulate tactics for appropriate development. In 1999 the Humboldt County Board of Supervisors adopted a Comprehensive Economic Development Strategy entitled *Prosperity! – The North Coast Strategy* and shifted the task of economic development to the county's Planning and Building Department (Doran, 2000). Since then, the Prosperity! plan continues to evolve into a strong working model

for Humboldt County's economic development. The Prosperity Network is composed of business assistance organizations that support the implementation of the plan.

Prosperity! follows the economic base model for development as reviewed above. Under the Prosperity! (2004a) plan, the economic base is organized in "industry clusters," defined as "groups of businesses that rely on relationships among themselves for efficiency and competitiveness" (p.2). The nine main industry clusters supporting the economic base are: 1) lumber and wood products, 2) dairy and dairy processing, 3) education and research, 4) manufacturing, 5) tourism, 6) arts and culture, 7) fisheries, processing, and aquaculture, 8) information and technology, and 9) specialty agriculture and horticulture. The specialty agriculture and horticulture category includes organic agriculture as a key component. Under Prosperity!'s guidance for Humboldt County's economic development, the area's quality of life maintains a high degree of importance. The values that the plan outlines as important for quality of life include rural atmosphere, pastoral settings, appreciation of natural beauty, entrepreneurial spirit, a sense of place, and strong community spirit.

A Geography and Economy of Isolation

Physical isolation defines Humboldt County. Mountain ranges, river systems, and the Pacific Ocean create boundaries on all sides of the county. Humboldt County's separation from the rest of the state and country creates both barriers and benefits. Due in part to this separation, a distinctive cultural identity has persisted in Humboldt County and similar regions along the North Coast, often collectively called the Redwood Empire. As the region is cut off from major urban areas, the relatively small population has

established a cultural identity that often reflects close ties to the natural surroundings of the redwoods, rivers, mountains, and oceans. This “sense of place” adds to the quality of life for Humboldt County residents and establishes the region as a tourist destination.

From an economic perspective, the physical isolation of Humboldt County can create limits to trade. Currently, transportation in and out of the county rests on a system of non-Interstate roadways, a relatively small airport, and the main port of Humboldt Bay. Since 1914, the Northwestern Pacific Railroad historically ran between Napa and Humboldt Counties, facilitating the transportation of goods such as timber and gravel to the San Francisco Bay market. The Federal Railroad Authority closed the Northwestern Pacific in 1998 given the unsafe conditions along the line as it stretched through the mountainous Coast Range with a particularly dangerous area prone to slides in the Eel River Canyon (Sims, 2003). The Port of Humboldt Bay is the largest marine shipping facility between San Francisco and Coos Bay, Oregon, with forest products as its historic highest volume commodity (Dyett & Bhatia Urban and Regional Planners, 2002). Upgrading and modernization of the Port is an important aspect of the region’s economic growth (Dyett & Bhatia Urban and Regional Planners, 2002).

Currently, much of Humboldt County’s transportation runs along a series of non-Interstate highways, namely Highways 101 and 299. These roadways invariably run through mountainous areas where the road follows steep cliffs alongside rivers. Narrow lane widths limit the length of transportation trucks permitted on Route 101 (Dyett & Bhatia Urban and Regional Planners, 2002). Natural conditions such as mudslides during the rainy season often shut down the highways and necessitate frequent repairs. Plans

exist to improve sections of these roadways; nevertheless, Humboldt County's physical isolation provides significant limits to transporting goods in and out of the county.

From an economic perspective, Humboldt County's remoteness has both advantages and disadvantages. This isolation adds to the cost of exporting goods and generating income injections (Hackett, 2001). As Hackett (2001) notes, Humboldt County's remoteness can be viewed in a positive light if economic development tends towards local, import substituting products and services. In addition, Humboldt County's isolation promotes a regional identity, which can assist in marketing strategies. For agricultural products, Humboldt Grass Fed Beef and Humboldt Creamery dairy products represent examples of regional branding.

A Combination of Cultures

The coastal redwood (*Sequoia sempervirens*) greatly contributes to the character and history of the North Coast, a region often called the Redwood Empire. The coastal redwood stands as the tallest tree on Earth as it reaches over 350 feet in height and is among the oldest trees on Earth, regularly exceeding 2,000 years in age. While mature temperate redwood forests once inhabited much of the central California to southern Oregon coast, 95.5% of these ancient old-growth forests have been cut since settlers arrived (Save-the-Redwoods League, 2005). Much of the economic foundation for Humboldt County has been based upon the timber industry, with redwoods often drawing high prices. The recent history surrounding the cutting of the last of the old-growth redwoods reflects certain qualities about the inhabitants of the Redwood Empire.

Many of the timber workers throughout Humboldt County's history have mixed their work and lives with these forests, developing close connections; however, they have also at times been part of a system that contributes to the loss of one of the worlds oldest forest systems. The 1986 hostile takeover of the Pacific Lumber Company by Charles Hurwitz's Houston-based Maxxam Corporation and ensuing liquidation of the redwoods with doubled timber harvest rates and massive old growth sell-offs initiated a major reaction from environmentalists and local residents alike (Herndon, 1991; Chase, 1995). The resultant Timber Wars orchestrated by groups such as Earth First! sometimes brought Humboldt County to the national headlines, although much of the activity often remained in fog behind the Redwood Curtain (Bari, 1994). Such interactions highlight both the long-standing history of working landscapes in Humboldt County where residents are reliant upon extractive natural resource based industries juxtaposed with a newer environmentalism and social consciousness that has infused the region.

As the environmental movement found its footing in the 1970s, northern California established itself as a hub for the movement, paralleled in part by the developing organic movement. Humboldt County felt the effects of these social movements with an influx of back-to-the-landers who left the cities and sought out lifestyles with a more intimate connection with the land. Today, Humboldt County maintains a reputation for its Green politics, even compared to California's already progressive character. For example, in the 2000 election, Green Party candidate Ralph Nader received 13% of the vote in Humboldt County, compared to a California average of 4% and a national average of less than 3% (CNN, 2005). The 2004 Green Party

candidate for President of the United States, David Cobb resides in Eureka, the seat of Humboldt County. Arcata, a town on the northern extent of Humboldt Bay, has a reputation for being one of the nation's most progressive towns. The Utne Reader (2005) has listed Arcata in its "Top Ten Most Enlightened Towns," noting that Arcata was the first town to elect a Green Party majority to its city council. Relating to organic agriculture, in 2004 the Arcata City Council passed a law banning the growth of genetically modified organisms (GMOs). This law passed after the failure of a similar countywide GMO ban that was ill-fated due to "scientific and constitutional flaws in its language" (North Coast Journal, 2004).

Bioregionalism

A bioregionalist perspective on living captures much of the flavor of the environmental sentiment originating on the North Coast. Bioregionalism represents a worldview and lifestyle that exists in harmony with the natural systems of the place in which we live. Bioregionalist thought focuses on the local place of life, or bioregion, as the organizing unit of sustenance and governance. It is from these distinct bioregions that the fundamentals of life (food, water, community, spirit) grow outward. Some of the early articulations of bioregionalism came from Humboldt County resident Jim Dodge (1981), who maintains that the urge being articulated by bioregionalism captures the primary importance of natural systems combined with political decentralization or self-determination and an awareness of the connection between life and existence. Freeman House's (1999) book *Totem Salmon* provides a personal account of bioregionalist living

in the Mattole Valley, captured by statements such as “there is no separation between people and the multitudinous expression of place manifested as food” (p.12).

Bioregionalist thought can be applied to agricultural systems, as described by elaborations on foodsheds, or a place-based perspective on agriculture. A foodshed is a return to a place-based perspective of agriculture and is summed by a call for “self-reliant, locally or regionally based food systems comprised of diversified farms using sustainable practices to supply fresher, more nutritious foodstuffs to small-scale processors and a broad range of consumers to whom producers are linked by the bonds of community as well as economy” (Kloppenburg & Lezberg, 2003, p.93). The concept of the foodshed embraces characteristics of a food system that directly confront the dominant system of industrial, global agriculture as it focuses on food originating from particular places with ties to the local economy and culture. Attributes common to foodsheds include place-based systems over distancing, self-reliance over dependence, diversity over monoculture, and community over competition.

AGRICULTURAL HISTORY AND PATTERNS IN HUMBOLDT COUNTY

As the previous chapter summarized basic characteristics of Humboldt County's economy and culture, this chapter further narrows the focus to a review of agriculture in the county. The chapter begins by placing Humboldt County within the larger context of California agriculture, and then reviews agricultural statistics for the county. Dairy and organic agriculture are explored with emphasis on history, culture, and markets.

Agriculture in California

California itself has a unique agricultural history. Given its later settlement compared to the agrarian tradition on the East Coast and through the Midwest, California has generally developed more along the lines of the industrial paradigm. According to Guthman (2004), California agriculture was industrial from its origins with large landholdings for intensive and specialized fruit production forming its basis after the Gold Rush of the mid-1800s. California has been the top agricultural state in the United States for over fifty years and its agricultural economy ranks sixth among all nations in the world (Guthman, 2004). California ranks as the top dairy producing state in the United States followed by Wisconsin and New York (National Milk Producers Federation, 2005). From 1980 to 2000, California has grown from producing 11% to 19% of the nation's milk (NMPF, 2005). Much of California's industrial agriculture takes place in the Central Valley, with industrial monocultures and dry feedlots. Whereas the average dairy herd in the United States in 2002 was 99 cows; California had the largest average dairy herds, averaging 659 cows (NMPF, 2005).

In addition to being a top industrial agricultural state, California also provided the origins and strength of the organic agriculture movement. As discussed earlier, the organic agriculture movement sprouted from a mixture of counterculture and environmental sentiment in the San Francisco Bay Area during the 1960s and 1970s. As Buck *et al.* (1997) testify, “northern California and the San Francisco Bay Area are arguably the most important centers of organic production and consumption in the U.S., and best illustrate the dynamism within this sector” (p.5). Today, California has more organic farms than any other state, has the second highest amount of certified organic cropland, and produces 47% of the certified organic vegetables in the United States and 66% of the certified organic fruits (Guthman, 2004). California continues to lead much of the development of the organic and sustainable agriculture movements.

Economic and Land Use Descriptions of Agriculture in Humboldt County

Agriculture composes a large part of Humboldt County’s post-European contact economy and identity. Throughout the county’s history, the dairy industry has maintained its role as a major industry in the area. More recently, Humboldt County has gained a reputation for organic agriculture. Due in large part to physical conditions and isolation, Humboldt County generally does not have the large, industrial agricultural operations that dominate California’s agriculture.

Agricultural products contribute significantly to Humboldt County’s economy. Based on payroll numbers, agriculture contributes to 2% of Humboldt County’s total economy and 6% of the base economy (Prosperity!, 2004b). Excluding timber,

Humboldt County's top six agricultural crops and associated 2001 gross values were: 1) Milk and Dairy Products - \$43 million, 2) Nursery Stock - \$34 million, 3) Livestock - \$23 million, 4) Field Crops - \$8 million, 5) Vegetable Crops - \$1 million, and 6) Fruit and Nut - \$0.5 million (HCDCDS, 2003). Much of the value associated with the nursery stock comes from the business of Sun Valley Floral Farms, with \$32 million in gross sales in 2000 (HCDCDS, 2003). Sun Valley is the single largest agricultural employer in Humboldt County and is one of the top three flower distributors in the United States (HCDCDS, 2003). Sun Valley represents Humboldt County's closest form of industrial agriculture.

Marijuana is a rather infamous crop in Humboldt County that contributes to the county's economy and culture. Since the marijuana trade operates in an underground economy, it is difficult to estimate its influence on the county's economy. The agricultural report of Humboldt County's General Plan (2003) notes marijuana outputs and sales "could be a significant economic factor in agriculture production" (p.1-18).

Agricultural lands cover 25% of Humboldt County's 2.3 million acres. Some patterns emerge concerning the type of agriculture and associated land use. For example, ranches for beef production tend to use large plots of land as compared to other types of farming. With an average of 250 cows per ranch, typical ranches are 1,750 acres in the coastal ranchland area, 3,750 acres in the intermediate rangeland area, and 6,250 acres in the intermountain rangeland area (HCDCDS, 2003). Dairy productions have an average of 200 cows per ranch and have a typical size of 300 acres per ranch (HCDCDS, 2003). Row crops use even less agricultural land with a typical size of 10 to 150 acres per farm

(HCDCDS, 2003). These statistics reveal the different types of land use that are common for the different types of agriculture.

Humboldt County's varied climate from the temperate coast to the warmer summer inland regions allows for a variety of produce to be grown. Warm weather row crops and fruits are concentrated in the inland valleys and alluvial lands, while cool weather crops are located in the temperate coastal areas. The Humboldt Bay area has around 330 days per year above freezing, while the inland areas have about 250 days per year above freezing (Eicher & Giraud, 2002). Due to its many microclimates, an expansive variety of produce can be grown in Humboldt County.

Humboldt County supports over 250 ranching families (HCDCDS, 2003). Although cattle production is not a very large industry economically, its associated grazing land covers almost 470,000 acres in Humboldt County (HCDCDS, 2003). These ranchlands contribute to open space in the county, with higher concentrations of ranches located in the Mattole, Eel, and Van Duzen watersheds. Some local beef producers have pursued value-added strategies promoting their grass-fed, hormone and/or antibiotic-free beef.

The Dairy Industry in Humboldt County

Dairy farming has been a major economic and cultural influence throughout Humboldt County's history. In the mid to late 1800's, the county supplied a large portion of the dairy products consumed in the growing San Francisco Bay Area (Hight, 2000). Humboldt dairy farmers made use of natural openings such as Table Bluff to house their herds (HCDCDS, 2003). As Jim Hight (2000) explains, "After World War II, better

refrigeration and interstate highways allowed dairies to move further from the cities they served, and the San Joaquin Valley became the dominant California dairy region” (p.1). As much of the nation was forming “large-scale milkshed transportation systems” at this time, the isolation of parts of California allowed for regional systems to be maintained (DuPuis, 2002, p.20). Humboldt County fits this description, with its significant physical isolation from main urban hubs. Counties in the San Joaquin Valley increased their dairy production and today supply over 70% of California’s milk production (Hight, 2000). While Humboldt County produces only 1% of California’s milk, dairy farming remains of great economic and cultural importance within the county.

As of 2000, Humboldt County’s dairy industry provided jobs for about 400 people and kept four milk processors operating (Hight, 2000). Humboldt Creamery is the county’s largest processor, currently providing jobs for approximately 225 people (Lisa Carnahan, personal communication, June 5, 2006). Other processors include Rumiano Cheese Co., Parmillano Cheese Co., and Loleta Cheese Co.

Since it was founded in 1929, the Humboldt Creamery Association has maintained an important presence in Humboldt County. The Creamery is a member-owned cooperative of 62 local dairy farmers and is the oldest active dairy co-op in the state (Humboldt Creamery, 2005). Many of the current farmer members can trace their family roots back to the original members of the Creamery. As an association, Humboldt Creamery members have agreed not to use the genetically engineered bovine growth hormone rBGH (or rBST) on their cows. Milk is processed at the Creamery for fluid milk products (such as fluid milk, butter, and cheese), milk powder, and ice cream.

Recently, Humboldt Creamery has gone through a period of expansion with the acquisition of competing ice cream companies and the addition and consolidation of facilities (Lisa Carnahan, personal communication, June 5, 2006).

Humboldt County's climate generates much of the identity of its dairy industry. The moist, fertile coastal regions support pasturelands that are ideal for grazing of dairy herds. The temperate climate allows these lands to be productive for most of the year supporting cows grazing on this open pasture.

Humboldt County's isolation and distinction from the larger dairy areas of California contribute to the county's open space and aesthetic. Dairy farms in Humboldt County generally run 200 cows on 300 acres of open pastureland, as compared to the average state herd size of 659 cows (NMPF, 2005) and the major dairies of the San Joaquin Valley where 2,000 cows are common (Hight, 2000). Green pastures with healthy grazing cows add to the rural landscape of Humboldt County that appeals to local residents and tourists alike. This open space often serves as bird habitat.

As with many rural communities, Humboldt County's dairy farms have been in decline due to the trends of consolidation and development. For example, from 1980 to 2000 the area between Blue Lake and Arcata lost 30 dairy operations (HCDCDS, 2003). One emerging solution to the decline of the rural family dairy is transitioning to organic dairy production, as will be further discussed below.

Organic Agriculture in Humboldt County

As is the case throughout the United States, organic farming is a growing trend in Humboldt County. Humboldt County has been a site of organic farming since the origins

of the organic movement, both with homegrown organic farmers and transplanted back-to-the-landers. As the organic movement has transformed with its increased popularity and regulations, so has the face of organic farming in Humboldt County.

While Humboldt County has had farmers growing by the organic method for decades, it has been since 1992 that organic registrations have occurred, as required by the California Organic Foods Act of 1990. In 1992, 31 businesses in Humboldt County registered organic (Eicher & Giraud, 2002). Through the following decade, organic registration grew at about 10% per year reaching 74 organic registrants in 2001 (Eicher & Giraud, 2002). These 2001 registrants included 70 growers totaling 300 acres of organic land, 1 dairy with 115 acres, 1 dairy processor, and 2 handlers; less than a quarter of these registrants were certified organic (Eicher & Giraud, 2002).

The federal OFPA regulation began implementation in 2002, requiring certification for those with greater than \$5,000 annual revenue from organic sales. Accordingly, organic farmers who had previously registered but not certified organic, usually for economic reasons, had to decide whether to certify or drop the organic name. In 2002, Humboldt County saw a drop in organic registration with a total of 63 businesses registered and an increase in registered growers who were also certified (Eicher, 2004). Focusing on organic growers in particular (excluding dairy, beef, processors, and handlers), 70 growers registered organic in 2001 with 20% certified while 60 growers registered organic in 2004 with 37% certified (Eicher, 2004). As Annie Eicher (2004) of the Organic Farming Program notes, "It is important to remember that these farmers are still using organic farming techniques and that the statistical drop in

number of registered growers does not represent an actual decline in the level of organic production in the county” (p.3). The grant-funded Organic Farming Program began in Humboldt County in 2002 with the goal of increasing and disseminating knowledge about organic and sustainable agriculture. Many of the statistics on organic agriculture in Humboldt County in this study come from reports from the Organic Farming Program.

Statistics over the past several years reveal the growth of organic certification by dairy farmers in Humboldt County. The first organic dairy certified in 2001, another dairy certified in 2002, and by 2004 there were 10 certified organic dairies in Humboldt County (Eicher, 2004). Currently, 16 of the Creamery’s dairy producers have applied for organic certification (Lisa Carnahan, personal communication, June 6, 2005). The fluid milk processing plant at the Creamery has been certified organic and now runs six days a week to handle the demand (Lisa Carnahan, personal communication, June 6, 2005). In addition there is growing interest in organic meat production with one certified organic beef grower in 2004 (Eicher, 2004). Having access to pasture is a key requirement for organic livestock, making Humboldt County a prime location for an organic beef and milkshed. Organic forage crops have grown in association with the feed needs of organic cows.

Organic dairy and meat operations cover substantially more acreage than organic produce growers. According to the 2001 data, most of Humboldt County’s organic farms, excluding meat and dairy, range from less than one acre to 20 acres, with 80% of the growers having farms less than 5 acres (Eicher & Giraud, 2002). The certification of

organic dairies and beef pastureland in Humboldt County has largely increased the total organic acreage from about 300 acres in 2000 to over 6,000 acres in 2004 (Eicher, 2004).

In addition, the organic dairies have also added significantly to the total value of organic products in Humboldt County. For the organic crop growers, the 2001 data reveals that larger farm sizes correlate with higher revenues and that over 50% of the total gross revenue from organic crop sales came from 5% of the growers (Eicher & Giraud, 2002). Eicher and Giraud (2002) explain that this trend matches that of California where 2% of organic growers account for half of the total gross sales. Eicher and Giraud (2002) assume that farming is not the sole income for most organic growers in Humboldt County.

Organic farms are located throughout Humboldt County. The main areas of production for organic growers include the northern part of the county near the Bay, to the east along the Trinity River, and to the south along the Eel River (Eicher & Giraud, 2002). These organic farms generate over 100 different crops, including fruits, vegetables, nuts, wine grapes, cut flowers, and herbs (Eicher, 2004).

Marketing for Humboldt County's Organic Growers

Organic growers in Humboldt County have a variety of markets for their produce. Produce for sale in county generally goes through the following avenues: local retail stores, Farmers' Markets, Community Supported Agriculture (CSA), and restaurants. Organic produce for sale out of county generally is sold to wholesale distributors. Much of the wholesale export of Humboldt County's organic produce goes through distributors

such as Veritable Vegetable. Veritable Vegetable is a San Francisco based company that is the nation's oldest distributor of certified organic produce, since 1974.

A variety of local retail markets purchase produce from Humboldt County's organic farmers. Such local retail markets include the North Coast Co-op, Eureka Natural Foods, Wildberries Marketplace, and Murphy's Market. In addition, larger national supermarkets such as Safeway and Ray's also purchase some local produce.

The North Coast Co-op has provided continued support for local organic farmers since its creation in 1973. As some of the original back-to-the-land and organic farmers were first starting out, the Co-op provided contracts and a secure market for their produce, helping to jumpstart the operations of these small farmers (Karen Brooks, personal communication, February 20, 2006). As was the scenario in many regions, the organic agriculture movement paralleled and was supported by the growth of food cooperatives. The North Coast Co-op has been the largest purchaser of the area's organic produce, with this volume growing about 14% a year since the mid-1980s (Hight, 2000). In 1998, the Co-op's wholesale purchases from local organic growers totaled nearly \$300,000 (Hight, 2000). As the Produce Manager of the Co-op explained, the Co-op is 98% organic and looking to become a certified organic store (Megan Blodgett, personal communication, February 20, 2006). While local, organic produce is preferred, the Co-op does import from out of the area to get organic produce that is not available locally (Megan Blodgett, personal communication, February 20, 2006). Accordingly, organic certification is important for local growers supplying to the North Coast Co-op. As Karen Brooks, Marketing Director of the North Coast Co-op, explained, there are

instances when the Co-op supports local options that are not organic, such as the Co-op label grass-fed beef (personal communication, February 20, 2006). In the produce department, the manager is currently focusing on better labeling for local products (Megan Blodgett, personal communication, February 20, 2006). Overall, the North Coast Co-op continues to be a strong supporter of Humboldt County's organic and local farmers.

Farmers' Markets throughout Humboldt County provide an avenue for direct sales of local organic produce. The North Coast Growers' Association (NCGA) runs the largest Farmers' Markets in Humboldt County including two in Arcata, two in Eureka, and one in McKinleyville. The NCGA was formed in 1979 by a handful of farmers selling produce out of their trucks in downtown Arcata. NCGA was one of the first four Certified Farmers' Markets in California and now stands as the longest continuously running Certified Farmers' Market in California (NCGA, 2005). Currently in its 27th year, NCGA has over 100 members. The Saturday Arcata Plaza market draws in over 50 vendors and many customers, complete with music and a festive community atmosphere. In addition to the five markets run by the North Coast Growers' Association, there are six other Farmers' Markets in Humboldt County in Fortuna, Willow Creek, Trinidad, Garberville, Shelter Cove, and Blue Lake. Farmers' Markets provide an outlet for local growers to directly market their produce to local customers, eliminating the costs of middlemen. The popularity of the Farmers' Markets in Humboldt County creates a viable market for many local growers. While not all the produce at the Farmers' Markets

is organic, a direct relationship between buyer and customer is maintained, allowing for an exchange of information regarding growing practices.

CSA also provides a direct link between farmer and customer. However, as compared to Farmers' Markets where growers and customers go to a location to exchange goods, in the CSA relationship the customer comes to the farm to pick up a weekly share of produce. Essentially, CSA is a risk-sharing agreement between local producers and consumers, whereby the customer agrees to pay in advance for a share in the produce from the farm for the season (Groh & McFadden, 1997). Accordingly, the farmer captures a reliable income and covers operating costs while the customer receives a consistent supply of fresh, organic produce. The customer shares in the risk of a poor growing season by providing an economic safety net for the farmer who traditionally assumes this risk alone.

Although most CSA farmers practice organic or stricter farming methods, not all CSAs are certified organic. According to a 1999 survey, 42% of the over 1000 nationwide CSA farms were certified organic, while 43% were organic but not certified (Lass *et al.*, 1999). The face-to-face connection between producer and consumer often provides for trust that can replace a certification process. The generation of trust between individuals as opposed to trust in institutions is maintained as one of the attributes of CSA (Stagl, 2002). CSA is a relatively new, though increasingly popular, movement in the United States, having grown from two CSA farms in 1986 to over 1,000 CSA farms by 1999 (Lass *et al.*, 1999). Humboldt County currently has three CSA farms.

Marketing for Humboldt County's Organic Dairies

As a cooperative, Humboldt Creamery receives the milk supplied by dairy farms in Humboldt County and markets the resultant products. Traditionally, this milk is processed and distributed from the Creamery's facilities in Fernbridge as fluid milk products (such as fluid milk, cheese, and butter), milk powder, and ice cream. The Creamery's milk products have been in regional, national, and international markets. After several local dairy farmers transitioned to organic, Humboldt Creamery decided to certify its plant according to organic regulations. Since then the Creamery has shifted a good portion of its focus to marketing its organic products both nationally and regionally. While Humboldt Creamery manages the market for its members, other opportunities with organic dairy exist in the county, such as the family-run Loleta Cheese Factory.

Pressures on Humboldt County Agricultural Land

As is the case in many rural places across the nation, Humboldt County's agricultural land is subject to barriers and pressures to its continued productive use. In 2003 Ben Morehead published results of his survey of hundreds of agricultural producers and of the general public eliciting opinions on agricultural issues in the Humboldt County. Morehead (2003) found that agricultural landowners and producers observe that the three "major threats to a viable future for agricultural production in Humboldt County" are 1) limited/decreasing land availability, 2) regulations, and 3) marginal profits (p.5). These factors contribute to the loss of agricultural land in Humboldt County; for example, 64,282 acres were lost between 1982 and 1997 (Board, 2003).

The limited and decreasing land availability is generally due to residential development reducing the amount of available land for agricultural purposes and the increasing real estate prices making it more difficult to purchase agricultural land (Morehead, 2003). As Tempra Board (2003) of the Northcoast Regional Land Trust explains:

Developers from southern California and the Bay Area are purchasing and converting the most productive, valuable, and desirable bottomlands for residential development. This not only results in the loss of agricultural production, but fuels environmentally destructive, sprawling development on the outskirts of Northcoast cities (p.4).

A study by Smith and Giraud (2001) shows that agricultural land under the protection of the Coastal Act has remained in production while inland grazing lands face a higher loss of productive land, especially as subdivided ranchettes are created.

Morehead's (2003) report conveys the economic stress facing many farmers in Humboldt County. Based on survey results such as less than one-third of producers had increasing profits over the past five years, Morehead (2003) concludes, "...the majority of local producers are financially 'just making it'" (p.7). When asked how to best maintain productive agricultural lands in Humboldt County, producers responded that the top ranked approach is improving the agricultural economy through strategies such as marketing and diversification (Morehead, 2003). Eighty-seven percent of producers agree that increasing local markets for products is an avenue for increasing local production and business (Morehead, 2003). Morehead (2003) complemented his survey of producers with a survey of the general public showing strong support of the protection of agricultural land from conversion.

METHODS

This research aims to ascertain Humboldt County organic farmers' perspectives on topics regarding organic agriculture, such as reasons for going organic, social values, economic concerns, farming techniques, and federal regulations. To gain the richness of responses necessary for these nuanced topics, I conducted semi-standardized, in-depth qualitative interviews as the primary method of investigation. Semi-standardized interviews allowed for pre-determined key questions to be systematically asked, while also allowing the interviewee freedom of response (Berg, 2004). As Padel (2002) reports, descriptive qualitative research is better suited than survey research to investigate the "complex change process" of conversion to organic farming. Darnhofer *et al.* (2005) note the appropriateness of in-depth interviews for understanding farmer decision-making on the organic conversion process given that these motivations are complex with interrelated factors. These interviews provided farmers' perspectives on pertinent topics in their own words.

Previous Research

As organic agriculture increases in popularity, research on various aspects of organic agriculture have also become more prolific. However, as Fairweather (1999) notes, "research on organic farmers is popular but has seldom specifically focused on their motivations and decision making" (p.51). Since Fairweather's (1999) study, there have been several more studies on the motivations for conversion (e.g., Padel, 2002; Darnhofer *et al.*, 2005). As Hall and Mogyorody (2001) attest, the nature of these relationships is place-specific and more empirical data is warranted. Accordingly, this

study provides research on the particular place of Humboldt County, adding to the growing body of work on the motivations of organic farmers.

Study Participants

I conducted a total of 17 in-depth semi-standardized interviews. I interviewed eight organic dairy farmers in Humboldt County and nine row crop growers in Humboldt County (seven certified organic and two non-certified organic CSA farmers). Contact information for the farmers came from a 2004 version of the list of “Humboldt County Organic Registrants” obtained from the Organic Farming Program and from the 2005 version of the North Coast Growers’ Association member list.

I interviewed eight of the ten organic dairy farmers in Humboldt County certified in 2004, capturing the majority of this population. Attempts were made to contact and interview all of the organic dairy farmers on the county’s list of registrants.

Supplemental perspectives on organic dairy farming came from attendance and note taking at the Second Annual Western Organic Dairy Conference, held on April 1 and 2, 2005, at Humboldt State University in Arcata, California.

I interviewed seven certified organic row crop growers in Humboldt County and two CSA farmers who utilize organic methods but are not certified. Given the high number of registered organic growers in Humboldt County, over 60, I selected key-informant interviewees based on certain criteria. As a first criterion, I selected certified rather than registered organic growers. Organic growers in the county include producers of a large variety of crops including vegetables, fruits, hay, flowers, herbs, and other commodities. I chose to focus on growers of edible vegetable row crops who may

supplement with fruits, hay, etc. From this category, I then narrowed my interviewees down to the key-informants who are known and respected in the field as top producers and who make their primary income from farming. Once these criteria were met, I further narrowed the group to those who would represent different geographic locations, marketing strategies, and number of years farming. One of the growers interviewed was an organic seed producer, selected to provide a perspective on that specific field.

Data Collection

Interviewees were first contacted by phone, where I identified myself and explained the topic of my research. Confidentiality and the freedom to not answer any question were offered both on the phone and before the interview. If the farmer agreed to an interview, we set up a date and location to meet. The meeting place was either at the participant's farm or home or at a neutral location such as a coffee shop. Some interviewees offered tours of their farm and facilities, allowing me to see a range of agricultural operations throughout Humboldt County. During this interview process I traveled throughout various parts of Humboldt County, through the open expanses of dairy land in the Eel River Bottoms and to niches of fertile farmland supporting row crops.

Before each interview began, I explained that the participants had the freedom to not answer any question and asked if they wanted their responses kept confidential. The participants were also notified of my recording of the interview, and assured that it would only be used for transcription purposes. Interviews generally lasted from half an hour to an hour. All interviews with farmers occurred in 2005.

The in-depth, semi-standardized interviews included both open and closed ended questions. Appendix A shows the interview protocol used for the farmers. While this template shows the structured list of interview questions, interviewees were allowed to elaborate on and emphasize topics of importance to them. In such circumstances, probing questions were added to gain further information. The main topics that were discussed in the farmer interviews included reasons for going organic, difficulties with the certification process, reasons for farming, values behind farming, family history of farming, reflections on the organic movement, marketing strategies, on-farm economic viability, and organic farming's effect on Humboldt County's economy.

Interview Format

The interviews began with a series of non-intrusive demographic questions in order to gather this information and establish rapport with the interviewee. Topics included farm location, size, type, and farming background. Then, I asked a series of essential questions to better understand the farmer's rationale for being certified organic. In order to gain the most immediate response, the first question of this series asked why the farmer chose to be certified organic. Specific questions on the transition process and organic regulations followed this question. I, then, inquired about what values or philosophy underlie their farming style or technique, with the goal of allowing the farmer to put into his or her own words what deeper values are associated with their farming rather than being pigeonholed into the category of organic farming and all of its associations. Next, I specifically asked the farmer's opinion on the social movement aspects of organic farming. Depending on the farmer's response, appropriate probing

questions followed. The subsequent series of questions focused on markets, economy, and income. I closed by asking the farmer if there was anything else that he or she would like to add, in order to give the interviewee a chance to bring up or elaborate on topics of importance.

Data Analysis

The interviews were recorded and transcribed for effectiveness of evaluation. Given that several of the farmers requested confidentiality, a coding scheme was devised for all farmer participants. Organic dairy farmers were given the coding of “Dairy” followed by a number. Organic row crop growers were given the coding of “Farmer” followed by a number. In the cases where a farming couple were both interviewed, A and B were used to distinguish between the partners. In the presentation and discussion of my findings, I sometimes did not include references to the farmer ID code in order to maintain confidentiality.

To analyze this data I followed standard analysis procedures for qualitative interviewing (Rubin & Rubin, 1995). I organized the interview transcripts by themes and noted trends in responses. The themes were based on the topics of my interview questions and the topics that arose from the interviews themselves. Key words and concepts guided the analysis. The responses among and across categories were compared in order to discover trends and nuances.

RESULTS AND ANALYSIS

This chapter presents the results of the semi-standardized, in-depth interviews with organic farmers in Humboldt County and is divided into sections based on the themes from the interview questions and responses. The chapter begins with a comparison of the different interviewed populations, regarding land demographics and family background. Then, a detailed look at the different farming populations follows; first of the dairy farmers and then of the row crop growers. For each population, the themes focus on farmers' reasons for going organic, values behind farming, views on the social aspects of organic agriculture, views on the organic regulations, and perspectives on farm and county level economics.

Background on Organic Dairy Farmers and Organic Row Crop Growers

This section presents the results of questions asked regarding the demographics of the farming operations and the farming histories and backgrounds of the interviewees.

Farm Demographics: Location, Acreage, Employees, Land Ownership

The dairy and row crop farms focused on in this study have different demographic descriptions. Table 1 (located at the end of the text) summarizes some of these distinctions. Given the appropriateness of Humboldt County's fertile bottomlands for dairying, dairy farms are general located on these coastal alluvial flats. The dairy farms in this study were concentrated in the Eel River Bottoms located near the mid-county towns of Loleta and Ferndale. The row crop growers farmed on a wider variety of land types and microclimates. The farms included in this study range from cooler, temperate

parcels of land near the bottomlands up and out of the fog belt to the inland river valleys surrounded by mountains with warmer summers and cooler winters. The row crop growers tended to utilize a wider range of climates and land types, contributing to a wide variety of crops produced in Humboldt County.

The row crop growers tended to farm on relatively small parcels of land. Of those interviewed, four farmers made a living on less than five acres, three on 10 to 15 acres, and two on over 50 acres of land. All of these farms had a vast variety of crops. For example, one farmer grew 75 varieties on less than five acres and another grew 200 varieties on 10 to 15 acres.

The dairies covered relatively large parcels of land. Of those interviewed, three dairy farmers worked on 150 to 250 acres, three on 300 to 500 acres, and two on over 1,500 acres. The two larger dairies employed more people with 14 and 49 employees. The rest of the dairies had employees on a similar level as the row crop growers: a range of being run solely by family to employing up to five people. Depending on the operation, some of this employment was seasonal.

Regardless of the number of employees on board, all the farmers interviewed were actively involved in their operations. Unlike other areas of the state and country with more owner-absentee farms, the representative sample of Humboldt County farmers revealed a very hands-on ethic from the owners. In addition, many of the farmers interviewed had family-run operations, including married partners, siblings, children, and other relatives.

The farmers interviewed revealed different forms of land occupancy. Of the row crop growers, five owned their farmland, two leased most of the farmland, and one owned half and leased half. Of the landowners, one credited the existence of a conservation easement on the land for the possibility of ownership. The final row crop grower farmed on a piece of land owned by the city of Arcata. In this unique situation, this land is designated as a city park for educational purposes.

One farmer expressed a strong point of view on the topic of ownership of farmland:

That's one thing about sustainability and farming. I feel that you need to be able to earn enough at it to be able to [own the land], otherwise I question the sustainability . . . [I]t's gonna take a lifetime to pay it off, but if you're gonna make a living at farming, you should be able to earn that . . . I feel you have more at stake when it's owned. (Farmer 5).

Accordingly, ownership of land plays into the farmers' economic stability and sense of place.

In all cases the dairy farmers worked larger parcels of land than the row crop farmers. The dairy farmers also revealed a combination of ownership and leasing. The dairy farmers interviewed revealed a generally even spread of agreements from owning the land, owning part of the land and leasing part, to leasing land from family or friends.

External Benefits of Humboldt County Farms

Although it was not one of my interview questions, several of the farmers brought up the external benefits that their land provides for the community, in terms of open space, rural quality of life, and tourist appeal:

So many people come out and they love it . . . it's a way of life that a lot of people want to preserve . . . it just fits in this area . . . with the tourism . . . the open areas and open spaces, it's just a nice thing for people to be able to see. (Dairy 3).

All of my fields are on dead end roads, and it's amazing how many people come and drive by slow and turn around and drive by again and get out and take pictures of the orchards. It's amazing how many people need that and need to see that. (Farmer 4).

Whether it is a large dairy farm with wide-open spaces or a few acres of melons and eggplants, Humboldt County's organic farms provide aesthetic and quality of life benefits for its residents.

Farming Background

Questions on the farming background of the interviewees produced responses that varied between farmer populations regarding their history with farming and history in Humboldt County. In a related question, farmers also spoke to the reasons why they decided to pursue farming.

Family History

The interviewed population of organic dairy farmers in Humboldt County truly represents generational family farming situated in a particular region. All the organic dairy farmers interviewed had family backgrounds in farming and family histories in Humboldt County. Of these interviewees, only one did not have a history of dairy farming, but rather of potato farming in Humboldt County. Many of the interviewees spoke of long lineages of dairy farming, up to four generations in Humboldt County. In response to how long dairy farming was in his family, one dairy farmer answered, "Oh . . . as long as I could remember . . . on both sides. My grandparents talk about their parents

. . .” (Dairy 2). After explaining their family lineage, another dairy farmer concluded, “We’ve been here all our lives” (Dairy 8).

The population of produce growers reflected more diverse backgrounds, often first-generation farmers and first-generation residents in Humboldt County. Four of the growers interviewed were first-generation farmers, moving to Humboldt County from other regions. Interestingly, three of the farmers explained that farming skipped a generation in their families, with grandfathers farming in other regions. Two of the row crop growers interviewed came from farming families, and these were also the only two row crop growers with family lineages in Humboldt County.

Reasons for Farming

The first-generation growers generally placed emphasis on social values supporting their reasons for farming. Multi-generational farmers grew up with farming, having it as an example their entire lives. As a multi-generation dairy farmer explained, “There is nothing else . . . ever since I was a little kid that’s all I ever wanted to do” (Dairy 2). In general, the first-generation growers gave more involved responses when asked why they began farming. For them it was more of a conscious choice that differed from their family histories. The following is an assortment of responses by first-generation growers when asked why they began farming:

I love being outside and growing things and I wouldn’t want to do anything else with my time What initially got me interested in even thinking about farming is how important it is today because of how screwed up the food system is and how it seems like there is a lot of work that needs to be done there. As far as making a positive change, for myself, that’s what I can contribute is helping with changing that a little bit. (Farmer 1).

I began farming because I wanted to learn sustainable living and I thought that I needed to get paid I figured that one of the key elements of sustainable living is growing your own food and no better way to learn than to be completely absorbed in the process. (Farmer 2).

I was seeking work and a daily life that had meaning to me I was always drawn to food production. I pursued an apprenticeship and really fell in love with all of this [I]t's very important to me to be physical and outdoors and to engage all parts of myself. So, I feel like this work does engage me on many different levels – from politically, spiritually, emotionally, intellectually, physically – it's all-encompassing in that way, so it's very satisfying personally. Then, it was also work that I could believe in and feel good about on a daily basis. I feel like, it's kinda crazy chaos out there, and doing this kinda work is positive and its creating beauty and things that we need, food, in a way that is good for the earth. (Farmer 3).

It was being outdoors and being in touch with the environment, being connected with the seasons like I was helping nature, helping the earth (*laughs*) by not being so intrusive, not using the chemicals, not using sprays, leaving a smaller footprint than maybe someone in the Central Valley. (Farmer 4).

These first-generation growers generally associated social motives combined with a love of the lifestyle. The two produce growers who came from farming families answered more along the lines of the multi-generational dairy farmers: “It's in my blood, I can't help myself” (Farmer 5) and “To do something with the family land a job that I didn't have to leave home a lot interest in gardening.” (Farmer 9). Accordingly, it seems as though answers varied by family history in farming rather than type of farming.

Perspectives from Organic Dairy Farmers in Humboldt County

This section focuses on the responses of the interviewed dairy farmers. The responses of the dairy farmers and row crop growers are presented in separate sections to

allow for an in-depth presentation of nuanced issues particular to each group while still following the same main topics.

Rationale for Going Organic

One of the first key questions asked of the interviewees was why they chose to be certified organic. Asking this question early in the interview allowed for an immediate response unbiased by further questioning. The organic dairy farmers provided responses generating similar themes for the entire population.

The organic dairy farmers expressed that their rationale for transitioning to organic was a combination of both economic incentive and a natural reflection of their dairying values and techniques. All of the farmers interviewed noted a strong economic component for their decision-making, referring to the “market,” “price,” “business,” or “economics.” In addition, all of the farmers also mentioned that going organic was a natural transition since their style of farming was already quite similar. The responses of the following dairy farmers capture these perspectives:

Organic was a way to achieve economic stability in an industry, which has been very difficult with up and down prices. And it really was a natural progression for us anyway, because we managed our fields organic prior to certifying our cows (Dairy 5).

It just made sense for us because other than the documentation there wasn't a lot that we had to change. We were already producing this product pretty much. So, all it is for us is to get it documented and certified and we can get a better price for our milk doing the same thing We didn't fertilize our pastures, we raise all our own animals, we weren't heavy into pushing our cows production-wise, we weren't heavy on the antibiotics. (Dairy 7).

We do get paid more than a conventional guy for producing our milk, but our feed costs are a lot more [I]f I wanted to be conventional I could

get a lot more milk of these cows and a lot more out of the land, but to me, you're abusing the land and the cows, and that just goes against what I'm about. (Dairy 2).

It's my philosophy anyway. I'm a bit of a mess but not a toxic. I don't believe in herbicides or pesticides. So, it just was a natural conversion for me. And when a consultant came up to the Creamery, I was really interested, so I looked into it and studied it. And found that it was a healthier alternative. The higher price was an incentive, too. It kinda goes hand in hand. (Dairy 6).

Another dairy farmer elaborated more on the price situation faced by dairy farmers in the late 1990s and early 2000s and its influence on their transition to organic:

[O]ne of the main reasons that got us started is the price. At the time that we transitioned, the dairy industry in Humboldt County was at its lowest in 20 years. The conventional price was not only the lowest it had been in 20 years but it stayed the lowest for the longest stretch of time on record. Usually the price fluctuates. It had bottomed out and stayed bottomed out. People went broke all over the state during that period of time And so it was primarily, initially, a price decision. Now, that we're doing it . . . me personally, I like the whole concept of organic to begin with (Dairy 7).

Another dairy farmer testified to the influence of milk prices and their situation at that time: "And then, in 2001 is when the milk prices went so low, to be honest with you we were barely making it. The grain prices were high and the milk prices were really low. Like I said, we weren't making it. We were thinking about maybe even selling out" (Dairy 8). In a similar vein, Dairy 4 expressed that transitioning to organic was an avenue to stay in business: "But the money is what made me really think about it, because it gives you a chance to stay in business a little longer, we don't know anything else." As several of the interviewees expressed, the transition process represented a

maneuver to stay in business. A more detailed review of interviewees' comments on milk prices appears later in this chapter.

Humboldt County organic dairy farmers also spoke of getting information from outside sources, through the Humboldt Creamery or their associates. Dairy 4 described one of the first information sessions that introduced the idea of organic dairying to many of Humboldt County's dairy farmers:

Humboldt Creamery had a meeting . . . and they had Clover-Stornetta from Petaluma up here and they had their consultant they hired and they had a presentation stating the general what you had to do to convert to organic. And I said, gee, I'm already doing a lot of that stuff. So, I went and talked to them

After several of its members were highly interested in certifying organic, the cooperative Humboldt Creamery decided to certify its processing equipment as organic. After this point, the Creamery more actively promoted transitioning to organic production: “[O]ur local co-op had a market for organic milk, so they were actually trying to entice producers to become organic. They held seminars on how to transition and basic education about organic production” (Dairy 5).

A few of the organic dairy farmers expressed that converting to organic has provided unexpected benefits to their farming operations:

The main reason that we did transition was the financial situation that we were in at the time, but then, now, we are thankful that we did, because to me it is a better way of treating your animals. (Dairy 8).

We would never go back to conventional. (Dairy 5).

So, we went into, yes, as a business decision, but as we went into it . . . I mean everyday we discover how much healthier our cows are and how much better our cows are doing (Dairy 1A).

However, as the partner of this latter dairy farmer added, “You can never say it’s a business decision today and one day we wake up and it’s a values decision” (Dairy 1B). This farmer emphasized that organic farming was a style similar to that of their grandparents and their “roots” in Humboldt County and a system that was “efficient” and sensible in that it utilizes the pasture with “low cost” and “minimal inputs.” These topics will be further explored in the following sections.

As exemplified by the responses above, economics factored highly into the decision-making behind Humboldt County’s dairy farmers’ transition to organic. All of the farmers referred to immediate economic concerns and incentives. In addition, several of the farmers expressed an attraction to organic dairying given its longer-term economic and ecological benefits. For two of the farmers, expressing their desires to provide an opportunity for their children best captured the long-term prospects in organic farming:

Doing organic is really important to us because we want to have something there for our kids. If they want to continue this life, we want them to be able to have something and do something that they can make a living at. So, it’s not a short-term thing for us, it’s a long-term thing that we want to have for them. (Dairy 3).

And then the big picture part is that we wanted something that’s a viable option for our kids later on in life So, if our kids are going to grow up, go away to college, get educated or get wise and look at our operation as a potential lifestyle for them and their family, we need to make sure it’s profitable. (Dairy 1B).

Values Behind Farming

Organic farming conveys several associations, from economic opportunities to social values. I asked farmers about their values or philosophy behind their farming style in order to allow them to freely express their perspective without feeling restricted by the

organic descriptive. Most of the farmers referred to “taking care of” or the “health” of the cows and/or land. The following responses capture the general feel of the population of organic dairy farmers:

[Y]ou have to take care of the land and take care of the animals and if you’re not going to do that then don’t even be a dairyman. (Dairy 8).

The values are the health of the herd and the health of the land, and the health of the herd starts with the health of the land. (Dairy 7).

Well, I just like to think that I care about the land and the cows. I look at it like right now, you know all the land belongs to God, and it’s just my turn to take care of the land and the animals, and to provide for people, to provide dairy products for food. And I just try to do the best job I can and get the highest quality milk I can. (Dairy 2).

As captured in the last quote, two of the dairy farmers expressed a religious basis behind their values and, therefore, their land ethic. Dairy 1B elaborated more on this value base:

[W]e’re very religious So, doing what’s right is always a component of every decision that we make. Whether its how you treat your employees, how you treat your vendors and the people you do business with, you gotta live with those decisions, you gotta live with yourself, and you gotta live with them And then the cows are here paying the bills, so we gotta treat them with respect And then there’s the land, the more you learn about the soil and the plants, you soon realize that you gotta be responsible, a responsible steward of the land. Organic absolutely fits into that. It’s not a big difference between doing it right and doing it organic.

While some farmers responded with deep personal ethics, others answered by describing their farming style and techniques. For example:

We are totally committed to the values of how we run our land The soil management and the sustainable practice that we have. And I don’t feel that it’s good to weight your fields down with pesticides and chemical fertilizers. I just don’t agree with it. (Dairy 5).

We like them healthy, fed properly. Like I said I don't believe in herbicides, fungicides, pesticides, any of that, any chemicals. (Dairy 6).

All of the dairy farmers expressed some values behind their approach to dairying, generally a concern for the health of the cows and the land.

Social Movement Aspects of Organic Farming

Given the social context of organic farming's development in the 1960s and 1970s, I inquired about interviewees' viewpoints on whether their farming style represented a social movement that differed from conventional agriculture. This topic produced somewhat varied responses with a few instances of confusion about the question. Two of the dairy farmers expressed that they do not get involved with the larger social aspects of organic farming. Dairy 4 said, "No, I don't pay attention to it," while Dairy 2 elaborated a bit more on his stance:

That's their business. I mean, I might not agree with it but they might not agree what I'm doing. I kinda like to just stick with what I'm doing . . . I like to keep [my opinions] to myself . . . [J]ust because I don't believe in it doesn't mean that somebody else can't. I do what I gotta do to survive and what I believe in. What someone else does is their business. I like to stay out of it. I have enough of my own stuff going on I don't need to worry about what someone else is doing down there.

Several of the farmers explained that they were not part of a movement that countered conventional agriculture, rather they still maintained allegiance with conventional agriculture or saw organic as paralleling it:

I don't think that we switched here, our values didn't change, nothing happened on our end. We are mainstream farmers that now do organic production. (Dairy1B).

I think it's a subcomponent of mainstream agriculture, it's a parallel movement, that's not really contradictory, it's a parallel movement that's going on and it's gaining a bigger and bigger market share (Dairy 7).

That's a tough question. I think that it does reflect a different viewpoint from the conventional, definitely, but I'm not opposed to the conventional either I have mixed feelings. (Dairy 5).

Another farmer made a point to distinguish today's organic from that of the past: "It used to be, in the 70s, what they say, like a hippie movement, but its nothing like that now. I mean people want to feed their families a healthier product" (Dairy 8). Only one of the nine interviewed dairy farmers expressed an opinion that heavily distinguished between organic and conventional dairying. This farmer stated, "But it's tough to buck against corporate agriculture, they have the money, the lobbyists . . . and I see they're trying to make inroads into the organic because of the profit" (Dairy 6).

A common trend in the responses regarding the social movement aspect of organic agriculture was references to the consumer being the driving force of the social aspects. Six of the eight interviewees brought up the topic of consumer awareness or demand while on the topic of social movement. As Dairy 5 stated, "We went through a period there in the 80s and 90s where food didn't have any taste, and it was so full of chemicals that you couldn't even taste anything, it doesn't have any flavor because it is weighted down. I don't know, but it's a mindset of consumers now, it's in demand." Dairy 3 expressed a similar view with a reference to "the emphasis that a lot of consumers today are putting on their food and the quality of their food and how its being produced and where it's produced." One farmer made a utilitarian point about the

increase in popularity of organic dairy, indicating that it makes it easier for farmers to access organic products, from feed to medicines.

Going Back to the Way Grandpa Farmed

Although it was not a direct question, half of the organic dairy farmers discussed how organic farming of today is very similar to the farming style of their grandparents' generation. As Dairy 1A related, "Going back to the way grandpa and great-grandpa did it, now we wish we could ask them all the questions. What did you do before the 1940s, before the answer was give them antibiotics or give them hormones . . . how did you treat things naturally . . ." Again, Dairy 7 reiterated these sentiments: "When I grew up on a farm, it was organic, people didn't use all the pesticides and antibiotics that they got into doing by the 80s and 90s." Given that all of the organic dairy farmers interviewed have generational backgrounds in farming and in Humboldt County, they grew up with natural farming or "organic" techniques exemplified by the older generations. One of the veterinarians presenting at the Second Annual Western Organic Dairy Conference (2005) explained that modern organic dairying combines looking to past generations to see what worked with the use of modern technology.

Pasture Based Management

Humboldt County's temperate climate and open pastures provide an ideal setting for organic dairy farming. One of the primary foundations of organic dairy farming is access to pasture for ruminant animals. Dairy 7 stated, "Organic is pasture based management." As Dairy 1A explained, "The whole thing about organic starts in the nutrient density and microbiology of your soil . . . and growing nutrient dense food and

feeding nutrient dense grasses to cows so they can produce nutrient dense milk.” Almost all of the interviewees conveyed the importance of pasture for organic dairying and how suitable Humboldt County is for such farming:

I think this place here is ideal for organic You’re already pasture based . . . so it’s ideal to be organic here. It’s the prime location. (Dairy 2).

Our pastures stay green all year round down here Sometimes we get tired of the fog, but it keeps the pastures green. (Dairy 5).

I think that organic agriculture is an absolute natural fit for our cool season, coastal environment . . . where the grasses grow naturally, very efficiently, organic (Dairy 1B).

The “access to pasture” clause of the federal regulations is one area that has been under debate and that many of the interviewees voiced opinions on. As one of the dairy farmers explained, “The way the rule read before was that they had to have access to pasture. Well, that’s real broad, *access*. People were interpreting that in a way that was really going against the rules. And now they are re-writing it” (Dairy 5). Another dairy farmer claimed that the unclear definition for access to pasture is “one of the loopholes for the big industry” (Dairy 6). Dairy 7 explained that because of the variations in climate across the county, some farmers are not able to provide access to pasture during the periods of unsuitable weather; however, without more defined regulations the “huge farms that don’t have any pasture at all” are able to do organic. In August 2005, amid my interview process, the NOSB submitted its formal recommendation to the NOP regarding the access to pasture debate. The resultant rule states that ruminants shall graze for not

less than 120 days and not less than 30% of their dry matter intake. One interviewee called for even stricter definitions:

I personally think that you have to have a certain amount of acres, like an acre per cow . . . that they can consume enough food to be considered a pastured animal because if you take 1,000 cows, you can't pasture it on 100 acres. They're just standing out there, they're not really eating the grass . . . and you're bringing them back in to feed, so that's not a truly grazed animal. (Dairy 5).

As can be seen in Table 1, the interviewed organic dairy farmers in Humboldt County fit this more stringent suggestion, providing about 1 acre of pasture per cow. With the temperate climate, Humboldt County organic dairy farmers easily surpass the recommended 120 days access to pasture rule. As one farmer stated, "That's something that we exceed, the animals are out all the time unless it's pouring down rain or something" (Dairy 8).

Considerations for Organic Dairy Farming

During the interviews, I asked dairy farmers to explain the major difficulties they encountered while transitioning to organic certification. This section is divided into these areas of consideration for organic certification articulated by the farmers. As covered in the section above, access to pasture is a requirement that was easy for Humboldt dairy farmers to meet or exceed. Likewise, since the Humboldt Creamery milk producers had already agreed to ban the use of rBGH on their herds, Humboldt County organic dairy farmers did not have to adjust to not using growth hormones.

Antibiotics

Several of the interviewees brought up the topic of antibiotic use under the organic guidelines. The federal rule on organic states that antibiotics not on the

allowable National List are prohibited in organic production (NOP, 2005). Some of the farmers indicated that one reason why they were already close to organic was that they “weren’t heavy on the antibiotics” (Dairy 3). One farmer explained that the antibiotic issue had been one that they were already hesitant about:

[N]ot that there is a lot of antibiotics that goes into the animals, but I was just kinda concerned about that type of thing. I mean what if someone is allergic. They say that that stuff doesn’t last, you know what I mean, if you treat your animal you have a 30 day withhold period, but then you think what if something does linger on longer than that, do scientists know everything? (Dairy 8).

Even though many of the interviewed dairy farmers did not have a heavy dependence on antibiotic use, reducing to no antibiotic use was still an issue that several farmers noted:

[Antibiotics are] the hardest thing to give up . . . [I]f I treat her, which is what you are supposed to do under the organic system is treat her . . . then you can never sell organic milk out of her for the rest of her life. There’s no withdrawal period. (Dairy 1B).

The little baby calves, if you do give them any medicine at all then they have to be sold. So, there’s a fine line there. (Dairy 8).

Another farmer also emphasized, “If something gets sick, humanely you treat it, you’re not going to let something suffer and die. That’s not what organic is about” (Dairy 2). So, organic dairy farmers are faced with the decision of acting humanely towards the animal to prevent unnecessary pain and disease as expressed by American Humane Association’s Free Farmed Certification (2005) and NOP (2005) guidelines, while trying to maintain that animal in organic production. Once the animal is treated, it can no longer be part of that certified organic herd, it has to be sold as beef or moved to a

conventional herd. As Dairy 1B summed, “[Y]ou have to continually try to balance that line between do I treat her or do I not.”

While organic dairying prohibits the use of antibiotics, viable alternatives exist. One organic dairy farmer explained how alternative organic medicines work: “With the organic medicines, they don’t fix the problem, they fix the cow so she can take care of the problem herself . . . So, it’s like you have to be on top of things and catch things early” (Dairy 2). Other dairy farmers talked about utilizing preventative medicine on their organic herds: “It’s easier, you have less things involved in the decision making process when you have a health problem because you can’t use antibiotics unless it’s to save the animal’s life. You do more preventative . . .” (Dairy 7). This dairy farmer went on to express that restrictions on antibiotics were actually playing into the increased health of organic dairy herds over time: “[T]he herd health is increasing, and they are getting biologically tougher, it’s a genetic thing, it’s natural selection I believe that by the increased use of antibiotics and things over the years, we have kept inferior genotypes” (Dairy 7). Presenting at the Western Organic Dairy Conference, veterinarian Hue Karreman (2005) explained that using preventative medicine is “more labor intensive” and “unlike penicillin where you give it to the animal and then leave, you have to work with your animals if they need it.” Restrictions on antibiotic use present organic dairy farmers with some difficult decisions and necessitate more observant interactions and preventative measures with the animals.

Chemical Fertilizers and Controls

Under the federal standards, organic farmers cannot use fertilizers or chemicals that are prohibited by the National List. For several of the farmers, this did not present much of a problem. As one farmer explained, a combination of farming values and finances already precluded the use of chemical fertilizers: “I don’t feel that it’s good to weigh your fields down with pesticides and chemical fertilizers. I just don’t agree with it. And prior to organic, [we] couldn’t afford to use commercial fertilizers, it’s very expensive . . .” (Dairy 5). Some of the interviewees reported that relinquishing the use of chemical fertilizers was a transition to adjust to; however, this transition does have its benefits:

The only thing that we had to give up that we thought we really needed was conventional, commercial fertilizers. And I tell a lot of my fellow conventional farmers now that they need to give that up because there’s so many benefits to not having them. The microbiology of the soil and whatnot that you’re hurting or endangering or flat out killing when you put this stuff out. And I think eventually that your plant and your soil health and the microbiology starts working for you under an organic system. (Dairy 1B).

Without the use of chemical fertilizers, the soil that supports organic dairy farming improves in health and vitality.

Feed

In addition to foraging for pasture, dairy herds also eat grain feed. For the dairy to be certified organic, the feed must also be certified organic. Most of the interviewees brought up the cost and challenges involved with using organic feed. Originally, the organic rule allowed an 80/20 ratio of organic to conventional feed during the first nine months of the transition year, with 100% organic feed during the last three months. As

one farmer explained the current rule: “See they used to let you be 80/20 when you transitioned in, then for the last 3 months you had to be 100% organic, but the USDA just came down with a new law that from Day 1 of your whole 12-month transition period you have to be organic, so it’s a lot harder to become organic now” (Dairy 3).

The difficulties associated with organic feed lie in the availability and costs. Dairy 7 spoke to the availability issue: “It took a whole new mindset in terms of getting feed. [B]asically, at that time, when we started, most feed suppliers in this area did not offer organic feed, so we had to go to the growers ourselves.” In Humboldt County, some of the first dairy farmers to transition to organic described difficulties in logistically obtaining organic feed. As more and larger dairies transitioned, interviewees explained that this problem was somewhat alleviated because of the economies of scale for shipments.

The limited supply and expenses of growing organic feed necessitate that organic dairy farmers spend a significant portion of their costs on feed. Oftentimes, this offsets the increased price received for organic milk: “We get paid more for our organic milk It pencils out in the long run because organic feeds are extremely expensive” (Dairy 5). Presentations at the Second Annual Western Organic Dairy Conference (2005) framed organic feed as a major issue across the county. Speakers expressed that there is tremendous competition for raw material of organic feed and the trend is not for new organic grain farmers to enter the market but for existing ones to expand. The cost of organic feed remains one of the major expenses for organic dairy farmers.

Transition Period

The transition period from conventional to certified organic has proven very challenging for some of the interviewees. As conveyed in the section above, the herd has to be fed organic feed during the transition period; however, the farmer is still getting conventional prices for the milk. Although the cost and availability of organic feed remains a concern after certification, it is during the transition period that dairy farmers really feel the economic effects. One dairy farmer explained that the combination of low milk prices, which partly initiated their interest in organic, combined with the costs of organic feed caused a serious strain: “So, we came through a period where the milk prices were really low, then you have to start feeding this really expensive grain but you’re still not getting that organic price. So, it was really difficult for us” (Dairy 8). In addition to the increased feed costs, one interviewee explained that there were further costs during the transition period, such as getting rid of older cows since they maintain bacteria in their milk: “So, for quality issues, we had to start back at square one and get some younger animals going in there” (Dairy 3). This dairy farmer summed up their situation:

The first couple of years were very hard, because we had a lot of costs and incurred a lot of debt to get it going, not that we wanted to, but that’s what we had to do to get there But each year is better and I hope next year will be too So, just a lot of startup costs. I guess that’s true with any new venture that you start it’s the way it is.

Overall, the transition period seemed to be a challenging time for many of the interviewed dairy farmers, as they embarked on a new business venture:

The other thing that was difficult was really the emotional thing about, “Can it work?” We’ve depended on antibiotics for so long, we’ve depended on the grain for the calves that have a low level antibiotic in it all the time There is that transition period, and when you have the weaker genetic lines popping up, and more calves initially, that was scary, so that was the hard part of the transition, not knowing if it was going to work. (Dairy 7).

While most of the interviewees expressed sentiments along these lines, a few noted that they were not fazed by the transition period: “No, it wasn’t difficult at all. I thought it would be a lot more difficult. I thought it would be a lot stricter because my own definition is real strict” (Dairy 6).

Mindset of Dairy Farmers

A few of the interviewees spoke to a certain mindset of Humboldt County’s dairy farmers, characterized by being “independent.” As one organic dairy farmer explained, “[T]he biggest thing in becoming an organic producer is the mindset of the dairyman himself, knowing that he can achieve organic production without the ways of the past” (Dairy 5). Another dairy farmer elaborated on the dynamics within the dairy community surrounding the trend of some farmers transitioning to organic:

It’s tough because that community, it’s a very tightly knit community and when people try to do something different it’s frowned upon It’s changing a little bit, you know, but dairymen are funny people, they get ingrained in their way. Most of [the dairymen] have been in it for generations and they’ve done it that way forever and it’s hard to accept change, a lot of them.

Having lived and farmed for generations in the same area, Humboldt County dairy farmers surely have developed a cultural identity, which can include a certain way of thinking.

Paperwork

When asked about the differences and difficulties with organic dairy farming, the topic of paperwork came up several times. As part of the organic rules, farmers must keep records, have organic farm plans, and be inspected annually. As one farmer who had very few challenges transitioning explained, “I had to get my records more specific, I was pretty lax for the record keeping. That’s the most demanding part” (Dairy 6). However, for the most part, the dairy farmers were not overly concerned about the paperwork issues, although it was an extra factor to consider:

The paperwork, you just have to get in a habit of doing it, that wasn’t hard. (Dairy 4).

There’s a lot of paperwork involved, but that’s better for me because I should have been doing that all along. But this forces you to keep everything, to keep perfect records. (Dairy 8).

Milk Prices

The pricing of milk is a main difference between conventional and organic systems. Organic milk consistently receives a *higher* and *more stable* price than conventional. While conventional milk prices fluctuate according to the Chicago Mercantile Exchange Board, organic supplies work off of contracts. The following quote from a Humboldt County organic dairy farmer explains the differences and benefits:

Conventional is based upon the federal marketing order of what milk is going for nationally [B]asically, you get what the market will bear. And it’s a fluctuating market And that was another reason that the organic was really appealing to us, because it was a market that you could contract and get a fixed price for the year, or two, or whoever you’re selling to will contract for. Which was a wonderful thing It makes a difference in your business to be able to know what your monthly prices are because you know about what your production costs will be; so, then you can do some budgets. You can take things to a bank and say this is

what we're doing, and this is what is gonna be; where before you didn't know what you were getting next month, so no bank is gonna want to deal with you because next month you could be losing a buck. So, it just gives us stability, for the farmer. (Dairy 3).

Most of the interviewees brought up the differences in the pricing schemes and preferred the organic contract given that it is more “consistent” and “stable” as opposed to the “roller coaster” of conventional milk prices. According to the interviewees, this allows the farmers to “budget,” “do better planning,” and have more legitimacy with banks. Nevertheless, one farmer noted that the banks still remain a difficult entity to deal with.

The stable and adequate price of organic milk provided a stark comparison to the low milk prices of the late 1990s and early 2000s. From the end of 2001 through the spring of 2003 dairy farmers received record low prices for milk that caused some farmers to go out of business and others to struggle (NMPF, 2005). As summarized earlier, the low conventional milk prices of the early 2000s and the attractiveness of stable organic milk prices factored into dairy farmers' decision-making for going organic. Dairy 8 described the compounded financial strains of surviving the sustained low milk prices followed by the economics of the transition period.

In the past two years, the conventional milk prices have rebounded and reached record highs. One organic dairy farmer noted, “Last year because the conventional prices were so high because of Mad Cow Disease in Canada, the other guys probably made more money than us, brought in a lot more money” (Dairy 2). Another dairy farmer elaborated on the milk prices over the past several years and how organic compares to that:

In '05 and '04 conventional farmers will definitely make more money because the milk prices are pretty good, pretty healthy, so it's easier for those folks to make a profit. And, so, if you go back to '03, we did pretty well, organics survived when the conventional guys really took a bloodbath. We didn't make money that year because we were still new and growing and our markets weren't developed yet, but I think that our future as an organic farmer is better than the conventional side. (Dairy 1B).

Another organic dairy farmer explained their particular situation during this time and how the conversion to organic kept their business alive:

If it wasn't for going organic, we wouldn't still be dairying. I mean, now the milk prices for the conventional people are really good too, the conventional milk prices usually goes in a pattern and right now they are good, but we were struggling so much that there wouldn't have been any coming back for us if we hadn't have gone organic. (Dairy 8).

Overall, Humboldt County's organic dairy farmers lauded having a more stable and potentially higher price for their milk.

Trends of Local Dairy Farms and Organic Certification as an Avenue to Stay in Business

Since most of the interviewees have been dairying in Humboldt County for generations, they were able to provide insight on long-term trends. The farmers spoke of the recent decline in the number of local dairies and the growth of herd sizes for existing dairies. They also attested to how transitioning to organic provides an opportunity to stay in business and continue dairying. Dairy 4 summed, "There used to dairies all along this road, this whole thing was dairies . . . Just like everything else, the big get bigger and the small go out of business. And this is a way for the smaller dairies to stay in business, with organic, premium price." Other dairy farmers echoed this sentiment:

The way the family farms are going . . . is the way of the dinosaur. You look up this road and I can count the number of empty barns that when I was a child were working dairies. And the bigger people are getting bigger and the smaller people are getting squeezed out. So, this is an economic decision, too, to try to even make it. (Dairy 6).

I think the only way to keep [local dairies] going is by going organic We've lost in the last 20 years, 100 dairies. Cow numbers are going up but the number of dairies is going down. (Dairy 2).

Two of the larger producers interviewed explained the dynamics of growing their herd size in order to stay afloat financially. Dairy 5 started out smaller and grew to over 300 milk cows:

And we never, truly, wanted to get that big. We wanted to milk right around 100 cows, but in the years that we were trying to build facilities on low milk prices, we had to milk more cows to offset the decreased price of milk. We had to get bigger to support the new facilities, the increased costs of feed, everything, labor, everything's gone up, state comp. I mean its almost unaffordable, everything's gone up except for the price of milk. Seriously.

Likewise, another larger producer related that the increase in production costs and unstable milk prices have driven some small dairies to increase in size:

Now, I know we're probably one of the bigger farms in the area. There's 2 or 3 others that are our size. But . . . because you still need the same amount of milk, it's driving the smaller guys out and as people retire, it's making the ones who . . . are gonna stay have to do more. I hate to see that, but people have not been able to make a living off of conventional prices because of the fluctuation of prices and increases in the overall cost of production, and it just hasn't been able to be something that people can make a living off of. That's why we're saying, if you go organic, yeah it's a little more work but you'll be able to stay in business and maybe for a longer period of time. (Dairy 3).

Several dairy farmers also touched on the trend of decreased land availability and cost of land in Humboldt County. As Dairy 3 related:

And that's what we're seeing now is little farms in our area, 40 acres, 50 acres, 100 acres, are being bought up by people who want to raise horses or want to have a little llama farm or a goat thing or whatever, but they're not milking cows anymore. So, what it ends up doing is that you lose all the small farms And the cost of land out in Ferndale right now has gone crazy. I mean, property is selling for \$10,000 an acre and for a guy to milk cows on that, he can't do it, he can't make it. So you lose that now to something else and it's a sad thing after so many years.

Local Economy

Several of the interviewees expressed that organic dairy farming provides benefits to the local economy. Some of the responses include:

I can't imagine why more people don't want to do this, because it could really save the dairy industry in this area. (Dairy 3).

It's an area with good income and stable income, so in terms of the economics it would help stabilize some of the fluctuations that result from the dairy income going up and down. (Dairy 7).

Another dairy farmer linked the economic potential with the natural setting of Humboldt County: "We are just perfect for it. Personally, [I think] every dairy should be organic up here, it's just a natural, because the cows are out on pasture, we're smaller farms" (Dairy 6). One organic dairy farmer explained that all dairy farmers in the area play a vital role in the local economy, not just organic dairy farmers:

I think that Humboldt Creamery in particular and not only the organic producers but also the conventional producers play a huge role in Humboldt County It's bringing a lot of money into the economy because Humboldt Creamery has made some great markets with the organic milk. (Dairy 5).

As organic dairy farming is a relatively recent and growing entity on the North Coast, economies of scale are still building. With more producers on board, some of the buying

of supplies and distributing the milk becomes easier. One of the early farmers to transition to organic explained:

[We] made a decision right upfront that we were always going to encourage organic to other farmers and help them get there [W]e're helping to build the industry and we need to build the infrastructure which means you bring in the feed and you sell the milk And we need more markets here of that, so having more is better. (Dairy 1B).

Another organic dairy farmer noted that when some of the larger producers transitioned to organic, it “tipped over a lot of things” in terms of shipping milk out and having grain come in “because it was large volumes” (Dairy 4).

Humboldt Creamery and Marketing

The Humboldt Creamery cooperative of dairy farmers has historically handled the marketing and distribution of the dairy products from its members' supply of milk.

Following the lead of several of its members, the Humboldt Creamery began its involvement with organic products and is now a certified processor. The interviewees reported that the Humboldt Creamery does the marketing of their organic milk and has recently grown its marketing and organic programs:

All of our milk is marketed through Humboldt Creamery. And Humboldt Creamery has some great markets. And Humboldt Creamery themselves is going to be producing organic. (Dairy 5).

Well, we don't do too much of the marketing, because all of our milk goes to Humboldt Creamery, so we really don't have too much of a say about where the milk is marketed or who it's marketed to or how its marketed. That's pretty much all the Creamery side, but they have really changed the things that they are doing, as far as actually getting a marketing program going. (Dairy 3).

I think that Humboldt Creamery has tremendous potential to create a lot of organic products in the market. (Dairy 1B).

Several of the interviewees viewed their organic product as a “niche market” which fits with the overall marketing strategy of the Creamery:

[Organic dairy is] a niche market and producing a premium product, so you’re getting a premium price. (Dairy 2).

Humboldt Creamery is all about niche markets and value-adding products is where we need to be. (Dairy 3).

Humboldt Creamery recently decided to provide organic milk and ice cream locally. Although the Creamery’s management makes the marketing and distribution decisions, the interviewed dairy farmers had some opinions about the availability of local products made from their local organic milk. Most of the interviewees were very supportive of having their organic dairy products available locally. Only one farmer responded with indifference: “That’s the Creamery’s thing, not my problem” (Dairy 4).

More common responses were along the lines of the following:

Oh, I think it’s really important. It just gives you a feeling . . . you’re proud of your product, you can go to the store and see that this is locally produced and you can buy it and share it with your family and friends too. (Dairy 8).

I would like to see the product be local . . . When you go to the store you want to support yourself . . . And we’re producing it here. I think the people here locally should be able to get it. (Dairy 2).

As a few of the farmers related, the local marketing of an organic product does take the necessary combination of adequate supply and demand in order to make a wise business decision. Beyond economic concerns, one farmer expressed the importance of locally available products: “My whole lifeview is very strongly community based, socially, and I try to buy locally when I can, that kind of thing. I try to support people in my area in as

many ways as I can, so it all fits in to my whole lifeview” (Dairy 7). Overall, the interviewed dairy farmers were excited about the expanded market for Humboldt Creamery, especially the availability of organic products locally.

Beyond Organic and Thoughts on the Federal Rule

When asked, several of the interviewees thought that their farming methods went beyond what was required for the organic certification, in areas such as “pasture management” and “nutrition.” However, most of the interviewees seemed content with the stringency of the organic rules and were focusing on meeting the current requirements. As two dairy farmers explained, “We do what the rules require People want to know that you’re taking good care of them and keeping them healthy” (Dairy 3) and “The organic regulations are really stringent” (Dairy 5).

One interviewee had opinions about the organic regulations being in the federal arena and the original organic proponents losing their identity:

Well, I think that now that it’s in the federal arena, there’s a lot more hands on it, and everybody is getting a piece of it. It’s become more publicized and more talked about. So there’s more people involved [I]t’s gonna make things harder to change . . . [I]f they want to make a decision, it has to go through all these processes and it could take years. Or, something could be funneled through that you didn’t want in there because you have these other groups from outside . . . So, they’ve definitely lost control of it, but I guess to take it on more of a national scale, they had to do that, they needed that stamp of approval. (Dairy 3).

Another farmer was concerned about maintaining the integrity of the organic label with the interest from big industry: “Well, there’s the corporate aspect of it, they’re after the dollar. So the integrity is going to be tough to keep” (Dairy 6). Overall, the interviewed

dairy farmers were generally satisfied with the organic standards while noting some shifting trends with the federal control.

Income

Most of the interviewees agreed that their dairy operations provide an adequate income, especially given their love of the lifestyle. One farmer noted the difficulties of building the necessary facilities with their level of income and the benefit of inheriting facilities and land from past generations of dairy farmers. Another farmer spoke to the inherent difficulty that many farmers have with seasonality: “[T]here’s times we’ve struggled. In the winter months, production goes down and you try to keep all your employees and you still have all your costs of feeding the cows” (Dairy 3). Overall, the farmers expressed economic hardships but managed to stay afloat.

A Wise Decision and the Future of Organic Dairying

The dairy farmers interviewed agreed that transitioning to organic production has been a wise business decision. Even though conventional milk prices have reached record highs in the past two years, organic production has still satisfied its converts, especially if milk prices over the past five years are considered. Several of the interviewees referred to “future” and “potential” of organic dairy farming. One farmer noted, “Economically, it’s a potential goldmine” (Dairy 7).

In addition to being a wise move economically, several of the interviewees expressed how pleased they were with the “health” of their dairy systems under organic production. Some of the interviewees said that they transitioned to organic primarily because of financial incentives; however, they have since “learned” and experienced how

organic management provides for a healthier system: “The main reason that we did transition was the financial situation that we were in at the time, but then, now, we are thankful that we did, because to me it is a better way of treating your animals” (Dairy 8). Dairy 3 expressed, “I think for younger people it’s more of a lifestyle . . . it changes them and it opens their eyes to a lot more things.”

Most of the interviewed farmers spoke to their excitement for their future and the future of organic dairying:

I just figure organic is the wave of the future. If you want to be in it for the long haul, I think that’s where you need to go. (Dairy 2).

I’m just proud of what we’re doing. And it feels good. It’s something that I never thought was possible We thought, wow, I don’t know if I could do it or not, but once you get into it and once you’re doing it [I]t’s been well worth it. (Dairy 5).

Overall, the organic dairy farmers of Humboldt County have been satisfied with their decision to transition to organic production.

Perspectives from Organic Row Crop Growers in Humboldt County

This section summarizes the results of interviews with organic row crop growers. The same key topics are covered as with the organic dairy farmers, with slight differences in supplemental topics due to the responses of the interviewees.

Rationale for Going Organic

Organic row crop farmers provided a variety of responses as to why they decided to be certified organic. Responses ranged from providing credibility and quality assurance, to economic opportunity, to values. In their own words, the farmers explained:

Because I wanted to be organic absolutely and I wanted to play by the rules I'm glad to be able to give our customers the assurance that we're organic. (Farmer 2).

Organic is a lot like my belief system. And then also local stores and restaurants and the customer base at the Farmers' Market are not as much interested in non-organic. I want to show them an absolute premium product. (Farmer 4).

I also saw it as the potential life saving factor for the family farm. Because there was an ability to bring in a little more income than conventional farming On a local basis it wasn't a problem I wanted the ability to be able to sell to other markets and have people know that my items were inspected and they were guaranteed to be organic. So, credibility was the main issue. (Farmer 5).

I still have the basic reasons from the beginning, providing customers with assurance about how the food is produced. (Farmer 6).

It's a requirement for the seed company. (Farmer 7).

For me there is no other choice, organic is what it is all about, and then to be able to represent that and sell and advertise those values is important. (Farmer 8A).

And more utilitarian building on that, you cannot sell to the Co-op and stores and call it organic without being USDA certified But what [Farmer 8A] said is important too, it lets people know that we are serious and we are inspected and they can feel more comfortable about that. (Farmer 8B).

For the market. It was necessary to maintain competitiveness. (Farmer 9).

So, the interviewed farmers expressed a combination of values and beliefs with more functional reasons such as access to markets.

Face-to-Face Interactions and
CSA Farmers' Rationale for Not Certifying Organic

Two of the interviewed farmers were not certified organic, but practiced organic (or beyond) techniques and ran their farms as CSAs. (CSA is described in the Literature Review). Farmer 1 explained:

We're certifiable, we do all of the practices, but we have all the people we sell to come to the farm every week and are able to see our practices and see what's going on. The reason that most people get certified is to prove to everybody that they are organic. We don't feel like we need to do that.

Farmer 3 had experience being certified with CCOF but did not want to be certified under USDA because:

. . . it's paperwork and we're organic and I didn't feel like we needed a certifying agent. We don't sell to the Co-op or stores Our shareholders come here and people at market trust us. And I also knew that feds were going to take it over soon and I didn't have any interest in participating in that.

Both CSA farmers placed high value on the face-to-face interactions and relationships they have with their customers as a better assurance than organic certification. Another interviewee who sells at the Farmers' Markets attempted to not certify organic and depend on his personal interactions but soon decided to that certification was necessary:

[T]he reason we [initially] decided not to go organic is that we have a real connection with our customers, they can ask us these questions, it's face-to-face, we didn't think we needed it as much as maybe someone else does, someone who's wholesaling. But when it came down to it, there's enough people who are just getting interested in Farmers' Markets and just getting interested in organic food that they're militant about that word. And when you have 4 hours on Saturdays to make your income for the year, you know [we] have to be present selling, and if I spend 10 minutes explaining to someone (Farmer 4).

Accordingly, the face-to-face interaction was not sufficient for this farmer as some customers strongly associate with the term organic.

Values Behind Farming

The interviewed row crop growers provided responses on the values behind their farming techniques. As with the dairy farmers, the question on values or philosophy was one of the first topics discussed and was phrased in a way that was not associated with the term organic and its connotations. Some keywords from their replies include “community,” “local,” “health,” “land,” and “sustainable.” A more detailed look at these responses follows:

Trying to be low impact, providing local options It’s very important to me, having a young child and knowing that I’m going to have to make a living, to make it in an honorable way, in something that I can feel good about because I know I need to be a provider. (Farmer 2).

I’m not sure if I found organic farming or if it found me . . . the way you hold your morals, if it was the only option for me [O]ur tractor runs on biodiesel . . . and [doing] other things that you don’t have to do this to be organic and you don’t have to do this to have good sales at market, but you have to do this to know that your trying as hard as you humanly can. (Farmer 4).

Being sustainable is very important to me. That I’m not depleting my farm or myself I feel that I will leave my soil in better shape than I got it Being sustainable also means you have to be able to survive at it, and I think a lot of people lose it at that point, and they are so sustainable in their farming practices that they cannot make a living at it. (Farmer 5).

Being land stewards The lifestyle Food security and providing healthy food to the community. (Farmer 8A).

Hardwork. Providing the best product possible. Work ethic. Land stewardship. Carrying on family tradition. Personal pride. To provide for my family. (Farmer 9).

The responses of the CSA farmers follow:

The biggest reason I farm is to create a community around the land that is sustainable Living on that land so that it is being replenished at the same time as it is being exploited. (Farmer 1).

A just and sane system for the animals and people, also for the land [W]hat I do with the land and the soil is improving the system and not taking away, so when I leave here the soil will be in better condition than when I started. And that I am doing the very best possible job producing food that has the highest health. So, just doing the very best job that I can in taking care of the land and the people who eat the food, the community. We have personal relationships with all of our shareholders, so, therein lies the social component. And I've come to care about these people and they to me. Definitely we're all attached to this piece of land, so there's the value of place. (Farmer 3).

Although the responses from all the interviewed farmers varied somewhat, they all identified with values that were important to them as underlying their spirit to farm.

Many of them spoke of values relating to the health of the land and community.

Social Movement Aspects of Organic Farming

Most of the organic row crop growers felt that their farming represented aspects of a social movement. However, even though they are certified organic, many of the interviewees placed more stress of other social aspects, such as “community” and “localness.” For example, Farmer 2 said he felt a social movement aspect of his farming; however, he equated it more to a “local movement.” He continued, “A lot of people already believe in supporting a local choice and becoming more familiar with the products that they buy.” Farmer 6 expressed a somewhat similar perspective and explained his take on the social movement:

Look at the growth figures for organic and I think it's a movement trying to change the direction of commercial agriculture to a way that is more compatible with natural systems [There is the] issue of whether it is food for the people or food for the elite. [It's] important to people locally that it is locally produced, organic is a second question.

Farmer 4 tied his actions to that of the consumer:

I think it's that every individual can make a difference and that you have to be ecologically responsible with your decisions and with your purchasing power. In America . . . we're run by capitalism, the dollar is the only thing that seems to matter I'm contributing to . . . that social movement on two different angles: I'm making my living off people's social power to spend their dollars in a progressive environmentally conscious way and meanwhile I'm making my living and I'm doing the same. And this community is so wonderful for respecting that and wanting that, that's why it happens here.

As an organic seed farmer, Farmer 7 focused his social incentives:

[M]y mission . . . is to promote open-pollinated seeds and go back to traditional plant seeding and come up with varieties that out-perform or at least are equal to the hybrids, because I'm really scared of the whole future of agriculture with Monsanto controlling almost all of the largest seed companies in the world. My social goal is to provide an alternative to Monsanto.

Likewise, several of the farmers tied their farming values to explicitly countering big commercial agriculture.

Farmer 9 explained that he did not begin organic farming with a strong social stance, rather he said, "I didn't feel that I was part of a social movement, it was just me." However, he continued, "The more time goes by, the more I realize it," that organic farming does represent "something larger." He expressed this as "somewhat of a get back to the earth, turning back-to-the-land" movement. Farmer 9 did note that most of the other local organic farmers "have a stronger social perspective." Only one of the nine

interviewed farmers did not align himself with a social movement. Rather, Farmer 5 simply expressed, “Nooo . . . I saw it as an opportunity. My background is conventional.” This response may have been more geared towards the part of the question referring to a difference with conventional agriculture.

CSA Farmers

The two CSA farmers agreed that they were part of a social movement but aligned themselves with the CSA movement and noted distinctions with the organic movement. As Farmer 1 stated, “The organic movement is different from the movement that I feel like I am in.” Farmer 1 extended his support of CSA from Community Supported Agriculture to “Community Supported Anything.” He elaborated that this means, “Community supported everything that you get from your life . . . an economy based on materials that are based on what’s in that community . . .” Accordingly, Farmer 1 associated his social beliefs to those of community, locality, and regenerative farm systems.

The other CSA farmer interviewed also expressed a strong affiliation with the CSA movement and a stress on the local economy, while distancing herself from the current organic movement. As one of the original organic farmers and farmer at the fifth CSA in the county in 1987, Farmer 3 provided a perspective of the sustainable agriculture movement over time. Farmer 3 explained:

Especially with the CSA, I feel that we are part of a rapidly expanding movement . . . [T]here was the whole back-to-land movement in the 60s and I think there is another one now . . . where people want to know how their food is grown and where its grown and who’s is growing it and stress on that local economy . . . Especially as part of the CSA I feel part of

this social movement because the CSA movement has a strong social component. And the whole organic thing, I don't as much identify with it because it's a whole other thing now that the huge agricultural corporations have gotten involved.

Thoughts and Critiques on Federally Regulated Organic Agriculture

Some of the farmers elaborated on the evolution of the organic regulations and whether they thought the current USDA regulations capture the meaning of organic agriculture. For example, Farmer 6 spoke of the necessity of federal regulations as the organic movement grew. He said that the federal regulations surely affected the organic movement but “can't say if for the better or worse.” He explained, “We were at a point where we absolutely had to have uniform federal regulations. A handful of states had dissimilar laws and there were states with no laws. There was no consistency in the marketplace and people were taking advantage of that.” Farmer 6 continued with some of the effects of the federal regulations:

Statistically, when the federal regulations came in, because it was too cumbersome, the numbers of organic registration declined as people opted for local and direct exchanges The thing has gotten so much bigger now, so given the size of the industry now, there is more chance for such abuse. The price premium is a motivation for someone who might be unscrupulous

A few other farmers remarked on how the widely growing, federally regulated organic market opened itself up beyond the grassroots involvement:

Large agriculture that is getting into organics is doing it not because they feel a moral impulse, but because they want a part of the market share. And, so they are farming conventionally, but with the organic standards. So, they are not using pesticides but their still doing 10,000 acres of monoculture, or however many acres. (Farmer 3).

The organic movement was co-opted. Basically when corporations see a movement like this growing at 20% market share a year they want to capitalize on it. (Farmer 4).

Farmer 2 had a mixed view of the current organic regulations, noting both the influx of bigger growers and the need for regulations on the national level:

I think that if we didn't have some system that would be terrible I question some of the USDA involvement and I've heard different perspectives on how new regulations have made it harder for small growers and easier for big growers that are marginally organic to become more organic. I don't really know about those things for sure but feel like most of the rules make good sense But still, big organic farms are better than big non-organic farms. And we kinda need to produce more than us little people can, so it's probably more good than bad. I think it challenges the integrity of what organic farming started out to be.

Overall, these responses reveal an awareness of the politics surrounding organic agriculture beyond Humboldt County.

From Grassroots Movement to the Masses

Several of the interviewed farmers placed their comments in the context of having been involved with the grassroots movement of organic agriculture and seeing the changes over the years. For example, Farmer 7, who aligned himself with the “back-to-the-land movement” and farmed with organic pioneers such as Alan Chadwick in Santa Cruz, expressed that he did not believe that the current USDA organic regulations encapsulated the social movement and referred to the original grassroots movement as the truer expression his beliefs. Farmer 4 explained what organic meant to those who associated with its grassroots social values:

I think one of the things that made organic so popular, is that it's got a soul and everything is grown with love and you can't quantify that. But you could see it, you can innately understand what was going on when you

ate the food, or when you touched the food, or when you saw the food. Because it was grown by people who are doing it not because it is the money, but because it's their social, ecological, or religious values.

Farmer 4 explained that organic has grown “to the point of widespread public acceptance and now it's in every suburban neighborhood” and that “people might have gotten 60% of what was going on.” He reasoned that “people adopt what is comfortable to them but they're not going to be radical vegan hippies in Menlo Park, they're not going to crochet they're own hemp shopping bags, not that anyone has to go to that level.” Farmer 8B placed the organic movement in the context of the social movements of the 1960s:

And for many years the organic movement had been grassroots, like so many things in the country. And when you go mainstream, talk to any hippie from the 60s, when you go mainstream you sell out in a lot of ways [W]hat we created here in California was huge, other states emulated our ways because we were the most stringent. The feds . . . had to cater to some of the big megafarms around the county, who wanted to go organic but didn't want to quite come all the way.

Farmer 8A elaborated on the evolution of the organic movement and its division into different categories of organic farmers: “[The federal regulations] divided it a little bit with small farmers and big farmers. I think its probably strengthened the grassroots movement though because you have people like in Mendocino who are trying to come up with their own certification, and other might be moving in that direction.” Farmer 8A was referring to a group called the Mendocino Renegade who have a peer-reviewed “beyond organic” certification for Mendocino and Lake Counties. Likewise, Farmer 6 called for a local certification: “I still wish there was a simpler, more localized certification system for the smaller scale farmer.” Farmer 3 also spoke of the fate of the

grassroots participants in the organic movement and of the divergence among different groups:

I come from the original organic farmers; so, I'm a little upset I can't use that term anymore. And you know, small organic farmers all over are trying to come up with a term that fits what we're doing now that the government has usurped that. It, I think, has in some ways caused smaller growers to . . . we've had to pull together in some ways and organize around that. It's caused sort of a split, so now some people chose to certify and I understand that, but there's many many many organic growers who were organic before the feds got involved who can no longer say it. So there's sorta a wedge, going two different directions now.

When asked if she believed that this split actually helps grassroots farmers further articulate what they stand for, Farmer 3 answered, "Yeah, it continues the dialogue. It brings the problem to the forefront."

Considerations for Organic Row Crop Growers

Several key issues came up when farmers were asked about the difficulties and adjustments necessary to meet USDA organic regulations, as explained below.

CCOF Was More Stringent

Many of the interviewed organic farmers were already certified organic with CCOF before the inception of the USDA regulations. According to them, abiding to the USDA regulations did not pose major difficulties since the CCOF regulations were more stringent: "And being CCOF certified as long as I was, the implementation of a national law really wasn't a big challenge for me because I had been doing it for years. CCOF was almost more stringent than the national" (Farmer 5). Other farmers echoed this point of view and lamented the loss of CCOF as the primary regulation:

The organic regs didn't change anything that I did because they were actually more relaxed than CCOF. I'm kinda weary of those guys. (Farmer 7).

CCOF was the most stringent, strongly regulated organic of the whole country, and [the USDA] actually backslid a bit from CCOF. Although I agree with a federal standard I'm not completely happy with the values, I would want the values to be even more stringent than they are right now. (Farmer 8B).

According to Farmer 6, some of the interviewed organic farmers maintain a stronger affiliation with CCOF than USDA organic: "I have a strong loyalty to CCOF, they were clearly the pioneers and are the key defenders." Given that most of the organic farmers were already certified with CCOF or not applying prohibited substances, the three year transition period was not brought up by any of the interviewees.

Organic Seed

Some of the interviewees expressed concern over and some difficulty with complying to the requirement for organic seed. The organic regulations are currently written such that producers must use organic seed when commercially available. Several of the farmers brought up the issue of the prohibitive cost of some organic seed combined with the uncertainty of their quality:

Going with organic seeds is, for us, costly and inconvenient. Although I love the thought of getting everything organic, sometimes the prices are ridiculously different for some of our varieties. And some of them are not available or if they are, they are from little dinky companies that are charging a lot of money. (Farmer 2).

There's still so little seed available organically, and then, the biggest problem is that a lot of what is available is the quality. We're going to replant stuff today that the seed failed on and it's like I tried another company with more organic seed and it's disheartening. And being pushed at something that risks your whole season I get a little upset with .

. . . Economically it's not available It comes back to the whole sustainability. That's the only thing that really upsets me with the national law (Farmer 5).

One of interviewed farmers produced organic seed, with his biggest contractor being Seeds of Change. This farmer elaborated on some of the issues surrounding the seed controversy:

Every conference I go to talks about the loophole, and when is the organic seed production going to meet the demand. You know, it's legislated that people have to buy organic seed, the problem is the organic seed business hasn't really been able to step up to the plate and produce the volume and quality of seeds that the growers need. (Farmer 7).

Farmer 7 then explained how any current conversation about seed cannot deny the influence of some of the large corporations' tightening control of the seed market as "Big Ag keeps raising the price of seeds and cutting down on varieties." Farmer 7 expounded:

You got to bring up the whole seed company takeovers by Monsanto and a lot of the other seed company shenanigans . . . you got pretty much everybody hooked on growing hybrids. It's hard to change somebody when they're having success with a hybrid variety. Every variety is different. And once you learn it and it's working for you, you're going to stay with it, so it's hard. And hybrid seeds really aren't available organically right now.

Issues surrounding seeds remain a major topic in discussions of organic agriculture.

Paperwork and Cost

Besides the seed issue, most of the farmers did not express any serious difficulties in complying with the USDA regulations. However, the issues of paperwork and cost did come up, even though urgency was not associated with it:

Just getting used to all the paperwork. It's still difficult because there's just reams of paperwork and backup papers It's a good thing, but it's

something you'd rather not do, I'm a farmer, not a bookkeeper. (Farmer 5).

Just making the time for the paperwork was the hardest For me, very little has changed. (Farmer 4).

Not specifically, but in general, the paperwork, oversight, and cost. (Farmer 8).

The cost, which is not gonna kill us, it's not a lot, under \$1,000, but still all of it adds up, so that's a factor. (Farmer 2).

Beyond Organic

Many of the interviewed row crop farmers believed that their farming techniques exceeded what was required by the USDA organic regulations. As discussed above, the fact that the CCOF requirements were generally accepted as more stringent than USDA already situated many farmers for going beyond the USDA rules. However, the social commitment and values associated with farming and land stewardship of the interviewees placed them at a level of farming that utilizes a higher caliber of organic and sustainable techniques. Farmer 3 stated, "We're beyond organic, we're more than organic as what the government has set out now."

Most of the interviewees spoke of the importance of healthy soil as the foundation for their farming techniques. Farmers referred to various aspects of soil health that are important to them such as, "nutrient cycling," "rotations," "rest period," and "soil fertility." Farmer 8B elaborated on the USDA regulations compared to how they tend for the soil:

USDA basically regulates what you can apply to the soil as far as outside implements and such, but they don't require how you actually care for your soil. And that's where most of us farmers go, I think, well beyond, as

far as cover cropping, as far as not compacting and impacting our soil as much. And a lot of us are going towards the biodynamic realm, which is far above USDA, too.

Farmer 1 also expressed his interest in biodynamic techniques for farming:

“Biodynamics is a whole different spiritual, moral philosophy that takes how we are living in this world into consideration instead of just what materials we are using on the land You’d have to be well above organic standards to even qualify.” Farmer 4 summarized their farming techniques as trying to get “the healthiest soil possible,” “trying to contribute as little to the waste stream,” using local amendments when necessary, and being “really water conscious.” Overall, the interviewed farmers agreed that their techniques generally exceed the USDA requirements and that the focus of a healthy organic system is on the soil.

Markets

The interviewed farmers maintained a variety of markets for their organic produce. Table 1 shows the markets of the interviewees, including local Farmers’ Markets, retail sales (e.g., the North Coast Co-op, Wildberries Marketplace, Eureka Natural Foods), accounts with local restaurants, wholesale distributing out of the county to the Bay Area, CSA agreements, and a contract with a seed company. Many of the farmers placed a high value on their markets being local, even though they had the option of choosing other markets. For example, Farmer 4 explained that even though he’s been offered to sell out of county and state, he maintained, “One of my goals is to sell 100% of my crops here in Humboldt County.” He continued, “This is why I got involved in sustainable agriculture and the fact is that I am able to make a living feeding my

community. They support me and I support them.” With 90% of his sales attributed to the Farmers’ Markets, Farmer 4 praised the North Coast Growers’ Association (NCGA) who manages the major markets in northern Humboldt County: “NCGA is one of the few examples of a Farmers’ Market that is run by farmers. We’ve been in Humboldt County for 27 years and we’ve been very successful at promoting local farms.”

Likewise, Farmer 2 also emphasized that his markets of Farmers’ Markets, retail stores, and restaurants were all local outlets. The two CSA farmers also stressed their strong focus on local markets. As Farmer 3 noted, “I have no desire to export. Because of the cost involved, the trucking. And the whole idea of CSAs and what I do is keeping it local.”

Even with some strong wholesale accounts out of the area, Farmer 5 emphasized, “My local accounts are my most important thing, making sure that local customers who want organic can have it and have it locally.” For the farmers who export wholesale produce out of the area, Veritable Vegetable is a main distributor. Farmer 5 spoke highly of Veritable Vegetable, saying they are “reputable” and “they’ve grown considerably and helped us do the same.” Farmer 5 expressed that the certification for organic opens up more markets “out of the area.” Even so, another wholesaler explained that sometimes the market for organic is limited: “I sell under two labels, one says organic and the other does not even though it is, because there is more product than market for organic and I need to move the product. I know other organic farmers who do that.” Likewise, Farmer 7 sometimes sells his organic seed as conventional: “What I like to do is have a pack that is presentable on the conventional market, and sometimes the conventional price is higher

than the organic price.” As far as wholesale accounts go, Farmer 7 said that it is “a hard game” given the competition from larger farms who are getting into it like CalOrganic, “who can offer more than a family farm, couple hundred items, tough act to follow when you live up in Humboldt County.” Farmer 8B praised the wholesale accounts as providing a more “secure” market as the sales at Farmers’ Markets “fluctuate.”

Regional Economy

The interviewed organic row crop farmers were very supportive of their role in the local economy. Farmer 4 noted that most of the local residents want to keep agricultural producers in the area and that small farms are “one of the few industries around here that keeps money locally and recycles it.” Likewise, Farmer 8A explained, “Most of the money that we make from our business is being reinvested in the community. Because for both of us, our values are that by any means we try to support local businesses.” Farmer 2 remarked, “I have been able to pay some people and actually a really good amount of labor going out which can be nothing but positive for the community.” Several farmers spoke of the acceptance of the local community to organic farming as an integral factor in their success and affinity to providing to local markets. Farmer 5 explained that his potential to market locally was because organic produce is “openly received” and “people are accepting of it, people want it and are willing to support you.” Likewise, Farmer 4 expressed, “I get so much respect here where in other communities I would be considered a grunt laborer If you’re in Humboldt County the chances are you’re not making money hand over fist, most of the people I know at least, you’re here because you love it here and if you can survive great.” As the

interviews exemplify, many organic farmers feel that they are in a reciprocal, supportive relationship with the local community.

Several farmers spoke of the ability of small local farms to produce significant outputs. As Farmer 6 explained, organic farming “has created a new market in Humboldt County for good, quality produce in smaller quantities. It has opened a door for farmers in Humboldt County.” Farmer 7 fit his seed operation into this category, saying that seeds are “one thing that a small farm can produce a whole lot of.”

Income

When asked whether their farming operations provide an adequate income, the interviewed farmers generally agreed that the income could be higher given their amount of work, however, their love of the lifestyle kept them in the business. Some of the farmers also spoke of the ability to own land, the “potential” of their operations, and of their future. Although farming is their primary income, many of the farmers noted that early in their careers or during times of financial stress they sometimes had to work off-farm jobs or rely on the income of their spouses. Farmer 2 described the different aspects that a small organic farmer faces in terms of making a living:

At times it provides a very good income, I think potential. And for the most part historically I've done really well to make the business grow but not taken home very much. I add up my wages and often I would do just as well at Taco Bell. But I work 13 hours often a day. But we also have bought land, which is kinda a dream come true, which for us was pretty much the only way to survive. So, it depends on how you see it . . . it's not my dream to own tillers really, equipment. Hopefully at some point all these investments will pay off and will make money. But, definitely a very poor economic choice.

Farmer 3 expressed that it is becoming an adequate income as she is finishing paying off some of her major farm investments. She noted that the conservation easement on her property made the plot of land affordable to purchase. Farmer 5 placed a high importance on the economic aspects of sustainable farming, with the ability to own land as a major factor. About the income, he said, "It could always be better. Like I say, I probably work twice as hard as my counterpart works to make a similar living. So, no, it doesn't. But, I'm happy doing what I'm doing, so I don't mind having to work twice as hard at it to achieve my goals." Likewise, Farmer 7 believed that his income was adequate to "support a farming lifestyle, but I don't know if it can support a modern lifestyle." Overall, the farmers expressed that they work more than their income indicates, but the tradeoff is their quality of life and lifestyle choices.

DISCUSSION

The in-depth interviews with organic dairy and row crop farmers in Humboldt County produced nuanced perspectives on key issues regarding organic agriculture. Given the debates on organic agriculture and its evolution from a farming method to a social movement to a growing industry, it is important to gain these first-hand, place-based, comprehensive perspectives. This study focused on the viewpoints of organic farmers and why they chose to certify organic. It also elicited their opinions on social and economic aspects of organic farming. Two different populations of organic farmers in Humboldt County were interviewed, organic dairy farmers and organic row crop growers. These different groups allowed for a comparison across populations and a more complete picture of the modern organic farmer in Humboldt County. These results are important for the place of Humboldt County in terms of economic development, cultural identity, and quality of life. Beyond the county, these results help inform the evolution of the organic and sustainable agriculture movements. This section will discuss some of the key points elicited from the results of the interview process.

Descriptions of Humboldt County's Organic Dairy Farmers and Row Crop Growers

This research focused on a particular group of organic farmers, namely organic dairy and row crop farmers in Humboldt County, California. Agriculture in Humboldt County has a distinctive history that differs significantly from the rest of California. While California agriculture in general developed following the industrial model, Humboldt County agriculture maintained smaller-scale family-run farms due in large part

to its physical isolation from the rest of the state and county. For example, Humboldt County dairy farmers tend average herd sizes of 200 cows (HCDCDS, 2003) compared to California's average herd size of 659 cows (NMPF, 2005). The dairy industry has long been a staple of Humboldt County's economy, culture, and landscape, as exemplified by the Humboldt Creamery being the oldest active dairy cooperative in the state, since 1929.

Humboldt County has provided a home to organic farms and farmers since the onset of the organic movement in the late 1960s and 1970s. Given its lush land, close proximity to the hub of the organic movement in the San Francisco Bay Area, and its emerging progressive environmental reputation, organic farming has naturally situated on California's North Coast. Accordingly, some of Humboldt County's current organic farmers maintain perspectives from their involvement with the back-to-the-land and organic movements.

As with many places across the nation, Humboldt County has experienced an increase in organic farming and products as the organic market continues to steadily grow at a 20% annual growth rate since the 1990s. Since the California Organic Foods Act of 1990, *registration* of organic growers consistently increased in the county until the implementation of the federal Organic Foods Production Act in 2002, which required *certification* for operations grossing over \$5,000 annually. Accordingly, organic registration peaked in 2001, with a majority of 70 of the 74 organic registrants being growers (Eicher, 2004). The year 2001 also saw the first dairy in Humboldt County register and certify organic. The other three organic registrants in 2001 were a processor and two handlers (Eicher, 2004). Compared to 2001, there has been a drop in the

registration of organic growers with an increase in percent certified and there has been a trend of certification for organic dairies in Humboldt County with a total of 10 certified organic dairies as of 2004 (Eicher, 2004). This study focused on both certified organic row crop growers and dairy farmers in Humboldt County, eliciting their views on topics relevant to current discussions of organic agriculture.

While Humboldt County's farms overall are of a smaller-scale than the state averages, there were differences in sizes between the types of farms in this study. As expressed by the results of this report and of the Organic Farming Program (Eicher & Giraud 2002; Eicher 2004), organic dairies generally cover significantly more land than organic row crop farms. All of the interviewed dairy farmers tended over 100 acres and two farmed 1,500 acres or more; while, four of the nine interviewed row crop growers farmed on less than five acres and only two farmed over 50 acres (see Table 1).

The recent transition of 10 local dairy farmers and one beef rancher to organic has significantly affected the total amount of land in Humboldt County under organic production. The certification of organic dairies and beef ranches in Humboldt County has largely increased the total organic acreage from about 300 acres in 2000 to over 6,000 acres in 2004 (Eicher, 2004). From an environmental perspective there are numerous external benefits from organic management, such as a reduction in chemical runoff from pesticides and artificial fertilizers. The growing interest in organic beef production as reported by Eicher (2004) provides an opportunity for another marked jump in land under organic management as typical ranches in Humboldt County cover thousands of acres (HCDCDS, 2003).

In comparison, the organic row crop growers farmed on relatively smaller parcels of land. As compared to the expanses of dairy land on the county's fertile bottomlands, organic row crop farms were on smaller niches of land in regions across the county, from the coastal regions through the interior. The sizes of the organic row crop farms reported in this study agree with the data from the Organic Farming Program. The 2001 data revealed that most of Humboldt County's organic farms, excluding meat and dairy, range from less than one acre to 20 acres, with 80% of the growers farming on less than 5 acres (Eicher & Giraud, 2002). The study also showed that organic farm size was correlated with revenue, with over 50% of the total gross revenue from organic crop sales coming from 5% of the growers (Eicher & Giraud, 2002). The change in the federal rule, requiring certification for farmers grossing over \$5,000 annually has shifted the statistics, leading to decreases in organic registration and increases in percent certified. Accordingly, the revenue statistics have also likely shifted, as many of the lower grossing organic farmers no longer register organic.

While many of the organic growers in this study farm on relatively small parcels of land (seven of the nine interviewees farm on 15 acres or less), they have been able to make a living and often hire up to several employees. The Organic Farming Program assumed that the majority of the organic growers in Humboldt County do not make their sole income from farming (Eicher & Giraud, 2002). However, all of the farmers interviewed in this study indicated that farming currently represents their primary and sole income, while some of them did report that they needed supplemental work early on in their careers or during times of economic hardship, as did the dairy farmers. The

results from this study reveal that livelihoods and employment of others can be sustained on small parcels of land, even less than 5 acres in size. Some of the more intensive operations, such as seed production or specialty herbs or greens, can be quite productive on these smaller parcels of land.

Given the ability of small parcels of land to support productive agricultural operations, Humboldt County officials set out to promote such ventures. During the preliminary meetings for the General Plan Update process, the Planning Department initially supported an AE-15 zone, which would allow subdivision of prime agricultural land into 15-acre lots in order to support smaller-scale intensive agriculture (Martha Spencer, personal communication, February 18, 2006). However, as they started looking at land use patterns, County officials realized that this would be an avenue for conversion and subdivision of prime agriculture land, with the construction of houses and roads and developers looking for loopholes to build on land that was not going to sustain true working farms. Accordingly, the County Planning Department found themselves in a Catch-22 of wanting to promote smaller-scale intensive agricultural operations, such as some organic operations, while also wanting to prevent the conversion and subdivision of prime agricultural land. As Martha Spencer of the Humboldt County Planning Department explained, with the patterns becoming clear, the County opted to protect its open spaces and the prime agricultural land by not allowing these subdivisions (personal communication, February 17, 2006). So, small-scale farmers in the County are left with the options of purchasing the existing smaller lots of agricultural zoned land or leasing part of the larger lots. Being familiar with this situation, Farmer 4 commented, “One of

the things that developers and people trying to get out of taxes would like to see is smaller parcels being zoned as Ag., so the County is really against that, so I understand that, but then there are some beautiful pieces of soil around here that could be making a family a living.”

While it was not uncommon for organic row crop farms to cover less than 5 acres of land, these growers consistently reported large numbers of crop varieties on their farm. As shown in Table 1, for example, Farmer 3 cultivated 75 varieties on less than 5 acres and Farmer 4 cultivated 200 varieties on 10 to 15 acres. Such polycultures, with several crop varieties, fit with the organic method as opposed to monoculture farms that utilize and eventually deplete certain nutrients. Polycultures safeguard against crop failures and support the efficient use of nutrients and the productive and stable generation of biomass (Keller & Brummer, 2002). Accordingly, some philosophies of alternative farming methods point to the capacity of small amounts of land to produce large amounts of food, given the proper farming methods (Jeavons, 1974). Furthermore, such large polycultures located on niches of land promote agrobiodiversity and the local association of crop species with places.

The interviewed organic farmers in this study reflect Humboldt County’s demographic of family-run farms composing the vast majority of the county’s agriculture (Morehead, 2003). According to Browne (1992), a family farm is defined as any operation where the family owns a majority of the capital resources, makes the majority of management decisions, and provides the majority of the labor, while a larger-than-family-farm is where the family does not provide the majority of labor but still works the

farm. Accordingly, all of the interviewed farms fits into these categories and are a long way from their industrial counterparts. The presence of the family (and larger-than-family) farm in Humboldt County is worth noting, given the country's general trend of a decline in family-run farms since the post-World War II era. However, as several of the interviewed dairy farmers testified, while Humboldt County is still characterized by family farms, it has not escaped a decline in their numbers. As one dairy farmer noted, "The way the family farms are going . . . is the way of the dinosaur. You look up this road and I can count the number of empty barns that when I was a child were working dairies." Organic farming represents one avenue for family-run dairy farmers to stay in business, as will be further discussed below.

As exemplified by the previous quote, the interviewed dairy farmers possessed a perspective that spans generations of dairying in Humboldt County. Dairy farming captures Humboldt County's long-term agricultural identity, with the county having once been a primary supplier of the San Francisco Bay Area. Although the significance of the county's milk supply has dwindled in comparison to the San Joaquin Valley, the dairy industry has consistently been of primary cultural and economic importance within the county. All of the interviewed dairy farmers in this study came from families with histories of farming in Humboldt County and all but one were dairy farming families. Given their long history in the county, the transition to organic certification is a new trend for Humboldt County's dairy farmers. The first transition occurred in 2001 and there are now at least 10 organic dairies. Many of these dairy farmers expressed that they had not heard of the term organic before five years ago. According to Lisa Carnahan of the

Humboldt Creamery Association, 16 of the Creamery's producers have recently applied for organic certification and "if all 16 choose to convert, 50% of the Humboldt Creamery cooperative will be organic" (personal communication, June 5, 2006).

The backgrounds of the organic row crop growers differ from the dairy farmers in several ways. The organic row crop growers tended to have shorter generational histories of farming but longer-term personal involvement with organic farming. Most of the interviewed row crop growers were first-generation farmers and first-generation in Humboldt County, while being involved with organic agriculture for significant portions of their careers. The two interviewed row crop growers with family histories in farming also had family histories in Humboldt County. When asked why they began farming, the multi-generational farmers, both dairy and row crop, tended to explain it as a natural path that they were interested in pursuing. In comparison, the first-generation organic row crop growers placed a greater social weight on their decision to pursue organic farming, using phrases such as "positive change" and "sustainable living." This result fits with the findings of Ingram and Ingram (2005) who describe the back-to-the-landers as not coming from farming families but, rather, choosing to pursue the farming lifestyle as a cultural statement. Likewise, the interviewed first-generation row crop growers reflect a population who actively *chose* organic farming as a lifestyle reflecting their social and personal values. Several of the interviewees were among the forerunners of the organic agriculture and back-to-the-land movements in the 1970s, while some of the younger organic row crop growers help to cultivate current manifestations of the sustainable agriculture movement. This dynamic of a social incentive associated with first-

generation organic farmers fits with the following discussion regarding interviewed farmers rationale for going organic.

Rationale for Going Organic

A primary goal of this study was to explore the dynamics behind farmers' rationale for going organic. Amid many theoretical claims of organic agriculture losing its soul, being co-opted by corporate interests, or being viewed solely as a marketing opportunity, it is important to gain the first-hand perspectives of farmers themselves on what organic means to them and why they chose to be certified organic. The interviewed organic dairy farmers provided a consistent response among the population, that their rationale for transitioning to organic reflected a strong economic incentive combined with a natural proclivity given the similarities between organic farming and their existing farming techniques. The interviewed organic row crop growers provided a more varied range of responses including economic incentive, credibility and product assurance, and commitment to the values of organic agriculture.

The organic dairy farmers all expressed that a chance to improve their economic situation was paramount in their decision-making for transitioning to organic. The run of record low milk prices in the late 1990s and early 2000s combined with an already highly fluctuating milk market factored into several of the dairy farmers' decision to convert to organic. With organic production, dairy farmers receive a more *stable* and generally *higher* price than conventional production. Even given the recent record high conventional milk prices in the past two years, the interviewed organic dairy farmers were still pleased with their decision to transition. As several of the farmers explained,

the transition to organic provided an economic opportunity to stay in business. Dairy 8 maintained, “If it wasn’t for organic, we wouldn’t still be dairying.” Likewise, one of the multi-generational row crop farmers asserted that transitioning to organic was “the potential life saving factor for the family farm.” Accordingly, organic certification provides an opportunity for local family farms to stay in business despite the increasing difficulties for these small-scale operations in the face of the industrialization and consolidation of agriculture. Several of the farmers also attested to the long-term benefits of organic farming, both ecologically and economically. The long-term *potential* inherent in organic farming stands in contrast to the short-term perspective that has dominated recent trends in agriculture.

Even though economic incentives were key for the dairy farmers’ transition to organic, many of the interviewees were already farming close to organically. Humboldt County’s climate is well suited for pasture-based management and all members of the Humboldt Creamery had already agreed to ban the use of the growth hormone rBGH. Given that Humboldt County’s dairies are generally multi-generational and family-run, many of the management philosophies resonate with a more traditional style of dairying that has similarities with organic farming. The momentum and economies of scale generated by the early dairy transitioners combined with the support by the Humboldt Creamery, paved the way for more dairy farmers to convert to organic.

The interviewed row crop growers provided a range of responses as to why they chose to be certified organic. Farmers noted reasons such as product assurance, credibility, access to markets, increased income, and values or beliefs. Assurance and

credibility refer to the ability of the organic label to convey information to the consumers. Both row crop growers and dairy farmers spoke to the importance of the consumers wants in their decision to certify organic. Having a certified label to avoid confusion and fraud was one of the primary reasons for the inception of the first organic certifications. Farmers who export wholesale or supply to certain local retail stores explained that the organic certification was necessary to access those markets. Economic incentives and higher prices played a role in row crop growers' decision-making but not to the same degree as for the dairy farmers. Several of the row crop growers articulated that their decision to certify organic was related to a strong commitment to the values of the organic movement, although they also possessed some critiques of the current movement, as will be further discussed below.

The interviewed CSA farmers both practiced organic (and beyond) techniques but chose not to certify organic given their reliance on face-to-face interactions with their customers. This result agrees with the nationwide trend of 43% of CSAs being organic but not certified and 42% being certified organic (Lass *et al.*, 1999). As Stagl (2002) concluded, the generation of trust between individuals as opposed to trust in institutions is one of the main attributes of CSA. Nevertheless, one certified organic grower noted that although they tried to rely on face-to-face interactions at the Farmers' Markets, they finally chose to certify given that many customers have a strong association with the organic label.

In sum, the two populations of interviewed farmers had somewhat different although slightly overlapping rationales for certifying organic. The organic dairy farmers

expressed a strong economic incentive in the face of low and unstable milk prices combined with their existent farming methods that did not stray far from organic. Some of the row crop growers also expressed economic incentives, in terms of access to markets and response to consumer demand. However, a significant portion of the row crop growers spoke of a commitment to the organic movement, although they also expressed certain critiques of the movement's current manifestations. These varied responses fit with the categories of "pragmatic organic" and "committed organic," where motives for adopting organic techniques vary from economic incentives to support of sustainability (Fairweather, 1999; Darnhofer *et al.*, 2005). From this initial question on rationale for going organic, the dairy farmers fit more with the "pragmatic organic" category, while a significant portion of the row crop growers fit more with the "committed organic" description; however, the interviewed farmers also expressed nuances beyond these categories. The following discussions on values and social motives will shed more light on these dynamics.

Values Behind Farming

While my first key interview question focused on farmers' rationale for certifying organic, I later asked the interviewees to use their own words to describe the values behind their farming style. By doing so, I intended for the farmers to convey whether there were deep-rooted values or beliefs that underlay their decision to farm, free from the associations of the term organic. Both populations of dairy and row crop farmers responded positively with explanations of their personal values associated with farming and there seemed to be more similarities than differences between the populations.

Several of the dairy farmers spoke of “taking care” of or the “health” of the land and the animals; likewise, several of the row crop growers referred to “land steward[ship]” or caring for the soil and land. In addition, a few dairy farmers and row crop growers alike referred to religion, spirituality, and/or morals. More so than the dairy farmers, several row crop growers brought up aspects of community building, localness, and sustainability as concepts underlying their decision to farm. The responses on this topic tie in with the discussion on social motives for organic farming discussed in the following section.

Social Movement Aspects of Organic Farming

The roots of the organic agriculture movement maintained the identity of a social movement focusing on alternative modes of food production, consumption, and distribution that differed from the trends of mainstream agriculture. With the regulation of the term organic and the growing market value of organic products, organic agriculture grew to also include an industry. As with the evolution of many social movements, organic agriculture’s pull to the center has generated ample critiques, questioning whether the organic agriculture movement has been co-opted by those simply interested in profitability. As Rigby and Caceres (2001) note, organic agriculture now represents a range of motivations and practices, sometimes resulting in “contradictory pressures” (p.35). Accordingly, a goal of this study was to determine whether social movement incentives exist behind Humboldt County’s farmers’ association with organic.

Following the questions on rationale for certifying organic and values behind farming, I asked the interviewees whether they associated with a social movement aspect of organic farming that differed from conventional agriculture. Only one dairy farmer

expressed an explicit response that countered “corporate agriculture,” while most of the dairy farmers did not align themselves with the social movement aspects of organic farming. Two dairy farmers overtly stated that they do not focus on those issues. As Dairy 2 stated, “What someone else does is their business.” Several other dairy farmers expressed that they did not view their style of organic farming as confronting conventional agriculture, but, rather, they still maintained ties and associations with mainstream agriculture: “We are mainstream farmers that now do organic production” (Dairy 1B). In general, the dairy farmers viewed organic agriculture as a niche market that reflected the demands of the consumer rather than a social stance.

Although the dairy farmers did not associate with the social movement aspects of organic farming, the values they expressed as underlying their farming styles inherently ran parallel with some of the core values of the original organic movement, namely land stewardship. This helps to explain why the interviewed organic dairy farmers agreed that the transition to organic was “a natural conversion” that was a good fit with their existing farming techniques. So, while the dairy farmers did not relate to the social movement component of organic farming, their farming techniques and philosophies support key aspects of the movement. The long-term history of dairy farming in Humboldt County being continued by the population of interviewed dairy farmers has generated a strong connection between these farmers and the land, promoting a deep-rooted sense of place and commitment to land and animal stewardship. While discussing some initial findings of this study with one of the interviewed dairy farmers, she agreed and stressed:

The long-term landowners in Humboldt County already have a strong land ethic, in terms of conservation of the land and protection of the land. Certainly anyone who has been raising dairy cows for four generations has a strong understanding of dairy herds' needs. (Dairy 7).

Interestingly, the two row crop growers who expressed a distance from explicit stances on the social movement aspects of organic farming were also the two who had multi-generational histories in farming in Humboldt County. Although these farmers did not associate with a social movement, other responses of theirs reflect support of sustainable agriculture and land stewardship.

Besides these two farmers, the row crop growers associated more freely and strongly with the social movement aspects of farming. However, several of the interviewees articulated critiques of the organic movement and placed a strong emphasis on the concepts of localness and community as guiding the social movement they aligned themselves with. Their viewpoints fit more closely with that of the CSA farmers who criticized the national organic movement and promoted the CSA movement's stress on locally based, ecologically sound food systems. Accordingly, many of Humboldt County's organic (and beyond) farmers actively associated with a social movement; however, this movement was not necessarily captured by organic agriculture. These farmers are involved with formulating new articulations of sustainable agriculture.

In summary, a strong values base supported the farming methods of the entire interviewed population, for both organic dairy and row crop growers in Humboldt County. However, the first-generation row crop growers were more likely to place explicit weight on social movement aspects of their farming. So, although much of the

literature emphasizes the national trend of the co-option and conventionalization of organic agriculture by industrial agriculture (Buck *et al.*, 1997; Pollan, 2001; Guthman, 2004), places such as Humboldt County exist where organic farmers maintain strong land ethics. Organic agriculture in Humboldt County provides economic opportunities for new farmers to enter the business and multi-generation farmers to stay in business. Although Humboldt County's organic dairy farmer population does not strongly associate with social movements aspects of organic, their underlying values and locally based land ethic capture aspects of sustainable and appropriate agriculture. Organic agriculture in Humboldt County captures the county's long standing history of working with the land combined its more recent reputation for social and environmental awareness.

Effect of the Federal Rule

For many critics, the decisive split within the organic movement came with the implementation of the federal rule, as organic become more removed from local food systems and placed under USDA control. Accordingly, the interviewed farmers were asked about the effects of the federal regulation of organic certification. Given that many of the row crop growers had been registered or certified organic for many years compared to the relatively recent transition of Humboldt County dairy farmers, they had a particularly insightful view on this topic. In general, these farmers recognized the necessity of a federal rule as organic products were growing in popularity without a consistent definition. Several of these farmers spoke of the critiques of federally regulated organic agriculture often present in the literature, such as “corporate” and “large agriculture” having “co-opted” the organic movement as they are getting involved

to capitalize on the growing market. In general, these farmers placed these trends on the national or statewide scale, rather than seeing this influence in Humboldt County.

However, some personal effects of these trends were articulated, such as one exporting farmer who spoke of the difficulty in competing with the larger farms such as CalOrganic.

Several of these row crop growers, especially those who have been involved with the origins of the organic movement, noted the effect of the federal regulations on the “grassroots” aspects of organic agriculture. In particular, the grassroots aspects and the “soul” of organic agriculture were lost as organic pulled to the “mainstream.” In addition, interviewed farmers referred to a division or split among organic farmers between those more interested in the grassroots social movement aspects compared to those more interested in the profitability of organic. Many of the farmers who related to the deeper values underlying organic agriculture now practice farming techniques that go considerably beyond the requirements for organic certification.

Beyond Organic

Many of the interviewed row crop growers explained that the organic regulations under CCOF were much more stringent than they are with the USDA. Accordingly, it was relatively easy for them to meet the current federal requirements. Most of the interviewed row crop growers spoke of farming techniques that exceed the current federal requirements, such as “nutrient cycling,” “rotations,” and “soil fertility.” Rather than relying solely on the Federal List for allowable and prohibited substances, the interviewed row crop growers spoke of a more holistic view of their farming systems

based on the importance of the soil. Likewise, several of the dairy farmers spoke of the soil as the foundation of their farming systems; however, the dairy farmers in general felt that the federal rules were sufficiently stringent.

While some of the organic row crop growers maintained a loyalty to CCOF and the organic movement, others desired more refined articulations of sustainable agriculture. For example, one of the CSA farmers interviewed in this study who was involved with the original organic movement, now chooses not to certify organic and focuses on the CSA movement. Two growers spoke of biodynamic farming as a better approximation of their farming style. Another farmer explained that most of Humboldt County's organic row crop growers go "well beyond" organic in how they "care for [the] soil." So, while there has been a division within the organic movement with some original grassroots proponents remaining certified organic and some abandoning the association, in Humboldt County both groups of these growers continue to work with farming measures that consider sustainability. In addition to the ecological aspects of sustainability such as soil building and minimization of off-farm inputs, the interviewed organic row crop growers also stressed social and economic aspects of sustainability that were captured most readily by the concepts of localness and community.

The Importance of Localness and Community

Most of the interviewed row crop growers emphasized the importance of having their product available locally for the community. The growing popularity of the CSA movement in Humboldt County and nationwide speaks to this acknowledgement of direct links between growers and customers as an avenue towards sustainable agriculture.

Direct markets such as CSA and Farmers' Markets provide economic benefits to the farmers, reduce waste in distribution, and establish sites for people to reconnect with their local food systems and environment. Even many of the row crop growers who were certified organic, still maintained localness as a top value and social motive driving their farming decisions. One organic grower explained that while he has been offered to sell his vegetables outside of the county, one of his goals is "to sell 100% of my crops here in Humboldt County" (Farmer 4). Another grower who exports a significant amount of produce, expressed, "My local accounts are my most important thing, making sure that local customers who want organic can have it and have it locally" (Farmer 5). While the Humboldt Creamery rather than the dairy farmers themselves markets the milk products, in general the organic dairy farmers showed an interest in having their product available locally, although it was not with the same insistence as the row crop growers. The dairy farmers generally supported the recent market of Humboldt Creamery organic milk and ice cream available locally.

Several of the interviewed row crop growers spoke of their desire for more localized certifications, thereby providing the credibility of certification while maintaining the community connection and rigor of a local label. As one farmer noted, the Mendocino Renegades provide a regional example of such a certification. So, while the federal regulation of the organic label surely has affected the organic social movement, those interested in the grassroots aspects continue to provide further articulations for the movement, even though they may no longer have strong associations with the organic label. As demonstrated by the interviewed row crop growers, a main

focus for sustainable agriculture is the concept of localness. This focus echoes the original organic movements' decentralized ideology. Providing local options confronts the effects of distancing that dominate modern agriculture by reducing the economic and social distance between grower and consumer. This emphasis on local food systems fits with the bioregionalist perspective on living that is characteristic of environmentalism on the North Coast.

While discussing the importance of providing food for the local community, several of the row crop growers spoke of a reciprocal relationship with the community. For example, one farmer whose goal it is to sell all of his crops local said, "This is why I got involved with sustainable agriculture and the fact is that I am able to make a living feeding my community. They support me and I support them" (Farmer 4). Another farmer explained that they reinvest the money they make back into the community by buying locally. Interviewees stressed the supportive nature of the local community in Humboldt County as a contributing factor to their ability to make a living farming. The local, direct markets such as CSA and Farmers' Markets provide sites for these face-to-face relationships to unfold. In addition, local markets such as the Co-op actively support and promote local farmers. Karen Brooks, Marketing Director of the North Coast Co-op expressed, "The culture in Humboldt County is such that we welcome and embrace local foods and food production and organic foods" (personal communication, February 20, 2006). As Pretty (2002) discusses, these reciprocal relationships create social capital in communities. Such social capital contributes to community members' decision to support local options even if they may cost more than imported goods. Import

substitution factors into the region's economic development as will be further discussed later.

Technical Viewpoints from the Organic Farmers

The interviewed organic farmers provided useful feedback on the difficulties and concerns with complying to the federal regulations for organic. As stated above, given that the CCOF guidelines are generally accepted as more stringent than the USDA rules, many of the interviewed row crop growers did not express many difficulties with meeting the federal rules. However, one strong point that many of the row crop growers did bring up was the requirement for organic seed. As the USDA rule is written, organic seed must be used when commercially available. Although the farmers who spoke about this issue expressed that they support organic seed, sometimes that product is economically out of reach or not of a reliable quality. The interviewee who produces organic seed agreed with this interpretation that the organic seed production is currently not meeting the demand. He also spoke of the politics of seed production on a national and international level as seed companies are being taken over by agri-corporations, leading to a tightening control of the availability of seed.

Although Humboldt County's dairy farmers are not heavily dependent on commercial agriculture techniques, the interviewees still provided a considerable amount of feedback regarding the efforts involved in complying with organic regulations. Contributing factors may be these farmers' recent exposure to the organic rules (the first dairy farmer in Humboldt County transitioned in 2001) and/or the continued refinement of the federal rules for organic livestock. As discussed earlier, the access to pasture

clause exemplifies an area under debate on the national level. Given Humboldt County's temperate climate and open bottomlands, access to pasture is an easy requirement to meet, with most dairy farmers far exceeding the 120-day minimum requirement. Likewise, Humboldt Creamery members' existing ban on recombinant bovine growth hormone placed these dairy farmers one step closer to being organic.

Providing their herds with organic feed when the animals are not at pasture is a rule that has proven difficult for some of the interviewed dairy farmers to meet, with the main issues being the cost and availability of the organic feed. The cost has been especially difficult for the interviewed farmers during the transition year, when the farmers must supply organic feed while not yet receiving the higher organic prices for the milk. Given that many of the interviewed dairy farmers expressed high levels of financial stress prior to their decision to certify organic, the economic strains of the transition period were all the more potent.

Organic dairy's ban on antibiotics and emphasis on preventative treatment represents aspects that many of the interviewees expressed considerable time and effort in adjusting to; however, these aspects also seemed to equate well with the farmers' views on dairying. The rule states that once a cow is treated with antibiotics, that animal must be removed from the organic herd. Accordingly, the farmers must possess knowledge of preventative medicine and "continually . . . balance that line between do I treat her or do I not" (Dairy 1B). This approach to farming fits with the interviewed dairy farmers background and values, such as relating organic to "the way grandpa farmed" and extolling the values and techniques learned from the older generations.

Despite these several areas of attention, the interviewed organic dairy farmers spoke of a natural conversion to organic given the technical and philosophical similarities between organic farming and the way they were accustomed to farming. Most of the dairy farmers also declared their transition to organic as a wise decision and were excited about their futures. Interviewees spoke of being “proud” of their organic dairies and of having refined their farming techniques. For example, one interviewee declared that the organic system is “a better way of treating your animals” (Dairy 8). Overall, the dairy farmers felt capable of handling the efforts necessary for certification and viewed organic as a wise management and economic system.

Organic Agriculture and Economic Development in Humboldt County

Humboldt County faces some serious economic and social realities, such as poverty levels higher than the state and national averages. As with many rural areas, over the past several decades Humboldt County’s natural resource based industries, especially logging, have been in decline due in large part to resource exhaustion and other national trends. Likewise, while traditional agricultural operations, such as dairies, continue to be an important foundation to Humboldt County’s economy, they have decreased in number and total acreage. The dairies that do remain face the necessity of growing larger in order to remain in business. As has been recognized by county officials and residents alike, the area is in need of economic development. Organic agriculture provides an area of promise for Humboldt County’s economic development strategy.

Humboldt County officials have adopted a comprehensive economic development strategy for the county, called Prosperity!. Prosperity! rests on the economic base model for development, whereby the export of goods is key to growing the region's economy. Prosperity! defines nine base industry clusters of interdependent operations and businesses as its foundation. Among these base industry clusters are "dairy and dairy processing" and "specialty agriculture and horticulture," the latter having organic agriculture as a key component. As exemplified by this current study, these two base industry clusters overlap as organic certification provides opportunities for specialty agriculture and for the dairy industry.

When considering the economic development of Humboldt County, the particulars of the region must be taken into account. Isolation shapes much of the county's identity and economic history. Regarding agriculture, the area's remoteness has largely kept the reaches of industrial agriculture at bay while providing a home for generations of family farms. This isolation has also hindered the trade of goods to and from the county. Humboldt County's agricultural producers face additional costs and challenges exporting from the area. Representatives for all nine of Prosperity's industry clusters have identified enhancement of "transportation linkages," namely improving Highways 101 and 299 to support interstate truck traffic, as a top priority for economic development (Jacqueline Debets, personal communication, March 9, 2006).

Other geographic characteristics of the area have shaped Humboldt County's agricultural history. The temperate coastal bottomlands continue to provide ideal pastureland for grazing ruminants, making Humboldt County particularly suitable for

raising organic or grass-fed livestock. The climatic variability and ampleness of productive lands provides many niches for an array of agricultural products, from cut flowers and bulbs to orchard fruit to both warm and cool weather vegetables. Humboldt County's proximity to the San Francisco Bay Area has also factored into the influence of organic agriculture in the county since the origins of the movement.

Organic certification fits nicely as a new economic development opportunity for the long-standing dairy industry in Humboldt County. While the dairy industry has provided a main support for Humboldt County's culture and economy since the county's founding in the mid-nineteenth century, as with many rural places, Humboldt County's dairy industry has been in decline for the past several decades. Transitioning to organic provides an opportunity for Humboldt County's dairy farmers to stay in business and receive a higher and more stable profit. The recent growth and expansion of the Humboldt Creamery is due in large part to the success of its organic dairy products. Humboldt Creamery organically certified its processing equipment in response to members' requests and as a business opportunity. As Lisa Carnahan, Humboldt Creamery's Manager of Information Technology, stated, "because we are able to offer supply from this area and potentially such a huge amount of it, we saw that there was a huge business potential for us, which there has been and continues to be" (personal communication, February 24, 2006). The Humboldt Creamery has been able to grow the availability of its organic products on a national level and also supply organic products locally. This combination of export and regional markets reflects the economic vitality of

the dairy industry for Humboldt County, which generates both income injections and import substitution.

As exemplified by this study, organic certification also provides an avenue of economic development for row crop growers. According to the economic base model, organic row crops would be promoted for export to create income injections. Given organic products' national reputation as a niche market that has maintained a steady 20% annual growth rate, exporting organic products exemplifies a viable avenue for economic development in Humboldt County. As explained by several of the interviewees, exporting through the Bay Area is one of the most profitable markets for Humboldt County's organic products. Given the area's isolation, transportation costs and time play into a farmers' economic decision to export; nevertheless, the export market represents a viable opportunity. Veritable Vegetable continues to provide a reliable outlet for export of organic produce.

Although the county's economic development strategy emphasizes an export-based model, organic agriculture, especially row crops, plays a vital role *within* the county's economy that should not be overlooked. Import substitution captures a primary economic benefit of market exchanges of local organic produce within the county, as goods produced locally do not have to be imported from out of the region allowing money to stay and circulate within the county. Local markets for import substitution include local retail stores, Farmers' Markets, and CSAs. Humboldt County's Economic Development Coordinator, Jacqueline Debets, expressed that many of the county's row crop growers are pursuing local marketing strategies, such as the "Buy Fresh, Buy Local"

campaign (personal communication, March 9, 2006). Debets placed import substitution as “secondary strategy” to the economic base approach, playing an important role in “plugging leaks” (personal communication, March 9, 2006).

As the interviews of this study have revealed, a considerable number of Humboldt County’s organic row crop growers place strong importance on providing food locally. As discussed above, interviewees asserted their support of other local businesses and their allegiance to their local customers. This reciprocal relationship manifests economically as the multiplier effect, whereby money stays within the local economy and flows through several exchanges, essentially multiplying its economic value. Given the strength of the local markets for organic produce, local customers’ commitment to local producers, and local producers’ commitment to local customers, import substitution of organic produce plays a strong role in Humboldt County’s economy. In addition to the traditional economic benefit of financial capital, these reciprocal relationships create social capital, or connections and trust between individuals. With social capital, customers are willing to pay higher prices in order to support local options.

This emphasis on local interactions articulated by many of the interviewed row crop growers fits with the traditional social movement aspects of the organic movement. This decentralized form of commerce reduces dependence on industrial agriculture and increases community self-reliance. Humboldt County has a relatively long tradition of local outlets for local and organic produce; the North Coast Co-op began in 1973 and the North Coast Growers’ Association was established in 1979 representing the longest

continuously running certified Farmers' Market in California. The interviewees' emphasis on local interactions captures a key component of sustainable agriculture.

The sustainable agriculture movement generally refers to ecological, social, and economic aspects of sustainability. Accordingly, being able to make a living as a farmer is a key component of sustainable agriculture. So, while ecological and social motives may prompt a farmer to maintain local markets, exporting may represent an avenue to stay economically viable. Several of the interviewees expressed that wholesale accounts were vital to their economic survival, while other managed with only local accounts. Farmer 5 in this study maintained both export and local markets; he referred to his commitment to his local account as "most important" while also strongly emphasizing that "being sustainable also means you have to be able to survive at it."

When asked about income levels, the interviewed farmers generally agreed that the income was low but adequate given their love of the farming lifestyle. As Farmer 2 stated, "I add up my wages and often I would do just as well at Taco Bell." This fits with the results from Morehead's (2003) agricultural survey that Humboldt County's producers are financially "just making it." Furthermore, Morehead (2003) reported that these producers ranked "improving the agricultural economy (marketing, diversification)" as the best option for maintaining productive agricultural lands in Humboldt County. Accordingly, while farmers may persist because of their love and commitment to farming, promoting strong local and export markets through organic certification is one avenue to ensuring their economic sustainability and the maintenance of agricultural land in Humboldt County. While exporting organic products is strongly

supported by the county's economic development strategy, focusing on local markets is also essential. As Morehead (2003) found, 87% of his interviewed producers (more specifically, 86% of the dairy producers and 92% of the vegetable/fruit producers) agreed that increasing local markets for products is an avenue for increasing local production and business.

Ecological, Cultural, and Social Benefits of Organic Farming in Humboldt County

Organic agriculture in Humboldt County provides benefits beyond economic development. As a cleaner and more naturally efficient system than industrial agriculture, organic farming provides numerous ecological benefits, such as reduced toxins and runoff in the environment. Healthy agricultural land also provides wildlife habitat. Dairy farms across the bottomlands and row crop farms scattered throughout the county add to the regions' open spaces, scenic beauty, and rural quality of life. As Morehead (2003) reported in his agricultural survey, for these and other reasons, 94% of the general public agrees, "it is important to keep agricultural lands in production." As some of the interviewees of this study also relayed, Humboldt County's residents are very supportive and appreciative of the area's agricultural land. Dairy 3 relayed, "So many people come out and they love it . . . it's a way of life that a lot of people want to preserve . . . it just fits in this area . . . with the tourism . . . and the open spaces" The proximity of agricultural lands and the access to direct and local markets provides the residents of Humboldt County with the opportunity to understand and connect with their food systems.

Agriculture has contributed to the cultural identity of Humboldt County since its origins; organic agriculture helps preserve existing family farms and establish a modern *agri-culture* of the region. Generations of dairy families have inhabited Humboldt County's bottomlands, establishing a deep-rooted culture with a strong sense of place. As the dairy industry has faced difficult economic times for several decades, organic certification provides an avenue to stay in business and continue a rich way of life. Organic dairy products have helped to instill a surge of growth in the Humboldt Creamery, continuing the tradition of being California's oldest active dairy cooperative. Organic agriculture itself has a rich tradition in Humboldt County, as some of the original proponents of the organic agriculture and back-to-the-land movements lived and practiced their ideals in Humboldt County. For around 30 years, the North Coast Co-op and North Coast Growers' Association have been providing outlets for local and organic growers. As organic agriculture has morphed in its meaning over the year, some of Humboldt County's organic (and beyond) farmers continue to grow the movement and develop more refined articulations of sustainable agriculture.

CONCLUSIONS

This study provides a modern, place-based perspective on organic farming from different grower types. The findings add to the current understanding of organic agriculture and what it means to farmers. This work also helps to place organic (and beyond) agriculture in Humboldt County's economic development strategies. The following summary captures some of the main conclusions of this work.

- The interviewed organic dairy farmers represented multi-generational farming families in Humboldt County, while the organic row crop growers were more likely to be first-generation farmers and first-generation in Humboldt County.
- The first-generation farmers generally placed more social weight on why they began farming, as it represented an active choice rather than an established way of life.
- The organic dairy operations cover a greater amount of land than the organic row crop farms, significantly increasing the county's total acreage under organic production.
- Organic farms in Humboldt County add to the community's benefits, such as open space, sense of place, rural quality of life, and improved environmental quality.
- Organic farms and local markets in Humboldt County provide an opportunity for people to connect with their food systems and understand where their food comes from.
- The interviewed organic dairy farmers in Humboldt County transitioned to organic certification because of a combination of economic incentive and natural proclivity for the organic method.
- Given the general decline of dairy farms in Humboldt County combined with record low prices in the early 2000s, transitioning to organic reflected an opportunity for some dairy farmers to stay in business. Organic prices are generally higher and more stable than conventional prices, although some increased costs must be accounted for.

- Humboldt County's pastureland for grazing and the dairy farmers' multi-generational, small-scale, family-run farming style create a natural site for transition to organic.
- The interviewed organic row crop growers in Humboldt County certified organic because of a combination of factors, including economic incentives such as access to markets, commitment to the values of the organic movement, and credibility/product assurance for customers.
- Both populations of farmers expressed strong land (and animal) stewardship values behind their farming style. The organic row crop growers also stressed localness and community.
- The organic dairy farmers generally distanced themselves from association with a social movement or an alternative to mainstream farming and placed weight on consumer demand for organic products. Nevertheless, while the organic dairy farmers did not actively associate with the social aspects of the organic movement, their values and land ethic resonate with aspects of the organic movement.
- Most of the organic row crop growers actively associated with a social movement, although they did not necessarily relate to the current organic movement; rather, they placed more weight on social concepts such as community, localness, and alternatives to industrial agriculture.
- Supplying local markets with organic produce was of key importance to most of the row crop growers, even those with wholesale export accounts.
- The dairy farmers expressed several concerns about transitioning to organic, including adjusting to preventative medicine over antibiotic use and not using chemical fertilizers; however, they agreed with this style of farming and its benefits and were willing to modify their techniques. The increased price for organic feed presented a major difficulty, which proved especially trying during the transition period when the farmers were still getting conventional prices while maintaining organic production.
- The federal regulations were generally easy for interviewed row crop growers to abide with, given their previous certification with the more stringent CCOF certification. One main area of concern was the cost and quality of organic seed.
- The organic row crop growers generally agreed that their farming practices go beyond what is required for the federal certification, while the dairy farmers seemed content with the current stringency of the USDA rule.

- The organic dairy farmers were generally proud of their decision to transition and excited about the future potential of their operations.
- The CSA farmers practiced organic or beyond techniques while choosing not to certify because of their face-to-face interactions with customers. They expressed critiques of organic agriculture and strongly aligned themselves with the CSA movement of providing local food for local people.
- The organic row crop growers tended to have strong critiques about the direction of the organic movement, especially concerning out-of-county aspects such as the involvement of industrial agriculture. They also expressed understanding of the need for federal regulations and the inevitable morphing of the original grassroots movement as it became more accepted by the mainstream.
- With considerable critiques of the organic movement, organic farmers in Humboldt County help to further articulate ideals of sustainable agriculture.
- Organic certification provides opportunities for economic development in Humboldt County, based both on exporting products and providing local options.
- Humboldt Creamery markets their organic dairy products nationwide, adding income injections to Humboldt County's economy. The interviewed dairy farmers were proud of the local availability of organic dairy products in addition to the exported products.
- With their strong emphasis on supplying local markets, the organic row crop growers contribute to import substitution and increasing the multiplier effect within the county. They generally placed considerable weight on the reciprocal relationships that they have within the community of mutual support of purchasing local products.
- While organic farming contributes to the development of the local economy, most of the interviewees expressed some economic strains and generally low incomes considering the amount of work; however, they balanced this reality with the upshot of their love of the lifestyle.

Table 1: Demographics of Interviewed
Organic Row Crop Growers and Dairy Farmers

ID CODE	PRIMARY PRODUCT	LOCATION	ACRES	VARIETIES/ANIMALS	EMPLOYEES	MARKET(S)
Farmer 01	vegetables	North Bay	< 5	30	farming partner	CSA
Farmer 02	vegetables	North Bay	< 5	60	1 to 3	Farmers' Markets; Local Retail Markets; Restaurants
Farmer 03	vegetables	North Bay	< 5	75	1 to 3	80% CSA; 20% Farmers' Markets
Farmer 04	vegetables and fruits	North East Inland	10 to 15	200	1 to 3	90% Farmers' Markets; 10% Local Retail Markets, Restaurants
Farmer 05	vegetables	North Bay	50 to 100	60	4 to 5	Farmers' Markets; Local Retail Markets; Wholesale Export
Farmer 06	vegetables	Southern Humboldt	50 to 100	no data	4 to 5	67% Wholesale Export; 33% Local Retail Markets
Farmer 07	seeds	Southern Humboldt	10 to 15	30	family/friends	60% Contract Export; 20% Wholesale Export; 20% Restaurants
Farmer 08	vegetables	North Bay	< 5	no data	1 to 3	80% Farmers' Market; 20% Wholesale Export
Farmer 09	vegetables and fruits	North East Inland	10 to 15	no data	1 to 3	80% Farmers' Market; 20% Local Retail
Dairy 01	Dairy	Mid County	>1,500	>750	45+	Humboldt Creamery
Dairy 02	Dairy	Mid County	150 to 250	50 to 175	1 to 3	Humboldt Creamery
Dairy 03	Dairy	Mid County	>1,500	>750	10 to 15	Humboldt Creamery
Dairy 04	Dairy	Mid County	300 to 500	50 to 175	1 to 3	Humboldt Creamery
Dairy 05	Dairy	Mid County	300 to 500	175 to 350	4 to 5	Humboldt Creamery
Dairy 06	Dairy	Mid County	150 to 250	50 to 175	family/friends	Humboldt Creamery
Dairy 07	Dairy	Mid County	300 to 500	50 to 175	1 to 3	Humboldt Creamery
Dairy 08	Dairy	Mid County	150 to 250	175 to 350	1 to 3	Humboldt Creamery

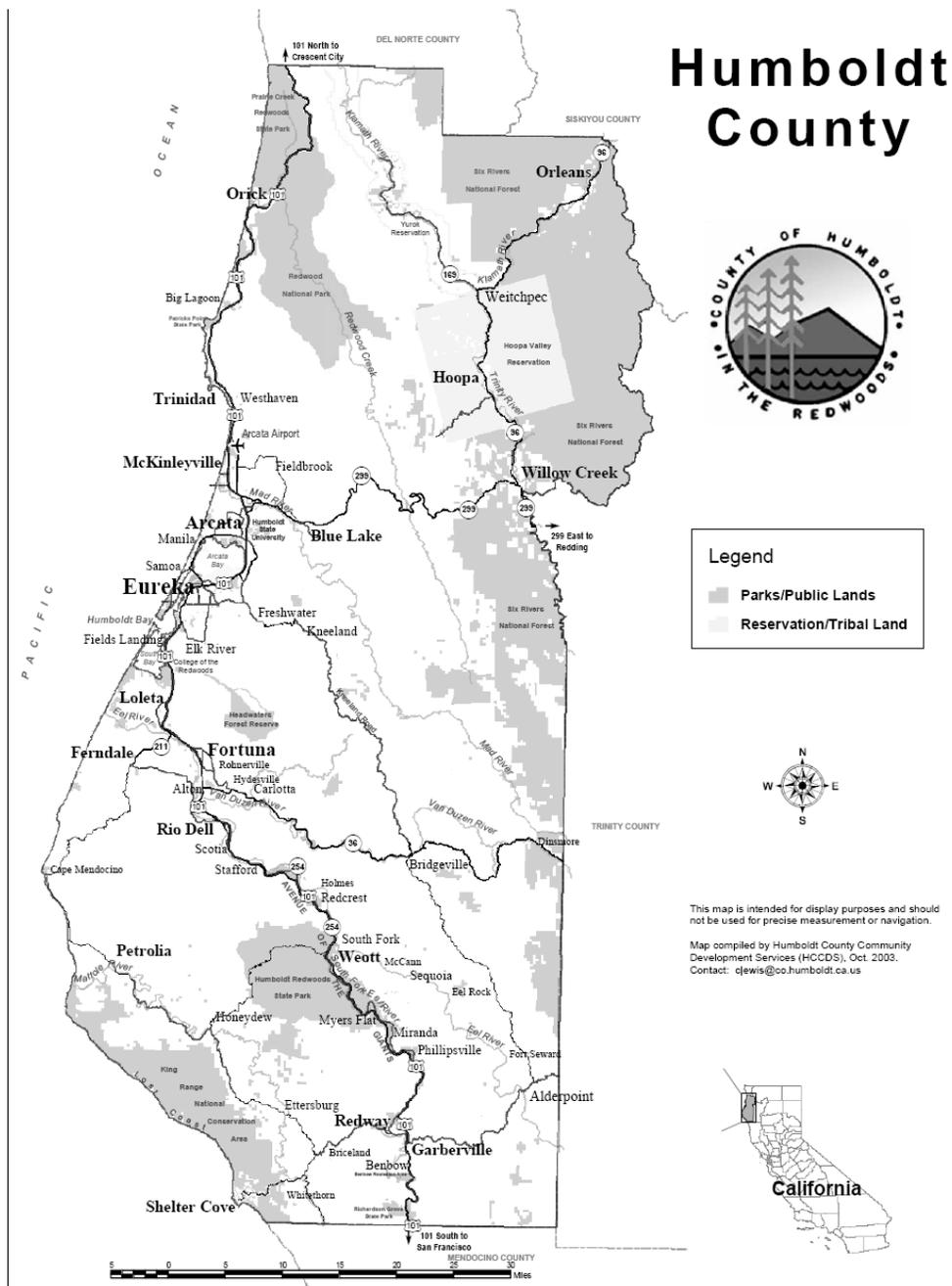


Figure 1: Map of Humboldt County, California

WORKS CITED

- Altieri, M.A. (1995). *Agroecology: The science of sustainable agriculture*. Boulder, CO: Westview Press.
- American Humane Association. (2005). What does Free Farmed mean? Retrieved November 14, 2005, from <http://www.americanhumane.org>.
- Badgley, C. (2002). Can agriculture and biodiversity coexist? In A. Kimbrell (Ed.), *Fatal harvest* (pp. 199-207). Washington, DC: Island Press.
- Banks, J. & Marsden, T. (2001). The nature of rural development: The organic potential. *Journal of Environmental Policy & Planning*, 3, 103-121.
- Bari, Judi. (1994). *Timber wars*. Monroe, ME: Common Courage Press.
- Barker, D. (2002). Globalization and industrial agriculture. In A. Kimbrell (Ed.), *Fatal harvest* (pp. 249-263). Washington, DC: Island Press.
- Belasco, W.J. (1989). *Appetite for change: How the counterculture took on the food industry, 1966-1988*. New York, NY: Pantheon Books.
- Berg, B. (2004). *Qualitative research methods for the social sciences* (5th Edition). San Francisco, CA: Pearson Education, Inc.
- Berry, W. (1977). *The unsettling of America: Culture and agriculture*. San Francisco, CA: Sierra Book Clubs.
- Berry, W. (1981). *The gift of good land: Further essays on culture and agriculture*. San Francisco, CA: North Point Press.
- Berry, W. (2000). In distrust of movements. *The Sun*, 297, 20-23.
- Beus, C.E. & Dunlap, R.E. (1990). Conventional versus alternative agriculture: The paradigmatic roots of the debate. *Rural Sociology*, 55(4), 590-616.
- Board, T. (2003). Introducing NRLT's Farmland Protection Program. *Northcoast Regional Land Trust: Fall 2003 Newsletter*, 4.
- Brennan, K. (2003). Milk made to last. *Saveur*, 68, 49-50.
- Browne, W.P. (1992). Never confuse farming with rural America. In W.P. Browne (Ed.), *Sacred cows and hot potatoes* (pp.17-36). Boulder, CO: Westview Press.

- Buck, D., Getz, C. & Guthman, J. (1996). Consolidating the commodity chain: Organic farming and agribusiness in Northern California. *Food First Development Report 11*. Oakland, CA: The Institute for Food and Development Policy.
- Buck, D., Getz, C. & Guthman, J. (1997). From farm to table: The organic vegetable commodity chain of Northern California. *Sociologia Ruralis*, 37(1), 3-20.
- Buechner, M.M. (2003, July 14). A new cash cow. *Time Magazine*. Retrieved October 3, 2005, from *Time Online Edition*
<http://www.time.com/time/insidebiz/article/0,9171,1101030714-463083,00.html>.
- Campbell, D. (2001). Conviction seeking efficacy: Sustainable agriculture and the politics of co-option. *Agriculture and Human Values*, 18, 353-363.
- Carolan, M. (2003). Who's growing you? *Peace Review*, 15 (1), 99-103.
- Chase, A. (1995). *In a dark wood: The fight over forests and the rising tyranny of ecology*. New York, NY: Houghton Mifflin Company.
- CNN. (2005). Election 2000. Retrieved September 26, 2005, from
<http://www.cnn.com/ELECTION/2000/results>.
- Conford, P. (2001). *The origins of the organic movement*. Edinburgh, UK: Floris Books.
- Coomes, B. & Campbell, H. (1998). Dependent reproduction of alternative modes of agriculture: Organic farming in New Zealand. *Sociologia Ruralis*, 38(2), 127-145.
- Cronon, W. (1996). The trouble with wilderness; or, getting back to the wrong nature. In W. Cronon (Ed.), *Uncommon ground: Rethinking the human place in nature* (pp. 69-90). New York, NY: W.W. Norton & Company.
- Darnhofer, I, Shneeberger, W, & Freyer, B. (2005). Converting or not converting to organic farming in Austria: Farmer types and their rationale. *Agriculture and Human Values*, 22, 39-52.
- DeLind, L.B. (2000). Transforming organic agriculture into industrial organic products: Reconsidering national organic standards. *Human Organization*, 59, 198-209.
- Deumling, D., Wackernagel, M., & Monfreda, C. (2003, July). Eating up the earth: How sustainable food systems shrink our ecological footprint. *Agricultural Footprint Brief*. Oakland, CA: Redefining Progress.
- Di Chiro, G. (1996). Nature as community: the convergence of environment and social justice. In W. Cronon (Ed.), *Uncommon ground: Rethinking the human place in nature* (pp. 298-320). New York, NY: W.W. Norton & Company.

- Dodge, J. (1981). Living by life: Some bioregional theory and practice. In V. Andruss, C. Plant, & E. Wright (Eds.), *Home! A bioregional reader* (pp. 5-12). Philadelphia, PA: New Society Publishers.
- Doran, T. (2000, September 7). What's the Plan, Humboldt? *North Coast Journal* [Arcata, CA]. Retrieved October 11, 2005, from <http://www.northcoastjournal.com/090700/cover0907.html>.
- Duncan, C.A.M. (1996). *The centrality of agriculture: Between humankind and the rest of nature*. Montreal: McGill-Queen's University Press.
- DuPuis, E.M. (2002). *Nature's perfect food: How milk became America's drink*. New York, NY: New York University Press.
- Dyett & Bhatia Urban and Regional Planners. (2002, October). Moving goods and moving people. *Humboldt 2025 Regional Plan Update*. Retrieved June 7, 2006, from http://www.planupdate.org/meetings/moving_gp/moving.asp.
- Eicher, A.L. & Giraud, D.D. (2002). Organic agriculture in Humboldt County. *Organic Farming Program, University of California Cooperative Extension, Eureka, CA*.
- Eicher A.L. (2004). A statistical profile on organic farming in Humboldt County December 2004. *Organic Farming Program, University of California Cooperative Extension, Eureka, CA*.
- Esbjornson, C.D. (1992). Once and future farming: Some meditations on the historical and cultural roots of sustainable agriculture of the United States. *Agriculture and Human Values*, 9(3), 20-30.
- Fairweather, J.R. (1999). Understanding how farmers choose between organic and conventional production: Results from New Zealand and policy implications. *Agriculture and Human Values*, 16, 51-63.
- Freudenburg, W.R. (1992). Addictive economies: Extractive industries and vulnerable localities in a changing world economy. *Rural Sociology*, 57(3), 305-332.
- Galston, W.A. & Baehler, K.J. (1995). *Rural development in the United States: Connecting theory, practice, and possibilities*. Washington, DC: Island Press.
- Goldschmidt, W. (1978). *As you sow*. Montclair, NJ: Allanheld, Osmun & Co. Publishers.
- Gottlieb, R. (1993). *Forcing the spring: The transformation of the American environmental movement*. Washington, DC: Island Press.

- Gottlieb, R. (2001). *Environmentalism unbound: Exploring new pathways for change*. Cambridge, MA: The MIT Press.
- Green, G.P. (1985). Large-scale farming and the quality of life in rural communities: Further specification of the Goldschmidt hypothesis. *Rural Sociology*, 50(2), 262-274.
- Groh, T. & McFadden, S. (1997). *Farms of tomorrow revisited: Community supported farms – farm supported communities*. Kimberton, PA: The Biodynamic Farming and Gardening Association.
- GrowGMOFree. (2005). Why ban GMO crops? Retrieved December 2, 2005, from <http://www.growgmofree.org/whyBanGMOCrops.html>.
- Guthman, J. (2003). Fast food/organic food: Reflexive tastes and the making of ‘yuppie chow.’ *Social and Cultural Geography*, 4(1), 43-56.
- Guthman, J. (2004). *Agrarian dreams: The paradox of organic farming in California*. Berkeley, CA: University of California Press.
- Hackett, S.C. (1999). The Humboldt County economy: Where have we been and where are we going? *The Index of Economic Activity for Humboldt County*. Retrieved June 4, 2006, from <http://www.humboldt.edu/~indexhum/projects/humcoecon.htm>.
- Hackett, S.C. (2001). *Environmental and natural resource economics: Theory, policy, and the sustainable society* (2nd Edition). Armonk, NY: M.E. Sharpe.
- Hall, A. & Mogyorod, V. (2001). Organic farmers in Ontario: An examination of the conventionalization argument. *Sociologia Ruralis*, 41(4), 399-422.
- Harmon, D. (2002). *In light of our differences: How diversity in nature and culture makes us human*. Washington, DC: Smithsonian Institution Press.
- Harper, C.L. & Le Beau, B.F. (2003). *Food, society, and environment*. Upper Saddle River, NJ: Prentice Hall.
- Hassanein, N. (1999). *Changing the way America farms: Knowledge and community in the sustainable agriculture movement*. Lincoln, NE: University of Nebraska Press.
- Heller, B. & Keoleian, G. (2000). Life-cycle based sustainability indicators for assessment of the U.S. food system. *Report No. CSS00-04*. Ann Arbor, MI: Center for Sustainable Systems, University of Michigan.
- Herndon, G. (1991). *Cut and run*. Telluride, CO: Western Eye Press.

- Heyck, D.L.D. (2002). *Surviving globalization in three Latin American countries*. New York, NY: Bradview Press, Ltd.
- Hight, J. (2000). *Food, fiber & flowers: A special report on agriculture in Humboldt County*. Eureka, CA: Humboldt County Farm Bureau.
- Hinrichs, C.C. (2000). Embeddedness and local food systems: Notes on two types of direct agricultural market. *Journal of Rural Studies*, 16, 295-303.
- Horne, J.E. & McDermott, M. (2001). *The next green revolution: Essential steps to a healthy, sustainable agriculture*. New York, NY: Food Products Press.
- House, F. (1999). *Totem salmon: Life lessons from another species*. Boston, MA: Beacon Press.
- Hudson, I. & Hudson, M. (2003). Removing the veil? Commodity fetishism, fair trade, and the environment. *Organization and Environment*, 16(4), 413-430.
- Humboldt Association of Realtors. (2005). Humboldt County housing affordability index. Retrieved October 6, 2005, from <http://www.harealtors.com/properties.php>.
- Humboldt County Community Development Services – Advanced Planning Division. (2002, February). *Humboldt County Public Lands*. Retrieved February 22, 2006, from www.co.humboldt.ca.us/planning/maps/nr_report/publiclands.pdf.
- Humboldt County Department of Community Development Services. (2003). *Humboldt 2020 General Plan: Agricultural resources and policies*. Agricultural Resources Report. Retrieved February 22, 2006, from <http://www.planupdate.org/>.
- Humboldt Creamery. (2005). Retrieved October 2, 2005, from <http://www.humboldtcreamery.com/index.html>.
- Ingram, M., Buchmann, S. & Nabhan, G. (2002). Our forgotten pollinators. In A. Kimbrell (Ed.), *Fatal harvest* (pp. 191-198). Washington, DC: Island Press.
- Ingram, M. & Ingram, H. M. (2005). Credible Edibles: The development of federal organic regulations. In D. Meyer (Ed.), *Routing the opposition: Social movements and public policy* (pp. 121-148). Minneapolis, MN: Minnesota University Press. Retrieved October 6, 2005, from <http://72.14.207.104/search?q=cache:2TWg3HCNMPkJ:www.seweb.uci.edu/users/jenness/ingram.pdf+ingram+credible+edibles&hl=en&gl=us&ct=clnk&cd=4>.
- Jackson, W. (1987). *Altars of unhewn stone: Science and the earth*. San Francisco, CA: North Point Press.
- Jeavons, J. (1974). *How to grow more vegetables*. Berkeley, CA: Ten Speed Press.

- Karreman, H. (2005, April 1). *Foundations of organic herd health*. Presentation at the Western Organic Dairy Conference, Humboldt State University, Arcata, CA.
- Keller, D.R. & Brummer, E.C. (2002). Putting food production in context: Toward a postmechanistic agricultural ethic. *BioScience*, 52(3), 264-271.
- Kemmis, D. (1990). *Community and the politics of place*. Norman, OK: University of Oklahoma Press.
- Kimbrell, A. (2002). Corporate lies: Busting the myths of industrial agriculture. In A. Kimbrell (Ed.), *Fatal harvest* (pp. 3-36). Washington, DC: Island Press.
- Kittredge, J. (1996). Community-supported agriculture: Rediscovering community. In W. Vitek & W. Jackson (Eds.), *Rooted in the land* (pp. 253-260). New Haven, CT: Yale University Press.
- Kloppenborg, J., Jr., Hendrickson, J., & Stevenson, G.W. (1996). Coming into the foodshed. *Agriculture and Human Values*, 13(3), 33-42.
- Kloppenborg, J., Jr. & Lezberg, S. (2003). Getting it straight before we eat ourselves to death: From food system to foodshed in the 21st century. *Society and Natural Resources*, (9), 93-96.
- Kneen, B. (1989). *From land to mouth: Understanding the food system*. Toronto: NC Press Limited.
- Knobloch, F. (1996). *The culture of wilderness: Agriculture as colonization in the American West*. Chapel Hill, NC: The University of North Carolina Press.
- Kroese, R. (2002). Industrial agriculture's war against nature. In A. Kimbrell (Ed.), *Fatal harvest* (pp. 92-105). Washington, DC: Island Press.
- Lass, D., Stevenson, G.W., Hendrickson, J. & Ruff, K. (1999). *CSA across the nation: Findings from the 1999 CSA survey*. Madison, WI: Center for Integrated Agricultural Systems and Life Sciences, University of Wisconsin-Madison.
- Leopold, A. (1949). *A Sand County almanac*. New York: Oxford University Press.
- Lobao, L.M., Schulman, M.D., & Swanson, L.E. (1993). Still going: Recent debates on the Goldschmidt Hypothesis. *Rural Sociology*, 58(2), 277-288.
- Mander, J. (2002). Machine logic: Industrializing nature and agriculture. In A. Kimbrell (Ed.), *Fatal Harvest* (pp. 87-91). Washington, DC: Island Press.

- McKay, J. (2004, May 27). How the price of milk reached a record-high. *Pittsburgh Post-Gazette*. Retrieved November 15, 2005, from <http://www.post-gazette.com/pg/04148/322474.stm>.
- Morehead, B.D. (2003). *Humboldt County agriculture survey final report*. Humboldt County Farm Bureau. Eureka, CA.
- National Milk Producers Federation. (2005). Retrieved November 15, 2005, from <http://www.nmpf.org/index.cfm>.
- National Organic Program. (2005). NOP program standards. Retrieved November 14, 2005, from <http://www.ams.usda.gov/nop/NOP/standards/FullText.pdf>
- National Organics Standards Board. (2005). Formal recommendation by the National Organic Standards Board (NOSB) to the National Organic Program. Retrieved November 14, 2005, from <http://www.ams.usda.gov/nosb/FinalRecommendations/Aug05/PastureGuidance.pdf>
- North Coast Growers' Association. (2005). About the NCGA and Humboldt farmers markets. Retrieved October 26, 2005, from http://www.humfarm.org/about/about_ind
- North Coast Journal. (2004, November 25). Arcata bans GMOs. *North Coast Journal* [Arcata, CA]. Retrieved September 26, 2005, from <http://www.northcoastjournal.com/112504/news1125.html>
- Oelhaf, R.C. (1978). *Organic agriculture: Economics and ecological comparisons with conventional methods*. Montclair, NJ: Allenheld, Osmun & Co.
- Organic Farming Research Foundation. (2005). Frequently asked questions about organic farming. Retrieved on October 3, 2005, from http://www.ofrf.org/general/about_organic/.
- Organic Trade Association (2005a). Organic food facts. Retrieved September 23, 2005, from <http://www.ota.com/organic/mt/food.html>.
- Organic Trade Association (2005b). Industry statistics and projected growth. Retrieved September 23, 2005, from <http://www.ota.com/organic/mt/business.html>.
- Organisation for Economic Co-operation and Development. (2003). Conclusions and recommendations. In Organisation for Economic Co-operation and Development (OECD) (Ed.), *Organic agriculture: sustainability, markets and policies* (pp.9-30). Wallingford, UK: CABI Publishing.
- Our Common Future. (1987). *Our common future: World commission on environment and development*. Oxford: Oxford University Press.

- Padel, S & Lampkin, N.H. (1994). Farm-level performance of organic farming systems: An overview. In N.H. Lampkin & S. Padel (Eds.), *The economics of organic farming: An international perspective* (pp.149-161). Wallingford, UK: Cab International.
- Padel, S. (2002). In-depth case studies of the conversion process. In Powell *et al.* (Eds.) *UK organic research 2002: Proceedings of the COR conference, 26-28th March 2002, Aberystwyth* (pp.289-292). Aberystwyth: University of Wales.
- Plenderleith, K. (1999). The role of traditional farmers in creating and conserving agrobiodiversity. In D.A. Posey (Ed.) *Cultural and spiritual values of biodiversity* (pp.287-291). London: Intermediate Technology Publications and United Nations Environment Programme.
- Pollan, M. (2001, May 13). Behind the organic-industrial complex. *New York Times*.
- Pollan, M. (2003, July/August). Getting over organic. *Orion*, 11.
- Power, T.M. (1996a). *Environmental protection and economic well-being: The economic pursuit of quality* (2nd Edition). Armonk, NY: M.E. Sharpe.
- Power, T.M. (1996b). *Lost landscapes and failed economies*. Covelo, CA: Island Press.
- Pretty, J.N. (2002). *Agri-culture: Reconnecting people, land and nature*. Sterling, PA: Earthscan Publications.
- Prosperity! (2004a). *Prosperity! – the North Coast strategy*. Humboldt County's Comprehensive Economic Development Strategy. Volume 1, Eureka, CA.
- Prosperity! (2004b). *Growing Prosperity: Demographic trends, competitive advantage and industries of economic growth in Humboldt County and on the North Coast*. Presentation notes from the Workshop with the Humboldt County Board of Supervisors, October 4, 2004, Eureka, CA.
- Pugliese, P. (2001). Organic farming and sustainable rural development: A multifaceted and promising convergence. *Sociologia Ruralis*, 41(1), 112-130.
- Rigby, D. & Caceres, D. (2001). Organic farming and the sustainability of agricultural systems. *Agricultural Systems*, 68, 21-40.
- Rossett, P.M. (1999). The multiple functions and benefits of small farm agriculture in the context of global trade negotiations. *Food First Policy Brief No.4*. Oakland, CA: The Institute for Food and Development Policy.
- Rubin, H.J. & Rubin, I.S. (1995). *Qualitative interviewing: the art of hearing data*. Thousand Oaks, CA: SAGE Publications.

- Save-the-Redwoods League. (2005). Redwood statistics. Retrieved September 26, 2005, from <http://www.savetheredwoods.org/education/stats.shtml>.
- Shaffer, R. (1989). *Community economics: Economic structure and change in smaller communities*. Ames, IA: Iowa State University Press.
- Shiva, V. (1997). *Biopiracy: The plunder of nature and knowledge*. Boston, MA: South End Press.
- Sholubi, O., Stonehouse, D.P, & Clark, E.A. (1997). Profile of organic dairy farming in Ontario. *American Journal of Alternative Agriculture*, 12(3), 133-139.
- Sims, H. (2003, May 29). Going nowhere: Has the Northern Pacific Railroad reached the end of the line? *North Coast Journal* [Arcata, CA]. Retrieved October 11, 2005, from <http://www.northcoastjournal.com/052903/cover0529.html>.
- SlowFood USA. (2003). Our guiding principles. Retrieved November 29, 2003, from <http://www.slowfoodusa.org/about/principles.html>.
- Smith, M. & Giraud, D. (2001). *Traditional land-use planning regulation and agricultural land conservation: A case study from a rural Northern California county*. Paper presented at the 63rd annual meeting of the Rural Sociological Society, Washington, D.C.
- Soule, J.D. & Piper, J.K. (1992). *Farming in nature's image: An ecological approach to agriculture*. Washington, D.C.: Island Press.
- Stagl, S. (2002). Local organic food markets: Potentials and limitations for contributing to sustainable development. *Empirica*, 29, 145-162.
- Thrupp, L.A. (1999). Linking biodiversity and agriculture: Challenges and opportunities for sustainable food security. In D.A. Posey (Ed.) *Cultural and spiritual values of biodiversity* (pp.316-320). London: Intermediate Technology Publications and United Nations Environment Programme.
- Thrush, G. (1999). Something in the way we move: Rural migration in the future will be a manifest destiny defined by natural beauty and human desires. *American Demographics*, 21(11), 49-55.
- True, M. (2003). Mother milk: A celebration of the food that has nourished us all. *Saveur*, 68, 49-50.
- U.S. Census Bureau. (2005). Fact sheet: Census 2000 demographic profile highlights. Retrieved October 4, 2005, from <http://factfinder.census.gov/servlet/SAFFacts>.

- Utne Reader. (2005). Top Ten Most Enlightened Towns. Retrieved September 26, 2005, from <http://cafeutne.org/towns/arcata.html>.
- Vitek, W. & Jackson, W., Eds. (1996). *Rooted in the land: essays on community and place*. New Haven, CT: Yale University Press.
- Vos, T. (2000). Visions of the middle landscape: Organic farming and the politics of nature. *Agriculture and Human Values*, 17, 245-256.
- Western Organic Dairy Conference. (2005). *Second Annual Western Organic Dairy Conference workbook and notes*. April 1 and 2, 2005, Humboldt State University, Arcata, CA.
- White, R. (1996). Are you an environmentalist or do you work for a living?': Work and nature. In W. Cronon (Ed.), *Uncommon ground: Rethinking the human place in nature* (pp.171-185). New York, NY: W.W. Norton & Company.
- Worster, D. (1990). Transformations of the earth: Toward an agroecological perspective in history. *Journal of American History*, 76(4), 1087-1106.
- Worster, D. (1992). *Under Western skies: Nature and history in the American West*. New York, NY: Oxford University Press.

APPENDIX A: INTERVIEW SCHEDULE

“Perspectives on Organic Agriculture in Humboldt County” - Allyson L. Carroll

Identification Code:

Date:

Name of Farmer(s):

Name of Farm:

Location of Farm:

What type of farm/product?

_____ dairy

_____ veggies – how many different varieties?

_____ other – what?

Acres?

Animals?

Employees?

Family-Run?

Ownership of land?

History of the land?

How long have you been farming?

First-generation farmer or in family?

What caused you to begin farming?

How did you learn your farming techniques?

Is your farm currently certified ‘organic’?

In the past, has your farm been registered or certified organic? How many years?

If always organic – Why do you choose to be certified ‘organic’?

If switched to organic - What caused you to switch to certified ‘organic’ techniques?

- Have you had a change of opinion on farming techniques?
- Has that changed your market at all?

If not currently 'organic' – Do you feel that you practice organic techniques but are not certified?

- For what reasons do you choose not to be certified organic?

Do you feel that your farming practices go beyond what is required for organic?

Were there any difficult transitions you had to make to go organic?

What is your preferred way of describing how you farm? Techniques?

What is your farming philosophy?

Does the way you farm reflect certain values that you hold?

Would you say that your farming practices are part of a larger social movement, or reflect a viewpoint that differs from the conventional system of agriculture?

- How would you describe the movement that you are a part of?
- Do you think that the organic regulations capture what this movement represents?
- Do you think that the federal regulation process for certified 'organic' has affected the movement in anyway? How?

What are your main markets?

Where does your product go – local area or exported?

Has the regulation process for 'organic' certification process has affected your business?

How?

How do you see your type of agriculture fitting into the regional economy of Humboldt County?

How do you see your type of agriculture fitting into the regional identity of Humboldt County?

Is farming your primary income?

What percentage of income is from farming?

Do you feel that it provides an adequate income?

Now that you have an idea of the types of topics that I'm interested in, is there anything that you feel strongly about that you would like to share?