



Point Blue Quarterly

Conservation science for a healthy planet.



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PROTECTING OUR SHORELINES



Ellie M. Cohen

PRESIDENT AND CEO OF POINT
BLUE CONSERVATION SCIENCE

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FROM THE PRESIDENT

Left: Ellie M. Cohen. Photo by: Miki Goralsky.

TRANSLATING SCIENCE TO PROTECT OUR SHORELINES

Person-to-Person

Grant Ballard, Point Blue's Chief Science Officer, recently presented with our partners¹ to the California Coastal Commission on Our Coast Our Future (OCOF: pointblue.org/ocof). At the heart of OCOF is a state-of-the-art online mapping tool that allows users to easily select and see a range of future sea-level rise and storm impact scenarios, in order to make better decisions today.

The Commission staff were excited. They are seeking scientifically rigorous guidance on the future of California's shorelines to best achieve their mission – to protect, conserve, restore, and enhance the environmental and human-based resources of the state's coast. One staffer told Grant that he had received emails about OCOF for more than two years, but it had meant very little to him until this in-person presentation and discussion.

Personal engagement with potential users by scientists and other trained experts is essential in preparing for, and reducing, the risks of climate change to wildlife and our communities.

This *Quarterly* highlights some of the joint efforts that Point Blue scientists and educators are co-leading to protect our shorelines, from San Francisco Bay to the Pacific coast of the Americas.

Building on our bird, ecosystems, and informatics expertise, we are collaboratively identifying and prioritizing the best places and practices to protect coastal wetlands, streams, dunes, and beaches in the face of more severe storms and rising seas. We are guiding nature-based, climate-smart solutions for birds, other wildlife, and our communities.

Working hand-in-hand with decision-makers, we are translating complex science to sustain nature's health in our rapidly changing world. 🌍

¹ NOAA Gulf of the Farallones National Marine Sanctuary, U.S. Geological Survey, and Coravai.

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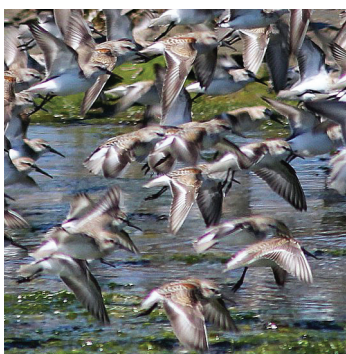
Above: Arrowhead Marsh in the Oakland Estuary; photo by Ingrid Taylor.



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On The Cover:

Inside San Francisco Bay. **Photo by:**
Ray Chavez/Bay Area News Group.

◀ **Left:** Dunlin feed in San Francisco Bay
tidal wetlands. **Photo by:** Pat Ulrich.

Center: Members of a restoration team.
Photo by: Leia Giambastiani/Point Blue.

Right: Western Sandpipers. **Photo by:**
David Hoffman/Creative Commons.

DECISION TIME: HOW WILL WE
ADAPT TO SEA-LEVEL RISE?



**Sam Veloz, PhD**

Spatial Ecologist, Climate Change and Quantitative Ecology Group.

Through modeling studies of birds' and other species' abundance in particular landscapes, Sam leads Point Blue's work to empower conservation decision-makers regarding the potential effects of climate change.

Tidal Wetlands for Resilient Shorelines

Climate change presents enormous challenges for the people charged with managing our natural resources and protecting our communities. Civic planners and public resource managers are at the forefront of addressing the very real threats to people and wildlife posed by seemingly small changes in climate. Recent extreme events, such as Hurricanes Katrina and Sandy, have demonstrated the vulnerabilities of coastal regions and focused attention on the likelihood that such threats will intensify with accelerating sea-level rise.

Protecting our communities requires adaptation – that is, measures to reduce our vulnerability to the impacts of climate change. Our coastal decision-makers face choices about where to invest limited funds for such efforts. Will we abandon vulnerable areas to the rising sea, enhance existing flood protection infrastructure, develop novel management approaches that take advantage of flood protection services afforded by natural ecosystems, or use a combination of these approaches?

Point Blue is bringing science to bear on these urgent questions. To provide tools



and other forms of support for decision-makers, we are applying our expertise about an essential and dynamic bay ecosystem – the tidal wetlands.

In the San Francisco Bay area, coastal resources are extremely valuable. Prosperous businesses and dense human communities occupy many former baylands. The limited tidal wetlands that remain are vital habitat for wildlife and are also important ecosystems for humans. Public support for protecting and restoring them is considerable.

To protect San Francisco Bay shorelines, major planning efforts are now under way, and Point Blue is an active participant. Some approaches under consideration would be very expensive

to implement and might actually exacerbate flood risks to wetland ecosystems throughout the estuary: the choices that are made today will have long-term consequences to the welfare of our wildlife and human populations.

Planners need ways to visualize how potential changes will impact the entire ecosystem. To meet this need, we have integrated our monitoring of tidal marsh birds and our modeling of how tidal marshes will evolve in response to sea-level rise. The results are now helping inform adaptation planning throughout the bay, showing where the restoration and enhancement of bayland ecosystems can best provide flood protection to human communities while also providing habitat for plants and wildlife.

Working with nature's processes

Traditional methods of protecting our communities – by “armoring” shorelines (with levees, for example) – may not be feasible in the future. Recent work by U.C. Berkeley professor Mark Stacey shows that an “armoring-only” strategy would increase the amplitude of tides in many parts of the estuary, requiring

larger levees than would be needed if some tidal wetland restoration projects are implemented. Physical barriers also prevent the natural migration of tidal wetlands upslope and limit their capacity to maintain their elevation relative to sea level when it rises. Plus, levees are expensive to build and maintain.

Preserving functioning tidal ecosystems is central to our approach. Not only are tidal marsh ecosystems within the San Francisco Bay Estuary home to several threatened populations of birds,

mammals, and plants: they also provide enhanced flood protection to adjacent human communities. Mudflats and tidal marshes dissipate the energy of incoming waves, acting as a buffer against erosion. At the same time, they store excess water from storm runoff. Both functions reduce coastal communities' vulnerability to flooding.

Extensive efforts are under way to restore tidal marsh ecosystems throughout the estuary – especially

facts:

Sediment and the future of SF Bay tidal marshes

93% of today's marshland will be replaced by lower tidal habitats if sediment is scarce and sea-level rise rapid.

8k^{acres} is the extent today of undeveloped bayland where marshlands can migrate in response to sea-level rise.

80k^{acres} could be reclaimed for future marshland by removing barriers to tidal action, such as levees.



Left page: American Avocets feed in the tidal flats of San Francisco Bay. **Photo by:** Pat Ulrich.

Previous pages, left: Extreme high tide in a North Bay marshland. **Photo by:** Claire Peaslee / Point Blue.

Right: Greater Yellowlegs. **Photo by:** Tom Grey.

the former salt ponds along the South Bay shoreline and to the north in San Pablo Bay. Point Blue is working with many partners to ensure that restoration efforts maximize wildlife habitat and that locations for restoration are chosen where tidal marsh ecosystems are most likely to be sustained in the face of sea-level rise.

Our work examining where to prioritize tidal marsh restoration has shown that some sites will be relatively resilient to sea-level rise. Others will only be sustainable if sea level does not rise very rapidly or if there is enough sediment available (see box below).

Point Blue can help planners decide where restoration and marsh enhancement will provide both wildlife habitat

Importance of sediment: The waters of San Francisco Estuary carry eroded soil, referred to as sediment, from the surrounding watershed. High tides bring sediment into tidal wetlands; receding tides deposit it there. Through time, as sediment accumulates, tidal wetlands can increase in elevation. Point Blue's research shows that tidal marshes can maintain their elevation relative to rising sea levels – if sediment is sufficient. But natural sediment supplies have declined in recent years, and managers may need to find new ways to supplement them in order for tidal marsh ecosystems to be resilient to sea-level rise.

and flood protection – and also where more traditional strategies are the only feasible option.

Our partners in the region range from the State Coastal Conservancy (see page 14 in this Quarterly) to local agencies within the nine Bay Area counties. For example, we are currently working with Marin County to assess how well the tidal marshes in Richardson Bay will protect the shore from flooding and coastal erosion in the face of sea-level rise and storm surges. This will help county officials decide where investments in tidal marsh and/or levee enhancements are the most effective.

Embracing uncertainty

As shown in Point Blue's work, whether or not tidal marshes keep pace with change will depend on the rates of sea-level rise and other environmental conditions, such as the supply of sediments in bay waters. Yet future projections of these factors are highly uncertain, posing a major obstacle for decision-makers who may fear making the wrong decision.

To help people move beyond this hurdle, we have begun to emphasize the value of an approach called scenario planning.¹ Aimed at addressing uncertainties inherent to the planning process, this approach helps decision-makers explore

the effectiveness of management strategies for a range of plausible future scenarios without focusing on whether any one of these scenarios is more or less likely than another. They can then select and implement strategies that are best suited to the range of scenarios.

Over the next year, Point Blue will conduct scenario planning with the South Bay Salt Pond project management team, the largest wetland restoration project on the West Coast of the United States, to decide which ponds to restore to tidal marsh ecosystems and which ones to maintain as managed habitat for shorebirds and waterfowl. This exercise will serve as a case study that other decision-makers can use as they develop adaptation plans for sea-level rise that maximize nature's benefits for humans as well as wildlife.

Point Blue is working to make sure our approach – demonstrating the utility of nature-based solutions for adapting to climate change – is applied in other ecosystems. Our work to help protect the shorelines of San Francisco Bay demonstrates why long-term monitoring is needed to inform our decision-making and illustrates how we can use science-based planning tools to identify the most appropriate options for climate change adaptation. 

¹ **Scenario planning** is a system for developing flexible future plans – by generating a “what if” narrative (a scenario) for each of several baseline assumptions. A simple example: You are in charge of a family reunion next summer, with scheduled activities for everyone. Plan A describes the possibilities if weather proves to be wonderful. Plan B imagines the scenario if it turns out to be rainy. Plan C provides for alternatives if the weather is too hot and humid. In much more complex and layered ways, scenario planning supports decisions with weighty consequences far into the future.

RESTORATION AT SONOMA BAYLANDS

Tidal Marsh Transition



Tidal marshlands on the edges of San Francisco Bay Estuary have unique value for wildlife and human communities alike. Essential to their healthy functioning is a little-known part of the marsh mosaic, found at its inland margin. Called the transition zone, this is the boundary between the brackish, saturated ground toward the bay and the landscape of grasses and shrubs just inland.

Why is this transitional habitat important? Among the Bay Area citizens who now know the answer to this are the elementary school students who have worked with Point Blue to help restore the edges of a tidal marsh in the North Bay. While learning how a marsh protects our shorelines and supports biodiversity, the students have been recreating transition zone habitat.

Welcome to Sonoma Baylands, an area east of the Petaluma River on the edge of San Pablo Bay. Under the management of California Coastal Conservancy, San Pablo Bay National Wildlife Refuge, and Sonoma Land Trust, restoration efforts began here in the 1990s. The goal is to bring back healthy tidal marshland, recognizing that it is vital to the greater bay ecosystem.

Marshes slow and filter river waters and storm run-off entering the estuary, while they buffer the land from extreme high tides and provide habitat for several unique animal species.

Tidal waters that regularly lap across a marsh deposit sediment and spread the seeds of its dominant plants, pickleweed and cordgrass. When tides and storm waters are extreme, many marsh animals seek cover just above their flooded habitat. Transition zones are necessary habitat for marsh denizens such as the endangered salt marsh harvest mouse and California Clapper Rail.

Above: As a high tide floods the wetlands, a school group works with Point Blue's STRAW Program to restore transition habitat along a 70-year-old levee.
Photo by: Leia Giambastiani / Point Blue.

Left: The endangered California Clapper Rail depends on bayland habitats including the transition zone. **Photo by:** Tom Grey.



Zone



At Sonoma Baylands the transition zone is human-altered, but it can function perfectly well once restored. In the 1940s, people raised earthen levees around the salt marsh here in order to ranch the grasslands just inland. Today those levees are the transition zone but are covered with non-native annual vegetation that dies back in the winter. This leaves marsh animals without refuge from predators during winter flood tides (as shown in the photo above).

Point Blue's Students and Teachers Restoring A Watershed Program (STRAW) has been working since 2006 at Sonoma Baylands. Along with placing native plant species in the ground, we educate participants about the importance of a salt marsh and about the refuge that animals find in the transition zone during high tides and storms. With

higher sea levels and storm events of greater intensity predicted as consequences of climate change, this project has become pressing.

The STRAW Program takes a multifaceted approach to prepare people and natural systems for climate change. At Sonoma Baylands, students, teachers, and parents gain appreciation for tidal marshlands along the edge of San Francisco Bay. They learn about the need for a mosaic of marsh habitats: they see raptors perching on posts, tides changing throughout the day, and the sparseness of vegetation along the transition-zone levees.

For many STRAW participants (of all ages), this is a first-ever visit to a marsh – and their first time sitting on dirt and using a shovel. Such direct

experiences outdoors are often the most memorable. The field trip gives them a chance to work outside in a unique habitat, an occasion for teamwork among classmates and with adults, and a sense of accomplishment.

Students and teachers in Point Blue's STRAW Program are taking steps to prepare our planet for climate change. In turn, as they understand the effectiveness of their actions, our world is changed for the better. 🌍



Leia Giambastiani
Restoration Projects Manager,
Education and Outreach Group.

As a member of Point Blue's STRAW team, Leia oversees planning, implementation, and monitoring of riparian and wetland restoration projects.



Matt Reiter, PhD

Quantitative Ecologist, Pacific Coast and Central Valley Group.

With a wide range of bird and ecology interests, and a love for the knowledge that comes from unlocking data, Matt works to help translate science into management strategies for healthy wetlands.

PACIFIC FLYWAY PEOPLE AND SHOREBIRDS

Protecting Coastal Estuaries



Many of nature's processes occur at vast geographic scales, well beyond the reach of ordinary research methods. Innovative, collaborative approaches are needed to gain the knowledge that can ensure conservation of these processes.

Migration of shorebirds is one such large-scale process. Dozens of sandpiper and plover species travel great distances along the Pacific Coast of the Americas, relying on an extensive network of coastal wetlands. Their migration is one of nature's great events and a reminder of humanity's shared responsibility for conservation, which transcends cultural and political boundaries invisible to the birds.

Many shorebird populations are declining. While the reasons for this are not well understood, they likely involve a combination of factors, such as wetland habitat loss and degradation. Add to these the increasing impacts of climate change, and in particular sea-level rise, and the need for conservation action becomes even more urgent.

For far-ranging species such as shorebirds, large-scale, highly collaborative science is needed. Point Blue is leading multi-partner efforts¹ to inform and prioritize climate-smart conservation actions for coastal habitats and shore-

birds throughout their range. This work depends on our close working relationships with esteemed colleagues and partner organizations in ten countries, from Canada to Peru – a scale that is meaningful for conservation of highly mobile shorebirds.

To build lasting partnerships along the Pacific Flyway, I too have been traveling along the migration route of a Western Sandpiper. Sharing knowledge about the shorebirds that frequent our coasts reveals a palpable connectivity among people of many nations and cultures.

It also highlights how the threats facing shorebirds vary by location. In some regions, shrimp farming is a threat. In

¹ In North America, the Pacific Flyway Shorebird Survey; in Central and South America, the Migratory Shorebird Project.



others, it is development and destruction of tidal mudflats. In others still, sea-level rise poses the biggest challenge. Most often, changes of more than one kind affect migratory shorebirds concurrently.

By understanding how the relative importance of threats changes across the migratory pathway, Point Blue is positioned to guide conservation strategies that maximize benefits for shorebirds and people – and that are robust to impacts of climate change.

Conservation for shorebirds is conservation for people, too. Remote communities on the Pacific coast of Colombia, in the delta of Rio Iscuandé, represent a good example. Just like wintering

shorebirds, people there subsist on the benefits of a healthy and functioning estuary.

Coastal mangrove forests in the region are essential. They have built up tidal mudflats that are full of life. Loss and severe degradation of the mangrove forests would seriously compromise important habitat for shorebirds and would also affect people. Consequences would include increased storm surge flooding and loss of food resources that local communities harvest, such as the fisheries associated with mudflats.

We are working with our partners Asociación CALIDRIS in Colombia, and with others throughout the Pacific Coast

of the Americas, to help them find and implement conservation actions that benefit avian and human communities. Point Blue brings a long history of effective conservation science to this international table.

The Power of Information

To date, our research along the Pacific Flyway has engaged 500 biologists and volunteers and more than 30 partnering organizations, collecting two million bird observations annually in ten countries.

An effort of this magnitude is only possible through the powerful data management systems developed by Point Blue. These “informatics” systems serve

people in many innovative ways, from centralized data storage to the online dissemination of information that helps guide conservation action. Our website holds a complete overview of the tools and services that Point Blue hosts and manages (found under "Conservation Services" pointblue.org).

One of our partners, Dr. Eduardo Palacios of Mexico, notes: "The information applications maintained by Point Blue have enhanced our ability to rapidly provide data on the distribution and abundance of shorebirds both within and among estuaries to key conservation stakeholders in Mexico, particularly the federal government. This information has then been used to identify priority areas for shorebird conservation."

With the increasing pace of environmental change, and the potential for more abrupt changes as the result of climate change, rapid transfer of shorebird and environmental data is essential for an effective conservation response.

Our work on shorebirds provides a powerful model for conservation science. We are working collaboratively, from local to continental scales, to strengthen and grow the research, management, and human connections essential for making smart conservation decisions along our shorelines for decades to come. 

Below: Coastal Colombia community members including children learn about migratory shorebirds to help protect their estuary. **Photo by:** Asociación CALIDRIS.

Previous page: Western Sandpipers. **Photo by:** Don McCullough / Creative Commons.



STUDY SITES

Pajaro River Mouth, Monterey County

In our Study Sites column we visit the places where Point Blue works.

It's high tide as we search for the Snowy Plover flock on the Pajaro River sand spit in the low morning light of mid-winter. The river is rushing to the ocean now, but by low tide the flow will stop, impeded by sediment that the slow-moving water has dropped in the channel.

Normally in winter, in a predictable annual cycle, storms move sand offshore; the beach and spit then assume a narrow and low profile. Storms have been lacking in the past 12 months, and this winter the spit is wide and high. Still, the site attracts conspicuous concentrations of shorebirds, gulls, and waterfowl that are typical of river-mouth estuaries along our coast.



Lynne Stenzel
Senior Wetland Biologist,
Pacific Coast and Central
Valley Group.

Lynne's focus is on wetland ecosystems and shorebirds in coastal habitats. She greatly values working with citizen scientists!

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This beautiful interface of land, ocean, and watershed has been a key Point Blue study site since 1977. Here, we have learned a great deal about the Snowy Plover and the challenges facing this small shorebird nesting in habitat that is also in demand by humans. Point Blue helps guide the team of agencies and organizations protecting plovers' breeding habitat in the Monterey Bay area.

Pajaro River mouth belongs to a rich wetland mosaic along the 25 miles of sandy shoreline on Monterey Bay. Natural processes have shaped this system, and so has more recent engineering by people, to capture water and prevent flooding. Relics of the channels once connecting Pajaro and Salinas Rivers through Elkhorn Slough today are wetlands on a large lowland area that is mostly agricultural.

The Pajaro River also is part of the coastal strand ecosystem. There are bluff- and dune-backed sand beaches here with sand spits at wetland outlets. Together, the wetlands and sandy beaches perform critical ecosystem roles

of water filtration and nutrient cycling that ensure nature's benefits for humans as well as for fish, birds, and mammals.

In addition, the wetlands sequester significant carbon and store valuable water resources, while the beaches and dunes store sand sediment that protects the adjacent coastal uplands from storm-driven erosion. These "ecosystem services" are essential for the well-being of humans and wildlife on the coast.

Beaches, river mouths, and the animals that inhabit them face threats and challenges that affect other habitats today: loss to development and human activity, human-sourced pollution, invasive plants and animals, and the consequences of climate change, especially sea-level rise.

Will the certainty of sea-level rise cause us to slow coastal development? How and where will sand beaches move inland? Which species will thrive as the environment changes? The answers will determine whether important coastal habitats like the Pajaro River mouth continue to perform their many ecosystem functions and support thriving bird assemblages – including the small nesting plovers we have come to know so well. 🌊

Above left: An ever-changing sand spit forms a small estuary at the Pajaro River mouth. Due to State Parks' successful efforts, the now mostly native vegetation on the spit provides cover and terrestrial insect life for nesting plovers. **Photo by:** Kenneth and Gabrielle Adelman © / California Coastal Records Project.

Above: A Snowy Plover chick follows its parent. **Photo by:** Ben Pless.

Point Reyes Bird Observatory Fund

To honor our history and sustain our commitment to bird conservation, we established the **Point Reyes Bird Observatory Fund**. Donations to the Fund support our long-term bird ecology studies at our Palomarin Field Station (in Point Reyes National Seashore) and the Farallon Islands (at the Farallon National Wildlife Refuge). We are deeply grateful to an anonymous donor for launching the Fund with a generous gift of \$100,000. To learn more, please visit pointblue.org/prbofund.



Left: Nadine Peterson. Photo by: California Coastal Conservancy.



PARTNERSHIP

Our Partnership column highlights the people we work with to develop conservation solutions.

California State Coastal Conservancy – Nadine Peterson

California's coastal resources are vital and vulnerable – and the purview of the State Coastal Conservancy, where Nadine Peterson serves as Deputy Executive Director. For Point Blue, Nadine is a critical partner who has earned the trust of many organizations working on coastal management issues in California. Her perspective has informed Point Blue's priorities for addressing sea-level rise and increased storm intensity, associated with climate change.

Nadine's agency is the non-regulatory arm of the state's coastal management program. The Coastal Conservancy provides planning, financial assistance, and leadership to protect and restore natural resources. It is responsible for the entire California coastline and its watersheds, as well as the nearshore ocean area.

Nadine oversees the agency's climate change policy, legislative affairs, and administrative matters. She also serves as a liaison and advocate for federal funding of Conservancy-supported projects. She has played an instrumental role in educating and guiding staff and project

partners in integrating climate change considerations into all of their work.

According to Nadine, "The greatest challenge we face today is in addressing the impacts of climate change, from sea-level rise to loss of habitats. Point Blue has provided leadership – evident in many forums – in educating scientists, managers, and decision-makers about the need to work together to assess climate change impacts to birds and other species, to address uncertainty through scenario planning, and to support climate-smart conservation."

Working closely with the Conservancy for more than a decade, Point Blue has helped shape the design of many wetland restoration projects, including the South Bay Salt Ponds. We are currently assisting with the climate change update of the San Francisco Baylands Habitat Goals Report: helping to set the overall direction of the report; interpreting climate model projections; and using our long-term datasets to evaluate the sustainability of the Bay's tidal marsh bird popula-

tions under different climate-change scenarios.

"Point Blue has provided leadership about the need to work together to assess climate change impacts to birds and other species... and to support climate-smart conservation."

– Nadine Peterson

These vital efforts depend directly on the commonality of goals and values connecting Point Blue with the State Coastal Conservancy – and with Nadine Peterson as one of our most important partners. 🌊

Grant Ballard Chief Science Officer; Director, Climate Change and Quantitative Ecology Group

With expertise in evaluating climate change impacts on wildlife and human populations, as well as in bio-informatics, Grant is a practicing ecologist who also provides strategic direction at Point Blue.



news bites

PENGUIN SEASON

During our 2013–14 field season in Antarctica we observed ice and its effects on Adélie Penguins at two colonies on Ross Island. Only 45 miles separate Cape Crozier and Cape Royds, but in mid-December the extent of sea ice at the two sites was quite different. This has a direct effect on Adélies trying to raise young. At Cape Royds the ice edge had already retreated, giving the birds easy access to relatively open water to forage. At Cape Crozier the ice still held fast to the land, forcing Adélies to march a distance and then scramble among thick chunks of grounded pack ice to reach the water's edge.

Over time we are piecing together such observations to gain detailed insights about how well a species responds to changes in its environment. Adélies depend on the presence of sea ice and also on the availability of open water. As the dynamics of the sea ice change with climate change, the birds' ability to continue making successful trips to forage will be critical.

Above: Adélie Penguins use an ice edge to access the open water where they forage. **Photo by:** Megan Elrod / Point Blue. Megan contributed to this news note after her recent field season at Cape Crozier, Antarctica.



NATIONAL AWARD

Point Blue has been recognized as the National Marine Sanctuaries' Partner of the Year for 2012 and 2013. This biennial award from National Oceanic and Atmospheric Administration's Office of National Marine Sanctuaries was announced in January 2014.

Our cooperative work with the Gulf of the Farallones and Cordell Bank National Marine Sanctuaries has produced scientific findings and new conservation measures, acknowledged in this prestigious award. Says Jan Roletto, Research Coordinator for the Gulf of the Farallones Sanctuary, "Our research, monitoring, resource protection, and outreach programs are truly strengthened by your efforts."

At pointblue.org you can read about our at-sea work under "ACCESS" (Applied California Current Ecosystem Studies).

PRESTIGIOUS PUBLICATIONS

Our findings recently published in scientific journals include:

Using Seabirds Feeding to Inform National Marine Sanctuary Management. Important feeding habitat for seabirds lies outside of protected areas and is vulnerable to wind energy development. In PLoS ONE, an online journal.

Conservation Reliance Among California's At-Risk Birds. Improving degraded habitats can keep birds of conservation concern from becoming officially threatened or endangered. In The Condor.

Climate-change extreme events would limit the flexibility of Adélie Penguins' response to variable sea-ice conditions: this is the focus of a paper in PLoS ONE.

For full details, see pointblue.org ("Publication Briefs").

MEET THE TEAM

Each Point Blue Quarterly spotlights a member of our team.

Matt Reiter – Quantitative Ecologist

What does your role as a quantitative ecologist entail?

There are many parts to my job, but my overarching focus is on the well-being of coastal and interior wetlands, water resources, and the migratory bird species that rely on them. I develop research projects aimed at finding strategies to mitigate impacts of rapid environmental change on wetlands and waterbirds. This involves collaborating with many of our great Point Blue staff as well as partners throughout the Americas; carrying out specialized studies; and using statistical expertise and the latest methods to analyze data (the “quantitative” in my title). It all adds up to translating new knowledge into effective management.

When did you join the Point Blue staff, and what was your background?

I started here in May 2009. I was finishing up my doctorate, living in the mountains outside Bakersfield, and actually had no idea that a non-profit organization like this existed. But I learned of a position here and applied for it. My excitement rapidly grew from talking to friends who knew about the work of Point Blue.

My academic focus in graduate school was wildlife ecology and management. My doctoral research, in northern

Canada, focused on bird communities on the tundra – seeking to inform management strategies to reduce the impacts of ecosystem changes. I saw that the applied research and quantitative approaches that I emphasized in my studies would be valuable in efforts to improve wildlife management and conservation.

How did your interest in this field first develop?

Somewhat by accident! My undergraduate degree was in philosophy, but I spent a lot of time in the natural world from a very young age and was fascinated by wildlife. Right out of college, I found a job with the U.S. Geological Survey as a field assistant doing research on native birds in Hawaii. That experience was similar to Point Blue’s internship program at Palomarin. It influenced my later choices, including to enter graduate school in wildlife ecology.

What do you find particularly satisfying about your current work?

It’s a way for me to combine wildlife research and conservation science with my love of the outdoors – to bring new knowledge to the field of wildlife man-

agement to benefit the environment and people. My central interest is understanding how we, as humans, affect ecosystems and wildlife, beneficially as well as negatively, and finding management solutions that balance those effects. So I appreciate the opportunity to do applied science and to work with a great team of colleagues at Point Blue.

A positive vision for our future?

We can make a big difference! When the will and the resources exist, people are just as capable of solving wildlife management problems as we are of going to the moon. As an example at Point Blue, through our partnership with California rice growers there is now abundant wildlife habitat on farmlands. We are working for similar successes across Latin America, building new strategies to protect water resources and wetland ecosystems for the benefit of people and waterbird populations in a time of great environmental change. 



POINT BLUE CALENDAR

SCIENCE EVENTS

**HEADWATERS
TO OCEAN**
MAY 27–29
SAN DIEGO

With OCOF partners (see page 2) we will participate in this conference on coast and ocean issues.

**ECOLOGICAL
AMERICA**
AUG 10–15
SACRAMENTO

"Mountains To Oceans" is the theme for this national organization's meeting in Point Blue's home region.

**CALIFORNIA
ADAPTATION
FORUM**
AUG 19–20
SACRAMENTO

We are helping organize the state's first biennial forum on addressing risks to natural systems posed by climate change.

MEMBER EVENTS

Point Blue offers visits to our field sites where members can learn about our cutting-edge studies. For details visit pointblue.org ("Get Involved") or contact Lishka Arata at 707-781-2555 x 354 or larata@pointblue.org.

**TOLAY CREEK
"STRAW"
RESTORATION**
MARCH 2
PETALUMA, CA

Visit a Point Blue student/teacher restoration project at this soon-to be public parkland.

**SALT POND
MUD STOMP**
APRIL 5, MOSS
LANDING, CA

Learn about shorebirds while enhancing Snowy Plovers' nest habitat – with your boots!

**MIGRATORY
BIRD DAY**
MAY 10, MUIR
WOODS, CA

This annual festival includes visits to Point Blue's bird study site on Redwood Creek.



focus

Below: The Black Oystercatcher is present year-round along California's coast. The Allen's Hummingbird is the earliest spring migrant to return to Central California.

Photos by: Tom Grey/
tgreybirds.com.

Staving Off Those Birdless Wintertime Blues

Well, late winter isn't really birdless. It's just that there is no great migration, no motion, it's cold, the days are short, and all the "staked out" rarities have been looked at so much their feathers have begun to wear. Naturally, everyone survives this inadequacy with their own methods, but here are a few ideas that may supplement those.



Do a Big Sit. That is, stay within a 12-foot-diameter circle (or dimension of your choice) all day, or until you get bored, and watch the bird show. Pick a place with varied habitats, and count species as they move through. It may come as a surprise how big a list you can acquire by staying put, and your carbon footprints will be invisible. Jules Evens (a friend and a Point Blue Research Associate) and I once did a Big Sit at Inverness, California, and in nine hours recorded 117 species.

Go to Moss Landing, Monterey County. Book passage on a two-hour Elkhorn Slough Wildlife Safari. You'll be face-to-face with sea otters, and the birding can be outrageous. After the cruise, bird Moss Landing harbor, then have lunch at Phil's Fish emporium. Overall, a memorable experience (on a dry day).

Bird coastal Mendocino. It's only a four-hour drive from San Francisco to Fort Bragg. Stay overnight to start a north-to-south tour in the morning (find details in the online version of this "Focus" at pointblue.org).

It can seem a very long time between the first-arrival Allen's Hummingbirds on January 27th and the first-arrival songbirds towards the end of March. Stay inside, sit outside, go away on a day trip or a longer trip, or study in your local natural history museum. Spring migration will be rockin' soon. 



Rich Stallcup (1944–2012) was a PRBO co-founder and our naturalist extraordinaire. His knowledge continues to deepen our appreciation of all things wild. This essay is excerpted from his column in our winter 2009 newsletter. Read the complete essay online in the newsletter collection at pointblue.org (found under "About Us" and then "News").

Thank You For Your Support

Point Blue is deeply grateful to Point Reyes National Seashore, the Farallon National Wildlife Refuge, and Cordell Bank and Gulf of the Farallones National Marine Sanctuaries for providing facilities and field stations where we work.

Your gifts make it possible for Point Blue Conservation Science to reduce the negative impacts of changes in land use, climate, and the ocean on birds and ecosystems.

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FARALLON PATROL For providing essential links with our Farallon Island field station, we thank the skippers of the Farallon Patrol. They are skilled and dedicated volunteers who carry Point Blue personnel and supplies to and from the mainland year-round. We are grateful to the following skippers (and boats) for runs to the island during all of 2013. Many of these individuals and teams made multiple trips for Point Blue last year.

Jim Bewley (<i>Another Girl</i>)	Cliff Shaw (<i>Rainbow</i>)
Tom Charron (<i>MiVida</i>)	Harmon Shragge and Don Bauer (<i>French Kiss</i>)
Mark Dallman (<i>Ark</i>)	Roger Thomas (<i>Salty Lady</i>)
Paul Dines (<i>Freda B</i>)	John Wade (<i>Starbuck</i>)
Andy Jones (<i>Kanpai</i>)	Alan Weaver and Warren Sankey (<i>Sari Ann</i>)
Keith Sedwick (<i>Bonkers</i>)	

Call for new skippers

Do you have experience sailing near the Farallones? Then please consider joining the Farallon Patrol to help Point Blue maintain a year-round presence on the Farallon Islands. For more information, interested parties can visit www.farallonpatrol.org or contact Eve Williams at ewilliams@pointblue.org or 707-781-2555, ext 356.

Right: The sailing vessel *Another Girl* circles Southeast Farallon Island. **Photo:** Jim Bewley, Farallon Patrol skipper.

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