

Rocky Intertidal Monitoring of Red Abalone along California's Coast

Presenter: Karah Ammann

Melissa Douglas, Maya George, Mirella Cortez,
Alexis Necarsulmer and Dr. Pete Raimondi



UC SANTA CRUZ

Beyond the Golden Gate Research Symposium || 19-20 January 2022

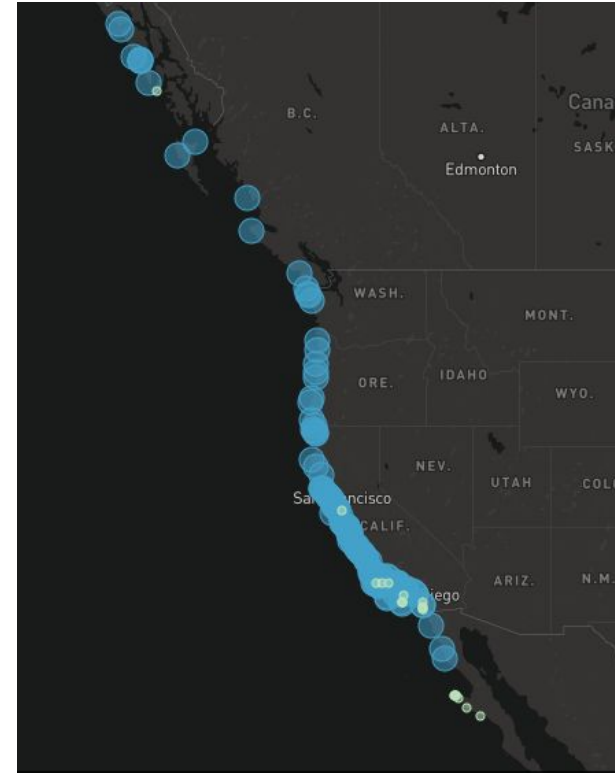


MARINe

Multi-Agency Rocky Intertidal Network

pacificrockyintertidal.org

- 200+ sites
- Alaska to Mexico
- 30+ years
- 23 groups
- Biodiversity surveys
- **Long-Term monitoring surveys**





Red Abalone

(Haliotis rufescens)

- Ecologically and commercially important marine gastropod in Northern CA
 - Fishery closed 2017-2026
 - marine heat wave (warm blob)
 - Sea Star Wasting Syndrome
- ➡ Urchin barrens

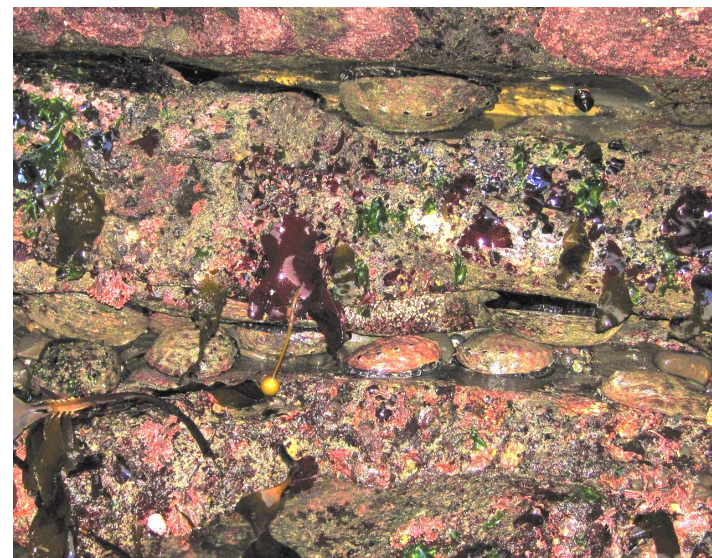




MARINe
Multi-Agency Rocky Intertidal Network

Long-Term Monitoring Surveys: Red Abalone Intertidal plots

- Fixed plots marked by bolts
- 3 replicates (plots) per site
- Record abundance, health, & size (mm)
- Record # of sea urchins



Data Trends

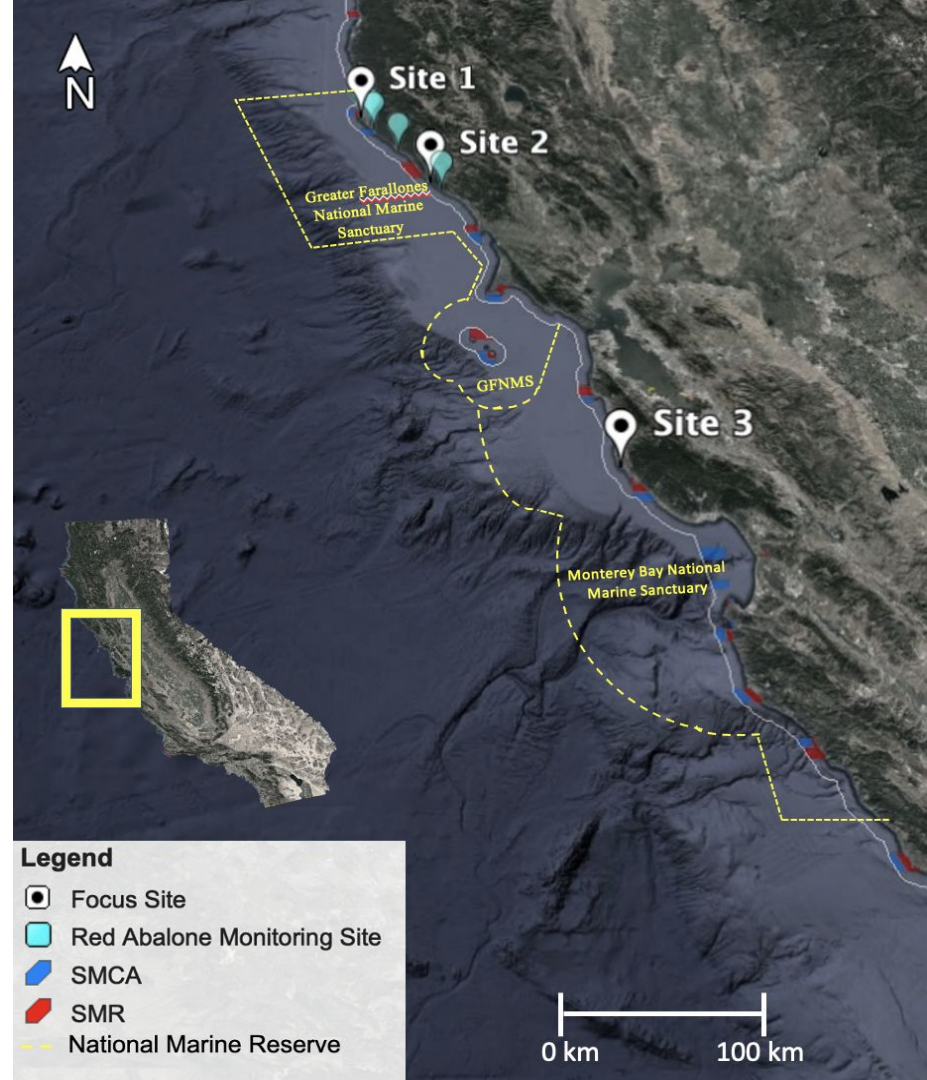
- Site 1



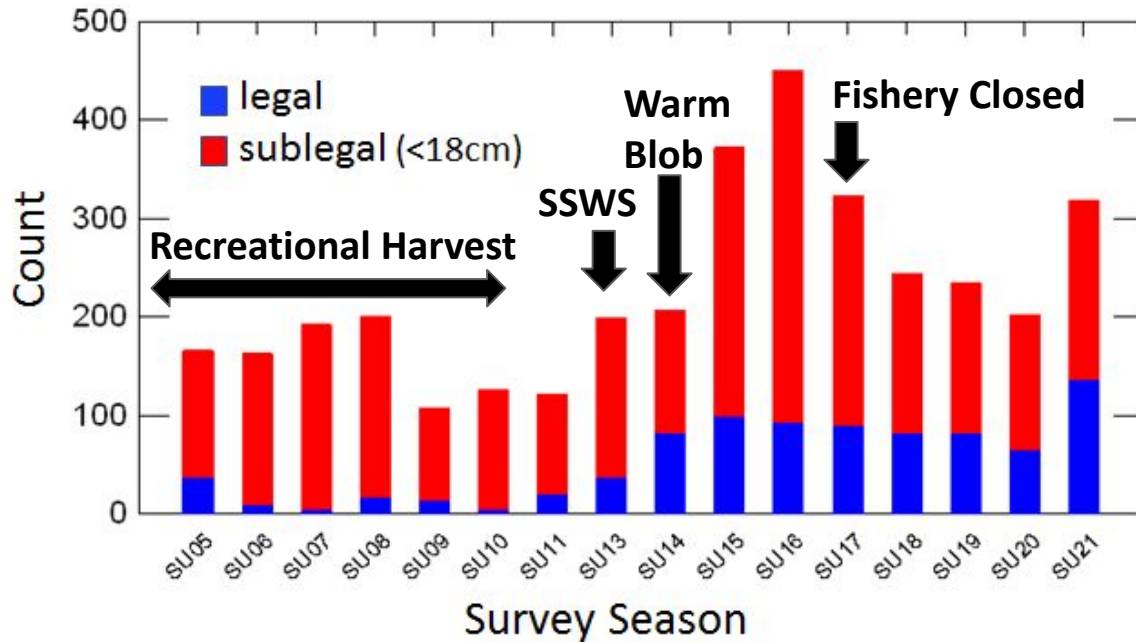
- Site 2



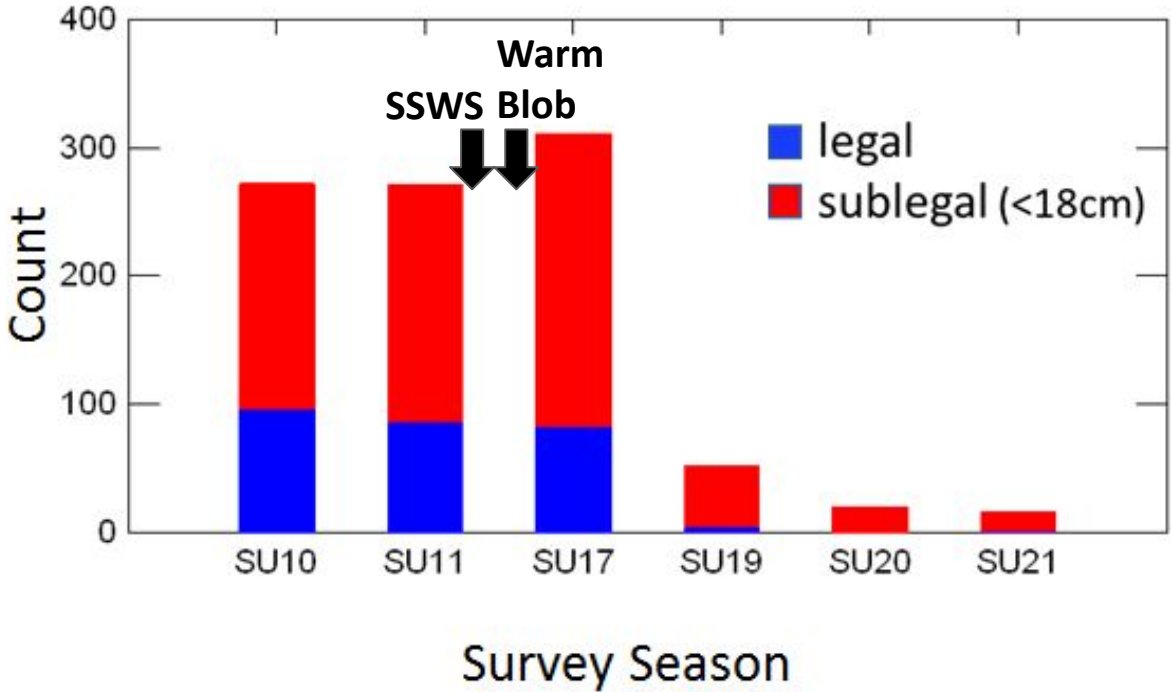
- Site 3



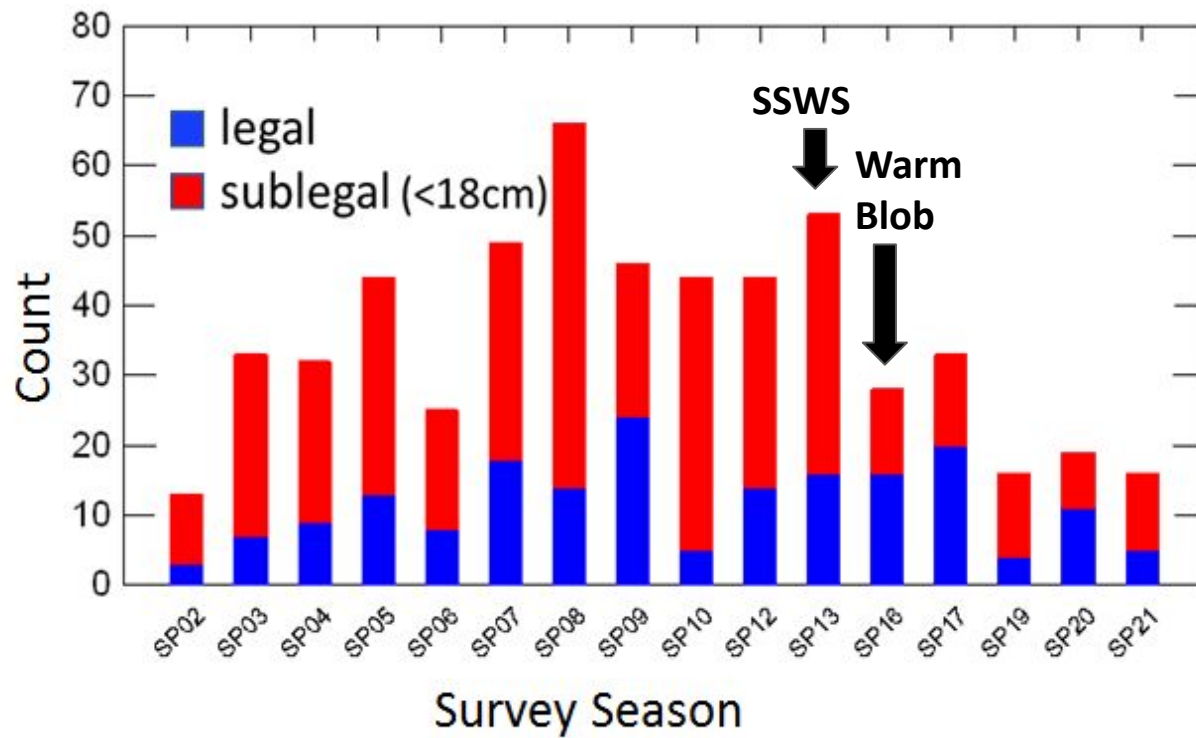
Site 1



Site 2



Site 3





MARINe
Multi-Agency Rocky Intertidal Network

Red Abalone

Monitoring

Management

Recovery???

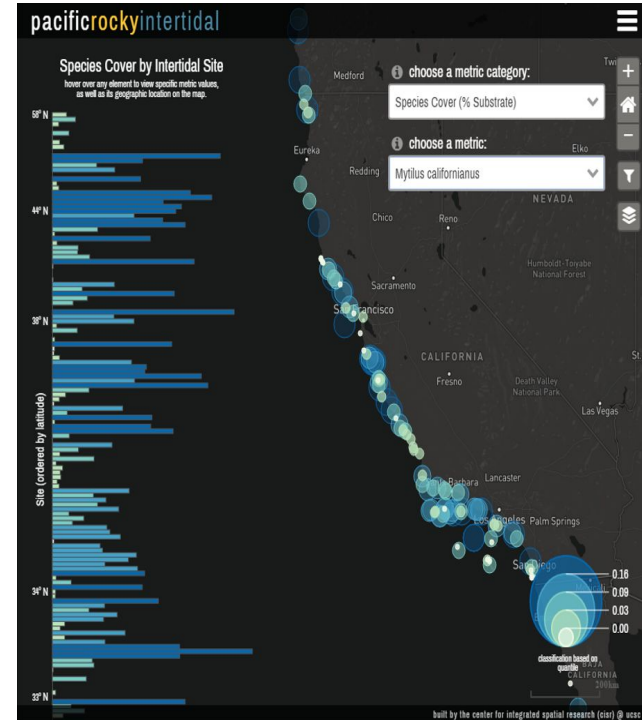




Benefits of Long-term Monitoring

rockyintertidal.org

- Historical perspective
- Effects of long-term climatic changes
- Temporal variation
- Early warning of abnormal conditions
- Trends and environmental impacts
- Impact mitigation measures
- Natural resource damage assessments





MARINe

Multi-Agency Rocky Intertidal Network



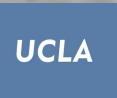
Primary Funders



OCEAN PROTECTION COUNCIL



MARINe Partners



Thanks to the many people who have contributed to protocol development, field surveys, data collection, data management, and site access over the last 30+ years.