



# **Fishery Management Plan Harvest Control Rules for Spiny Lobster**



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# Control Rule Presentation Overview

## Reference Points:

- **Catch** (the total catch (pounds landed) in a single season)
- **CPUE** (*Catch Per Unit Effort*; the number of legal lobsters caught per trap pull)
- **SPR** (spawning potential ratio)

## Data Interpretations:

- **Control Rule Matrix** (Table 5.5)

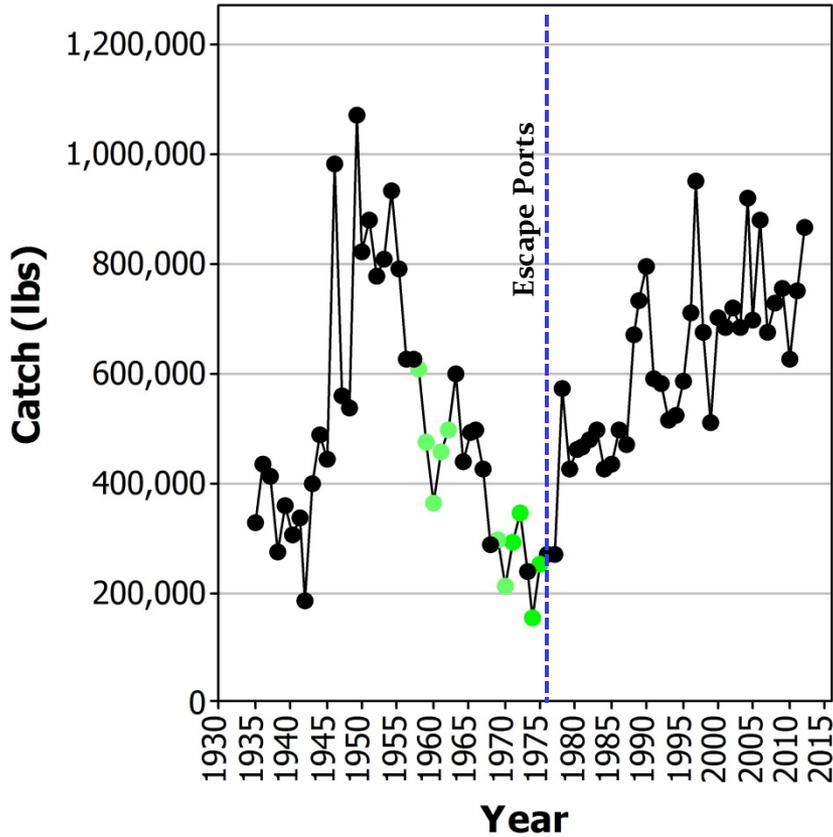
## Regulatory Options (Linked to the Control Rule):

- **Control Rule Toolbox** (Table 5.4)

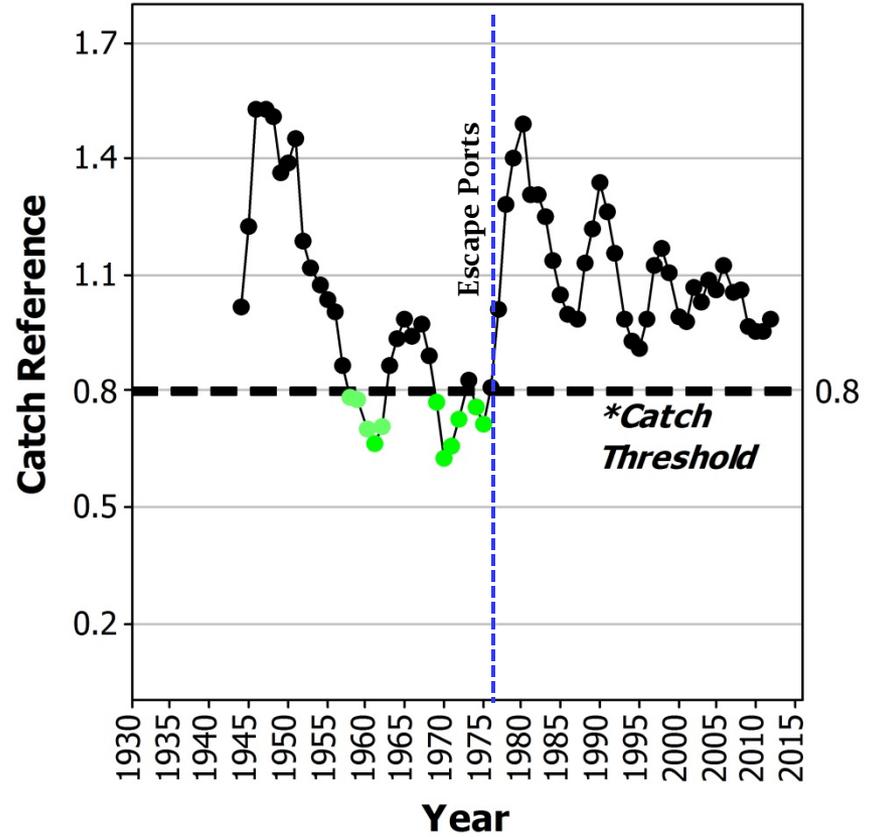


# Catch-Based Reference Point

## Catch for each Season

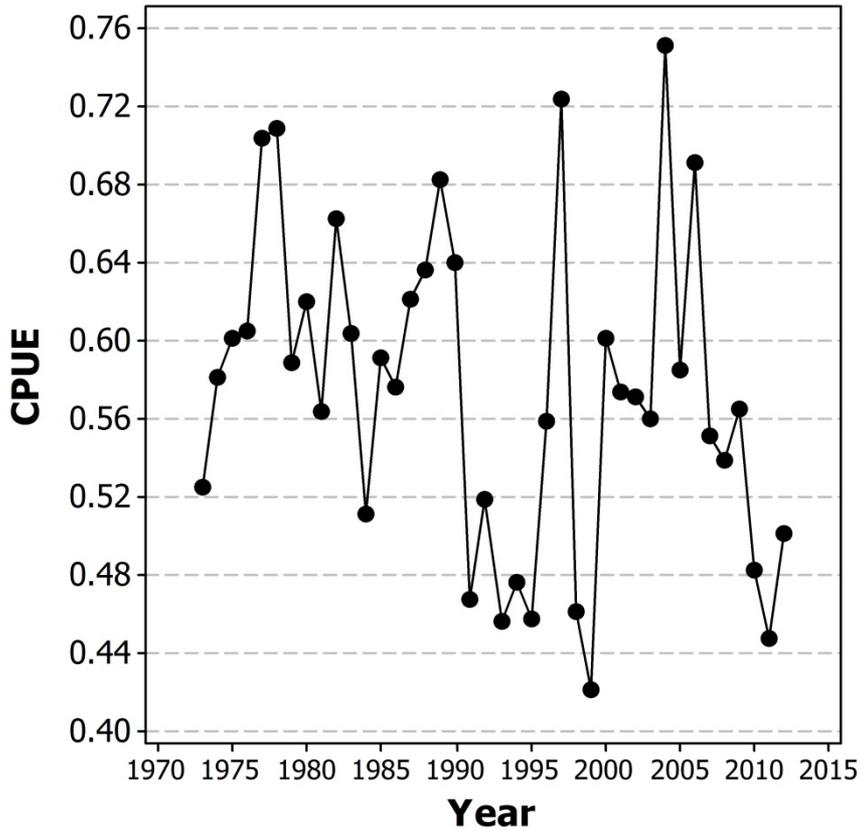


## Catch Reference Value

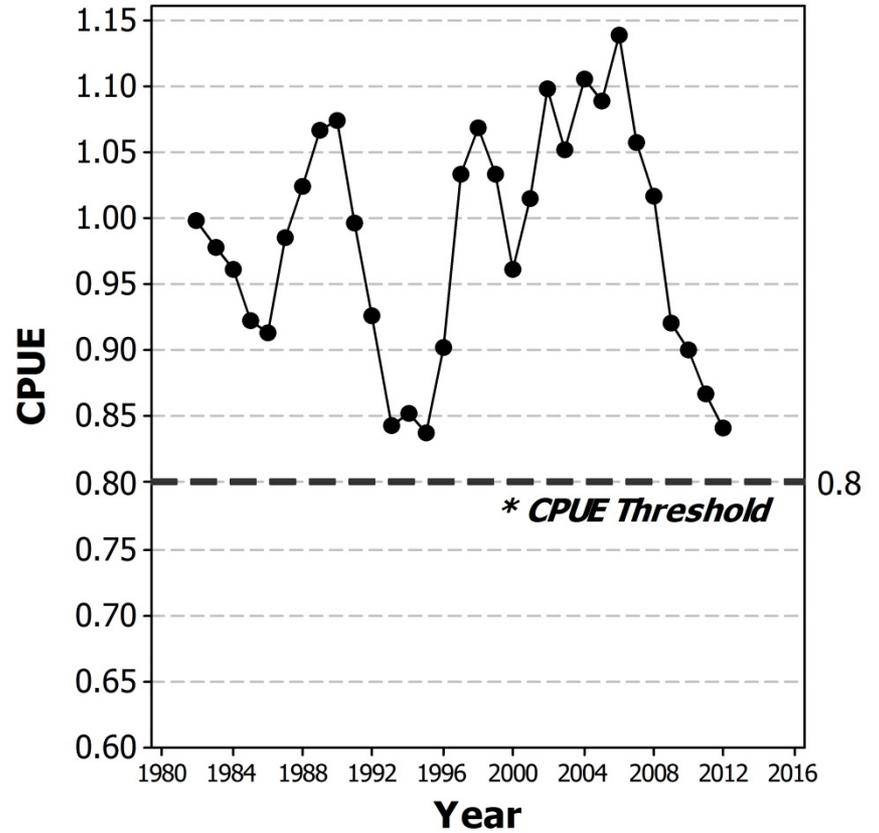


# CPUE-Based Reference Point

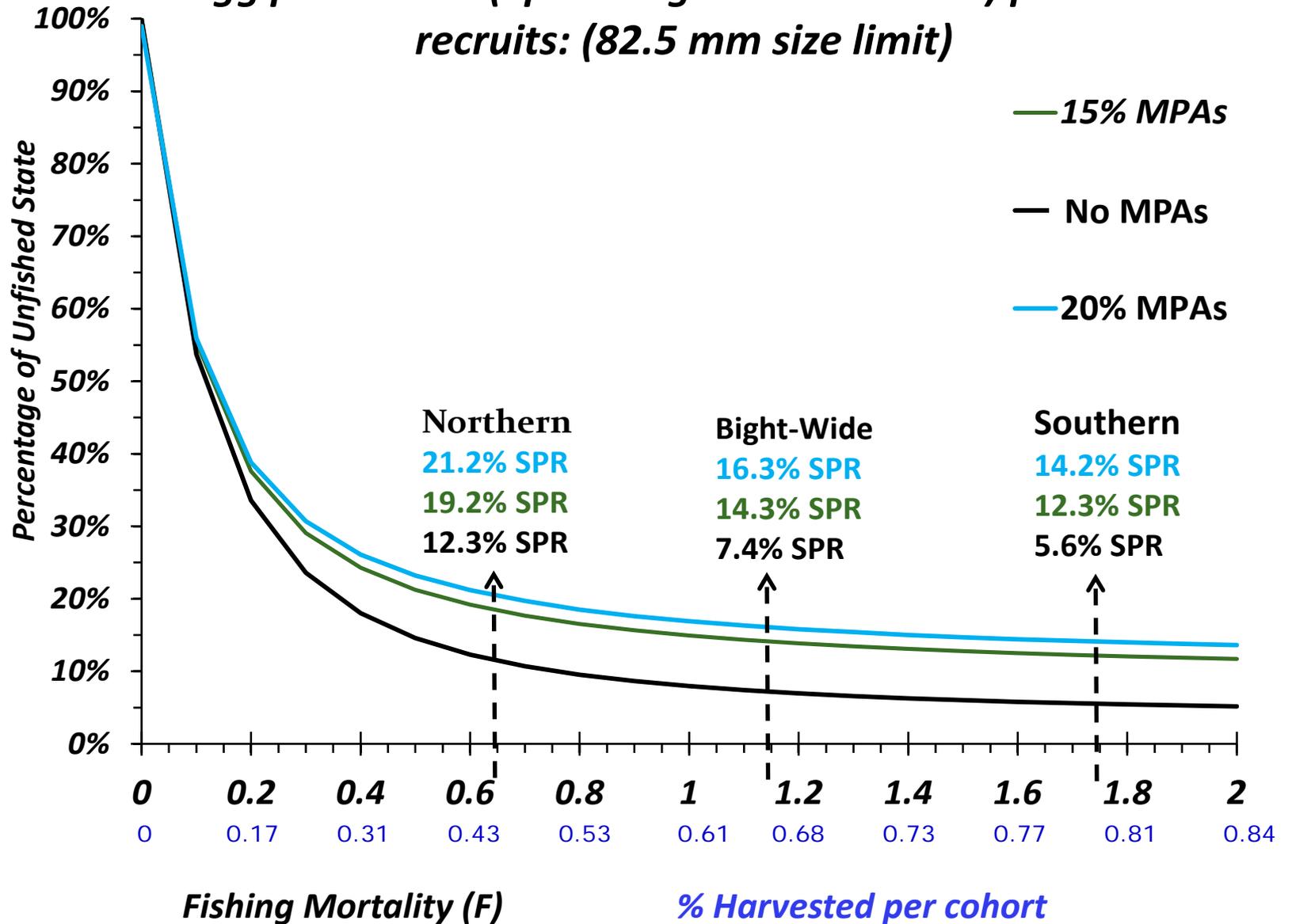
## CPUE for each Season



## CPUE Reference Value



# Egg production (Spawning Potential Ratio) per 1000 recruits: (82.5 mm size limit)



# Table 5.5 Application of the Control Rule (scenario interpretation)

## Example

Reference Point Scenario			Interpretation / Possible Causes	Suggested Management Response
CATCH Threshold	CPUE Threshold	SPR ( $F_{15\%}$ )		
↑	↓	↑	<ul style="list-style-type: none"> <li>○ Catchability down (e.g. cold water)</li> <li>○ Potential economic overfishing</li> </ul>	<p><b><i>No response required, but optionally:</i></b></p> <p><b>1) Confirm/monitor SPR values with multiple models/approaches</b></p> <p><b>a) No change (if SPR trends are stable/above threshold)</b></p> <p><b>b) Harvest rate reduction (if SPR trends declining), regulatory options (Table 5.4)</b></p> <p><b>c) No change, or ease harvest rate restriction (if catchability is proven to be lower than usual and is causing CPUE decline)</b></p>

## Table 5.4 Control Rule Toolbox: Available Options

For each option the toolbox describes:

- **Benefits vs Challenges/Limitations**
- **Mechanics and Implementation**



Options (not in order of rank):

1. **Adjust the harvest rate** (fishing mortality) by changing trap limit (commercial) and bag limit (recreational)
2. **Increase minimum size**
3. **TAC**
4. **Male lobster only fishery**
5. **Maximum size limit**
6. **Change season length**
7. **Expand partial closures** (those that affect a single sector) so that they provide full protection (e.g., Santa Monica Bay, jetties, Catalina )



# Control Rule Summary

- **Addresses MLMA (overarching goal of sustainability)**
- **Establishes a system of well-vetted fishery management actions**
- **Establishes reference point scenarios and provides guidance**
- **Allows fisheries managers to evaluate the situation, and if action is needed prescribe an appropriate response(s) to meet the specific challenges of the problem**



## Additional Questions:

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