

WATER POLICY AND PROSPERITY

IN

HUMBOLDT COUNTY

By

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A Project

Presented to
The Faculty of Humboldt State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts

In Social Science: Environment and Community

May, 2005

ABSTRACT

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This project is a study of the Integrated Regional Water Management Plan in Humboldt County, focusing on how the processes of plan development, integration and stakeholder coordination affect prosperity. The State of California is promoting the development of Integrated Regional Water Management (IRWM) Plans with a broad range of environmental, social and economic goals and priorities. Integrated water management is based on the cooperation and coordination of government, business and nongovernmental stakeholders and projects to establish goals and to develop and implement strategies which are integrated, provide multiple benefits and optimize the use of resources to achieve the goals. This research project evaluates the compatibility of this integrated regional approach to water policy with Humboldt County's Comprehensive Economic Development Strategy (CEDS), also known as the "Prosperity" strategy. The CEDS is based on seeking sustainability through balancing the elements of community, environment, people, economy, and government. An incompatible regional plan could

produce goals and strategies for water management that are contrary to the county's prosperity strategy.

Humboldt County is currently involved in the development of a seven-county IRWM Plan. This project addresses the following questions: Is the proposed North Coast Integrated Regional Water Management Plan compatible with Humboldt County's Comprehensive Economic Development Strategy? How will the proposed North Coast Integrated Regional Water Management Plan facilitate stakeholder coordination to achieve its goals?

This project explores these issues through theory drawn from the fields of natural resources planning and management, public policy, program evaluation, sustainable development and economics. The research for this project was conducted through an integration assessment, which included evaluation of the proposed plan's purpose and structure, as well as analysis of the processes involved in stakeholder coordination and integration. The project concludes that integrated planning efforts such as the NCIRWMP may be able to improve compatibility and coordination with other local and regional planning through collaborative evaluation and development of an overarching goal such as sustainability. In the case of water policy and "Prosperity" in Humboldt County, the North Coast Integrated Regional Water Management Plan appears to be compatible with the Comprehensive Economic Development Strategy, and has the potential to coordinate effectively with others provided the coordination mechanisms and operational compatibility are jointly developed, implemented and refined on an ongoing basis.

ACKNOWLEDGEMENTS

It was an honor and a joy to study with the 2003 Cohort and Faculty of the Environment and Community Program at Humboldt State University. Many other fine people at HSU were generous to me with their time and assistance. I give special thanks to my committee, Betsy Watson, Steve Hackett and Noah Zerbe, and to Christine Caurant and Rachelle Curran for challenging and encouraging me throughout the course of this project. I enjoyed attending the various meetings, workshops and conferences related to this project, always leaving them hopeful and inspired. I developed a great appreciation for the magnitude and complexity of the North Coast Integrated Regional Water Management Plan. I salute the efforts and dedication of the Plan's project team, the county supervisors and others participating in its development.

Thank you to Nick Parker and Stefan Hall, who read, and reread the drafts, and offered valuable suggestions for improvement. Thanks to Michael for helping me to get organized. I am so appreciative of my friends and family who cheerfully supported me through the whole project.

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CHAPTER 1

INTRODUCTION

The State of California is promoting a new approach to water policy through Integrated Regional Water Management (IRWM) planning. Seven North Coast counties in the process of developing an IRWM plan to increase regional collaboration for water-related issues. In addition to Humboldt, these counties include Sonoma, Mendocino, Trinity, Del Norte, Siskiyou and portions of Modoc. This research project evaluates the compatibility of this integrated regional approach to water policy with Humboldt County's Comprehensive Economic Development Strategy (CEDS), also known as the "Prosperity" strategy. The CEDS is based on seeking sustainability through balancing the elements of community, environment, people, economy, and government. An incompatible regional plan could produce goals and strategies for water management that are contrary to the county's prosperity strategy. Ideally, the North Coast Integrated Regional Water Management Plan (NCIRWMP) plan would be an asset to each county and the region as a whole, supporting efforts to achieve a good quality of life for all residents based on improving and sustaining healthy ecosystems and communities, good health and economic prosperity.

One of the purposes of Integrated Regional Water Management is to facilitate regional coordination among agencies, organizations and other stakeholders in achieving water related goals. This project will investigate two questions: Is the proposed North Coast Integrated Regional Water Management Plan compatible with Humboldt County's Comprehensive Economic Development Strategy? How will the proposed North Coast Integrated Regional Water Management Plan facilitate stakeholder coordination to achieve its goals? Evidence that water management and economic development are mutually interdependent supports the need for coordination between the NCIRWMP and the CEDS.

Chapter 2 provides a review of the respective literature from natural resources planning and management, public policy, program evaluation, and economics leading to definitions of *sustainability* and *integrated water management planning* as well as a basis in theory and practice for the investigation of these questions. This chapter contains sections on water and resource management; prosperity and sustainability; integrated regional water management plans; and evaluating institutional arrangements and sustainability.

Chapter 3 describes how the research was conducted for the project. Because the literature indicated that evaluation research methods would be appropriate for this study, this project resulted in the development of an integration assessment to analyze the compatibility and potential coordination of the NCIRWMP and the CEDS. The compatibility was evaluated by comparing the plan's purpose and goals with criteria for sustainability. The institutional arrangements of the NCIRWMP were evaluated based on

a variety of critical attributes of successful integrated planning efforts, identified in the literature, including a defined purpose, stakeholder involvement, coordination and integration mechanisms, and evaluation.

Chapter 4 presents and discusses the findings of the integration assessment. The study found that the purpose and goals of the proposed NCIRWM plan are likely to be compatible with the CEDS. Both the CEDS and the NCIRWMP have a multiple goal approach that attempts to balance economic, ecological and social components, and operate through collaboration and coordination. The second research question looking at how the NCIRWMP will facilitate stakeholder coordination to achieve its goals was only partially answered. The study found stakeholder coordination was both a purpose of the plan, and a strategy for achieving its goals. However, the mechanisms were not described, so the question of how coordination would occur could not be answered.

Chapter 5 offers recommendations and puts the findings in the broader context of the theory and practice of sustainability and integrated approaches to water management. Evaluation and integrated planning literature indicate that the assessment developed for this research could be adapted and incorporated into an integrated water management plan. This built-in assessment mechanism could facilitate ongoing refinement of the plan processes to improve operation, respond to changing conditions and promote sustainability. The NCIRWMP is incorporating adaptive management for economic, social and ecological outcomes; a built-in integration evaluation could allow the plan itself to adapt in response to feedback about the effectiveness of the plan processes in achieving the desired outcomes. This ongoing evaluation could take the form of a non-

technical “integration assessment” to be used by stakeholders, officials and the public in order to understand and modify the plan processes to produce improved outcomes, greater equity, effectiveness and efficiency. The educational value of the assessment process to stakeholders and the general public would be an additional benefit.

Because this integration assessment does not involve criteria specific to the North Coast Region, but rather compares the plan development processes and coordination mechanisms with those of successful efforts, this framework may be useful in other IRWM plan efforts. An evaluation of coordination and integration processes could facilitate learning and improvement for institutions such as the NCIRWMP, the CEDS, or other organizations seeking greater coordination, cooperation, communication and sustainability.

There is recognition by many researchers, practitioners and stakeholders involved with water resource issues that integrated water management planning is a promising approach, especially when sustainability is a goal. Indeed, a number of federal and California state agencies are actively supporting the development of integrated regional water management plans. Development of educational and assessment tools will help stakeholders, plan developers and the general public to understand and to participate meaningfully in integrated water management plan and other planning efforts. Through collaborative development of an overarching goal of sustainability, an integrated planning effort such as the NCIRWMP may be able to improve its potential for coordination and operational compatibility with other local and regional planning efforts. In the case of water policy and “Prosperity” in Humboldt County, the North Coast

Integrated Regional Water Management Plan appears to be compatible with the Comprehensive Economic Development Strategy, and has the potential to coordinate effectively with others, provided the coordination mechanisms and operational compatibility are jointly developed, implemented and refined on an ongoing basis.

CHAPTER 2

LITERATURE REVIEW

Resource and Water Management

While there is widespread agreement that water resources policy and management in California and the Western United States is a critical and complex issue, there is less agreement on how to best manage water resources for the many competing uses and interests (Dzurik, 2003; Heathcote, 1998; Howe, 2000; Lewicki, Gray & Elliot, 2003; Lowry, 2003). Though overall the Western United States is an arid region, Humboldt County and California's North Coast have abundant water resources in the form of ground and surface water supplied by high levels of rainfall. In spite of this natural endowment of water, the region faces water quantity and quality challenges which impact, locally and statewide, water supply, economic development, ecosystem health, and public trust issues (Bleier, 2004; Humboldt County, 2002; California Department of Water Resources [DWR], 2003).

There are many reasons why a change in our water management approach is necessary. Among these reasons are changing population and development pressures. The National Association of Counties published a report entitled "Watershed Management and Sustainable Development in Coastal Counties" (Kundell, 1999), which elaborated on some of these changes. Over half the population in the United States

resides in coastal counties and this population is increasing. The coastal zone is the basis for a tremendous amount of economic activity including an estimated 70% of US fisheries. The coastal zone is ecologically degraded in many areas and vulnerable to further damage. The report found that there are many federal, state and local programs affecting activities in coastal areas but insufficient communication and coordination among them. Historically, regional economies evolved in conditions of abundant natural resources, so the economic uses of these resources had limited impact on the environmental uses of these resources. Natural resources now are scarce relative to the human uses and impacts, and the economic and governance systems are under pressure to adapt to this new reality (Daly & Farley, 2004; Doppelt, 2000; Hackett, 2001; Niemi, 2005; Prugh, 1995; Whitty, Doppelt & Shinn, n.d.) Prugh (1995) argues that until we can track natural and other types of capital, and can account for how we are using it, we will not have feedback that would allow us to make the decisions critical to survival, let alone sustainability. The foreword to the book *Natural Capital and Human Economics* (Prugh, 1995) quotes Paul Hawken: “As it stands, our economic system is based on accounting principles that would bankrupt a company” (p. xiv). Hawken goes on to ask how we constructed an economic system that confuses capital with income. “In a publicly held company, such confusion is called fraud, and would come with a jail sentence” (p. xv).

Traditional natural resource and water management has not been able to adequately address the inter-linkages and interrelationships within ecosystems or between ecosystems, communities and economies (Cairns, 1991a; Heathcote, 1998; Margerum & Hooper, 2001; Weber, 2003). The current regulatory framework is geared

to preventing additional impacts, but is less effective and efficient at creating improvements, and these regulations often displace problems to other regions, populations, or industrial sectors rather than solving them (Doppelt & Shinn, 1999; Millennium Ecosystem Assessment, 2003; Weber, 2003). Some of these challenges include the increasing complexity of economic, environmental and governance issues. There are declining public resources to address these issues. Laws and programs often respond to symptoms rather than to the underlying problems, and often focus on a single issue such as water quality, producing a fragmented approach to the interrelated environmental, social and economic issues.

Water and other natural resource issues have evolved from a situation of a seemingly limitless supply of resources and unlimited capacity to absorb waste (Daly & Farley, 2004; Hackett, 2001), with no rationale for government control other than resolving property rights issues. More recently, the United States entered an era of environmental and natural resource regulation that developed incrementally to solve specific problems (Lowry, 2003), often in response to demands by politically powerful resource users (Gonzalez, 2001; Hackett, 2001). In “A New Era in Natural Resource Policies?” Lowry (2003) argues that we are now entering the third stage of natural resource policy, in which the traditional public sector mechanisms for resolving natural resource problems increasingly are perceived as controversial, ineffective, inefficient and inequitable.

The growing scarcity of natural resources combined with ecosystem degradation results in environmental disputes involving multiple stakeholders with diverse interests

and values. These disputes often become sharply polarized, eluding resolution and becoming *intractable conflicts* (Lewicki et al., 2003; Weber, 2003). According to Putnam & Wondolleck (2003), intractable disputes include varying degrees of divisiveness, intensity, pervasiveness and complexity. Brick, Snow & van de Wetering (2001) found there are four main approaches to resolution of public conflicts in our current social system: altering power relationships through policy changes; determining right and wrong through the courts or other authoritative agencies; soliciting public input; and lastly, using collaboration and consensus processes where stakeholders look for shared interests and seek resolutions together. Shortcomings of the conventional natural resource and environmental policy approaches have led to the development of new approaches with the potential to resolve conflicts, improve effectiveness, efficiency and equity. Among these approaches are government sustainability initiatives, market-based approaches, environmental management systems, public and private partnerships, and community-based watershed management.

Parties and institutions seeking resolution of intractable natural resource conflicts are increasingly looking to collaboration and consensus processes (Brick et al., 2001; Cormick, Dale, Emond, Sigurdson & Stuart, 1996; Lowry, 2003; Wondolleck & Yaffee, 2000; Weber, 2003). There are a number of instances where institutions such as agencies, states, counties or other groups are adopting collaborative approaches proactively, as a method of planning and managing natural resource systems such as watersheds which many consider effective, efficient and fair (Bleier, 2004; Brick, 2001; Lowry, 2003; Margerum, 1999; Weber, 2003; Wondolleck & Yaffee, 2003).

Many researchers have argued for more research on water resource management institutions in order to explain their effects on water management options and outcomes (Blomquist, Heikkila & Schlager, 2004; Cairns, 1991a; Ingram, Mann, Weatherford & Cortner, 1984; Johnson, 1997; Ostrom 1990). Their research suggests that in water resources management, institutional arrangements may be more significant than technical, physical, or economic issues (Blomquist et al., 2004). Many sources in the literature raise questions about the success of various institutional arrangements in water management and in coping with resource conflicts and other impacts, wondering how institutional arrangements affect ecosystem integrity and the prosperity of our communities. The next section will explore prosperity and the concepts of sustainability and sustainable development, and the influence of these concepts in the emerging approaches to watershed management and governance that integrate economic, social and environmental goals.

Prosperity and Sustainability

This section will describe and consider various conceptions of prosperity, sustainability, including sustainable development, sustainable growth, and sustainable communities, leading to a definition of sustainability to be used in this study. The concept of sustainable development will be further explored, including a discussion of how this might look in practice. Sustainable development may offer a strategy to move in the direction of sustainable communities, including the role of government leadership

in providing a vision of sustainability, and in coordinating and integrating the public, private and community sectors.

There is an extensive literature in economics and public policy dealing with the concepts of sustainability and development. Steven Hackett, in *Environmental and Natural Resources Economics* (2001), defines “economic development” as “[t]he process of improving the well-being of society” (p. 404) and “sustainability” as “[a] community’s control and prudent use of natural, human, human-made, social and cultural capital to foster economic security and vitality, social and political democracy, and ecological integrity for present and future generations” (p. 419). Sustainable development would therefore hold the potential to improve human well-being without degrading the interdependent social, economic and ecological systems. Robert Paehlke, in “Environmental Sustainability and Urban Life in America” (2003), argues that sustainability requires thinking in terms of a “triple bottom line: economic prosperity, social well-being, and environmental quality” (p. 58). The goal is human and ecosystem well-being, and the task is to provide more well-being from a given amount of prosperity, rather than merely increasing prosperity at the expense of ecological integrity.

Herman Daly and Joshua Farley, in *Ecological Economics* (2004), stress the importance of finding ways to increase human well-being from a given “flow of raw materials and energy from the global ecosystem’s sources ...through the economy, and back to the global ecosystem’s sinks for high entropy wastes (atmosphere, oceans, dumps)” (p. 440). Daly asks if economic growth is really making us richer or better off. If the benefits of another increment of growth are not greater than the associated

environmental costs of the increased production, we are becoming poorer, not richer (Daly, 1993). Daly challenges the idea of growth in “Sustainable Growth: An Impossibility Theorem” (1998), arguing that since the global ecosystem is finite, there are limits on economic growth. He suggests sustainable development makes sense as long as it is understood as “development without growth,” not “as a synonym for sustainable growth” (1998, p. 285). The literature reflects an ongoing debate about sustainability, development and growth (Khator, 1991; Lélé, 1991; Rapley, 2002). Critique of definitions and concepts is valuable because it allows theorists and practitioners to refine these concepts in response to concerns such as equity, scale, efficiency, effectiveness and governance. The rather ambiguous nature of the concept of sustainability gives it wide appeal, while at the same time leaving it vulnerable to critique as it is employed by a variety of interests (Daly, 1998; Hempel, 1999).

Common themes of the concept of *sustainability*, as found in the literature, generally include the elements of social well-being and ecological integrity for present and future generations. Other themes emerge depending on the author’s perspective; for example, development, economic and community issues (Hempel, 1999). A number of authors observe that distributional equity and attention to scale are additional requirements for sustainable development in order to prevent negative impacts to other people or locales (Daly, 1998; Hempel, 1999; Lélé, 1991; Millennium Ecosystem Assessment, 2003). Humboldt County’s “Prosperity, the North Coast Strategy” (Prosperity Network, 1999), developed through a collaborative process, appears to be an example of a sustainable development strategy. The Prosperity strategy, also known as

the Comprehensive Economic Development Strategy (CEDS), describes a shared vision for community, business, the people, the environment, and government, and how they work together to improve the quality of life of residents in Humboldt County and the region, while improving environmental values.

Sustainability models take a variety of approaches. Hempel (1999) describes four orientations to sustainability: the natural capital approach based on economics and accounting; urban design, based on land use planning and architecture; ecosystem management, based on principles of ecology; and metropolitan governance, based on regionalism. He discusses their respective strengths and weaknesses, and the fact that these approaches are not mutually exclusive, often combining characteristics.

Sustainability initiatives may differ in how they address conceptual and analytical challenges or in the way they operationalize sustainability through key indicators. Hempel says much discussion about sustainability remains conceptual rather than practical because the idea of sustainability “requires synthetic thinking and integrative minds – but it is also hard to measure in ways that illuminate the concept” (p. 63). Cairns (1991b) echoes this, suggesting that our educational system is geared to producing specialized and analytical experts, while creating substantial barriers to interdisciplinary and integrative study, which he calls “the tyranny of the disciplines” (p. 186).

Handling interrelated ecological, social and economic problems will require interdisciplinary and crosscutting approaches (Bleier, 2004; Cairns, 1991a; Hempel, 1999). As mentioned in the previous section, our society is facing a transition from natural resource abundance to scarcity. Economist Ernie Niemi (2005) says we need to

change our model, which was developed in conditions of natural resource abundance, and which conceptually divides these resources between traditional commercial and environmental uses. As natural resources have become scarce, a conflict has developed between these two uses, as seen in the “jobs versus the environment” debate. Two additional uses must be included, says Niemi, quality of life, and alternative commercial uses. These might include activities such as watershed restoration efforts, in which economic development provides jobs and other economic benefits while improving the quality of life and environmental values. The focus of this type of economic development is on meeting needs rather than producing products. He cites as an example efforts to protect salmon, which have produced economic benefits for many sectors of the economy. In this example, a federal agency, using the traditional economic model, looked only at traditional jobs lost in accounting for the costs of salmon protection, concluding that salmon protection was very costly. This model failed to factor in the benefits of jobs created through habitat restoration, and of the jobs created as the salmon became more plentiful, and the improvements in quality of life and environmental values (Niemi, 2005). Including these real benefits gives a different and perhaps more realistic view of the costs and benefits of efforts like these. Niemi (2001) suggests that in addition to avoiding the potentially huge cost of doing nothing to reverse environmental damage, sustainable practices produce economic and social benefits through the creation of jobs, and by reducing vulnerability to swings in the economy

Sustainable development occurs in communities of humans embedded in ecosystems, groups of people working together to achieve a common purpose such as the

shared vision outlined by the *CEDS* described above. Economist Mark Drabenstott of the Center for the Study of Rural America (2003), suggests ten steps to “reinvent rural regions”: 1) Build a home for the regional partnership, such as a university or non-profit institution; 2) Find your region’s unique competitive niche; 3) Grow the farm system instead of buying free agents; 4) Create clusters around your core niche; 5) Improve and leverage local amenities; 6) Invest in your people; 7) Enrich the region’s supply of equity capital; 8) Tap technologies suited to your region; 9) Invest in 21st century infrastructure; 10) Reinvent regional governance. For the development to be truly sustainable, additional considerations are necessary. These include mechanisms to coordinate and integrate efforts within a community and region; new ways to resolve or manage natural resource and other conflicts, and pursuing the benefits of the “triple bottom line” rather than pursuing a strictly social, environmental or economic agenda (Hempel, 1999; Jacobs, 2004; Kemmis, 1990; Weber, 2003). The sustainable community approach accepts the challenge of balancing multiple interests and diverse values through collaboration, coordination and adaptation (Johnson, 1997; Weber, 2003; Wondolleck & Yaffee, 2000). The difficulty of succeeding in this balancing act is illustrated by the ongoing debates and conflicts over water and other natural resource issues.

Many other promising models are emerging that strive to balance economic, social and environmental components. These components range from government “green taxes” and standards, to market based efforts such as environmental management systems, to combinations such as public-private partnerships and governance systems (Doppelt, Shinn & DeWitt, 2002; Hackett, 2001; Hempel, 1999; 2003; Weber, 1998).

An improved governance system, states Hempel (1999), could produce a “regional policy framework needed to make the other approaches more feasible and effective. For many communities, improved governance appears to be a prerequisite for progress in sustainability” (p. 67).

The National Association of Counties (NACo) produced a report on counties’ leadership role in watershed management and sustainable economic development in coastal areas (Kundell, 1996). They found that many programs engage in restoration and sustainable economic development, but need better communication and coordination. Among their recommendations were: facilitation of communication and education; dialog mechanisms for federal and state agencies, nongovernmental organizations and others; and mechanisms to enhance feedback, accuracy and a comprehensive coastal resources policy. NACo’s report saw the need to elevate awareness of coastal issues, to develop a network to promote local government coastal initiatives, and to serve as a feedback mechanism to communicate with state and federal entities. They conclude that, “[t]he role of economic development and environmental protection are inseparable...new community based environmental management strategies are needed” (p. 6).

Conservation based development projects, as described by Hackett (2001) and Johnson (1997), begin when engaged residents develop a shared vision including community, economic and ecosystem health. Economic opportunities are developed that ensure long term ecosystem sustainability, while providing for local residents’ needs. These opportunities may include restoring ecosystems and maintaining their health.

Progress is monitored with indicators developed to measure community, economic and ecological well-being.

Holmberg and Robert (2000) describe a planning methodology, called backcasting, in which participants develop a vision of a desired future, creating a framework for sustainability. The current conditions are analyzed in terms of the framework to determine what is working and what needs to change. Options for the future are generated that fit within the framework of sustainability. Strategies are chosen that move the effort from the current situation to the desired future (Oquirrh Institute, 2003). Holmberg and Robert (2000) observe that society often deals with problems in a piecemeal way without integrating optimal measures in an appropriately scaled system perspective. Backcasting can help handle ecologically complex problems in a systematic and coordinated way with strong economic performance. These authors point out that sustainability is an outcome, to be measured in a system perspective, while sustainable development, is the strategy for achieving the outcome.

Doppelt and Shinn of the Center for Watershed and Community Health (1999) argue that the government can provide the unifying mission and coordinate public, private and community efforts toward sustainability. The Center for Watershed and Community Health and ECONorthwest (Niemi, 2001; see also Doppelt, 2000) are developing new economic and governance models that promote economic development while restoring and improving ecosystems to achieve sustainability. In these models, known as outcome-based approaches, stakeholders develop a vision of sustainability. Ideally, a broad range of stakeholders will be involved, including the government,

community, environmental, and economic sectors. Key issues and actors are then identified through a systematic analysis, and potential sources of the problems are identified. Responsibility is assigned to the activities and stakeholders contributing to the problems, including industry, infrastructure and land use patterns. After a scientifically based conceptual framework and measurable objectives are set, the (responsible) stakeholders participate in developing appropriate strategies. The strategies are implemented, monitored and adjusted as needed. In such a model, the regulatory framework is left in place, functioning to provide a baseline and to address free rider problems. Whitty, Doppelt & Shinn (n.d.) report that outcome-based governance systems may be able to provide a better “return on governance” than most other governance systems (p. 11). This type of approach does not create a new layer of government, but can be viewed as an alternative path for pursuing sustainability goals through stakeholder innovation, creativity, and sustainable development.

Integrated Regional Water Management Plans

Integrated water management planning is based on the understanding that social, economic and ecological systems are interrelated with positive and negative impacts through time, with scales ranging from the local to the global (Bleier, 2004; Blomquist et al., 2004; DWR, 2003; DWR & California State Water Resources Control Board [SWRCB], 2004; Heathcote, 1998). Water management traditionally has involved balancing water supply and demand, and attending to water quality issues. Integrated

planning approaches attempt to address many of the difficulties of the traditional planning models, including problem fragmentation and displacement, community welfare, implementation and compliance issues (Cairns, 1991a; Dzurik, 2003; Heathcote, 1998). Integrated planning occurs in complex and uncertain conditions and the literature suggests this is best accomplished through ongoing coordination of diverse stakeholders including government agencies, non-governmental organizations and individuals. Stakeholders collaborate to establish goals, and to develop and implement integrated strategies that provide multiple benefits equitably, effectively and efficiently (Bleier, 2004; Margerum, 1999). According to Bellamy, McDonald, Syme and Butterworth (1999), integrated approaches are necessary when there are complex problems, when there are competing and conflicting interests, in conditions of uncertainty and incomplete information, or when multiple levels of responsibility and control exist. Using ecological principles to manage interrelated resources, integrated approaches facilitate stakeholder and community involvement to accomplish coordination of policies and activities. Some of the benefits of integrated resource management include community wide involvement in the process, improved conflict management, and more sustainable management and conservation of natural resources. These benefits result from the development of more effective institutional arrangements.

There are many possible planning areas and jurisdictions for water related issues, including the smallest jurisdictional or watershed units, entire watershed complexes, counties, the North Coast hydrologic region, the state of California, the Federal Government and possibly a global level of control such as NAFTA's Chapter 11 (Rossi,

2003). There are no “right” planning boundaries. Consequently, planners and other stakeholders view water resources management from many different perspectives: geographically, environmentally and economically, to name a few. Andrew Dzurik, in *Water Resources Planning* (2003), explains that public investment decisions about water resources depend on the decision-maker’s viewpoint. A regional plan would attempt to reconcile perspectives from a variety of stakeholders and geographical scales. This integrated planning model does not centralize planning, but attempts to integrate goals and strategies brought forward by counties, agencies and other stakeholders in the region. For integrated regional water management plans in California this prioritization and integration is done through a Technical Review Panel composed of individuals appointed by the participants. These participants may include public agencies, counties, and contributing entities such as business and environmental groups (DWR & SWRCB, 2004).

Integrated water management planning belongs to a group of emerging governance approaches with a natural resource and/or ecosystem focus, and include multiple authorities, stakeholders, processes, goals and activities. Doppelt, in *Emerging Approaches to Watershed Governance* (2000), defines a *governance system* as a framework for coordinating policies, programs and institutions to achieve specific outcomes. These governance systems are not limited to government efforts, as they often involve businesses, non-governmental institutions, and individuals. Approaches range from total government control (“command and control”), government standards and enforcement, outcome based with enforcement, to market approaches with or without

government control. These distinctions are based on the level of government or market control. Doppelt (2000) identifies characteristics of effective and efficient watershed governance including a sound basis in science, integration of economic and environmental goals, institutional arrangements that support outcome-based planning, implementation, monitoring and enforcement.

In “Building the Agenda for Institutional Research in Water Resource Management,” Blomquist et al. (2004) elaborate on the theme of decentralization. The authors' research showed that simplified institutional solutions such as water markets and integrated resource management agencies were not always able to provide answers to the water dilemmas because such arrangements must be applicable to a particular setting. California has a "home rule" tradition that allows local communities to make their own policies and arrangements relating to water supplies. A number of institutional factors may be critical in water management institutions. Among these are the *levels of action*, from the operational level to the collective choice level of action where rules are made, and the constitutional level of actions where the collective choice rules are set. Researchers must look at the origins and transformations of institutional arrangements. The idea of “governance” is clearer when the levels of action are specified. “Levels of government” analysis looks at organizations and the relationships among them. Organizational fragmentation and coordination is an important area of research that could fruitfully examine the degrees of institutional and organizational diversity, the nature of relationships, communication, conflict, and whether integrated systems are more

successful, and whether “the benefits of specialization outweigh the incremental costs in inter-organizational coordination” (p. 933).

Heathcote, in *Integrated Watershed Management: Principles and Practice* (1998), presents a comprehensive look at integrated watershed management. Watershed management is concerned with issues within a defined “watershed unit.” Water management would occur within jurisdictional units (Bleier, 2004; Rhoades, 2000). Some of the important considerations and activities involved in integrated watershed management include: the watershed inventory; problem definition and scoping; the consultation process; developing workable management options; simple assessment methods; detailed assessment methods; costing and financing; legal, institutional and administrative concerns; environmental and social impact assessment; choosing the best plan; and implementing the plan. Effective water management, says Heathcote, maintains adequate water supply and quality, and allows sustainable economic development over many years.

In “Integrated Environmental Management: The Foundations for Successful Practice,” Margerum (1999) identifies integrated environmental management as an outcome-based approach, with a strategic orientation, utilizing analysis and identification of implementation actions. He identified twenty elements that increase the likelihood of success, ranging from considerations in program initiation and operation to outputs and outcome. According to Margerum, there are a number of limitations to integrated environmental management. There may be potentially high transaction costs for isolated problems. Societal constraints and limitations may hinder collaboration and may produce

incremental changes rather than radical ones. There may be situations where integrated environmental management may not be appropriate. Finally, because integrated environmental management is a process and philosophy, it does not guarantee success; achieving the desired the outcomes is a function of how the stakeholders apply the principles of integrated management to their specific situation.

The California Watershed Council's Integrated Planning Work Group developed the paper "Principles for Integrated Planning in Watersheds" (Bleier, 2004) to "promote and facilitate long-term watershed protection through improved integration of land use and resource management planning" (p.1). It outlines seven broad principles for integrated watershed planning. The group found that watershed plans vary in complexity and may be focused on a single issue, comprehensive in nature, multi-objective (combinations of multiple actions, purposes, and benefits), integrated (multiple authorities and planning processes), and coordinated with other plans, processes or activities.

Researchers and practitioners identify various attributes of successful integrated planning efforts, to be discussed in detail below in four sections: 1) *Purpose and Scope*, including multiple objectives that balance ecological, economic and social elements; 2) *Institutional Structure*, inclusive, voluntary and participatory involvement of all agencies and stakeholders, including disadvantaged and isolated communities; 3) *Institutional Processes*, mechanisms for planning, management, monitoring and community activities; 4) *Institutional and participant learning*, including evaluation and other feedback

mechanisms (Bellamy et al., 1999; Bleier, 2004; Heathcote, 1998; Margerum, 1999; Weber, 2003).

Purpose and Scope

Developing and refining the vision and purpose of a governance system, plan or activity is considered critical for a successful effort. It defines the direction and scope of the effort, establishing an overarching vision of the future. Often this will be initiated through outreach to identify issues, stakeholders and conflicts relating to the subject and geographical scope of the effort (Susskind & Thomas-Larmer, 1999). Margerum (1999) found a common problem was failure to identify conflict. The author states that, “[a] collaborative approach does not mean avoiding conflicts or controversy, because conflict can often lead to positive outcomes if handled effectively” (p. 158; see also Lee, 1993). Margerum reported that interest conflicts (involving personal impacts) and value conflicts were common during consensus building, while cognitive conflicts about how to operationalize the management objectives were more likely to dominate during implementation. Different strategies for resolution may be necessary for different types of conflicts. Lee (1993) points out that in conflict situations, agreeing on a purpose and goals may be unrealistic when the participants are not able to agree on the causes of the problems. He suggests that in some of these cases, agreement on how to proceed may be more productive.

Moomaw (2001) studied environmental management systems in several companies that incorporated multiple social and environmental goals. He argues that “for

a management system to function, it must adequately address the social concerns of society.” The social criteria used by these companies included: safety and health; equity, fairness and justice; community values and participation; security; education; and trust. These ideas can apply to public policy, as well as business. Holistic thinking about these social issues is promoted through consideration and documentation of impacts, benefits and the synergistic effects of multiple goals and strategies.

Institutional Structure

Participant roles, the entities allowed to participate, and the type of institution are part of the *institutional structure*. Wiber, in the paper “Messy Collaborations: Methodological Issues in Social Science Research for Fisheries Community Based Management” (2002), asks how we balance common interests and differences, especially when we have unequal power in representation. The study, which involved fisheries in Canada, found the Department of Fisheries and Ocean was willing to devolve some responsibilities to stakeholders, but was not clear about the type of local empowerment they were willing to support. Policy was being developed to recognize the interrelated nature of conservation, economic and social viability, access and allocations, and governance. The department proposed a model of “shared stewardship” involving participatory decision making processes and structures.

Integrated approaches may employ what Fischer calls participatory policy analysis. In *Reframing Public Policy* (2003), he defines policy analysis, which has traditionally been done empirically, and proposes a post empiricist alternative:

argumentation and discourse based on interactions between “experts” and “the public.” He argues that policy makers and the public should examine the distinction between the social and the scientific, and recast the policy players in new roles. “Experts” become facilitators, and stakeholders are included in the process of deliberative policymaking. Institutions will need to innovate with new processes such as the consensus conference and participatory policy analysis. He says professionals need to become adept in guiding stakeholders through learning, clarifying and deciding what they want.

In “Efficiencies of User Participation in Natural Resource Management,” Hanna (1995) looks at how to design management systems that are effective, equitable and efficient. “A resource management system combines a set of regulatory tools with a particular resource context in order to achieve a management outcome” (p. 59). She discusses the structure and function of user participation, looking at top-down and bottom-up management, conservation, regulation and allocation decisions. User participation in resource management may lower transaction costs. Transaction costs may be either fixed or variable, and include costs for description of the resource context, regulatory design, implementation and enforcement. Top-down costs are front-loaded where bottom-up transaction costs are end-loaded. Hanna cautions that resource scarcity could potentially diminish the positive contributions of user participation. The issue of participation has implications for legitimacy, equity and efficiency.

Institutional Processes

Margerum proposes that interaction is the “key operational component” of integrated environmental management (IEM) and identifies two forms of interaction:

Stakeholder collaboration; and participation by the general public. The interaction processes help to “achieve the substantive objectives of IEM by including a diverse array of information, knowledge and perspectives” (p. 152). These interactions also “can produce networks, social capital, and political will which are necessary to put an integrated approach into operation” (p. 152). Margerum and Hooper (2001) suggest that coordination mechanisms are very important in integrated environmental management. They describe an implementation model that combines bottom-up theories and a process for identifying key *leverage points*. Participants identify barriers to realizing the chosen objectives and identify points of intervention, which they refer to as leverage points. Their paper discusses some of the constraints and benefits of this approach. Problem solving in complex systems requires not hierarchical control but leverage at the most immediate point of the problem. The paper looks at two case studies and discusses advantages and limitations of using leverage point mapping, strategic direction, stakeholder commitment, vertical constraints, the difficulty of identifying leverage points, consensus and support and integration and coordination (2001).

Edward Weber (2003) developed a framework for testing the accountability (and performance) of “grassroots ecosystem management” efforts. This framework operationalizes accountability through the elements of institutional structure and institutional processes that seemed to influence accountability. He found that joint deliberation and negotiation over time had a variety of benefits. Participants developed an enlightened perspective, giving them knowledge about the other participants and conditions and a broader or more long-term perspective. It tended to level the playing

field in terms of reducing the power and information asymmetries inherent in situations where participants have widely different access to information, resources and power. A joint sense of ownership led to outcomes and solutions that were tailored to the specifics of the situation. A deliberative, long-term forum promotes trust and fosters norms of integrity and honesty.

Leigh Thompson, in “Integrative Negotiation: How to Be Strategically Creative” (1998), discusses an approach to negotiation that attempts to find ways of meeting more interests with a given set of resources by moving away from the pure conflict position to one of mixed motives and greater cooperation. Integrative agreements leave no resources unutilized. The integrative negotiation process does not require a strong interest in the other party's welfare for these integrative agreements to work. Mutually “beneficial tradeoffs require a minimum of two issues [so] it may be necessary to add new issues and alternatives. The process of adding issues and alternatives is facilitated through the discussion of the parties' needs” (p. 58). Working regionally on water management can effectively add new issues and alternatives to the more limited possibilities for individual counties or watersheds.

This approach of integrating multiple goals has the potential to transform the “environment vs. the economy” debate in which some people view development as a means to achieving ecosystem health, while others put priority on community development and consider conservation as a means to that end. Michaelidou, Decker & Lassoie, in “The Interdependence of Ecosystem and Community Viability” (2002), propose a framework for designing, monitoring and evaluating integrated ecosystem and

community development projects that recognizes the interdependence of ecosystem and community viability.

Institutional and participant learning

Adaptive management, built-in evaluation processes and institutional flexibility are often components of successful integrated resource management plans. Institutional learning requires initial assessment of ecological, social and economic conditions, monitoring and feedback mechanisms, and the ability of the plan to be flexible and to adapt in response to feedback (Bellamy et al., 1999; Bleier, 2004; Margerum & Born, 2000). For instance, to be coordinated, a county general plan and an IRWM plan would need the capacity to give and respond to feedback.

Specific objectives, rules, structure and processes are unique to each plan. There is no one formula that fits all integrated plans. The social, economic and ecological criteria, the structure and process of the integrated plan must be developed through interactions among the stakeholders within the specific context and conditions of the region (Bellamy et al., 1999; Kundell, 1999; Margerum, 1999; Margerum & Born, 2000). The evaluation and collaborative learning component of integrated approaches to water resource management includes a number of different activities including relatively simple activities such as monitoring and tracking to more complex and sophisticated functions of education, program improvement, and refining theories of action.

Integrated regional water management planning, if carefully done, holds promise for addressing multiple goals in multiple communities ranging from community development to restoring and protecting ecosystems.

Evaluating Institutional Arrangements and Sustainability

The learning component of integrated resource management approaches defines some of the considerations in evaluating the purpose, stakeholder involvement and coordination and integration mechanisms. Evaluation activities may facilitate improvements in resource management, planning and theory. A number of scholars and practitioners discuss the need for effective evaluation and assessment for a variety of purposes including refining theory and practice, management decision-making, and funding decisions (Bellamy et al., 1999; Blomquist et al., 2004; Ingram et al., 1984; Innes, 1999; Margerum & Born, 2000; Patton, 1997). Singleton and Straits, in *Approaches to Social Research* (1999), describe evaluation research and its relation to policymaking. Evaluation research is generally considered to be applied social research pertaining to examination of government policies and programs. They describe evaluation activities as corresponding with policymaking stages: 1) *conceptualization and diagnosis* activities inform problem identification phase of policymaking; 2) a *needs assessment*, social impact assessment or environmental impact assessment inform policy planning; 3) *formative evaluations* can be used for program or policy development; 4) *program monitoring* activities are used in the program implementation phases; 5) *effect*

and efficiency evaluations are used in program evaluations (1999). Patton (1997) describes evaluation research as a systematic collection of information about a range of topics for one or more broad types of uses including judging merit or worth, program improvement and generating knowledge. Each use will have an intended audience (user) and will be geared for the particular purpose (use) that meets a need. According to Patton, *process uses* of evaluations focus on the process of evaluation, rather than the findings or outcomes of the evaluations. For professional evaluators, the thought processes, reasoning and logic of the evaluation and process may be understood and taken for granted, but for the stakeholder, the evaluation process may constitute a new way of thinking. The four main types of process use of evaluations identified by Patton are 1) enhancing shared understandings within the organization; 2) supporting and reinforcing the program mission and theory of intervention, where evaluative thinking is incorporated into the programs; 3) increasing engagement, self-determination, and ownership through practices such as reflection, self-evaluation, participation and collaboration; and 4) program and organizational development, where evaluators work with stakeholders on activities such as strategic planning, defining or refining purposes and institutional arrangements (Patton, 1997).

Susskind and Thomas-Larmer (1999) describe a type of evaluation research called a *conflict assessment*. This can determine whether a consensus building effort will be likely to succeed, if the stakeholders will participate, how to frame issues to be negotiated, how many meetings to hold, how to share the cost, and other considerations which are best worked out before embarking on the process. Other practitioners call this

an issue, situation or convening assessment, a conflict analysis or stakeholder analysis. The objectives are to identify stakeholders and issues, to determine whether a consensus process is feasible, and to produce a work plan. An assessment report spells out who has a stake in the process, what issues are important to those stakeholders, the constraints (e.g. institutional, financial), if it is feasible to proceed and under what circumstances the parties will participate. The written assessment report provides an introduction outlining the purpose and methods, findings, analysis and recommendations on whether or not to proceed and the process design. Susskind and Thomas Larmer (1999) consider a “stakeholders and issues matrix” a very valuable tool both for analyzing and summarizing, but also for visually communicating these elements of the conflict to the participants. The conflict assessment combines several of the evaluation activities described by Singleton and Straits (1999) above, problem conceptualization, needs assessment, and formative program design activities.

Bellamy et al. detail the key elements of an evaluation framework in “Evaluating Integrated Resource Management” (1999). These are: natural resource issue characterization; integrated resource management (IRM) program context; institutional structure; and community processes. While issue characterization and program context are specific to the program, the institutional structure and community processes are evaluated with criteria reflecting generalized integrated resource management principles. They propose a conceptual evaluation framework for integrated resource management that identifies technical, institutional, economic and social criteria that may influence the success of integrated resource management. They describe four types of program

evaluation: 1) *Appropriateness evaluations* that look at whether the objectives and strategy to respond to society's needs are aligned with government policy decision and community need; 2) *cost effectiveness evaluations* that look at the outcomes versus the inputs of money and other resources; 3) *effectiveness evaluations* that look at whether the outcomes are matched with the objectives; 4) *efficiency evaluations* look at the inputs and the outputs.

According to Bellamy et al. (1999), there have been a number of problems in evaluating integrated resource management programs, among them the lack of identified goals and outcome criteria, a fragmented, single discipline approach, and the long term holistic nature of these programs making critical outcomes difficult to measure. Valid indicators for outcomes must be developed that match the goals and mission of the program, including social, cultural, ecological and economic indicators. Outcomes for sustainability may share these same indicators. Process indicators measure the efficiency, equity and effectiveness of administrative and organizational mechanisms for integration and stakeholder coordination. In natural resource management, the activities of planning, research, implementation, and monitoring do not occur sequentially, as suggested by the policy phases described above, but rather occur simultaneously and iteratively. The evaluation must thus take into account the fact that there are multiple parallel tasks occurring simultaneously. The evaluation framework proposed by Bellamy et al. includes program evaluation as a built-in collaborative learning process for continual improvement that benefits both the institution and stakeholder communities. These evaluations also may be utilized to refine theory about integrated resource management

approaches (Bellamy et al., 1999). Lee (1993) and Patton (1997) also address the desirability of incorporating continual improvement and learning processes in institutions and programs (see also Hernandez & Hodges, 2003).

Evaluation research requires a set of criteria or indicators for evaluation of the program or plan. As detailed above, researchers have proposed principles that operationalize the concepts of sustainability, collaborative and integrated management approaches. These operationalized principles form the basis of the criteria used for evaluation (Innes, 1999; Doppelt, 2000). For example, one principle for an integrated plan is the presence of a defined purpose or mission. A plan can be evaluated on whether it meets the criterion of having a defined purpose. Various data sources and collection methods are used in evaluation research depending on the type and uses of the evaluation and on considerations of time, resources and authority to conduct the research. Data for evaluations might include existing recorded sources of data such as policies, grant proposals, mission statements, and meeting records as well as surveys, interviews or observational data (Hernandez & Hodges, 2003; Innes, 1999; Singleton & Straits, 1999). A well designed program will have a purpose with clear goals and objectives, and clearly defined rules governing structure and process (Bellamy et al., 1999; Innes, 1999; Margerum, 1999; Margerum & Born, 2000; Weber, 2003).

Margerum and Born (2000) present a systematic, descriptive framework for examining stakeholder coordination arrangements in integrated environmental management. They argue that an effective approach requires establishing agreement about process and structure arrangements. Three important components in improving

“coordination arrangements” are coordination settings, evaluation criteria and participant knowledge. The framework for coordination settings includes: the scope of the problem domain, rules governing structure and rules governing process. These must specify stakeholder roles and authority, decision making and communication processes.

Participants think through their coordination settings using a series of questions then develop options for improved coordination and more effective integrated environmental management.

Having developed operational definitions for sustainability and integrated water management, and explored the issue of evaluating institutional arrangements, it should be possible to return to the research question that asks if the North Coast Integrated Regional Water Management Plan has the capacity to be compatible and to coordinate with Humboldt County’s Prosperity strategy, the CEDS. Because integrated resource management plans incorporate coordination and integration of social, environmental and economic considerations, it may be possible to determine compatibility and coordination capacity by evaluating the institutional arrangements of the plan using the indicators and criteria suggested by the definitions of sustainability and integrated water management.

CHAPTER 3

METHODS

Research Design

The literature indicated that evaluation research would be an appropriate method for this study (Bellamy et al., 1999; Patton, 1997; Singleton & Straits, 1999). Because the North Coast Integrated Regional Management Plan is in the development stage, this evaluation took the form of a formative assessment of the plan's existing and proposed purpose and institutional arrangements including coordination and integration mechanisms. Another component of the evaluation for this project was assessing the alignment of the plan objectives with the overall goals, and with the goals of the CEDS, called an appropriateness evaluation (Bellamy et al., 1999). Because of the preliminary, limited scale of this evaluation research project, it should be considered an assessment rather than a comprehensive formative evaluation. Patton (1997) refers to these as *developmental* evaluations, which are valuable for ongoing program improvement well beyond the formative period of an organization. The overall purpose of this applied research project was to develop and test a framework and process for evaluating the appropriateness and institutional arrangements of integrated management plans. The evaluation framework for this project will be described from here on as an integration assessment.

The integration assessment framework combined a set of measures based on the existing research and theory that established the analytic categories. Developing these categories was complicated by the fact that many terms and concepts are undefined and/or are not used consistently in the literature, in the State Guidelines, in the NCIRWMP process, and sometimes within a single document. These measures address the two research questions: those evaluating compatibility with the principles of sustainability; and those evaluating coordination mechanisms and the associated institutional arrangements. The questions about coordination processes are drawn from researchers who have studied integrated resource management or multi-stakeholder processes (Bellamy et al., 1999; Bleier, 2004; Innes, 1999; Margerum, 1999; Margerum & Born, 2000; Weber, 2003). Measures of compatibility with the CEDS and general sustainability were drawn from theory and research on community sustainability and sustainable development (Cormick et al., 1996; Doppelt & Shinn, 1999; Weber, 2003) and from the “Headwaters Criteria” developed by the Humboldt County Economic Development Forum (2001) to evaluate consistency of economic development activities, programs and projects with the CEDS.

The integration assessment framework looks at whether the institutional arrangements fit the purpose and situation and conform to the elements associated with successful multi-stakeholder, multi-objective natural resource management efforts. It will not predict whether the plan implementation will produce successful outcomes, but will give information that could help fine tune and adjust the institutional arrangements to be more congruent with the purpose and conditions (Margerum & Born, 2000). It is

also important to note that the conditions and purpose are continually evolving, creating something of a “moving target”. The institutional arrangements must include feedback mechanisms and be flexible in order to make continuous accommodations to these evolving conditions (Bleier, 2004; Cormick et al., 1996; Innes, 1999; Lee, 1993).

Feedback and accommodation mechanisms serve to facilitate planning and management in complex conditions and uncertainty (Lee, 1993; Prato, 2003).

Table 1 below shows the measures derived from theory and practice, which were chosen to evaluate various aspects of the NCIRWMP. Organizing the measures in this format allows patterns to emerge around the coherency and consistency of the purpose and scope; the institutional arrangements; and possibilities for participant and institutional learning. These general categories for evaluating integrated programs were suggested in the literature (Bellamy et al., 1999; Margerum & Born, 2000; Patton, 1997; Weber, 2003).

Table 1. *Integration Assessment Measures*

<p><u>Purpose and Scope</u></p> <ul style="list-style-type: none"> • Context • Key issues, stakeholders and conflicts identified • Purpose • Conceptual Framework • Objectives, Priorities and Strategies
<p><u>Institutional Structure</u></p> <ul style="list-style-type: none"> • Stakeholder and roles defined • Major stakeholders willing and able to participate • Support and legitimacy • Resources available for integrated planning • Information and data management tools
<p><u>Institutional Processes</u></p> <ul style="list-style-type: none"> • Clearly defined decision making process • Conflict identification and resolution procedure • Effective outreach process for identifying and including stakeholders • Defined communication processes and information sharing • Coordination • Integration
<p><u>Participant and institutional learning</u></p> <ul style="list-style-type: none"> • Process for modifying priorities in response to regional changes • Mechanisms to adapt project operations and plan implementation • Process for modifying institutional structure and processes • Stakeholder and public learning

Data Collection and Methods

Multiple methods were used for data collection including archival research for existing sources of data, participant observation and personal communication. These have the advantages of being low cost and fairly un-reactive. The author conducted all data collection and analysis. The participant observation included attending public meetings, presentations and workshops, and observing communication and interaction among stakeholders and other members of the public. Observations were made into text in the form of observational notes. The participant observation was combined with Internet and library research to collect data from public records such as meeting agendas, minutes, and other documents. With sufficient time, funding and authority, evaluation research such as this will often include additional components involving stakeholder surveys, interviews and participation (Bellamy et al., 1999; Hernandez and Hodges, 2003; Patton, 1997; Weber, 2003). Table 2 presents the sources and collection methods for various types of data.

Table 2. *Data Sources, Collection Methods and Description*

Data Sources	Collection Methods	Data Documentation: Names assigned by the researcher. See Appendix A.
NCIRWMP Website	Archival: Electronic Retrieval	<u>Long Background Text</u> <u>New Project: Proponent Agreement</u> <u>Project Template</u> <u>February Update</u> <u>Project Applications: Published Projects</u> <u>April Update</u> <u>March Meeting Minutes</u> <u>March Update</u> <u>April Meeting Minutes</u> <u>Draft Plan Outline</u> <u>MoMU</u> <u>Panel and Committee Members</u>
NCIRWMP electronic email list	Via email	<u>Project Upload</u> <u>Notifications of new website material</u>
Humboldt County Website	Archival: Electronic Retrieval	<u>BOS Prop. 50 Staff Report</u> <u>Local Water & Wastewater Planning MOU</u> <u>Water Resources Element Planning Needs</u> <u>Phase 2 Agreement</u>
April 28 Meeting	Participant Observation: Collect handouts Make observations	<u>Draft Conceptual Framework</u> <u>NCIRWMP Handout</u> <u>Project Prioritization & Review Process (April)</u> <u>Siskiyou Memo</u> <u>Project Scoring Sheet</u> <u>Project Statistics</u> <u>April Meeting notes</u>

Table 2 (continued). *Data Sources, Collection Methods and Description*

March 3 Meeting	Participant Observation: Collect handouts Make observations	<u>Draft Plan Outline</u> <u>March Meeting Agenda</u> <u>Proposed Project Prioritization & Review Process</u> <u>NCIRWMP Schedule - March to May 2005</u> <u>March Meeting notes</u>
March ERRC Meeting	Participant Obs.: Collect handouts Observations	<u>March ERRC Meeting Agenda</u> <u>CRP presentation slides on the NCIRWMP</u> <u>March ERRC Meeting notes</u>
Salmonid Restoration Conference	Participant Observation: Collect handouts Make obs.	<u>Conference Schedule; Proceedings</u> <u>SRC Presentation Notes</u> <u>Observational notes</u>
Personal Communication	Via email conversations	<u>Reply to Document Request, Smith</u> <u>Reply</u> <u>notes</u>

The data sources included: Humboldt County Board of Supervisors Meeting Archives on the County Website; the NCIRWMP website; NCIRWMP interested parties electronic mailing list; meetings for the NCIRWMP and Eel-Russian River Commission; the 23rd Salmonid Restoration Conference and Proceedings, and from personal communication with stakeholders and other interested individuals. Appendix A includes descriptions and sources of data. Appendix B includes the most significant of the documents analyzed.

Collection methods included: retrieval from electronic sources, attendance at meetings, presentations and conferences, and personal communications. This study

limited its analysis to publicly available data. Newspaper and other media were not used as data sources; however they were helpful in locating sources of data such as upcoming meetings of relevance. Supporting materials included legislative documents such as water code sections, California's IRWM Plan Standards, and materials and observations at workshops and presentations relating to the CEDS and the IRWM Grant Program. Because the NCIRWM plan is in a developmental stage, missing, incomplete and unavailable data was anticipated, and produced a finding of "no evidence." For example, lack of data about a process shown by theory to be important, might be explained by a lack of transparency, a "hole in the process," or simply lack of documentation, and suggests the need for further investigation. The data was collected and analyzed between October 2004 and May 2005.

Analysis Methods

The collected data was analyzed using *content analysis*, a systematic search for message characteristics in the text (Berg, 2004; Lewicki et al., 2003; Singleton & Straits, 1999). Content analysis has the advantages of being able to handle large volumes of data, it is unobtrusive, materials can be unstructured, and it is context sensitive. It is also considered a good procedure when looking at processes in social groups when public records exist (Berg, 2004). One recognized limitation of content analysis, ineffectiveness of establishing causal relationships, is not a concern for this study, because the research question does not involve causality.

The operational components identified from the literature review and shown in Table 1 are the content categories used for coding. The unit of analysis was the “*thought unit*” (Lewicki et al., 2003), identifiable thoughts expressed through words, strings of words, sentences or paragraphs (Berg 2004). Initially, the data was read through to gain familiarity with the contents. Next the four broad content categories were each assigned a color, and the data was “coded” by highlighting the thought units belonging to a given category with the appropriate color. Many thought units belonged in more than one category. For example, “stakeholder involvement” was simultaneously a “purpose”, part of the “institutional structure,” an “institutional process,” and a component of “participation and institutional learning”. This required refinement of the content categories, as well as suggesting a pattern or theme that, for this example, links the categories in relation to stakeholder involvement.

When this initial coding was completed, and the text was coded into the four broad categories, the data were examined more closely to sort out the sub-categories within each. The findings were recorded for each of the subcategories. In some cases one sub-category was found in many text sources, in other cases, there was no evidence, or conflicting findings. The conflicting evidence was often related to the date, reflecting the development of the NCIRWMP through time.

Multiple data collection methods and diverse types of data provide triangulation, which can be defined as multiple lines of sight to confirm the reliability of measures and findings (Berg, 2004; Singleton & Straits, 1999). Collecting data from a variety of sources (e.g. websites, meetings,) using a variety of methods (e.g. collecting existing

data, participant observation) allows the researcher to look for consistency of the content, as well as gaps, inconsistency and conflicting messages. In formative evaluations, uncovering gaps and inconsistency is valuable and can provide the basis for recommendations (Patton, 1997). Thus, no evidence in a given category or inconsistent findings between data sources can be as noteworthy as a consistent, coherent message found across a wide spectrum of the data.

Reviewing the data during an evaluation involves four processes: describing and analyzing the findings; suggesting the meanings or explanations of the findings through interpretation; making a judgment about the results; and making recommendations for action (Patton, 1997). For this study, interpretation of the results follows the findings in each subcategory, while any judgments and recommendations are discussed following completion of analysis and interpretation, within the context of the whole.

CHAPTER 4

FINDINGS AND DISCUSSION

This chapter presents what was found in the data relating to each category: purpose, structure, process and learning. These findings are examined in two ways: in terms of the specific content; and in terms of completeness and coherence. The integrity of the plan or process is dependent in part on the specifics, but also on having the elements present in working order. Missing or poorly specified elements will impair the functionality of the plan. This chapter begins with a brief background section describing the initiation of the IRWM planning process on the North Coast, water resources and water policy in Humboldt County, and the county's Comprehensive Economic Development Strategy, the CEDS. Then findings and analysis are presented for subcategories in each of the four broad elements to be examined: the purpose and scope; institutional structure; institutional processes; and learning. Finally, the findings are synthesized into a more coherent picture of the links and potential for coordination between the NCIRWMP and the CEDS.

Background

The North Coast Integrated Water Management Plan

In October 2004, the Humboldt County Board of Supervisors agreed to participate in the development of an Integrated Regional Water Management Plan (IRWMP) for the

counties of Humboldt, Sonoma, Mendocino, Trinity, Del Norte, and Siskiyou and portions of Modoc. The county has also committed to participate in local water and wastewater infrastructure planning with cities and service districts located in Humboldt County and to authorize staff to work with local watershed restoration representatives to ensure collaborative participation of local watershed agencies and organizations in the Regional Plan. The county will be participating with Regional Plan partners to submit a Proposition 50 Planning Grant to do the local and regional planning necessary for a Final Version of the North Coast Integrated Regional Water Management Plan (NCIRWMP), to be adopted by January 1, 2007. Preparations to submit a Proposition 50 Implementation Grant are also underway.

Developing and implementing this plan will involve the coordination of counties, agencies, and many other stakeholders with an interest in water management. Much planning related to water resources occurs at the county level, involving land use, infrastructure, community development and other elements. How will the NCIRWMP coordinate with plans at the county level? Humboldt County's General Plan and the county's Comprehensive Economic Development Strategy are two areas that could have synergistic or antagonistic effects with the NCIRWMP.

Water resources in Humboldt County and the North Coast Region

Humboldt County has abundant water resources in the form of ground and surface water supplied by high levels of rainfall and several major rivers. In spite of the natural endowment of water, Humboldt County faces water-related challenges that impact water

supply and demand, cultural values, and the economic, social and environmental dimensions of prosperity. The California's North Coast region contributes 26% of California's water supply (Guivetchi, 2001). Significant portions of the Klamath and Eel, California's second and third largest rivers, flow through Humboldt County; both have major diversion projects which occur outside of the county, but have economic, social, cultural and ecological impacts affecting not only those watersheds, but the state as a whole. The counties in this region, Del Norte, Siskiyou, parts of Modoc, Humboldt, Trinity, Mendocino and Sonoma, are primarily rural with resource-dependent base industries such as fishing, timber, tourism and agriculture. With the exception of Sonoma, all these counties are considered "disadvantaged" with median household incomes at less than 80% of the statewide median, ranging from 59% in Del Norte to 76% in Humboldt, 79.6% in Mendocino, and 108% in Sonoma (US Census, 2000).

Water policies come in the form of regulations, laws and rights, and are found at every level of government in the U. S., from local municipalities to the federal level, and beyond to international agreements. These policies affect not only water supply and quality, but also watershed and ecosystem health, and human and community well being. Balancing the economic, social and ecological components of these interrelated systems into the future, from the local to the global level is the challenging task necessary for achieving sustainability.

Water policy in Humboldt County

Water policy in Humboldt County is primarily formed through the general plan update process. The *Humboldt County General Plan Update: Natural Resources and Hazards* (Humboldt County, 2002) identifies two goals for water resources policies:

1. To maintain and enhance the quality of the County's water resources and the fish and wildlife habitat utilizing those resources.
2. To maintain a dependable water supply, sufficient to meet existing and future domestic, agricultural, industrial needs and to assure that new development is consistent with the limitations of the local water supply (p. 1-49).

Through staff and public input during the update process, the county is considering a variety of policy options that address key questions raised about efforts to control negative impacts to water resources such as water diversions, non-point source pollution, and watershed degradation. There are water-related goals and policies in other elements of the General Plan, such as planning for water and wastewater infrastructure, and storm-water runoff contained in the community development element. The general plan update process is designed to elicit public comment throughout. The county's policies have to fit in with a legal and regulatory framework including federal, state and local regulations, laws and water rights, and various federal and state agencies which have jurisdiction over a variety water resources and uses. The multiple issues, jurisdictions and stakeholders create challenges for individuals and organizations from the local to the federal level. In addition to policies directly related to water, there are interrelated policies and activities such as transportation, forestry and agriculture that have complex interactions with water

resources. For example, transportation, forestry and agricultural activities all potentially impact water quality through contributing to sediment loads in watersheds. They also face water related impacts: water quality regulations such as total maximum daily load (TMDL) requirements; and fish passage requirements. The agriculture industry may be affected by flooding and drainage issues due to increased deposition of sediment in streambeds, caused by increased sediment loads. In part, because of the interrelated nature of these issues, counties such as Humboldt have begun creating economic development strategies and sustainability initiatives to guide and coordinate their efforts (Prosperity Network, 1999, 2002).

The Humboldt County Comprehensive Economic Development Strategy

The Humboldt County Board of Supervisors adopted the *Comprehensive Economic Development Strategy* (CEDS) in 1999, a plan that was developed by the Prosperity Network, a group of business and community leaders. It emphasizes a collaborative, broad-based implementation of the strategy to “[g]row, diversify and strengthen our economy while preserving and enhancing our quality of life” (Prosperity Network, 1999). The *CEDS* is based on balancing five principles of development for sustainability:

Community - Create and preserve our areas of uniqueness, attractiveness, history, and cultural and social diversity;

Environment - Acknowledge our responsibility to be stewards of the environment;

Residential and commercial development should maintain or improve, not

harm the environment and public health. Focus should be on compact, multidimensional land use.

People – Target efforts toward reducing poverty by promoting jobs that match the skills of existing residents and improving the skills of individuals seeking to enhance their economic situation. Address the needs of families through affordable child care, transportation, education, and housing.

Economy – Support existing enterprises, entrepreneurship, and homegrown activities, as they are the best source of business expansion and local job growth. Communities, governments and the private sector should create regional structures that respect local character and identity.

Government – Evaluate publicly supported economic development programs, investments, and subsidies for their long term benefits and impacts on the whole community, not just on short-term job or revenue increases. Public investments and subsidies should support environmental and social goals, and prioritize infrastructure and services that will promote the vitality of all local enterprises instead of individual firms (Prosperity Network, 1999, 2002).

These principles sketch out a shared vision of actions that integrate social, cultural, environmental, and economic goals. The CEDS is being used to provide a shared vision and strategy to government, economic development officials, business leaders and others involved in activities that influence prosperity in the county. For example, the Humboldt County general plan update process includes coordination with the CEDS (Humboldt County, 2002).

Findings and Interpretation

The various documents and other data analyzed for this project are listed in Appendix B. *Sources and Descriptions of Data*, organized alphabetically according to the name used below in the text (underscored). The documents most significant for this study are included in their entirety in Appendix B.

Purpose and Scope

This first section examines the description of historical and current conditions in the region, and the direction for the future. To assess compatibility with the CEDS, the context and specifics of the purpose and goals will be examined to check for any obvious conflicts or incompatibility, as well as looking for a general alignment of purpose, vision or goals. Definition and coherence of purpose and goals would form a basis for capacity to coordinate with the CEDS. Coordination also depends on a shared understanding of the purpose and goals, so it is important to keep in mind that this analysis is based on information readily accessible to stakeholders, which changes over time.

Context

The Draft Plan Outline indicates the plan will have the context fairly well described. Section 3.1 includes the boundaries, water resources conditions, ecological processes, social and cultural makeup and values, economic conditions and trends, water resource related laws and contractual obligations, as well as the reason the North Coast is an appropriate region for integrated water management, and the role of the IRWMP in

the region. Section 3.2 indicates the plan will summarize existing and potential regional and watershed planning efforts and how they fit in with the NCIRWMP process, and identify key water management issues. Section 5 indicates the plan will summarize the need for integrated planning on the North Coast and the historic approach to water and natural resources planning, and the relationships of the plan needs with State and federal priorities and other watershed management efforts. Section 7.1.4 includes acknowledgements of the support of legislators, agencies, environmental groups and other “regional entities.”

The importance of describing the context is to establish the baseline conditions, the starting point from which to measure future outcomes, and to provide evidence of the need and support for the IRWM plan and therefore some measure of legitimacy.

The plan standards, State priorities, deadlines and purpose of the Proposition 50 competitive IRWM grant programs are significant factors in the type of plan being developed. Consistency of the NCIRWM plan being developed with the grant program requirements will affect the competitiveness of the NCIRWMP Prop 50 grant application (DWR & SWRCB, 2004).

Key issues, stakeholders and conflicts identified

There is not enough information to determine whether key issues, stakeholders and conflicts have been systematically identified. The identification processes will be further discussed below. Section 8.2 of the Draft Plan Outline indicates there will be a “regional and local issues analysis.” Identification of key water management issues,

stakeholders and existing or potential conflict is important and would be based on an analysis such as a conflict assessment. Skipping this step could lead to problems later in the planning when it is discovered that an overlooked stakeholder group is being impacted by problems caused by another stakeholder group. Stakeholder involvement in the definition of problems, goals and strategies can help prevent inappropriate, ineffective or inequitable strategies and solutions from being developed.

Purpose

The multiple purposes of the NCIRWMP are documented in most NCIRWMP data sources in a fairly consistent manner, though a coherent overarching vision or mission statement is not articulated. These purposes include: water supply and quality issues, environmental and habitat protection and improvement; fostering cooperation, coordination, communication and collaboration among stakeholders “to achieve greater efficiencies, to enhance public services, and to build public support for vital plans and projects;” and to provide mechanisms for integration and improving water related governance. A fairly concise statement of purpose is found in the Long Background Text: “By taking a shared, regional approach to water resources planning, the North Coast IRWMP will work to find a solution that effectively manages water resources, promotes environmental and fisheries protection, assures beneficial water reuse and clean water supplies, and promotes watershed protection and planning throughout the region.” This source goes on to list three goals for meeting these purposes: 1) to develop a comprehensive plan; 2) to foster coordination, collaboration, and communication among

[stakeholders]; and 3) to improve regional competitiveness for [grant funding] “The phrase “assures beneficial water reuse” rather than “assures beneficial water use” is perhaps worth noting and clarifying. It may simply be a typographical error. Assuring “beneficial water reuse” is substantially more limited in scope than assuring “beneficial water use.”

The Phase 2 Agreement for the NCIRWM plan development between the Sonoma County Water Agency and Circuit Rider Productions, Inc. (see Appendix B), states that “The long-term goal of the IRWMP for the North Coast is to develop a collaborative, public approach to water planning that considers water supply and water quality issues in the context of watershed protection and enhancement” (p. 1).

A presentation at the Eel-Russian River Commission Meeting (ERRC Meeting) by the plan consultant reiterated the purpose of the Proposition 50 IRWM grant program, then described the “reasons for developing a North Coast IRWMP” as 1) to obtain funding, 2) funding designated for Northern California, 3) future bond opportunities, 4) identification of other/future funding, and 5) increased emphasis by the state on hydrologic regions, not just watersheds.

Overall, the range of purposes was so broad as to provide little direction to project proponents as they developed their applications for inclusion in the NCIRWMP. A consultant email (Project Upload) to parties interested in the NCIRWMP reported that stakeholders have repeatedly asked how to discuss the way their project fits with the NCIRWMP when the plan is not yet complete. It acknowledged “the timing is unfortunate. We recommend careful review of the draft NCIRWMP outline, as it is

reflective of the themes and strategies that are expected to be covered in the plan.” In addition, careful review of the IRWMP Guidelines and associated Proposal Solicitation Package was suggested, as they provide clear direction about what needs to be included in the project application. The issues of scheduling and deadlines will be discussed below in more detail.

At the April 28, 2005 NCIRWMP meeting (April Meeting Minutes), the Policy Review Panel discussed the importance of agreeing on overarching goals. The panel and committee felt the state’s IRWM Plan criteria were so broad as to produce arbitrary decisions when prioritizing projects. They reviewed the one-page NCIRWMP Handout, agreed on the “regional themes” of salmonid recovery, beneficial uses of water and regional autonomy, after changing “local autonomy” to “regional autonomy.” The discussion before and after adoption of the term “regional autonomy” did not provide clarity about the nature of autonomy envisioned. Establishing the relationships of local, watershed and regional planning will be an important task. The issue of “local” versus “regional” autonomy could prove to be critical. Siskiyou County indicated (through word of mouth and memo) their concerns about a “top-down” approach, and that their participation in the NCIRWMP would depend on an agreement that establishes the “bottom-up” planning approach implied by the term “local autonomy.” One Policy Review Panel member emphasized salmonid recovery, as described in the Draft Conceptual Framework which characterizes “salmonids as an indicator species [sic] for watershed health, including the beneficial uses of water for humans.” He went on to say that our region has the advantage of salmon as a built-in living indicator, a natural third

party certification, and that the plan should “elevate salmonids as a barometer of watershed and regional health” (April Meeting Notes).

Substantial ambiguity remains in these goals. During the April Meeting many members of the Policy Review Panel and Technical Peer Review Committee seemed to equate beneficial uses with infrastructure projects and human beneficial uses (April Meeting Notes), while the Draft Conceptual Framework presented at the same meeting defined “beneficial uses” as both for human use and the maintenance of natural habitats, consistent with the State Water Resources Control Board designations (DWR, 2003, p. 239).

Conceptual Framework

The Draft Plan Outline Section 4 includes points covering the relationship of the NCIRWMP and other planning efforts, with attention to local and regional scale, adaptive management, response to regional change, state and local priorities. This section will be important in that it should articulate the plan’s theory of action or change and provide the link between the current conditions and context, and goals for the future. Section 8.2 indicates the plan will discuss how the themes and strategies identified in the development process will achieve the stated goals, the benefits of integration, and “clearly identify interdependence between projects.” The Draft Conceptual Framework (April 2005) summarizes background discussions regarding development of the conceptual framework and outlines an approach that ensures local autonomy, integrates

diverse issues and priorities, attracts resources, and provides ongoing mutual feedback across scales.

Objectives, priorities and strategies

The objectives, priorities and strategies described in the Draft Plan Outline are based on the *Guidelines* (DWR & SCRWCB, 2004) but neither regional objectives nor priorities are listed. The Draft Plan Outline indicates the strategies will be developed through outreach to stakeholders and a “regional and local issues analysis” (section 8.2.1), however the method for this was not described. Many potential linkages and possibilities for coordination of strategies adopted by the NCIRWMP and the CEDS could be explored in the future through outreach to local groups such as the Prosperity Network.

Institutional Structure

This section examines who is involved, the nature of their involvement and the tools and resources that can be mobilized by the IRWMP. Because the plan is currently developing, the institutional structure is relatively undefined and changing rapidly so the analysis for this section will be less detailed. Analyzing the NCIRWMP structure could reveal potential linkages with the CEDS such as stakeholders common to both, as well as resources potentially available for coordinated efforts.

Stakeholders and roles defined

There appear to be no consistent definitions for stakeholders, participants, or roles; and the panels and committees are evolving rapidly. For example, the MoMU defines the North Coast Technical Review Panel and outlines its role of compiling and integrating projects and management plans, as well as defining the process to accomplish this function. Subsequently, this panel was broken into the Policy Review Panel (also referred to as the Policy Review Committee) and the Technical Peer Review Committee. The Policy Review Panel sets policy and process and is composed of two supervisors from each North Coast County, The Technical Peer Review Committee prioritizes and integrates projects according to the criteria set by the Policy Review Panel and is composed of two appointees from each county. The composition and roles for the Policy Review Panel and the Technical Peer Review Committee were fairly well defined as of the April 28 Meeting, though inconsistent with the MoMU, which does not reflect this evolution. This highlights the logistical difficulties of maintaining up-to-date understandings during an evolving process.

Major stakeholders willing and able to participate

Through the methods and documents available, there was no systematic way to determine the willingness and ability of stakeholder participation. A conflict analysis would be able to provide information on stakeholders, their willingness and ability to participate. It could also indicate potential or actual power imbalances. There is evidence from the March Meeting that the limited resources of some counties could

hinder their participation (March Meeting Minutes). The requirement in the MoMU for participants to contribute the personnel and financial resources to develop the IRWMP could be a substantial barrier to participation for many stakeholders, particularly stakeholders from “disadvantaged communities.” This will be addressed further below. Some funding mechanism may be necessary in order to support stakeholder participation.

Support and legitimacy

Support and legitimacy was not systematically investigated in this study. Informal discussions with a variety of informed, non-decision making officials and professionals revealed substantial cynicism about the NCIRWMP. These included concerns about the quality of stakeholder involvement, addressing symptoms not causes, lack of coordination and integration mechanisms, its “political” nature, and avoiding discussion of conflicts. Discussions of Policy Review Panel and Technical Peer Review Committee members during both the March and April Meetings revealed positive comments about addressing troublesome issues, the novelty of working together as counties rather than competing, while also acknowledging many difficulties. Support and perceptions of legitimacy of the plan and process could be estimated through a survey of stakeholders and the general public. Support and legitimacy could influence the effectiveness of efforts to coordinate planning with the CEDS. The compressed time line could also have the effect of diminishing support and legitimacy because it becomes more difficult to stay informed and to be involved with the process.

Resources available for integrated planning

The Sonoma County Water Agency is funding the initial planning process (BOS Prop 50 Staff Report, p.3; Phase 2 Agreement). As mentioned above, the MoMU (5.8) expects “that agencies and organizations will contribute the personnel and financial resources necessary to develop the IRWMP.” This could prove a barrier to some stakeholders. The Proposition 50 IRWM Planning and Implementation Grant funding can be used for planning and participation if budgeted in the grant proposal. The issue of funding for the initial planning process appears informal or underdeveloped. In the March Meeting, supervisors from two counties expressed concern about attending meetings due to budgetary constraints. Sonoma County Water Agency offered to find some money to make sure everyone could participate. One of the concerned supervisors then commented that if meetings could be coordinated with other county business, more staff time could be provided. One of the agencies offered provide the venue for the next meeting. This exchange demonstrates informality, flexibility, and the willingness of participants to think creatively to overcome barriers. There has been no mention in the data of contingency plans should the NCIRWMP grant proposal not receive funding. It appears that one of the reasons for the short time line relates to funding. Because this is a new program, the plan developers feel there are better chances of being awarded funds to modify an existing plan, rather than to develop a new one. The rationale for this is that the pool of applicants modifying an existing plan will be smaller.

Information and data management tools

A GIS (Geographic Information System) database and IRWMP website have been developed for information and data management, but there is not adequate documentation of these to support detailed analysis. The uses of these tools for communication will be discussed below. The February Update describes the website as “the main mechanism for keeping partners informed about the regular changes and updates in the IRWMP process.” This website contains background information, calendars, maps, and a document library (NCIRWMP website)

Institutional processes

This section describes how things happen in the NCIRWMP: how decisions are made, how conflicts are identified and resolved, how communication and information sharing occurs, how coordination and integration occurs. The NCIRWMP and the CEDS share goals, stakeholders, conflicts, and issues. Conflict resolution, stakeholder processes, coordination, communication and information sharing become important mechanisms in achieving shared goals. Because they are internal processes, decision making and integration have less bearing than coordination on the potential relationship between the NCIRWMP and the CEDS, though they are important for a well functioning institution.

Clearly defined decision making process

The MoMU states in 5.5 Decision-making, “Consensus will be sought in the event the need for a decision arises.” Based on observations at the March and April

Meetings, consensus refers to the decision-making body, the Policy Review Panel. It should not be confused with stakeholder consensus (Susskind, 1999). The Draft Plan Outline includes sections “7.0 Organization and Roles for the North Coast IRWM Planning Process,” and “8.0 Development Process: North Coast IRWMP,” “8.1.2 Process for meetings, public outreach, and local coordination in the development of the North Coast IRWMP.” Observations at the March and April Meetings revealed the ongoing development of the decision making process for the Policy Review Panel and the Technical Peer Review Committee, however stakeholder influence in decision making authority is undefined. In the March Meeting there was acknowledgement that the whole effort is a work-in-progress. It appeared, from observations during the meeting, that the decisions about process are worked out on the spot when the need arises, sometimes requiring that a previous decision or definition be revisited. Possible explanations of this include the short time available for drafting the NCIRWMP, facilitator expertise, or unfamiliarity of participants with a new process.

The April Meeting Minutes lists names of attendees including members of the “Policy Review Committee”, the “Technical Peer Review Committee” or “Staff and Interested Parties.” The latter category had no decision making authority, though varying degrees of input. At one point a staff member asked for confirmation that the Draft Conceptual Framework reflected what the Policy Review Panel intended. This staff person reminded the group that the consultants are making no decisions, just carrying out the direction of the Policy Review Panel (April Meeting Minutes).

Conflict identification and resolution procedures

Problems and issues are identified, but the word “conflict” occurs only a few times in the documents analyzed. In the Project Template project proponents are asked, “Does the proposed project assist in meeting various statewide priorities? [Such as reducing] conflict between water users or resolve water rights disputes, including interregional water rights issues.” The Draft Plan Outline section 6.0 lifted language from the State’s Plan Standards, “address major water related objectives and conflicts within the region” (DWR & SWRCB, 2004, p. 14). To date, no conflicts have been documented, as such, in the data. Could participants be using the term “major water related issues” instead? See section 8.2 of Draft Plan Outline. During the March ERRC Meeting there was a discussion about whether the high profile conflicts would be dealt with. One member of the project team (a neutral, non-decision maker) responsible for compiling the plan said these issues would be acknowledged and discussed at a conceptual level and, because of the democratic nature of the process, would emerge and be worked out over time (ERRC Meeting Notes). The NCIRWMP stakeholder at the ERRC Meeting that raised this question about conflicts may have assumed the consultant was making decisions about the plan content. In addition to the issue of conflict identification this raises the question of authority and participant knowledge in the plan development process. Was this question about conflict resolution a request for information about the scope of the plan and process, or was it a misunderstanding about who had authority?

Ideally, conflicts would be surfaced early in the process using a conflict

assessment or similar method. Failure to identify and manage conflict can lead to failure in integrated resource management. Because reducing conflict between water users is a statewide priority (IRWM Guidelines, p 5), this priority will be addressed in the grant application, but the only apparent identification mechanism is the Project Template, which is available only to project proponents. Conflict resolution mechanisms are not described or mentioned in any data publicly available.

Effective outreach process for identifying and including stakeholders

The plan appears to be underdeveloped in its approach to stakeholder outreach though there was no indication that these areas will remain undeveloped in future versions of the plan. The IRWM Plan standards require a process for ongoing stakeholder identification, inclusion and involvement. At the March Meeting, a participant mentioned that no tribes had put forward a project or otherwise indicated a desire to participate. An official indicated he had contacted all the tribes, but received no responses. This highlights the importance of social science expertise and creativity in effectively including diverse groups. Another barrier to participation is inadequate resources, which has in fact been a problem for some of the counties.

Defined communication processes and information sharing

The communication processes appear to be developing meeting by meeting, and possibly through more informal means. The MoMU addresses communication in the following sections: 2.2 to foster communication between agencies and interested stakeholders, and to build public support; 5.1.1 fostering communication; 5.10 Reports

and Communications, specifying regular reporting to agencies and stakeholders. The Draft Plan Outline mentions communication in section 2.1.3 fostering communication; it is implied in 4.1.2 adaptive management nature; in 8.1 development process for communication; in 8.1.3 multi-modal outreach – ongoing communication tool; and 8.1.4 informing constituencies.

The Draft Plan Outline includes 7.1.4.6 Community (landowners, citizens groups, general public) in the section for member organizations and roles (7.1.4). Section 8.1, mentioned above, includes processes for communication, public outreach and informing public constituencies. The NCIRWMP website is described in the February Update, and appears to be the primary communication method, a possible disadvantage to those with limited or no internet access. Comparing the dates notices were posted on the website and the meeting dates revealed that non-participants may find it difficult to get adequate advance notice of meetings or cancellations, even when registered as an “interested party.”

Coordination

In the *IRWM Guidelines* (DWR & SWRCB, 2004), coordination appears to refer to agency coordination (includes assistance in communication, cooperation, or implementation, or when state or federal regulatory decisions are required) and coordination with local land-use planning decision makers (p. 16).

The phrase, “To foster coordination, collaboration and communication among North Coast agencies responsible for water-related issues and interested stakeholders,” is

found in the MoMU 2.2 and 5.1.1, the Draft Plan Outline 2.1.3, and in the Long Background Text. These documents all mention cooperation numerous times. The NCIRWMP itself is described in the Draft Plan Outline as a mechanism to “facilitate regional cooperation,” (2.1.1) and “to coordinate and implement programs and projects,” (2.1.11). Based on the Draft Plan Outline, the coordination processes will be spelled out in the Draft NCIRWM Plan in the outreach and stakeholder involvement section (8.1.1), including coordination in the preparation of the plan, local coordination in plan development, multi-modal outreach as an ongoing communication tool, and informing constituencies.

Coordination will occur between regional partners, agencies and stakeholders, to accomplish the purposes of the plan. The level of detail available at this time, however does not give a picture of coordination processes. Because coordination is clearly a significant process in the NCIRWM Plan, as it is in integrated plans in general, it will be necessary to specify how this will occur, whether through stakeholder interactions and negotiations as suggested by the literature, or through document exchange, or through joint decisions about sharing funds and expenses.

Integration

Integration, as discussed in the *Guidelines* (p. 15), relates to how water management strategies work together to achieve objectives, and how integration of multiple water management strategies is able to provide added benefits. The issue of mutually exclusive objectives was not considered. An example of this is the Potter

Valley Project, involving the diversions of the Eel River to the Russian River watershed. These diversions may support the goals for the Russian River watershed, while reducing or eliminating the diversions may support goals for the Eel River watershed. There was not enough detail in the data to determine whether techniques such as integrative negotiations will be used to generate options for resolving mutually exclusive benefits. The MoMU (3.6 Integration) defines integration as “[a]ssembling into one document the water-related management strategies, projects and plans in the North Coast Region.” The next sentence in this paragraph is so ungrammatical as to be ambiguous at best and misleading at worst. This phrase also appears in “5.4 (.4) Approach to developing the IRWMP.”

The first phase would be to identify water management strategies for the region and the priority projects that work together *to demonstrate how these strategies work together* to provide reliable water supply, protect or improve water quality, provide watershed protection and planning, and provide environmental restoration and fisheries protection (MoMU, 3.6, *emphasis added*).

This problem phrase occurs twice in the document. Removing the italicized phrase could result in a meaningful, unambiguous sentence.

Participants at the March Meeting demonstrated a number of times that the concept of integration was elusive (March Meeting Notes). At the April Meeting, it was apparent learning had occurred, though the participants were struggling with “which definition of integration” was being referred to at any moment: the “internal integration

of projects” or the “regional integration of projects” (April Meeting Notes). There was no indication that participants understood the mutual gains aspect of integration, of “added benefits,” but for the most part saw the integrated plan as a zero sum game. In the zero-sum scenario, participants must decide how to allocate a fixed sum of funds through prioritizing and ranking. The mutual gains approach, however, requires participants to engage in integrative negotiations, creatively and strategically discovering or creating additional benefits possible through coordination (Thompson, 1998). This is a very crucial concept, and it lies at the heart of integration. In economics, an equivalent concept is that of maximizing net social gains from trade (Hackett 2001). The quality and functionality of integration and stakeholder coordination mechanisms are likely to influence achievement of the desired outcomes as well as issues of equity, effectiveness and efficiency.

Participant and Institutional Learning

The data indicate that there will be processes for modifying priorities in response to regional change and mechanisms to adapt project operations and plan implementation (Draft Plan Outline, Draft Conceptual Framework). There was no mention of responding to local changes. There was no documentation of any formal processes for modifying institutional structure and processes. These modifications are occurring, as evidenced by changes in structure such as the Technical Review Panel being divided into the Policy Review Panel and the Technical Peer Review Committee, and changes in process, such as when the Policy Review Panel modified the instructions to the Technical Peer Review

Committee regarding the project prioritization process (April Meeting Minutes). A formal process for making modifications in structure and process would require measures to determine if the structure and processes were performing properly or achieving the desired outcomes, for example, criteria for determining the effectiveness of the stakeholder outreach and involvement processes. If it could be determined that significant stakeholders were unaware of the NCIRWMP, the outreach process could be modified to correct this. There was no discussion of stakeholder and/or public learning as a component of this plan, although communication and information sharing, mentioned above, facilitates learning.

Summary of Findings

This data collected between October 2004 and May 2005 represents information that would be publicly available to interested parties during this time. This study neither collected, nor analyzed information that had not been released to the public, so the findings necessarily are limited to assessing the development of the plan as visible to the public.

For the purposes of this study, findings that indicate a corrective action may be necessary are considered key findings. Some components of the plan, though still insufficiently developed or refined, may not need any corrective action, as they are likely to develop in a positive direction. The key findings are summarized below in Table 3 *Key Findings*.

Discussion

How the findings are interpreted is based in part on what type of plan is intended. Interpreting the findings for a plan that cannot be modified will be different than interpreting the findings for a plan that is intended as a living document. This type of flexible plan contains the mechanisms to respond to changes, to revise its purpose (theory of action), structure and processes. For this NCIRWMP, the intent to evaluate outcomes and respond to changes puts this plan into the latter category. Finding a lack of consistency or missing components may be interpreted as simply a reflection of the developmental stage of the plan, and not a permanent deficiency.

Table 3. *Key Findings: Purpose and Scope*

<p><i>Description of context:</i></p> <ul style="list-style-type: none"> • Appears that the context will be well developed in the completed plan
<p><i>Identification of key issues, stakeholders and conflicts:</i></p> <ul style="list-style-type: none"> • Some issues and stakeholders will be identified in final plan • Insufficient documentation of methodology • Identification and discussion of conflicts largely absent
<p><i>Purpose</i></p> <ul style="list-style-type: none"> • Very broad, little distinction between purpose, goals, objectives • Documentation does not reflect a consistent purpose • Insufficient documentation of methodology • How have stakeholders been involved in defining the purpose?
<p><i>Conceptual Framework:</i></p> <ul style="list-style-type: none"> • Conceptual framework will be a component of the completed plan • Draft Conceptual Framework (April 2005) was well sketched out • Not sufficiently developed to clearly present the “theory of action”
<p><i>Objectives, Priorities and Strategies</i></p> <ul style="list-style-type: none"> • Completed plan will include objectives, priorities and strategies • Insufficient documentation of methodology • State program objective “Reduce dependence on imported water” is conspicuously absent • Statewide priority to “Reduce conflict between water users or resolve water rights disputes” is absent

Table 4. *Key Findings: Institutional Structure*

<p><i>Stakeholder and roles defined</i></p> <ul style="list-style-type: none"> • <i>Stakeholder, participant, partner</i> not clearly or consistently defined • Participants and roles changing rapidly, committee structure undeveloped • It is unclear who may participate, how to participate, and the roles
<p><i>Major stakeholders willing and able to participate</i></p> <ul style="list-style-type: none"> • Significant barriers to participation exist • Insufficient documentation of outreach methodology
<p><i>Support and legitimacy</i> (not systematically evaluated)</p> <ul style="list-style-type: none"> • Over 70 participating entities • At least 120 projects will be included in Plan (approximately 47 from Humboldt County) • Some cynicism about the NCIRWMP exists
<p><i>Resources available for integrated planning</i></p> <ul style="list-style-type: none"> • Resources available for initial planning process • Insufficient time for development of collaborative or consensus processes • Were resources a factor in the less developed parts of the plan? • Funding for further planning and for implementation is unsecured
<p><i>Information and data management tools</i></p> <ul style="list-style-type: none"> • The website is the primary communication mode • GIS database appears to be an effective information and data management tool • The timeliness of and access to information is an issue

Table 5. Key Findings: Institutional Processes

<p><i>Clearly defined decision making process</i></p> <ul style="list-style-type: none"> • Insufficient definition and documentation of decision making process • Stakeholder influence in decision making undefined • Undefined scope of decision making
<p><i>Conflict identification and resolution procedure</i></p> <ul style="list-style-type: none"> • Absence of identified conflicts is conspicuous • No documentation of conflict resolution procedures
<p><i>Effective outreach process for identifying and including stakeholders</i></p> <ul style="list-style-type: none"> • Evidence of ineffective outreach and/or inclusion processes • Insufficient documentation of outreach methodology
<p><i>Defined communication processes and information sharing</i></p> <ul style="list-style-type: none"> • Ongoing development of communication processes and information sharing • Insufficient development and documentation of communication processes and information sharing • The website appears to be the only communication tool developed so far • Timeliness of and access to information is currently limited • Potential for unequal access to information • Lack of publicity may limit participation and public review and comment
<p><i>Coordination</i></p> <ul style="list-style-type: none"> • Coordination is considered both a goal and a strategy • Opportunities for stakeholder interactions are currently limited • Coordination mechanisms undefined
<p><i>Integration</i></p> <ul style="list-style-type: none"> • Integration is an elusive concept, not effectively defined • Will integration be achieved through coordination and stakeholder interactions? • Will integration be achieved strictly through prioritization of projects? • Will mutual gains aspects of integration be realized?

Table 6. *Key Findings: Participant and Institutional Learning*

<p><i>Process for modifying priorities in response to changes</i></p> <ul style="list-style-type: none"> • Ongoing development and modification of priorities is occurring • Process for modifying priorities will be included in NCIRWMP • Processes not yet documented • Outcomes, indicators, monitoring mechanisms not yet specified
<p><i>Mechanisms to adapt project operations and plan implementation</i></p> <ul style="list-style-type: none"> • Adaptation mechanisms will be included in NCIRWMP • “Project Assessment and Evaluation Plan (PAEP)” will be used to monitor and evaluate project/plan performance, and adaptation mechanisms • In addition to project-level evaluation, will the <i>overall</i> performance of NCIRWMP be evaluated? • Indicators not yet developed and/or documented
<p><i>Institutional Learning</i></p> <ul style="list-style-type: none"> • Will PAEP include monitoring, evaluation and modification mechanisms for NCIRWMP structure and process?
<p><i>Stakeholder and public learning</i></p> <ul style="list-style-type: none"> • No documentation of public/participant learning or education mechanisms • Will NCIRWMP include collaborative learning processes?

Research Questions

Is the proposed NCIRWMP compatible with Humboldt County's Comprehensive Economic Development Strategy?

A comparison of the purposes of the NCIRWMP and the CEDS shows a number of similarities and differences, but little that would seem to be incompatible. The NCIRWMP is focused on water management issues, while the CEDS is focused on economic development issues. An overarching vision of sustainability appears to be emerging in the NCIRWMP, embedded in the multiple goal approach that includes economic, ecological and social components. The CEDS vision of “Prosperity” similarly employs a multiple goal approach that supports the notion of sustainability. Despite the fact that, at this point, the respective purposes, goals and strategies lack the coherence and clarity to determine compatibility on specific issues, the overall “sustainability” approach of the proposed NCIRWM plan appears to be compatible with the CEDS.

Operational compatibility between the NCIRWM plan and the CEDS would involve meaningful coordination in the implementation of the two plans. Because the regional strategies have not yet been identified in NCIRWM planning process, it was not possible to determine whether implementation of these strategies would be mutually compatible with the goals and strategies of the CEDS. Given the NCIRWM Plan's stated intention of coordinating with other plans on the local level, operational compatibility with efforts such as the CEDS should be possible. The CEDS promotes collaborative planning within identified industry clusters to develop strategies that fit with each

industry's identified mission. Another indication of operational compatibility would be inclusion of industry clusters as stakeholders. There was insufficient detail in the data to determine whether the NCIRWMP included these industry clusters as stakeholders.

An unexpected finding of this research was that the notion of sustainability is a core feature of integrated water management. This is perhaps not surprising considering integrated water management is a holistic approach that recognizes the interconnectedness of human and natural systems. While the literature does not specifically describe integrated water management planning as being based on sustainability, the notion of sustainability is nevertheless embedded in integrated management and planning. This is demonstrated by the trend away from a tableau of numerous fragmented policies managing narrow concerns such as water quality or endangered species protection. There is an increasing recognition of the interrelationships between the social, economic and ecological systems. Research reported in the literature on grassroots ecosystem management and integrated watershed planning support this finding (Bleier, 2004; Weber, 2003).

How will the proposed North Coast Integrated Water Management Plan facilitate stakeholder coordination to achieve its goals?

The findings indicate that one goal of the NCIRWMP is coordination, and that it will be sought horizontally among stakeholders, and vertically, between local, regional, state and federal levels. The findings also indicate that the coordination processes in the *preparation and development* of the NCIRWMP will be described in the draft final plan.

It does not indicate whether coordination will be used in the implementation of the plan. Some of the data describe coordination as a means to achieve the goals of the plan, and yet elsewhere coordination itself is described as a goal of the plan, otherwise known as a process goal. Other than the interactions in the Policy Review Panel and the Technical Peer Review Committee, there do not appear to be clearly defined and publicly shared understandings of coordination mechanisms. Because both the CEDS and the NCIRWMP appear to share sustainability goals and operate through collaboration and coordination, there is the possibility that coordination in the form of two-way feedback could occur between the plans. Fostering coordination was one purpose of the plan though no apparent coordination mechanisms were described. As found in the question above, there was a specified goal, but no specified strategy for implementation.

The Phase 2 Agreement mentions development of an appendix (not currently available), which is of interest because it “evaluates opportunities for sustainable development in the region - including alternative management structures and funding scenarios that support the region's ability to integrate economic growth with the protection and enhancement of natural resources.” This suggests the plan developers understand the link between sustainable development and this NCIRWMP.

Overall, the NCIRWM plan appears to be developing in accordance with principles described in the literature. The ongoing development of the plan is likely to improve many of the areas identified in this study as incomplete. For the most part, the general goals specified in the plan are appropriate for integrated water management and coordination with other institutions. The stated goal of promoting stakeholder

coordination would be an example, though effective mechanisms for accomplishing this coordination were not described in the data.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

The initial development of the NCIRWMP was compressed into a very short time frame in order to meet deadlines in the Proposition 50 IRWM Planning and Implementation Grant Programs. Humboldt County signed the MoMU October 26, 2004; the Planning Grant Application deadline was May 13, 2005, less than seven months later. It appears that the primary focus up to that point was to meet the requirements in the IRWM Grant Program Guidelines and IRWM Plan Standards. This time line was not sufficient for a truly collaborative effort to develop, nor for appropriate coordination mechanisms and integration to occur. The 2005 Draft NCIRWMP, which was developed in order to apply for the Proposition 50 IRWM Planning Grant funding, represents the first iteration of the NCIRWMP's integrated planning process. There is evidence in the data of a commitment to collaboration, coordination and integration, including stakeholder and public involvement. Assuming sufficient funds and other resources, a further iteration of the process could revisit the purpose and vision of the effort, identify and include a second circle of stakeholders, build collaboration, and refine the mechanisms for communication and coordination in order to improve the integration of social, economic and ecological values and outcomes.

The findings and the recommendations that follow are presented here in order to capture a brief period in the development of the North Coast Integrated Regional Water

Management Plan. An evaluation that compares a plan or program in its formative stages with an idealized plan could be considered somewhat unfair. If, however, such an idealized plan was seen as a desired outcome, the evaluation process works like the technique of backcasting, in which strategies can be developed to carry the plan in the desired direction. The findings reflect the current state of the NCIRWMP, and the following recommendations propose strategies to facilitate further development and refinement of the NCIRWMP.

Recommendations

The following recommendations are based on information publicly available during the course of this study. It may be reasonable to assume that the plan has developed beyond what the data revealed. Therefore many of the modifications, additions and actions recommended may have already been addressed by the plan developers, or added to the work plan. Based on observations of the plan developers and the participants, there is a significant capacity and willingness to learn and to make modifications in order to improve the effectiveness of the NCIRWMP. Table 7. *Summary of Recommendations* shows actions that may be taken to address the key issues identified in the assessment, and describes potential benefits. Most of the key issues identified could potentially be addressed through the following actions: 1) Conducting a conflict assessment; 2) Refining the communication processes; 3) Incorporating

collaborative planning; 4) Developing additional evaluation and collaborative learning mechanisms; and several miscellaneous suggestions.

Table 7. *Summary of Recommendations*

<p><u><i>Conflict Assessment</i></u></p> <ul style="list-style-type: none"> • Identify additional issues, stakeholders and conflicts • Refine outreach processes • Reconvene with a broader group of stakeholders <p>Benefits: Broader stakeholder and public involvement, reduced power imbalances, refinement of issue and conflict analysis, greater equity. Good foundation for improving institutional arrangements.</p>
<p><u><i>Communication Processes and Information Sharing</i></u></p> <ul style="list-style-type: none"> • Develop a communication plan to meet needs of participants and public • Improve access to and timeliness of information • Promote shared understandings of plan purpose, structure and processes <p>Benefits: Improves equity in access to information, builds transparency, legitimacy and support for effort. Potential reduction in costs for information gathering and exchange.</p>

Table 7 (continued). *Summary of Recommendations**Collaborative Planning*

- Build on information from conflict assessment
- Clarify and agree upon rules, roles and procedures
- Stakeholders refine vision, outcomes and theoretical framework
- Build on CEDS' industry cluster concept
- Stakeholder groups identify problems and leverage points
- Stakeholders develop strategies to address identified problems
- Integrative negotiations for mutual gains across groups
- Develop conflict resolution mechanisms

Benefits: Potential for conflict reduction. Potential to improve effectiveness, efficiency and equity in achieving outcomes. Builds capacity for coordination and operational compatibility with CEDS and other efforts. Improved opportunities for mutual gains and integration, development and targeting of resources.

Table 7 (continued). *Summary of Recommendations*

<p><u><i>Evaluation and Collaborative Learning</i></u></p> <ul style="list-style-type: none"> • Develop materials for stakeholder and public education • Develop collaborative learning processes • Build on existing monitoring, evaluation and adaptation mechanisms • Include evaluation of institutional arrangements <p>Benefits: Builds community capacity, support and legitimacy. Improves transparency, implementation and monitoring activities. Reduces power and information asymmetries. Potential for overall improvements in outcomes and plan performance, and in effectiveness, efficiency and equity.</p>
<p><u><i>Miscellaneous</i></u></p> <ul style="list-style-type: none"> • Rewrite items 3.6 and 5.4.4 in <u>MoMU</u> • Address State program objective to “Reduce dependence on imported water”

Conflict Assessment

Conducting a conflict assessment would identify additional key issues, conflicts and the next circle of stakeholders. Conflict analysis would help to determine whether or not stakeholders are willing and able to participate, their level of support and their view of the plan’s legitimacy. The NCIRWMP’s planning grant application will be evaluated

using stakeholder and disadvantaged community involvement criteria, so the question of participation is significant. The MoMU agreement that stakeholders contribute their own resources to participate may continue to prove a barrier to some stakeholders unless there is a funding mechanism to address this. This issue will need to be handled with cultural and social sensitivity (Bleier, 2004; Fischer, 2003; Rhoades, 2000).

Part of the conflict assessment involves outreach to potential stakeholders, so this would create an opportunity to refine the outreach process. An outreach process that successfully identifies and includes a broad range of stakeholders has the potential to reduce power imbalances, and improve collaborative efforts. Developing measurable outcomes for stakeholder involvement would facilitate future refinements of collaborative processes. Including stakeholders not involved in the first iteration of the NCIRWM planning process has the potential to leverage additional resources such as information and planning available from groups such as the Prosperity Network in Humboldt County. Groups such as these could be invaluable resources for integrated planning efforts.

There are significant differences between the participating counties, including differences in population, wealth and demographics such as the rural/urban balance. A conflict assessment would analyze the ways power imbalances and other differences could affect the NCIRWM plan development and implementation. The conflict assessment is primarily a method of gathering and reporting information that will be useful to the process of refining the plan, including work plan and process recommendations.

Communication Processes and Information Sharing

Recommendations in this case would include improving the timeliness of and access to information, and refining the communication processes. Better public and stakeholder communication and access to information may increase transparency, stakeholder and public support, and attendant perceptions of legitimacy.

The NCIRWMP website appears to be the primary communication method. This could be a barrier to those with limited or no internet access. Recommendations include the design of a communication and information-sharing system that accommodates varying levels of knowledge and resources, and reaches stakeholders and the public in a timely manner. This will improve equity in access to information, and serve as an outreach and education mechanism. Since a willingness to share information is a measure of commitment to the process (Lee, 1993), it must be made clear to participants and the public how to get information, how to be involved, and this communication must include a variety of modes. Multi-modal communication was listed in the Draft Plan Outline.

Collaborative Planning

Collaborative planning builds on the information developed in the conflict assessment. Recommendations include improving operational compatibility with the CEDS and exploring possibilities for joint implementation and/or coordination strategies based on an overarching vision such as that articulated in Humboldt County's Prosperity strategy. Backcasting is one approach for systematically developing links between plans

such as the NCIRWMP and planning for sustainable development (Doppelt, 2000; Holmberg & Robert, 2000; Oquirrh Institute, 2003). Because both the NCIRWMP and the CEDS have already completed many of the steps involved in backcasting, stakeholders could reiterate the process in order to make refinements and strengthen coordination. In this scenario, the stakeholder group first refines their vision of the desired future. The existing situation is then analyzed with this vision in mind to develop strategies for reaching the desired objectives. This must include a “theory of change”, a shared understanding of what changes will be necessary to achieve the desired outcomes (Hernandez & Hodges, 2003; Holmberg & Robert, 2000; Oquirrh Institute, 2003).

The CEDS industry cluster concept is potentially a good starting point for backcasting and collaborative planning (Prosperity Network, 2004). The existing industry cluster work groups have developed work plans that provide a good foundation for coordinating with other efforts such as the NCIRWMP. Proposed solutions and strategies must address the causes of the problems and issues. Conflict assessments and backcasting are potentially valuable tools for developing outcomes, reducing conflicts and improving integration and coordination in integrated regional water management plans. Important considerations include the direction, degree and speed of change required (Doppelt, 2000). Water rights issues, jurisdictional issues, externalities and barriers to achieving outcomes must be identified. Innovative combinations of strategies can maximize multiple beneficial uses and minimize “beneficial uses” that in fact generate net negative impacts. The Phase 2 Agreement indicates the NCIRWMP will contain an appendix describing potential the linkages with economic development. This

agreement contained a brief description of this appendix (not available during this project), which was of interest because it “evaluates opportunities for sustainable development in the region - including alternative management structures and funding scenarios that support the region's ability to integrate economic growth with the protection and enhancement of natural resources”(p. 5).

The quality and functionality of integration and stakeholder coordination mechanisms are likely to influence achievement of the desired outcomes as well as issues of equity, effectiveness and efficiency. Techniques such as backcasting involve multiple stakeholders collaborating across and between levels. Evaluation may facilitate improvement of the coordination processes by uncovering unspecified or poorly specified institutional processes and structure. Clearly specified relationships may serve to improve coordination between efforts on local, watershed, regional, state and federal levels.

Evaluation and collaborative learning

Most of the recommendations in this section are complementary in nature and could be combined in an overall developmental program evaluation process (Patton, 1997).

These activities could build on the conflict assessment and development of communication mechanisms. One element of successful integrated efforts involves promoting participant knowledge and learning (Innes, 1999; Margerum, 1999).

Recommendations to achieve this objective would include development of an educational component with materials to promote participant learning and to improve knowledge

about integrated regional water management. These materials might include items presenting general principles of collaboration and integrated planning, rules and norms, and through collaborative learning processes, they could promote a shared understanding of the purpose, structure and processes of the NCIRWMP. Information specific to the NCIRWMP will promote shared understanding of the plan components and operation. Development of a collaborative learning component could involve up-front development costs for the preparation of materials, workshops and other activities. The benefits might include: improved collaboration in planning, implementation and monitoring activities; increased support, legitimacy and transparency; reduced power and information asymmetries; and improved potential for increased coordination and integration, and reduced costs for activities such as information gathering, monitoring and enforcement.

After convening the larger circle of stakeholders identified in the conflict assessment, the participants revisit the purpose, structure and processes to develop or refine measurable outcomes and indicators for each component. The components listed below appeared to be inconsistent or undefined, and could present barriers to achieving the plan outcomes if not clarified and communicated effectively.

Stakeholder and stakeholder roles

There are some logistical difficulties in maintaining current understandings in agreements during an evolving process. Maintaining agreements may be somewhat of a challenge when the components of the plan are undergoing continual or periodic refinement. One example of this is the description in the MoMU of the Technical

Review Panel, which was subsequently replaced by the Policy Review Panel and the Technical Peer Review Committee. The MoMU could potentially misinform a stakeholder who was relying on the document for information about the purpose, structure or process of the NCIRWMP.

The decision making process

Meetings have demonstrated the ongoing development of the decision making process for the Policy Review Panel and the Technical Peer Review Committee, however stakeholder influence in decision making authority is undefined. Involving stakeholders in decision making will require a clearly defined decision making process. Developing the committee structure, also known as increasing bandwidth, provides more opportunities for stakeholder involvement in various capacities (Straus, 1999).

Conflict identification and resolution procedures

Aside from the fact that an integrated plan, in theory, promotes conflict resolution and management, the publicly available data did not reveal specific conflict resolution mechanisms. The conflict resolution mechanisms need to be relatively low cost, local to the conflict and culturally appropriate (Hanna, 1995; Ostrom, 1995). Lack of attention to conflict identification and management is potentially the most serious weakness of the NCIRWMP found in this assessment. There are a number of possibilities for this situation including imbalances in political and economic power, and fear of increasing the intractability of existing conflicts. Failure to identify and manage conflict can lead to failure in integrated resource management (Bellamy et al., 1999; Margerum, 1999;

Rhoades, 2000). Water related conflicts such as water diversion and water export are highly charged issues in this region. Diversions from the Trinity, Klamath and Eel Rivers simultaneously generate benefits for the recipient consumers, and widespread social, environmental and economic impacts that are felt within the region and beyond (Ihara & Marshall, 2004; Stokely, 2005). As with other elements of integrated plans, addressing conflicts and key issues in a collaborative and transparent manner improves the likelihood of successful outcomes, builds support and legitimacy, and creates opportunities to maximize mutual gains and socially and environmentally optimal solutions.

Process for modifying institutional structure and processes

Evaluation literature indicates that the assessment developed for this research could be adapted and incorporated into an integrated water management plan to facilitate ongoing refinement of the plan processes to improve operation and to respond to changing conditions. The NCIRWMP is incorporating adaptive management for economic, social and ecological outcomes; a built-in developmental evaluation (Patton, 1997) could allow the plan to adapt in response to feedback about the effectiveness of the plan processes. This evaluation could take the form of a non-technical “integration assessment” to be used by stakeholders, officials and the public in order to understand and modify the plan processes to produce improved outcomes, greater equity, effectiveness and efficiency. The educational value of the assessment process to stakeholders and the general public would be an additional benefit.

Miscellaneous Recommendations

The Memorandum of Mutual Understandings, MoMU contains an ungrammatical sentence that is ambiguous at best, and misleading at worst. The sentence occurs twice in the document, first in section “3.6 Integration,” and later in section “5.4 .4 Approach to developing the IRWMP.”

The first phase would be to identify water management strategies for the region and the priority projects that work together *to demonstrate how these strategies work together* to provide reliable water supply, protect or improve water quality, provide watershed protection and planning, and provide environmental restoration and fisheries protection (*emphasis added*).

This sentence should be reworded to create a meaningful, unambiguous sentence. Removing the italicized phrase could possibly accomplish this, depending on the meaning originally intended.

There does not appear to be any reference to “reducing dependence on imported water” (DWR & SWRCB, 2004, p. 3) in the publicly available NCIRWMP data. While the North Coast Region is primarily a source of water supplies (Guivetchi, 2001), some areas of the region receive imported water (Ihara & Marshall, 2004). The recommendation here would be to include the phrase “reducing dependence on imported water” in the appropriate areas of the NCIRWM Plan, possibly including the following (Draft Plan Outline) sections: 2.1, Purpose; 6.0, Objectives; and 8.2.2 [Integration].

According to the SCRWCB staff, this is one of the five most important IRWM Grant program objectives (DWR & SWRCB, 2005).

Conclusions

Because the evaluation framework developed for this research project does not involve criteria specific to the North Coast Region, but rather compares the plan development processes with those associated with successful efforts, this framework may be useful in other IRWM plan efforts. Built-in evaluation mechanisms could form one component of ongoing development (program improvement) in institutions such as the NCIRWMP or the CEDS, but also of county or city general plans and other organizations seeking greater coordination, integration, communication and sustainability. In fact, the CEDS includes a six-part evaluation plan that appears to be well designed and which could prove to be an appropriate model for the NCIRWMP.

One of the more interesting aspects of this project emerged during the analysis phase, which required repeatedly going back to the literature to pursue a deeper understanding of certain concepts. This process revealed some rather remarkable similarities in theory from relatively distinct disciplines. For example, the technique of backcasting, discussed in the sustainability literature, follows much the same process utilized in program evaluation, and described in evaluation literature. Another example is the notion of balancing social, environmental and economic goals for the long term, often referred to as sustainability. Yet the literature describing integrated planning

approaches, based in part on balancing social, environmental and economic goals for the long term, seems to avoid using the sustainability label. Collaboration and stakeholder participation is another common theme running through the literature on sustainable development, natural resources policy, program evaluation and integrated planning. The concept of an outcome-based governance system brings many of these ideas together. Stakeholder collaboration, integration, evaluation and an overarching goal of sustainability may produce better outcomes when combined in an integrated system than as individual strategies.

It became apparent during this research that the time available for plan development was a big factor in the NCIRWM planning process. The literature indicated that it takes time to develop collaborative efforts such as integrated water management plans (Cormick et al., 1996; Susskind, 1999; Weber, 2003), however there was little discussion about the compromises that may be necessary when time is limited. When an integrated planning effort has funding or time limitations, it would be valuable to know how to prioritize activities in order to develop a functional plan. Could the effort be phased, and if so, how would this be accomplished? Success in integrated planning ultimately may require shifting the focus from “avoiding costs” to developing equitable, efficient combinations of strategies that “pay for themselves” through generating additional benefits, i.e., “sustainability dividends.”

There is recognition by many researchers, practitioners and stakeholders involved with water resource issues that integrated water management planning is a promising approach. Indeed, a number of federal and California state agencies are actively

supporting the development of integrated regional water management plans.

Development of educational and assessment tools will help stakeholders, plan developers and the general public to understand and to participate meaningfully in integrated water management and other planning efforts. Through collaborative development of an overarching goal of sustainability, an integrated planning effort such as the NCIRWMP may be able to improve its potential for coordination and operational compatibility with other local and regional planning efforts. In the case of water policy and “Prosperity” in Humboldt County, the North Coast Integrated Regional Water Management Plan appears to be compatible with the Comprehensive Economic Development Strategy, and has the potential to coordinate effectively with other entities provided the coordination mechanisms and operational compatibility are jointly developed, implemented and refined on an ongoing basis.

APPENDIX A

SOURCES AND DESCRIPTION OF NORTH COAST INTEGRATED REGIONAL WATER MANAGEMENT PLAN DATA

Appendix A lists sources and descriptions of NCIRWMP data alphabetically by the name used in the text of the project write-up. Following the name is the reference information. The documents most significant for this study are included in Appendix B. Many of the other texts have been submitted to the HSU Library Humboldt Room where they may be consulted along with this bound project. These texts will also be available as the unbound portion of the project through the HSU Environment and Community Program (E & C) Office, Department of Government and Politics.

April Meeting (2005). Meeting held at Humboldt County Office of Education, Eureka, CA.

This data source was the NCIRWMP Policy Review Panel & Technical Peer Review Committee Meeting, held April 28, 2005 from 9:00 a. m. through 5:00 p. m attended by Policy Review Panel (PRP) and Technical Peer Review Committee (TPRC) members, Circuit Rider Production consultants, Sonoma County Water Agency staff and several members of the public. The meeting data includes the meeting agenda, handouts distributed at the meeting, and the researcher's observational notes. The Agenda was

posted April 14, 2005 on the NCIRWMP Website. Morning PRP & TPRC meeting agenda items included: Introductions; revise agenda; new information from the state; emerging themes; projects overview; review process; and planning grant process. Afternoon TPRC meeting agenda items included: introductions; discuss/confirm outcomes and direction from the morning meeting; define the mechanics of the review process; set future meetings and agendas. Minutes were recorded on a computer and projected concurrently on a screen visible to all in the room. The hand-outs included: the "Draft Conceptual Framework for the NCIRWMP"; "NCIRWMP Handout"; "Project Prioritization and Review Process [April]"; "Siskiyou Memo"; "Project Scoring Sheet"; "Project Statistics"; "PRP & TPRC Members".

April Meeting Minutes (2005). Minutes April 28 2005 NCIRWMP. Retrieved May 13, 2005, from <http://www.northcoastirwmp.net.php>. (Available at the HSU Library Humboldt Room and through the E & C Office).

See April Meeting.

April Meeting Notes (2005). Notes on the April 28 Meeting of the Policy Review Panel & Technical Peer Review Committee, NCIRWMP. Humboldt County Office of Education, Eureka, CA. (Available at the HSU Library Humboldt Room and through the E & C Office).

See April Meeting.

BOS Prop. 50 Staff Report (October 12 2004). Humboldt County Board of Supervisor's Staff Report: Re Proposition 50 MoMU, Humboldt County Community Development Department: Retrieved October 27, 2004, from <http://co.humboldt.ca.us/board/agenda>.

This document is a staff report from Kirk Girard, Community Development Services Director for the Board of Supervisor's meeting of October 26, 2004. It recommends signing the MoMU (attached) to participate in the development of the North Coast IRWMP, signing the Memorandum of Understandings to participate in local water and wastewater infrastructure planning, appointing two board members to a Proposition 50 sub-committee, and authorizing County participation in submittal of a Proposition 50 Planning grant. The report includes background information and discussion of the following issues: #1. Humboldt County's local water management planning needs; #2. Watershed restoration project funding; #3. Wording of the MOU [sic - refers to MoMU] and Decision-making of the signatories; #4. Water and wastewater infrastructure planning; #5. Participation and decision-making in the regional plan process; #6. Coordination of local participation in the regional plan process. In addition, it lists other agency involvement, and includes attachments, referenced separately, as applicable to this study: Attachment 1. Water Bond Coalition County of Humboldt Priority Projects; Attachment 2. Proposed Regional Plan Memorandum of Mutual Understandings (See MoMU); Attachment 3. Description of General Plan Water and Wastewater Infrastructure Planning Needs; Attachment 4. Description of General Plan Water Resources Element Planning Needs; Attachment 5. Circuit Rider Productions Consulting

Scope of Work for the Initial Regional Plan (see Phase 2 Agreement); Attachment 6.

Draft Regional Plan Standards for Final Regional Plan; Attachment 7. Letter from Randy Poole (SCWA) to your Board [was not attached to Staff report]; Attachment 8. Proposed Local Memorandum of Understandings for Coordinated Water and Wastewater Planning.

Draft Conceptual Framework (April 2005). Collected at April 28, 2005 Meeting.

(Available at the HSU Library Humboldt Room and through the E & C Office).

Also see April Meeting.

Draft Plan Outline (2005). North Coast Integrated Regional Water Management Plan

[Outline, Review Draft Only]. Retrieved February 23, 2005, from

<http://www.northcoastirwmp.net.php>. (See Appendix B).

This document is a draft outline for the North Coast Integrated Regional Water Management Plan, and is a review draft only, for the purpose of public review and comment. It outlines the major sections of the plan, including elements required by the Proposition 50 IRWM Plan Standards. Main headings: 1.0 Executive Summary; 2.0 Introduction and Purpose; 3.0 Regional Setting; 4.0 Framework/Conceptual Model; 5.0 Need for North Coast Integrated Planning; 6.0 Objectives for the North Coast IRWMP; 7.0 Organization and Roles for the North Coast IRWM Planning Process; 8.0 Development Process; 9.0 Management Strategies; 11.0 Evaluation and Measurement Mechanisms; 12.0 IRWMP summary and future actions; 13.0 Resolutions of support from submitting agencies; Appendices; Additional notes for discussion/potential future

components. Some of the sections include details, while other sections reflect language from the State Plan Standards.

ERRC Meeting (March 3, 2005). Eel-Russian River Commission, River Lodge Conference Center, Fortuna, CA. (Available at the HSU Library Humboldt Room and through the E & C Office).

This data source was the Eel-Russian River Commission Meeting held March 3, 2005 from 10:00 a. m. to 1:00 p. m. The meeting data includes the agenda, the printed slides of the plan consultant's presentation on the NCIRWMP, and observational notes.

February Update (2005). Retrieved February 19, 2005, from <http://www.northcoastirwmp.net.php>. (Available at the HSU Library Humboldt Room and through the E & C Office).

This is an email to NCIRWMP interested parties from the plan consultants.

Long Background Text (2005). Retrieved January 11, 2005, from <http://www.northcoastirwmp.net.php>. (See Appendix B).

This document gives a brief description of the NCIRWMP purpose, structure and process.

March Meeting (2005). March Review Panel Meeting, held at the River Lodge Conference Center, Fortuna, CA.

This data source was the NCIRWMP Review Panel Meeting held March 3, 2005 from 1:30- 4:00 p. m. The meeting data includes the meeting agenda, hand-outs distributed at the meeting, the researcher's observational notes, and the published minutes of the meeting. The agenda was posted on the NCIRWMP website March 1, 2005. Agenda items included: welcome and introductions; Review Preferred Representation Concept; Overview of Regional Purpose; a presentation by DWR staff; Elections; Draft Outline for North Coast IRWMP; Draft Prioritization & NCIRWMP Plan Review Process; Grand Application Submission & Funding Agreement; Other Issues/Items of Interest; Public Comment. The handouts included the "NCIRWMP Proposed Project Prioritization and NCIRWMP Review Process" and the "NCIRWMP Schedule - March to May 2005".

March Meeting Minutes (2005). Minutes of the March Review Panel Meeting. River Lodge Conference Center, Fortuna, CA. Retrieved March 19, 2005, from <http://www.northcoastirwmp.net>. (Available at the HSU Library Humboldt Room and through the E & C Office).

See March Meeting.

March Meeting Notes (2005). Notes on the March 3 Review Panel Meeting. River Lodge Conference Center, Fortuna, CA. (Available at the HSU Library Humboldt Room and through the E & C Office).

See March Meeting.

March Update (March 2005). Project Editing and New Projects Memo - March 10, 2005, Received March 16, 2005 via NCIRWMP email list. Available at <http://www.northcoastirwmp.net.docs.php>. (Available at the HSU Library Humboldt Room and through the E & C Office).

This is an email to parties interested in the NCIRWMP from Circuit Rider Productions on March 10, 2005. It covers the implementation project application process, the coastal watershed planning process, the review panel, project review and prioritization.

MoMU (August 2004). Memorandum of Mutual Understandings: IRWMP. Retrieved October 27, 2004, from <http://co.humboldt.ca.us/board/agenda/questys>. (Available at <http://www.northcoastirwmp.net.docs.php>, and in Appendix B.

This document establishes the mutual understandings the signatories. It outlines the purpose of the agreement, the goals of the proposed North Coast Integrated Regional Water Management Plan (IRWMP), provides definitions of: integrated regional water management plan; agency; service function; project; management plan; integration; North Coast Technical Review Panel. It describes the IRWMP project participants. Mutual understandings are described: need for a North Coast IRWMP; subject matter and geographical scope; development approach; decision-making; approval; non-binding nature; personnel and financial resources; other ongoing efforts; reports and communications; termination.

NCIRWMP Handout (2005). One page description of setting, participants, themes, strategies and approach. Collected at April 28, 2005 Meeting. (Available at the HSU Library Humboldt Room and through the E & C Office).

See April Meeting.

NCIRWMP Website (2004). Website for the North Coast Integrated Regional Water Management Plan, <http://www.northcoastirwmp.net>. Accessed January - May 2005.

This source is a website intended as the main mechanism for keeping partners [and interested parties] informed about the IRWMP process. It provides background materials, a calendar of events, frequently asked questions, contact information, an interactive mapping system and online project application.

Phase 2 Agreement (September 2004). Agreement for North Coast Integrated Water Management Plan Development Services - Phase 2, Sonoma County Water Agency & Circuit Rider Productions. See also BOS Prop. 50 Staff Report (Available at the HSU Library Humboldt Room and through the E & C Office).

This agreement between SCWA - Sonoma County Water Agency, "Agency" and Circuit Rider Productions, Inc., "Consultant", outlines recitals and attachments. The attachments describe: the scope of work; schedule of rates; statement of qualifications; estimated breakdown of costs. Attachment A. Scope of Work. Outreach and Project Identification Completion (Phase 1 began this task, that agreement was not available); Task B. GIS Development; Task C. Website final development; Task D. Convene

Technical review panel (TRP); Task E. Review and summarize watershed plans and efforts in the region; (apparently mislabeled, no task F.) Task G. Develop criteria for project integration; Task H. Draft plan development; Task I. Final IRWMP; Task J. Develop appendix to IRWMP.

Project Prioritization and Review Process (April 2005). Project Prioritization and NCIRWMP Review Process, Collected at April 28, 2005 Meeting. (See Appendix B). Available at <http://www.northcoastirwmp.net.php>.

Describes the agreed upon process to be used by the Technical Peer Review Committee for reviewing and prioritizing the projects submitted for inclusion in the NCIRWMP. It also describes the framework for drafting the NCIRWM.

Project Template (2005). IRWMP Project Template. Retrieved January 28, 2005, from <http://www.northcoastirwmp.net.php>. (Available at the HSU Library Humboldt Room and through the E & C Office).

This is an online application to be used by project proponents for uploading their projects to the NCIRWMP website. See also NCIRWMP Website.

Project Upload (2005). Memo to Interested Parties re: Project Upload. Received February 17, 2005 via NCIRWMP email list. (Available at the HSU Library Humboldt Room and through the E & C Office).

This memorandum from the plan consultants Circuit Rider Productions extends an offer of assistance with uploading projects to the NCIRWMP Website, and to answer questions. The text answers some of the more frequent questions the consultants received.

APPENDIX B

NORTH COAST INTEGRATED REGIONAL WATER MANAGEMENT PLAN
DOCUMENTS

Draft Plan Outline 107

Long Background 116

MoMU 118

Project Prioritization and Review Process 123

[Draft Plan Outline]

North Coast Integrated Regional Water Management Plan

- 1.0 Executive Summary
- 2.0 Introduction
 - 2.1 Purpose of the North Coast Integrated Regional Water Management Plan (IRWMP)
 - 2.1.1 To promote a regional and integrated approach to water management
 - 2.1.2 To develop a comprehensive plan to facilitate regional cooperation in providing water supply reliability, water recycling, water conservation, water quality improvement, storm water capture and management, flood management, recreation and access, wetlands enhancement and creation, and environmental and habitat protection and improvement.
 - 2.1.3 To foster coordination, collaboration and communication among North Coast agencies and organizations responsible for water-related issues and interested stakeholders to achieve greater efficiencies, enhance public services, and build public support for vital plans and projects.
 - 2.1.4 Provide a regional voice for otherwise separate agencies to improve policies, regulations and laws related to water supply, water quality, flood control, and sanitation that directly affect the North Coast IRWMP cooperating participants.
 - 2.1.5 Provide for integration of projects at a regional level that have widespread public and agency support for implementation.
 - 2.1.6 Provide a regional approach to achieve water supply, water quality, and flood control efficiency and reliability while simultaneously protecting and enhancing the regional natural environment.
 - 2.1.7 Provide a regional approach to coordinate those agencies that have jurisdiction over water supply, water quality, natural resources, flood control, and sanitation, such that those agencies missions are fully promoted and maximized.
 - 2.1.8 Promote and foster collaboration between regional water supply entities to maximize the reliability of regional water supplies.
 - 2.1.9 Provide a regional framework for addressing water quality concerns including identified studies and programs aimed at

improving water quality for human consumption and the environment.

2.1.10 Identify studies and programs aimed at reducing the impacts of flooding on property while maximizing the benefits to the environment.

2.1.11 Provide a regional mechanism to coordinate and implement programs and projects to protect, restore, and enhance habitat for endangered salmonid populations.

3.0 Regional Setting

3.1 Description of the North Coast Region (*Appendix A.B*)

3.1.1 Describe the general characteristics of the Region

3.1.2 Describe the watersheds that make up the Region

3.1.3 Explain why the region is an appropriate area for integrated regional water management.

3.1.4 Describe internal boundaries within the region (boundaries of municipalities; service areas of individual water, wastewater, and land use agencies, including those not involved in the North Coast IRWMP; groundwater basin boundaries, watershed boundaries, county boundaries, etc.), major water related infrastructure, and major land-use divisions.

3.1.5 Describe the range of conditions for quality and quantity of water resources within the region, including surface waters, groundwater, reclaimed water, imported water, and desalted water.

3.1.6 Describe water supplies and demand for a minimum 20-year planning horizon.

3.1.7 Describe important ecological processes and environmental resources within the regional boundaries and the associated water demands to support environmental needs.

3.1.8 Describe the social and cultural makeup of the regional community; identify important cultural or social values.

3.1.9 Describe economic conditions and important economic trends within the region.

3.1.10 Describe relevant laws and contractual obligations relative to water quality and quantity management

3.1.11 Describe role of IRWMP in Region

3.2 Summary of existing watershed planning efforts (regional and watershed/county-specific) – definition of how these plans fit within the North Coast IRWMP process.

3.2.1 Federal Plans

3.2.1.1 NOAA Fisheries Salmon Recovery Plans

3.2.2 State and Regional Plans

- 3.2.2.1 RWQCB Basin Plans
 - 3.2.2.2 SWRCB Watershed Management Initiative
 - 3.2.2.3 CDFG Coho Recovery Plan
 - 3.2.2.4 TMDLs
 - 3.2.2.5 Watershed management plans
 - 3.2.2.6 Integrated resource plans
 - 3.2.2.7 Other regional planning efforts
 - 3.2.3 County-specific Plans
 - 3.2.4 Watershed Plans
 - 3.2.5 Categorical Plans
 - 3.2.5.1 Urban water management plans
 - 3.2.5.2 Habitat conservation plans
 - 3.2.5.3 Multi-species conservation plans
 - 3.2.5.4 Groundwater management plan
 - 3.2.5.5 Floodplain management plans
- 3.3 Identification of key water management issues
 - 3.3.1 Regional
 - 3.3.2 Watershed
 - 3.3.3 Sub-Watershed
 - 3.3.4 County
- 3.4 Potential future watershed planning efforts (increased collaboration within North Coast IRWMP process)
- 3.5 Identification of key water management issues
 - 3.5.1 Regional
 - 3.5.2 Watershed
 - 3.5.3 Sub-Watershed
 - 3.5.4 County
- 4.0 Framework/Conceptual Model of Integrated Planning for the North Coast Region
 - 4.1.1 Relationship of North Coast IRWMP to other planning efforts for the North Coast region (integrated approach at regional scale that supports local autonomy, planning. Broad resolution at regional scale, detailed planning at local scale – watershed, county, etc)
 - 4.1.2 Note “adaptive management” nature of the NCIRWMP.
 - 4.1.3 Discuss the process for modifying priorities in response to regional changes. (*Appendix A.F*.)] Describe how the North Coast IRWMP will meet:
 - 4.1.3.1 State priorities (*Appendix A.L*)
 - 4.1.3.2 Local priorities (*Appendix A.M*)
- 5.0 Need for North Coast Integrated Planning

- 5.1.1 Summary of water-related and environmental need in the North Coast Region.
 - 5.1.2 Summary of historic approach to water and natural resource planning in the region. Describe the need for integrated planning in the region.
 - 5.1.3 Relationship of North Coast IRWMP needs to State and federal priorities
 - 5.1.4 Relationship of North Coast IRWMP and other watershed management efforts
- 6.0 Objectives for the North Coast IRWMP
 [Identify North Coast IRWMP objectives that are specific, achievable and measurable. Describe the manner in which they were determined; address major water related objectives and conflicts within the region, including, at a minimum, water supply, groundwater management, ecosystem restoration, and water quality (*Appendix A.C*)]
- 6.1 Short-term and long-term priorities for implementation of the North Coast IRWMP.
 - 6.1.1 Short Term Priorities
 - 6.1.2 Long Term Priorities
- 7.0 Organization and Roles for the North Coast IRWM Planning Process
- 7.1.1 Regional Water Management Group
 - 7.1.1.1 Authorization
 - 7.1.2 Review Panel
 - 7.1.2.1 Technical Peer Review
 - 7.1.2.2 Advisory Committees
 - 7.1.3 Project Staff
 - 7.1.4 Member organizations and roles (*Appendix A.A*) – member agencies and organizations and their management responsibilities related to water, including but not limited to, public agencies, not-for-profit organizations, and privately owned water utilities regulated by the Public Utilities Commission
 - 7.1.4.1 State agencies
 - 7.1.4.1.1 SWRCB, DWR, RWQCB, DHS, Coastal Conservancy, and CDFG are encouraging regional efforts to address water resources issues (see MOU for Cal-EPA and SWRCB) (*Appendix A.O*)

- 7.1.4.1.2 Acknowledge and credit the various state entities that are committed to developing a framework for IRWMPs
- 7.1.4.1.3 Acknowledge the state legislature's efforts to include Integrated Regional Water Management Planning in Proposition 50, as well a commitment to include funding set-asides for IRWMPs in proposed future bond efforts
- 7.1.4.1.4 Acknowledge state legislators' support of the North Coast Region as a model to work in conjunction with state and local entities in the development of an IRWMP
- 7.1.4.2 Regional and local agencies**
 - 7.1.4.2.1 Broad Partnership of local/regional agencies and not-for-profit organizations responsible for development and implementation of the North Coast IRWMP
 - 7.1.4.2.2 Acknowledge local efforts in Northern and Coastal California that resulted in the formation of the Water Bond Coalition. Acknowledge that the Water Bond Coalition was initiated in response to input from state legislators requesting a process whereby regional and local entities define and prioritize their water resources needs for funding.
 - 7.1.4.2.3 Acknowledge regional efforts by local entities, including cities, counties and special districts that are at the forefront in developing and implementing projects and programs for environmental restoration and fisheries protection, water supply planning and reliability, flood protection, and watershed protection and planning.
 - 7.1.4.2.4 Acknowledge the regional entities that recognize the need to coordinate and collaborate on a regional basis to plan and address regional water resources issues as identified above
 - 7.1.4.2.5 Acknowledge role of voters (Proposition 50, relative to this chapter)
- 7.1.4.3 Environmental organizations and watershed groups**
 - 7.1.4.3.1 Acknowledge that national and regional environmental organizations are supportive of regional efforts to develop IRWMPs.

- 7.1.4.3.2 Address regional partners' outreach efforts to gain support of additional environmental organizations.
 - 7.1.4.4 Tribes and tribal organizations
 - 7.1.4.5 Industrial and Agricultural Organizations
 - 7.1.4.6 Community (landowners, citizens groups, general public)
- 8.0 Development Process: North Coast IRWMP
- 8.1 Outreach and stakeholder involvement (*Appendix A.N*)
 - 8.1.1 Process for collaboration, coordination, cooperation, and communication among regional partners in the preparation of the North Coast IRWMP
 - 8.1.2** Process for meetings, public outreach, and local coordination in the development of the North Coast IRWMP (stakeholder involvement, website, workshops, MoMU, resolutions of support)
 - 8.1.3 Multi-modal outreach– ongoing communication tool
 - 8.1.4 Informing constituencies
 - 8.2 Major North Coast IRWMP Strategies and Issues Analysis (*Appendix A.D*)
 - 8.2.1 Strategies developed from four major sources:
 - 8.2.1.1 Outreach to state, regional and local public agencies to gain an understanding of their vision and priorities for the region
 - 8.2.1.2 Outreach to regional and local environmental organizations and watershed groups to gain an understanding of regional environmental priorities
 - 8.2.1.3 Outreach to interested stakeholder groups (landowner organizations, tribal organizations, agricultural groups, industry groups)
 - 8.2.1.4 Regional and Local Issues Analysis
 - 8.2.1.4.1 Data Analysis
 - 8.2.1.4.1.1 Data input
 - 8.2.1.4.1.2 Data analysis
 - 8.2.1.4.1.3 Data gap identification
 - 8.2.2 Discuss how these strategies/themes work together to provide reliable water supply, protect or improve water quality, and achieve other objectives. Include a discussion of the added benefits of integration of multiple water management strategies. (*Appendix A.E*)
 - 8.2.3 Identify the agency(ies) responsible for project implementation and clearly identify linkages or interdependence between projects.
 - 8.2.4 Themes include:
 - 8.2.4.1 Environmental restoration and fisheries protection

- 8.2.4.2 Watershed protection and planning
- 8.2.4.3 Water supply reliability
- 8.2.4.4 Clean water and water recycling (as defined by the Water Bond Coalition)
- 8.3 North Coast IRWMP Project Identification and Selection Process
 - 8.3.1 Project identification process: Development and Submittal
 - 8.3.2 Evaluation, Screening, and Ranking
 - 8.3.3 Project Selection, Funding, and Implementation
 - 8.3.4 North Coast IRWMP long-term adaptive management framework:
 - 8.3.4.1 Monitoring feedback
 - 8.3.4.2 Planning for future projects
- 9.0 Prioritized Projects for the North Coast IRWMP
 - 9.1.1 Areas of focus
 - 9.1.2 Geography
 - 9.1.3 Implementation scope, scale, and timeline
 - 9.1.4 Identify the agency(ies) responsible for project implementation and clearly identify linkages or interdependence between projects. (*Appendix A.G*)
 - 9.1.5 Demonstrate economic and technical feasibility on a programmatic level. Identify the current status of each element of the North Coast IRWMP, such as existing infrastructure, feasibility, pilot or demonstration project, design completed, etc.
 - 9.1.6 Identify the institutional structure that will ensure North Coast IRWMP implementation.
 - 9.1.7 Describe funding needs and alternative funding sources
 - 9.1.7.1 Current funding sources (eg. CDFG, 319h, SWRCB, DWR, EPA, NOAA, private foundations)
 - 9.1.7.2 Potential funding sources (bonds, future IRWMP funding)
 - 9.1.7.3 North Coast IRWMP submittal of Planning Grant
 - 9.1.8 Describe ongoing support and financing for operation and maintenance of implemented projects (*Appendix A.K*)
 - 9.1.9 Cost estimates, match, schedule and timeline
 - 9.1.10 Environmental Compliance
 - 9.1.11 Project Maintenance and Monitoring
- 10.0 North Coast IRWMP Management Strategies: how does the North Coast IRWMP (including prioritized projects) address Major Regional Strategies
 - 10.1 Environmental Restoration and Fisheries Protection
 - 10.1.1 Regional Definition and Goals and Chapter Summary
 - 10.1.1.1 Wetlands Projects
 - 10.1.1.2 Fisheries Enhancement Projects

- 10.1.1.3 Habitat Restoration Projects
 - 10.1.1.4 Water Use Efficiency and Demand Reduction Projects
 - 10.1.1.5 Water Conservation Programs
 - 10.1.2 Integration of above with other North Coast IRWMP Management Strategies
 - 10.1.3 Location of Projects within Region
- 10.2 Watershed Protection and Planning
 - 10.2.1 Regional Definition and Goals and Chapter Summary
 - 10.2.1.1 Water Management Projects
 - 10.2.1.2 Stormwater capture and management
 - 10.2.1.3 Watershed planning
 - 10.2.1.4 NPS pollution control
 - 10.2.1.5 Flood Protection Projects
 - 10.2.1.6 Non-Point Source Pollution Projects
 - 10.2.1.7 Watershed Education/Outreach Programs
 - 10.2.1.8 Urban Stream Restoration Projects
 - 10.2.1.9 Recreation and Public access
 - 10.2.2 Location of Projects within Region
 - 10.2.3 Individual Project Descriptions with Timeline and Funding Need (show as a table that shows how they cross categories)
- 10.3 Water Supply Reliability
 - 10.3.1 Regional Definition and Goals and Chapter Summary
 - 10.3.2 Water Supply Reliability Projects
 - 10.3.2.1 Drinking Water Projects and water treatment
 - 10.3.2.2 Groundwater Management Projects
 - 10.3.2.3 Water supply
 - 10.3.2.4 Desalination Projects
 - 10.3.2.5 Location of Projects within Region
 - 10.3.2.6 Integration with other North Coast IRWMP Management Strategies
- 10.4 Clean water and water recycling (as defined by the Water Bond Coalition)
 - 10.4.1 Regional Definition and Goals and Chapter Summary
 - 10.4.1.1 Water Quality Projects (protection and improvement)
 - 10.4.1.2 Sanitation Projects/wastewater treatment
 - 10.4.1.3 Water Reuse Projects
 - 10.4.1.4 Location of Projects within Region
 - 10.4.1.5 Integration with other North Coast IRWMP Management Strategies

- 11.0 North Coast IRWMP Evaluation and Measurement Mechanisms
- 11.1 Discuss at a screening level the impact and benefits from North Coast IRWMP implementation. Include an evaluation of potential impacts within the region and in adjacent areas from North Coast IRWMP implementation. (*Appendix A.H*)
- 11.2 Identify the advantages of the regional plan; including a discussion of the added benefits of the regional plan as opposed to individual local efforts. Identify which objectives necessitate a regional solution. Identify interregional benefits and impacts.
- 11.3 Discuss critical impacts that will occur if the proposal and/or individual projects are not implemented
- 11.4 Describe the impacts and benefits to environmental justice or disadvantaged communities.
- 11.5 Include an evaluation of impacts/benefits to other resources, such as air quality or energy.
- 11.6 Assess the state of existing monitoring efforts for water quantity and water quality, and identify data gaps where additional monitoring is needed (*Appendix A.J*)
- 11.7 Methodologies: Data, technical methods, and analyses used in development of the North Coast IRWMP.
- 11.8 Outline Project Assessment and Evaluation Plan (PAEP) Include a discussion of measures that will be used to evaluate Project/Plan performance, monitoring systems that will be used to gather performance data, and mechanisms to adapt project operations and North Coast IRWMP implementation based on performance data collected. PAEP will discuss the metrics to be used to show quantifiable improvements in water quality or water supply.
- 12.0 IRWMP summary and future actions
- 13.0 Resolutions of support from submitting agencies

Appendices

Additional Notes for discussion/potential future components:

- Programmatic indicators
- Resource indicators – e.g., historical presence/absence, status of physical habitat, access/barriers
- Discuss how the IRWMP will be used to make decisions.

[Long Background Text]

North Coast Integrated Regional Water Management Program

Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002, is a Water Bond initiative approved by California voters in November 2002 [\[link to Prop 50\]](#). The Integrated Regional Water Management Grant Program is a new program under Chapter 8 of Proposition 50 and includes \$380 million for the development of Integrated Regional Water Management Plans (IRWMPs) and for the funding of projects included within them. Additionally, legislation under this Chapter requires that not less than 40% of IRWM Grant Program funding be awarded to Northern California communities. [\[link to Integrated Regional Water Management Guidelines Draft\]](#)

Support for the development of an IRWMP for the North Coast region has been received from local legislators, Senator Chesbro and Assembly Member Berg. [\[link to pdf of letter\]](#) Additionally, state and federal elected representatives have indicated that future bonds and financing sources outside of bond funding will likely be allocated to projects and programs included within an IRWMP.

To this end, non-profit organizations, North Coast Coalition water suppliers, sanitation districts, cities, counties, and flood control agencies in addition to stakeholders including environmental and business interests, are working together to coordinate the preparation of an IRWMP for the North Coast region. By taking a shared, regional approach to water resources planning, the North Coast IRWMP will work to find a solution that effectively manages water resources, promotes environmental and fisheries protection, assures beneficial water reuse and clean water supplies, and promotes watershed protection and planning throughout the region. A draft plan is scheduled for completion in the Spring of 2005.

The goals of the North Coast IRWMP are (1) to develop a comprehensive plan to facilitate regional cooperation in providing water supply reliability, water recycling, water conservation, water quality improvement, storm water capture and management, flood management, recreation and access, wetlands enhancement and creation, and environmental and habitat protection and improvement; (2) to foster coordination, collaboration and communication among North Coast agencies responsible for water-related issues and interested stakeholders to achieve greater efficiencies, enhance public services, and build public support for vital plans and projects; and (3) to improve regional competitiveness for state and federal grant funding.

Your agency/organization is invited to:

Become a signatory to the Memorandum of Mutual Understanding (MOMU) [\[link to MOMU\]](#) toward developing a North Coast Integrated Regional Water Management Plan. By signing onto the MOMU we increase the potential for North Coast projects to be eligible for funding under Chapter 8 of Proposition 50 by demonstrating that these projects are tied to a cooperative, coordinated IRWMP effort currently underway. [\[link to MOMU and invite signatories here\]](#)

Upload an eligible project for inclusion in the North Coast IRWMP. [\[link to the Upload Project template\]](#)

August 20, 2004
1 of 6

Memorandum of Mutual Understandings **Integrated Regional Water Management Plan**

1. PURPOSE

The purpose of this document is to establish the mutual understandings of North Coast area agencies with respect to their joint efforts towards developing a North Coast Integrated Regional Water Management Plan (IRWMP) that will increase regional coordination, collaboration and communication and help in obtaining funding for water-related projects.

2. GOALS

The goals of the IRWMP are:

- 2.1. To develop a comprehensive plan to facilitate regional cooperation in providing water supply reliability, water recycling, water conservation, water quality improvement, storm water capture and management, flood management, wetlands enhancement and creation, and environmental and habitat protection and improvement.
- 2.2. To foster coordination, collaboration and communication between North Coast agencies responsible for water-related issues and interested stakeholders, to achieve greater efficiencies, enhance public services, and build public support for vital projects.
- 2.3. To improve regional competitiveness for State and Federal grant funding.

3. DEFINITIONS

3.1. **Integrated Regional Water Management Plan.** The plan envisioned by state legislators and state resource agencies that integrates the projects and management plans of all water-related agencies and stakeholders in a region, in this case the North Coast Region, in order to foster coordination, collaboration and communication among those entities and to assist decision-makers in awarding grants and other funding. The plan will address water supply, water quality, wastewater, stormwater/flood control, watershed planning and aquatic habitat protection and restoration.

3.2. **Agency.** A public entity, be it a special district, city or other governmental entity, responsible for providing one or more services in the areas of water supply, water quality, wastewater, recycled water, water conservation, stormwater/flood control, watershed planning and aquatic habitat protection and restoration.

3.3. **Service function.** A water-related individual service function provided by an agency, i.e. water supply, water quality, wastewater, recycled water, water conservation, stormwater/flood control, watershed planning, and aquatic habitat protection and restoration.

3.4. **Project.** A comprehensive list of resource projects or programs, in need of funding that addresses: water supply, water quality, wastewater, stormwater/flood control, watershed planning or aquatic habitat protection and restoration.

3.5. **Management plan.** An agency's or organization's plan, based in part on the land-use plans within the entity's jurisdiction, that addresses how that entity will provide service in the future in one or more of the following service functions: water supply, water quality, wastewater, recycled water, water conservation, stormwater/flood control, watershed planning or aquatic habitat protection and restoration.

3.6. **Integration.** Assembling into one document the water-related management strategies, projects and plans in the North Coast Region. The first phase would be to identify water management strategies for the region and the priority projects that work together to demonstrate how these strategies work together to provide reliable water supply, protect or improve water quality, provide watershed protection and planning, and provide environmental restoration and fisheries protection. Projects and plans would be categorized and opportunities to identify regional benefits of linkages between multiple water management strategies among projects and plans of separate service functions and to see where projects and plans of separate service functions may further interrelate, e.g. wastewater treatment and water recycling or habitat restoration.

3.7. **North Coast Technical Review Panel.** The panel comprised of representatives from each North Coast County appointed by IRWMP participants in the North Coast Region to compile and integrate projects and management plans of the North Coast region. Review panel members will define the process of compilation and integration including format, schedules and ground rules to ensure process consistency and uniformity.

4. IRWMP PROJECT PARTICIPANTS

4.1. **Public agencies.** Public agencies, which have developed projects and management plans, are responsible to their respective electorates, and are devoting staff to the process, will take the lead as described in "Approach to developing the IRWMP" below. These agencies will be the signatories to this memorandum of mutual understandings.

4.2. **Contributing entities.** Other entities, such as business and environmental groups, are considered valuable contributors and will continue to be invited and encouraged to participate and will be invited to be signatories to this memorandum of mutual understandings.

4.3. **Regulatory agencies.** These agencies, such as the North Coast Regional Water Quality Control Board, Coastal Conservancy, and Department of Fish and Game, will be invited to participate. If they cannot participate in work meetings, representatives of the technical review panel will keep them advised of project and plan progress and seek guidance as needed.

5. MUTUAL UNDERSTANDINGS

5.1. Need for a North Coast IRWMP

5.1.1. To foster increased coordination, collaboration and communication between North Coast water-related agencies and interested stakeholders that may result in more effectively managed resources, cost efficiencies and better service to the public.

5.1.2. Also, representatives of state resource agencies and state legislators have suggested that qualification of some state grants and other funding criteria will require development and implementation of Integrated Regional Water Management Plans.

5.2. **Subject matter scope of the IRWMP.** The IRWMP will include, but may not necessarily be limited to, water supply, water quality, wastewater, recycled water, water conservation, stormwater/flood control, watershed planning and aquatic habitat protection and restoration. It is acknowledged that the management plans of each individual public agency are based, in part, on the land-use plans within an agency's jurisdiction. Therefore, the resultant IRWMP will by design have incorporated the land-use plans and assumptions intrinsic to the respective water-related service function.

5.3. **Geographical scope of the IRWMP.** The North Coast Region for this Memorandum is defined as the seven North Coast counties – Del Norte, Siskiyou, Humboldt, Trinity, Lake, Mendocino and Sonoma – even though some areas of some counties and individual agencies may lay outside the North Coast hydrologic region.

5.4. Approach to developing the IRWMP

5.4.1. A reasonable approach towards developing the IRWMP is first for the participants involved to create a technical review panel whose members work together to compile their individual projects and management plans to see where cooperative efforts could be employed. The panel would also work to identify needs and list projects that may qualify for funding under various state and federal grant and loan programs.

5.4.2. The proposed forum for this regional planning effort is through the associations, coalitions, or other entities to which the majority belong, inviting others agencies and entities to participate in the effort.

5.4.3. The technical review panel should refer to any already completed and ongoing compilation efforts for information and input.

5.4.4. Once there has been a compilation of projects and plans for the separate, service function areas, the North Coast technical review panel will place all the projects and plans into one integrated document. As stated above in “definitions,” the first phase would be to identify water management strategies for the region and the priority projects that work together to demonstrate how these strategies work together to provide reliable water supply, protect or improve water quality, provide watershed protection and planning, and provide environmental restoration and fisheries protection. Projects and plans would be categorized and opportunities to identify regional benefits of linkages between multiple water management strategies among projects and plans of separate service functions and to see where projects and plans of separate service functions may further interrelate, e.g. wastewater treatment and water recycling or habitat restoration.

5.5. **Decision-making.** Consensus will be sought in the event the need for a decision arises.

5.6. **Approval of the IRWMP.** IRWMP approval and adoption will occur by participating agency and organization signatures on the IRWMP.

5.7. **Non-binding nature.** This document and participation in this IRWMP effort are nonbinding, and in no way suggest that an agency may not continue its own planning and undertake efforts to secure project funding from any source. An agency may withdraw from participation at any time.

5.8. **Personnel and financial resources.** It is expected that agencies and organizations will contribute the personnel and financial resources necessary to develop the IRWMP.

5.9. **Other on-going regional efforts.** Development of the IRWMP is separate from efforts of other organizations to develop water-related plans on a regional basis. These other plans include, but are not limited to, Pacific Coastal Salmon Recovery Program, Eel Russian River Commission, and Department of Water Resources (DWR) Bulletin 160 development. As the IRWMP is developed, work products can be shared with these separate efforts to provide them with current information.

5.10. **Reports and communications.** The North Coast technical review panel will regularly report on their progress to the agencies and stakeholders they represent and the associations or organizations to which they belong that are involved in the IRWMP process.

5.11. **Termination.** Because the IRWMP will require periodic review and updating for use into the future, it is envisioned that the joint efforts of those involved will be ongoing in maintaining a living document. Thus this document will remain as a reflection of the understandings of the participants. As indicated, individual signatories of this Memorandum may terminate their involvement at any time.

6. SIGNATORIES TO THE MEMORANDUM OF MUTUAL UNDERSTANDINGS

We, the undersigned representatives of our respective agencies, acknowledge the above as our understanding of how the North Coast Integrated Regional Water Management Plan will be developed.

signature

printed name

agency

date

signature

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More signature blocks as required

[Project Prioritization and Review Process]

North Coast Integrated Regional Water Management Plan Project Prioritization and NCIRWMP Review Process

Proposition 50, Chapter 8 requires that Integrated Regional Water Management Plans include a prioritized list of projects upon submittal to the State for funding consideration. All high priority projects must meet the eligibility requirements and criteria set forth in the IRWM grant program guidelines dated November 2004.

Given the need to develop a regional, fully integrated, rigorous and fair review process within a very short timeframe, the following framework will be used to review projects and the draft plan:

- a) Each county Board of Supervisors will appoint two voting representatives to the **NCIRWMP Review Panel (RP)**. The RP will be responsible for prioritizing the projects according to the IRWM program guidelines, with input from the **Technical Peer Review Committee** and other sources. These individuals may be board members, staff, or members of the community.
- b) To provide technical evaluation of the proposed projects and the NCIRWMP, a non-voting **Technical Peer Review Committee (TPRC)** will evaluate each project's adherence to the program criteria outlined in the guidelines, with an emphasis on integration and regional relevance. Additionally, technical review will include an evaluation of project feasibility for specific management strategies (eg, water supply, sanitation, habitat restoration). The TPRC will also be asked to review and evaluate the content of the NCIRWMP for technical accuracy. If a member of this group has a project under consideration, they will be asked to recuse themselves. The **TPRC** will submit a list of prioritized recommendations to the Review Panel for final decision.
- c) Additional informal prioritization processes will be encouraged at a variety of local levels (including counties, cities, agencies, and watershed groups/associations) and help to inform the **Technical Peer Review Committee** and **Review Panel** during their decision making process.
- d) The **Review Panel** and **Technical Peer Review Committee** will attend three to five regional meetings between January and July 2005 to review the grant guidelines, evaluate project selection criteria, evaluate the

NCIRWMP, and review/select the projects. Additionally, **RP** and **TPRC** members will be asked to participate in the evaluation and review process via phone, e-mail and one-on-one meetings.

e) Prior to the project review meeting, projects will be summarized and organized into a database that will allow **TPRC** and **RP** members to query by project size, location, type of project, proponent, etc. Circuit Rider Productions, Inc. (CRP) staff will assist each Panel or Committee member in obtaining information from the database as requested.

f) The NCIRWMP draft and prioritized projects will be available for public review and comment via the website.

g) In addition to the Review Panel and its advisors, we will provide **regular updates to the key natural resources agencies** (including the Department of Water Resources, California Department of Fish and Game, Coastal Conservancy, State and Regional Water Quality Control Boards, NOAA, etc). Many of these agencies will be asked to provide a formal review of IRWMPs at the statewide level. Therefore, it may be a conflict of interest for them to formally participate in our North Coast Review Panel.

h) We propose to provide regular updates regarding the project prioritization process to the general public and interested constituencies via the website.

i) We propose to include all eligible projects in the NCIRWMP, understanding that our submittal in July 2005 will likely far exceed the \$50 million dollar application cap.

j) We propose to utilize the clearly articulated evaluation criteria listed in the Final Guidelines and the PSP's as our framework for prioritization.

k) The Department of Water Resources and the State Water Resources Control Board will provide the **ultimate level of review** for the NCIRWMP and its associated projects, although they have publicly stated that *they will not revise a given region's project prioritization*.

We believe that the above outlined process will allow for technical peer review and diverse public input while ensuring an efficient, timely project selection process.

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