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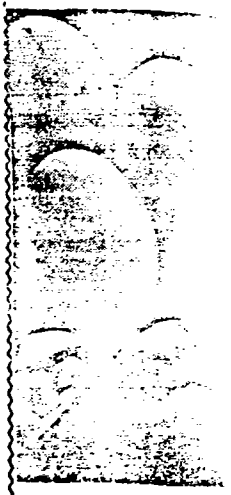
Vanishing Sea Birds



By Robert Gillette
Science Writer

Wildlife specialists have found new evidence that pollutants in marine food chains are disrupting reproduction among entire colonies of California sea and shore birds, and may be killing some birds directly.

At a few lonely offshore rookeries, where birds traditionally breed by the thousands, at least three species suffered total or nearly total reproductive failure during last spring and summer's nesting season.

Breeding colonies of several other coastal birds show a declining ability to hatch new young. But the full magnitude of their plight remains unmeasured.

In the famed heron rookeries of Bolinas Lagoon in Marin County, a half-dozen tall and majestic American egrets, which observers saw convulse and die last spring, are now thought to have succumbed to toxic chemicals they ingested in fish and stored in their fat.

And the egrets that survived at Bolinas produced

Birds

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unusually few young this year.

From the craggy nesting grounds of Anacapa Island in the Santa Barbara Channel to Bolinas Lagoon, the symptoms of the chemical blight are all the same:

More and more species of coastal birds are laying abnormally thin and fragile eggs that collapse under the weight of incubating adults.

Laboratory studies of captive birds, and tests on wild birds and their afflicted eggs, point to two concurrent causes of thin shells.

DDT and PCB

One is the pesticide DDT and its toxic breakdown product, DDE. The other is an industrial pollutant chemically very similar to DDT and nick-named PCB—short for polychlorinated biphenyl.

Both of these chlorinated chemicals are found in the affected birds, in the eggs they lay and in the fish on which the birds feed. The chemicals are believed to act by speeding up the destruction of hormones in female birds. These regulate the deposit of calcium in eggshells.

Thin Eggs

The first hint of catastrophic breeding failures in California seabirds came early last year when Dr. Robert Risebrough, a bioscientist at the University of California at Berkeley, reported that hundreds of brown pelicans on Anacapa Island were laying thin, leathery eggs that frequently crumpled like paper bags under an adult bird's weight.

Late last summer, Franklin Gress, a zoology graduate student working with Risebrough, [illegible]

brighter: Fifty pairs of birds, nesting among the pelicans, produced three young.

And on the Farallon Islands off San Francisco, zoologist Gress has found eggs of murres and petrels — two more fish-eating seabirds — that are abnormally thin and delicate. The yolks contain high levels of DDT residues.

Unlike pelicans and cormorants, American egrets at the Audubon Canyon Ranch near Bolinas suffered a double calamity this year.

For one, records show that the average number of fledgling birds leaving their nests high in redwood trees has dropped by one-third since 1967.

Adult egrets have been seen tossing fragments of unhatched eggs from nests. And shells collected from the rookery show typical signs of thinning.

May Vanish

[illegible]

egrets slump to the gr and tremble from tin time with muscular spa Too weak to run or fly white-plumed birds sim sat on the forest floor several hours until they c

Fish Diet

Tests on frozen tissue ples from five of the just completed in brough's laboratory reve traces of the supertoxic ticide endrin in seve birds; mercury in their ers (up to 9.4 parts per lion); high levels of PCB to 2500 ppm); huge quant of DDT and its residues ppm in the fat of one b and lethal or nearly le levels of the pesticide d rin in the egret's brains.

Risebrough and Gress they're at a loss to exp where such large amoun so many pollutants co have come from — exc that all the signs point to egrets' exclusive diet of fi

But fish in Bolinas La contain little or none of th chemicals. And puzzled s fish and game officials they have observed no the Bolinas egrets' prob in inland rookeries. Nor herons, which live along egrets, apparently suffer any reproductive damage.

Unknowns

"There are just a lot unknowns here," Dr. Ris brough says.

Howard Leach, a state fi and game official who coordinating a study of land egret and heron nestin success, suggests that pes cides and industrial po tants may be affecting coa al birds predominantly not exclusively.

"We are beginning to [illegible] for — all these pollut may be coming to rest in marine [illegible]

Priestly Garb OK for Women

ROME — (AP) — A Rome court ruled today that a woman can legally wear a chasuble, the outer vest worn by priests during Mass, as long as she doesn't look like a man.

Police had picked up Luana Calisse, a 21 year old model, for wearing an ornate chasuble in public.

The judge said she had committed no crime because it was obvious that she was a woman and was therefore not trying to pose as a priest.

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Late last summer, Franklin Gress, a zoology graduate student working with Risebrough, found that Anacapa's 550 breeding pairs of pelicans, the only ones in California, had managed to hatch and rear only one fledgling this year.

Confirmed

The U.S. Interior Department confirmed the two researchers' discovery and reported in November that "test findings in two Interior laboratories suggest pesticides are wiping out the species."

More recent observations reported to the State Department of Fish and Game on Oct. 13 indicate that cormorants — a large, swift variety of fishing bird — are faring even worse then pelicans at some rookeries.

The new report comes from Leonard Penhale, a naturalist employed by the State Department of Parks and Recreation, who has monitored seabird populations at Morro Bay, in San Luis Obispo County, since 1962.

Scattered

On jagged offshore rocks, where colonies of 200 to 300 Brandt's cormorants and pelagic cormorants once swarmed, Penhale found only 30 thinly scattered breeding pairs this year.

Between mid-March and early August he watched those few remaining pelagic cormorants run through a tragic cycle of laying eggs, inadvertently crushing them, discarding the pieces, laying more eggs and crushing those.

Three Young

Two birds hatched amid a litter of broken shells. Both died within a week. Three nests revealed "definite evi-

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May Vanish

"The egrets' situation is not nearly as critical as the pelicans'," Dr. Risebrough says. "But it's becoming serious, and they may gradually disappear."

The birds' second problem became apparent at the height of the breeding season last April and May, when observers watched six adult

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they have observed none of the Bolinas egrets' problems in inland rookeries. Nor are herons, which live alongside egrets, apparently suffering any reproductive damage.

Unknowns

"There are just a lot of unknowns here," Dr. Risebrough says.

Howard Leach, a state fish and game official who is coordinating a study of inland egret and heron nesting success, suggests that pesticides and industrial pollutants may be affecting coastal birds predominantly, if not exclusively.

"We are beginning to wonder — all these pollutants may be coming to rest in the marine eco-system. This is what really seems to be suffering."

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