

**DETERIORATION OF CARIBBEAN CORAL REEFS: A
MONITORING/MANAGEMENT PROGRAM FOR REEFS
IN VIRGIN ISLANDS NATIONAL PARK
(ST. JOHN, U.S. VIRGIN ISLANDS)**

C. S. ROGERS

Virgin Islands National Park, P.O. Box 7789,
St. Thomas, U.S. Virgin Islands 00801

Results of a recent survey of Caribbean coral reefs suggest that many reefs have deteriorated significantly in the last 10 years. Reasons for the decline include severe storms which cause extensive physical destruction, periods of abnormally high rainfall which increases terrigenous runoff, especially after careless coastal development, and white band disease which attacks dominant shallow-water branching species of corals. Other stresses include dredging, anchor damage, discharge of sewage and thermal effluent, use of bleach and explosives in fishing, oil pollution, and collection of corals for souvenirs and construction.

In the last 5 years, the reefs off St. John in the Virgin Islands National Park have suffered damage from hurricanes and tropical storms (1979, 1984), excessively heavy rainfall (1983), and heavy visitor use. Long-time residents and returning visitors have expressed alarm over deterioration of St. John's reefs. Because of the lack of any quantitative baseline data, it is difficult to assess the magnitude of this deterioration and to identify factors which have contributed to the suspected decline.

Virgin Islands National Park was declared a Biosphere Reserve in 1976. We are exploring the role of Biosphere Reserves and other protected areas in conserving the marine resources of St. John and the Caribbean.

In the fall of 1984, we initiated a quantitative, long-term monitoring program for coral reefs off St. John to study changes in reef structure over time, to evaluate recovery after storm damage, and to differentiate impact from natural

causes from damage related to human activities. The program involves training and participation of local people which is integral to successful management.