

Winter 2016



Point Blue Quarterly

Conservation science for a healthy planet.

The next fifty years

Climate-smart stewardship
for our home

Look again at that dot.

That's here.

That's home.

That's us.

—Carl Sagan



Ellie M. Cohen,
PRESIDENT AND CEO OF POINT
BLUE CONSERVATION SCIENCE

From Pluto to Paris!

My ten-year-old son recently asked how big our solar system is. Recalling the evenly spaced planet mobile he had as a toddler, the actual distances are astonishing. If Earth were the size of a pea, an accurate representation would have Jupiter a thousand feet away, Pluto 1.5 miles out, and the edge of our solar system 75,000 miles further!¹

As he and I learned, ours is only one of perhaps billions of solar systems in the Milky Way galaxy—which is one of about three trillion galaxies in the known universe. Phew!

Amidst this expanse, Earth is the only planet known to harbor life. Our “pale blue dot”² (cover photo) is an infinitesimal “point blue” in a truly vast cosmos.

And we humans are the one species that can determine the fate of our life-sustaining biosphere. Fortunately, there is hope.

For the first time in history, every nation of the world pledged in Paris last December to reduce greenhouse gas pollution and prepare for climate change impacts. Remarkably, they unanimously recognized that healthy ecosystems are key to addressing this global challenge, “including oceans, and the protection of biodiversity.” They also acknowledged the need to enhance forest carbon stocks and incentivize related “non-carbon benefits.”

These multi-benefit, nature-based approaches that address water, carbon, biodiversity, and our communities are essential to securing our future. They are at the core of Point Blue’s innovative climate-smart conservation science.

To avoid the worst impacts, the nations of the world vowed to limit warming to 1.5 degrees Celsius (2.7F) since the beginning of the industrial era. Achieving this will require extraordinary action from us all (we reached 1C last fall). Fortunately, we have the technological and scientific know-how to do it, including nature-based approaches as an essential part of the climate change solutions tool box. 🌍

For more about the Paris talks, check out Ellie’s blog entries at www.pointblue.org/parisclimatetalks101 and www.pointblue.org/parisagreementecosystems.

¹from Bill Bryson’s *A Short History of Nearly Everything*.

²per Carl Sagan.

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Center: Mudflats and tidal marshlands benefit wildlife and people alike. **Photo:** Megan Elrod, Point Blue.

Right: Seasonal waters over a river's floodplain can renew the ecosystem and reduce flood risks elsewhere. **Photo:** Courtesy The Nature Conservancy.

The next fifty years

Reimagining Conservation

Positive vision and prevailing optimism fuel our work at Point Blue: we can see what needs to be done, and we believe that it will be done. Our confidence derives from 50 years of deep observation of the natural world, 50 years of rich partnership with natural resource managers, and 50 years of perspective on what needs to be done to ensure that wildlife and human populations continue to thrive on Earth.

In the next 50 years, we will need to be agile with our knowledge, observing ever more carefully as well-understood patterns in ecology are disrupted, replaced by others, and increasingly managed by humans. Humanity's role as stewards will be placed in the context of ecosystem services, or "nature's benefits." We are utterly dependent on our environment, and that environment provides value that we cannot hope to engineer at scales relevant to sustaining life.

In 1965, when Point Reyes Bird Observatory was founded, we also began our long-term collaboration with Point Reyes National Seashore, then a brand new national park. The 50 years since that time have brought fundamental shifts in conservation priorities. While there is still urgency around protecting our wildlands and oceans, millions of square miles are already protected. Now these protected resources face threats from climate change, growing isolation from other protected areas, and increasing human use.

As we tighten our focus on these areas we also embrace the privately owned lands that make up approximately 50% of the western U.S. As sampled in this Quarterly, on public and private lands alike Point Blue provides science to guide active stewardship for vital ecosystems, securing multiple benefits for people and wildlife.

Thanks to the perspective that comes with decades of careful observation and data collection, and increasing computing power that helps us use this data to more fully imagine the future, we have a special niche in conservation that will remain relevant for decades to come. 🌍

—Grant Ballard, PhD
Chief Science Officer

Photo: Courtesy Viola Toniolo



The morning was unusually wet and gray for June, especially in the midst of an historic drought. Slogging through tall wet grasses and sedges, I was headed for the small stream snaking through a meadow. I found that beavers had been at work here, altering the stream and increasing the amount of wetland habitat. A series of cattail-lined ponds and dense willow clumps made the site almost impassable—and meadow bird heaven! Black-headed Grosbeaks, Red-breasted Sapsuckers, Song Sparrows, and Yellow Warblers were dripping from the willows.

Every pond had ducks, as well—drake Cinnamon and Green-winged Teal, Gadwall, and Mallard. The females were surely nearby, concealed by the dense sedges, keeping their unhatched progeny warm in down-festooned nests. A pair of Sandhill Cranes strolled through the meadow, snipe winnowed overhead, and the "fitzbew" calls of endangered Willow Flycatchers permeated the



e Land Stewardship

moisture-laden air. By morning's end I had tallied 14 of these singing flycatchers—10 more than I counted here a decade ago. For a species down to its last few hundred breeding pairs in the Sierra, the more than 200% increase in numbers here was exciting to witness.

You're probably wondering what national park, forest, or wildlife refuge I was visiting. But this was private land—the Olsen Barn property on the margins of Lake Almanor, at the intersection of the Sierra and Cascade ranges—recently acquired by the Feather River Land Trust. I was visiting to inventory ecological resources, to help guide a climate-smart stewardship plan for the property.

Land trusts conserve land by acquiring it or obtaining conservation easements that generally restrict development,

keeping open space from becoming strip malls or houses. Now a major player in land conservation in this country (see box, next page), land trusts often state the aim of conserving an acre of open space for every one that is bulldozed.

But this is no longer enough. As climate change threatens to unravel over a century of conservation gains, we need to do more than protect land from development. Land trust acquisitions are just as vulnerable to climate change effects as are our parks and refuges.

In response, many trusts are transitioning from being primarily land transaction organizations to actively stewarding the millions of acres they now collectively own and manage. Recognizing the pervasive influence of climate change, Point Blue's land trust partners are looking for

innovative approaches to maximize the impact of their actions and protect their conservation investments long-term.

With our increasing focus on private lands and climate-smart conservation, Point Blue is engaging with a growing number of land trusts. For example, in the southern Sierra we are working with the Sierra Foothill Conservancy; in the central Sierra with the American River Conservancy; and in the north with the Truckee Donner and Feather River Land Trusts. With these and other land trusts, we are working to help ensure that climate-smart approaches enhance stewardship efforts.

(continued next page)



Ryan Burnett
Director, Sierra Nevada Group

Ryan works with public and private partners throughout the Sierra for science-based stewardship that recognizes climate change.

Above: Partner Biologist Bonnie Eyestone confers with Gary Miltimore, of the Sierra Foothill Conservancy, about climate-smart stewardship for an oak woodland ecosystem. **Photo:** Billy Freeman, SFC.

THE POWER OF LAND TRUSTS

More than 1700 land trusts exist in the U.S.

From 2005 to 2010, they protected 10 million additional acres.

By now these trusts collectively contain more than 47 million acres—equal to about half the total area of U.S. national parks.

Making a key tool stronger

A primary tool of land trusts is the conservation easement. It states the terms of the transaction, with a private landowner receiving funding to conform to those terms. Protection for two-thirds of the 47 million acres now in land trusts nationally is in the form of conservation easements. These easements have been set up primarily to prevent land use change and often lack sufficient language on stewardship, much less climate-smart stewardship.

At Point Blue we believe conservation easement terms need to be proactive. Along with calling for restoration of degraded resources, easements should focus management to ensure the land is more resilient and adaptable to climate impacts such as increased frequency, duration, and magnitude of droughts and extreme storms.

To model this approach, Point Blue is expanding our work to help land trusts develop climate-smart management and

restoration plans on the lands they own and manage.

In Fresno County, Point Blue Partner Biologist Bonnie Eyestone has been working closely with the Sierra Foothill Conservancy—evaluating wildlife habitat and helping develop a management plan on a 3,000-acre ranch. In a holistic ranch plan that includes prescribed grazing, Bonnie aims to not only increase habitat for birds and other wildlife but to increase water infiltration into the soil,





Left: Willow Flycatcher.
Photo: Tom Grey.

soil carbon sequestration, and native vegetation cover and productivity. Considering multiple aspects of the ecological system, with a view toward increasing the land's adaptive capacity and resilience to more extreme and variable conditions, is the essence of climate-smart stewardship.

In the northern Sierra, we are working with our local land trust partners to conserve Sierra meadows such as the Olsen Barn property. Meadows are a rare component of the Sierra Nevada, and many of them are privately owned. Healthy meadows are disproportionately important for the many benefits they provide. They are hotspots for biodiversity, play a critical role in enhancing water resources, store carbon in their soils, provide summer range for livestock, and are among our favorite places to recreate.

Unlike the Olsen Barn property, many meadows are degraded, reducing the ecological benefits they provide and placing them at further risk from climate-driven impacts such as extreme floods. Recognizing this, we are working with our land trust partners to acquire proactive easements and implement climate-smart restoration. Priority sites that we are helping restore include Child's Meadow near Lassen National Park and Van Norden Meadow on Donner Summit.

Land trusts' conservation strategies for Sierra meadows are a prime example of how ambitious stewardship actions can restore or enhance vital services. Point Blue is working to bring our scientific expertise, local knowledge, and climate-smart approaches to enhance these lands. By doing so, we can ensure that places like the Olsen Barn and Van Norden Meadow will continue to recover toward their full conservation potential—not only tomorrow but well into the future. 🌍

Left: Designing willow planting to restore Child's Meadow are The Nature Conservancy's Kristin Podolak and Rodd Kelsey and, at right, Point Blue Sierra Nevada Group Director Ryan Burnett. **Photo:** Regina O'Connor.

The cover story

What in the World?!

Not long ago a group of Point Blue friends and staff spent a morning exploring climate-smart conservation successes at TomKat Ranch. After an hour or so of hiking, birding, and learning, the gang gathered around the ranch kitchen's long table for lunch and conversation. When the subject of Point Blue's name bubbled up, Tern Society member Alice Miller reminded us of the astonishing image reproduced on the cover of this issue of *The Quarterly*. "That's the ultimate Point Blue," she said. "That's what we have to protect."



Marcia Grand, one of Point Blue's most dedicated supporters recently shared the same big-picture perspective with CEO Ellie Cohen. "I finally got it. I'm reading a new book called *Life On The Edge* by McFadden and Al-Khalili. Immediately in the first chapter there was a quote about the Voyager 1 in 1990. "...it snapped one of the most remarkable photographs ever taken: a picture of a tiny blue dot against a grainy gray background." And the light bulb goes off: Point Blue. It was very moving to me. That blue point... dot... in the universe. Us."

Point Blue Conservation Science and you: dedicated to pointing the way to a healthy blue planet, teeming with life. 🌍

—Susan Lee Vick
Chief Advancement Officer



Photo: Point Blue

PROTECTING OUR SHORELINES

Nature's Benefits

Wherever oceans and continents meet, it's natural for waves and storm energy to alter coastlines. Cliffs erode, bays flood, dune-backed beaches oscillate wildly. Yet the coast gains ground from this cycle of seeming destruction. Marshes rise along the margins of estuaries, sediment washed down rivers buttresses shorelines, and shifting dunes and sand bars dissipate wave energy.

Today such scenarios play out in few places in the developed world. Much of our coastal real estate is built up with human enterprise and is densely populated. Climate change now poses threats to our infrastructure and to our actual safety: sea levels will rise and storms grow stronger. Humans aren't the only vulnerable life, though: important wildlife populations also need the coastal habitats that remain intact.

The conservation challenges are multiple, but the model offered by the Earth's own cycles is a great place to start. Mimicking or restoring natural processes can make coastlines more resilient, for the benefit of human and wildlife populations.

This approach is central to the climate-smart conservation that Point Blue works to advance. In collaboration with partners and decision makers throughout California and around the world, we





The Long-billed Dowitcher is one of many migratory shorebirds that benefit from healthy tidal habitats in San Francisco Bay and other coastal estuaries.

Photo: Tom Grey.

Sam Veloz, PhD
Director, Climate
Adaptation Group



Sam leads a Point Blue team using science to help decision makers and natural resource managers prepare for future environmental changes.

aim for solutions that provide multiple benefits.

In the past, many people have viewed conservation as benefiting natural communities at the expense of human communities. A danger now exists of shifting too far in the opposite direction. With climate change posing increasing threats to people, the actions that planners and decision makers take to reduce vulnerabilities may have disastrous impacts for natural ecosystems and wildlife.

But nature-based climate adaptation can protect both people and wildlife! Point Blue is actively using scientific data to guide the development of innovative measures with multiple benefits. While reducing human communities' vulnerability, we can also improve ecosystem quality and function and help enhance habitats for native species.

Hardened sea walls and revetments currently exist along one-third of the coastlines of Ventura, Los Angeles, and San Diego counties. Expensive to build and maintain, these structures seriously degrade the habitat of native species and prevent coastal systems from naturally adapting to climate change.

Left: Artist's view of ways that healthy tidal marshlands benefit people and wildlife.

Illustration: Goals Project 2015. By Nate Kauffman, founder of Live Edge Adaptation Project.

These structures also prevent natural coastal ecosystems from providing flood protection to nearby communities.

Tidal marshes are coastal ecosystems with the capacity to build elevation as sea levels rise, given enough sediment and room to expand. So a very efficient way to invest public and private resources to provide flood protection for coastal communities is to protect existing tidal marsh habitats and restore degraded ones!

Of course, coastal ecosystems also do much more. Healthy tidal marshes pull carbon out of the atmosphere, helping reduce the levels of greenhouse gases and the magnitude of climate change. They improve water quality by trapping sediment and filtering out pollutants.

Not least of their benefits is providing habitat for vulnerable species such as the Ridgway's Rail, which can only exist in tidal marshes. They also provide nurseries for fish populations.

To date, most planners who must weigh options for coastal flood protection have not considered the multiple values of relying on natural infrastructure. Point Blue is working to change this mindset.

In partnership with other scientists and NGOs, we are developing decision

support tools and engaging coastal planners to help them evaluate where their communities are vulnerable to flooding from sea level rise and storms—and where natural infrastructure is likely to provide the levels of flood protection they will need.

In southern California we are exploring where beach and sand dune restoration could be a better way for shoreline communities to prepare for the future.

Marin County has just completed a vulnerability assessment of sea level rise for its outer coast shoreline, using our collaboratively developed Our Coast Our Future tool (www.pointblue.org/ocof). Adaptation strategies under consideration include identifying locations where natural infrastructure can successfully reduce flood risks and also provide multiple ecosystem benefits.

And inside San Francisco Bay, we are partnering with county and city agencies, catalyzing their active adoption of natural infrastructure as an effective way to help protect shoreline communities.

In the face of growing impacts of sea level rise and storm surges, Point Blue is a leader in developing collaborative climate-smart solutions with multiple benefits. 🌊



What do Yellow Warblers, Chinook salmon, and people have in common? Healthy floodplains improve their quality of life!

A floodplain is a natural part of a river's geography. Permitting the river to overflow its banks and wash across its floodplain can bring about positive results not only for soils and groundwater but also for wildlife and for human communities. Carefully managing floodplains can reduce our vulnerability to flooding (who wants their building or road in a flood

zone?) and also provide recreational and economic opportunities.

Conservation efforts that recognize multiple benefits like these are a top priority at present. They promise to make our vital ecosystems resilient into the future.

Rivers can naturally overtop their banks, especially during winter and spring rains. This is true today on portions of the Cosumnes River, which flows in California's Central Valley. When its waters rise and spread out over its floodplain, they bring life to the willows and oak trees

that Yellow Warblers and other birds inhabit.

More optimal temperatures and increased food in the water over the floodplain improve conditions for juvenile salmon, increasing their viability. The same seasonal flows can reduce flooding in other areas while also recharging aquifers beneath the river—especially important following drought years.

At the Cosumnes River Preserve, less than 20 miles due south of the state capitol in Sacramento, Point Blue is



Left: Cosumnes River connects with its floodplain. **Photo:** Courtesy The Nature Conservancy.

Below: Yellow Warbler.
Photo: Tom Grey.

Nat Seavy, PhD
Research Director, Pacific Coast
and Central Valley Group

Among Nat's top interests are conserving riparian ecosystems, preparing for the ecological effects of climate change, and applying science to conservation decision making.



GETTING THE MOST OUT OF
EVERY DROP OF RAIN

River Connections



partnering with The Nature Conservancy (TNC) in a restoration project focused on floodplain health. Working with agency partners and the local community, TNC removed portions of private levees along the river to improve flood connection with more than 600 acres of floodplain. The goals here included restoring habitat for fish and birds, improving groundwater recharge, and demonstrating cost-effective ways to accomplish floodplain restoration.

Restoring the river's floodplain connection aims also to benefit songbirds

by improving their habitat in the riparian forest. In the project's next phase, Point Blue will continue to monitor bird responses. Then, working with a team of scientists from TNC and the University of California at Davis, we will evaluate all aspects of the Cosumnes floodplain restoration to help fine-tune multiple-benefit projects in the future.

Comparable projects are also under way or completed along the Sacramento and San Joaquin rivers in the Central Valley. For example, just west of Sacramento, the Yolo Bypass provides flood protec-

tion for Sacramento, habitat for migratory birds and fish, and productive land for farming.

As the rains fall this winter, both people and wildlife are getting some relief from the impacts of drought in California. This is enhanced by investments to date in multiple-benefit projects, which are helping secure better habitat for wildlife, reduce risks of flooding, and enhance groundwater supplies—ensuring that we get the most out of every drop of rain. 🌍

STUDY SITES

The Greater Gulf of the Farallones



From the bow of the research vessel *Fulmar*, the North Pacific Ocean appears vast and changeable. Western Gulls fly overhead, and Common Murres bob on the choppy surface. Observers high on the boat's flying bridge record the birds, then return to scanning the seas.

Up ahead, a humpback whale surfaces. It exhales krill-smelling breath before inhaling and propelling itself back into the ocean world beneath the vessel. Hundreds of Sooty Shearwaters congregate on the surface and plunge into the water to feed on krill, fish, and squid.

We are traveling across the Gulf of the Farallones, offshore of the San Francisco Bay Area, where Point Blue carries out long-term research in ocean ecology.

Marine life thrives in this unique region of the Pacific Ocean—especially within two National Marine Sanctuaries, Greater Farallones and Cordell Bank. Established in the 1980s, both expanded west and north last year, including along the

Above: Point Blue's Jaime Jahncke, PhD, and Drew Devlin from the Farallon National Marine Sanctuary Association, collect data aboard the *Fulmar*. **Photo:** ACCESS / Point Blue and NOAA.

Sonoma coast, to protect even more of this rich ocean environment.

There are very few places like this in the world ocean. Seasonal upwelling brings nutrients from the deep into the sunlit zone. In spring, rapidly growing plant plankton kick-starts the entire marine food web, from krill to fishes to top-level consumers including whales.

To take the pulse of this important life zone, Applied California Current Ecosystem Studies (ACCESS), a partnership of Point Blue and the Sanctuaries, has conducted three to four at-sea research cruises annually since 2004.

This is no easy task, particularly during the upwelling season when the northwest winds are strong. Weather and sea conditions have caused a number of May and June cruises in our 12-year time series to be cancelled or cut short.

Even when the *Fulmar* goes, it can be challenging to endure long days without becoming seasick. Then in the fall, conditions can be so sunny and calm that you wonder if you're on the same ocean.

Our multidisciplinary research in the Sanctuaries yields vital information on how this patch of ocean is doing. Climate change poses numerous threats to oceans—from warming to acidification to harmful algal blooms. While Marine Sanctuaries are not immune to these impacts, they do provide a place where marine wildlife can adapt and thrive.

Today, observers on the *Fulmar's* top deck are locked in with their binoculars, yelling out species, counts, and behavior codes. Meanwhile, the crew on the stern are bottling contents from our last plankton tow, which was heavy with thousands of copepods, jellies, krill, and other small organisms so strange-looking you might think they were alien life forms.

Instead they are among the many ocean creatures that we and our Marine Sanctuaries partners seek to understand and protect. 🌊

Meredith Elliott
Senior Scientist,
ACCESS Program
Coordinator, and Lab
Manager in Point
Blue's California
Current Group.



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

PARTNERSHIP

San Francisco State University – Dr. Ellen Hines



An unusual collaboration between Point Blue and an academic program in San Francisco is yielding wonderful results. Graduate students working toward master's degrees in Geography and Marine Sciences at San Francisco State University have the chance to participate in Point Blue's research focused on the Gulf of the Farallones.

To date, six student scientists have used phenomenal data sets from our research cruises with NOAA Marine Sanctuaries (see "Study Sites" in this issue). Not only do these young scholars meet the challenge of earning graduate degrees, they also contribute scientific results that shape effective marine conservation!

All this is possible thanks to the involvement of Dr. Ellen Hines, Associate Director of the Romberg Tiburon Center, and Professor of Geography and Environment at SF State. In cooperation with Dr. Jaime Jahncke, Director of Point Blue's California Current Group, Professor Hines closely advises our visiting grad students in marine ecology.

Ellen also serves on Point Blue's Science Advisory Committee. This group of prestigious scientists brings vision and guidance to our cutting-edge conservation

science. Ellen is an expert in new ways of understanding connections in time and space, using Geographic Information Systems—especially to support conservation across political boundaries.

The high regard that Point Blue has for Ellen is mutual! She says, "As soon as I became aware of this organization, I was highly impressed with the scientists here. They are intelligent, passionate, and communicative, and have taught me a great deal about the complex marine ecosystem off our coast."

Our association began soon after Ellen arrived in the San Francisco Bay area, 15 years ago. "I had earned my doctorate at University of Victoria, in British Columbia, with field work that's ongoing today in Southeast Asia. I study coastal marine mammals, including dugongs and dolphins, which live in coastal waters, and the connections between these animals, their environment, and local fishers. Now a major priority for me is supporting community-based planning for the conservation of coastal and marine areas."

This latter focus represents additional common ground between us. Ellen says, "Scientists like Jaime Jahncke, Nadav Nur, and others want their findings to be

applied for the benefit of the ecosystem. Point Blue works extensively with planners and public agencies to make sure this will happen."

As we work together to train the next generation of conservation scientists, Ellen notes, "Jaime carves out a subset of data that each student can work with. We choose these pieces to fit together like spokes of a wheel and contribute to the whole picture."

Jaime adds, "The ways that we work together ensures that the students succeed in their projects and also publish findings that help managers and policy makers address threats to ocean animals and their ecosystem."

Ellen reflects on these connections from her office at SF State's Romberg Tiburon Center, a prestigious facility for marine and estuarine research. A member of the university's faculty since 2001, she has been based at Romberg Center for the past three years. The beautiful view beyond her window includes pelicans, seals, and harbor porpoises—living reminders of the reasons we value working together! 🌍

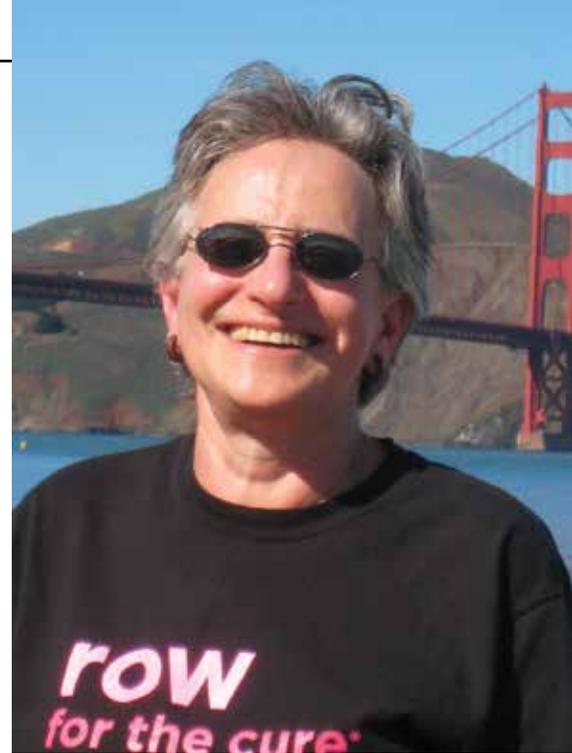


Photo: Courtesy Dr. Ellen Hines.



MEET THE TEAM

Catherine Hickey

Conservation Director,
Pacific Coast and Central
Valley Group

Catherine is the newly appointed Hemispheric Council Chair for the Western Hemisphere Shorebird Reserve Network. She co-leads our Migratory Bird Conservation Partnership with Audubon California and The Nature Conservancy, and leads Point Blue's climate-smart policy initiative.

Is it true that your “workplace” is an entire hemisphere?

Yes, and I feel so fortunate in this regard. The birds I love, the people and places I care deeply about, and my research interests all span the Western Hemisphere. Our conservation and science efforts at the scale of migratory populations are only possible through strong partnerships, including with visionary funders who understand Point Blue's unique role in a complex and evolving conservation world.

Every day I work with passionate conservationists, linked by our belief that humans and wildlife can thrive together into the future if we rely on sound science, focus on multi-benefit solutions, and engage communities.

What is one key to creating and strengthening partnerships?

The key is trust. Trust in the intentions of others. Trust in each other's commitment and ability to contribute in significant ways, from a site scale to internationally.

Trust in collective desire to advance the common good and knowing that building each other up raises all of us. Trust, mutual respect, and recognition that everyone is needed. These are the keys to meeting the massive conservation challenges we face together across the hemisphere and the globe.

Many Point Blue ecologists found their careers through an inspiration or insight. What was a memorable one for you?

My work as a field biologist on our Pacific Flyway Project was an awakening for me, in terms of the scale at which we need to understand and conserve migratory bird populations and their habitats.

Also, as I slogged down levee roads, with pounds of mud accumulating on each boot, to count thousands of shorebirds on farm fields and private hunt clubs, it was clear to me that the flyway's integrity depends on individuals and how they manage the land.

To contribute to conservation throughout the hemisphere, I work not only

with international partnerships but also with private landowners and dedicated refuge managers—and with programs that support them to provide essential habitat.

For you, what shorebird species is emblematic of our conservation vision?

One of the most inspirational to me, while not the most widely traveled, is the Western Snowy Plover. It's a survivor. The challenges to its existence on the coast of the western U.S. and Mexico are daunting—increasing human populations, native and non-native predators, plus sea level rise and growing storm severity. This species lives most of its annual cycle perilously near the edge.

But that's where the nexus of conservation for wildlife, ecosystems, and human well-being is so apparent and symbolic of the challenges ahead. When I need the inspiration to tackle some of those challenges, I spend time watching Snowy Plovers. 🌍

Photo: Courtesy Steve N.G. Howell.

news bites

THE FUTURE OF OUR COASTS

Point Blue and collaborators will be extending our powerful and popular online tool, enabling local decision-makers to visualize sea level rise and storm impacts, to more of the California coast. Thanks to a major new multi-partner grant, Our Coast Our Future (OCOF) will reach from the San Francisco estuary and outer coast to Point Arena in Mendocino County. To the south, we will expand the tool's coverage from Point Conception, near Santa Barbara, to the Mexico border. Learn more at www.pointblue.org/ocof.

A VIEW OF MARINE PROTECTION

Dan Robinette, Point Blue Senior Ecologist and Coastal Marine Program Manager in Southern California, hosted a video boat tour of state Marine Protected Areas (MPA) along the San Luis Obispo County coast. See the ocean from Dan's perspective and learn why MPAs benefit ocean wildlife at www.visitortv.com/our-shows.



WELCOMING MAYA HAYDEN

Point Blue warmly welcomes Dr. Maya Hayden as our new Coastal Adaptation Program Leader. In this brand new position, Maya will be working with coastal stakeholders to protect shorelines for wildlife and our communities.

"We are very excited that Maya has joined our Climate Adaptation team, bringing new abilities and expertise," says group leader Sam Veloz, PhD. "She will be leading the way to ensure that our science—demonstrating the

value of nature-based solutions for shoreline protection—reaches broad audiences and is used widely in preparation for future climate change impacts."

Maya's credentials include a doctorate in riparian ecology from UC Berkeley and MS in biology from Stanford. In 2001, Maya was a Point Blue intern and field biologist in our study of breeding seabirds on Alcatraz Island. We are thrilled to welcome her back! 🌍

PUBLICATIONS

Below are recent Point Blue scientific publications (titles are paraphrased).

- Waterbirds respond well to rice field management designed to reduce greenhouse gas emissions. (Accepted, *Biological Conservation*).
- Habitat programs on private lands in California are benefiting native birds. (*California Agriculture* Oct–Dec 2015).

- Copepod abundance and composition differ significantly over time in a strong coastal upwelling zone, indicating environmental variability in the ocean. (In press, *Progress in Oceanography*).

- Aspects of Long-billed Dowitchers' ecology and migration patterns are detailed in our study in the Sacramento Valley. (*Journal of Wildlife Management* Feb 2016).

Left: Brandt's Cormorant. Photo: Tom Grey. Above: Dr. Maya Hayden. Photo: Point Blue.

focus



Callipepla californica

Our State Bird

California Quail are beautiful and perky little creatures that are year-round residents of Pacific coastal hills and valleys from southwestern British Columbia to southern Baja.

Here are some of the attributes of quail that make them especially welcome in our shared habitats.

High Perching When we see a “singing” male teed-up in the spring, his topknot¹ whiffing in the breeze, he is doing as other male birds do at that time—seeking a mate, declaring his territory, and warning off other males. When we see a male teed-up in the fall, looking kind of ratty, he is on sentry duty, watch-

¹ A male California Quail’s topknot is made up of six or seven specially shaped feathers folded into each other for strength and fashion.

ing for an inevitable incoming Cooper’s Hawk while his extended family forages below, at the intersections of open ground and dense cover.

Late Parenting In central California, most year-round resident birds begin nesting in March and early April, but California Quail do not begin until early May, and we do not see their little fluff-ball chicks before June.

The reason for this is that other landbird species grow their young on insect or arachnid forage, while newly hatched quail rely on late-summer seed crops.

Quail produce 8 to 15 chicks per year, in one clutch. The young are precocial (they leave the nest soon after hatching), and when very small they leave the nest on a nomadic walkabout with their parents and siblings; and predation is high.

When conditions are normal, populations fluctuate greatly but retain their numbers over the long haul by successfully fledging enough young to reach breeding age (“recruits”) and replace the parent birds. When conditions are not normal—when predation is

abnormally high and sustained (e.g., by cats), or when shelter (brush) is removed by humans—populations drop, sometimes to zero.

City Quail In San Francisco, the quail population has been nearly extirpated (driven out or down) by large-scale habitat loss. The quail in remaining holdouts, Golden Gate Park and the Presidio, are severely threatened by a combination of native and introduced predators and by landscape manicuring by gardeners. Concerned organizations—the Golden Gate chapter of the National Audubon Society, Presidio Trust, and others—became involved, moving to curtail predation: they built brush piles for added cover and planted patches of native coastal scrub. Point Blue was called on to help study quail and provide advice on conservation options. Despite these efforts, more needs to be done as the “city” quail population continues to dwindle.

Perhaps the quail in your neighborhood or in a nearby park could use just a little help. 🌍

Rich Stallcup (1944–2012) was a PRBO co-founder and our naturalist extraordinaire. His knowledge continues to deepen our appreciation of all things wild. Read this essay and the entire Focus archive online at pointblue.org (found under “About Us” and then “News”).

Photos: Tom Grey, www.tgreybirds.com.



A cause for optimism



"I kept a version of Audubon's Birds of America out of my elementary school library for the entire school year," confesses Alice Miller, a lover of birds since age four.

But Audubon's masterpiece wasn't her only portal to the natural world. The young Alice loved to explore the woods, swamps, and fields around her western New York home, "wondering at bugs, frogs, snakes, woodchucks, deer, and other critters." Later in life she drew inspiration from the likes of Charles Darwin, Stephen Jay Gould, Richard Dawkins, and others who impressed upon her "how embedded, interconnected and interdependent all of us are with all life and its settings."

Alice ultimately pursued a career as a political analyst and historian, but one person in particular continued to fuel her interest in understanding and protecting nature. And she wasn't found within in the pages of a scientific tome or wandering the trails of rural New York—she was much closer to home. "My wife Avis constantly inspires me," says Alice.

Discouraged when young from ambitions of becoming a marine biologist because she was a woman, as a retiree Avis

Boutell returned to her love of nature and now devotes much of her time to volunteer work in the state parks near their home on the coast of San Mateo County. With what Alice describes as "characteristic passion and brilliance," Avis shares her enthusiasm for California native plants, ecology, and her beloved Snowy Plovers with others.

Point Blue's long-term monitoring and conservation efforts to protect the Snowy Plover initially drew the couple to our organization. They became members in 2002 and ten years later joined the Tern Society with a planned gift commitment to sustain Point Blue's conservation science well into the future.

Even with their long history of involvement, Alice and Avis found an entirely new enthusiasm for Point Blue's work after attending a bird and conservation walk at the TomKat Ranch field site last year. There they learned about our initiative to Secure Water and Wildlife on Working Lands. "We found it enlightening and such a cause for optimism," says Alice. "It seemed ambitious, climate science- and ecology-driven, collaborative, and pragmatic—exactly the right set of approaches."



The TomKat event inspired Alice to share the image of Earth featured on the cover of this Quarterly. Like the scientific luminaries who taught her about the interconnectedness of life, and like Avis, who gives freely of her time and talent to inspire a love of nature in others, that image—"the ultimate Point Blue," as Alice describes it—reminds her of our shared responsibility to preserve and protect the only home that humans and wildlife have.

"For us," Alice says, "Point Blue's work is central in sustaining this most precious place. Supporting conservation and Point Blue now seems all the more critical, to address the long-term, large-scale changes that must be made to sustain our way of life and the world we live in." She adds, "Help Point Blue, support them, and spread the word!" 🌍

Above: Alice Miller (left) and Avis Boutell. **Photo:** Courtesy Alice Miller. **Background:** Pillar Point on the San Mateo coast. **Photo:** Creative Commons.

"Point Blue is one of the shining stars in our galaxy of giving."

Nancy Rosa

Co-Executive Director
The Arntz Family Foundation

POINT BLUE CALENDAR

We gratefully acknowledge all our generous donors on our website. Please see www.pointblue.org/supporters. Thank you!

FARALLON PATROL Our Farallon Islands Program relies upon the skills and generosity of volunteer skippers in the Farallon Patrol. They provide essential transportation year-round between the mainland and our research station on the Farallon National Wildlife Refuge. We acknowledge the Farallon Patrol in our Annual Report. Here are all the skippers (and their boats) who made volunteer runs to the island during 2015. Many thanks!

Jim Bewley — <i>Another Girl</i>	Mick Menigoz — <i>Superfish</i>
Tom Charron — <i>MiVida</i>	Peter Molnar — <i>Sam</i>
Roger Cunningham — <i>Selkie</i>	Joe Nazar — <i>Kitty Kat</i>
Mark Dallman — <i>Ark</i>	Jim Robertson — <i>Outer Limits</i>
Paul Dines — <i>Freda B</i>	Keith Sedwick — <i>Bonkers</i>
Al diVittorio — <i>Solbritt</i>	Cliff Shaw — <i>Rainbow</i>
Jody Harris — <i>Farallon</i>	Harmon Shragge and Don Bauer — <i>French Kiss</i>
Andy Jones — <i>Kanpai</i>	John Wade — <i>Starbuck</i>

Below: A Farallon Patrol run nears its destination, 29 miles west of the Golden Gate. **Photo:** Maps for Good in cooperation with Point Blue and USFWS.

SCIENCE EVENTS

WESTERN LANDOWNER ALLIANCE

MAR 6 –
TOMKAT RANCH
PESCADERO, CA

Dr. Nat Seavy will speak on our Rangeland Monitoring Network and on measuring changes, from management actions, in carbon, water, and biodiversity.

NATURAL CLIMATE SOLUTIONS SYMPOSIUM

MARCH 10 –
SACRAMENTO

Ellie M. Cohen will present to decision makers on the science of nature-based solutions; hosted by The Nature Conservancy and UC Davis.

THE FUTURE OF WATER IS NOW

APRIL 22 –
NAPA, CA

Point Blue will present on STRAW and multi-benefit habitat restoration at this North Bay Watershed Association event.

4TH OCEAN CLIMATE SUMMIT

MAY 17 –
SAN FRANCISCO

We will present on climate-smart conservation at this conference hosted by the Greater Farallones National Marine Sanctuary.

MEMBER EVENTS

Point Blue offers visits to our field sites where members can learn about our cutting-edge studies. Explore www.pointblue.org/walks or contact Lishka Arata at 707-781-2555 x 354 or larata@pointblue.org.

SALT POND MUD STOMP

APRIL 2 – MOSS
LANDING, CA

Learn about shorebirds, and protecting our shorelines, while enhancing Snowy Plovers' nest habitat—with your boots!

MIGRATORY BIRD DAY

MAY 9 – MUIR
WOODS, CA

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

ANNUAL MEETING

MAY 22
PLEASE SAVE
THE DATE!

Our yearly gathering for members and friends. Details to be announced soon: watch for your invitation!

MIST NETTING AND MORE

JUNE 5 –
PALOMARIN
FIELD STATION
MARIN
COUNTY, CA

See songbirds up close, meet some of our intern biologists, and learn about the long-term bird monitoring that drives our climate-smart conservation work.

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



Point Blue Staff



Right: Snowy Plover. Photo: Tom Grey.

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Left: Point Blue Partner Biologists combined work with fun at this February gathering at the cattle and sheep ranch owned by Rangeland Watershed Initiative Coordinator Bre Owens. They planted a hedgerow to serve as habitat for beneficial insects and songbirds. Pictured left to right are Nathan Reese, Navit Reid, and Kate Howard. Photo: Breanna Owens, Point Blue.



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