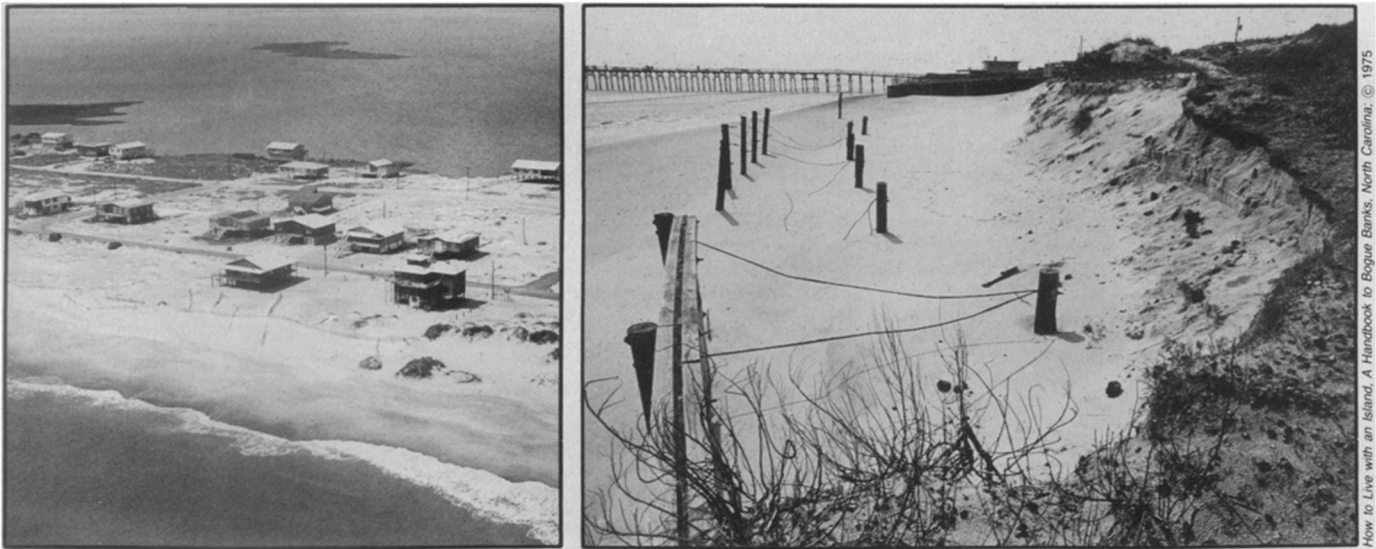


How to Live on a Barrier Island

Ecologists are using their findings to advise people on building houses on sand



You can't fool mother nature: Low narrow sections risk becoming new inlets; sea walls become washouts in the long run.

BY DIETRICK E. THOMSEN

Miss Downing (waspishly): Robert, why don't you have your French book?

Robert: It went out to sea with our house.

Miss Downing (mollified): I'll find you another in the closet.

That colloquy took place in a high school near the New Jersey coast shortly after a severe storm had passed over the area. The little community where Robert lived did not stand on a barrier island, though it was too close to the water. It stood in possibly a worse location: the narrow end of a funnel-shaped bay. The storm surge came up to a mile inland, and when it receded, so did Robert's little cottage community.

Anyone who has lived along the seashore can tell similar tales. The point is that people—even descendants of those who have lived near the sea for generations—usually don't know how to live near the ocean. And that is a very important problem because many people want to live near the ocean. The ecological problems become sociological and political in a way and with an immediacy for millions of people that those of, say, the tundra of Keewatin do not.

The problems are especially acute on the barrier islands, the long, low, sandy strips that front the Atlantic and Gulf Coasts of the United States from Cape Cod to Padre Island. The barrier islands are ecologically fragile and geologically vulnerable. The action of the sea continually alters their shorelines and even changes their number. Old inlets are plugged and new ones formed. Coney Island in New York and Island Beach in

New Jersey are no longer islands though they both still carry the designation in their names. Sandy Hook is likely someday to become one, and the citizens of Sea Bright and Monmouth Beach have erected heavy defenses against that eventuality.

There's the rub. People want a stability that nature is reluctant to vouchsafe. They litter the seashore with seawalls, jetties and sandbags (actually making the situation worse) and cry defiance at the rolling waves. Like so many little Canutes the governments of the coastal states and the Corps of Engineers stand at the water's edge and bid the ocean stop. It replies by washing their pants out to sea.

Three people who have studied the problems have now written a book to help people learn to live with the ocean. They are Orrin H. Pilkey Jr., a professor of geology at Duke University; Orrin H. Pilkey Sr., a retired civil engineer, and Robb Turner, a specialist in geology and zoology. *How to Live with an Island, A Handbook to Bogue Banks, North Carolina* is published by the North Carolina Department of Natural and Economic Resources (Raleigh, 1975, \$2.75). The book is one practical outcome of recent scientific work on the ecology and geology of the barrier islands that has concentrated on North Carolina where frequency of storms make the islands change faster than in some other places.

Geologically the main point is that the islands move (SN: 6/17/72, p. 396). Severe storms cause ocean water to surge up over the island. As it does so, it takes

sand from the beach and deposits it on the bay side. This process is repeated and facilitated by a long-term geologic process: The sea level has been gradually rising since the Pleistocene epoch. So the islands march gradually back toward the mainland. Since the mainland coast is flat in most places, it too recedes as the ocean rises, and a bay between islands and main remains.

Practically what this means for the homeowner is that a house that had beach in front of it fifty years ago is now likely to have its foundations awash. The lot that your grandfather bought may now be at the bottom of a channel through which party boats sail.

Does this mean people should abandon the barrier islands to nature? To do so would be to forego the psychic and physical advantages of what the French call *thalassothérapie*. That is not at all what the Pilkeys and Turner propose. They propose instead living flexibly with nature and respectfully cooperating with her activities.

Much of the problem is caused by the human desire for permanence. (Perhaps it is because we are such transient creatures ourselves that we desire it.) Building sea walls, jetties and groins is not likely to stabilize the shoreline. Nature will overcome them, and the fight is too costly.

Accept impermanence, is the advice of a number of recent students of barrier islands, including these authors. Build for now, not for your great-great-grandchildren. Let the hot dog stand or the bathhouse wash away. Let the lighthouse

"I was cured of my allergies"

says Judge Tom R. Blaine,
Author of
GOODBYE ALLERGIES



YOU TOO MAY JOIN THE THOUSANDS OF ALLERGY PATIENTS ACROSS THE NATION WHO HAVE BEEN FREED FROM THEIR ALLERGIES THANKS TO AN AMAZING NEW METHOD OF TREATMENT.

Judge Blaine, in his book *Goodbye Allergies*, outlines this new method of treatment and explains how he, after suffering from multiple allergies for more than 60 years, tried this treatment and was cured. This book tells how this new method can be beneficial not only in relieving allergic disorders, but also in improving the patient's general health. It contains guidance on slowing down the degenerative diseases that come with age, and in helping to prevent coronary heart disease.

"Every person who has any type of allergy—mild or debilitating—should read this book. Every practicing physician should have this book in his private library . . . Judge Blaine has emphasized the constitutional approach to allergy—an approach which most physicians, especially the allergists, have failed even to recognize as a possible therapeutic tool in the management of allergy. This book is a paradox in medical education, for it has the intelligent layman teaching the physician fundamental facts about nutrition."

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Emeritus Professor of Otolaryngology,
University of Kansas Medical School

"Although the title of this book is Goodbye Allergies, it could very well be classified as a general health manual because of the number of important items covered. It is most unusual that a layman be possessed of the grasp and background of medical knowledge exhibited by the writer."

JAMES F. CRENSHAW, M.D.
Medical Director,
Seale Harris Clinic

WHAT'S THE STORY BEHIND THIS NEW TREATMENT?

Patients with hypoglycemia (low blood sugar—the opposite of diabetes) and hypoadrenocorticism (inadequate hormone production by the cortex of the adrenal glands) usually have hay fever, asthma, migraine, hives or eczema, and frequently suffer from other respiratory, gastro-intestinal, or genito-urinary disorders.

Recently, doctors have discovered that these two conditions—hypoglycemia and hypoadrenocorticism—can be cured or controlled.

WHAT DOES THIS MEAN?

Just this. When these two conditions are corrected—that is, when a low blood sugar condition is corrected, and when the adrenals are put into proper working order—the patient may no longer have allergies. This book explains, in layman's language, the treatment of diet and medication which may help correct these two conditions.

DOES THIS TREATMENT REQUIRE THE SERVICES OF A HIGH PRICED SPECIALIST?

No. The treatment is one of the miracles of modern medicine. It is a new modification of an accepted medical approach. It is not a fad; it promotes nothing for sale; the drugs can be administered by your own physician as well as by any other doctor, and the diet can be followed easily.

ISN'T THE DIET BORING?

No. There are so many, many foods you are permitted to eat that you can use your imagination and curiosity in selecting your meals and snacks; and you need never feel you are dieting.

ARE THERE ANY OTHER BENEFITS FROM THE DIET?

Indeed there are! This diet can be the beginning of a wonderful new experience in the field of nutrition and health. It can be the gateway to a new marvelous state of health. In addition, it can be a wonderful

reducing diet. Unlike the starvation diets that may make you look older and drawn as you lose, this diet will make you look younger as the pounds melt away.

Send for Goodbye Allergies today. Read it. If you're not convinced that it offers you a lifetime of freedom from allergies, simply return it within 10 days and your money will be promptly refunded. Or—ask your doctor about this new and successful method of treatment. If you both don't agree that this book will be extremely valuable to you, then send it back within 10 days for complete refund. You have nothing to lose but your allergies.

collapse. Build again in a new location. For relative stability stay away from highly volatile areas. Stay at least half a mile from inlets; they wander. Avoid low, narrow parts of the island—storms may make new inlets there.

The best advice is to build some distance from the high-tide line in the shelter of dunes. (It goes without saying that bulldozing the dunes flat is a mistake.) Yet here the authors point out a common error that seems incredibly stupid on its face: People will build houses behind the dunes and then open a cut in the dunes to enhance their view of the sea. It's an excellent way of funneling storm surge right to the doorstep. Yet an unbroken line of dunes is also potentially dangerous. The dunes should have gaps in them through which the storm surges can flow, and, of course, houses should not be built in the gaps.

The general advice is to disturb the ecology as little as possible. Marshes should not be filled in or cut up with finger canals. Dredging of navigation channels should be done carefully with respect for the environment. Roads should not be cut through the dunes. Marine forest, where it stands, should not be cut down wantonly; it is very good storm protection.

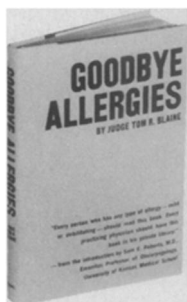
That's the last point. The wind bloweth where it listeth, and it often listeth very strongly over barrier islands. They are subject to gales and hurricanes, and houses should be wind-resistant. The book gives detailed advice on the framing, tying and anchoring of houses that will be exposed to hurricanes.

There is of course a great danger that the advice will not be taken. Heavy resort, and now suburban, development has long since overrun the barrier islands of New York, New Jersey, Virginia and Florida. The Pilkeys and Turner report that high-rise condominiums are now planned for what one would have thought were the less accessible Outer Banks of North Carolina.

How to control development is a difficult political problem: People often support development until their own houses are built, then turn around and oppose it. The problem is complicated because summer people usually don't have a vote, and they are often far away during the winter when the public hearings are held and the municipal decisions taken. And the year-round residents are often dependent on the commercial interests that favor unrestrained construction.

The Pilkeys and Turner use Bogue Banks as an example to consider in detail the sort of developmental mistakes that are made on barrier islands and to give advice on choosing safe building sites.

One may hope that this sort of thing represents a trend—that ecologists will use what they learn more and more not merely to teach people to respect ecological balance but to advise them on the best ways to live with it and enjoy it. □



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