

## **An Opportunity:**

### *Call for Nominations*

We are seeking nominations for **Chair-Elect** of the ENRE Division. The Chair-Elect would serve for one year as Chair-Elect, two years as Chair and one year as Past Chair.

Those interested in being considered for this position should submit their name, current position and up to 100 position word position statement to:

Jim Segedy, PhD, FAICP  
Past Chair, ENRE  
jimboseg@yahoo.com

no later than COB 12/15/2011



## **Another Opportunity**

### *Communications Chair*

We are looking for someone to be the point person for the ENRE Division communications. This would include the newsletter, web page and social media sites.

If you're interested in being a part of the Division Leadership Team, please contact:

Juli Beth Hinds, AICP  
julibeth.hinds@tetrattech.com

or

Jim Segedy, PhD, FAICP  
jimboseg@yahoo.com

## **Elwha River Restoration**

### **Imagine a River Literally Coming Back to Life.**

One of the most significant river restoration effort of our time will soon begin on Washington's Elwha River. Two large dams will be dismantled to restore the river's once-legendary salmon runs, and to revive an entire ecosystem from the mountains to the sea.

The river's Glines Canyon Dam (210 feet) will be the tallest dam ever removed in our country.

### **The River**

Glines Canyon Dam on the Elwha River, by Scott ChurchThe Elwha is a short, steep river, tumbling 45 miles from the mountainous heart of Olympic National Park down to the Strait of Juan de Fuca. It once supported six species of Pacific salmon and steelhead, and has been the home of the Lower Elwha Klallam Tribe since time immemorial.

The construction of Elwha Dam (1913) and Glines Canyon Dam (1927) devastated the river's salmon runs, cutting off all but five miles

of habitat in the lower river. Fish populations plummeted and have been on life-support ever since. Without the annual infusion of marine nutrients that salmon bring upriver from the ocean, the wildlife and ecosystem have suffered. Additionally, the dams prevent the downstream flow of important silt and other sediments, causing steady beach erosion at the river's mouth and the loss of important historic clam beds.



### **A River Reborn**

Chum salmon by Brett ColeDismantling the Elwha and Glines Canyon dams will allow the river to flow freely for the first time in 100 years. Salmon and steelhead will gain renewed access to over 70 miles of pris-

**APA 2012 National  
 Planning Conference:**

*Green Sustainable Los Angeles  
 Bus Tour*

In partnership with the City of Los Angeles Bureau of Sanitation, Watershed Protection Division, the ENRE, Planning & the Black Community, and Latinos in Planning Divisions jointly propose this Green Sustainable Los Angeles Bus Tour. Planners will visit three projects showing how green infrastructure can be designed to enhance neighborhood economic and environmental quality, mitigate flooding, and create ongoing educational opportunity. These projects also illustrate some of the significant challenges bringing new watershed design techniques to minority and underserved communities. The tour will explore questions such as what kind of outdoor classroom experience and recreation works best in LA's densely populated Ninth District? How does the LA Zoo develop educational signage about permeable parking in one of the world's most diverse cities? How did the Council for Watershed Health approach property owner involvement in redesigning lawns, driveways, and sidewalks for the Elmer Street neighborhood, where chronic flooding, poor street conditions and a lack of lighting had eroded trust? LA BOS speakers also will discuss their emerging approaches to making green infrastructure a standard part of street and intersection projects, and their ongoing work with neighborhoods and other City departments to bring the benefits of green to all.

tine, protected habitat in the river and its tributaries.

A host of birds and wildlife will benefit from the increased salmon runs. The river will once again be able to transport gravel, silt and sediment to replenish lower river and beach habitat.



Trees and other vegetation will grow in the areas around the former reservoirs, creating habitat for Roosevelt elk and other forest wildlife.

**How Will the Dams be Removed?**

Elwha Dam and Lake Aldwell Elwha Dam and Glines Canyon Dam will be removed in stages over the course of several years.

At Elwha Dam, a diversion channel will be built around the dam's north side. The water in Lake Aldwell will drain out through this diversion channel, lowering the lake level by about 50 feet. Construction crews will then use "controlled blasting" to dismantle Elwha Dam and also remove the rock fill that was used to patch a large hole in the base of the dam in 1913.

Glines Canyon Dam, twice the height of Elwha Dam, will be removed in 7.5 foot increments, gradually whittled down from the top using diamond wire saw cutting to isolate large sections of concrete. These 22-ton blocks will be winched by crane to disposal trucks situated on the cliff tops adjoining the dam.

Much of the water behind this dam will be released using an existing outlet pipe, followed by successive notches in the remaining concrete. Once the water level behind the dam drops down to the bed of the reservoir, the remaining portions of the dam will be removed with controlled blasting. About 40 percent of the silt and sand behind this dam will be carried downstream -- scientists expect this to be washed out to the ocean within 3-5 years.

**In Depth: A Second Chance for the Elwha and its Salmon**

In earlier times, the Elwha River flowed freely and supported legendary runs of Pacific salmon. Coho, pink, chum and sockeye, as well as spring, summer and fall Chinook made their way upstream in numbers that neared 400,000, with individual Chinook sometimes exceeding 100

**PAB Update:**

The Planning Accreditation Board will be seeking comments from the public on its proposed accreditation standards beginning November 15. Please check out the website at <http://www.planningaccreditationboard.org/index.php?id=134> to view a copy of the proposed standards.

Once the 30-day comment period begins, you will be able to leave comments directly on our website. PAB is very interested in hearing from the profession.



**2010-2011 Student  
 Scholarship Winners**

*Sara Benson*

*University of Illinois at Chicago,  
 Department of Urban Planning  
 and Policy*

*Anticipated Graduation: May  
 2011*

*Thesis Title: Brownfield  
 Redevelopment: Historical  
 Analysis of Industrial  
 Redevelopment in Chicago and  
 Policy Recommendations to  
 Correct Market Failure*

My Master’s project investigates whether there any policy measures that could be implemented in areas of low property value that would mimic successful market based environments. By studying the history of redevelopment in Chicago specifically, a place with historical industrial activity in the city center that has been successfully redeveloped,

pounds. Sea-run cutthroat trout, native char, and winter and summer runs of steelhead also swam in these waters.

Historic photo of Glines Canyon Dam constructionThe Lower Elwha Klallam Tribe thrived in the area, thanks to the river’s large salmon runs and the watershed’s abundant natural resources.

Between 1910 and 1927, the Elwha and Glines Canyon dams were built to provide hydroelectric power to a mill in the north Olympic Peninsula town of Port Angeles. Both structures were built without fish passage facilities, cutting salmon and steelhead off from historic spawning habitat.

**Dam Facts**

Elwha Dam, completed in 1913, is a 108-foot high concrete gravity dam located at river mile 4.9. It has gated spillways on both abutments and no fish passage facilities. A powerhouse contains four generating units with a combined capacity of 14.8 MW. The dam impounds Lake Aldwell, which has a surface area of 267 acres and a storage capacity of 8,100 acre-feet.



Glines Canyon Dam, completed in 1927, is a 210-foot high single-arch concrete structure located at river mile 13. It has a thrust block on the right abutment, a gated spillway on the left, and no fish passage facilities. A powerhouse with one generator has a capacity of 13.3 MW. The dam impounds Lake Mills, which has a surface area of 415 acres and a storage capacity of 40,500 acre-feet.

**Impacts of the Dams**

Elwha Dam and Lake Aldwell, photo by National Park ServiceSince their construction, the damage caused by the Elwha and Glines Canyon dams has been far-reaching. Salmon and steelhead populations in the river have been considerably reduced. Only about 4,000 salmon now spawn in the 4.9 miles of river below Elwha Dam.

In addition to decimating the river’s salmon runs, the dams also struck a long-term blow to the Lower Elwha Klallam Tribe who rely on the salmon and river for their physical, spiritual and cultural well-being.

The harm caused by the dams has reverberated throughout the entire

perhaps there are lessons to learn. Was that process driven by commercial developers? Or were there initiatives led by government, civic groups, or a combination of public and private partners? After historical analysis has been conducted, the project will make policy recommendations.

More specifically, the project will analyze some of the earliest site locations of redevelopment. There had been, historically, a high concentration of industrial activity in the central core of the City of Chicago. Increased space requirements for manufacturing activity and a desire for technological upgrades created an environment for industrial activity to move outward. Questions that the project will answer include: At what point in time did the central manufacturing area begin to be redeveloped? And what specific sites were the earliest to undergo redevelopment? An analysis of estimated costs associated for redevelopment will be conducted for the historical central manufacturing area. Perhaps public policy targeted to spur revitalization in the central area in combination with market conditions helped shape redevelopment projects.



ecosystem. The dams and their associated reservoirs inundated and degraded over five miles of river and 684 acres of lowland and forest habitat. The river itself



has been degraded through increased temperatures, reduced nutrients and reduced spawning gravels downstream.

Populations of at least 22 species of wildlife, including bald eagle, black bear, bobcat, coyote, raccoon, weasel, mink and river otter within the Elwha basin have declined due to a lack of salmon carcasses, an important food source. Even Puget Sound's orca whales are suffering because of diminished salmon runs in the Elwha and other Pacific Northwest rivers.

### The Road to Removal



Aerial view of Elwha River. The Lower Elwha Klallam Tribe has been advocating for dam removal since the dams were built nearly a century ago. The Tribe was the first to call for the restoration of the river and its salmon. In addition

to advocating for dam removal, the Tribe has led habitat restoration efforts in the lower river, and operates a hatchery to maintain Elwha salmon runs.

The Tribe seized the opportunity in 1968, when the owner and operator of the dams, Crown Zellerbach Corporation, submitted an application to the Federal Energy Regulatory Commission (FERC) to license Elwha Dam, and then applied in 1973 to renew the operating license for Glines Canyon Dam. The Tribe intervened before FERC, opposing the licenses.

**Yu Kuki**

*University of British Columbia,  
School of Community and  
Regional Planning*

*Anticipated Graduation: May  
2011*

*Thesis Title: Analyzing  
Canada's Embodied Ecological  
Footprint in International Trade*

The current standardized ecological footprint method and national EF estimates are carried out by the Global Footprint Network (GFN) in Oakland, California. GFN annually publishes the National Footprint Accounts (NFA) for 241 countries, territories and regions using over 5,000 data points per country. However, in the existing approach, footprints embodied in trade are estimated using world-average extraction rates (i.e. conversion factors). This means that computers made in the United States are assumed to require the same quantity of resources and energy as a computer made in China, Japan, India, etc. In reality, different countries have different economic structures, technological levels, energy sources and other factors that result in differing quantities of inputs per unit output. The purpose of this research is to account for these country-specific differences. This will contribute to the refinement of the current calculation method (the research is being conducted as part of a collaborate effort with the Global Footprint Network).



The environmental community also got involved. Rick Rutz, a volunteer activist with the Mountaineers, noted that the Federal Power Act of 1921 prohibits hydroelectric dams in national parks. He argued that the expiration of the 50-year license of Glines Canyon Dam (inside the boundaries of Olympic National Park, which was created in 1938) should be treated as a new license application, and that Elwha Dam should not be licensed.

Spurred by Rick's argument, four conservation groups -- Olympic Park Associates, Seattle Audubon Society, Sierra Club, and Friends of the Earth -- intervened in the relicensing process. Twelve other conservation groups, including American Rivers, soon joined the effort.

In 1987 James River Corporation (now called Fort James Corporation) purchased the assets of Crown Zellerbach, including the Elwha and Glines Canyon Dams and the Port Angeles pulp and paper mill. The mill was later sold to Daishowa America Co., Ltd. Until February 2000, the Fort James Corporation owned the two dams and Daishowa operated the two dams and associated power plants. Daishowa received power from the dams for the operation of the mill.

The dams' owner became increasingly concerned that a court order would some day force it to remove the dams and foot the bill for river restoration. They began to view the dams as a liability and started looking for ways to transfer them to the federal government.

### **Elwha River Ecosystems and Fisheries Restoration Act**

Elwha River by Scott ChurchIn 1992, Congress passed Public Law 102-495, the Elwha River Ecosystems and Fisheries Restoration Act (Act). The Act directed the Secretary of the Interior to study ways to fully restore the Elwha River ecosystem and native anadromous fisheries. Purchase and removal of the dams was one of the considerations.



The Elwha Report, submitted by the Secretary of the Interior, determined that removing the dams was feasible and necessary to fully restore the fisheries and ecosystem.

In February 2000, the federal government purchased the dams and related facilities from the Fort James Corporation for \$29.5 million. The Bureau of Reclamation, with National Park Service oversight, currently operates the dams. Operation will continue until the dams are decommis-

**2011-12 winner:**

*Daniel Brookshire  
 UNC Chapel Hill*

*Anticipated Graduation Date:  
 May 2012*

*Thesis Title: "Strategic Energy  
 Planning for Native American Tribes"*

In a world of unstable energy prices, oil spills, and the harmful effects of climate change, many communities are recognizing the need for sustainable management and development of their energy resources. This has been especially true for Native American communities where management of both renewable and fossil fuel resources is intertwined with tribal sovereignty. As sovereign nations, Native American tribes are in unique positions to control and manage their own energy resources in ways that other state and local governments cannot. However, the lessons learned from tribal energy planning can provide valuable case studies for communities across the U.S. In order to understand these lessons, my master's project will study how tribes are trying to address energy issues and how their approaches relate to sustainability.

In light of these opportunities for strategic energy planning, my master's project will study strategic energy plans, energy regulations, energy policies, and energy conservation goals established by southwestern and southeastern tribes. I have chosen these southern tribes because of the high renewable energy potential on their lands, particularly in wind and solar energy. The purpose of this study will be to determine how and by what methods tribes are trying to address energy issues in both the short and long term. The study will

sioned and removed. The modest amount of power generated by the two dams is no longer needed, thanks to alternate supplies from the North-west power grid.

In 2009, the American Recovery and Reinvestment Act included \$54 million for the removal of the Elwha River dams. This important infusion of funding will allow dam removal to begin in 2011.

**Benefits of Dam Removal**

Removing both dams will open over 70 miles of pristine salmon habitat. With 83 percent of the Elwha watershed protected within Olympic National Park, salmon have an especially high chance for recovery. The restored, free-flowing river is estimated to produce approximately 390,000 salmon and steelhead in about 30 years, compared with less than 50,000 fish if the dams were fitted with upstream and downstream fish passage facilities.

The November 1996 Final EIS found that significant economic benefits estimated at \$164 million over the 100 years following dam removal will be realized through increased recreation, tourism, and sport fishing.

Ultimately, it is impossible to put a price tag on a healthy river and thriving salmon runs.

For the lower Elwha Klallam Tribe, and for all of the people who will benefit from and enjoy the restored Elwha, the economic benefits are just part of the picture. The many cultural, spiritual, recreational and quality of life benefits a restored Elwha River will bring to the community and to future generations will be valuable beyond measure.

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**American Rivers**  
*Rivers Connect Us*

[www.americanrivers.org](http://www.americanrivers.org)

also investigate the impact of the DOE Tribal Energy program on ways tribes address energy issues. My research methodology will include a survey sent to tribal governments asking if they have developed a strategic energy plan, existing policies or regulations addressing sustainable energy development and consumption, and the organizational structure for managing tribal energy

resources. In addition, the study will include a review and classification of elements found in existing tribal strategic energy plans and energy policies. The classification will categorize different approaches within strategic energy plans and policies by how they link to other broad themes in planning.