



**GULL SOUNDS ALARM**—To obtain the "alarm call" of sea gulls, Beverley Cox is shown here holding one of the birds. The other gulls, upon seeing a gull in such trouble, will sound their "alarm calls," which can then be used to frighten the birds from perches where they are undesirable.

## ORNITHOLOGY

## War on Sea Gulls

► SEA GULLS, long a hazard to conventional aircraft, and more recently to Air Force jets, may soon be frightened away from airfields along the coasts of the United States with tape recordings of their own "alarm calls."

Dr. Hubert W. Frings, professor of zoology at Pennsylvania State University and the scientist responsible for a similar weapon now used against starlings, has discovered that herring gulls give forth an alarm call that scares off other herring gulls.

This newest sound warfare against birds is the result of a study conducted this summer at the Mt. Desert Island Biological Laboratory near Bar Harbor, Maine, under the sponsorship of the U. S. Air Force.

Sea gulls have been the cause of numerous accidents by inadvertently smashing into airplane windshields. With the arrival of jet aircraft, sea gulls present an added danger of being sucked into the forward induction vents, causing a jet to explode.

Sea gulls are protected from physical harm by law and, therefore, other means of driving them from an area had to be found.

Dr. Frings attacked the sea gull problem in much the same manner as the starling problem. Starlings, when held, let out a distress call, the tape recording of which will frighten away other starlings.

The sea gulls, however, remain calm, cool and collected when captured and literally "won't talk." Other sea gulls, however, seeing a member of their group in trouble, do

get excited and sound off with an "alarm call."

After recording the alarm call made by other birds seeing a captured sea gull, Dr. Frings beamed the tape recording to gulls feeding on dumps along the coast.

He was successful in driving the birds away from the dumps as well as away from sardine canneries, which are plagued by the gulls that eat the by-products normally sold for conversion into fertilizer and other products.

It is also hoped that the tape recording and loudspeaker weapons will prove valuable to the sardine fishermen themselves, who suffer serious losses from sea gull raids on their catches.

During the study, Dr. Frings was able to classify five different sea gull calls and, in addition, learn about the bird's ability to find food.

Although the alarm call may be most important to the aircraft and fishing industries, the food-finding call is most important to the sea gull. When food is located, most gulls will call out to their neighbors. However, it was noted that if one gull discovers only a limited amount of food, he may remain silent.

The gull also has a trumpeting call, a feeding call and a call that sounds like the clucking of a chicken.

Experiments in the feeding habits of the birds disclosed that a stone, shaped like a fish, would not attract the gulls, but that

an artificial fish made of aluminum foil would.

Fish wrapped in paper and placed on the beach went untouched.

Dr. Frings concluded that the gulls keep the shore line under surveillance at all times and the reflections from any shiny objects, especially the scales of a fish, attract immediate attention.

When located, if the scouts approve of the food supply, they will fly in a "figure eight" pattern over the water or call other gulls with the food-finding call.

Dr. Frings was assisted in his study by his wife, Mable, and two graduate students from the University of Oklahoma, Beverley Cox and Lorraine Peissner.

Science News Letter, December 25, 1954

## TECHNOLOGY

## Dried Snap Beans Developed for Army

► THE ARMY will soon add to its menu a dehydrated snap bean that food technologists at Oregon State College claim is nine-tenths lighter and three-fourths smaller than canned or frozen beans.

Developed especially for the Army, the dried beans were produced by a combination of freezing and circulated heated air. Moisture in the beans, the technologists state, was reduced from 89% to less than three percent. The snap beans are restored to the natural size by boiling.

Science News Letter, December 25, 1954

## MEDICINE

## Find Connection Between Joint and Nail Diseases

► A DISCOVERY that explains for the first time the connection between diseases of the joints and diseases of the nails was announced by Drs. Barton L. Lewis and Hamilton Montgomery of the Mayo Foundation and Mayo Clinic, Rochester, Minn., at the meeting of the American Academy of Dermatology and Syphilology in Chicago.

The discovery is of a connection in the unborn baby between the site of generation of the nail and the last, or end, joint of the finger.

"For example," the doctors pointed out, "peculiarly characteristic changes in the nails occur when arthritis is present. A peculiar arrangement of the developing layers of the nail was found, which explains why inflammations within the cuticle (epidermis, or outer layer of skin) about the nail will cause abnormalities of the nail. Characteristic changes occurred in some nails in older individuals."

The finding came through a newly developed method for making complete microscopic studies of finger nails and toe nails. First sign of activity where the nail will grow in an embryo, the doctors have discovered, appears at two and a half months after conception.

Science News Letter, December 25, 1954