

# NEAMAP

## Mid-Atlantic / Southern New England

*A Collaborative, Fishery-Independent Trawl Survey  
Operating in the Coastal Ocean*

**Chris Bonzek**

**Jim Gartland**

**November 2012**

# Stock Assessment & Surveys

## Biological (Life History) Data

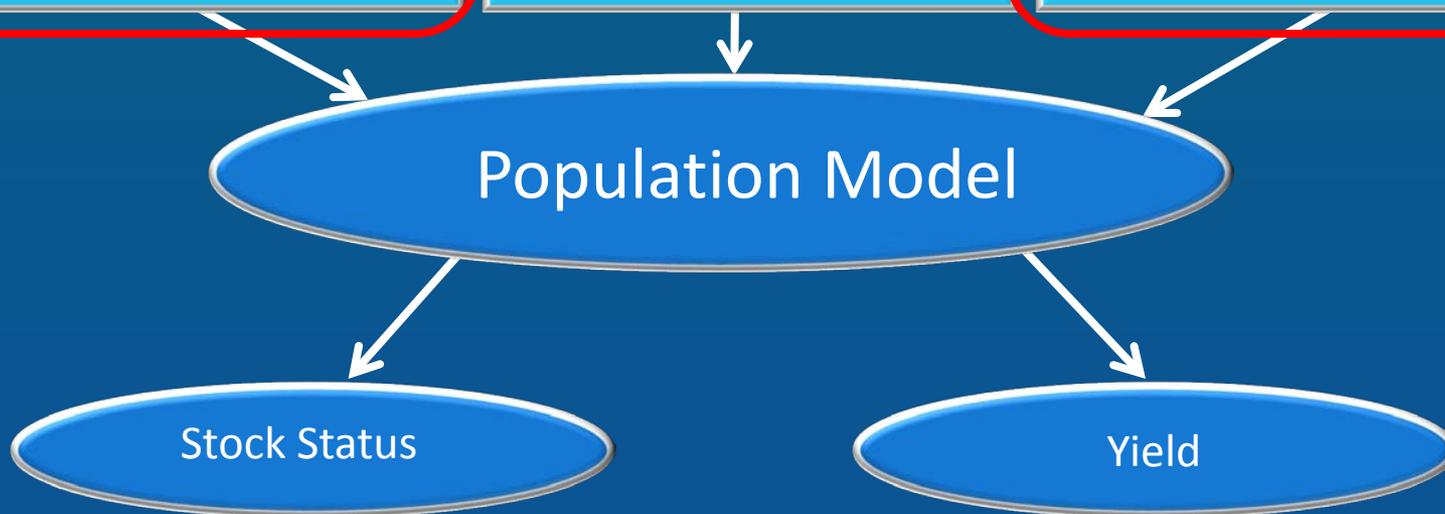
- Age
- Growth
- Maturity
- Fecundity, etc.

## Fishery Dependent Data

- Catch
- Effort
- Length/Age
- Bycatch

## Fishery Independent Data

- Abundance
- Length/Age
- Sex/Maturity
- Diet



# NEAMAP History

## 1998

- ASMFC Identified Lack of
- Coordination in the

- Form
- near

## 2005

- All A
- ACFC
- FSV/

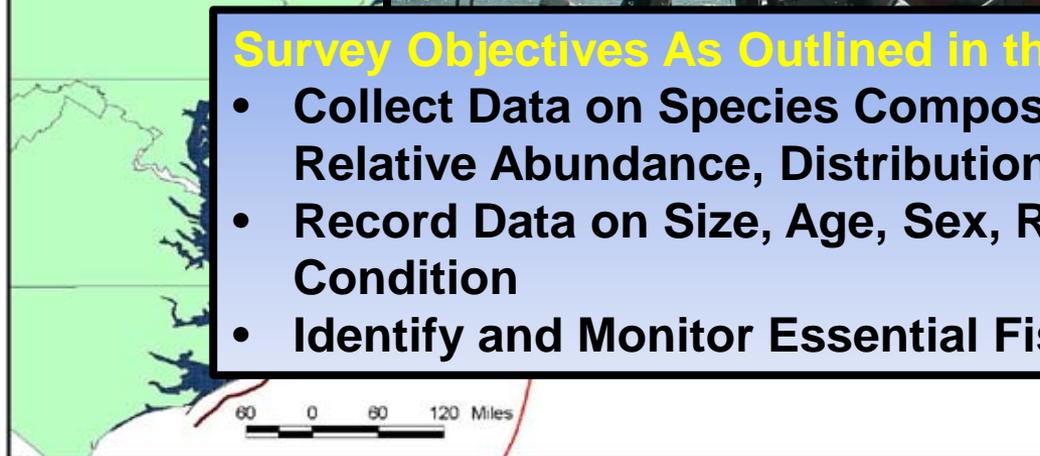
## 2006

- VIMS
- Fall F



### Survey Objectives As Outlined in the MOU...

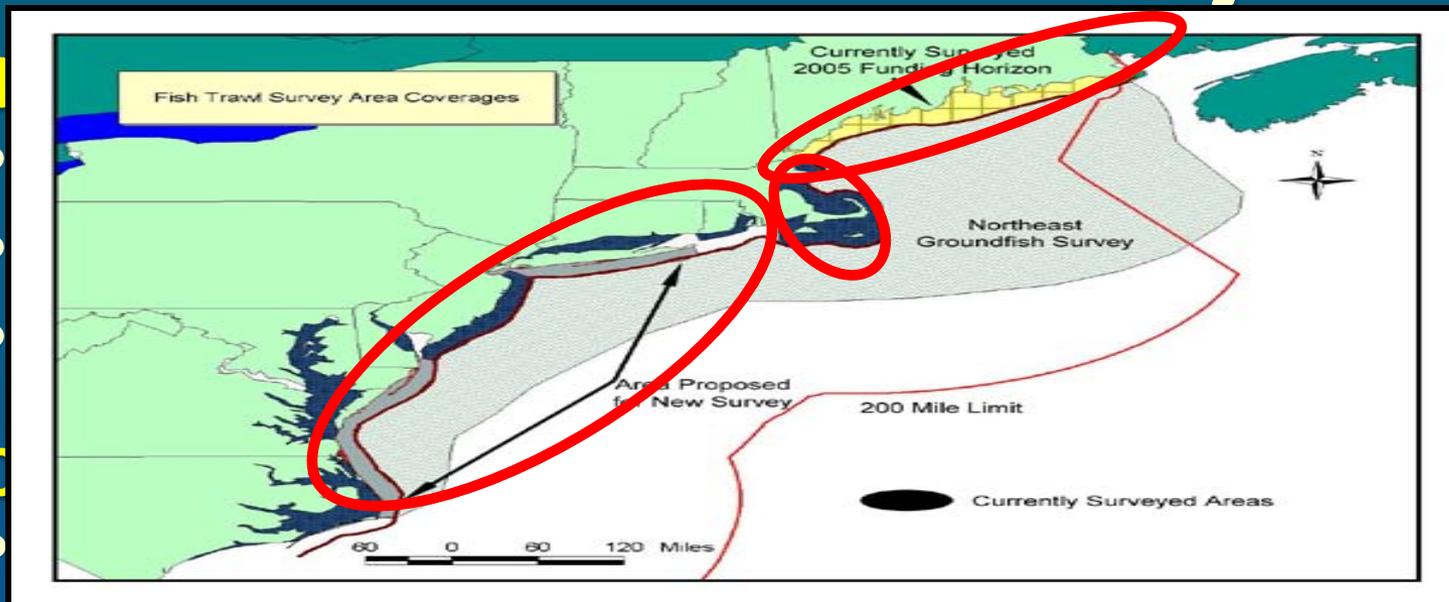
- Collect Data on Species Composition, Biomass, Relative Abundance, Distribution, Seasonality
- Record Data on Size, Age, Sex, Reproductive Condition
- Identify and Monitor Essential Fish Habitat



# NEAMAP History

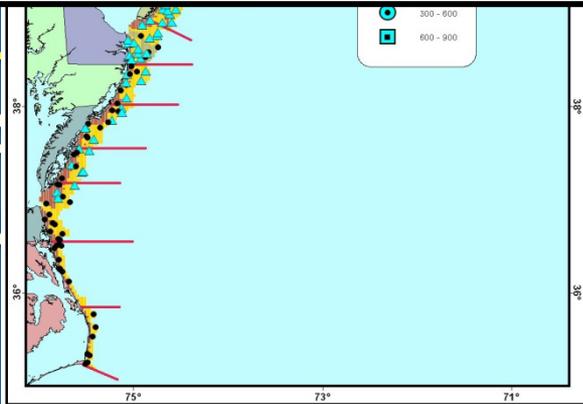
Fall

200

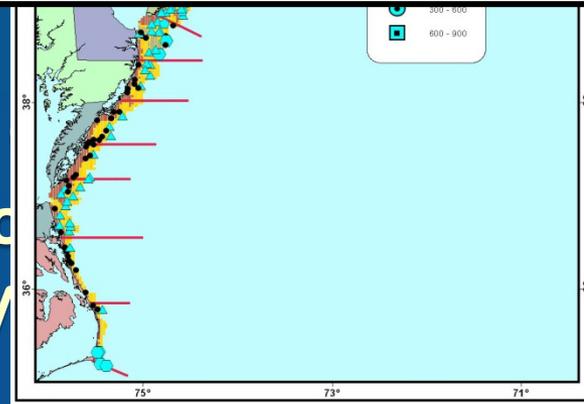


2011+

- A
- S
- N



ard'  
Amc  
EAM



etter  
M.A. –

# NEAMAP Funding History

## 2006 Pilot

- ASMFC

## 2007 Fall – 2008 Spring

- ASMFC & NEFSC

## 2008 Fall – 2010

- MAFMC Research Set-Aside Program (RSA)

## 2011+

- 80% MAFMC RSA
- 20% CFRF

**Current Budget:  
~\$1 million annually**

# Survey Goals

- 1. Collect & establish a consistent time series of fishery independent data in the Atlantic coastal ocean between Martha's Vineyard, MA & Cape Hatteras, NC to support analytical stock assessments of managed species**
- 2. Conduct analyses of these data in support of stock assessments & management**
- 3. Engage in collaborative research efforts which leverage & extend the survey's capabilities**

# Survey Methods

## Industry Partners

*Capt. Jimmy Ruhle*



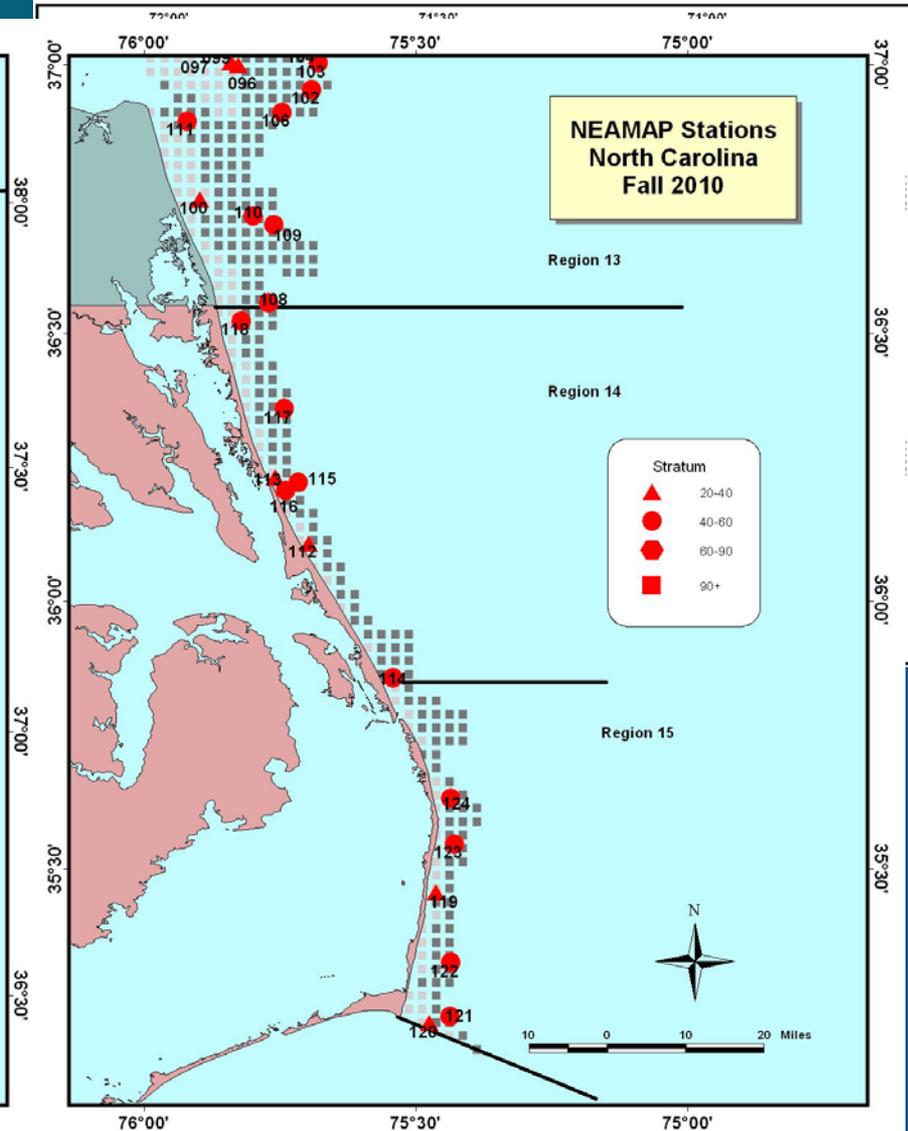
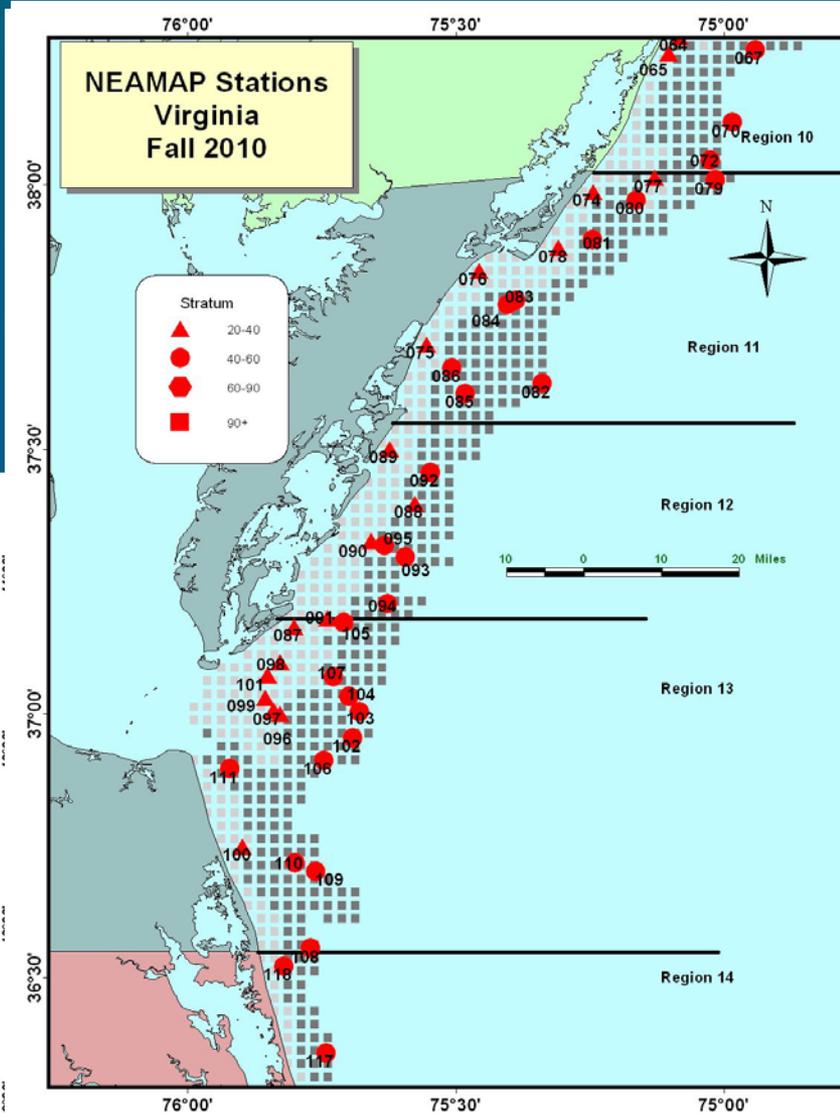
*Bobby Ruhle*



*F/V Darana R*



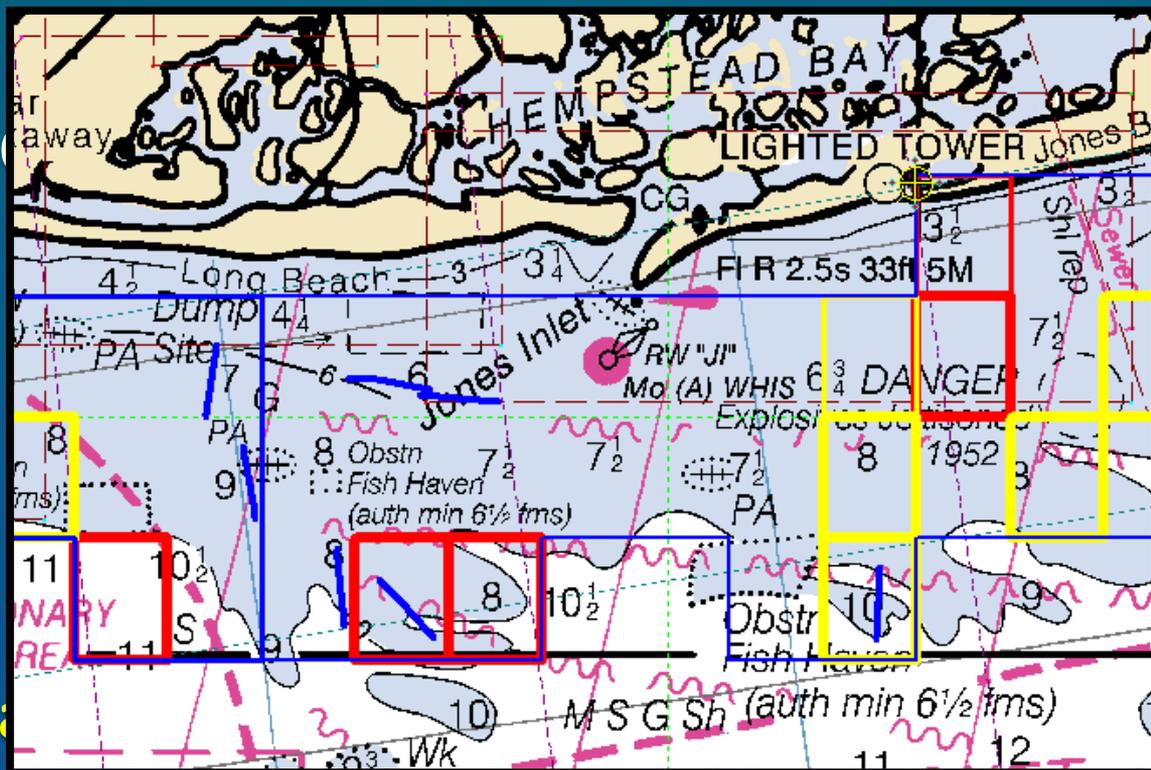
# Survey Methods



# Survey Methods

## Survey Area: Total

- 2,006 Sampling 'Cells'
- Each Cell is 1.5min x 1.5min
- Approximately 5,650 sq.nm.



## Survey Area:

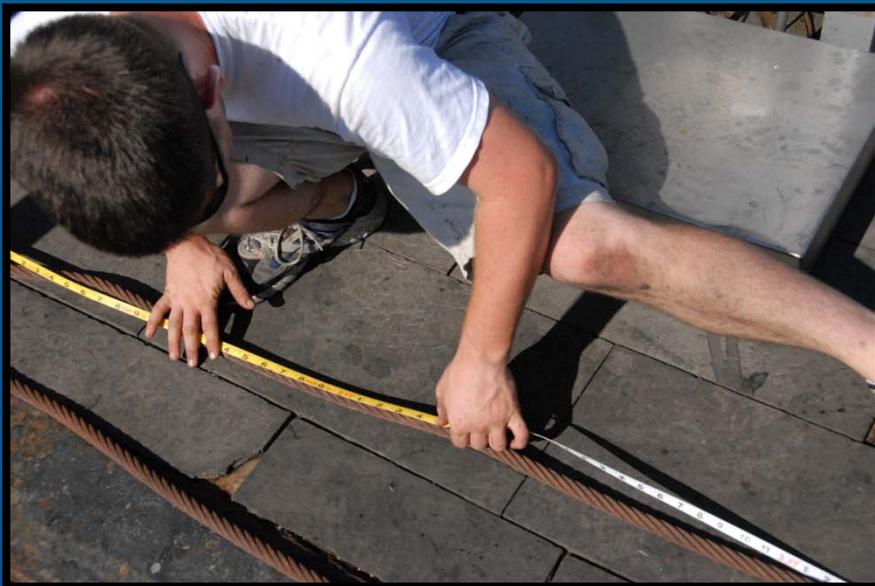
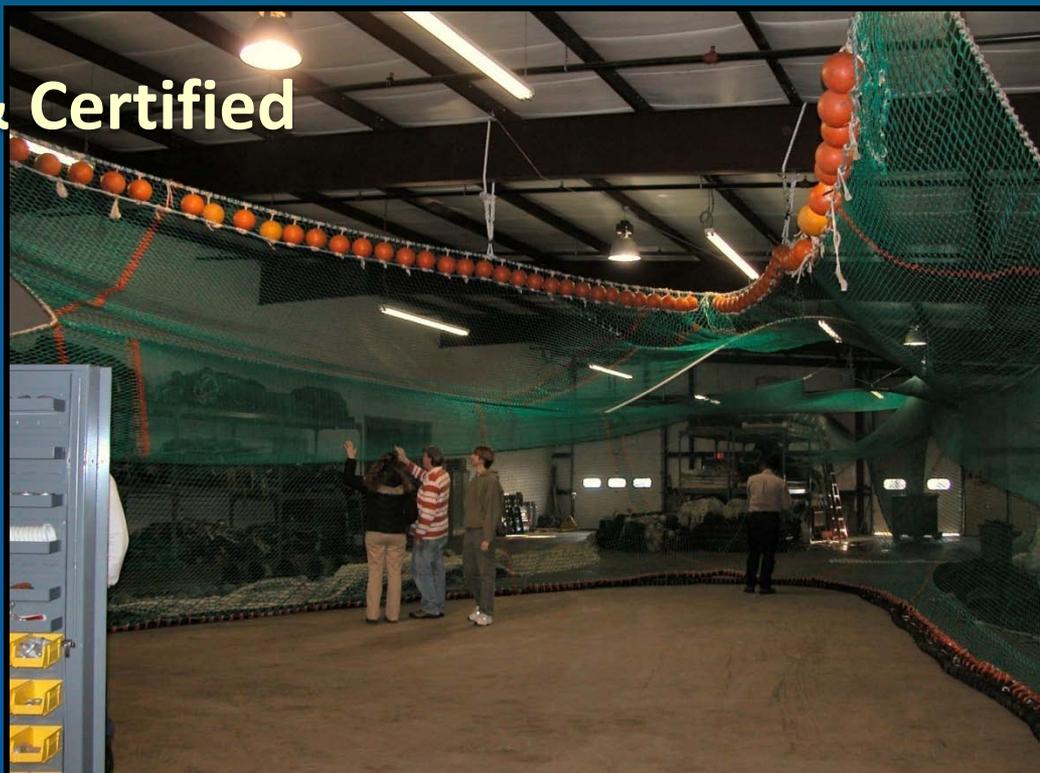
### Southern New England

- 376 Sampling 'Cells'
- Approximately 1,050 sq.nm.

# Survey Methods

## Survey Gear

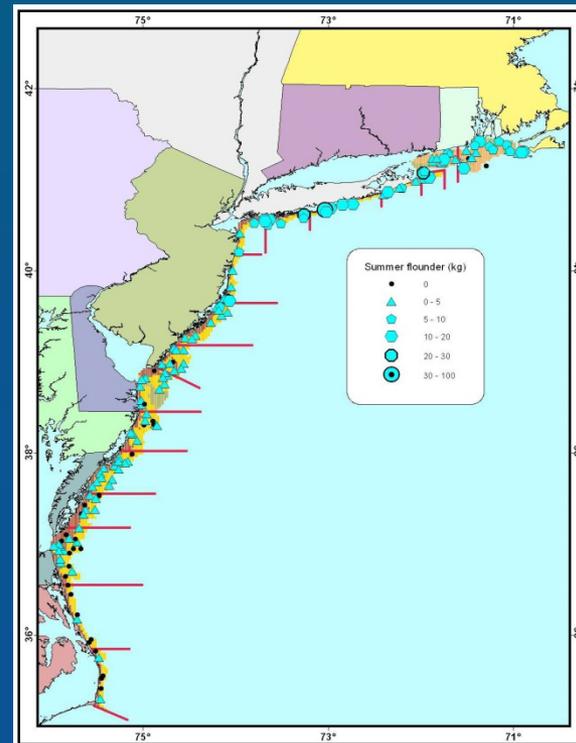
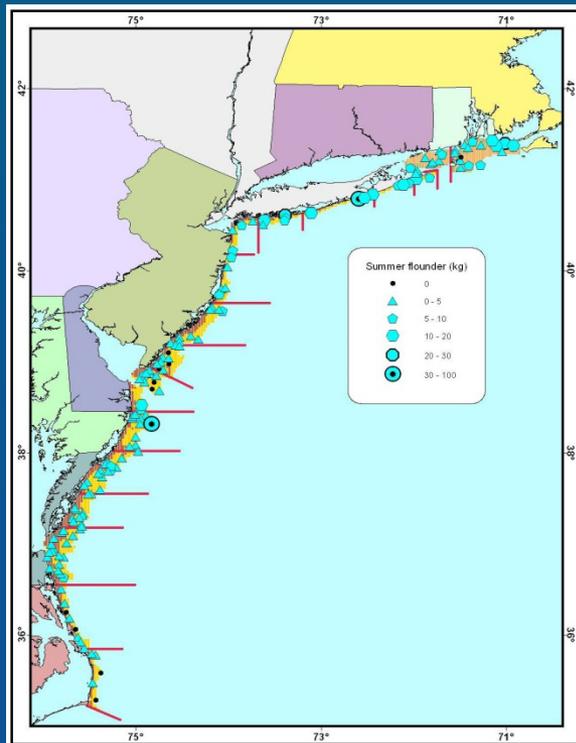
- 400x12cm 3-Bridle 4-Seam Bottom Trawl
- 3 inch Cookie Sweep
- 1 inch knotless liner
- All Gear Measured & Certified



# Survey Methods

## Sampling

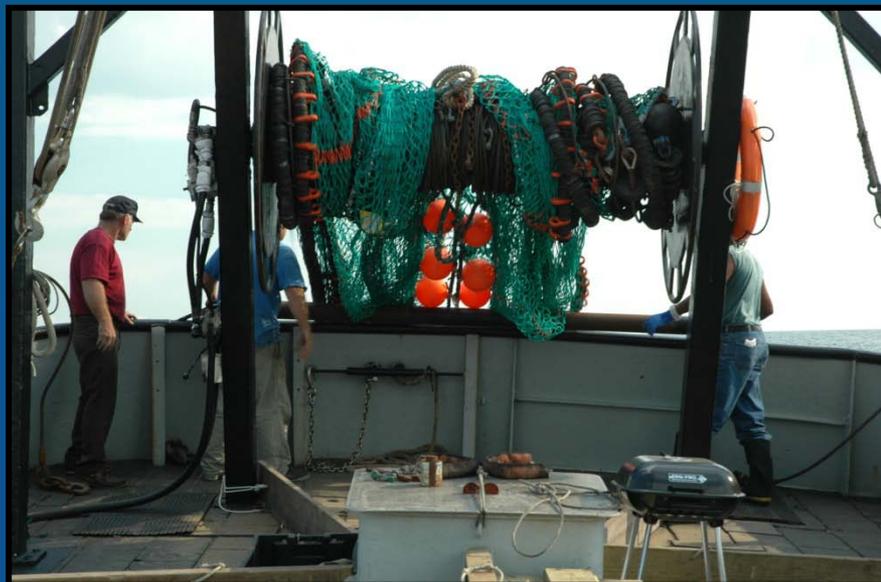
- 150 Stations Sampled Per Cruise  
= Approx. 1 Station per 30 sq.nm.
- Stratified-Random Station Selection For Each Cruise



# Survey Methods

## Sampling

- 150 Stations Sampled Per Cruise  
= Approx. 1 Station per 30 sq.nm.
- Stratified-Random Station Selection For Each Cruise
- Gear Fished For 20 Minutes At Each Station  
(Brakes-on to Brakes-off)





# Survey Methods

## Environmental Data Recorded

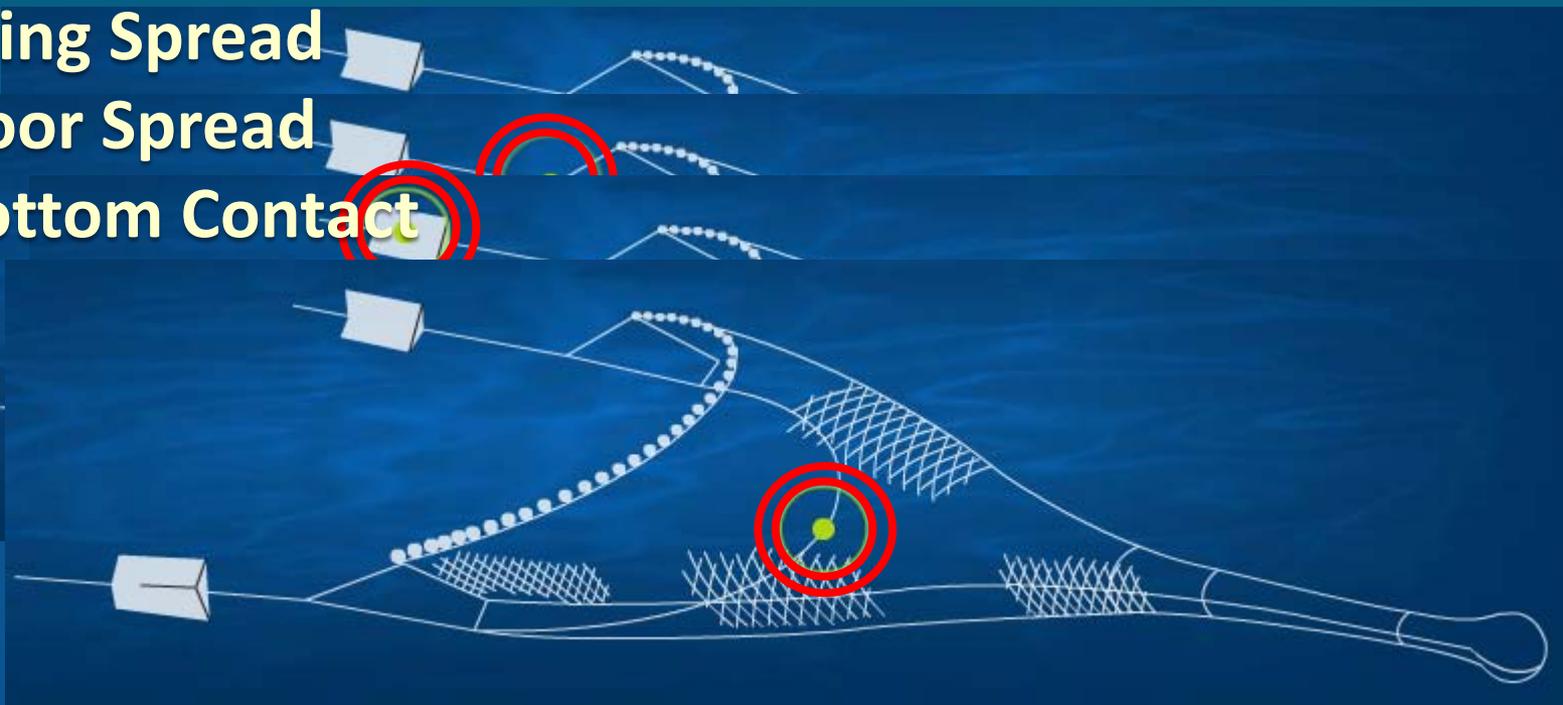
- Air Temperature
- Wind Speed & Direction
- Barometric Pressure
- Sea State
- Water Quality (2m Intervals)
  - Temperature
  - Salinity
  - Dissolved Oxygen



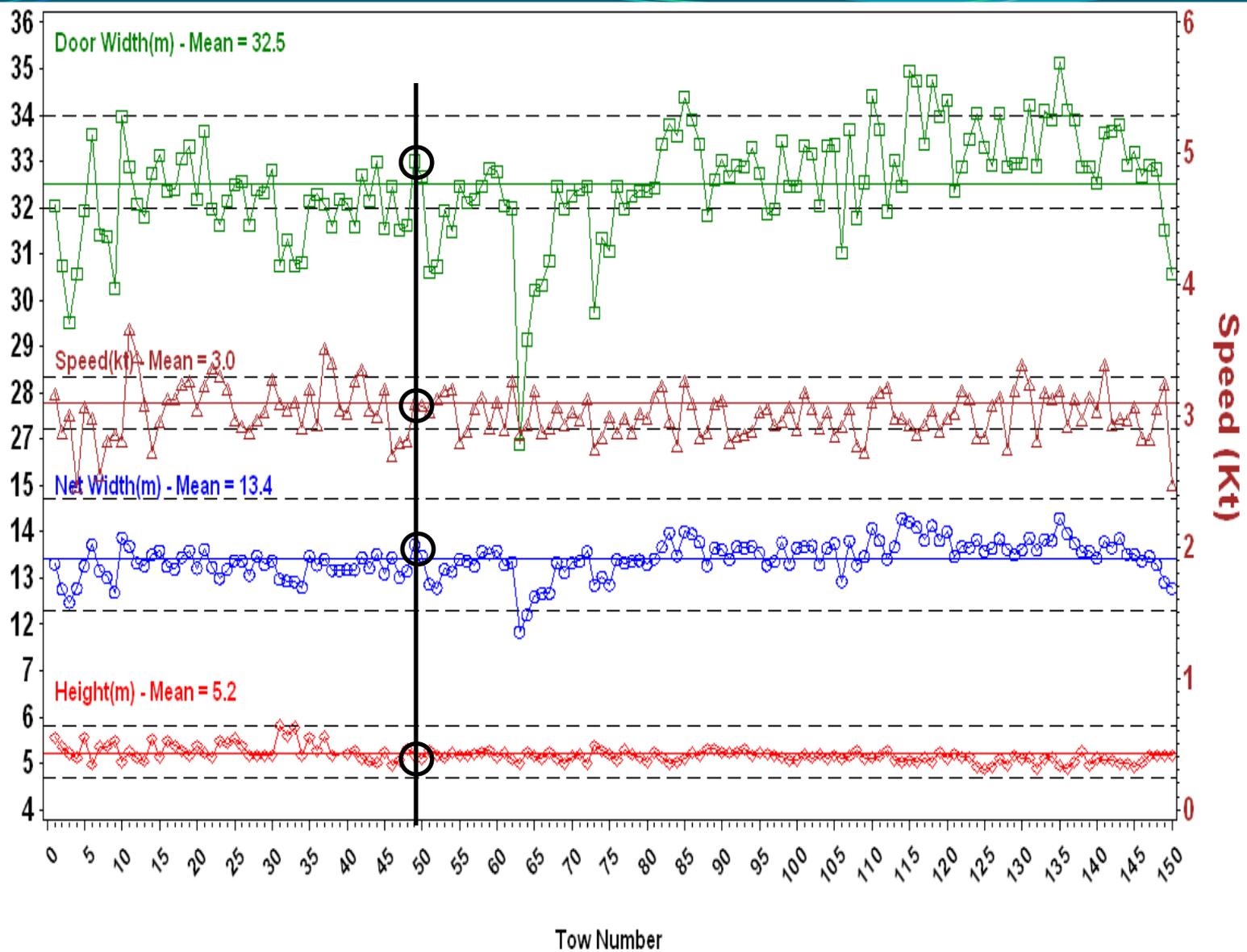
# Survey Methods

## Gear Performance Data Recorded

- Headrope Height
- Wing Spread
- Door Spread
- Bottom Contact



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# Survey Methods

**Catch Processing – Total Weight & Number, Size, Age, Sex, Maturity, Diet – By Species for Every Tow**

1. Catch Dumped
2. Sorted by Species & Size Group
3. 'Detail' vs. 'Aggregate' Samples Separated
4. All Specimens Weighed Either in Aggregate or by Individual
5. All or a Subsample Measured



# Survey Methods

## 'Detail' Processing...

- Need Length, Weight, Sex, Maturity, Age, Diet Data
- Impractical for large numbers of specimens
- Therefore, Take 'Tag and Release'
- Which Species?

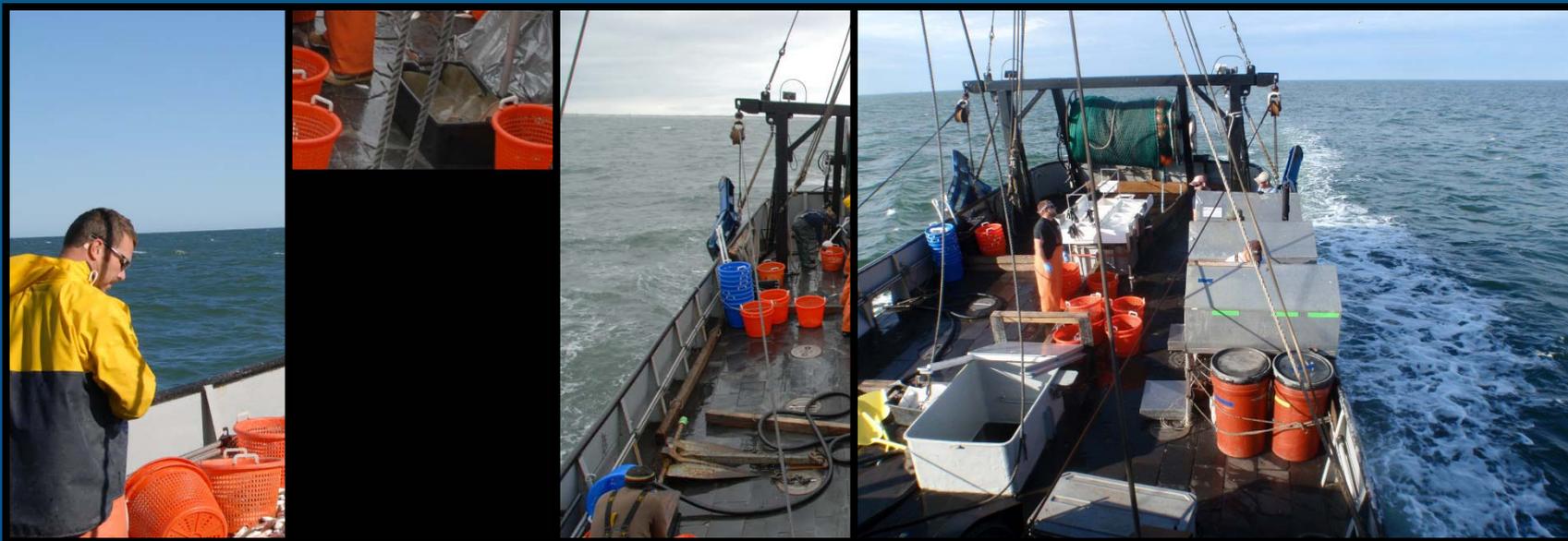
Year	Number of Detail Fish
2007	5,151
2008	10,742
2009	13,017
20010	10,434
2011	10,435



# Survey Methods

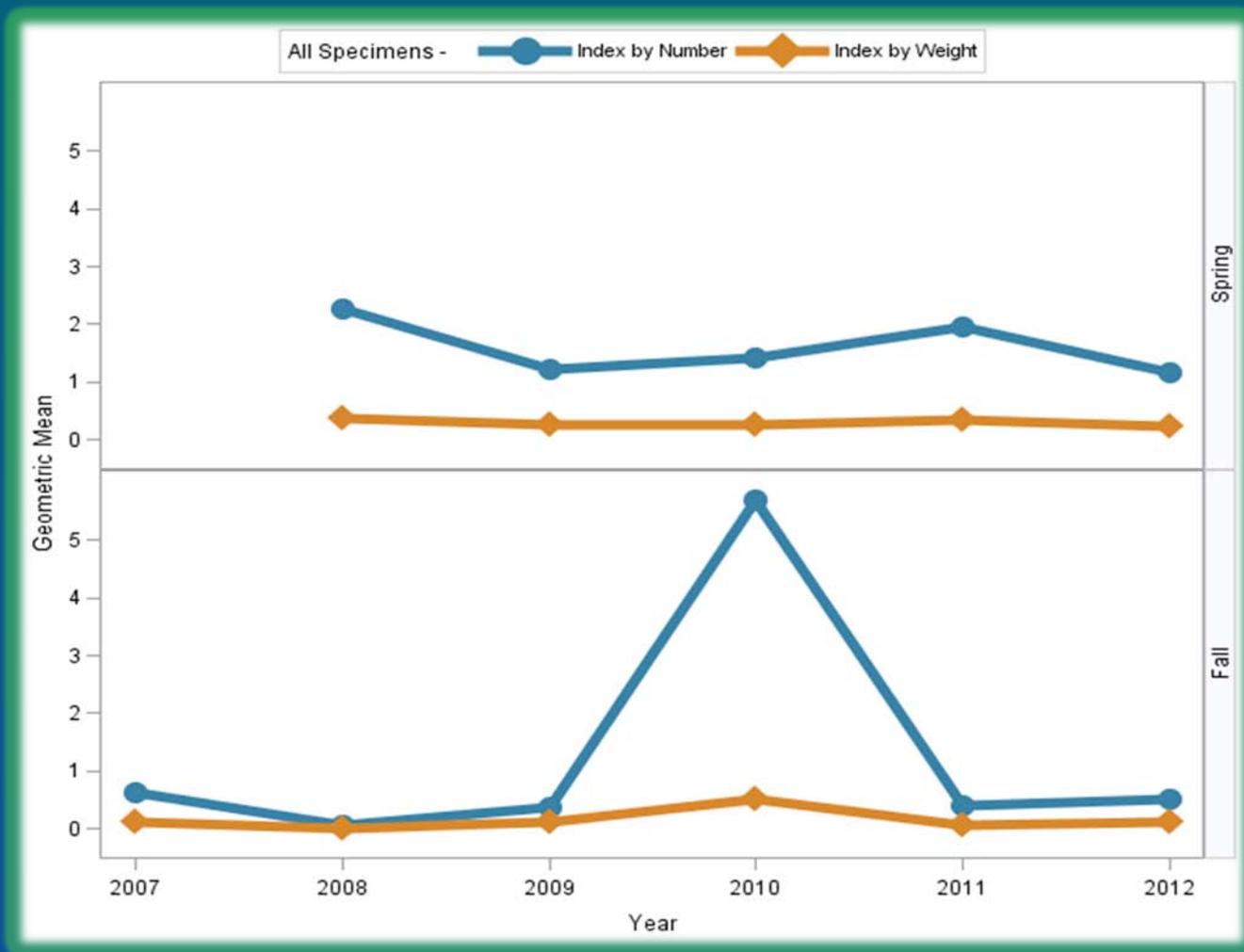
## 'Aggregate' Processing...

- Total Weight, Count, Individual Lengths
- Gross Weight by Species and Size Class
- Individual Lengths on All or a Subsample
- Subsampled as Necessary



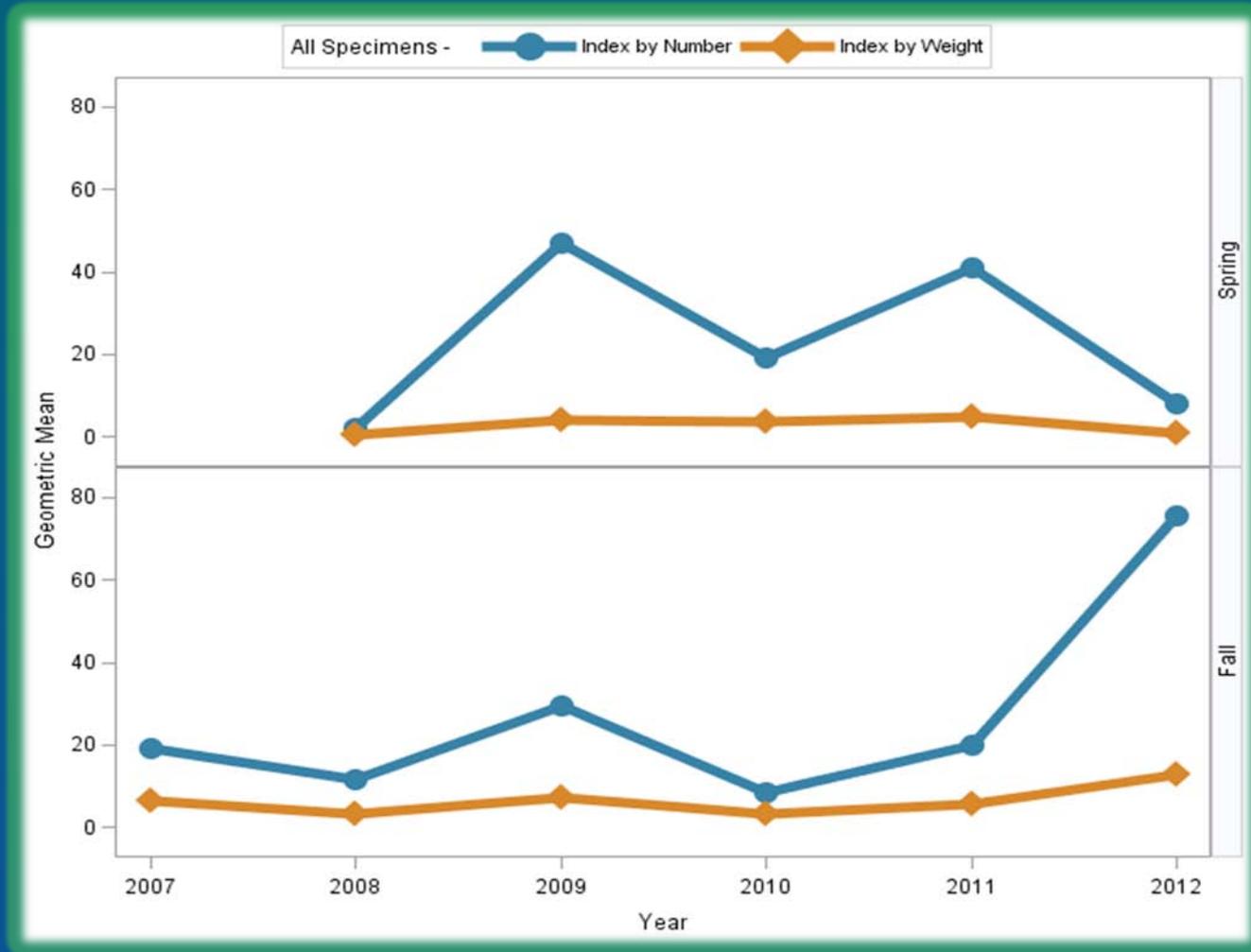
- Alewife
- Atlantic Croaker
- Black Seabass
- Blueback Herring
- Bluefish
- Butterfish
- Little Skate
- Longfin Inshore Squid
- Scup
- Smooth Dogfish
- Spiny Dogfish
- Spot
- Summer Flounder
- Weakfish
- Whiting
- Windowpane
- Winter Flounder
- Winter Skate

# Alewife



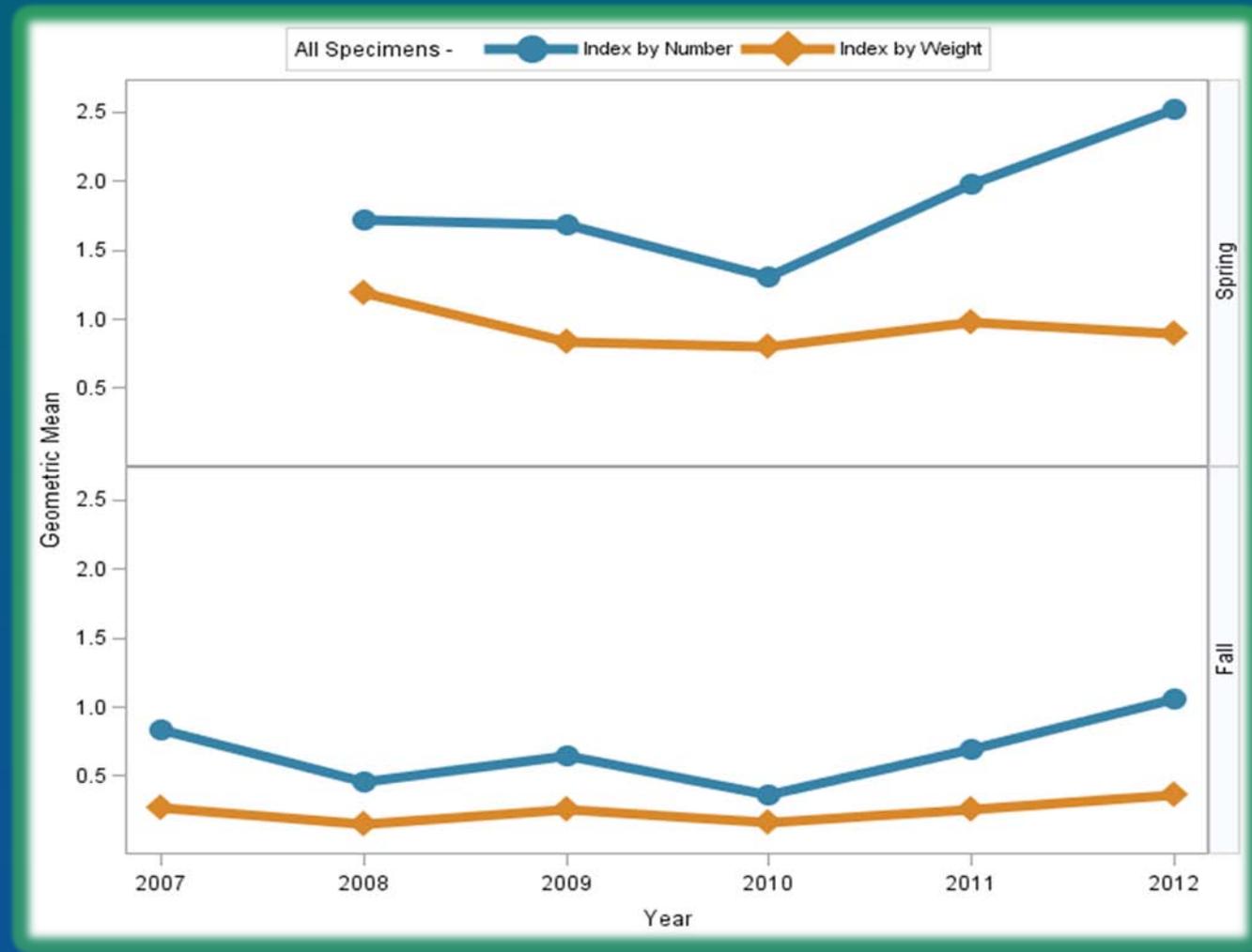
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# Atlantic Croaker



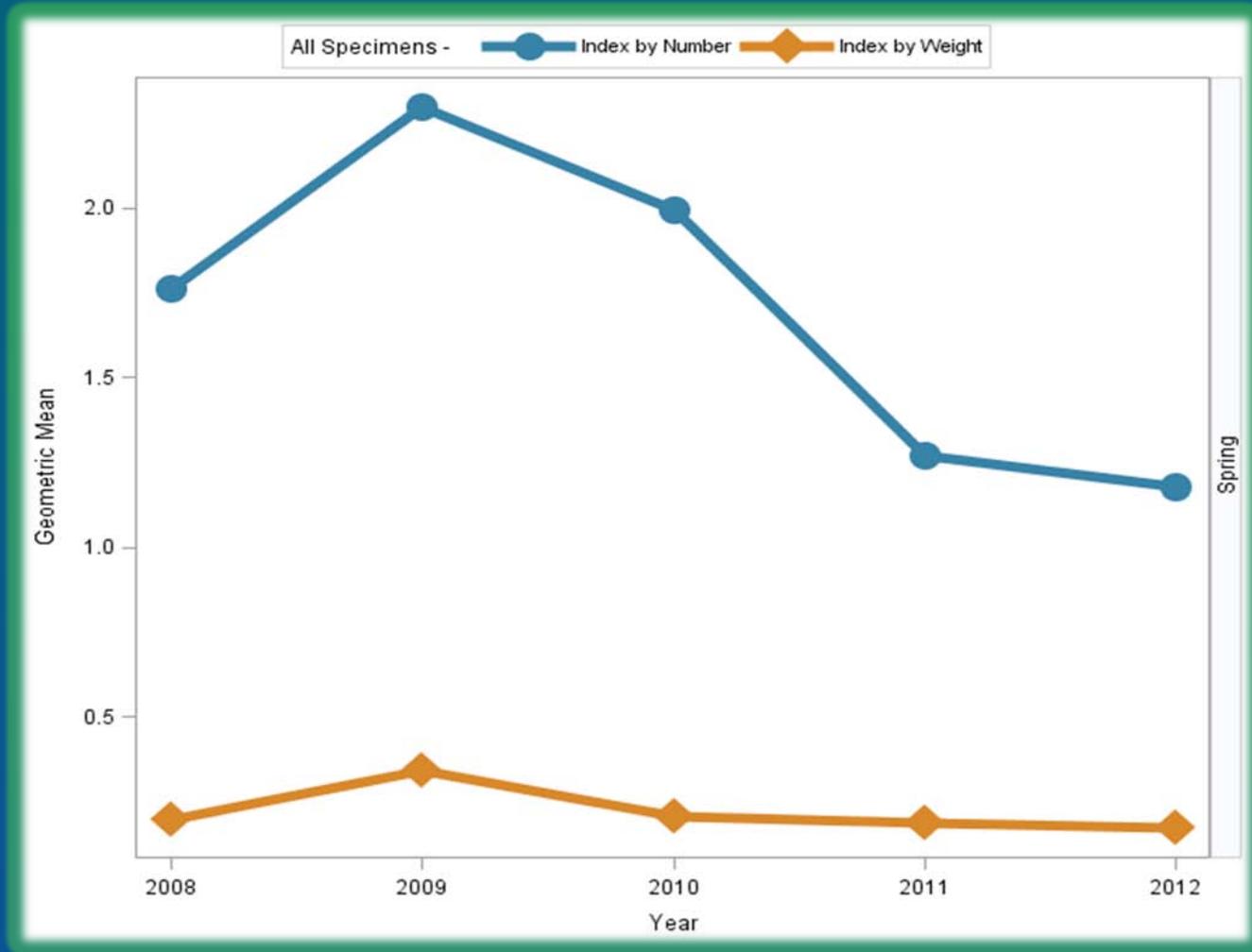
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# Black Seabass



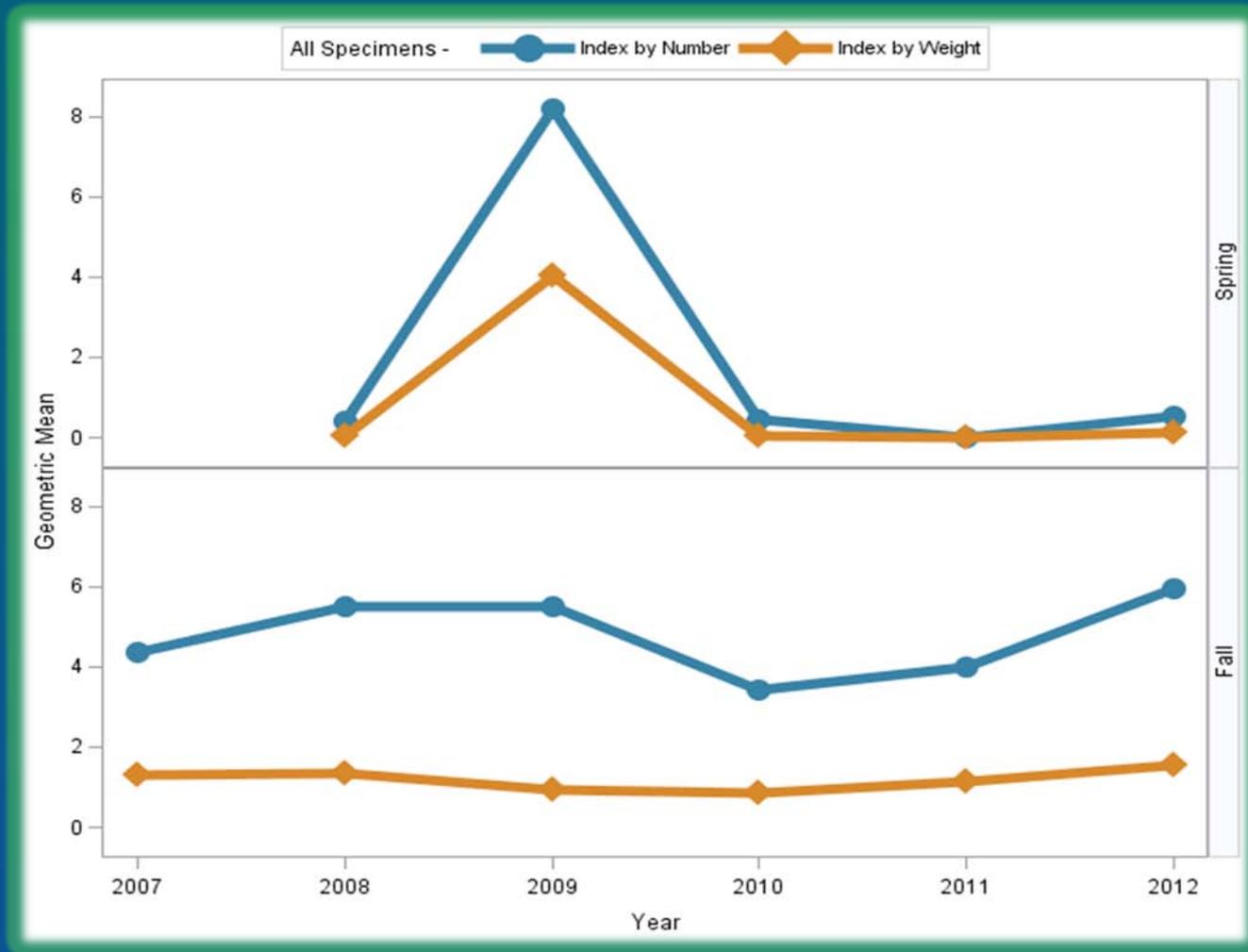
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# Blueback Herring



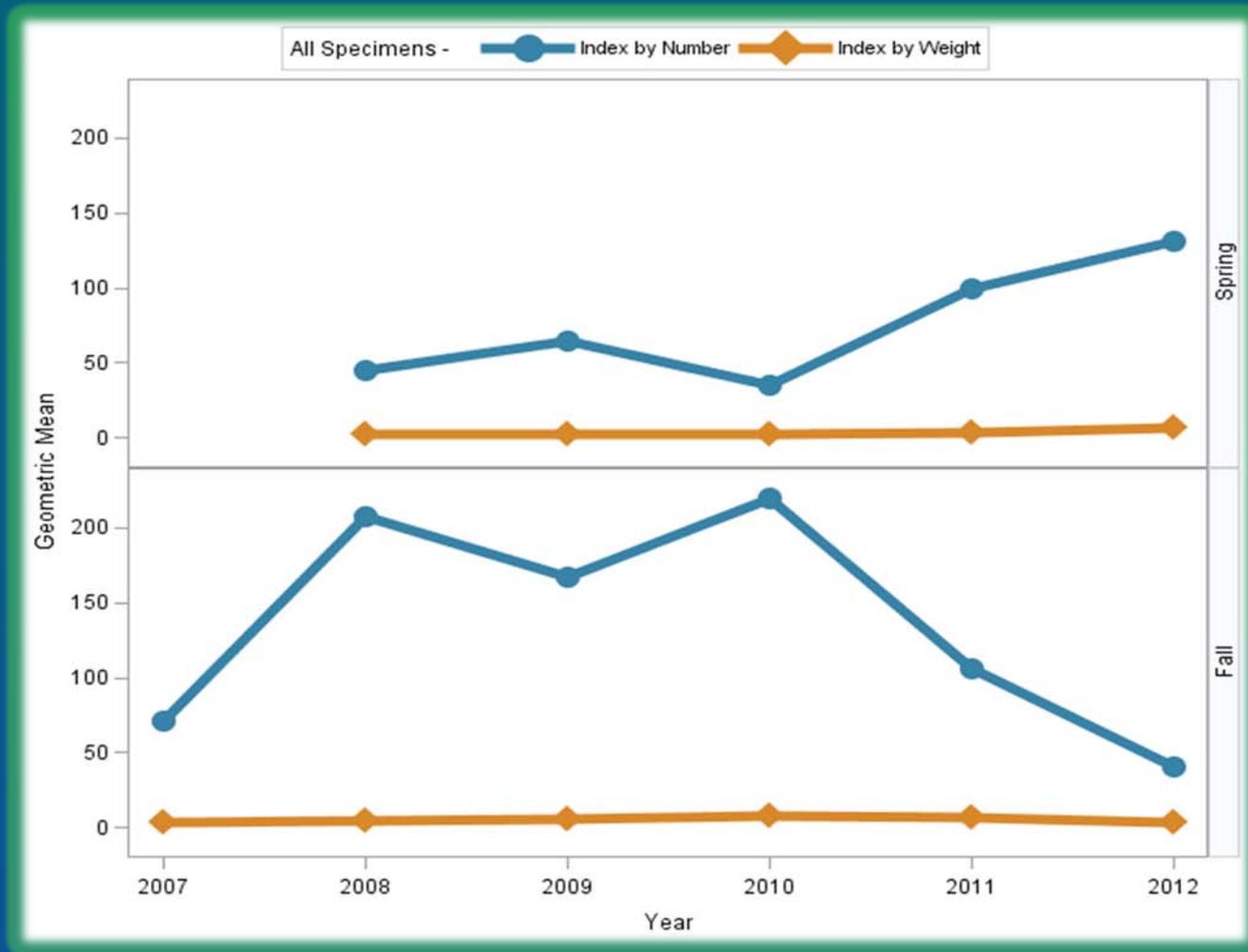
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# Bluefish



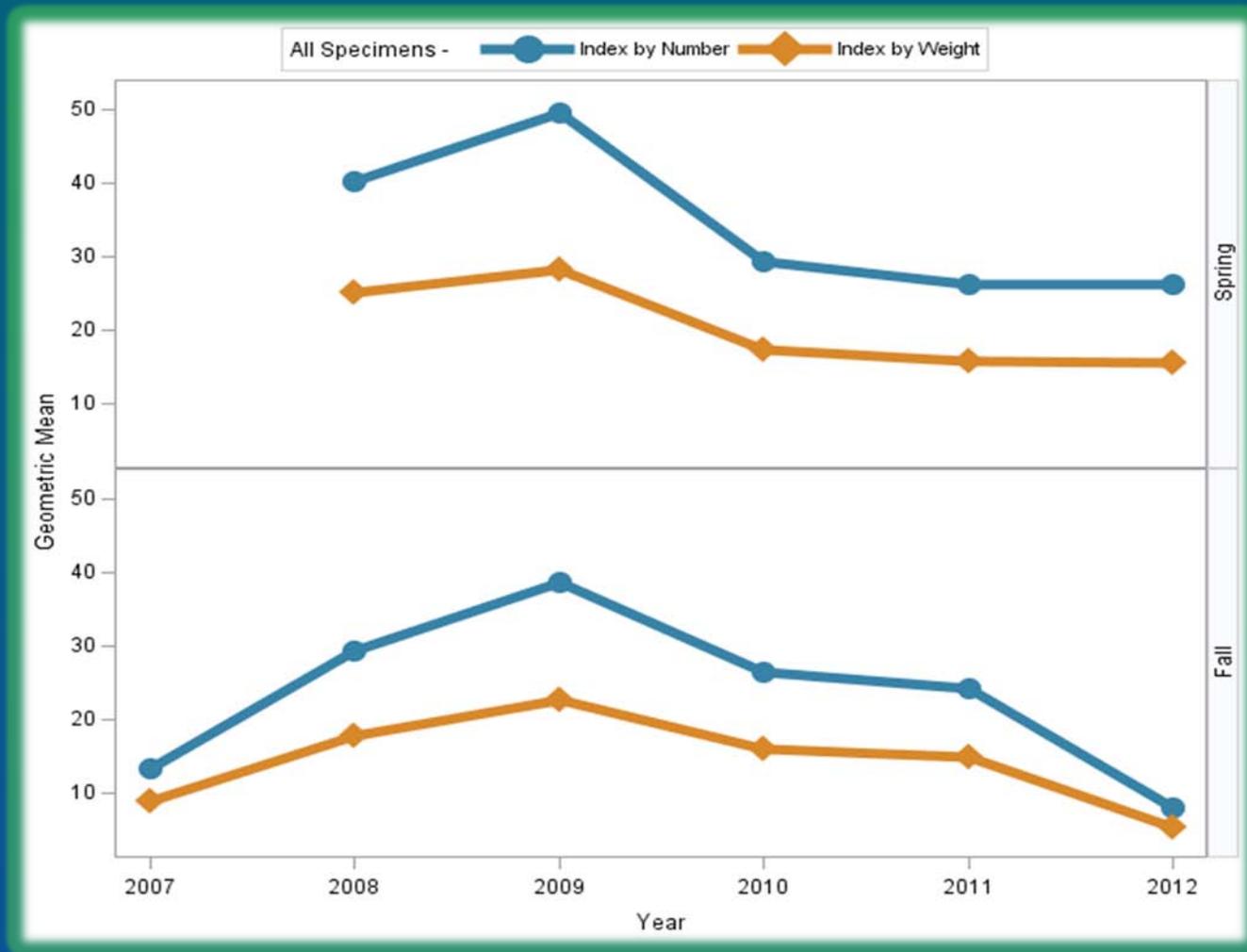
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# Butterfish



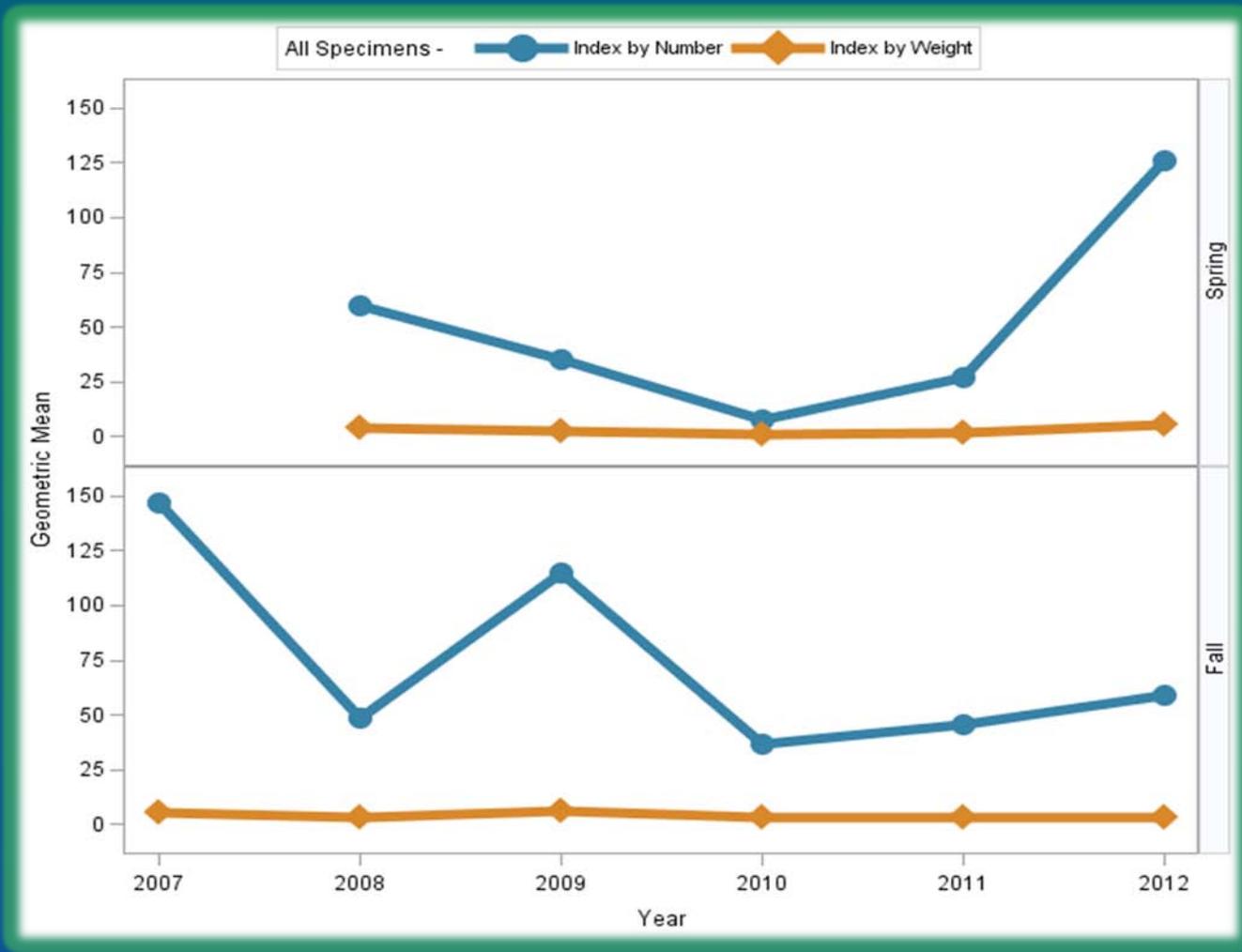
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# Little Skate



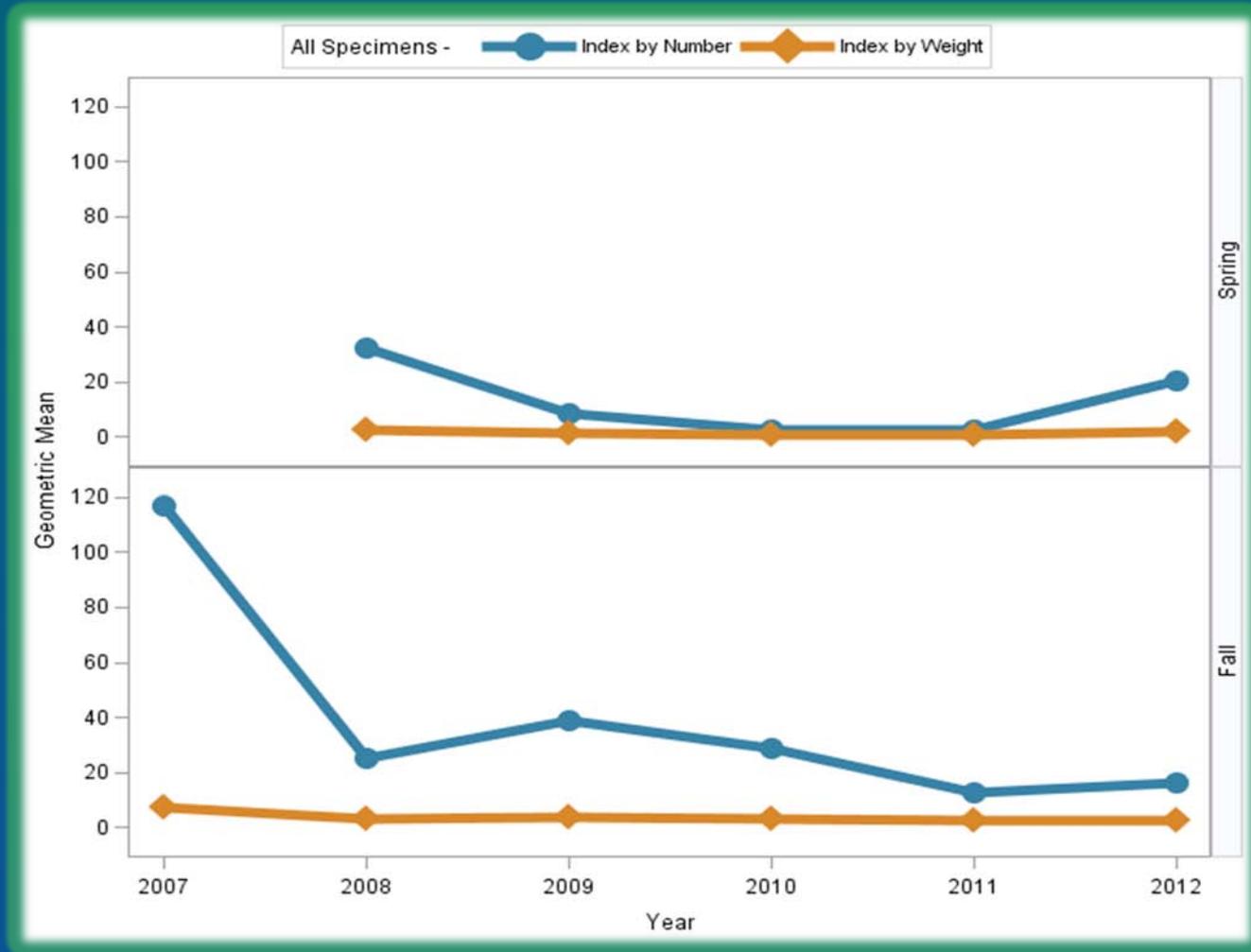
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# Longfin Inshore Squid



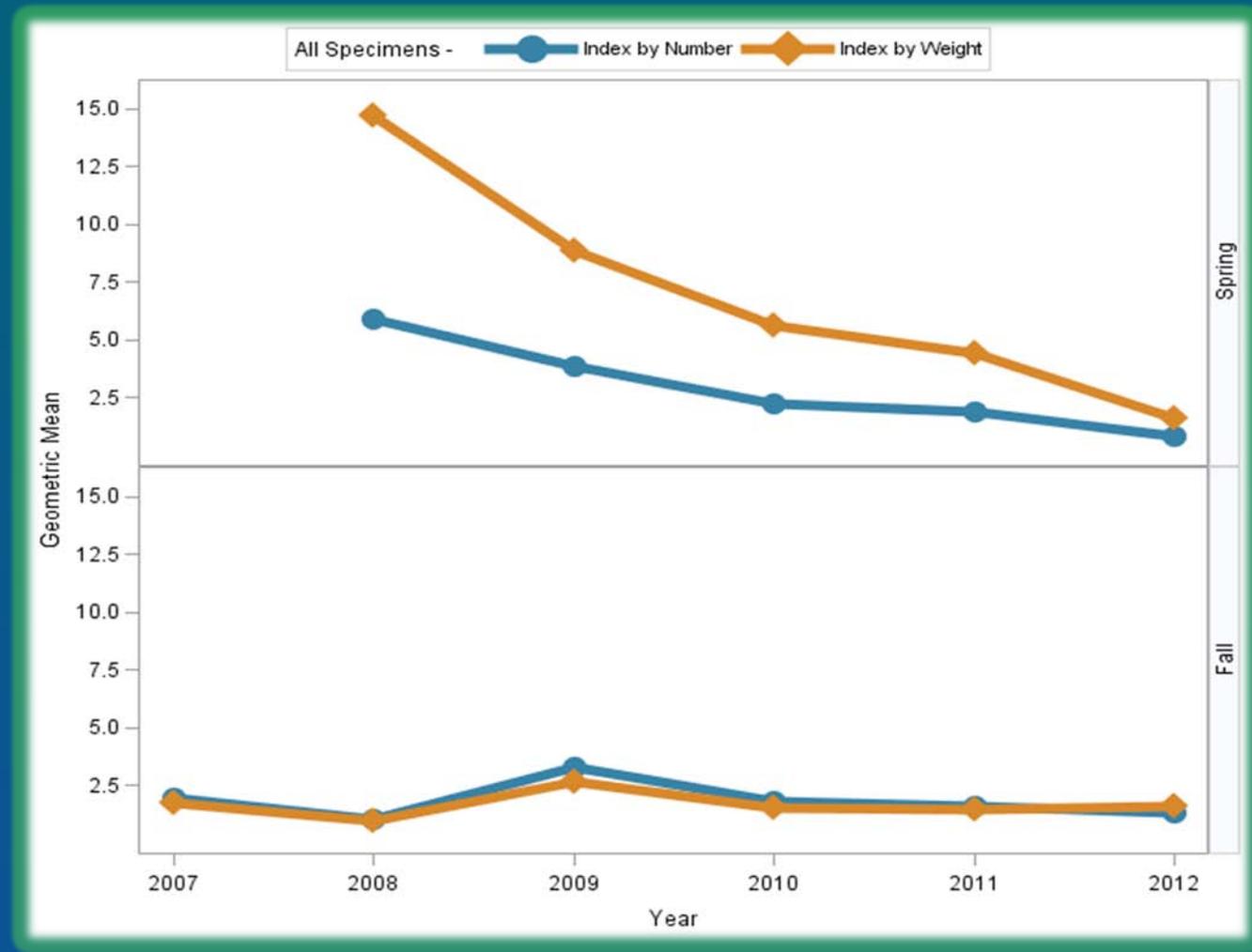
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# Scup



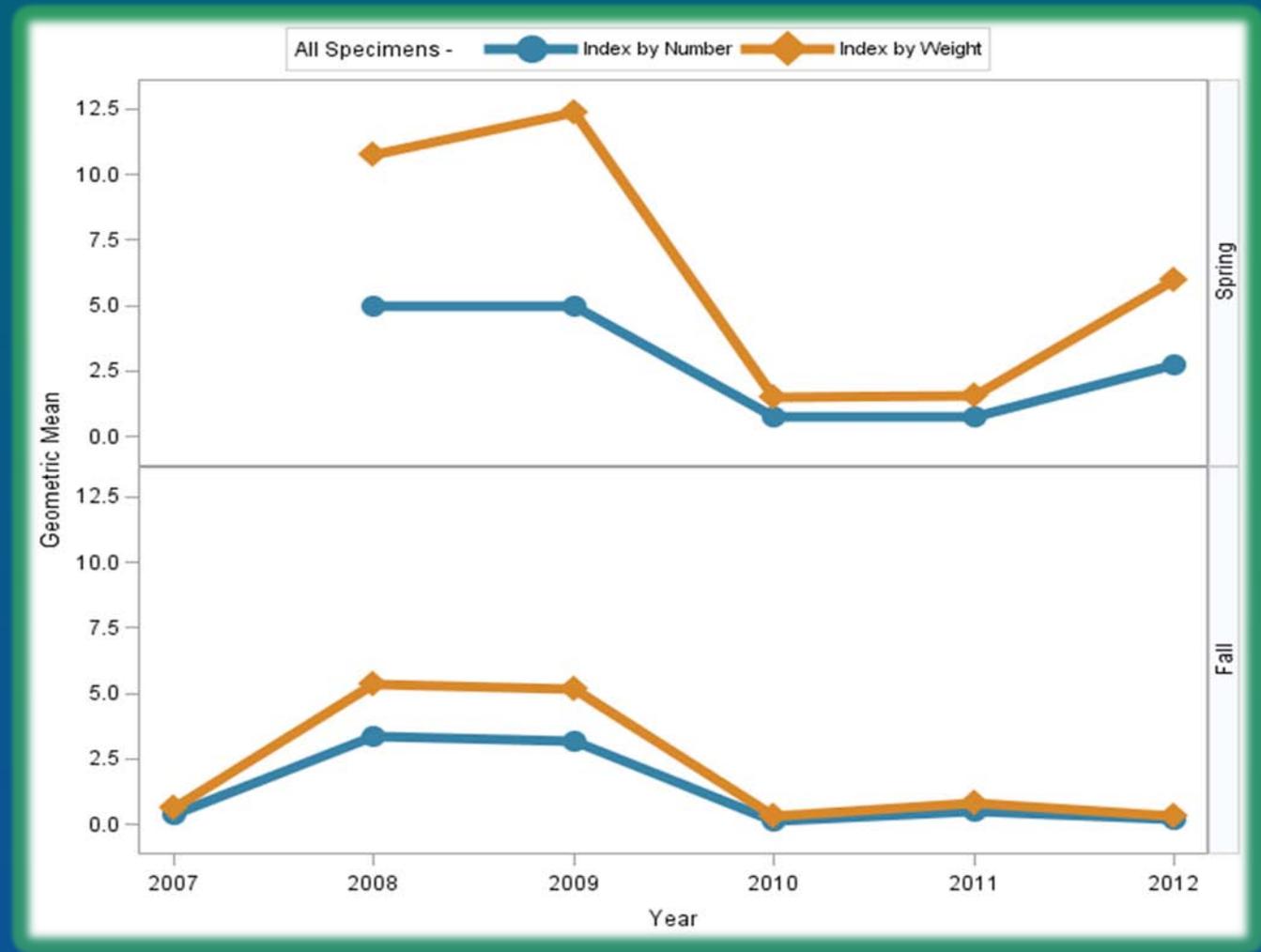
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# Smooth Dogfish



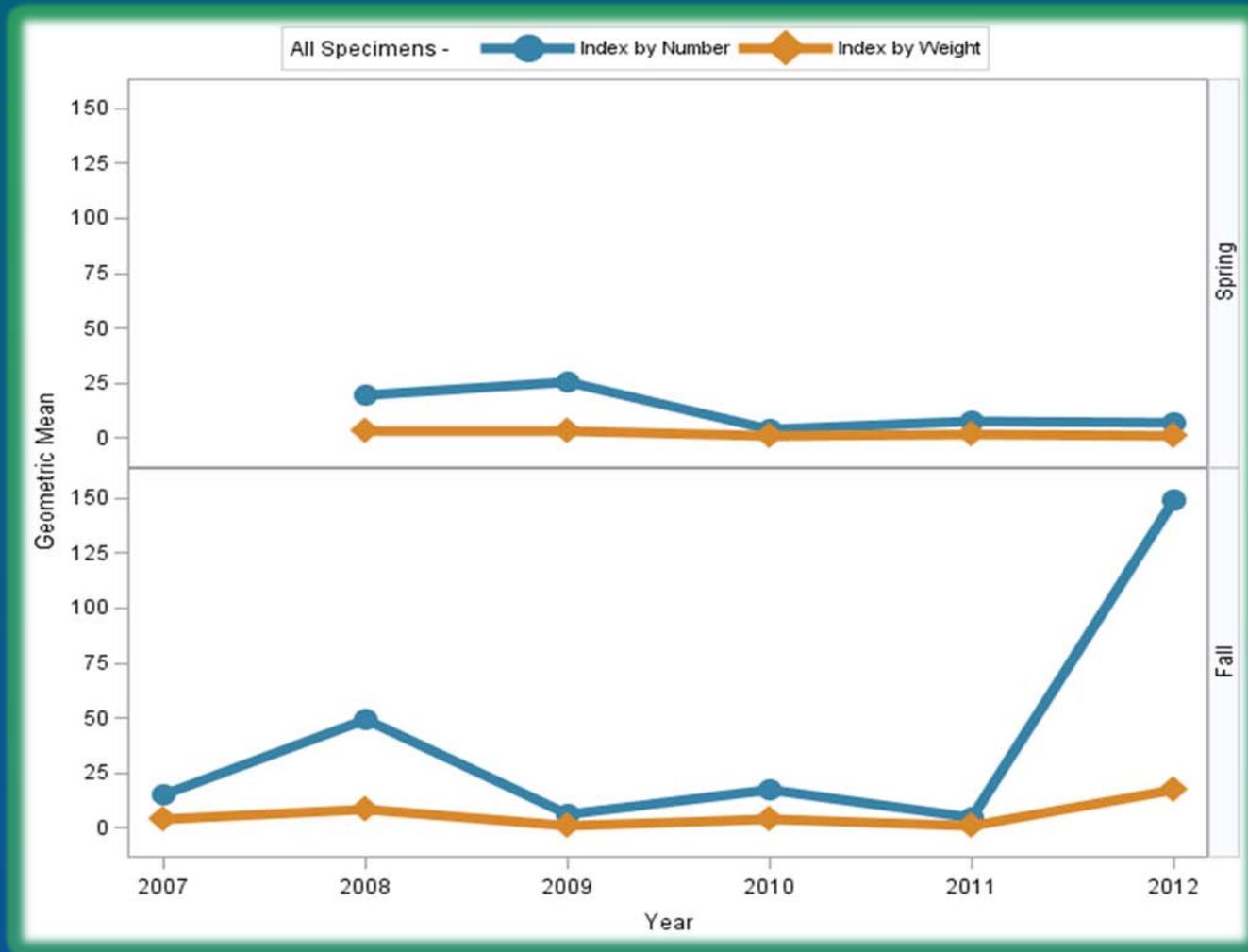
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# Spiny Dogfish



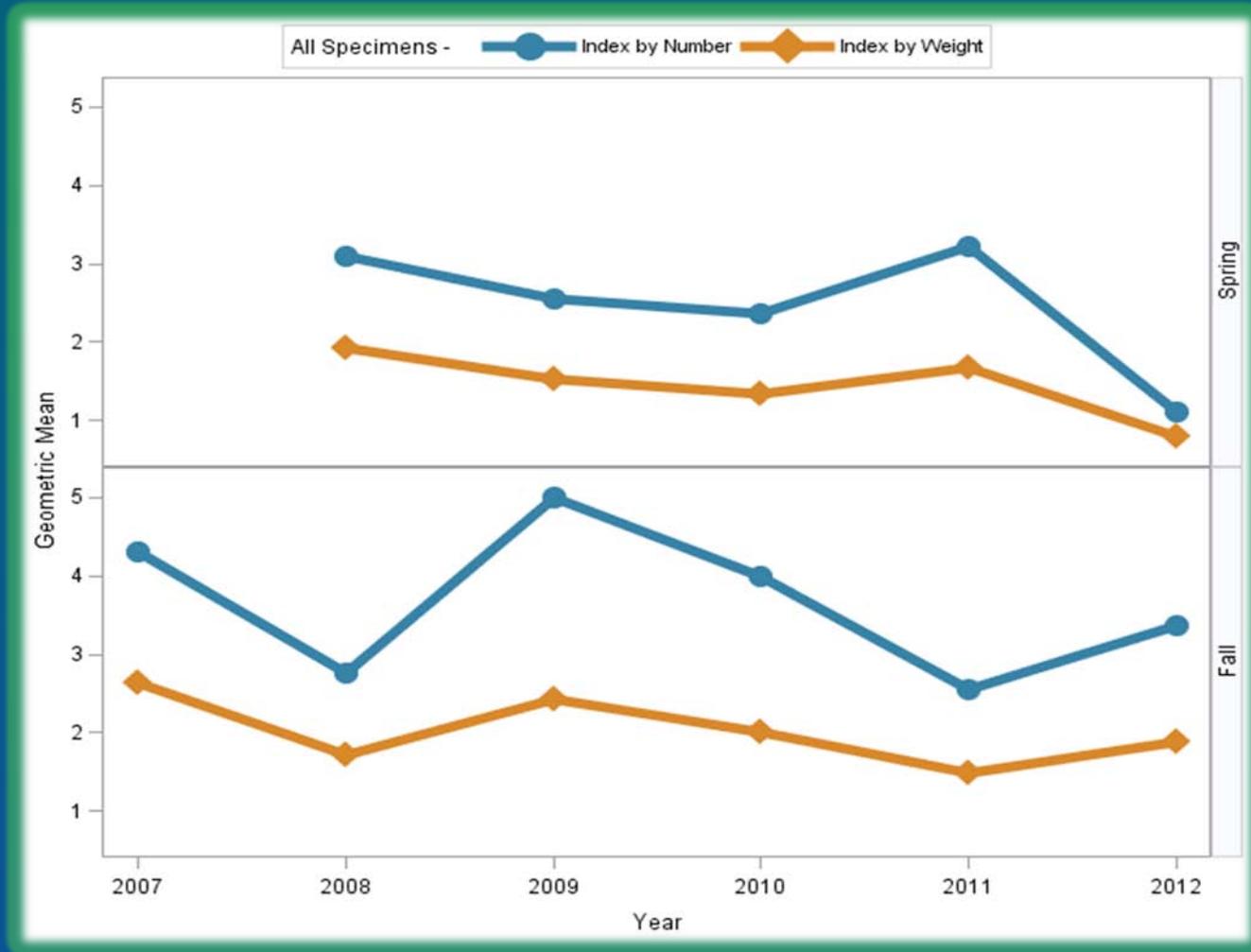
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# Spot



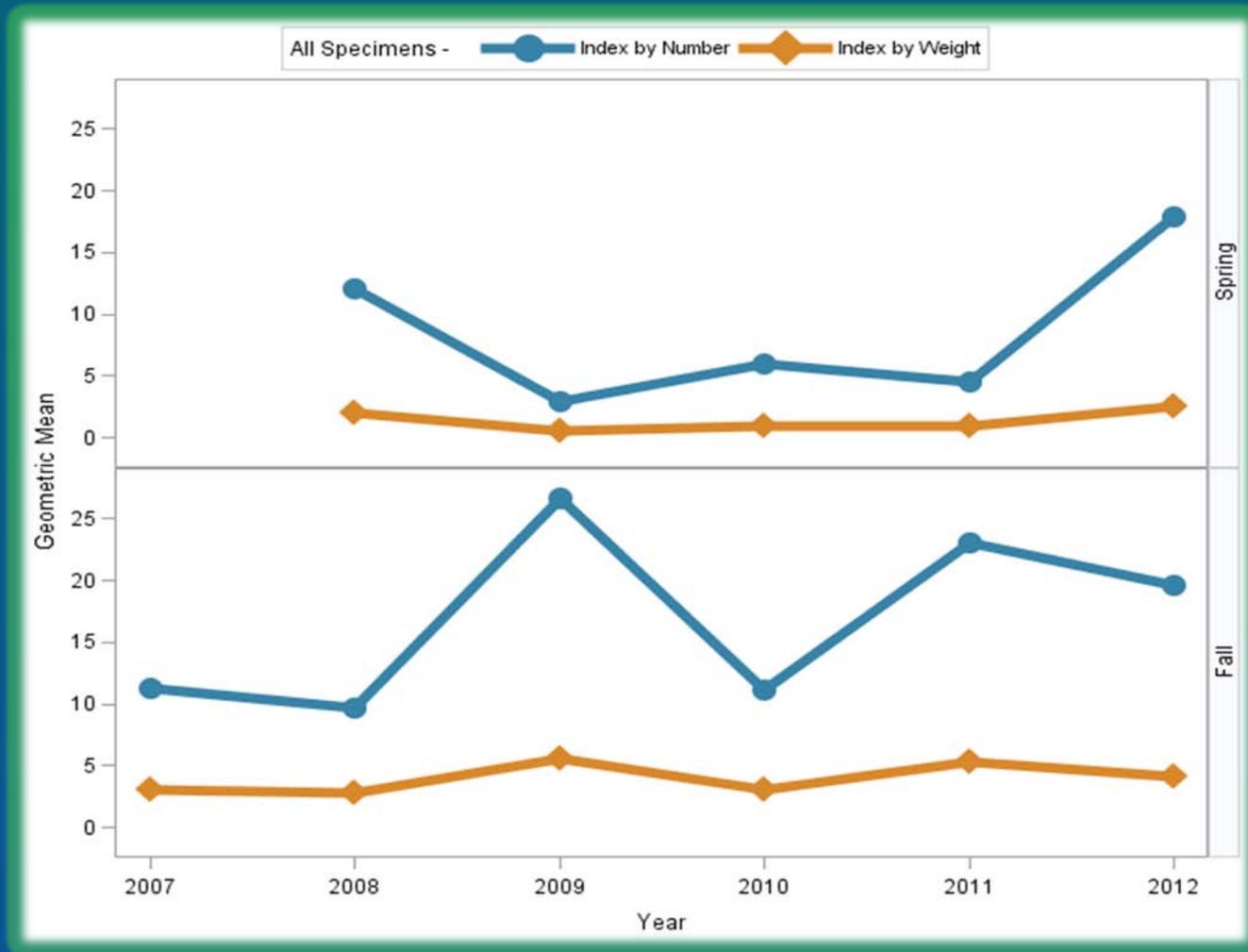
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# Summer Flounder



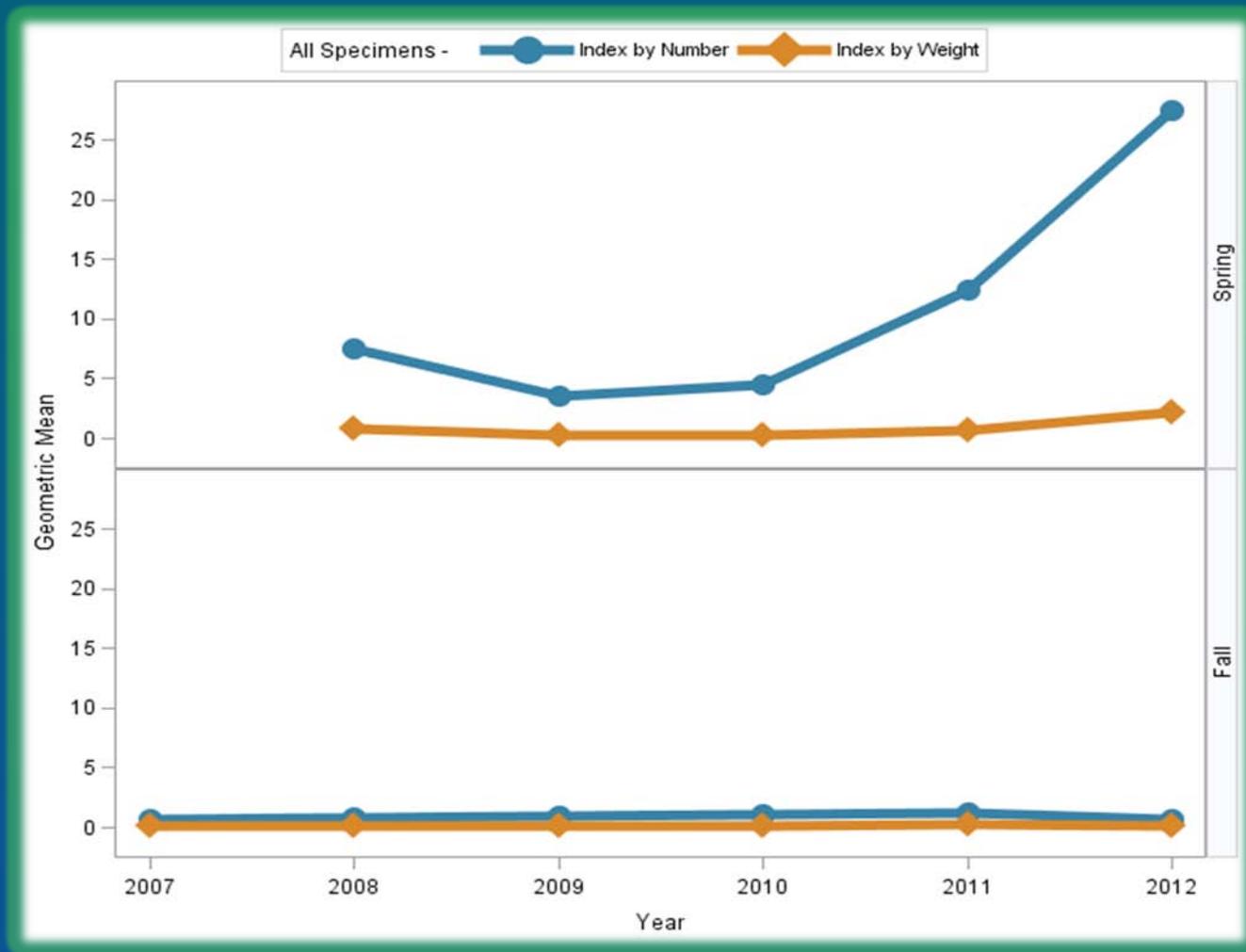
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# Weakfish



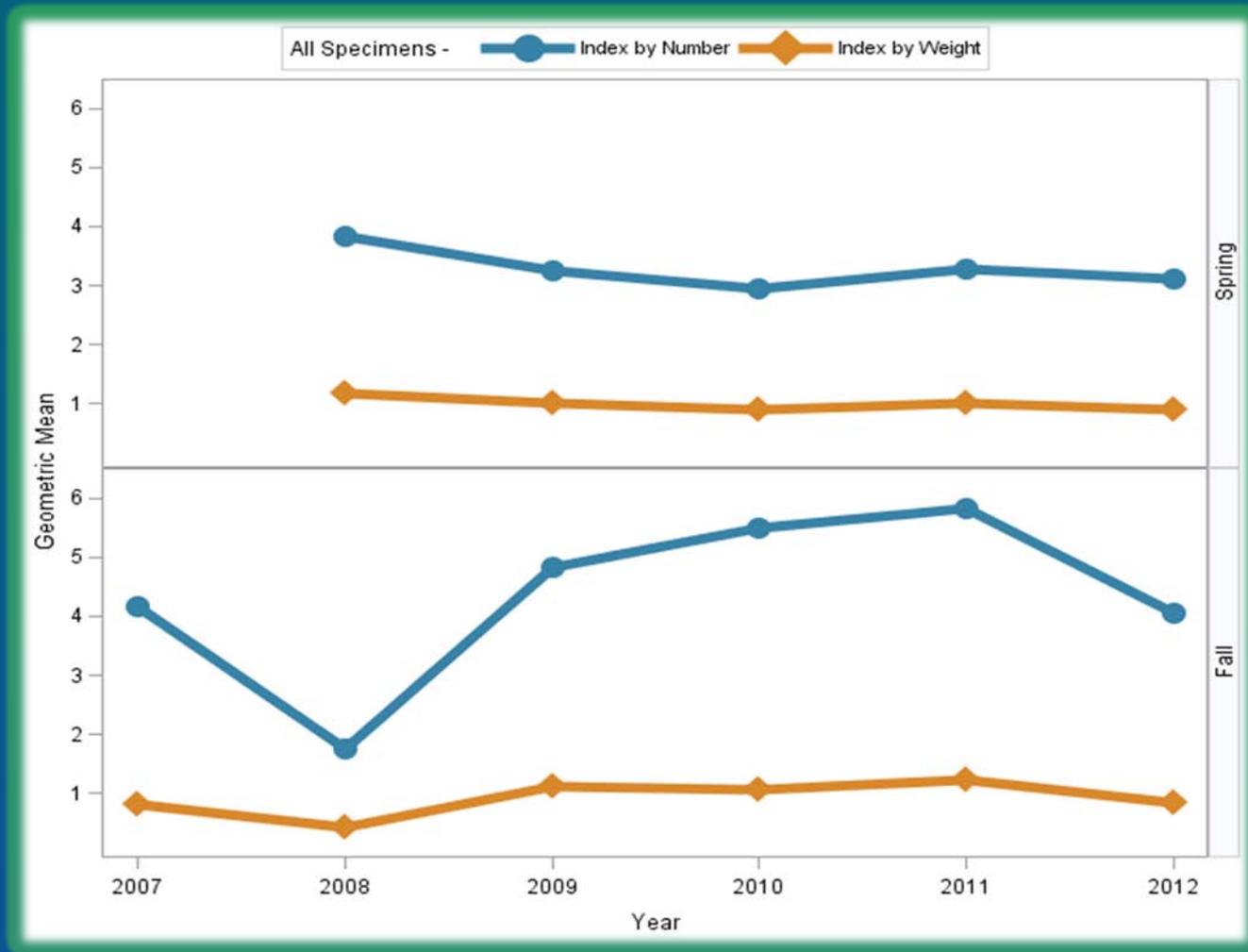
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# Whiting



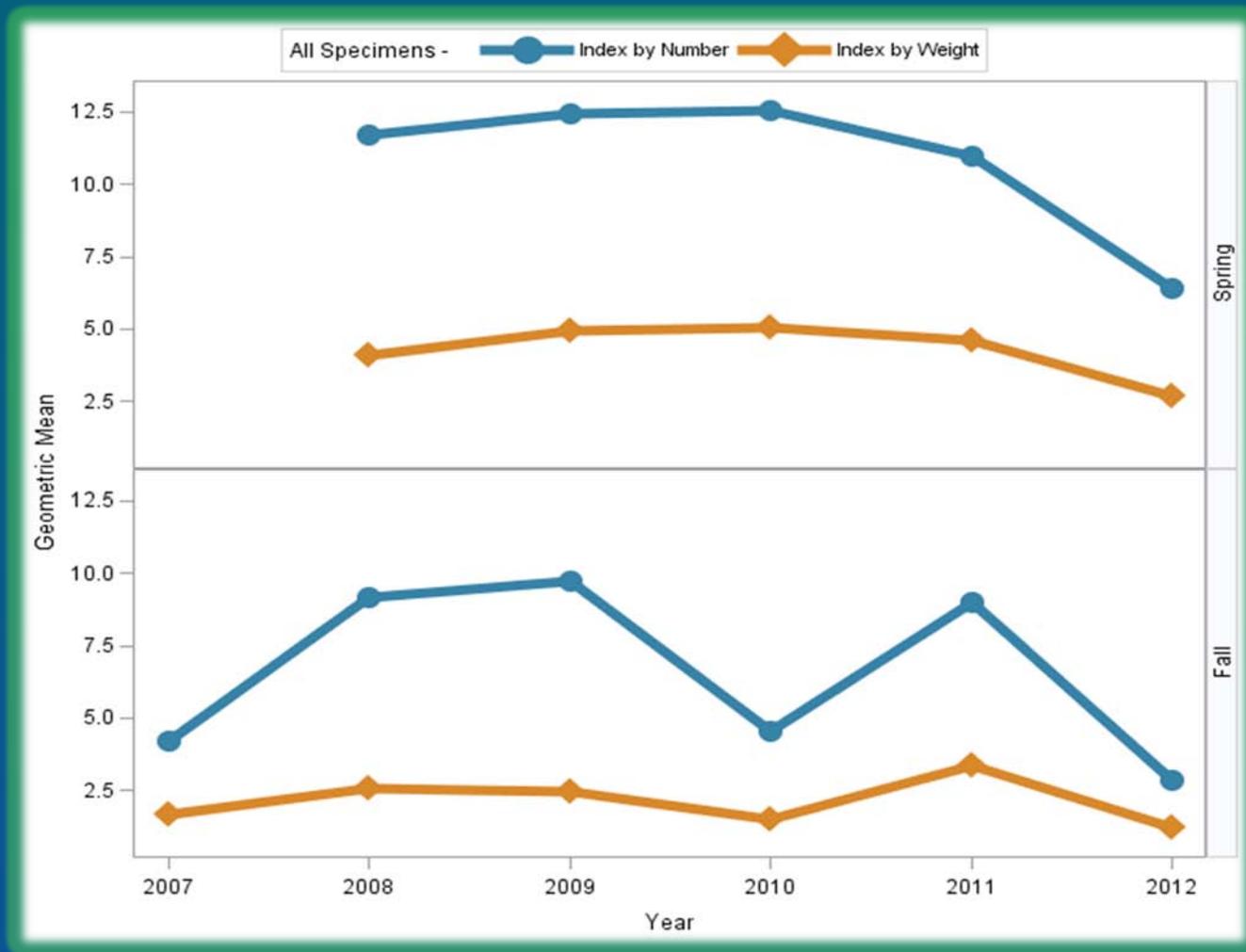
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# Windowpane



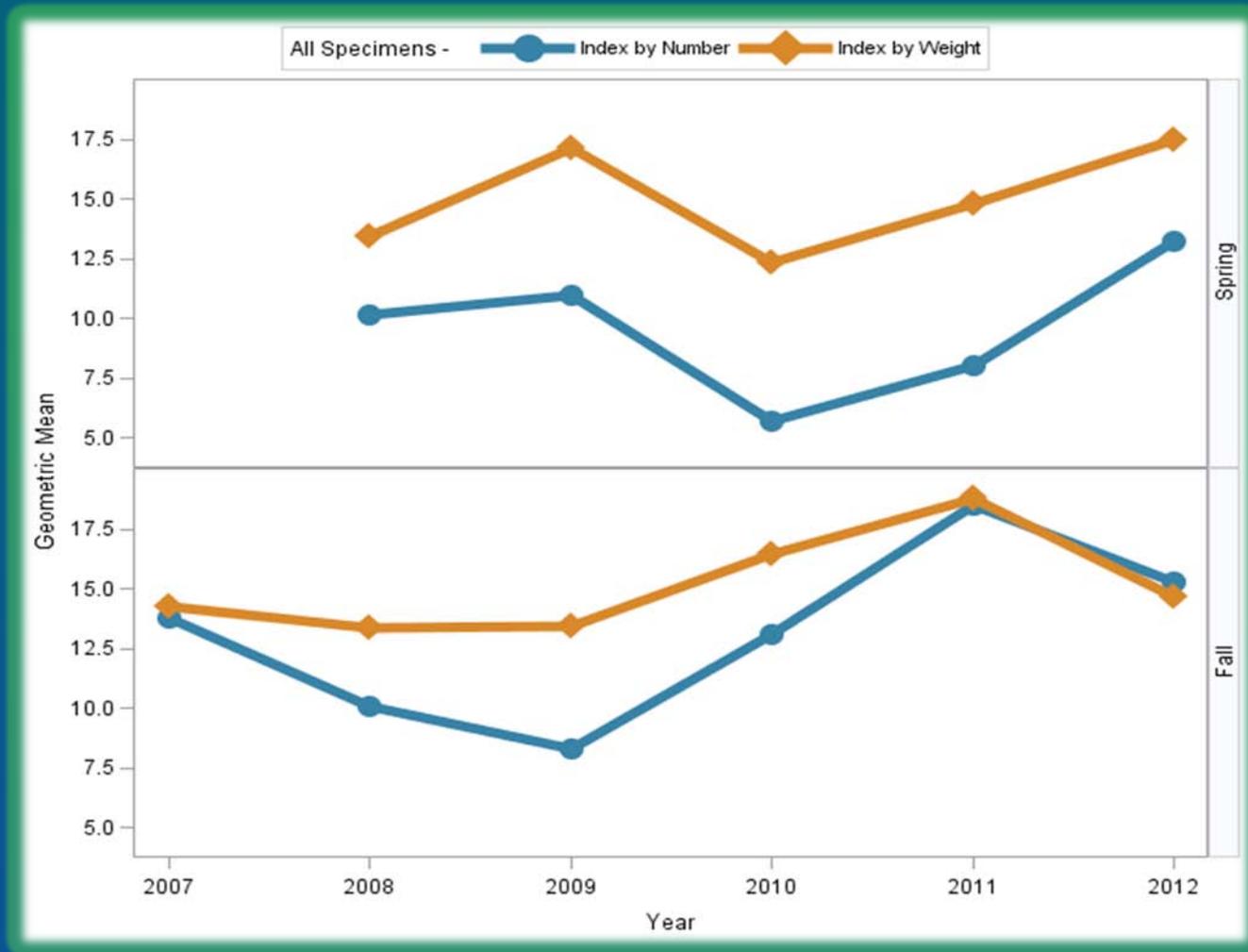
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# Winter Flounder



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# Winter Skate



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# Collaborative Ventures

- RI Ocean SAMP w. **URI**
- Age structure comparisons w. **NEFSC, ASMFC, & MA DMF**
- **Dogfish** genetics w. **Texas A&M**
- **Monkfish** population delineation w. **U. Madrid**
- **Atlantic sturgeon** tagging w. **US FWS**
- **Coastal shark** tagging w. **NMFS HMS**
- **Bat** monitoring w. **U. Maryland** (*no kidding, actual bats*)
- **Drum** stock structure investigations w. **SEAMAP**
- **Within VIMS**
  - **Summer flounder** life history research
  - **Striped bass** *Mycobacterium* investigation
  - **Bluefin tuna** prey contaminant analysis
  - Restocking of Institute's 'Fish Library'

# Outreach - 2011

VIMS

- Demonstrations in four ports [New Bedford, Point Judith, Montauk, Hampton]
- Approximately 60 guests
- Attendees included...
  - **Senator Jack Reed (RI) & Staff**
  - **Staff of Senator Sheldon Whitehouse (RI)**
  - **Staff of Senator Charles Schumer (NY)**
  - **Staff of Senator Mark Begich (AK)**
  - **Staff of Rep. Timothy Bishop (NY)**
  - CFRF Board of Directors
  - RI State Senators
  - RI Fishermen's Alliance Members
  - Commercial & Recreational Fishermen
  - RI DEM Staff
  - MAFMC Staff
  - NY DEC Staff
  - Students from URI, J&W, SMAST, VIMS
  - VIMS Council & Public Relations Center



## The Gang

