

## COMMITTEE STAFF SUMMARY FOR JULY 21, 2016

**4. RED ABALONE FMP****Today's Item****Information** **Direction** 

Progress update on red abalone fishery management plan (FMP) timeline and public involvement.

**Summary of Previous/Future Actions**

- FGC accepts MRC recommendation to develop red abalone FMP Oct 8, 2014; Mt Shasta
- Most recent update on FMP process Mar 21, 2016; MRC, Los Alamitos
- **Today receive update on FMP process and timeline Jul 21, 2016; MRC, Petaluma**

**Background**

This is a standing item to update the MRC on DFW progress developing a fishery management plan (FMP) for the red abalone fishery. The FMP has been under development since 2014 to develop an FMP for the existing northern California recreational red abalone fishery, separate from recovery under the FGC-adopted Abalone Recovery and Management Plan (ARMP),.

In Mar 2016, DFW staff reported that an extended timeline would be needed to provide for efforts to increase public outreach based on stakeholder interest; specifically that a public workshop in conjunction with The Nature Conservancy was scheduled for early May to discuss development of a harvest control rule, including options for integrating abalone size measurements (Exhibit 1). Today CDFW will provide an update for the FMP timeline, and an overview of the results from the public workshop.

Recent changes in environmental conditions affecting red abalone are also been tracked. In Feb 2016, FGC received a presentation from DFW staff working on the red abalone FMP on an unexpected set of environmental conditions it referred to as the "perfect storm." The "perfect storm" of conditions resulted from several large-scale stressors that led to significant biological impacts and ecological imbalance, notably the collapse of kelp forest species (Exhibit 2). This required redirection of abalone FMP staff focus to evaluate the impacts, resulting in further delay to the FMP process. In conjunction with the FMP update at this MRC meeting, DFW will also provide an update on the status of those conditions.

**Significant Public Comments (N/A)****Recommendation (N/A)****Exhibits**

1. [CDFW News – Abalone Public Workshop Scheduled](#)
2. [DFW presentation to FGC, Feb 10, 2016](#)

**Committee Direction/Recommendation (N/A)**

## CDFW News



### PUBLIC PARTICIPATION

## Red Abalone Public Workshop to be Presented in Santa Cruz

APRIL 29, 2016 | KMACINTY

The California Department of Fish and Wildlife (CDFW (<http://www.wildlife.ca.gov/>)) is currently working on a Fishery Management Plan (FMP) for the North Coast Recreational Red Abalone Fishery. As part of CDFW's efforts to encourage public participation in the plan development process, The Nature Conservancy (TNC) and CDFW will jointly conduct a workshop on the topic. TNC is providing financial support for the event.

The workshop, which is open and free to the public, will be held on Monday, May 2, from 9 a.m. to 5 p.m. at the UC Santa Cruz Horticulture II Building, Arboretum Conference Room. Directions to the workshop location can be found at <http://maps.ucsc.edu/content/directions-uc-santa-cruz-campus> (<http://maps.ucsc.edu/content/directions-uc-santa-cruz-campus>).

Fishery scientists, citizen scientists, anglers and managers attending the workshop will discuss options

for developing a control rule to manage the recreational red abalone fishery. Invited speakers will describe the use of control rules and available options for integrating abalone size measurements into a comprehensive framework for decision-making.

# # #

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◀ **ABALONE**    ◀ **PUBLIC WORKSHOP**



# NORTH COAST ABALONE AND URCHIN FISHERIES AT RISK?

**DR. CYNTHIA CATTON**

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# Economically Important Fisheries

- **Recreational Red Abalone**  
~\$44 million dollars (non-market value)
- **Commercial Red Sea Urchin**  
~\$3 million dollars (ex-vessel value)





# “The Perfect Storm”: Multiple Large-Scale Stressors

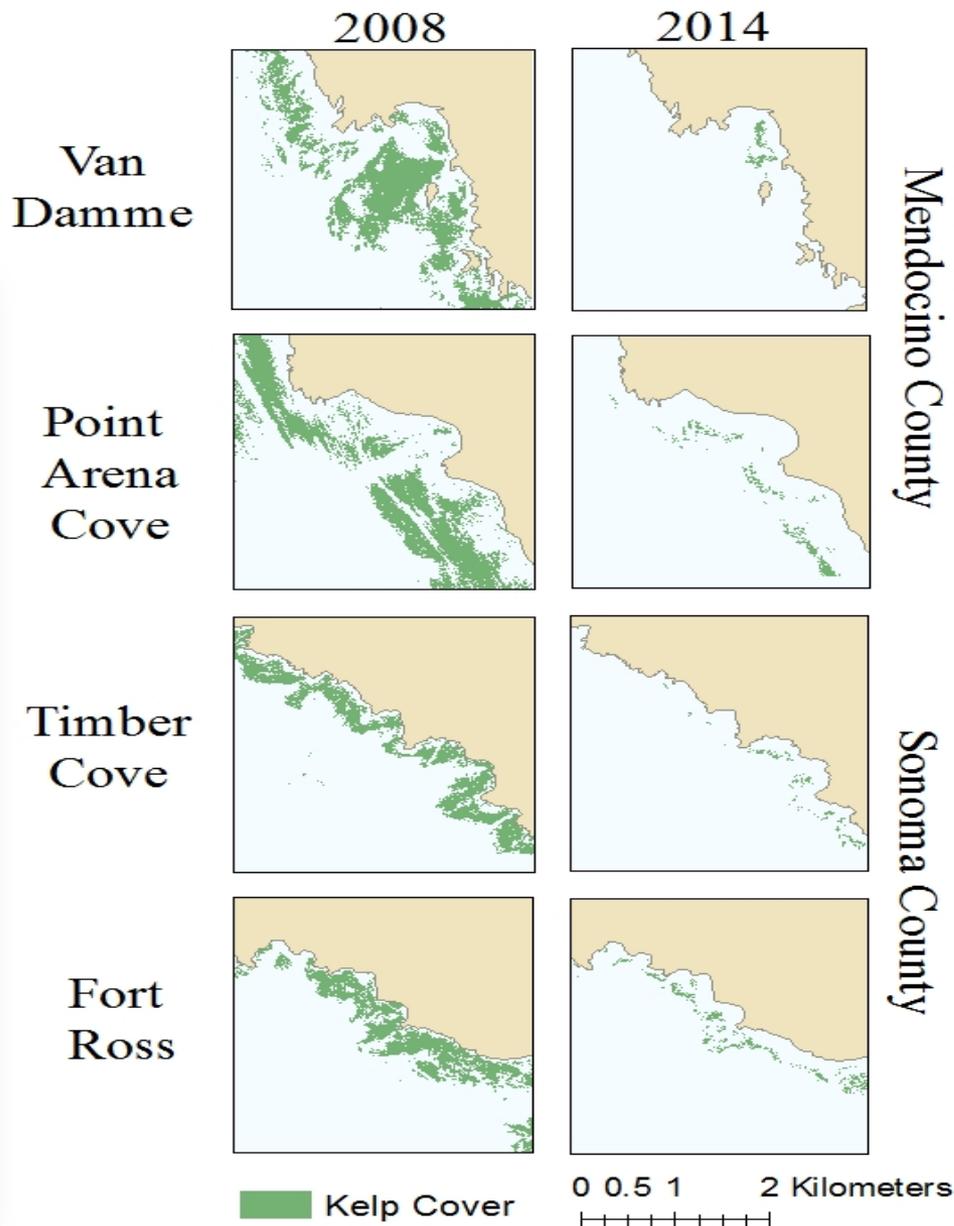
## \* KELP FOREST DECLINE

- \* HARMFUL ALGAL BLOOM (2011)
- \* SEA STAR WASTING DISEASE (2013)
- \* PURPLE URCHIN EXPLOSION (2014 - )
- \* PERSISTENT WARM WATER (2014 - )

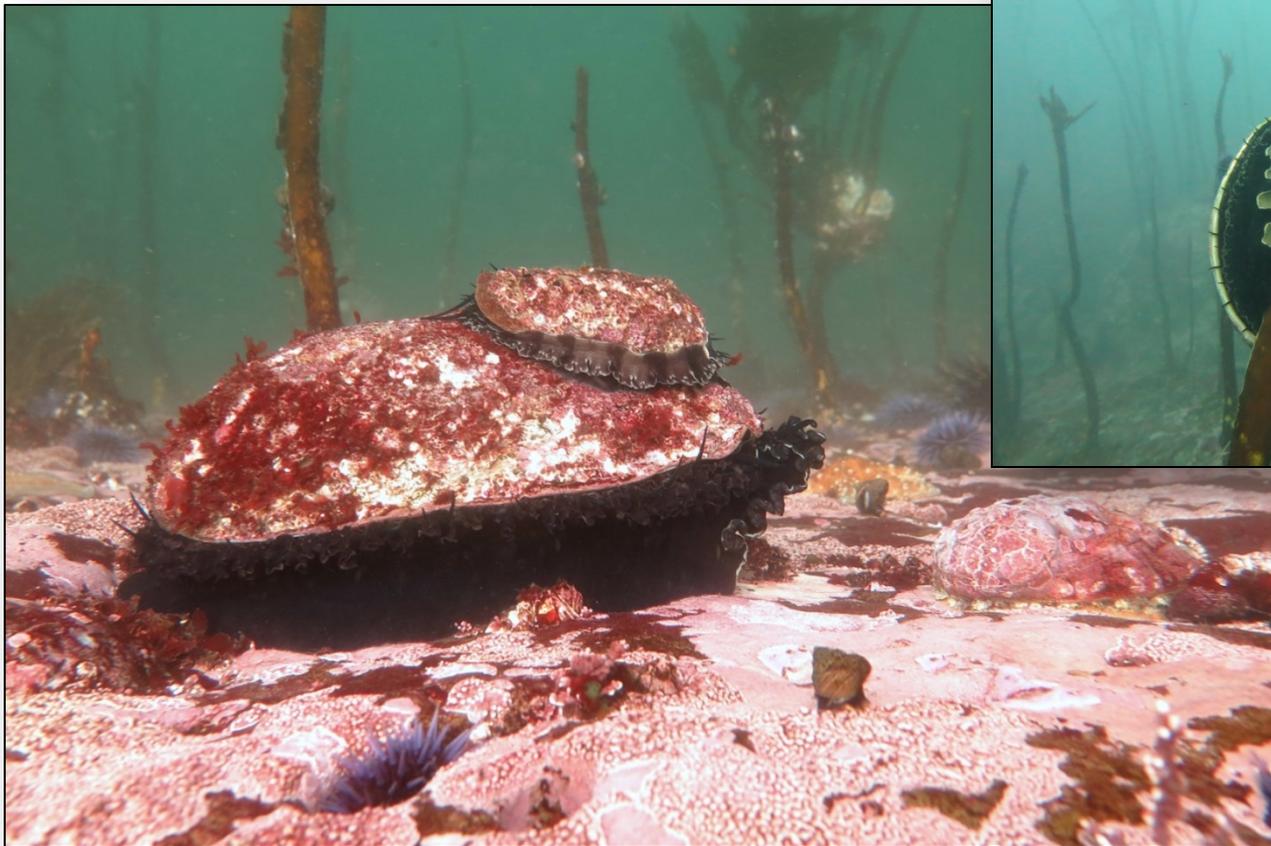
# Kelp Fly-Over Data CDFW



A. Wertz (CDFW)  
Fort Ross 2015



# Starving Conditions in Northern California (2014-2015)



A. Maguire (CDFW)



K. Joe (CDFW)

# Poor Fishery Product and Resource Health



**66% drop**  
in north coast urchin  
catch and fishery value  
in 2015

October 2015



# Abalone and Shells Washed Up on Shore – Big Winter Storms

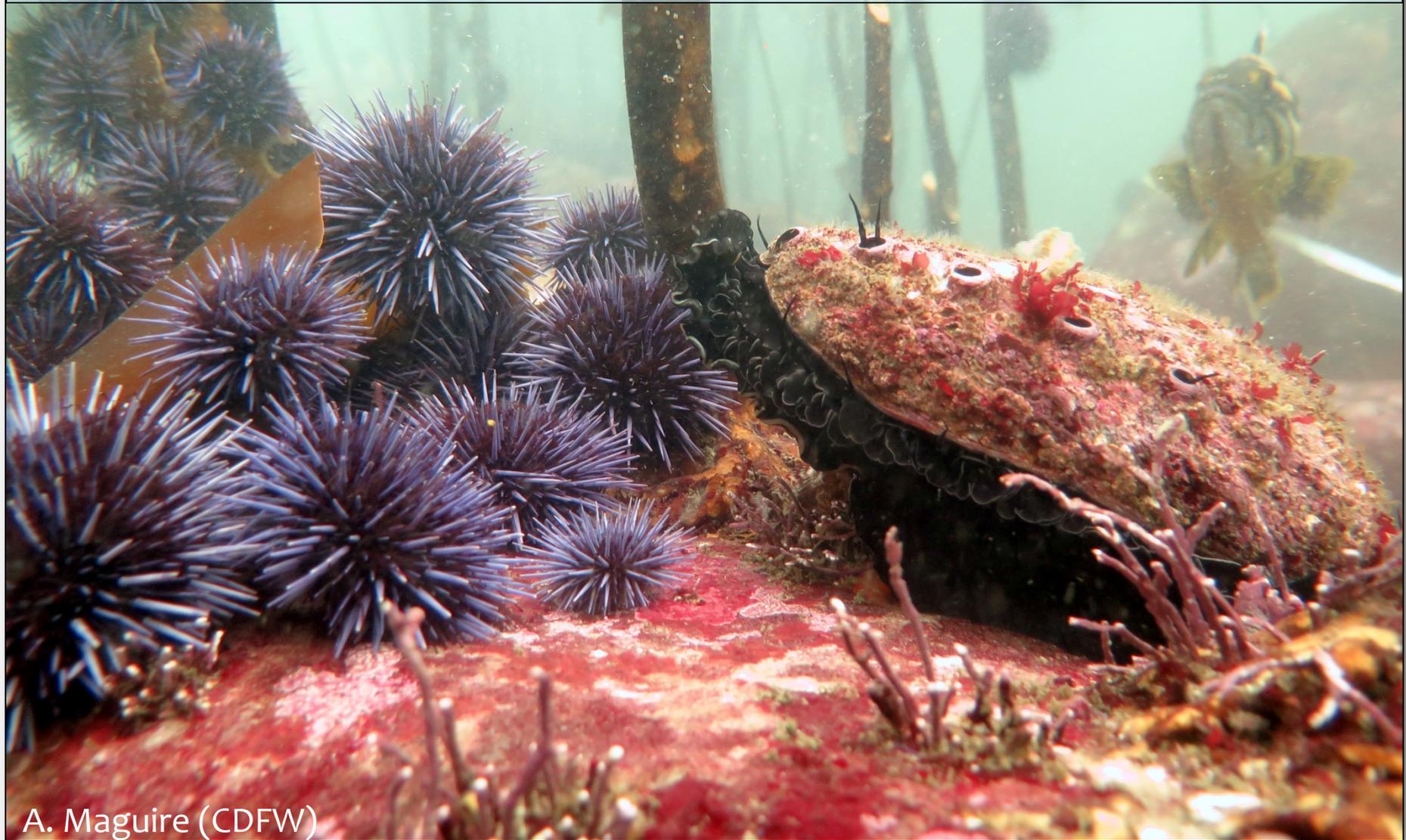


A. Maguire (CDFW)



Photo: B. Brazill  
2015

How did we get here?



A. Maguire (CDFW)

# Harmful Algal Bloom (Red Tide)

## Sonoma County 2011



Photo:  
Nate Buck  
Fort Ross 2011

# Sea Star Wasting Disease 2013

Important urchin predators  
mostly gone now from  
ecosystem



A. Maguire (CDFW)

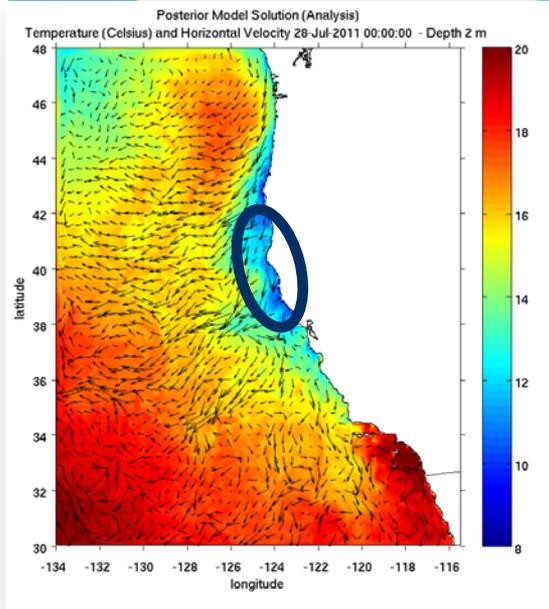
# Unprecedented Large-Scale Purple Sea Urchin Explosion in 2015



**> 60x historic densities in N. California**

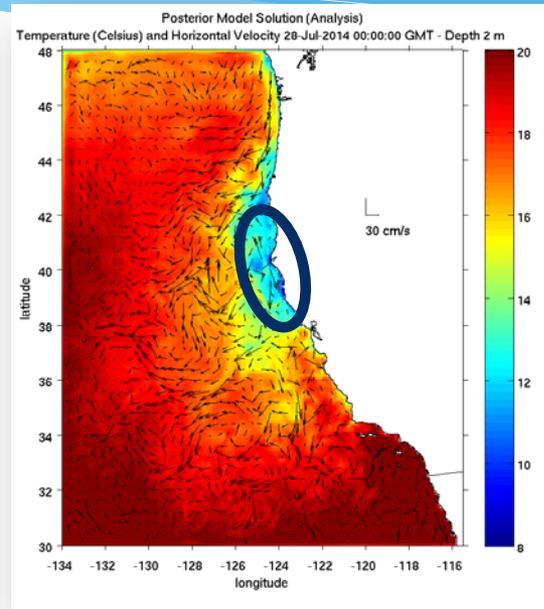
Reports of high urchin numbers from Central California to Washington State

# Persistent Warm Water Conditions



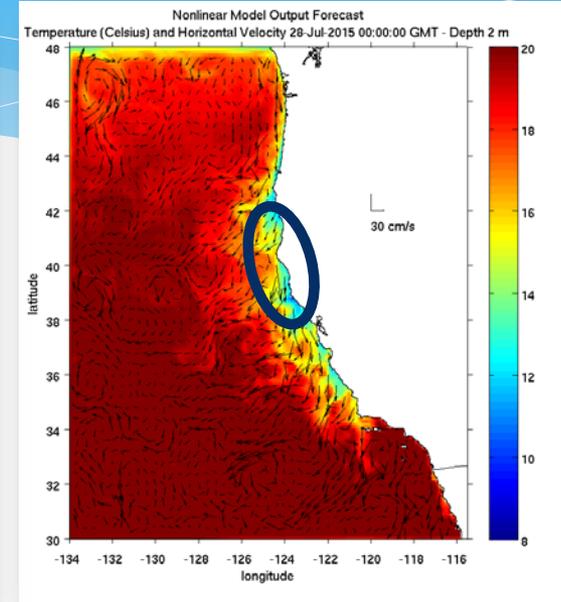
\* July 28, 2011

**Normal**



\* July 28, 2014

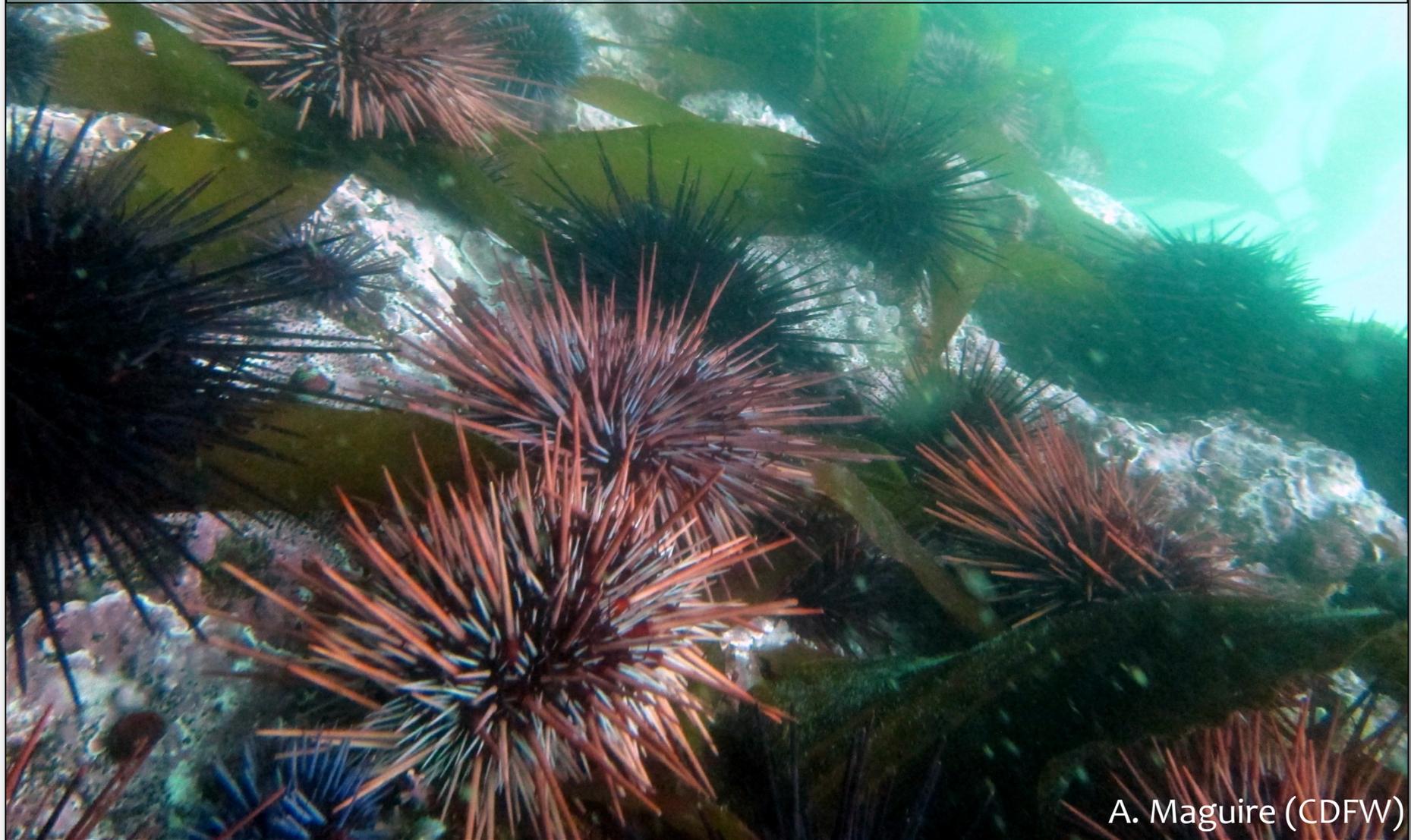
**“Warm Blob”**



\* July 28, 2015

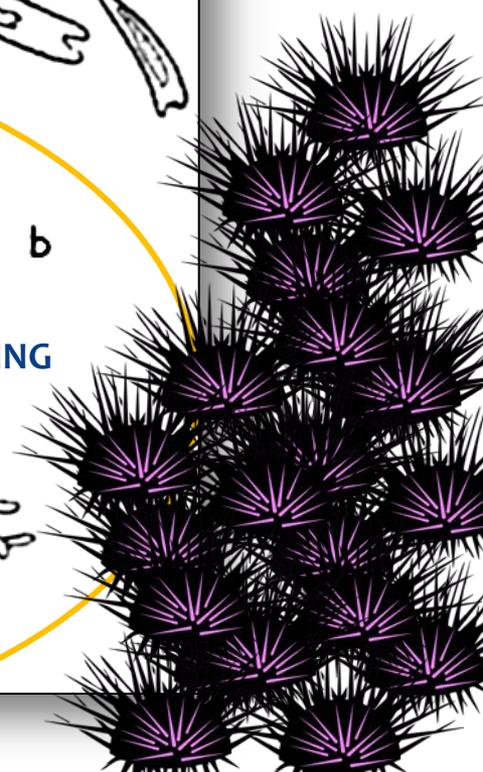
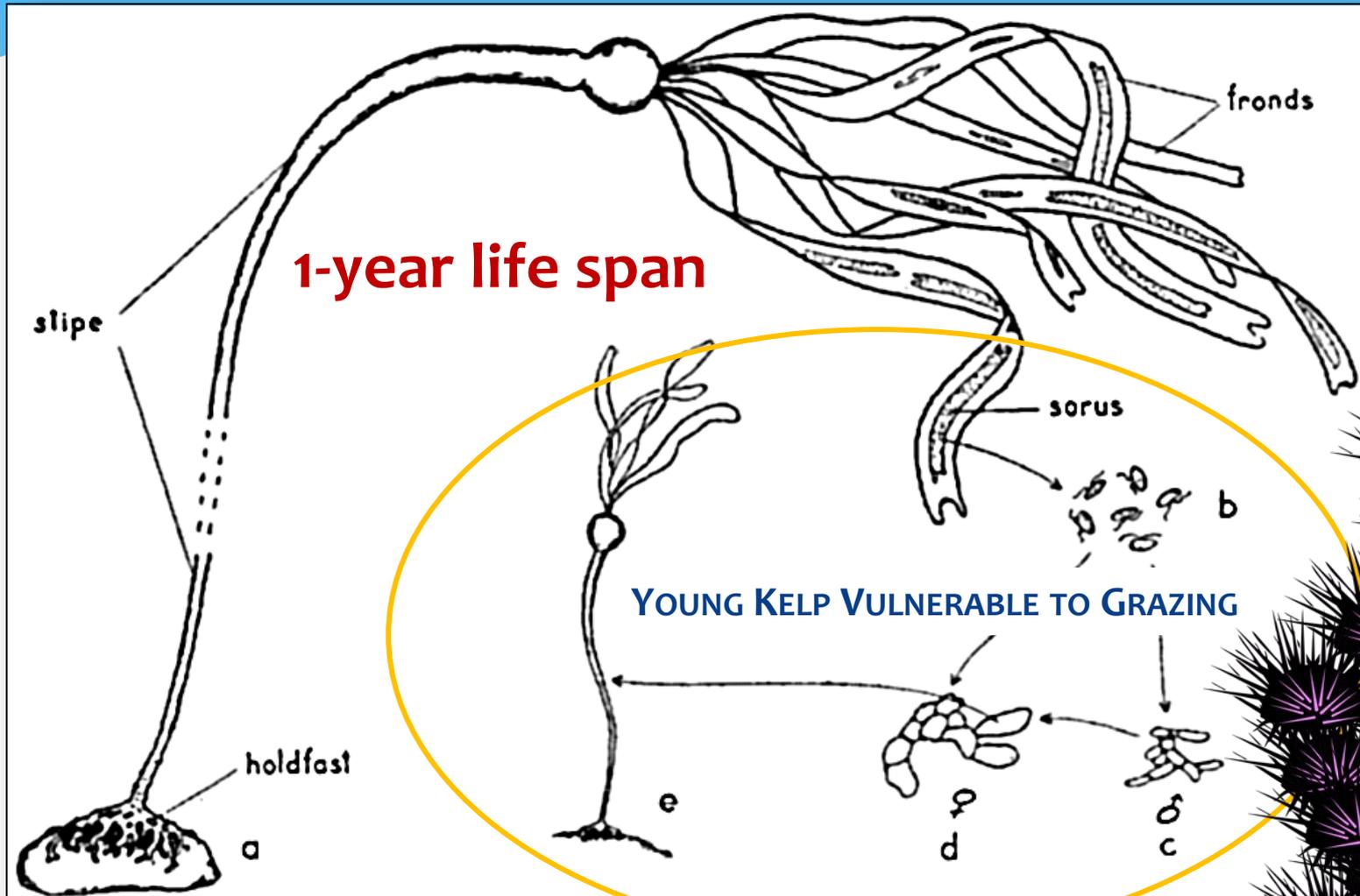
**“Warm Blob” +  
Strong El Niño**

What do we expect in the future?



A. Maguire (CDFW)

# Concern for Bull Kelp Recovery



# Kelp Forest Fisheries Are At Risk in Northern California

## Expectations:

- \* Purple urchin barrens
- \* Poor red urchin and abalone fisheries
- \* Potentially negative impacts to rockfish populations
- \* Socioeconomic impacts to coastal communities



A. Maguire (CDFW)

# What Are We Doing?

K. Joe (CDFW)

- \* Alert FGC, industry, science community, and the public
- \* Leverage CDFW knowledge of past conditions to understand future dynamics
  - Monitor abalone health and reproduction
  - Monitor future environmental conditions
  - Research bull kelp recovery potential

# Thank you



A. Amrhein (CDFW)



K. Joe (CDFW)

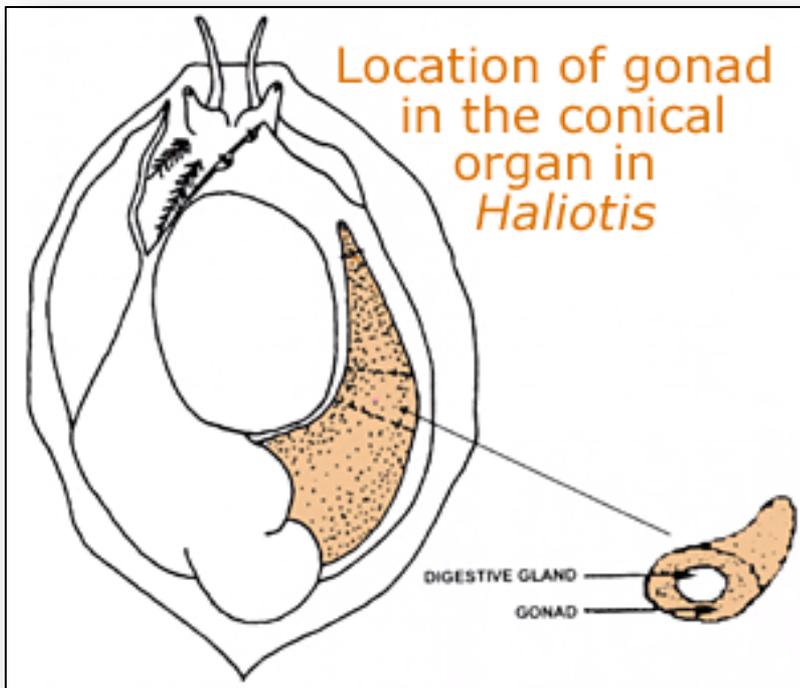
**Dr. Cynthia Catton**

Marine Region

Invertebrate Management Project

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# Gonad and Body Condition



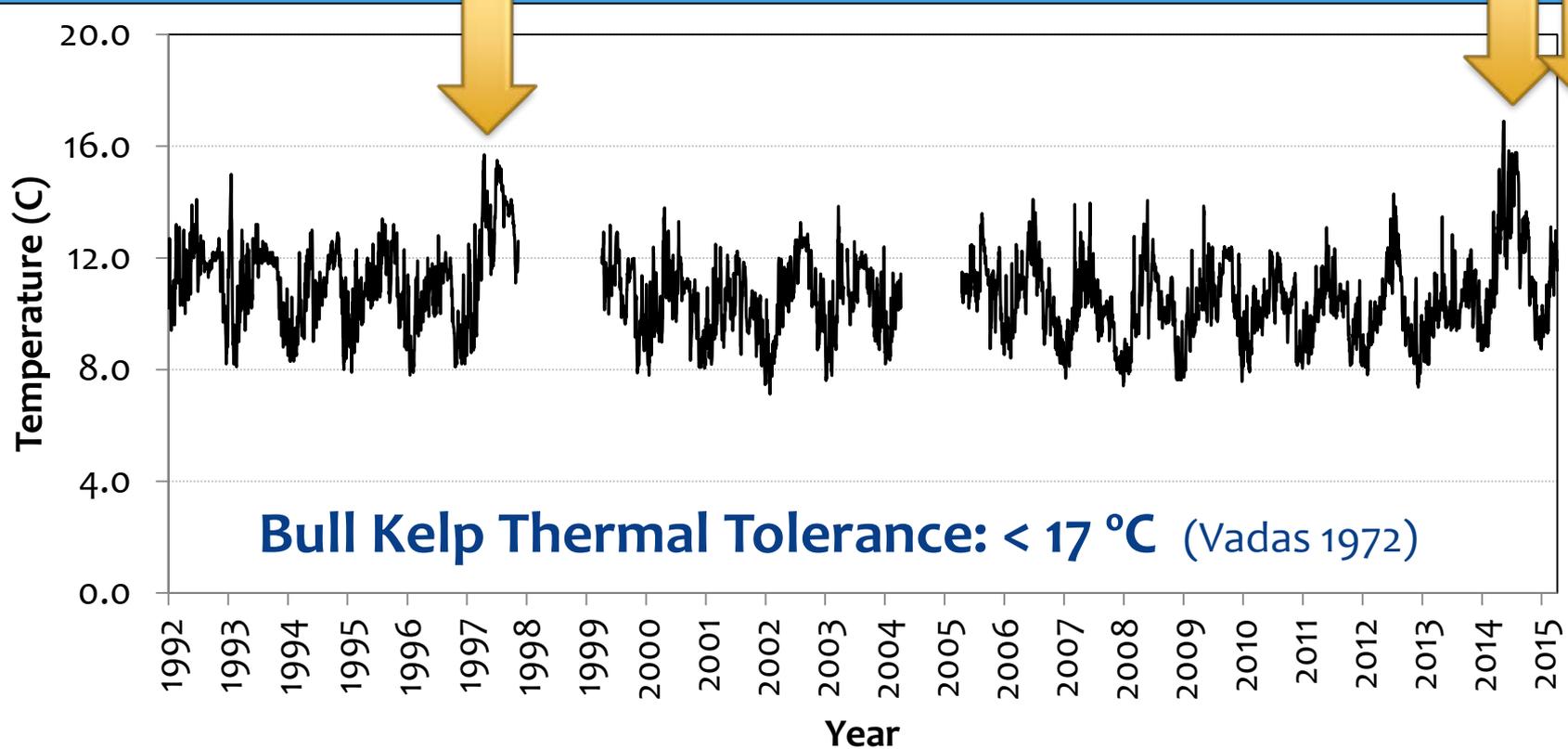
## Monitor Abalone Health and Reproduction

- Inspect abalone caught by fishermen (creel surveys)
- Compare indices of health and reproduction to past data

# Daily Subtidal Seawater Temperature (10m) Mendocino County

November  
1997

September  
2014



# Kelp Restoration Research

## A CDFW / Urchin Industry Partnership

- Remove urchins from multiple sites along the north coast
- Determine geographic scale of kelp recruitment potential
- Identify need and strategies for future kelp reforestation

