

# A Management Strategy for California's Pacific Herring Fishery

Marine Resources Committee  
Meeting  
March 6, 2018  
Santa Rosa



# Management Objectives for Herring Fishery



Promote a healthy stock size and ensure recovery when stock size is low

Maintain sustainable yield and minimize years with zero quotas for fishery

Include ecosystem considerations in yearly management decisions

# Developing a Management Strategy for Pacific Herring

Conducted scientific analyses to support management strategy development

Results were provided to Steering Committee, who provided feedback and guidance throughout iterative development process



# Data Collection and Biomass Estimation

Consistent monitoring for ~35 years has resulted in valuable long term data sets

Spawn deposition survey used to estimate last year's stock size for annual quota setting

New predictive model to estimate stock size is currently undergoing peer review





# Setting Quotas via a Harvest Control Rule (HCR)

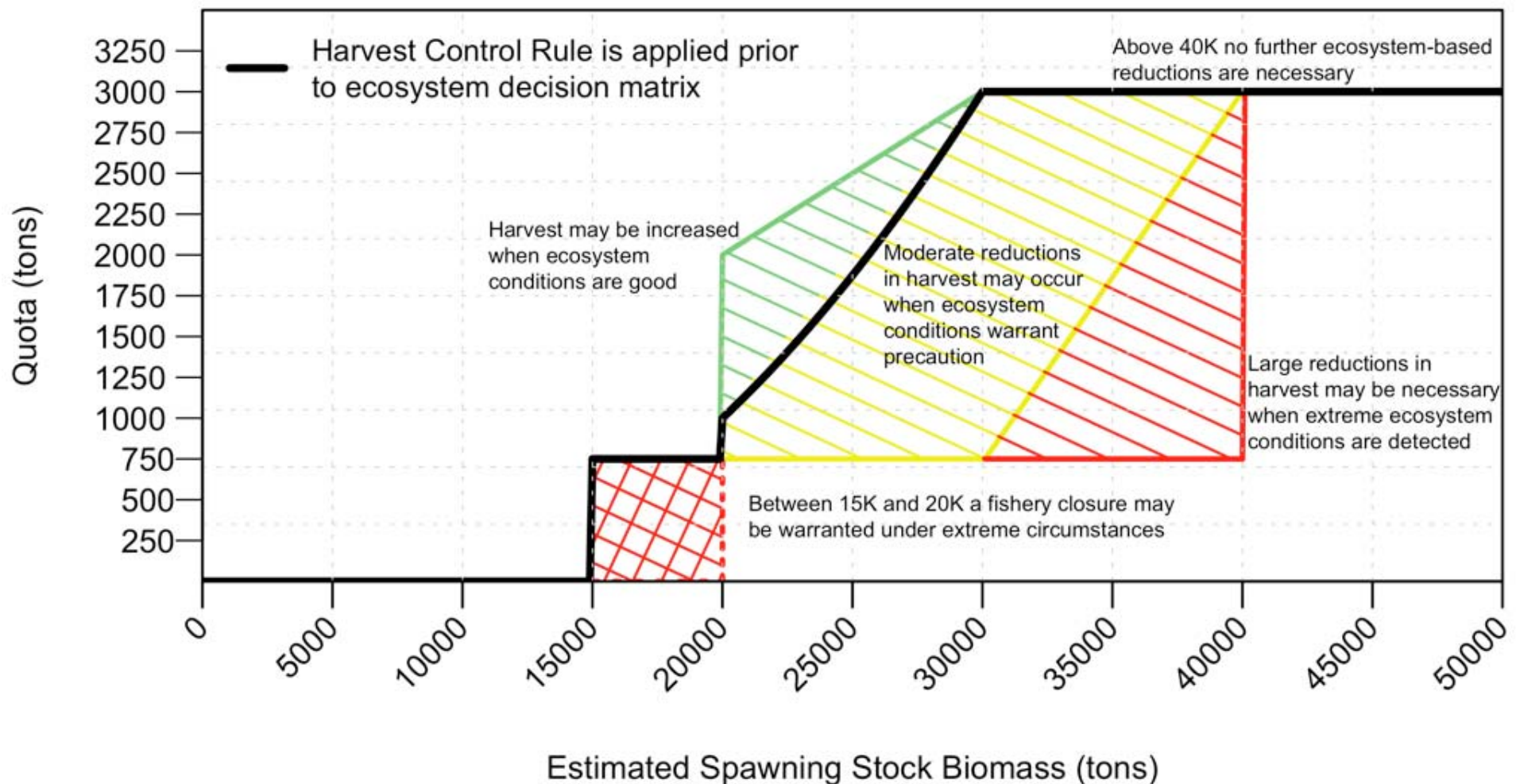
Alternative HCRs were evaluated using Management Strategy Evaluation

Analysis of trophic interactions was used to develop ecosystem indicators

Consideration of ecosystem indicators to reduce impacts when forage conditions are poor



# Proposed HCR Framework



# Benefits of Proposed HCR Framework

Predictive Model	Incorporates environmental (climate) and biological indicators and improves accuracy of harvest rate
15K ton Cutoff	Precautionary limit promotes the ability of herring stock to recover quickly, and ensures that predators have continued access to forage
750t quota between 15-20K tons	Minimizes the number of closure years Provides a stable quota fishermen/buyers can plan around
5-10% Harvest rate	Conservative harvest rate provides some protection for older fish, which can sustain the population during poor recruitment years
Forage Indicators	Formally incorporates ecosystem needs into management Allows CDFW to recognize poor forage conditions

# Proposed Timeline for FMP

March-April — Drafting FMP document to include comprehensive overview of fishery, management procedures, and implementing regulations

May-July — Peer review (conducted by OST)

April-Sept — Internal CDFW review

October — Present plan to Commission





# Thank You

