EXECUTIVE OFFICER'S REPORT

North Coast Regional Water Quality Control Board
March 2017

Leave it to Beaver? Not necessarily

Jonathan Warmerdam

Northern California's restoration community has been undergoing a bit of an evolution as it experiments with a relatively new restoration technique known as the "beaver dam analogue", or BDA for short. BDAs are humanity's attempt to replicate the naturally occurring benefits of beaver dams provided by the historically abundant populations of North American Beaver (*Castor canadenses*).

It is estimated that North American Beaver populations ranged from at least 55 million (Pollock et al. 2003) to as high as 400 million (Butler 1995) at the time of first European contact. Once hunted to near-extinction, present day beaver populations remain depleted compared to historic numbers as a result of past fur-trapping and removal of beaver from the landscape to allow increased agricultural activities in lowland areas. The cumulative loss of millions of beaver dams has dramatically affected the hydrology, ecology and sediment dynamics of stream systems. However, today beaver populations are rebounding throughout North America, with the population estimated to be about 10 million and reoccupying most its former range (Naiman et al. 1988).

Beaver are sometimes referred to as "ecosystem engineers" because of their tendency to conduct large-scale alterations to the aquatic landscape through dam construction that can enhance stream, wetland, floodplain, and riparian habitat and function. Beaver dams alter the hydrology and geomorphology of stream systems. They measurably influence the rates of groundwater recharge and of stream discharge; they retain enough sediment to cause measurable changes in valley floor morphology; and they enhance stream habitat quality for many fishes. These ecosystem benefits have gained much attention over the past decades, and the effects of beaver dam construction to restore incised stream channels, rehabilitate mountain meadows, increase floodplain inundation, improve fish rearing habitats, and enhance groundwater recharge, have not gone unnoticed by the restoration community.

In the interim, restoration ecologists experimenting with BDA construction techniques have shown this to be an effective measure to gain many of the same natural benefits of dams created by wild beaver populations.

BDAs are channel-spanning structures that mimic or reinforce natural beaver dams. BDAs are constructed with material that is similar to what beaver use to build their dams; non-chemically treated posts are driven into the streambed then interwoven with willows and branches and successive layers of substrate and fine-material to achieve the desired level of flow permeability and upstream pool depth. As such, they are semi-porous to water, sediment, fish and other water-borne materials.

Figure 1: BDA constructed by the Scott River Watershed Council on Sugar Creek.

Like natural beaver dams, BDAs are biodegradable, temporary features on the landscape with functions that change in response to the effects of flowing water, sediment and beaver activity (Pollock 2012). Also like natural beaver dams, BDAs function best when constructed in sequence, such that the structures work in concert with each other.

Although BDAs have been constructed in Oregon and Washington for several decades, this technique is relatively new within the watersheds of the North Coast region. But the resulting positive effects on stream habitat, increased habitat for aquatic organisms, and increased surface flows are gaining attention. In some situations, construction of BDAs has jump-started the process that a beaver needs to recolonize an area, by providing the infrastructure in a disturbed system that they can take over and manage on their own.

In the Scott River valley, the Scott River Watershed Council (SRWC) has been working diligently to utilize BDAs to improve habitat conditions in several drainages. Starting in 2014, the SRWC was first permitted to install six different BDAs in different parts of the watershed. Working closely with Dr. Michael Pollock of the National Marine Fisheries Service – one of the primary authors of the *Beaver Restoration Guidebook* - the SRWC was able to design and install BDAs in the Scott River (see figure 1) and on a variety of different streams in the watershed.

Prior to construction of the BDAs, several of the Scott River streams provided only minimal fisheries habitat, or were subject to drying out on an annual basis. But following construction, the SRWC was able to create new ponded areas that maintained water throughout some of the driest years on record, enhancing riparian habitat, providing refugia and rearing habitat for juvenile coho salmon and steelhead trout.

North Coast Water Board staff has worked closely with the SRWC as they implemented this first round of BDAs within in a landscape including agriculture,

ranching and private land ownership. There has been a lot learned from the process, as the SRWC and the state and federal agencies overseeing these projects worked closely to align expectations, coordinate permitting, and learn firsthand about this new restoration technique. The SRWC and permitting agencies have had to work together to learn how to adaptively manage the BDAs, as they are often compromised during the winter period and can cause channels to change unexpectedly, much like a natural beaver dam.

The SRWC's persistence and leadership with these experimental techniques, with the guidance of Dr. Pollock, and participation from local landowners, has been very important. By continuing to advance these techniques and learn from the regulatory process, the SRWC has helped provide California's restoration community with a new tool for habitat improvement.

During the winter of 2015-16, one of the BDAs on Sugar Creek was partially compromised due to high winter flows and needed repairs. The SRWC notified the permitting agencies of the condition at the BDA, and requested authorization to reconstruct the failed portion during the summer of 2016. Meanwhile, as the permitting authorizations were slowly moving forward, a beaver moved into the area and did the repair work on its own (see figure 2 on next page), and has been maintaining the structure ever since.

In December 2016, the North Coast Water Board permitted the future construction of a second round of BDA construction on a side-channel adjacent to French Creek. The SRWC intends to hold a workshop in 2017 to share the lessons learned from their experiences, and will include a hands-on construction component to install the French Creek BDAs.

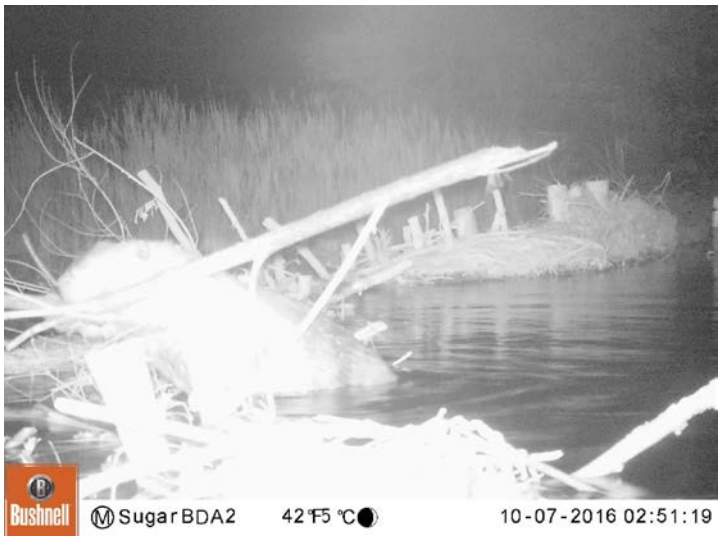

Figure 2: Beaver repairing a compromised BDA on Sugar Creek.

Butler, D.R. 1995. Zoogeomorphology: Animals as Geomorphic Agents. Cambridge University Press, New York.

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Evaluating the Cost of Compliance

Mona Dougherty

On September 24, 2013, the State Water Board adopted Resolution No. 2013-0029 Directing Actions in Response to Efforts by Stakeholders on Reducing Costs of Compliance While Maintaining Water Quality Protection (Resolution). The Resolution presented findings on efforts by Water Board staff and stakeholders taken from 2011 through 2013 to assess Water Board priorities, resources, and performance targets, evaluate costs associated with regulatory program activities, and identify potential cost savings.

These efforts led to presentation of a workplan on assessing opportunities for reducing the costs of compliance for dischargers subject to Water Board oversight under the National Pollutant Discharge Elimination System (NPDES) Wastewater and the NPDES Storm Water permits, Waste Discharge Requirements, and the Irrigated Lands Regulatory Permits. State Water Board staff met with stakeholders in the above programs, and identified their need for additional time and data to finalize their recommendations prior to presentation to the State Water Board.

The NPDES wastewater stakeholder group presented their recommendations to the State Water Board to reduce costs while simultaneously focusing agency resources to actions providing the most direct benefit to improving water quality. The recommendations include (1) reducing the frequency of Sanitary Sewer Overflows (SSOs), (2) eliminating duplicative SSO requirements in NPDES permits and the SSO General WDRs, (3) reducing monitoring requirements for parameters consistently in compliance, (4) encouraging surrogate monitoring and eliminating unnecessary reports, (5) providing consistent guidelines for the use of regulatory tools to relax effluent limitations, (6) establishing a process to evaluate the costs of compliance for future regulatory actions, and (7) implementing a phased approach to compliance with statewide water quality objectives and Total Maximum Daily Loads (TMDLs).

In response, in the Resolution the State Water Board included directions to Water Board staff to (1) streamline SSO reporting requirements, (2) identify and remove duplicative monitoring and reporting requirements in existing permits, (3) promote use of surrogate or representative monitoring (i.e., group

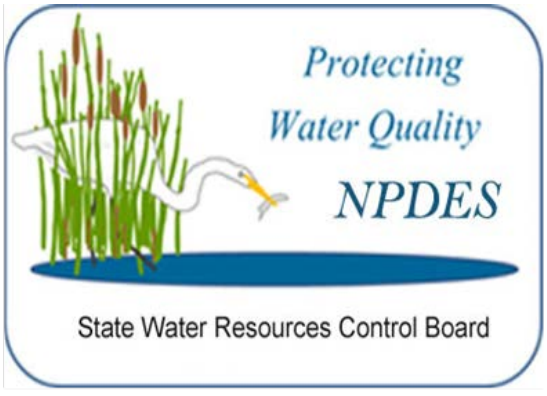
or regional monitoring), and (4) document in a permit fact sheet the need and value of any special reports. The State Water Board also resolved to request assistance from the United States Environmental Protection Agency (USEPA) to convene workshops or training events to facilitate a common understanding of the use of water effects ratio studies and mixing zone or dilution credit studies.

Since then, State Water Board staff working with the NPDES wastewater roundtable has developed a checklist for use by NPDES permit writers to evaluate the cost of compliance including such considerations as allowing participation in a regional monitoring program, allowing collaborative study efforts, reducing monitoring frequency based on positive history of compliance, adjusting monitoring and reporting frequency, evaluating the appropriateness of surrogate monitoring, and considering the need for stakeholder involvement. A small community wastewater strategy is also being developed as part of this effort to assist small disadvantaged communities with wastewater compliance. One of the strategies being developed for small communities is a 2014 contract with Rural Community Assistance Corporation (RCAC) to provide wastewater related technical assistance to small communities.

While development of these strategies is ongoing, North Coast Water Board staff are working with our regulated communities and incorporating these concepts into permits, including these examples:

- Collaborating with Russian River NPDES municipalities in developing a regional monitoring program,
- Securing contract funding for development of the Russian River Regional Monitoring Program,
- Promoting a Humboldt Bay regional monitoring program to Humboldt Bay NPDES municipalities,
- Reopening NPDES permits as soon as feasible to incorporate revised effluent limits based on approval of a water effects ratio study that determines a site specific water quality objective (primarily copper),
- Removing SSO requirements in NPDES permits that are similar to those in the General SSO WDRs,
- Recommending that Eel River NPDES municipalities collaborate on USEPA-required studies to identify the presence or absence of fresh water mussels that will determine the applicable ammonia criterion for use in their NPDES permit,
- Reducing frequency of monitoring for constituents with consistent compliance,
- Reducing frequency of submittal of self-monitoring reports from monthly to quarterly,
- Minimizing the inclusion of special studies in NPDES permits,
- Identifying small communities in need of assistance for RCAC technical funding, and connecting communities with applicable funding programs.

More information about the Cost of Compliance Project can be found at: http://waternet.waterboards.ca.gov/dwq/npdes/compliance/index.shtml



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Wine, Beverage and Food Processor (WBFP) Wastewater Program

Rhonda Raymond

There are over 200 known wine, beverage, and food processor (WBFP) facilities located within the North Coast Region that produce process wastewater. Historically, the Regional Water Board issued individual Waste Discharge Requirements (WDRs) for WBFP wastewater treatment and disposal systems discharging process wastewater to land. Beginning in 2002, wine processors with similar wastewater treatment and disposal systems were allowed to enroll under a General WDR Order for Discharges of Winery Waste to Land, Regional Water Board Order No. R1-2002-0012 (General Winery Permit).

To address the increasing number of WBFP facilities being proposed and constructed in the North Coast Region, Regional Water Board staff worked with stakeholders, and developed General Waste Discharge Requirements (WDRs) and a Conditional Waiver of WDRs for wine, beverage and food processor (WBFP) wastewater systems discharging to land. The General WBFP WDRs and Conditional Waiver of WDRs Orders were adopted by the Board in January 2016. These Orders replace the General Winery Permit (Regional Water Board Order No. R1-2002-0012) for wineries, and expands permit coverage to other beverage and food processors including, but not limited to, breweries, distilleries, cheese processors and olive oil manufacturers.

Enrollment of WBFP facilities is underway. To date, ten facilities will have received a Notice of Coverage letter enrolling them under the Conditional Waiver. Other applications are incomplete, and staff are currently working to assist those applicants, along with contacting those wineries that are currently regulated under the General Winery Permit and informing them of the requirement to enroll under the Conditional Waiver or General WBFP WDRs by the end of March 2017. By the end of the summer of 2017, staff plan to contact the remaining known breweries, distilleries, cheese processors and olive oil manufacturers in the North Coast region to compel their enrollment in the Conditional Waiver or General WBFP WDRs.

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Russian River Watershed Association Environmental Column – February 2017

Our Watershed, Our Home, Our Future

This article was authored by James Gore, Sonoma County Supervisor and Dan Hamburg, Mendocino County Supervisor, on behalf of RRWA. Reprinted with permission.

"A watershed is a marvelous thing to consider: This process of rain falling, streams flowing and oceans evaporating causes every molecule of water on Earth to make the complete trip once every two million years. The surface is carved into watersheds – kind of a familial branching, a chart of relationship, and a definition of place. …. The watershed gives us a home and a place to go upstream, downstream and across in." **Gary Snyder, 1993**

Using any measure, our "home," the Russian River watershed, is spectacularly diverse. From the headwaters north of Ukiah to the rugged coast at Jenner, the 1,485 square miles that comprise the Russian River watershed includes species ranging from steelhead to bald eagles; from pygmy oaks to giant redwoods. It includes two counties, eight incorporated cities and towns plus multiple hamlets (Hopland, Geyserville, and Occidental to name a few). The watershed includes dairy farms, vineyards, marijuana gardens, food processors, breweries, high-tech businesses, forever-preserved open spaces, artist studios, classrooms, acres of parks and thousands of miles of streets, roads and highways.

Living in such an ecologically and economically prosperous community, it's easy to pat ourselves on the back for enjoying what people in other watersheds wish they had. But even paradise isn't perfect: There are pockets of poverty in our communities. Some of our most iconic species, like the coho salmon, are on the endangered species list. The Russian River itself is listed for water quality problems, and the upper and middle reaches of the river have only a few places where people can swim and recreate.

Critically, the watershed faces new challenges in light of climate change. More frequent droughts will require planning to ensure there is reliable, resilient sources of water for nature, people and farms. Larger, wetter storms require planning to reduce flood risk.

Organizations like the Russian River Watershed Association (RRWA) are working to address current water quality problems and prepare for the future. But the cities, counties and special districts that comprise RRWA can't do it alone. The challenges far exceed the resources and purview of local government.

To help meet these challenges, a group of non-profit organizations, tribes, and government agencies have joined together to create a vision for the future of the Russian River watershed: the Sonoma, Gold Ridge and Mendocino County Resource Conservation Districts, LandPaths, Russian River Keeper, Pepperwood Preserve, Ya-Ka-Ama, the Mendocino and Sonoma County Farm Bureaus, multiple County agencies, and others. Additionally, many of the individuals involved in this effort spent 10 days last summer and fall paddling the Russian River from its headwaters to the ocean in order to better understand the river.

The vision developed by this group will be shared on Friday, March 24 at the Russian River Confluence. Creating a vision is easy. Developing – and carrying out – an action plan to achieve the vision will require hard work and commitment from people and organizations throughout the watershed. Envisioned to culminate and inspire a series of "beyond sustainability" conversations, the Russian River Confluence intends to tap the collective capacity of the Russian River watershed community. Join us in making our "home" a welcoming place for future generations. Go to http://russianriverconfluence.org/ if you are interested in learning more about this unique event.

RUSSIAN RIVER confluence

Russian River Confluence
Shone Farm, Forestville, CA
March 24, 2017

The Russian River Confluence is a unique event envisioned to culminate and inspire a series of beyond sustainability conversations and gatherings intended to tap the collective capacity of the Russian River Watershed community.

The Russian River Confluence will engage you as a stakeholder in the watershed, encourage storytelling and identify actions to promote a holistic approach to the watershed that ensures its resiliency and renewal. We invite you to join us in sharing your expertise, creativity and forming lasting partnerships.

Presented by the County of Sonoma, Economic Development Board, Regional Parks, Sonoma County Agricultural Preservation and Open Space District, Sonoma County Water Agency, Sonoma Resource Conservation District, Gold Ridge Conservation District, LandPaths, Russian Riverkeeper, Dry Creek Rancheria, and The Story of Place Institute.

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Enforcement Report for March, 2017 Executive Officer's Report

Diana Henrioulle

Date Issued	Discharger	Action Type	Violation Type	Status as of February 13, 2017
1/9/17	Steven Westbrook	NOV/ 13267 Order	Unauthorized Discharge	Ongoing

Comments: On January 9, 2017, the Assistant Executive Officer (AEO) issued an NOV/13267 order to Steven Westbrook for unauthorized discharges of waste to waters of the state. On a September 16, 2016 multi-agency inspection, Regional Water Board staff observed evidence that manure, trash, animal carcasses, and dredge/fill material had been placed into waters of the state (Islas Slough, Smith River and wetlands). The discharger is directed pursuant to Water Code section 13267 to provide a technical report, including a hydrological report, wetlands delineation, historical information, and work plans, by April 6, 2017. This matter is ongoing.

Date Issued	Discharger	Action Type	Violation Type	Status as of February 13, 2017
1/13/17	Allan Bongio Construction, Inc.	NOV	Unauthorized Discharge	Resolved

Comments: On January 13, 2017, the Point Source and Groundwater Division Chief issued an NOV to Alan Bongio Construction, Inc. for unauthorized discharge of sediment or earthen material to Jolly Giant Creek, waters of the state. The discharge occurred from the Mary Court subdivision, under construction in the City of Eureka. The discharger failed to stabilize the northern section of the construction area leaving a large area exposed to the elements. Subsequent observations by staff documented evidence of excessive erosion and transport of sediment offsite and into a tributary of Jolly Giant Creek. The discharger corrected the problems and no further action is required.

Date Issued	Discharger	Action Type	Violation Type	Status as of February 13, 2017
1/13/17	Ronald Denison	NOV	Failure to enroll Timber Harvest Plan	Resolved

Comments: On January 13, 2017, the Nonpoint Source and Surface Water Protection Division Chief issued an NOV to Ronald Denison for failure to enroll a Timber Harvest Plan for coverage in the timber harvest regulatory program. Upon receipt of the NOV, Mr. Denison submitted enrollment paperwork. No further action is required at this time.

Date Issued	Discharger	Action Type	Violation Type	Status as of February 13, 2017
1/19/17	The Ratto Group	NOV	Unauthorized Discharge	Ongoing

Comments: On January 19, 2017, the Point Source and Groundwater Protection Division Chief issued an NOV to The Ratto Group for failure to cover exposed waste and recyclable materials and for unauthorized discharges of partially treated storm water to waters of the state. The Permittee provides recycling and collection services to both commercial and residential customers in Sonoma, Marin and Mendocino Counties. The Permittee currently treats storm water runoff from the Facility located at 3417 Standish Ave., Santa Rosa, CA using an advanced storm water treatment system. On October 17, 2016, a consultant for the Permittee contacted the North Coast Regional Water Board staff to report the non-operational status of the treatment system. The treatment was still shut down as of the date of the NOV. On October 16, 2016, staff conducted a drive by inspection of the Facility and observed exposed and recyclable materials. The Facility currently stores waste and recyclable materials collected in an uncovered outdoor area. During rain events, stored waste and recyclable materials are exposed to storm water resulting in the discharge of pollutants from the Facility. This matter is ongoing.

Date Issued	Discharger	Action Type	Violation Type	Status as of February 13, 2017
1/24/17	John P. and Claudia Lima Landis 4 Partnership	NOV	Failure to obtain coverage and file a Report of Waste Discharge for a Timber Harvest Plan	Ongoing

Comments: On January 24, 2017, the Nonpoint Source and Surface Water Protection Division Chief issued an NOV to John P. and Claudia Lima Landis 4 Partnership for failure apply for coverage under the General Waste Discharge Requirements for Timber Harvest Activities on Non-Federal Lands in the North Coast Region (GWDR) (Order No. R1-2004-0030), the Categorical Waiver (Order No. R1-2014-0011), or an individual WDR or waiver. On October 25, 2016, CAL FIRE notified Regional Board staff that they inspected the Timber Harvest Plan and observed numerous water quality violations. On November 2, 2016, CAL FIRE issued an NOV to Licensed Timber Operator John Lima for violations of the Public Resources Code. An inspection by Regional Water Board staff on November 16 2016, found some repairs implemented but additional repairs still remaining to be completed when the road system dries out. On December 5, 2016, an application was received but incomplete. On December 9, 2016, a completed application was received and was enrolled under the GWDR on December 12, 2016. The NOV requires all corrective actions and mitigations described in the CAL FIRE's NOV must be fully implemented no later than July 31, 2017. This matter is ongoing.

Date Issued	Discharger	Action Type	Violation Type	Status as of February 13, 2017
1/26/17	Sonoma Soil Builders, LLC	NOV	Unauthorized Discharge	Resolved

Comments: On January 26, 2017, the Point Source and Groundwater Division Chief issued an NOV to Sonoma Soil Builders, LLC for failure to cover piles of soil resulting in an unauthorized discharge to waters of the state. On December 13, 2016, during an unannounced inspection, staff noted

significant piles of soil amendments sitting uncovered, with leachate and retained storm water from a previous rain storm event slowly migrating to several onsite and offsite storm drain inlets. Low grade filter fabric bags in drain inlets were full and being bypassed by discharge runoff. The discharger has corrected the violations, and no further action is required.

Date Issued	Discharger	Action Type	Violation Type	Status as of February 13, 2017
2/3/17	Leo and Alyce Casssa	NOV	Failure to obtain coverage for Timber Harvest Operations	Resolved

Comments: On February 3, 2017, the Nonpoint Source and Surface Water Protection Division Chief issued an NOV to Leo and Alyce Casassa for failure to obtain coverage for timber harvest operations. The dischargers have provided enrollment information. No further action is required.

CALIFORNIA
Water Boards