



Where the Desert Meets the Sea

Early Conservation Work in the Sea of Cortez

WHEN WILLIAM CARR AND ARTHUR PACK FOUNDED THE DESERT MUSEUM IN 1952, THEY RECOGNIZED THE SEA OF CORTEZ (GULF OF CALIFORNIA) AS AN INTEGRAL PART OF THE SONORAN DESERT. IN FACT, THE SEA OF CORTEZ DIVIDES THE LAND PORTION OF THE SONORAN DESERT INTO TWO HALVES, THE BAJA CALIFORNIA PENINSULA ON THE WEST, AND THE STATES OF ARIZONA AND SONORA TO THE EAST. THE SURFACE AREA OF THE GULF IS ROUGHLY THE SAME SIZE AS THE LAND SURFACE AREA, EACH ABOUT 100,000 SQUARE MILES—THUS, THE SONORAN DESERT IS ACTUALLY HALF MARINE. IN FACT, IT IS THE ONLY NORTH AMERICAN DESERT THAT IS MARITIME IN NATURE. AND, WERE IT NOT FOR THE SEA OF CORTEZ AND ITS HIGH EVAPORATION RATE, WE WOULD NOT HAVE THE MOISTURE-LADEN AIR THAT PRODUCES THE SUMMER MONSOONS THAT CHARACTERIZE THE SONORAN DESERT, DRIVING ITS EXTRAORDINARY PRODUCTIVITY AND BIODIVERSITY AND SETTING IT APART FROM THE OTHER DESERTS OF THE NEW WORLD.

RICHARD G. BRUSCA

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Intertidal zonation at Bahía de Los Angeles.

IN 1959, EXECUTIVE DIRECTOR BILL WOODIN AND EXHIBITS DIRECTOR MERV LARSON BEGAN MAKING TRIPS TO THE GULF OF CALIFORNIA TO COLLECT MARINE ANIMALS FOR A PLANNED SEA OF CORTEZ EXHIBIT. IN 1960, MERV BEGAN TO RELY ON IKE RUSSELL'S BUSH PILOT EXPERIENCE TO FLY HIM TO REMOTE PLACES SUCH AS PUNTA LIBERTAD TO COLLECT TIDEPOL ANIMALS FOR THE MUSEUM'S FLEDGLING MARINE EXHIBIT PROTOTYPE. THE EXHIBIT PLAN THAT MERV AND BILL HAD IN MIND WAS CALLED "GULF HALL." ALTHOUGH FINANCIAL CHALLENGES KEPT GULF HALL FROM BECOMING A REALITY (SO FAR!), RESEARCH IN THE SEA OF CORTEZ PERSISTED.

EARLY ON, THE MUSEUM ALSO HAD A CONSERVATION MISSION IN THE GULF. IN 1946, LEW WALKER, AN ORNITHOLOGIST AND THE MUSEUM'S ASSOCIATE DIRECTOR AT THAT TIME, BEGAN VISITING ISLA RASA IN THE CENTRAL GULF OF CALIFORNIA. HE WAS ASTONISHED TO DISCOVER THIS SMALL ISLAND, NO MORE THAN ONE SQUARE MILE IN SIZE, WAS HOME TO OVER A MILLION BREEDING ELEGANT TERNS, ROYAL TERNS, AND HEERMANN'S GULLS—ONE OF THE DENSEST BIRD POPULATIONS IN THE WORLD. IN FACT, ISLA RASA HOUSES 95 PERCENT OF THE WORLD'S BREEDING INDIVIDUALS OF HEERMANN'S GULLS AND ELEGANT TERNS. LEW WAS ALSO SHOCKED TO LEARN THAT EGG POACHERS HAD ALSO RECENTLY DISCOVERED THE ISLAND. OVER THE FOLLOWING DECADE IT BECAME CLEAR TO LEW AND TO OTHERS AT THE DESERT MUSEUM THAT THIS EGG GATHERING COULD COMPLETELY ELIMINATE ALL OF THESE SEABIRDS FROM ISLA RASA, AND PERHAPS THE WORLD!



Above: Common dolphin.



Above: Gray whale. Below: Green sea turtle.





Photo by R.C. Brusca

Brittle star.



Photo by Alex Kerstich

Blue-spotted octopus.



Photo by Alex Kerstich

Sea whip.



Photo by R.C. Brusca

Periwinkles.

Finally, in 1961 Merv Larson and Lew took Joseph Wood Krutch and Roger Tory Peterson to Isla Rasa, where they produced a film to help build broad public support for the idea of protecting the island. In May 1964, after years of intense effort (including a visit to Mexico City to talk to President López Mateo) and with the help of Mexico's Dr. Enrique Beltrán, Subsecretary of Forestry and Game, and

Dr. Rodolfo Hernández-Corzo, Director

General of Wildlife, the government of Mexico declared Isla Rasa a migratory waterfowl sanctuary—one of the first ecological preserves in all of Mexico.

Throughout the 1980s the Desert

Museum financially supported research by U.S. and Mexican scientists on Isla Rasa through its Roy Chapman Andrews Fund.

Today's Desert Museum in the Sea of Cortez

In 2001, I was hired by the Desert Museum to lead their research and conservation efforts, and to reinvigorate the Museum's Sea of Cortez program. About this same time, two major Gulf initiatives were coming to fruition. A 10-year effort to catalog every known animal species from the Sea of Cortez was nearing completion—a project spearheaded by myself and Dr. Lloyd T. Findley (of CIAD, Centro de Investigacion en Alimentacion y Desarrollo, Guaymas). This “all-species” database (known as the *Macrofauna Golfo* project) is the first ever to compile a complete list of animals, and their associated ecological and distributional data, for a major

region of the earth. Simultaneously, World Wildlife Fund's (WWF) Mexico Program, and several other Mexican groups, began a series of “expert workshops” to develop conservation priorities for the Sea of Cortez. The *Macrofauna Golfo* database thus took on even more importance, and the entire data set was made available to the conservation planning groups. The Desert Museum played a key role in the WWF-led conservation planning initiative, both with the database and with our expertise derived from so many years of work in the Gulf region.

The Desert Museum also played an important role in providing support needed to establish the Reserva Islas del Golfo de California, which now protects every island in the Sea of Cortez. Emerging from this new federal reserve was a plan for a nature center in Kino Bay, which is the gateway for boaters and sport fishers to access the ecologically important islands of the central Gulf. Again, the Desert Museum was invited to serve in an advisory capacity, and we eventually



Elegant tern



Breeding elegant tern colony, Isla Rasa.



Sea lion.



Beached jumbo squid.



Jumping manta ray.

developed two of the key exhibits at the Kino Bay Nature Center—one on the Sonoran Desert and the other on tidepool life.

The *Macrofauna Golfo* database continues to be mined and analyzed, and many scientific and popular publications have derived from it, including a new Arizona-Sonora Desert Museum ***Seashore Guide to the Northern Gulf of California***. For the first time, conservation managers in the Gulf region are able to extract lists of species for their reserve or management area—everything from worms to whales, and sponges to sea birds, all in one source.

In June, 2004, the Desert Museum hosted the largest conference on the Sea of Cortez ever convened, with over 400 attendees, most of whom were presenters. For five days, Gulf specialists from Canada, the United States, Mexico, and a number of other Latin American countries presented talks on every aspect of the Sea of Cortez. In addition, two separate

conservation workshops took place in concert with the conference, one on the Colorado River Delta (hosted by the Sonoran Institute) and another on the estuaries of the Gulf (hosted by the Desert Museum and The David and Lucile Packard Foundation). Through partnerships with World Wildlife Fund, Conservation International, The Nature Conservancy, The David and Lucile Packard Foundation, and others, over \$250,000 was raised to support the conference and provide travel scholarships for nearly all of the Mexican participants (more than half the audience!). The estuaries project is determining conservation priorities for protecting these vitally important wetlands throughout the Gulf.

Future Plans

A significant interpretive piece still missing from Desert Museum grounds is a Sea of Cortez exhibit

(the “Gulf Hall” that Bill Woodin and Merv Larson envisioned). However, staff and trustees are now discussing how this marine component of the Sonoran Desert might be best interpreted at the Museum. Next year, in an effort to conserve through consumer education, the Museum plans to publish a “sustainable seafood guide” for the Gulf of California, working with partner organizations in Mexico. In addition, a proceedings volume from the Gulf Conference is now underway (to be co-published with the University of Arizona Press), a checklist of the 5,000 species of invertebrates known from the Sea of Cortez will be published next spring, and our research on coastal ecosystems and conservation in the “marine Sonoran Desert” continues to grow. We will keep you posted! **S**



Elegant tern chick