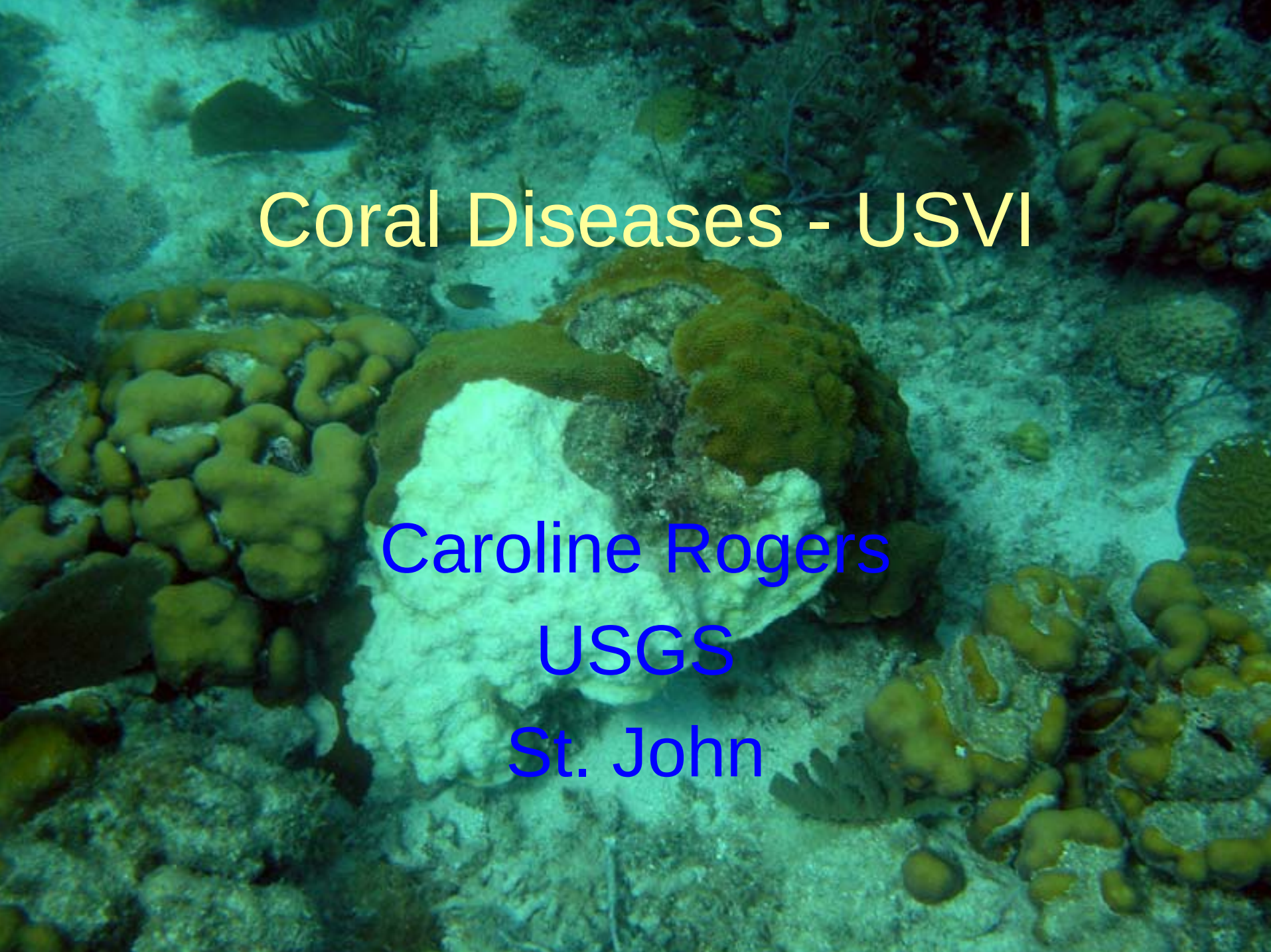

Coral Diseases - USVI

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OBJECTIVES

- to conduct ecological and microbiological research on white plague, a disease that has affected almost all species of Caribbean corals and which has caused severe tissue loss in colonies of the major reef-building species, *Montastraea annularis* complex.
- to determine the microbes associated with white plague
- to find out if biomarkers are useful in identifying stresses that may be associated with disease
- to determine the genotypes of a sub-set of the healthy and diseased colonies selected for sampling.

Methods

- *Cellular diagnostic system* - to determine the cellular-physiological condition of healthy and diseased *Montastraea annularis* and identify possible stressors
- *Genetic work* - coral and microbial DNA will be amplified as well as bacterial ribosomal RNA
- *Molecular methods* - used to characterize microbial populations associated with healthy and diseased *Montastraea annularis*.

Early Results

- Estimation of current prevalence of WB disease at Tektite Reef and Haulover Bay (St. John) and Southeast Forereef of Buck Island Reef National Monument (St. Croix)

Work Starting

- Diseased and healthy portions of star coral (*Montastraea annularis)* will be collected for analysis of biomarkers using the cellular diagnostic system.
- Collection of samples of healthy and diseased portions of star coral for microbial and genetic analysis at the USGS Science Center
- Monitoring of random video transects at 2-3 reefs off St. John

Collaborators

- Cheryl Woodley (NOAA)
- Craig Downs (Envirtue Biotechnologies)
- Bane Schill and Jim Murray (USGS)
- NPS Staff