Monitoring and Management of California's Pacific Herring Fisheries

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Richmond, British Columbia

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Overview

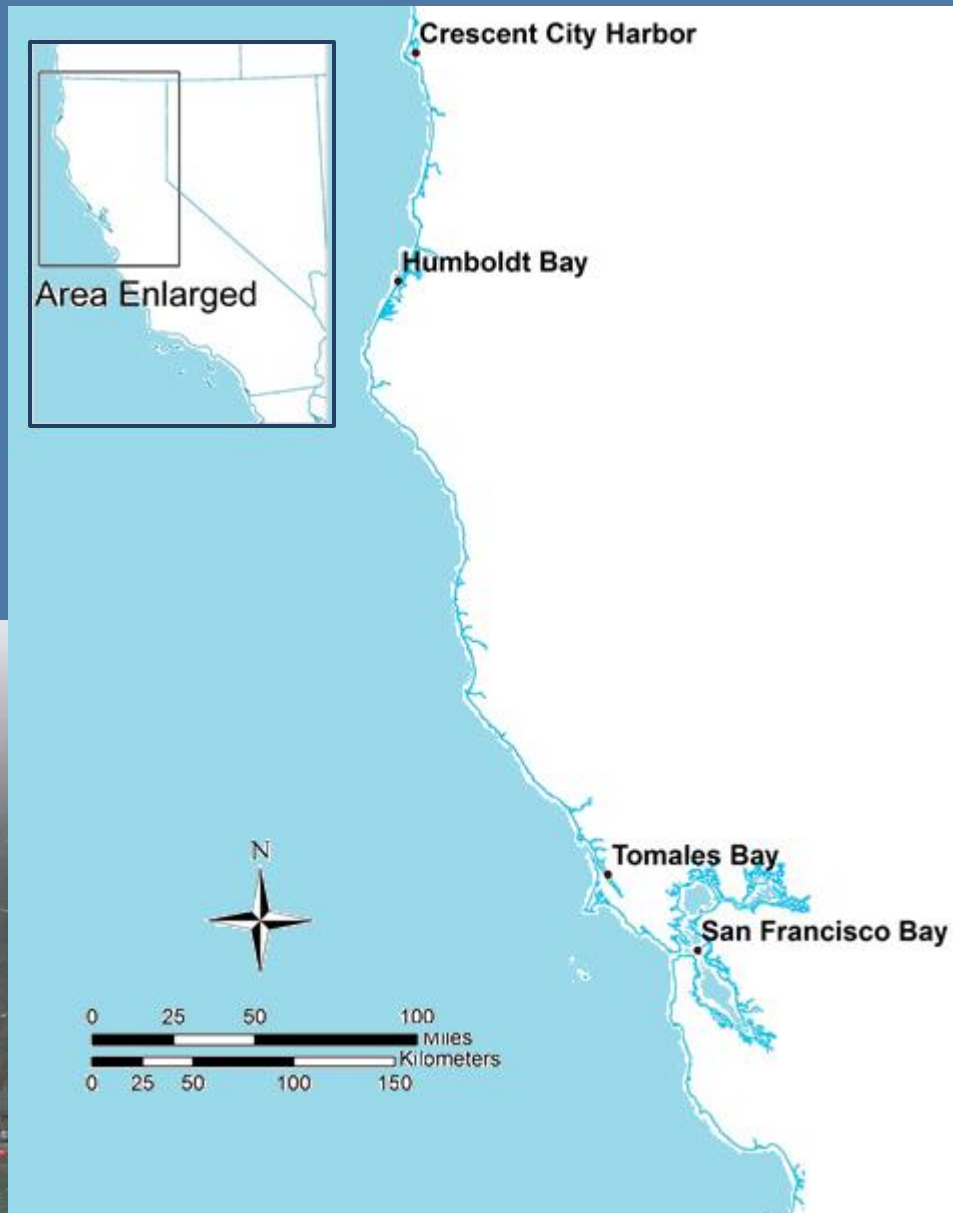
- Monitoring of Herring
  - Distribution in California
  - Spawning and Fishing areas
  - Research and Monitoring

- Commercial Fisheries
  - Products
  - Current Management
  - Future Management

Pacific Herring in California

Spawning and fishing areas:

- Crescent City Harbor
- Humboldt Bay
- Tomales Bay
- San Francisco Bay



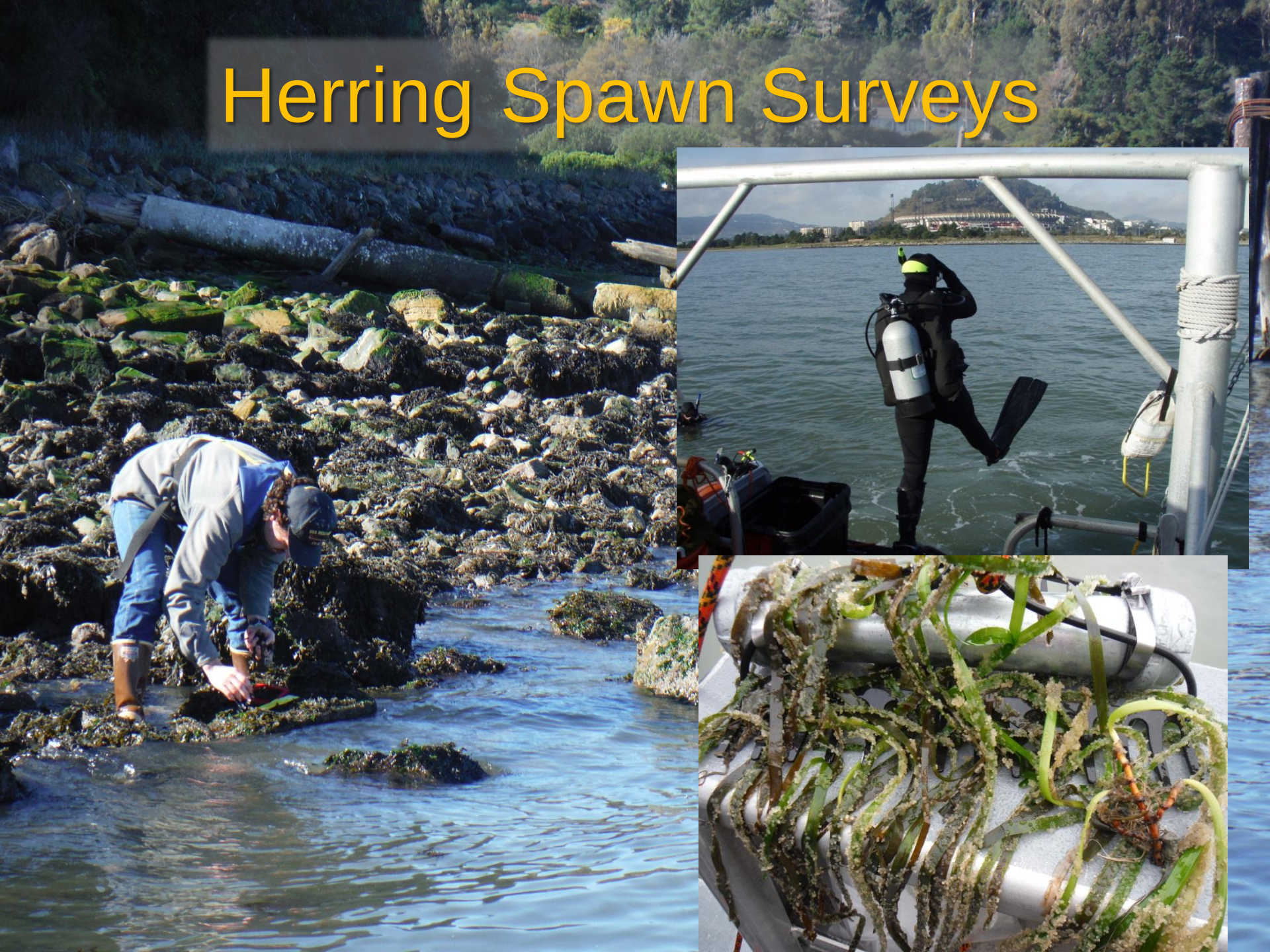
Pacific herring are small in California

- Average length = 160 mm BL (6 inches)
- Average weight = 50 grams (0.1 pound)
- Lifespan = 9 years

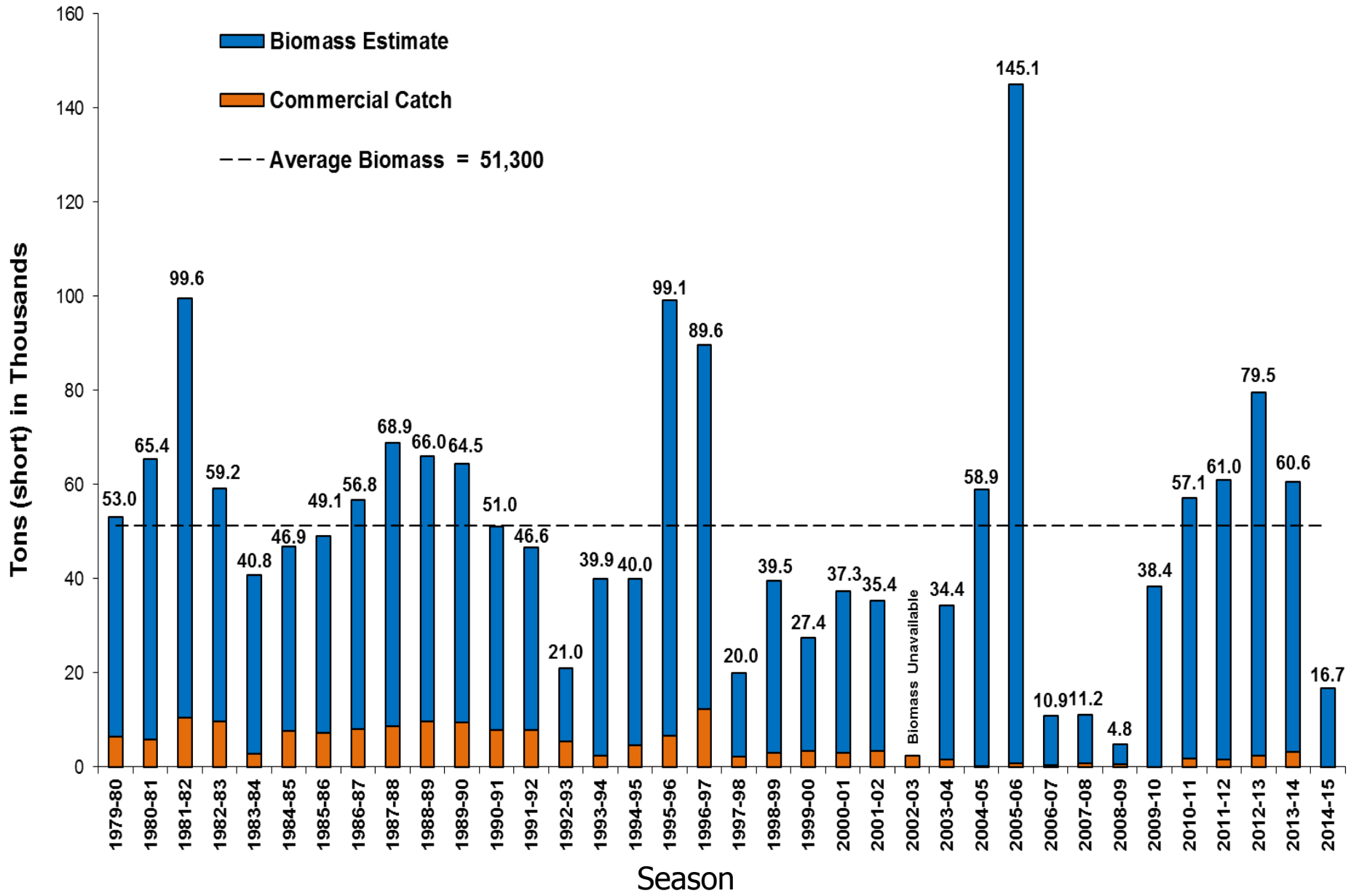
Herring Research

- Estimate annual spawning biomass
- Sample the spawning population and commercial catch

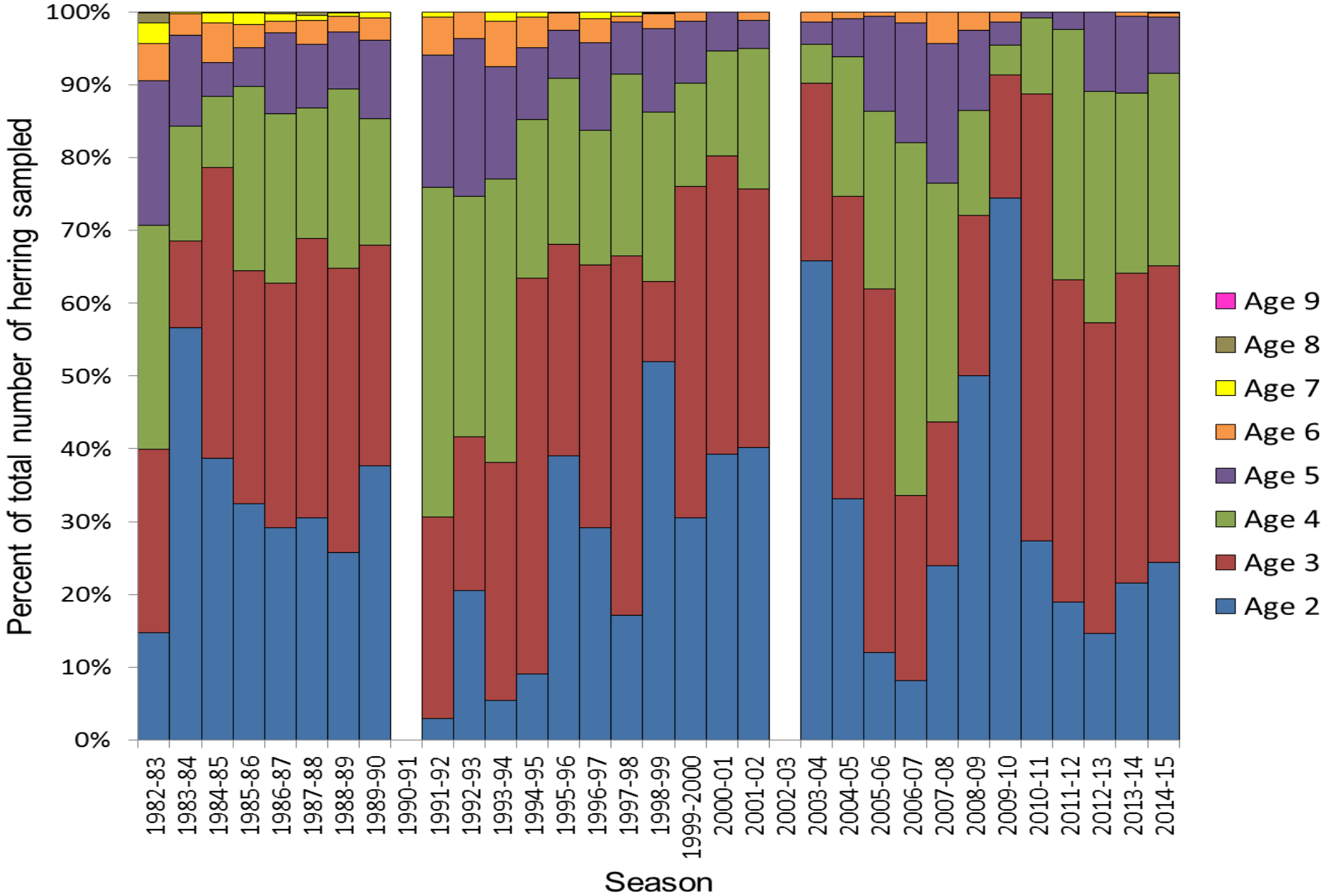
Herring Spawn Surveys



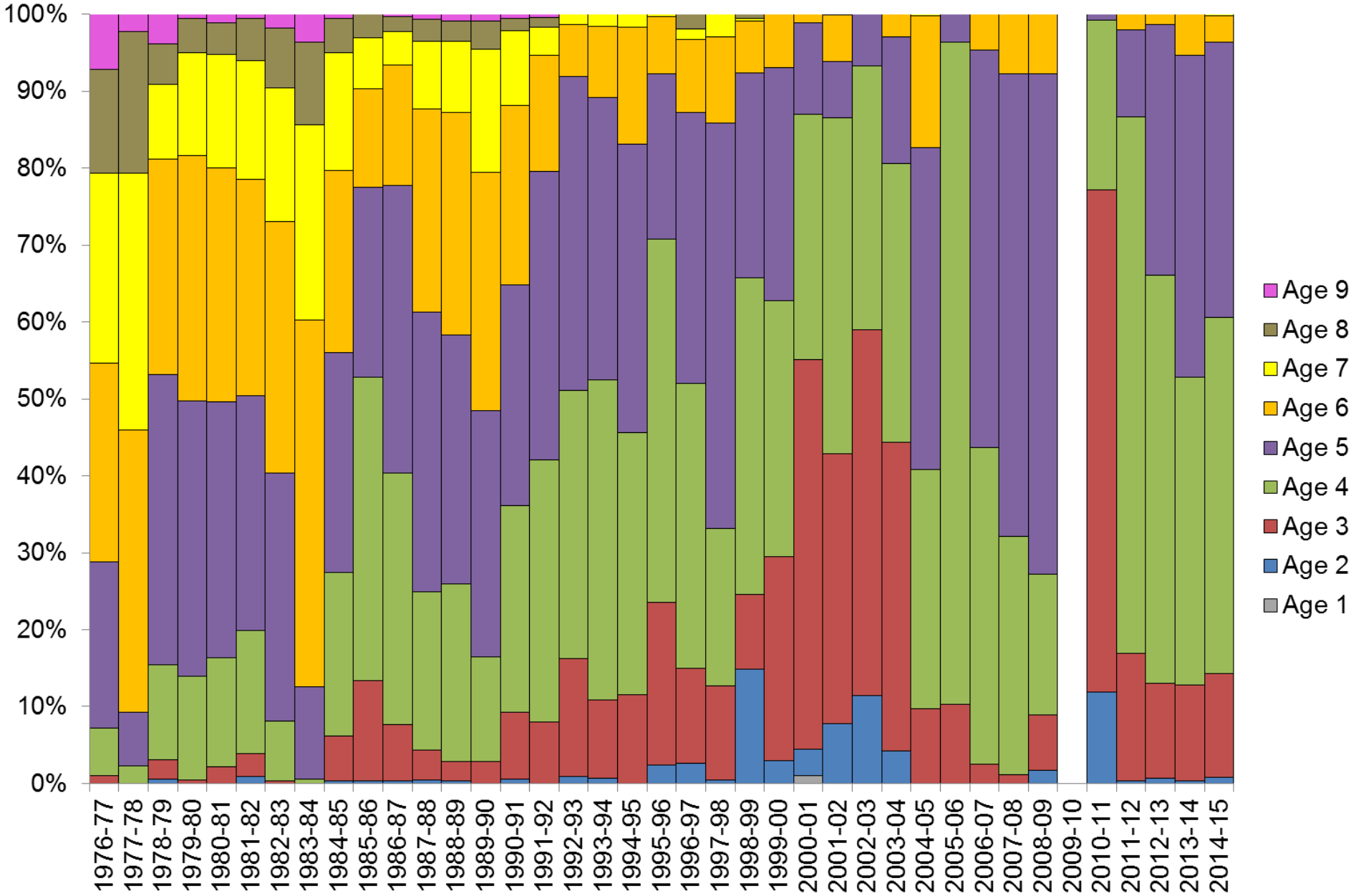
San Francisco Bay Spawning Biomass



Research Catch Age Structure



Commercial Gillnet Age Structure



Herring Products

- Commercial Fisheries
  - Herring Sac Roe, *Kazunoko*
  - Herring-eggs-on-kelp, *komochi kombu*
  - Fresh Fish
- Recreational Fishery

Herring Management Goals

- Sustainable fishery
- Important forage species
- Precautionary principles
- Healthy age structure
- Minimize harvest of young herring
- Support recreational take

The Future

- Ensure fishery sustainability and safeguard herring's ecosystem role
- Stock assessment model
- Fisheries management plan

San Francisco Bay Herring Stock Assessment Model

- Age structured production model
  - Similar to a statistical catch-at-age model
  - Beverton-Holt stock-recruitment
- Funded by the San Francisco Bay Herring Research Association

Fishery Management Plan

Primary Goals:

- Focus on forage and ecosystem function
- Develop a harvest control rule
- Incorporate stock assessment (model)
- Ensure a sustainable-viable fishery
- Develop collaborative research partnerships
- Template for future FMPs in California

THANK YOU

QUESTIONS?

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More Information

CDFW Herring Web Page
dfg.ca.gov/marine/herring

Herring “Blog”
cdfwherring.wordpress.com

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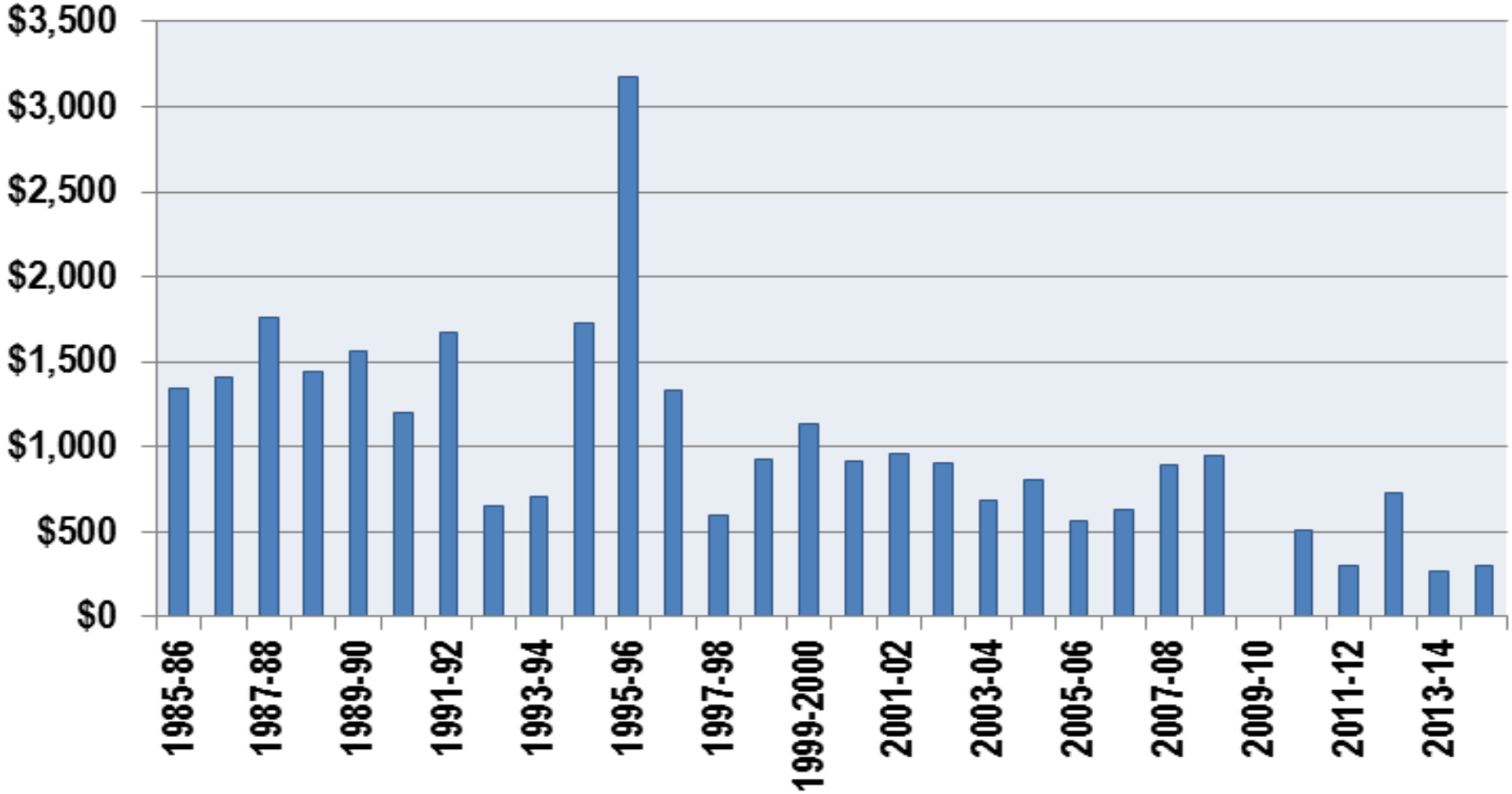
Herring Roe Price History