

THE DON PEDRO PROJECT AND THE INTEGRATED LICENSING PROCESS:  
A PROCESS ANALYSIS OF STAKEHOLDER COLLABORATION  
IN RESERVOIR RELICENSING

HUMBOLDT STATE UNIVERSITY

By

Sarah Shakal

A Thesis 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, 2012



## ABSTRACT

Numerous dams in Sierra Nevada watersheds are due for relicensing, now and in the upcoming years. The relicensing process is an opportunity to assess the impacts and values of individual reservoirs and water projects. The Federal Energy Regulatory Commission, who issues the licenses, developed and introduced the Integrated Licensing Process in the last 10 years. The FERC has previously favored energy and water production as the best use of rivers, but environmental legislation requires the FERC to give “equal consideration” to multiple river users. Thus, the new process involves more stakeholder participation and greater consideration of multiple river needs. In the Sierra Nevada foothills in California, most rivers have dams on them; many of these are coming up for relicensing in the next 10 years. Using the ongoing relicensing of the Don Pedro Reservoir on the Tuolumne River as a case study, this research assesses the collaborative potential of the Integrated Licensing Process. How well does the Integrated Licensing Process enable meaningful participation and collaboration? Using content analysis and semi-structured interview, the research explores opportunities and obstacles to collaboration in Don Pedro ILP. This can help civic and agency stakeholders interested in preparing for their own upcoming relicensing project. Further research could involve similar research on other watersheds, and comparison across cases.

## ACKNOWLEDGEMENTS

I have deep gratitude for my advisors, colleagues, friends, and family and their support throughout graduate school.

I want to extend my gratitude first and foremost to Dr. Betsy Watson, my thesis chair and valuable advisor. Her encouragement and confidence in my abilities to do the research and writing kept me going when I did not think I could. Thanks also, of course, to my other two committee members, Dr. Tony Silvaggio and Dr. Mark Baker. Your guidance helped shape my research and make it stronger.

To my friends and colleagues, who kept me company in the computer lab when everyone else got go outside and play.

I also want to thank my family, especially my Mom and Dad, for their love and support in helping me complete this degree. I would like to thank Danny Salazar for his patience, kindness, and encouragement during the writing process.

## TABLE OF CONTENTS

ABSTRACT.....	iii
LIST OF TABLES.....	vii
LIST OF APPENDICES.....	viii
INTRODUCTION .....	1
STAKEHOLDER COLLABORATION IN WATER RESOURCE PLANNING.....	5
Introduction.....	5
Five Eras of Watershed Management .....	5
Manifest Destiny Era .....	6
The Progressive Era.....	9
The Federal/New Deal Era.....	11
The Environmental Era.....	14
The Watershed Collaboration Era.....	19
Civic Stakeholders/ Public Involvement.....	25
Agency Stakeholders .....	26
Frameworks for Stakeholder Participation .....	27
Conclusion.....	29
METHODS .....	31
Research Design.....	31
Data Collection and Methods.....	32
Analysis Methods.....	35
FINDINGS AND DISCUSSION.....	36
Description and Analysis .....	36
The Integrated Licensing Process .....	36
Overview of the Tuolumne River .....	42
Description of the Don Pedro Project .....	45
Stakeholder Groups and Positions Relative to the Don Pedro Relicensing.....	48
Findings and Interpretations.....	63

Inclusiveness .....	64
Representativeness .....	65
Procedural Fairness .....	66
Lawfulness .....	67
Deliberativeness .....	68
Empowerment .....	69
Discussion .....	69
CONCLUSIONS AND RECOMMENDATIONS .....	72
REFERENCES .....	76
APPENDICIES .....	80

## LIST OF TABLES

Table 2.1 <i>Relevant Legislation to the FERC Relicensing Process</i> .....	16
Table 2.2 <i>Six Attributes of a Democratic Process</i> .....	29
Table 3.1 <i>Data Sources, Collection Methods and Description</i> .....	33
Table 4.1 <i>Integrated Licensing Process</i> .....	44
Table 4.2 <i>Important Process Documents for Stakeholder Participation</i> .....	42
Table 4.3 <i>Stakeholders and Positions Relative to Don Pedro Project Relicensing</i> .....	48
Table 4.4 <i>Findings Chart</i> .....	63
Table 5.1 <i>Recommended Best Practices</i> .....	73

LIST OF APPENDICES

APPENDIX A: Project Vicinity Map.....80

APPENDIX B: Detail of Don Pedro Area and Facilities.....81

APPENDIX C: ILP Flowchart.....82

APPENDIX D: ILP Timeline.....83

APPENDIX E: LIST OF INTERVIEW QUESTIONS.....84

APPENDIX F: LIST OF CALIFORNIA HYDROPOWER COALITION MEMBER  
GROUPS.....86

## INTRODUCTION

I grew up in the foothills of California, where nearly every watershed has at least one major hydropower project. Canals, dams, and reservoirs are regular features of the landscape there. As a whitewater boater, I experienced dam operation schedules first hand. I understood these dams to be very powerful, and not only in their energy production potential. These reservoirs represent a nexus of nature, capital, and politics.

The regulation of the reservoirs is under the jurisdiction of the Federal Energy Regulatory Commission (the Commission, or the FERC from here forward). The FERC issues operation licenses to the owners of the dams, and the licenses can last 30-50 years. The dam owner (applicant or licensee) applies for a new license at the end of the original term. The relicensing process can offer local stakeholders a valuable opportunity to influence the new operation license. The relicensing process is the only time changes are made to the operation requirements and schedule.

Many of these foothill reservoirs were built about 50 years ago, and the majority of them are currently in some stage of the relicensing process. Over those 50 years, there were numerous changes in environmental conditions and regulations, resulting in more complex requirements for the FERC's licensing process. In the last 15 years, the FERC redesigned the licensing process, aimed at two seemingly contradictory goals: on achieving efficiency; and public stakeholder satisfaction.

The Integrated Licensing Process evolved out of the previous Traditional Licensing Process. Environmental legislation, like the 1970 National Environmental Protection Act, improved accountability of federal planning projects through increasing environmental impact analyses and stakeholder involvement. NEPA requires public involvement in any federal planning process, as well as an Environmental Impact Statement, where any impacts of the project are assessed. The NEPA Scoping Process is open to the public and very important for establishing what will be studied during the environmental impact analysis. Other legislation, like the 1972 Clean Water Act, established water quality standards and pollution regulations. The Traditional Licensing Process was inefficient at coordinating environmental impact studies and minimally involved the public.

The ILP is a top-down federally regulated process, featuring a tight timeline to coordinate NEPA requirements for public scoping and project impact studies<sup>1</sup>. The process is lead partially by the FERC and partially by the license applicant. Resource agencies can provide biological opinions and recommendations. Key agencies, like the Fish and Wildlife Service, or the National Marine Fisheries Service are powerful in the relicensing process because they can provide data relating to the dam operations and o;; effects on fisheries or riparian habitat.

The ILP creates a temporary group of stakeholders based on legal requirements and economic interests, as well as environmental concerns. Unlike bottom-up

---

<sup>1</sup> For more information on the FERC and the ILP, please see Chapter 2

collaborative institutions of stakeholders cooperating in management and planning, the ILP still has a top-down structure with limited opportunities for comment and collaboration.

How well does the ILP foster stakeholder collaboration? In this era of increased collaboration among stakeholders, many collaborative processes are real-time experiments. The literature review in the second chapter first situates public participation in natural resource management historically through representative democracy, and then argues contemporary increases in stakeholder participation reflect direct democratic influence in environmental issues. A democratic collaboration framework structures a content analysis of the ongoing Don Pedro Project relicensing to explore the extent of the Integrated Licensing Process's collaborative potential.

At the time of writing, the Don Pedro Project, on the Tuolumne River, is in the first phases of the relicensing process. Located in the Central Sierra Nevada foothills, the reservoir provides essential irrigation water for the regional agriculture industry. Like many rivers in the foothills and central valley, the lower Tuolumne suffers low instream flows, high water temperatures and low water quality, all contributing to dangerous decline of fisheries and riparian ecosystems. The Don Pedro Project is one of more than 100 California dams undergoing, or about to undergo, a FERC relicensing process.

This research contributes to a robust body of work on stakeholder collaboration, exploring the limits and opportunities of collaborative processes within an agency-

directed process. The research is relevant to stakeholders currently participating in the Don Pedro relicensing or other FERC relicensing, or preparing to participate.

## STAKEHOLDER COLLABORATION IN WATER RESOURCE PLANNING

### Introduction

This literature review demonstrates how water resource management in the United States has shifted over the years to serve evolving public interests. Understanding the historical linkages between policies and management practice helps situate current trends toward stakeholder collaboration in a dynamic mosaic of political, socioeconomic, and environmental factors. Special attention on the Federal Energy Regulatory Commission's development and evolution is included throughout the review to enhance understanding of the agency's licensing process.

The following review first provides a historical context of attitudes toward water resource management. Five Eras of Watershed Management, identified by Sabatier in *Swimming Upstream*, provides structure for the first section. The second section builds on the first, exploring two types of stakeholder participation. Lastly, the review introduces and discusses some of the analytic frameworks for studying stakeholder participation.

### Five Eras of Watershed Management

The five eras Sabatier established are the Manifest Destiny Era (pre 1890), the Progressive Era (1890-1924), the New Deal Era (1925-1964), the Environmental Era (1965-1986), and finally, the Watershed Collaboration Era which began in 1987). The

eras reflect combinations of socioeconomic and political factors that drove development of policies and laws regarding watershed management. The following sections use these eras to provide background and history and to inform an understanding of current policies.

### Manifest Destiny Era

As the first period, the pre-1890 “Manifest Destiny Era” was characterized by dutiful expansion and development of ‘raw’ land and resources. Resource extraction protocol was unregulated. Natural resources like trees, rivers, and minerals, were perceived to be so abundant that conservation was unneeded (Sabatier 2005). Timber harvesting, mining, and fur trade severely damaged ecosystems all over the east coast, and the same practices followed early American settlers West. The general idea was to take as much of the plentiful resource as possible in pursuit of private gain.

Growth and expansion was unprecedented, as immigration from Europe and Asia grew and the industrial revolution settled into to Eastern and Midwestern cities. In these Eastern cities, water was for drinking, waste disposal, power and navigation, until population centers became so dense that supply and sanitation became issues (Sabatier 2005). Rights to use water from a river were only granted to people with land adjunct to the river. In the water scarce West, hydraulic gold mining, crop irrigation and developing urban centers necessitated appropriation of water from the river. Patterns of water usage we are familiar with in the West all rely on the evolution of water law. The next section discusses the evolution of water rights in California.

Water Rights Originally derived from English Common Law, riparian rights were the original water law. During the California Gold Rush, a new kind of right was developed, reflecting changing attitudes towards water appropriation.

“Riparian rights” are granted to the owner of land bordering water, and permits the owner to “reasonable and beneficial use” of the water. Riparian rights are common in eastern states, and the California State Legislature originally adopted the concept in 1850 (Stene n.d.). Water taken under riparian rights must drain back into the same watershed where it was drawn, the water cannot be stored, imported or exported, and the rights are subject to reduction in dry years. Rights are forfeit if not put use in a reasonable amount of time (SWRCB 2012).

“Appropriative rights” developed in California during the 1849 Gold Rush. Miners, who did not typically own the land they mined, posted notice that they were appropriating the water for mining. Miners diverted water away from streams and rivers for all types of mining, but especially hydraulic mining<sup>2</sup>. Mining ditches sometimes carried river water out of the watershed, expressly forbidden under riparian rights. The practice was approved by the state legislature in 1872, and appropriative water rights were officially recognized.

---

<sup>2</sup> Hydraulic mining uses high pressure water to blast apart gold-bearing hills and mountains. Then, the silt water is sluiced to reveal the gold. The silt filled downstream river beds, near Sacramento, causing increased flooding and made the river too shallow for boats to pass. The practice was banned in California in 1884, after farmers brought a mining company to court over too many flooded crops.

In California, where vast amounts of farmable land never edged a water source, appropriation of water was essential to farming development (Barnes 1987). While riparian rights were appropriate in the humid eastern states, the west is generally arid and prone to drought. The land was arable, but needed water to produce. The low percentage of land bordering water created a desire to transport water away from the watershed.

“Water law treats rivers as commodities separate and apart from land,” Dan Tarlock asserts in his 2000 article “Putting Rivers Back in the Landscape” (Tarlock 2000). Legal permission to take water out and away from the river lead to an incredible amount of urban and agriculture in the state. The 1877 Wright Act authorized irrigation districts. Formed by local landowners, irrigation districts own or purchase the water rights, then sell the water to users. The districts rely greatly on appropriative water rights, and the ability to sell water contributed to waves of dam construction in California. By now, dams, diversions, and irrigation canals divert water out of nearly watershed in the state.

Appropriative rights involve a “first in time, first in right” priority system. The right holder with the oldest rights has the senior rights. Junior rights can only be taken if senior rights are satisfied (SWRCB 2012). The rights of prior appropriation can allow rivers to be dangerously depleted in satisfying the entitlements of ‘senior’ water rights.

An 1886 court case confirmed the power of ‘first in time first in right’ in California water law. Lux, land owner rancher who watered his cattle in the Kern river, brought the case against Haggin, of Kern Valley Land and Water Company, when

Haggin's upstream diversions lead to Lux's cattle dying of thirst. The case determined prior riparian rights to be senior to subsequent appropriations.

Tarlock suggests the two rights systems are in opposition to each other. While riparian rights maintain linkages between water and land, appropriative rights suggest no relationship between water source and use (Tarlock 2000). The ability to appropriate water precedes the ability to sell water.

This transformation of water law during the Manifest Destiny Era laid the foundation for rapid development of water resources in the West and California especially. The hydropower projects that emerge during the next two Eras rely on the legal ability to separate water from the land.

### The Progressive Era

The "Progressive Era" spans from 1890 to 1924. Environmental degradation resulting from the "Manifest Destiny" era was becoming apparent, with industrial pollution tainting Eastern rivers, and mining sludge blocking rivers in California. Public concern increased over water resources as the 1890's brought drought in the West and flooding in the East. People saw landscapes transitioning from rural to urban industrialized, and the growing power of industrial monopolies. Theodore Roosevelt took office in 1901 and brought a strong conservationist agenda. There was apprehension that monopolized private development of waterways would mean the loss of a common

resource (Wright 2006). Centralized federal and state water resource management institutions soon followed.

Trust in the political system was sliding, but important political reforms occurred during the progressive era. In 1913 the 17<sup>th</sup> amendment passed, establishing the direct election of U.S. Senators. Direct election of representatives increased the public's ability to participate in politics.

Through legislation, the public created centralized federal agencies to regulate and manage the nation's common resources. The first official land management agencies were established during this time, like the Bureau of Reclamation (in 1902), the United States Forest Service (in 1905) and the National Park Service (in 1916). The 1920 Federal Power Act created a loose agency charged with regulating the nation's navigable waterways and hydropower production. While other agencies, like the Bureau of Reclamation and Forest Service were charged with managing land resources, the water management was still nebulous. The Federal Power Commission, the precursor to the present-day Federal Energy Regulatory Commission, was one of the country's first attempts at creating a top-down agency focused on water resources.

Hydropower production and irrigation canals began to change the landscape of the West. Centralized regulatory authority helped to avoid private control over natural resources. Progressive Conservationists brought attention to uses of a river outside of navigation, like irrigation and hydropower. The goal was efficient use of the water.

In California, growing cities like Los Angeles and San Francisco lacked reliable

water sources. Both cities looked east, toward the snowy Sierra Nevada range for water sources. Famously controversial water projects were erected on the Owens River, by Los Angeles, and the Tuolumne River, by San Francisco<sup>3</sup>. Both depend on appropriative water rights for development.

The Progressive Era is colored with monopolized markets, and growing public skepticism of industry. Through legislation, centralized resource agencies were created and designed to prevent politically powerful industries from monopolizing common resources.

#### The Federal/New Deal Era

The “Federal/New Deal Era” continued to focus on efficient, non-wasteful use of natural resources and stretched from 1925-1964. The New Deal Era was rooted in economic folly, environmental damage, and corruption of politics (Reisner 1986). Large scale flooding, the Great Depression, and World War II mark an era filled with socio-ecological challenges (Sabatier 2005). The Dustbowl in Ohio, Missouri, Oklahoma and

---

<sup>3</sup> Of particular interest to this research is San Francisco and their development of the Hetch Hetchy Valley in Yosemite National Park. The City, still recovering from the fires of the 1906 Earthquake, wanted to build a dam at Hetch Hetchy Valley and export the water to San Francisco. The public had enormous political weight, as domestic water use has the highest political power (Gibbons). John Muir, a mountaineer and one of the first environmentalists, tried famously to stop the project. He proclaimed the Hetch Hetchy Valley was sister to the nearby Yosemite Valley. Both valleys are in the Yosemite National Park. However, in 1913 the Raker Act was signed into law, permitting the City and County of San Francisco to build a hydropower and water supply project inside the park. The story illustrates the influence of appropriative water law, separating water from land, even in a national park.

Texas displaced hundreds of thousands of people, and many went west to California. The Dustbowl fueled further agricultural development in California. At that point, “Agriculture was California,” and thousands migrated west to get away from the dust (Reisner 1986). Agriculture in California, however, hinged on the availability of irrigation water.

By the early 1930’s, the Great Depression left millions without work, and faith in the government and economic systems was slipping. Franklin D. Roosevelt came into office in 1933. He wanted to be remembered as both the greatest conservationist and greatest developer of all time (Reisner 1986). Roosevelt created organizations like the Citizen Conservation Corps (CCC), which provided work for thousands of unemployed men. Roosevelt’s CCC developed America’s public lands, building trails and roads, maintaining national forests, and mining.

Hydropower technology and production was advancing and gaining popularity. The Federal Power Act was amended in 1930, changing the structure of the Commission to create a more cohesive and comprehensive agency. The Commission was granted authority to regulate all navigable waterways, and any dam construction must have the Commission’s approval.

The Bureau of Reclamation and the Army Corps of Engineers, with public support for flood control and irrigation, began a campaign of river development. Initially, the Bureau of Reclamation focused on constructing upstream irrigation diversions, while the Army Corps of Engineers focused on downstream navigation

purposes. Eventually, the agencies were caught in a competitive obsession over who could build more dams (Reisner 1986). Unfortunately, the process of selection and development was ridden with political favoritism. The Bureau of Reclamation and the Army Corps of Engineers effectively became ‘pork barrel’ agencies, catering to the politicians in Congress (Sabatier 2005).

Under Franklin Roosevelt, the Bureau of Reclamation grew from a few thousand to 20,000 by 1933, and public works projects began all over the country. Infrastructure construction throughout the country was made possible through public works projects. The centralized nature of the agency structured the top-down nature of water resource planning, it also structured river basin planning (Sabatier 2005). River basin planning meant managers were planning at a watershed-level for the first time.

Though Sabatier points out that the era included the nation’s first watershed level planning, but most of the attempted nine federal projects failed. The Tennessee Valley Authority was created, the federal government’s first and “extremely ambitious” attempt at river basin-wide multipurpose planning. Unsurprisingly, the TVA ended up favoring the politically powerful rather than the local socio-economic conditions (Reisner 1986).

By the late 1950’s and early 1960’s, water pollution control was becoming an issue of the federal government (Sabatier 2005). Despite institutions for natural resources management, environmental conditions continued to decline. Increasing concerns with water pollution, logging, and mining laid the track for the Environmental Era.

## The Environmental Era

The “Environmental Era,” lasting from 1965 until 1986, reflected a substantial shift in public interests. The priorities of economic development fell as environmental values established new ground. Concurrently, economic interest groups still heavily influenced federal, state and local representatives and there was a growing public distrust of the government (Sabatier 2005). Agencies were gaining a bad reputation through poor interface with the public (Force and Forester 2002). A strong sense of democratic duty established during the New Deal Era evolved into a public pushback against environmental degradation. Again using democratic venues, a wave of environmental legislation passed during this era enhanced citizen representation in natural resource management.

Roads and infrastructure built throughout the first half of the century made national parks and forests accessible. Increased education and income during the ‘50’s and ‘60’s resulted in a higher demand for outdoor recreation and greater awareness of environmental problems. When the public visited the national forests, they saw land and water degraded by logging and resource extraction (Hackett 2003, Sabatier 2005). Rising public concern over resources coincided, or gained momentum, with the civil rights movement of the 1960’s (Force and Forester 2002), and numerous environmental disasters, like toxic chemicals discovered in Love Canal or nuclear meltdown at Three Mile Island (Sabatier 2005).

A consistent flow of environmental legislation passed, starting in the late 1960's with the National Environmental Protection Act (NEPA). NEPA was instrumental in increasing public access to environmental issues and the planning process. It increased environmental groups' access and authority in bureaucratic decision making (Sabatier 2005, Hackett 2003). The agency preparing the plan is required to solicit public comments from other agencies, organizations, and individuals (40 CFR 1503.1) (Force and Forester 3). NEPA environmental impact statements require a public scoping process, where key problems or issues are identified for project impact analysis. The scoping created space for increasing public involvement through collaboration and early issue identification. The impact studies have strong influence over planning determinations.

NEPA is not the only legislation that calls for increased public participation. The 1974 Resource Planning Act and the 1976 National Forest Management Act both gave legislative mandates for long-term forest objectives and action plans, and increased transparency. (Force and Forester 2, Hackett 106). The Clean Air Act of 1963, Wilderness Act of 1964, Endangered Species Act of 1973, Clean Drinking Water Act of 1974, Clean Water Act of 1977, and the Superfund Act of 1980 are all examples of legislation that works to increase accountability of agencies and industries, while enhancing natural resource management strategies (Force and Forester 2002, Hackett 2003). The wealth of environmental legislation during this era transformed a 'command and control' approach to a 'regulation' based system (Hackett 2003).

Table 2.1 *Relevant Legislation to the FERC Relicensing Process*

1968	Wild and Scenic Rivers Act (WSRA)	The agency managing the WSRA river reviews the license application for a project on or affecting that river; prevents new original license on a WSRA river
1970	National Environmental Protection Act (NEPA)	Requires the FERC to consider environmental impacts in hydropower operations; requires increased public involvement in any federal planning project
1972	Clean Water Act (CWA)	Project discharges must comply with water quality standards
1972	Coastal Zone Management Act	Project construction and operation must be consistent with the State's coastal zone management program [16U.S.C. sec1456]
1973	Endangered Species Act (ESA)	FERC and licensee liable for damages if the license results in death, injury, or other harm to the listed species [U.S.C 1540(a)(1)]

The 1977 Department of Energy Organization Act created the modern day Federal Energy Regulatory Commission, replacing the Federal Power Commission (Wright 2006). The legislation expanded the Commission's jurisdiction to all types of energy production, not just hydropower. The Federal Energy Regulatory Commission, or the FERC, continues to regulate non-federal hydroelectric power projects that affect navigable waters, occupy U.S. lands, use water or waterpower at a government dam, or affect the interests of interstate commerce. The owner of the dam (the applicant or licensee) must obtain a license from the Commission to build a project initially, and the

license prescribes the project's operation. The FERC's procedures for issuing licenses were ill-suited for the concerns of the Environmental Era.

The Traditional Licensing Process, the original process for relicensing, was controversial and often preferential to development of energy production (Wright 2006). The FERC gained an ill reputation for failing to consider the needs of multiple river users or the environmental impacts of operation schedules. The relicensing process lacked transparency and efficiency. Between energy production and irrigation diversions, rivers and fisheries suffered. Dams were seen a symbols of progress and power, and the process of licensing favored business interests (Wright 2006).

The health of the nation's rivers reflected the FERC's affinity toward status quo decisions and industries. Diversions for agriculture resulted in low in stream flows, increased water temperatures and decreased fisheries habitat, while peak energy needs created unpredictable river surges. Loss of habitat and unsuitable water conditions severely damaged fisheries throughout the nation. On the Tuolumne River, and others like it in the Sierra Nevada, hundreds of miles endangered Chinook salmon habitat is completely blocked by dams.

There were numerous problems with the Traditional Licensing Process. Complicated regulations and consultation with various resource agencies made the Traditional Licensing Process slow and inefficient. The relicensing process was taking some projects over ten years to complete. Jay Wright points out "the Congress recognized that the FERC was granting substantially status-quo decisions irrespective of

the public interest shift from development to environmental protection” (p. 134 Wright 2006). Even though the laws required civic participation and environmental impact assessment, the bureaucratic processes were ill fit.

The Federal Power Act was amended a number of times, but most relevant in this case is the 1986 amendment that required the FERC to give “equal consideration” to all uses of the river, including wildlife habitat and recreation. The 1986 amendment, called the Electric Consumers Protection Act, mandated that each license include measures to protect, mitigate, and enhance fish and wildlife habitat affected by the project. A license:

...shall be as in the judgment of the commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use of benefit of interstate or foreign commerce, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes...

16 U.S.C sec 803(a)(1)

The Electrical Consumers Protection Act was especially significant, since it was aimed directly at the FERC and the licensing process. This, in combination with increased environmental regulation, laid the groundwork for the FERC’s 2003 redesign of the licensing process.

Poor management practices of the past became evident during the early half of the Environmental Era. The public responded with multiple pieces of legislation designed to enhance environmental protection through increased regulation and transparency. The top-down resource management model began to transition to a collaborative process, as

per environmental mandate requirements. The resulting devolution of authority to multiple agencies and stakeholders represents the next evolution of resource management and planning strategies.

### The Watershed Collaboration Era

Emerging from the Environmental Era, the current “Watershed Collaboration Era,” began in 1987. Numerous legal cases surrounding environmental legislation bogged down courts and slowed enforcement of environmental protections. Law suits accusing polluters and violators inundated the system, tacitly allowing violations to continue. Resource agencies, afraid of being sued, focused closely on procedural protocols rather than finding new solutions to complex environmental problems. The flood of litigation failed to solve problems and bogged the system down rather than producing solutions (Force and Forester 2002). Dissatisfaction with environmental legislation outcomes and with the ability of legislation to solve environmental problems resulted in the emergence of alternative dispute resolution systems as an alternative to litigation (Sabatier 2005).

Alternative dispute resolution, according to Sabatier, “involved face-to-face negotiations among all parties in an effort to find a solution acceptable to everyone (as enforced by a consensus rule)” (p. 44 Sabatier 2005). It developed as a response to the failure of litigation, and dissatisfaction with the implementations of the environmental legislation.

The Clean Water Act regulates pollutant discharge and water quality standards. Under the Clean Water Act, the Environmental Protection Agency set pollution controls and established wastewater standards for industry. Unpermitted pollutant discharge to surface water is illegal, whether it is from industry or domestic sources ([water.epa.gov/lawsregs/wetlands/wec404.cfm](http://water.epa.gov/lawsregs/wetlands/wec404.cfm)). 15 years after the legislation was passed, point source pollution<sup>4</sup> had been reduced, but non-point source pollution<sup>5</sup> levels still violated water quality standards (Sabatier 2005). Amendments made in 1987 asserted non-point source pollution control a national goal. The Environmental Protection Agency struggled with how to implement the mandate. Agencies, like the EPA, lacked the key knowledge of how to involve local stakeholders to increase compliance in a watershed.

The EPA recognized that “for it to impose uniform national standards on extremely varied and complex local situations would be suicidal,” as Sabatier articulates (p. 46 Sabatier 2005). As the first step in the right direction, they encouraged the formation of local watershed partnerships, made up of relevant agencies and stakeholders to determine the Total Daily Maximum Limit of particular pollutants. However, it was not until multiple lawsuits that the EPA was forced to devote financial resources to the program (Sabatier 2005).

---

<sup>4</sup> Point source pollution discharge can be traced to a specific industry or activity (Sabatier 45).

<sup>5</sup> Non-point source pollution discharged cannot be traced to a specific industry or activity, but comes from multiple sources like farms, road cuts, or urban streets (Sabatier 45).

The public was growing increasingly dissatisfied with the democratic legitimacy and effectiveness of environmental regulations. Environmental regulations took away liberties that extractive resource users previously enjoyed. At the same time industrial and environmental stakeholders felt excluded from decisions about environmental regulations that greatly affected them. Environmental scientists and policy analysts disapproved of the federal government's tendency to focus on one medium or problem, hinder interagency coordination, get lost in litigation, and neglect socioeconomic impacts (Sabatier 2005). By the 1990's it was clear that the government lacked the capacity to implement environmental policy (Sexton 1998).

Collaboration across agencies and with civic stakeholder groups emerged as a new strategy for environmental decision making. "Environmental decisions require judicious blending of facts and values to make informed judgments about critical trade-offs," Ken Sexton et. al. assert in the introduction to their book *Better Environmental Decisions* (p. 3 Sexton 1998). For example, the Clean Water Action Plan, endorsed by the EPA and the Department of Agriculture, requires a cooperative approach to watershed protection, with state, tribal, federal and local governments and the public work together. The nature of the watershed partnerships enables face-to-face negotiations facilitated by conflict resolution mediators (Sabatier 2005).

A residual lack of trust in the process and agencies challenge the success of such partnerships. Managers were untrained in facilitating public involvement and

negotiations. Academics and agencies developed a number of frameworks to aid managers and the public in collaborations, discussed in the next section.

The 1986 amendments made to the Federal Power Act did enhance the FERC's performance, but it also made the relicensing process more adversarial. The relicensing process, bogged down with regulations, created so much delay that hydropower was losing a competitive edge in the energy market (Wright 2006). In 1990's, the FERC produced new re-licensing procedures geared towards improving process efficiency and public satisfaction.

The Alternative Licensing Process, created in 1997, timed the NEPA Environmental Impact Statement requirements with the FERC pre-scoping filing process. Aimed to increase the efficiency of the process, but at the same time, the Alternative Licensing Plan is highly collaborative, making process efficiency much harder to achieve (Wright 2006). The Integrated Licensing Process (ILP) became default in 2003. As a hybrid process, it is not as collaborative as the Alternative Licensing Process, but much more considerate than the Traditional Licensing process.

“The ILP is designed to provide a predictable, efficient, and timely licensing process,” according to Jim Hastrider, the FERC's regional representative (p.13 Scoping Meeting 9am). The ILP works to increase efficiency, primarily through “harmonizing” the timing of the FERC's scoping process with the NEPA review process (Wright 2006). The ILP enhances collaborative potential, since issues are made clear early on in the process during the NEPA scoping. While the Alternative Licensing Process emphasized

stakeholder participation, the ILP focuses more on timing simultaneous processes. A detailed discussion of the ILP is given in the Findings and Discussion chapter.

The Watershed Collaborative Era describes a time of discovery for resource managers and citizens alike. Managers and the public may directly influence local natural resource management planning processes. Never before has the public had this influence over natural resource management and planning decisions of government agencies. Systems and processes for public involvement are still developing, but a number of frameworks assist managers in designing the appropriate approach to engage stakeholders.

### Stakeholder Participation

Stakeholder participation (or public participation or public involvement) cultivates decision-making responsive to community interests and values. This section explores definitions and concepts in the literature on public participation.

Stakeholder participation increases the level of understanding and support for projects, while reducing the number of potential conflicts (Kessler 2004). For the purposes of this research, “stakeholders” can be considered to include all parties reasonably affected by a particular project or resource (Kessler 2004). Stakeholders range from resource agencies, to business owners, to environmental groups or individual members of the public.

Participation can improve stakeholder perceptions of legitimacy and fairness and stakeholder compliance in management strategies. “Participation” is a process where stakeholders deliberate in some way and share in decision making to some degree. Meaningful participation increases stakeholder satisfaction with the process (Kessler 2004).

Although legislation requires more stakeholder participation, managers are challenged to decide how and how much to involve the public Kessler 2004, Sabatier 2005). Legislative mandates require increased involvement, but a lack of understanding on how to facilitate or improve participation hinders effective involvement.

Kessler describes four levels of a public participation decision-making. At the first level, the authorities make decisions and inform stakeholders after. At the second level, authorities make decisions after consultation with stakeholders. At the third level, stakeholders make decisions with the approval of authorities. At the fourth level, stakeholders make decisions and implement actions with out approval from authorities (Kessler 2004).

Similarly, Force and Forester establish four functions of public involvement: (1) one-way or two-way *information flows* between the agency and the public, (2) working together to solve a problem (*interactive*), (3) *assuring* the public that their views are considered, and (4) a *ritualistic* function necessary to fulfill legal requirements (Force and Forester 2002 via Heberleing 1976). Though a process may perform one or more of

these functions, all four are rarely present. Depending on the particular situation, different functions have greater importance.

Conversely, stakeholder participation can cause delays in decision making, increase expenses, and create tension and lack of consensus across stakeholder groups. Success of such processes relies on careful consideration of the context and capacity of the community. Conflict management is necessary. The level of stakeholder involvement and influence affects the complexity of a stakeholder involvement process (Kessler 2004).

The following sections explore two general types of stakeholders involved in the Don Pedro ILP process.

#### Civic Stakeholders/ Public Involvement

Civic stakeholders typically include any non-governmental organization or individual. Civic stakeholders can engage in various forms of public involvement in resource management and planning. The literature interchangeably uses similar terms like “public participation,” “stakeholder participation,” “public involvement,” or “citizen involvement.” For consistency, this paper uses the term “public involvement.” The following definition, established by Force and Forester in 2002, is used for this research.

“Public involvement includes all activities used by public land management agencies to inform and educate the public about the agency’s land management activities, and/or to gather information from the public, and/or to include the public in making decisions about public land management. The public is defined as individuals and organizations (both public and private) outside the agency” (p.3 Force and Forester 2002).

“Citizen participation is the cornerstone of the democratic political process,” Frank Fischer describes in *Reframing Public Policy* (p205 Fischer 2003). He points to the potential for such participation for capacity building within a community. If the process involves consensus building, it helps develop shared identities and coordination across competing interests. Consensus building also enhances trust, which Focht and Trachtenberg identify as a key attribute of public involvement. They developed a framework grounded on perception of trust, with different strategies based on trust levels in stakeholder groups (Sabatier 2005). Their frameworks, and others, are addressed in the next section.

Devolution of centralized authority through collaborative processes can be a chance to revive American democracy, but others claim it threatens democracy, since stakeholders are not elected individuals (Leach 2004).

### Agency Stakeholders

Agency stakeholders are representatives from natural resource management agencies, like the National Marine Fisheries Service or the Bureau of Land Management. Environmental era legislation, like NEPA or the Clean Water Act, for example, enhanced scientific regulations for habitat conditions and maximum pollution allowances as well as distributing regulatory responsibilities among different agency stakeholders.

In the ILP, the applicants accept recommendations from agency stakeholders to inform study plans and consider impacts of the project. Resource agencies are considered “stakeholders” as well as “agencies.” They can make comments, recommendations, and

intervene. There are “mandatory conditioning agencies,” like the National Marine Fisheries Service (NMFS) or the U.S. Fish and Wildlife Service (FWS), who can submit modified fishway prescriptions past the last opportunity for stakeholder input. They can submit Endangered Species Act biological opinions as last step before the FERC files the final Environmental Impact Statement. The Environmental Impact Statement determines of the effects of the project, especially on endangered species, and is one of the strongest tools for altering project operations.

The decentralization of environmental responsibilities created a hybridized arrangement between local, state, and federal agencies (Kessler 2004, Leach 2004, Sabatier 2005, Sexton 1998). The consistent task is figuring out how to work together. A number of frameworks have been developed to aide managers in structuring public involvement and collaboration.

#### Frameworks for Stakeholder Participation

Diverse perspectives, intractable conflicts, low levels of official trust, and lack of negotiation training confront resource managers and planners. They are challenged to identify appropriate strategies for public involvement (Sabatier2005, Force and Forester 2002, Sexton 1998). Resource managers, trained in natural resource management, often lack the social science skills to appropriately engage stakeholders (Sabatier 2005).

Appropriate public involvement strategies improve planning and management efficacy (Sabatier 2005, Force and Forester 2002, Sexton 1998). Both the Environmental Protection Agency and the National Research Council stress the importance of

diagnosing the ‘decision situation,’ however, both agencies fail to provide solid recommendations or guidelines for managers (Sabatier 2005 - Focht and Trachtenberg). Academics, resource managers, and decision scientists developed a number of frameworks to help assess and prescribe appropriate public involvement strategies.

An evaluative framework established by William Leach in 2005 guides content analysis in this research. Leach’s work explores the democratic nature of collaborative processes by establishing six attributes. The presence and quality of each attribute contributes to the democratic quality of the process. Leach’s work on collaborative/democratic processes is appropriate for study of the ILP. As argued in the second chapter, public participation in the FERC ILP is a culmination of democratic efforts and therefore ought to maintain democratic attributes.

Table 2.2 *Six Attributes of a Democratic Process\**

<i>Inclusiveness</i>	An inclusive process places few formal restrictions on participation
<i>Representativeness</i>	A representative process ensures that the interests of all affected individuals are effectively advocated, either in person or through proxies
<i>Procedural Fairness</i>	A fair process treats all parties equally and respectfully, gives each party an appropriate degree of voice and influence, and establishes clear procedures for collective decision-making
<i>Lawfulness</i>	A lawful process seeks to uphold the letter and spirit of all existing laws and regulations
<i>Deliberativeness</i>	A deliberative process allows participants to identify common interest, build a shared knowledge base, and develop mutual trust and empathy
<i>Empowerment</i>	An empowered process enables participants to influence the decisions of elected officials or public administrators

\*Borrowed directly from William Leach's 2005 article "Is Devolution Democratic?"

## Conclusion

This review discussed evolving attitudes toward watershed management and stakeholder collaboration. Institutionalized water resource management has been aligned with the public interest throughout U.S. history. As socioeconomics and politics shift the public's interest, legislation enables policies and regulations to adapt. Unsustainable and unsuccessful approaches to water resource management, and natural resource

management in general, predicated environmental regulations for agencies and industries.

Collaborative planning can enable effective planning and management, but it also introduces new challenges to managers. Stakeholder collaboration presents opportunities and obstacles for both the public and the resource agencies.

## METHODS

This chapter describes the design, data and methods used to complete this research. The Research Design section positions and justifies the mixed methods approach utilized for this project. The Data Collection and Methods section details data collection methods, sources and organization. Finally, the Analysis Methods specifies how the data analysis was conducted.

### Research Design

The existing literature showed that content analysis could be appropriate for this investigation. Content analysis is a research technique for the objective, systematic, and quantitative description of the manifest content of communication,” (Holsti 1969 via Berleson, 1952, p.18). As a “non-reactive” and “unobtrusive” research method, it can be especially appropriate when resource restrictions prohibit direct access to the subject of research (Holsti 1969). Since most data collection and analysis was conducted remotely, this attribute was valued.

Content analysis requires identification of a unit or units of analysis to apply to the data. This research uses six attributes of a democratic process as units of analysis. The attributes were identified by William Leach in his work “Is Devolution Democratic? Assessing Collaborative Environmental Management.” Leach’s framework enables the researcher to gage how collaborative the Don Pedro ILP process is. Is the public

participation process a lip service to keep the public busy while the FERC continues business-as-usual, supporting industry interests?

While the FERC ILP process is not exactly democratic, the intention of the ILP is to enhance stakeholder collaboration and consider multiple needs. Democracy includes public involvement in resource planning and management. It was through representative democracy that policies requiring involvement were drafted, so it is fitting that such policies have democratic merit. Establishing the quality of each democratic attribute helps illustrate the level of collaboration in the process.

This evaluation focuses on the pre-application process, since opportunities for stakeholder collaboration and influence are greatest then, and because the Don Pedro process is ongoing, and this research seeks to explore public involvement and collaboration.

#### Data Collection and Methods

Multiple methods were used for data collection including examination of existing publications, personal communication, and semi-structured interviews. These data sources have the benefits of being low cost and accessible. The author conducted all data gathering and investigation.



The data sources included: the FERC ILP website archives; the Don Pedro Relicensing website document archives; scoping meeting minutes from the FERC's e-library; personal communication via email and telephone; and semi-structured interviews via telephone and email.

Collection methods were primarily retrieval from electronic sources, personal communications, and semi structured interviews. All publications and documents used were publicly available. Notes from interviews were kept confidential. Supporting materials include local newspaper articles, sections of legislative documents like NEPA, and websites from Stanislaus County, Modesto Irrigation District, and Turlock Irrigation District. The data was collected between April of 2010 and February of 2012.

Twelve semi-structured interviews were conducted. Two interview schedules were used to investigate stakeholder perceptions of the presence of these six attributes in the ILP. One was more general and focused on perceived presence of the six attributes. The other was more specific, aimed at individuals who attended the NEPA scoping meetings in May of 2011. This second interview schedule focused on themes that emerged during analysis and the first interviews. Please see Appendix A for a list of interview questions.

## Analysis Methods

Units of analysis are identified to enable a methodical search for major themes or characteristics. This research utilizes the six attributes of a democratic process, identified by William Leach in 2005, as units of analysis. Using these attributes as a framework for analysis allowed examination of multiple types of data while maintaining consistency. As mentioned in the introduction to this chapter, the ILP is not designed to be an especially democratic process. It is, however, meant to enhance public involvement and stakeholder collaboration, which embody democratic qualities.

Data was read initially to gain familiarity. Using “thought units,” or identifiable thoughts expressed through words, strings of words, sentences or paragraphs (Rice-Hall via Berg 2004), data was coded into the six categories. Each category was assigned a different color, and the data was ‘coded’ using these colors to identify and categorize thought units.

Some thought units fit in more than one category. After initial coding, the results were reexamined to identify sub-categories. Subcategories were recorded and appearance of each was counted. Results from various methods are integrated using the six attributes of a democratic process to discuss what stakeholder participation in the ILP looks like.

## FINDINGS AND DISCUSSION

This chapter presents the results from the case study and content analysis. The Description and Findings section describes the Integrated Licensing Process, the Tuolumne River watershed, and the Don Pedro Project. The cast of stakeholder groups and their positions relative to the Don Pedro relicensing are introduced. Then, the Findings and Interpretation section provides a synopsis of the representations of each the six attributes.

### Description and Analysis

#### The Integrated Licensing Process

The ILP aims to streamline the relicensing through three fundamental principles. First, early issue identification and resolution of studies needed to fill gaps helps prevent new issues late in the process. This boosts collaborative potential, since issues are made clear early on. Second, using the early issue identification, it integrates other permitting needs, like the NEPA Environmental Impact Statement, rather having separate processes. Third, a strict time frame for completing process steps is established for all stakeholders, including the commission. ([www.ferc.gov/industries/hydropower/gen-info/licensing/ilp.asp](http://www.ferc.gov/industries/hydropower/gen-info/licensing/ilp.asp)).

There are two major phases to the ILP: the “pre-application” or “pre-filing” phase and the “post-application” or “post filing” phase. The pre-application phase begins 3 - 5

years before the original license expires, and the post application phase takes another 1.5 – 2 years. The process is long, though much shorter than past FERC timeframes.

The ILP is considered to be a “frontloaded” process. Although there are 9-13 opportunities for stakeholder participation throughout the ILP, many of those include technical and scientific meetings, where specific agency or civic stakeholders are more active. Most of the opportunity for meaningful public and stakeholder involvement occurs in the very first phases. The FERC’s website describes three opportunities for public involvement: a required pre-filing meeting, the FERC scoping meeting, and when the draft environmental report is issued (<http://www.ferc.gov/for-citizens/citizen-guides/hydro-guide.asp>).

The process is frontloaded and the time line is tight for all stakeholders, including the resource agencies and tribes. The FERC surveyed ILP participants in 2005 and 2010. The ILP effectiveness evaluation surveys results were published in 2006 and 2011. In both surveys, many respondents emphasized importance of the time frame. While clearly defined deadlines and the maintained momentum of the process were appreciated, stakeholders felt the five-year timeline was too short. “Many participants referenced sacrifices they would have to make in order to meet the deadlines, including their ability to attend meeting, receive financial reimbursement, or provide adequate detail in comments and study requests,” according to the 2006 study’s “General thoughts on the ILP” (FERC 2006 16).

The following is a description of the pre-application phase, as it has the greatest opportunity for public involvement and collaboration. A complete timeline of process steps can be references in Appendix C. The first phase of the process sets the standard and tone for the rest of it. How well the applicant prepares the initial documents effects people's willingness to participate, the efficiency of later steps (FERC 2011 13). The applicant may conduct pre-process informational and scoping meetings. They can invite input from key stakeholders to inform the initial publications.

Key documents are produced in the early phase of the ILP. Five years before expiration, the applicant submits a Notice Of Intent (NOI) to apply for a new license and a Pre-Application Document (PAD). The NOI is simply a formal notice from the applicant to the FERC. The PAD is developed by the applicant and may include input from tribes, resource agencies, and NGO's. The more the applicant pursues and includes the input, the smoother the process can become (FERC 2011 7).

The PAD provides: a relicensing process plan, schedule, and communication protocol; a description of facilities and operations; a general description of the river basin; potential effects and resource issues; and a description of the environmental conditions. The description of environmental conditions includes endangered species and socioeconomic resources, two issues that can slow the process later.

The applicant's openness in drafting the PAD can increase stakeholder satisfaction, as well as enable efficient use of time once the process has begun. These documents enable proactive stakeholders to be prepared at scoping meetings, so if the

applicant does not provide enough timely information it leads to less productive meetings. “The level of preparedness among NGO’s depended greatly on the applicant’s efforts to engage stakeholders prior to the NOI and PAD,” according the FERC’s 2005 Effectiveness Evaluation (p.16).

After the NOI and PAD, the FERC begins the NEPA scoping process. The FERC develops the Scoping Document, which describes the project and proposed study plans for the relicensing, and it draws heavily on the PAD. 30 days later, the FERC holds a pre-filing scoping meeting for public and agency stakeholders and hosts a site visit to the project in question. A FERC regional representative hosts the scoping meeting and site visit. A 30 comment period is opened, and comments can be submitted on issues, management objectives, existing information, needed information, process plan, and schedule.

During the scoping process, the FERC also requests “cooperating agency status” from agency stakeholders. If the agency takes “cooperating” status, the agency cannot intervene later in the process. While cooperating agency status can enable the agency to guide study plan choices, it hinders the agency’s ability to ‘whistle-blow’ in the final and most inaccessible parts of the process.

Comments on the PAD, SD1, and study requests can be submitted electronically or in hard copy. “The FERC strongly encourages all parties communicating with it during the process to do so electronically,” according to the communications homepage

of the Don Pedro Project Relicensing (<http://www.donpedro-relicensing.com/communications.aspx>).

The FERC has 45 days to issue Scoping Document 2 (SD2), where comments and study plan requests are addressed. The SD2 illustrates any changes made to project scope with italics where changes were made. This is a departure from the FERC's previous approach, where public comments and study plan requests were largely ignored (Wright 2006).

The Study Plan determines the research required to assess possible impacts of the project. "Data is used to rationalize," especially when determining the preliminary terms and conditions of the projects, according to an interview with an NGO FERC expert. She went on to describe the study plan determination as an informal negotiation, which can be collaborative or adversarial.

Studies range from socioeconomic assessment, to fisheries habitat. The applicant relies heavily on the input of agencies, NGO's and tribes to draft a Study Plan. Stakeholders may submit study plan requests, which the FERC responds to in the draft Study Plan. The agency stakeholders submit study plan requests that affect the NEPA and ESA regulations, so the process of creating the Study Plans is essential for harmonizing ILP and environmental regulation processes. The FERC strongly recommends determining these study needs early in the process, or even conducting the research prior to the process (FERC 2011).

There are seven criteria for a study plan proposal. This helps the applicants and the FERC understand how the study is related to the project operations. However, according to the FERC’s own effectiveness evaluation, “many private citizens who lack relicensing experience or ecological knowledge feel that their level of understanding is too basic to create a supported study request.”

Table 4.2 *Important Process Documents for Stakeholder Participation*

Document	Description	Relation to Stakeholder Involvement
Notice of Intent/ Pre-Application Document	Applicant submits NOI and PAD to the FERC 5 years before original licensing expires. The PAD is a general description of the project, some 800 pages long.	The FERC draws heavily on the PAD to create the Scoping Document. Applicants can consult with stakeholders during PAD development to identify issues early.
Scoping Document 1 and 2	Part of the FERC NEPA scoping process. A summary of the PAD, with special attention to potential study plans	Stakeholders can comment orally or in writing to Scoping Document 1, the FERC issues their responses to comments in Scoping Document 2.
Study Plan	Developed by the applicant, the study plan determines what will be researched for potential impacts from the project	Applicant develops Study Plan with input from civic and agency stakeholders. Applicant discretion affects how much stakeholder input is considered.

The complex nature of the ILP, the tight timeline, and diverse needs of stakeholders often necessitate applicants to hire outside consultants. The consultants are

well versed with the ILP, hydropower operations, and environmental requirements. They aid the applicant in doing pre-process scoping, drafting study plans, and creating the PAD. An expert in the field noted that one consultant agency, HDR Inc., is working on the majority of current relicensing projects. In the FERC's evaluations, "most participants felt that hired consultants have been helpful in facilitating communications and identifying roles early in the process" (p.4 2006). Consultants are discussed more thoroughly later in this chapter.

### Overview of the Tuolumne River

The Don Pedro Project is on the Tuolumne River and this section provides a brief description of the socio-ecological system. The Tuolumne River (Too-all-uh-mee) is in the central Sierra Nevada. It is situated in the northern part of Yosemite National Park. By car it's about 2.5 hours east from San Francisco, or 2.5 hours south east of Sacramento. The Stanislaus River is just to the north, and the Merced River is to the south. Reservoirs on the Tuolumne serve the City and County of San Francisco and the Modesto and Turlock Irrigation Districts.

The 13,000' high peaks of Mt. Dana and Mt. Lyell mark the eastern-most boundaries for the Tuolumne, the largest watershed in the San Joaquin drainage. At about 150 miles from headwaters to mouth, the river averages 100' in elevation drop per mile. With the majority of the gradient in the upper portion of the watershed, the river is known internationally for high quality whitewater opportunities. 83 miles of it are under federal Wild and Scenic designation, with 54 miles in Yosemite National Park and an

additional 29 miles in Stanislaus National Forest. The Tuolumne is the largest drainage in the San Joaquin Basin, and once supported the Basin's largest salmon runs.

The Tuolumne has a story similar to many rivers in the Sierra Nevada. The Gold Rush of 1849 brought tens of thousands of miners to the foothill region, so-called the "mother lode region." The Native Americans were murdered outright through institutionalized racism and tacitly through loss of livelihood resources. Mining practices, especially hydraulic mining, eroded mountains and ruined water quality.<sup>6</sup> During and after the Gold Rush, agriculture became a mainstay in California's landscape and economy.

In 1852 the first diversion dam was built on the Tuolumne, near the small mining camp of La Grange. Ranching and farming were already growing, and everyone seemed to notice how fertile the land was and how little water there was (Barnes 1987, Reisner 1986). In 1887 California's first two irrigation districts were established, both on the Tuolumne River. La Grange was renovated in 1893 for increased diversions and to establish hydropower production.

The next dam constructed on the Tuolumne River was upstream in Yosemite National Park, with the City and County of San Francisco and the Hetch Hetchy Water Project. The Hetch Hetchy is controversial because two reservoirs are inside Yosemite's

---

<sup>6</sup> Mercury levels are still so high in many Sierra rivers, like the Tuolumne, American, and Feather Rivers, that the fish are unsafe to eat.

boundaries, as the Raker Act permitted in 1913. Though this is also an interesting aspect of the Tuolumne, it is largely outside the scope of this paper.

While the Tuolumne once supported the largest fall-run Chinook salmon runs in the Central Valley, loss of habitat from reservoirs and water quality issues resulted in dramatic decline in population size. According to the California Hydropower Reform Coalitions, the Don Pedro relicensing is currently one of the most important resource opportunities because of the potential for restoration.

The Federal Power Act passed in 1920, and by 1923 the Districts built the original Don Pedro Reservoir for irrigation diversion and hydropower production. The agricultural industry in the surrounding area was becoming the largest wheat producer in the world. With irrigation, the production in the region shifted from dry farm barley to a diversity of crops, including clover, corn, dry beans, fruit, tomatoes, alfalfa, and almonds (Scoping Meeting 7pm). The agricultural industry in the region continued to grow, as a 1968 newspaper reports, “That the part of the county between the Stanislaus and Tuolumne Rivers, an area of 125 square miles known as ‘Paradise,’ is one unbroken field of grain” (p.10 Quoted by Barnes 1987). In 2008, over \$2.4 billion in crops were grown in the surrounding area (Scoping Meeting 2).

In 1971 the New Don Pedro Project was constructed, as described below. Agriculture drove the economy, and tax payer subsidized water and energy rates from the Districts attracted large production and manufacturing corporations. This link between cheap utilities and vitality in the local economy persists today. Limiting diversions or

hydropower production time is perceived to negatively impact the agriculture industry.

The strong economic and cultural roots of agriculture in local communities persist today.

#### Description of the Don Pedro Project

The Don Pedro Project consists of Don Pedro Dam and Reservoir, Don Pedro Powerhouse, and recreation facilities of Blue Oaks, Fleming Meadows, and Moccasin Point. Modesto and Turlock Irrigation Districts were granted the original 50 year license for the project in 1966, which is due to expire in May of 2016.

The functions of the project are power generation, water storage and use, recreation and flood control. Turlock Irrigation District, Modesto Irrigation District, and the City and County of San Francisco completed construction of the \$105,000,000 reservoir in 1971. The City and County of San Francisco (hereafter the City) paid for half the reservoir in exchange for water banking rights. The City owns and operates four upstream reservoirs, but does not hold senior water rights. Since the Modesto and Turlock Irrigation Districts have senior water rights on the Tuolumne, the City must oblige. The new Don Pedro reservoir permits the City to store water from spring runoff in the reservoir, allotting the Districts their proper amount in advance. This allows the City more flexibility in water and peak power production.

The Don Pedro Recreation Area includes three main recreation facilities: Blue Oaks, Fleming Meadows, and Moccasin Point. The Don Pedro Recreation Agency manages the recreation facilities and is part of the Turlock Irrigation District. The large reservoir is especially popular for house boating, as well as fishing, boating, and

waterskiing. The project boundaries include Wards Ferry, the take-out for a world famous whitewater run.

The Project originally had three hydropower generation turbines. In 1987, the Districts applied for and obtained an amendment to their license to add another hydropower turbine. This altered the fisheries study plans of the original license without consult from relevant resource agencies. According to article 37 of the original license, minimum flow requirements would be reviewed after 20 years, using information from the District's ongoing fisheries studies. The Districts applied to change article 37 in 1992 and as part of those changes the Commission required the Districts to design the new flow requirements to benefit fisheries on the Tuolumne, and these flow requirements must be approved by the National Marine Fisheries Service (NMFS) and Fish and Wildlife Service (FWS)(ALJ Hearing 2009).

Beginning in 1998, the NMFS listed the Tuolumne as critical habitat for Chinook salmon and the steelhead. They requested the Commission conduct a consultation to consider the effects of the Don Pedro Project on these species. In 2003 the NMFS opened a petition for a formal consultation on the impacts of Project operation on these species, and the FWS joined. In response, the Districts declared the NMFS's research to be legally flawed and lacking scientific evidence. The Districts requested the Commission to prohibit the NMFS from pursuing alteration of the license conditions.

The Commission conducted a scoping process to obtain comments and recommendations from stakeholders in 2005 – 2006. NMFS, FWS, CA Department of

Fish and Game, the City and County of San Francisco, the Friends of the Tuolumne, and the Stanislaus Fly Fishermen all made motions to intervene and became parties in the process as well as submitting recommendations and comments. In 2006 Commission staff established that the submitted data and recommendations were insufficient to correlate the Project and the state of the fisheries (2009 ALJ hearing).

The negotiations continued and in 2009 there was an Administrative Law Judicial hearing over the license conditions impact to the salmon and steelhead in the Tuolumne. The Districts, the City and County of San Francisco, resource agencies and civic stakeholders are made formal statements during the hearing. The hearing resulted in no changes in the license conditions, since “implementation of the Interim Flow Proposal measures aimed at promoting effective monitoring of the biological response of the salmon and steelhead populations to the proposed interim flow measures would need to be weighed against possible harm to other water users” (2009 ALJ hearing).

The La Grange Dam is two miles downstream from the Don Pedro Project, but is not part of the Project or the license. It is owned and operated by the TID; surprisingly, it was made clear during the scoping process that it is not licensed by the FERC. At the time of this writing, the NMFS is pursuing clarification on this important jurisdictional issue. Water releases from Don Pedro are calculated below La Grange, but La Grange presents a river-wide block to upstream fisheries habitat and potential fish passage that could be required in the new Don Pedro license. Agency and civic stakeholders have requested the inclusion of La Grange in the Don Pedro Project’s new license.

### Stakeholder Groups and Positions Relative to the Don Pedro Relicensing

Four main stakeholder groups are involved in the Don Pedro Relicensing. The following table briefly describes each group and their general positions in the process. One category, the Modesto and Turlock Irrigation Districts, includes an additional description of the consultant group they hired for the relicensing, HDR Inc. Each group is discussed to sketch an idea of what stakeholder positions are and their perspectives on the relicensing and collaboration. Quotes from interviews and publications are included to provide specific examples of perspectives and attitudes.

Table 4.3 *Stakeholders and Positions Relative to Don Pedro Project Relicensing*

The Modesto and Turlock Irrigation Districts	The Agricultural Industry	Agency Stakeholders	Civic Stakeholders
<ul style="list-style-type: none"> <li>• License applicants</li> <li>• Energy Production</li> <li>• Industrial Water Supply</li> <li>• Domestic Water Supply</li> <li>• Consultant: HDR Inc.</li> </ul>	<ul style="list-style-type: none"> <li>• Cheap Water</li> <li>• Cheap Energy</li> <li>• “Water is the lifeblood of agriculture.”</li> <li>• Global and local agricultural economy</li> </ul>	<ul style="list-style-type: none"> <li>• Salmon fisheries and riparian habitat</li> <li>• Releases mimicking natural patterns</li> <li>• La Grange Dam needs to be included</li> </ul>	<ul style="list-style-type: none"> <li>• River Restoration</li> <li>• Recreation</li> <li>• Stakeholder Collaboration</li> <li>• Local economy</li> <li>• “We have the golden opportunity to get it right”</li> </ul>

### *The Districts*

Modesto and Turlock Irrigation Districts (MID or TID, respectively, or the Districts from here forward) are the two oldest irrigation districts in California. The TID was the first irrigation district in California and was created in June of 1887, and the MID was created shortly after, in July. The Districts have a long history of working together, starting in 1893 when they jointly constructed the La Grange Reservoir for irrigation. The Districts' early inception reflects the region's long economic and cultural history with agriculture.

The Turlock Irrigation District serves a slightly larger region, with 14 communities, primarily in Stanislaus and Merced counties. TID provides irrigation water to over 5,800 growers in the Central Valley, covering a 307 square mile service area. 250 miles of gravity-fed irrigation canals transport water to industrial and family farms, as well as processing and manufacturing plants. Primary crops are: alfalfa, almonds, beans, corn, grain, grapes, oats, peaches, sweet potatoes, and walnuts. In 2011, TID charged growers an annual fee of \$26 per acre.

Modesto Irrigation District serves seven communities in two counties: primarily Stanislaus County; but also San Joaquin County. MID provides irrigation water to 3,100 growers in a service area of 156 square miles, irrigating 60,000 acres. MID has 208 miles of gravity-fed irrigation canals. Since 1994, MID also sells drinking water to the city of Modesto. The majority of irrigation service is within Stanislaus County, where

top crops are: milk, almonds, chickens, chicken eggs, turkeys, grapes, walnuts, cattle and calves, tomatoes and peaches. In 2011, MID charged growers an annual fee of \$27 per acre.

Both districts are invested in electricity production. With the construction of the original Don Pedro Reservoir in 1923, TID entered into the newly established electricity business. A year later TID built La Grange Powerhouse. TID has a greater investment in energy production, with continued development in hydroelectricity, natural gas, and more recently, wind. MID also has significant investment in energy production, but produces less than TID. TID owns 68% of energy produced at the new Don Pedro Project.

The Districts are publicly owned, with local elected supervisors. The constituency represented by the Districts is predominately the agriculture industry. Each district has a five member board of supervisors, and currently in each district three of the supervisors hail from agricultural business and backgrounds. The Districts, situated in the agricultural Central Valley, contend with the political and economic forces of water and energy demands. At the same time, environmental regulations and species protections require increasing amounts of water at specific times of year.

Balancing the needs of local industry with environmental needs is a challenge faced by municipalities throughout the Sierra foothill. The 'Fish vs. Farms' debate is a highly charged political issue. The conflict is framed intractably as an either/or situation: either the fish get water, or the farmers get water, but someone's got to be losing.

Like many irrigation districts and municipalities in California, the Districts are going through this process for the first time in 50 years, and will not do again for at least 30. Complex legal requirements, environmental regulations, and process procedures are not the expertise of irrigation districts and municipalities. Larger privately owned utilities, like Pacific Gas and Electric, deal with relicensings more often since they control multiple projects. They have ‘FERC experts,’ who routinely handle all the relicensing projects.

In order for the smaller municipalities to efficiently and effectively complete the relicensing process, consultant agencies are often hired. Consultants range from development-oriented engineer and architecture firms to strictly environmental engineering and restoration groups. The consultants typically represent the client’s interests and attitudes toward collaboration. If the consultant takes an adversarial attitude, it diminishes the collaborative potential. A client interested in protecting energy production and irrigation diversions may select a consultant with a more conservative approach. Depending on the interests of the client (license applicant) and the context of the relicensing, consultants can greatly influence outcomes.

The recent trend toward hiring consultants reveals something about the ILP. The applicants have a fairly strict timeline to work with, may lack staff specialized in the FERC process, NEPA requirements, or state water quality requirements. Achieving efficiency is in the applicant’s interest, since the process is costly for the applicant.

The consultants are multi-talented. They facilitate the process, ranging from helping the applicants draft the PAD, negotiating the study plans, completing the studies and drawing conclusions for the applicant to submit to the FERC. Engineering firms are well versed in hydropower design, operations, permitting, and potential obstacles.

Though the consultants are important for process facilitation, it is important to consider what interests are represented in the process. The ILP is an opportunity for the FERC to step away from industry favoritism. If the applicant hires an industry-oriented consultant to facilitate the ILP, are those types of bias perpetuated?

*HDR Inc.* HDR Inc. was hired by the Districts for Don Pedro Relicensing. HDR is one of the largest architecture and engineering firms internationally. According to their website, “HDR is known to project owners across the globe as a firm with proven technical approaches and a focus on production bottom line results.”<sup>7</sup> They perform services ranging from environmental consultation on existing projects to the design and build of entirely new projects.

Stakeholder attitudes toward collaboration are guided by the consultants, who facilitate all non-FERC meetings and perform the studies required in Study Plan. Agency and NGO experts have noted the ubiquity of HDR in relicensing processes all over California.

---

<sup>7</sup> <http://www.hdrinc.com/about-hdr/knowledge-center/brochures/2012-dams-and-hydraulic-structures-brochure>

Interviewees that were involved in previous or simultaneous relicensing said the HDR representative had an adversarial tone and lacked collaborative attitude. In one interview, an agency manager noted that HDR is the consultant agency in 10 out of 12 relicensing project he is currently involved in. An NGO expert in the FERC process also mentioned that HDR is the consultant on most of the four relicensings she is involved with. The role of consultants in the ILP is an area for potential future research, and in particular, the role of this particular consultant company.

In the case of the Don Pedro Project, the Districts opened a call for Lead Relicensing Consultant at the end of 2008. According to the Modesto Irrigation District, it was a competitive bid process, based on a review of qualifications, cost estimates, and oral interviews. HDR was selected in June of 2009, about two years before the Districts entered the Pre-Application phase. The consultants helped the District draft and prepare the PAD, comments for scoping, and conduct required studies. Though the consultants are expensive, if they can produce license terms favorable to the districts it is seen as opportunity cost. HDR was unavailable for interview, despite several requests through phone calls and emails.

What are the implications of this type of relationship? Why does HDR dominate the recent relicensing process consultation? The substantial role of the consultant in the ILP process begs critical questions about the motivations and goals of the applicant and the consultants.

### *Agencies*

Despite environmental regulations, like NEPA and Endangered Species Act requirements, relicensing is the first time resource agencies are able affect river conditions, since the license was issued 50 years ago. State and federal agencies, ranging from California Department of Fish and Game to the Bureau of Indian Affairs can be involved with relicensing projects, though there is a typical cast including the National Marine Fisheries Service (NMFS), the US Fish and Wildlife Service (FWS), Bureau of Land Management (BLM) and the US Forest Service (USFS). In California, the only key state agency in the process is the State Water Resources Control Board (SWRCB) which determines water quality requirements for the Clean Water Act.

Like the FERC, agencies are also affected by the recent wave of relicensings. Some agencies have a FERC specialist who attends meetings and provides recommendations to the FERC and Districts. Agencies can become ‘cooperating agencies,’ during the process, which means they can help design and conduct research. However, this forces the agency to surrender their ability to intervene if the final licensing conditions are unacceptable. One skeptical agency representative questioned the collaborative potential of the ILP. He said the strict regulations of the ILP work to exclude resource agencies and limit their influence.

Additionally, involvement in a relicensing process requires devotion of resources which agencies are not compensated for. Involvement in the relicensing is above and beyond other requirements of the agency employee’s regular duty. The willingness of

agency representatives to collaborate with other agencies and civic groups during the scoping and planning phase can affect overall efficiency. Like with any effort towards collaboration, conflicting personalities or identities can debilitate or slow the collaborative potential.

As mentioned in the description of the Don Pedro Project, agencies like the NMFS and FWS have a decade of experience in unsuccessful negotiations with the Districts and the Commission to achieve better conditions for fisheries on the Tuolumne. Though previous experience working together can enhance collaborative potential, interviews with agency representatives indicated negative attitudes toward that possibility.

#### *Agriculture and Industry Stakeholders*

The regional economy is driven by the agriculture industry, as previously indicated. High value crops like almonds, peaches, and grapes grow well in the fertile soil, given access to water. Almonds alone bring up to \$400 million per year to the region. Large scale corporate farms as well as smaller family owned farms receive water through the MID and TID. Processing and manufacturing plants are also big customers of the Districts. International businesses, like Foster Farms and Del Monte, process their foods using water and energy from the Don Pedro Project. Low cost energy and water provided by the Districts gives a competitive edge to producers and manufacturers in the

region. However, the “burden” of environmental regulations is causing utility rate increases and making the area less attractive to these industries.

Agriculture and industry stakeholders correlate access to cheap water and energy and their economic survival. “And how agriculture goes is how the jobs go in the valley,” said one stakeholder (9am Scoping Meeting). Stanislaus County, which is served by both districts, has unemployment rates of nearly 20%. Increasing utility costs are blamed for job losses. However, job losses are more strongly linked to national and global economic recession rather than local utility costs (Scoping Meeting 2). Many agricultural stakeholders worry fish water diversions are an undue burden.

Agriculture was strongly represented at both scoping meetings. Though there were no coalitions of agricultural stakeholders, they had a clear and unified message: *Water is the lifeblood to agriculture, economy, and local communities.* Comments by the CEO of the Stanislaus Economic Development Workforce Alliance articulated similar comments by many agricultural stakeholders. He noted “We currently have 43,000 people seeking work...our circumstances could be much more if not for the strength of our agricultural production and processing” (p.49 Scoping Meeting 2). The CEO also indicated that the ILP’s time frame was too long, and that it represents anti-business perspectives. The process is “impeding the economic development process of generating living-wage jobs in the county... [because of] their opposition to a quality of living that we have become somewhat accustomed to” (p.51 Scoping Meeting 2). He went on to say, “[we] urge the FERC to consider the enormous economic ramifications of tampering

with a known process that has operated relatively flawlessly for five decades” (p. 52 Scoping Meeting 1).

Agricultural stakeholders iterated variations of “Water is our lifeblood”. “The water security this has afforded us is nothing short of significant, certainly nothing short of vital,” said an official from Stanislaus County during the Scoping Meeting.

The Don Pedro Project license affects the largest economic driver for local communities: \$2.5 billion dollar a year agricultural industry.

As part of California’s richly agricultural Central Valley, the Modesto and Turlock Irrigation districts provide low cost energy and water to farms and processing and manufacturing plants. Competition for this water is increasing, not only through growing customer requirements, but also through required environmental water releases. The productive and possessing components of the agricultural industry are tightly linked through reliance on competitive water and energy costs.

Many agricultural stakeholders link very high local unemployment rates to the raising utility rates. Rising utility rates are linked to environmental fish water releases required by environmental legislation. “A decrease in water from the this project that is available for the agriculture and for the benefit of the local communities will also mean less available for the hydroelectric power generation that will equal higher cost power for all of us,” according to the County representative.

However, since the Districts' service areas include large national or multinational corporations, it is important to remember how recent years of recession on the national and international scale effect conditions on the local scale. There are multiple factors contributing to the high unemployment rates, not just the rising utility rates. Statements like these appear to increase the intractability of the conflict. Not all stakeholders held strictly oppositional views: "I believe we can have a healthy AG, a healthy economy, and healthy environment if we work together and manage our resources."

Comments made at the Scoping Meetings indicated the agricultural stakeholders viewed hydropower as green, 'renewable' energy. However, since 2002 the State of California no longer considers large hydroelectric projects, like Don Pedro, to be renewable energy sources (Modesto Bee article). The apparent environmental impacts of these kinds of projects make it hard to label them 'renewable.'

Agriculture industry stakeholders are the biggest clients of the Districts. Two agricultural stakeholders were interviewed; neither had been involved in any FERC process before. One started preparing for the Scoping Process about a month ahead of time, when the PAD was published. One made no preparations. Neither used FERC materials or other guides to prepare. Both were contacted by the Districts before the Scoping Meeting to see if they were planning to comment, but neither was asked to contribute to the PAD development. They both considered the process to be open to collaborations, noting an interest in engaging and conversing about water use and supply and energy use components.

*Civic Stakeholders:*

Civic stakeholders play an important role in the FERC's NEPA Scoping process for the relicensing. In order for the FERC to give equal consideration to multiple users, as per the 1986 law, the FERC must understand the positions of local stakeholders. In the Don Pedro case, the agricultural stakeholders are strongly represented by the licensee of the project. The following description focuses on other civic stakeholder groups.

The Tuolumne River Trust, The California Alliance of Sportfishing Protection Alliance, the Central Sierra Environmental Resource Center, The Sierra Club, River Partners, the Golden West Women Fly Fishers, and Restore Hetch Hetchy were all represented at one or both of the FERC scoping meetings. Though the different groups have varied interests, many present similar points during the scoping meetings. Quotes from these groups had common themes like positive attitudes towards collaboration and working together to create "win-win" situations or consideration of environmental needs like water for fish.

The Tuolumne River Trust stated their mission in the scoping meeting: "...Our mission is to revive the river so it's safe for drinking, fishing, and swimming, a community benefit for our children and grandchildren so they may enjoy its rich recreational opportunities in a river that's teeming with fish and wildlife" (9 am Scoping Meeting p54). The TRT's membership base is spread from San Francisco to the high Sierra. All five representatives from the TRT that spoke at the scoping meetings iterated some version of "We are interested in finding win-win solutions."

In theory, civic stakeholders like these environmental groups have more power than ever in relicensing. Interview with members of some of these groups revealed mixed perceptions of collaborative potential in the ILP. One participant experienced with previous and concurrent relicensings emphasized the dramatic influence the applicant's attitudes toward collaboration and stakeholder participation have on the process and outcome.

Many groups find it valuable to do a significant amount of pre-process work to learn the ILP procedures, establish clear goals, and collaborate with other groups. Similar to the way consultants enable applicant to navigate the ILP, environmental groups are creating coalitions and sharing knowledge on the process and how to get the most out of participation.

*Coalitions*      *"I don't see a way a civic group could just jump in on their own"*

Local civic stakeholder groups used resources made available through state and national coalitions of groups working toward hydropower reform. Smaller coalitions of civic groups may form prior to a relicensing to research and prepare. The ability for stakeholders to comment, submit study plan proposal, and intervene in the ILP process offers both an opportunity and challenge for ordinary citizens.

The Hydropower Reform Coalitions (HRC) represents over 100 groups interested in improving the health of rivers through relicensing. The HRC creates materials to help stakeholders prepare for and participate in the FERC relicensings. The California

Hydropower Reform Coalition (CHRC), a smaller ‘child’ organization, is a coalition of over 30 groups concerned improving river conditions through California’s ongoing wave of dam relicensing. (please see Appendix \_\_ for a complete list of organizations).

Two of the HRC’s guides (“Citizen Toolkit for Effective Participation in Hydropower Licensing” and “Preparation for FERC Hydropower Relicensing (An Activists’ Guide for the Six Months to Two Years Before a Relicensing”)) were studied as part of this research. Additional guides for specific area, like designing scientific study plans or defining recreational use are available as well. All guides are free for download at their website (<http://www.hydroreform.org/hydroguide>).

Materials produced by the Hydropower Reform Coalition strongly encourage stakeholders to prepare well in advance of the process, beginning up to two years ahead of time. This provides time for people who are unfamiliar with the ILP, environmental regulations, or local resource issues to study up. If civic stakeholders are to effectively participate in the ILP, early preparation can help the stakeholders keep pace with the complex and fast moving process.

These kinds of coalitions are especially interesting because they emerged in response to the ILP and the wave of relicensings. Small environmental groups lack adequate resources, thorough understanding the ILP procedures and requirements, and the ability to devote 5 years to the process. Coalitions are a strategy for stakeholders to navigate the front loaded nature of the ILP, complex study plan requirements, and low levels of trust in the FERC.

Though partnerships do emerge before and during relicensing processes, there are no clear coalitions in the Don Pedro case. However, most of the environmental groups involved are member organizations of the CHRC and used the information made available through CHRC to prepare to for the relicensing.

Coalitions of NGO's serve the ILP process. They enable civic stakeholders to come together outside of the FERC's and the applicant's meetings to establish common ground, collaborate on strategies and arguments for the relicensing, according to the HRC's "Guide to Stakeholder Participation."

When stakeholders come together before the process begins, they start building social capacity through discussing goals, negotiating priorities and creating shared strategies for the FERC process. The existing literature identified these qualities as part of a collaborative process (Sabatier et al. 2005, Sexton 1998, Leach 2005).

Coalitions enable small NGO's an opportunity to learn about the ILP and most important times for involvement. Or, like the Foothill Water Network, one representative goes to the FERC meetings, prepared with agreed-upon goals and lists of coalition signatures showing support. According to interview with the Foothill Water Network, this helps the ILP go more smoothly since there are established points and a knowledgeable member that represents the larger group at the meetings.

The FERC's Effectiveness Evaluations mention that the complex nature of the ILP may be challenging for unfamiliar stakeholders to understand, the long time

commitment (up to 5 years), and numerous meetings are barriers for stakeholder participation (FERC EVAL 1 and 2). Civic stakeholder participation in the ILP is an important aspect of the FERC's ability to improve public satisfaction, but can also slow the process and reduce efficiency (which is a competing priority for the FERC).

### Findings and Interpretations

The following is a review of the results of content analysis and interview of key stakeholders. Table 4.4 displays the results using the six attributes of a democratic process on one axis and the stakeholder groups on the other. Three terms describe the presence of each attribute from the position of each stakeholder groups. Each of the six attributes may be: Present, Marginal, or Absent. Below the chart is a more detailed description of the data results for each of the six categories.

Table 4.4 *Presence of Collaborative Attributes*

	<b>Districts</b>	<b>Agriculture Industry</b>	<b>Agencies</b>	<b>Civic Stakeholders</b>
<i>Inclusive</i>	Present	Present	Marginal	Marginal
<i>Representative</i>	Present	Marginal	Present	Marginal
<i>Procedural Fairness</i>	Present	Present	Marginal	Present
<i>Lawful</i>	Present	Present	Marginal	Present
<i>Deliberative</i>	Present	Marginal	Marginal	Marginal
<i>Empowering</i>	Present	Marginal	Marginal	Marginal

### Inclusiveness

As defined by Leach, *inclusiveness* occurs when few formal restrictions are placed on participation. Public participation in the relicensing is restricted generally, with a few key opportunities for public participation. There are numerous formal restrictions on participation, ranging from timing to comment formats.

The main opportunities for public involvement occur in the first steps of the pre-application phase. The FERC-led NEPA Scoping Meeting enables the public to comment orally for five minutes, or submit a hard copy comment at the meeting. The entry rules for participation in the scoping meetings are minimal; it is the most accessible form of civic stakeholder involvement. Oral comments were limited to five minutes; opportunity to speak was open to anyone who signed up. Written comments were accepted at the meeting, through hardcopy sent to Washington, D.C., or through the FERC's electronic comment filing system. All comments become part of the public record.

The timeframes set out in the ILP are formal restrictions to participation. Like many formal planning processes, the opportunity to comment in the scoping process is short and very early in the process. In the ILP, the Scoping Process lasts for only thirty days, 5 years before the license expires.

The format for submitting comments and recommendations is a formal restriction on participation as well. The FERC's e-filing system requires a computer, internet access

and sufficient knowledge. To submit a full comment, the participant must go through a registration process with the FERC.

In interview, the MID's representative was sure that the Districts has done "due diligence" in informing and including the public. Her perceptions of an open public process contrasted the view of an environmental group member, who addressed the limited outreach of the FERC and Districts to the surrounding Latino communities and agricultural workers. Perceptions of the presence of this attribute varied across stakeholder groups.

The FERC's Effectiveness Evaluations, published in 2006 and 2011, emphasize the importance of the applicants' early outreach to stakeholders. The FERC representative at the scoping meeting reiterated this:

"The purpose of scoping, it's an early part of the NEPA process where we ask members of the public, non-governmental organizations, State agencies, federal agencies and Native American Indian tribes to assist us in identifying issues and concerns that should be included in our environmental document for the Don Pedro Project."

The ILP process required the Districts to consult with Native American tribes within 30 days of submitting a Notice of Intent (when the pre-application phase begins). No tribes were represented at the Scoping Meetings or submitted comments during the Scoping Process.

#### Representativeness

The Districts contacted key agricultural industry stakeholders before the Scoping Meetings, but only one of the interviewed environmental groups was contacted. Many of

the speakers at the Scoping Meetings represented civic groups, including agricultural and environmental groups. No representatives of tribes were present, except the National Marine Fisheries Service. Resource agencies like the NMFS and FWS spoke at the meetings, submitted formal comment, and continue to work with the Districts to determine necessary fish studies.

The agricultural community was strongly represented at the scoping meetings. Industrial representatives, like the one from Foster Farms, and individual farmers spoke in favor of continued cheap water and energy from Don Pedro. One participant in the Scoping Meeting commented “I’m totally thrilled, however, to hear everyone get up and speak and talk about agriculture” (Scoping Meeting 1).

#### Procedural Fairness

Treating all parties equally has been a challenge for the FERC in the past. As noted in the literature review, the Commission’s decisions favored hydropower production and irrigation diversions. As the FERC moves into a new era of stakeholder collaboration, it is their obligation to increase consideration of multiple stakeholders.

The Scoping Meetings emphasized the FERC’s procedural fairness. The FERC representative was sure to describe the FERC, the ILP process, and any rules for commenting. As one of the few interactions between the FERC and the public, it is understandably important to appear procedurally fair. Numerous speakers acknowledged and expressed gratitude for the opportunity to comment.

Interview with resource agencies revealed perceptions that the FERC continues to make status quo decisions, favoring business and industry. The 2009 ALJ Hearing, to the agency representative, was an example of the FERC's tacit support for business. When the NMFS brought the hearing and provided evidence of the dam's negative impact on salmonid habitat, as per recommendation by the Districts, the FERC responded by saying the science provided was incomplete. It is the same NMFS manager that illuminated non-licensed status of the La Grange dam during the Scoping Meetings.

#### Lawfulness

Many of the requirements of the ILP have to do with environmental regulation compliance, like NEPA scoping. The FERC designed the ILP to align multiple regulatory processes, supporting improved compliance with a variety of environmental regulations and simultaneous processes.

The consultant agency hired by the Districts is, in part, an effort to maintain a lawful process. Applicants, like the Districts, who go through this process once every 30-50 years, are generally unfamiliar with the intricacies of the ILP and environmental regulations. Consultants can help the applicants follow the ILP protocol.

The issue of the unlicensed La Grange Dam is fairly significant when establishing mitigation and restoration plans. When brought up by the NMFS during the Scoping Meeting, the Commission responded weakly: "We would first suggest that you work with the facility's owners to ask those sorts of questions and see if you can work with them on getting that sort of answer" (p.95 Scoping Meeting 1). Then, the FERC

suggested to the NMFS to make a formal request to the Commission for a “declaratory order” concerning the jurisdiction of the dam.

The non-licensed status of the dam is problematic for compliance with the ESA requirements. If the EIS produced by the FERC for the Don Pedro Project determines that fish passage at the Project, it is nullified by the La Grange dam which blocks the entire river some two miles downstream from the Project. In order to maintain compliance with environmental legislation, the La Grange needs to be included in the Project’s license conditions. The issue of the La Grange jurisdiction is not established by the FERC at the time of writing.

#### Deliberativeness

The ILP leaves little room for a deliberative process among stakeholders. The development of the Study Plan is one opportunity for stakeholders to request and propose study plans. Deliberation does not occur in the arena of the stakeholders; it is done by the Districts. The Study Plan, as described in Chapter 3, is the only opportunity for dispute resolution in the process and it determines what the FERC will pay attention to when assessing impacts of the project.

Attending the scoping meetings and listening to other involved stakeholders is the only other opportunity for building a shared knowledge base. However, since the scoping meetings are primarily a one-way flow of information, it is questionable to consider it deliberative.

### Empowerment

The ILP allows certain stakeholders influence over the results of the process primarily through the scoping process. All comments provided during the scoping process, both oral and written, receive some sort of response from the FERC. They also become part of the public record, which enhances the transparency of the process and allows ‘standing’ if litigated in the future. These comments and responses contribute to development of the new license.

Representatives from the CA Department of Fish and Game, the National Marine Fisheries Service, and the Fish and Wildlife Service all commented during the Don Pedro scoping process. New endangered species were listed, the Ward’s Ferry take-out included in the scope, and the scope of study for impacts increased.

Comments like “This is our golden opportunity to get it right” from environmental groups express an empowered attitude toward effecting the conditions of the license.

### Discussion

Leach’s six attributes provided a measuring stick to assess the collaborative potential of the Integrated Licensing process. It allowed structured analysis of specific attributes already deemed valuable by Leach’s research. The analysis showed that although the process has opportunity for democratic stakeholder influence, there are also considerable limitations.

Using the Don Pedro Project as a case study revealed that although the Integrated Licensing Process includes more stakeholder involvement, each project is situated in a complex of economic, political, and the environmental attributes which challenge meaningful collaboration.

Most environmental stakeholders emphasized the importance of collaboration in establishing an acceptable license for all stakeholders. There were also a few farm stakeholders that emphasized the importance of working together during the process. The attitude towards collaborations and a “win-win” situation is essential to success of the ILP’s goals of increasing stakeholder satisfaction.

Perhaps the most telling quote came from an NGO FERC specialist, when she recommended, “*Send everyone to collaborative negotiation training.*” The concept that everyone needs collaborative negotiation training speaks to two aspects of the ILP’s collaborative potential. First, while there are opportunities to participate, collaboration among adversarial stakeholder groups who are unfamiliar with each other or already oppositional is rare and challenging. Second, there potential for collaboration in the ILP, but it is influenced by the attitudes of the applicant and consultants toward negotiation and collaboration.

Leach’s framework does not take into account the role of coalitions in collaborative processes, especially agency lead processes. Critical engagement with the framework during this analysis revealed the growing importance of Coalitions, in the Don Pedro relicensing and beyond to other ILP processes. Coalitions help prepare

stakeholders to effectively participate in the process, enhancing the democratic collaborative potential of the ILP.

## CONCLUSIONS AND RECOMMENDATIONS

Does the ILP attempts to be inclusive, representative, fair, deliberative, and empowering? These attributes, which Leach ascribes to democratic collaborative processes, are present in some form during the ILP process. Using these characteristics to closely examine the possibilities for collaboration in the ILP revealed key findings.

The ILP appears to foster collaboration among stakeholders, but all major decisions are made behind closed doors, either by the FERC or the applicant. The ILP is heavily front-loaded, where important decisions and opportunities for involvement are primarily in the first six months of the five year process.

The tight timeframe and early participation possibilities demand applicants and stakeholders to do a fair amount of preparation before the process begins. Agency stakeholders begin preparing 6 months in advance, and the CHRC guidebook recommends beginning stakeholder preparation up to two years in advance.

When stakeholders come to the NEPA Scoping Meeting informed about the ILP, and prepared with comments and recommendations, it influences the ease of the entire process. Comments from civic and agency stakeholders provide important guidance in the design of appropriate impact assessment. However, the resources needed to adequately understand and prepare for the ILP is beyond what stakeholders are able to give. Compensation for preparation and participation is not provided, even though the

FERC and applicants benefit from it. Coalitions, like the California Hydropower Reform Coalition, develop and provide free access to valuable tools for civic stakeholders.

Federal grants could be provided to groups like these to enhance their ability to prepare stakeholders. The following is a list ‘best practices’ recommended for each of the stakeholder groups.

*Table 5.1 Recommended Best Practices*

<i>FERC</i>	<ul style="list-style-type: none"> <li>• Encourage the FERC representative assigned to each project to be more accessible to public and agency stakeholders.</li> <li>• Provide grants for non-profit civic stakeholder groups</li> <li>• Provide grants or recompensaion for stakeholder agencies</li> </ul>
<i>The Districts</i>	<ul style="list-style-type: none"> <li>• Be critical in selecting a consultant agency, aim for participation</li> <li>• Be involved. Negotiation spreads understanding and compliance</li> <li>• Consult civic and agency stakeholder groups while drafting the PAD</li> </ul>
<i>Civic Stakeholders</i>	<ul style="list-style-type: none"> <li>• Start preparing early, participate as often as possible</li> <li>• Work together with other groups, is a coalition possible?</li> <li>• Use resources provided by Hydroreform.org</li> </ul>
<i>Agency Stakeholders</i>	<ul style="list-style-type: none"> <li>• Collaborate with civic stakeholders and applicant to establish needs</li> <li>• Work with the applicant: encourage selection of process-oriented consultant, contribute to the PAD</li> </ul>
<i>Agricultural Stakeholders</i>	<ul style="list-style-type: none"> <li>• Open to the idea of win-win situations through negotiation</li> <li>• Recognize increasing commodity scarcity requires co-operation for sustainable resource use.</li> </ul>

The role of stakeholder collaboration in resource management evolved in response to changing social, economic, and environmental demands. Failed top-down models of resource management inspired legislative action to enhance resource protection and increase collaboration. The FERC, a federal agency with little experience in public involvement, adapted to the requirements and produced a new procedure for issuing reservoir relicensing. The Integrated Licensing Process went on-line just as a wave of relicensings began in California.

This research explored the democratic attributes of the ILP, revealing weak presence of all. Although the Leach framework provided important structure, other important attributes emerged as the research developed. The analysis revealed the process makes an attempt at collaborative planning, but the top-down nature of the FERC limit stakeholders' ability to make big influences. Working together and early preparation for the process are important. Attitudes toward collaboration and negotiation greatly influence the ability of the ILP to foster effective stakeholder participation.

Areas for future research include: exploring the formation of stakeholder coalitions; calculating time and resources used in preparation for the ILP; or investigating the role of private consultation firms on the collaborative potential of the ILP. Is there consistency across relicensing cases with the HDR consultants in terms of outcome or process? What is the consistency across applicants selecting the consultants?

This research serves current and future ILP participants by establishing the important function of coalitions in effective participation. Effective participation through negotiation and collaboration will be increasingly important in terms of the future of agriculture, water and the environment, especially in light of unpredictable climate conditions. Ensuring procedures and institutions enable democratic collaboration results in increased satisfaction and compliance.

## REFERENCES

- 2005 FERC: ILP - Effectiveness Evaluation Feedback: Summary of Comments Provided during Participant Interviews, Multi-Sector Teleconferences, and Regional Outreach Meetings. (2006, February). Federal Energy Regulatory Commission.
- 2010 FERC: ILP - Effectiveness Evaluation Feedback: Summary of Comments Provided during Participant Interviews, Multi-Sector Teleconferences, and Regional Outreach Meetings. (2011, March). Federal Energy Regulatory Commission. Retrieved from <http://ferc.gov/industries/hydropower/gen-info/licensing/ilp/eff-eva.asp>
- Agrawal, A. (n.d.). The Role of Community in Natural Resource Conservation.
- Alder, E., & Clark, R. (2005). Chapter 13 Content Analysis. *How its Done*.
- Creswell, J. (1997). Chapter 4: Five Qualitative Approaches to Inquiry. *Qualitative Inquiry and Research Design: Choosing among Five Approaches* (p. 424 pages). Sage Publications.
- Don Pedro Hydroelectric Project P-2299-075, Turlock Irrigation District, Modesto Irrigation District*. (2011a). (Vol. 2, p. 140). Modesto, CA: Federal Energy Regulatory Commission.
- Don Pedro Hydroelectric Project P-2299-075, Turlock Irrigation District, Modesto Irrigation District*. (2011b). (Vol. 1, p. 148). Modesto, CA: Federal Energy Regulatory Commission.
- FERC: Hydropower - Integrated Licensing Process (ILP). (n.d.). Retrieved March 21, 2012, from <http://ferc.gov/industries/hydropower/gen-info/licensing/ilp.asp>

Fischer, F. (2003). *Reframing Public Policy: discursive politics and deliberative practices*.

Oxford University Press.

Force, J. E., & Forester, Deborah J. (2002). Public Involvement in National Park Service Land Management Issues. *Social Science Review*, 3(1), 28.

Friends of the River, & California Hydropower Reform Coalition. (n.d.). Rivers of Power: A Citizen's Guide to River Restoration through Hydropower Reform. California Hydropower Reform Coalition.

Gibbons, D. (1986). *The Economic Value of Water*. RFF Press.

Hackett, S. (2006). *Environmental and Natural Resources Economics* (3rd ed.). New York: M.E. Sharpe.

Ideas for Implementing and Participating in the Integrated Licensing Process: Tools for Industry, Agencies, Tribes, Non-Governmental Organizations, Citizens, and FERC Staff. (2011, March). Federal Energy Regulatory Commission.

Leach, W. D. (2004, August). Is Devolution Democratic? Assessing Collaborative Environmental Management. Center for Collaborative Policy, CSUS.

Leimbach, J. (2009, April). Preparation for FERC Hydropower Relicensing (An Activist's Guide for the Six Months to Two Years Before a Relicensing). Hydropower Reform Coalition.

Littleworth, A. L., & Garner, E. L. (1995). Chapter 1 Floods, Droughts, and Lawsuits: A Brief History of California Water Policy. *California Water* (p. 366). Solano Pr.

Kessler, B. L. (2004, September). Stakeholder Participation: A Synthesis of Current Literature. NMPAC and NOAA.

- NWHA:Resources:Laws & Regulations:Hydropower Licensing. (n.d.).*Northwest Hydroelectric Association*. Retrieved March 21, 2012, from [http://www.nwhydro.org/resources/laws\\_regulations/hydropower\\_licensing.htm](http://www.nwhydro.org/resources/laws_regulations/hydropower_licensing.htm)
- Reisner, M. (1986). *Cadillac Desert: The American West and Its Disappearing Water* (2nd ed.). New York: Penguin Books.
- Roos-Collins, R., & Gantenbein, J. (2005, June). Citizen Toolkit for Effective Participation in Hydropower Licensing | Hydropower Reform Coalition. Hydropower Reform Coalition. Retrieved from <http://www.hydroreform.org/hydroguide/hydropower-licensing/citizen-toolkit-for-effective-participation>
- Sabatier, P. A., Focht, W., Lubell, M., Trachtenberg, Z., Vedlitz, A., & Matlock, M. (Eds.). (2005). *Swimming Upstream: Collaborative Approaches to Watershed Management*. Cambridge, Massachusetts: The MIT Press.
- Scoping Document 1 for the Don Pedro Hydroelectric Project. (2011, April 8). Federal Energy Regulatory Commission.
- Scoping Document 2 for the Don Pedro Hydroelectric Project. (2011, July 25). Federal Energy Regulatory Commission.
- Sexton, K., Marcus, A. A., Easter, K. W., & Burkhardt, T. D. (Eds.). (1998). *Better Environmental Decisions*. Island Press.
- State Water Resources Control Board. (n.d.). Retrieved March 11, 2012, from [http://www.swrcb.ca.gov/waterrights/board\\_info/faqs.shtml](http://www.swrcb.ca.gov/waterrights/board_info/faqs.shtml)

- Stene, E., A. (n.d.). The Central Valley Project - Introduction. Retrieved March 11, 2012, from <http://www.usbr.gov/history/cvpintro.html>
- Strange, T., & Kvam, B. (n.d.). Reservoirs and FERC Relicensing - The Missing Link Between Fisheries, Wildlife, and Recreation. Strange Resource Management.
- Tarlock, D. A. (2000). Putting Rivers Back in the Landscape: The Revival of Watershed Management in the United States. *West-Northwest Journal of Environmental Law and Policy*.
- Turlock Irrigation District, & Modesto Irrigation District. (2011a, February). Don Pedro Project 2299-075 Pre Application Document Volume 1.
- Turlock Irrigation District, & Modesto Irrigation District. (2011b, February). Don Pedro Project 2299-075 Pre Application Document Volume 2.
- Tutty, L. M., Grinnell, Jr., R. M., & Williams, M. (1997). Research Problems and Questions. *Social Work Research and Evaluation* (5th ed., p. 640). Itasca, Ill: F.E. Peacock.
- Wright, J. (2006, August). *A Policy Analysis of the Federal Energy Regulatory Commission's Hydroelectric Relicensing Process*. Humboldt State University, Arcata, CA.



APPENDIX B: DETAIL OF DON PEDRO AREA AND FACILITIES

3.0 Project Facilities and Operations

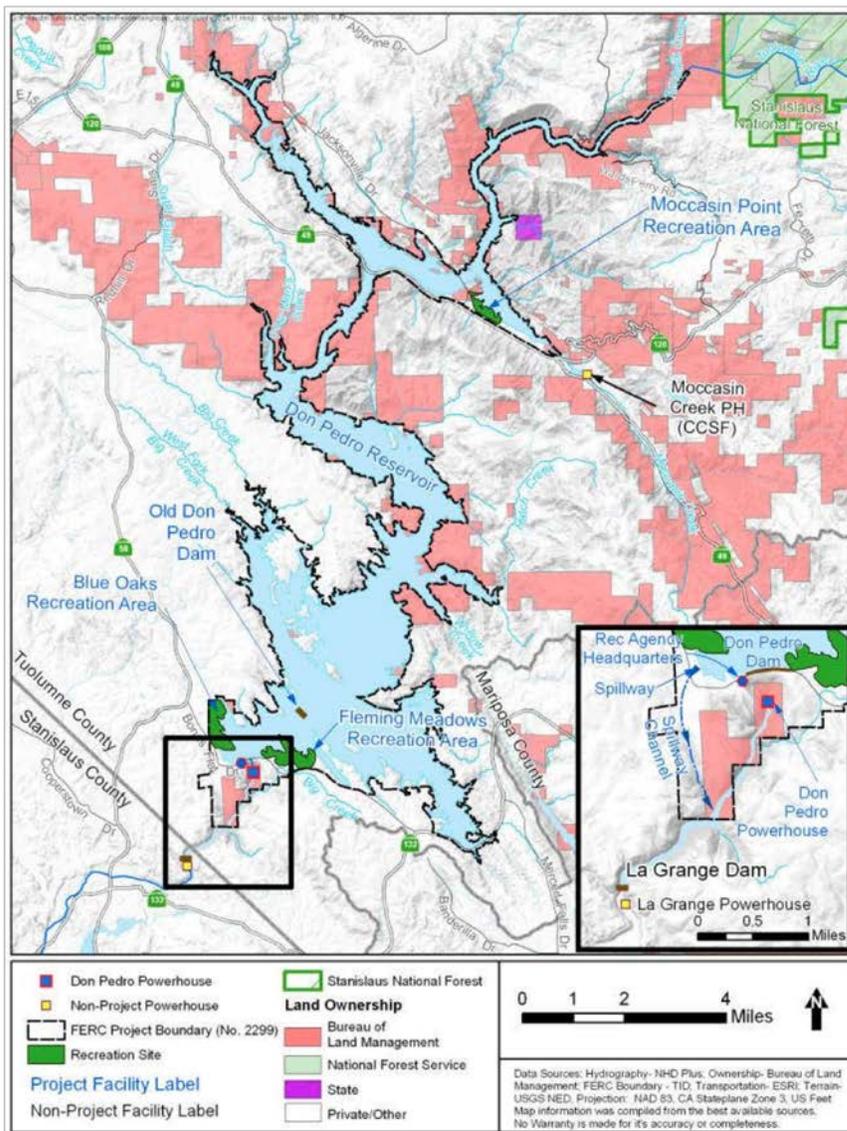
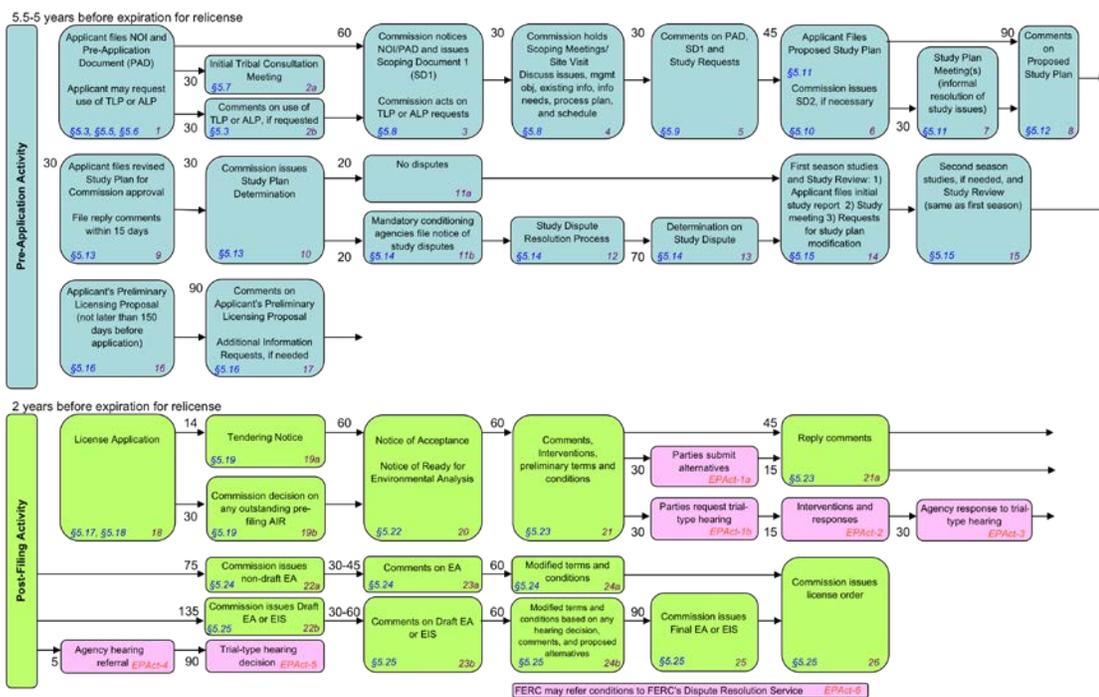


Figure 3.4-1 Detail of Don Pedro Project area and major facilities.

## APPENDIX C: ILP FLOWCHART

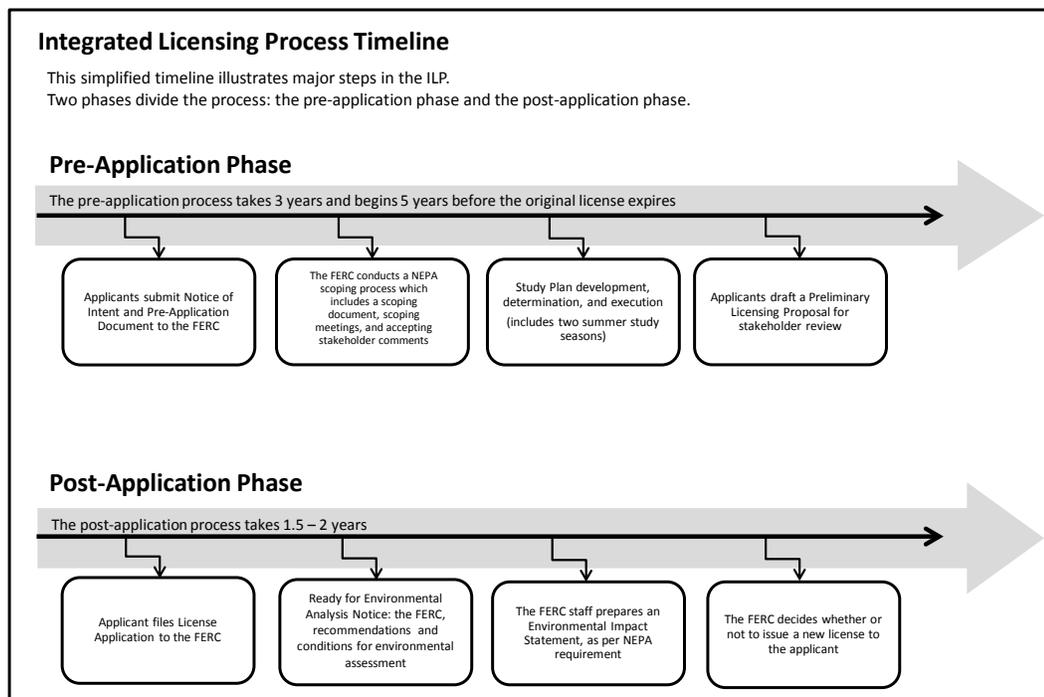
### Integrated Licensing Process (Section 241 of the Energy Policy Act of 2005)



\*Section 241 of the Energy Policy Act of 2005 in pink.

<http://www.ferc.gov/industries/hydropower/gen-info/licensing/ilp.asp>

## APPENDIX D: ILP Timeline



Derived from the FERC's 2006 flowchart in "Ideas for Implementing and Participating in the Integrated Licensing Process"  
Please see <http://www.ferc.gov/industries/hydropower/gen-info/licensing/ilp/eff-eva/ideas.pdf>

## APPENDIX E: LIST OF INTERVIEW QUESTIONS

### General Interview Questions

1. What is your reason for involvement in this planning process?
2. How have you been involved?
3. How long have you been involved with Tuolumne River issues?
4. Have you been involved in planning processes in the past?
  - 4a. How many? / Which ones?
6. What restrictions are there for public access to participation?
7. Who administrates these restrictions? Do you know how are these rules established?
8. Are all reasonably affected parties represented?
9. How are parties without formal organization represented?
10. Are you satisfied with the procedural fairness of the process?
11. Are all parties treated equally?
12. Does the process uphold related laws?
14. Do you think the process creates a shared knowledge base among participants?
15. Were multiple proposals submitted and discussed during the process?
16. How are the needs and desires of participants negotiated in the planning process?
17. How well was this process tailored to the needs of local communities?
18. Were public participants able to influence the decisions made in this process?
19. What is your overall satisfaction with the role of public in the \_\_\_\_\_ planning process?
20. Is there anything I missed?
21. Are there other participants that may be willing or informative participants to this research?

## Participant Questions

1. How are you involved in the Don Pedro Relicensing?
2. Have you been involved in previous relicensing processes?
  - a. How many? Which ones?
    - a. Have any of those used the ALP or TLP?
    - b. Are you currently involved in other relicensing processes?
3. When did you first begin preparing for the Don Pedro Relicensing?
4. How did you prepare?
  - a. Did you utilize either the guide FERC published, or the CHRC guidebook?
5. Were you or your organization invited by the Districts or the FERC to participate?
  - a. When?
  - b. Did your organization provide any input for the development of the PAD/NOI?
6. Did you attend the scoping meetings conducted by the Districts? (Prior to FERC NEPA Scoping)
  - a. How many people were in attendance?
7. What is your perception of the general attitudes of stakeholders towards a collaborative process?
8. Are you or your organization represented or representing a coalition of stakeholder groups?
9. How have you interacted with the consultants hired by the Districts?
  - a. What is your perception of the consultants' attitudes towards a collaborative process?
10. Do you have any questions for me?
11. Have I missed anything?

APPENDIX F: LIST OF CALIFORNIA HYDROPOWER REFORM COALITION  
MEMBER GROUPS

American Rivers	Friends of the Tule River
American Whitewater	Kern River Alliance
California Outdoors	Kern Valley Community Consensus Council
California Sportfishing Protection Alliance	Kern Valley Council
California Trout	Kernville Chamber of Commerce
Foothill Conservancy	Mono Lake Committees
Friends of the River	Mountain Meadows Conservancy
Natural Heritage Institute	Northern California Council, Federation of Fly-Fishers
South Yuba River Citizen's League	Pacific Rivers Council Planning and Conservation League
Trout Unlimited	San Joaquin Paddlers
California Save Our Streams Council	Sequoia Paddling Club
California Wild Heritage Campaign	Shasta Paddlers
Central Sierra Environmental Resource Center	Sierra Nevada Alliance
Center for Sierra Nevada Conservation	Tuolumne River Preservation Trust
Chico Paddleheads	
The Conservation Fund	
Friends of Butte Creek	
Friends of the Eel River	