Recent Timeline of Coral Reef Management in Puerto Rico



NOAA funds offshore fish farming projects

alternative, sustainable method.

Found in Hawaii, New Hampshire, Puerto Rico, and the Gulf of Mexico, these projects hope to reduce the stress

placed on the local fisheries by fishing and to develop an

Disclaimer

The purpose of this timeline is to present a simplifying visualization of the events that may have influenced the development of capacity to manage coral reefs in Puerto Rico over time.

By its nature, it is incomplete. For example, the start date is somewhat arbitrary and therefore does not include events relating to coral reef management that have occured prior.

Furthermore, it is intended as a living document that we hope will continue to evolve and improve as past events are added, existing events are reinterpreted and future events included.

While the primary intended use of this was to help inform a coral reef capacity needs assessment we conducted in 2012, we believe the visualization of events can be used in the future to improve a collective understanding of coral reef management,

serve other educational purposes, and illustrate the importance of investing in capcaity to manage coral reefs into the future. We value your input to the timeline and encourage you to contact us at info@sustainametrix.com with any suggestions you might have to improve it. The 2008 winners of the Golden awards included Puerto Sea turtle species listed on Endangered Species Act Rican, Rosa Hilda Ramos, who headed the movement to protect the Las Cicharillas Marsh Carlos Romero Barcelo 2001 – 2005 Calderon becomes the first female governor of Puerto Explosion at the Caribbean Petroleum Corp. oil refinery Puerto Rico sued the US Navy for damages incurred fron near San Juan military testing in Vieques First Local Action Strategy is created The explosion registered as a 2.8 magnitude earthquake | Cleanup Finished at Midway Atoll Major landmark case first bringing into question the and lead to the evacuation of a nearby village and major human health affects of the bombing, not to mention First generation of coral reef management in Puerto Rich Handed over to the USFWS to be managed as a National coastal ecosystem damage from the testing site. projects were implemented but few were evaluated Wildlife Refuge Puerto Rico's Coastal Program was approved by NOAA First modern Fisheries Regulation enacted Eight Special Planning Areas are defined in the PRCMP of Needed to show tax forms for your commercial fishin Twenty-Second meeting of the Coral Reef Task Force in 1978 as ""important areas subject to serious present or license - major decline in the number of commercial Dr. Ernesto Weil tagged and tracked colonies of 23 cora San Juan, Puerto Rico potential use conflicts, and therefore, required detailed fishermen on-island species after bleaching in 1998 and saw that 99% recovered in 3 years. He considers that there has not been a CORAL held its first Sustainable Marine Recreation The Navy closed the last base on Puerto Rico, Roosevelt ""deadly"" bleaching in Puerto Rico." workshop in Puerto Rico at the 22nd Annual U.S. Coral Regulation to control extraction, possesion, transportation, Reef Task Force Meeting sale of coral (#260A) enacted Coral Conservation Law 147 enacted. Release of a citizens' report Puerto Rico and the Sea Blue Flag Program created in Puerto Ricc The EPA announced that the US Dept. of Agriculture has Limited in scope - limited to extraction, posession, Requires regulation to replace the old one (still no agreed to pay \$30,000 in penalties for alleged improper transportation and sale of coral (people were selling then implemented to date); allows PR to create restoration maintenance of underground storage tanks | 1985 – 1993 Any beach near coral reefs needs to have a reef survey blueprint for Puerto Rico and the Sea (section on areas, marine reserves, definition of protected are follow-up on groundings, etc. Park to protect grass beds That is what gave the foundation its push for marine Hurricane David New Gov. Luis Fortuno Makes an announcement Bleaching Event 1999 Huge impact on coral reefs on the western part of the Fortuno allows large-scale development inside a 3,200 acre | The US Navy left Culebra Restored 100 acres of Mangroves in Los Machos and Red island, department of marine science on Isla Magueyes di Most of the colonies bleached in many reefs, but without parcel of land, the only tropical rain forest in the US Mangrove Forests in Puerto Rico 1975 "Assessment of the Condition of Coral Reefs off the a lot of research on reef impacts from these hurricanes significant mortality. National Forest system. Previous Governor Anibal former Navy Bombing Ranges at Isla de Culler and Isla de Unexploded ordinance was still seen as recently as 2001 Acevedo Vila had declared the Northeast Ecological Viennese, Puerto Rico" After the Navy left, 702 acres were transferred to the Fish Accion Comunal Program Off-target bombing triggers community outrage and Corridor off limits to all but to small eco-friendly projects Began work to establish a marine preserve at Anderson and Wildlife Service 1980 (Confirm the date) eventual shut-down of the bombing site Air Force base Began projects to characterize aquatic invasive species like Economic valuation of the coral reefs in the Cordillera DOA of PR decided to revamp artisanal fisheries into algae and plankton in ballast water The Environmental Quality Board again proposes new commercial fisheries, brought in huge trawlers for coral policy regulations; again they didn't take effect Army established the Pacific Equatorial Atoll Research fishermen there which didn't work (small communities Laboratory could not handle the large vessels and new technology); a Voters, in a referendum, back the idea of conjoining the New Fisheries Regulation enacted special unit of the department of agriculture was assigned Post-war wave of Puerto Ricans immigrate to the US Caribbean Fisheries Management Council is starte Assessing the effects of ocean current on the marine Mass bleaching in Puerto Rico legislature into one house 2010 to do that (CODREMAR); it is still alive on paper; this is To study rare and threatened species and marine preserve at Anderson Air Force Base. The study results | 1945 – 1953 First and only currenly existing undergraduate degrees in when the fisheries statistics program started (had to resources | Economic add-on for commercial fisheries enhanced conservation efforts and resource management Very important, they work within the EEZ, but if the local bachelors of marine biology offered at UPR Humacao report stats to DOA on gear, catch, vessels, etc.) Most sought economic opportunities in the US' booming Reports include extensive partial coral mortalities and Budget shortfalls lead to the closure of schools and many government doesn't take care of nearshore resources the coral reef organisms, including death of some 400-500 post-war economy. government agencies Hurricane Hortense Air Force installs permanent buoys as Johnson Atoll council is responsible for that, so they developed a year old colonies An additional 776 acres are transferred from the Navy to Creation of the Puerto Rico Reconstruction Barack Obama visits Puerto Rico Munoz Marin was elected by popular vote and serves four fisheries management plan for coral reefs as a habitat | Economic valuation of the Blue Marlon fishery in Puerto Senate Act proposing Territorial Park System the Culebra Natural Wildlife Refuge Administration terms. His economic development program, Operation | Category 4 hurridane. Caused at least 21 deaths and Trustees said a fund to compensate for a 1994 oil spill will Deepwater superport proposed in Ponc (eventually DOD developed molecular screening methods of 1935 - 1940 Bootstrap, industrializes and urbanizes the island leading destroyed thousands of homes The DNER incorporates a new planning board policy of Making him the first President to visit since John F. be used to build an artificial reef, create a shoreline nature discarded) identifying aquatic invasive species Convention on International Trade of Endangered Flora to a higher standard of living than ever before. Coral Bleaching Event As part of the New Deal, the Puerto Rico Reconstruction avoiding "activities and land sub-division" which could reserve, and restore the walls of a Spanish colonial fort. Kennedy 1988 (Confirm the date) and Fauna went into effect 750,000 gallons of oil were spilled off of the coast of Puerto Administration is created to provide for agricultural NASA planned to launch 11 rockets over 30 days from the damage coral reefs The community stood up and didn't allow the superport Puerto Rico's Constitution is proclaimed establishing a development, public works, and electrification of the city Total on and off-site release of toxid chemicals totaled 8.8 Tortuguero base Refined Local Action Strategy Most of the bleaching for the Western Caribbean occurred to be built - first example of community action against the commonwealth with autonomy in its internal affairs million pounds Tropical Storm Olga in 1983, with partial mortalities within, but few whole government in terms of environmental and marine Hurricane Frederic First Fisheries Law #83 enacted A fine totaling over \$75 million was levied against the colonies died. resource protection; the program was eventually The US Navy conceded that it had fired 263 uranium shells 1940 three companies responsible. Hurricane Irene Peak Migration of about 75,000 Puerto Ricans move to the discarded Triggered floods and mudslides throughout the on the island of Vieques The US Navy closes its bombing ranges on Vieques Huge impact on coral reefs on the western part of the The Puerto Rican tanker San Francisco exploding spilling Made during the Great Depression with the purpose of NOAA proposed a marine sanctuary in Parguera (no island, department of marine science on Isla Magueyes did two million gallons as the ship caught fire. The US Navy dropped 24 bombs of napalm on a target opening up opportunities for people to make money and approved) Hurricane Hugo a lot of research on reef impacts from these hurricanes Creation of the DNER practice area on the island Vieques Beginning of the Coral Reef Initiativ feed their families by fishing on the reef 1975 (Confirm the date) Tropical Storm Jeanne Social Networking boom in Puerto Rico UPR Mayaguez vampus gets an institute of marine In Ponce, a mudslide followed tropical storm Isabel and Category 5 hurricane, minor bleaching Jobos Bay is designated as part of the National Estuarine Jones Act grants US Citizenship to Puerto Ricans First PhD in marine science awarded by UPR Mayaguez Rafael Hernandez Colon killed at least 129 people in this island's worst disaster this Began placing military armored vehicles as artificial reefs Reports counter the US Navy's claim that the soil was safe. Reserve System Started doing marine recreational fishermen surveys 1940 ex. I Fish and I Vote in cooperation with the states The study measured dangerous levels of toxic chemicals in Most severe bleaching ever experienced in the Western It did not offer degrees, but it supported marine ecology North Atlantic produce grown on Vieques Creation of DNER Ranger Corps NASA documented coral bleaching Jobos is the second largest estuarine area in Puerto Ricc US passes the Foraker Act instituting a civil government in The San Juan National Historic Site was established courses, marine research, etc. Zoe Colocrotonis runs aground on a reef off of La Proposal to include Nassau Grouper to endangered species 1990 President Bush announces to stop bombings on Vieques in The reserve protects some of the most extensive | Fisheries Law #278 enacted. UPR Mayaguez institute of marine biology is turned into Diadema die-off in the Caribbean May 2003 The barge Morris J. Berman runs aground off of Punta Priority Setting Document mangrove forests on the island and encompasses nearly From Bermuda, Texas, Florida, throughout the Caribbean, | First time fisheries protocol was managed in Resulted in outbreaks of coral disease Organic Act the department of marine science Escambron near San Juan 1985 (Confirm the date) and down to Brazil. Mass mortalities of fire corals and 2,883 acres. The reserve is home to the endangered brown The Puerto Rican Commonwealth Bill is signed, paving 1968 Caused a big oil spill - first time that such a huge impact There were only a few placed in Puerto Rico where there stony corals. Over the long term, corals, gorgonians, The cleanup effort is estimated to cost millions and ta Focused and concentrated efforts for coral reef Poaching of juveniles by people from Dominican Repubic US appoints Jesus T Pinero as Puerto Rico's first Governor pelican, peregrine falcon, hawksbill turtle, and West Indian Puerto Rico adopts it first Sale Tax University of Puerto Rico created UPR Sea Grant Program created the way for a Puerto Rican constitution Population was about 3.7 million Offered masters and PhDs, not bachelors degrees Established Puerto Rico as US Territory Battle is still being fought in the courts over this issue | was made at that part of the island | were still Diadema, had a huge negative impact on reefs sponges, and other coral reef organisms died. is a growing problem in Puerto Rico 1946 – 1949 196 197 198