

Winter/Spring 2021



# Point Blue Quarterly

Conservation science for a healthy planet.

## Grit

Passion Meets Persistence  
in the Pursuit of Lasting  
Conservation Impact





# From Conference Rooms to Cuckoos

## Sacramento River Restoration Takes All Kinds of Grit

When you think about *grit*, what comes to mind? A grizzled character on a noble journey across a dusty land? A daring iconoclast defying convention to accomplish great feats? Or perhaps a talented athlete overcoming obstacles to dominate her sport?

Whatever image you conjured, chances are it wasn't a fluorescent-lit conference room in downtown Sacramento full of conservation biologists, government agency staff, policy wonks, and others clicking through PowerPoint presentations over dry turkey sandwiches. But in the world of conservation, this is exactly what grit looks like at times. "Going to those meetings to discuss plans, co-develop proposals, share reports ... there's no glory in those moments, but they are super important and you put in your 'grit time' because a successful

restoration project depends on your relationships with the others in that room," says Tom Gardali, director of Point Blue's Pacific Coast and Central Valley Group. "And the turkey sandwich is usually the safest bet," he adds with a smile.

A spirit of grit has always been at the heart of Point Blue's work. Since our founding in 1965, we've been tenacious in our commitment to rigorous science, bringing passion, discipline, and resilience to the pursuit of goals that can take years or even decades to accomplish.

And if there ever was a task deserving of passion and persistence, it's bringing natural habitats back to health for the benefit of all. "Restoration is a potent way to help our planet, to help ourselves," says Tom. The United Nations has even declared the ten years beginning with the year 2021 to be the

Decade on Ecosystem Restoration, aiming to prevent, halt, and reverse the degradation of ecosystems around the world.

Riparian forests in particular, like those naturally occurring along the banks of the Sacramento River, can help fight climate change by pulling carbon from the atmosphere.\* These ecosystems also provide habitat for a variety of plant and animal species, enhance conditions for native fish, increase flood safety, improve water quality, and provide recreational opportunities. But by the late 1980s, the majority of the Sacramento River's riparian habitat was gone, due to water diversion and conversion to agriculture and urbanization, and what remained was highly degraded.

---

\*Read more about our research on riparian forests and carbon sequestration in our Winter 2019 issue.

The Sacramento River National Wildlife Refuge (SRNWR) was established in 1989 to protect and provide a wide variety of riparian habitats for birds, fish, and other wildlife. The US Fish and Wildlife Service (USFWS) joined with The Nature Conservancy (TNC), Point Blue, and later River Partners to restore the system to health. “Riparian restoration at a large scale was new,” explains Tom.

Birds are a great indicator of ecosystem health, so Tom and his colleagues tried to visit every patch of riparian habitat to see which birds were there and which were missing. Field work of this sort requires its own brand of grit, and the team had to endure heat, bug bites, becoming lost, cars getting stuck in mud, and other trials. With patience and perseverance, they conducted point counts (a tally of all birds detected by sight and sound), mist netting, and nest finding to assess the state of birds in the area. They found that some birds, like the Lazuli Bunting and Yellow-billed Cuckoo (a federally threatened species) were not doing especially well.

As Tom explains, assessment was just the first step. Restoration, especially at the scale of one of California’s largest rivers, is often a long process, with much of the work happening away from the field (remember that conference room?). Point Blue’s partners needed to put in the work to find landowners willing to sell their land, secure the funds to buy the land, develop the restoration designs, obtain necessary permits (a process that itself can take years), and find the funds to do the project.

Then it came time to actually implement the restoration, which happens in phases, allowing the team to evaluate strategies along the way. “It takes time to learn what works and what doesn’t, and then you modify again and again,” says Tom. Planting with local native trees, shrubs, and vines began in 1989, followed by native grasses (which provide nesting and concealment structure for birds and also displace invasive plant species) in 1999, and native wildflower restoration (in part to provide nectar sources for pollinators and to provide habitat for the monarch butterfly; see cover) began in 2009.

Gauging the overall impact of a project can itself be another lengthy process. “Our first major analysis of the initial restoration happened 11 years after we began,” Tom recalls.

Some of the payoffs of the restoration, however, became apparent along the way. “It’s a success story of ‘build it and they will come,’” reflects Joe Silveira, wildlife biologist and retired manager of the refuge. Species like the federally threatened valley elderberry longhorn beetle quickly colonized new restoration sites. Lazuli Buntings were spotted in first year plantings, Yellow-billed Cuckoo at five-year-old and older sites, and woodpeckers, primarily cavity nesters, at 10-year-old sites.

The partnerships being forged along the way were just as important as those exciting wildlife observations. “We were out there every year for 11 years,” Tom says. “And building strong relationships is one of those things that empowers grit.” Point Blue’s collaborations with USFWS, TNC, River Partners, and others have continued to expand and grow stronger over the years. And lessons were learned about the importance of working with and valuing the concerns and needs of community stakeholders—it’s now the way of doing business for Point Blue and our partners.

As Point Blue has evolved as an organization, so has our role. We’re now working with partners to make restoration projects *climate smart*, allowing habitat to adapt under different future climate change scenarios—essentially boosting nature’s grit. An example of climate-smart restoration on the Sacramento River is the inclusion of plants from drier uplands and from seeds collected at more southerly sites to address the projections of more extreme and frequent droughts. “Point Blue has been the leader in developing a framework for climate-smart restoration,” says Joe. “They’ve been a key partner in the development of the Sacramento River NWR, and the Refuge—with all the habitats and wildlife, and the visiting public—is sure to benefit from future collaborations.”

Fully 32 years later, we continue to bring our world-class science to the shores of the Sacramento River—restoration is still underway—and to conference rooms around the world. Point Blue works in partnership with private landowners, government agencies, schools, Native American groups, and many others to implement and guide restoration of important ecosystems such as Sierra meadows, tidal marshes, and watersheds. We hold workshops, give presentations, produce peer-reviewed

*continued on next page ...*



Opposite: View of the Sacramento River from Tehama County, with Mt. Lassen in the background and the restored Flynn Unit of the Sacramento River National Wildlife Refuge in the foreground. Photo by The Nature Conservancy. Above: A Yellow-billed Cuckoo is carefully held during the banding process. Photo by Mark Dettling/Point Blue.





Climate-smart restoration plantings at the Sacramento River National Wildlife Refuge, including coyote melon in the foreground. Photo by Luis Ojeda/The Nature Conservancy.

*continued from page 3 ...*

science, and create freely available tools to help partners around the world restore ecosystems in a way that prepares them for the consequences of climate change.

However, there remains much to do and learn. “We need to work with our government partners to help streamline permitting, do the science to understand the synergies and trade-offs of restoring for multiple benefits, and experiment with ways to address restoration in a changing world,” says Tom. Overcoming the challenges to secure our planet’s health won’t be easy, but with long-term planning and stick-to-itiveness, the Point Blue team has the grit to push through. 🌍

by Stacey Atchley-Manzer, Editor

## Partner Spotlight: River Partners

Strong partnerships—whether they are with public agencies, community members, or other non-governmental organizations (NGOs)—are essential to Point Blue’s work. One of our most valued collaborators is River Partners, an NGO that pairs science and modern agriculture practices to design and implement large-scale habitat restoration projects along rivers throughout California. River Partners has restored more than 16,599 acres (nearly 12,500 football fields!) of river corridors since 1998.

Like Point Blue, River Partners recognizes that increasing the pace and scale of habitat restoration is critical to making California’s ecosystems and communities more resilient to our changing climate. “The brightest future requires us to accelerate the repair of river landscapes to save endangered birds, fish, mammals, and insects,” explains Julie Rentner, River Partners’ president. Restoration brings a host of benefits for human communities, as well. “We also have an unprecedented opportunity to expand flood protection, carbon capture, water conservation, and good jobs in our restoration workforce through large-scale restoration,” says Julie.

“Point Blue has helped River Partners maximize its restoration efforts along important river landscapes in California,” adds Julie. “They have provided valuable insights about what densities and arrangements of new plantings on restored sites would have the biggest benefits for a variety of imperiled bird species. They’ve also led critical surveys of existing and newly restored sites to understand how different types of birds were responding to our restoration efforts. It was also Point Blue staff who discovered the return of the Least Bell’s Vireo to our restored forests at the San Joaquin River National Wildlife Refuge near Modesto, an extremely vulnerable species that hadn’t been seen on or off the refuge in more than 60 years.”

Preventing biodiversity loss and species decline are central to the missions of River Partners and Point Blue. “Point Blue’s continued partnership is essential as we learn by doing,” according to Julie. “Through expanded scientific monitoring and analysis of our results,” she says, “we can immediately deploy lessons learned on our growing footprint of restored landscapes and build more resilient ecosystems across the state.”



The endangered Least Bell’s Vireo is one of the species River Partners improves habitat for through restoration projects across California. Photo by Mike’s Birds.

“River Partners makes it happen!” agrees Tom Gardali, director of Point Blue’s Pacific Coast and Central Valley Group. “Our collaborative work with them is a model of iterative innovation—they put science-based ideas into action, we collectively learn, we adapt, and conservation gets better.” 🌍

# Protecting Plovers

## A 44-Year Journey, and Counting

If *grit* were to have a mascot, it might very well be the Western Snowy Plover, a small shorebird that packs a lot of feistiness into its six-inch frame.

Western Snowy Plovers must overcome many challenges to successfully breed and reproduce. They brazenly nest in plain sight on open beaches and coastal dunes, relying on camouflage to protect their eggs. They routinely withstand gale force winds and spring rains while incubating their nests—nothing more than shallow depressions or “scrapes” in the sand. They are persistent in their attempts to successfully hatch eggs, even in the face of high predation pressure. Pairs have been observed initiating as many as six nests in a season after repeated loss, despite the high physiological cost to females in producing so many clutches of eggs. They pioneer new nests sites, bravely dispersing across long distances to new grounds. And if a nest survives, hatchlings must exhibit fortitude right away—these birds are *precocial*, meaning parents do not feed their young, and chicks begin searching for food just hours after hatching.

Human activity has only exacerbated the plover’s plight, and they’ve been listed as a



Western Snowy Plover. Photo by Laird Henkel.

federally threatened species since 1993. Because much of the suitable habitat that remains is shared with beachgoers, the birds are especially vulnerable to disturbance by people and pets. Plovers also face habitat loss from coastal development, sea level rise, and invasive plants.

If being a Western Snowy Plover requires grit, so does protecting them. In 1977, a small group of determined Point Blue scientists and volunteers founded the Snowy Plover Research Project to understand more about the birds and the challenges facing them. “We were aware that the number of Snowy Plovers appeared to be declining at many breeding sites on the coast, so Gary Page (now retired) and I started to plan a study of the local breeding plovers on Point Reyes National Seashore to find out how successfully they were reproducing,” explains Lynne Stenzel, senior wetland ecologist.

Then, in a stroke of serendipitous luck, Lynne and Gary met Point Blue members Jane “Ricky” Warriner and her late husband, John. The couple, who would go on to become Point Blue Research Associates, had been observing breeding plovers on a salt panne at Pajaro Dunes in Santa Cruz County. “We really hit it off and were inspired by each other’s enthusiasm,” says Lynne.

With funding from the California Department of Fish and Wildlife, the scope of the project became more ambitious. “While our original goals were modest,” Lynne says, “each new discovery sparked new questions and the



Jane “Ricky” Warriner monitors a Western Snowy Plover nest near the Salinas River National Wildlife Refuge in the 1980s. Photo by Gary Page/Point Blue.

project was soon multi-faceted.”

Within the first two years of the study, the team conducted a statewide survey of Western Snowy Plovers. They launched dawn-to-dusk nest watches; witnessed breeding behavior; measured egg-laying and incubation periods; documented double brooding; and witnessed males simultaneously brooding chicks and incubating eggs in the evening. They watched as parents rolled wayward eggs back into scrapes and pairs fought with neighbors in defense of their territories. Importantly, the skilled volunteers and staff also banded the birds so they could be tracked in subsequent seasons. “Once we started individually color banding the plovers, things really took off,” says Lynne.

*continued on next page ...*



“This species lives most of its annual cycle perilously near the edge. But that’s where the nexus of conservation for wildlife, ecosystems, and human well-being is so apparent and symbolic of the challenges ahead. When I need the inspiration to tackle some of those challenges, I spend time watching Snowy Plovers.”

—Catherine Hickey, Point Blue Conservation Director



*continued from page 5 ...*

“We never thought we were building a research empire,” Lynne reflects. But as with much of Point Blue’s research, learning through observing nature, analyzing data, and using what we’ve learned to catalyze conservation action is a long-term process that requires perseverance and passion. Thankfully, the newly formed team had that in spades and was in it for the long-haul.

By the mid-1980s, the project had considerably advanced the knowledge of Snowy Plover breeding biology and mating systems, with Lynne, Gary, and the Warriners publishing an award-winning paper on the subject. The team also contributed enormously to a growing understanding of the plover’s plight, spurring Gary to contribute to a draft petition to list the Western Snowy Plover as threatened under the Endangered Species Act.

Following the 1993 listing, the team joined federal, state, and local agencies working to reverse the declines in the nesting population size and its productivity. Lessons learned from the project helped inform protection efforts, including controlling predation by non-native red fox, placing barriers around nesting sites, and conducting outreach to educate communities. The culmination of decades of research, monitoring, and management efforts paid off by 2003, when the size of the plover breeding population on Monterey Bay exceeded the recovery plan targets.

A banded one-day-old plover chick takes its first steps and looks out at the vast beach ahead. Photo by Jenny Erbes.

While Western Snowy Plover population counts continue to steadily march in the right direction, the birds still face many threats. Because they depend exclusively on coastal habitats, plovers are highly vulnerable to the impacts of climate change. That’s why Point Blue’s plover team authored *Climate-Smart Conservation of Beaches and Dunes for Western Snowy Plover Recovery in Monterey Bay, California*, a framework that identifies climate-smart strategies that will help the Monterey Bay Snowy Plover population fully recover. It also helps resource managers assess the vulnerability of nesting sites in order to identify ways to make coastal habitat more resilient to rising seas and increased storm severity. “An important part of our climate-smart strategy is to continue to manage the impacts of predators and human-caused disturbance to provide time and space for plovers to adapt,” says Kriss Neuman, senior ecologist. “We simultaneously encourage conservation investment in sites that will be resilient in the future, as well as the implementation of strategies that will increase ecosystem resilience.”

Since the Snowy Plover Project began, our intrepid team of staff and volunteers have put in countless hours scouring coastlines in search of nests, identifying predators, installing protective fences, and building partner-

ships. They’ve monitored more than 11,300 nests, 31,000 eggs, and 14,920 chicks on Monterey Bay alone. And, with our 50+ partners, we now monitor plover breeding sites at Vandenberg Air Force Base, Oceano Dunes, and Point Reyes National Seashore. Last year—our 44<sup>th</sup> continuous season monitoring Western Snowy Plovers—more than 1,500 chicks hatched at our study sites!\*

The incredible efforts of the team have not only been critical in adding to the body of knowledge about Snowy Plovers; they have created an impact well beyond the initial scale of the study. “Our plover conservation efforts have led to a deep understanding of the threats facing coastal ecosystems and the need to develop monitoring efforts and conservation strategies that are multi-disciplinary and that will inform protection and conservation of sandy beaches,” explains Kriss. “Plovers have provided a critical foundation for us to face these challenges.” Point Blue will never give up on the fate of Snowy Plovers and the ecosystems on which they, and we, depend. 🌊

by Stacey Atchley-Manzer, Editor

\*See our 2020 Annual Impact Report to read a perspective on plover conservation during a challenging year, written by Carleton Eyster, Point Blue avian ecologist since 1991.

# A New Chapter

## Appreciation and Gratitude for Wendell Gilgert, a Champion of Rangeland Conservation, Soil Health, and Mentorship

*Saying “so long” to someone who has given so much to Point Blue always brings mixed emotions. And that’s truer than ever as we send Wendell Gilgert, stewardship ecologist and former director of our Working Lands program, into what we hope is a happy and fulfilling retirement. On the one hand, we relish the opportunity to reflect back on all Wendell has done over the past 10 years with us to advance conservation on working lands in California. On the other, we will miss Wendell’s intelligence, commitment to the work, and infectious passion. And as anybody who has spent any time with Wendell can attest, we will miss his great stories.*

*When Wendell joined Point Blue, we understood that there was an opportunity to make a real difference for the health of our planet by focusing some of our conservation efforts on private lands. Wendell worked closely with Strategic Partnerships Director Geoff Geupel to create a program that engaged agricultural producers to steward working lands for multiple benefits. The Working Lands program allowed us to leverage Farm Bill support through partnerships with farmers, ranchers, and foresters to maintain livelihoods and lifestyles while tapping into the regenerative power of nature. We are grateful to Wendell for all he did in his time here and are excited about the program’s new directions and growth under the excellent leadership of current program director, Dr. Libby Porzig. Before he left, I sat down with Wendell to ask a few questions about his time at Point Blue. —Mani Oliva, CEO*

**Why do you think it’s so important to work on private lands, like farms and ranches?**

Many people don’t know that 70% of our country is privately owned. And this tends to include the most fertile land and the flattest slopes because these were the most desirable

areas for human settlement. That means that these private lands represent a tremendous opportunity for wildlife management and enhancement. And through the Farm Bill—the largest source of conservation funding in the US—there are incredible financial resources available to support implementing sustainable practices on farms and ranches, including \$100 million per year earmarked for California alone. These practices are tremendously important for wildlife but also have significant benefits for the producers themselves, like increasing forage production, water retention, and carbon storage. And in so many cases, the producers themselves are truly dedicated and natural stewards of the land they manage.

**What’s it been like for you to mentor so many early- and mid-career biologists?**

At heart, I just really enjoy teaching. And this was true throughout my career with the Natural Resources Conservation Service and I brought that love with me to Point Blue. Young people are eager sponges, ready to absorb new information and I’ve always taken great pleasure in being out in the field with them. I love to just deliver rapid fire questions like *What do you see?* and *What does that mean?* all day long as I walked through so many beautiful California ranches. At the end of the day, both I and the Partner Biologists I was with would be completely exhausted, but in a really satisfying way. I just love creating “aha moments” for the biologists as they learned the joy and satisfaction of learning to read a property and understand the language of the land, become land doctors, and treat the earth the way it needs to be treated.



Wendell Gilgert samples soil on rangeland. Photo by Ryan DiGaudio/Point Blue.

**What gives you hope for the future of conservation? What trends are moving in the right direction?**

Our job is to transact in hope. If we are not hopeful people, then no matter what tack we take looking toward the future, change is not going to happen. I have a lot of hope for the future of climate-smart conservation, regenerative agriculture, soil health, and stewardship in general. This work is more urgent now than ever before, and I’m seeing more people getting involved and showing interest in learning more. Overall, I trust the American people and those closest to the land to do the right thing. Our outlook and the values we care about—science, stewardship, and respect for nature—are shared by many people, and I think that’s something to be really hopeful about. And I can’t wait to see where Libby and the rest of the team take the program. 🌍

## A Few More...

Point Blue has been around for more than 55 years, and our history is rich with stories of grit. Here are just a few more of the many examples we have of why effective conservation requires long term planning, long-term commitment, and long-term action.



We started studying the ecology of tidal marsh birds in 1996, and by 2010 it was becoming very clear that sea level rise and its potential impact to tidal marsh habitat was a critical threat. Our investment in producing models that illustrated how marshes across the San Francisco Estuary would respond to future sea level rise showed that restoration needed to start as soon as possible to ensure resilience. Twenty years after we began our study, these models paved the way for the passage of Measure AA in 2016, providing \$500 million in funds for marsh and wetland restoration in the SF Bay Area.



In 1992, The Fresh Water Shrimp club was created by 4<sup>th</sup> grade students. They had a vision to help restore streams for fresh water shrimp and other species. With dedicated students, teachers, and staff members, this initial club transformed into the STRAW program (Students and Teachers Restoring A Watershed), which over the last 28 years has restored 42 miles of streamside habitat, engaged over 50,000 students in education about science and habitat restoration, and developed more than 400 partnerships with landowners, community stakeholders, and others.



Point Blue has been collecting observations on seabird diets since 1970, when we started tracking what Common Murre parents were bringing back to their young on the Farallon Islands. We've maintained this dataset through rain or shine, government shutdowns, funding shortfalls, and even through 2020's pandemic. When its own at-sea research trips were cancelled due to COVID-19, the National Oceanic and Atmospheric Administration turned to Point Blue to help understand how the Northern Pacific anchovy population was doing. Based on our seabird observations and other data, they were able to estimate the abundance of anchovy to inform sustainable management.

**Point Blue** Advancing nature-based solutions to climate change, habitat loss, and other environmental threats for wildlife and people, through science, partnerships, and outreach.