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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 efforts<sup>1</sup> 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

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<sup>1</sup> 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](http://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.