



The Elwha River after removal and demolition of the Elwha Dam in 2013, in Washington State, U.S. Photo courtesy of Wikipedia.

Project Reassessment and Removal: Once Projects End

As their useful lifetime passes, dams can leave legacies of damaging impacts on affected communities and the environment. However, standards exist that can address such legacies. This chapter describes a few practices, policies, and examples.

Relicensing and Reoperation

Relicensing is an opportunity for you to fight once again for the social and environmental standards mentioned above. No relicensing of a dam should occur before there is a reassessment of how well the dam complies with IRP and IWRM plans, SEA requirements including CIAs, EFAs, and climate risk assessments. In addition, new project-level risk assessments and management plans specific to the

extended operational period of the dam should be created and implemented.

Relicensing and reoperation is also a time for you to promote the rehabilitation of existing dams over the construction of new dams, as part of the iterative process of approving an Integrated Resources Plan for the electricity sector.

Dam Removal

Many dams have reached the end of their productive lives or are no longer needed. Because of the age of these dams, over time the risk for catastrophic failure increases. In addition, many of these dams block migrating fish runs, and prevent important sediments from reaching estuaries.

As a result, often, a dam's lifetime costs have begun to outweigh its benefits. It is this moment when an opportunity exists to push for dam decommissioning. To decommission a dam means to plan to remove a dam from a river, returning the river to a more natural flow at the location where it had been impounded.

However, it is not as easy as simply destroying the dam and letting the river flow once again. Dam decommissioning is a process with its own steps, and requires detailed planning. The same cross-cutting rights mentioned earlier in this guide that are applicable to dam planning and operation also apply for dam removal.

Decommissioning and Impact Management Plans

In order to remove a dam, a decommissioning plan must first be in place. This plan should detail

the stages of the decommissioning. In order to decommission a dam, the water stored in a reservoir behind the dam (whether traditional storage of run-of-the-river storage) must be gradually released, or emptied, downstream. A timeline should be created for this gradual release of river flow, which will form the basis of the management of social and environmental impacts that happen as a result of the decommissioning.

Methods of decommissioning include the following:

- **Complete removal** is often accomplished by first temporarily diverting the river, then using heavy equipment to dismantle the dam. This method can accomplish dam removal in a matter of days.
- **Breaching of dams** allows the river to flow around existing dam structures. Heavy machinery is typically used to breach earthen portions of dams located in relatively wide river corridors. Breaching is recommended for partial dam removal, and represents a relatively inexpensive decommissioning option for larger structures, when feasible.

Case Study: Dam Removal on the Elwha River

In the State of Washington, U.S., over 80% of the Elwha River watershed is located in the Olympic National Park. The 105-foot tall Elwha Dam, built in 1912 by Canadian financier George Glines for the purpose of powering timber mills, led to the destruction of large populations of Elwha River sockeye salmon and ten other native fish species. No fish passages were constructed, and the food security of Elwha River basin indigenous communities was heavily impacted. Over its lifetime, the Elwha Dam had accumulated 5 million cubic yards of sediment, disrupting the water quality and nutrient balance of the basin.

Through public pressure by dam-affected communities, indigenous people, and advocates, the U.S. Congress approved an act to restore the Elwha River watershed in 1992. Removal of the Elwha Dam was to be the largest dam removal ever in the United States at the time.

Rapid removal of the Elwha Dam would have caused fast flows and large sediment volumes to cut a deep

channel in the river bed that had never existed before, and would have caused devastating effects on the remaining habitats downstream from the dams and along beaches at the coast. As a result, a sediment erosion model was created that called for gradual drawdown of the reservoir after dam removal. Gradual dam removal and reservoir drawdown would result in gradually decreasing release of sediment loads downstream. The Elwha Dam reservoir would drain gradually over a two-year time period, allowing a more reasonable portion of the accumulated sediment to remain in the river bed underneath the old reservoir.

An Environmental Impact Statement and management plan were produced, and approved through consultation with basin stakeholders. Gradual removal of the Elwha Dam began in 2011, and full demolition of the dam was completed in 2013.

- In the case of some concrete dams, **controlled explosives** are used to demolish dams. Explosives have been used to remove dams in the United States. Occasionally, a combination of explosives and heavy machinery are required, especially with larger projects.
- **Raising the gates** may work with some barrage-type dams with radial gates. This re-creates more natural river conditions without the immediate cost of removal.

Each method creates its own social and environmental impacts. An environmental and social impact assessment of dam removal must be created through a transparent and participatory basin stakeholder process. A management plan for the mitigation of dam removal impacts should be created as a result of the environmental and social impact assessment. The same standards described earlier in this guide apply for this process.

FURTHER READING:

- Access the U.S. National Park Service's resources page on Restoration of the Elwha Watershed: <http://www.nps.gov/olym/naturescience/elwha-restoration-docs.htm>
- Read the 1992 Elwha River Ecosystem and Fisheries Restoration Act (Public Law 102-495): <http://www.nps.gov/olym/naturescience/loader.cfm?csModule=security/getfile&PageID=136258>
- Read an info-graphic about dam removal from the Hydropower Reform Coalition: <http://www.dameffects.org/index.html>
- Read International Rivers' "River Revival – Dam Removal: the Global View" (2001) <http://www.internationalrivers.org/files/attached-files/damremovalbrochure.pdf>

IDEAS FOR ACTION:

- Advocate for dam removal in your local community, and raise the issue with local lawyers and Congressional representatives. Organize a public hearing on dam decommissioning and call for a feasibility study.

Legacy and Reparations

Dams often leave legacies of large social, environmental, or other impacts. Such legacies can leave lasting negative imprints on the lives of dam-affected communities, and on the environment. For example, when repressive regimes develop a dam project through militarization, violent repression of opponents, or coercive activities that violate the human rights of individuals and/or families, the social costs brought about by such a dam will often outweigh any reported benefits.

It is important that the legacies of past dam impacts be addressed. One way to do this is to ask for the establishment of a Truth and Reconciliation Council. Another way to address the legacies of past dams is to demand reparations for violations, and redress for unheard grievances. In both cases, monitoring and documentation of the impacts of dam planning, implementation, and operation are needed in order to substantiate any claim. You may have grievances over violations of any of the rights listed above, or any impacts caused. Remember to record pertinent details that could be used to support a demand for reparations.

The Right to Remedy and Reparation

The UN Office of the High Commission on Human Rights has defined the right to remedy and reparation through the following statement:

“Adequate, effective and prompt reparation is intended to promote justice by redressing gross violations of international human rights law or serious violations of international humanitarian law. Reparation should be proportional to the gravity of the violations and the harm suffered. In accordance with its domestic laws and international legal obligations, a State shall provide reparation to victims for acts or omissions which can be attributed to the State and constitute gross violations of international human rights law or serious violations of international humanitarian law. In cases where a person, a legal person, or other entity is found liable for reparation to a victim, such party should provide reparation to the victim or compensate the State if the State has already provided reparation to the victim.”

– Section IX(15) of the Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law

FURTHER READING:

- Read the Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law: <http://www.unrol.org/doc.aspx?d=2265>
- Read the Chixoy Dam Reparations Plan: http://www.internationalrivers.org/files/attached-files/plan_de_reparacion1.final_.pdf
- Read the Center for Political Ecology’s Chixoy Dam Legacy Issues Study: <http://www.centerforpoliticecology.org/chixoy.html>

IDEAS FOR ACTION:

- File a lawsuit with a local lawyer, and contact your Congressional representative to demand the creation of a Truth and Reconciliation Council, and to demand reparations and remedies for grievances that you may have.

Case Study: The Legacy of Guatemala's Chixoy Dam

For nearly 36 years, Guatemala suffered a violent internal armed confrontation that profoundly affected almost every sector of society. Over this same period international financial assistance was received to finance the construction of Central America's largest hydroelectric energy development, the Pueblo-Viejo Quixal¹⁸² project built on the Chixoy River. Some 3,500 residents were forcibly evicted without adequate involvement in resettlement and compensation plans, and without adequate assessment of damages and compensation. In addition, more than 6,000 households in the broader region suffered losses from the construction of the dam and its reservoir. Protests were met with acts of state-sponsored violence. Communities that attempted to negotiate fair compensation were declared guerilla-supporting communities, and the military and civil patrols were used to forcibly remove people from the reservoir site.

The Guatemalan Historical Clarification Commission, established with the Accord of Oslo in 1994, investigated human rights violations and violence connected with armed conflict in the region. In their summary of exemplary cases, the Guatemalan Truth Commission found that in the case of Río Negro, state-sponsored violence constituted genocide, and that the massacres in Río Negro illustrate how "many resistant attitudes to administrative decisions, even though they were peaceful, as occurred in the relation to the construction of the hydroelectric dam, were a priori conceived to be instigated by the guerilla and were resolved through violent repression" (CEH 1999:Volume 1, Annex1, Chapter VI: Exemplary Case No. 10).

Some of the many local consequences resulting from the construction of the Chixoy Dam include problems associated with surviving the violence, the extreme poverty imposed by inadequate or nonexistent compensation for loss of land and other property, cultural assaults due to the loss of sacred sites, and loss of access to communal lands and disruption of trade and social ties due to the transportation difficulties created by the construction of the dam and its reservoir.

Chixoy Dam Reparations Agreement Signed

Over the years Chixoy Dam-affected communities have met to discuss common problems and strategies, and testified before national truth commissions and in international human rights arenas. With help from national and international advocates, dam-affected communities have commissioned and participated in a range of research initiatives to document the impact of the dam and the consequential damages to their communities.

In mid-April 2010, the 33 communities affected by the Chixoy Dam signed an agreement with the Government of Guatemala that promises to repair, to some degree, the damages and losses caused by the construction of the dam for more than 11,000 affected people. This historic event set an important precedent to show governments, dam financiers and dam builders that they will be held accountable for their actions, even if it takes decades of struggle.