# **PREPARATION FOR FERC Hydropower Relicensing:**

## (An Activist's Guide for the Six Months to Two Years Before a Relicensing)



Prepared for the Hydropower Reform Coalition by Foothills Water Network



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Over the last 20 years, Mark Boerkrem became one of the best-known environmentalists of the "Quad Cities" — the four-county metropolitan area flanking the Mississippi River in Iowa and Illinois. He knew the Mississippi River better than anyone else, and his love of fishing got him interested in protecting the environment from a very young age. Excellent leadership skills and extensive knowledge made Mark a great advocate for protection of the Mississippi River, its wetlands, and its health. He was very dedicated to water quality issues and special projects in the Quad Cities, and his knowledge of technical issues and the politics surrounding those issues earned him respect, even from those with whom he disagreed. He was active on many Sierra Club water committees over the years and worked for other organizations on water quality issues.

Mark was born March 26, 1952. After earning a Bachelor of Science degree from Western Illinois University, he pursued a doctorate from Washington University in St. Louis. Mark was an environmental activist, a member of the Sierra Club, and the first executive director of the Quad City Conservation Alliance. He died November 5, 2007.

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### **Glossary: Terms and Abbreviations Used in Relicensing**

The relicensing process is full of terms of art and abbreviations related to water, hydropower, biology and various federal laws. This glossary provides the most common ones you will encounter in the process and in reading this guide.

The summary definitions below are in plain English for ease of use. For legal definitions, see:

- 16 United States Code, section 796
- 18 Code of Federal Regulations, section 4.30(b) (Federal Power Act part I terms)
- 40 Code of Federal Regulations, part 1508 (National Environmental Policy Act terms); and sections 121.1, 122.2 (Clean Water Act terms)
- 33 United States Code, section 1362
- 50 Code of Federal Regulations, section 450.01 (Endangered Species Act terms)

Acre foot: A volume of water that will cover an acre to a depth of one foot, or 325,851 gallons.

- *Adaptive management:* A process that acknowledges the imperfect and evolving understanding of environmental dynamics. Adaptive management includes monitoring conditions, testing hypotheses, evaluating results, and using the conclusions to improve management decisions.
- *Afterbay*: A reservoir located immediately downstream from a powerhouse, typically used to regulate powerhouse discharge.
- ALP: Alternative Licensing Process. One of the three relicensing options.
- Anadromous (fish): Fish that hatch in fresh water, migrate to the sea, and return to fresh water to spawn, such as salmon and steelhead.
- **BA:** Biological Assessment (see below).
- *Baseline or Environmental Baseline*: Under the Federal Power Act, the baseline is the existing condition of the waters and lands in the hydropower project area at the time the licensing procedure begins. Under the Endangered Species Act, the baseline is the past and present impacts of all federal, state or private actions and other human activities in the action area, the anticipated impacts of all proposed federal projects in the action area that have already undergone Section 7 Consultation (see "Consultation, next page), and the impact of state or private actions that occur at the same time as the consultation process (50 C.F.R. § 402.02).
- *Biological Assessment or BA*: A document that evaluates the potential impacts of a licensing decision on any fish, wildlife, or plant species listed or proposed for listing under the Endangered Species Act, and proposed or designated critical habitat for those species. Prepared by the licensee under the supervision of the U.S. Fish and Wildlife Service (FWS) or National Marine Fisheries Service (NMFS) as the basis for a Biological Opinion.
- *Biological Opinion or BO*: A document prepared by the U.S. Fish and Wildlife Service (FWS) or National Marine Fisheries Service (NMFS) that includes: (1) the opinion of the administering agency on whether a licensing action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat; (2) a summary of the information on which the opinion is based; and (3) a detailed discussion of the impacts of the action on a listed species or its critical habitat.

**BO:** Biological Opinion.

- *Bypass reach:* A section of a river between a dam or other diversion structure and a powerhouse, around which water is diverted.
- CIA: Cumulative Impacts (or Effects) Analysis (see below).
- *C.F.R.*: Code of Federal Regulations. The body of federal regulations.
- *CFS*: Cubic feet per second (see below).
- *CHRC*: California Hydropower Reform Coalition. Statewide coalition of conservation, angling, and boating organizations.
- *Comprehensive Plan*: A plan for the development of generation or other beneficial uses of a river recognized under Federal Power Act section 10(a)(2)(a).
- *Conduit*: A tunnel, canal, pipeline, or similar structure for moving water.
- *Consultation*: Under Federal Power Act part I, a cooperative effort of the licensee and other participants to prepare and implement a study plan, then prepare a license application, in order to minimize unresolved disputes of fact and law. Consultation under the Endangered Species Act (ESA) ("Section 7 Consultation") is a cooperative effort of FERC, the licensee, and the U.S. Fish and Wildlife Service or National Marine Fisheries Service to analyze the impacts of a licensing action on listed species or critical habitats. The consultation may be formal or informal. See section 4.2.2 of the Federal Power Act.
- *Critical habitat*: Land or water areas designated by federal fish or wildlife agencies as having the physical or biological features essential to the conservation of a species listed under the Endangered Species Act, as provided in ESA section 3(5)(A).
- *Critical Energy Infrastructure Information (CEII)*: Information concerning proposed or existing critical infrastructure (physical or virtual) that: (1) relates to the production, generation, transmission, or distribution of energy; (2) could be useful to a person planning an attack on critical infrastructure; and (3) gives strategic information beyond the location of the critical infrastructure.
- *Cubic feet per second (cfs or CFS)*: A water flow of one cubic foot passing a measurement point in a second. A cubic foot is equal to a box one foot on each side, roughly the size of a basketball.
- *Cumulative impact*: Under the National Environmental Policy Act (NEPA), the environmental impact that results from the incremental effects of the action in addition to other past, present, and reasonably foreseeable future actions, as provided in 40 C.F.R. § 1508.7. Under the Endangered Species Act, a "Cumulative Effect" is the impact of future state or private activities, but not federal activities, that are reasonably certain to occur within the area of the federal action subject to Section 7 Consultation, as provided in 50 C.F.R. § 402.02.
- Cumulative Impact (or Effects) Analysis: Part of the environmental review process.

CWA: Clean Water Act, 33 U.S.C. §§ 1251-1387.

*Dam*: A structure for impounding or diverting water.

- *Designated uses*: The beneficial uses of water designated as water quality standards under Clean Water Act section 303(a).
- *Development application*: An application for a license or exemption for a proposed hydropower project.

Discharge: The release of flow from a dam, powerhouse, or other control structure.

- *Dismissal*: The Federal Energy Regulatory Commission (FERC) rejection of a license application because the applicant failed to provide required information.
- *Docket*: A FERC term for the formal record of a proceeding on a given application for permit, license, or exemption.
- DO: Dissolved oxygen.
- **ECPA:** Electric Consumers Protection Act.
- *Endangered species:* A species of fish, wildlife, or plant listed under the Endangered Species Act as in danger of extinction throughout all or a significant portion of its range.
- *Endangered Species Act or ESA*: The federal law, 16 U.S.C. §§ 1531-1544, that provides for protection and recovery of endangered or threatened fish, wildlife, and plant species.
- Enhancement: Improvement of the baseline condition of a natural resource (see Baseline).
- *Entrainment (or impingement)*: Incidental capture of fish or other aquatic life in a trash rack or generator turbine.
- *Environmental Assessment (EA)*: A document prepared by FERC and any cooperating agency, under the National Environmental Policy Act (NEPA), to determine whether a licensing action may significantly affect environmental quality.
- *Environmental conditions*: FERC license conditions that require the licensee to undertake measures to protect, mitigate, and enhance environmental quality.
- *Environmental document*: A National Environmental Policy Act document such as an environmental assessment (EA), environmental impact statement (EIS), or categorical exemption (CE). Also similar documents required by comparable state laws.
- *Environmental Impact Statement (EIS)*: A document prepared by FERC under the National Environmental Policy Act (NEPA) to analyze a licensing action that, even after mitigation measures, may have significant adverse impacts on environmental quality.

EPA: U.S. Environmental Protection Agency.

**EPRI:** Electric Power Research Institute.

ESA: Endangered Species Act.

*Existing dam*: A dam that has already been constructed.

Federal lands: U.S. lands held in fee title.

FERC: Federal Energy Regulatory Commission.

FLMA: Federal Land Management Act.

FPA: Federal Power Act, 16 U.S.C. §§ 791-823 (Part I) and 16 U.S.C. §§ 824-824n (Part II).

*FWCA*: Fish and Wildlife Coordination Act, 16 U.S.C. §§ 661 - 666c.

FWPA: Federal Water Power Act.

FWS: U.S. Fish and Wildlife Service, an agency within the U.S. Department of Interior.

Filing: A document formally filed in a license proceeding.

*Fish and wildlife agencies:* U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and any state agency with jurisdiction over fish and wildlife resources.

- *Fish and wildlife recommendation*: A recommendation to protect, mitigate, or enhance fish and wildlife resources affected by a hydropower project.
- *Fishway*: A structure or device put in place to permit the passage of fish through, over, or around a hydropower project, such as a fish ladder or a trap-and-truck operation.
- *Flashboard*: A removable board used on a dam, including a spillway, to increase storage capacity.
- Flume: For hydroelectric projects, an artificial structure used to convey water.
- *Fluvial:* Related to or inhabiting a river or stream.
- *Forebay*: A reservoir upstream of a powerhouse, used to regulate the flow of water into the powerhouse.
- GAO: Government Accountability Office.
- *Geomorphology*: The science used to analyze how water flow and land interact.
- *Head*: The vertical distance between the surface of a reservoir or other intake location and the powerhouse.
- Headwater or headwaters: The source of a river.
- *HRC*: Hydropower Reform Coalition. National coalition of conservation, angling, and boating organizations.
- Hydrograph: A chart or table that depicts water volume as it varies over time.
- *ICP, IIP, ICD*: Initial Consultation Package, Initial Information Package, or Initial Consultation Document. FERC licensing documents.
- IFIM: Instream Flow Incremental Methodology. A tool for analyzing flow and fish habitat.
- *ILP*: Integrated Licensing Process. One of the three relicensing processes.
- IOU: Investor-owned utility. A corporate utility company (as opposed to a government utility).
- Impoundment: A reservoir of any size behind a dam.
- *Instream flow:* Water flowing in the channel of a river or stream.
- Jeopardy: Risk of extinction for a species listed under the Endangered Species Act.
- *Levee*: An earthen structure that channels water.
- *License articles*: Individual FERC license articles that state the licensee's duties for construction, operation, and maintenance of a hydropower project.
- *Licensee*: An entity that holds a FERC license and is legally responsible for constructing, operating, and maintaining a project.
- Load: The amount of electrical power or gas delivered or required at any point on a system.
- *Mandatory conditioning authority*: The authority of a federal agency to prescribe conditions that FERC must incorporate in a license.
- *Mitigation*: An avoidance or reduction in the potential impact of a license or exemption.
- MW: Megawatt. One million watts.
- *MWh*: Megawatt-hour (or hours). Number of megawatts produced in an hour.
- NEPA: National Environmental Policy Act, 42 U.S.C. §§ 4321 4347.

- *NGO*: Nongovernmental organization. Usually used for nonprofit organizations.
- NHPA: National Historic Preservation Act, 16 U.S.C. §§ 470-470x-6.
- *NMFS*: National Marine Fisheries Service, the fisheries branch of the National Oceanic and Atmospheric Administration (NOAA). Formerly known as NOAA Fisheries.
- *No-Action Alternative*: The status-quo alternative in an environmental document. In an original licensing proceeding, this is the denial of the license application. In a relicensing proceeding, this is typically considered to be the renewal of the existing license without modification.
- NOAA: National Oceanic and Atmospheric Administration.
- *Notice of Intent or NOI*): A document the licensee files at least five years before expiration of a license to state whether it will seek a new license.
- Nonfederal lands: Lands not owned by the U.S.
- *Nonpower license*: A temporary license for an existing project during a transition from power generation to an alternative use not subject to FERC jurisdiction.
- *NPS*: National Park Service, an agency within the U.S. Department of Interior.
- NYMEX: New York Mercantile Exchange
- **OEP:** Office of Energy Projects, the FERC office responsible for licensing nonfederal hydropower projects.
- Original license: The first license issued for a hydropower project.

**PAD:** Pre-Application Document.

- *Peaking*: Operating a hydropower project to meet peak electrical demands.
- *Penstock:* An inclined pipe that conveys water to a powerhouse.
- PM&E: Protection, Mitigation, and Enhancement measures. (See Environmental conditions.)
- *Powerhouse*: A structure that contains the turbine and generator of a hydropower project.
- *Pre-Application Document:* A document prepared by the licensee early in the relicensing process.
- *Process Plan*: A licensee's plan for how to conduct the relicensing. It can include communications protocols for the stakeholder meetings and a schedule.
- *Project*: Dams, powerhouses, reservoirs, and any other structures, rights, lands, and waters regulated by a FERC license or exemption.
- *Project boundary*: The FERC-designated boundary that identifies the lands and structures included in a license or exemption.
- *Proposed Action*: The activity planned by a federal agency that generates the need to prepare an environmental document. In the context of a licensing proceeding, the proposed action describes FERC's issuance of a license to the applicant.
- Pumped (or pump) storage: A project that pumps water uphill to a reservoir for subsequent use.

PUC: Public Utility (or Utilities) Commission.

PUD: Public Utility (or Utilities) District.

- *PURPA*: Public Utility Regulatory Policies Act, 15 U.S.C. §§ 717x 717z, 3201 3211; 16 U.S.C. §§ 823a, 824a-1 - 824a-4, 824i - 824k, 825q-1, 2601 - 2603, 2611 - 2613, 2621 - 2627, 2631 - 2634, 2641 - 2645, 2701 - 2708; 42 U.S.C. § 6808; 43 U.S.C. §§ 2001 - 2012.
- *Ramping*: The act of changing the amount of discharge from a dam or powerhouse.
- *Ramping rate*: The rate at which a dam or powerhouse discharge changes.
- *Ready for Environmental Analysis (REA):* A FERC determination that an application is adequate for the purpose of preparing the NEPA environmental document.
- Real property interest: Fee title, right-of-way, easement, or leasehold on land or structures.
- *Reservation of authority*: A provision in which an agency reserves its authority to take further or different action in the future.
- *Reservation*: A national forest, Indian reservation, military reservation, or other land owned by the U.S. and reserved from private appropriation and disposal. For the purpose of Federal Power Act section 4(e), this definition does not include a national monument or national park.
- *Reservoir*: A pond or lake stored by a dam.
- *Reservoir storage capacity*: The maximum amount of water that can be stored in a reservoir, typically expressed in acre feet.
- *Resource agency:* A federal, state, or interstate agency that has jurisdiction over flood control, navigation, irrigation, recreation, fish and wildlife, water supply, or cultural resources of the state where a project is located.
- *Riparian:* Of or relating to the bank of a river or stream, or sometimes another water body.
- *Run-of-the-river*: A hydropower project that generates at the rate of inflow without storing water.
- *SD*: Scoping Document. An environmental document under the National Environmental Policy Act.
- SD-1: Scoping Document 1.
- SD-2: Scoping Document 2, as revised following public comment.
- Sediment load: The amount of sediment carried by stream flow.
- SHPO: State Historic Preservation Officer.
- *Spillway*: A structure over or through which excess or flood flow may be discharged from a reservoir.
- Stream gauge: A device for measuring stream flow.
- *Study Plan:* A document outlining studies to be performed to prepare a license application and for a final license decision.
- *Tailrace*: A structure through which a powerhouse discharges flow into the river or other receiving water body.
- *Take*: To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect an endangered species, or to attempt to engage in any such conduct, as defined in 16 U.S.C. § 1532(19). *Harm* is further defined by the U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) to include significant habitat modification or degradation that

results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. *Harass* is defined by the FWS as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering (50 C.F.R.§17.3).

- *Threatened species*: A species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, as listed under the Endangered Species Act, 16 U.S.C. § 1532(20).
- *TLP*: Traditional Licensing Process. One of the three relicensing options.
- U.S.C.: United States Code. The body of federal statutes.
- USFS: United States Forest Service
- USGS: United States Geological Survey
- USFWS: United States Fish and Wildlife Service. Also FWS.
- USBIA: United States Bureau of Indian Affairs. Also BIA.
- WSJ: Wall Street Journal
- WQC: Water Quality Certification.
- *Water quality certification (Section 401 certification):* A state-issued certification verifying that the project is discharging water consistent with applicable water quality standards under the federal Clean Water Act (CWA) section 401(a), 33 U.S.C. §1341.
- *Water quality standards*: Designated beneficial uses, narrative or numeric criteria, and an antidegradation policy adopted by a state under Clean Water Act section 303, 33 U.S.C. § 1313, to protect the quality of water affected by human activities, including hydropower projects.

### Introduction: Restore Your River Through Hydropower Relicensing

### I.1 The importance of hydropower relicensing

Hydropower relicensing offers a unique opportunity to change the long-term management of our rivers to restore them for fish, people and wildlife.

Hydropower projects often damage rivers by disturbing habitat and altering stream flows. The projects can degrade water quality; harm fish, other aquatic species, plants, and wildlife; eliminate recreation opportunities; damage river aesthetics; and harm cultural resources.

Fortunately, federal law gives citizens a strong tool they can use to restore our nation's rivers: the hydropower relicensing process. That process provides a once-in-a-lifetime opportunity for citizens to reduce hydropower facilities' harmful effects, remedy past damage, and enhance river health.

#### How does it work?

Operating licenses for hydropower projects not owned by the federal government expire every 30 to 50 years. When these licenses expire, dam owners must apply to the Federal Energy Regulatory Commission (FERC) for a new license. Citizens and representatives of nongovernmental organizations (NGOs) can join the license applicants and regulatory agencies in the FERC "relicensing" process to ensure the new operating licenses reflect current environmental standards and address current public values. Because rivers are a public resource, the law gives all interested parties a say to help determine how the dam and the river will be managed for the term of the new FERC license.

#### Are the results worth the effort?

**You bet.** Recent history demonstrates that citizens can help restore our rivers. The harmful effects of hydropower projects can be significantly reduced through the FERC relicensing process. With a relatively small reduction in hydropower generation, NGOs, agencies, tribes, and other stakeholders have been able to restore rivers and enhance recreational benefits. Recent license renewals have resulted in increased stream flows, improved fish passage, removal of marginal dams, and increased recreational opportunities even as energy production continues (see chapter 9 case studies). A 2003 California Energy Commission report found that relicensing of 14 California projects between 1992 and 2003 reduced average power generation by only 5.26 percent per project.

### I.2 Using this guide as a roadmap for preparation

This guide is intended to help anyone who seeks to restore a river through the FERC relicensing process. While its focus is on citizen activists, the guide can also help governmental agencies, tribes, organizations, and businesses understand the relicensing process and how to play a productive role in it.

#### You don't have to do everything

This guide contains many strategies and tasks — but don't feel like you have to do them all. It walks you through basic preparatory steps to more advanced steps, allowing you to choose the tactics best suited to your unique relicensing (relicensings vary in complexity). In addition, it offers a suggested series of steps to get you started.

#### Starting early is the key to success

Participating in a FERC relicensing is a long-term commitment. The regulatory phase of relicensing generally takes at least five years. However, this guide is about preparing for that phase, and describes the work you need to do in advance to succeed. You should consider starting to prepare for the effort as much as *two years and no later than six months* before the regulatory phase of the process begins. An early start can be critical to your success, especially if your relicensing is complex.

While the guide is focused on the six-month-to-two-year preparatory phase before the relicensing begins, don't despair if you are already in the regulatory phase. Many of the strategies and tasks in this guide can still help you.

#### This guide provides the critical information you need

This guide lays out the following steps for preparing for a hydroelectric relicensing:

- Using other case studies to think about strategy, potential outcomes, citizen involvement, and public campaigns (see chapter 9).
- Pulling together diverse stakeholders and, if appropriate, convening a network or coalition (see chapter 3).
- Meeting and forming relationships with resource agencies and tribes (see chapter 4).
- Meeting and building understanding with the licensees and their consultants (see chapter 5).
- Articulating and recording interests (*why* you are involved) (see chapter 6).
- Collecting information on hydrology, economics, and the biological character of the watershed (see chapter 7).
- Preparing for studies (see chapter 8).

It also includes practical tools you can use. In chapter 11, the Tools section, you can find the "nuts and bolts" that will help you begin to prepare —worksheets, templates, and samples. For example, you can use the *Workplan and Schedule for Preparation and Participation in Hydropower Relicensing* to help prioritize your tasks. (You can access these tools at www.hydroreform.org/hydroguide.)

The Tools are divided into two sections:

- Foundational tools
- Tools for complex multiparty relicensing.

It is best to start with the Foundational tools and delve into the second set only if you need them. For your convenience, you can download and print the whole suite of tools for your use, at www.hydroreform.org/hydroguide.

#### The guide isn't designed for the regulatory phase or new licenses

Even though it focuses on the preparatory tasks and stages before a relicensing, this guide does *not* address how to participate in the relicensing's regulatory process itself. That topic is covered in a number of other publications, listed in chapter 10. You can use them in conjunction with this guide.

In addition, this guide does not cover how to prepare to participate in the proceeding for a completely new hydropower license. Instead, it focuses exclusively on *re*licensing existing hydropower facilities, which are much more common than new licensing applications. However, you may still find some lessons from this guide helpful for preparing and participating in new licensing proceedings.

There are several significant differences between relicensing and licensing. Generally, when a new project is licensed, very little is known about potential project impacts, which means that early information-gathering and stakeholder identification can be a big challenge. In addition, a new licensing process has no statutory deadline for the actual license application, and the project's timeline can be very drawn out. Because very few large utilities advance proposals for new hydropower, the applicants behind a new license proposal are usually first-time hydropower developers.

For more information on new licenses, see FERC's preliminary permits for new licenses at: www.ferc.gov/industries/hydropower/gen-info/licensing/pre-permits.xls. You can also do a text search in FERC's eLibrary at http://elibrary.ferc.gov/idmws/search/fercadvsearch.asp.

Look for the name of the stream or the county.

#### We're building on 15 years of success

The Foothills Water Network has developed this guide in partnership with the California Hydropower Reform Coalition (CHRC), (www.calhrc.org), the Hydropower Reform Coalition (HRC) (www.hydroreform.org) and the Sierra Club National Rivers Committee to share lessons learned from other relicensings. Together, the guide team brought over 15 years of successful work in both relicensing and developing successful watershed coalitions.

For more help in preparing for and participating in relicensing, contact the CHRC or the HRC, two organizations that bring together national, state, and local river advocate organizations to collectively work on relicensing procedures. Both of these coalitions were formed in the 1990s using some of the same techniques and recommendations described in this guide.

### 1. Use this Guide in Context: The Legal Foundation for Relicensing and Additional Resources

This guide will help you most if you understand the legal basis for relicensing and know where to find additional information.

### 1.1 Overview: The legal foundation for hydropower relicensing

Hydropower relicensing takes place in a complex legal framework that involves a number of regulatory mechanisms. We encourage you to read the *HRC Licensing Guide* (available at www.hydroreform.org/hydroguide) which provides a comprehensive description of the legal and regulatory aspects of relicensing.

#### The Federal Power Act (FPA) gives standing to the environment and recreation

The Federal Power Act is the primary legal statute that gives citizens and agencies the opportunity to modify the operation of a hydropower project to improve environmental conditions and recreation. Under the Federal Power Act, FERC must ensure that the project balances beneficial uses of the affected waters and lands.

Before 1986, energy production was the highest priority in a FERC license proceeding. But thanks to Federal Power Act amendments made that year, FERC must now give equal consideration to conserving energy, protecting and enhancing fish and wildlife and their habitat, allowing for recreation, and other aspects of environmental quality. In addition federal wildlife agencies can now require a hydroelectric project license to include a structure or operation to allow fish to pass through the project.

In practice, FERC's authority to issue a license is subject to checks and balances administered by other federal and state agencies, which have significant authority to require or recommend environmental conditions. You should become very familiar with the federal and state entities that have authority in relicensing. Information on each resource agency's authority is found in section 2.2 of the *HRC Licensing Guide: Citizen Toolkit for Effective Participation in Hydropower Relicensing* (HRC Licensing Guide).

#### Becoming an intervener

To secure your legal standing in a relicensing process, you may wish to become an "intervener." While you can make comments in the relicensing without taking that step, an intervener has the right to:

- Receive all of the documents filed in the proceeding.
- File a motion or, on final decision, seek rehearing or judicial review.

The intervention process is not difficult.

For more on becoming an intervener, see the HRC Licensing Guide, section 4.2.4. C, Intervention.

#### The Clean Water Act provides leverage for environmental restoration

Water quality certification may provide the greatest leverage for environmental restoration in a typical hydropower relicensing. Section 401 of the Clean Water Act (CWA) requires the state to certify that a project complies with water quality discharge standards before FERC can relicense a hydropower project. This requirement is often referred to as "401 certification."

The 401 certification must come from the state where the project discharges the water from project dams or facilities. This means the state must certify that all of those discharges — including discharges from the dams — comply with water quality standards below the discharge point. Because of the CWA, FERC must include the state's 401 certification conditions in the new hydropower license.

#### Waivers

State agencies authorized to issue 401 certification for a hydroelectric project relicensing typically have 12 months to act and make a decision on a 401 application. If the agency refuses or fails to act within one year, the certification requirements for the relicensing are considered to be waived and FERC can issue a license without a 401 certification for water quality. To avoid this situation, contact your state agency and ask to be notified when 401 applications come in. If the agency hasn't made a decision within nine months, contact them and encourage them to act on the application.

Because the 401 certification is an important tool, you should take time to familiarize yourself with your state's water quality standards. These standards are laid out in the state's Basin Plan, which must be reviewed at least once every three years. (40 C.F.R. § 131.20(a) (2005)).

For more information, see the HRC Licensing Guide, section 2.3.4: What are the Basic Legal Responsibilities of a Licensee?

# National Environmental Policy Act (NEPA) provides for environmental disclosure and review

Under the National Environmental Policy Act (NEPA), federal agencies must consider and disclose the environmental impacts of their proposed actions, and allow the public to comment on them. NEPA also encourages the agencies to make environmentally responsible decisions.

Under NEPA, FERC must develop an environmental document that analyzes and discloses the environmental impacts of a licensing decision. The NEPA document is intended to help FERC and other regulatory agencies make rational decisions regarding the project's impacts on the environment and to develop options for lessening or avoiding those impacts (mitigation). This environmental documentation is an essential part of the record that forms the basis of a licensing decision.

#### For more information, see the HRC Licensing Guide, section 3.2.2 E: Environmental Document under NEPA.

#### Water rights also come into the picture

Water rights law and administration vary greatly from state to state. In general, FERC has jurisdiction over hydropower licenses, but does not involve itself in state water rights law. But

while states retain jurisdiction over proprietary water rights, FERC may impose conditions in a license that affect a licensee's *use* of its water rights.

For example, one of FERC's mandates is to give "equal consideration" to nondevelopment values such as the natural environmental and recreational opportunities. To protect these values, FERC may impose conditions such as minimum river flows or ramping rates.<sup>1</sup> The licensee's water rights are subject to conditions imposed by FERC and the state, but the FERC license conditions will override any conflicting state conditions.<sup>2</sup>

In some hydropower relicensings, water rights don't come up as an important issue. But in some situations, they could. Common reasons include:

- The licensee's interest in the water supply is equal to or stronger than its interest in the power generation.
- There is a question of whether the licensee is using its water rights appropriately.
- A power distributor with nonconsumptive rights is regulating or passing on consumptive water rights to another water purchaser.
- Water purchase agreements will expire in the same period as the licenses. This opens a window of opportunity for the water purchase agreements to change at the same time as the hydropower operations.
- FERC expects a licensee to have the water rights necessary for maintenance and operation of the hydropower project.

You can find out about your state's water rights by contacting your state water rights agency. Some states have water rights information online while others furnish only printed documents. Either way, it's a matter of public record and should be available to you.

### 1.2 Use this guide with related publications

This guide will be more useful if you use it along with other hydropower relicensing publications. They can help you learn more about FERC and the five-year regulatory relicensing process.

We suggest you refer to different publications for each of the stages in relicensing, as outlined below: Introduction and outreach, Preparation, and Participation.

#### Introduction and outreach

The Rivers of Power: A Citizen's Guide to River Restoration through Hydropower Reform. Includes a brief overview of the FERC relicensing process, a timeline, and the importance of relicensing in your watershed. A good introductory piece to use for outreach to new stakeholders.

www.hydroreform.org/california/hydroguide/rivers-of-power

<sup>&</sup>lt;sup>1</sup> 16 U.S.C. § 803(a)(1), (j); see also *State of Cal. ex rel. State Water Resources Control Bd.* v. *F.E.R.C.*, 966 F.2d 1541, 1549-50 (9<sup>th</sup> Cir. 1992).

<sup>&</sup>lt;sup>2</sup> <u>Id.</u> at 506.

#### **Preparation**

HRC Licensing Guide: Citizen Toolkit for Effective Participation in Hydropower Relicensing (HRC Licensing Guide). Published by the Hydropower Reform Coalition. Reviews the laws, rules, procedures, and substantive requirements that apply to relicensing. Will help you understand the fundamental structure of a relicensing proceeding and the legal authorities. Also includes recommended strategies for effective participation in the five-year relicensing proceeding.

www.hydroreform.org/hydroguide/hydropower-licensing/citizen-toolkit-for-effectiveparticipation

*Rivers at Risk: The Concerned Citizen's Guide to Hydropower*, by Echeverria, Barrow, and Roos-Collins, and American Rivers. Provides an overview of relicensing standards and procedures, as well as instructions and examples on how to engage in the FERC relicensing process and file a motion to intervene. Useful appendices on FERC regulations.

#### **Participation**

- HRC Licensing Guide: Citizen Toolkit for Effective Participation in Hydropower *Relicensing* (HRC Licensing Guide). See description above.
- Scientific Approaches for Evaluating Hydroelectric Project Effects (Science Guide). A high-level reference document most useful to people who are heavily involved in the technical aspects of relicensing, but still useful for activists. Provides a science-based comparison of some of the advantages and disadvantages of different study methodologies. Aimed at resource agencies and active relicensing participants who are drafting and commenting on studies. Helps activists without scientific training understand the range of issues in relicensing, accepted methodologies, and how to build a case for improving and protecting ecological flow regimes

www.hydroreform.org/hydroguide/science/scientific-approaches-for-evaluatinghydroelectric-project-effects

Flows and Recreation: A Guide to Studies for River Professionals (Flows and Recreation Guide). Provides a discussion of how to design flow studies for recreation. Also discusses the need to integrate study results and consider trade-offs. This study guide will be very useful in preparing for relicensing — defining your interests, figuring out what information you have and don't have, and what studies need to be done to build a case for improving and protecting recreational flows.

www.nps.gov/ncrc/programs/hydro/flowrec.htm

Protecting Shorelands as part of the Hydroelectric Relicensing Process (Shorelands Guide). Designed to guide those interested in achieving shoreline land protection through the FERC relicensing process. Outlines the legal framework and strategies to develop a forceful case.

http://www.hydroreform.org/hydroguide/shorelands/protecting-shorelands-as-part-of-thehydroelectric-relicensing-process

For a more complete list of resources and their web references, see chapter 10, References.

### 2. Plan for Success

Hydropower relicensings are marathons interspersed with lots of short sprints. This chapter helps you focus and coordinate your planning in the six months to two years before your relicensing begins, so that you can handle both the long haul and the deadline-driven activity. If you are already participating in a relicensing proceeding, this chapter can still be useful.

### 2.1 Training and conditioning: The importance of early preparation

As we've noted, getting an early start is the key to success. If you were preparing to run a marathon with sprints in the middle, you'd need to train and condition for the event, plus develop strategies, a team, and more to win. Relicensing preparation is no different.

#### Why start two years ahead?

A typical hydropower relicensing process lasts roughly five years. If your project is complex and requires a lot of preparation, you may need to start preparing as much as *two years* ahead.

We know what you're thinking. "Five years is long enough. Why should I drag out the process by doing preparation before the relicensing actually starts?"

Here is why: Early preparation can greatly improve your chance of success. It can allow you to:

- Develop a strategic plan and workplan with a timeline
- Build a coalition to unite your local NGOs
- Build relationships with the licensee, consultants, resource agencies, and tribes
- Clearly define why you're at the table
- Collect information
- Familiarize yourself with and possibly request early studies
- Explore the legal context, including available mechanisms and leverage

#### Preparation fosters unity, organization and success

FERC's newest relicensing process is very time-sensitive and front loaded, with tight deadlines. If you're not ready, the prepared participants will take off and you'll be left struggling to catch up. Without good preparation, you run the risk of spending all of your time familiarizing yourself with the relicensing process, building relationships with the players, collecting information, identifying studies, and exploring legal mechanisms. But if you spread these tasks out over the two years *before* the relicensing begins, you can do them better, keep up with the pack, and continue supporting your other programs or projects.

#### Deciding when to begin: Factors that influence preparation time

Typically, the time and resources required to prepare for relicensing will vary, depending on several key factors:

- The licensee's timeline in relation to FERC's regulatory timeline.
- The value of the watershed in terms of recreation, ecosystem services, aquatic species, wildlife, and water supply reliability.

- The complexity of the hydrologic system.
- The number and diversity of interest groups involved and the value of the project's power generation.
- The licensee's experience with relicensing.

You need to consider each of these factors in relation to your project. The first three key factors are discussed in more detail in the following sections.

#### Key factor one: The licensee's timeline

A licensee's schedule can drive how early you might need to start preparing for a relicensing. You can use the *Licensing Guide ILP Relicensing Timeline* (available at www.hydroreform.org/hydroguide/hydropower-licensing/4-integrated-licensing-process) to figure out the timeline for your relicensing (see Tools). To identify your relicensing timeline using the template, count backward from the license expiration date. You will want to discuss this rough timeline with the licensee to see how it fits their process plan and schedule.

If you do not already have a relationship with the licensee, it would be ideal to introduce yourself to the responsible staff two, or even three years ahead of the relicensing and let them know you're interested in being involved. That way, you can touch base or have a local person touch base to get updates on the licensee's expected timeline.

The timing of the licensee's Pre-Application Document (PAD) is especially significant. The PAD is a very important document required under the Integrated License Process version of relicensing (see chapter 7), the process we focus on in this guide. It should contain all known information about the hydropower project and its impacts on environmental quality and recreation

Well before the PAD deadline, you should plan on meeting with the licensee to inquire about the following:

- The licensee's timeline
- Plans for gathering information for the PAD
- How you might access the licensee's list of PAD documents
- How you can submit information to be included in the PAD (see chapter 7)

You should plan to meet with the licensee about the time the licensee starts preparing the PAD. Typically, this is one year ahead of the PAD deadline. However, licensees sometimes start earlier: They may start gathering information and engaging stakeholders in coalition study plan development as much as two years in advance to give them plenty of time to meet the FERC deadline. If they start early, you should consider doing that, too.

For more information on the legal requirements on what is included in the PAD, see the HRC Licensing Guide, section 3.2.2 A: Pre-Application Document.

#### Key factor two: Value of the watershed

You might allow extra time for preparing or building your coalition if the hydropower system is of very high value. You could consider the system's value in terms of recreation, ecosystem

services, aquatic species, wildlife, and water supply reliability. "High value" could mean any of the following:

- The project generates a lot of power, and much is at stake for the project owner
- The river below the project supports a popular recreation spot or has a high recreational value (angling, boating, climbing, hiking, etc.)
- The affected watershed is home to critical or sensitive species
- The river flows next to local towns or through a major community area with local businesses linked to the river
- The river is used for industrial or agricultural purposes
- The river is a valuable commercial fishing area

#### Key factor three: Hydrologic complexity

You may also need more time if your relicensing has a complex hydrologic setting. For example, the hydrologic setting for two interdependent facilities in the same watershed, owned by two different licensees, will likely be more complex than for a project on one river owned by one licensee.

### 2.2 Planning tools and funding

Strategic and tactical planning for relicensing can be a lot like planning for other conservation efforts and political campaigns. But there are a number of relicensing-specific strategies and a specific regulatory timeline to consider.

#### Process basics: TLP, ALP, and ILP

Your planning needs will differ depending on which relicensing process is being used:

- Traditional licensing process (TLP)
- Alternative licensing process (ALP)
- Integrated licensing process (ILP)

This guide focuses on the ILP, which is the most recent evolution of relicensing and the most common. Unless the licensee asks FERC for a different process, ILP is now the default licensing process. Early on, you need to find out which process the licensee will follow.

 For more information on the distinctions between FERC's three licensing processes and their regulatory timelines, see the HRC Licensing Guide, section 4: Integrated Licensing Process, section 5: Alternative Licensing Process, and section 6: Traditional Licensing Process.

#### Workplan and schedule

The *Workplan and Schedule for Hydropower Relicensing Preparation and Participation* in this guide can help you move directly into planning (see Tools). The workplan is organized in two phases:

- **Phase I: Preparing for Relicensing** one to two years before relicensing. Captures the recommendations made in this guide.
- Phase II: Participating in Relicensing five-year relicensing process for ILP<sup>3</sup>. Captures strategy recommendations made in the *HRC Licensing Guide*.

You may actually undertake some of the tasks outlined in the preparation phase during the participation phase, and vice versa. But remember that ILP's regulation sets the timing of the tasks FERC requires of the licensee.

Workplan tasks are labeled with a suggested priority status: High, Medium, Low, or Required by FERC. Your own priorities may vary.

#### Strategic plan for relicensing preparation

As you begin to prepare for relicensing, you need to establish strategic objectives based on your own goals and reasons for participating. We recommend you review the objectives in the *Workplan and Schedule for Hydropower Relicensing Preparation and Participation* – Phase I (see Tools).

#### Finding resources for the effort

There are several considerations as you budget for needed funds. Relicensing is a resourceintensive activity and the sheer quantity of hours required can be a bit overwhelming.

Relicensings can also require a lot of travel, depending on where the meetings are held and the location of your staff or volunteers.

To reduce their related costs, many groups have successfully recruited volunteers to represent them at meetings or to do background research and review.

If you're thinking of participating in a relicensing and would like to discuss funding options, contact the Hydropower Reform Coalition, which can help you craft your related pitch to funders.

<sup>&</sup>lt;sup>3</sup> If you are involved with a traditional or alternative licensing process, refer to the *HRC Hydro Guide* to insert the appropriate timeline.

### 3. Team Up With Other NGOs

Relicensing success often depends on working effectively with other nongovernmental organizations. Again, the sooner you start that effort, the better. This chapter discusses the benefits of and methods for working with other nongovernmental organizations.

### 3.1 Strength in numbers

Relicensing often involves nongovernmental organizations interested in fish, whitewater boating, river conservation, water quality, land conservation, forest restoration, and more. There is strength in numbers, but only if you work together.

In a relicensing, numerous and diverse NGOs, tribes, agencies, and other stakeholders can become a cacophony of uncoordinated voices and approaches or an effective, coordinated coalition. Bringing groups and individual stakeholders together to work in concert can prove challenging, but its well worth the effort.

By working with other NGOs and interested stakeholders, you can:

- Communicate effectively and streamline your activities
- Share your knowledge
- Pool resources
- Show a unified front by strategizing and fighting in private
- Limit surprises among NGOs and interested stakeholders

#### **Communicate effectively**

Working with a group of other NGOs, you can streamline communications within the conservation and recreation groups, which can:

- Reduce the burden on each organization, saving time and resources.
- Share information from meetings and report back to the larger group.
- Ensure you communicate with the licensee, resource agencies, and tribes as one group with a stronger voice.

#### Share your knowledge

You can use your NGO group to start sharing information and building a knowledge base in the following ways:

- Recruit or interview local groups and individuals who have a lot of on-the-ground knowledge about their watershed. This type of first-hand knowledge is vital.
- Interview people who have participated in a relicensing in your state or with your licensee. Ask them about their strategy, the licensees and consultants, the resources agency representatives, what worked and what didn't, and the outcomes.
- Collect information (see chapter 7, Collect Information Before the Relicensing).

#### Strategize and fight in private

NGO groups won't agree about everything as the relicensing proceeds. Sometimes they will even fight. If that divisiveness is public, the license can exploit it to drive wedges between groups or even to cut side deals. Forming an NGO group allows you to work out your differences, display a unified front, and reduce your vulnerability to divide-and-conquer tactics.

#### Spotlight on Catawba-Wateree Relicensing

Duke Energy, the licensee of the Catawba-Wateree Hydropower Project, proposed land protection instead of improved stream flows below two of the dams. This proposal provoked a conflict between conservation groups whose priorities were land-oriented and those whose priorities were river-oriented. Fortunately, these groups had long-prepared for this moment by building a coalition — a group of NGOs and resources agencies committed to open communication and balancing multiple interests — that helped the different interest groups work through this conflict. For more information, *See chapter 9 – Catawba-Wateree Relicensing*.

### 3.2 Identifying potential NGO and other stakeholder partners

Often a number of different types of groups may be interested in preparing for and participating in a relicensing. The following table outlines different groups or stakeholders you might recruit to work for the river. While some of these groups may not be your traditional allies, your shared interests and joint efforts can be powerful when combined.

Potential NGO and Other Stakeholder Partners		
Conservation and environmental		
Watershed conservation and watershed health advocacy groups		
Watershed groups — collaboratives of different watershed interests, including forest, fire/fuels, land use, aquatic, wildlife, recreation, and working landscapes		
Audubon chapters and birding clubs; Sierra Club chapters and groups		
Land trusts — nonprofits that acquire land or easements for conservation and protection		
Local energy co-ops, food coalitions, and climate-change task forces		
Recreation		
Boating clubs and river rafting / kayaking outfitters and schools		
Angling clubs / angling outfitters and schools, hunting clubs, individual anglers and hunters		
School / university outing clubs		
Hiking and climbing clubs / trail users		
Mountain-biking clubs / trail users		
Equestrian clubs / trail users		

Local government		
Cities and towns		
Resource, conservation, and development districts		
Local fish and game or fishing commissions		
Fire-safe councils		
Resource conservation districts — representatives of different landowner interests		
Community		
Churches and other faith communities		
Local businesses and chambers of commerce		
Homeowners' associations and neighborhood groups		
Tourism organizations		

You should consider beginning to recruit stakeholders as early as two years before the start of the relicensing. When you approach groups or stakeholders,

- Explain the opportunity offered by FERC relicensing, with a focus on their concerns. Encourage them by explaining how their participation will make a difference.
- Take advantage of the fact that individuals may have greater concerns than their affiliate groups.
- **Recruit people and groups for specific projects, research efforts, and tasks.** Don't overwhelm anyone with the potential time commitment.
- **Recruit people who represent different geographic areas** affected by the project relicensing.
- Offer different levels of involvement and explain how people might help at certain junctures during the preparation or participation phases of relicensing. A major relicensing effort needs negotiators, organizers, strategists, information resource developers, and more. There's a role for everyone.

If you can't organize a group, don't despair or give up. Single organizations and even individuals have a record of relicensing success.

#### Why groups get involved

The table on the next page shows a sample list of reasons different stakeholders get involved in hydroelectric relicensing. All of this, and more, can be incorporated into the new license, depending on the particular project.

#### **Potential Stakeholder Issues**

Conservation and environmental

Watershed health, health of fish and other aquatic organisms

Terrestrial wildlife and associated habitat, wildlife corridors and connectivity

Riparian health, shoreline vegetation

Fire/fuels build-up and fire prevention

Water quality

Recreational

Recreational boating opportunities, boating access, parking, shuttles, bathrooms, safety, portages, downed woody debris, public information on flow scheduling

Angling and fisheries, wading, fisheries health and habitat, access, fording, safety, public information and notices of flow fluctuations

Hiking, biking or equestrian trails connecting or originating at project facilities, use of project roads and trails, sanitation and maintenance of project roads and trails

Economic benefits of local recreation, local and regional supply and demand of recreational opportunities

Flat-water boating and other recreational uses

Economic

Water quality and water-treatment costs

Property values

Local ownership of power-generation facilities

Local energy self-sufficiency, adaptability under climate-change scenarios

Water rights

Tourism income

Cultural and aesthetic

Spiritual and ceremonial values and traditional cultural sites, uses, and resources

Visual quality

#### Form a coalition

If you have a number of groups and stakeholders who want to work together, consider forming a more formal coalition or network to provide coordination and become a clearinghouse and advocacy entity for your relicensing:

- Identify the multiple groups and interested stakeholders who will form the coalition's core active membership.
- Consider including resource agencies and tribes. (See the next chapter for how to work with them. See also chapter 9 for the Catawba-Wateree Relicensing Coalition [CWRC], which included a diverse group of stakeholders.)
- Create bylaws or guidelines for communication and group decision-making. You can use Sample Bylaws for a Coalition as a template (see Tools).

#### Spotlight on the Yuba, Bear, and Middle Fork American Relicensings

In California's Sierra Nevada, three interlinked hydropower projects are being relicensed simultaneously. These hydropower projects transfer water from one watershed into the next, maximizing power generation and water supply, often to the detriment of the rivers. In preparation for what is sure to be a very complex relicensing with wide-ranging environmental and recreational interests, some local NGOs formed the Foothills Water Network. Assisted by a network coordinator, the Foothills Water Network is dedicated to providing a forum that increases the effectiveness of conservation organizations to achieve river and watershed restoration and protection benefits for the interlinked Yuba, Bear, and American. *For more information, see chapter 9 – Yuba, Bear, and Middle Fork American Relicensings*.

# 4. Partner with Governments: Resource Agencies and Tribes

All relicensings involve state and federal resource agencies. Many also involve tribes. The agencies and tribes are critical relicensing partners for NGOs. This chapter discusses ways you can work effectively with them.

### 4.1 Build effective partnerships

Resource agencies, tribes, and NGOs are often very successful in achieving their desired outcomes when they collaborate and support mutual interests in a relicensing. Working together can significantly improve the negotiating position of each group, because:

- The licensee must address the interests of the NGOs, resource agencies, and tribes as a whole and therefore offer greater concessions to satisfy the entire group.
- The groups tend to have many shared interests, so they make natural negotiating partners.
- Well-coordinated parties can avoid inadvertently working against one another.
- Many NGOs, tribes, and resource agencies bring significant experience with past relicensings that can help reduce other partners' learning curves.
- Resource agencies, tribes, and NGOs have complementary strengths that can offset their individual weaknesses.

### 4.2 Work with resource agencies

As you prepare for a relicensing, one of your primary objectives as an individual or representative of an NGO should be to reach out to resource agencies and collaborate with them. You will want to establish your coalition and yourself as a resource — a known and reasonable person the resource agency staff values and enjoys working with. If you devote time to collaborating with agencies and developing relationships before the relicensing, you'll be in a better position to build consensus with them under pressure later.

#### Complementary strengths and weaknesses

When preparing to work with resource agencies in a relicensing, NGOs should be aware of the complementary nature of their strengths and weaknesses.

#### What's in it for you

• **Resource agencies and tribes wield significant authority that NGOs and public stakeholders lack.** The Federal Power Act gives some resource agencies the authority to recommend or even mandate environmental conditions. Most commonly, the U.S. Forest Service, the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, the Bureau of Land Management, the National Park Service, tribes, and state agencies responsible for upholding the Clean Water Act may all have the authority to require license conditions (called "4e authority").

All of these federal agencies (and some state agencies) can also make nonmandatory recommendations that FERC may or may not include in a new license. The federal agencies have mandatory conditioning authority if they manage certain lands within the FERC project boundary, meaning they can prescribe conditions that FERC must incorporate in a hydropower license.

- For specific explanations on the legal authority of these resource agencies, see the HRC Licensing Guide section 2.2.
- Resource agencies can provide NGOs and other stakeholders with expert information. Some resource agencies don't usually have regulatory authority in a relicensing but may still provide recommendations and expert information. Examples include the National Park Service and the U.S. Geological Survey.

#### Spotlight on the Upper American River Project Relicensing

The settlement agreement reached for the Upper American River Project (UARP) hinged primarily upon the ability of conservation and recreation groups to build a strong coalition with the resource agencies. When negotiations between stakeholders and the two licensees for two separate FERC projects on the same river went sour, the Sacramento Municipal Utility District and Pacific Gas and Electric found themselves pitted against a single negotiating block comprising all the participating resource agencies and NGOs. This approach enabled NGOs and agencies to capitalize on each other's strengths and protect their vulnerabilities in a challenging relicensing. *For more information, see chapter 9 – Upper American River Project Relicensing.* 

#### What's in it for the agencies

Resource agencies can benefit from:

- **Considering public stakeholder needs and concerns.** State and federal agencies are obligated to listen to the public, which often has on-the-ground knowledge and first-hand experience with the river and watershed.
- **Building on the support and clout of NGO and stakeholder public support.** Public stakeholders and NGOs can help agencies by supporting study requests and helping them assemble information for filings.
- Leveraging NGO campaigns to gain political/regulatory support for their recommended conditions. NGOs can pursue media, public, and political campaigns to support specific goals or raise awareness of relicensing issues, options generally not available to resource agencies.
- Networking and information sharing.

#### Spotlight on Catawba-Wateree Relicensing

The Catawba-Wateree Relicensing Coalition (CWRC) members worked closely with state agencies to develop priorities for land conservation, river flows, and habitat enhancement provisions. The CWRC met with state department heads to assist in preparing a strategy to accomplish state goals for increasing public access to lands and project resources.

In addition, the CWRC held workshops that helped agencies and the public better understand agency roles, responsibilities, and authority in the relicensing process. For example, the CWRC put on a "Hydropower Water Quality Certification Workshop" for North and South Carolina state agency employees who have direct responsibility for each state's 401 water quality certification. *For more information, see chapter 9 – Catawba-Wateree Relicensing.* 

#### Working with agencies

As you prepare for relicensing, you can work with the relevant resource agencies in the following ways:

- Offer yourself as a resource who will reduce, not add to the resource agencies' workload by providing information, networking, coordination, etc.
- Ask for an introductory meeting with the team of resource agencies to establish which agency staff will work on the relicensing, share background about your organization or coalition, and explore ways that your efforts can complement and enhance theirs. Sometimes the resource agencies won't have convened a team yet. You can help by holding meetings to bring resource agency staff together. Preparatory meetings can help lay the groundwork for a working relationship with the agencies through which you can support their additional study requests to the licensee and even co-draft documents.
- Arrange one-on-one meetings with agency representatives to gather information from individuals and discuss the impacts of the project on some of the specific interests outlined by your coalition. The resource agencies might bring up interests and resource objectives that had not occurred to you.
- Be sensitive to the demands on resource agencies' time.
- Share your information, interests, and strategies as appropriate.
- Attend a relicensing meeting for another hydropower project. This could give you a chance to meet with resource agency representatives and familiarize yourself with how they engage in the relicensing process.
- Discuss with the resource agencies how they intend to use their respective authorities to benefit the public interest. FERC must defer to the resource agencies with regulatory authority in relicensing, and it must adopt those conditions. "Public support helps give agency staffs the necessary basis for conditions that protect the public trust and environmental and recreational resources." (HRC Licensing Guide, section 2.2.6: State Agencies.)

To get an idea of some typical resource agency objectives, see the *Resource Agency Objectives* for the Upper American River Project Relicensing (see Tools).

### 4.3 Collaborate with tribes

As you prepare for a relicensing, you should also reach out to and collaborate with any American Indian or Alaska Native tribes that will be involved.

#### What's in it for you

Tribes can be very powerful relicensing stakeholders. They have a number of powers similar to those of federal and state agencies, as well as some additional authorities. Tribes have:

- **Regulatory authority in the relicensing**. This is true only when the project boundary intersects with a federally recognized reservation or tribal historic property. The Bureau of Indian Affairs (BIA) holds this regulatory authority for the tribes, though FERC interacts with the individual tribes themselves. When a project is not located on tribal lands but affects tribal resources, the tribes through their fish and wildlife departments can also submit recommendations to FERC through their fish and wildlife departments.
- Land and resource management staff and sometimes even water quality regulatory staff if the tribe has its own water quality standards.
- Senior water rights. When a tribe has senior water rights, those rights and corresponding property interests can be powerful tools when it comes to requiring instream flows. A FERC license cannot take away a tribe's property right.
  - For further reading on tribal law and senior water rights, refer to Cohen's Handbook of Federal Indian Law, 2005 Edition, by Felix Cohen. You can find it in law libraries or through resources such as LexisNexis.
- **Politically powerful messages.** Tribes can be very powerful messengers in the media and public arenas. They have historically experienced a disproportionate share of the impacts of hydropower development and therefore have very legitimate interests and grievances.
- **Historical and anecdotal information.** Tribal members often have extensive knowledge about the changes to a river that took place after the hydropower project was built.

#### Spotlight on Klamath Relicensing

The tribes in the Klamath relicensing have been very successful in publicly highlighting the cultural and even nutritional damage caused by the loss of salmon from their ancestral spawning grounds on the Upper Klamath. The Klamath salmon cannot get to upstream spawning reaches because of three dams in the hydropower project. Along with a group of NGOs, tribes are fighting for the removal of the three dams. *For more information, see chapter* 9 - Klamath Relicensing.

#### What's in it for the tribes

Tribes can often benefit from collaboration with NGOs because the NGOs can:

- Keep the tribes up-to-date with the relicensing proceeding when a tribe lacks the dedicated resources necessary to participate in or track the relicensing.
- **Support tribal participation** and collaborate with them through a high level of communication and participation in tribal/cultural meetings, when appropriate or if invited by tribal/cultural stakeholders.
- Share and support many mutual interests.
- Bring networking and relicensing experience.

#### Spotlight on the Klamath Relicensing

A broad coalition of Klamath Basin Indian tribes, commercial fishermen, recreational anglers, and conservationists built a coalition to exert tremendous political pressure to remove three dams from the Klamath River in order to restore its native salmon fishery. It used media, economic analyses, and public campaigns to successfully move dam removal on the Klamath closer to reality.

In one joint effort, the Yurok, Hupa, Karuk, and Klamath tribes worked with NGOs to develop a mailer that included a tear-off postcard California and Oregon citizens could send to their governors. The NGOs also held a relicensing training for the Hupa tribe to discuss the FERC process, sharpen media skills, and train members to effectively communicate with reporters. *For more information, see chapter 9 – Klamath Relicensing*.

The Cushman Project in Washington was another example of tribal-NGO collaboration in hydroelectric relicensing. In that effort, American Rivers and the Skokomish tribe collaborated on funding and worked together to get a FERC order for interim flows.

#### FERC's tribal policy

FERC is required to promote a government-to-government relationship between itself and federally recognized Indian tribes. The policy includes specific commitments, but at this time, FERC offers only one part-time tribal liaison staff person to cover all of the related responsibilities.

To read the legal basis for tribal authority in relicensing, see the HRC Licensing Guide, section 2.2. For the full Tribal Policy, see www.ferc.gov/industries/hydropower/indus-act/order-2002/tribal-policy.pdf

#### Tribes without federal recognition

The U.S. government does not recognize all tribes as sovereign nations. Unrecognized tribes do not command regulatory authority in relicensing or enjoy government-to-government relations under FERC's tribal policy. Still, the BIA supports tribes that are not federally recognized as participants in FERC relicensing, especially if they have lands affected by the hydropower project. Despite their constrained federal status, these tribes can still be powerful partners.

#### **Understanding tribal interests**

Never assume that the tribes' interests are the same as yours. Work closely with individuals and listen carefully to determine what a tribe's primary interests may be. In previous relicensings, tribes have expressed interests in many issues, including fisheries, cultural/aesthetic values, ceremonial and traditional practices, and economic development. But every situation is different.

#### Fishery restoration and management

Tribes are often interested in restoring or preserving native and commercial fisheries through relicensing. Many tribal governments manage fisheries in a manner similar to state and federal resource agencies, operating hatcheries and maintaining fish passage. Like those agencies, tribes may have an interest in improving fisheries for harvest and other traditional activities as well as for commercial fishing and conservation.

Environmental groups should be sensitive to the potential differences between conserving a healthy fishery for conservation's sake and conserving a healthy fishery to provide for sustainable human consumption and tribal economic support. If you are organizing a coalition that brings NGOs and tribes together to work on fisheries issues, be sure to fully discuss your respective concerns and visions for fisheries management.

#### Cultural and aesthetic concerns

Tribes often participate in relicensing to protect or enhance their cultural or aesthetic goals in the project area. In some cases, tribes will have ancestral hunting, fishing, burial, or village grounds in river corridors. Tribes often do not permit access to or certain uses of cultural sites and may not be willing to share their reasons for protecting the sites — or even their locations. They may also be interested in protecting or enhancing the health of the aquatic and terrestrial ecosystems for cultural, spiritual, and aesthetic reasons. When tribes assert cultural interests in properties affected by a relicensing, other parties usually defer to them.

#### Spotlight on Snoqualmie Falls Relicensing

In one case study, the Snoqualmie Tribe advocated for increased instream flow to protect the spiritual qualities of Snoqualmie Falls, a famous scenic waterfall outside Seattle. The licensee diverts water around the waterfall for hydropower generation, greatly reducing the power of the falls. In the Snoqualmie Falls relicensing, the tribes fought to return instream flows to levels that would again produce mist, thunder, and spray — elements central to the tribe's spiritual and religious values. Ultimately, FERC agreed that the proposed instream flow for the license was inadequate to support the tribe's interests and on appeal, agreed to require much higher flows.

#### Ceremonial and traditional practices

Tribes may also be interested in protecting or enhancing specific natural resources to support their ceremonial and traditional practices. This can have crossover with their interests in fisheries and cultural and aesthetic concerns.

#### Economic development

Tribes may want to use their senior water rights to divert water from the river and put it to use in economic development projects. This interest, in particular, may not align well with conservation interests and NGO objectives. Again, you should focus on finding issues where you share common interests and keep an open dialogue to try and resolve disagreements.

#### **Building a relationship with tribes**

Tribes are not always interested in partnering with NGOs, but in many cases they have been willing to collaborate to achieve mutually beneficial outcomes.

First you need to remember that you are working with a sovereign nation:

- Always approach the tribe with the appropriate level of respect. Be sensitive to the fact that NGOs do not command the same status.
- **Familiarize yourself with the structure of the tribe's governing body.** Find out how decisions are made and who is authorized to speak for the tribe. Try to understand where your liaison to the tribe fits into this governing structure. For example, you might find yourself working with a tribe's natural resources department, whose representatives have limited decision-making authority. The tribal representative may receive direction from a tribal council or other governing body that retains the authority to make bigger decisions.
- **Give the tribes space for confidentiality.** Federally recognized tribes can enter into confidential agreements with the licensee regarding sensitive cultural information and sites. In some relicensings, tribes will request separate meetings or field trips with the licensees. This may make collaboration more difficult, but it's vital to respect the tribe's wishes in this regard. You may also ask the licensee to alert the rest of the stakeholders about any special meetings, arrangements, or agreements with the tribes that are separate from the open, or public, relicensing proceedings. Don't let this confidentiality stop you from working with tribes: Even when tribes are working individually with the licensee, you may be able to meet separately with them to strategize and build support for your shared objectives.

You also need to work hard on communication:

- Ask tribal representatives how they want you to communicate with them. Don't assume your preferred or usual method is best.
- Meet with tribes to strategize and build support for shared objectives. It's often helpful to meet outside of the formal relicensing meetings.
- **Don't assume that the tribe's interests and objectives are identical to yours.** Agree to disagree on certain issues and work together on the issues where you do agree.
- Maintain a high level of transparency.
- Never attempt to speak for a tribe. Even if you know that you agree on a point or a message, always let the tribe speak for itself. This approach can help you as well as maintain the proper level of respect: A message is more powerful if it's being delivered by a diverse group of messengers.

- **Don't expect tribes to sign on to your comment letters.** Rather, try to come to agreement on the points that you both support and can incorporate into your own individual letters.
- **Try to record agreements in writing** so they are clear to everyone.

Be sure to think of ways you can help one another:

- Encourage tribes to convey their anecdotal knowledge on the history of pre- and postproject conditions on a river affected by a hydropower dam, and recommend that they submit this information to be included in the Pre-Application Document (PAD) or the official record for the relicensing. Offer to help compile this information, along with information obtained from the tribes' technical fisheries and land management staff.
- Support tribes' study requests designed to further their cultural /aesthetic interests. In general, you should defer to their study requests related to tribal sites.
- Work with tribes to help them find funding for studies, interim flows, monitoring, media campaigns, and other needs that can advance your shared interests.
- **Coordinate your media campaign with the tribes' media work** to help achieve maximum impact.
  - You can contact the HRC to find other conservation groups, attorneys, and tribal liaisons that have worked with tribes in relicensing or with the specific tribe you are working with. For further reading, refer to Cohen's Handbook of Federal Indian Law, 2005 Edition, by Felix Cohen. You can find it in law libraries or through legal resources like Lexis/Nexis.
# 5. Cooperate with Licensees and Their Consultants

This chapter discusses preparatory steps to be taken with the licensee and their consultants in the first six months to two years before the relicensing, or while participating in a relicensing proceeding. We're assuming here that you are one of the primary coordinators of the NGOs involved in relicensing or the only NGO involved.

# 5.1 Launch your relationship

The licensee operates and is responsible for the hydropower facilities. Be sure to develop a relationship with the licensee before the relicensing starts so that you can introduce your organization and establish lines of communication. You should ask for an introductory meeting with the licensee six months to two years before the release of the PAD, which initiates the five-year ILP relicensing process.

## Get off on the right foot

In the first meeting with the licensee, you may wish to discuss the following:

- **Coordination**. Encourage the licensee to coordinate directly with you in an ongoing partnership.
- Your organization's mission and activities. Include your organization's role and why the licensee should want to work with you.
- **Communications guidelines**. Encourage the licensee to draft guidelines in collaboration with the stakeholder group.
- Licensee's Relicensing Workplan.
- **Timeline**. Encourage a timeline that will allow for two full summer study seasons before the deadline for the Draft License Application.
- **Early studies.** Request early studies from the licensee in order to extend the baseline of data beyond the required two-year study period allocated by the FERC timeline.
- Early release of draft PAD and draft study plans. Suggest that the licensee aim for an early release of a draft PAD and draft study plans.
- **Methodologies specified in study plans.** Request a preview of detailed methodologies for planned studies.
- Joint or cooperative relicensing. If there are other relicensing projects in the vicinity and with the same or similar license expiration dates, a joint relicensing can minimize effort and cost.
- **Hydrologic data and modeling request**. Ask the licensee to provide you with its hydrologic data and model. Ideally, the model should be one you can use, too.
- Settlement agreement. Discuss a settlement. FERC encourages settlements whenever the licensee and other participants believe there is a reasonable prospect of timely success.
  - For more information on settlements or negotiated agreements, see the HRC Licensing Guide, section 7: Settlements as Preferred Basis for Licenses.

#### Licensee experience will vary

Some licensees, such as Duke Energy from North Carolina and Pacific Gas & Electric from California, are relicensing experts because they have done so many. Resource agencies and some NGOs also have significant experience.

In regions with many small utilities, however, you could be working with a "novice" licensee that is learning about hydropower relicensing at the same time you are. It's also possible that the local resource agencies have never been through a relicensing and will appreciate your being prepared.

#### Working with the licensee's consultants

The licensee's consultants have significant influence over the process and its outcomes. Even if the licensee is not experienced, its consultants may be more familiar with the process, or even experts. If so, they'll have certain ideas and processes to recommend to the licensee. Typically, such consultants have several templates they bring from one relicensing to the next. In addition, the consulting project managers' and technical leads' styles and personalities can affect negotiations a great deal. It's mutually beneficial for you and to the consultant to enjoy a good working relationship. While you gain access to the information development process, the consultant benefits from a stronger relationship with stakeholders that can improve and streamline the process.

Ideally, you should try to talk with the licensee before it hires a consultant. You may even be able to make recommendations based on information gathered from other NGOs, the California Hydropower Reform Coalition, and the Hydropower Reform Coalition. You might discuss with the licensee the following criteria for selecting a consulting team:

- A third-party professional facilitator to facilitate the relicensing process. A facilitator hired without stakeholder input is often considered biased, which can undermine negotiations.
- A consultant who supports a collaborative planning approach that allows stakeholders to contribute to and discuss issue areas, study plans, and outcomes.

Find out about the licensee's consultant by:

- Asking the consultant about his or her previous relicensing undertakings, and how each one went. What were the outcomes and the major points of difference and agreement? What worked and what didn't?
- Contacting other NGOs, tribes, and resource agencies who have had experience working with the consultant. Ask about the consultant's role, individual personalities, strengths and weaknesses, scientific qualifications, facilitation skills, and capacity for creating a collaborative setting.

Try these ideas when reaching out to the consultants:

• **Provide them with a contact list of interested stakeholders**. Licensees and their consultants need to show FERC they have reached out to stakeholder groups. Your list can save them time.

- Share your interests and resource information (if appropriate), so the consultants can understand and include them in the relicensing documentation. This decreases guesswork and investigation for the consultants and minimizes surprises.
- Work with the consultants early to review and provide comments on information resources and studies.
- Work with consultants to identify lead stakeholders for different issue areas.
- Work with consultants on the process: meeting schedules, documentation, and communication protocols.

#### Spotlight on Catawba-Wateree Relicensing

The Catawba-Wateree Relicensing Coalition successfully built a solid working relationship with Duke Energy, which enabled it to influence Duke's choice to use a relicensing process involving extensive public participation. As a result of the CWRC's recommendation, Duke held a national search for a facilitator to guide the relicensing process. The CWRC participated in writing the request for proposals and selecting the facilitator. *For more information, see chapter 9 – Catawba-Wateree Relicensing*.

## 5.2 Licensees differ: Public utility districts vs. investor-owned utilities

As you prepare for hydropower relicensing, you need to understand the business structure and bottom line for your licensee. One of the first steps is to differentiate between various utilities' business models. FERC licenses for hydroelectric projects are generally held by investor-owned utilities (IOUs) or public utility districts (PUDs).

#### **Investor-owned utilities**

IOUs are publicly traded private corporations that make stock shares available to investors. They are private decision-makers with profit margins and offer less transparency than publicly owned organizations. IOUs generally have more capital to devote to their projects, which makes them more capable of undertaking large-scale mitigation measures that may require considerable upfront investments.

IOUs are not required to reveal operations, management, and financial information pertaining to the relicensing. So if a licensee claims that your proposal to increase river flows will decrease revenues by a particular amount, it may not provide the information used to reach that conclusion. However, IOUs do have to make public the following documents: state or local Public Utility Commissions rate requests, Securities and Exchange Commission (SEC) filings, earnings reports, and publicly available tax files. For further reading on gathering economics information, see chapter 7, Collect Information Before the Relicensing.

Because IOUs are not especially transparent, the public may trust them less than PUDs. If an IOU licensee resists sharing information and you experience difficulties in negotiating with them, you might launch a media campaign to increase pressure on the utility to make the right decision for the river. But keep in mind that private companies can more easily ignore media coverage than PUDs (and some of them have sophisticated PR operations of their own). In some

cases, it may be more effective to encourage ratepayers and shareholders to pressure the utility to be more transparent.

#### Reaching out to ratepayers

As the relicensing proceeds, you may find yourself needing to communicate directly with the utility's ratepayers to secure their support for restoring the river. Ratepayers may be willing to pay slightly higher power rates if it means their power source is greener. See chapter 9 for examples of successful ratepayer campaigns.

One of the most critical discussions you will have with the utility is about the effects of operational changes on power rates. Licensees often claim that increased flows will decrease power generation and decrease revenues, leading to higher rates. (In regulated markets, rate increases must be approved by the state public utilities commission.) Despite these arguments, rate increases resulting from operational improvements are rarely more than a few cents per month. Remember that for the life of the old license, the utility has made significant profits from the public's water while taking few measures to mitigate environmental damage.

If you do need to contact ratepayers, you might consider the following actions:

- Write a sign-on letter and ask ratepayers to sign it and send it to the licensee, to FERC, and to you (so you have copies).
- **Conduct a survey** of ratepayers asking about their willingness to pay higher rates in exchange for a restored watershed.
- **Host a workshop** on the value of hydropower and electricity rate setting so that the public, businesses, NGOs, and resources agencies understand how rates are set and are able to discuss the topic with the licensees.
- **Research how related water supply rates are set** if the hydropower project is also used for water supply.
- **Develop a campaign that links energy conservation to restoring the river** in the licensee's service area.

## Reaching out to shareholders

IOUs often argue that revenues must be kept up to satisfy shareholders, but spending money on a hydropower project does not necessarily mean lower shareholder returns. Utilities' relicensing costs should be included in their rates. If you feel shareholder returns are an issue for the utility, you might reach out to the shareholders to see how they feel. Raising the issue with shareholders will definitely get the attention of management. Even if a small portion of shareholders side with you, you will have gained tremendous leverage for your issues – and a good media hook.

You can reach out to shareholders by:

- Generating media attention in the areas where the licensee is based, has meetings, or travels. (See Klamath Relicensing case study in chapter 9.)
- **Become a shareholder** yourself, introduce shareholder resolutions, and attend shareholder meetings.

#### Spotlight on the Klamath Relicensing

In an effort to influence shareholders, CHRC members attracted media attention to the plight of the Klamath. They led a convoy of people, including Native American tribes and commercial salmon fishermen, from the Klamath to Omaha to pressure Warren Buffet, the owner of the parent company of PacifiCorp. On the way, they held press conferences in San Francisco, Sacramento, Salt Lake City, and Omaha. They towed two huge dugout canoes across the country to highlight the effects of the Klamath's demise on Native American tribes, and they held a salmon bake in Omaha on the first night of the shareholders' meeting. *For more information, see chapter 9 – Klamath Relicensing.* 

Shareholder resolutions are an important tool that citizens and institutional investors use to reform corporate practices. Some resolutions have caused companies to adopt important environmental standards as well as other corporate governance improvements, and other resolutions may be negotiated in exchange for more moderate reforms. Many resolutions receive media attention.

Today, the Securities and Exchange Commission estimates that about 900 shareholder proposals are made each year at as many as 400 public companies. About half of those proposals make it to a vote. To make a proposal, you must own stock and write and file a resolution. For more on the legal requirements, see: www.waterplanet.ws/transitions/tr0001/.

## **Public utility districts**

PUDs are publicly owned utilities with elected boards. They set their own rates and are not regulated by state Public Utility Commissions. PUDs view themselves as public agencies with similar responsibilities as the state water quality agency or federal land managers. But unlike resource agencies, the PUD's first responsibility as a utility is to provide low-cost electricity for its ratepayers.

#### Reaching out to ratepayers

If you are negotiating for higher instream flows, a PUD might argue that the decreased revenue will result in higher rates to its service area. They might argue that the ratepayers will challenge the increased rates. As with IOU rate issues (see earlier in this chapter), the amount of the rate increase per ratepayer might make this issue less important than the utility claims it is.

You might be able to reach out to the ratepayers in the PUD's service area to convince them to absorb a nominal rate increase to protect the river. Often ratepayers care whether their utility is responsibly generating power or minimizing its damage to the environment. One successful campaign asked ratepayers to fill out and drop a tear-off card into their power bills that told the licensee they want it to be responsible for environmental impacts. Another campaign gathered ratepayer letters and postcards to present to the utility's managers at a public meeting.

#### Spotlight on the Upper American River Relicensing

Licensees will typically argue that ratepayers will not accept raised rates to restore environmental and recreational values to a river. The Sacramento Municipal Utility District, the licensee for the Upper American River Project, is a ratepayer-owned municipal utility district with an elected board. Board members might not be elected again if they raise rates against the ratepayers' will. In dealing with this political reality, a group of NGOs conducted a poll of SMUD ratepayers in July 2005. The poll overwhelmingly proved that the public supported power generated in a way that protects and restores the environment. More than two-thirds of ratepayers surveyed were willing to pay more for these environmental measures in their monthly utility bills.

In November 2005, Friends of the River, accompanied by more than two dozen community members and SMUD customers, presented more than 18,000 letters from SMUD ratepayers and others in support of restoration of the Upper American River watershed to the SMUD board. The letters asked that SMUD do as much as possible to restore the river and its environment to meet the public interest. This ratepayer poll and public campaign had positive effects on the ultimate settlement on the Upper American River. *For more information, see chapter 9 — Upper American River Relicensing.* 

Issue	IOUs	PUDs
Bottom line	Shareholder profits; remaining competitive in the marketplace	Keeping rates low
Available capital for project improvement	Usually more available for project improvements	Generally less than IOUs
Transparency	Fewer requirements to reveal financial models and document operations	Greater requirements for releasing information to the public; covered by state public information access laws
Rate of return as it relates to project improvements	Costs passed on to ratepayers through normal rate processes	Motivated to keep costs down and rates low
Ease of rate increases	Accomplished through complex rate-case proceedings at state PUC	Political process with greater public scrutiny
Managers	Can be out-of-state or foreign	Locally managed
Susceptibility to political, media or public pressure	May be low	Higher, especially if local. Hold public meetings where issues can be raised.

#### **Quick Comparison: Differences Between IOUs and PUDs**

# 6. Articulate Your Interests

To be effective in a relicensing, you must have clear goals and communicate them well. In this chapter, you'll find information about how to frame, articulate, and organize your goals in the context of hydropower relicensing.

# 6.1 Why interests matter: defining your goals

As you begin to prepare for relicensing, you need to define why it is you're participating and discuss that with the other stakeholders. Sharing your goals and understanding others' can build strong relationships and provide a foundation and touchstone to guide your coalition efforts. And it can help you avoid problems and arguments while you focus on finding solutions.

## Interests: the foundation for negotiation

Hydroelectric relicensing involves working with other parties to reach joint solutions. Remember that in a negotiation, no one gets everything they *want*. But in a successful negotiation, everyone will get what they *need*.

So how do you know what that is? First, you need to define your own underlying goals, called "interests" in negotiation-speak. And you also need to understand everyone else's interests. Taking time to do this will help you to avoid argument and deadlock, better articulate your own position, and develop a strategy that folds your goals into the broader context of the negotiation — and into any final decisions

## Defining your interests

An interest is *what* you want, as opposed to *how* you want to get there —the end rather than the means. For example, some of your interests might be, "A healthy trout fishery," or "safe family recreation below the dam." Interests should be expressed as "what" statements or "statements of being," as opposed to actions or "how" statements.

If you're not sure what your interest is, first ask yourself *why* you're involved. Your first answer might be, "to get more water in the river." But that's probably not the underlying reason, so you'd need to ask yourself why again. Your next answer might be "to improve the fishery" or "for better whitewater paddling" or "to decrease algal growth." Ask yourself why once more. If you keep asking yourself why, you'll eventually get to your interest— for example, "a healthy trout fishery," "a longer paddling season," or "higher water quality."

## Moving from broad to specific

Interests can be broad or narrow. They're often broad in the beginning. For example, a group member might say his interest is "a healthier watershed." It's unlikely anyone would disagree with that. But eventually, you and your coalition members will want to define and express more-specific interests. Using the example above, you might discuss this question: "If the watershed isn't healthy enough, what does it need to be healthier than it is today?" One answer might be, "a thriving eel population." Again, the statement doesn't say *how* to ensure the eel population thrives, but, instead leaves the group open to considering many different options.

When you begin negotiations within your coalition and even in the full license process, you want to avoid line-in-the sand positions and statements that insist on a particular means to your desired end. Offering a single solution too soon can move your coalition prematurely into positional negotiations that can set people against each other. That, in turn, can spark controversy just when you are trying to get the group to coalesce.

By articulating interests first and agreeing to deal with options for achieving them later, the group can begin with a mutually agreeable set of goals. Then, as your cooperative group becomes more informed about relicensing strategies, the watershed, mechanical constraints, and ecological processes, it can explore different options for achieving them.

You can read more about interest-based negotiation online or in facilitation and negotiation books, such as Getting to Yes by Ury and Fisher. The sequels are Getting Past No and Getting Together.

## **Recording your interests**

You can use the *Interest Framework by Reach Worksheet* to help you compile your own interests (see Tools).

The worksheet will help you do the following:

- Assess the relationship between the information you collect and the context of relicensing.
- Think systematically about your interests and their relation to specific objectives and corresponding legal support.
- Review your interests as they relate to available information.
- Develop options that meet multiple interests.
- Arrange your interests in the organizational context of a relicensing.
- Record operational options and potential solutions on another page or column to separate them from interest statements.

To start thinking about your interests within the relicensing context, you can divide your worksheet into the typical FERC resource issue areas, which may have as many as 15 related studies. Or you can make a worksheet for interests in each resource area, such as:

- Aquatic resources
- Recreation
- Cultural /aesthetic
- Land use
- Shoreline management/ terrestrial / wildlife
- Cumulative impacts

You can use this guide's worksheets and exercises to explore which potential solutions might be able to address multiple interests. The *Interest Framework by Reach Worksheet* provides a fictional set of river reaches, associated interests, existing conditions, possible criteria to measure the conditions and impacts of the hydropower projects, and options that could meet multiple needs and result in mutual benefits (see Tools).

Your *Interest Framework by Reach Worksheet* will be a "living document." It's likely to evolve over time as you refine interests and options throughout the relicensing. There's much to learn as the relicensing proceeds, so your ideas for solutions and options may change dramatically over time. If you record the group's initial ideas for options in the *Interest Framework by Reach Worksheet*, you can come back later and refine them.

# 6.2 Keep your interests relevant

Remember that relicensing is a regulatory process related to the specific hydroelectric project, not every activity in the watershed. As you develop your interests and issues, you need to make sure they are not outside the scope of the FERC relicensing. Otherwise you may spend a lot of time discussing an issue and then find that the relicensing will not address it.

For instance, you might have an interest in reducing salt runoff from nearby county roads because it harms your river's water quality. But unless the salt runoff is directly related to the hydroelectric project, FERC has no jurisdiction over it and would be unlikely to require mitigation.

So you'll need to screen your interests, using these two issues:

- **Project boundaries and scope.** Is your interest located geographically in the FERC project boundary or in reaches affected by the hydropower operations?
- **"Nexus" to the project.** Is your interest related to an impact caused by or related to the hydropower facility or operations?

The following sections will help you understand the relevance of these issues within the context of relicensing.

## **Project boundary**

The HRC *Hydropower Licensing Guide* says, "In sum, the concept of the project boundary is not a legal nicety — instead, it is an essential element of the license, which directly affects non-power benefits."

Before you take a look at the FERC project boundary, your coalition may want to consider these two questions:

- What is the relevant geographic scope of this relicensing?
- How much of the river and watershed upstream and downstream should we consider to be affected by the project?

If you're lucky, the relevant geographic scope for the relicensing is the same as the existing FERC project boundary, which encompasses the lands and waters necessary to fulfill the terms of the license and "project purposes."<sup>4</sup> The FERC project boundary lays the groundwork for determining the scope of the licensee's mitigation duty.<sup>5</sup>

<sup>&</sup>lt;sup>4</sup> Where the lands belong to another party, the licensee must have the legal rights to use the land in the manner required by the license.

<sup>&</sup>lt;sup>5</sup> The Scoping Document can demonstrate the project's impacts beyond the FERC project boundary and provide the rationale for necessary studies and mitigation.

If all of your interests can be addressed within the current FERC boundary, you can continue to the next step, looking at project nexus. But be sure not to make that decision until you've seen a map of the project boundary.

Unfortunately, FERC's project boundaries often do not take into account the full impacts of hydroelectric projects downstream or upstream of the project. FERC considers the project boundary to be defined in the Federal Power Act section 3(11), 16 U.S.C. § 796(11), which includes:

- Storage, diverting, and forebay reservoirs
- Powerhouses, dams, and related works and structures
- Property rights in land and water, as necessary for construction, operation, and maintenance of a project
  - For more information on the legal definition of FERC project boundaries see HRC Licensing Guide, section 2.3.2: What is Included in the "Project"?

The Hydropower Reform Coalition believes the project boundary should include:

- Any bypassed river reach between a dam and powerhouse
- Reservoir shoreline up to the high-water mark
- All other lands needed for protection, mitigation, and enhancement of resources adversely affected by the project

Consider also that the farthest downstream hydropower facility in a project will likely have downstream effects (for example, sediment starvation and barred fish passage), while the farthest upstream facility may affect the river upstream and downstream.

If you believe the project boundary is too narrow, you may want to pursue expanding it. You can pursue expanding the boundary at the project scoping phase or leave it to the relicensing negotiations. Sometimes the mitigations that develop will shape the boundary.

Boundaries can vary greatly between licenses, but here are some general guides for what they might properly contain:

• **Downstream boundary**: The downstream boundary can be 50–100 feet below the last project facility, the first major confluence below the last project facility, or the high-water mark of another utility's dam or reservoir. The licensee will usually argue that its project does not cause primary impacts beyond those points.

If you have good reasons, you can argue to extend the boundary farther downstream. For example, in some cases, the boundary should extend to the point of material or cumulative effect rather than primary effect.

In the South Feather River relicensing, California stakeholders argued that the project exerted impacts on the river all the way down to a delta, past many other unrelated reservoirs and dams.

• **Upstream boundary**. Generally ranges from 50–100 feet upstream of the licensee's uppermost hydropower facility.

• Side-to-side boundary. Generally about 50–100 feet from the center of the river channel to each side of the river. Around a reservoir, the boundary can vary from 50–100 feet out from the shoreline.

Project boundaries are often very limited under an older license, so you may encounter a challenge when your area of concern is more expansive. But there are ways to get your relicensing to address areas beyond the strict interpretation of FERC project boundaries:

- Settlements or side agreements outside the new license. Such an agreement can address issues outside of the FERC project boundary and FERC jurisdiction. (*See the* HRC Licensing Guide, *section 7, for more information on this option.*)
- License settlement conditions that expand the project boundaries late in the negotiations.
- Early intervention or scoping. If you want to expand the boundary but the licensee does not, you can submit an intervention and comments to FERC that explain your position on the request. Be sure to explain how the amendment will materially affect authorities or due process in the relicensing and note that the licensee can pursue the change after the new license has been issued if it's clear that the area is not necessary for project purposes.
- **Expand the analysis area through the scoping process.** The Scoping Document required under NEPA will detail the project's impacts on the river and the river reaches to be analyzed.

If a river reach affected by a hydroelectric facility is not in the strict project boundaries, you should consider what geographic scope you can fully justify to FERC. Through the Scoping Document, it may be feasible to push the downstream geographic scope of the project's impact to include the next dam downstream, a delta, or even the ocean.

Also, keep in mind that the FERC project boundaries do not necessarily restrict the study area in relicensing. For further discussion on how the concept of study area relates to study development, see chapter 7.

 For more information on the timing and procedure of the Scoping Document, see the HRC Licensing Guide, section 4.2.4: Scoping Document and Process Plan.

## **Project nexus**

After determining whether your interests fall within the project boundary, the second screen you should apply is "project nexus," which means whether the hydropower project has direct, indirect, or cumulative impacts on that resource issue or interest. FERC does not require dam owners to mitigate impacts unless they have a justifiable nexus to the hydropower project.

So you need to screen your interest list by asking, "Does the hydropower project have some impact — direct, indirect, or cumulative — on the resource issue involved?"

Examples:

• Interest with project nexus: "Water temperature fosters survival of fisheries in the reach below the hydropower project." This clearly has nexus since the hydropower facility directly affects the temperature of the river.

- Interest without project nexus as constructed: "Reduced erosion from logging along the ridgelines of the watershed." This example lacks nexus because the hydropower project does not produce or influence the erosion at the top of the ridgelines. The project and river are recipients of the pollution. But since your underlying interest is actually the *erosion* and its results in the river, not the logging, you shouldn't reject this interest entirely. You just need to refine it to focus on how the erosion affects water quality.
- Same interest refocused to have nexus: While the licensee cannot control loggingrelated erosion, it *can* control the redistribution of the sediment in the waterway through its releases. So you can draw a project nexus between the hydropower project and the redistribution of sediment in the river by reshaping your interest to something like, "Fish and other aquatic life are not harmed by sediment loads."
  - You can read more about using project nexus to prepare for study development in chapter 8, Prepare for Study Development.

You can use the following tools and ideas to help screen your interests for project nexus:

- Use the *Hydroelectric Project Effects Matrix* available in the HRC Science Guide See the table of resource issues that have a defensible "project nexus" at www.hydroreform.org/hydroguide/science/part-1-hydroelectric-project-effects-matrix. This will help you rule out studies that cannot be linked to the project.
- Review other successful relicensing study requests. This will help you understand how FERC and different licensees view project nexus. You can obtain these from HRC or by reviewing submissions to FERC for other project relicensings.

As you review your interests, consider taking the following steps:

- Try to determine the baseline or "status quo" condition to isolate the impacts of the project from other facilities and activities that affect the river.
- "Acknowledge the principle of proportionate responsibility. This is essential to your credibility as well as success." Without it, the licensee and Office of Energy Projects alike "will not agree to hold the project responsible for the adverse impacts caused by other facilities and activities." (*HRC Licensing Guide*, section 3.2.2 E: Environmental Document under NEPA.)
- Record and set aside interests with no project nexus to consider bringing into negotiation discussions in a settlement or a side agreement, mechanisms you can use to address issues outside of FERC jurisdiction. These mechanisms are described in the following section.

#### Addressing interest resolution through settlement or side agreement

Another powerful alternative allows you to address an issue outside the FERC project boundary or lacking project nexus. Settlements, side agreements, and negotiated agreements can be negotiated independent of the FERC license decision.

 For more information on settlement, go to the HRC Licensing Guide, Section 7: Settlements as Preferred Basis for Licenses, and in the HRC Licensing Guide's Appendix D: Forms of Settlement.

#### Finalize your interests after the screening process

After you have determined the geographic scope and boundary of the project, you need to return to your list of interests and run them through that nexus screen. Then you can finalize your preliminary list of interests.

You can also use your completed worksheets to produce a joint, public, interest statement for your group to submit to the licensee. For examples, see the *NGO Coalition Interest Statement Examples* (see Tools).

You might also consider incorporating the interest statements into your coalition bylaws or a Coalition Interest Statement. This can be helpful for outreach and sharing information with the resource agencies.

#### Keep your options open

As you craft your group's interest statement, keep in mind that you do not yet have all of the information you need about the project or the potential effects of changing its operation. Therefore, while you may decide to share your list of interests with the licensee or public, you may want to keep the options you have developed internal to your coalition.

This allows you to explore and record potential options within your group, but keeps you from moving to a positional bargaining endgame too soon. It also gives you room to develop better options as you obtain more information. Remember that the licensee and other parties also have interests, and you will be developing the final solutions together based on all the studies and facts that come to light in the process.

# 7. Collect Information Before the Relicensing

This chapter includes a broad range of suggestions regarding information you may wish to collect as you prepare for a relicensing and details on where to find it.

# 7.1 Build the FERC record

You can prepare for success in relicensing by collecting information about your watershed. Doing so can help you:

- Learn what the hydroelectric project does to your river.
- Share documents and information within your coalition and with resource agencies.
- Build the evidence needed to justify studies and project improvements.
- Recommend and provide certain information the licensee can include in its Pre-Application Document (PAD) before the relicensing begins.
- Prepare to assess the quality and comprehensiveness of the licensee's PAD.
- Identify potential information gaps that need study.
- Build a reference library for use throughout the process.
- Assess the accuracy of the licensee's interpretation of existing information in the PAD and future relicensing documents, looking especially at its cited references. The licensee is not required to make the PAD-referenced documents available to the public. By building your own library, you can more easily evaluate its claims.

## **Preparing to inform the Pre-Application Document**

To fully appreciate the importance of information-gathering as a preparatory step, you need to understand the Pre-Application Document and its role in relicensing. In one of the first steps of relicensing, the licensee must release a PAD, which compiles existing information about the hydropower project and its known impacts on environmental quality and recreation. The licensee is required to collect all available, relevant, and reasonably accessible information about the hydropower project and synthesize that information into the PAD.

The PAD sets the course for the entire relicensing process. You should therefore help the applicant develop a comprehensive PAD that includes existing information related to your interests. The PAD should:

- Compile existing information into a single document, highlight information gaps, and inform the need for studies that can provide missing information.
- Suggest the need for studies that will shed light on a hydropower project's effects on the watershed and form the basis for recommended improvements.
- Provide the primary building block for the FERC decisional record. When making a decision, FERC will consider only the information submitted to it during the relicensing process. Nothing should be left out, even if it seems obvious or generally known.

Your opportunity to inform the PAD will come before the relicensing formally starts. Though not a requirement of the FERC process, many licensees conduct a series of information-gathering meetings with the resource agencies, tribes, and other stakeholders before submitting their PAD.

Licensees may also send out requests for information to interested stakeholders, asking for information they can put into the PAD. If you have collected information early on, you will be ready to respond. Consider this your first and best opportunity to submit any documentation or evidence that will help build your case for improving the health of the watershed affected by the hydropower project.

Don't wait to submit your information. The PAD is the start of the combined marathon-sprints we mentioned earlier. Once the PAD is published, the Integrated Licensing Process moves very quickly. It becomes increasingly difficult to influence decisions about study topics and methodology.

## Prioritize your information-gathering

The interests you outlined as part of the previous chapter's exercise should help focus your information-gathering. Generally, you want to collect information that:

- Helps describe historical pre-project conditions
- Demonstrates the impacts of the hydropower projects
- Builds the case for restoration
- Shows how changes in hydropower operations can aid in restoration

Consider the following suggestions as you set your priorities for information-gathering:

- Collect source data first, then reports, then theoretical papers.
- Collect information not likely to be available through the resource agencies or tribes. This could include monitoring, assessments, or reports conducted by NGOs or consultants.
- Collect documentation that supports your position on issues where you expect conflict with the licensee.
- Collect information that supports your position on issues that are unique to your licensing and typically not addressed during other relicensings.
- Collect and review the ten most frequently referenced documents that relate to your primary interests.
- Collect documents the licensee does not have. That may be hard to determine. Try asking the licensee for a list of reference documents used in the PAD and encourage it to make those documents available.
- Request that the licensee release a *draft* PAD, which gives you a chance to review the documents the licensee has already collected and supply missing documents.

# 7.2 Find information on your hydroelectric project

#### Information resources: Where to look

There are many places to start researching a hydropower project. The HRC (www.hydroreform.org) and the CHRC (www.calhrc.org) track FERC projects on their jointly developed websites. We maintain a dedicated webpage for each FERC project, including summary information and a link to the FERC docket. While this information is not available for all projects, the database is being expanded.

To search for your project and find a direct link to your project's FERC docket number on the FERC website. Go to: www.hydroreform.org/rivers (all projects) or www.hydroreform.org/california/projects (California only).

Once you have the docket number, you can use FERC's eLibrary to find the entire record for any hydropower project. It contains the license applications, license orders, license amendments, compliance-related information, and all documents, comments, and correspondence concerning the project filed by any group or individual. This information is invaluable. It can help you understand the project's current licensed operations, point to vulnerabilities or areas where the licensee has been out of compliance, and indicate areas where the licensee is interested in pursuing project expansion or improvements.

This guide provides a brief three-page primer on *Effective Searches and Getting Results from the FERC eLibrary* (see Tools).

FERC staff can be a great resource for information about your hydropower project. You can find your regional FERC office on the FERC website (www.ferc.gov). Staff can help you find a copy of the project's existing license and any amendments to it.

Types of Information	Documents	Potential Resources	Timeline	Priority	
Legal	FERC licenses	Licensee or FERC	Early	High	
	Water contracts	Licensees	Early (if applicable)	Moderate – varies	
Scientific	Studies: Masters theses, dissertations	Universities, Google Scholar	Early pre-PAD	Moderate	
	Watershed assessments, restoration plans, monitoring database	Watershed groups and conservation groups	Early pre-PAD	High	
Anecdotal	Photos and accounts of the river before the project	Libraries, anglers, tribes, historical archives, Web archives	Early pre-PAD	Moderate – varies	
All	Bibliographic references to further documentation of all types	Other relicensings that took place on the same river or nearby or in rivers that have similar issues	Early pre-PAD	Moderate – varies	
Mechanical	Dam engineering, drawings, and safety plans	Commission on Dam Safety	Early pre-PAD	Moderate- High	
Energy	Electric Supply Forecasting	State Energy Commission	Before or after PAD	Moderate – High	
Economic and Power	Hydropower generation and revenues. Operations and maintenance revenues and costs. Cost of replacement energy generation	Public Utilities, FERC eLibrary <sup>6</sup> , State Energy Commission, Public Utilities Commission	Before or after PAD. Can take up to two years to receive requested information from FERC.	Moderate – High; becomes higher priority in relicensing negotiations	

<sup>&</sup>lt;sup>6</sup> Generation reports are filed annually with FERC, and you should be able to find them in the eLibrary. The only limitation is that the eLibrary has only the last 10 years or so of documents, so the data may not go back far enough.

#### Organizing and sharing existing information

There are a number of approaches to organizing and sharing the reference documents you find. Consider developing a website or FTP (file transfer protocol) site for uploading and sharing documents. If you don't have a way to put the documents online, you can burn copies on CD and pass them out to your coalition members and any allied resource agencies and tribes. You may find that you have so many documents you would like to organize them with a database or another kind of indexing system.

#### Data "gap analysis"

As you determine what information is available, you also to need to determine what's missing the issues that have not been adequately addressed. That missing information is known as a "data gap." You can use the gap to help define the studies needed in the relicensing.

The HRC report, *Scientific Approaches for Evaluating Hydroelectric Project Effects*, is a useful guide for gap analysis, available at www.hydroreform.org/hydroguide.

## 7.3 Develop a hydrologic picture: Where does the water go?

Water is the distinguishing feature of hydroelectric power generation. Hydroelectric projects can change the volume, timing, temperature, and duration of river flow, all of which can affect the health of the watershed, wildlife, and fish. Obtaining hydrologic information is vital to understanding the impacts of a hydropower project. Much of the outcome of a relicensing depends on hydrologic data and how it's interpreted. This section discusses gathering, organizing, and analyzing hydrologic data to develop a better understanding of how project operations affect your river. A solid understanding of hydrologic information will help you identify information gaps and potential flow alternatives that need further study.

The hydrologic ins and outs of the project area are vital to understanding the potential options and effects of license conditions. It's not necessary that everyone in your coalition know them intimately, as long as you have someone with the technical expertise who can understand and explain their importance.

#### **Getting technical help**

Don't worry if you read this section and think, "But I'm not a technical person; I can't do any of this." If no one in your coalition gravitates towards working with the hydrologic information, try these resources:

- A national or statewide group representative with relicensing experience and technical expertise can assist with these technical tasks or coach a local activist.
- **Resource agencies** often have in-house hydrologic expertise.
- **Masters' or Ph.D. students** at a local university might be able to use and analyze your hydrologic data as part of their research.
- University professors, retired engineers, or scientists in your community may be willing to volunteer their services or help for a nominal fee.
- **Consultants.** Grant funding may be available to help you hire a consultant or technical adviser.

And remember, you may not need to do every task suggested in this section.

#### Why develop a hydrologic picture?

Developing a hydrologic picture allows you to do the following:

- Become familiar with the "hydrologic regime" how the project releases water in what circumstances (water year type, daily operations), project constraints (water rights, instream flow requirements, water supply contracts), and project benefits (hydropower revenues, water supply deliveries, water transfers).
- Compare the licensee's hydrologic information to your information.
- Identify information gaps.
- Make proposals for changed future operations that could meet the multiple interests in the watershed.
- **Improve your ability to convey these issues** to your coalition members, agencies, tribes, and the public.
- Encourage the licensee to release its own data and hydrologic analysis. In order for the licensee to make a credible argument that there is a problem with your data or analysis, it must be willing to present a competing analysis.

#### Identifying relevant hydrologic information

Regardless of who assembles the data — the licensee, the resource agencies, tribes, or you — that data will need to describe at least two aspects of hydrology important in relicensing:

- Unimpaired (pre-project) hydrology: The hydrology before the hydropower project was built. You may have to develop this information if the project was built before scientific data were available (see below).
- Existing (post-project) hydrology: The hydrology of the system as it is affected by the hydropower project.

Comparing the two allows you to examine and better understand the impacts of the hydropower project. The pre-project hydrology can also provide a starting place to understand what the river would look like if it were allowed to flow naturally. Good information about unregulated, pre-project flows, along with information demonstrating how the changes in flow have damaged the river, can help you make a strong case for changing the project's operation to restore more natural, ecologically beneficial flows.

In many cases, however, there's not much information available about the hydrology before the hydropower project was built. But there are ways to fill that the gap:

- Conduct hydrologic modeling. In many cases, a licensee will depend on hydrologic modeling to extrapolate historic flows and temperatures based on more recent stream gauge readings (stream gauges measure river flow). You can analyze historical hydrologic data or real gauge readings to see how operations compare with the natural hydrograph using free online modeling tools such as Indicators of Hydrologic Analysis at www.nature.org/initiatives/freshwater/conservationtools/.
- **Collect historical and current anecdotal information.** Old pictures and written and oral anecdotes may tell a compelling story about the river before the dam was built. You may

find a wealth of anecdotal information in local American Indian oral histories or place names. If you conduct interviews, ask questions about seasonality (for example, Were there spring floods?) and about how the river was used (for example, Was it too cold to swim in the summer?). You can then ask the applicant to include the information in the PAD. Or you can submit it directly to FERC so that it will become part of the relicensing record and help stakeholders assess the hydropower project's impacts.

- Select and review comparison or reference reaches. Free-flowing stretches of river that are similar in scale, geomorphology, and elevation to project-affected reaches may offer a good surrogate for information about the natural hydrograph in the project-affected reach. You can discuss viable comparison reaches with the licensee and then gather data from those stretches.
  - See the HRC's Scientific Approaches for Evaluating Hydroelectric Project Effects (Science Guide) at www.hydroreform.org/HydroGuide. For more information on the report, see chapter 8, Prepare for Study Development. The report's table on hydropower impacts on watersheds can help you think about further information that you might need to understand the river's hydrology to build your case for improved flows.

#### Spotlight on Catawba-Wateree Relicensing

The Catawba-Wateree Relicensing Coalition (CWRC) worked with the U.S. Fish and Wildlife Service and four other NGOs to develop a hydrologic model to help answer questions about how Duke Energy's series of hydropower dams could be operated differently. This effort urged Duke to apply its own model to a wider range of issues. The CWRC, however, had a significant advantage: Duke's model was very big and unwieldy, taking days to run, while the coalition model was smaller, faster, and easier to use.

After the CWRC shared its hydrologic model at a workshop, Duke was much more transparent in sharing its model and data. To avoid conflict, the CWRC facilitated discussions between the modelers to ensure they used the same hydrologic record and could resolve modeling issues. Building this parallel hydrologic model enabled the CWRC to widen the range of operational scenarios that could be explored in relicensing and allowed it to check the licensee's data and modeling output. *For more information, see chapter 9 – Catawba-Wateree Relicensing*.

## Where to find hydrologic information

Licensees can be one of your best sources of hydrologic data. They are likely collecting this data and developing a hydrologic model to help them prepare their license application. Licensees often maintain their own stream gauges, either to comply with license conditions or to help them operate their hydropower system. While some of these gauges are operated as public gauges, others are not. To get a comprehensive picture of the hydrology, especially on a complicated, multi-dam system, you may need information from licensees' private gauges that shows how they move water through the system.

Be sure to ask for the data. Cooperative licensees will share it since it ensures that you'll both be working off the same set of data. Consider asking for a meeting with the licensee's operations manager or lead hydrologist to find out whether they'll share the information. In some cases, resource agencies may have better luck getting the licensee to share the information.

Other sources for hydrologic data on your river may include:

- The United States Geological Survey (USGS). The USGS keeps hydrologic records of its gauges on its website. Here are a few steps to collecting gauge information from the USGS website.
  - Download the hydrology data the entire history for each gauge from the website (www.usgs.gov) into Microsoft Excel.
  - Organize your data so that each gauge has its own three Excel tabs one tab for the gauge data, the second for the analysis, and third for the metadata (information about when the data was collected, how, and by whom, and how it was organized). This approach will make it easier for you to reference it and make it more accessible for others when you share your gauge database.
- Local watershed groups. Some local NGOs or citizen-based monitoring programs may have local hydrologic data.

Type of Information	Potential Resource			
Diversion locations and capacity	Licensee's project schematics and maps			
Water transfers	Licensee's project schematics and maps			
Pipe / canal capacity	FERC license, operation documents			
Outlet and intake on the reservoirs	FERC license, operation documents, flood or dam safety commissions			
Power generation capacity	Licensee's project schematics and maps, state energy commission, FERC license			
Peak power project facilities	FERC license, operations documents, state energy commission			
Access	Licensee's project schematics and maps; County and city maps; USFS; BLM; or adjacent landowners			
Current regulations controlling the licensee's operations: FERC license conditions and contracts	Current FERC license, water contracts, Clean Water Act certification, water control plans, dam safety plans			

#### Types of hydrologic information and potential resources

 For more information on modeling and Instream Flow Incremental Methodology (IFIM), see the HRC Science Guide, section B: Fish and Aquatic Resources.

# 7.4 Map the plumbing

Maps can be invaluable tools for discussing interests within your coalition and educating the public. You can use maps to demonstrate ownership of land, roads, and facilities; operations; hydrologic relationships; power generation; and resource issues.

Licensees are required to provide FERC with maps of the project area. If you believe a licensee's map is inaccurate, or if you don't have access to it while preparing for a licensing, you may be able to find a better map. If you decide to make your own maps, you will need to gather some relevant information first. This information may pertain to land ownership, other dams, and other projects that relate to the project undergoing relicensing. Your coalition or group can then use the map to help you identify other interests and areas where you already have information and identify the scope of studies. (See chapter 8, Prepare for Study Development, for more information on studies.)

## **Critical Energy Infrastructure Information (CEII)**

Since September 11, 2001, and the passage of the Patriot Act, the federal government has limited the public availability of engineering maps of hydropower projects in an effort to protect energy projects from terrorist attacks. Such maps are deemed "Critical Energy Infrastructure Information" (CEII). But project maps — especially maps of the project boundary — are not appropriate CEII, and it's highly unlikely that an applicant today could get away with filing a project map as CEII.

If a project map isn't available because it has been designated as CEII, you can contact FERC's CEII coordinator and ask the official to remove the CEII designation for project maps. You may be able to obtain other CEII materials from FERC by signing a nondisclosure agreement. See www.ferc.gov/legal/ceii-foia/ceii.asp.

## Find more information in the HRC Licensing Guide, section 3.2.2 G: CEII.

## Project-area map types and where to find them

You can find maps of the hydropower project with the following entities:

- **FERC.** Go to FERC's website, and using the docket number, look for a license application that might contain maps of the project. These should include the project schematics, engineering drawings, and project boundary maps. (The engineering maps may have been removed from the online version of the license because of CEII regulations. See the discussion of CEII above.)
- Licensee. Most licensees have GIS maps of their hydropower projects, and many will
  make these maps available to stakeholders. You can ask the licensee to provide you with
  FERC project boundary maps before the relicensing begins. If GIS maps aren't yet
  available, you can request copies of the original survey maps for the FERC project
  boundaries. However, you may find the survey maps outdated and less than useful due to
  their size and lack of detail.
- **County governments.** Maps of the watershed or habitat conservation plans.
- Local watershed groups. Maps of the watershed.
- United States Geological Survey. Maps of the project area and infrastructure. USGS maps can depict the hydropower project dams, reservoirs, points of diversions, and tunnels. For projects that span multiple USGS quad maps, it might be better to find or create another map that includes the whole project area (from headwaters to first-order confluence).
- Other watershed studies. Maps relevant to the project area.

• **FERC.** File a CEII request with FERC, asking for the engineering maps. You'll need to do this only if the licensee will not provide the maps.

#### Make your own map

Though you might be able to find maps of the project area, you might prefer a map of the project that better displays how hydropower operations have affected the watershed, as well as one that can help your partners and the community better understand how the hydropower project works and how your interests fit into the picture.

Developing your own map offers two distinct advantages. First, a licensee's official maps may be limited to the narrow FERC project boundary. Your map can offer a broader geographical perspective that may help to illustrate ways the project affects the watershed outside of the project boundary (see the discussion of geographical scope in chapter 6, Articulate Your Interests). Your map should take into account FERC's project boundaries, upstream or downstream impacts that fall outside of the FERC project boundaries, and any other hydropower facilities or watershed features that affect or are affected by these facilities.

Second, you can design your own map to a scale that will be most useful to your group discussions and negotiations. That can help you avoid losing sight of the big picture, a common problem associated with relying on many small, detailed maps.

Web tools like Google Earth (www.earth.google.com) and Topozone (www.topozone.com) can be a good place to start.

Considering including these elements in your map:

- Hydropower facilities owned and operated by the licensee, including dams, diversions, tunnels, canals, inlets, outlets, and transmission lines.
- Nonproject dams or diversions that are not under FERC relicensing but that may affect the project or be affected by it.
- Reservoirs, outtake points for diversions, and spillways (depending on scale).
- Major roads and recreation access.
- Power generation for each facility.
- Land use designations federal lands, national or state parks, and private land-use designations can influence your ability to study a certain stretch of river. Identifying the private landowners will allow you to work on study access directly with them. Private landowners may trust a local person or group more than state or federal resource agencies and be more likely to grant access based on your request.

## Sample flow map

For an example of mapping flows, you can download the snapshot of the *Yuba-Bear Flow Map* (see Tools). The Foothills Water Network produced this map to illustrate how much water was being diverted out of the natural river channel and into the hydropower facilities' canals.

# 7.5 Follow the money

The Hydropower Reform Coalition plans to publish an *Economics Guide* to help you understand the economics of a hydropower project. The handbook will point out resources you can use to collect fiscal and energy generation information that can inform various cost-benefit analyses. Much of this information will help you to prepare for a relicensing.

## **Reframing the question of cost**

Hydropower relicensing is not about revenues or even cost-effectiveness. By law, FERC must give "equal consideration" to *all* purposes a waterway could serve, including habitat protection and recreation.

Remember that rivers belong to the public, not to a licensee. A FERC license gives a private entity an exclusive right to use a public waterway to generate electric power. It is not a guarantee of profitability. And "profitability" is not given equal consideration with other purposes under the Federal Power Act. Consequently, the question is *not* whether mitigation measures are worth the cost but rather how much it will cost to mitigate the project's impacts given FERC's mandate to balance power and nonpower values.

A licensee that is preparing to relicense a hydropower project has long-ago recovered the capital costs associated with building the project. The project is likely generating significant profits. Because the licensee enjoys exclusive use of a public waterway, it bears the responsibility for mitigating the project's ongoing impacts. That's the bottom line. That said, it's usually in all parties' interests to find the most cost-effective means of meeting this standard.

## The importance of collecting economic information

To argue for the most cost-effective way to reach your goal, you will need to have a good understanding of the costs and benefits of potential mitigation measures. You should also research the energy costs and benefits of project operating options.

You can start researching project economics before a relicensing begins. Since licensees are often reluctant to share financial information about their projects, it's a good idea to start early so that you will have enough time to request and collect the pertinent information.

Understanding the economics of a project can help you to:

- Understand and influence economic data and analyses that figure prominently in FERC's decision-making process. FERC's economic analysis considers a number of factors: the benefits associated with power produced by a relicensed facility, the costs associated with changes to the facility's operation, and the costs of implementing measures to mitigate some of the negative environmental consequences associated with the hydropower project. FERC's economic analysis can be complex and data-intensive, and it has also been repeatedly accused of bias that favors power production over environmental considerations.
- **Be an effective negotiator.** The licensee knows which parts of its hydropower system are the most valuable. Understanding this perspective will help you to distinguish negotiable issues from those where less movement is likely. Specifically, licensees may place different values on facilities, types of power generation, seasonality, or generation

capacity. Knowing these values will enable you to propose mitigation alternatives a licensee will perceive as economically feasible.

- Offer an economically sound rationale for alternative operations. Licensees often argue that the cost of a proposed mitigation measure makes it infeasible. Good economic data and analysis will help you justify your proposed alternative by debunking these arguments.
- **Review and assess the license application's projected costs** of mitigation measures and any external economic benefits of the project.
- **Review and assess FERC's analysis of the socioeconomic and developmental implications** of the mitigation proposed in the license application. Often FERC's economic analysis will not include a valuation of environmental or recreation benefits. But if FERC is going to analyze one economic impact, it needs to look at *all* economic impacts. By reviewing its analysis, you can often make an argument to FERC that it should value environmental and recreational economic benefits in addition to hydropower and water supply benefits. In addition, FERC is not supposed to make its decisions based on whether a project is profitable. Rather, outcomes are to be decided based on the project's benefits to the public as a whole.

## Mitigation is part of the cost package

Keep in mind that utilities generally recover some or all relicensing costs through their electricity rates. Even so, utilities and FERC sometimes consider the costs of mitigation separate from the costs of construction, operating and maintenance. If that separation comes up in your relicensing, be sure to point out that environmental mitigation is just another cost of doing business, especially since the river is a public resource. The cumulative costs of all operations and environmental mitigation must be taken into account in determining whether the project is beneficial to the public.

Remember, too, that mitigation is part of the whole package in a new hydroelectric project license: it makes turbine upgrades and other power improvements possible. Most mitigation costs occur within the first decade of a license and then drop off for the remainder of the license. Other large costs for environmental management may fall outside that first decade, allowing the licensee to profit from the project for years before paying for them.

#### Spotlight on the Catawba-Wateree Relicensing

The licensee for the Catawba Water Hydropower Project, Duke Energy, suggested that rates would rise if it changed its hydropower operations to protect the environment and recreation. Duke had successfully used this strategy before to limit opposition in another relicensing. To bring the facts to light, the Catawba-Wateree Relicensing Coalition invited state utility board members to discuss how rates are set. Ultimately, this workshop completely defused the licensee's argument about rate increases, and the issue never came up again. *For more information, see chapter* 9 – *Catawba-Wateree Relicensing*.

For further information on hydropower relicensing and economic analyses, go to the HRC website, www.hydroreform.org. Search for the keyword "economics" for articles and papers on hydropower economics.

#### Types of economic information and where to find them

You can find economic data for your hydropower project in a number of places.

#### Licensees

Licensees may have established prices for electricity sales to different customer classes, such as residential, commercial, industrial, and irrigation.

PUD licensees have information on electricity rates — by utility, by customer class — for utilities regulated by a PUC. Documentation can include:

- Power revenues and operational costs.
- Power sold on the market versus avoided cost of not buying power on the market

IOU licensees are not required to reveal all operations management and financial models for the relicensing, but they must make public the following information:

- Rate requests to the state Public Utility Commission
- Securities and Exchange Commission (SEC) filings
- Earnings reports
- Publicly available tax files

#### FERC

- **FERC Form 1.** This form includes a mix of financial, engineering, and production information, but is required only for utilities that produce a lot of power. This can be obtained from FERC' e-Library (see Tools).
- **FERC Form No. 3-Q.** This form supplements Form 1 and is a quarterly financial and operating report submitted for electric utilities and licensees. This form can also be found in the e-Library (see Tools).
- **Power revenues and operational costs.** You can send an information request to FERC asking for the licensee's power revenues and operation and maintenance costs. They may not reply comprehensively, or if they do, it may take up to two years.

#### Public utility commissions

Because of great variation across state PUCs, you'll find no single set of rules to follow when looking for information from a PUC. However, most commissions or local PUC offices will have copies of many documents useful to a FERC relicensing, including:

- Corporate annual reports, bond prospectuses, requests for rate increases, and resource reports. Commissions may require a fee for copies. Access to relevant information may require you to have intervener status in a relicensing process. For more on intervening, see chapter 1.
- **FERC Form 1 and Form 3-Q.** These forms contain financial and power information on hydropower facilities. That can include a mix of financial, engineering, and production information, but is required only for utilities that produce a lot of power.

## Prepare for economic analysis

Collecting information can allow you to analyze the economic performance of the hydropower project later in the relicensing. At that stage, you may wish to:

- Link your hydrologic and economics analyses to figure out which operational alternatives are preferable in terms of ecological health and least economic cost to the licensees.
- Engage an economist to conduct a full economic analysis of the project alternatives.
- Calculate the cost of mitigations yourself. Licensees are not always forthcoming with the numbers used to justify their arguments about mitigation costs. If the licensee is disagreeing over certain mitigation measures due to cost but won't tell you the figures, you might consider calculating the cost yourself. Be sure to use professional standards, or work with an economist. Unless the licensee can demonstrate the flaws in your approach with its own calculations, your costs will be considered the standard.
- Calculate the economic benefits of recreation and ecological restoration. FERC has had difficulty analyzing the potential economic benefits of alternative proposals that include economic benefits derived from added ecological or recreational values. If you want to make a stronger case for the added economic value or avoided cost of mitigation, you can collect information that demonstrates how ecosystem or recreational improvements resulting from changes in operations will provide economic benefits. Be sure to use professional standards or work with an economist.
- Calculate or estimate the cost of replacement energy. You should try to determine the cost of replacing any energy that would be lost if a new hydropower license were to reduce a licensee's hydropower generation. Keep in mind the difference between peak and base energy generation sources. Many hydropower plants are operated as peak generators because they can respond quickly to fluctuating power demand. Other power sources, such as coal, gas, and nuclear power plants, generate "base load" power, which theoretically produces power constantly. The value of each type of power may differ.

## Spotlight on the Klamath Relicensing

The economic analysis commissioned by a group of NGOs for the Klamath relicensing demonstrates the benefit of an economic analysis of project alternatives. Economists compared the cost of providing fish ladders on the project's three dams against the cost of dam removal. The analysis showed that complete dam removal was actually cheaper than providing fish ladders. This finding provided a convincing argument for decommissioning the dams. *For more information, see chapter 9 – Klamath Relicensing*.

# 8. Prepare for Study Development

This chapter provides an overview of preparing for the study development stage of relicensing, building off the work you've already done in developing your interests and collecting information.

# 8.1 Why prepare for study development

In a relicensing, licensees must conduct studies to determine how their projects affect the health of the watershed and recreation opportunities. The studies also look at how alternative operational schemes may benefit or harm the watershed and associated recreational benefits. The information gathered in the early studies informs negotiations regarding protection, mitigation, and enhancement measures later on.

You must prepare for the study development phase of relicensing so that you can:

- Be ready to suggest and comment on what should be studied, how, and where.
- Influence how environmental and recreational issues are considered in later negotiations.
- Collaborate with the resource agencies, tribes, and licensees on study development.
- Demonstrate that you're ready to engage in a consensus-based study development process and encourage the licensee to adopt a collaborative study development process facilitated by an impartial third-party facilitator.
- Be prepared to request your own studies or work with the resource agencies and tribes to jointly request studies.
- Identify studies that may need to start earlier and discuss them with the other parties to the process.
- Help avoid lengthy dispute-resolution processes that can cut into the two years for studies allotted in an ILP. Adequate preparation can help get the study development going early and prevent loss of valuable time. One year of studies is not enough time to collect a reasonable amount of data, making it very challenging to begin negotiations or for the licensee to draft a comprehensive draft license application.
  - For information on FERC's regulatory requirements for the study development phase of relicensing, see the HRC Licensing Guide, section 3.2.2 and sections 4, 5, and 6, depending on which process is appropriate for your relicensing.

# 8.2 Types of relicensing studies

There are two types of studies:

- Current condition studies. Current condition studies are intended to determine the impact of the hydropower project on the beneficial uses of the waterway and affected adjacent lands. For example, a study might assess the water temperature in the natural channel that is dewatered by a hydropower diversion. Sometimes you will come across past studies of the project's impacts. They are usually insufficient to describe adverse impacts under relicensing. If so, both current condition and proposed condition studies will need to be in the study plan.
- **Proposed condition studies.** Proposed condition studies are intended to determine whether alternative hydropower operations might achieve desired outcomes. For example, a study might test a series of instream flows to see what the minimum and optimal flows are for redistributing sediment, transporting woody debris, and reducing the scouring of riparian vegetation. For this type of study, you should try to address potential alternative operations and mitigation measures to build the case for addressing your interests.

Relicensing studies and study groups are typically organized in the following categories:

- Water resources
- Fisheries and other aquatic species
- Terrestrial resources
- Shoreline management
- Recreation
- Economics
- Cultural / aesthetic

Each grouping will include multiple studies. Crossover and linkages always exist among the study topics and groupings, so you should make sure you register your interests with each study group to ensure cross-pollination and connectivity. The earlier you start thinking along these lines, the better prepared you will be.

For more information on what is studied in relicensing, see the HRC Scientific Approaches Report (Science Guide), available at www.hydroreform.org/hydroguide/science/scientific-approaches-forevaluating-hydroelectric-project-effects

## Keeping organized: Linking studies to interests

As you move ahead, you need to make sure your studies are connected to your interests. This guide provides an *Aquatic Interest and Study Worksheet* and a *Recreation Interest and Study Worksheet*, both of which are partially filled in as examples. You can erase the information in them to use them for your project (see Tools).

## **Requesting studies: Timing and criteria**

Since the relicensing timeline moves quickly, your preparedness will pay off if you want to make study requests to the licensee. Preparation for study development can start one year or more before the relicensing proceeding formally begins with the release of a Notice of Intent.

Your opportunities to request or influence studies fall in the following time periods:

- Before the PAD release. This is the best option. If the licensee convenes collaborative study groups early, the relicensing participants will more likely agree on the studies. Those studies can then be included in the licensee's PAD or Supplement to the PAD. The inclusion of collaboratively developed studies in the PAD or Supplement reduces the burden on the resource agencies, NGOs, and tribes to comment on the licensee's PAD and proposed Study Plan.
- **Comment period after the PAD release.** This is a FERC-regulated, 120-day period in which you can develop study requests using the PAD as an information source. The licensee can convene discussion groups that bring together relicensing participants in a collaborative effort to develop study elements and study methodologies. Depending on your project's FERC timeline, however, further study development might decrease the available time for the study itself, putting additional pressure on you to reach a quick agreement with the licensee.
- After the PAD comment period. It is more difficult to request and receive authorization for additional studies after the development of the PAD and final Study Plan. But in some cases, additional study requests and contingency study requests have been approved when initial studies generate new questions regarding project impacts or operational alternatives.

If the licensee does not accept your initial study requests, you can submit study requests to FERC independently or jointly with a resource agency or tribe. This may be necessary if the licensee does not use a collaborative study development approach. FERC will consider your request as described below.

## FERC criteria for study plan development

Regardless of who requests a study, it must answer seven questions to be considered by the licensee and FERC (See Code of Federal Regulations (CFR) §5.11(d).)

- **1. Study goals and objectives.** Describe the goals and objectives of each study proposal and the information to be obtained.
  - This should relate only to the study outcome, not to the desired relicensing outcomes.
- **2. Resource management goals.** If applicable, explain the relevant resource management goals of the agencies or Indian tribe with jurisdiction over the resource to be studied.
  - If you are an NGO or individual, link your study request to the relevant resource management goals of the resource agencies or tribes.
- **3. Public interest.** If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.

- If you are an NGO or individual, explain why you have a stake in seeing the resource improve.
- **4.** Existing information. Describe existing information concerning the subject of the study proposal, and the need for additional information.
  - This information is in the PAD or in your collection of information.
- **5. Project nexus.** Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.
  - This is arguably the most important criterion and one that FERC uses to reject many study requests. You need to justify how the resource issue proposed for study is related to the hydropower project. For more information on this criterion, see section 6.2 and 8.3.
- 6. Study methodology. Explain how any proposed study methodology including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration is consistent with generally accepted practice in the scientific community or as appropriate, considers relevant tribal values and knowledge.
  - Discuss with the resource agencies and tribes, when appropriate.
  - Refer to the HRC *Science Guide* available at www.hydroreform.org/hydroguide to review appropriate methodologies. Discuss with the resource agencies and tribes. Consider a schedule that allows enough time to complete the study so the results can be included in the Draft License Application.
- **7. Fiscal justification.** Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.
  - Describe how your proposed study is financially comparable to or more costeffective than the licensee's proposed study. Discuss this with someone familiar with study costs to make a sound argument with actual figures, for example, resource agency representatives familiar with relicensing or HRC staff who can make a referral.

See the *Study Plan Template for the ILP* to familiarize you with a typical study format and/or draft your own study recommendations (see Tools).

# 8.3 Make sure your proposals are accepted

In the past, NGOs have had trouble making requests acceptable to FERC because they failed to adequately address criterion 5, Project nexus, and criterion 7, Fiscal justification.

## **Project nexus**

As discussed in chapter 6, Articulate Your Interests, for a resource issue to have nexus to a project, "the hydropower project must directly, indirectly, or cumulatively" affect the issue. You must be able to explain the nexus between the project and the resource issue proposed for study, or FERC or the licensee will likely not address that issue in the relicensing studies.

You can use the following tools and ideas to help identify a defensible project nexus:

- The *Hydroelectric Project Effects Matrix* available in the HRC *Science Guide* —See the table of resource issues that have a defensible "project nexus" at www.hydroreform.org/hydroguide/science/part-1-hydroelectric-project-effects-matrix. This will help you rule out studies that cannot be linked to the project.
- Other successful relicensing study requests. Reviewing other requests will help you understand how FERC and different licensees view project nexus. You can obtain these from HRC or by reviewing submissions to FERC for other project relicensings.

If your resource issue lacks a legitimate project nexus, you may still be able to include it in a settlement or side agreement with the licensee. That means you may still need to study the issue, but you cannot rely on FERC to require it. This can be a reason to conduct your own studies and build evidence for negotiations later in the process. See the section on conducting your own studies at the end of this chapter.

For more information about settlement, go to the HRC Licensing Guide, section 7 and its appendices.

## **Fiscal justification**

Many groups, including resource agencies, fail to address this criterion, described above. You can justify how your proposed study is financially comparable to or more cost-effective than the licensee's proposed study by getting cost estimates and cost comparisons for similar studies from consultants and resource agencies.

# 8.4 Study methodologies

It's helpful to familiarize yourself with methodologies that may be used in the studies. Sometimes the study development centers on *how* to conduct the study rather than *whether* to do it. Study methodologies can pivot around cost, study area, time, scientific rigor, confidence levels, access, and project nexus. Having a science background is useful in these discussions, but it's not absolutely necessary. (Sometimes it's more important to know a little about negotiation.) Some helpful tools and strategies include:

- **Reviewing the HRC's** *Science Guide*. The report describes approaches that are proven and accepted, identifies current or new technologies and methods, and compares advantages and disadvantages of some approaches.
- **Consulting with the resource agencies.** Ask which methodologies and study elements they recommend and have accepted in past relicensings. Studies can evolve from one relicensing to the next, but many elements can be transferred.
- **Reviewing studies produced by your licensee.** Review other relicensings conducted by the licensee or its consultants, if available. In some cases, licensees may have "standard studies" those that have previously been agreed on with the resource agencies.
- **Reviewing recently conducted studies in other relicensings in your state.** Other instate relicensings are likely to involve the same resource agencies you're working with and sometimes the same individuals. Every group of relicensing participants can be different, however, so don't be surprised if the participants in your relicensing won't agree to the exact same study terms.
- Consulting with stakeholders who have worked on other relicensings.
  - You can find studies from other relicensings on the licensee's relicensing websites under Study Plans or in the Environmental Impact Statement.

You may want to develop a list of high-priority study elements and methodologies addressing the objectives, project nexus, methodologies, and geographic scope for the study. If you do create this list, consider submitting it to the resource agencies, tribes, and licensee for discussion in study development or before the PAD is released. In this way, you can start a dialogue about study priorities and, perhaps influence the licensee's study plans.

For more specific information on the legal policy and regulatory timeline for Study Plan development, consult the HRC Licensing Guide, section 3.2.2: Licensing Record Part B. Study Plan.

#### Study area

Though FERC's project boundary designation is typically constrained, the "study area" can extend beyond it. (For more information on project boundaries, see chapter 6, Articulating Your Interests.) Examples of study areas extending beyond project boundaries might include:

- **Headwaters reaches.** Studies of unimpaired headwater reaches can demonstrate a comparison between the unimpaired hydrology of the river above the hydropower project and the impaired hydrology of the river below the hydropower project. These headwater reaches are referred to as "reference reaches" for these study purposes.
- **Tributaries.** Studies of amphibian populations, and sometimes fish, often must extend up river tributaries outside the project boundary.
- Adjacent lands. Studies of wildlife migration, tribal cultural properties, roads, and trails can sometimes extend outside the project boundary to capture how these resource issues are affected by the hydropower project.
- **Downstream reaches.** Studies of fish populations and other aquatic life often need to extend downstream of the project boundary.

#### River reach characterization

When developing studies, the licensee's consultants will often use a table to identify river reaches and then assign studies and monitoring sites to each reach. If you're starting before the PAD is released or study groups meet, you can use the *River Reach Characterization Worksheet* to develop a matrix to help determine the geographic scope of studies (see Tools).

Study Reach	Natural channel below diversions subject to substantial accretion	Natural channel below diversion (Bypass reach)	Peaking reach	Tributary	Reservoir	Headwaters reach	Reaches downstream of project facilities	Comparison reach
River				_				
Headwaters to first project diversion						•		•
First project diversion to first major tributary		•						
First major tributary to 2 <sup>nd</sup> project diversion							•	
Reservoir								
Project reservoir to major tributary			•					
Major tributary to confluence with first-order river	•							

## Sample River Reach Characterization Worksheet

Below you'll find a description of what each reach category means — and why those differences matter. You must become familiar with this terminology because it's commonly used in a relicensing.

- **Natural channel below diversion subject to substantial accretion.** River reaches that receive water from major tributaries or runoff can be significantly different from reaches that are dewatered and have few tributaries or receive little runoff. Tributary junctions can change the health and character of the river dramatically, so this information should be included in the *Interest and Study Worksheet*.
- **Bypass reach.** A natural river channel below a dam or diversion that diverts flow typically lacks adequate water and sediment. This reach is also referred to as the "dewatered natural channel." Some activists insist on calling this "the river" to remind everyone that it's a natural feature.

- **Peaking reach.** A river reach where the hydropower facility primarily generates peaking power can be subject to daily pulse flows as well as rapid and dramatic daily flow changes.
- **Tributary.** Streams or creeks that flow into the main river stem can often mitigate dewatering impacts. River characteristics above and below tributary junctions can differ substantially, leading to different issues and interests above and below the tributary junction.
- **Headwaters reach**. The river from the headwaters to the first hydropower facility is often characterized as a "comparison" or "reference reach" to help evaluate hydropower facility impacts on the reach below.
- **Comparison reach.** A reach on the same or a comparable river that is used to compare the hydropower project's impacts on the affected river. Often a headwaters reach.

Other considerations for dividing the river into sections include major land use changes, and wastewater discharges or other locations where contaminants may enter a stream.

## 8.5 Prioritize studies

Relicensings vary in terms of the number of studies conducted — from a few studies to more than 40. The number of studies in a relicensing will inevitably affect the capacity of the NGOs, resource agencies, tribes, and other stakeholders to participate in study development and influence those studies. Therefore, in order to best allocate your scarce resources and time, you might work on a prioritized set of studies. Focus first on studies that:

- Address primary interests or objectives
- Fill the most important data gaps
- May be the most significant and therefore need precise information

## **Recommendations for study development**

Below are some additional helpful hints for study preparation and development.

## Team up with the resource agencies and tribes on study requests.

Improve your chances of making powerful recommendations by teaming up with the resource agencies or tribes that have mandatory conditioning authority. Only those agencies and tribes may seek formal dispute resolution if FERC refuses to accept a study.

## Target what you need to know

Don't duplicate existing information or request so much information that it's not clear what the most important issues are. You'll have greater credibility with the licensee and resources agencies if you target priority issues and studies.

## Gather local knowledge

Information from local groups can be valuable in identifying needed studies.

## Be sensitive to cost

You will gain credibility if you consider the cost tradeoffs between different study methodologies and study areas. Consider which elements are critical to making your case versus which ones might be nice, but are very costly and could be done without. If you aren't sure about costs, discuss them with the resource agencies, local scientists, licensee, and consultants.

## Don't let integration fall through the cracks

Dividing study development into smaller study groups can be helpful. At some point, however, it's good to bring those groups back together so that issues that cut across categories can be discussed. In some cases, one study can be used to effectively gather data on multiple issue areas. For instance, as part of the instream flow studies, a licensee will release a range of different test flows to gather information on flow, temperature, and velocity. The data gathered can also be used to study flows for recreational interests, thereby saving the licensee money by avoiding a separate recreational flow test. In addition, the study methodologies should include consultation between studies so that the outcomes of the recreation study are informed by the aquatic study group and vice versa.

## Conduct your own studies

You may consider conducting your own studies in circumstances where the law does not require, or the licensee does not agree to conduct a study you believe is important. You'll need to consider the cost of the study compared to the value it will add to the process. In many cases, NGOs have conducted their own studies, including hydrologic models, economic analyses of power generation under multiple operation scenarios, and flow and temperature studies.

For more information on conducting your own studies, see the HRC Licensing Guide, section 3.2.2 D: Evidence Submitted by Participants.

#### Spotlight on the Klamath Relicensing

The CHRC's ability to hire independent experts to analyze various aspects of the Klamath project and relicensing has been crucial to building the record on which FERC will base its environmental analysis and license decision and in generating public support for dam removal. In its license application, PacifiCorp refused to evaluate dam removal as an alternative. So CHRC commissioned dam removal studies addressing engineering feasibility and costs, likely downstream impacts, and the costs of replacing lost power. The CHRC also designed an economic analysis and modeling tool to compare the cost of relicensing to the cost of dam removal to prove that full or partial removal makes economic as well as environmental sense. These studies have helped justify dam removal as the most appropriate option. *For more information, see chapter 9 – Klamath Relicensing*.
## 9. Learn from Success: Relicensing Case Studies

This chapter presents a range of case studies of different relicensings across the United States. One is from the Southeast and four are from California. They illustrate how you can use the strategies discussed in this guide to help restore your river — with real results!

## 9.1 Upper American River Project, FERC Project 2101

# Effective NGO and resource agency teamwork, innovative public and ratepayer campaigns

The Upper American River Project (UARP) is located on the South Fork American River on the west slope of the Sierra Nevada east of Sacramento, California. The project is owned and operated by the Sacramento Municipal Utility District, with one dam at the end of the project owned by Pacific Gas & Electric. Relicensings for SMUD and PG&E's projects were conducted simultaneously from 2002–2007. In 2006, the NGOs, resource agencies, and licensees successfully negotiated a settlement which they submitted to FERC as the final license application.

Achieving the settlement hinged primarily on the ability of conservation and recreation groups to build a strong coalition with the resource agencies. When the settlement negotiations between stakeholders and the two licensees went sour, SMUD and PG&E found themselves pitted against all of the resource agencies and NGOs participating in the relicensing. This approach, in which NGOs and resource agencies created one negotiating block, enabled each to capitalize on the other's strengths and to protect their vulnerabilities in a challenging relicensing.

Resource agencies and NGOs had been negotiating license terms with SMUD but were unable to reach a settlement before the license submission date. SMUD decided to cease negotiations and submit its own license application. The agency/NGO coalition submitted a separate license application for FERC to consider.

To mount a public campaign, the NGOs completed an analytical comparison of SMUD's application and the agency/NGO alternative. Both documents were hundreds of pages long, so it was important to distill the major differences. The NGOs submitted this report to the SMUD board, its ratepayers, and community leaders in the SMUD service area to increase public support for restoration and pressure SMUD to return to the negotiation table. The report highlighted many differences between the two FERC applications — minimum instream and pulse flows in affected stream segments, whitewater recreation flows, reservoir levels, and funding for recreational facilities.

Perhaps most important from SMUD's point of view, the agency/NGO alternative met SMUD's energy needs as the agencies and NGOs understood them. The agencies and NGOs understood that it was very important to SMUD to be able to generate at full power during the summer months when peak power is in high demand. To satisfy this interest, the reservoirs need to remain full, allowing SMUD to run its generators at full capacity during the summer. The tradeoff was that if the agencies and NGOs could leave this power generation capacity whole, they could reduce SMUD's capacity at other times of the year.

So the agency/NGO alternative proposed most of the power reductions during nonsummer months in order to respect SMUD's bottom line. The alternative reduced power production by about 7.9 percent, well within the average range of other relicensings in California. Moreover, the agencies and NGOs did not stand in the way of SMUD's plans for increasing power generation capacity with a pumped storage project that can help it meet peak demand. That allowed SMUD to use project improvements to more than compensate for the lost power production.

#### Letting the ratepayers speak for themselves

Since SMUD is a ratepayer-owned municipal utility district with an elected board, the question of whether ratepayers would accept higher rates to restore a river was largely a political issue: The board members might not be reelected if they increased rates against the ratepayers' will.

Understanding the politics, the NGOs conducted a poll of SMUD ratepayers in July 2005. The poll clearly and overwhelmingly proved that the public supported power generated in a way that protects and restores the environment. Perhaps even more important, more than two-thirds of the ratepayers surveyed were willing to pay more for these environmental measures in their monthly bills.

In November 2005, Friends of the River, accompanied by more than two dozen community members and SMUD customers, presented the SMUD board with more than 18,000 letters from SMUD ratepayers and others in support of restoring the Upper American River watershed. The letters asked that SMUD do as much as possible to restore the river and its environment to meet the public interest.

These actions showed the SMUD directors that it was politically safe to do the right thing by the river.

#### Leveraging the licensee's green image

Environmental protection is one of SMUD's core values. The utility's environmental protection policy calls on it to proactively engage with regulatory agencies, stakeholders, and the public in promoting environmental protection.

The NGOs' public campaign leveraged SMUD's green image by asking people to remind SMUD what it means to be a "green" utility. In this case, the green alternative was to settle with the agency/NGO coalition to restore the upper American River. The NGOs were able to attract a number of distinct stakeholder groups to speak at the bimonthly SMUD board meetings, including private boaters, commercial outfitters, anglers, hikers, chambers of commerce, local busineses, rafting outfitters for people with disabilities, and conservation groups. The NGO organizers gave stakeholders talking points and encouraged them to wear their recreation gear, such as fishing licenses, hats, and life vests. The organizers held biweekly strategy meetings to organize and plan for the next SMUD board meeting. They kept up meeting attendance numbers and brought in speakers to the SMUD board meetings for a few months, always requesting that SMUD return to the negotiating table and consider the agency/NGO alternative.

#### Leveraging the licensee's other interests

The UARP relicensing took place at the same time as another political process: SMUD was proposing to annex another county into its service area. Local governments in search of cheaper

power rates prompted the proposed annexation. But there was also strong support for annexation from ratepayers in the new county, who wanted service from a greener utility. Because the county's population included a high number of environmentalists, NGOs predicted that the potential ratepayers in that county held environmental views similar to current SMUD ratepayers.

Working with the new county's environmental groups, the NGOs put together a campaign. The local environmental groups said they would oppose SMUD's annexation of the county if SMUD failed to reach a settlement to restore the upper American River. The NGOs held a press conference in front of the SMUD building and sent letters to the SMUD board threatening to oppose the annexation.

The river proponents pressured SMUD from multiple sides: the annexation issue, the multistakeholder barrage at board meetings, the ratepayer poll, and a letter-writing campaign. The NGOs even recruited key decision-makers who were river advocates or boaters to individually pressure SMUD board members.

#### **Finally**—a settlement

Finally, under this pressure the SMUD board appointed two of its members to an ad hoc committee to reconvene relicensing negotiations and draft an agreement in principle in the remaining month before the FERC settlement deadline. In the following months, the parties successfully developed a settlement agreement that represented a detailed compromise between SMUD's application and the agency/NGO alternative.

The resource agencies were closely tracking the intense public campaign. Since the negotiations had dissolved under duress, they were not talking to SMUD or PG&E, and because they were governmental representatives, they could not publicly support the NGO campaign. Despite their close alliance with the NGOs, the agencies worried that the NGOs, who were campaigning publicly while still talking with the licensees, might make their own deal and leave the resource agencies to fight their own fight. In the end, the agencies were pleased that the NGOs stuck by them, pressured the licensee to reconvene negotiations with the entire negotating team, and refused side deals that would have excluded them. This strengthened the agency/NGO coalition and built a strong foundation for working together in future relicensings.

## 9.2 Klamath River, FERC Project 2082

# Effective NGO-tribal coalition, persuasive independent studies, innovative media and public campaigns, strategic use of agency authority

The Klamath River Hydropower Project, operated by investor-owned PacifiCorp, is located in a predominantly rural area in southwestern Oregon (Klamath County) and northern California (Siskiyou County). From its beginnings in southern Oregon's Upper Klamath Lake, the Klamath River flows 240 miles from Oregon into northern California before emptying into the Pacific Ocean near Klamath, California. The river drains an area of about 13,000 square miles.

PacifiCorp's five-dam hydropower project on the Klamath River blocks salmon and steelhead from reaching over 300 miles of historic spawning habitat, harms regional fishing economies,

degrades water quality in project reservoirs and below the dams, and reduces the quality of life for tribes living in the basin.

Historically, the Klamath River was one of the three most productive salmon rivers in America. Today, dams, diversions, and other basin activities have caused coho and fall Chinook salmon populations to decline to 10 percent of historic numbers, leading to strict limits on commercial salmon fishing in California and Oregon in 2005 and 2006. Tribes, fishermen, and environmentalists see dam removal as a fundamental step towards restoring the Klamath fishery. The political pressure exerted over the past few years by a broad coalition of Klamath Basin Indian tribes, commercial fishermen, recreational anglers, and conservationists has moved dam removal on the Klamath closer to reality.

#### Strategic relationship with tribes

The California Hydropower Reform Coalition members built strong and strategic relationships with Klamath Basin tribes to strengthen their mutual interests in creating fish passage around the dams or removing them. These relationships were important because the project's boundaries include tribal lands, which gives the tribes regulatory authority in the relicensing.

In one joint effort, the Yurok, Hupa, Karuk, and Klamath tribes worked with the CHRC to develop a mailer that included a tear-off postcard California and Oregon citizens could send to their governors. The CHRC also held relicensing training for the Hupa tribe to discuss the FERC process, sharpen media skills, and train members to effectively communicate with reporters.

Later they helped fund the second phase of a Karuk tribal study that examined how the lack of Klamath salmon, once the cornerstone of the Karuk diet, has affected the overall health of the tribe. The first phase of the study found a link between decreased salmon consumption and increased risk of heart disease and diabetes. This finding generated significant media attention and opened a new and creative way for CHRC members to discuss how hydropower projects affect people. Following on this study, CHRC and the Karuk tribe reviewed water quality data and demonstrated that the level of toxic algae behind PacifiCorp's dams was more than 100 times the accepted health standard.

CHRC members also worked with the Karuk tribe to canvass PacifiCorp ratepayers in Oregon and gather signatures in support of dam removal to generate more vocal and concrete support from Oregon's Governor Ted Kulongoski. This effort included developing two brochures (similar to the mailer developed with the tribes for California) to generate additional comments to send the governor. The first brochure was mailed to Oregon tribal members, the second to PacifiCorp ratepayers in Portland.

CHRC members also helped fund and implement two trips for tribal representatives to the shareholder meetings of the corporate owners of PacifiCorp — originally Scottish National Power and currently Berkshire Hathaway — to make their case for dam removal. The trips to corporate headquarters in Glasgow, Scotland, in 2006 and Omaha, Nebraska, in 2007 generated significant media attention and helped pressure PacifiCorp to negotiate (see below for more details).

#### **Developing independent studies**

The CHRC's ability to hire independent experts to analyze various aspects of the Klamath project and relicensing has been crucial to building the record FERC will use for its

environmental analysis and license decision and in generating public support for dam removal. In its license application, the licensee — PacifiCorp — refused to evaluate dam removal as an alternative. CHRC members therefore hired independent consultants to analyze several aspects of removing Klamath dams, including the engineering feasibility and cost of dam removal, the likely downstream impacts of dam removal, and the cost of removing the dams and replacing their generation compared to relicensing the project. Later, the CHRC designed an economic analysis and modeling tool to compare the cost of relicensing to the cost of dam removal to prove that full or partial removal makes economic as well as environmental sense. These studies made up the first information developed on removing the Klamath dams. And they justified dam removal as the most appropriate option.

#### Media strategies targeted toward shareholders, ratepayers, and major investors

To influence shareholders, CHRC members decided to attract media attention to the plight of the Klamath. They led a convoy of interested parties, including American Indian tribes and commercial salmon fishermen, from the Klamath to Omaha to reach out to Warren Buffet, the owner of PacifiCorp's parent company, Berkshire Hathaway. On the way, they held press conferences in San Francisco, Sacramento, Salt Lake City, and Omaha. They towed two huge dugout canoes across the country to highlight the effects of the Klamath's demise on Native American tribes. And they held a salmon bake in Omaha on the first night of the shareholders' meeting.

California group Friends of the River launched an effort to reach out to PacifiCorp's customers and investors through a poll of the utility's ratepayers. By a two-to-one margin, the ratepayers supported restoring the Klamath — even if it adds a few cents to their utility bills. After assessing their support, Friends of the River mobilized ratepayers to tell PacifiCorp to do the right thing and restore the river. They planned to run bus ads throughout Portland, PacifiCorp's service area to create a groundswell of public demand for dam removal.

The coalition followed up on this media strategy by setting up steps to reach out to the California Public Employees' Retirement System (CalPERS), one of the top ten institutional investors in PacifiCorp's parent company. CalPERS has a commitment to investing in green energy and companies that benefit the environment, so the coalition wanted to make sure it knows how its investment is affecting the Klamath. They sent out an appeal and received hundreds of signed activist letters to CalPERS' chief investment officer. Those letters can be used to further exert pressure on PacifiCorp's parent company.

#### Fish agency use of authority

In March 2006, the Department of the Interior and the Department of Commerce issued mandatory terms and conditions for the project that require PacifiCorp to construct fish ladders, fish screens, and other facilities to provide fish passage at each of the company's Klamath dams. The agencies rejected PacifiCorp's proposed passage strategy of trapping returning adults below the lowest dam and releasing them upstream of the project. Since fish ladders will be a technically difficult and expensive option on the Klamath River, the agency conditions make the economic case for dam removal even stronger. A California Energy Commission economic report concluded that dam removal would cost \$100 million less than relicensing with the prescribed ladders and screens, including the cost of replacing the electricity from the dams.

As we go to press, the Klamath River relicensing has not come to full closure.

## 9.3 Catawba-Wateree Rivers, FERC Project 2232

#### Long lead time, a broad coalition, strong education program, effective media, powerful modeling

Duke Energy's Catawba-Wateree Hydropower Project is located on the Catawba and Wateree rivers in North Carolina and South Carolina. The project's 13 dams and 11 impoundments affect nearly 300 miles of river. The Catawba-Wateree Basin is home to over 1.5 million people. The FERC license for the Catawba-Wateree Project expired on August 31, 2008.

In 1998, local and state governments, tribal governments, conservation groups, and recreation organizations began to meet on what they saw as a "once-in-a-lifetime opportunity." The first meeting was ten years ahead of the license expiration and five years ahead of the formal start date for the relicensing. The interested stakeholders at these meetings formed the Catawba-Wateree Relicensing Coalition (CWRC).

The CWRC is a bi-state grassroots coalition whose mission is to give an independent voice to the relicensing effort and facilitate a relicensing process to protect, enhance, and restore the natural, cultural, recreational, and economic resources of the Catawba-Wateree River basin by:

- Educating the general public about their environmental and conservation rights in hydropower project relicensing and encouraging them to participate in a collaborative relicensing effort.
- Advocating for the public benefits of all people from a public resource.
- Providing technical input for environmentally sound relicensing study requests in watershed management, fish passage, water flow levels, water quality and quantity, recreation and public access needs, land use and planning, cultural and historic resources, and terrestrial resources.

The CWRC did not have a formal membership. Instead, it included all stakeholders who wanted to receive the coalition's information or participate in its workshops and outreach programs. The CWRC used a big-tent philosophy in which participants — 15 board members, over 50 organizations and entities, and over 700 individuals — were not required to walk in lockstep but instead supported a comprehensive, mutually beneficial outcome. Early on, organizers discarded the idea of membership dues and decided the best role for the CWRC was to educate people about what was at stake. Since Duke Energy had been operating under the current conditions for 50 years, the challenge was not to show people what existed, but what was possible through relicensing.

#### **Relationship with licensee**

The CWRC successfully built a solid working relationship with Duke Energy, which enabled it to influence the utility's choice to use a relicensing process involving extensive public participation. As a result of the CWRCs recommendation, Duke Energy held a national search for a facilitator to guide the relicensing process. The CWRC participated in writing the request for proposals and selecting the facilitator.

#### Building trust and knowledge through outreach and education

During its first three years, the CWRC focused on building trust and relationships among potentially adversarial stakeholders, including the licensee. Coalition staff conducted extensive outreach to attract people to its mission, inform them about the opportunities, and discuss shared interests. They used meetings, newsletters, newspaper articles, and referrals.

As part of their outreach, the group found it was very important to bring in nationally recognized experts to educate federal, state, and public stakeholders about relicensing. The CWRC developed a speaker's bureau and ran workshops where experts, staff, and board members discussed the relicensing process with state and local government agencies, NGOs, conservation groups, recreational groups, clubs, and other organizations.

The CWRC conducted a number of workshops, inviting a broad range of stakeholders that included Duke Energy, North and South Carolina fish and wildlife agencies, state water quality agencies, and the EPA's regional office. Some of the workshops included representatives from other state agencies who shared their experience and provided information about their roles in previous relicensings. The CWRC also hosted a workshop on multiparty natural-resource negotiations that addressed how to get out of positional stances in order to communicate interests. On the technical front, the coalition hosted workshops on hydrologic modeling, determining instream flows for ecological benefits, and achieving land protection through FERC relicensings.

One of the most influential workshops was on the economic value of hydropower. Duke Energy had suggested that rates would rise if they changed operations to protect the environment and recreation. Duke had previously used this strategy to successfully limit opposition in another relicensing. To bring the facts to light, the CWRC brought in state utility board members who discussed how electric rates are set. This workshop defused Duke's argument about rate increases and the issue never came up again.

#### **Relationships with agencies**

CWRC members worked closely with state agencies to develop priorities for land conservation, river flows, and habitat enhancement provisions. They met with state department heads to assist in preparing a strategy to accomplish state goals for increasing public access to lands and project resources.

In addition, the coalition conducted workshops to advance the agencies' and the public understanding of agency roles, responsibilities, and authority in the relicensing process. For example, it held a "Hydropower Water Quality Certification Workshop" for North and South Carolina state agency employees responsible for each state's 401 water quality certification.

#### **Streamlining and efficiency**

Throughout the FERC process, the CWRC was able to bring stakeholders together on multiple joint comment letters, comments, and recommendations. This effort added weight to the joint comments and streamlined the process by pooling resources — an especially valuable benefit for small groups or individuals with limited resources.

CWRC members took key roles in the relicensing and were therefore able to influence the outcomes on a broad scale. For example, the coalition's board members took primary seats on

both the state relicensing teams and the regional advisory groups. CWRC members participated on study plan committees, on technical teams that carried out the studies, and on virtually every other team that worked on negotiating and writing the settlement agreement. The CWRC also took a lead role in developing the charter that guided behavior throughout the relicensing process (sometimes called "communications protocols").

#### Hydrologic modeling

Along with four other NGOs and funding from the U.S. Fish and Wildlife Service, the CWRC developed a hydrologic model to test alternatives to Duke's existing hydropower dam operations. This effort forced the power company to use its own model on a wider range of issues. Duke's hydrologic model was big and unwieldy, taking days to run. In contrast, the CWRC made a smaller and faster model. The coalition held a workshop in which it shared its model, after which the licensee was much more transparent in sharing its own model and data. In addition, to avoid conflict and resolve modeling issues, the CWRC facilitated discussions between the hydrologic model enabled the CWRC to widen the range of operational scenarios that could be explored in relicensing and gave them the power to check the output of the licensee's model.

#### Internal conflicts in the coalition

From the beginning of the relicensing, Duke Energy made it known it was willing to protect some of the 170,000 acres of its basin lands to mitigate for project impacts. When Duke proposed land protection in lieu of improved stream flows below two of the dams, a conflict developed in the coalition between land-oriented and river-oriented stakeholders. The CWRC's commitment to open communication and the balancing of interests helped the different interest groups work through the conflict.

Both North and South Carolina state agencies accepted some form of land mitigation for unavoidable effects on river flows. South Carolina, however, remains less likely to agree to the licensee's flow recommendations than North Carolina, which obtained additional recreational land in the bargain.

#### Media power

Under its current FERC license, Duke Energy has a diversion dam above Great Falls on the Catawba River. This dam essentially dewatered the falls. The CWRC and other NGOs stepped up a media campaign focused on rewatering the Great Falls. They issued newspaper articles, recruited a local artist to paint the falls as they once were, and produced a short film discussing the importance of rewatering that section of the river. That film was then played for state regulators, county planners, elected officials, and relicensing stakeholders. Ultimately, the public campaign successfully turned rewatering the Great Falls from a confrontational issue into an enhancement measure supported by the licensee. The South Carolina water quality agency strengthened the campaign by stating that the project could not achieve water quality standards without adequate instream flows for the falls.

#### Outcome of the process—so far

The CWRC was a central player in facilitating the comprehensive relicensing settlement for the Catawba-Wateree project, but not all members were satisfied with the outcome. The U.S. Fish

and Wildlife Service, the National Marine Fisheries Service, and several NGOs did not agree to the settlement because it did not meet their needs for appropriate instream flow enhancement and for protecting endangered species. Despite the leadership of the CWRC, these issues could not be resolved at the negotiating table. Part of the reason was that once the licensee, Duke Energy, reached agreement with the state agencies, it essentially stopped negotiating with federal agencies and several NGOs who had additional requirements for a final settlement. The parties that did not sign the settlement can continue to seek resolution from FERC and are free to litigate later if their concerns are not addressed.

Highlights of the settlement for the Catawba-Wateree Relicensing include enhanced continuous flows below most of the dams, rewatering of two river reaches, enhancements for the project's 11 reservoirs, a superb recreational flow release schedule, and numerous other recreational improvements. While the means were controversial, about 3,000 acres of land were also protected, with the potential for protecting about 3,000 more acres through reduced price acquisitions. The coalition was appointed to the settlement implementation team and will have a continued voice in the project's operation through the term of the new license, which will be issued in 2008–09.

## 9.4 Mokelumne River, FERC Project 137

# Local participation, effective teamwork, smart economic analysis, innovative outcomes

Pacific Gas and Electric Company (PG&E) owns and operates the Mokelumne River Project on the west slope of California's Sierra Nevada. The project consists of four powerhouses and an extensive system of canals and reservoirs that generates more than 1.1 million kilowatt hours of energy — enough electricity for about 200,000 homes. Each year, thousands of visitors enjoy the recreational opportunities at the project's reservoirs and affected river reaches.

#### Local NGO played key role

Several NGOs played a role in this relicensing but one NGO stands out as the only local participant — the Foothill Conservancy, which is based in the counties where the project is located. Local resident Pete Bell, then a Foothill Conservancy volunteer, succeeded in negotiating the removal of three small dams on tributary streams.

Bell was able to provide local knowledge while other NGOs and resource agencies provided broader technical expertise and experience. The final settlement with PG&E was signed by the Foothill Conservancy, American Whitewater, Friends of the River, and the Natural Heritage Institute. The resource agencies who are party to the settlement included the California Department of Boating and Waterways, the California Department of Fish and Game, the U.S. Bureau of Land Management, and the U.S. Fish and Wildlife Service. The U.S. Forest Service agreed to the settlement's terms but for legal reasons, did not sign.

In partnering with the agencies, Bell discovered that his NGO status gave him several advantages. Among other things, he found he could break through stalemates when resource agency staff felt constrained by their official roles. For example, early in the negotiations, the stakeholder group got sidetracked with a lengthy discussion of how improved stream flows

might affect PG&E's financial bottom line. Bell cut through the discussion by arguing that the health of the river should take priority over profits.

#### Comparing relative biological and energy value

During the relicensing, Bell worked hard to convince PG&E to remove three small dams on tributaries of the river. He pointed out that the dams were clogged with silt and hadn't generated power since 1996. The dams also had a low power value for PG&E: Even when they were operating, they generated less than one percent of the project's output. But they were on creeks with high habitat value. In the end, PG&E agreed that the ecological benefit of removing the dams was substantial compared to their relative value for power generation.

As a result, provisions of the July 2001 relicensing settlement required PG&E to take out the three dams. All were breached, removed, or dismantled in 2003. As a result, three creeks in the watershed are flowing freely for the first time in more than 70 years.

#### Additional gains in the new license

In the new 30-year license for the project, based on the settlement, PG&E also gave up some of the water that had been diverted through its power-generating turbines. Stream flows were increased dramatically in the critical spring months to wash sediment and debris from stream channels, distribute nutrients, and trigger fish spawning.

In the settlement, PG&E also agreed to:

- Establish a number of conditions for project operation, including year-round minimum stream flows and water quality standards to benefit fish, wildlife, and streamside habitat for more than 60 miles of the Mokelumne River and its tributaries.
- Invest over \$10 million in facility improvements to accommodate the new flow schedules (the actual cost has been closer to \$58 million).
- Establish operating regimes for the four upper project reservoirs to enhance public recreation opportunity and protect aquatic resources.
- Breach or dismantle existing diversion dams on East and West Panther creeks and Beaver Creek and provide about \$275,000 toward that effort.
- Improve recreation facility improvements at a value of \$1 million, with annual financial support for recreation management. This includes providing flows for weekend whitewater boating opportunities and stream flows for the four whitewater boating runs affected by the project, reliable public stream flow information, and improvements to whitewater boating put-in and take-out facilities.
- Provide for erosion control, fire protection, noxious-weed management, cultural-resource management, and hazardous-materials management.
- Develop and implement a transportation plan that encompasses the use and maintenance of over 75 miles of road, 33 miles of which is the licensee's responsibility.

For ongoing, long-term adaptive management<sup>7</sup> of the streams affected by the Mokelumne Hydropower Project, the settlement and license established:

<sup>&</sup>lt;sup>7</sup> See Glossary for definition.

- Extensive resource and whitewater boating monitoring and adaptive management programs, which provides for adjustment of minimum stream flows, pulse flows, recreation stream flows, and minimum reservoir levels over the term of the license, based on monitoring results. The monitoring program begins prior to license issuance and continues up to year 15. The estimated cost to the licensee is about \$2 million.
- An Ecological Resources Committee (ERC) consisting of the licensee, resource agencies, and NGOs. This committee was tasked with making resource decisions over the term of the license and administering a \$1.5 million fund that accrues interest for resource measures beyond those specified in the settlement agreement, including monitoring after year 15 and non-flow measures beyond those specified in the settlement.

Pete offers this advice to other relicensing activists: "It comes down to persistence and building relationships and doing your homework."

## 9.5 Yuba, Bear, and Middle Fork American Rivers, FERC Projects 2266, 2079, and 2310

# Organized coalition, stakeholder education and recruiting, solid advance preparation

In California's Sierra Nevada, three interlinked hydropower projects are undergoing simultaneous relicensing. The licenses for Nevada Irrigation District's Yuba-Bear Project, PG&E's Drum-Spaulding Project, and the Placer County Water Agency's Middle Fork American Project all expire in 2013. These projects transfer water from one basin to the next, maximizing their power generation and water supply.

#### **Building an NGO coalition**

A group of local NGOs saw in relicensing the possibility for restoring the aquatic and terrestrial ecosystem and recreational benefits in these interlinked watersheds. They formed the Foothills Water Network, whose mission is to provide a forum that increases the effectiveness of conservation organizations to achieve river and watershed restoration and protection benefits for the Yuba, Bear, and American Rivers. This mission includes negotiations at the county, state, and federal levels, with an immediate focus on the upcoming FERC relicensing processes.

The objectives of the Foothills Water Network include:

- Facilitating a dialogue on cross-basin issues and strategies to enhance overall watershed balance, with special attention to an interbasin framework for heifer relicensings.
- Identifying and avoiding potential conflicts among watershed groups in order to work toward a common "vision" for overall watershed health across the basins.
- Analyzing the Yuba, Bear, and North and Middle Forks of the American Rivers as the "problemshed" in order to explore constructive interbasin solutions.
- Conducting public outreach to raise awareness of water supply issues and the unique opportunities in the three interlinked watersheds. The network will collaborate with established watershed groups to disseminate outreach materials.

The Foothills Water Network is a forum rather than an organization in the traditional sense, assisted by a network coordinator.

#### Activities two years in advance

In 2005–2007, the network convened two working groups for the three relicensings that brought together individual activists and local NGOs to prepare for the relicensings. For such a complex and geographically extensive relicensing, these local NGOs knew they should begin preparation early to achieve the best results from the relicensing opportunity. They largely followed the steps in this guide.

#### Education and recruiting — FERC Academy

Within the Yuba and Bear relicensings, three local NGOs in the Foothills Water Network created a public outreach program called the FERC Academy. The three organizations — the South Yuba River Citizen's League (SYRCL), the Natural Heritage Institute (NHI), and American Rivers (AR) — created the FERC Academy to prepare and inspire citizens to participate in the relicensing. The objectives of the Academy were three-fold. First, its leaders wanted to train citizens in the hydrology and ecology (historic and current) of the Yuba and Bear watersheds as well as their socioeconomic importance to the local communities. Second, it trained citizens on how to influence relicensing proceedings to enhance the ecological health of rivers. Finally, the Academy hoped to generate a series of citizen-developed restoration goals that could then be incorporated into a relicensing strategy implemented by the three lead conservation groups.

For the first phase of the FERC Academy, the organizers hosted seven, two-hour evening seminars and three, four-hour Saturday field trips. Participants also committed about six additional hours for reading and conducting interviews for a "case study" assignment. The Academy attracted a wide range of participants, from local citizens and representatives of conservation groups to resource agencies and hydropower utilities. These seminars had guest speakers from throughout California, who spoke on the condition and vision for these watersheds, the relicensing process, and hydropower in the context of California's energy markets.

#### Stewardship — Citizens' photo project

Recognizing that photos of dewatered or degraded river reaches are very compelling, the FERC Academy is also recruiting its graduates to take up their cameras and get out into the watershed to take photos of the "problem sites." The coalition will use the photos to grab people's attention, illustrate larger problems, raise awareness, and draw people into the relicensing effort. The photos will also be available for future media or public campaigns.

#### Public outreach — Citizen's Guide to FERC

As part of the FERC Academy, SYRCL, NHI, and AR developed a *Citizen's Guide to FERC Relicensing in the Yuba and Bear Watersheds*. This short primer is aimed at raising awareness among local citizens of the once-in-a-lifetime opportunity of the hydropower relicensing. You can download a copy from www.syrcl.org and use it as a template for creating your own guide.

## 10. References

## 10.1 Relicensing

#### Rivers of Power: A Citizen's Guide to River Restoration through Hydropower Reform

Author: The California Hydropower Reform Coalition

Provides a brief overview of the FERC relicensing process, timeline, and importance of relicensing in your watershed.

www.hydroreform.org/sites/www.hydroreform.org/files/Rivers%20of%20Power.pdf

#### Rivers at Risk

#### Author: Echeverria, Barrow, Roos-Collins. American Rivers, 1989.

Provides an overview of relicensing standards and procedures as well as instructions and examples on how to engage in the FERC relicensing and file a motion to intervene. Useful appendices on FERC regulations.

#### Citizen Toolkit for Effective Participation in Hydropower Licensing

#### Author: Hydropower Reform Coalition, 2006

An excellent primer on how to participate in the regulatory framework of the different types of FERC relicensings, including the Traditional Licensing Process, Alternative Licensing Process, and the Integrated Licensing Process. Discusses the times and ways in which citizens may participate in the formal relicensing process and offers some tips about collaborating with resource agencies. Aimed at those who want to know more about and participate in a FERC relicensing. Consider it your next "must read" item after this preparation guide.

#### Flows and Recreation: A Guide to Studies for River Professionals

#### Author: Hydropower Reform Coalition and National Parks Service

Reviews a list of options to study recreational flows, from desktop options to limited reconnaissance to more intensive methods. Also discusses the need to integrate study results and consider trade-offs. An accessible, user-friendly, graphics-rich guide for those people who already have a basic understanding of the issues involved in relicensing and want to begin considering what studies might address their recreational issues.

#### Scientific Approaches for Evaluating Hydroelectric Project Effects

Author: Prepared for the Hydropower Reform Coalition by Stillwater Sciences, Confluence Research and Consulting, and Heritage Research Associates, Inc.

A science-based comparison of some of the advantages and disadvantages of different study methodologies. Aimed at resource agencies and active relicensing participants who are drafting

and commenting on studies. A high-level document that will be the most useful to people who are heavily involved in a relicensing at a technical level.

#### California Hydropower Reform Coalition Seminar Materials

#### Author: Laura Norlander, California Hydropower Reform Coalition, 2004

Compilation of materials from CHRC workshop on FERC relicensing. Oriented toward policy and regulation within the FERC context. Useful for understanding the larger context of FERC and its legal underpinnings.

#### FERC Relicensing Guide

#### Author: Federal Energy Regulatory Commission

Explains how FERC's hydropower procedures work, what rights citizens have, how to participate in the licensing process, and what environmental issues and safety concerns may be involved.

www.ferc.gov/for-citizens/citizen-guides/citz-guide-hydro.pdf

#### Hydropower Myths and Realities

#### Developed by American Rivers

Provides information about hydropower generation, the misconceptions surrounding this power source, and efforts to reform hydropower.

## **10.2 Dams and their impacts**

*Dameffects* is an interactive website created by Hydropower Reform Coalition and Idaho Rivers United. Illustrates and explains the effects of dams on rivers and the environment.

www.dameffects.org

*Dam Removal* is a webpage by American Rivers. Includes a list of guides, references, and workbooks on their Dam Removal Toolkit pages:

www.americanrivers.org/site/PageServer?pagename=AR7\_Guide\_DamRemoval

*Dams and Rivers: A Primer on the Downstream Effects of Dams* (Circular 1126) is an excellent free book published by the U.S. Forest Service. A copy of the book can be obtained by ordering it online at the USGS Store, which will require a nominal shipping fee. You may also view the book online at: http://pubs.er.usgs.gov/usgspubs/cir/cir1126

*How Hydropower Works* is a U.S. Department of Energy webpage available at http://www1.eere.energy.gov/windandhydro/hydro\_how.html. Explains how hydropower captures the kinetic energy of falling water to generate electricity.

## **10.3 Additional relicensing references**

#### **Big Creek Relicensing Study Plans**

http://www.sce.com/PowerandEnvironment/PowerGeneration/BigCreekHydro/Relicensing/Documentation.htm

#### **Upper American River Project Study Plans**

http://hydrorelicensing.smud.org/

## 11. Tools

Below is a list of the worksheets and tools referenced in this guide and available for downloading. These tools offer templates and samples for you to build from in your own preparation for hydropower relicensing.

## 11.1 Foundational tools

- Tool 1- ILP Relicensing Timeline
- Tool 2- Workplan and Schedule for Hydropower Relicensing Preparation and Participation
- Tool 3- Resource Agencies' Objectives for the Upper American River Project Relicensing
- Tool 4- Interest Framework by Reach Worksheet
- Tool 5- River Reach Characterization Worksheet
- Tool 6- Effective Searches and Getting Results from the FERC eLibrary
- Tool 7- Study Plan Template for ILP Sample

## 11.2 Tools for complex, multiparty relicensing

- Tool 8- Sample Bylaws for a Coalition
- Tool 9- NGO Coalition Interest Statement Examples: Catawba-Wateree and Yuba-Bear
- Tool 10- Mapping: Yuba-Bear Flow Map
- Tool 11- Aquatic Studies Worksheet (Sample, partially filled in)
- Tool 12- Recreation Studies Worksheet (Sample, partially filled in)

## **TOOL 1- ILP RELICENSING TIMELINE**

The ILP runs on a strict clock. All of the steps are subject to deadlines established by the rule, unless modified with FERC's permission. The first step, the Notice of Intent initiates the process and must occur sometime between 5.5 and 5 years prior to the expiration of the existing license. Each subsequent step is relative to the prior step. Deadlines for the entire process will therefore be determined once the NOI is issued. Below, we show below the timing for each step, relative to the prior step.

The website http://www.calendarcount.com/ allows you to easily calculate the docketing dates.

#### **Timing of ILP Steps**

Step Number	Step Description	Time (Relative To Prior Step, Unless Otherwise Indicated)
Step 1	Notice of Intent (NOI) and Pre-Application Document (PAD), Request to use TLP or ALP	5-5.5 years before license expiration
Step 2a	Initial Tribal Consultation	30 days after Step 1
Step 2b	Comments on Request to use TLP or ALP, if requested	30 days after Step 1
Step 3	Notice of Commencement (NOC) and Scoping Document 1 (SD1), Commission Decision on use of TLP or ALP	60 days after Step 1
Step 4	Scoping meeting/Site visit	30 days after Step 3
Step 5	Comments on PAD and SD1, Study Requests	60 days after Step 3
Step 6	Proposed Study Plan, Commission Issues Scoping Document 2 (SD2), if necessary	45 days after Step 5
Step 7	Study Plan Meeting	30 days after Step 6
Step 8	Comments on Study Plan	90 days after Step 6
Step 9a	Revised Study Plan for Commission Approval	30 days after Step 8
Step 9b	Agency Comments on Revised Study Plan	15 days after Step 9a
Step 10	Study Plan Determination	30 days after Step 9a
Step 11a	No disputes are filed or Notice of Study Dispute is file	Proceed to Step 14 within 20 days
Step 11b	Mandatory Conditioning Agencies File Notice of Study Disputes	20 days after Step 10
Step 12a	Study Dispute Resolution Process Initiated	
Step 12b	Selection of Study Dispute Panel	20 days after Step 11b
Step 12c	Dispute Resolution/Panel Recommendation	50 days after Step 11b
Step 13	Determination on Study Dispute	70 days after Step 11b
Step 14a	First Season Studies; Initial Study Report	pursuant to approved study plan, or no later than one year after study plan approved

Step 14b	Study Meeting	15 days
Step 14c	Meeting Summary	15 days
Step 14d	Disagreement with Meeting Summary	30 days
Step 14e	Responses to Disagreements with Meeting Summary	30 days
Step 14f	FERC Resolution of Disagreement; Amendment of Study Plan if appropriate	30 days
Step 15	Second Season of Studies, and Updated Study Report	pursuant to approved study plan, or no later than two years after study plan approved
Step 16	Applicant's Preliminary Licensing Proposal	no later than 150 days before application
Step 17	Comments on Applicant's Preliminary Licensing Proposal; Additional Study Requests	90 days
Step 18 (post- filing activity)	License Application	no later than two years before expiration of applicant's license
Step 19a	Public Notice of Application	14 days
Step 19b	FERC Decision on Outstanding Requests for Additional Information (AIR)	30 days after Step 18
Step 19c	Satisfaction of AIR	90 days after Step 18
Step 20	Notice of Acceptance and Ready for Environmental Analysis (REA)	60 days after Step 19a after satisfaction of AIR, etc. (30 days after License Application, or longer)
Step 21a	Comments on REA; Interventions; Preliminary Terms and Conditions; Applicant files for Water Quality Certification	60 days
Step 21b	Reply to Comments on REA	45 days
Step 22a	FERC issues non-draft Environmental Assessment (EA)	120 days after Step 21a
Step 22b	FERC Issues draft EA or draft EIS	180 days after Step 21a
Step 23a	Comments on non-draft EA	30-45 days after Step 22a
Step 23b	Comments on draft EA or draft EIS	30-60 days after Step 22b
Step 24	Modified Terms and Conditions	60 days after Step 23a or 23b
Step 25	Commission Issues Final EA or EIS	90 days
Step 26	Final License Order	upon completion of all previous Steps

## TOOL 2- A WORKPLAN AND SCHEDULE FOR PREPARATION AND PARTICIPATION IN HYDROPOWER RELICENSING

The Workplan is organized into two phases:

- <u>Phase I: Preparing for Relicensing</u> six months to two years before relicensing
  Captures the recommendations made in this Activist's Preparation Guide
- <u>Phase II: Participating in Relicensing</u> five-year Integrated Licensing Process (ILP).<sup>1</sup>
  Captures strategy recommendations made in the HRC's Hydropower Licensing Guide.

In actuality, you may undertake some of the tasks outlined in Phase I during Phase II, and vice versa. In terms of the timing, FERC regulates the deadlines for the steps in the Participation phase. The regulated steps are shaded in gray for your clarity.

Please refer to the HRC Hydro Licensing Guide to find further information on the ILP the Traditional Licensing Process, or the Alternative Licensing Process, and their respective regulatory schedules.

#### Key:

Priority

Each task is given a priority level. The priority levels range from low and medium to high. Some steps in Phase II (Participation) are <u>FERC Regulatory Steps</u> required of the licensee. These are steps that the licensee is responsible for but that you should use as milestones in your own workplan.

#### <u>Tasks</u>

Phase I: Preparation Tasks are organized according to the chapters in the Activist's Relicensing Workbook for easy reference back to the Workbook's explanations.

Phase II: Participation Tasks are organized according to the FERC ILP timeline. Task recommendations from the HRC Hydro Licensing Guide include references to the section from which they were extracted so that you can refer back to the Hydro Licensing Guide for further explanation.

#### Timeline

The timeline for Phase I Preparation tasks is indicated by counting backwards from the release of the Notice of Intent (NOI), which marks the beginning of the relicensing proceeding. The timeline for Phase II Participation is indicated by counting backwards from the expiration of the license.

<sup>&</sup>lt;sup>1</sup> If you are involved with a Traditional or Alternative Licensing Processes, please refer to the HRC Section 5 and 6 to insert the appropriate timeline.

## I. PREPARATION FOR RELICENSING

### **Chapter 2: Plan for Success**

#### **Objectives**

• Tasks and timeline identified for preparation and participation phase of relicensing.

Priority	Tasks Description	Timing
High	Read HRC's Hydropower Licensing Guide	1-2 yrs. before NOI release
High	Download the previous FERC license for the project from the FERC website.	1-2 yrs. before NOI release
High	Draft a timeline for your work by counting backwards from the license expiration date so that you can determine important milestone dates within the relicensing. Ask the licensee for their schedule.	1-2 yrs. before NOI release
High	Draft a Workplan. Use the major milestone dates you identified above in your relicensing's FERC timeline.	1-2 yrs. before NOI release
High	Identify funding needs and resources to match (both funding and in- kind expertise and volunteer resources). This is an ongoing task to sustain your effort.	1-2 yrs. before NOI release
Low	Draft a 3-year Strategic Plan.	1-2 yrs. before NOI release

## **Chapter 3: Team Up With Other NGOs**

#### **Objectives**

- Pooled resources and coordinated approach with other NGOs.
- Coalition established as go-to coalition for NGOs in your relicensing.
- Interested NGOs and individual activists identified and convened.
- Bylaws including mission, objectives, and communication guidelines for coalition documented and adopted.
- Training on relicensing shared and understood by coalition members.

Priority	Tasks Description	Timing
High	Conduct outreach and convene a meeting of the local NGOs and individual activists whose interests will be affected by the relicensing.	1-2 yrs. before NOI release
High	Plan a field trip(s) to the project facilities and affected river reaches.	1-2 yrs. before NOI release
High	Make a contact list for your coalition and make sure all members have it. Update it as necessary.	1-2 yrs. before NOI release
High	Plan presentations that will help your group identify the resource issues involved in your relicensing.	1-2 yrs. before NOI release

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Medium	Conduct outreach to other city or quasi-governmental agencies like chambers of commerce and resource conservation districts, whose interests will be affected by relicensing.	1-2 yrs. before NOI release
Medium	Draft a Strategic Plan. (Reference the sample Strategic Plan provided in this workbook).	1-2 yrs. before NOI release
Medium	Develop bylaws for your Coalition. (Reference the Sample Bylaws provided in this workbook).	1-2 yrs. before NOI release
Medium	Outreach to other groups to familiarize them with your work and interests in relicensing. Host presentations or a workshop on your coalition's approach to relicensing or make presentations on relicensing at local NGOs, recreational groups, community groups, Watershed Councils, etc This is a good way to establish your coalition as the go- to group for your hydropower relicensing.	1-2 yrs. before NOI release
Low	Write email updates or electronic newsletters to update your coalition on relicensing issues.	1-2 yrs. before NOI release
Low	Host trainings / workshops for your coalition. (Topics could include: relicensing process, negotiation, 401 certification, economics of hydropower, adverse impacts of dams, alternative energy solutions, hydrologic modeling in relicensing, biological characterization of the watershed, decommissioning of dams, relicensing studies.) You can do this in concert with the resources agencies and tribes as mentioned in the next Chapter task list.	1-2 yrs. before NOI release
Low	Set up a listserve for your coalition members, and perhaps the resources agencies and other interested stakeholders to foster communication between entities.	1-2 yrs. before NOI release
Low	Develop a website to be used for the following purposes: To establish your group as the go-to for your relicensing process, to reach out to and share information with other stakeholders, and finally as a place to collect and publish information about the river and the relicensing. You can post photos and maps on the site in order to familiarize people with the hydropower facility, the watershed resources, and the impacts of hydropower.	1-2 yrs. before NOI release

## **Chapter 4: Partner with Governments: Resources Agencies and Tribes**

#### **Objectives**

- Introduced coalition of NGOs as go-to coalition for resources agencies and tribes in your relicensing.
- Preliminary understanding of tribes' and resource agencies' interests, decision-making, challenges, representatives, and expected role in your relicensing.
- Cultivated willingness among resources agencies and tribes to work collaboratively with your coalition to achieve shared objectives.
- Shared resources and information with agencies and tribes to strengthen the possibility to achieve shared objectives.

Priority	Tasks Description	Timing
High	In advance, file a letter with FERC, copied to the licensee, asking to be put on the mailing list for the Notice of Intent (NOI) and subsequent notices for any project in which you have an interest. You should also subscribe to notices for that project via eSubscription, as discussed in HRC Hydro Licensing Guide Section 3.2.2 G Accessing the Record in Electronic Databases and Section 3.2.1 Notice of Intent.	1-2 yrs. before NOI release
	Resource Agencies and Tribes	
High	Collect contact information for resource agency and tribal representatives to share with the members of your coalition, including information about each person's role/obligation in the relicensing. Prepare a similar list of coalition members for the agencies and tribes.	1-2 yrs. before NOI release
High	Convene meetings between your coalition and the resources agencies and tribes. Discuss working together to achieve overall goals, including settlement. Determine how your coalition can add value to their efforts. If possible, share and discuss your coalition's interest statements as articulated in Chapter 6: Articulate Your Interests.	1-2 yrs. before NOI release
Med.	Contact other NGOs and/or HRC members to find out how individual resources agency representatives and/or tribal representatives have engaged in prior relicensings. Based on prior experiences, what is the best way to work with them?	1-2 yrs. before NOI release
Medium	Host or plan joint workshops to inform coalition members, resource agency representatives, and tribes about different aspects of a relicensing.	1-2 yrs. before NOI release
	Resources Agencies	
High	Familiarize yourself with your state's water quality standards and procedures for issuing a water quality certification. To learn more about Section 401 of the Clean Water Act and water quality standards, go to EPA's website at <u>www.epa.gov/waterscience/standards</u> , <u>http://www.instreamflowcouncil.org/</u> and <u>http://www.rivernetwork.org/</u> . (Hydro Licensing Guide Section 2.3.4 H: Water Quality Certification Under CWA Section 401 (a))	1-2 yrs. before NOI release
High	Ask FWS/NMFS if there are any federally listed species or critical habitats that exist in the project area. (Hydro Licensing Guide Section 2.3.4 F: Protection of Endangered or Threatened Species and Their Habitat)	1.5 yr. before NOI release
High	Ask the agencies to provide you with their management and/or restoration objectives for each river reach impacted by the projects.	Pre-relicensing to after PAD release.
Varies	If a species is not yet listed under the ESA but should be, consider filing a petition to list the species.	1.5 yr. before NOI release to during relicensing
Low	If the project may affect an already listed species, make a written request that the FWS/NMFS include you in any discussions with the licensee regarding the conditions of the Biological Assessment or Opinion.	.5 yr before NOI release or during relicensing
Low	Discuss Forest Service and/or tribal Section 4(e) obligations with their appropriate representatives .	1-year before NOI release

Low	If the project boundaries overlap with federal (e.g. National Forest or tribal) lands, review the original legislation that created those Reservations, as well as the policies adopted by the agency responsible for their management. The goal is to know and understand the "original purposes of the reservation". (Hydro Licensing Guide Section 2.3.4 D FPA Section 4(e) Conditions for Protection of a Federal Reservation)	1-2 yrs. before NOI release
	Tribes	
High	Meet with tribal representatives and become familiar with their process for making decisions. Establish a future mode of communication- mail, phone, and/or email.	Pre-relicensing to after PAD release.
Medium - varies	Meet with tribes to strategize and build support for shared objectives. You may need to meet with them separately from the relicensing meetings.	Pre-relicensing to after PAD release.
Medium	Work with tribes to ensure that anecdotal knowledge about the effects of the hydropower project on cultural and environmental resources is included in the Pre-Application Document. Draw upon information from the tribes' technical expertise as fishery or land managers, as well as from anecdotal knowledge of pre-project to post-project changes in the river. This information should be submitted to the PAD if available and documented.	1-year before NOI release

### **Chapter 5: Cooperate with Licensees and Their Consultants**

#### **Objectives**

- *Coalition positioned as an informed negotiator for the relicensing.*
- Discussed political leverage points for your licensee to achieve conservation and recreation interests.
- Informed on the licensee's interests, consultants' and licensee's personalities and past relicensing work, organizational decision-making structure, expectations for the relicensing, and interests.
- *Preparation of early documentation, building the record of your coalition's interests as communicated to the licensee.*

Priority	Tasks Description	Timing
	Communications with NGOs	
High	Contact other NGOs and/or HRC members to find out how individuals from your licensee and/or consultants have engaged in prior relicensings. How is it best to engage with them? How would they describe their roles in other relicensings?	1-2 yrs. before NOI release
High	Collect a contact list of the licensee's representatives and consultants. Share with the resources agencies, tribes, and your coalition.	1-2 yrs. before NOI release

	Licensee and their Consultants	
High	Convene a meeting with the licensee(s) (and their consultants if appropriate). At the meeting, Share your list of contacts for your coalition members with the licensee so all your members are identified as interested stakeholders by the licensee and receive relicensing notifications and documents. Make it very clear that you would like to participate in the development of the PAD.	Min. 1 yr. before NOI release
High	Request the licensee release a draft version of the PAD for review and comments from NGOs and resources agencies.	Min. 1 yr. before NOI release
High	Talk with the licensee about their relicensing Process Plan. If they have not yet released one, you can discuss potential dates and inclusions. Find out when they intend to: 1) meet with the resources agencies, tribes, NGOs; 2) draft and release their PAD; 3) start their studies 4) have their first relicensing kickoff meeting 5) begin technical study groups. Ultimately, you will want a copy of the licensee's full timeline.	Min. 1 yr. before NOI release
High	Discuss settlement as a joint goal in the relicensing. Make the case for collaborative study development and negotiation meetings built into the licensee's timeline.	Min. 1 yr. before NOI release
Medium	Discuss selection of consultants with the licensee.	Min. 1 yr. before NOI release
Medium	Invite the licensee to a presentation on relicensing in your watershed and the benefits of settlement. Invite the resources agencies too. This is even more important if you are trying to convince the licensee to make settlement a goal and incorporate the relevant negotiation time into their schedule.	1-2 yrs. before NOI release
Medium - if appropriat e	Discuss early studies for high priority resource issues	Min. 1 yr. before NOI release
Medium - varies	Request the FERC license for the project (if you haven't gotten it already) and any other water sales contracts relevant to the project.	Min. 1 yr. before NOI release
Medium - varies	If not available in the FERC license copy, request maps of the FERC boundaries. Consider that these could be large survey maps or GIS so be reasonable and share copies with the coalition members rather than requesting copies for everyone.	Min. 1 yr. before NOI release

## **Chapter 6: Articulate Your Interests**

#### **Objectives**

- Coalition's interests articulated and refined.
- Preliminary identification of interests and exploration of tradeoffs for potential reconciliation of seemingly conflicting interests among the coalition.
- *Preliminary identification of options for hydropower re-operation to meet multiple interests.*

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Priority	Tasks Description	Timing
High	Articulate broad interests statements with coalition members. Use the Interest and Study Worksheet to fill in interest statements. Share interest statements with resources agencies, tribes, and licensees. Look at sample interest statements to give you an idea of phrasing and resource issues. Start at a high-level. Later you can return to these statements and refine them for each reach.	1-2 yrs. before NOI release
High	Discuss the constraints on your Interests in Relicensing: FERC Project Boundaries and Project Nexus: those interests caused or impacted by the hydropower facilities. Are there interests that fall outside of these two constraints? If an interest falls outside of the project boundary but is adversely affected by the hydropower project, can the interests be addressed in negotiated settlement? If the interest is not adversely affected or caused by the hydropower project itself, is there another forum in which you can address these non-project related interests?	1-2 yrs. before NOI release
Medium	Record interests, objectives and options in the Interest Worksheet or Aquatics Study Worksheet.	1-2 yrs. before NOI release

## **Chapter 7: Collect Information Before the Relicensing**

## **Objectives**

- Case for conservation and recreation interests is supported by information collected.
- Increased understanding of hydropower system and impacts on the watershed in the context of relicensing. This includes hydrologic, geographic, economic, aspects of the project and watershed.
- Compilation of information for early submission to licensees for inclusion in the Pre-Application Document.

Priority	Tasks Description	Timing
High	Sign up for eSubscription on the FERC website to receive and access all communication and filings with regards to your hydropower project. <u>www.ferc.gov</u>	1-2 yrs. before NOI release
High	Collect comprehensive plans from the resources agencies that apply to the proposed project. State and federal agencies may have adopted management plans, which appear to meet requirements for a comprehensive plan. Note data gaps.	1-2 yrs. before NOI release or early after NOI release.
Varies by project	If applicable, collect power purchase agreements and water supply contracts that relate to the hydropower operations undergoing relicensing.	1-2 yrs. before NOI release
Varies by project	If water supply and water rights affect negotiations in your relicensing, index those water rights that are pertinent to the hydropower project undergoing relicensing.	1-2 yrs. before NOI release

	Organizing and Sharing Collected Information	
High	Conduct historical research to describe the conditions of the river and its fishery. This information can be helpful in identifying goals for fish restoration or simply proving the geographic range of a given species. Gather historical evidence of the condition of the natural resources in the project reach before the original license. Try to find photographs or eyewitness accounts at historical libraries and agency repositories. (Hydropower Licensing Guide 3.2.2 E. Environmental Document Under NEPA)	1-2 yrs. before NOI release
Medium	Gather a stock of current or historic photos to use in media campaigns or lobbying.	1-2 yrs. before NOI release
High	Provide your licensee with your index of references as well as your collected documents in a file, database, or CD, to be included in the PAD. A good time to provide this is in response to the licensee's PAD Questionnaire, which asks for any existing and reasonably available information relevant to the hydropower project.	1 yr. before NOI release
	Collecting Hydrologic Information	
Low	Recruit a masters or PhD student at a local university or make your hydrologic compilation and assessment a class project. You might also consider consulting with University professors or recruiting a retired engineer or scientist from your community.	1-2 yrs. before NOI release
	Mapping	
High	Gather existing maps of the hydropower system from the licensee, USGS, and/ or other local groups. Make sure you have a map with FERC project boundaries.	Min. 1 yr. before NOI release
Low	Add to existing maps or make your own map that shows the project vicinity. If dewatered reaches are a big issue in your project area, consider making a Flow Map as described in the Workbook.	1-2 yrs. before NOI release
Low	Consider adding icons that represent interests or objectives (i.e. trout, eels, anadromous fisheries, kayaking) onto your map as an outreach, negotiation, and visualization tool.	1 yr. before NOI release to during relicensing
	Economics	
Low - varies	Work with hunting and fishing clubs and local businesses to establish the local financial value of re-operation and/or river restoration.	
Low - This could be really expensive and seems like a luxury, although important.	Discuss with an economist the information needed to prepare an economic model that can predict impacts on power generation, capacity, and revenues associated with alternative operating schemes. Ideally, this model will be able to demonstrate that the relative costs of environmentally-friendly operations are not significantly higher than business as usual. The HRC can share past economic/energy models and assist in finding consultants. Once the model is built, share it with resources agencies or ensure that they have access to a similar model. This model will	Collect information .5 – 1 yr. before NOI and from FERC after NOI release. Develop model during relicensing.

help your coalition and the agencies in supporting the 10j justifications (Hydro Licensing Guide 2.2.4 C Conditions for	
Protection, Mitigation, and Enhancement of Fish and Wildlife	
Resources)	

### **Chapter 8: Prepare for Study Development**

#### **Objectives**

- Preliminary data gaps analysis highlights areas that need to be studied or information that needs to be gathered in order to inform the coalition's primary interests.
- Coalition is prepared to request key study elements that meet their interests in the relicensing. These study requests address both impacts of the project and exploration of potential operational changes.
- The Coalition is prepared to be a resource and provide a rationale for study development process with the licensees, agencies, and tribes.
- Licensee, agencies, and tribes work from and accept proactive study elements submitted by your coalition to the study groups or for proposed Study Plans.
- In the event the licensee does not conduct collaborative study development, the coalition is prepared to engage with the resources agencies and tribes to develop and propose their own studies to be submitted in the relicensing process.

Priority	Tasks Description	Timing
High	Familiarize yourself with example relicensing studies from relicensings near you or recent relicensings in the same region. Review the required format for requesting studies.	1-2 yrs. before NOI release
High	Review the HRC's Science Guide to understand more about the elements of studies that are undertaken in relicensing.	1-2 yrs. before NOI release
	Data Gaps Analysis	
High	Identify comprehensive management plans that should be submitted to the FERC record. You can work with the resources agencies on this. Encourage the licensee to include these plans in the Pre-Application Document.	1-2 yrs. before NOI release
Medium	Identify data gaps in licensee information and agency management plans and existing studies of the area impacted by the project. Look for data gaps that relate to your interests and need to be filled in order to make your case for improved flows or operations.	1-2 yrs. before NOI release
	Study Plan Work Groups	
High	Convene a meeting of your coalition and the resources agencies before the licensee-sponsored study development meetings start. Discuss joint objectives, timeline, and identify priority studies the group should consider first.	15 yrs. before NOI release

Medium - varies	Coordinate with NMFS and FWS as they develop a study plan request related to fish passage. (Hydro Licensing Guide Section 3.2.2 Licensing Record)	15 yrs. before NOI release or as part of Comments on the PAD
Medium - varies	For historical sites, focus on whether the study plan adequately evaluates the potential for public education. Often there is potential for a trail to link a historical site (such as abandoned mining equipment) to a recreational facility.	15 yrs. before NOI release or as part of Comments on the PAD
Medium - varies	Identify studies that the licensee or FERC will not do and consider if they provide enough value-added to fund and conduct on your own.	15 yrs. before NOI release or as part of Comments on the PAD
Low	Assist the FWS or NMFS in its preparation or advocacy of a study request related to a listed species.	15 yrs. before NOI release or as part of Comments on the PAD
Low	For recreation studies, obtain studies that compare the project reach to any comparable rivers in the region, as a reference. Consider boating, angling, and hiking as well as economic value of recreation that occurs on a reference river? Can the recreational use and economic benefits of the reference river apply here?	15 yrs. before NOI release or as part of Comments on the PAD
	Developing Study Recommendations Prior to Relicensing	
High	Identify high priority early studies. Are there studies that will need a study period of more than 2 years? Is there a study that would best be done before the relicensing begins to provide preliminary information? Is the season right for a certain type of study now? Are there studies that fall outside of the jurisdiction of FERC but that affect the relicensing?	.5 - 1 yr. before NOI release
Low	Provide recommended study elements to the resources agencies, tribes, and licensees for early studies and/or for studies during the relicensing (in bullet form or narrative format).	.5 - 1 yr. before NOI release
Low	Identify study elements that will address your high priority data gaps. Use the HRC's Science Guide and other relicensing studies to give you ideas. You can also consult with the resources agencies about methodologies and study elements they recommend. For a basic approach, you could make a bullet list of these study elements for the studies you foresee being your highest priority or the most controversial with the licensee. For a more comprehensive approach, you can use previously drafted studies for other relicensings as a starting point to understand basic study elements.	1 yr. before NOI release

Low	Consider implementing early studies. One option is talking with the licensee about implementing these studies in consultation with the resources agencies, tribes, and NGOs. A second option is to implement some on your own. If you do the latter, consider how you will peer-review or follow accepted protocol to ensure the credibility of its outcome stands up in the relicensing	.5 - 1 yr. before NOI release
	credibility of its outcome stands up in the relicensing.	

### **Chapter 9: Relicensing Case Studies**

#### **Objectives:**

- Your coalition's preparation is built off the success of others achievements and lessons learned in relicensing.
- Preliminary understanding and exploration of public campaign tactics used to leverage success in relicensing and their inclusion in planning process.

Priority	Tasks Description	Timing
Medium - Becomes more important later in process.	Familiarize yourself and/or your coalition with negotiation strategies. You can take a negotiation course, or take training in negotiation for relicensing.	1-2 yrs. before NOI release to during relicensing process
	Public Campaign	
High	Invite reporters or political decision-makers out to visit the river during fish migration or spawning season to help them understand your proposed restoration goals	.5 yr. to during relicensing proceeding
High	Use the multimedia to capture and share your vision for the restoration of natural resource values i.e. video, web, photos. This will prepare you for later in the relicensing when you need to submit documentation of issues or orient the public or press to the issues with images rather than words.	Ongoing. Can start 1 yr. before relicensing
Low	Write Op-eds or Letters to the Editor in your local NGO newsletters and local papers. This will attract stakeholder participation in your coalition, develop constituency, and educate the public on the opportunities of a relicensing.	.5 yr. to during relicensing proceeding
Low	Host a FERC Learning Workshop to which you invite all stakeholders and learn together about the FERC process, opportunities, and discuss resource issues in your project area. You could host a Headwaters Institute seminar that educates river guides on the issues in their watershed. Introduce relicensing and tell them how they can participate.	1 yr. before NOI release

# **II. PARTICIPATION IN RELICENSING**

#### **Responsible Party**

This workplan includes tasks for licensees, FERC, and NGOs/activists. Often the priority level and timing given to the activists' tasks depends on the regulatory tasks required by FERC and conducted by the licensee.

Regulatory tasks conducted by licensees and FERC – indicated by gray cells.	
Activists' Tasks – no color	

#### Priority

FERC Regulatory Step –These steps are for the licensee. They are required by FERC. The priority for these steps is high for the licensee; the licensee must meet these deadlines in order to receive a new license.

Activist – High, Medium, Low – These tasks are for the activists. Priority level indicates the importance of the task.

#### Timing

The timing of the FERC Regulatory steps is based off the ILP timeline. Each FERC regulatory step is relative to the prior FERC Regulatory Step (in gray), which define the timing for the activists' tasks. The timing of the activists' tasks is relative to the FERC Regulatory Step Schedule.

Responsible Party - Priority	Tasks Description	Timing
Licensee Task –	Licensee sends out a Request for Information to inform their Pre- Application Document (PAD)	1 yr. – 4 mos. before PAD release (timing varies)
Activist - High	Submit all your collected information, data, plans, photos, and literature to the licensee for inclusion in the Pre-Application Document. If you do this before the licensee requests information for the PAD, ensure that your information submission is recorded on the FERC record on the licensee's website. If you have it, provide your Aquatic Studies Worksheet or Interest Worksheet by Reach to the licensee in response to their PAD Questionnaire.	1 yr. – 4 mos. before PAD release
Activist - High	Work with the resources agencies to see that their relevant management plan are filed and accepted by FERC. (Hydro Licensing Guide Section 2.3.4 E: FPA Section 18 Fishway Prescription)	
FERC Regulatory Step 1	Notice of Intent (NOI) and Pre-Application Document (PAD), Request to use TLP or ALP	5-5.5 years before license expiration

Activist - High	Review PAD and Study Plans if included in the PAD. Ask, "Does the PAD contain all reasonably available information about the current environmental conditions (baseline)? How does the licensee interpret that information? What are the licensee's assumptions in interpreting the information? Do you agree with the preliminary study plan?"	
High	have drafted your own study requests and have not submitted them, this is the first time to do so during an Integrated Licensing Process.	
Activist - High	Share your comments with resources agencies and tribes. Coordinate with them to submit joint comments on the PAD or study requests. Alternatively, you can ask them to include your comments on the PAD and study requests in with theirs.	
Low	Gather economic information on your licensee's hydropower operations. This is a priority especially if you are considering dam decommissioning. If you are planning to make a request of economic information from FERC, it is good to do so early because it could take a couple years to receive a response. Collect information to develop evidence to justify local financial benefits of re-operating the hydropower dams.	Request information from licensee .5 - 1 yr. before NOI; request information from FERC after NOI is released.
FERC Regulatory Step 2a	Initial Tribal Consultation	30 days after Step 1
FERC Regulatory Step 2b	Comments on Request to use TLP or ALP, if requested	30 days after Step 1
FERC Regulatory Step 3	Notice of Commencement (NOC) and Scoping Document 1 (SD 1), Commission Decision on use of TLP or ALP	60 days after Step 1
FERC Regulatory Step 4	Scoping meeting/Site visit	30 days after Step 3
FERC Regulatory Step 5	Comments on PAD and SD 1, Study Requests	60 days after Step 3
Activist - High	Draft comments on SD 1, providing specific alternatives for management of the project and their basis. Your comments <u>before and</u> <u>in response</u> to FERC's SD should identify specific Action Alternatives and explain why they should be included to assure the adequacy of analysis of the Proposed Action. It is not enough to simply restate the duty that FERC consider all reasonable alternatives. State why FERC should consider the specific alternatives that you recommend?	
High – varies if Tribal lands are involved	Support study requests by tribes to further their cultural /aesthetic interests. Defer to the Tribes in their study requests related to tribal site. (Hydro Licensing Guide Section 3.2.2 Licensing Record)	

FERC Regulatory Step 6	Proposed Study Plan, Commission Issues Scoping Document (SD 2), if necessary	45 days after Step 5
Activist - High	Draft comments on SD 2 if you believe FERC has not responded adequately to prior comments on SD 1. The strategy is bringing up issues "early and often" without "badgering and repeating". Don't wait later in the proceeding to call out an issue.	
Activist - High	Modeling: Encourage the licensee to allow use of its water balance model or develop your own for use and disclosure in the proceeding. (Hydro Licensing Guide Section 3.2.2 Licensing Record)	
FERC Regulatory Step 7	Study Plan Meeting	30 days after Step 6
FERC Regulatory Step 8	Comments on Study Plan	90 days after Step 6
FERC Regulatory Step 9a	Revised Study Plan for Commission Approval	30 days after Step 8
FERC Regulatory Step 9b	Agency Comments on Revised Study Plan	15 days after Step 9a
FERC Regulatory Step 10	Study Plan Determination	30 days after Step 9a
FERC Regulatory Step 11a	No disputes are filed or Notice of Study Dispute is file	Proceed to Step 14 within 20 days
FERC Regulatory Step 11b	Mandatory Conditioning Agencies File Notice of Study Disputes	20 days after Step 10
FERC Regulatory Step 12a	Study Dispute Resolution Process Initiated	
FERC Regulatory Step 12b	Selection of Study Dispute Panel	20 days after Step 11b
FERC Regulatory Step 12c	Dispute Resolution/Panel Recommendation	50 days after Step 11b
FERC Regulatory Step 13	Determination on Study Dispute	70 days after Step 11b

FERC Regulatory Step 14a	First Season Studies; Initial Study Report	Pursuant to approved study plan, or no later than one year after study plan approved
Activist - Varies	You can participate in the conduct of boating studies, which evaluate the safety and enjoyability of river recreation. In a typical boating study, the licensee arranges for volunteer boaters to run a given reach at different flows and to evaluate safety and enjoyability at each flow. (See, e.g., PG& E, "Application for New License, Project No. 2107," Ex. E, E5 (Dec. 2003) (eLibrary 20031223-0475).	
FERC Regulatory Step 14b	Study Meeting	15 days
FERC Regulatory Step 14c	Meeting Summary	15 days
FERC Regulatory Step 14d	Disagreement with Meeting Summary	30 days
FERC Regulatory Step 14e	Responses to Disagreements with Meeting Summary	30 days
FERC Regulatory Step 14f	FERC Resolution of Disagreement; Amendment of Study Plan if appropriate	30 days
FERC Regulatory Step 15	Second Season of Studies, and Updated Study Report	Pursuant to approved study plan, or no later than two years after study plan approved
	Negotiations	
Activist - Varies	Consider negotiating more costly environmental conditions in exchange for a longer license term. (2.3.5 What is the Term of the License?)	
Activist - Varies	Look for any identified non-compliance with the license and consider using it to leverage an agreement with the licensee. If the licensee does not want to negotiate, make a complaint to FERC or file a complaint in federal Court. (Hydro Licensing Guide Section 2.5 Compliance and Enforcement of Licenses)	
Activist - Varies	Work closely with FWS/ NMFS in the development of their Section 18 prescriptions. FERC's exparte rule (see Section 3.2.2(F)) does not apply to such discussions. (Hydro Licensing Guide Section E: FPA Section 18 Fishway Prescription)	

	Agency Prescriptions	
Activist - Varies	Ask that FWNS/NMFS include in their prescription a specific nexus between the prescription and any relevant management plan, and more specifically, anticipated benefits of the proposed fish passage. (Hydro Licensing Guide Section 2.3.4 E: FPA Section 18 Fishway Prescription)	
Activist - Varies	File written comments on the draft prescription with the prescribing agency and FERC. (Hydro Licensing Guide Section 2.3.4 E FPA Section 18 Fishway Prescription)	FWS/NMFS may establish a deadline independent of FERC's schedule, the draft prescription is usually released within 60 days of the Notice of Readiness for Environmental Analysis
Activist - High	Encourage each resource agency to analyze the consistency of its Section 10(j) submittals or recommendations with the purposes of the Federal Power Act, specifically concerning electricity generationThis increases the chance FERC will accept the resources agencies' 10j recommendations. You can share or co-develop an economics/energy model with the agencies to support these justifications.	Prior to preliminary licensing application
Activist - High	File a written request to the State Board, tribes, Forest Service, Fish and Wildlife Service and National Marine Fisheries to include you in its mailing list for the Section 4(e) conditions. You should insist on the ability to participate in any negotiations the agency undertakes with the licensee. (Hydro Licensing Guide Section 2.3.4 D FPA Section 4(e) Conditions for Protection of a Federal Reservation)	Early - not later than FERC publishes notice that a license application is complete.
FERC Regulatory Step 16	Applicant's Preliminary Licensing Proposal	No later than 150 days before application
	Comment on Preliminary Licensing Proposal.	
Activist - Varies	Request that members of Congress, State legislators, or County supervisors file letters with FERC, the licensee, and the resources agencies urging protection and restoration of natural resource values. (Hydro Licensing Guide Section 2.3.4 D FPA Section 4(e) Conditions for Protection of a Federal Reservation)	
FERC Regulatory Step 17	Comments on Applicant's Preliminary Licensing Proposal; Additional Study Requests	90 days
FERC Regulatory Step 18 (post-filing activity)	License Application	No later than two years before expiration of applicant's license

FERC Regulatory Step 19a	Public Notice of Application	14 days
FERC Regulatory Step 19b	FERC Decision on Outstanding Requests for Additional Information (AIR)	30 days after Step 18
FERC Regulatory Step 19c	Satisfaction of AIR	90 days after Step 18
	Make a request to FERC to release a draft EA and explain why two rounds of public comment will help resolve issues. (Hydro Licensing Guide Section 3.2.2 E. Environmental Document Under NEPA)	Before FERC decides on the form of the EA
	Until publication of the final EA, focus on providing comments on specific action alternatives that you believe should be included and the method of analysis.	
	If you believe that the licensing decision (even including mitigation) may have a significant adverse impact, ask FERC to prepare an EIS, which is more detailed than an EA.	Before FERC decides on the form of the EA
	Ask specific questions in follow-up comments on the EA, if you believe that the basis for the Environmental Assessment's Preferred Alternative is unclear.	
FERC Regulatory Step 20	Notice of Acceptance and Ready for Environmental Analysis (REA)	60 days after Step 19a After satisfaction of AIR, etc. (30 days after License Application, or longer)
	Encourage the State to adopt written findings as the basis for its certification, to describe the expected impacts on water quality. (Many states do not.) Such findings serve as the basis for accountability that the certification actually complies with such standards over the term of the license. (Hydro Licensing Guide Section 2.3.4 H: Water Quality Certification Under CWA Section 401 (a))	
	Encourage the State, in its certification decision, to address project operation and all other project impacts on water quality, not just the discharge of waste. It may be useful to coordinate with organizations that have experience dealing with the state about administration of water quality standards or even involve the governor's office or members of the state legislature. (Hydro Licensing Guide Section 2.3.4 H: Water Quality Certification Under CWA Section 401 (a))	
	You should be prepared to ask for a rehearing before the State, not FERC, if you think the water quality certification fails to attain water quality standards as required by CWA and the counterpart state law. (Hydro Licensing Guide Section 2.3.4 H: Water Quality Certification Under CWA Section 401 (a))	

	You should generally ask FERC to include a "No Project Alternative" as an action alternative in its NEPA analysis. (Hydro Licensing Guide Section 3.1.3: Decommissioning as a Result of License Surrender)	
FERC Regulatory Step 21a	Comments on REA; Interventions; Preliminary Terms and Conditions; Applicant files for Water Quality Certification	60 days
	File comments on the Biological Assessment/Opinion with its author agencies and FERC. As discussed above, you should ask the agency to include in the BO specific findings regarding the incidental take of listed species and impacts on critical habitat, to establish accountability in the RPAs or RPMs. Thus, the agency may request that FERC reopen the license, by reinitiating consultation, if these measures do not achieve the required level of protection. (Hydro Licensing Guide Section 2.3.4 F: Protection of Endangered or Threatened Species and Their Habitat)	
FERC Regulatory Step 21b	Reply to Comments on REA	45 days
FERC Regulatory Step 22a	FERC issues non-draft Environmental Assessment (EA)	120 days after Step 21a
FERC Regulatory Step 22b	FERC Issues draft EA or draft EIS	180 days after Step 21a
FERC Regulatory Step 23a	Comments on non-draft EA	30-45 days after Step 22a
FERC Regulatory Step 23b	Comments on draft EA or draft EIS	30-60 days after Step 22b
FERC Regulatory Step 24	Modified Terms and Conditions	60 days after Step 23a or 23b
FERC Regulatory Step 25	Commission Issues Final EA or EIS	90 days
FERC Regulatory Step 26	Final License Order	Upon completion of all previous Steps
# **TOOL 3- RESOURCES AGENCIES' OBJECTIVES ON UPPER AMERICAN RIVER PROJECT RELICENSING**

\* Excerpted sections from Agency/NGO Alternative and Rationale for Upper American River Project Relicensing

### **1. Resource Objectives**

The following resource objectives were developed from agency mandates, with consideration of licensee and NGO goals. It is recognized that factors beyond the licensees' control could affect attainment of these objectives and that some or all of the objectives may not be achievable within the PM&E measures. The following objectives encompass FS' Eldorado National Forest Land and Resource Management Plan (Forest Plan) direction and BLM's The South Fork American River: A Management Plan direction (BLM Plan); however, more specific existing desired conditions are described in the following sections.

#### **Aquatic Biota Objectives**

Populations of native aquatic biota, including fish, benthic macro-invertebrates, and riparian species are viable with adequate habitat consistent with species' needs. Maintain, enhance, or restore all life stages of native aquatic species.

• Maintain, recover, and restore riparian resources, channel condition, and aquatic habitat.

• Maintain, recover, and restore streamflow regime sufficient to sustain desired conditions of native riparian, aquatic, wetland, and meadow habitats.

• Protect aquatic systems to which species are uniquely adapted.

#### **Fisheries Objectives**

#### **Biomass Indices**

Maintain, restore, or recover favorable ecological conditions for all life stages of rainbow trout. Maintain or improve existing mean biomass numbers for rainbow trout (and brown trout in Gerle Creek) and, if existing biomass numbers are less than expected Northern Sierran trout biomass numbers (according to Gerstung 1973), improve mean biomass to be consistent with those numbers.

SMUD surveys with trout biomass goals taken from Gerstung (1973). The hardhead goal is taken from "Fish Community Assessment Metrics" (SMUD 2004a).

#### **Reach Name Objective Survey (not included in this excerpt) RT = rainbow trout; BN = brown trout**

Mean biomass indices for rainbow trout and brown trout were determined from all years surveyed for each reach from 2002 through 2004. Rainbow trout and hardhead were chosen as fish indicators of habitat quality because guidance in the Forest Plan directs focus to maintain, enhance, and restore habitat to support viable native species. Though rainbow trout were not present in parts of the area pre-settlement, they were present in the area pre-project. Trout are also a FS Management Indicator Species. Hardhead is a FS Sensitive Species.

Gerstung (1973) sampled 289 study sections on 102 coldwater streams within the northern Sierra Nevada to determine mean trout biomass of streams by stream width. From all the streams sampled, Gerstung computed a mean of 41 pounds/acre but found the mean trout biomass of streams to decrease as stream width increased. Table 3 in his report displays the relationship between stream width and biomass that is being used as a trout biomass goal for each stream sampling site with this project.

#### Fish Passage

Ensure fish passage for brown trout during their spawning season upstream out of Gerle Creek Reservoir into Gerle Creek.

#### Native Species

Maintain, enhance, or restore all life stages of native aquatic species. In Gerle Creek below Loon Lake Reservoir Dam, manage for desired (brown trout) non-native species.

#### **Entrainment**

Minimize the effects of stream diversions or other flow modifications from hydroelectric projects on threatened, endangered, and sensitive species. Minimize entrainment at the outlets of the reservoirs. Ensure downstream migrating rainbow trout on the South Fork Rubicon River are not being entrained at Robbs Peak Afterbay.

#### Fish Stocking

Ensure fish stocking in Loon Lake Reservoir, Union Valley Reservoir, and Ice House Reservoir is adequate to compensate for entrainment in the facilities at these reservoirs.

#### Macro-invertebrate Objective

Macro-invertebrate indices (metrics) in Project-affected stream reaches shall be comparable to reference reaches located within and outside the SFAR and Rubicon River drainages. Numerical objectives based on the collection and review of additional benthic macro-invertebrate data will be developed.

#### Natural Hydrograph Objective

Ensure water use achieves seasonal discharge fluctuations that follow the shape of the natural hydrograph in duration, magnitude, rate of change, and frequency to the extent necessary to obtain the aquatic resource objectives.

#### **Flow Fluctuations Objective**

Minimize Project-caused flow fluctuations uncharacteristic of the natural hydrograph to protect biota and maintain public safety.

#### Dry Season Aquatic Habitat Objective

Maintain flows for aquatic habitat that would otherwise dry up during the midsummer/ fall period.

#### **Channel Morphology Objective**

Maintain or restore channel integrity. Maintain, improve, or restore fluvial processes to provide for balanced sediment transport, channel bed material mobilization and distribution, and channel structural stability that contribute to diverse aquatic habitat and healthy riparian habitat.

#### **Sediment Transport Objective**

Ensure delivery and transport of sediment are balanced so that stream channels are not excessively aggrading or degrading over time, and particle size distribution allows for diverse bed form within the stream channel.

#### **Stream Channel and Floodplain Objective**

Ensure stream channels have appropriate cross-section size (width to depth) and stable stream banks, and floodplains and flood-prone areas have connectivity to the stream channel.

#### Large Woody Debris Objective

Ensure that the level of large woody debris is within the range of natural variability in terms of frequency and distribution and is sufficient to sustain stream channel physical complexity and stability. If characteristics are outside the range of natural variability, implement mitigation measures and short-term restoration actions as needed to prevent further declines or cause an upward trend in condition.

#### **Riparian Habitat Objectives**

- Maintain riparian vegetation in proper functioning condition.
- Maintain or restore riparian resources.
- Maintain or restore streamflow regime sufficient to sustain desired conditions of native riparian, aquatic, wetland, and meadow habitats.

#### Water Quality Objective

Ensure compliance with the water quality objectives, such as temperature, to fully protect the designated beneficial uses as designated in the Central Valley Regional Water Quality Control Board Basin Plan (Basin Plan).

#### Water Temperature Objective

Ensure that flows are protective of the designated beneficial uses of cold freshwater habitat and warm freshwater habitat as appropriate, and do not adversely affect water temperatures for local aquatic- and riparian-dependent species assemblages.

#### Streamflow and Reservoir Storage Gaging Plan Objective

Develop a streamflow and reservoir storage gaging plan to evaluate compliance and resource responses to changes in streamflows. The plan may include installation of additional gaging stations.

#### Threatened, Endangered, and Sensitive Species and Management Indicator Species Objective

Ensure that PM&E measures are consistent with any applicable FS biological evaluation for sensitive species or any applicable biological opinion issued under the federal or state

Endangered Species Act. Ensure that PM&E measures comply with the Forest Plan and BLM Plan. Minimize the effects of stream diversion or other flow modifications from hydroelectric projects on threatened, endangered, or sensitive species.

#### **Noxious Weed Control Objective**

Reduce and, where possible, reverse the spread of noxious weeds.

#### **Coordinated Operations Objective**

Ensure that operations between the UARP and Chili Bar Hydroelectric Projects are coordinated so streamflows and reservoir levels are more consistent and predictable.

#### **Reservoir Levels Objective**

Maintain reservoir levels in Project reservoirs to protect beneficial uses. Maintain reservoir levels sufficient to ensure that aesthetic, recreational, ecological, and power production needs are addressed.

#### **Visual Resources Objective**

Ensure that visual quality meets appropriate management area direction.

#### **Recreation Management Objective**

Provide for quality day use and overnight recreation opportunities associated with the Project and ensure that other resources are not adversely impacted by this recreational use.

#### **Recreation Design Objective**

Ensure Project-related facilities meet current FS, BLM, and CDPR design standards and standards for accessibility.

#### Wilderness and Wild and Scenic River Objective

Ensure wilderness values and outstandingly remarkable wild and scenic river values are maintained or enhanced.

#### **Recreational Streamflow Objective**

Provide streamflow regime to optimize recreational opportunities, including stream angling, swimming, waterplay, boating, and other recreational beneficial uses that are consistent with ecosystem capabilities, that minimize user and ecological conflicts, that consider hydropower operations, and that maintain a high degree of user satisfaction as determined by user surveys, with due consideration for lake levels and levels of quality lake-based recreation.

#### Lake Fishing Objective

Protect and enhance lake-fishing opportunities in Loon Lake, Union Valley, Ice House, and Slab Creek Reservoirs consistent with overall lake-based recreation and lake level goals.

#### **Recreational Access Objective**

Provide river recreation facilities that are consistent with Recreation Opportunity Spectrum (ROS) class (or equivalent), physical, social, and ecological carrying capacity of the resource and demand levels, with the possibility of adjustment based on user satisfaction.

#### Streamflow and Reservoir Level Information Objective

Provide streamflow and lake level information for Project-affected reaches and lakes that is available to the general public and is adequate for river and lake recreation use.

#### **Transportation and Facilities Management Objective**

Ensure appropriate level of maintenance on Project-related roads and trails. Ensure roads and trails are maintained to FS standards. Ensure Project-related facilities are appropriately identified and maintained.

#### **Special-Use Authorization Objective**

Ensure that Project-related special-use authorizations are up to date and address current permitted use.

#### **Vegetation Management and Fire Prevention Objective**

Ensure appropriate vegetation management for Project-related activities. Minimize loss of resources from Project-related fires.

#### **Hydropower Operations Objective**

The Project continues to be a competitive source of low cost, reliable, and flexible hydroelectric generation.

#### **Consistency with Plans**

Ensure that hydropower operations are consistent with the Forest Plan and BLM Plan and with the reasonable protection of other beneficial uses of water as identified in the Basin Plan.

#### **Cultural Resources Objectives**

- Evaluate heritage resources that may be affected by the Project, and protect/conserve significant resources, or mitigate effects to those resources.
- Conduct, as part of Section 106 compliance, on-going consultation with the appropriate Native American tribe(s) as defined by the FS.
- Ensure full compliance of Section 106 through a Programmatic Agreement.

# 2. Reach Objectives – Examples

(excerpted from Agency/NGO Alternative)

# **2.1 Minimum Ecological Streamflows in South Fork American River Below Slab Creek Reservoir Dam**

SMUD's interest, as we understand it, is to minimize loss of hydroelectric generation, maintain energy reliability, and minimize facility modifications.

The SFAR is very important ecologically due to the presence of Forest Service sensitive species (foothill yellow-legged frog and hardhead). This reach is a transitional aquatic species temperature reach, with both cold and warmer water species occurring.

The Agency/NGO interests are as follows:

- Provide healthy habitat for foothill yellow-legged frogs. The current flow regime does not provide appropriate magnitude or timing of flows to trigger breeding.
- Provide habitat for healthy hardhead populations in this reach and in Slab Creek Reservoir.
- Provide habitat for healthy western pond turtle populations.
- Provide temperatures that allow for management of native fish and improve habitat conditions for foothill yellow-legged frogs and hardhead.
- Provide connectivity of flows from SFAR above Slab Creek Reservoir Dam and SFAR below Slab Creek Reservoir Dam.
- Ensure adequate large woody debris occurs in this reach.
- Provide good water/habitat quality resulting in improved bio assessment composite metric scores, particularly in the lower reach.
- Reduce riparian encroachment.

#### 2.2 Pulse Flows in South Fork Silver Creek Below Ice House Reservoir Dam

This reach currently contains a considerable amount of bedload, contributed from tributaries and surrounding hillslopes. This reach was identified in the geomorphology report as a reach in need of the reintroduction of pulse flows due to its relatively low gradient, high amount of unsorted bedload, and few descriptive features (lack of pools, runs, riffles). Large woody debris is currently clumped in high amounts in some parts of the reach, with low amounts in others.

The Agency/NGO interests in this reach are:

- Provide hydrologic events that will fill the bankfull channel and distribute sediment into the flood prone area.
- Maintain channel shape, form, and dimensions.
- Support a healthy, diverse aquatic and riparian ecosystem.
- Distribute the large woody debris downstream.

# 3. Rationale

(excerpted from Agency/NGO Rationale)

#### **3.1 High Flow Spring Period**

Primary considerations during this period included spawning rainbow trout, channel maintenance, sediment and large woody debris transport, and riparian habitat conditions. Spring is a critical time for fisheries reproduction and setting the stage for amphibian life stage activity for reproduction in late spring and early summer. During spring months it is important to have adequate flow and water temperatures for trout and hardhead spawning. Existing streamflows during non-spill periods are substantially less than unimpaired conditions, potentially affecting aquatic biota and fluvial geomorphology processes. Increased minimum streamflow levels were included in the new streamflow regimes based on providing improved rainbow trout spawning

and rearing at the 80-100 percent range of optimum WUA and for riparian habitat. The concept of providing pulse flow events (see Rationale for Pulse Flows) in combination with minimum streamflows and naturally occurring peak flows to provide for channel maintenance, sediment and large woody debris transport, and riparian habitat was included as part of the PM&E measures.

Late Spring/Early Summer: The late spring and early summer is a critical period for continued fisheries reproduction and initiating amphibian life stage activity for reproduction during late spring and early summer. The decline of the natural hydrograph, in combination with warmer water temperatures, is an important cue for foothill yellow-legged frog breeding and egg-laying. The minimum streamflow regime includes a declining limb of the hydrograph. Once the hydrograph has declined, it is important to maintain a stable, even flow for foothill yellow-legged frog egg laying, tadpole rearing, and rearing of trout fry. When this occurs and water temperatures rise to 10°C for rainbow trout, and 12°C for foothill yellow-legged frogs, reproductive behavior is stimulated. The streamflows were designed to provide improved rainbow trout rearing at the 80-100 percent range of optimum WUA.

#### 3.2 Late Summer and Early Fall

The relatively low streamflows that naturally occur during this period create limiting factors to aquatic biota such as reduced living space and potentially warm water temperatures. In reaches with upstream storage reservoirs, existing minimum streamflows provided by the licensee vary from base flow over unimpaired conditions in most water year types. In reaches without upstream storage, new minimum streamflows will allow for a closer representation of unimpaired base flow conditions. In general, where deemed necessary, the existing minimum streamflows (or flows of at least a similar magnitude) during late summer/early fall were included in the new streamflow regimes based on overall augmentation/maintenance values relative to unimpaired conditions, rearing suitability for rainbow trout, temperature control, and metamorphosing foothill yellow-legged frog tadpoles. It is important through the end of September to maintain a stable, even flow (without ramping) for foothill yellow-legged frog tadpole rearing and successful metamorphosis.

#### 3.3 Large Woody Debris

#### **Objectives Addressed by Large Woody Debris**

Large Woody Debris; Aquatic Biota; Fisheries; Macro-invertebrates; Water Quality; Geomorphology; Riparian Habitat; Fisheries Production; Natural Hydrograph; Hydropower Operations; Flow Fluctuations; Recreational Streamflow; Threatened, Endangered, and Sensitive Species and Management Indicator Species

#### Information Used to Address Large Woody Debris

The following information was used to analyze large woody debris: (a) Hydrology Technical Report (Devine Tarbell & Associates, Inc. and Hannaford 2005), (b) Channel Morphology Technical Report (Devine Tarbell & Associates and Stillwater Sciences 2005c), (c) Stream Fisheries Technical Report (Devine Tarbell & Associates and Stillwater Sciences 2005j), (d) Stream Habitat Mapping Technical Report (Devine Tarbell & Associates and Stillwater Sciences 2005i), and (e) Diversity of juvenile anadromous salmonid assemblages in coastal Oregon basins with different levels of timber harvest (Reeves, Everest, and Sedell 1993).

#### **Rationale for Large Woody Debris**

Large trees and snags that fall into streams play an important role in forming pools, metering sediment, trapping spawning gravels, and creating a more complex stream environment. Heavier pieces require higher flows for mobilization, and longer pieces are more likely to be caught by the stream bank and its vegetation. Reeves et al. (1993) found "that wood is a primary element influencing habitat diversity and complexity in streams. Consequences of decreased amounts of wood include loss of cover (for aquatic species) and structural complexity, decreased availability and abundance of habitat units, and reduced varieties of current velocities and other hydraulic features."

# **TOOL 4- SAMPLE INTEREST FRAMEWORK BY REACH**

\* The following Sample Interest Framework is fictional but based on common concepts in relicensing.

Reach	<b>Existing condition</b> What is it like today? Impacts of the project?	<b>Interests</b> What is the state of being you are hoping for?	<b>Criteria</b> How should we measure the impact of the project?	<b>Options</b> <i>Potential solutions that</i> <i>meet multiple interests</i>	
Antelope Valley Headwaters to High Top Dam	<ul> <li>Historical: Native American sites; Early homestead sites; Emigrant Trail; Early water development</li> <li>Ranching and grazing</li> <li>Trout fishery restoration underway</li> <li>Good fishing</li> </ul>	<ul> <li>Accessible headwaters meadow</li> <li>Minimized wheeled and animal access.</li> <li>Developed trails and low- impact recreational use.</li> <li>Good water quality and quantity</li> <li>Thriving endangered species habitat- Willow Fly Catcher, red and yellow legged frogs</li> </ul>	<ul> <li>Flows study</li> <li>Water quality study</li> <li>Groundwater study</li> <li>Fish / amphibians studies</li> </ul>	<ul> <li>Restore fishery</li> <li>Restore meadow ecosystem to restore the water reliability function from the meadow.</li> <li>Trail development</li> <li>Cross Country ski &amp; snowshoe area as minimum impact recreation</li> <li>Native American interpretive area</li> </ul>	
High Top Dam to Woodsides Dam	Dewatered river	<ul> <li>Recreational interest         <ul> <li>road along diversion</li> <li>pipe</li> </ul> </li> </ul>	• Recreation Study	<ul> <li>Trail along pipe connects to other existing river trails</li> <li>Rewater natural channel to mimic natural hydrograph. Restoration of native trout fishery. Especially spring pulse flows.</li> </ul>	
Woodsides Dam to Bucks Forebay	<ul> <li>History: Mining damage to watershed</li> <li>Channelized, no spawning area, no boulders, flat gravel, no canopy cover – very little healthy habitat</li> <li>Good flows</li> </ul>	<ul> <li>Potential reach for rehabilitation</li> <li>Opportunity exists because it actually receives water.</li> <li>Public access to enjoy and fish this stretch</li> <li>Healthy ecosystem, public enjoyment of public resource including recreational angling.</li> </ul>	<ul> <li>Assess riparian vegetation. Compare to reference reach</li> <li>Study potential for spawning with current and potential flows.</li> <li>Assess need for channel restoration</li> </ul>	<ul> <li>Reduce hydropower diversion at Woodsides to make the flows more closely mimic unimpaired flows.</li> <li>Design the hydrograph for pulse flows in the spring for sediment redistribution.</li> <li>Dredge High Top Dam and create a sediment management plan that deposits gravels back into the reach below High Top to rehabilitate channel function and spawning gravels.</li> <li>Remove invasive species and plant natives to stabilize the banks.</li> </ul>	
Bucks Forebay to Bucks Darling Creek	<ul> <li>History: Mining</li> <li>Licensee owns a lot of the land</li> </ul>	<ul> <li>Fish Passage</li> <li>Sediment redistribution</li> <li>Aquatic health</li> <li>Recreation on trails</li> </ul>	<ul> <li>Recreation Study</li> <li>Dam removal study</li> <li>Cost benefit analysis of fish ladder v. dam removal</li> </ul>	<ul> <li>Remove Bucks Forebay to allow fish passage and reconnection to upper reach.</li> <li>Great bicycle route from licensee roads to creek is maintained and improved with a marked trailhead and bathroom facilities</li> </ul>	
Darling Creek to Upper Craddock Canyon Dam	<ul> <li>Almost all private lands</li> <li>Several road access points</li> <li>Major county park on river</li> <li>Stocked fishery for trout</li> <li>Good Class II float</li> <li>Old gravel plant</li> <li>Very popular swimming</li> <li>Historic sites</li> <li>Relatively good flows in summer, cool clean water</li> <li>Residual mercury</li> </ul>	<ul> <li>Healthy fishery</li> <li>High quality recreation</li> <li>Quality accessibility/parking</li> <li>Proximity to population recreation</li> <li>Quality habitat</li> <li>This reach could be a river park with whitewater features, network of trails and bike paths. Road access and parking improved. Fisheries maximized for recreation.</li> </ul>	<ul> <li>Water temperature study</li> <li>Flow study</li> <li>Fish Population study</li> <li>Recreation study</li> </ul>	<ul> <li>Install fish ladder around Craddock to recover anadromous fisheries.</li> <li>Improve road and trail access for public river park access and boating</li> <li>Regulate flows to maximize floating/boating</li> <li>Improve fishing habitat/stocking</li> <li>Purchase key private land to enhance access and recreation</li> <li>Remove manmade obstacles from river</li> <li>Decommission some project roads and transform to trails</li> </ul>	

Preparation for FERC Hydropower Relicensing: An Activist's Workbook for the Six Months to Two Years Before Relicensing Tool 4

# **TOOL 5- RIVER REACH CHARACTERIZATION WORKSHEET**

Study Reach	Natural Channel Below Diversion Subject to Substantial Accretion	Natural Channel Below Diversion (Bypass Reaches)	Peaking Reach	Tributary	Reservoir	Reaches Upstream of Project Facilities	Reaches Downstream of Project Facilities	Comparison Reach
River								
Headwaters to first project diversion						•		•
First project diversion to first major tributary						•		
First major tributary to 2 <sup>nd</sup> project diversion		•					•	
Reservoir								
Project Reservoir to major tributary			•					
Major tributary to confluence with first order river	•							

# TOOL 6- EFFECTIVE SEARCHES AND GETTING RESULTS FROM THE FERC ELIBRARY

Using the FERC docket number for your project, you can access FERC's online eLibrary filing system (elibrary.ferc.gov) to view the entire record for any hydropower project. Here you can find license applications, license orders, license amendments, compliance-related information, and all documents, comments, and correspondence concerning the project filed by any group or individual. This information is invaluable: it can help you to understand the project's current licensed operations, point to vulnerabilities or areas in which the licensee has been out of compliance, and indicate areas in which they are interested in pursuing project expansion or improvements. Also, the project docket can help you to identify potential allies by finding other groups who have expressed interests similar to yours in comments filed to the docket.

This short guide provides interpretation and suggestions on how to navigate the eLibrary effectively.

First, go to: <u>http://www.ferc.gov/docs-filing/elibrary.asp</u>

#### Search Criteria and Their Meanings

FERC has General and Advanced Search pages. This section describes the meaning of the search criteria in the General Search.

On the General Search Page, FERC allows you to search using the following criteria

- Date Range Choose between:
  - File Date (when someone filed a document at FERC).
  - Posted Date (when someone posted a file at FERC).
    - Within the date, you have several options:
      - From: with two date bookmarks
      - Previous Years
      - Months
      - Days
      - All

#### - Category –

- Submittals Document that is filed by someone.
- Issuance Document FERC sent out.
- Both of the above.
- Library
  - Electric, natural gas, oil, rulemaking, hydropower, or general
  - You can check Hydropower but if you have your docket number, it indicates to the database that you are searching in the Hydropower library automatically.

- Docket Number
  - **Root docket** This is the project license number. (ex: P-2277 Comstock Pump Storage Project)
  - **Sub docket** FERC tries to start a new sub-docket for each proceeding.
    - You can select All for all sub-dockets, which is the default.

#### - Document Types

- You have to know what type of document you are looking for if you are going to use this drop-down menu.
- There are lots of different document types including: Maps, Comments, Protests, Report Forms.

#### - Text Search Box –

- **Description** You can search a description of the filing. (Ex: Scoping Document).
  - The titles and descriptions are often not consistently named or entered by FERC. Therefore, be creative when trying to find your document. It could be under different names or acronyms or parts of the title. (Ex: Scoping Document might be described as SD1 or SD2).
  - Author You can also search authorship by typing an author into the Description box (ex: Hydropower Reform Coalition).
- Full Text searches for the full text.
- **Both** searches for full text and description.

#### - Number of Results that Show Up on a Page -

- You can choose anywhere from 5 to 100 results on each search page.
- After you search the results, you can scroll to the very bottom of the page to "Search Options". One option is "Refine Search". Here, you can change dates or project number or add/change/refine text search.
- If you want to refine your search, don't hit the "back" button because it will discard all the information on your results page and take you back to the search page.

#### Interpreting and Refining the Search Results Page

When you Search in the General Search, the Outcome of your search is equally as important to understand fully and be able to refine further.

You can interpret the titles at the top of the search results page are as follows:

- Category Submittal or Issuance.
- Accession Every filing at FERC is given a unique accession number, which is the date the document was filed, then a dash, and then some random number.
- **Document Date** Date on document.
- **File Date** Date the document was filed.
- **Description** Title of the document. Availability: CEII or publicly available

- If you click on the link provided by the Description, it launches a Java software that can crash your computer.
- So, instead enter criteria in the following:
  - Class and Type Type of document (Ex: Comments or Scoping)
  - Files A filing might contain multiple files and different types of files including pdfs, MS Word, or Text documents. If you click on any of these files, you can actually see the file on your computer.
  - Size <u>This is arguably the most useful criteria on the page.</u> This brings up a list of files that are part of this particular filing usually with a little bit of description behind them. You can select some of the files or all of the files to download or view.
- Info or File appears on the right side of the results page.
  - **Info** a database page pops up with a summary of information about the file. This information can help you refine your searches.
  - File new page pops up with the file name and size
- Check boxes appears on the right side of the results page
  - You can check boxes to download multiple files at once

#### Actions You Can Take from the Results Page

At the bottom of the Search Results page, you will find drop-down menu options. These are just a few of the most important options:

- Select Action
  - **Download** makes a zip file of the files you checked above in the Search Results section.
  - Add puts all the documents you checked into a queue that downloads all of it.
  - **View** opens the documents you have checked.
- Search Options Menu -
  - **Refine Search** You can use this to refine your search results.
- **Sort Options** Use this to sort the filings in several different ways.

# TOOL 7- STUDY PLAN TEMPLATE FOR INTEGRATED LICENSING PROCESS (ILP) - SAMPLE

\* FERC does not require that study plans be organized in a standard way but must include standard information. The required information as dictated by the FERC ILP appears in blue font. The organization of this information in the study format below is merely a suggested format. You may want to check with your licensee and resources agencies to see what format they prefer. You can also review other relicensing studies and use their formatting.

#### NAME OF STUDY Study Plan version 1

#### **1** STUDY GOALS AND OBJECTIVES

This paragraph describes what the study is intended to accomplish, the goals and objectives of the study, and specific information to be obtained. The goals of the study should clearly relate to the need to evaluate the effects of the project on a particular resource. The objectives are the specific information needs to be gathered to allow achievement of the study goal. This section provides the context for why the study is being requested.

Text

#### 2 PROJECT NEXUS

Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements;

This discussion should clearly draw the connection between project operations and the effects (direct, indirect, and/or cumulative) on the applicable resource. Just as important, this discussion should explain how the requester will use the information to develop protection, mitigation, and enhancement measures, including those related to an agency's mandatory conditioning authority under 401 of the Clean Water Act or sections 4(e) and 18 of the Federal Power Act.

Text

#### **3** RELEVANT RESOURCE MANAGEMENT GOALS

- **3.1** Resource Management Goals of the Agencies or Indian Tribes with Jurisdiction over Resource to be Studied
- **3.2 Relevant Public Interest Considerations in Regard to the Study** (if requester is not a resource agency)

This discussion should clearly establish the connection between the study request and the management goals of the requesting agency or tribe, or in the case of non-governmental agencies or others without a jurisdictional mandate or obligation, between the study and

resource of interest. A statement by an agency connecting its study request to a legal, regulatory, or policy mandate is entitled to appropriate consideration. However, it is much easier to understand the relationship of an information need to a specific management goal than to broadly stated mandates established in law or regulation. Where such mandates are integral to the need for the information, the requester needs to thoroughly explain how the mandate relates to the study request and, in turn, project impacts.

Text

### 4 METHODOLOGY

Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, Study requests should be as detailed as possible. It is important to relay to the applicant your expectations on the scope and methods so that an adequate study plan can be developed. The requester may describe the proposed methodology by outlining specific methods to be implemented (e.g. study area, study sites, data collection methods, etc.) or simply by referencing an approved and established study protocol or methodology (e.g. Henderson 1999, or Missouri State Water Quality Sampling Protocols for Lead, 1999).

Text

- 4.1 Monitoring
- 4.2 Surveys
- 4.3 Analysis
- 4.4 Consistency with Generally Accepted Scientific Practice
- 4.5 Products

If providing a detailed methodology, the requester should demonstrate how the requested methodology is consistent with generally accepted practice within the scientific community or, as appropriate, considers relevant tribal values and knowledge. The requested study must be generally accepted in the context of how it is being used. For example, just because an IFIM is a generally accepted methodology for determining the relationship of flow to available habitat, it doesn't mean you would use IFIM for answering questions about fish populations.

Text

#### 5 STUDY AREA

- One
- Two
- Three

#### 5.1 Study Sites

- One
- Two

#### 6 SCHEDULE

A schedule including appropriate filed season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge;

Text

#### 7 LEVEL OF EFFORT AND COST

Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

This section should describe your expectations of the level of effort and costs associated with the development and implementation of the requested study. This would be used to provide the applicant with a better understanding of your expectations for the completion of the study. Within this section, you should also provide a justification as to why any proposed alternative studies would not be sufficient to meet the stated information needs. Proposed alternative studies could be studies being proposed by the applicant in the PAD or those being requested by other parties.

Text

#### 8 EXISTING INFORMATION

Describe existing information concerning the subject of the study proposal, and the need for additional information;

The purpose of this discussion is to highlight the gap in existing data, giving full consideration to what has been provided in the PAD or is known from other information sources relevant to the project. This discussion should clearly explain why the existing information is inadequate and the need for additional information.

Text

9 **REFERENCES** 

**10 TABLES** 

# TOOL 8- BYLAWS AND COMMUNICATIONS PROTOCOLS FOR A COLLABORATIVE

Creating the bylaws is an important first project because it makes people think about why they are working together and how they want the coalition to take shape. Bylaws also provide guidance in times of group conflict. You can get started with these sample bylaws.

It is helpful if the bylaws also address:

- Membership, staff and Steering Committee (if applicable)
- Affiliation with other groups<sup>1</sup>
- Coalition objectives, geographic scope,
- Governance and decision-making,
- Communication guidelines
- Membership eligibility
- Decision-making (consensus or voting) and dispute resolution. In most coalitions, consensus decision-making is preferred because it gives each person in the coalition equal power.
- When the Coalition makes recommendations, can the individual organizations in the Coalition make separate recommendations?
- Who is the Coalition representing and how do you clarify that to the public, licenses, resource agencies, and tribes?
- If a member's strategy diverges from that of the rest of the group, how do they follow their own strategy and limit surprising or undermining the rest of the coalition? Despite best efforts to reach consensus, sometimes coalition members will take their own individual approach.
- Media guidelines. What information from Coalition meetings should be available to the public and/or the media?
- Who can use the collaborative documents and information gathered and generated by the Coalition?

Preparation for FERC Hydropower Relicensing:

<sup>&</sup>lt;sup>1</sup> Sierra Club has policies regarding "affiliation". Their "affiliation" with the coalition is defined as a formal association between a Sierra Club group, chapter, or regional conservation committee, or the national Sierra Club, and another organization or a coalition. These affiliations can range from a loose-knit working relationships between organizations with a common purpose to more complicated affiliations involving hired staff and assets. If a Sierra Club group wants to apply for affiliation, you need to meet certain criteria and complete a formal application, which can be found on the Sierra Club website under Policies and Procedures.

However, even if a Sierra Club groups doesn't go through a formal affiliation process, they can still work with a relicensing coalition in a certain capacity. According to Sierra Club policy, a non-affiliated relicensing coalition could still include members of a Sierra Club group. Even without formal affiliation, the Sierra Club group can also distribute notices about your relicensing coalition and how to join and they can hold joint conferences or workshops; and participate in joint news conferences. Therefore, these activities allow Sierra Club group members to join and work with your relicensing coalition without formal affiliation.

An Activist's Workbook for the Six Months to Two Years Before Relicensing Tool 8

#### SAMPLE BYLAWS AND COMMUNICATIONS PROTOCOL FOR A COLLABORATIVE

#### 1. Nature of Organization

- 1.1. NAME OF ORGANIZATION is an unincorporated association of nongovernmental organizations and individuals.
- 1.2. The overall goal of NAME OF ORGANIZATION is to provide a forum that increases the effectiveness of conservation organizations to achieve river and watershed restoration and protection benefits for the NAME OF YOUR RIVER. This includes negotiations at the county, state, and federal levels, with an immediate focus on the upcoming FERC relicensing processes.
- 1.3. NAME OF ORGANIZATION specific objectives include:

1) Facilitate a dialogue on cross-basin issues and strategies to enhance overall watershed balance with special attention to an interbasin framework with which to address the FERC relicensings.

2) Identify and avoid potential conflicts among watershed groups in order to work towards a common "vision" for overall watershed health across the basins.3) Conduct public outreach to raise awareness of water supply issues and the unique opportunities in the three interlinked watersheds. To this end, the Network will collaborate with established watershed groups to disseminate outreach materials.

- 1.4. NAME OF ORGANIZATION will use collaboration, scientific and legal expertise, and public involvement to accomplish this mission.
- 1.5. These are the internal bylaws and communications protocols of NAME OF ORGANIZATION.
- 1.6. The fiscal agent of NAME OF ORGANIZATION is the Sierra Nevada Alliance.

#### 2. Steering Committee

- 2.1 NAME OF ORGANIZATION's activities will be guided by a Steering Committee made up of representatives of the geographic region of its focus.
- 2.2 The Steering Committee will make decisions by consensus of the members present in a duly noticed meeting. Consensus decision-making is a decision process that not only seeks the agreement of a majority of participants, but also to resolve or mitigate the objections of the minority to achieve the most agreeable decision. Consensus means that everyone in the group can live with the decision.

If consensus is impossible a two-thirds majority vote may be implemented by the Steering Committee.

- 2.2.1 A meeting will be noticed by electronic mail or similar method of communication at least 5 working days in advance. The period of notice may be shortened at the discretion of the Chair or the Coordinator.
- 2.2.2 Requests for Action and Decision-making will be noticed to members of the Steering Committee members prior to the meetings to give members who will be absent a chance for discussion and voting. Decisions will be noticed at least 5 days in advance of the Steering Committee Meeting.
- 2.2.3 A meeting may be conducted in person, by telephone, or by electronic mail polling, at the discretion of the Chair or NAME OF ORGANIZATION Coordinator.
- 2.2.4 A quorum is a majority of the members of the Steering Committee.
- 2.3 The Steering Committee will provide oversight to NAME OF ORGANIZATION Coordinator and overall guidance to the network's mission, activities, and products.
- 2.4 One Steering Committee member shall receive invoices from the Coordinator, review them with regards to the workplan, and authorize their submittal to the fiscal sponsor.
- 2.5 The Steering Committee will provide oversight on overall development strategy. Each funding proposal must be submitted for review and comment to all Steering Committee members with at least three days for comment on a draft version. It is encouraged that the Steering Committee meet or teleconference to discuss such proposals and funding opportunities as they relate to the overall development strategy.
- 2.6 Members of NAME OF ORGANIZATION Steering Committee will make reasonable efforts to notify the whole Steering Committee prior to holding meetings with the licensees and agencies, and will report to the rest of the Steering Committee on meetings they have.

#### 2. Membership

2.1. Any non-governmental organization or individual that endorses NAME OF ORGANIZATION mission (as stated in Section 1.2) and its platform (if/when developed), and participates actively in one or both of the Working Groups may

become a member of either or both of NAME OF ORGANIZATION Working Groups.

- 2.1.1. In order to be considered a member of NAME OF ORGANIZATION Working Groups, one must satisfy each of the following qualifications:
  - (a) Attend Working Group meetings on a regular basis,
  - (b) Participate in subcommittees, and
  - (c) Be willing to devote time and energy to further the group's mission.
- 2.1.2. New members to the working groups must be accepted by consensus by the current working group members.
- 2.2. NAME OF ORGANIZATION engages with many interested stakeholders who are not considered formal members.
- 2.3. A non-member may be invited to participate in a general meeting of interested stakeholders at the discretion of NAME OF ORGANIZATION.

#### 3. Staff and Consultants

- 3.1. The Coordinator will have and implement the following specific responsibilities on behalf of NAME OF ORGANIZATION:
  - 3.1.1 The Coordinator will convene meetings of NAME OF ORGANIZATION, write up meeting notes, and disseminate products to NAME OF ORGANIZATION members and interested stakeholders as well as other interested parties identified by NAME OF ORGANIZATION.
  - 3.1.2 The Coordinator will share information from NAME OF ORGANIZATION with the Working Groups it convenes and other conservation community groups at his/her discretion.
- 3.2. NAME OF ORGANIZATION may retain consultants to accomplish its mission, based on the decision of the Steering Committee in conjunction with the Coordinator.
  - 3.2.1. If work is being done on behalf of the Working Groups, the decision on consultants and their work should take into account input from the Working Group members.

- 3.2.1 The fiscal agent of NAME OF ORGANIZATION will contract directly with consultants.
- 3.2.2 The Coordinator, in consultation with the Steering Committee, will be responsible for the management of all consultants, with oversight from NAME OF ORGANIZATION Steering Committee and input from Working Group members when appropriate.
- 3.2.3 Member organizations of NAME OF ORGANIZATION can contract with consultants for work on behalf of NAME OF ORGANIZATION. Individual organizations will respond to each funding source's fiscal and programmatic oversight as agreed in each funding award.
- 3.2.4 NAME OF ORGANIZATION has no responsibility towards contracts or funding agreements of it's' member groups or individual members unless explicitly stated in an award agreement.

#### 4. Cooperation in Planning Processes

- 4.1 NAME OF ORGANIZATION's members who participate in a given planning processes will cooperate in an effort to reach consistent interests on strategy, disputed issues of law or fact, or the ultimate terms of a license or other regulatory decision. They will make best efforts to communicate and coordinate with each other, in advance of publication via a filing, a public meeting, or the media.
- 4.2. NAME OF ORGANIZATION members will make best efforts to resolve any disputes in a non-public manner.
  - 4.2.1. All disagreements between NAME OF ORGANIZATION members shall be addressed directly between the parties in disagreement in a non-public manner.
  - 4.2.2. Disputes over policy or scientific interpretation as to river ecology should be addressed by the disagreeing parties. Should they not find satisfactory resolution to their differences, affected members of NAME OF ORGANIZATION may meet and endeavor to resolve such differences.
  - 4.2.3. Members will request the Coordinator and a Steering Committee member of Chair of a Working Group to mediate or otherwise resolve disputes any time a dispute is not resolved between members in an expeditious manner. The Coordinator will consult with the Steering Committee or the Chairs of the Working Groups as needed.

- 4.2.4. At his/her own initiative, NAME OF ORGANIZATION Coordinator or Steering Committee members or Chairs of the Working Groups may request to mediate, seek outside mediation, or otherwise resolve disputes that affect the interests of NAME OF ORGANIZATION.
- 4.3. If a dispute is not resolved pursuant to these procedures, NAME OF ORGANIZATION members may express conflicting interests in a proceeding or planning process, provided:

(A) other NAME OF ORGANIZATION members are notified of the conflicting interest before it is published; and

(B) each conflicting interest is stated in a manner that does not directly insult NAME OF ORGANIZATION members or their interests, or undermine the ability of the other NAME OF ORGANIZATION members to express their interests.

- 4.4. The actions of NAME OF ORGANIZATION members should concur with the mission of NAME OF ORGANIZATION. Each member has the right to contact the Coordinator, Steering Committee members, or Chair of the respective Working Groups if it is felt another member of NAME OF ORGANIZATION is acting in direct conflict to NAME OF ORGANIZATION's mission.
- 4.5. NAME OF ORGANIZATION members agree not to make side agreements with outside parties without first consulting other members. This is not meant to severely limit members involved in negotiations. However, it does require a higher level of disclosure among NAME OF ORGANIZATION members compared to other relicensing parties.

#### 5. NAME OF ORGANIZATION and Working Group Documents

- 5.1. Documents can be released under the general NAME OF ORGANIZATION organizational name and letterhead, on behalf of NAME OF ORGANIZATION i.e. members of both Working Groups. Before its' release, members of both NAME OF ORGANIZATION Working Groups will approve each letter, publication and other document being released as a general product of the entire NAME OF ORGANIZATION product. The members' names and organizational affiliations will then be included as signatories.
  - 5.1.1. If a single member of either Working Group objects to the document, then the document will not be published under NAME OF ORGANIZATION letterhead.

- 5.1.2. Use of NAME OF ORGANIZATION letterhead to represent all members of both Working Groups requires expressly given permission from all member groups. If express permission is not given, then the letterhead is never used.
- 5.2. Documents can also be released under the more specific header of one of NAME OF ORGANIZATION Working Groups. These letters, publications, or other documents must specify the Working Group it comes from as well as its members as signatories.
  - 5.2.1. Use of NAME OF ORGANIZATION letterhead to represent members of one Working Group requires expressly given permission from all members of the Working Group. If express permission is not given, then the letterhead will not be used.
  - 5.2.2. If a single member of the Working Group on whose behalf the document is written, objects to the document, then the document will not be published under NAME OF ORGANIZATION Working Group name nor on its letterhead.
  - 5.2.3. If a document is released under the name of one Working Group, it does not require authorization from the members of the other Working Group.
  - 5.2.4. Any document released on behalf of one Working Group will be shared through electronic mail with the members of the other Working Group.

#### 6. External Communications and Media

- 6.1 Members of NAME OF ORGANIZATION will make reasonable efforts to notify NAME OF ORGANIZATION prior to holding meetings with the licensees and agencies, and will report to NAME OF ORGANIZATION on meetings they have.
- 6.2 Members of NAME OF ORGANIZATION understand that "debating the process in the media" can undermine the collaborative process. Members are encouraged to determine appropriate media releases and encouraged to collaborate on fashioning the updates as a group.

#### 7. Ground Rules for Relicensing Working Group Members

- State who you are speaking for or representing especially if you wear multiple hats professionally
- Actively participate commit to success of the process
- Respect others

- Be brief and prepared
- One person speak at a time
- Relicensing focus
- Listen to each other
- Leave "baggage" at the door
- Communicate interests, not positions
- Help involve all
- Seek solutions for all solving challenges rather than winning battles
- Raise concerns early
- Be hard on the problems, not the people

#### **Ground Rules for Facilitator/Coordinator**

- Help group accomplish objectives
- Help guide discussion
- Enforce Participant ground rules
- Help involve all
- Ask "why" to clarify
- Manage time
- Track actions, next steps, deadlines

# **TOOL 9- NGO COALITION INTEREST STATEMENTS**

- A. Catawba-Wateree Objectives
- B. Foothills Water Network Yuba-Bear Working Group Interest Statement

#### A. Catawba-Wateree Relicensing Coalition Objectives

On one of their first meetings in 2001, a stakeholder group in Northern and Southern Carolina called the Catawba-Wateree Relicensing Coalition came up with these initial statements of interest they wanted addressed in their upcoming hydropower relicensing.

- Management of flow regimes to minimize impacts on riverine ecology and maximize recreational opportunities
- Enhancement of fish and wildlife habitat through preservation of undeveloped lands adjacent to the project, improved management of developed areas, and creation of fish entrainment/passage where necessary and feasible
- Protection of cultural resources and historic tribal lands
- Assessment of the project's recreational carrying capacity, current recreational needs, and projected recreational needs
- Assessment of the reservoir and river system's maximum sustainable capacity for drinking water withdrawal and wastewater assimilation
- Assessment of the licensee's current permitting practices for non-project use of project lands, including water withdrawal, discharge points, and construction of boat slips
- Assessment of the cumulative impacts on water quality from the non-point source pollution, including sediment, fuels from motorboats, and fertilizer/pesticide uses on developed riparian sites
- Analysis of the divestiture of lands originally purchased by licensee for project construction/operation to determine whether or not the pattern of divestiture was consistent with license obligations
- Implementation of the Shoreline Management Plan to carry out the intent of the Standard Land Use Article and other license requirements
- Balancing hydropower production and natural, cultural, and recreational resources when proposing protection, mitigation, and enhancement measures



# FOOTHILLS WATER NETWORK

# Initial Interest Statement Drum-Spaulding and Yuba-Bear Relicensings

October 30, 2007

In response to PG&E and NID's request for initial interest statements from the stakeholders, the Foothills Water Network Yuba-Bear Working Group is submitting the enclosed interests on behalf of its member groups.

These statements are in no way presented as absolute or definitive representations/ policies/ positions of any individuals/organizations interests. It is recognized that as the Yuba-Bear and Drum-Spaulding Projects are studied and better understood, we will further refine our interests.

#### **OVERALL INTERESTS**

#### **CUMULATIVE EFFECT**

- Healthy, functioning Yuba, Bear, and W. Placer Creek watersheds (Auburn Ravine, Coon Creek, Dry Creek) including the aquatic ecosystem, riparian corridor, and uplands.
- Preservation of Wild and Scenic values in the South Yuba.
- Watershed management structure and process that is flexible in its capacity to respond to changing conditions over the course of the license period and still meet the balanced objectives of stakeholders.
- Consistency between hydropower operations and the Forest Plan, BLM Plan, South Yuba River State Park, the Central Valley Regional Water Quality Control Board Basin Plan (Basin Plan) and other applicable management plans.
- A monitoring plan sufficient to evaluate compliance with license terms and resource responses to changes in streamflows.
- Operations of the Yuba-Bear and Drum-Spaulding Projects are coordinated to ensure streamflows and reservoir levels consistently and predictably achieve resource goals.

#### WATER/AQUATIC RESOURCES

• Populations of native aquatic biota, including fish, amphibians, benthic macroinvertebrates, and riparian species are thriving with adequate habitat consistent with

species' needs. All life stages of native aquatic species, with special attention to specialstatus species, are maintained or enhanced.

- Maintained or enhanced riparian resources, channel condition, and aquatic habitat.
- Maintained or enhanced streamflow regime sufficient to sustain desired conditions of native riparian, aquatic, wetland, and meadow habitats.
- Discharges from licensed facilities that contribute to streamflow patterns that follow the shape of the natural hydrograph in duration, magnitude, rate of change, and frequency in order to obtain the aquatic resource interests.
- Protection of ecological health of river reaches and attendant aquatic biota that is supported by augmented flows from the project facilities.
- Protection and enhancement of ecological diversity to preserve and foster the biological resiliency of the system.
- Flows are protective of the designated beneficial uses of cold freshwater habitat and warm freshwater habitat as appropriate, and water temperatures are such that local aquaticand riparian-dependent species assemblages thrive.
- Maintain flows for aquatic habitat that would otherwise dry up during the midsummer/ fall period as a result of project operations.
- Minimization of negative effects of stream diversions or other flow modifications from hydroelectric projects on threatened, endangered, or sensitive species. Minimize entrainment into all off-stream project works. Entrainment means any entry of aquatic biota from natural streamcourses into all man-made works, including canals, headworks, penstocks and other artificial constructs for the conveyance of water or the generation of electricity.

#### Water Quality

- Minimization of inputs of hazardous material, such as mercury, as a result of project operations or maintenance into watersheds and channels.
- Good water quality fishable, swimmable, drinkable; compliance with the water quality interests, such as temperature, to fully protect the designated beneficial uses as designated in the Basin Plan.

#### **Monitoring**

• Monitoring plan adequate to evaluate compliance with license terms and resource responses to changes in streamflows and other resource measures.

# **Reservoirs**

• Maintenance of reservoir levels sufficient to ensure that aesthetic, recreational, ecological needs are addressed. We realize this will necessitate a balancing act as there might be inherent conflicts in this statement.

# **Compatibility with Resource Plans**

• License provisions consistent with any applicable FS and NMFS biological evaluations for sensitive species or any applicable biological opinion issued under the federal or state Endangered Species Act. License provisions consistent with all applicable resource management plans, including but not limited to Forest Plan, BLM Plans, South Yuba River State Park management plan, and the Basin Plan.

• Flows are protective of the designated beneficial uses of cold freshwater habitat and warm freshwater habitat as appropriate, and do not adversely affect water temperatures for local aquatic- and riparian-dependent species assemblages.

#### Fluvial Geomorphology Interests

- Restoration and maintenance of channel integrity. Maintain, improve, or restore fluvial processes to provide for balanced sediment transport, channel bed material mobilization and distribution, and channel structural stability that contribute to diverse aquatic habitat and healthy riparian habitat.
- Balanced delivery and transport of sediment so that stream channels are not excessively aggrading or degrading over time, and particle size distribution allows for diverse bed form within the stream channel.
- Stream channels have appropriate cross-section dimensions (e.g., width to depth) and stable stream banks, and floodplains and flood-prone areas have connectivity to the stream channel.
- Flow regimes in bedrock-controlled reaches reset geomorphic micro-habitats with sufficient frequency to maintain robust production of aquatic biota, including macroinvertebrates, fishes, and where applicable, amphibians.
- Flow regimes are sufficient in variability and timing to prevent encroachment of riparian vegetation into stream channels.
- Large woody debris is within the range of natural variability in terms of frequency and distribution and is sufficient to sustain stream channel physical complexity and stability.

#### Fish Resources

- Provision of habitat to support existing salmon and steelhead populations in the project affected reaches while maximizing recovery of salmon and steelhead populations to the Bear River, Middle Yuba, South Yuba, and Western Placer Creeks.
- Restoration or maintenance of habitat suitable to support healthy, self-sustaining populations of native fish communities in project affected reaches.
- Maximization of trout fisheries and their habitat in Yuba, Bear, and Western Placer Creeks (including: Auburn Ravine, Coon Creek, Dry Creek)
- Protection and Enhancement of designated wild trout streams in the Upper Bear Valley
- Sufficient habitat to support highly robust populations of wild trout in various streams throughout the project area, including main stems and tributaries of the Middle Yuba, South Yuba, Bear River, Deer Creek, and Western Placer Creeks.
- Favorable conditions for all life stages of fisheries that are appropriate to respective stream reaches.

#### GEOLOGICAL AND SOIL RESOURCES

- Channel maintenance, flexibility, stability, and upland slope integrity
- Suitable levels of sedimentation for ecosystem and hydrologic functioning
- Project roads and facilities do not increase the entry of fine sediments into streams and reservoirs.

#### **TERRESTRIAL RESOURCES**

- Existing roads, trails, and access points to the Yuba, Bear, and W. Placer Creek watersheds (Auburn Ravine, Coon Creek, Dry Creek) are well-maintained
- Ability for public to access public waterways for multiple uses
- Healthy and functioning native riparian vegetative communities on the Yuba and Bear Rivers and Western Placer Creeks. Reduction of, and, where possible, reversal of the spread of noxious weeds.
- Appropriate vegetation management for Project-related activities. Minimize loss of resources from Project-related fires.
- Healthy native bird population
- Maintain or restore streamflow regime sufficient to sustain desired conditions of native riparian, aquatic, wetland, and meadow habitats.
- Passage by terrestrial fauna across project facilities, including canals and transmission line corridors, is safe and allows sufficient options.

#### RECREATION

- Streamflow regime that optimizes recreational opportunities, including stream angling, swimming, waterplay, boating, and other recreational beneficial uses that are consistent with ecosystem capabilities; that minimizes user and ecological conflicts; and that maintains a high degree of user satisfaction, with due consideration for lake levels and levels of quality lake-based recreation.
- Financially sound and economically beneficial commercial, instructional, and private kayaking and rafting industry combined with recreation management that offer the public safe and fun access to public waterways.
- Range of angling opportunities for anglers.
- Preservation of fishability values, including. isolation; wilderness experience; accessibility; health of the watershed, and predictability.
- Protection and enhancement of lake-fishing opportunities consistent with overall lakebased recreation
- Safe and reliable existing and new access points in the Yuba, Bear, and W. Placer Creek watersheds (Auburn Ravine, Coon Creek, Dry Creek)
- Well-kept existing and potentially, new or improved campgrounds for recreational enjoyment
- Opportunities both for wilderness experience as well as for well-maintained accessible public access points
- Increased public awareness of recreational, ecological, cultural, historical and economic values of the Yuba, Bear and West Placer Creeks to increase public stewardship and investment in the health of the watersheds and natural resources
- Provision of quality day use and overnight recreation opportunities associated with the project that does not adversely impact natural resources.
- Visual quality meets appropriate management area direction.
- Provision of streamflow and lake level information for Project-affected reaches and lakes that is available to the general public and is adequate for river and lake recreation use.

• Ensure appropriate level of maintenance on Project-related roads and trails. Ensure roads and trails are maintained to FS standards. Ensure Project-related facilities are appropriately identified and maintained.

#### Visual Quality Interest

• Visual quality meets appropriate management area direction.

#### **ECONOMICS**

• Ongoing investment in the Yuba and Bear Rivers and the Western Placer Creeks (including Auburn Ravine, Coon Creek, and Dry Creek watersheds) as well as good stewardship to protect and enhance the health of the watersheds for generations to come.

#### CULTURAL

- Collaborate and support tribes in protection and enhancement of cultural, historic, and archaeological resources
- Interpretation of cultural, historic, and archaeological resource for public education, recreation, and increased stewardship.
- Protection and enhancement of native plants and animals central to the first nation people's culture.

Sincerely, Foothills Water Network Yuba-Bear Working Group



# TOOL 10- MAPPING: YUBA-BEAR FLOW MAP



Preparation for FERC Hydropower Relicensing: An Activist's Workbook for the Six Months to Two Years Before Relicensing Tool 10

#### Legend

The thickness of the map's green lines (ditches) and blue lines (rivers) directly correlate to their average annual acre-feet running down the respective watercourses.

The squares are powerhouses. Red squares are Nevada Irrigation District Powerhouses and the yellow squares are Pacific Gas & Electric powerhouses.

The Bear River (skinny blue line) is disrupted by a succession of hydropower dams and diversions, which divert much of its water into ditches (fat green lines), from which the water drops into hydropower facilities and into reservoirs where the whole process begins again. In this snapshot of one reach, the Dutch Flat Tunnel and the Dutch Flat Flume on the North and South sides of the Bear River divert 197,000 and 222,000 average acre-feet per year. This leaves 14,000 average acre-feet instream per year – or roughly 3% of that water instream. This maps give a visual picture of the water displaced from the natural channel on an annual average.

# TOOL 11- SAMPLE AQUATIC INTEREST AND STUDIES DEVELOPMENT WORKSHEET

Interest / Resource Issue		<b>Objective / Desired Outcome</b>	Project Nexus <sup>7</sup> Potential Affected License Condition	Information Needs / Data Gaps	Technical Studies
1.	Alteration of natural hydrograph	Natural Hydrograph Objective: Ensure water use achieves seasonal discharge fluctuations that follow the shape of the natural hydrograph in duration, magnitude (where appropriate it might be on a smaller scale), rate of change, and frequency to the extent necessary to obtain the aquatic resource objectives in conjunction with other interests.	Project Nexus: Project operations modify the flow regime in below diversions and dams and in bypass reaches Potential Affected License Condition: Instream flow releases; reservoir operation; instream flow fluctuations and ramping rates; sediment management	<ul> <li>Compare unimpaired and impaired flows</li> <li>Evaluate an increase of flow greater than 50 cfs below Milton or Spaulding and its effects for salmon habitat suitability</li> <li>Evaluate recession limbs and peak flows for habitat, aquatic resources, and riparian values as well as benefits downstream. Link to native species needs / life stages</li> <li>Evaluate spatial shifts in groundwater infiltration due to impoundment of water in reservoirs and forebays</li> </ul>	Hydrology Study
2.	Healthy riverine aquatic populations and their habitat	Maintain, enhance, or restore all life stages of native aquatic species.	Project Nexus: Project operations modify the flow regime in below diversions and dams and in bypass reaches Potential Affected License Condition: Instream flow releases and fluctuations and ramping rates; project facilities; reservoir operation	<ul> <li>Characterize existing aquatic habitat</li> <li>Evaluate the functioning of tributary junctions as biological hotspots and fish refugia (Oregon, Wolf, Owl, Spring, Mckilligan, Poorman Creeks, and South Yuba – add to Gast data characterizing good habitat and refuge (See Randall 1997 UCD masters)</li> <li>Evaluate tributaries as suitable off-channel habitat during high summer temps (See Randall 1997)</li> <li>Evaluate an increase of flow greater than 50 cfs below Milton or Spaulding and its effects for salmon habitat suitability</li> </ul>	Aquatic Habitat Characterization Study

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Aquatic species - macro invertebrates	Macro-invertebrate Objective: Macroinvertebrate indices (metrics) in Project-affected stream reaches shall be comparable to reference reaches located within and outside the WHERE drainages. Numerical objectives based on the collection and review of additional benthic macroinvertebrate data will be developed.		<ul> <li>Quantify the relationship between flows and aquatic habitat i.e. How do we link the spill flows (natural hydrograph) to a managed flow after spill</li> <li>Quantify aquatic species limiting factors (e.g., habitat, bioenergetics, non-native species)</li> <li>Quantify food availability. I.e. health of macroinvertebrate population and drift as indicator. Macroinvertebrate assessment including benthic invertebrates</li> <li>Characterize the effect of impaired flows on woody material dynamics as they relate to aquatic habitat and special status species i.e. turtles and frogs</li> <li>Characterize the range of variability in the system and evaluate its favorability for healthy aquatic habitat. Develop options to ensure range of variability</li> <li>Characterize flow changes (i.e. peak flows) and ramping rates and evaluate ascending and descending limbs for aquatic habitat and species health. Develop options for ramping rates and flows.</li> <li>Monitor flows instream below all diversions and facilities to inform aquatic health evaluations</li> <li>Evaluate an increase of flow greater than 50 cfs below Milton or Spaulding and its effects for salmon habitat suitability</li> </ul>	Instream Flow Study
			• Evaluate EPTs (Ephemeraoptera, Placoptera, Tricoptera)	
Fish	Self-sustaining population of Chinook and Steelhead Limit predation threat from small mouth bass, blue gill or green sunfish	Project Nexus: Project operations modify the flow regime in below diversions and dams and in bypass reaches limiting migration, sustainable habitat and territory for Chinook and Steelhead as well as other native fish	<ul> <li>as a group</li> <li>Determine fish population abundance and distribution (including growth, age class distribution, and health) (population dynamics model for Spring-run Chinook, speckeled dace, riffle sculpins, and California roach.</li> <li>Characterize habitat needs for native fish assemblages including Spring-run Chinook, speckeled dace, riffle sculpins, and California roach.</li> <li>Determine physical habitat needs for Chinook, Steelhead</li> <li>Evaluate predation from other non-native sportfish (bass, blue gill, green sunfish in relations special-status species).</li> <li>Evaluate bias of system for certain fish. I.e. predation of native fish on special-status species due to altered system</li> </ul>	Fish Population Study

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			<ul> <li>conditions.</li> <li>Evaluate predation effects due to reservoirs</li> <li>Collect rainbow trout fish population data for N. Yuba – (this will probably need to wait for YCWA relicensing)</li> <li>Evaluate most sensitive stage of lifecycle of special-status species in relation to the system</li> <li>Identify how the reservoir system favors predatory species over native fisheries. I.e. bass eating trout</li> </ul>	
Special-Status Species	Ensure that PM&E measures are consistent with any applicable FS biological evaluation for sensitive species or any applicable biological opinion issued under the federal or state Endangered Species Act. Ensure that PM&E measures comply with the Forest Plan and BLM Plan. Minimize the effects of stream diversion or other flow modifications from hydroelectric projects on threatened, endangered, or sensitive species.		<ul> <li>Document the special-status amphibians and reptiles and their habitat – FYLF, Western Aquatic Garter Snake</li> <li>Characterize FYLF habitat in greater lengths of the tributaries to mainstem esp. on Spring, Rush, Humbug Creeks</li> <li>Characterize bullfrog populations and threat to the FYLF populations. Identify options for eradication.</li> <li>Quantify the relationship between flow and amphibian and reptile habitat (e.g., spawning and rearing)</li> <li>Pay particular attention to tributary junctions and tributaries for biological hotspots and fish refugia</li> <li>Characterize and quantify mollusk population and relation of healthy populations to flows</li> </ul>	Special-Status Amphibian and Reptile Study
2 a Healthy fish, amphibian, and macroinvertebrate populations and riparian resources and freshwater mollusks 2 b Healthy fish, amphibian, and macroinvertebrate populations and riparian resources <u>in</u> <u>peaking reaches</u>	Stream Gauging Objective: Develop a streamflow and reservoir storage gauging plan to evaluate compliance and resource responses to changes in streamflows. The plan may include installation of additional ganging stations. (cross-cutting issue with Hydrology Study - SYRCL). Flow Fluctuations Objective: Minimize Project-caused flow fluctuations uncharacteristic of the natural hydrograph to protect biota and maintain public safety.	Project Nexus: Project peaking operations result in daily instream flow fluctuations Potential Affected License Condition: Instream flow fluctuations; project facilities	<ul> <li>Quantify the effects of flow fluctuations on macro invertebrates, fish, amphibians, and riparian vegetation. In addition, quantify impacts on these resource values of current impaired flows as compared with unimpaired flows. (Chinook, steelhead)</li> <li>Quantify travel time and attenuation of flow fluctuations along the length of the reach</li> <li>Characterize fish migration and spawning areas and quantify flow required for passage, spawning and lifecycle of fish and aquatic biota</li> <li>Characterize impacts of peaking flows on fish migration and movement</li> <li>Evaluate options for facility betterments that would help meet ecosystem interests</li> <li>Meet requirements of Wild Trout Designation</li> </ul>	Instream Flow Study
3. Fish passage and migration	Avoid fish stranding. Maintenance scheduled in a predictable fashion compatible with ecosystem health - Jackson Meadows Creek and Sawmill	Project Nexus: Project operations modify the flow regime in the below diversions	<ul> <li>Identify passage barriers/impediments at low flows and higher flows for Chinook and Steelhead</li> <li>Determine the amount of potential spawning/rearing habitat upstream of passage barriers/impediments</li> </ul>	Fish Passage Study

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	Creek get dewatered suddenly because in the fall, NID turns off the water from Sawmill Lake and Jackson Lake stranding brown trout migrating up there from Bowman Lake. Dry Season Aquatic Habitat Objective: Maintain flows for aquatic habitat that would otherwise dry up during the midsummer/fall period. Ensure fish passage for brown trout during their spawning season	<ul> <li>and dams and in bypass reaches and cause fluctuations in water surface elevations in tributary inputs. Project facilities and roads could create passage barriers</li> <li>Potential Affected License Condition: Instream flow releases or project facilities</li> </ul>	<ul> <li>Determine the relationship between flow and fish passage</li> <li>Identify options to provide fish passage and compare their suitability</li> <li>Evaluate tributary and tributary junctions for fish refugia and biological hotspots</li> <li>Define impassability for critical river connections for trout v. salmon</li> <li>Characterize genetic isolation of species resulting from project barriers and disruptions and delay of downstream fish migration</li> </ul>	
	Flows and passage favorable for salmon reintroduction and wild trout	Instream flow releases below diversions	<ul> <li>Quantify flows needed to enable fish passage at diversion points, below dams, bypass reaches, maintenance times, and peaking reaches.</li> <li>Quantify flows needed to enable fish passage if off-stream passage were constructed or used around dams/diversions (Smart Canal around Our House Dam)</li> <li>Quantify flows necessary for fish ladder options.</li> </ul>	
4. Healthy riparian resources	Maintain riparian vegetation in proper functioning condition. Maintain or restore riparian resources. Maintain or restore streamflow regime sufficient to sustain desired conditions of native riparian, aquatic, wetland, and meadow habitats.	<ul> <li>Project Nexus:</li> <li>Project operations</li> <li>modify the flow regime</li> <li>in below diversions and</li> <li>dams and in bypass</li> <li>reaches</li> <li>Potential Affected</li> <li>License Condition:</li> <li>Instream flow releases</li> <li>(riparian maintenance</li> <li>flows)</li> </ul>	<ul> <li>Evaluate and characterize the distribution of existing riparian resources</li> <li>Evaluate the condition of existing riparian resources (regeneration, encroachment into channel, health, and vigor).</li> <li>Evaluate the relationship(s) of riparian resources and hydrologic regime</li> </ul>	Riparian Resources Study
		Project Nexus: Project operations (reservoir drawdown) could affect riparian resources around the reservoir shorelines	<ul> <li>Evaluate and characterize the distribution of existing riparian resources (along reservoir shorelines)</li> <li>Evaluate the relationship between reservoir water surface elevations and aquatic resources and reservoir marginal vegetation.</li> <li>Compare former riparian habitat now replaced by</li> </ul>	

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			reservoir and shoreline habitat.	
		Potential Affected		
		Reservoir operations		
5. Stable channel form and fluvial processes	Geomorphologic objective: Maintain or restore channel integrity. Maintain, improve, or restore fluvial processes to provide for balanced sediment transport, channel bed material mobilization and distribution, and channel structural stability that contribute to diverse aquatic habitat and healthy riparian habitat. Sediment objective: Ensure delivery and transport of sediment are balanced so that stream channels are not excessively aggrading or degrading over time, and particle size distribution allows for diverse bed form within the stream channel. Potential options: Valves on diversions and dams are re- engineered to allow sediment to go through at certain times Sediment is dredged and if appropriate cleaned, and transported around the dam or diversion for reintroduction downstream Flush fines through a stream system to facilitate diversity of benthic populations but not adversely modify the size distribution of the material to manage aquatic habitat restoration	Project Nexus: Project operations modify the flow regime in below diversions and dams and in bypass reaches and capture sediment in project reservoirs and diversion pools Potential Affected License Condition: Instream flow releases (channel maintenance flows) Sediment management practices	<ul> <li>Identify stream channel geomorphic classification</li> <li>Characterize geomorphology at low and high flow events in relation to fish passage</li> <li>Characterize sediment supply and recruitment conditions</li> <li>Characterize channel stability</li> <li>Quantify sediment transport flows, and compare historical and existing high flow regime (frequency, magnitude, and duration)</li> <li>Compare pre-project to post-project era sediment budgets</li> <li>Characterize flows that flush fines through as stream system but do not adversely modify the size distribution of the material.</li> <li>Characterize the connection between hydrology and sediment transport rates (see Snyder for sediment budget)</li> <li>Characterize existing aerial resource photography documenting fluvial geomorphic change and historic conditions</li> <li>Evaluate gravel recruitment needs for fish spawning below dams.</li> <li>Evaluate changes in sediment distribution resulting from the project in relation to heterogeneity in substrate sediments</li> <li>Project facilities</li> <li>Identify historic and current sediment loads</li> <li>Characterize need for current and future sediment removal from Project impoundments (quantity, frequency, and fate)</li> <li>Reaches below Diversions, Dams</li> <li>Evaluate sediment recruitment and transport downstream of Project facilities</li> <li>Develop options to improve and maintain channel stability and fluvial processes</li> </ul>	Geomorphology Study

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# TOOL 12- SAMPLE RELICENSING RECREATION STUDY CONCEPTS WORKSHEET

Interest / Resource Issue	Desired Outcome	Project Nexus <sup>7</sup> Potential Affected License Condition	Information Needs	Technical Studies
1. Recreational opportunities provided	Provide for quality day use and overnight recreation opportunities associated with the Project and ensure that other resources are not adversely impacted by this recreational use.	Project Nexus: Project has the responsibility to provide recreation opportunities Potential Affected License Condition: Recreation opportunities and access	<ul> <li>Identify Project-related recreation opportunities, use, and experience</li> <li>Identify any recreation conflicts at Project-related facilities</li> <li>Determine existing and future recreation demand</li> <li>Determine recreation facility carrying capacity</li> <li>Identify factors limiting recreation use and opportunities</li> <li>How is the project facility attracting other types of recreation that would seem not related to the facility i.e. people come to fish on the lake and bring their motorcycles also. How do we quantify the impact of these impacts?</li> <li>Quantify the dispersed recreational use – those who are not staying at the campgrounds or paying for use. Survey would include a dispersed visitor survey</li> </ul>	Recreation Opportunities Study
		Potential Affected License Condition: Interpretive opportunities	• Identify existing interpretive opportunities and future needs	
		Potential Affected License Condition: Fish stocking in waters associated with the Project	<ul> <li>Assemble current fish stocking records</li> <li>Identify resource management stocking objectives</li> <li>Characterize angling opportunities and experience</li> <li>Determine fish harvest in bypass reaches and Project reservoirs (if applicable)</li> </ul>	
		Potential Affected License Condition: Operation and maintenance of recreation facilities	<ul> <li>Identify current facility operation and maintenance responsibilities</li> <li>Identify future operation and maintenance needs and responsibilities</li> <li>Identify facilities betterments that would improve recreation and/or operations favorable to recreational interests</li> </ul>	Facility Assessment and Needs Analysis Study
	Provide river recreation facilities that are consistent with Recreation Opportunity	Potential Affected License Condition: Recreation facility rehabilitation and enhancement	<ul> <li>Document current facility condition</li> <li>Estimate facility life</li> <li>Determine historic and current facility use</li> </ul>	

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	Spectrum (ROS) class (or equivalent), physical, social, and ecological carrying capacity of the resource and demand levels, with the possibility of adjustment based on user satisfaction.		Determine recreation facility carrying capacity and future demand	
	Ensure appropriate level of maintenance on Project-related roads and trails. Ensure roads and trails are maintained to FS standards. Ensure Project-related facilities are appropriately identified and maintained.			
	Ensure Project-related facilities meet current FS, BLM, and CDPR design standards and standards for accessibility.	Potential Affected License Condition: ADA access; meet appropriate standards	<ul> <li>Assemble current ADA Guidelines</li> <li>Identify current facility compliance with ADA Guidelines</li> </ul>	
	Protect and enhance lake-fishing opportunities consistent with overall lake-based recreation and lake level goals.	<ul> <li>Project Nexus: Project reservoir operations could affect reservoir-based recreation</li> <li>Potential Affected License Condition: Project reservoir operations</li> </ul>	<ul> <li>Identify existing reservoir recreation opportunities and access</li> <li>Determine the relationship between reservoir elevation storage and recreation opportunities (seasonally)</li> <li>Determine reservoir recreational carrying capacity</li> </ul>	Reservoir Recreation Study
2. Maintained or enhanced stream-based recreational opportunities	Provide streamflow regime to optimize recreational opportunities, including stream angling, swimming, waterplay,	Project Nexus: Project operations modify the flow regime in reaches facilities downstream of Project	<ul> <li>Identify instream recreation opportunities, use, and quality of use (current and future uses).</li> <li>Determine the relationship between flow and instream recreation opportunities (i.e. timing, quantity)</li> <li>Determine future demand and carrying capacity for stream-</li> </ul>	Recreation Flow Study

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	boating, and other recreational beneficial uses that are consistent with ecosystem capabilities, that minimize user and ecological conflicts, that consider hydropower operations, and that maintain a high degree of user satisfaction as determined by user surveys, with due consideration for lake levels and levels of quality lake-based recreation.	Potential Affected License Condition: Instream flow releases , facility modifications	<ul> <li>based recreation</li> <li>Assess regional supply and demand for types of recreational opportunities using Regional Supply and Demand Assessments</li> <li>Evaluate options for facility betterments that would help meet recreational and aquatic resource interests</li> </ul>	
			<ul> <li><u>Boating</u></li> <li>Time of Travel Study i.e. how long does it take for certain volumes of water to travel down river from a release to certain points</li> <li>Define estimates of flow ranges for boating</li> <li><u>Fishing</u></li> <li>Controlled Flow Studies for Fishability and wadeability</li> <li>Other Instream Uses</li> <li>Evaluate other instream recreational uses and optimal flows and timing i.e. Swimming, wading, innertubing</li> </ul>	
3. Maintained and/or enhanced healthy and robust recreation and tourist economy in local communities		Project Nexus: Project operations make recreation more or less favorable with direct impact on local economies in Auburn, Coloma, Foresthill, Potential Affected License Condition: Instream flow releases; access;	<ul> <li>Socioeconomic Analysis - Evaluate economic impact and investment for local communities of the recreational use of the project areas.</li> <li>Survey satisfaction – anglers, local outfitters and retailers, Identify recreational use</li> </ul>	

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4. Compatibility between Recreational use and ecosystem health Cross-cutting issue with aquatic resources			• Evaluate the pattern of recreational use and how can we minimize the impact on watershed health? I.e. mining,	
5. Information services regarding recreational opportunities and water availability	Provide streamflow and lake level information for Project-affected reaches and lakes that is available to the general public and is adequate for river and lake recreation use.	Potential Affected License Condition: Flow information, reservoir levels, signage	<ul> <li>Identify where flow information will inform safe and informed recreational use and options to provide that information in a way that people can access it easily</li> <li>Evaluate how to develop reliable emergency response system –</li> <li>Identify interpretive and signage needs</li> </ul>	
6. Maintained and enhanced wild and scenic and trout designations values	Ensure wilderness values and outstandingly remarkable wild and scenic river values are maintained or enhanced.			
7. Protected or enhanced visual quality		Project Nexus: Project facilities and reservoirs could affect visual quality Potential Affected License Condition: Project facilities	• Identify visual quality objectives Determine the consistency of Project facilities with visual quality objectives	Visual Quality Assessment Study



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# The Hydropower Reform Coalition's Hydro Guides

Our Hydro Guides can serve as valuable resource for all stakeholders, including the licensee, and the general public during the FERC licensing procedure.

Please refer to our <u>Glossary</u> page to understand the terminologies used in our guides.

## **Contributor Resources**

- Moderation Queue
- Recent Updates
- Contributor Guidelines

# **Running Rivers Newsletter**

#### E-mail:

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Don't worry: we hate spam as much as you do. Your email address is safe with us.

#### Activists' Preparation Guide

The <u>Activist's Preparation Guide</u> focuses on the six-month-to-two-year preparatory phase before the relicensing begins. While this guide is targeted toward citizen activists, it can help governmental agencies, tribes, organizations, and businesses understand the relicensing process and how to play a productive role in it.

## Hydropower Licensing Guide

The <u>Hydropower Licensing Guide</u> is published to encourage effective citizen participation in the licensing of non-federal hydropower projects. Citizen participation assures that licenses protect and restore fish and wildlife resources, recreation, and water quality of the rivers affected by these projects.



#### Science Guide

The <u>Science Guide</u> discusses the range of studies available to evaluate the effects of a typical hydropower project, advising on the advantages and disadvantages of an approach. Included is a matrix that catalogues all potential project effects, organized by resource area.



#### Shorelands Guide

This <u>Shorelands Guide</u> is designed to guide those interested in achieving shoreline land protection through the FERC relicensing process. It outlines the legal framework and strategies to develop a forceful case. The case studies show how thousands of very valuable shoreline and watershed acres have been protected during relicensing as part of protection, mitigation or enhancement requirements.

#### Flows and Recreation Guide

This <u>Flows and Recreation Guide</u> is intended to facilitate decisionmaking to define flows for recreation on regulated rivers. It provides a framework and methodologies for assessing flows for recreational use. Ideally, it will be used to enhance the quality of study requests and plans, as well as the implementation of studies and resolution of disputes.



#### Media Guide

The Media Guide produced by the Coalition offers practical tips for dealing with the media – from responding to questions and handling a "crisis" to proper television appearance and interview techniques.



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