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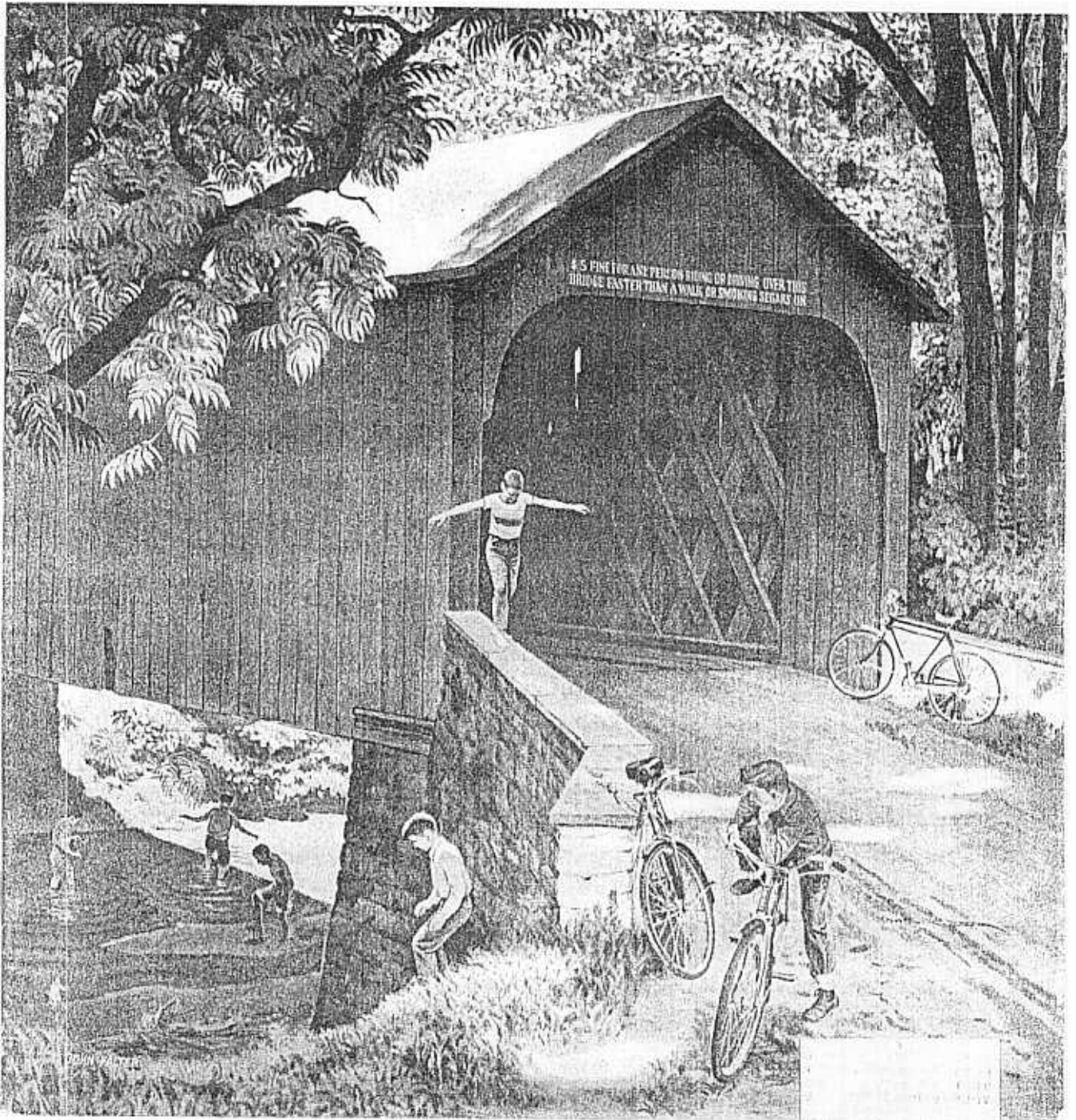
August 14, 1954 — 15¢

**THE TRUTH ABOUT
FLORIDA'S RED TIDE**

By Henry La Cossitt

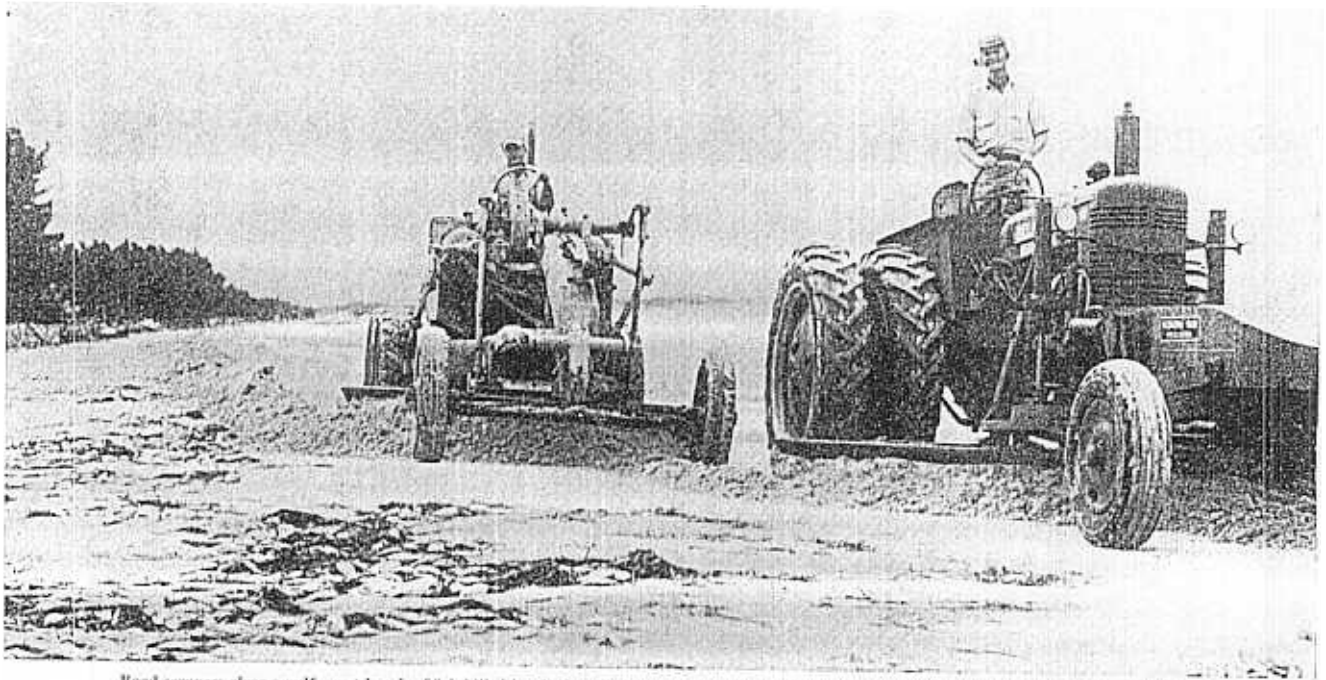
Baseball's Prize Castoff

By William Barry Furlong



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ENVIRONMENTAL





Beach scrapers clear a gulf-coast beach of fish killed by the 1947 Red Tide. The sea plague has raised havoc with Florida's fish and tourist industries.

What is the strange disturbance that periodically plagues Florida's west coast, killing fish and temporarily spoiling beaches? Are scientists at last learning to quell—or at least predict—invasions of this century-old nightmare?

The Truth About Florida's Red Tide

By HENRY LACOSSITT

ON May 14, 1954, George A. Smathers, of Miami, the handsome junior senator from Florida, made a speech. He urged his colleagues in the Senate to approve a bill that would provide \$3,000,000 annually to promote the American fishing industry and finance research into any diseases that might threaten the fish themselves.

Senator Smathers' interest in the bill was not trivial. One of the things it would help to combat, if passed, is the so-called Red Tide, a particularly evil sea plague that has been appearing at intervals in the waters of the Gulf of Mexico off the west coast of Florida for at least 110 years, which is as long as records of the area have been kept. It has been observed as far north as Cedar Key and as far south as Key West, and every time it has shown up it has slaughtered fish in astronomical numbers. As fishing, commercial or recreational, is important business in Florida, this is enough in itself to explain Senator Smathers' intense interest. There were other reasons as well. Because of its extremely unpleasant attributes, the Tide has been harassing residents on gulf-coast beaches in recent years and making life a nightmare for all connected with Western Florida's huge tourist and real-estate industries. Even as Senator Smathers was speaking, the Tide was causing near panic among these people along the pleasant strip of coast line from Clearwater on the north, almost to Fort Myers on the south—a distance of about 110 miles as the crow flies.

The Red Tide is caused by an organism known as *Gymnodinium brevis* which is found only in the gulf waters off Florida's west coast. Jim Brevis, as they

are beginning to call it, is believed to be present at all times in these waters, and ordinarily is harmless. On certain occasions, though, he becomes a terrible scourge. This is when, for some as yet unexplained reason, he goes completely berserk. At such times he "blooms." That is, he multiplies himself in a reproductive orgy so fantastic that he sometimes reaches a density of 60,000,000 organisms to a quart of sea water. When this happens, he imparts to the water the reddish tint that gives him the name he is best known by, although in some of his phases his color is amber, olive green or some other hue.

During his period of frenzied reproduction, Jim Brevis becomes malignantly toxic. He seems to have a paralyzing effect on sea creatures similar to that of curare, and his murders are numbered in the high millions. In the tragic Tide outbreak of 1946-1947, scientists estimate that half a billion fish were killed, along with other sea animals such as turtles, porpoises and shellfish. Even humans are not safe from the scourge.

In researching this article, I visited Bradenton Beach one day when the Red Tide happened to be nearby and the wind was right. My eyes streamed, I had a burning sensation in my nostrils and I began to cough and wheeze with almost every breath. My throat tightened and became sore. I was told, however, that mine was not a very severe reaction. Miles J. Cruickshank, a retired investment banker from New York, living in Nokomis, says he has coughed so hard at times that he has retched. Animals cough and wheeze too.

These irritations appear, fortunately, only when Jim Brevis is lurking close to shore, and then no

more than 100 yards inland from the beach if a light breeze is blowing in from the gulf. If the wind is strong, however, the effect is said to be felt as far as a mile and a half inland. In ordinary circumstances respiratory ills disappear immediately after the sufferer leaves the beach.

Violent turbulence, such as a hurricane, will subdue Jim Brevis—at least for a time—as it breaks up his concentrations, but this would seem to be poor consolation to the people.

In order to support his arguments in favor of the money bill, Senator Smathers read into the Congressional Record testimony of the west-coast citizenry as to what Jim Brevis had done to them. This was in the form of letters and telegrams from chambers of commerce in the affected area. Clearwater reported a loss of \$3,750,000 last season because of the Tide. Its most recent visitation there began in August, 1953, and, at this writing—July, 1954—still was present in places along the afflicted coast. The Clearwater chamber said charter- and party-boat owners, the commercial-fishing industry and hotel, motel, restaurant and other services, were affected. Further losses were predicted.

St. Petersburg reported no serious infestation during the recent Tide, but said its tourist business had been hurt because of the virulence to the south and north. It added that during the dreadful outbreak in 1947, the use of tourist accommodations along the beach practically stopped for six weeks.

Bradenton reported that the \$4,000,000 commercial-fishing industry at the little village of Cortez nearby was practically out of business because of the present Tide. "It kills the fish," said the report,

"it kills the market, and buyers are not interested for some time after it has done its damage." Bradenton added that sports fishing had been practically destroyed and that the effect was just as "devastating to the tourist business as it is to the fishing industry." Sarasota reported real-estate values at a standstill, if not actually declining, and predicted a major depression along the Florida west coast should the Tide persist. The Fort Myers chamber wired that, although Jim Brevis had not actually been present at their town, which is on the Caloosahatchee River a number of miles from the gulf, they had lost about \$500,000 during the 1954 season because of canceled reservations and people who were afraid to stop "because of Red Tide rumors."

Senator Smathers could have cited many other things. Up at John's Pass above St. Petersburg Beach, Don Clymer, a party-boat man, says his business is off at least by one third because of the Tide, even though its effect was negligible along the beach itself. Don says the Tide has driven the fish out into the gulf, so that you have to go as far as forty to fifty miles for them. The Clymer boats are big and powerful and he has survived; those with smaller boats unable to make the longer runs are almost out of business. Rube Allyn, outdoor editor of the St. Petersburg Times, wrote in his column last winter that the famous fishing docks at Pass-a-Grille at the mouth of Tampa Bay were deserted, with some fishermen offering their boats and tackle for sale at bargain prices.

At Bradenton, they tell of tons of fish floating in the Manatee River at the height of the Tide, with commercial-fishing crews leaving the area because of shrinking catches. And Mrs. Betty Wickham, Bradenton Herald reporter, assigned to cover Jim Brevis and his nefarious activities, told me that they even found gulls and ducks dead in the Manatee, while the population of eagles is being depleted. "As far as we can learn, there's only one eagle left in Manatee County," Mrs. Wickham said. (Scientists say there is no conclusive evidence that birds are affected by the Tide, even when they eat the fish that are, but the possibility isn't ruled out.)

While the 1953-54 Tide was present from Clearwater to Big Marco Pass, some fifteen miles south of Naples, its heaviest concentrations were from Bradenton on the north to Boca Grande, at the mouth of Charlotte Harbor, on the south.

Sam Whidden, a bait dealer at Boca Grande, told me he was losing thousands of dollars. I talked to Sam in May, with the tarpon season just beginning. Boca Grande is famous for its tarpon fishing, but

Sam was dejected. "There are plenty of tarpon," he said. "They're smart enough to stay out of the stuff, but you can't catch 'em without bait." Sam says you never know when you're going to run into a patch of Tide or when it's going to run into you, and since you have to keep pumping fresh sea water into your bait tanks, you're likely to get some of the Tide at any time, and that'll do for the baits. The morning I talked to Sam he lost 125 dozen baits that would have retailed at about two dollars a dozen. He had pumped some of the Tide into his tank.

I saw this happen myself on a tarpon-fishing expedition headed south from Venice Inlet. There were pinfish, chub, small snapper, shrimp and crabs in the tank. We were pumping fresh sea water into it as usual when we passed through a patch of Tide. All of the fish died. The shrimp and crabs were still alive when we docked, but they are known to be more difficult to kill. When the Tide hit the fish, they began convulsive movements, rising to the surface, sounding, darting about in frenzy—always off balance, as if their equilibrium were affected. Then they turned up their bellies and expired.

Jim Brevis Can Put You Out of Business

WHEN this happens to large schools of fish in the gulf or the bays, the spectacle is appalling. E. F. Taylor, a fish dealer at Venice Inlet, who says Jim Brevis has put him out of business, told me that on May fourteenth—the day Senator Smathers made his speech—he and his wife saw a large school of mullet coming in from the gulf. Taylor estimated there were at least 25,000 pounds of fish in the school. They swam inland, then turned and were headed back to the gulf when they ran head on into a large patch of Jim Brevis floating up the inlet on the incoming tide. Presently there was not a fish left alive in the inlet.

Fishermen have been more affected by the Red Tide than anybody else—because so many of them operate on small capital—although, as mentioned, tourism and real estate have been influenced too. The effects here, however, have been spotty and inconclusive. Sarasota, for instance, had the best season, tourist-wise, in its history, despite its gloomy report on real-estate values. Also, its building permits for the first four months of 1954 ran \$1,000,000 ahead of the same period in 1953, even though the Tide was somewhere nearby and might come in at any moment. However, it happened to reach the height of its virulence at Sarasota in November and December, before the big season began, and oblig-

ingly held off until the middle of spring, although there were sporadic outbreaks here and there.

At Englewood, some thirty miles to the south, the story was different. Real-estate people in this community, near where A. G. and W. H. Vanderbilt own 35,000 acres, told me sales were off by as much as 60 per cent. At Venice, about twenty miles south of Sarasota, George F. Gibbs, Jr., who owns the Tarpon Center group of tourist homes, said his rentals held, although there were complaints. On Casey Key, just above Venice, R. G. Simpson told me his income maintained in 1954, although the turnover in tourists was three times what it usually was, because of people pulling out. Bradenton Beach, which has a large summer business, was badly hurt when the Tide struck in August, 1953. People are said to have left in droves and there were battered rentals. Nevertheless, like Sarasota, Bradenton Beach and Bradenton itself were fortunate in that the scourge held off during the height of the winter season to give the tourist business a chance to recoup some of its losses.

But—and this is what gives everybody up and down the west coast their real jitters—what if the Tide continues? What if Jim Brevis refuses to go away, as he used to after one of his attacks? He has been skulking along the coast now in varying degrees of viciousness since his rampage of 1946-1947. Before that, he hadn't been around since his catastrophic bloom back in 1916-1917; this time he shows no indication of leaving, even though his raids are sporadic and there are times when it seems as if he had subsided.

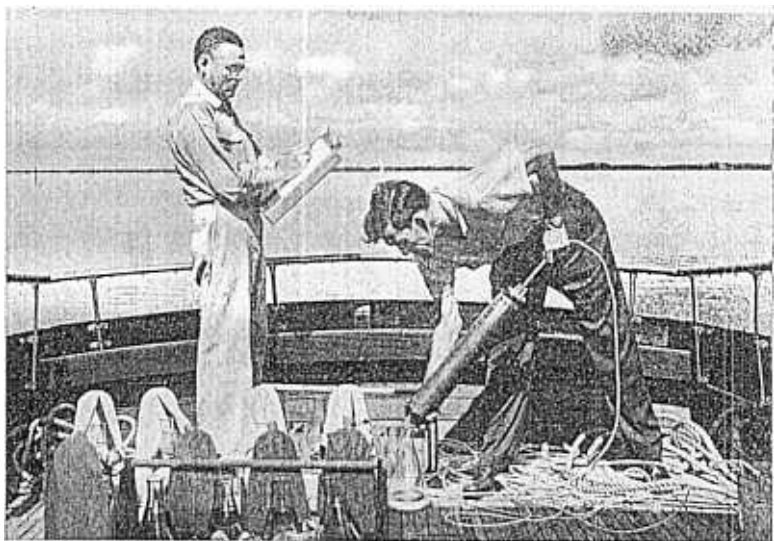
While there are no figures available as to the actual value of homes, businesses, investments and savings in the seven counties currently threatened by Jim Brevis, the best guesses put them in the billions. This accounts for the nightmares of gulf-coast citizens. They know tourists won't keep on coming if Jim Brevis sticks around.

The nightmares become even more vivid when the medical aspect of the Tide is considered. The respiratory troubles resulting from the Tide ordinarily are not serious, but they always are bothersome, and they can actually disrupt the life of a community. For example, Mrs. Wickham says there was an unusual amount of absenteeism at the school on Bradenton Beach, with some children—including her own son—running high temperatures, and severely sick. Many children, however, seem to be immune—nobody knows why—and most youngsters are less susceptible than their elders.

(Continued on Page 67)



Dr. Talmadge Thompson, Dr. Stanley Martin and Dr. Samuel Kaplan study the effects of the Red Tide on human beings.



Aboard a U.S. Fish and Wildlife ship, Jerome Johnston and Joe Bell search for "Jim Brevis," the organism causing the Red Tide. Congress has voted \$3,000,000 to help fight the plague.

THE TRUTH ABOUT FLORIDA'S RED TIDE

(Continued from Page 29)

In Venice, Doctors Samuel E. Kaplan and Talmadge Thompson say that if there is any tendency to respiratory ills, or if resistance is low, the result probably will be tracheal bronchitis or pneumonia. This they treat symptomatically, as they know practically nothing about the cause. Antibiotics seem to be ineffective.

The doctors say that sinus cases seem not to be bothered, but that asthmatics and allergies suffer, as do cardiac people. They tell of a man with chronic bronchitis who almost died because he breathed the Tide's exudation and who had to be kept in the hospital under oxygen. A child with allergic tendencies had to be treated with ACTH as well as oxygen to keep him alive. There is also the case of the Vermont family who came to Venice—father, mother and two children—to settle. The father intended to buy a business, but he is back in Vermont. His children happened to be among those viciously affected by the Tide.

For certain relief the doctors can prescribe only one thing: stay away from the shore. They don't know what else to do. What causes the coughing and other respiratory unpleasantness nobody can say for sure. Once it was thought to be a gas; now it is generally accepted by medical men and marine biologists alike that it is an irritant. The irritant is believed to be created when the Tide's organisms die and deteriorate, releasing billions upon billions of particles that are borne in droplets of water on the wind.

But there may be other effects as well. The United States Fish and Wildlife Service in Washington has a letter from a woman who fed her cat broth made from coquinas washed up in the Red Tide. A coquina is a small clam no more than an inch long and its broth is ordinarily wholesome and delicious. The woman wrote that the effect on the cat—she ate none herself—was that its head hung loosely, as if it were spastic, and its back hunched and twisted as if it had tetanus. This condition obtained for five days, after which the cat returned to normal.

It was once believed that Jim Brevis strangled his victims, that he clogged the gills of fish and that they suffocated as a consequence. But the fact that mammals and reptiles also are killed disproved this. And the troubles experienced by the cat after eating the coquina broth tend to bear out the present generally held belief that Jim Brevis is actually neurotoxic. So does the testimony of six people to whom I talked, although here again there is no certain conclusion and the possibilities of ordinary food poisoning and even hysteria must be considered. Three of these cases were at Venice, and they had eaten mullet taken dying from the Tide. Three were at Placida, and these had eaten raw mangrove oysters that had been covered by the Tide. In every case there was a reported numbness of the face, and in one instance an inability to talk. All told of stomach distress and nausea. Doctors to whom I talked said they knew of similar cases. In every instance, however, the effects were of only short duration—a few hours at the most.

There was also the skin diver who deliberately swam into the Tide as an experiment and swallowed some of it. He, too, felt numb, and suffered stom-

ach cramps and nausea. The Tide seems also to have an irritating effect on the skin in some cases. Fishermen told me that tidal water caused the skin of their hands and arms to burn when exposed to it, and that the residual rash.

Of course, not many will put skin troubles or digestive ills from the Tide. In its concentrations it is usually so foul that nobody in his senses would go into it, and certainly few would eat fish that had died in it. The water is viscous, almost slippy, so that in scooping it up your trail thick, slimy strings of the stuff. Sometimes bubbles appear in this witch's brew.

The health problems incident to the Tide have been serious enough, however, to cause the formation of a committee of west-coast citizens who went to Washington last June twenty-fourth to present their case to President Eisenhower and Secretary of the Interior McKay. The committeemen were armed with forty-seven affidavits signed by west-coast residents testifying to the detrimental physical effects they had suffered because of the Tide. The President and the Secretary were asked to help in obtaining an appropriation of \$250,000 for the United States Public Health Service, the money to be used for research into the harmful effects of the Tide on human beings. The committee suggested that a laboratory be set up at Venice, to operate for two years. As of this writing, there had been no action on the request in Congress, and because the committee has become the center of a political squabble, it is unlikely that anything ever will come of its activities.

Naturally, with such a formidable foe as Jim Brevis, there have been theories in profusion, some of them bordering on folklore. One of the most commonly held of these, and one that is still clung to in some quarters in the face of all evidence against it, is that the Tide is caused by the dumping of poison gas—mainly lewisite—into the Gulf of Mexico by the armed services. For a time this theory was given credence by a rumor that abnormal quantities of arsenic had been found in the dead fish, but this never has been substantiated. Actually, according to official pronouncement by the Government, the only toxic chemicals ever were dumped in the general vicinity was August 20, 1947, when the War Department got rid of thirty-three leaking German mustard-gas bombs about sixty miles off Mobile, Alabama, in 100 fathoms of water. At the Tide of that time began in July, 1948, and as there were at least nine Tides recorded before that, going back to 1844, this would seem to disprove the gas theory. Nevertheless, it persists and people are even violent about it.

Another belief is that the atomic and hydrogen-bomb experiments have something to do with Jim Brevis. Still another is that the dynamiting incident to off-shore oil explorations is killing the fish. Scientists at the Marine Laboratory of the University of Miami scoff at this. I was told at the laboratory that unless a sea animal was within fifty feet of the charge he would not be harmed, as the force of the explosion is dissipated rapidly in the water. Nevertheless, you find people who believe otherwise, and pressure was such that the dynamiting was suspended in May. The suspension was to last until the end of the Tarpon Tournament that Sarasota sponsors each year and which closes on August thirtieth.

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