

LABORATORY SERIES

NO. 14 GALVESTON LABORATORY

EDITOR'S NOTE: The Laboratory Series is coordinated by Dr. C. Dale Becker of Battelle Pacific Northwest Laboratories.

ADDRESS: Southeast Fisheries Center
Galveston Laboratory
4700 Avenue U
Galveston, Texas 77550

LABORATORY FUNCTIONS

(Objectives):

The Laboratory's mission is to (1) assess demersal and semidemersal fisheries resources in the Atlantic Ocean and the Gulf of Mexico and investigate ecological relationships, (2) develop and manage research to determine impacts of energy development on fisheries' habitat, and (3) develop systems and techniques for the culture of marine organisms.

KEY PERSONNEL:

Director: Dr. Edward F. Klima
Division of Fishery Data Analysis: Michael Parrack
Division of Environmental Research: Dr. Charles W. Caillouet
Division of Aquaculture: Dr. James P. McVey
Administrative Officer: Terry W. Johnstone

AREAS OF EXPERTISE

(Current Programs):

The Division of Fishery Data Analysis consists of multidisciplinary research focusing on population dynamics, fisheries biology, and ecology of shallow-water penaeids and groundfish in the Gulf of Mexico and the Caribbean Sea. The Environmental Research Division manages contract research related to environmental impacts of energy development. The Aquaculture Division concentrates on physiology, disease, and the culturing of penaeid shrimp and marine turtles.

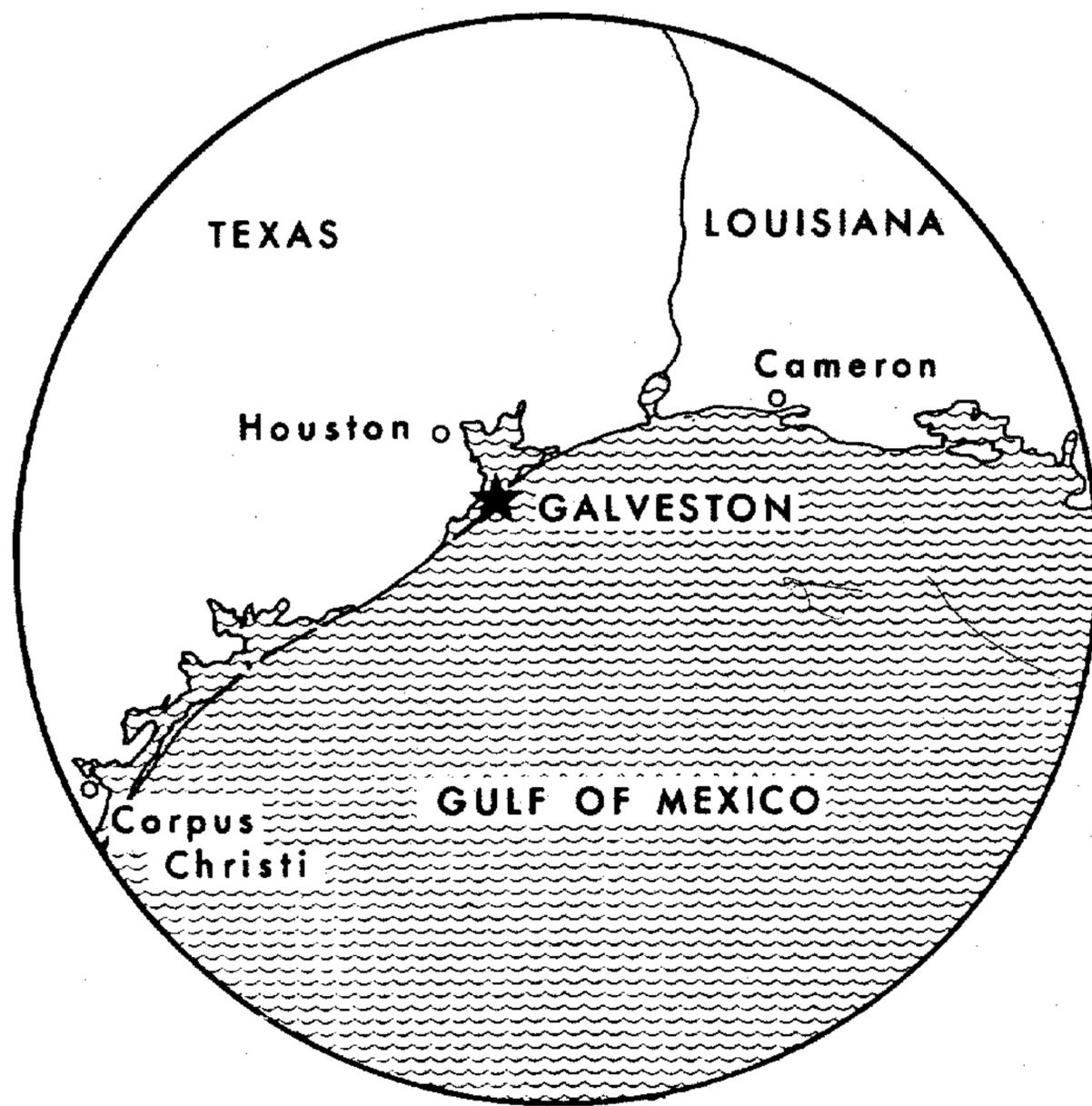
UNIQUE LABORATORY FEATURES:

The Galveston Laboratory has over 55,000 square feet of research and administrative area, with an extensive seawater system of 25,000 gallons daily pumping capacity and a lagoon laboratory situated in an area to conduct estuarine flow-through studies. The Laboratory has large aquaria and raceways for holding marine organisms; four temperature control rooms with accompanying laboratory facilities for chemical, physiological, and biological analyses; and extensive computer access capability with time-sharing tie-in with a Honeywell computing system in Macon, Georgia.

LABORATORY HISTORY

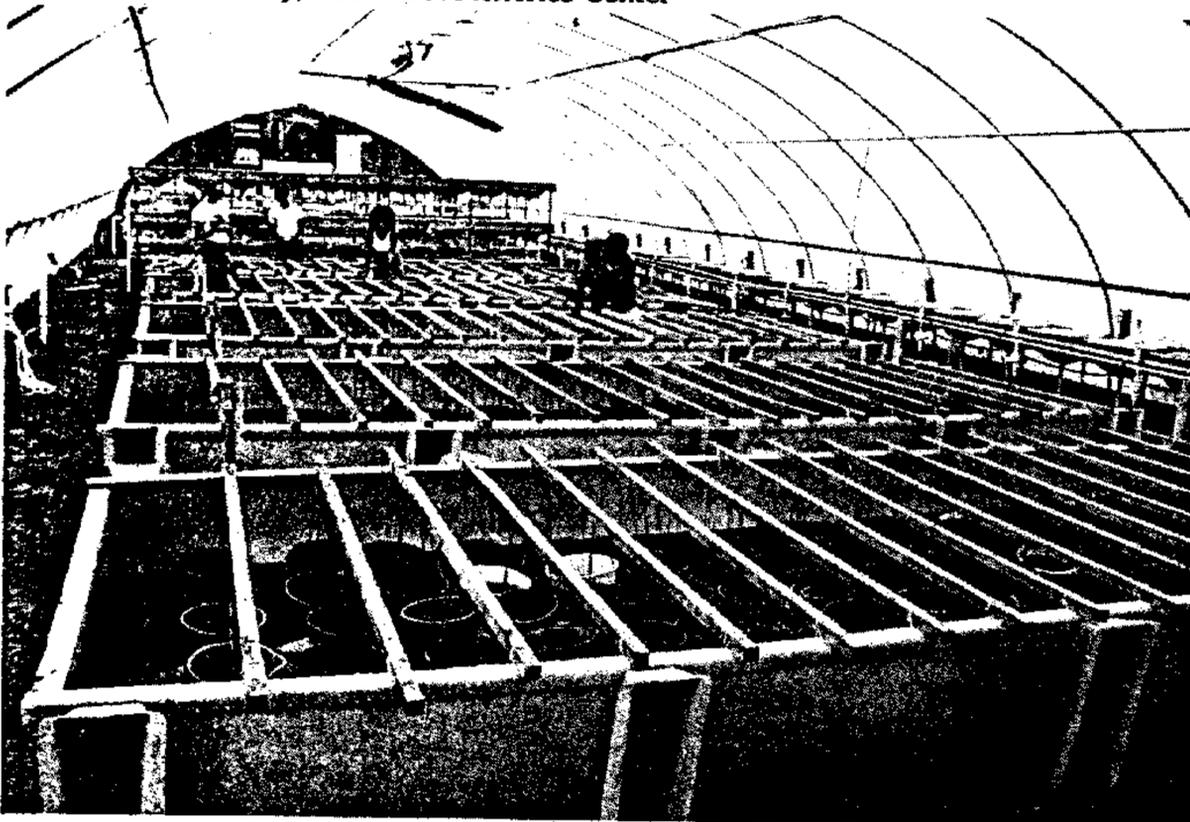
(Summary):

The Bureau of Commercial Fisheries, the National Marine Fisheries Service's predecessor, operated a small laboratory





Galveston Laboratory, Southeast Fisheries Center



NMFS, Southeast Fisheries Center, turtle-rearing facility at Galveston, Texas. All turtles are retained separately and fed special formulation feeds.



As part of the international conservation program for the species, 1,500 yearling Kemp's ridley turtles were tagged and released in FY80 at the Galveston Laboratory.

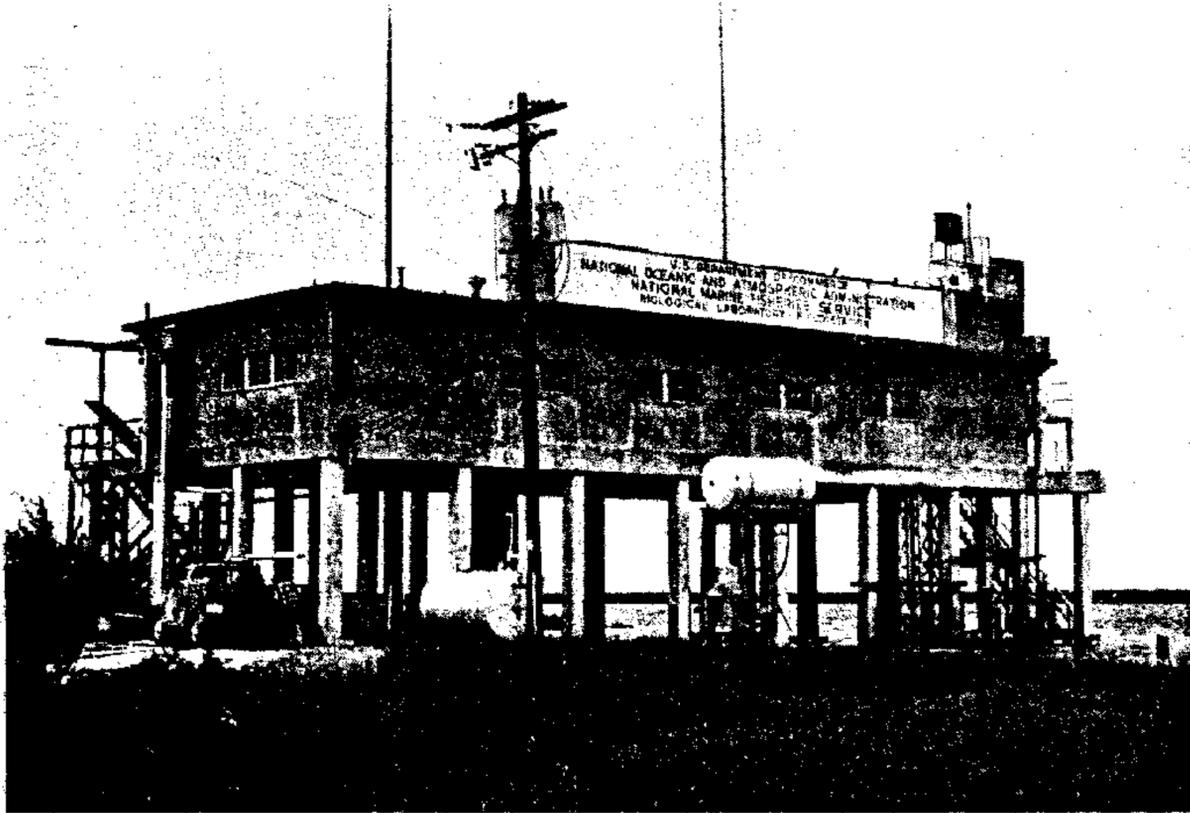
on Offats Bayou in Galveston, Texas, in 1929 to study factors affecting the spawning and setting of oysters. This laboratory was discontinued in 1930. However, in 1931, the Bureau initiated an investigation of the south Atlantic and Gulf of Mexico shrimp fishery. Field work was carried out at several locations in the northern Gulf of Mexico from a headquarters in New Orleans, Louisiana. The present laboratory was formally established in 1950 at Galveston on the site of the U.S. Army's deactivated Fort Crockett.

Galveston was chosen because it was one of the few locations with a deep-water port opening directly to the Gulf and at the same time offering the variety of facilities desirable for successful operation—adequate housing, good schools, availability of all types of industrial services and equipment, library facilities, and an established major commercial fishery. Adjacent to the Galveston Laboratory is Texas A & M University's Moody Marine Laboratory, which allows a free exchange of knowledge between staff members of the two installations.

Major research at the NMFS Laboratory is directed at commercially important species of shrimp and groundfish in the Gulf of Mexico. Present programs were designed to obtain information on growth, survival, and movements of shrimp and groundfish stocks, and to determine the maximum yields. This research, initiated in the early 1950's, continues to date as the primary research thrust.

COOPERATING AGENCIES:

The Laboratory has cooperative programs with the Instituto Nacional de Pesca in Mexico, Texas Parks and Wildlife Department, Louisiana Department of Wildlife and Fisheries, Texas A & M University, University of Houston, and Louisiana State University. In addition, the Laboratory works closely with all state agencies within the Gulf of Mexico in coordinating aquaculture research and in providing scientific and technical information for fisheries management to the Atlantic, Gulf of Mexico, and Caribbean Fishery Management Councils. The U.S. Department of Energy and the U.S. Environmental Protection Agency have provided funds for interagency agreements to study the effects of energy development on living marine resources in the northern Gulf of Mexico. Five staff members are adjunct professors with the University of Houston or Texas A&M University. Masters and Doctorate candidates have conducted extensive research at Galveston for many years.



East Lagoon field station, which provides major support for shrimp growouts and estuarine research, requiring continuous-flow estuarine water.



Computer Operator, Frank Patella, at Textronix stand-alone microcomputer and plotting system in the Fishery Data Analysis computer facility. The processed information is used for preparing reports and aids in formulating management decisions.





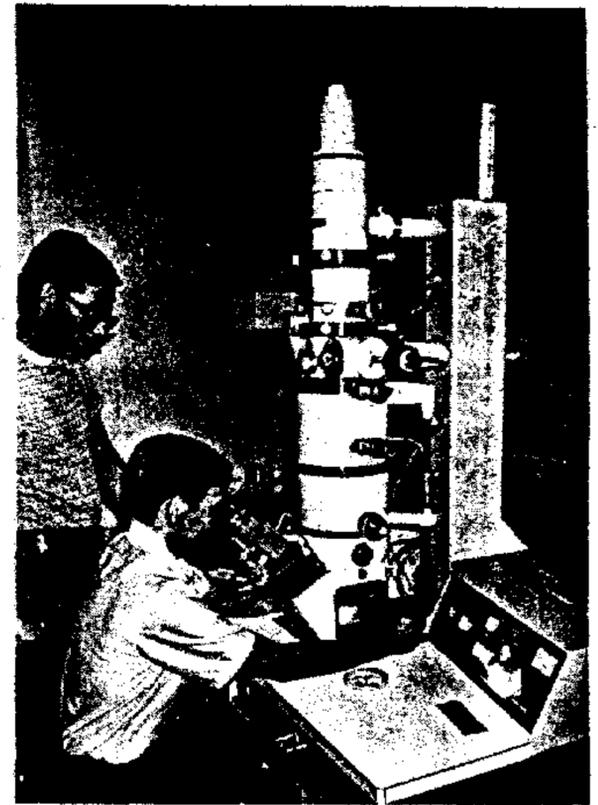
Senior staff of the Galveston Laboratory: *Front row, left to right, Terry Johnstone, Administrative Officer; Dr. James McVey, Aquaculture Division Chief; Dr. Jorge Leong, Microbiologist; Dr. Edward F. Klima, Laboratory Director; second row, Dr. Charles Caillouet, Chief, Environmental Research Division; William Jackson, Senior Advisor, ERD; Zoula Zein-Eldin, Research Chemist; third row, Cornelius R. Mock, Supervisory Fishery Biologist; Ray Wheeler, Fishery Biologist; K. Neal Baxter, Supervisory Fishery Biologist; and Austin Brown, Fishery Biologist.*

CORNELL MICROBIOLOGISTS UNCOVER CLUES ABOUT FOOD POISONING FROM RAW CLAMS

More clues on how to eliminate food poisoning from raw shellfish, particularly clams, are being uncovered by Cornell University researchers. Marine microbiologists Peter Greenberg and Mindy Duboise have determined that the hard-to-identify bacterium often responsible for food poisoning in raw or partially cooked seafood is exceptionally resistant to current purifying methods. These findings have important implications for the clamming industry by improving identification and purification methods that would decrease the likelihood of contaminated clams being eaten.

Greenberg reports that the culprit bacterium, *Vibrio parahaemolyticus* (VP), does not wash away by the routine "rinsing" required for clams that are legally fished from polluted waters. Within 24 hours, all traces of other harmful bacteria are eliminated in the process. But, even after 72 hours, traces of VP still exist in clams.

In New York there are more than 2,000 clambers who haul in almost six million pounds of clam meat a year, netting more than \$17.5 million at dockside. It is possible that with easier detection and more efficient purifying methods, a greater amount of clams will be safer to eat raw, and that certain waters, now off limits to fishermen because of certain types of pollutants, could be reopened.



Dr. Jorge Leong and Dr. Maurice Renaud use an electron microscope to examine tissue sections.