

# Framing the Issue of Release Mortality



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**California Ocean Science Trust**

# Why Release Fish?

- **Voluntary conservation**
  - protect the resource for future generations
- **Required by regulation to preserve stock**
  - Size limits to protect certain age classes
  - Bag limits to ensure fishery is sustainable



# Factors Affecting Release Mortality

Summer 2007

Retrieval  
Conditions

Species

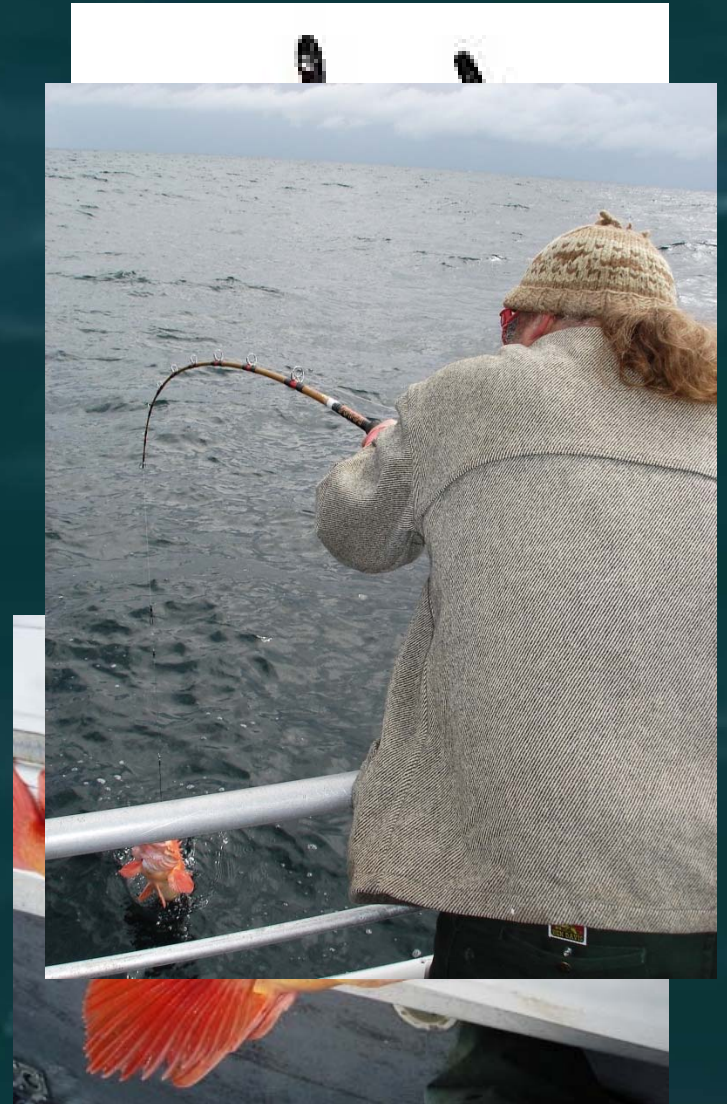
Handling

Release  
Conditions



# 1) Retrieval Conditions

- **Hook type and location**
  - J-hooks: Embed deeper, higher mortality rates
- **Retrieval time**
  - Longer play = more stress, increased mortality
- **Capture depth**
  - **BAROTRAUMA**



# BAROTRAUMA

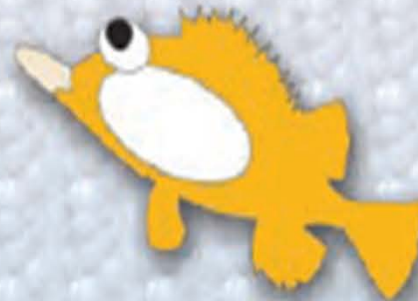
A condition caused from the expansion of gas in the swimbladder during capture



Surface



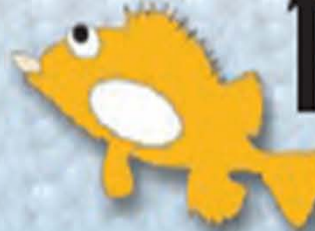
3 vol



30 feet



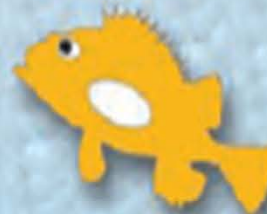
2 vol



60 feet

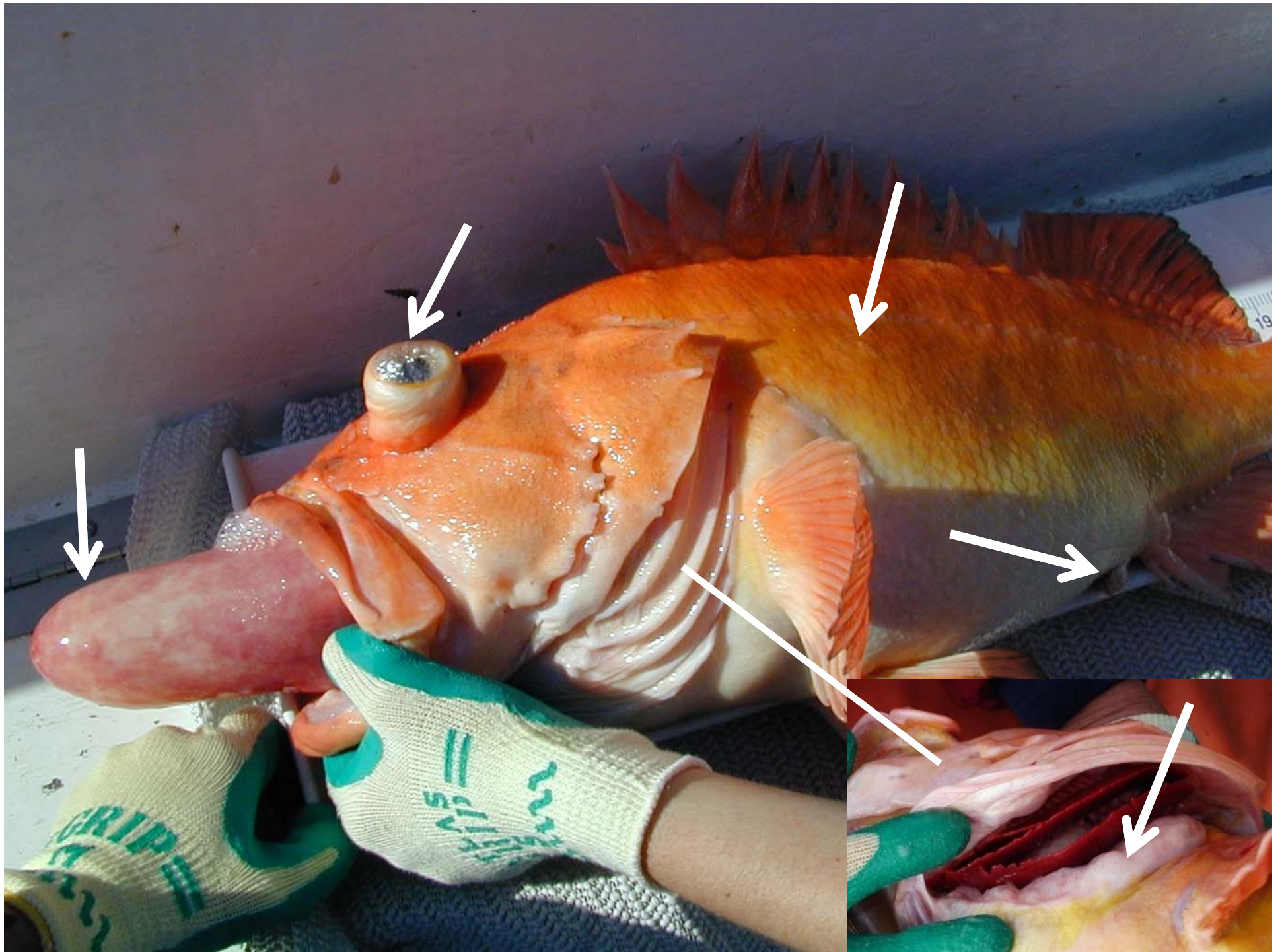


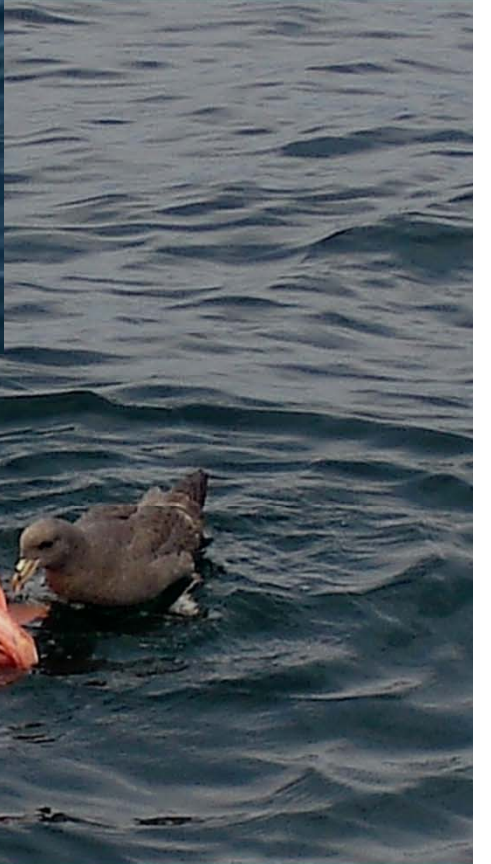
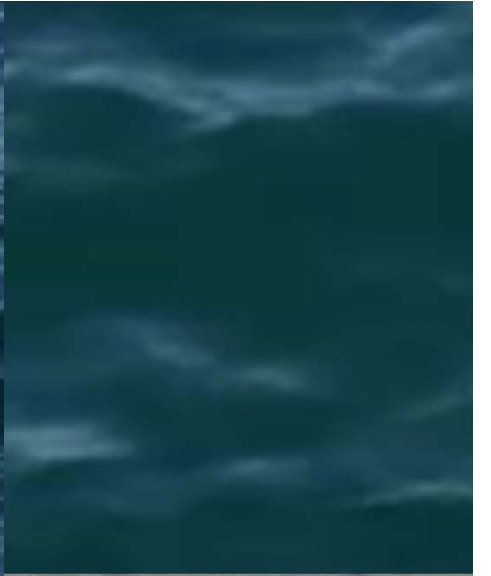
1 vol



*The volume of a fish's swim bladder can triple when reeled in from depths as shallow as 60 feet.*

**CA Sea Grant**





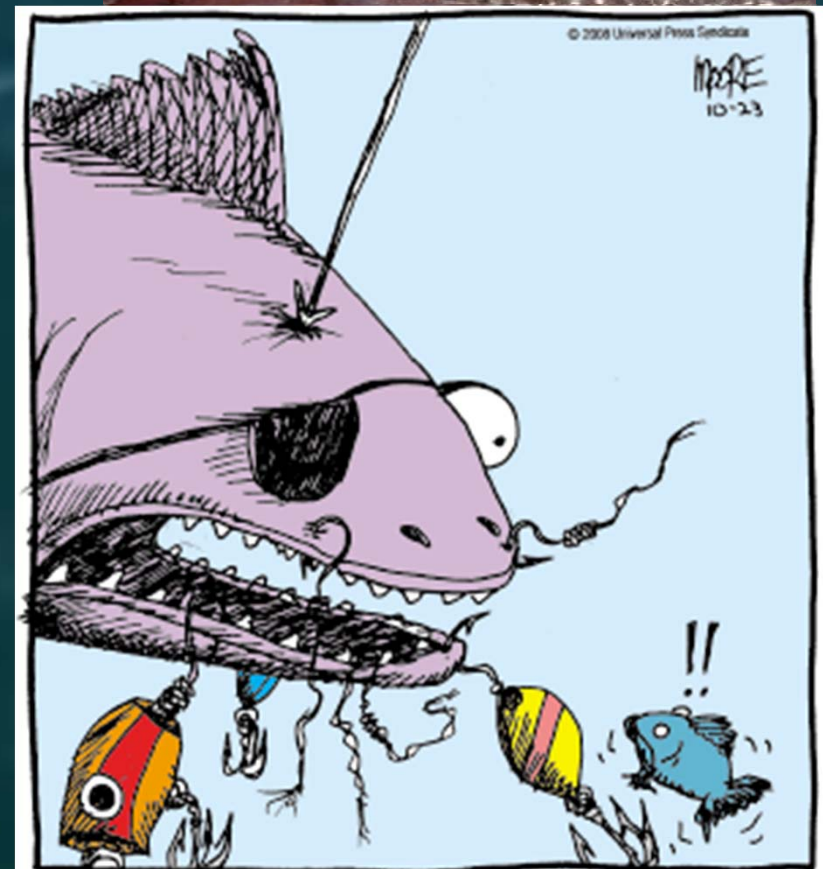


# Recompression Devices



## 2) Fish Species

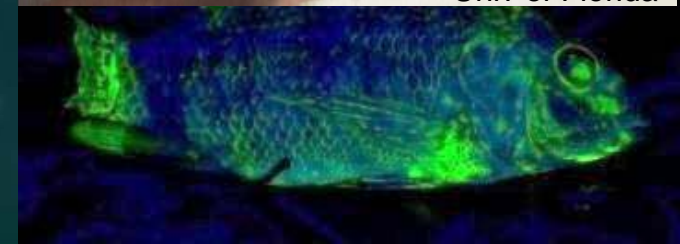
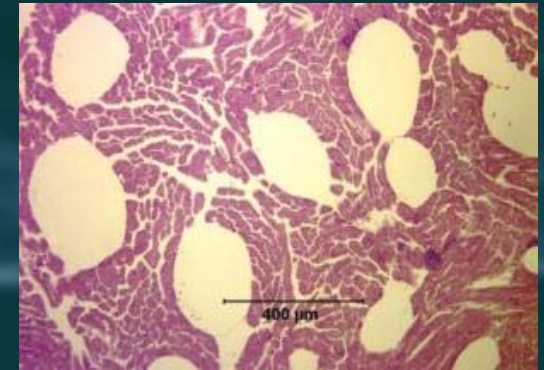
- **Swimbladder morphology**
  - Volume, shape, elasticity
  - Healing rate
- **Life history**
  - Pelagic or benthic
- **Capture history**
- **Behavioral impairment**
  - Recovery time



"Luck? When you get to my level of competition, it has nothing to do with luck."

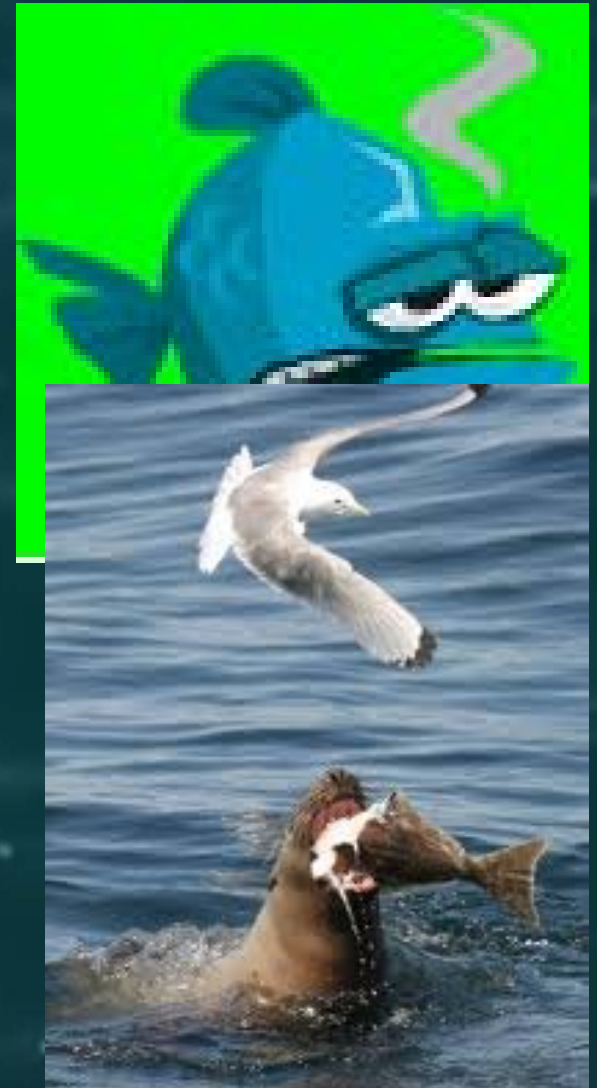
# 3) Handling

- **Time on deck**
  - The faster the better
- **Hook removal**
  - Circle hooks - less damaging but more time to remove
- **Venting**
  - Possible injury to organs, introduce infection
- **Removal of slime coat**
  - Net abrasion, rough handling, rubbing against other fish



# 4) Release Conditions

- **Temperature differential**
  - Surface temps may be outside of a fish's ability to acclimate
  - Can exacerbate gas expansion
- **Predators**
  - Behavioral impairment makes a tasty snack for nearby predators





It's my other line . . .  
I'll call you back.

# Best Practices

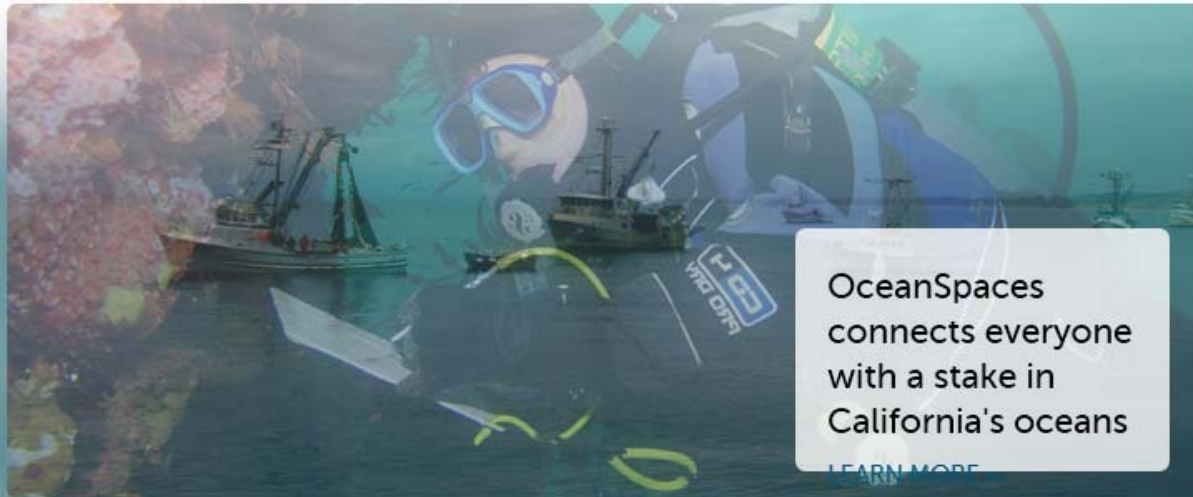
- Plan ahead
- Avoid species that must be discarded
- Use gear suited to the size of fish targeted
- Land fish quickly
- Minimize handling
- Use release device if necessary
- Time is of the essence –  
Release fish as fast as possible!

# Getting Out The Message

# Collaboration with Anglers is Essential



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