

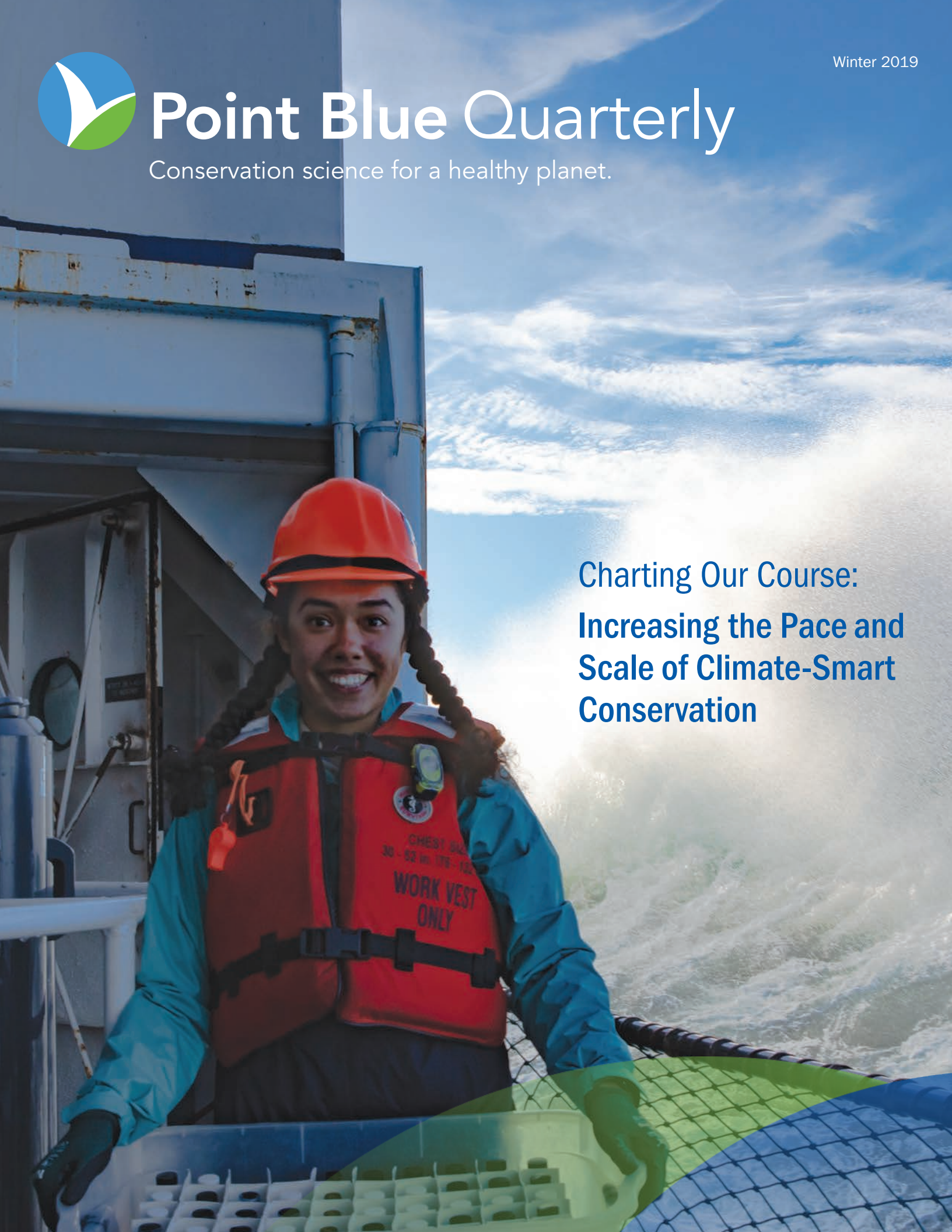


Winter 2019

# Point Blue Quarterly

Conservation science for a healthy planet.

Charting Our Course:  
Increasing the Pace and  
Scale of Climate-Smart  
Conservation





FROM THE CHIEF SCIENCE OFFICER

Left: Grant Ballard, PhD. Photo by Point Blue.

## Scaling Up

Every winter for the past 22 years, I've been lucky enough to travel to Antarctica to continue my field research monitoring a population of 600,000 Adélie Penguins at Cape Crozier. Being with a small team of other researchers at a remote field station provides a lot of opportunity for reflection. This year, when I wasn't consumed with our research and the daily tasks of survival in harsh conditions, I thought a lot about three things: urgency, responsibility, and ambition.

This past fall, in the wake of devastating—and record-breaking—wildfires in California and a summer of deadly global heat waves, a report by some of the world's leading climate scientists warned of just how urgent the climate challenge is.<sup>1</sup> Scientists call for dramatic cuts to our global emissions by 2030 to limit the worst impacts of climate change, like sea-level rise, more heat waves and wildfires, species extinction, and declines in crop yields. The report outlines a number of pathways to limit warming, with all of them relying on measures that pull carbon emissions out of the atmosphere, including nature-based solutions like the ones Point Blue studies and promotes.

I also thought about the responsibility we all share as stewards of this blue marble we call home. But even in light of the challenges we face, I view this responsibility as a privilege and not a burden. The opportunity we have to study and protect the world's special places and diverse array of species thrills me as a scientist and the responsibility to protect it for future generations motivates me each and every day.

And I thought a lot about ambition. Our rapidly changing planet faces complex challenges from climate change, habitat loss, and other environmental stressors. Today's urgent problems call for more than standalone innovations—we need bold, collaborative, and far-reaching conservation solutions to effect real change. In December of 2018, Point Blue's Board of Directors approved our next strategic plan, which will guide our activities from 2019 - 2024. Our overarching goal is to “increase the pace, scale, and impact of climate-smart conservation.” The key initiatives identified in our plan and described in this issue of the *Quarterly* will maximize the positive outcomes of our work, building off of lessons learned during the last five years (and the last 53 years!) while finding new ways to leverage our science and partnerships to achieve larger and longer-lasting impact.

For each of our initiatives, we've chosen to highlight just one story in this issue that we hope will provide a sense of how we are already beginning to increase the pace, scale, and impact of climate-smart conservation. While the challenges we face are significant, when I read the strategic plan itself and the stories in this issue, I am filled with hope for the future. And I hope you will be too.

Onwards,

Grant Ballard, PhD  
Chief Science Officer

The Point Blue *Quarterly* is published by the Board of Directors of Point Blue Conservation Science (founded as Point Reyes Bird Observatory). Edited by Stacey Atchley-Manzer with assistance from Point Blue staff.

Printed on recycled paper (100% post-consumer waste), using agri-based inks.

© 2019 pointblue.org.

<sup>1</sup>“Special Report on Global Warming of 1.5°C,” produced by the Intergovernmental Panel on Climate Change. <https://www.ipcc.ch/sr15/>



# Contents



## 4 Catalyzing Climate-Smart Restoration



## 8 Inspiring Conservation Action



## 12 Sustaining Working Lands



## 6 Conserving Oceans for Wildlife and People



## 10 Protecting Our Shorelines

**Top, left:** The valley elderberry longhorn beetle, a threatened species, depends on a single species for food and shelter, blue elderberry bushes that grow along Central Valley watercourses. Photo by USFWS.

**Top, right:** Shearwaters. Photo by Ryan DiGaudio/Point Blue.

**Middle, left:** Stefanie Krantz, former Point Blue intern and climate change coordinator for the Nez Perce Tribe. Photo by David Moen.

**Middle, right:** Bahía de San Quintín, Mexico. Photo by Charles Chandler.

**Left:** Cows graze on ranchland near Jenner, CA. Photo by Ryan DiGaudio/Point Blue.

### ALSO IN THIS ISSUE

- 2 From the CSO
- 14 Keystone Datasets by the Numbers
- 15 Making a Case for Optimism
- 16 Meet the Team
- 17 News and Calendar
- 18 Focus
- 19 Point Blue Board and Staff

### ON THE COVER:

Graduate student Carina Fish conducts research at sea with Point Blue scientists and partners. Photo by Julie Chase Baldocchi.

## Our New Strategic Goal

Over the next five years, Point Blue will increase the pace and scale of our climate-smart conservation science, finding new ways to leverage our research and partnerships to achieve larger and longer-lasting impact. The following stories offer a sneak-peek at key initiatives from Point Blue's new strategic plan—our roadmap for understanding and finding solutions to our planet's greatest challenges.



# Catalyzing Climate-Smart Restoration

## A Wise Investment for Our Changing Planet

*“Restoring our streams, forests, marshes, grasslands, and California’s iconic oak woodlands is a potent way to help our planet, to help ourselves. We are confident that this investment will yield more birdsong, create cleaner water, and stabilize our climate.”*

—Tom Gardali

*Pacific Coast and Central Valley Group Director and Catalyzing Climate-Smart Restoration Initiative Leader*

*Dead Man’s Reach.* The name doesn’t exactly conjure ideas of hope and promise, but that is precisely what this 591 acre parcel of riparian habitat within the Sacramento River National Wildlife Refuge represents.

As Tom Gardali, director of our Pacific Coast and Central Valley Group, explains, “Point Blue is doubling down on our investment in the hopeful science and practice of ecological restoration through our new Catalyzing Climate-Smart Conservation

initiative. We’re leading collaborative research that helps unlock the economic and ecological value of innovative restoration strategies,” says Tom. “And we’re expanding the footprint of climate-smart restoration with ambitious new goals, including 5,000 acres of meadows and 10,000 acres of tidal marsh.”

Dead Man’s Reach is the focus of a collaborative, multi-phase restoration project led by The Nature Conservancy and the US Fish and Wildlife Service, with climate

guidance from Point Blue. The restoration will aid in the conservation of endangered and threatened species like the valley elderberry longhorn beetle and Yellow-billed Cuckoo, enhance conditions for native fish, and improve water quality by reducing sediment and pesticide runoff. While the benefits to the local ecosystem are many and impressive, there’s evidence that there will be even greater climate impact through the restored land’s increased ability to store carbon.



Conservation scientists have long understood that, in addition to benefiting biodiversity, restored forests can help sequester carbon in trees and soil—a process critical to staving off global warming. But little attention has been paid to the carbon sequestration outcomes of restoring *riparian* forests—wooded land on the banks of rivers and other bodies of water. This is partly because these habitats tend to occupy a small proportion of total land base in most watersheds.

Point Blue Senior Research Ecologist Dr. Kristen Dybala wondered how carbon storage in California's riparian forests compared to those around the world, and other forest types in general. "I also wanted to get a better sense of how quickly riparian forests accumulate carbon, and whether they can contribute substantially to climate mitigation strategies, in California and worldwide," says Kristy.

Kristy and a team of colleagues set out to investigate. They collected and analyzed data from 117 publications, reports, and unpublished datasets. Next they created models to estimate how much carbon storage can be expected from a riparian forest. The results, published last fall, were provocative. The study concluded that the average amount of carbon stored in a mature riparian forest rivals the highest estimates for any other forest type—ranging from 168 to 390 tons of carbon per acre in the trees alone.

What's more, the study also found that, on average, soil carbon storage more than tripled when converting from an unforested site to a mature streamside forest. According to Kristy, "One of the most important things we found was that actively restoring riparian forests—by planting trees—jump-starts the carbon sequestration process." Over the first 10 years, the trees stored carbon at more than twice the rate of forests that were regenerating naturally. Discovering how important riparian restorations can be—and sharing the news—is significant, because we need to act fast to reduce carbon from our atmosphere.



Rehabilitating riparian ecosystems like Dead Man's Reach offers hope for our changing planet in two key areas. "We know the tremendous value of riparian forests to fish and wildlife habitat in California," says Kristy, "and now we are also beginning to recognize the climate-change mitigation benefits these forests provide." And through studies like Kristy's, we're providing key

scientific information that can help inform restorations around the world. As Point Blue works to catalyze climate-smart restoration over the next five years, you can be sure we'll increase the emphasis on riverside forests and their "sweet spot" of benefits for people, wildlife, and the earth. 🌍

by Stacey Atchley-Manzer

## Partner Spotlight: The Nature Conservancy

Partnerships with organizations like The Nature Conservancy are essential to Point Blue's collaborative work to ensure a hopeful and healthy future. "Point Blue has been a trusted partner for The Nature Conservancy's restoration work for decades—helping us understand the effectiveness of our riparian restorations in the Central Valley," says Adrian Frediani, project director for the Nature Conservancy. "With insight gained from using Point Blue's climate-smart restoration approach, we are planning projects that can be resilient to the effects of climate change."

**Opposite page:** Point Blue and our partners are working to restore riparian habitat in the Sacramento River National Wildlife Refuge, bringing native plants and wildlife back to the area. Photo by Cindy Sandoval/USFWS.

**Above:** The Yellow-billed Cuckoo's decline in California has been linked to the loss of riparian forest habitat. Photo by Mark Dettling/Point Blue.

# Conserving Oceans for Wildlife and People

## “Seeing” into Marine Ecosystems

*“With innovative methods, strong partnerships, and expertise in collecting, managing, and analyzing long-term data, Point Blue is providing the scientific basis for plans and strategies to support healthy marine ecosystems into the future. We’re escalating the pace and scale of our marine science to help sustainably balance the needs of wildlife and humans in our changing world.”*

—Jaime Jahncke, PhD

*California Current Group Director and Conserving Oceans for Wildlife and People Initiative Leader*

From California’s National Marine Sanctuaries to the Ross Sea in Antarctica, Point Blue is using innovative technology to provide the scientific basis for protecting entire marine food webs. But conservation science for ocean life involves particular challenges. The ocean is naturally variable and its denizens need ample time and space in order to adapt. Yet changes are accelerating due to increasing human

activities in the ocean, and the threats to ocean life are further exacerbated by climate change. Point Blue brings a suite of innovative methods to “see” the inner workings of marine ecosystems and to gauge the status of critical marine life, providing information to public agencies to help protect ocean resources while ensuring the resilience of marine wildlife into the future.

Part of our work in the wildlife-rich California Current is focused on the humble but vital members of the marine ecosystem, the so-called forage fish. These are small swimmers that occur in enormous numbers, species such as northern anchovy and juvenile rockfish. Because they represent a critical link in the food web—feeding on smaller organisms and in turn getting eaten by larger ones—it’s essential to know the





status of their populations. Point Blue data helps federal agencies like NOAA (National Oceanic and Atmospheric Administration) Fisheries make better decisions about the quantities of forage fish that can be sustainably harvested—leaving enough to ensure a resilient population and also support other wildlife.

In one example, seabirds breeding on the Farallon Islands depend on forage fish for their survival. In a “good news/bad news story,” populations of Common Murres and other species have increased after decades of protection and stewardship, recovering from oil spills, poor food years, and gill net fishing that depleted their numbers. According to Point Blue’s calculation, seabirds in the greater Gulf of the Farallones region consumed more than 60,000 metric tons of forage fish in 2015, up from 8,500 metric tons in the mid-1990s. Meanwhile—and this is the bad news—fishery quotas for key species like northern anchovy haven’t been updated since 1995, when the needs of seabirds were far less.

To provide more fine-grained knowledge about forage fish populations and help fisheries set sustainable limits, Point Blue brings two extraordinary vantage points. One is an observation blind high above a murre colony on Southeast Farallon Island. There, Pete Warzybok leads a crew of Point Blue biologists working with the US Fish and Wildlife Service to monitor the birds’ breeding success and diet. The team documents the fish that murres bring their chicks, identifying and counting each fish a bird brings back. Says Pete, “Seabirds represent the most accurate ‘sampling device’ for forage fish in the ocean near their colonies.”

A very different kind of forage fish detection occurs aboard the NOAA research vessel *Fulmar*. On our scientific cruises offshore

of San Francisco and Bodega Bay, Point Blue scientists and partners from the Cordell Bank and Greater Farallones National Marine Sanctuaries monitor bio-acoustic data as the *Fulmar* travels. An instrument mounted on the hull emits sound signals into the water, and echoing “pings” bounce back, revealing swarms of krill, schools of anchovies, and individual juvenile rockfish.

While the variables are immense in this fluid ecosystem, and the stresses of ocean–climate change are mounting, our science and partnerships have a great capacity for “seeing” into marine ecosystems and informing conservation. Over the next five years, we will expand this work and include other top predators, including non-breeding seabirds, marine mammals, and predatory fish, to estimate total forage fish consumption in California and the West Coast. We will develop the partnerships and infrastructure

needed to share our data, new analyses, and expertise directly with the Pacific Fisheries Management Council to influence forage fish management. 🌊

by Claire Peaslee



## Partner Spotlight: National Oceanic and Atmospheric Administration (NOAA)

Point Blue’s Farallon Islands bird observations and at-sea bio-acoustic research, combined with data from trawl sampling by NOAA’s National Marine Fisheries Service, are yielding the most precise knowledge to date about shifting forage fish populations. “NOAA’s trawl-survey research in Central California dates back to 1983, and Point Blue’s studies of seabird diets are even longer-term,” says Dr. John Field, a NOAA fisheries research biologist. “These complementary time series are extraordinary and extremely valuable for understanding variability in the marine ecosystem,” he continues. “This data can help us manage ocean resources for sustainability, including for predators such as seabirds.”

**Opposite page:** Humpback whales feeding on northern anchovy in the Monterey Bay. Photo by John Krzesinski.

**Above:** Former Point Blue Laboratory Research Assistant Grace Kumaishi recording data and labeling samples collected during an ACCESS (Applied California Current Ecosystem Studies) research cruise aboard a NOAA vessel. Photo by Jaime Jahncke/Point Blue.





# Inspiring Conservation Action

## From Intern to Climate-Smart Ambassador

*“Despite the daily news headlines, I find hope in stories of people making a difference for our world. Empowering people to take actions that will make a difference for nature is at the heart of our Inspiring Conservation Action initiative.”*

— Melissa Pitkin

*Education and Outreach Group Director and Inspiring Conservation Action Initiative Leader*

Point Blue’s education programs have provided real-world experience, training, and inspiration for students, professionals, and early-career conservationists for decades. Just ask Stefanie Krantz, a wildlife biologist and ecologist who works as climate change coordinator for the Nez Perce (Nimiipúu) Tribe in Idaho. She’s one of more than 1,500 interns from 22 countries to have graduated from Point Blue’s intern training program since 1965, and she can be

counted among the 80% of interns who’ve gone on to conservation careers.

More than ever, we’re preparing people like Stefanie to address climate change and other environmental threats in their careers. A new focus in our updated strategic plan is to develop ambassadors of our climate-smart approach through education programs, training workshops, and immersive internships. “We’re excited about connecting people to ways they

can make an impact,” says Melissa Pitkin, director of education and outreach, “whether it’s by seeking conservation careers, sharing our climate-smart science, or working alongside community members to restore streams and wetlands.” And with our new Rich Stallcup Training Center, we’re providing an immersive space where budding conservationists can exchange bold new ideas with peers and learn from experienced leaders every day.



Stefanie is a prime example of a conservation ambassador in action. She is carrying forward lessons learned from her Point Blue training and education, disseminating that knowledge, and cultivating climate-smart conservation in her community. As an intern at our Palomarin Field Station in 2007, she banded birds and helped educate visitors about conservation activities. “My Point Blue internship showed me an example of efficient and community-based conservation management that was inclusive and fun,” she says. “It taught me a great way to be a project manager and conservation biologist.”

After facing increasing climate change impacts, the Nez Perce Tribe hired Stefanie in 2016 to coordinate a vulnerability assessment, adaptation plan, and restoration toolkit. It’s a complex task, but Stefanie draws on her Point Blue training for inspiration. “I think of mentors like Geoff Geupel, Renée Cormier, and Rich Stallcup often when I am trying to decide what to do at work,” she says.<sup>1</sup>

According to Stefanie, temperatures on Tribal lands could increase up to 10 degrees Fahrenheit by the end of the century, jeopardizing water resources and wildlife like salmon, which are culturally significant to the Nez Perce. “The impacts of climate change hit them hard because they are a place-based people—their creation story and history are based in this landscape,” she explains. With this in mind, Stefanie attended a 2016 workshop on Point Blue’s climate-smart restoration toolkit, a resource for managers looking to increase ecological resilience in a changing climate. Stefanie was eager to adapt Point Blue’s framework for use in Nez Perce projects, leading to the formation of an exciting new partnership.

“Being able to design restoration plantings that are resilient to change is critical for cooling streams and retaining water on the



landscape,” Stefanie says. “The toolkit that we are building will allow our managers to select for species that offer climate benefits as temperatures warm.” But the toolkit doesn’t stop at being climate-smart. Says Stefanie, “We are adding cultural values and Nez Perce Language, which will help our staff to create *culturally-smart* restoration projects as well.”

The collaboration Stefanie has forged between the Tribe and Point Blue expands

the reach of our climate-smart conservation science, and creates a model for possible partnerships with other Native American groups. As students, partners, and professionals graduate from our training programs, we are positively influencing conservation outcomes for the benefit of nature and people, one ambassador at a time. 🌍

by Stacey Atchley-Manzer

## Partner Spotlight: Nez Perce Tribe

Point Blue and the Nez Perce Tribe Resilience Program have formed a new partnership to develop a toolkit and training workshop to help build ecological and cultural resilience to environmental change. “The assistance of Point Blue Conservation Science with Climate Smart Planning projects is an invaluable part of planning for tribal resilience at the Nez Perce Tribe,” says Shannon Wheeler, Nez Perce Tribe executive committee chairman. “Their work and partnership will help us to protect a way of life to be enjoyed for thousands of years, and for our future generations.”

**Opposite page:** Stefanie Krantz and her son walk through a rare Palouse Prairie remnant at the Rose Creek Nature Preserve near Pullman, WA. Photo by David Moen.

**Above:** Fishing for species like chinook salmon has long been an important part of Nez Perce culture. Photo by SuperCaliPhotoListic.

<sup>1</sup>Geoffrey Geupel, Emerging Programs & Partnerships Group director; Renée Cormier, avian ecologist; and the late Rich Stallcup, Point Blue founding biologist.

# Protecting our Shorelines

## Conserving the Pacific Flyway in a Time of Change

*“Sea-level rise, along with increased storm severity and frequency, threatens our crucial coastal environments and communities with flooding and erosion. We’re expanding our work to identify vulnerabilities and catalyze conservation actions that make coastal habitats more resilient for wildlife and people. Our cutting edge scientific tools and modeling, combined with our long-term data collection and partnerships with organizations from Alaska to Chile, helps communities plan for our changing future.”*

— Sam Veloz, PhD

*Climate Adaptation Group Director and Protecting Our Shoreline Initiative Leader*

Partway down the Pacific coast of Mexico’s Baja peninsula, there’s a beautiful bay at the end of a dirt road. Dunes extend to the horizon, dotted with native vegetation and intertidal mudflats that provide food for both migratory birds and human communities. This is Bahía de San Quintín, home to an annual bird festival and the world’s largest concentration of wintering Black Brant, with 20-30,000 of the small black and white geese visiting each year before migrating north to breed in Alaska.

“If you want to see a nearly pristine coastal ecosystem, you couldn’t do better than visiting a place like Bahía de San Quintín,” says Dr. Matt Reiter, quantitative ecologist at Point Blue. “There you can see internationally important populations of birds, yet people still make a living through aquaculture and fishing—an example of finding the balance of human need and wildlife conservation.”

Matt has been traveling to Mexico since 2011 as part of the Migratory Shorebird Project, a Point Blue-led, international science collaborative. Matt shared our climate-smart conservation principles with partner organizations and agencies at the San Quintín Bay Bird Festival last fall. Local groups like Terra Peninsular, a Baja California non-profit, are using Migratory Shorebird Project data to protect important habitat in the area.

Bahía de San Quintín lies in the heart of the Pacific Flyway, the major north-south bird migration path stretching 4,000 miles from Alaska to Chile. Large, colorful murals in town depict birds and important places on their migratory routes. They illustrate the interconnectedness of coastal habitats and communities along the flyway, underscoring the importance of conserving as many of these places as possible.

One of the stops highlighted on the murals is *Laguna Bolinas, California!* Bolinas is home to Point Blue’s Palomarin Field Station, where we’ve monitored migratory birds for more than five decades.

From Bolinas to Bahía de San Quintín and beyond, Point Blue is building a strong

force of high impact conservation scientists in every country along the Pacific Flyway, training them in the cutting edge practices they need to protect critical habitat.

“After 10 years of network-building, we’re excited that we now have partners in all 13 countries,” says Catherine Hickey, conservation director at Point Blue. “We’re sharing our unique model—taking data collected by citizen scientists and biologists, adding climate-smart principles that help human and wildlife communities prepare for the future, and leveraging strong collaborations to help government agencies take action based on our rigorous science.”

Partnership networks like these enable us to catalyze simultaneous conservation








actions around the world, greatly increasing Point Blue's impact. Many of our new objectives—including adding climate-smart principles to national and international wetland conventions and planning—are only achievable because of our partnership-building efforts.

While Pacific Flyway habitats continue to be lost to and degraded by human development, they also face increased threats from sea-level rise. Our Flyway partnership network presents a promising opportunity to increase the scale and impact of climate-smart coastal adaptation by expanding resources like the collaboratively-led Our Coast Our Future. This Point Blue-hosted platform provides modeling of sea-level rise in California, helping coastal managers direct conservation efforts towards priority habitats and practices that enhance resilience.

The Migratory Shorebird Project is a perfect example of our goal to address coastal vulnerabilities for a changing future. We can't protect 4,000 miles of coastline alone, but by combining our innovative

science with our strong networks, we can help ensure that our partners have the tools they need to join us in our mission

to help people and wildlife adapt to rapid environmental change. 

*by Zachary Warnow*

## Partner Spotlight: The Northwest Mexico Bird Group (Grupo Aves del Noroeste)

The Northwest Mexico Bird Group (Grupo Aves del Noroeste, or GANO), hosted in Mexico by Terra Peninsular, is a network of individuals dedicated to the study and conservation of waterbirds in northwestern Mexico. Its observers are students, technicians, biologists, and researchers from NGOs, universities, research centers, private companies, and independent consultants. "The Migratory Shorebird Project, led by Point Blue, through standardized protocols for monitoring birds and their habitats, has allowed GANO's efforts to be strengthened as individual efforts are now oriented towards shared regional conservation goals," says Terra Peninsular founder and board member Eduardo Palacios. "The MSP has also given GANO the opportunity to participate in an international project of migratory bird conservation and a sense of belonging to a broad guild of shorebird biologists."

**Opposite page:** Bahía de San Quintín, Mexico. Photo by Charles Chandler.

**Above:** Young citizen scientists in Colombia collect data for the Migratory Shorebird Project. Photo by R. Johnston.

# Sustaining Working Lands

## Soil, the Great Connector of Lives

*“Because of climate change, the way we manage our lands and apply conservation practices over the next 30-50 years NEEDS to look different than how we’ve managed our lands in the past. Our Sustaining Working Lands initiative provides an amazing opportunity to work hand-in-hand with farmers, ranchers, and other land stewards to ensure that agricultural landscapes live up to their potential to support the needs of people and wildlife.”*

—Elizabeth Porzig, PhD

*Sustaining Working Lands Initiative Leader*

Wendell Berry, the great American novelist, environmental activist, and farmer, wrote that “soil is the great connector of lives, the source and destination of all.” And if you’ve spent any time at all with a farmer or rancher, you probably noticed that they care immensely about the state of their dirt. Is it loose or hard-packed? Filled with bugs and worms or not? Dark and rich or light and silty? As the “great connector of lives,” caring for soil has a ripple effect that extends outwards, encompassing everything from micro-organisms to birds and other wildlife, and to entire food production systems and the people who are part of them and benefit from them.

Since 2011, through a unique partnership with the Natural Resources Conservation Service, Point Blue has turned its scientific expertise to working together with agricultural producers to study and share how they can take care of their soil. “Looking ahead,” says Dr. Elizabeth (Libby) Porzig, lead for Point Blue’s Sustaining Working Lands initiative, “one of the things we’re most excited about is the potential for these projects to lay the foundation for climate-smart agriculture incentive programs nationally and globally.” Through efforts to strengthen and establish new relationships with policy makers, publicly share scientific resources, and expand our network of farmers and ranchers, we’ll amplify Point Blue’s impact in California and beyond.



“When you look at agricultural systems through the lens of our new goal to increase the pace and scale of climate-smart conservation,” Libby continues, “soils present this amazing opportunity. Taking care of soil can both make agricultural land more resilient to climate change’s effects, like drought, and pull carbon from the air and store it in the ground, slowing climate change itself. At the same time, farmers and ranchers can get all these other benefits, like more productive land, more water retention, and increased biodiversity.”

California farmers interested in exploring more sustainable farming methods for

healthier soil—like applying compost, tilling less, or planting native vegetation—can apply for state funding from the California Department of Food and Agriculture’s (CDFA) Healthy Soils Program. The money that funds these grants comes from California’s landmark climate program, which charges some industries for the carbon pollution they emit. But these grants often come with lengthy applications, technical planning, and in some cases, rigorous monitoring and data tracking requirements that would be tough for farmers to meet on their own. Point Blue has 14 partner biologists serving 21 California counties and one county in Nevada, who assist landowners in meeting

**Above:** Comparing soils from agricultural land in different regions. Photo by Ryan DiGaudio/Point Blue.

**Opposite page:** Point Blue Partner Biologist Corey Shake samples soil on rangeland. Photo by Ryan DiGaudio/Point Blue.





the requirements. Our partner biologists also work with landowners to present what they're learning during workshops at demonstration sites, exposing the strategies to a wider audience.

"We're at a really interesting moment where soil health is a hot issue and agricultural producers want to know more, but there are still some big knowledge gaps," says Breanna Owens, coordinator of Point Blue's partner biologist program. "One of the biggest impacts we can have with this work is to broaden the evidence base about which practices work best, and then spread those practices to other producers. In this way, we're really making the most of the investments from early-adopting producers and CDFA."

Over the past century, as agricultural practices became increasingly mechanized and standardized, the health of the soil has taken a big hit. Over-tillage, heavy pesticide use, and leaving soil exposed has led to severe soil degradation, with soil losing

nutrients, organic matter, and its ability to store water over time. Now, however, that tide may be starting to turn.

"I'm very hopeful for the future as I look at the potential to use our science to inform soil management practices," Breanna says. "Conservation partners and ag producers at all scales are engaged in the soil health conversation and interested

in learning more about the benefits that can be achieved by taking better care of the soil. Point Blue data is providing the evidence base to support growers in sustainable management decisions, with positive impacts for their land, the food they produce, and the ecosystems they steward." 

*by Zachary Warnow*

## Partner Spotlight: The McConnell Foundation

The McConnell Foundation, based in Redding, CA, is making an impact through philanthropy and partnerships. Increasingly, conservation and community planning that incorporate local food production and resource stewardship are a central focus. "The Foundation's goal is to build strong partnerships that integrate the public, private, and nonprofit sectors to promote positive change and build better communities," says Alex Carter, director of land management. "When capacity and community readiness coalesce, the outcome can be transformative," he says. "The McConnell Foundation's relationship with Point Blue Conservation Science embodies the concept of this partnership when addressing locally important issues of conservation concern."



# facts:

## Keystone Datasets by the Numbers

Point Blue's Keystone Datasets are ongoing, 10+ (in some cases 50+!) year datasets that provide a rich source for scientists to investigate how nature works, how human impacts are affecting wildlife and natural processes, and how people can work together and with nature for a better tomorrow. Examples of our Keystone Datasets include: Farallon Islands, Palomarin Field Station, ACCESS Oceans, and San Francisco Bay Tidal Marsh.

**300+** Number of peer-reviewed scientific publications that have been supported by our Keystone Datasets. These publications can help advance knowledge, influence conservation management actions, and provide science education opportunities.

**2004** Year that the Applied California Current Ecosystem Studies (ACCESS) partnership—led by Point Blue and NOAA's Cordell Bank and Greater Farallones National Marine Sanctuaries—begin conducting ocean research to inform resource managers, policy makers, and conservation partners.

**53** Years that our Palomarin Field Station has been tracking change, informing management, and training the next generation of conservation scientists through intensive field-based internships.

**1,000+** Number of animal species that live in the San Francisco Bay Estuary. Since 1996, Point Blue has collected data to assess the status and trends for tidal marsh-dependent birds throughout the Estuary. As the baylands change, we continue to leverage our data and partnerships to assess and guide restoration to benefit birds and our Bay Area communities.



Staff members Mark Dettling, Diana Humple, and Hilary Allen record the first vagrant bird of the fall 2018 season, a Canada Warbler, at our Palomarin Field Station. Photo by Nicole Gaudenti/Point Blue.



# Making a Case for Optimism: Geoffrey Gordon-Creed

Geoffrey Gordon-Creed is not one to back down from a challenge. A Founding Member and Partner at Gordon-Creed, Kelley, Holl & Sugerman, LLP, Geoff is a top-rated attorney with a long list of distinguished accomplishments and service. As Secretary of Point Blue's Board of Directors, he addresses climate change with a resolve befitting his professional tenacity. He shared with us some of the experiences that have inspired his lifelong love of nature and explains why he has hope for our changing planet.

## A Reverence for Nature

"There have been many teachers and friends who I credit with sparking and encouraging my love for science, history, and the natural environment. I think the person that was perhaps the most influential in cementing my interest in conservation and the outdoors was "Pop" Hollandworth, a remarkable teacher who taught at my Asheville, NC, high school. Pop had started what was then called a "mountaineering" program at the school. I hiked, climbed, canoed, kayaked, and caved with Pop all through Western North Carolina, Tennessee, and Georgia, both during the school year and the summer. Spending time with Pop, you didn't just learn to camp, hike, climb, and canoe, but you absorbed his reverence for the natural world and his desire to preserve it."

## Making a Difference through Volunteer Leadership

"I've always been interested in science and I minored in biology in college. Had I not become a lawyer, I think I would have been most happy as a marine biologist. The more I learned about Point Blue's work, the more it felt like the right place for me to volunteer and support. It is my small effort to be part of the team working to move people and institutions in the right direction.

"I have enormous respect for Point Blue's unrelenting focus on making sure that the

science behind the work it does is really good science—that is one of Point Blue's 'super powers.' I also really like that the scope of the work Point Blue does is so broad. Since joining the Board, I have learned more about soil, watersheds, birds, and marine fisheries than I thought possible."

## Planning for a More Hopeful Future

"Tackling the issues of climate change and environmental degradation are daunting. But I'm not willing to concede that just because the challenge seems at times overwhelming that my course should be throwing up my hands in resignation. I'm no Pollyanna, but I am an optimist, and believe that if we do our part, or even a little something, we can make a difference.

"What really excites me about Point Blue's plan for the next five years is that it has the specific goal of seeking to both leverage and amplify the core strengths and skill sets of Point Blue so that we can have a greater impact on conservation and the work needed to mitigate the effects of climate change. It should serve as a great road map for the organization as we move forward."

## The Importance of Taking Action Now

"My wife Jean and I have always been enthusiastic supporters of conservation and conservation organizations. Most people I know care about the environment and want to do something to help conserve it.

"If there was ever a time to do something, now is the time. All

of the credible science tells us loudly and clearly that if we don't take serious action to protect our oceans, preserve ecosystems, and combat warming of the planet, our world will soon be a very different and unpleasant place to live. No one person, organization or government can fix the massive environmental problems we have created for ourselves and our children, but you can act and there are terrific scientists at Point Blue and elsewhere who will act with you, and who will appreciate the support. There are amazing people who work every day to solve these problems, and if we all join in they will be solved. If we stand on the sidelines frozen in indecision or despair, they won't." 🌍

by Stacey Atchley-Manzer

*Like Geoff, you can make a difference for the health of our planet through your support of Point Blue. Visit us at [pointblue.org](https://pointblue.org) to learn about volunteer opportunities and other ways to get involved. To learn more about opportunities to give, please contact Nancy Gamble, Director of Philanthropy, at 707.781.2555, ext. 324 or [ngamble@pointblue.org](mailto:ngamble@pointblue.org).*



Geoffrey Gordon-Creed and wife Jean Fraser on a 2018 Point Blue donor expedition to the Sea of Cortez. Photo by Julie Chase Baldocchi.

## MEET THE TEAM

## Libby Porzig, PhD Sustaining Working Lands Initiative Leader

From rugged mountains and redwood forests to chaparral and sandy beaches, California's Central Coast supports a remarkably broad range of habitats, and in turn great biological diversity. Red-legged tree frogs, bobcats, and Burrowing Owls each find their niche here. It is this rich landscape that first awakened in Elizabeth (Libby) Porzig, PhD, a deep love for the natural world. "My childhood was spent exploring the Central Coast hills on foot and horseback," she recalls. "This instilled in me a deep connection to place, and with that came a sense of responsibility to steward our natural resources."

That true and vital connection to the earth led Libby to a formative Point Blue internship following her studies at Stanford University and UC Santa Cruz. She monitored and banded songbirds in the Eastern Sierra and at our Palomarin Field Station. "The opportunity to completely immerse myself in ecology and natural history with the guidance and encouragement of Point Blue scientists solidified my commitment to pursuing a PhD in Ecology," she says. "My dissertation was built on the foundation of Palomarin's long-term datasets."

As Sustaining Working Lands Initiative Leader, Libby now heads Point Blue's charge to understand and improve ecological function on agricultural lands. "California's working lands are part of the fabric of our landscape and our communities," she says. In addition to providing food that sustains human communities and economies, these landscapes also contribute to ecosystem services such as water quality and availability, biodiversity conservation, and nutrient cycling.

In California's working lands, Libby sees a tremendous opportunity to increase the pace and scale of our climate-smart

conservation science. "About half of California's land area is privately owned, and much of this is used for agriculture," she explains. "We see really exciting opportunities in working lands to help build resilience to climate change and sequester carbon."<sup>1</sup>

But affecting landscape-scale change requires a multi-dimensional—and practical—approach, pairing Point Blue's rigorous science with on-the-ground management to "understand what works." These days, that involves more time in front of a computer for Libby than in the natural world she adores. "When we first started the Rangeland Monitoring Network, I got to spend a lot of time in the field, developing our field methods and testing them in different environments," she says. "Now that we are a few years into data collection, my time has shifted to data analysis, which I also greatly enjoy. I still love going in the field whenever I can."

Libby and her team of partner biologists and other scientists, ranchers, researchers, and conservation partners are working to make sure agricultural lands provide as much benefit as possible to the communities and wildlife that depend on them. It's an essential part of Point Blue's climate-smart strategy, and a big task. "The challenge is always wanting to do more than I am doing," says Libby. "There are only so many hours



Libby Porzig holding a soil core sample. Photo by Ryan DiGaudio/Point Blue.

in the day and the list of questions for science and challenges and opportunities for conservation is long!"

Libby's abiding love for nature, rooted in those childhood explorations of the coastal hills, makes her resolute in her sense of responsibility to our planet. "We are passionate, ambitious, and committed to being part of changing the way the world stewards our natural resources," she says of herself and her Point Blue colleagues. She adds: "Over the next five years, we will continue to build on our success in supporting a community of engaged farmers and ranchers with actionable science." 🌍

by Stacey Atchley-Manzer

<sup>1</sup>Read more about our work to improve the health and ecological benefits of agricultural lands on page 12.



## NEWS BITES

### High-Tech Auklets

Thanks to technology, Point Blue, working with grad students at San Jose State University, recently discovered new details about the foraging behavior and habitat use of breeding Rhinoceros Auklets nesting within the Farallon Islands National Wildlife Refuge. In a recent study, birds outfitted with modified GPS data logging devices revealed areas of intensive activity, including outer shelf-break habitat that had previously been unidentified. The data also showed that foraging patterns appeared to be driven by prey availability, as well as local environmental conditions.



### Increasing Habitat for Waterbirds

A recent study by Point Blue's Kristin Sesser and colleagues found that staggered water removal from flooded rice fields successfully extends the duration of habitat availability for a diversity of waterbirds. This practice also created a mosaic of water depths, appealing to a range of birds from dabbling ducks to long-legged waders. The study demonstrates that delayed water drawdown is a viable conservation strategy for rice farmers who flood their fields.

### Micro Habitats Prove Crucial for Conservation

Small, isolated patches of habitat play a much bigger role in conserving biodiversity than previously thought, according to a recent study co-authored by Point Blue's Sam Veloz. The results provide a powerful argument for not overlooking small patches of habitat when prioritizing restoration and conservation efforts. Says Sam, "Our paper emphasizes that small but important habitat patches should be included in an overall conservation portfolio."

Visit the "research" page on our website to read all our publication and report briefs.

## POINT BLUE CALENDAR

### SUPPORTER EVENTS

**FRIENDS OF POINT BLUE  
RECEPTION  
MARCH 13  
SAN FRANCISCO, CA**



Friends of Point Blue (donors of \$500+ annually) are invited to an exclusive reception and presentation by Sierra Nevada Group Director Ryan Burnett. Contact Nancy Gamble at 707.781.2554 or visit [point-blue.org/donate](http://point-blue.org/donate) to learn more about becoming a Friend.

**EXPLORING ALASKA'S  
COASTAL WILDERNESS  
WITH POINT BLUE  
MAY 18 - MAY 25**



Experience Alaska's amazing wilderness and wildlife with Point Blue scientists aboard the nimble 31-cabin National Geographic Sea Lion. To reserve your place, please contact Lindblad Expeditions at 888-773-9007 or [groups@expeditions.com](mailto:groups@expeditions.com).

### SCIENCE EVENTS

**THE WILDLIFE SOCIETY,  
WESTERN SECTION  
ANNUAL CONFERENCE  
FEBRUARY 4-8  
YOSEMITE, CA**

Point Blue's Brent Campos and Mel Preston will present on the ecology and conservation of birds.

**CALIFORNIA CLIMATE &  
AGRICULTURAL NETWORK  
SUMMIT  
MARCH 4-5  
UC DAVIS**

Point Blue's Kristin Sesser will speak on California's climate-smart agricultural incentives while Wendell Gilgert will moderate a discussion about climate adaptation on working lands.

**AMERICAN  
ORNITHOLOGICAL  
SOCIETY MEETING  
JUNE 24-28  
ANCHORAGE, AK**

Point Blue's Kristen Dybala, Tom Gardali, and Nat Seavey will present on "Birds with Benefits: Evidence and Trade-Offs of Multiple-Benefit Conservation Focused on Birds."

**Clockwise, from left:** Former Point Blue intern Jen Aragon safely holding a Rhinoceros Auklet. Photo by Annie Schmidt/Point Blue. 2017 Friends reception. Photo by Lishka Arata/Point Blue. Discover Alaska with Point Blue this spring. Photo by Roderick Eime.



## focus

*Rich Stallcup (1944-2012) was a Point Blue co-founder and naturalist extraordinaire. His original Focus essays inspired a love of nature and conservation. The column excerpted below was written in winter 2004. Read about our current work to protect habitat for Brant Geese and other migratory birds on page 10.*



## Brant—The Sea Goose

For most, the word “geese” might bring visions of thunderous flocks of Snow, Ross’, White-fronted, and Canada Geese in winter at unique interior wetlands. Being inside or under 200,000 of these magnificent birds is awesome and unforgettable, and can also serve as a connection to once-untouched planet wildness.

Another fine goose species, Brant (*Branta bernicula*) occurs primarily in winter, along the coasts in special bays where forests of subaquatic *Zostera marina* (eelgrass) thrive. Eelgrass is the Brants’ obligate winter forage, and they normally do not occur where this plant does not grow.

Brant is a holarctic species (it has populations in boreal regions all around the world) that nests on tundra near saltwater environments. There are three to four subspecies, depending on one’s taxonomic leanings. On the North American continent, most Brant winter on the few adequate estuaries that still exist. Their winter range includes both coasts of the US and, for Black Brant (*B.b. nicricans*, the Eastern Pacific subspecies), southwest British Columbia and the ocean side of Baja California.

### Eelgrass and Brant

During the winters of 1930-31 and 1931-32, *Zostera* forests failed and crashed due to disease caused by an amoeba-like microbe called *Labyrinthula*. All world Brant were affected. The population hit hardest, *B.b. horta* along the East Coast of North America, was devastated, and the few that survived did so by changing their programmed foraging behavior to include grazing on slightly upland grasses. Today *Zostera* has recovered, and so have Brant numbers.

Black Brant along our West Coast now have a healthy population again. Having survived overhunting and eelgrass failures, they now number 200-300,000 birds. They also have protected sanctuaries where they can live in peace.


### Brant Migrations

Along the coast of Central California, spring migration happens from mid-March through May as birds move north from western coastal Baja toward the Arctic. They flock coastally, sometimes right along the beach,

and the flocks are often formed as balls rather than V’s or skeins.

Fall migration, for a hefty percent of these birds, is quite different. Finished with breeding, many individuals and family groups move west to stage in the Aleutian Islands. From there, over a period of about one week they all depart, in flocks of various sizes, for an astonishing 3,400-mile, nonstop, overwater flight. Averaging 60 miles per hour, some reach the coast of Baja after 57 hours. They fly well offshore, endure a 40- to 50-degree temperature change between Alaska and Mexico, and lose one-third of their body weight.

### Doing Lunch with Brant

One good place to be with Brant is Bodega Harbor, Sonoma County, where many hundreds are present in midwinter. (There were none there from about 1960 to 1990.) Get a window seat at the Tides Restaurant (the best eatery there for bird, seal, and sea lion viewing). Watch the sea geese work their now safe and flourishing habitat. And bring your binoculars to lunch, always. 



# Point Blue Board and Staff

## Board of Directors

Megan G. Colwell, Chair  
Ivan Samuels, 1st Vice Chair  
Jeffrey Kimball, 2nd Vice Chair  
Geoffrey Gordon-Creed, Secretary  
Martha Ehmann Conte, Advancement Chair  
Ana Galutera, Finance Chair  
Nadine Peterson, Policy Chair  
Robert S. Shwartz, Human Resources Chair  
David Ackerly, PhD, Science Advisory Chair  
Clinton Moloney, Strategic Planning Chair  
Julie Chase Baldocchi  
Anne Chadwick  
Rob Faucett  
Ellen Hines, PhD  
Stuart Jacobson  
David Myles, PhD  
Peter Norvig, PhD

## Honorary Board Members

Ted Eliot  
Bill Foss  
Carolyn Johnson  
Jack W. Ladd  
Ed Sarti, Search and Transition Committee Chair  
Anne Stone  
Steve Thal

## Science Advisory Committee

Ellen M. Hines, PhD, Chair  
David Ackerly, PhD  
Kristin Dybala, PhD  
Valerie Eviner, PhD  
Matthew Johnson, PhD  
Adina Merenlender, PhD  
David Myles, PhD  
Karina Nielsen, PhD  
Peter Norvig, PhD  
James F. Quinn, PhD  
Hugh Safford, PhD

## Chief Science Officer

Grant Ballard, PhD

## Director of Operations

Michael Fitzgibbon

## Chief Financial Officer

Padmini Srinivasan

## California Current

Jaime Jahncke, PhD, Director  
Garrett Duncan  
Meredith Elliott  
Lynne Hargett

Julie Howar  
Mike Johns  
Jaime Miller  
Emily Rice  
Dan Robinette  
Cotton Rockwood  
Jim Tietz  
Peter Warzybok

## Climate Adaptation

Sam Veloz, PhD, Director  
Liz Duffy  
Megan Elrod  
Maya Hayden, PhD  
Dennis Jongsomjit  
Nadav Nur, PhD  
Leo Salas, PhD  
Annie Schmidt, PhD  
Sandra Scoggin  
Rose Snyder  
Julian Wood

## Emerging Programs and Partnerships

Geoffrey R. Geupel, Director  
Elaina Cromer  
Ryan DiGaudio  
Alissa Fogg  
Taylor Fridrich  
Kelly Garbach, PhD  
Wendell Gilgert  
Alicia Herrera  
Kate Howard  
Kyle Marsh  
Breanna Owens  
Luke Petersen  
Briana Peterson  
Nathaniel Reese  
Tiffany Russell  
Corey Shake  
Kelly Weintraub  
Carrie Wendt  
Suzie Winquist

## Informatics

Tyler Corkill  
Martin Magaña  
Douglas Moody  
Brad Sechelski

## Pacific Coast and Central Valley

Tom Gardali, Director  
Hilary Allen  
Blake Barbaree  
Chelsea Carey, PhD  
Erin Conlisk, PhD  
Renée Cormier  
Mark Dettling  
David Dixon  
Preston Duncan  
Kristy Dybala, PhD  
Bonnie Eyestone  
Carleton Eyster  
Grant Halstrom  
Catherine Hickey  
Diana Humple  
Kristina Neuman

Elizabeth Porzig, PhD, Sustaining Working Lands Initiative Leader  
Mel Preston  
Matt Reiter, PhD  
Rya Rubenthaler  
Nat Seavy, PhD  
Kristin Sesser  
W. David Shuford  
Lynne E. Stenzel  
Jacob Weverka

## Sierra Nevada

Ryan Burnett, Director  
Brent Campos  
Kristie Nelson  
L. Jay Roberts, PhD  
Marian Vernon

## Development

Grant Ballard, PhD, Interim Chief Development Officer  
Liz Chamberlin, PhD  
Beverly Cherner, Director of Institutional Relations  
Nancy Gamble, Director of Philanthropy  
Jaime Lily  
Peter McCormick  
Bennett Smith, Director of Philanthropy

## Communications

Zachary Warnow, Director

Lishka Arata  
Stacey Atchley-Manzer

## Finance and Administration

Padmini Srinivasan, Chief Financial Officer  
Karen Carlson  
Todd Greenley  
Robyn Hettrich, Director of Human Resources  
Jeffrey Holton  
Jennifer Menicucci  
Lynda Schaefer  
Laurel Schuyler  
Corrine Stephenson  
Robert Viera

## Education and Outreach

Melissa Pitkin, Director  
Emily Allen  
Jennifer Benson  
Colton Dixon  
Alba Estrada Lopez  
Leia Giambastiani  
Gina Graziano  
David Healy  
Andrew Mealor  
Josh Nuzzo  
John Parodi  
Alison Pollack  
Laurette Rogers  
Isaiah Thalmayer  
Lara White

## STRAW Faculty

Janet Clover  
Paula Fogarty

Marcia Gunnarson  
Ruth Hicks  
Alison Quoyeser  
Meryl Sundove  
Nick Tipon  
Patti Vance, Faculty Coordinator  
Laurie Tandy

## Graduate Students

Ryan Anderson  
Fadwa Boudhedda  
Lena Capece  
Carina Fish  
Kaylin Ingman  
Autumn Iverson  
Elizabeth Max  
Amy Miles  
Jamie Miller  
Alessandra Moyer  
Rachael Olliff  
Hannah Palmer  
Zack Steel  
Chris Tyson  
Mike Valainis  
Cole Wan Jower

## Interns (as of Dec. 31, 2018)

Michael Audie  
Brianna Bishop  
Sarah Fensore

Elizabeth Kennedy  
Grace Kumaishi  
Nicholas Liadis  
Elizabeth Max  
Sarayu Ramnath  
Sierra Reinertson  
Katelyn Stoner  
Alexis Wilkman  
Siena Watson  
Rachel Banuelos  
JiaHui Wang  
Massimiliano Sonogo

## Research Associates

David G. Ainley, PhD  
Sarah Allen, PhD  
Jules G. Evens  
Sacha Heath, PhD  
Mark Herzog, PhD  
Aaron Holmes, PhD  
Steve N. G. Howell  
David Hyrenbach, PhD  
John P. Kelly, PhD  
Amélie Lescroël, PhD  
Chris McCreedy  
Borja Mila, PhD  
Mark Rauzon  
Stacy Small, PhD  
Jane C. Warriner  
Sophie Webb  
John Wiens, PhD  
Steve Zack, PhD

## Farallon Patrol

Our Farallon Islands program relies upon the skills and generosity of volunteer skippers in the Farallon Patrol for year-round transportation between the mainland and our research station at the Farallon Islands National Wildlife Refuge. We acknowledge all Patrol skippers in our Annual Report.



Senior Scientist/ACCESS Program Coordinator Meredith Elliott takes a birding break with laboratory research assistants Grace Kumaishi and Sarayu Ramnath. Point Blue photo.

Point Blue Conservation Science  
3820 Cypress Drive, Suite 11  
Petaluma, CA 94954  
t. 707.781.2555 f. 707.765.1685  
e. [pointblue@pointblue.org](mailto:pointblue@pointblue.org)  
[pointblue.org](http://pointblue.org)

## Create a Conservation Legacy

You can help secure a healthy future for birds, other wildlife, and human communities with a planned gift to Point Blue. Contact us to learn how to create your personal legacy of conservation.

707.781.2554 · [legacy@pointblue.org](mailto:legacy@pointblue.org) · [pointblue.plannedgiving.org](http://pointblue.plannedgiving.org)



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