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Illex illecebrosus

Mean Body Weights: Indicators of Productivity 1997-2019



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Illex Mean Body Weight Trends

Used as indicators of population productivity

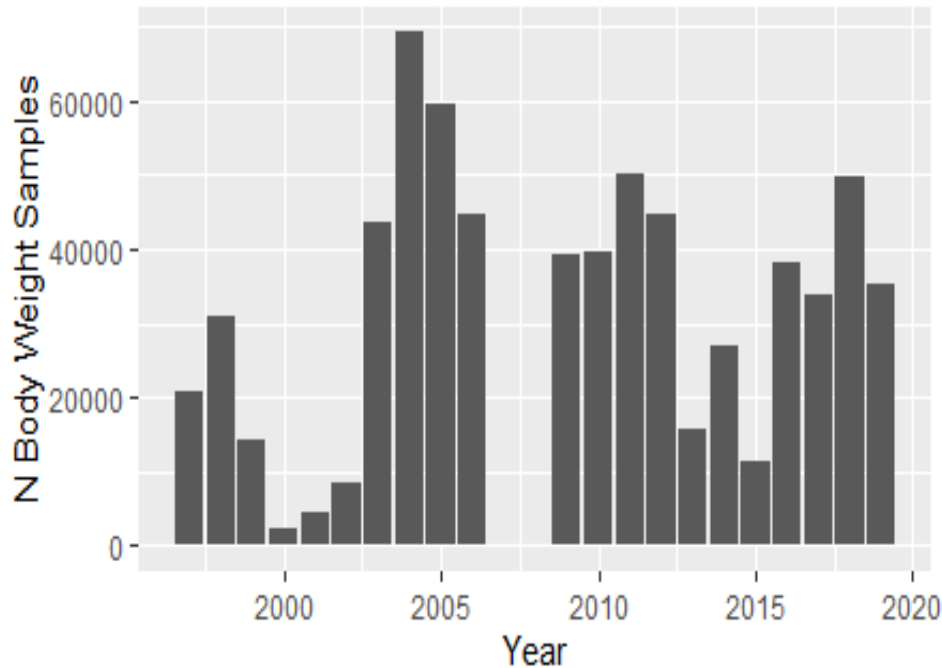
- a. Survey mean body weights
 - NAFO assessments (Hendrickson et al. 2001)
- b. US landings body weights
 - US assessments (NEFSC 1999; 2002 and 2005)

Two sources of landings body weight data

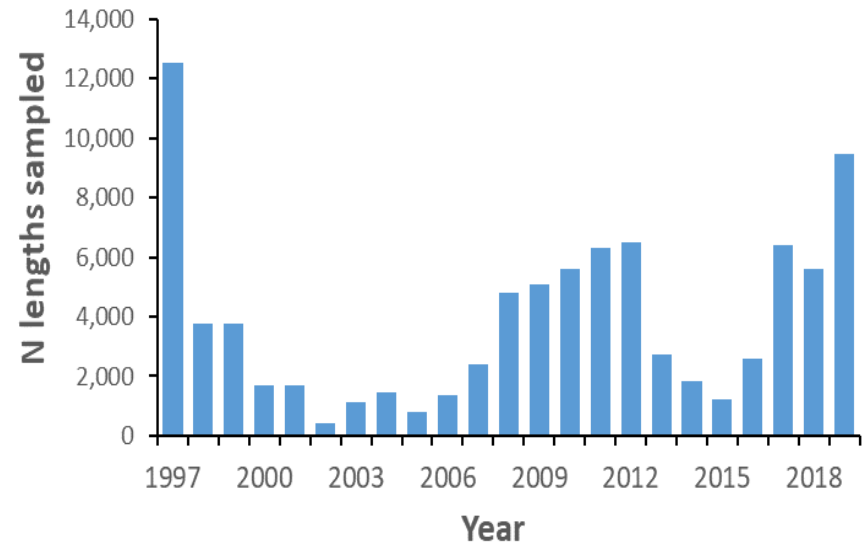
- a. RTM data (1999-2003) and processor data (2004-2019)
- b. Data collected by port samplers (1997-2019)
 - Different data collection protocols so datasets not combined

Body Weight Sample Sizes

RTM/processor samples
(individual body weights)

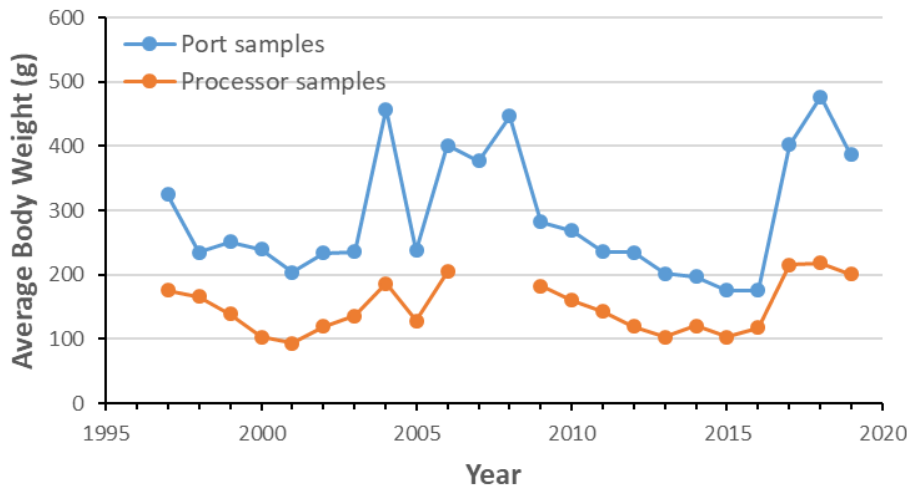


Port samples
(subsample weight/N lengths)

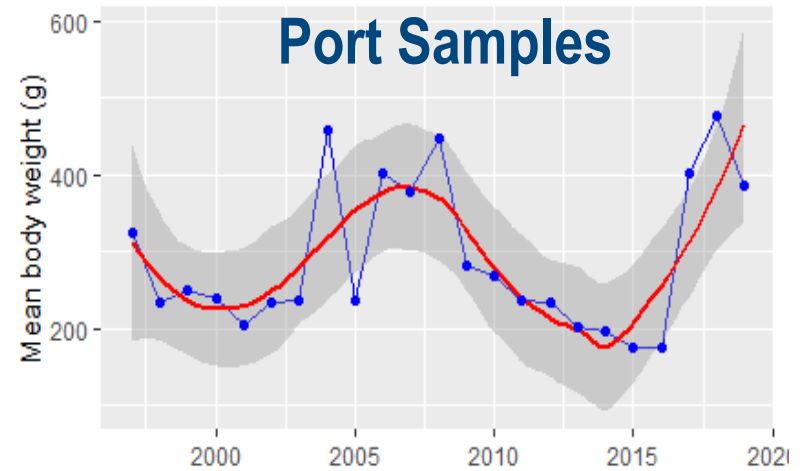


Mean Body Weight

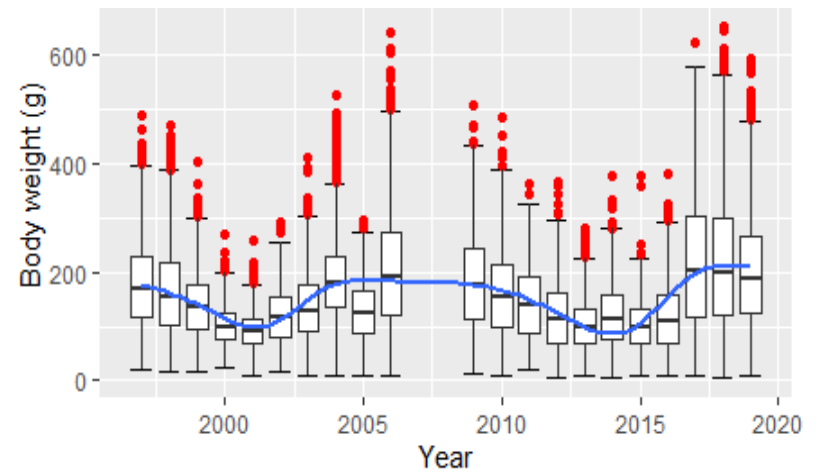
Similar trends, but mean body wts for port samples are higher



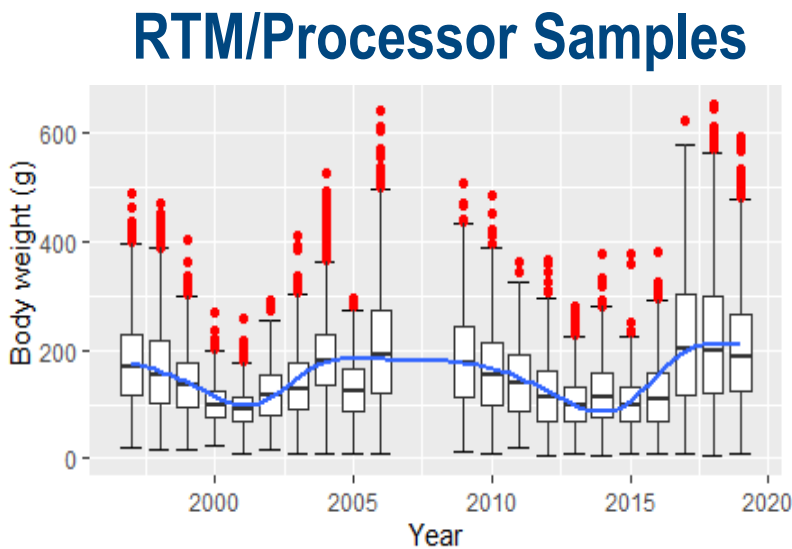
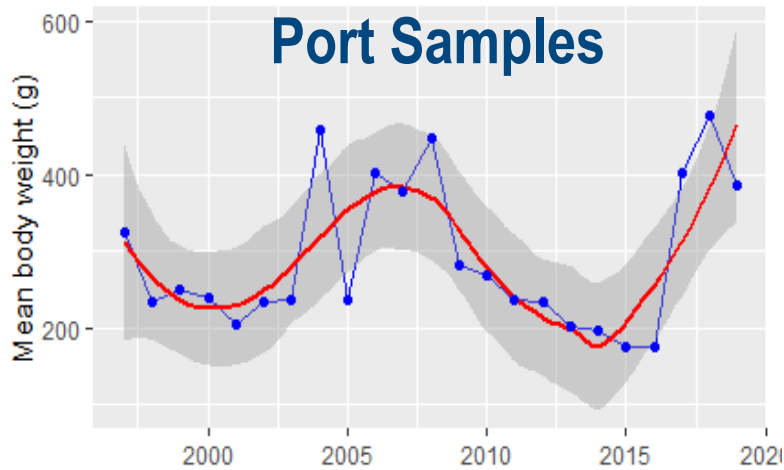
Requires further investigation (e.g., spatial distribution)



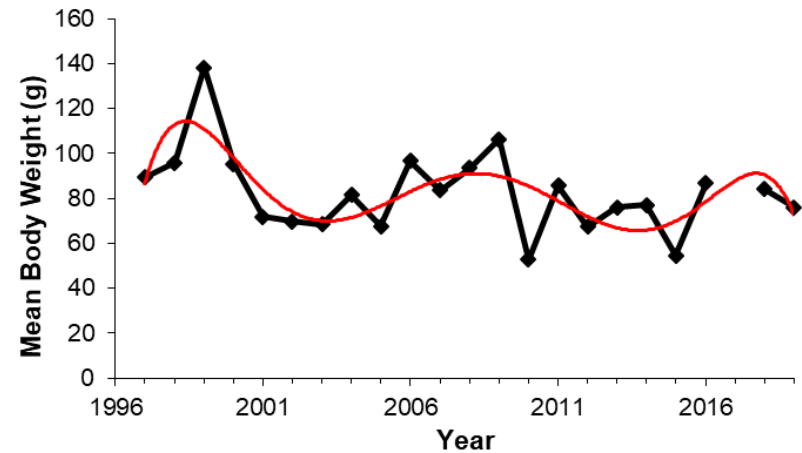
RTM/Processor Samples



Fishery vs. Survey Mean Body Weights

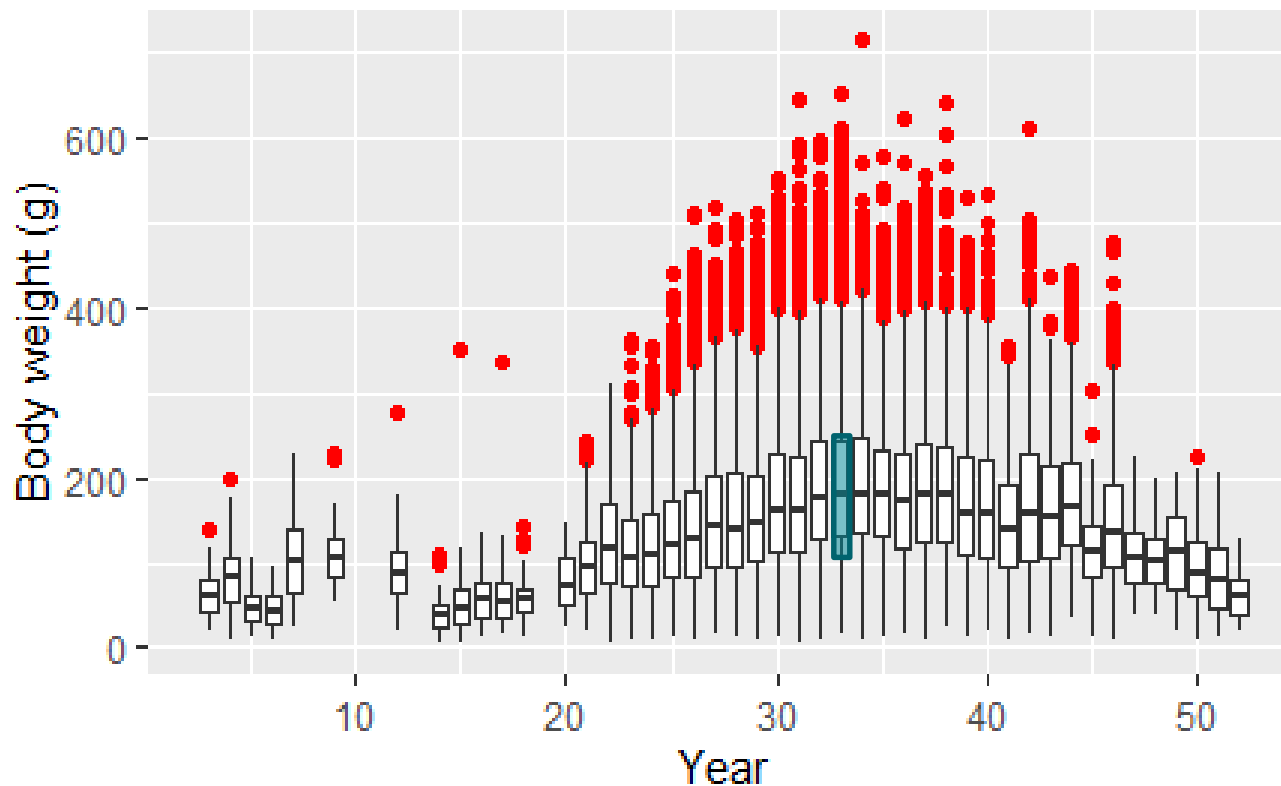


Stratified mean body weights NEFSC fall surveys



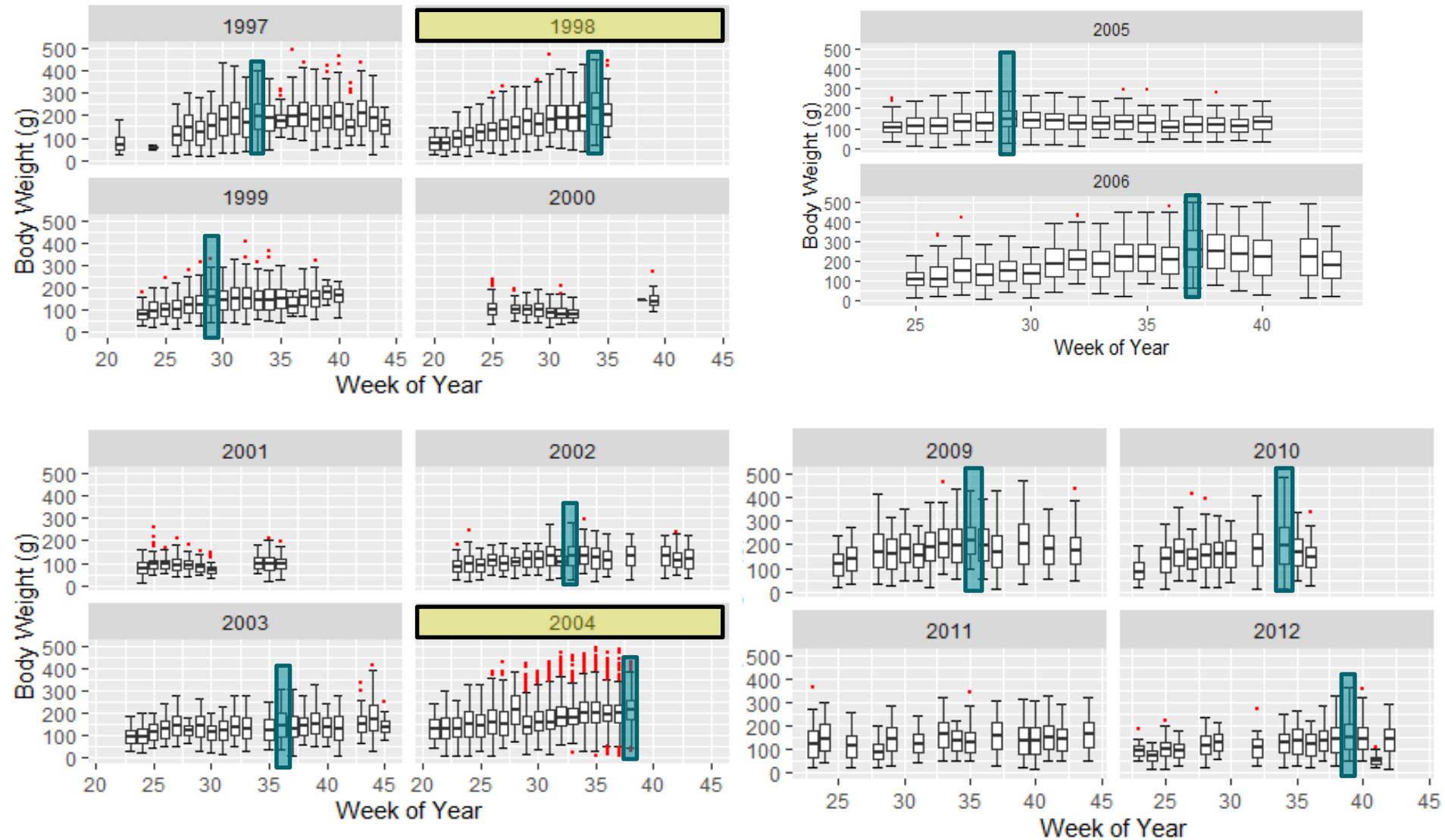
Decrease in survey mean body weight, not present in fishery data

Composite Mean Body Weight by Week of Year 1997-2019

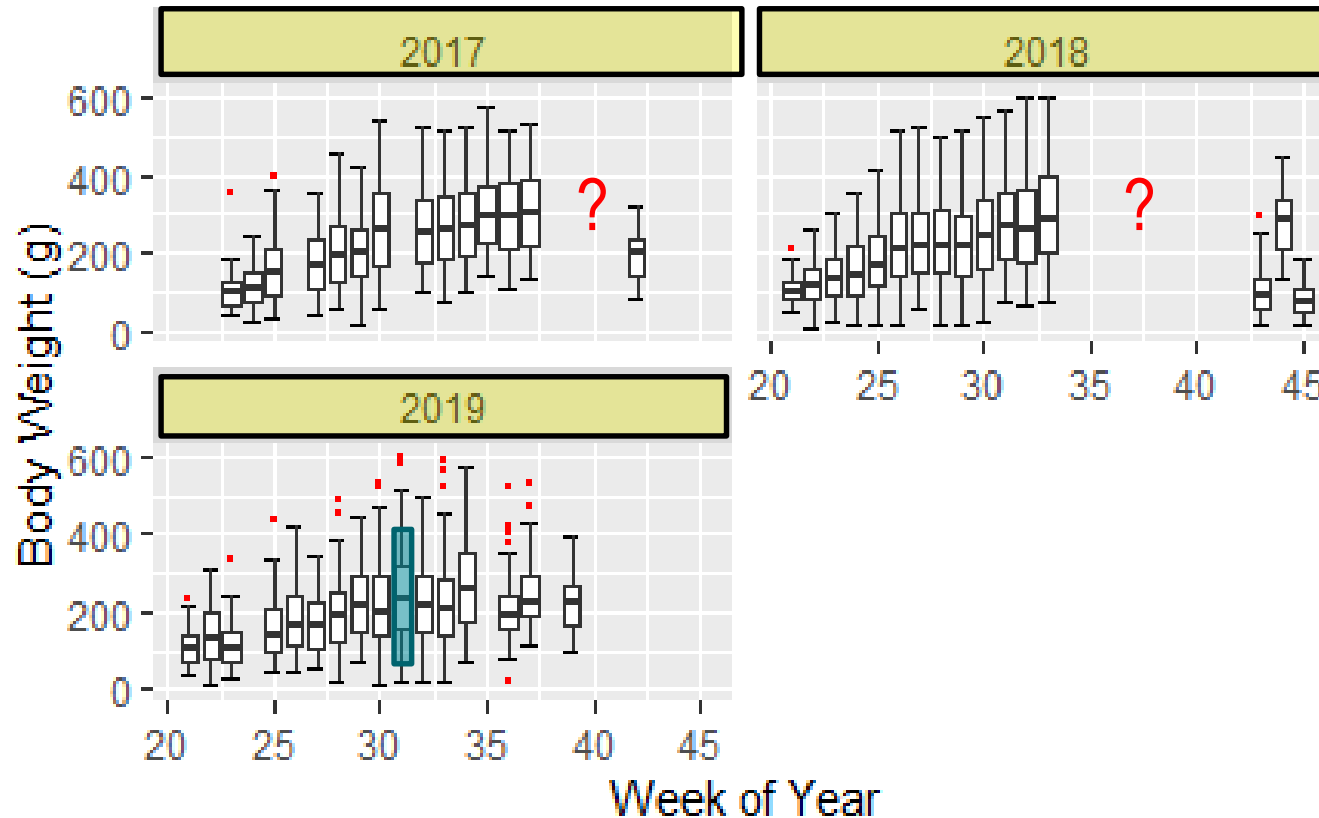


Combined effects of growth, mortality, emigration and immigration

Mean Body Weight by Week of Year

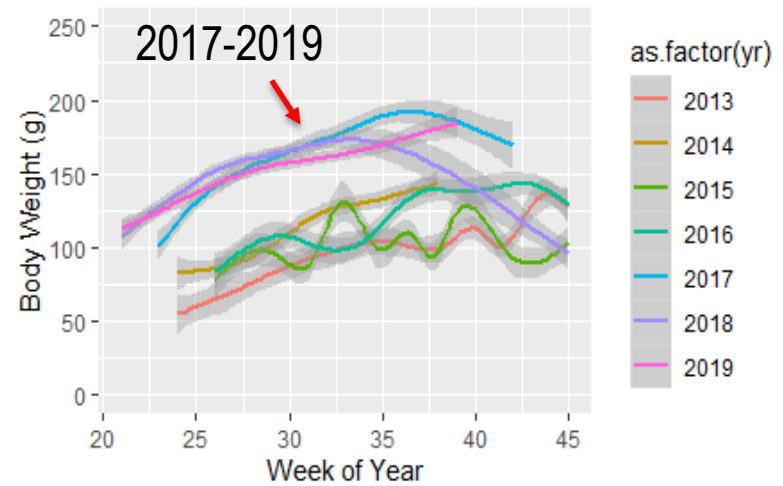
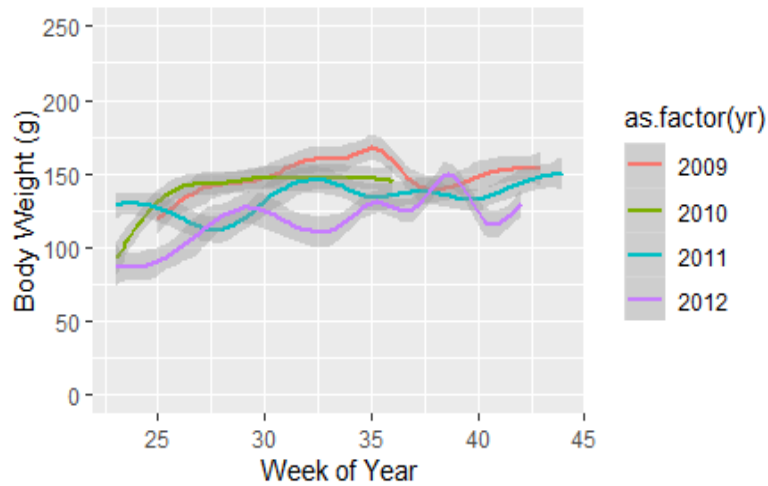
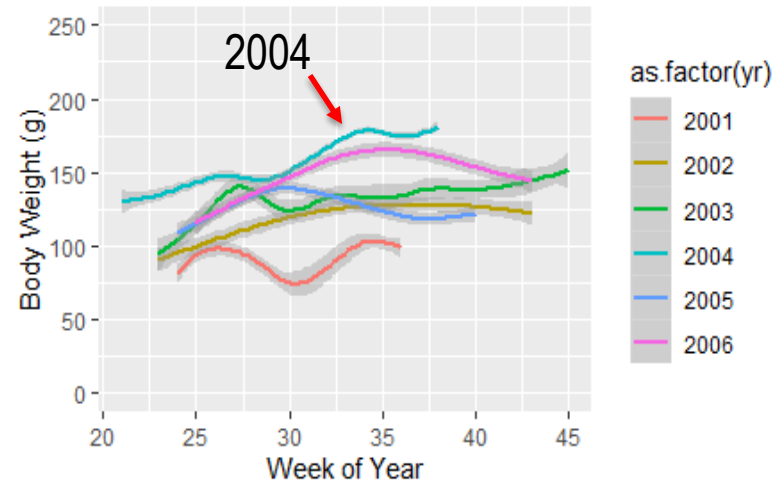
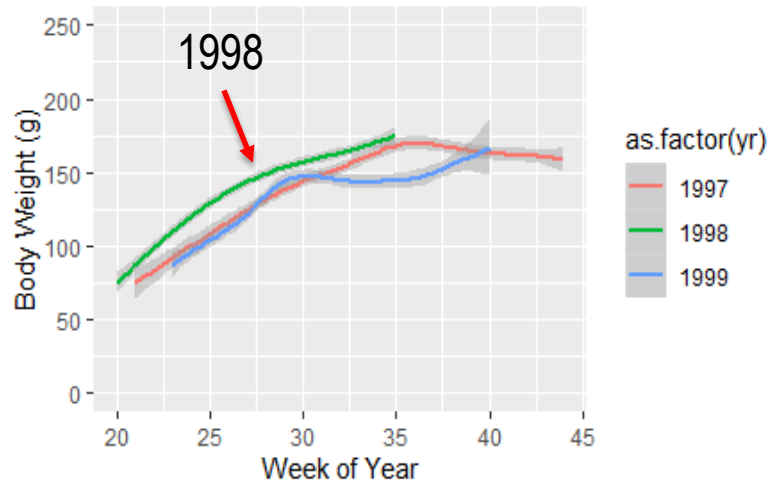


Mean Body Weight by Week of Year



Fishery closures can hinder the use of body weight data to identify whether the late-season asymptote has been reached

Mean Body Weight by Week of Year



Next Steps for Body Weight Analysis

1. Determine temporal and spatial representativeness
 - Lat. cline whereby body size increases with decr. lat.
2. Continue research regarding environmental impacts on body size