

ORNITHOLOGY

Bald Eagle in Danger

► THE BALD EAGLE, national symbol of the United States, is declining in numbers, and there is widespread fear that it may disappear from the skies.

Nationwide surveys being taken continually on these proud and handsome birds reveal the alarming decrease in both the eagles and their nests in the two major continental nesting areas, Florida and the Chesapeake Bay.

President Kennedy commended the National Audubon Society Bald Eagle Project last summer, pointing out the need for preserving the birds chosen for the national symbol by the founding fathers.

But too many factors are working against the bald eagle population. Hunters in Texas and elsewhere are pursuing golden eagles and shooting them from airplanes for a fee from ranchers and for their bounty. Much to the dismay of the naturalist, the immature bald eagle is so similar to the golden eagle, even the trained naturalist cannot distinguish them at gun range.

This slaughter not only threatens the bald eagle but may help the golden eagle on its flight to extinction.

Senator Ralph W. Yarborough (D-Tex.) and three colleagues have introduced a bill to amend the Bald Eagle Act of 1940 which will protect the golden eagle as the bald eagle is now protected by law.

In other parts of the country, however, unknowing hunters still mistake young eagles for hawks and shoot them from the skies. Hurricanes and housing developments have also destroyed many of the favorite

nesting grounds on the Atlantic seaboard.

The U.S. Fish and Wildlife Service is now studying the effects of insecticides on the reproductivity of the birds. Some naturalists believe pesticides render the eagle sterile, or at least delay the egg-laying process.

Although most figures show there are less than 1,000 bald eagles in continental United States, Alaska is apparently the largest nesting area for the birds. Sigurd T. Olson, an Alaskan naturalist, told SCIENCE SERVICE that southeast Alaska alone has several thousand eagles. He points out, however, that the problem of vanishing or threatened species is serious and should be treated carefully.

Two surveys have been scheduled by the Audubon Naturalist Society and the Florida Audubon Society. The first, taking place in January, is aimed to locate all active nests and count eagles in the Florida and Chesapeake Bay areas, while the second in April and May will determine the number of young which have been raised. Eagles raise only one to three eaglets per pair.

Although legislation in Canada and the United States (including Alaska) prohibits the killing of the bald eagle, and even if legislation is passed to prohibit killing the golden eagle, the effects of housing developments and the possible effects on reproductivity of increasing usage of pesticides may still push the country's national symbol into oblivion.

• Science News Letter, 81:36 January 20, 1962

ENTOMOLOGY

Chemicals Limit Insects

► CHEMICALS that may kill cancer are being used successfully to stop the reproduction and thus limit dangerous, destructive, disease-bearing insects, the U. S. Department of Agriculture has reported.

Derivatives of ethylenimine, a family of chemicals used in cancer-therapy research, have effectively sterilized insects, completely halting reproduction in test colonies of houseflies, mosquitoes, stable flies, screw-worms, boll weevils and Mexican fruit flies.

The chemical causes sterility in houseflies, for instance, when they eat it or even when they walk over a treated surface. The flies live but their eggs do not hatch.

Chemosterilants for insect control have been under study for less than five years, but the sterility technique to eliminate such pests is not new. Insects have been sterilized in USDA experiments by exposure to radioactive cobalt-60 to control the screwworm in the Southwest. Because of the nature of the sterilant, the insects had to be treated in the laboratory and then released.

The radiation also affected sexual vigor. Studies show that male flies and mosquitoes sterilized with chemicals retain full sexual

vigor and competitiveness.

A chemosterilant, nontoxic to warm-blooded animals, could be used in the field to sterilize native insect populations. It could be combined with an insecticide. The latter would reduce the population and the chemosterilant would destroy the reproductive ability of resistant survivors.

The effectiveness and promise of chemosterilants has been amply demonstrated. Now research will be aimed at finding how, when and where to apply chemosterilants to specific insects without creating hazards to humans, animals, crops or wildlife.

Finding the right compound can mean an annual saving of billions of dollars in the U. S. This is what the 93,000 different kinds of crawling or flying insect pests in the U. S. cause in agricultural losses.

One of the most effective of 200 compounds tested by the USDA is called Apholate, a chemical patented by Olin Mathieson Chemical Corporation, that is chemically known as hexakis (1-aziridinyl) phosphonitrile. The expected date of introduction of this chemical is 1964.

• Science News Letter, 81:36 January 20, 1962

OPHTHALMOLOGY

Thin Film on Contact Lenses Aids Wearer

► CONTACT LENSES can now be worn more comfortably, U. S. Air Force scientists have reported.

The scientists have developed a method for producing a thin film on contact lenses to make the surface "wetable," thus reducing the amount of tears and improving vision.

The wettable surface is permanently produced by the chemical deposition of transparent titanium dioxide films by the hydrolysis of tetra-alkyl orthotitanates. The report is available from the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C., for 50¢.

• Science News Letter, 81:36 January 20, 1962

SCIENCE NEWS LETTER

VOL. 81 JANUARY 20, 1962 NO. 3

Edited by WATSON DAVIS

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N. St., N.W., Washington 6, D. C., NORTH 7-2255. Cable Address: SCIENSERVIC.

Subscription rates: 1 yr., \$5.50; 2 yrs., \$10.00; 3 yrs., \$14.50; ten or more copies in one package to one address, 7½ cents per copy per week; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

Change of address: Three weeks notice is required. When ordering a change please state exactly how magazine is addressed. Your new address should include postal zone number if you have one.

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Printed in U.S.A. Second class postage paid at Washington, D. C. Established in mimeograph form March 13, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Reader's Guide to Periodical Literature, Abridged Guide, and the Engineering Index. Member of Audit Bureau of Circulation.

SCIENCE SERVICE

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