

Sequoia needles

Bulletin of the Sequoia Audubon Society
San Mateo County Volume 50, No. 9
June, 2000

This Month's Program



Bob Breen, long-time resident naturalist at the Fitzgerald Marine Reserve will bring us up to date on the plans to save the reserve from being loved to death and its expansion

southward into the coastal wetlands.

His 45 minute talk on "Adapting Resources Management Strategies to the Rocky Intertidal Zone" will look at the means of adapting a national plan to the Fitzgerald Marine Reserve.

We hope that he will also present some of his slides of the tiny creatures that inhabit this watery world, since they are nothing short of spectacular. In any case, we're happy to have him back after too long an interval.

Potluck Time

Bring your own utensils and plates and a bag in which to take them home. Those people whose last name begins with the letters A-F should bring **SALAD**, those whose names begin with the letters G-L, **CASSEROLES** or other hot dishes; and M through Z should provide a **DESSERT**. Be sure your offering will feed at least 5 people.

The Potluck Dinner begins at 6:30 PM on Thursday, June 8, at the San Mateo Garden Center on the Alameda at Parkside and will be followed immediately by the election of officers, business meeting and program.

Nominating Committee

The nominating committee is proposing these officers for the 2000-2001 Audubon year.

President Robin Smith
Vice-president Marylin Noah
Secretary Sue Cossins
Treasurer Lisa Moody

Directors:

Term expiring in 2002 Tom Vanden Bosch
In 2003 Mary Bresler Tom Deghi

In addition to the Committee's suggestions, nominations may be made from the floor at the meeting, provided that the nominee has agreed to his or her name being put forward.



From the President

The Birds Of Westwater

A rafting trip was my Christmas gift from my son, Colin, who is a National Park Service Ranger at Canyonlands in Utah. It promised a tour in his new boat down Westwater, a section of the Colorado River before its confluence with the Green River. This was a welcome present because I really love rafting, though the fact that Colin is just starting his river running career made me a little apprehensive. I wanted to be *on* the river not *in* it. I got my wish!

One of the rewards of a river trip are the birds present in any river canyon. This late April trip got off to an auspicious start when we spotted a Great Blue Heron nesting in a tree on the river bank. I don't think I've ever been on a river trip when there wasn't a Great Blue in attendance. They will often fly down-river when you approach and so will precede you for some time. They blend so well with the rock that you think they've flown away and suddenly they reappear. But this one was too busy to leave its nest, so we continued without it.

Swallows are also another constant on rivers and this one was no exception. Flying low over the water snagging insects on the wing, they provide lots of entertainment. We saw none in the morning, but by afternoon they had arrived in force. With their acrobatic maneuvers and their iridescent plumage they were beautiful to watch.

Another denizen of this river canyon was the Black Billed Magpie. One whirled across the river and back at five minute intervals as we lunched. I suspected a nest but couldn't locate it. Magpies are very vocal and we enjoyed the chitchat. It's loquacious buddy, the rock wren, was also present perching on boulders at the edge of the high desert that abuts the riparian corridor.

Geological formations are always an interesting part of traveling down a river canyon and this one contains a million year unconformity. Here the Wingate Sandstone, usually near the top of many strata, sits directly on the bedrock that underlies the Rockies, with all the usual intervening layers absent. This bedrock is very dense and very black, giving a kind of spooky look as the canyon narrows and deepens. All the major rapids are in this section, adding to the ominous feel. Somewhat surprisingly, out of the gloom came the song of the Canyon Wren.

The Canyon Wren is among my special favorites. Not only is it beautiful to look at, but it's glorious song bounces off the canyon walls as you pass by surrounding you with music. One sang at our lunch spot, another serenaded us as we bounced through the rapids and still another shared its song as we lazed down the flat water after the tumult of the whitewater. It was a thrill to hear this old friend again.

As we neared the end of the journey we passed a river island populated with Canada Geese, Mallards, gulls and White-faced Ibis. All in all a very satisfying day. Lots of birds, an interesting canyon and a skillful guide.

Utah has no monopoly on rivers or arriving migrants in their beautiful spring plumage. Now's the time to go birding San Mateo county and beyond. May you enjoy the sight and sound of a favorite bird as I did. Good Birding!!

Robin Smith

The mission of Sequoia Audubon Society is to participate in environmental education, and conservation and in the restoration, preservation, protection and enjoyment of our native natural resources with emphasis on birds and their habitats.



The S A S Calendar

THURSDAY, JUNE 1 — BOARD OF DIRECTORS MEETING — 7:30 PM

— At the Sequoia Audubon office. All members are welcome. Call ahead to make sure that there will be enough room.

THURSDAY, JUNE 8 — ANNUAL GENERAL MEETING, SPRING POTLUCK & ELECTION OF OFFICERS — At the San Mateo Garden Center on the Alameda at Parkside. Potluck begins at **6:30 PM**, followed immediately by the election of officers for the year, the general meeting and a program by Bob Breen, resident naturalist at one of our environmental wonders — **The Tide Pools of Fitzgerald Marine Reserve**. See Page One for details on the potluck, election and program.

**HAVE A GOOD SUMMER!
SEE SEPTEMBER'S NEEDLES FOR OUR
FALL PROGRAMS AND TRIPS**

Scaggs Island Added to San Pablo Refuge

The US Fish and Wildlife Service plans to add about three-quarters of the 4,300 acre Scaggs Island to the San Pablo Bay National Wildlife Refuge.

Restoration plans are under study. One possibility is to breach several of the levees that create the wetlands "island" north of Highway 37 and let tidal action restore the natural habitat. Another plan would include development of access trails and interpretation programs. A public planning process will be conducted before any decisions are made.

With the Scaggs Island addition, the refuge will cover 16,590 acres of land and water from Mare Island in Vallejo to the Petaluma river. The refuge's various winter habitats are a major residential and migration staging area for shorebirds and waterfowl, especially diving ducks, sandpipers, dowitchers, and godwits. The area is also home to three endangered species — the Brown Pelican, the California Clapper Rail, and the Salt Marsh Harvest Mouse.

The island is the site of an abandoned Navy communications center and the USF&WS is seeking the 60 acres that hold the center's 68 buildings. If the refuge is successful in obtaining the abandoned Navy buildings it hopes to transform them into a high-tech, multi-user education facility, but under current budgets, the most likely scenario calls for tearing them down.

At present, public access to the wildlife refuge is by a trailhead at Tolay Creek, across Highway 37 from Sears Point Raceway. From Highway 121, turn onto Highway 37 east toward Vallejo. A three-mile trail to the bay starts at the new parking lot.

June, 2000

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News from Audubon Canyon Ranch

Raven Research at ACR

John Kelly, Biologist - Cypress Grove Preserve

Recent dramatic increases in Common Ravens throughout the San Francisco Bay Area have coincided with more frequent observations of ravens in heron and egret nesting colonies. In 1998 Great Egrets at ACR's Bolinas Lagoon Preserve suffered severe nest predation by ravens. Most nests were lost or abandoned, and only 30 young egrets successfully fledged, compared with 100-150 in other years. In 1999 ravens destroyed fewer nests, possibly because they failed in their own nesting attempts. These and other observations around the Bay Area suggest an urgency to understand the threat of raven predation to waterbird colonies.

Last year ACR, in collaboration with the Point Reyes Bird Observatory, launched an investigation into the breeding and foraging ecology of the Common Raven, with emphasis on predatory behavior at heron and egret nesting colonies in the northern Bay Area. Preliminary results from radio telemetry of ravens in West Marin revealed that breeding ravens often occupy very small home ranges. Road surveys conducted last year by ACR volunteers indicated that ravens concentrate along the outer coast and in some urban/suburban areas, and have a patchy distribution throughout the region. Many heronries in the region were not disturbed by ravens in 1999, but it was clear that some specialized on heron/egret populations.

This season ACR biologists are radio-tracking ravens and studying their behavior at heronries where raven activity is frequent, such as the nesting colonies at West Marin Island and ACR's Picher Canyon. The work at Picher Canyon will augment a related investigation of "conditioned taste aversion," a potential management technique that uses illness-producing prey to alter nest predatory behavior. Results of the study will address fundamental ecological questions about ravens and provide information for management for colonial nesting waterbirds.

Treasures of the Tar Pits

Exhibit at Oakland Museum

After 11 years on the road, this traveling exhibition concludes its tour in Oakland before returning home to the LA Museum of Natural History on June 25.

In addition to the "ordinary" skeletal coyote, the display contains full skeletons of a saber-tooth cat, dire wolves, an American lion, a ground sloth and the 9000 year old La Brea Woman.

The Oakland Museum is located at Oak and 10th Streets, one block from the Lake Meritt BART station. It is open from 10 to 5 PM. (Sundays — Noon to 5).

Admission is \$6, (\$4 for seniors and students, kids 5 and under are free). For more details call 1-888-625-6873 or visit their website at www.museumca.org.



Proctor and Gamble is trying to revive a promising recycling idea of the 70's - industrial and municipal composting. They have committed \$20 million to encourage the creation of waste composting plants. Their goal is not altogether altruistic however. Although their disposable diapers won't break down in landfills, they are developing one that will break down completely in a compost operation.

The Curmudgeon Living at Peace with Nature

Cliff Richer

A persistent myth of the sixties is that of the Native American living at peace and harmony with the environment. Like most of the concepts of the sixties this is errant nonsense. It is in the nature of the human being, regardless of race or culture, to use and exploit whatever is at hand to make life easier for himself or herself.

There is ample evidence that primitive tribes everywhere became non-primitive by exploiting nature. "Slash and burn" techniques used today to clear tropical rainforests were in use by Native Americans in the

Cumberland Mountains of Kentucky long before the white man. Fire was also used by migratory natives in New England who would pick berries on their way to their summer and winter homes and then set the berry patches on fire when they left, guaranteeing the creation of a "blueberry barren" for future migrations. Native Americans taught the white settlers how to girdle trees to facilitate "slash and burn" clearing.

Before the introduction of the horse, the Plains Indians rarely hunted buffalo. Instead some tribes had regular buffalo drives in which they would try to stampede a herd over a precipice. When successful, such drives resulted in the deaths of hundreds of the beasts and the tribe would camp in the area, engorging themselves with buffalo tongues and livers (the most prized parts) and drying other meats until the corpses began to putrefy, forcing them to move on and leave thousands of pounds of buffalo meat, hides and bone to rot in the sun.

Elsewhere in the southwest, native Americans used irrigation until the natural alkali pollutants rendered the soil too toxic to support their crops and whole communities were abandoned.

Native American religious beliefs were nature-oriented but were no more or less respectful of nature than the animism of native Africans or Indonesians. These beliefs generally differed from community to community and were very tenuous and flexible. The concept of an afterlife and a "happy hunting ground" appears only after the natives interacted with the settlers and bears a suspicious resemblance to the Vikings' Valhalla as does the later intro-

duction of the Ghost Dance and Ghost Shirt to the Berserker legends. This is not to imply that there were Norsemen sneaking around preaching to the Sioux, but to indicate a certain commonality of beliefs in separate ethnic communities at similar stages of development.

One of my favorite speculations is what would have happened if we had let the Plains Indians alone for another two hundred years. Remember that this was a culture in transition. The introduction of the horse had totally transformed their way of life in a remarkably short time. Had they also developed the compound bow and stirrups I believe the plains tribes would have united and become the North American equivalent of the Mongol and Tatar hordes of Genghis Khan and Attila.

Then the Native Americans would probably be recounting legends about how the white men tried to live peaceably with nature until they were driven into the sea.



Bird-Dinosaur "Missing Link" Re-Evaluated

The National Geographic Society has confirmed that a feathered fossil hailed last year as important evidence of the relationship between birds and dinosaurs is really a composite of at least two different animals.

The specimen, *Archaeoraptor*, was unveiled by National Geographic last October and paleontologists said they believed it was a key species in the transition from dinosaurs to birds.

That was later questioned by Chinese paleontologist Xu Xing and National Geographic reevaluated the fossil. Their team, headed by Hans-Dieter Sues of the Royal Ontario Museum, confirmed that the specimen is made up of parts from at least two different animals.

Dragonfly Book

Kathy Biggs of Madrone Audubon has just written *A Guide to California's Dragonflies*.

These prehistoric-looking creatures are, in fact, one of the oldest families of insects, once shared the world with the dinosaurs and are one of the most efficient mosquito predators, both as adults and nymphs.

For more information check Ms. Bigg's internet dragonfly site at <http://www.sonic.net/azaleaforth.html>.

Roadkill Savior

Each June in New Jersey female northern diamondback terrapins leave their marshes to lay their eggs in sand dunes. That may mean crossing busy highways and coastal causeways where between 650 and 750 a year get run over.

In 1989 Roger Wood discovered that many eggs inside the victims were still viable, so he recruited volunteers to collect the eggs and hatch them in incubators at Richard Stockton College.

Wood has a realistic view of his program. "We have a 35 to 40 percent successful hatch rate," he says, "with about 250 eggs a year hatching and perhaps a hundred surviving to adulthood."

Herbicides Preserve Biodiversity

Jake Sigg

President, California Native Plant Society

No data exist for private land, but the Bureau of Land Management (BLM) estimates that we are losing 6,000 acres of public land *every day* to invasive non-native plants, rendering land economically useless and biologically impoverished. The technologies for weed containment haven't kept pace with the advent and spread of rampant exotics, which have mushroomed because of a mobile and burgeoning human population. The upward trend of weed invasions will likely cause loss of biological diversity and landscape homogenization—biological sameness on a global scale—and at an ever-increasing rate. Public awareness is well behind the curve. The need for education in resource management is crucial.

In the frequently polarized debate over the use of herbicides in battling aggressive weeds, the subject of biodiversity is too often lost. Herbicides, per se, have become the focus of the debate. This is backwards — biological diversity should be front and center. This is the pivot on which the policy must turn. Does proper use of herbicides work for or against biodiversity? Herbicide critics usually isolate the subject. They neglect the differences between herbicides and fail to address the serious weed problem confronting the California flora. I am a proponent of judicious herbicide use, and favor their employment as a vital part of a weed management strategy.

Our discomfort with chemicals began with revelations in Rachel Carson's *Silent Spring* in the 1960s. The use of chemicals as a quick fix for complex problems created a backlash, resulting in a regulatory climate that protects the public against many of the dangerous substances used indiscriminately in the past. Herbicides became entangled in the reaction to chemicals, but evidence is skimpy regarding negative effects of today's available non-restricted products when used according to label directions. Some people want to prohibit all herbicide use, but they don't address benefits or the level of risk; those striving to preserve natural communities feel threatened by attempts

to deprive them of an essential tool.

In an article, "Killer Weeds" in the March-April 1997 *Audubon*, Ted Williams excoriates those he calls chemophobes. The article epitomizes the frustration and anger felt by those stymied in their David-and-Goliath battle against overwhelming infestations. {He cites a tragic case in Idaho's Craig Mountain Wildlife Management Area where a program of hand spot-spraying of yellow star thistle was stopped by a court injunction sought by the Northwest Coalition for Alternatives to Pesticides. The partnership between BLM and the US Forest Service was successfully controlling the infestation. The injunction allowed the thistle to leap out of control, infesting tens of thousands of acres of priceless habitat that had previously supported a great diversity of wildlife such as bighorn sheep, grouse, elk, moose, deer and bald eagles — habitat that is for all practical purposes gone forever. In a similar situation, a frustrated Don Schmitz of Florida's Department of Environmental Protection fumes at those "who are unwilling to accept a short-term environmental insult to avoid a long-term ecological catastrophe". Weed warriors are keenly aware that once native biological communities have been displaced, they find it difficult or impossible to restore them. Losing them sometimes means losing them forever — a needless deeply painful loss.

Our present technologies for countering invasive non-native weeds are rudimentary and few: control by biological agents, manual eradication, mechanized removal, fire, and herbicides. All have limitations; all are essential.

1. Classical biological control offers the greatest, and perhaps only, hope for some plants and the single best means of reducing need for herbicides. A successful example of classical bio-control is provided by Klamath weed, which was devastating rangelands in northern California and Oregon in the 1940s but which has been reduced to insignificant levels by the introduction of a predatory beetle which feeds exclusively on this plant. On the downside, bio-control is not feasible for some plants—such as those closely related to agricultural crops, or those which are attacked only by generalist predators. Developing a biological control agent is initially expensive and time-consuming, and

there is no guarantee of success. Up to now it has been inadequately funded but there are now signs that this may change.

2. Manual eradication can achieve inspiring results in localized areas — exemplars are the National Recreation Area in the San Francisco Bay Area and the Wildlands Restoration Team in the Santa Cruz Mountains. With increasing popularity of site-stewardship programs, use of this technique can be greatly enlarged. The value of this multi-dimensional approach to weed control cannot be overstated. Still, millions of acres of overrun wildland in California reveal the limitations of site stewardship as a solution to the California or the global problem.

3. With the paucity of available techniques is it any wonder that careful use of herbicides has found acceptance by thoughtful people? This article addresses herbicide use only for the control of wildland weeds which are threatening biological diversity and does not address non-ecological uses such as increasing timber production. There are many examples of indigenous plant communities being saved at the last minute and restored to native stock by an integrated management program in which herbicides played a necessary role. Even highly motivated volunteers have not attempted to save the state and federally-listed endangered fountain thistle — endemic to a small area on the San Francisco peninsula — because of its labor-intensive demands. At the request of CNPS, the California Department of Transportation and the San Francisco Water Department initiated a program of cutting and painting the invading pampas grass with glyphosate to prevent the thistle being overwhelmed in its serpentine seep habitat; this appears to be a success story in the making. Rich grass and wildflower areas in and around San Francisco are there today because herbicides provided crucial support to volunteers teetering on the brink of demoralization in the face of advancing fronts of fennel, pampas grass and French broom perceived as invincible.

Other successful examples where employment of herbicides played a crucial role include saltcedar eradication projects in Afton Canyon near San Bernardino; The Nature Conservancy's Dos Palmas Reserve and Lake Mead National Recreation Area; cape ivy, artichoke thistle,

eucalyptus and many other weedy species in Los Penasquitos Canyon Preserve in San Diego; castor bean, pampas grass, myoporum, et al in Newport Beach, in Big Sycamore Canyon at Point Mugu State Park, Leo Carrillo State Park, Liberty Canyon and Malibu Lagoon at Malibu Creek State Park; Team Arundo's Santa Ana River restoration; pampas grass on Milagra Ridge; ice plant at Asilomar State Park, the Marina dunes, and at Bodega Head in Marin County.

Plainly, many of those who value biodiversity seriously enough to donate a large part of their lives to an effort to preserve it consider herbicides indispensable. Aside from cost-effectiveness and time-saving, employment of herbicides has the considerable advantage of not creating soil disturbance, which activates the weed-seed bank and favors weeds over natives. In the cited instance of Bodega Head, a project ongoing since 1985, dune natives were being buried under thick carpets of ice plant. Managers sprayed the ice plant, which decayed slowly over a long period. Native plants returned on their own without human help. A similar case is in process in the Marina dunes, managed by the state parks department. This is an efficient and ecologically sound method which should be employed more often. Manual eradication of infestations better managed by the judicious use of herbicides is poor use of resources.

A Rational Dialogue

Difficulty in attaining rational dialogue is partly embedded in language. The word "toxic" can be defined in many ways. In addition to bearing a wide variety of meanings it also carries heavy emotional freight. It has meaning only in relation to something else: oxygen is lethal to some organisms but essential to others. Salt, chlorine, and aspirin can be toxic to humans at high dosages but are willingly ingested in proper amounts. Modern herbicides have been improved in recent years and are cleverly designed to work in various highly specific ways to interfere with the functioning of a specific target; they may or may not be detrimental to organisms not targeted. It would be constructive to look at what is going on without attaching emotional labels to what may be a harmless process.

The first issue of an herbicide policy

is safety—to humans, soil microorganisms, wildlife, and ecosystems. There are many chemicals on the market for controlling vegetation. As a practical matter when we talk of controlling wildland weeds in California, we are referring primarily to two chemical compounds: glyphosate and triclopyr, usually marketed under the trade names of Roundup Pro, Rodeo, Garlon or Pathfinder II. The EPA classes herbicides and all pesticides according to four groups, with those considered dangerous enough to be restricted placed in Classes I and II, graduating downward to Classes III and IV, which are non-restricted, bear only a caution label and may be purchased retail. Glyphosate and triclopyr are in Class III.

All herbicides, including surfactants are required to undergo rigorous testing to become registered in the United States. These tests typically include animal toxicity, effects on non-target organisms, and mode of degradation in the environment. These are extensive tests that take years to complete. It takes chemical companies seven to ten years and forty to eighty million dollars to satisfy EPA requirements and bring a new active ingredient to the market. California requires further tests that take an additional year or more to complete. This costs a company more money and delays the review and registration process in California. EPA and the California Department of Pesticide Regulation (CDPR) examine all test results carried out by the manufacturer and have full audit authority over the results. There is not enough money in the EPA and CDPR budgets to do independent testing, but their ability to look into company records and to conduct on-site inspections keeps companies fairly honest. The research regarding safety of non-restricted herbicides is accepted by the World Health Organization

Many people distrust assurances on herbicides by agencies or corporations. However, faulty data generated for EPA on chemical safety are easily detected if they are inaccurate, misleading, or incomplete, and there are critics ready to pounce on this highly visible issue. EPA, the manufacturer, and the testing scientists have too much at stake to risk falsifying data or methodology. Non-profit organizations attempting to eliminate or reduce

chemical use have zeroed in on herbicides and have succeeded in creating anxiety among some people. However, credible studies documenting negative effects have not been forthcoming. Studies reported in, for example, the *Journal of Pesticide Reform*, are not subjected to peer review by disinterested scientists. Popularized articles are widely read and believed by readers. This pseudoscientific reporting accounts for most of the controversy surrounding the subject and it places another obstacle to the formidable job of preserving biodiversity.

Classes III and IV herbicides have been in use for a long time by millions of people, including home gardeners, who may purchase them at their local nursery or hardware store. As a professional gardener in San Francisco's parks and botanic garden, I used glyphosate formulated herbicides intensively over a period of twenty years. Specific areas are repeatedly and effectively treated without diminution in soil productivity or indication of negative effects, including to the applicator. Herbicide use vastly increased my productivity. It would have been impossible to maintain these areas in an acceptable manner without spraying. Modern wage rates prohibit manual eradication of weeds on the scale required in our public parks and open spaces, to say nothing of natural resource management, where resource preservation is the primary concern. There is a long history of safe and economical maintenance using herbicides. With this experience, wouldn't we have evidence by this time of negative or harmful effects? It is up to critics to identify and substantiate need for further studies.

Species extinction and loss of biodiversity are becoming weekly stories in the media. Indifference to the rending of nature's fabric while we deny ourselves a useful and apparently safe weapon is beyond understanding. It is misleading to say that herbicides should be used only as a last resort. On the scale of the larger landscape, we have already passed the last resort stage. Critics would enhance their credibility if they devoted more thought to ways to preserve the miraculous diversity of life we have inherited. To date we have been poor stewards of this gift.

Woodpecker Drumming

Although many field guides make reference to a woodpecker species' drumming patterns or cadence, all of this is empirical, based on hearsay or personal observation. A few years ago, I set about trying to find some scientific research on this subject and came up blank. Astonishingly, no one had done any kind of scientific survey to find out if woodpeckers actually had a distinct style of "drumming", and if this style had any significance.

Now, finally, two graduate students at Cal Poly — Danielle Dodenhoff and Rob Stark, under the watchful eye of Professor Eric Johnson — have undertaken such a study.

Woodpecker	Beats per second	Notes
PILEATED	14-15	Speeds up
BLACK-BACKED	16-17	Speeds up
DOWNY	17-18	Slows down
ACORN	17-18	Speeds up
WHITE-HEADED	19-20	Steady
NUTTALL'S	20-21	Steady, sometimes slows down
HAIRY	26-27	Steady
LADDER-BACKED	28-29	Steady, sometimes slows down
RED-BREASTED SAPSUCKER	21-22 in starting roll	Roll, followed by short groups of beats
WILLIAMSON'S SAPSUCKER	25-26 in starting roll	Roll, followed by short groups of beats

They found that, with one exception, each species of woodpecker in a particular habitat had a distinct cadence and pattern to their drumming and that each species would respond to the drumming of another of their species. Like singing, the drumming seemed to serve the purpose of identifying territory, but unlike singing was done by both males and females.

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The one exception to the distinctive drumming that they found was the widespread Northern Flicker which duplicated or came close to duplicating another species' drumming patterns in each of the habitats in which it was found. However the flickers always ended their drumming with a call note — something not done by any other species studied. For this reason, the flicker is omitted from the table shown above.

The study is far from definitive and only encompasses ten species of California woodpeckers but it is a very well founded beginning to further study of this too-long neglected area.

Anglers Getting the Lead Out

New Hampshire has become the first state to restrict the use of lead in fishing gear. Sinkers, by law can be no smaller than an ounce, and jigs no shorter than an inch. All of this came about because over 11 years Mark Pokras of Tufts University, has examined 150 loons that were poisoned by swallowing lead fishing gear.

Although New Hampshire has fewer nesting loons than either Vermont or Maine, this bird has had a special place in New Hampshire's wildlife ever since the motion picture *On Golden Pond* was filmed there.

Shorebird Breeding Strategies

So far scientists have been unable to explain huge variations in Arctic shorebird incubation behavior. There seems to be considerable differences in strategy — with no apparent obvious advantage to any particular approach.

The surprise discovery of a three-some Semipalmated Plover partnership incubating the same clutch of eggs, taking turns, has shed new light on the mysteries surrounding shorebird incubation strategies. The three plovers, two males and one female, were observed from June 23, 1999 on Cape Churchill, Manitoba, rotating incubation duties every two hours or so, day and night. Such threesomes have

been reported in oystercatchers, but very rarely in other species.

Shorebird incubation strategies are known for abnormalities, many of whose functions baffle scientists. Although there are some parallels among closely-related species, overall there is no real pattern.

In Lesser Golden-plovers, males incubate by day, females by night, switching about 7 a.m. and 7 p.m. Gaudy males compensate for increased visibility with elaborate distraction behavior if intruders come too near to the nest. Whatever the benefits are, the plovers' strategies are so highly effective that these birds live to, and breed at, especially old ages.

In Semipalmated Plovers, new data shows males incubate by day, females by night, but for two hours around midnight there is a temporary and inexplicable switchover. These plovers are also long-lived, and breeding adults of 13 or 14 years of age are not unusual. They improve their nest success by selecting nest sites with a proven history of brood production, some sites being used for several years in a row, although not necessarily by the same parents.

Whimbrel parents incubate randomly, usually rotating duties every two to three hours. So do Short-Billed Dowitchers. But in both species there is tremendous, and unexplained, daily variation in elaboration and complexity of distraction behavior, in both sexes. Intruders might be greeted with indifference one day, and a frantic display the next.

Male Stilt Sandpipers incubate at night, females by day. Hudsonian Godwits have the same strategy. Dunlins are the complete reverse.

Phalarope females lay eggs, but males do the incubation. Such a strategy allows females to allot energy to producing larger eggs with more robust embryos.

Clearly, there is no rhyme nor reason to these occurrences. A theory that explains one species' behavior is clearly contra-indicated for the next species.



There are only two kinds of penguins — white and black. White as they approach and black as they retreat.

—Ornithologist David Parmalee

The Bluebird Journal

Howard Rathlesberger

The California Bluebird Recovery Program is off to a great start. Monday, April third, started us off with a bang.

Lee Franks on his Canada College Trail captured an incubating Western Bluebird hen in Box #2, which he banded last year in Box #3. She was incubating 3 eggs. He was also able to discern a band on the male nearby. To our knowledge no adult males were banded last year in our area, so we surmised that the male was a nestling banded last year. This is what we were hoping would happen and it has!

Interestingly, the Canada College site is where we have the first Western Bluebird nesting/hatching in the county since we've been keeping records.

Let me, again, acknowledge Red Pendleton's pioneer work, as he started this trail years ago. Thanks, Red!

In all Lee Franks and I have had 3 Western Bluebird hen recoveries of hens banded within 100 yards of where they were banded last season. Other sites were at I-280 south of Farm Hill Road, and Menlo Country Club. We believe there'll be more to come, as the Western Bluebird's get into nesting gear at Filoli and Runnymede.

Later in the day Lee and I banded five Oak Titmouse chicks in my front yard and six more at Menlo Country Club in a box alongside Woodside Road. Incidentally we saw two Wild Turkeys at Menlo Country Club.

Please keep us informed when you find eggs in the nest. We'd like the approximate date of the first or last egg, so we can attempt to capture the hen incubating and also band the chicks when they are at least 6-7 days old.

There's been an explosion of Chestnut Backed Chickadees and Oak Titmice: six titmouse hens with 51 chicks and ten chickadee hens with 28 chicks. The chickadee hens are very elusive.

In addition to the recoveries, six previously unrecorded bluebird hens have been banded. The Woodside elementary school project at Huddart Park has a nesting bluebird and a titmouse with 7 eggs.

More Splits Coming?

Recent papers in ornithological journals have proposed several splits.



Three are of immediate interest to North American birders. First is the splitting of Cave Swallow into three species. The research suggests that the birds of the Caribbean (including, presumably, the birds now nesting in south Florida), should be treated as a separate species from the birds nesting in northern Mexico and the southwestern United States. The birds of the Southwest would retain the name Cave Swallow, and the Caribbean birds would be called Fulvous Swallow.

A third proposed species, the Chestnut-Collared Swallow, is resident in South America.

Anticipated for some time, the paper suggesting the split of Brewer's Sparrow has been published. The split-out species would be called Timberline Sparrow. Its known range is extreme eastern Alaska, the southern Yukon, north-west British Columbia, and the area in extreme southwest British Columbia and southwest Alberta. The other population, would retain the name Brewer's Sparrow and breeds throughout the western United States, overlapping Timberline Sparrow in southwest Canada.

A paper describing the recent invasion of south Florida by breeding Short-Eared Owls from the Caribbean (probably Cuba) also suggests that these populations be treated as a separate species.



A fourth paper suggests splitting Crested Caracara into three species, with the dividing line in South America. The third species would be the extinct population from the Guadeloupe Islands. No evidence has yet emerged to split the isolated Florida population from the birds of the Southwest.

New and

"Re-found" Species

The Pale-Headed Brush-Finch is a critically endangered species not seen since 1969 until six were discovered this year in dry forest in southern Ecuador

A new species of brush-finch, has been reported from Peru. Research based on DNA morphology holds that existing taxonomy is incorrect and that several brush-finches currently treated as subspecies should be treated as species.

The number of owl species continues to grow. The newest addition is a recently discovered scops-owl from Indonesia, the Sangihe Scops-Owl, *Otus collan*. A full description can be found in the *Bulletin of the British Ornithological Club*.

A new species of pygmy-owl has been described from the northern Andes. The new species is called the Cloud-Forest Pygmy-Owl (*Glaucidium nubicola*). The researchers responsible suggest that the bird may have been overlooked because of its similarity to the Andean Pygmy-Owl (*G. jandini*). As a result of the study of the new bird, the researchers also concluded that the Central American subspecies of *G. jandini*, should also be considered a separate species.

An attempt to survey one of the rarer species of pheasant, Sclater's Monal (*Lophophorus seateri*), has turned up a population in the Indian state of Arunachal Pradesh that has an all-white tail. A taxonomic study is currently being conducted. The even rarer Sumatran Pheasant (*Lophura hoogerwerfi*) was found for sale at a local market, leading to the discovery of five more birds, including the first males ever seen.

Birds in Trouble

There may be good news for the threatened Bald Ibis. There are only 250 known in the wild in Morocco, but last year 78 chicks fledged. Better protection by wardens and artificial nest ledges created by volunteer members of a mountaineering group are credited for the increase.

There are only 4,250 Galapagos Penguins left, about half the number there were two decades ago. One theory for the decline is that global warming is killing off their prey fish.

Gifts and Bequests

**J. Barkan, R. Blom, J. Huston, M. Lucey, R. Martyn, A. Moser,
S. Rowinski, G. Stigell and Native Habitats, A. Truesdell, D. Vornoli**

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