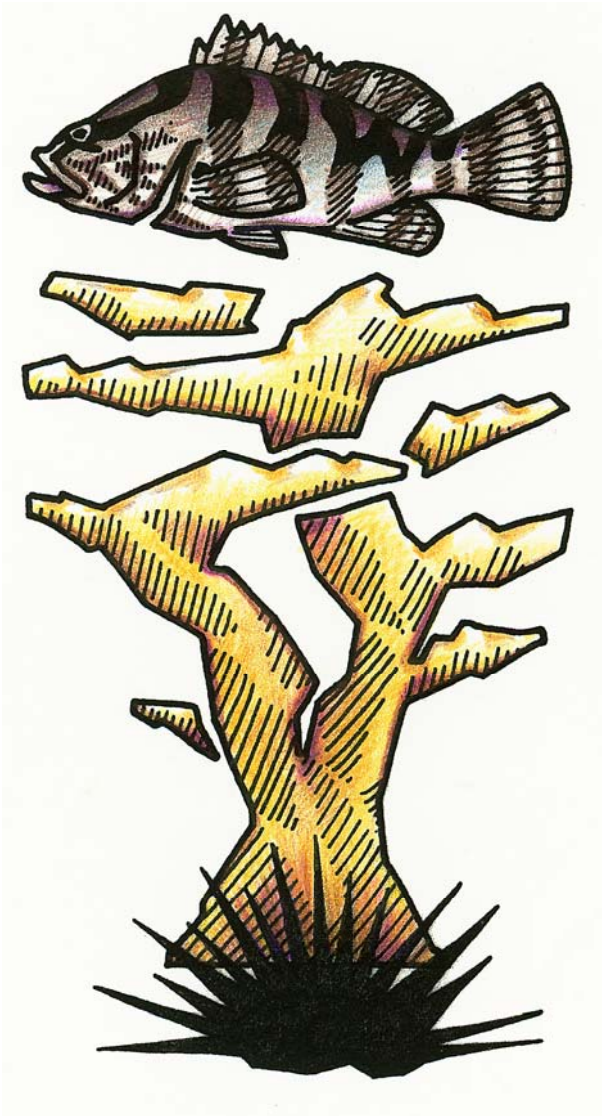
Caribbean Coral Reef Institute



CCRI NEWS

Caribbean Coral Reef Institute — April 2006

2006 Coral Reef Symposium Highlights Problems and Solutions. Over 100 scientists and managers met in February to attend the first symposium since 1998 dedicated specifically to Puerto Rico's coral reefs and associated resources. The 18 presentations reviewed ongoing research and how results related to coral reef management at the local and Federal levels (see accompanying articles). Mr. Ernesto Diaz, Administrator of Natural Resources, PR Department of Natural and Environmental Resources, called for establishing better mechanisms to incorporate research results into management data bases.

Ernesto Diaz, Administrator of Natural Resources, DNER, addresses the Coral Reef Symposium

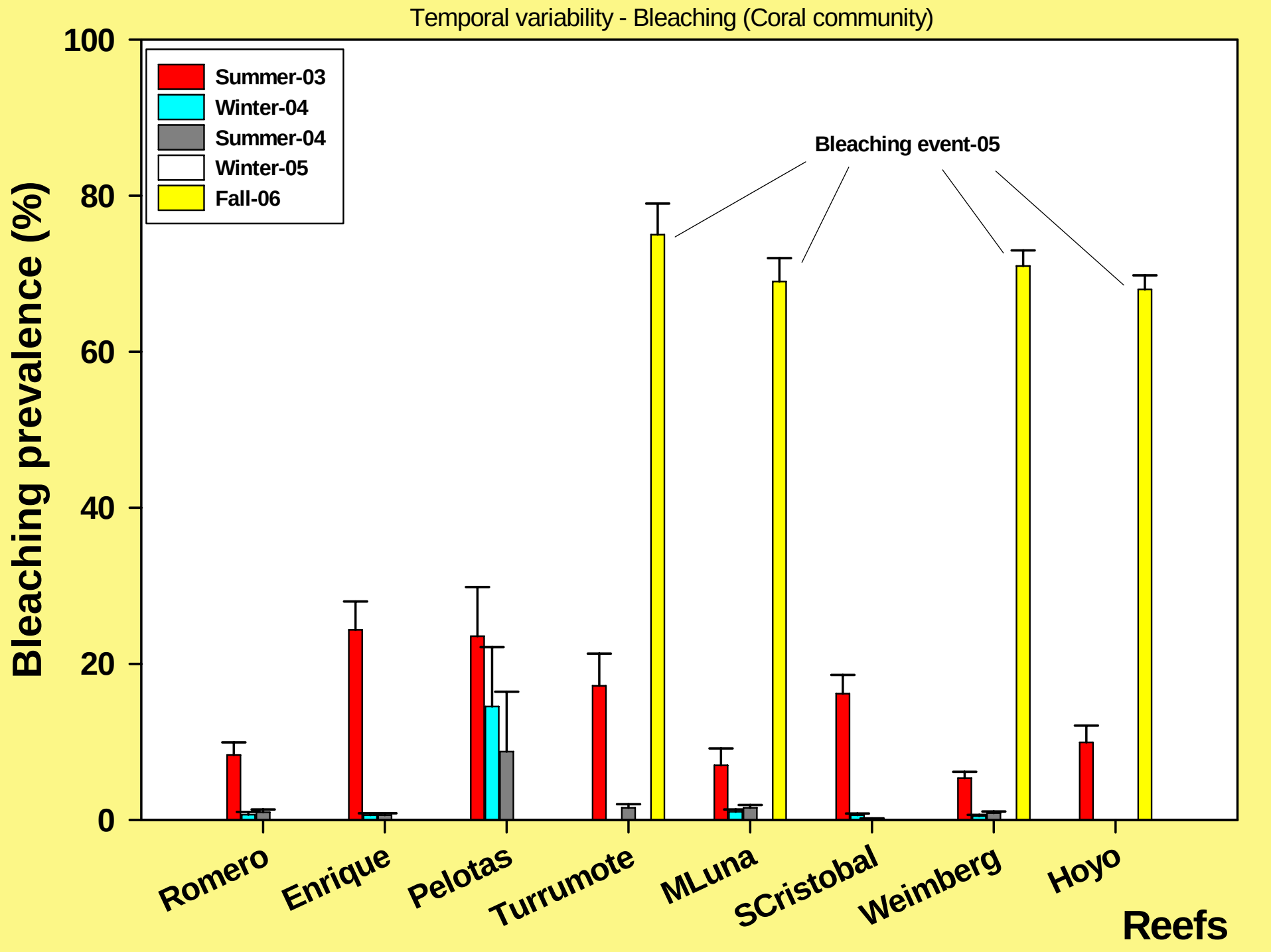
Coral bleaching off Puerto Rico

Coral Bleaching Hits Puerto Rico. Ongoing monitoring by CCRI scientist Dr. Edwin Hernandez, University of Puerto Rico - Rio Piedras, documented the extent of the 2005 bleaching event, one of the worst on record. Over 82 species showed bleaching, with almost half having an incidence of over 80%. Major reef-building corals were among the most affected, and resulting partial and total colony mortalities were observed. However, spatial variations in the incidence of bleaching suggest that strong water flow may ameliorate bleaching effects, thus calling into question previous ideas of coral bleaching and reef resilience.

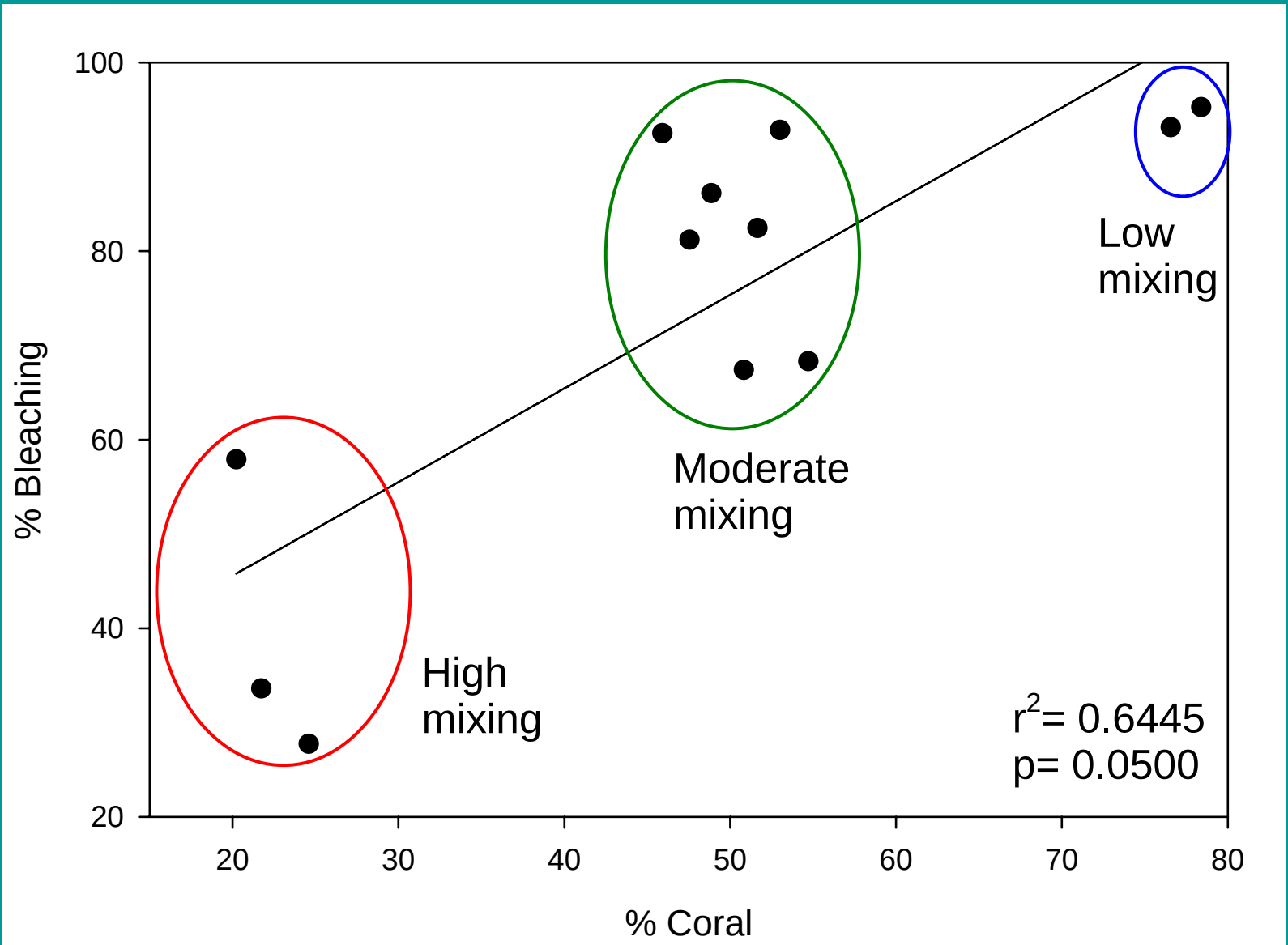
Researchers Target Reef Fish Spawning Aggregations. CCRI supported projects are attempting to locate and characterize spawning aggregations sites, locations where aggregating species are particularly vulnerable to over exploitation. Dr. Edgardo Ojeda, UPR Sea Grant College Program, is conducting structured interviews with acknowledged expert fishers to map the times and locations of reef fish aggregations. Michelle Sharer and colleagues, University of Puerto Rico – Mayagüez, have documented spawning aggregations of parrotfishes, surgeonfishes and groupers at Mona Island, an important biogeographic stepping stone for genetic connectivity between Puerto Rico and the Dominican Republic. In a new project, David Mann, University of South Florida, will quantify the abundance of spawning fish and their behavior by monitoring fish sounds. This will allow assessments during nighttime, when spawning occurs, and during sea conditions that prohibit access to spawning sites. The latest information and research results on reef fish spawning aggregations can now be found on a new bilingual (Spanish/English) web log supported by the Center for Interdisciplinary Coastal Studies: http://www.amp-pr.org/spag

Female red hind at spawning site gravid with eggs

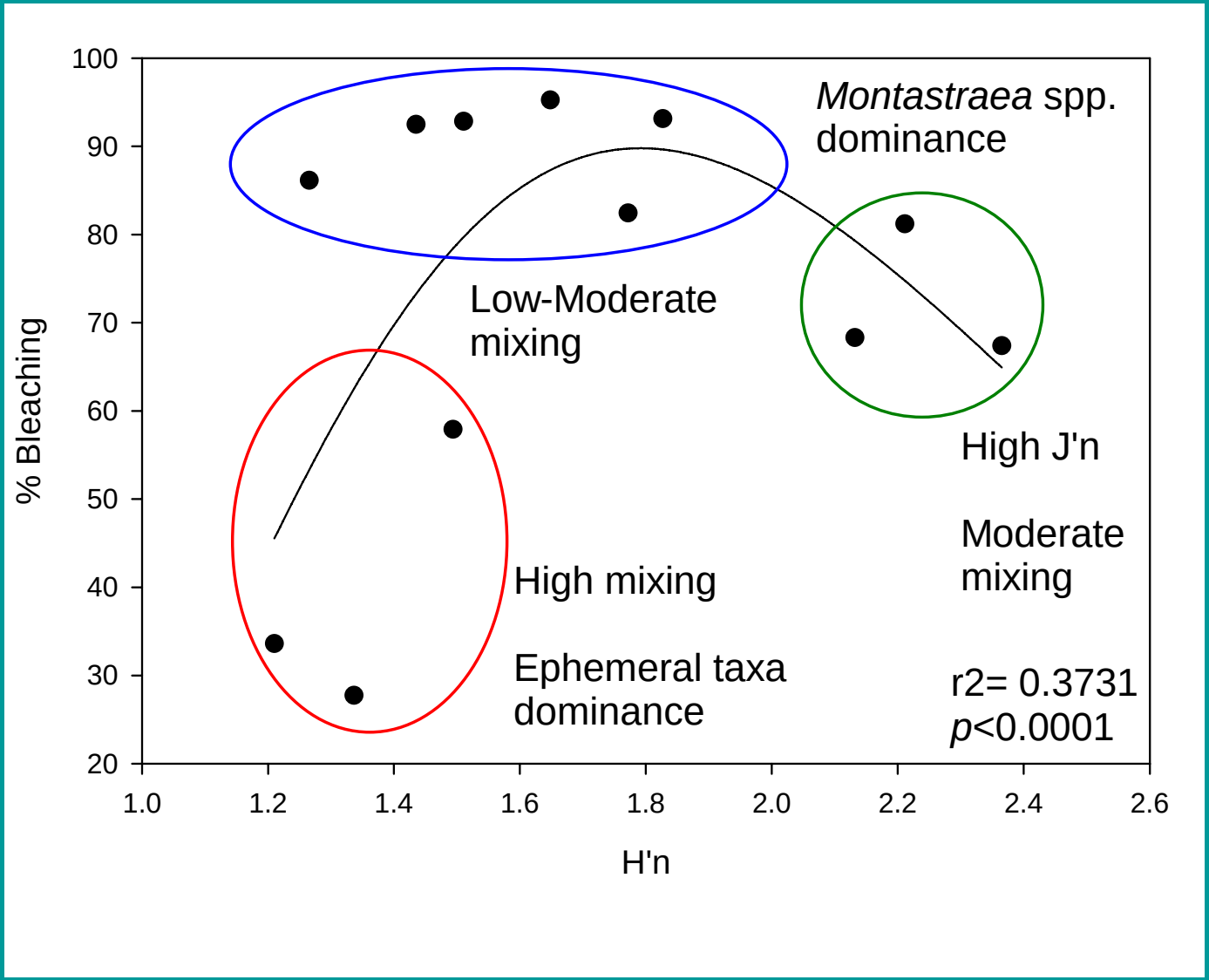

BLEACHING-05


Temporal variability - Bleaching (Coral community)
Summer-03
Winter-04
Summer-04
Winter-05
Fall-06
Bleaching event-05
Bleaching prevalence (%)
100
80
60
40
20
0
Romero
Enrique
Pelotas
Turrumote
MLuna
SCristobal
Weimberg
Hoyo
Reefs

High mixing buffered bleaching impacts



% Bleaching vs. H’n



- Diseases
- Acidification
- Coastal Development & Land-based Sources of Stress
- Independent Legal Services
  - Policy Analysis & Legislation Recommendations
  - Agency and Judiciary Training
  - Community Empowerment