

# PRINCE WILLIAM SOUND (PWS)

## Pot Shrimp Fisheries



by

**Maria Wessel and Kenneth J. Goldman, Ph.D.**

**Division of Commercial Fisheries**

and

**Dan Bosch**

**Division of Sport Fish**

**Alaska Department of Fish and Game**

This report can be found in RC3 Tab5



# Presentation Outline

- Commercial fishery
- Noncommercial fisheries
- Commercial fishery
- Research



# Spot Shrimp Selected Life History Traits

- Life span of seven to ten years
- Sedentary
  - Susceptible to localized depletion
- Protandrous hermaphrodites
  - Begin life as males
  - Become female later in life at larger size (~35 mm carapace length)



# PWS Historical Commercial Pot Shrimp Fishery



# **PWS Commercial Pot Shrimp Fishery**

## **Management Components**

### **1960-1992**

- **1960-1981**
  - Open year-round
  - No harvest restrictions
- **1982**
  - April 1 – November 30 open season
  - GHR 75,000 to 145,000 lb
- **1984**
  - March 15 to June 30 and August 15 to December 15 open seasons
  - GHR 75,000 to 100,000 lb for each season
  - Montague Strait experimental harvest area established

# **PWS Commercial Pot Shrimp Fishery**

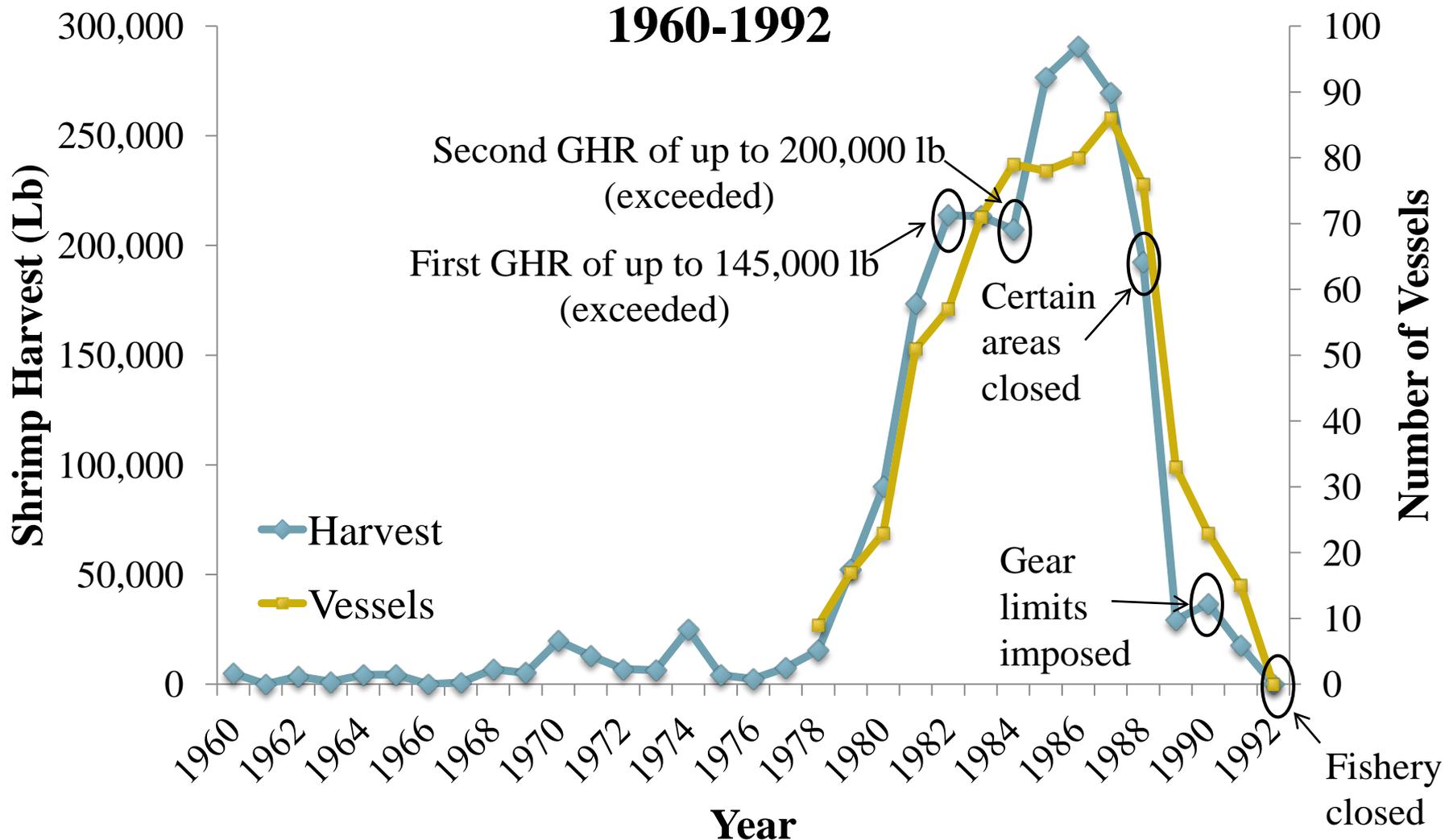
## **Management Components (cont.)**

### **1960-1992**

- **1988**
  - Montague Strait experimental harvest area closed
  - Southwestern portion of traditional harvest area closed
- **1990**
  - Montague Strait experimental harvest area abolished
  - March 15 to May 1 and August 15 to December 15 open seasons
  - Gear limit of 150 pots
  - 7/8-inch rigid mesh required on each shrimp pot
- **1992**
  - Fishery closed

# PWS Commercial Pot Shrimp Fishery

## Harvest and Vessel Participation



# **PWS Commercial Shrimp Pot Fishery**

**Closed 1992-2009**



# Possible Reasons for the Decline of PWS Spot Shrimp

- Overfishing
  - Year-round fishing
  - Incomplete and late catch reporting
- Unfavorable environmental conditions

# PWS Noncommercial Pot Shrimp

- **Prior to 2001**
  - Open year-round
  - Gear limits (Sport, PU) - 5 pots/person, 10/vessel
  - Gear limits (Subsistence) - 10 pots/person, 20/vessel
  - Low harvest (2,950 lbs avg. SWHS Sport Harvest)
- **2001 to 2008**
  - Season established: April 15 – Sept 15
  - Gear restrictions - 5 pot/person, max 5 per vessel
  - A harvest permit required
  - Increasing effort and harvest

# PWS Noncommercial Pot Shrimp

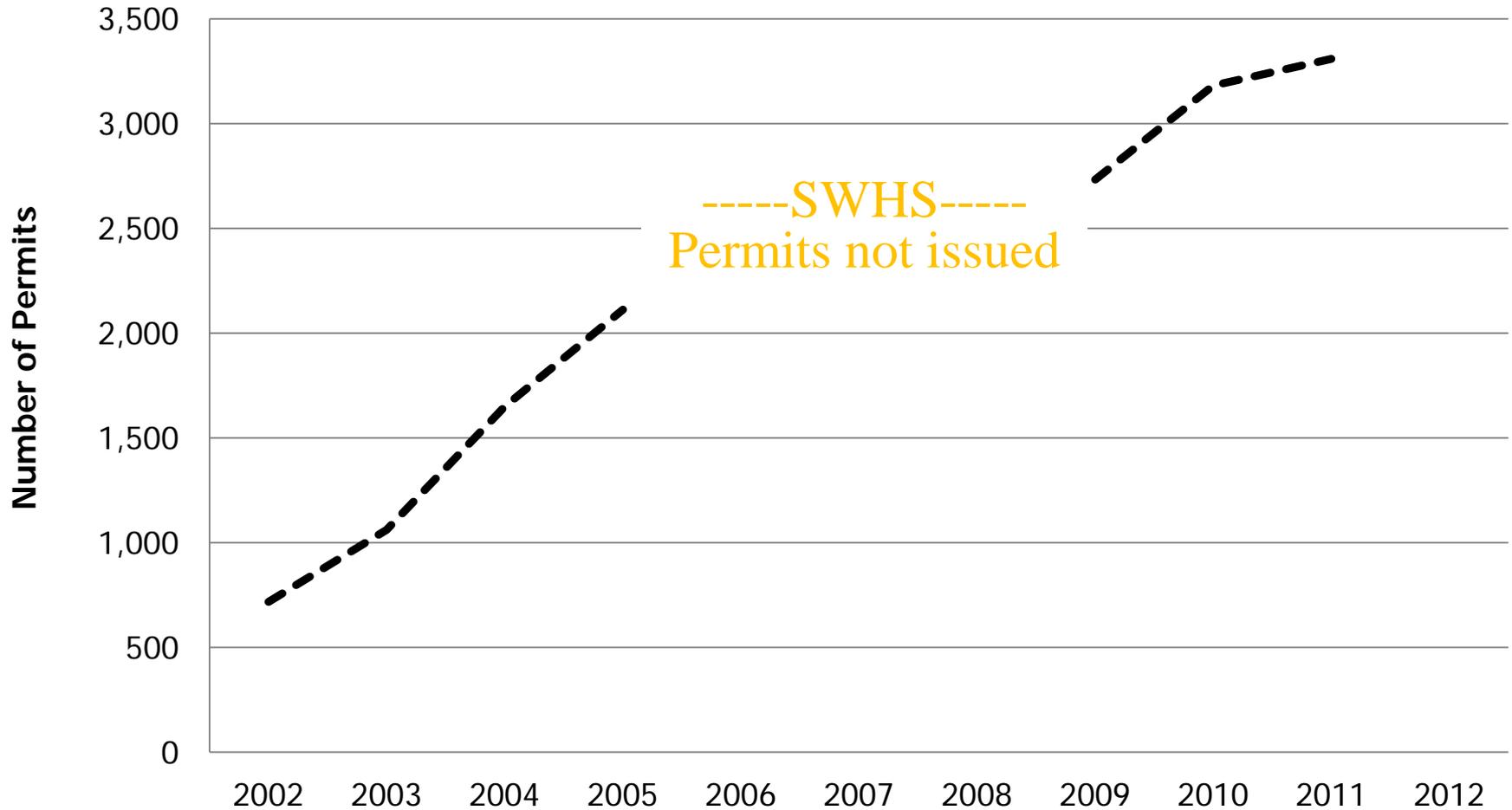
- **2009 to Present**

- *PWS Noncommercial Shrimp Fishery Management Plan*

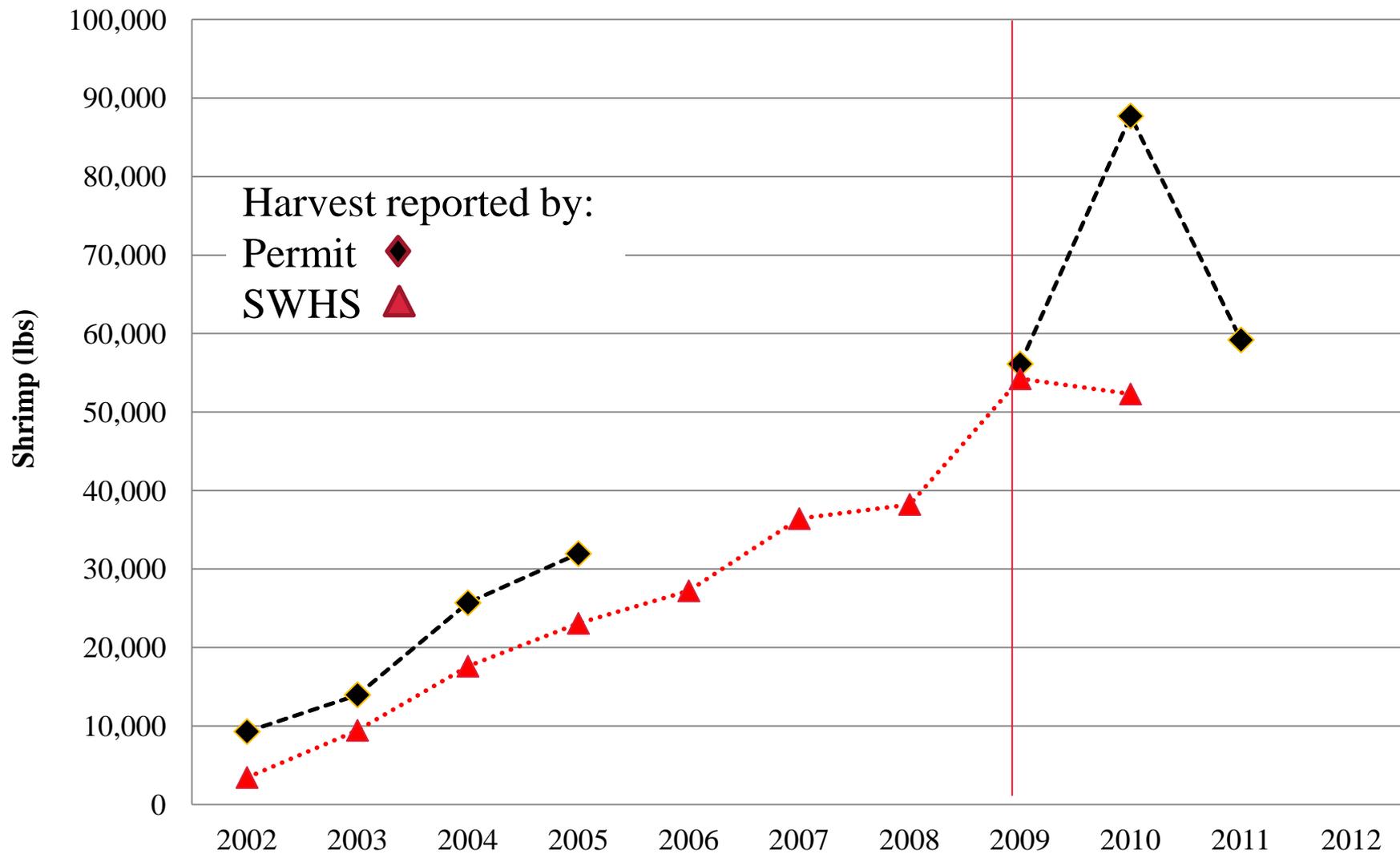
- Relies on estimates of total allowable harvest (TAH)
- 60% of TAH allocated to the non-commercial users
- Harvest permit required for all users
- EO authority to increase or decrease number of pots, time, or area

# PWS Noncommercial Pot Shrimp

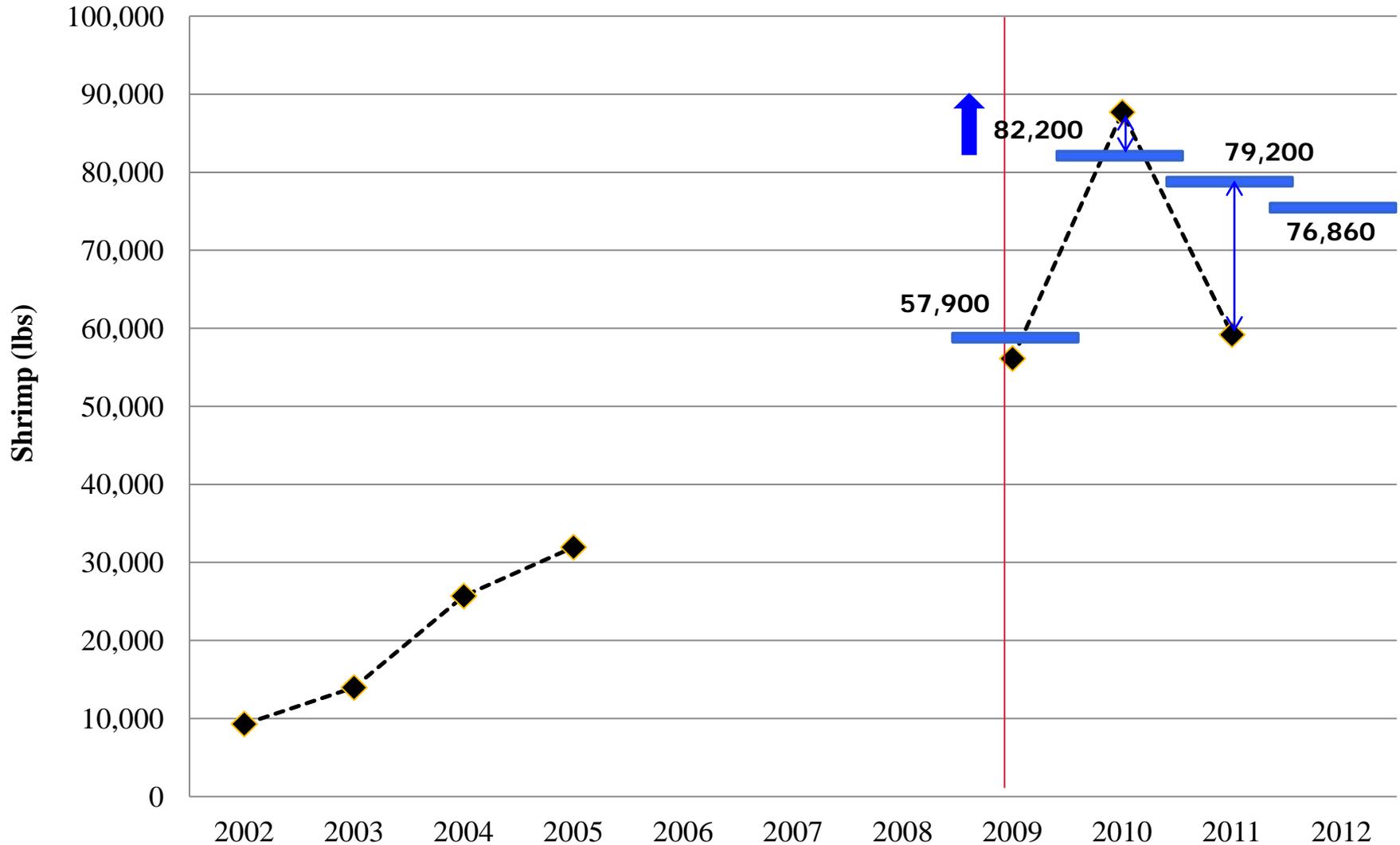
## Number of Noncommercial Shrimp Permits Issued



# Estimates of Shrimp Harvest in Noncommercial Fisheries (2002-2011)



# Estimates of Shrimp Harvest in Noncommercial Fisheries by Permit (2002-2005, 2009-2011) and Allocation (2009-2012)



# **PWS Commercial Pot Shrimp Fishery**

## **Current Management Components**

- 1) Harvestable surplus must be at least 110,000 lb for a commercial fishery to open
- 2) Allocation is 40% of total allowable harvest
- 3) Fishery rotates among three areas

# PWS Commercial Pot Shrimp Fishery



# **PWS Commercial Pot Shrimp Fishery**

## **Current Management Components (continued)**

- 4) Fishery-dependent gear limits
- 5) Hours of gear operation
  - 8:00 a.m. to 4:00 p.m., unless modified by emergency order
- 6) Reporting requirements
  - Wednesday call-in report
  - Prior to landing call-in report
  - Written logbooks

# 2010 PWS Commercial Pot Shrimp Fishery

- 55,000 lb GHL
- 155 vessels registered
  - 73 vessels (82 individuals) participated
  - 12 vessels >2 trips
- 45,349 lb harvested
  - Fishery CPUE 2.5 lb/pot
  - Estimated exvessel value of \$193,000

# 2010 PWS Commercial Pot Shrimp Fishery

## Management Elements

- 20-pot limit
- Began with short fishing periods
- Hours of gear operation were extended
- Effort declined steadily
- Closed by regulation September 15

# 2011 PWS Commercial Pot Shrimp Fishery

- 52,760 lb guideline harvest level
- 91 vessels registered
  - 44 vessels (48 individuals) participated
  - 16 vessels >2 trips
- 52,694 lb harvested
  - Fishery CPUE 1.78 lb/pot
  - Exvessel value of \$240,000

# 2011 PWS Commercial Pot Shrimp Fishery

## Management Elements

- 40-pot limit
- Began with short fishing periods
- Hours of gear operation were extended twice
- Effort declined steadily
- Closed by emergency order on July 29

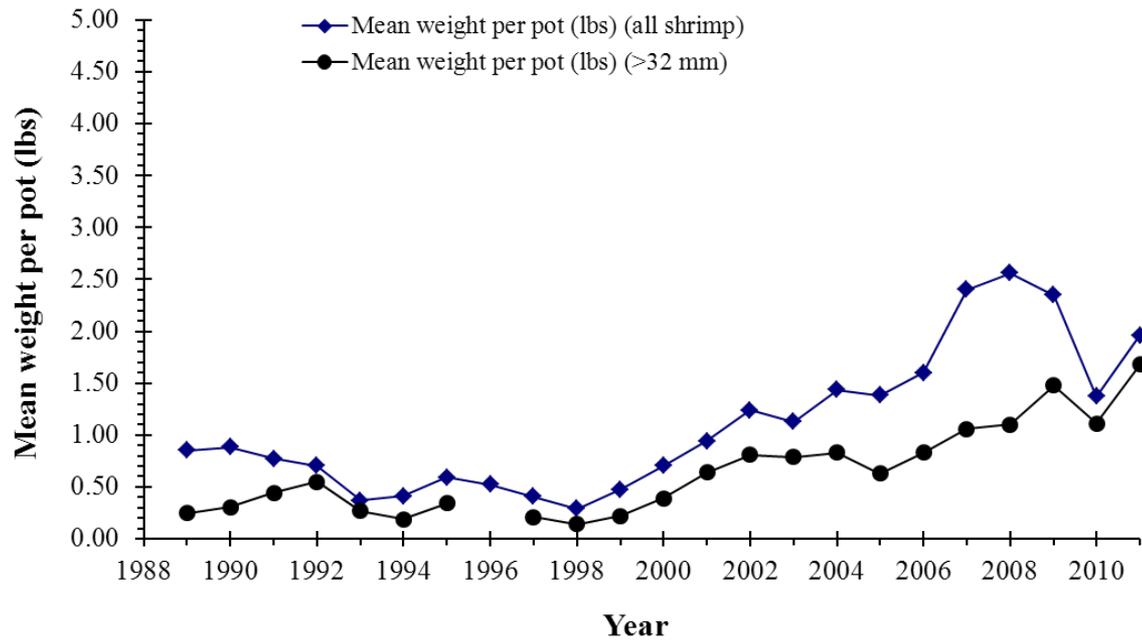
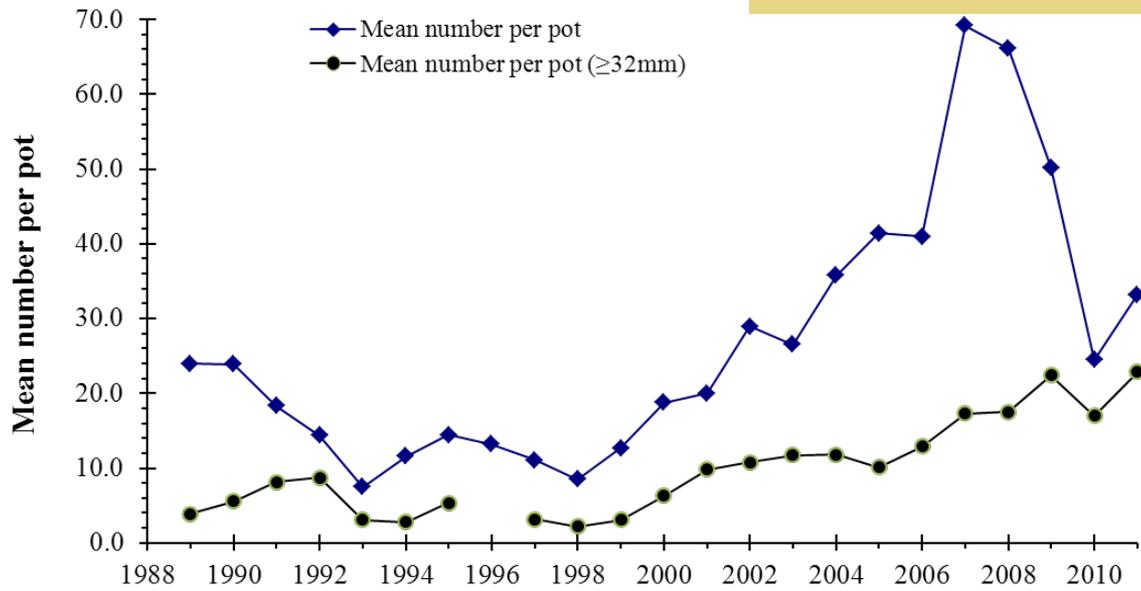
# 2012 PWS Commercial Pot Shrimp Fishery Outlook

- 51,240 lb GHL
- Fishery will occur in Area 3
- Pot limits will be set following April 1 registration deadline
- Fishery will likely open with short fishing periods
- Hours of gear operation will be adjusted as necessary

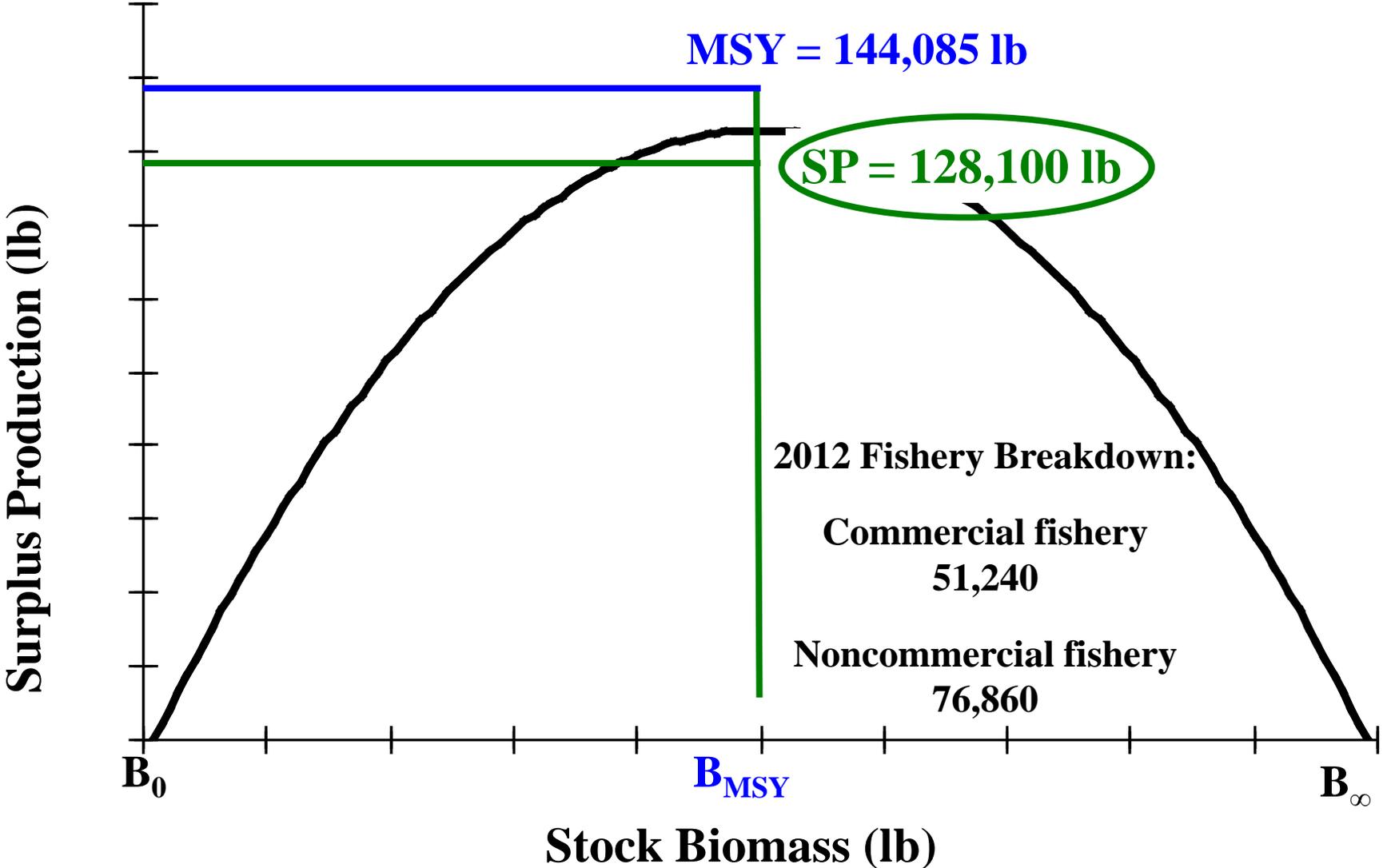
# PWS ADF&G Spot Shrimp Survey Locations







# PWS Spot Shrimp Surplus Production Model



Commercial fishery threshold = 110,000 lb

# Acknowledgements

A close-up photograph of a person's hand holding a large, cooked shrimp. The shrimp is bright orange-red and has a white stripe running down its back. The hand is positioned palm-up, supporting the shrimp. In the background, a white electronic device with a small screen and buttons is visible, including a blue 'OFF' button and a red 'ON' button. The overall scene is set in what appears to be a laboratory or kitchen environment.

**We thank the Alaska Board of Fisheries and members of the audience for their time and attention to this presentation.**

**We are happy to address any questions you may have.**