# Micronesian Challenge Scientific Measures

## Update from the 2$^{nd}$ Measures Working Group Meetings

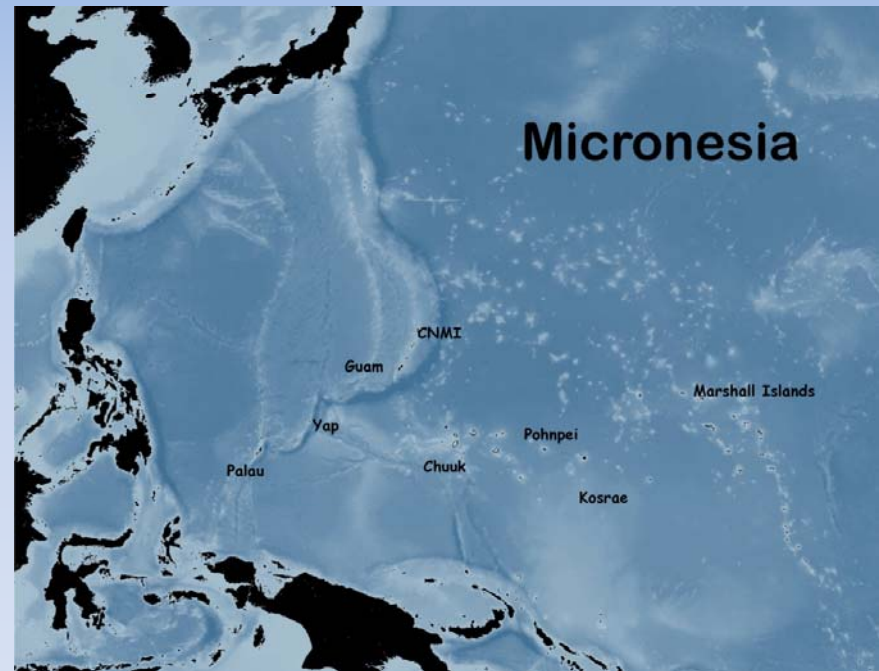## Koror, Palau

Dr. Peter Houk
Marine Biologist
PMRI
*www.pacmares.com*

# Goals

- Work with regional scientists and managers to agree upon a set of standardized measures to assess effectiveness of the challenge
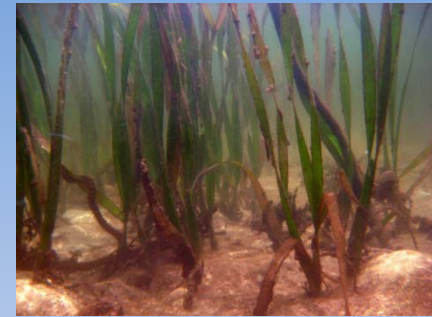
# Participants

- CNMI
- Guam
- Palau
- FSM
- RMI

- Local Governmental agencies
- Non-profit organizations
- Regional scientific experts
  - JICA, TNC, SPREP, NOAA
- Community monitoring leaders

# Marine Group Major Findings

- MC translates to area-based management for majority of jurisdictions

- Primary examples are MPA's and/or watershed-reef system

- Examine change over time

# Monitoring challenges

- Balancing the needs of the MC movement with scientific rigor, regional expertise, community support, and budget-versus-spatial constraints.
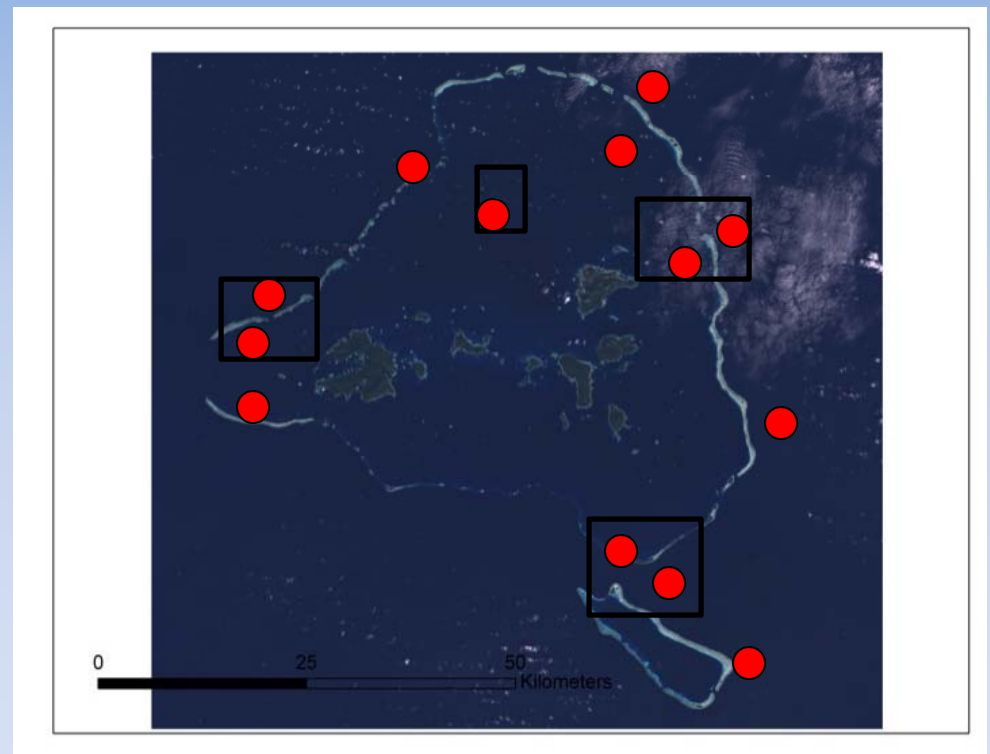
# Methods

- Tier 1 – Transect based data collection by trained individuals.

- Tier 2 – Social perception of the resource.
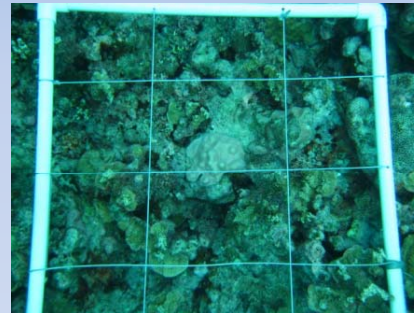
# Tier 1 – Focus of meeting

- Site-based monitoring

  - Station = 5 x 50m transects

  - Stations established inside and outside of each MPA, in each major habitat

  - Data collection desired annually (bi-annual more realistic?)



Hypothetical MPA structure on Chuuk

# At each station (5 x 50m transect)

- Replicated benthic photo quadrats (1m)

- Coral recruits (0.5x10m)

- Coral colony size classes

- Fish abundances (belts, maybe timed swims)
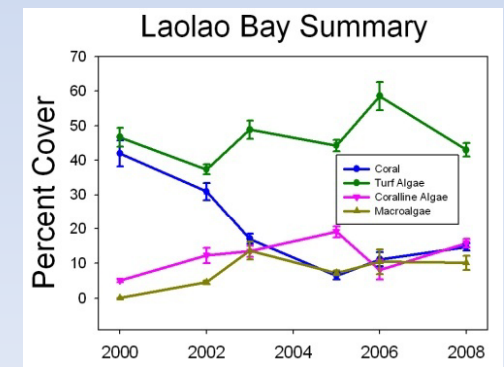
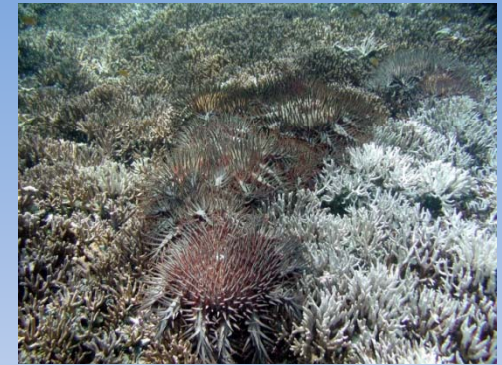- Macroinvertebrate abundances (belts)

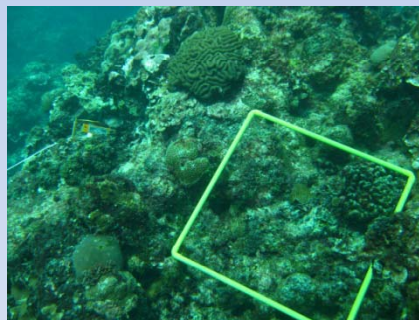*Many desirable indicators discussed were left out due to logistics (i.e., water quality)*

# Results facilitate understanding

- Resource status
- MC-mediated improvements
- Climate induced impacts
- Natural disturbances
- Resiliency, while taking into account natural disturbances

# Needs

- Group conducted a capacity assessment for monitoring needs

  – Each existing jurisdiction would need 1-2 additional monitoring staff

  – Database needs final stages of agreement and testing

  – Regional node(s) for maintaining database and analyses for report out

# Next Steps

- Field testing of tier 1 protocols

- Complete database design

- Continue delineating MC-management sites throughout the region

- Finalize protocols

# Tier 2 monitoring ties in with socioeconomic group

- Six indicators
  - Behavior change
  - Enforcement/compliance
  - Perception of resource
  - Support for MC
  - Participation in MC
  - Livelihood impacts

- Drafting protocol for implementation of SE monitoring

- On thumb drive SE materials

# Thanks to all involved

- Report available from The Nature Conservancy, *Micronesia Program*

- Email to:
- Trina Leberer - Director
  - tleberer@tnc.org



**MOVING TOWARD MEASURING OUR EFFECTIVENESS:**
THE 2ND MEETING OF THE MC MEASURES WORKING GROUP AND PICRC-JICA CORAL REEF MONITORING PROJECT MEETING

15-19 February, 2010
Palasia Hotel, Koror
Republic of Palau