

Observer

Minimizing impacts on wildlife

Human Disturbance

Melissa Pitkin

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When you go out for a day at the beach or a hike in the woods, what do you take with you? Probably a daypack, water bottle, perhaps binoculars and a camera, some food, and a few other essentials, right? I would like to add to your list of essentials one more item, a big one, perhaps the most important: awareness. By this I mean awareness of the surrounding ecosystem and the effects your actions may be having on it.

This *Observer* is devoted to the topic of human-caused disturbance in ecosystems. Through our daily routines, recreational and occupational activities we humans impact wildlife and their habitats in a variety of ways. Let's face it, we are part of the ecosystem: our actions result in reactions, from negligible to severe. So what defines human-caused disturbance? Human-caused disturbance occurs when our actions result in behavioral or physical changes to wildlife or their habitats.

Human-caused disturbance can be direct or indirect. Imagine two people walking on the beach in mid-June, for example, enjoying the waves, the sand, and the fresh air. They're talking and don't notice a small, sand-colored shorebird flush from its hidden nest, or the soft sound of its three tiny Snowy Plover eggs crushed underneath a shoe. Their actions directly caused the nest to fail. Or, imagine that your neighbor plants Scotch Broom (*Cytisus scoparius*) in her backyard. The next spring its seeds are spread to nearby parks and open spaces. When these invasive plants grow, they displace native plants, reducing available native habitat for many songbird species. In this case, disturbance is indirect: planting the

non-native shrub in a yard results in broader consequences on a large scale.

Whether direct or indirect, disturbance often results from situations where individuals are unaware of the impact of their actions. With awareness, beachgoers may decide to walk on the wet sand away from nesting habitat, and a backyard landscaper may choose to plant a native shrub that will provide bird habitat while helping to keep neighboring parks and open spaces as functioning wildlife habitat.

At PRBO, we develop recommendations to minimize the negative effects of human-caused disturbance on birds and other wildlife populations. And our research protocols are designed to limit our effects on the wildlife we are attempting to protect. For our land management partners we provide recommendations on how they can alter their operational activities to avoid disturbance to birds. For homeowners we develop recommendations on appropriate landscaping practices. For scientists we develop protocols emphasizing nonintrusive study methods. For wildlife and outdoor enthusiasts we produce informational handouts with tips on limiting recreational disturbance. There are simple things we all can do to minimize our negative impacts on wildlife—and awareness is the first step.

In this *Observer*, the stories you will read demonstrate both that humans are part of the ecosystem and that greater human awareness can help us be responsible members of healthy ecosystems.

Melissa Pitkin is PRBO's Education Director.



prbo

PRBO Conservation Science

Ellie M. Cohen



Some forms of human-caused disturbance can be balanced with thoughtful alternatives.

To conserve biodiversity

Applying PRBO's Bird Studies

Ellie M. Cohen

PRBO's New Look

I am proud to formally introduce our new *Observer*, another step in PRBO's transition to an updated and consistent communications package. PRBO's new "signature" is vibrant and vivid, conveying our role as catalysts for effective conservation science!

We are most grateful to the San Francisco Foundation for a generous grant and to the wonderful people at Interbrand for their essentially pro-bono effort that made this project a reality.

– Ellie M. Cohen

The word is out—birds *are* excellent indicators of ecosystem health.

As threats to our environment continue almost unabated, interest in applied bird conservation science is soaring. From the National Park Service to The Nature Conservancy, more and more public and private interests are asking PRBO for help.

By studying bird populations, PRBO is able to evaluate and even predict effects on wildlife of changes ranging from West Nile virus and global warming to planned habitat restoration. This enables us to begin to answer a fundamental question: how do we balance human actions with the urgent need to conserve biodiversity?

Based on our long-term studies, PRBO is providing recommendations that are now in use by every major habitat and wildlife management agency in the West! Following is a sampling of recent PRBO-recommended changes to wildlife and habitat management protocols.

- ◆ Golden Gate National Recreation Area now avoids disturbance of songbirds during the breeding season when conducting habitat restoration and general maintenance, and has changed restoration planting to enhance bird breeding habitat (see page 5).
- ◆ The National Park Service prohibits construction and has closed certain areas to public access on the highly popular Alcatraz Island (in San Francisco Bay) during the seabird breeding season.
- ◆ Plant ecologists conducting restoration on Rush and Lee Vining Creeks

(Mono Basin, eastern Sierra) are using our recommendations to plan their designs, e.g., choosing tree and shrub species that support nesting songbirds.

- ◆ The Nature Conservancy and U.S. Fish and Wildlife Service (Cosumnes River, Central Valley, California) removed levees, allowing for regular flooding of riparian habitat. The resulting diverse plant growth is contributing to increased bird diversity and abundance.
- ◆ The National Park Service (Point Reyes) and California Department of Parks and Recreation (Monterey Bay) protect Snowy Plovers' beach nesting sites each summer (see next page).
- ◆ The California Department of Fish and Game (Marine Region) has listed the declining Xantus' Murrelet as a candidate for "threatened species" status. To protect nesting birds from nocturnal predators, the agency also seasonally bans nighttime use of lights by California's squid fishery within one mile of the Channel Islands (off Santa Barbara).

Some forms of human-caused disturbance can be balanced with thoughtful alternatives such as those outlined above. With human activities continuing to threaten bird populations and other wildlife—with likely impacts, ultimately, on each of us—PRBO's research is providing the sound scientific foundation needed to guide successful, win-win conservation solutions.

Ellie M. Cohen is PRBO's Executive Director.

Beach-nesting Snowy Plovers are vulnerable to disturbance.



DAVE DIXON

Today, birds of rocky shores and sandy beaches must cope with human-induced pressures.

Where land and sea meet

Finding a Balance

Sue Abbott

Seabirds, shorebirds, and waterfowl—the waterbirds—possess amazing adaptations, enabling them to survive in rugged and exposed coastal and marine environments. The Common Murre, for example, lays an oblong egg designed to stay put on the narrowest rock ledge. The Black Oystercatcher, employing keen awareness of tidal cycles, nests within feet of the pounding Pacific—prime intertidal real estate for this mollusc lover. Waterbirds can survive and even thrive in harsh natural conditions.

Today, though, birds of rocky shores and sandy beaches must also cope with human-induced pressures, such as limited habitat availability, human population growth, and our increasing desire for recreation in formerly remote places. We now are learning how our actions can upset delicate balances in the life cycles of birds, particularly during the short window of time when birds must find a mate, build a nest, incubate eggs, and raise young. On the West Coast, this time window, March through September, coincides with our spring and summer recreation booms.

It is no coincidence that two birds dependent on West Coast beaches for nesting habitat are either federally endangered or threatened. The California Least Tern and Western Snowy Plover are highly adapted to the shifting sands of beaches and dunes: their cryptically colored eggs and flightless chicks match the beach sand, reducing predation. Sharing the beach with thousands of beachgoers, dogs, and off-

road vehicles is a challenge for which they are *not* well equipped.

In 1999 and 2000, PRBO studied Western Snowy Plover chick survival on beaches in Point Reyes National Seashore (PRNS), California. We compared chick survival on weekends and holidays, when human recreation is highest, to that on weekdays. Significantly more chicks were lost on weekends and holidays in both years, suggesting that human recreation reduces Snowy Plover chick survival. Based on these findings, PRBO recommended using educational



RICHARD BLAIR

Choosing where to walk on some sand beaches can reduce disturbance.

outreach and increased PRNS ranger presence on beaches, particularly during weekends and holidays. PRNS has implemented a unique outreach program in which rangers work closely with PRBO biologists. Using up-to-date information from biologists about sensitive chick-rearing areas, PRNS can focus outreach efforts to minimize disturbance on those high priority sites.

On the infamous rocky shores of Alcatraz Island, California, PRBO biologists have a unique challenge: to observe an assemblage of breeding waterbirds and the many humans that recreate and work on and around the island. The Brandt's Cormorant is the most numerous breeder on Alcatraz; in fact, the number of nesting pairs increased by 19% between 2001 and 2002, reaching the highest numbers ever recorded. During May 2002, while these sleek, iridescent, black seabirds were at their busiest incubating eggs and rearing chicks, 116,000 people toured Alcatraz! It's not surprising that humans and birds sometimes interact in such close quarters.

In the past three years, we documented disturbance to birds on and around Alcatraz at some of the highest levels on record. In 2002, nearby boat traffic caused one-third of all recorded disturbances. Surprisingly, kayaks are particularly potent vectors of human disturbance because of their silence: they can sneak up to birds and startle them more easily than can a loud motorboat. A single kayak that approaches too near a seabird colony

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It is more important than ever for each of us to uphold mindful behavior when enjoying the outdoors.

Simple steps to reduce human disturbance in coastal habitats:

- Be aware that, in North America, birds may be breeding from March through September.
- Walk on the wet sand to avoid disturbing nesting birds on beaches.
- When birding, stay out of restricted areas and leave the area if you see any signs of distress among the birds you are watching.
- Walk around flocks of birds, not through them.
- Keep your pet on a leash.
- Leave driftwood flat on the beach, and dismantle driftwood shelters, to limit perches for predators.
- Ask your favorite coastal refuge or park to maintain garbage receptacles with tightly fitted lids, to prevent scavenging by predators (and therefore artificially supporting their populations).

can cause catastrophic breeding failure, flushing adult birds from nests and leaving eggs or chicks exposed to opportunistic predators and inclement weather. History has shown us that frequent or extreme disturbances on or around seabird colonies can cause complete abandonment of the breeding site.

On Alcatraz in 2002, PRBO biologists noted a rise in the percentage of disturbances that caused birds to flush from their nests. In response, Golden Gate National Recreation Area, which manages Alcatraz, is conducting educational outreach that targets groups using the peripheral waters. PRBO also promotes rigorous enforcement as well as clear signs and buoys around Alcatraz, marking a 100-meter buffer zone to help guide and inform kayakers, canoeists, and other boaters.

Thanks to cooperative efforts like these, human disturbance is gaining recognition as a major threat to bird

populations. In many cases, however, we do not understand the causes and effects involved. Researchers, managers, and individuals must work hard to meet this conservation challenge.

PRBO recognizes the value of educational outreach to heighten public awareness. As automobile drivers, we abide by rules of the road every day to prevent injury to others. As bird populations decline and human recreation increases, it is more important than ever for each of us to uphold similarly mindful behavior when we enjoy the outdoors.

Sue Abbott is on the staff of PRBO's Education Program. Information for this article was also provided by Golden Gate National Recreation Area and Ben Saenz, a PRBO Biologist who heads the Alcatraz Island study in our Marine Science Division.

Controlling invasive plants: what you can do:

- Do not plant non-native invasive plants, especially if you live adjacent to wildlands.
- Compost garden waste. Never dump even seemingly "dead" plant material beyond your property line.
- To help map or control invasive plants in Point Reyes National Seashore, contact Kim Cooper: 415-663-5196 or kim_cooper@nps.gov.

Cape-ivy



PRBO

Invasive plants are the second greatest cause of native plant extinction...

A case in point at Point Reyes National Seashore

Invasive Plant Disturbance

Kim Cooper

Invasive plants present a major challenge to native plant conservation efforts at Point Reyes National Seashore (PRNS). Of the more than 900 species of plants in PRNS, 321 are non-native; of those, at least 30 are invasive enough to threaten the diversity of native plant communities. PRNS also supports 46 special status (rare) plant species, many of which are directly affected by invasive non-native species. Throughout the California Floristic Province¹, invasive plants are second only to habitat destruction as the major cause of native plant extinction.

An invasive species is one that displays rapid growth and spread, favoring its establishment over large areas. Prominent examples are non-native thistles, French and Scotch broom, cape-ivy, pampas grass, iceplant, and European dune grass. Free from the ecological restrictions present in their native lands, such as herbivores, parasites, and diseases, these plants may expand rapidly. Invasiveness is enhanced by strong vegetative growth, abundant seed production, high seed germination rate, long-lived seeds, and rapid maturation to a seed-producing stage. Phenomenal growth allows invasive plants to overwhelm and displace existing vegetation and form dense stands of one to just a few species.

In our highly mobile, global society, invasive species are transported by humans—both unintentionally (as seeds

or plant fragments in feed or gravel, for example) and intentionally (as food and ornamental plants). Many of the qualities that make a species invasive also make it desirable for landscaping and gardening. Of the 25 highest priority invasive species at PRNS, 13 are escaped ornamental (garden) plants. Pampas grass and French broom, two of our most difficult invasives, are still used in home landscaping projects. On Golden Gate Recreation Area (GGNRA) lands near the Seashore, populations of cape-ivy and pampas grass have developed from garden waste dumping along Fairfax-Bolinas Road.

Cape-ivy's impact on riparian vegetation and nesting songbirds has been the subject of a PRBO study in Redwood

Creek near Muir Beach, California. An ongoing joint GGNRA/PRNS restoration project there incorporates PRBO bird monitoring data and habitat recommendations. As cape-ivy has been removed—an extremely labor-intensive process—nesting songbirds have increased in diversity and abundance. PRBO has also recommended approaches for replanting native tree and shrub species to enhance wildlife habitat in the Redwood Creek valley.

At Point Reyes National Seashore, the problem is so large and complex that vegetation managers are obliged to prioritize efforts. Several invasive species are too widespread for total control to be feasible, so mapping the extent of infestations is the critical first step in our management strategy. We then act to contain established populations and prevent new infestations. We assign highest priority to existing infestations that are the fastest growing, most disruptive, and affect the most intact and/or rare plant communities of the Seashore. One such top priority is the Abbotts Lagoon area, where threatened Snowy Plovers nest and rare dune plants still maintain a fragile foothold. We also cooperate in public outreach programs encouraging home gardeners to help reduce disturbance to native flora and fauna caused by invasive non-native plants (see box on page 4).



POINT REYES NATIONAL SEASHORE

Pampas grass removal at Point Reyes.

¹ Conservation International has designated the California Floristic Province (CFP) as a "biodiversity hotspot," one of 25 terrestrial regions of the world where biological diversity is most concentrated and the threat of loss most severe. Within the CFP, the extent of original flora remaining is just 25%, with only 9.7% protected.

Kim Cooper is the Invasive Plant Specialist at Point Reyes National Seashore. Information in this article was also provided by Plant Ecologist Barbara Moritsch, now at Yosemite National Park.



PRBO

A Cassin's Auklet chick near its nest box on Southeast Farallon Island.

To gather data, we must intrude into the isolated world of breeding seabirds.

Reducing research's impacts

Responsible Science

PRBO Biologists

Scientific knowledge, necessary for wildlife protection and habitat conservation, must sometimes be obtained at a cost—interference in the lives of wild animals. PRBO places a high priority on reducing impacts on our study species, as discussed in these four examples.—Editor

Farallon Seabirds

Russ Bradley

I vividly remember the first time I crushed the entrance to a Cassin's Auklet burrow on the Farallons. My mind was filled with all the field work I needed to do that day when I accidentally demolished the well-dug nest site of one of these amazing planktivorous seabirds. Cursing myself, I carefully excavated the burrow to find a startled chick inside, very annoyed with the recent renovations to its home. I rebuilt the burrow the best I could, using a piece of wood and a rock to form a secure new roof, and returned the uninjured chick. A few weeks later when I peeked into the reconstructed burrow, I was thrilled to see the small chick fully feathered and nearly ready to fledge to the open sea.

Most seabird colonies are extremely sensitive to human disturbance. Many species that have evolved to breed in these isolated locations have few defenses against non-avian predators, because they have rarely been exposed to them. This is definitely the case on the Farallon Islands. As stewards of the Farallon National Wildlife Refuge, PRBO biologists monitor disturbance by passing boats and aircraft and ensure

that unauthorized personnel are not permitted on the island. But how do we ensure that our own research activities do not negatively affect wildlife?

- ♦ Much of Southeast Farallon Island, where our research is conducted, is closed to all human activity—including researchers! And during seabird season (March 15–August 15), to protect nesting seabirds from disturbance, many areas that researchers visit during the fall and winter are off limits.
- ♦ Boardwalks prevent damage to auklet burrows, and artificial nest burrows (boxes) are used in studies of breeding behavior of burrowing birds to prevent disturbance to natural sites.
- ♦ Although some of our studies involve direct handling of birds for marking and measuring, we strive to reduce handling times and keep stress to an absolute minimum. Once birds are confirmed as breeders, they are left alone throughout the incubation period. We limit handling of animals during sensitive periods like chick brooding when the young are covered in the nest by their parents.

In 1999, PRBO's Karen Carney and Marine Program Director Bill Sydeman published a comprehensive review of human disturbance effects on nesting colonial waterbirds in the peer-reviewed journal *Waterbirds*. The article highlighted less intrusive research methods and emphasized the need for biologists to be ever vigilant in their interactions with seabirds.

PRBO's research on the breeding seabirds of the Farallons has just celebrated its 33rd anniversary. This is the longest data set on breeding seabirds in the Northern Hemisphere and has enabled us to examine important questions about long-term changes in the marine environment (see *Observers* 127, Winter 2002; and 130, Fall 2002). To gather these data, we must intrude into the world of breeding seabirds—an isolated world where humans really don't belong. Despite our occasional accidents, we strive to collect valuable data in ways that minimize disturbance to this sensitive environment and protect and sustain populations for the long haul.

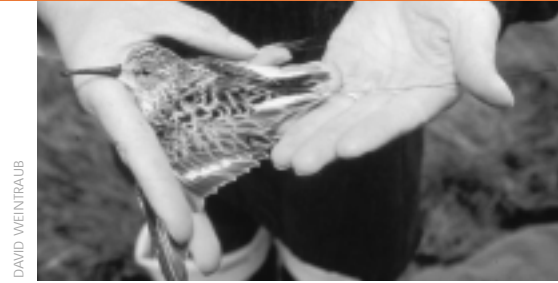
Nesting Songbirds

Tom Gardali

PRBO's field biologists locate and monitor over 2,000 songbird nests each spring, enabling us to estimate nesting success and investigate the factors influencing it (e.g., rainfall and nest location). Unbiased estimates of nest success are vital to our research. While the scientific literature contains several studies indicating that observer impacts on birds' nesting success are minimal or nonexistent, PRBO takes several precautionary measures to reduce any potential impacts associated with locating and monitoring nests.

Finding a nest is difficult, and pinpointing its location can cause some disturbance as the biologist carefully searches the vegetation (while the songbirds vocally scold the observer). In this

Preparing to release a newly radio-tagged Western Sandpiper.



DAVID WEINTRAUB

Songbirds go to great lengths to minimize drawing attention to their nests, and we do the same.

situation and in subsequent nest checks, the biologist is perceived as a nest predator! Songbirds go to great lengths to minimize drawing attention to their nests, and we are obliged to do the same. PRBO field biologists use the following techniques and guidelines to reduce disturbance:

- ♦ Never approach a nest when avian nest predators are nearby. Jays and other corvids are smart and likely get behavioral cues, from the biologist and the songbirds, which they use to locate nests to rob.
- ♦ Conduct false “nest checks.” Even if the biologist cannot see an avian predator in the vicinity, she/he should assume one is watching and pretend to check several false “nests” by peering into bushes before and after checking the real nest.



Using a “nest stick” to locate and observe a songbird nest causes minimal disturbance.

- ♦ Minimize physical disturbance to the area around the nest. Any trampling of vegetation may reduce nest cover and draw unnecessary attention to the location of the nest.
- ♦ Never create a dead-end trail that leads to the nest, and for each visit always try to approach a nest from a different direction. The idea is to not create trails, but if that is impossible, make sure that any trail does not lead predators such as raccoons directly to the nest.
- ♦ Use a “nest stick” to part vegetation, an indispensable tool for the nest searcher. One of the nest stick’s many uses is to move any vegetation near the nest in order to check the contents without leaving a human scent.
- ♦ Be quick and accurate when checking nests. More time spent at a nest increases the amount of attention drawn to the area.

Each year, new field biologists are humbled by the privilege to intimately observe the home life of songbirds. The drama unfolds before them as they watch a pair of songbirds work tirelessly to construct nests, incubate eggs, and, if everything goes well, feed nestlings until they are old enough to depart the nest. Realization of this privilege makes training field biologists to be aware of and reduce research impacts a simple endeavor: the last thing they want is to negatively influence the outcome of a nesting attempt.

Shorebird Telemetry

Nils Warnock, PhD

As researchers who study and handle birds, a question we have to ask is: Are we affecting the birds we study? We know that when a migrating Western Sandpiper has been captured and had a radio-transmitter glued to it (see *Observer 126*, Autumn 2001), its migration at its site of capture is delayed, but that afterward it behaves normally. For instance, Westerns radiomarked at San Francisco and subsequently seen at Grays Harbor, Washington, stayed an average of 1.9 days at Grays Harbor; during the same period when the San Francisco birds were migrating through, Westerns captured and radiomarked at Grays Harbor stayed for more than 7 days; this suggests a capture effect.

Why do we see these effects? Birds that experience stress undergo physiological responses, including elevated stress-related hormones in their bodies. These hormones send messages to the birds to stop worrying about certain activities (like eating) and instead deal with the stressful situation. A common pattern we see after banding birds is that they tend to lose body mass for a few days before beginning to regain mass. In trying to minimize this effect, we found that the quicker we handle the birds and let them go, the smaller the capture effect seems to be.

Are these effects of banding temporary or permanent? Using radiomarked shorebirds, we have gained some infor-

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PRBO

Studying the Farallon white shark population: videotaping an individual.

Does what we learn about these animals justify our disturbance to them?

mation. Our Western Sandpiper studies show that radiomarked birds have high survivorship during northward passage from wintering grounds in California to breeding grounds in Alaska. We typically detect over 80% of the Westerns that we radiomark in California at the Copper River Delta in Alaska, over 3,000 km (2,400 miles) away. Given that we miss some birds, and that some have their radios fall off or fail, survivorship of birds is apparently high during this period.

Does handling cause longer-term effects? Here, we look to data for Pacific Golden-Plovers radiomarked in Hawaii and tracked to breeding grounds in Alaska (a study in which I participated with lead researcher Dr. Wally Johnson of Montana State University). Since these plovers were also color-banded, we could see how many previously radiotagged individuals came back to their wintering sites in Hawaii the following fall. Of the 20 birds marked, only one bird failed to return, suggesting that there was no long-term effect on these birds.

We need to be aware that we can and do impact our study species—and be ever creative in evaluating and negating any such effects. However, results such as the above help assure us that we are not unintentionally harming the very species that we are trying to protect.

White Sharks

Peter Pyle

Just 20 years ago a fisherman killed four large sharks at Southeast Farallon Island (SEFI) in a single day and was glorified as a hero by the local media. Following this event we began a long campaign to change the image of the white shark in the human eye, using PRBO's shark research project at SEFI as a platform to help people understand and respect, rather than fear and castigate, this important keystone predator in the marine ecosystem. Through documentaries we conveyed our message to the public, and through petitioning we instigated a successful effort to legally protect the white shark in California waters. We were thus delighted when, recently, we were asked to review the effects of our own research on the behavior and well-being of the sharks—surely a sign that our campaign has succeeded, and beyond our wildest dreams at that.

We have always taken a “hands-off” (literally and otherwise!) approach with white sharks—refusing to use bait and attempting to alter their behavior as little as possible by our presence. When we have affected them—e.g., through the restricted (less than one hour per day) use of decoys to lure them to the surface, to identify individuals; by our proximity to feeding events to obtain video identifications; or through deployment of satellite transmitters (the equivalent of a mosquito bite in the turbulent life of a white

shark)—we have constantly asked the question: Does what we learn from and about these animals justify our disturbance to them? Due to our very cautious observational approach and the increased public compassion and legal protection that have resulted from our research on this previously maligned animal, we feel strongly that the answer is “yes.”

Nonetheless, we always welcome outside review of our own research behavior and want what is best for the sharks. Indeed, we have recently submitted recommendations for a complete ban on the use of chum (bait) and decoys, and a 50-meter limit for the approach of boats to feeding sharks; we want these regulations to apply to all vessels, commercial and research alike. Although this may reduce our ability to collect certain data, we are more than willing to make the sacrifice to benefit the sharks.

Russ Bradley and Peter Pyle, Marine Sciences Staff Biologists, work seasonally at PRBO's Farallon Island Field Station (in cooperation with U.S. Fish and Wildlife Service). Tom Gardali is a member of PRBO's Terrestrial Research staff. Nils Warnock, PhD, is Co-Director of PRBO's Wetlands Program.

Spotted Owl: a call for ethical birding.



POINT REYES NATIONAL SEASHORE

It is crucial to respect the welfare of rare and endangered species.

Ensuring that our activities do no harm

Birders' Code of Ethics

Melissa Pitkin

As shown in this *Observer*, human activities often result in impacts on birds and other wildlife. This can be true of scientists, land managers, each of us in our daily lives, and even birdwatchers. The American Birding Association has developed a "code of ethics" for birders and wildlife watchers, to ensure that we are not doing more harm than good while we enjoy these magnificent creatures.

If you watch birds and other wildlife, please take the time to read this code carefully. It can, and should, be downloaded from the ABA website at www.americanbirding.org/abaethics.htm. If you do not have Internet access, contact me at 415-868-1221, ext. 307 for a printout.

Here, I would like to expand upon a few points that are made in the birding ethics code:

"Promote the welfare of birds and their environments." Under this heading is a section addressing endangered and threatened species, species of special concern, and those rare to an area. It is crucial to respect the welfare of these species and to remember that habituation to people may perpetuate the threatened or endangered status of the species. This means that it is irresponsible to participate in any of the following activities:

- ♦ Calling or hooting to attract Spotted Owls or other threatened bird species
- ♦ Staking out the nest or location of an endangered species for birding trips or viewing by other birders

- ♦ Violating posted land or area closures or restrictions on recreational activities by wildlife managers or agencies

This part of the ethics code also refers to nesting birds, which are especially sensitive to disturbance. While birding, be sure you are not compromising a nesting bird through photography or intense viewing, as this may cause the bird to abandon its nest.

"Ensure that feeders, nest structures and other artificial bird environments are safe." Because we love birds, we are often drawn to the idea of putting up bird feeders and nest boxes either to help the birds or to attract them to our yards for further enjoyment. We must realize, though, that our actions, if not done correctly, may actually have a negative affect on the birds we are trying to help. For example, the Brown-headed Cowbird, well known as a nest parasite with negative impacts on open-cup nesting songbirds, can be *favored* by certain kinds of bird feeding. (See box at right and also Rich Stallcup's "Focus" on page 10).

By observing a code of ethics for watching birds and wildlife, we can make a difference—ensuring that our activities cause the creatures we love no harm.

Melissa Pitkin is Director of PRBO's Education Program.

Cowbirds and Feeders

Did you know? Human actions can contribute to the presence of Brown-headed Cowbirds. PRBO biologists in the Eastern Sierra have been conducting cowbird counts in suburban areas near riparian creeks. In 2002, in a housing development, they found on average 6 cowbirds per weekly census with numbers ranging from 1 to 60 cowbirds per visit! Even more disturbing, the cowbirds were mostly observed foraging at bird feeders.

What you can do: If you feed birds, be careful not to attract and feed jays and cowbirds. ♦ Never scatter seed indiscriminately on the ground. ♦ Avoid tray feeders that provide open access to seed. ♦ Choose feeders that exclude cowbirds, jays, and mammalian predators, e.g., hanging feeders with cages around them and trays underneath to keep the seed from spilling loose onto the ground.



The best backyard bird-attracting regime may be to landscape with native plants.

How to—and how *not* to

Feeder Responsibility

Rich Stallcup

Attracting birds to your garden can be a nurturing, delightful, and educational experience. To some people, bird feeding is life's greatest joy. To others it is their only close contact to and connection with nature, perhaps leading them to support habitat conservation. For many kids, backyard birds form the basis of a lifetime devotion to wildlife and wilderness. Feeding birds, though, must be done with utmost consideration and responsibility.

Think before starting. 1) Are there cats I can't control in the area? 2) Can I go the distance and be there for the birds I feed? 3) Will feeding attract European Starlings, House Sparrows, rats, or other creatures that negatively impact native species? 4) Is there adequate shelter where the birds I feed can flee from hawks? The *wrong* answers are 1) yes, 2) no, 3) yes, and 4) no: if you had any of those, forget luring birds to you with feeders, and go where they are instead.

Timing. At Point Reyes Station, California, I feed songbirds only in winter, beginning in late September when migratory finches and sparrows begin to arrive, and I wean them in late April. Some feel that it is not a good idea to feed during the local breeding season: it may distract nesting birds from domestic duties and increase breeding densities of potential nest predators, like jays and squirrels.

Commitment. If you feed birds, the birds in your charge become your responsibility. Protect birds at your feeder from cats (don't feed birds if you

have cats in your yard), and do all you can to minimize window kills (closing the curtains and shades when you are not at home may save many birds).

Occasionally, transmittable diseases become established and are passed around feeders, especially by small finches at hanging tube feeders. If you see groggy-looking goldfinches or siskins, immediately clean the feeder(s) with a 1 to 4 solution of bleach in water, rinse thoroughly, and dry them before hanging them out again. If the condition persists, take down your feeders until the sick birds move on.

Regular and thorough cleaning of all feeders and providing clean (unfrozen) water are other necessary chores. Moldy as well as sprouting seed should be discarded.

Types of Feeders. There are innumerable types of feeders, ranging from seeds scattered on a railing, stump, or log to commercial, many-tiered contraptions with automatic loaders. The best choice is a hanging feeder designed to deny access to jays, cowbirds, and other predators, avian and mammalian. These prevent indiscriminate feeding, minimizing the effect bird feeding may have on the balance between predators and their prey.

More important than the kind of feeder is its location. Feeders can be away from shelter, but be sure that spilled seeds do not get to the ground. Feeders near the ground should be just a quick flight to cover but not close enough to allow a coiled feline to spring successfully.



White-crowned Sparrow on poison hemlock. Plants that provide habitat attract birds to your backyard—a good alternative to feeders.

Feeding hummingbirds (or not) is a more complex topic than feeding songbirds. For basic thoughts on that, see "Hummingbirds—an American Dream" (www.prbo.org/Hummers.html). Important: If a feeder is empty, or unused because of old sugar water, remove it. Hummingbirds are on such frugal energy budgets that they cannot afford to revisit feeders unrewarded. Keep feeders clean and fresh and full—or take them down.

Many naturalists and biologists would agree that the best backyard bird-attracting regime is to provide fresh water and to landscape with native plants that are appropriate to your region and

used by local native birds (and other wildlife) for habitat. Local Audubon and Native Plant Society chapters may list recommended species; native plant gardeners and nurseries are also excellent resources; and you can visit www.prbo.org/backyard.htm for information and resources on landscaping for birds and to obtain a copy of the PRBO handout “Feeding Birds Safely.”

There are those who would simply say, “Never ever feed wild birds—it is bad for them and for the stability of their populations and balance with their adversaries.” However, since 20 to 50 million American homes do maintain feeders, it is important that “feeder responsibility” be taught and practiced.

Rich Stallcup is PRBO’s Naturalist in the Education Program.

Bird-A-Thon 2002

Many thanks to all who participated in our big annual fund-raiser in 2002. Bird-A-Thon support for PRBO’s conservation through science totals more than \$92,500 to date! A complete report will accompany our spring *Observer*.

The Grand List

The Grand List highlights current PRBO priority projects in need of funds. If you can help in any way to support these projects, please contact Sarah Huard (415-868-1221, ext. 324). We are, of course, always appreciative of general operational support that allows us to fund priorities as needed.

- ◆ **Palomarin Field Station:** To expand our pioneering, multi-decadal breeding songbird research to include habitat succession and climate change studies. *Cost:* \$3,000 per intern (5); \$12,000 Project Manager (1 part-time)
- ◆ **Farallon Islands—Intern Training:** To assist in data collection in our world-renowned research on seabirds and marine mammals in this largest breeding colony in the continental U.S. *Cost:* \$3,000 each (5)
- ◆ **Backup generator and other emergency preparedness:** To minimize disruption to our work when outages occur at our headquarters in western Marin County. *Cost:* \$5,000
- ◆ **Website Enhancement:** To modernize the PRBO website to reach new audiences and to provide real-time data exchange between staff, partners, and volunteers. *Cost:* \$10,000

Our apologies for omissions or mistakes in the list at right. Please call Sarah Huard at 415-868-1221, ext. 324.

Donors

PRBO is grateful for the following donations of \$250 or more (October–December, 2002):

Louise Abbott and David Earp
 Ms. Janet W. Allen
 Ms. Gayle A. Anderson
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 Mr. and Mrs. Peter Avenali
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 West Marine
 Marshall and Jennifer White
 Mr. James Wiggert
 Ms. Mary P. Wright

"The future of PRBO is dependent on planned giving."

Leveraging your conservation dollar

Leaving Your IRA to PRBO

Sarah Huard

Recently I corresponded with Planned Giving attorney Carolyn Farren and PRBO Board member Rigdon Currie, to discuss the tax benefits of designating charitable organizations as beneficiaries of Individual Retirement Accounts (IRAs).

Carolyn Farren is a certified specialist in probate, estate planning, and trust law with offices in Marin County and San Francisco. She has served on the boards of several nonprofit organizations in the Bay Area, including Audubon Canyon Ranch, and has graciously agreed to lend her expertise to PRBO and our members. Rig Currie has served as a member of PRBO's Board of Directors since 1998.

Observer: Rig, you've been a member of PRBO's Tern Society for 5 years. Why did you decide to include PRBO in your estate planning?

Rig: PRBO does unique conservation work. As a pragmatic conservationist, I believe that productive conservation must be based on solid, efficient research. And that is precisely PRBO's mission. I also like PRBO's focus on using bird activity as an indicator of the health of a habitat. I guess this approach appeals to my passion for birds. So my wife Trish and I decided to leave PRBO a significant portion of our estate.

Observer: Why IRAs?

Rig: IRAs left to heirs are taxed most heavily, not just with estate taxes but particularly with income taxes. These taxes can be avoided by leaving IRAs to nonprofits like PRBO and other assets to heirs. In fact, you can enable heirs to draw on IRA assets for a time, with the



COURTESY CAROLYN FARRIN

Carolyn Farren in Bhutan, at Tiger's Nest in the Himalayas, November 2002.

residual going to a nonprofit. That way, everyone wins.

Carolyn: Rig's correct: all Individual Retirement Accounts are subject to income taxation when they are withdrawn by an individual. However, charities such as PRBO do not pay income tax. By designating PRBO as the beneficiary of his IRA upon his death, Rig ensures that PRBO receives 100 percent of the value of the IRA and that all of those tax-deferred assets are used to carry out PRBO's important work.

Observer: Rig, how did you designate PRBO as a beneficiary of your retirement accounts?

Rig: The correct designation for naming PRBO as a beneficiary is: *PRBO Conservation Science, Stinson Beach, California*.¹

Carolyn: There are a few other things to keep in mind regarding gifting IRAs. First, be sure to consult with your financial advisor, attorney, or accountant when you name a beneficiary for your retirement accounts. You should also note that you can always amend your designations with a name and new or different beneficiaries, should your circumstances change. It's also worthwhile to mention that you can choose to designate all or simply a portion of your IRA to charitable organizations.

Rig: One final thought about the importance of planned gifts is that the future of any dynamic nonprofit like PRBO will be dependent on planned giving. If enough of us who love the work PRBO does make it a vital part of our estate planning, PRBO's future will be assured. I can't think of a better way to leverage one's conservation dollar.

Sarah Huard is PRBO's Manager of Individual Giving. For more information on leaving your IRA to PRBO, or other planned gifts, please call Sarah at 415-868-1221, ext. 324.

¹ Designating *Point Reyes Bird Observatory* will also suffice.

... a wake-up call for the world to take preventative action

PRBO sends two biologists to the coast of Spain

Catastrophic Oil Spill

Diana Humple

On November 13, 2002, the tanker *Prestige*, containing twice the quantity of oil as *Exxon Valdez*, began leaking off the coast of Spain. In a week the ship split in two and sank to the ocean floor, where it continues to leak its contents. The catastrophic scale of this spill was likely due to the decision to tow the cracked and vulnerable ship into rough seas instead of granting it safe harbor, where the oil could have been contained. Hundreds of kilometers of coastline were oiled, some by a 35 x 65 km (20 x 40 mile) slick. The fishing industry, crucial to the Galician economy (the coastal state hit hardest), has been shut down and its future jeopardized.

Because of PRBO's expertise in oil spill response, we offered assistance and were immediately asked to participate. Christine Abraham and I joined a British biologist and a team from the University of La Coruña (Spain) in

species identification, documentation, and dissections of dead oiled birds; without such efforts, effects of spills on seabird populations are unknown. In many cases, documentation is also crucial to holding the responsible parties legally accountable and to ultimately make it in their interest to practice safer shipping methods.

To date, over 13,000 dead birds have been collected, and the true mortality likely is closer to 130,000 birds. Primary bird species affected include Razorbill, Atlantic Puffin, Shag, Northern Gannet, Common Murre, and Yellow-legged Gull. While long-term effects are unknown, the consequences may be severe, especially for species (e.g., the puffin) where mostly adults, already of breeding age, were affected.

The lack of coordinated response by the Spanish government highlights the dire need for established oil spill contingency plans—state, national, and continent-wide in scale—to be developed *before* such events occur. This event will hopefully serve as a wake-up call for the world to take further preventative actions against the disastrous effects of oil spills.

Diana Humple is a Staff Biologist in Terrestrial Research and Marine Science. Christine Abraham, PRBO Marine Science Biologist, helped prepare this article.

PRBO's response to the Prestige oil spill was made possible by generous donations from the National Fish and Wildlife Foundation, the Flora Family Foundation, and PRBO member John Wagnitz.



PRBO biologist Christine Abraham examines an oiled Gannet in La Coruña, Spain.

Farallon Patrol Log

Thanks as always to the expert skippers of PRBO's volunteer Farallon Patrol for providing the nautical connection with our field station on Southeast Farallon Island.

Oct 5	Mick Meningoz	<i>Superfish</i>
Oct 12	Tom Charkins	<i>Kumbaya</i>
Nov 2	Terry Berkeimeier	<i>Pax</i>
Nov 16	Sam Lavanaway	<i>La Adriana</i>
Dec 7	Burt McChesney	<i>La Storia</i>
Dec 21	Jim & Petra Reed	<i>Melange</i>
Jan 4	Tom Camp	<i>Just Imagine</i>
Jan 18	Sam Lavanaway	<i>La Adriana</i>

Notable

♦ "Fingerprints of global warming on wild animals and plants" in the journal *Nature* (www.nature.com) recently won national media attention. Lead author Terry Root, PhD, of Stanford University contributed to PRBO's fall 2002 *Observer* and spoke at our 2002 Osher Symposium. An award-winning scientist, Terry is also PRBO's newest science Board member.

♦ We are also pleased to announce the addition of Vicki Ruff to the Board of Directors. A former school teacher and American Express executive, Vicki brings exceptional organizational skills as well as a passion for the environment to PRBO.

Welcome Terry and Vicki!

As always, PRBO is deeply grateful to Audubon Canyon Ranch, Point Reyes National Seashore, and the U.S. Fish & Wildlife Service for providing facilities and field stations where we work.

Gifts Honoring

PRBO is grateful for the following gifts (October–December, 2002):

In honor of Helen and Gil Cohen's
50th Wedding Anniversary
Ellie M. Cohen and Michal Goralsky

In honor of Julie Phillips
Stephanie Sherman

In honor of Judith Ciani Smith
Suzanne Harmon-Speh

In honor of Jennifer Taylor and Lewis Payne
Marcy Englund
Laura Feuerstein
Jane Heirich
Judith Anne Diedrich Jenkins
Ellen Levitt and Damian Pickering
Robert Nolan
Jennifer Shawn and John Botz
Andrew Taylor and Audrey Singer
Janet A. Walker

Memorial Gifts

PRBO is grateful for the following memorial gifts (October–December, 2002):

In memory of Mrs. Batten
Christine Miller High

In memory of Ben Black
Robin L. C. Leong

In memory of Clayton R. Coler
Carole L. Feasel

In memory of George Finney
Helen Bristowe
Elidia and Arthur Hecht
Jackie and Jim Madden
Richard and Anita Peacemaker

In memory of Jacob Greenwald
Rich Stallcup

In memory of Kathy Kirkpatrick
Kenneth and Betty Fehring

In memory of Katy Wilson
Frances C. Bidstrup
Dorothy Tobkin

Institutional Giving

PRBO is extremely grateful for the generosity of its foundation and corporate supporters.

The **DMARLOU Foundation** generously supported our Tidal Marsh Conservation Project to develop restoration guidelines for San Francisco Bay. They also provided support for our Education and Outreach Program.

The **Moore Family Foundation** and the **National Fish and Wildlife Foundation** provided funds for our work on marine protected areas planning in the California Current, based upon long-term data from the Farallones and other research sites along the coast.

The **Giles W. and Elise G. Mead Foundation**, the **Elinor Patterson Baker Trust**, and the **Frank A. Campini Foundation** continued their support of our Farallones marine research and conservation program.

The **Oiled Wildlife Care Network** is funding a study of shorebirds along Monterey Bay to improve preparation in the event of a spill.

Along the shores of San Francisco Bay, **The Mary A. Crocker Trust** and **The Dorothy and Jonathan Rintel's Charitable Trust** have renewed their support for our research on tidal marsh and salt ponds in San Francisco Bay and the development of a Habitat Conversion Model to assess the impacts of converting salt pond to tidal marsh on the birds using those habitats.

Community Foundation Sonoma County and **The J.M. Long Foundation** also granted support for the development of evaluation and planning guidelines for tidal marsh restoration.

With generous support from the **Wendy P. McCaw Foundation**, we will educate the "shark-diver" industry on how they can reduce disturbance of white sharks and assist in developing appropriate regulations at the Farallones.

We are also thankful for recent support from the **Vanguard Public Foundation** and the **Constellation Fund of the Tides Foundation**.

New Members

PRBO welcomes the following new members (October–December, 2002):

Robert C. Alexander, Ralph & Regina Anavy, Susan Barkan, Mr. Tim Behr, Norton W. Bell, Mr. James Herbert Bemis, Leah Bernstein, Patricia Blau, Allan Lee Boyd, Neil Brandt, Donald Buckley, Dudley B. & Curtis Carlson, Mr. James P. Citta, Stewart Clark, Dr. James Clegg, Jeanne Cohn, Glenda Cook, Renate Coombs, Lawrence & Marianne Coonradt, Jennifer Craven, Marianne Crocker, Bena L. Currin, Doris & Peter Daniels, Stuart Davidson, France Davis, Carole E. Deitrich, William Dietrich, Mr. David Donnenfield, Kristi K. Epke, Henry & Emily Evers,	Margaret Farley, Margaret Florence, Cheri Joy Forrester, Jon & Sandra Francis, Mr. & Mrs. H. E. Frey, Hong Gao, Ian Goodman, Great Basin Bird Observatory, Marianne Grebeck, June E. Grimm, Paul Grunland, Jill Martin Hanna, David Hartley, Forrest A. Hartman, Charlene Harvey, Robert L. Hass, Diane Henry, Amber Hensley, John Hoye, John Huls, Janet Hurley, Charlotte Irvine, Joan B. Jackson, PhD, James T. Jennings, Robbie Johnson, Bobby Jones, Richard Lee & Nancy Kenyon, Janet M. Kessler, Rodney J. & Charlotte Vanzant King,	Remmy Kingsley, Brooks & Stephanie Kirkwood, Patricia Kline, Christopher Kraebel, Mark Lamoureux, James C. Lansing, Diane Ross Leech, Karl & Vivianne Lichtenstein, Joellen Lippett, Dean Lloyd, Leonard Lloyd, Dr. William E. Lofthouse, MD, Walter G. & Madelene Lyon, Jonh A. & Enid Macken, John W. Majeski, Jr., Marian Mankos, Julie E. Mascheroni, William MC Coy, Pete McFarland, Julie Menack, Nona Mikkelsen-Pengilly, Timothy Molter, Jean Myers, Carolyn Oller, Martha Perry, Regina Phelps, Richard Poley, Christopher Pratt, Anne	Prutzman, Elisssa Rabellino, Diane Reinbolt Judd, Jillian Robinson, Caroline Rodgers, Michael Rood, Gail P. Roper, Jeremy & Maria Roschelle, William & Kathleen Schovajsa, Judith M. Schultz, Trudie Behr & Bruce Scott, Mr. & Mrs. James A. Seay, Billie Severy, Gary B. Stacey, Susan Stoddard, Loretta Szebert, Christopher A. Tellis, J. Donald Toms, Takenori Tsuchiya, Mr. & Mrs. Von Tolksdorf, Edward A. Walker, Valerie Warburton, Eva Westberg, Mr Carleton White, Lois A. Whitney, Christine Wood, Mr. & Mrs. Donald I. Zimmerman, Matthew & Joan Zlatunich.
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Membership and Events Coordinator, Alison White



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Kim Maute

Frasier Metcham

Aileen Miller

Kristie Nelson

Rio Patton

Mike Polito

Todd Thompson

Viola Toniolo

Jill Weader

Dionne Wrights

Migrations

New to our administrative staff is **Alison White**. An experienced project manager, Allison looks forward to her role as PRBO's new Membership and Events Coordinator. ♦ After three successful years in this same post, **Matt Leffert** has departed to pursue a graduate degree but plans to remain part of the PRBO family. ♦ Our new Information Technology Specialist is **Dan Coyne**, a network specialist with extensive consulting experience. ♦ Outgoing technologist **Noah Eiger** has abandoned computers for cuisine and is now attending chef's school in Paris! ♦ Staff Biologist **Lars Pomara** has migrated from Terrestrial Research to Population Ecology, where he assists with geographic information systems. ♦ And **Roy Churchwell**, recently a Staff Biologist in our Shrubsteppe Project, has departed to work on his PhD at University of Oklahoma. ♦ We wish them all well!

Wish List

PRBO seeks donations of the following. For more information, please call 415-868-1221, ext. 310.

For field studies: Frequent-flier miles

A 35 mm. camera & telephoto lens

Digital cameras with close-focus

Tree Swallow bird boxes

Dissecting microscopes

For Palomarin & Farallon Island Field

Stations: A color copier

Camping equipment in good condition

Kitchen knife sets, blender/food processor,

toaster, rice cooker, cookbooks, BBQ

New sheets (twin size), blankets, pillows,

& mattresses

New 19" television, DVD player

For Wood Duck work: 12' to 20' ladders

PRBO Conservation Science
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fax 415 868-1946
email prbo@prbo.org
www.prbo.org



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PRBO — working to conserve birds, other wildlife, and their ecosystems through objective, innovative scientific research and outreach.

2003 Annual Meeting

Date: Saturday, May 17

Time: 11:30 AM to 2:00 PM

Place: To be announced.

Morning activities: 9:00 AM – guided bird walks, mist netting demonstration.

Members, volunteers, and friends of PRBO welcome!

Please join us! Watch for your invitation, with complete information, in the mail.

PRBO Members' Events

Monthly Bird Walks

- Start at 9:00 AM and last 2–3 hours.
- Free to PRBO members, \$10/person nonmembers.
- Details at www.prbo.org/BrdNw.html
- For more information or a calendar of our year's outings, call Melissa Pitkin at 415-868-1221, ext. 307.

Seabirds and Seals

Saturday, February 1, 2003

On outer Point Reyes, we look at some of the study species in PRBO's Marine Program—elephant seals and seabirds—as well as gray whales.

China Camp Tidal Marsh

Sunday, March 9, 2003

PRBO biologists discuss results of ongoing studies of tidal marsh birds in San Francisco Bay, as we explore the habitat at our China Camp State Park study site.

Birding Five Brooks

Saturday, April 5, 2003

Join us for spring birding at Five Brooks, a great spot for migrants, woodpeckers, and wood ducks!

Return to the Burn

Sunday, May 11, 2003

Hike the 1995 Mt. Vision Fire zone, where PRBO has helped monitor the extensive natural system recovery.

Day Trips with Rich Stallcup

9 AM to 3 PM • \$40 • enrollment limited • advance registration required. Contact Melissa Pitkin, 415-868-1221, ext. 307

May 4—Mount Burdell ■ July 12—Año Nuevo
August 17—Bodega Bay ■ September 28—Abbotts Lagoon ■ **Weekend trip:** August 1–3, Mono Basin

Please Mark Your Calendar!

Printed on recycled paper using soy-based inks.

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PRBO Conservation Science (founded as Point Reyes Bird Observatory) is a non-profit 501(c)3 organization with headquarters at Stinson Beach, California. All memberships and contributions are tax-deductible to the extent allowed by law. Annual memberships are:

Benefactor: \$1,000 & more	Family: \$50
Sponsor: \$500	Regular: \$35
Sustaining: \$250	Student & Senior: \$20
Contributing: \$100	