

Level Up Audio Project, Season 2

Episode 2: A Multi-Benefit Project in Eureka, California

Voice Over: Welcome to Level Up, a FEMA audio project for practitioners where communities share their stories and expertise about building resilience and reducing risk from a disaster. The Redwood Community Action Agency, RCAA, a nonprofit organization in Eureka, California, has led the Martin Slough Enhancement Project since 2001. By restoring natural channel functions and rehabilitating riparian and wetland habitat, the project supports fish populations and reduces local flooding. This is known as a multi-benefit project. In this episode, we learn about the dynamic opportunities presented by multi-benefit projects, and how multiple agencies and jurisdictions can achieve big picture outcomes together. Our interviewer, Emily Breen, a community planner for FEMA Region 9, will talk with Morguine Sefcik. Morguine has worked at RCAA since 2003, and became project manager for the Martin Slough Enhancement Project in 2018.

Morguine Sefcik: The Martin Slough Enhancement Project has the goal of reducing flood and providing ecological benefits to the Martin Slough watershed. And its headwaters are in a forested portion of eastern Eureka, and it flows through residential areas, and down into the lower lands. It starts to flow through the Eureka Municipal Golf Course property, which is owned by the city of Eureka. And then it continues downstream through the North Coast Regional Land Trust property, before it enters Elk River. And then out into the Humboldt Bay and the Pacific Ocean. The North Coast Regional Land Trust property is leased to a cattle rancher, it's agricultural land. The community wanted to see this project happen, because the landowners were asking if there was anything that could be done to reduce the flooding on their properties. The golf course was operated by a golfing managing company, and they saw a lot of flooding on their property. In addition, the downstream agricultural land was often flooded in our heavy winter rain season. And so the activities on those lands were impacted greatly. The first phase of construction actually started in 2014, and that was with the replacement of the tide gate structure at the mouth of Martin Slough. And then the enhancement work in the channel and the off-channel ponds continued upstream, starting in 2018.

Emily Breen: Can you tell us a little bit about why the tide gates were an important component to the project?

Morguine Sefcik: Yes, that was really a big part of the issue they were having with flooding and with fish passage. The tide gate structure that previously existed was two old culverts that were rusting and dilapidated, and they were undersized for the flows in Martin Slough, the winter flows. This new tide gate structure was

designed to increase the outflow capacity of Martin Slough by approximately three times as much as the old structure. It also had the capability of allowing a muted tide to move into Martin Slough, so that allowed more sediment flushing and increased the opportunity for fish and other aquatic organisms to move in and out of Martin Slough.

Emily Breen: Can you talk a little bit about how the channel deepening was important to reducing that flood risk?

Morguine Sefcik: The channel enhancement involved a large amount of sediment excavation, and the channel was widened and deepened from the tide gate all the way up to the top of the golf course property. In addition to just the channel being enlarged, there were salt marsh planes designed, which helps reduce flooding. The design plans involved deepening and enlarging the existing ponds, and then creation of three new ponds. We've seen the golf course and the North Coast Regional Land Trust has seen a reduction in flooding since our first winter following construction. And the ponds are helping hold those big winter rains.

Emily Breen: It sounds like it's reducing flooding sort of in two ways. One, it's because you've moved a lot of that sediment out of the channel, water can move a little more freely, sort of in and out of that area. And then in addition, you've got these new ponds or deepened ponds, which sort of allow for more retention during these big rains?

Morguine Sefcik: Yes.

Voice Over: The tide gates and channel improvements have not only reduced the flooding issues. They've also provided habitat for endangered species.

Emily Breen: Tell us a little bit about the benefits that this project has brought to fish and other aquatic species.

Morguine Sefcik: Juvenile coho salmon, they are not born in Martin Slough, but they move in there from Elk River, other tributaries of the Elk River, and they spend the winter there and have a really nice place to grow and get stronger before they head out to the ocean. This kind of project has been shown to really increase juvenile coho growth and increase their chances of survival. Most of the channel was choked with grasses. This project has, with the widening and deepening of the channel, all those grasses, a lot of it's non-native, have been removed and replanted with native riparian corridors along the edges, providing shade, just great food for the macro-invertebrates, which is food for the fish. We put in large wood habitat structures, and they provide really great habitat for the fish in the summer, and in winter where it slows, the water slows down, and it's cooler, and there's shade, and they can stay out of reach of birds and other predators. California Department of Fish and Wildlife conducted monitoring in Martin Slough and started finding juvenile coho in some of the off-channel ponds. And so that was really exciting. And in addition to the juvenile coho,

which I'll mention, are listed under the Endangered Species Act, there are tidewater goby, which is another Endangered Species Act listed fish. The number of tidewater goby have increased significantly.

Emily Breen: As a multi-benefit project, I imagine there were several key implementing partners. Can you talk a little bit about those key partners, and what their role was in the project?

Morguine Sefcik: The first key partners were the landowners along Martin Slough. The main partner that we initially had our conversations with was the city of Eureka and the golf course. And the downstream land, which is now owned by the North Coast Regional Land Trust, was owned by a private landowner. And he was also very interested in collaborating. With the help of the California State Coastal Conservancy, funding was provided to purchase the downstream land from the private land owner, and the North Coast Regional Land Trust was able to obtain that land. And that was a key partnership as well. So we had two very willing landowners, which was pretty much, without that, the project wasn't going to be able to happen. RCAA had two important consulting engineering firms that partnered from the beginning. Agency staff—state, federal agency staff—in addition to county and city staff, were also integral to the project. And a technical advisory committee was formed in the early days. Meetings were held on a regular basis and discussions were had, and ideas were shared. Another important partner is PG&E, Pacific Gas and Electric. PG&E partnered on the project to relocate a gas line that ran under Martin Slough, on the land trust property. And without that partnership, the enhancement wouldn't have been able to happen on the land trust property. In addition to, I would also add, the golf course staff throughout the project have been important and supportive.

Voice Over: Improvements in flood safety and ecosystem functions resulting from multi-benefit projects, like the Martin Slough project, require ongoing coordination and collaboration to succeed. Multi-year projects of this nature also require multiple reliable funding solutions and a solid commitment from the project lead. As Morguine explains ...

Morguine Sefcik: Then the funding agencies, they were the final key. Without the funding, this project wasn't going to move beyond conversations. There has been a lot of grant funding secured for this project. RCAA has always been kind of that hub, the centerpiece, the center group organization that was going to make sure this continued and keep an eye on what's next, and manage the grants, and definitely that's a big piece of it. Having a project that spans this many years, we're talking about 20 years, having one entity that's going to agree to lead the effort forward, and house the information, and collaborate with folks as needed, is really important. Continuing to say, "Okay, we're going to stay with this, and we're dedicated to it." We will pursue the funding and keep the work going so we can see the benefits and track them and document them.

Voice Over: Morguine shares how upfront communication with permitting agencies can lead to creative solutions, and keep ecological restoration projects on track.

Morguine Sefcik: The PG&E gas line was pretty important to get that resolved. And that was through discussions with one of our permit agencies, the California Coastal Commission. They brought forth the idea of PG&E being able to fulfill a wetland enhancement goal of their PG&E Humboldt Bay generating station. They would get that wetland-enhancement credit by agreeing to relocate one gas line, by burying it deeper under the channel so that we could enhance the channel to the size that we had designed. And so they agreed to that. That was a really important partnership.

Emily Breen: Did you encounter any other challenges during the permitting process, and any creative, out-of-the-box type solutions that you needed to implement in order to overcome them?

Morguine Sefcik: We have a biological opinion with the US Fish and Wildlife service for the take of the tidewater goby. As I mentioned, the tidewater goby numbers have been significant. A lot more tidewater goby have been found during these subsequent construction phases in summer. The US Fish and Wildlife staff, and NOAA staff collaborated and came up with an approach that revised the B.O. so that we would look at it from a mortality percentage like, "don't exceed this percent mortality of tidewater goby, and you can continue with your work." That was a really flexible, out-of-the-box approach that allowed us to keep going, and didn't require the project to stop work in the middle of our small construction windows, which on the West Coast here is usually June to October. And that's our dry season, and that's when the in-stream construction work can happen.

Morguine Sefcik: I would say it's just really been important to communicate with the permitting agency staff, and keep them in the loop, and let them know when questions come up, and be open to, that you may have to do some kind of amendments.

Voice Over: The final phase of construction for the Martin Slough Enhancement Project is planned for summer 2021. With the goal that enhancements will be complete by year's end.

Emily Breen: As you're moving towards this final phase of construction, understanding that monitoring will continue beyond that, if you had to give advice to another community or organization that's looking to take on a multi-benefit project, what would it be?

Morguine Sefcik: I would recommend taking a big, big picture view of your project, and reach out to the landowners and key stakeholders early in the process, and get them involved, and keep them in the conversation. Keep them in the loop. Even if things kind of slow down and you don't have the funding, and there's a gap in the process, stay in touch, keep them involved, listen to the landowners and hear what their concerns are, what their goals are for the project. And have a lot of patience. A multi-benefit project is likely to take a long time from the initial conversations, through the design phase, into permitting and then implementation. Having patience and perseverance will allow you to keep going, and get the work done, and succeed. And I would say, think about

monitoring funding, and include that early on in your grant proposals. Plan for that. Plan for the need to do monitoring. It's important and it's required by agencies and funding organizations.

Voice Over: As Morguine's interview was coming to a close, Emily was curious to know Morguine's thoughts about the likelihood of seeing more projects like this in the future.

Emily Breen: So, this is a nature-based solution, and a multi-benefit project. From your vantage, is this the direction that you see flood mitigation and ecological restoration going?

Morguine Sefcik: Yes, I do think nature-based solutions are an important part of reducing flood risk. And on coastal communities dealing with sea level rise, I see nature-based solutions being a really important piece of that puzzle.

Voice Over: To learn more about the topics and programs mentioned in this episode, check out the show notes. This episode of Level Up was produced by FEMA Region 9's Mitigation Division and *Resilience Action Partners*. It was made available to you through a partnership with the Georgetown Climate Center. The Georgetown Climate Center serves as a resource to state and local governments working to cut carbon pollution and adapt to climate change impacts. We thank them for helping to strengthen our community of hazard mitigation and climate adaptation professionals. For additional information, and to access the Climate Center's Adaptation Clearinghouse, with thousands of free legal, policy and planning resources and case studies, visit georgetownclimate.org.