

# 2021 Bay-Delta Science Conference: Art Program

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**Art-Science Panel: Wednesday, April 7 (12:30-1:30 PM PDT):** 201-ART: Endangered Species - Photographs from a Social-Environmental Artwork

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**Art-Science Panel: Wednesday, April 7 (12:30-1:30 PM PDT)**

On Wednesday, April 7 there will be a special session from 12:30-1:30 PM PDT featuring a panel of six speakers who work at the intersection of art and science. The session will begin with each speaker providing brief introductory remarks about their background, interests, and work, followed by a facilitated discussion and audience Q/A.

*Panelists*

**Ruth Askevold** (<https://www.sfei.org/user/79>) is a Senior Designer at the San Francisco Estuary Institute (SFEI), and believes that enigmatic science diagrams are beautiful but hard to decipher. Through collaboration with scientists and artists, she has created publications, illustrations, and exhibition material to help demystify science.

**Todd Gilens** is a visual artist focused on large scale processes like water, population dynamics, and forest management. His public project for the Lake Tahoe West Restoration Partnership and the National Forest Foundation will be installed this summer in South Lake Tahoe.

**Rosemary Hartman** is an ecologist who moonlights as a stained glass artist. Much of her work is focused on highlighting the beauty of the native fish and invertebrates of California.

**Obi Kaufmann** is the best-selling author of multiple books including The California Field Atlas, The State of Water; Understanding California's most precious resource, and The Forests of California. When not working on his next project you can find this naturalist/painter/poet thru-hiking California's backcountry, mapping its ecology and biodiversity. His website is [www.californiafieldatlas.com](http://www.californiafieldatlas.com)

**Rene Martin** is a Minnesota native but current resident of Kansas studying the evolution of deep-sea fishes at the University of Kansas. She is the creator of Twitter's #SundayFishSketch.

**Dr. Lisa Thompson** is the Chief Scientist for Regional San and the Sacramento Area Sewer District. She is an anomaly in the art world, but she enjoys collaborations with artists because they help her to see, feel, and think about the world in new ways.

*Moderator*

**Hildie Spautz** is a mixed media artist and scientist with the California Department of Fish and Wildlife. See her work at the Conference art exhibit and at [www.hildiespautz.com](http://www.hildiespautz.com)

## Art Gallery Information

Submissions are organized by Art Co-Chairs Rosemary Hartman (DWR), Chelsea Batavia (Delta Science Program), and Hildie Spautz (CDFW). The number key (e.g., 201-ART) should help you navigate to the correct exhibit on the conference website.

Visitors can leave comments or questions for artists in the chat. **There will also be an art social on Wednesday, April 7 from 3:30-5 PM PDT.** Artists who are available will be at their exhibit to chat live during that time.

## Art Submissions

### 201-ART: Endangered Species - Photographs from a Social-Environmental Artwork

**Todd Gilens**, *tgilens@gmail.com*

Borrowing the conservation concept of species reintroduction, “Endangered Species” was four public transit vehicles wrapped with photographs of animals whose habitats have been displaced by urbanization in the San Francisco Bay Area. The project was a personal response to the SFMTA’s “Transit Effectiveness Project,” which focused on efficiency but overlooked the visual role of buses in city life. As a public commons, buses could express the vulnerability both animals and transit face through economic, demographic and environmental change. Four designs were produced, featuring Coho Salmon, Mission Blue Butterfly, Brown Pelican, and Salt Marsh Harvest Mouse. On each bus tail was a short statement about the species’ local relationship, with the URL “Endangerbus.org.” A project website featured descriptions and links about the animals as well as transit, and profiles of six organizations working in the nexus of habitat, transit and social equity. The buses circulated throughout San Francisco from January 2011 to April 2012. Quantifying the Evolutionary Potential for Delta Smelt persistence in a Warming Habitat

### 202-ART: This (Plant Science) Looks Good on You!

**Sciencely Handmade - Annie Chen** (artist and scientist), *ayzchen@ucdavis.edu*

The multi-part project by Sciencely Handmade, "This (Plant Science) Looks Good on You!", brings the Bay-Delta region's plant science knowledge into social conversations through wearable science artwork. As an emerging environmental scientist who established their roots in the Bay-Delta region, two local cultural norms stood out to them -- The gap between science communities and the public, as well as the habit of complimenting one's outfit as a conversation starter. The project takes inspiration from this observation to develop an approachable form of science communication by making local plant species into imperishable science-inspired jewelry that people can wear, touch, and talk about during their everyday conversations.

## **Art Submissions:** 205-ART: Microcystis and the Attack of the Cyanophage

Each art piece in the project features a photo of a handmade, mixed-media Bay-Delta plant species jewelry of local ecological, scientific, and/or cultural significance, with its information and virtual discussion platform available through a QR code next to the photo that provides bite-sized plant science knowledge for the wearer and their social circles.

### **203-ART: Delta & Wakasagi**

**Mark Takata**, techfiend@gmail.com

My art entry is a mixed media on canvas called "Delta & Wakasagi". It is 30" x 40" and primarily acrylic & gel medium. The subjects are a pair of fish, each blown up to approximately 11" apiece. One is a *Hypomesus nipponensis* the other is a *Hypomesus transpacificus*. There is also a freeform area which recalls algae such as that which is common in the Sacramento Delta waters.

This piece came about from hearing the stories on difficulty of identifying the two species from each other based on simply seeing them individually in the field. My wife was a field biologist who worked with several fish species in the Bay Delta, including Delta Smelt. Originally, I had hoped to paint the two with distinctive differentiation on their shapes, fin dimensions, etc. but found there to simply be too many subtle distinctions to properly exhibit in a painting. Instead, I did one as a rough, paste style and the other using an acrylic watercolor style. They are specifically not indicated as to which fish is which, with the idea that there is some fun in determining which of the fish is supposed to be the Delta and which the Wakasagi.

### **204-ART: *Untitled* - Delta habitat photography**

**Eugene Phillips**, eugenejeepo@gmail.com

I own the Miyazaki bathhouse and gallery in Walnut Grove.

As a photographer I focus my attention on colors and textures of the Delta habitat weaving a tapestry of images.

### **205-ART: Microcystis and the Attack of the Cyanophage**

**Jane Hartman** (artist), janehartman@verizon.net, Trilobite Glassworks, Rockville, MD

**Theodore M. Flynn** (scientist), California Department of Water Resources, West Sacramento, CA

*Microcystis aeruginosa* is a species of toxigenic cyanobacteria that inhabits water bodies worldwide including the San Francisco Estuary (SFE). Under certain environmental conditions, *M. aeruginosa*'s runaway growth causes harmful algal blooms

## Art Submissions: 207-ART: Celebrating Our Study Organisms

(HABs), producing acute toxins that can disrupt ecosystems and pose a threat to the health of humans and animals. The frequency and severity of HABs in the SFE has increased in recent years, and effective solutions to this persistent problem remain elusive. Cyanophage lysis is one of the few natural controls on *M. aeruginosa* abundance, and scientists are exploring using these viruses as a tool to help control HABs.

This fused glass art panel explores the mechanisms by which cyanophage attach, penetrate, and replicate within the host *M. aeruginosa* cell, ultimately causing lysis and cell death. We prioritize scientific accuracy with good attention to anatomical detail, while stylizing the piece just enough to emphasize "the good bits." This approach allows us to communicate complex scientific topics while still creating beautiful art. We aim to use the aesthetic quality of our artwork to intrigue the viewer and draw them in to engage with the science.

Made entirely out of glass: Cut, shaped, layered and fused in a kiln.

To see more of Jane's science art go to <https://www.etsy.com/shop/trilobiteglassworks>

### 206-ART: Sacramento Splittail

**Nicole Kwan**, [nicole.kwan@water.ca.gov](mailto:nicole.kwan@water.ca.gov)

Sacramento Splittail (*Pogonichthys macrolepidotus*) are a California native fish species which use floodplain habitats, such as the Yolo Bypass, to spawn. They are a beautiful silvery minnow and get their name from the fact that the upper lobe of their caudal fin is longer than the lower lobe. This piece of art was created using the traditional Japanese technique of gyotaku in which a fish is painted with ink and pressed into paper.

### 207-ART: Celebrating Our Study Organisms

**Hildie Spautz**, [hildegard.spautz@wildlife.ca.gov](mailto:hildegard.spautz@wildlife.ca.gov)

This collaboration highlights the intrinsic beauty of Delta study organisms, focused on some of the phytoplankton and zooplankton species studied at the UC Davis Aquatic Heath Program's lab. The artist, Hildie Spautz, used images created by lab staff to create a series of encaustic wax mixed media paintings and digitally altered images.

The additional materials include a powerpoint presentation with all the art and the original images on which the art was based.

The UC Davis Aquatic Heath Program (PI's: Swee Teh and Tomo Kurobe) strives to promote and protect the well-being of all aquatic species and their environments. They use algae, copepods, and fish cultured in their lab to assess impacts of contaminants and investigate nutrient transfer via the Delta food web.

## **Art Submissions:** 211-ART: Salmon: A Reflection in Gingerbread

Hildie Spautz is a mixed media artist, environmentalist, and state scientist. She previously conducted research in SF Estuary tidal wetlands looking at the response of birds to invasive plants and ecosystem restoration. She currently administers the CDFW Proposition 1 grant program and makes art in her spare time. For more of Hildie's art, see <https://www.hildiepautz.com/> and [@hildiebird](#) on Instagram.

### **208-ART: Longfin smelt study**

**Hildie Spautz**, [hildegard.spautz@wildlife.ca.gov](mailto:hildegard.spautz@wildlife.ca.gov)

Longfin smelt is the new "it fish" - currently the focus of multiple scientific studies in the Delta as a result of a dwindling population and a new ITP. The artist, Hildie Spautz, has created a mixed media painting of longfin smelt somewhere in the SF Estuary - in their preferred habitat, hopefully with lots of good food. "Longfin smelt habitat". 2020. Encaustic wax mixed media on 18" x 24" wood panel.

Hildie Spautz is a mixed media artist, environmentalist, and state scientist. She previously conducted research in SF Estuary tidal wetlands looking at the response of birds to invasive plants and ecosystem restoration. She currently administers the CDFW Proposition 1 grant program and makes art in her spare time. For more of Hildie's art, see [www.hildiespautz.com](http://www.hildiespautz.com) and [@hildiebird](#) on Instagram.

### **209-ART: *Submission withdrawn***

### **210-ART: *Submission withdrawn***

### **211-ART: Salmon: A Reflection in Gingerbread**

**Chelsea Batavia** (artist/baker), [chelsea.batavia@deltacouncil.ca.gov](mailto:chelsea.batavia@deltacouncil.ca.gov)

**Pascale Goertler** (scientist), [pascale.goertler@deltacouncil.ca.gov](mailto:pascale.goertler@deltacouncil.ca.gov)

This display uses edible media, including gingerbread, royal icing, cooked sugar, and candy, to reflect on salmon as a critical component of ecological and human food systems. Salmon have immense ecological and cultural importance throughout the Pacific Rim, including the Pacific Northwest and the California Central Valley in the U.S. The centrality of salmon to ecological food webs and human communities cannot be overstated, but their value, beauty, and significance transcend their energetic and nutritional contributions.

## **212-ART: Salt Marsh Harvest Mouse Surprise**

**Hildie Spautz**, [hildegard.spautz@wildlife.ca.gov](mailto:hildegard.spautz@wildlife.ca.gov)

**Katie Smith**, [ratsmith@ucdavis.edu](mailto:ratsmith@ucdavis.edu)

This collaboration concerns a little mouse and an unexpected study result.

Researchers have assumed that salt marsh harvest mice (SMHM) move into adjacent upland habitat to avoid drowning or being predated during the highest tides. Katie Smith conducted a study in 2019-2020 to test this assumption and was surprised to find very little evidence of movement into uplands. Even when vegetation was almost completely submerged, Katie captured SMHM in floating traps on the marsh plain and very rarely captured them on levees, in diked ponds behind levees, or in uplands. This indicates that the primary strategy of providing refuge during flood events, creating/enhancing uplands, may not be sufficient to preserve SMHM in the face of sea-level rise.

Hildie Spautz created a mixed media painting depicting these study results.

Katie Smith, PhD, studies SMHM in the San Francisco Estuary. She is a wildlife biologist with WRA, Inc., and a research affiliate at UC Davis. She has worked closely with CDFW and other agencies over the last decade to design studies to aid in recovery of the SMHM.

Hildie Spautz is a photographer and mixed media artist, and state scientist who previously conducted research in SF Estuary tidal wetlands. She currently manages grants for scientific studies in the Delta and conservation / restoration projects statewide. Hildie also has two other submissions at this conference – check them out! For more of Hildie's art, see [www.hildiespautz.com](http://www.hildiespautz.com), and [@hildiebird](https://www.instagram.com/hildiebird) on Instagram.

For more about Katie's study, the collaboration, the scientist, and the artist, please see the additional materials links.

## **213-ART: Water Management is a Zero Sum Game**

**Mike Healey**, [healey@mail.ubc.ca](mailto:healey@mail.ubc.ca)

Earth is the water planet 70% covered by water. Of all this water, only about 2.5% is freshwater and only 31% of that (less than 1% of earth's water) is available or potentially available for human use. This tiny fraction of earth's water must not only satisfy humanities growing water demand but also sustain all terrestrial and freshwater life. This makes fresh water a scarce and limiting resource. Every allocation decision that humans make about water allocation has important environmental, economic, and social consequences. The scarcity of freshwater and the consequences of its allocation are nowhere more apparent than in the Delta. The art piece is intended to illustrate the dilemma water managers face when every decision about water allocation creates

losers who feel strongly that they should not have to carry the cost of resource limitation. The artwork is a photocollage. Some of the photographs are mine but most are borrowed from the internet. Photographs that are entirely my own can be seen at my website: [www.mchimaging.com](http://www.mchimaging.com)

## **214-ART: Bay-Delta Landscapes – Delta photography**

**Lynn Takata**, [lynn.takata@deltacouncil.ca.gov](mailto:lynn.takata@deltacouncil.ca.gov)

Photography has the ability to bring viewers a glimpse of places they may not have the ability to visit or may not have the personal context to imagine. Nature photography specifically, can bring out the beauty of a subject while interweaving a narrative of uniqueness and significance for a landscape, organism, or habitat. The combined effect can inspire conservation.

My submission will consist of a small collection of photographs that feature places and organisms in the Bay-Delta estuary. Images will be accompanied by a brief description on how the subject fits into the local ecology and the landscape.

## **215-ART: Native Pollinators and Introduced Garden Flora**

**Anne Rosenthal**, [annerosenthal@mac.com](mailto:annerosenthal@mac.com)

Anne M Rosenthal (<https://naturenearby.zenfolio.com>) is a multimedia science writer interested in ecosystem complexity. Recently she has explored the interactions between native pollinators and the horticultural flora of introduced plants that dominates much of the urban/suburban landscape in the San Francisco Bay-Delta Area.

Although generally inedible for native caterpillars and other herbivorous larvae, introduced flowering plants do provide nectar and pollen for a variety of native pollinators. New emphasis on drought-proof and fireproof landscaping, along with increasing development and housing density, may affect the extent of this flora and the pollinators that use it.

Surrounded by the striking yellow ray flowers on the periphery of the composite sunflower, this female **Leaf-cutter Bee** (family Megachilidae) focuses on gathering pollen from barely open – and thus unharvested – disk flowers at the sunflower’s center. She temporarily stores this gathered pollen beneath her abdomen (visible in the photograph) for transport to her nest tunnel, where it is used to provision a larval chamber. The chambers in her nest tunnel were constructed using disks excised from leaves – hence the name leaf-cutter bee.

Proboscis deep within one of the zinnia’s centrally located disk flowers, this **Painted Lady** butterfly (*Vanessa cardui*, family Nymphalidae) warms in the sunlight while ingesting sugary nectar to energize its next flight. Unlike a bee, which gathers pollen

## **Art Submissions:** 217-ART: An Artist and a Scientist Walk into a Wetland...

intentionally, the butterfly transports pollen only accidentally. Painted Lady butterflies migrate north to the Bay Area from Southern California deserts where they overwinter. This butterfly's perfect condition indicates its recent vintage from a generation born in the Bay Area.

The **Flower Fly** (family Syrphidae), also known as a Hover Fly, has landed on the rose stamens where it is likely feeding on pollen. Like butterflies, flower flies do not gather pollen intentionally and only transport it accidentally from one flower to the next. Renown for their mimicry of hymenopterans, such as bees and wasps, imitation may extend past appearance to include buzzing sounds and behavioral pretense, depending on the species.

These photographs were taken with the iPhone 6s. If you are interested in Anne's work, iPhone photography, or macro photography – especially of insects – please feel free to contact Anne at [greategret2018@gmail.com](mailto:greategret2018@gmail.com). Anne also photographs extensively with Sony mirrorless cameras, and she enjoys exchanging photography and natural history insights.

## **216-ART: The Collaborative Landscape: A Poster for the Bay-Delta Science Conference**

**Todd Gilens**, [Tgilens@gmail.com](mailto:Tgilens@gmail.com)

**Lisa Thompson**, [thompsonlis@sacsewer.com](mailto:thompsonlis@sacsewer.com)

While society, and the biological world in general, is fundamentally collaborative, in this poster we have sketched some of the parameters that influence collaborations between the arts and sciences. Borrowing the language of landscape processes and the water cycle, we explore how sectors are bounded, bridged, and transformed, and how outside influences also impact what happens. Our individual careers have been enriched by collaborations, but we've just begun to consider specifically how artists and scientists can be supported in sharing their perspectives and producing new work together. We'd be grateful to know your own experiences working across the contours of science and art. Connect with us at [todd@toddgilens.com](mailto:todd@toddgilens.com) and [thompsonlis@sacsewer.com](mailto:thompsonlis@sacsewer.com)

## **217-ART: An Artist and a Scientist Walk into a Wetland...**

**Alexis Padilla** (artist), [alexislorenepadilla@gmail.com](mailto:alexislorenepadilla@gmail.com)

**Rachael Klopfenstein** (environmental scientist),  
[Rachael.klopfenstein@deltacouncil.ca.gov](mailto:Rachael.klopfenstein@deltacouncil.ca.gov)

What does it take to withstand flooding, survive drought, compete with invasive species, and thrive despite human intervention? Resilience. Artist Alexis Padilla often portrays cacti in her detailed and vibrant paintings. To her, cacti embody resilience as they

## **Art Submissions:** 219-ART: California Waterways – Multimedia Art and Community Restoration

survive extreme conditions and thrive in environments where others cannot. In the Sacramento-San Joaquin Delta, plant and animal species have adapted to survive the dynamic and complex environment. Underrated to some, the Delta's tules (or bulrush) and cattails thrive in a variety of conditions, compete with invasive species, and create habitat that supports a diverse set of native species. Many of the Delta's invasive and non-native species, such as water hyacinth, also embody resilience, as they compete and thrive in a new ecosystem. For this digital/mixed media piece, Alexis is teaming up with a Delta scientist to present some of the Delta's toughest and most resilient species.

### **218-ART: Wetland diversity mobile**

**Brian Schreier**, California Department of Water Resources,  
brian.schreier@water.ca.gov

**Rosemary Hartman**, California Department of Water Resources,  
Rosemary.hartman@water.ca.gov

The Delta was once dominated by vast expanses of tidal wetlands. These provided a home for a diverse collection of fish and invertebrates. Over the past 150 years, over 95% of these wetlands have been lost to land reclamation, levees, and development. Our project provides a home for this diverse collection of understudied and underrepresented critters in a mobile that represents the delicate balance of organisms in a native ecosystem. Brian Schreier (Fish Expert and metal worker) will create steel, copper, and bronze fish, featuring Sacramento Splittail, White Sturgeon, Pacific Lamprey, and Chinook Salmon. Rosemary Hartman (Invertebrate Specialist and glass artist) will create stained glass invertebrates, featuring many of the wetland-associated arthropods that are understudied in the Delta, such as chironomid larvae, snails, isopods, freshwater mussels, and amphipods. Together, these creatures are assembled into a mobile celebrating the diversity of native species in our wetlands through a diversity of artistic materials.

### **219-ART: California Waterways – Multimedia Art and Community Restoration**

**Alexus Howze**, alexushowze@gmail.com

**Devan Burke**, devan\_burke@yahoo.com

Devan and Alexis both value accessible science communication and decided to snapshot ongoing community restoration in a way that is both engaging and informational. Devan Burke's research and artworks by Alexis Howze come together to celebrate the impact of community-led efforts on sensitive ecosystems. The multimedia piece highlights 5 protected and/or endangered species along California waterways. Although the largest detriment to sensitive ecosystems is not driven by individuals, this

## **Art Submissions:** 221-ART: Longing for Longfin: A Visuo-Lyrical Ode to San Francisco's Aspiring Spirinchus

project chooses to uplift examples of positive change from individuals and communities. Sharing these local successes is imperative to energizing land stewardship and promoting sustainable ecosystem management. Devan and Alexis know firsthand how communities benefit from a champion on the local level, which is why this project challenges the reader to get involved in their own restorative activities by asking the important question, "how do we help them thrive?"

### **220-ART: West and East Coast Salmon Comparison – Two Canvas Paintings**

**Katie O'Donnell**, [katherine.o.donnell@alumni.duke.edu](mailto:katherine.o.donnell@alumni.duke.edu) (or [lostetsea@gmail.com](mailto:lostetsea@gmail.com))

**Bruce Herbold**, [bherbold@gmail.com](mailto:bherbold@gmail.com)

Artist, coastal science researcher, and communicator Katie O'Donnell graduated with her Master's degree from Duke University studying Coastal Environmental Management. She recently created her own website (<https://www.lostetsea.com>) to share her love for the ocean through her artwork and research. Her past work and research cover many topics in fisheries, shark conservation, social science, science communication, and marine biodiversity. With many experiences on both the West and East coasts of the United States, she is looking forward to presenting artwork that is at the nexus of art, science, and communications.

This project is a two panel, canvas painting series comparing and contrasting the chinook salmon (*Oncorhynchus tshawytscha*) with the smaller Eastern salmon species, the Atlantic salmon (*Salmo salar*). The chinook salmon is an important fish species in the Sacramento-San Joaquin Delta and Central Valley, while the Atlantic salmon is a comparable East Coast species. This art piece and downloadable PDF incorporate multiple layers of information and themes from the conference including 1) fish biology, ecology and protection, 2) climate change and 3) social sciences and human dimensions (through changing landscapes). She drew inspiration from many maps from various research papers, organizations, and agencies to depict the changing landscapes that both of these species rely on. She highlights the importance of and the interconnectedness between people, salmon, climate, land, and water.

### **221-ART: Longing for Longfin: A Visuo-Lyrical Ode to San Francisco's Aspiring Spirinchus**

**Levi Lewis**, [lewis.sci@gmail.com](mailto:lewis.sci@gmail.com)

**Adi Khen**, [akhen@ucsd.edu](mailto:akhen@ucsd.edu)

The Longfin Smelt (*Spirinchus thaleichthys*) is a small pelagic fish found in the Sacramento-San Joaquin Bay-Delta. Along with other fishes in the San Francisco Estuary, it must navigate dynamic, ever-changing environmental conditions in order to survive. However, it is currently also threatened with extinction, largely due to human activities such as farming, freshwater use, and pollution. This collaboration between Dr. Levi Lewis (Principal Investigator of the Otolith Geochemistry & Fish Ecology Laboratory at UC Davis) and Adi Khen (scientific illustrator and Ph.D. candidate at the Scripps Institution of Oceanography, UC San Diego) will tell the story of the Longfin Smelt in a creative, compelling way through a combination of biorhymes and digital graphics. Raising awareness about these fishes-- their ecological and societal value, as well as the risks they face, will help to protect them into the future.

### **222-ART: *Untitled - Watercolors***

**Andria (Andi) Greene**, [andipaigegreene@gmail.com](mailto:andipaigegreene@gmail.com)

Andi is a wetland scientist with experience across the river-estuary-ocean continuum. Since graduating with a master of science for her work at the Elkhorn Slough, Andi has become interested in merging science with writing and artwork to educate the public on water resources science and wetland ecosystems. Coming from a multi-racial commercial fishing family on the Chesapeake Bay, Andi has a unique insight into cultural relationships with coastal resources. She has also developed a relationship with freshwater resources as a backcountry fly fisher. A first generation student, Andi is a fierce advocate for diversity in the field of STEM. In this exhibit, Andi explores taxonomic classes of invertebrates living in the San Francisco Bay. (Bio)diversity plays a critical role in evolution and the success of future speciation.

### **223-ART: *Earth Speaks***

**Cathie Batavia**, [cbatavia@gmail.com](mailto:cbatavia@gmail.com)

The Earth speaks in many ways, including the rocks. I have submitted six painted rocks that illustrate the Sacramento-San Joaquin River Delta as a community.

Through the centuries the natural community has worked to create and sustain a healthy ecosystem, from which we humans benefit greatly. Ecologically it continues to provide important habitat for birds and fish that live or pass through the Delta. Over the years our needs have led to substantial changes, which are now creating major ecological and environmental challenges that threaten the health of the Delta.

To address these challenges, it begins with a coordinated and cooperative effort at all levels of government that includes the scientific community, environmental and agricultural interests, and every individual to make decisions and take actions that protect this important resource.

And, it requires what I refer to as the guiding principles of conservation:

## **Art Submissions:** 225-ART: Little Egbert Tract Habitat Illustration

- Respect for the land and the natural processes that sustain it;
- Restraint to balance our needs with the needs of the natural community, and;
- Restoring the land as a way of giving back for the benefits we receive.

A good starting point is to ask not what the Earth can do for us, but what we can do for the Earth.

### **224-ART: The Bay-Delta Reimagined Over Time**

**Caty Wagner**, [caty.wagner@sierraclub.org](mailto:caty.wagner@sierraclub.org)

I am the Southern California Water Organizer for Sierra Club California, but I also paint on the side and I thought this would be the perfect opportunity to create some art based on my campaign. My work focuses on engaging Southern Californians and their water agencies to understand the harm to the Bay-Delta region by the reduced flow of freshwater, which leads to destruction of local fish populations, saltwater intrusion, and the inability to flush out toxins from the region.

My vision, perhaps on a painted canvas or in digital media, is a grid showing the Delta region under different scenarios- one showing what it looked like before farmers settled the area when it still had wolves and grizzlies, one how it is now with HABs out of control, and versions if levees are not repaired and we see big floods, and then versions with over-pumping and reduced flows. One piece would encompass the theme of resilience and show what the Delta could look like if we took all the right measures now.

There would be a focus on the BIPOC legacy town residents and the Winnemem Wintu, Yurok and Miwok Tribes, too.

At Sierra Club CA, we use science-based evidence and consulting from many agencies and researchers to inform our policies, which would inform this piece as well.

### **225-ART: Little Egbert Tract Habitat Illustration**

**Danielle Jollette**, [djolette@westervelt.com](mailto:djolette@westervelt.com)

The illustration depicts the Little Egbert Multi-Benefit Project, a proposed restoration project in the Sacramento San-Joaquin Delta. The project will restore historic floodplains, deliver sustainable flood control, increase climate resilience and provide habitat restoration benefits for the Sacramento-San Joaquin Delta. The property is 3,500+ acres of privately-owned land in Solano County in the lower Yolo Bypass, upstream from Rio Vista. Currently, livestock feed is grown on the property. Occasionally, cattle graze on the site. Restoration of the property is ideal for regional flood improvement to adjacent agricultural lands and restoration for several imperiled aquatic species. The proposed illustration features species that will benefit from floodplain restoration and components of what the site could look like once resorted.

## **Art Submissions:** 228-ART: Freshwater and Marine Fishes of the Bay Delta and Surrounding California

Species included in the landscape include Swanson's hawk, California black rail, Ridgeway's rail, Tricolored blackbird, Mallards, Great egret, Bufflehead, Giant garter snake, Green sturgeon, Salmonid, and Delta smelt. The illustration also depicts Mt Diablo, a key recognizable geographic feature in the area. The artist worked with the restoration team from the proposed project to determine species and features to include.

### **226-ART: Our Place in the Delta - Poetry**

**Amanda Joyce**, [ajfrazier@ucdavis.edu](mailto:ajfrazier@ucdavis.edu)

*Our Place in the Delta* by Amanda Joyce is a series of five poems communicating narratives of Bay-Delta science. The poems, entitled *Into the Delta*, *Capillary Channels*, *Phragmites*, *Women of the Marsh*, and *False Dichotomies*, examine the human element of Bay-Delta science and our relationship to the Delta. This collection features pressing science, policy, and diversity issues in Bay-Delta science and contributes to the conference theme, 'Building Resilience through Diversity in Science'. Each poem focuses on one issue in depth and uses a storytelling vignette to foster a personal and emotional connection to the issue. Amanda collaborated with Dr. Richelle Tanner, CA Sea Grant Delta Science Postdoctoral Fellow at UC Davis, to inform and inspire each poem in the series. You can find more of Amanda's poetry on Instagram [@amanda.joyce.poetry](https://www.instagram.com/amanda.joyce.poetry).

### **227-ART: Delta Botanicals – Watercolors and Poems**

**Geneva Hutcheson**, [geneva.hutcheson@deltacouncil.ca.gov](mailto:geneva.hutcheson@deltacouncil.ca.gov)

Geneva is an information officer with the Delta Stewardship Council. Her artistic focus is ethnobotanical poetry, painting, and drawing. These poems and paintings are part of a larger ethnobotanical poetic catalogue of native northern California wildflowers.

### **228-ART: Freshwater and Marine Fishes of the Bay Delta and Surrounding California**

**Rene Martin**, [RPMartin@ku.edu](mailto:RPMartin@ku.edu)

Most of these images depict fishes that were drawn for the collaborative #SundayFishSketch on Twitter. They include fishes that can be found from the freshwaters of California to the deep-sea only miles off the coast. The combination of art and science is a passion of mine. Being able create artistic works to supplement my ongoing research on deep-sea fishes is truly a highlight of my career.