



# **Dungeness Crab Poster Child for a Sea Change**

PSFMC Meeting  
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# Presentation Outline

- **Review of Fishery Events – 2015/16**
- **Domoic Management Plan – 2016/17**
- **Whales**
- **Climate Change**

# WEST COAST HARMFUL ALGAL BLOOM EVENT

## TIMELINE OF MANAGEMENT DECISIONS (CON'T)

2015



# WEST COAST HARMFUL ALGAL BLOOM EVENT TIMELINE OF MANAGEMENT DECISIONS (CON'T)

## 2015

Nov 6

- CDFW delays opening commercial Dungeness crab fishery
- NOAA Congressional Briefing on West Coast HAB event in Washington D.C

Nov 13

- ODFW closes rec and commercial bay crab fisheries south of Hecta Head due to elevated levels of DA detected in Coos Bay and Port Orford areas

Nov 19

- Quinault Tribal commercial Dungeness crab opens north of Point Chehalis

Nov 20

- Opening of commercial Dungeness crab season delayed to allow for more testing in all three coastal states

Nov 21

- First Quileute Tribal commercial Dungeness crab landings north of Queets River

# WEST COAST HARMFUL ALGAL BLOOM EVENT

## TIMELINE OF MANAGEMENT DECISIONS (CON'T)

2015

Dec 1

- ODFW opens recreational crab harvest north of Heceta Head on OR coast

Dec 7

- All three states further delay opening of commercial Dungeness crab season beyond Dec. 15 to allow for additional DA testing in OR and CA.

Dec 21

- WDFW and ODFW agree to open both states to commercial Dungeness crab; CA remains closed with continuing elevated DA in crab
- ODFW opens razor clam harvest on Clatsop beaches and recreational Dungeness crab fishery along entire OR coast, including south of Heceta Head

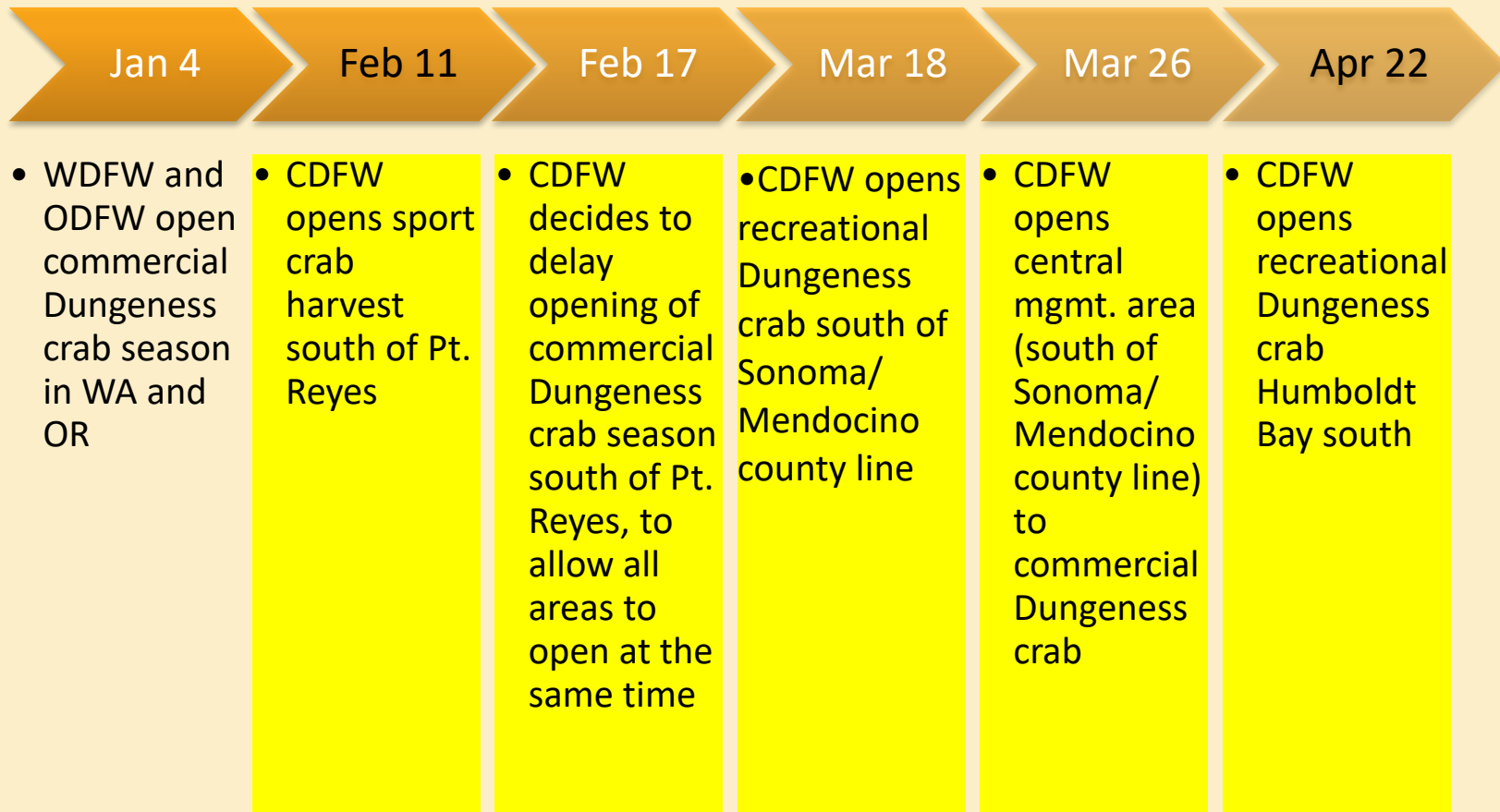
Dec 24

- WA razor clam fishery opens on one of five management beaches

# WEST COAST HARMFUL ALGAL BLOOM EVENT

## TIMELINE OF MANAGEMENT DECISIONS (CON'T)

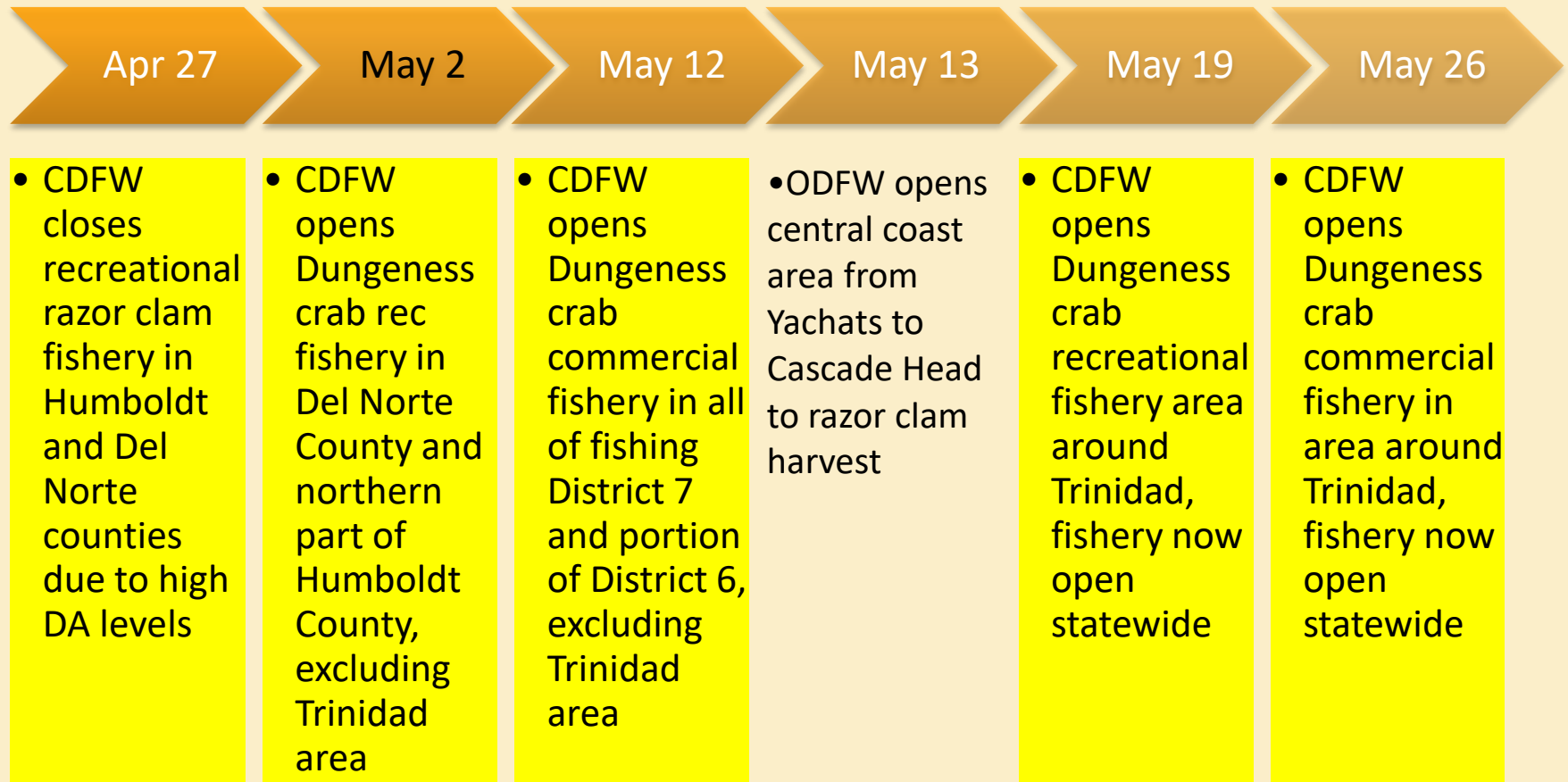
2016



# WEST COAST HARMFUL ALGAL BLOOM EVENT

## TIMELINE OF MANAGEMENT DECISIONS (CON'T)

2016





# Domoic 2016/17

- Early Testing
- Coherent Sampling Strategy – Thank you Tri-State
- Evisceration Option – Death to the Live Mrkt
- Dynamic Management
- Dungeness, Rock, Lobster





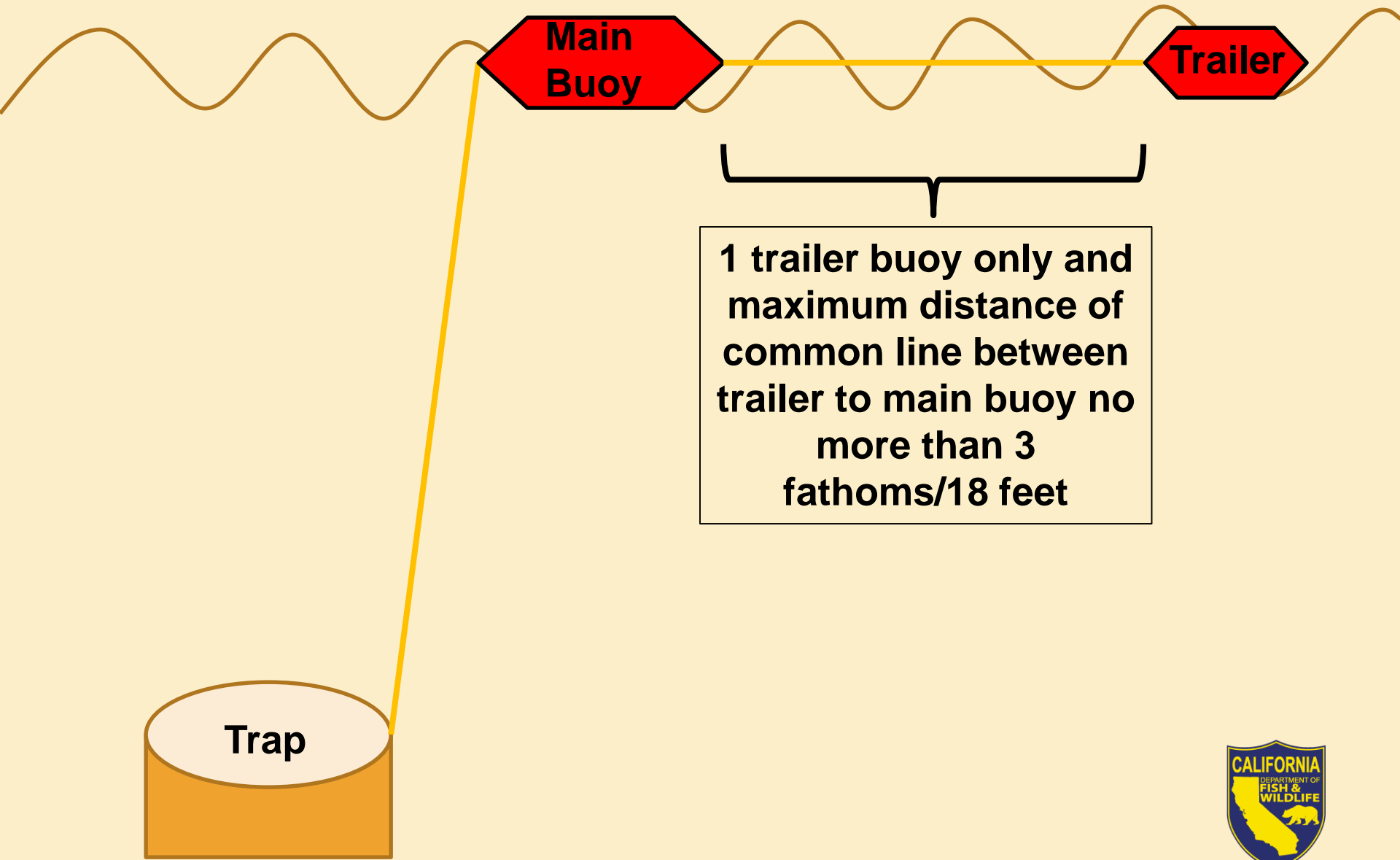


# Whales

- Large Number of Entanglements (30-50)
- Whale Entanglement Workgroup – 2015-?
- Three Objectives:
  - Gear Modifications
  - Communication/Compliance
  - Co-Occurrence

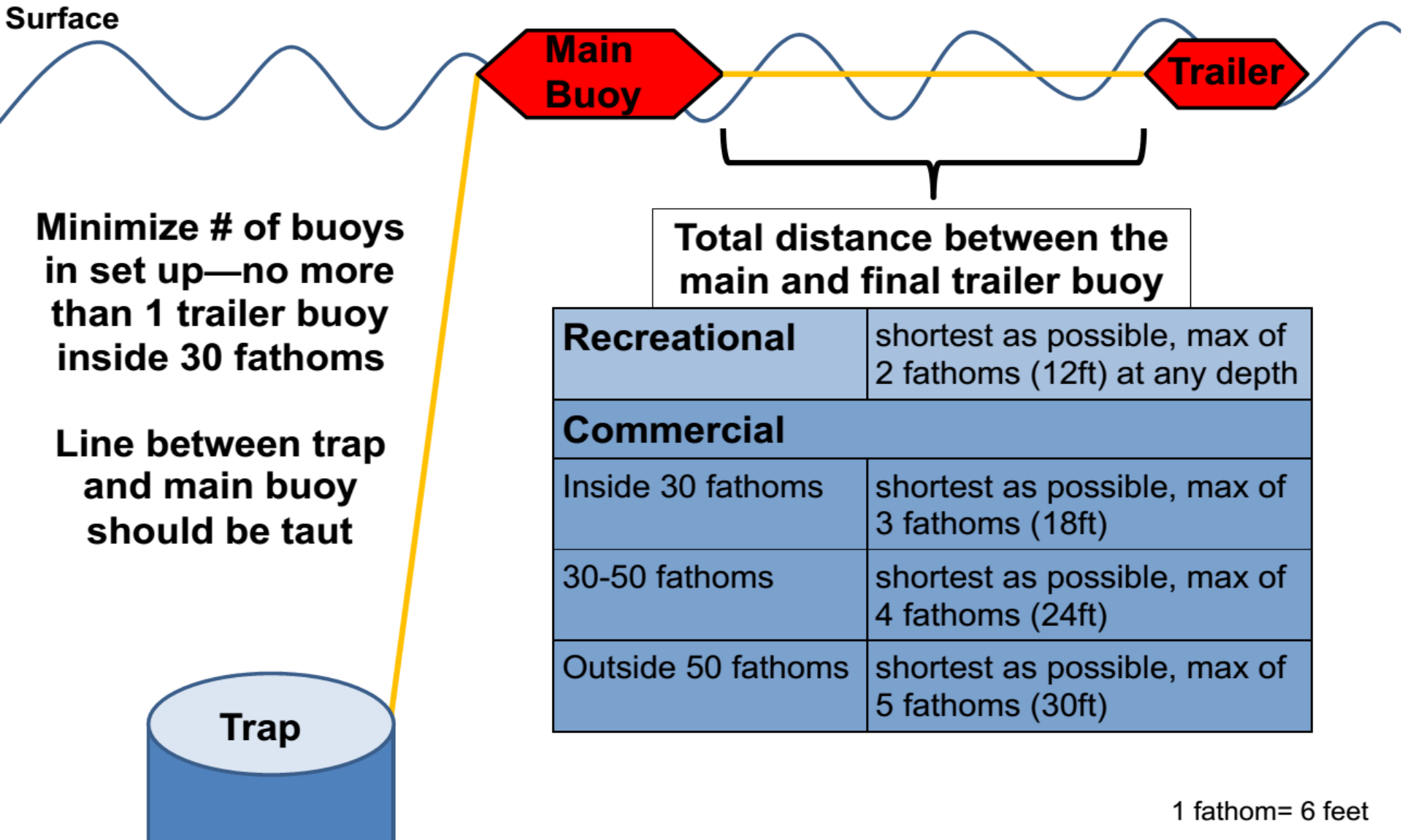
**Surface**

## **Configuration of Gear to Minimize Surface Line Option #1**



# Dungeness Crab Fishing Gear Working Group

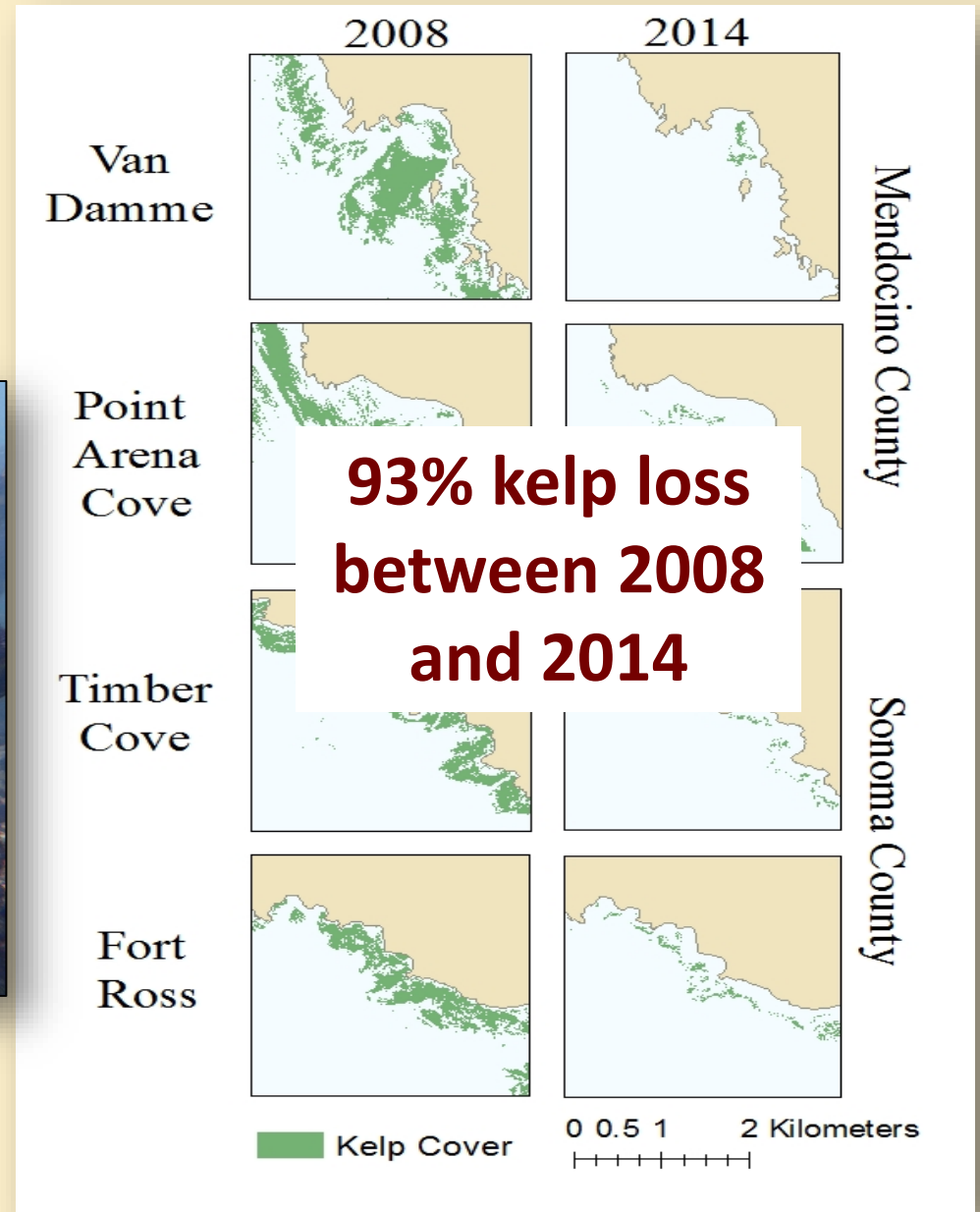
## September 2016-17 Recommendations



# Kelp Fly-Over Data CDFW



Photo by: G. Lee (Abalone Diver)  
Mendocino Headlands 2016



# Unprecedented Large-Scale Purple Sea Urchin Explosion in 2015



- **60x historic densities in N. California**
- **Mostly small 2-3 year old urchins**

Reports of high urchin numbers from Central California to Washington State

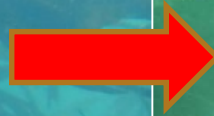




# Kelp loss threatens fisheries and the ecosystem



L. Rogers-Bennett (CDFW)



A. Weltz (CDFW)

# Starvation Conditions in Northern California (2014-2016)



A. Maguire (CDFW)



K. Joe (CDFW)





# Next steps

- Communication/Education of Fleets
- Enhance Capacity
- Research
  - Dynamics of Domoic
  - Watch out Whales
  - Climate Crisis
  - Governance Goo

