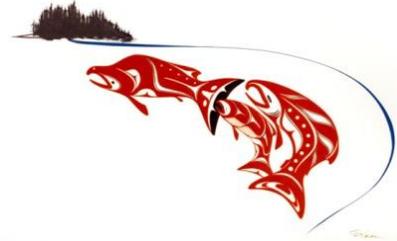


# Cascadia



## Restoration and Management News

The Newsletter of the Society for Ecological Restoration Northwest

October 2012

### Greetings from the Board!

Welcome to the fall edition of our newsletter. The board has been busy planning our 20<sup>th</sup> anniversary event, updating our website, and putting together a member survey to plan future events. Read below for details! Also check out the interesting articles written by two graduate students- one studying restoration practitioners' perceptions of the linkages between humans and nature, and the other sharing his experience with tidal marsh restoration.

### Save the Date! SERNW 20<sup>th</sup> Anniversary Event March 1, 2013 in Seattle, Washington

SERNW will be celebrating its 20<sup>th</sup> Anniversary with a special event on March 1, 2013, at the Mountaineers Program Center in Seattle, with a featured speaker (to be announced) and reception/party! Restoration Walks that highlight restoration projects around the region will also be held as part of our anniversary celebration. Volunteers are needed to help our program committee plan and organize the event. We welcome your involvement! Please contact Allison or Janice at [SERNW20@gmail.com](mailto:SERNW20@gmail.com).

### Member survey

The SERNW Program Committee has created a planning survey for the 2014 conference, which will be sent to all members during the second week of October. The goal of the survey is to gather information on the preferences prospective attendees have for the location and program components of the conference. We hope to get responses from across our diverse constituents: public and private restoration practitioners, academics, students, etc. When you receive the survey link please feel free to share it with your colleagues. Thanks in advance for your participation!

### SERNW 20<sup>th</sup> Anniversary 1993-2013- SERNW History- Second Installment

*Until our anniversary in June 2013, we will have quarterly articles on the history of SERNW. In this edition, we feature the second article from chapter president Allison Warner. If you have insights or knowledge to share about SERNW's beginnings or evolution, please contact Allison at [SERNW20@gmail.com](mailto:SERNW20@gmail.com)*

### SERNW TURNS 20 IN 2013, NORTHWEST FOREST PLAN TURNS 19

SERNW had its beginnings as the 1994 Northwest Forest Plan (NWFP) launched one of the largest conservation and restoration undertakings in the history of the nation. The Northwest Forest Plan amended 19 National Forest plans and 7 BLM plans within the range of the spotted owl. In all, 24 million

acres were encompassed within the NWFP, with over 15 million acres protected in Congressional and late successional reserves, with an additional 2 million acres in riparian reserves. The remaining “matrix” lands were placed under a new guiding principle of ecosystem management. The Northwest Forest Plan implemented a variety of strategies, including adaptive management, an Aquatic Conservation Strategy, late successional reserves, survey and manage programs, as well as watershed assessments.

The Aquatic Conservation Strategy is a comprehensive regional strategy to “maintain, restore, and protect *processes* (emph. added) and landforms that create good ecological conditions in watersheds.” Watershed restoration is a key component of the strategy, with four different federal agencies collaborating under the NWFP in “protecting and enhancing habitat for mature and old-growth forests and related species,” and “restoring and maintaining the ecological integrity of watersheds and aquatic ecosystems”. The nine objectives of the Aquatic Conservation Strategy are aimed at maintaining natural disturbance regimes in watersheds.

An interagency effectiveness monitoring program was established to assess watershed condition, late and old growth forest condition, tribal relationships, population and habitat for marbled murrelet and spotted owls, among other effects of the plan. Monitoring was established for watershed condition using measurable physical attributes such as road density or vegetative structure, linked to key watershed processes such as wood production and transport, or floodplain loss. The findings of the monitoring program have been reported at one, five, and ten year intervals.

The first ten years of NWFP monitoring was published in a series of reports and a synthesis report in 2005 and 2006, followed by a synthesis of 15 years of monitoring data (1994-2008) published in 2011. Monitoring of 240 projects occurred across the spectrum of land use allocations, from adaptive management areas to late successional reserves. The ten year report assessed 250 6<sup>th</sup> field watersheds by aggregating road, vegetation and in-channel data. This assessment found fifty-seven percent of the watersheds had higher conditions scores in 2003 vs 1994. Implementation of the watershed restoration component of the aquatic conservation strategy was also monitored. Between 1998 and 2003, over 3300 miles of road were decommissioned, and nine times more roads were decommissioned than were constructed, indicating the change in management activities. In addition to stream, upland, and prescribed fire treatments, over 68,000 acres of riparian treatments were implemented. In all, over \$90MM was spent on watershed restoration within the monitoring period. The fifteen year report (PNW-GTR-856) was based on an evaluation of 193 watersheds, with in-channel data such as substrate, large woody debris, pool frequency and macroinvertebrates collected between 2002-2009. Upslope and riparian condition were evaluated for 1,379 6<sup>th</sup> field watersheds, utilizing mapped data and GIS analysis. The in-channel condition within the watersheds was nearly divided between moderate (35%) and high (41%), with 11% in the low to very low category. Temperature was the most influential in low scoring watersheds, with aquatic vertebrate populations also a contributing factor. As is well-known, spotted owl have continued to decline during this entire period.

The first ten year synthesis report is available at: <http://www.fs.fed.us/pnw/publications/gtr651/>. All of the reports, including underlying data and work of the Interagency Monitoring Program for the Northwest Forest Plan are available at <http://reio.gov/monitoring/index.shtml> as well as excellent links to diverse agency monitoring protocols and programs at: <http://reio.gov/monitoring/links/watershed-links.shtml>. A fact sheet overview of the Northwest Forest Plan and its goals and workings is available at: <http://www.reio.gov/general/aboutNWFP.htm>. Steve Lanigan is the USFS Team leader for the Pacific Northwest Region Resource Planning and Monitoring Program and may be reached at: [slanigan@fs.fed.us](mailto:slanigan@fs.fed.us). We hope to be hearing results for the 20 year monitoring assessment at our 2014 biennial conference!

## New SERNW website

As part of a broader update of all SER chapter websites, SERNW is currently in the process of creating a new website. This site will provide our members with news of upcoming events, information about employment and grant opportunities for restoration practitioners and researchers, and access to the library of SERNW publications and proceedings.

Bookmark us at [sernw.org](http://sernw.org), and stay tuned for exciting changes to the site in the near future!

## An Exploratory Study of Current Restoration Worldviews in the Pacific Northwest

*Marissa Matsler is a PhD student in the Ecosystem Services for Urbanizing Regions program at Portland State University. Here she shares results from a survey she conducted at the **Restoration 2012: Beyond Borders conference** in May 2012.*

At the 2012 SER-NW conference, I conducted a survey of conference participants as part of a pilot study that explores practitioners' perceptions of the linkages between humans and nature, as well as perceptions of ecological theory. Of particular interest were reactions to the concept of "novel ecosystems" and the degree to which humans were considered separate from ecosystems in general.

This initial survey phase utilized Q-method, a survey methodology in which participants rank and prioritize statements (as shown in Figure 1) gathered from peer-reviewed and popular literature. Statement

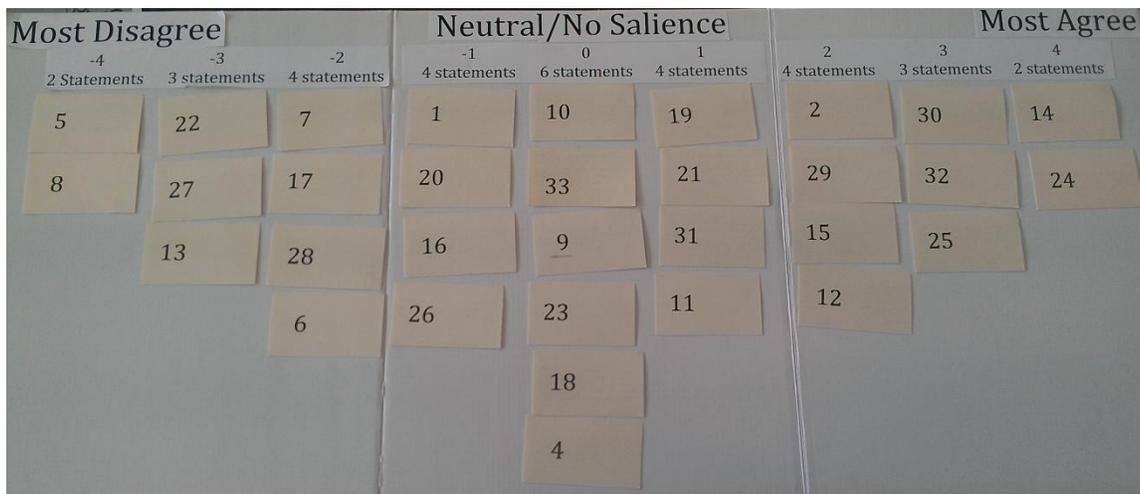


Figure 1: A completed Q-sort survey. Each number represents a different statement regarding the restoration process; Participants place them along the spectrum in a forced Gaussian distribution, as shown, making prioritization of statements necessary beyond an "agree" or "disagree".

prioritization, beyond agreement or disagreement, gives the researcher an understanding of the trade-offs an individual makes between different concepts. Overwhelmingly, survey participants coalesced around the same points of disagreement; in other words, there was high agreement around what the restoration process was not. For example, nearly all participants (80%) prioritized the concept that nature was somehow inefficient, and therefore humans could improve upon it through restoration, in the strongly disagree category. This implies a specific understanding of restoration as within the bonds of natural

processes; a restoration project was not a “new” or “improved” system, but was described by participants during follow-up interviews as a “natural” system.

Statements that the participants’ strongly agreed with were much more diverse. Approximately 20% of participants prioritized with each of the following concepts in the strongly agree category: 1) human actions can “reinforce ecosystem health and sustainability,” 2) using historic baselines is “increasingly problematic due to global climate change, invasive species, and human perturbations,” 3) dynamic equilibrium rather than stasis is a goal of restoration, and 4) “restoration success should not be viewed as an all or nothing single endpoint, but rather as an adaptive process.” These responses acknowledged some of the dynamism that is expressed in the “novel ecosystem” concept.

The statements that explicitly discussed humans’ place in nature elicited nuanced responses from participants. A statement referring to humans as “undeniably a part of nature” elicited the most neutral response of all the statements, never being prioritized outside of a neutral category. But, intriguingly, the statement that “humans are animals” appeared in both the strongly agree and strongly disagree categories. This implies that practitioners have contradictory opinions regarding the human/nature dichotomy. Future research will continue to refine the survey instrument to address these contradictions, as well as relate survey/interview data to both restoration management plans and on-the-ground outcomes of restoration projects.

Examination of the theoretical underpinnings of the ecological restoration process has become increasingly important as the field continues to professionalize with degree and certificate granting programs, and as more and more funds are spent on restoring both urban and rural ecosystem services. To understand the relationship between worldviews and on-the-ground outcomes, survey data like those collected at the SER-NW conference will ultimately be paired with a review of restoration management plans and site visits, as well as extensive interviews with managers. An understanding of the ecological worldviews influencing the process in general can illuminate areas of disagreement that impede the development of successful restoration projects, and can be used within the adaptive management process to stream-line restoration. I would like to thank the SER-NW conference organizers for welcoming me in Victoria and for graciously allowing me to complete my survey during the course of the conference!

## **Bandon Marsh Restoration Experience**

*Ben Wishnek is a MS student in the Environmental Science program at Oregon State University. Here he shares his experience working on a tidal marsh restoration project at Bandon Marsh.*

At the end of 2010 I was concluding my second AmeriCorps term, not quite sure of my next move. While browsing the Texas A&M job board I found my dream job. The position was a ‘Wildlife Biology Specialist’ working on a tidal marsh restoration project at Bandon Marsh National Wildlife Refuge on the Oregon Coast. Fortunately I was selected for the position and moved to Bandon in January 2011. The main focus of my job was to conduct avian distance sampling surveys on the refuge to monitor the response of the avian community to the restoration project. Other projects I took part in included: herptile surveys, fish surveys, water quality monitoring and a seabird predation and disturbance study. I hope to give you a brief introduction to the project below and encourage you to visit the site to get a first-hand look at the restoration efforts.

### ***The Restoration Project***

During the last 150 years over ninety percent of the estuary habitat in the Coquille River system on the Southern Oregon coast has been lost or altered due to anthropogenic activity such as agriculture and navigation for ships. A portion of this degraded estuary habitat is included in Bandon Marsh National

Wildlife Refuge (BMNWR). BMNWR is comprised of the Bandon Marsh and Ni-les'tun units. The majority of existing tidal marsh habitat in the Coquille river estuary is in the Bandon Marsh unit of the BMNWR. The ~ 400 acre Bandon Marsh unit is an important stopover for migrating shorebirds in the spring and fall as well as wintering waterfowl on the Pacific flyway. The Bandon Marsh unit's close proximity to the Ni-les'tun unit makes it an ideal reference site for comparison with the restored site. The 418 acre Ni-les'tun unit was formerly a tidal marsh and was diked and drained for agricultural purposes in the early 20th century. The land was acquired by the US Fish and Wildlife Service (USFWS) between 2000 and 2004 to be restored to its historic tidal marsh state. In 2009 and 2010 eleven miles of agricultural ditches were filled, and five miles of new tidal channels were excavated and enhanced with large woody debris. Construction was completed in August 2011 with the removal of the outer dikes and tidegates, permitting the return of the tides. The restoration project on the Ni-les'tun unit has more than doubled the amount of tidal marsh habitat for the Coquille River estuary and is the largest tidal marsh restoration to date in the state of Oregon.

### ***A very busy summer***

After settling in to my position during the winter and spring 2011, the pace picked up considerably as summer began. The road contractors began to reconstruct the refuge entrance road on 7 July 2011 and the marsh contractors began to move their heavy machinery in a couple weeks later. For the next couple months my weekly bird surveys were quite an adventure having to navigate around the heavy machinery on the road and on the marsh.

Transportation on the main road was impacted and I spent a considerable amount of time waiting to get back and forth when my work took me off of the restoration site. Although the waiting was not fun it allowed me to develop relationships with the flaggers and construction workers. I let them know about the work that was going on and they were soon asking me about what bird species I had seen that day or what amphibians had crawled into my traps overnight.

At the end of July we hosted two PhD students from the Beijing Forestry University in China to learn about restoration practices in the U.S. They lived on site in the refuge bunkhouse for one month and were able to see the majority of the 2011 restoration ground work being completed. All of the staff at the refuge (including myself) had an enriching summer learning about natural resource management in China as well as Chinese culture in general. It was a mutually beneficial experience in that we enjoyed teaching them about our natural resource management practices and our culture.

### ***An exciting fall***

During Fall 2011 I had the pleasure of watching the site change in response to the inundation of salt water. New mudflats close to the river hosted a variety of foraging shorebirds. Channels in the marsh were full of many species of migratory waterfowl much to the delight of our resident Peregrine falcons (and the refuge staff as well)! Wading birds were seen frequently foraging in areas of the marsh they had not prior to tidal inundation. Finally, the composition of the fish community began to look more like that of a salt marsh with salmonids, surf smelt, northern anchovy, shrimp and dungeness crab all being caught during fish surveys in the marsh.

Personally, I was sad to see my term at Bandon Marsh National Wildlife Refuge end in December 2011, but am very grateful to refuge staff and partners who made it such a great experience.

### ***Update as of Fall 2012***

During February 2012 I was fortunate to get a SCEP position with the USFWS Region 1 Inventory and Monitoring program and work out of Vancouver, WA over the past summer. As a USFWS employee over the summer I was able to visit the project three times; twice for fish surveys and once for a Birding Festival.

Returning to the marsh after a seven month absence was quite rewarding. High water during the winter months combined with tidal action began to erode many of the channel sides that were dug by excavators and redistribute large woody debris throughout the marsh. The fish community continued to shift to resemble the heightened marine influence of the Pacific Ocean. Great numbers of marine fish species such as surf perch, saddleback gunnelfish and starry flounder were observed in the restored area. Numbers of Dungeness crab greatly increased, as exemplified by one of the fyke nets that caught 600 juveniles in 24 hours (two tide cycles)!

As of fall 2012 I began a Master's Degree program at Oregon State University. As part of my master's work I am hoping to analyze some of the bird data to determine the avian community response to the project. I am looking forward to visiting the refuge as often as possible in the coming years to watch the transformation to its historic tidal marsh state.

To see the restoration blog and photo gallery please visit:

<http://www.fws.gov/oregoncoast/bandonmarsh/restoration/index.cfm>

For more on Bandon Marsh National Wildlife Refuge and the Oregon Coast National Wildlife Refuge Complex please visit:

<http://www.fws.gov/oregoncoast/bandonmarsh/index.htm>

<http://www.fws.gov/oregoncoast/index.htm>

<https://www.facebook.com/#!/usfwsoregoncoast>

This video was shot from an ultra light during the summer construction in 2010:

<http://www.youtube.com/watch?v=D2Fa6L6-ztk&feature=endscreen&NR=1>

This is a video put together for the dedication ceremony on 1 October 2011 by one of our partners, Ducks Unlimited:

<http://www.youtube.com/watch?NR=1&v=Dgyta4TDaEc&feature=endscreen>

This is a video from the dedication ceremony on 1 October 2011:

<http://www.youtube.com/watch?v=x6vDm6gR81U>

## **SERNW Student Chapters Update**

### **Portland State University Student Guild**

Portland State University's student guild continued work in the Community Orchard over the summer. In addition to hand watering all the plants, they are designing a sustainable irrigation system and are fostering king stropharia and oyster mushrooms for orchard mycoremediation. In mid-October, the guild is sponsoring a camping trip to Tillamook State Forest, and is in the process of acquiring a permit to harvest indigenous shrubs and saplings for use in small restoration projects on campus, as well as other locations requesting or requiring native plants. They are looking for anyone who is knowledgeable in any aspect of ecological restoration and willing to come speak with the group, lead an information session or workshop, or provide advice through correspondence. Contact [John Curtain](#) if you would like to contribute or get involved.

## Submittals are requested for Restoration Highlights

**Restoration Highlights** is a feature on our website for members to share their projects' successes and learnings. We accept case studies, student research summaries, and restoration updates. You can find the submittal guidelines on our website [sernw.org](http://sernw.org). We would like this to be a monthly feature, so please send in your articles!

### Current Restoration Update:

*Restoring shrub-steppe habitat in Okanogan County: Happy Hill shrub-steppe restoration case study* by Jim Olsen and Richard Tveten

[Restoration Highlights](#)

**SERNW is on facebook! Like us at [SERNW!](#)** Any member can share items of interest on the facebook page, but you can also submit topics to [SERNW20@gmail.com](mailto:SERNW20@gmail.com).

*Your Strategic Communication Team,*

*Allison Warner, Adrien Elseroad, and Jim Hallett*

P.S. Don't forget to renew your membership on the [SERNW](#) webpage.