

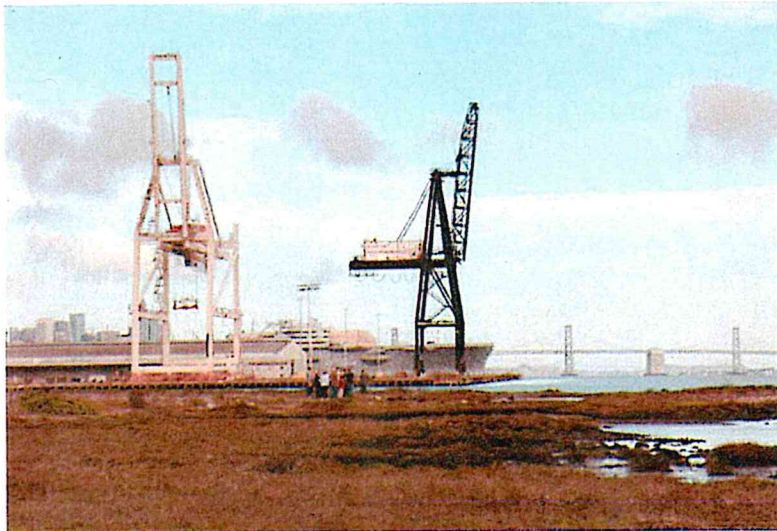
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Pier 94: By the People, For the Birds

Thanks to restoration efforts, wetland birds across the country are recovering after years of decline. At one site in San Francisco, volunteers have transformed an industrial dump into thriving wetland bird habitat

by Mallory Pickett on December 02, 2014



Volunteers gather in the restored marsh at Pier 94 in San Francisco. (Photo by Mallory Pickett)

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Pier 94 salt marsh is located at the end of a wide road with dirt piled high on either side, past two cement plants and a truck weighing station. It doesn't seem like ideal bird habitat. From the road, on a gray Saturday morning in November, the area looks abandoned and barren. But there are signs of life: two Canada geese nestled in front of some dirt mounds and Noreen Weeden, in a windbreaker and baseball cap, preparing for a day of restoration. She is waiting for a crew of new volunteers, who will spend this Saturday morning with her, the dirt, and the birds.

Weeden is the volunteer coordinator for the Golden Gate Audubon Society (GGAS). Pier 94, in San Francisco's Bayview neighborhood on the southern side of the Islais Creek outlet, used to be an industrial dumpsite. Department stores and anyone else with trash would leave their waste here, everything from furniture to tires, right on the edge of the water.

Today, the restored area at Pier 94 is a thriving salt marsh covering almost 5 acres, a migratory stop for many birds and home to many more. "We've already seen dramatic changes," Weeden says. "Our first workdays were focused on removing trash and now we don't have to do that."

Jonathan Barber, an environmental restoration leader with GGAS, agrees. "It's come a long way," he says. "When I first got here, it looked like a dump."

The transformation is thanks to 12 years of hard work by volunteers with the Audubon Society, who since 2002 have been laboring to return the site to some semblance of its former wetland state. Pier 94's acres are small part of a larger effort around the Bay that has seen 13,000 acres of wetlands restored in the last 15 years, with another 35,000 acres currently planned for restoration. "It's a lot of work," says Cheryl Strong, a wildlife biologist with the US Fish and Wildlife Service. "But it's a big bang for your buck because there is a lot of potential to do good, and a lot of legislative backing."

There are suggestions now that wetland restoration efforts across the continent are already paying off, helping wetland bird populations across the country recover after years of decline. Populations of the 87 wetland bird species tracked by the National Audubon Society have grown by 40% since 1968, according to the group's 2014 State of the Birds Report released last month. The five acres restored at Pier 94 are part of a patchwork of wetlands that nature, with the gentle assistance of concerned people, is reclaiming across the continent.

The volunteers arrive at Pier 94 around 9 a.m. Weeden meets them with shovels, watering cans, and a brief introduction to the history of the site. Today's volunteers are PricewaterhouseCooper employees, and a group of friends who mostly work in high-tech. The group's unofficial leader, Katie Malone, found out about the opportunity on a volunteer match website. "I had a volunteering itch," she says. "I felt like we should give back to the city a little bit. We're all very fortunate in our lives."

While Weeden gets Malone and the other volunteers started, Eddie Bartley, Weeden's partner and a master birder, is out taking a census of the birds in the wetlands. He's been involved with Pier 94 from the beginning, in the early 2000s. Back then, there were no wetlands or wetland birds to speak of here. Work at the site began after the Port of San Francisco and the GGAS received mitigation money from the Cosco Busan oil spill, which dumped 53,000 gallons of oil in the Bay and killed almost 7,000 birds. The GGAS used the funds to hire engineers and consultants to make a plan for Pier 94, and to buy clean sand and heavy equipment to remove debris and restore the wetland.

The first workday was on Earth Day, 2002. Volunteers started by hauling away trash, including dozens of buried tires, bringing in clean sand, and removing invasive plant species, a process that took years. The hard work has paid off, and today the area is tire-free and attracts hundreds of birds. Bartley has witnessed the transformation, and documented the changing bird population. Both the number and diversity of species have grown significantly, he says.



As important as wetlands are, the uplands—the dry area above the high tide line—is just as crucial, says Lech Naumovich, a botanist and restoration ecologist who's advised GGAS. Upland re-vegetation is the task of today's volunteers. They are planting native species on an elevated plateau that was created with 332,000 cubic yards of donated sediment. The dirt came from a neighboring cement plant and from the TransBay Transit Center Project, and truckers from a local company hauled the sediment for free.

Katiusca Sanchez, an accountant at PricewaterhouseCooper, was here with her husband, José Zarate, for the first uplands planting last year. She and Zarate are back today, this time with their nephew, Ali Hernandez. The plants they started 12 months ago are now bushes about 2 feet tall. "It was empty," Sanchez says. "It's nice to come back and see things are growing."

Healthy wetland-uplands ecosystems provide more diversity of habitat for birds and bugs, and in the case of storms or extreme tides, birds can retreat to the uplands for shelter. Naumovich says that because of limited funds and time, at many sites habitat restoration becomes a zero-sum game; one must invest in either wetlands or uplands. At Pier 94, they have the land and the volunteers to restore both. "It really does have nice connectivity to the upland habitat," he says of Pier 94. "It adds a lot of benefit to the site."

Halfway through the morning, the volunteers take a break from planting and enjoy the benefits of previous volunteers' labor in the wetlands. They exchange their shovels for binoculars, and Bartley leads them toward the water, carrying his spotting scope like a short, stubby baseball bat over his shoulder.

At one of the first stops on the wetland bird tour, young Ali finds a green-winged teal, a species of duck, through the scope. Bartley congratulates him on locating what he says is an uncommon bird. "When I was a kid I remember seeing that bird in books and thinking: now that's a bird I'd like to see," he says. "But there weren't many back then." Because of thousands of projects like Pier 94, he says, "things that were once uncommon are becoming common again."

It's hard to quantify whether the restoration efforts in the Bay have paid off for local wetland birds in the same way that national trends show wetland birds benefitting as a whole. This is partly because the birds that live in the tidal marshes here don't fit into the inland wetland or coastal bird categories that the national Audubon report used, and partly because the data isn't complete yet. Point Blue Conservation Science will release a study on the State of the Birds in the San Francisco Bay in 2016.

That study will give a clearer picture of how specific species and wetland birds overall are doing in the Bay. For now, experts at Point Blue and GGAS agree that it depends on the species, as it does for wetland birds on the national scale. Populations of some species are growing while others have declined, and many of the birds only spend half the year or less in the Bay. Cindy Margulis, GGAS's executive director, says that it's difficult to make a conservation plan for species that need healthy habitats in multiple countries. Volunteers and organizations like GGAS and Save the Bay work hard to take care of habitat here, but they have no control over the Arctic tundra or Midwestern prairie, where birds might spend the rest of their time.

Because of the huge and often international area migratory birds traverse, volunteers are crucial not only for the manual labor of wetland restoration, but also for gathering much of the data on whether conservation is working. Amateur birders and other citizen scientists are responsible for much of the information in the State of the Birds report. "I'm a huge fan of citizen science," Margulis says. "There are a lot more birders than there are conservation biologists."



With Golden Gate Audubon Society Volunteer Coordinator Noreen Weeden looking on, 12-year-old Ali Hernandez checks the scope for birds at Pier 94 in San Francisco. (Photo by Mallory Pickett)

At the end of the day, Weeden thanks everyone. Dozens more plants populate the uplands, and as she takes a group photo of the volunteers, a small blue butterfly flutters by. "It's out here using these plants," she exclaims.

After the volunteers are gone, Weeden and Bartley load up their supplies and prepare to take another survey of the site. Weeden seems genuinely pleased with the day's work. "Initially, we were very focused on the wetland area," she says. "Now that's in good shape." She hopes the uplands will soon be just as thoroughly restored.

"[Then] all we have to do here is maintenance," Weeden says, "and we can spend more time just enjoying the birds."

Mallory Pickett is a marine chemist and graduate student reporter at the UC Berkeley Graduate School of Journalism. This story was produced as part of a J-school class focusing on environmental issues in the Bay Area.