

Summer Energetic Condition of Juvenile Sockeye Salmon in the Gulf of Alaska

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Hypothesis: Regional and interannual variability in ocean conditions influence energetic condition of juvenile sockeye salmon during first year at sea.

Sampling Platform

GOA IERP survey intercepts fish in the top 30 meters of the water column with a surface trawl.

Observations

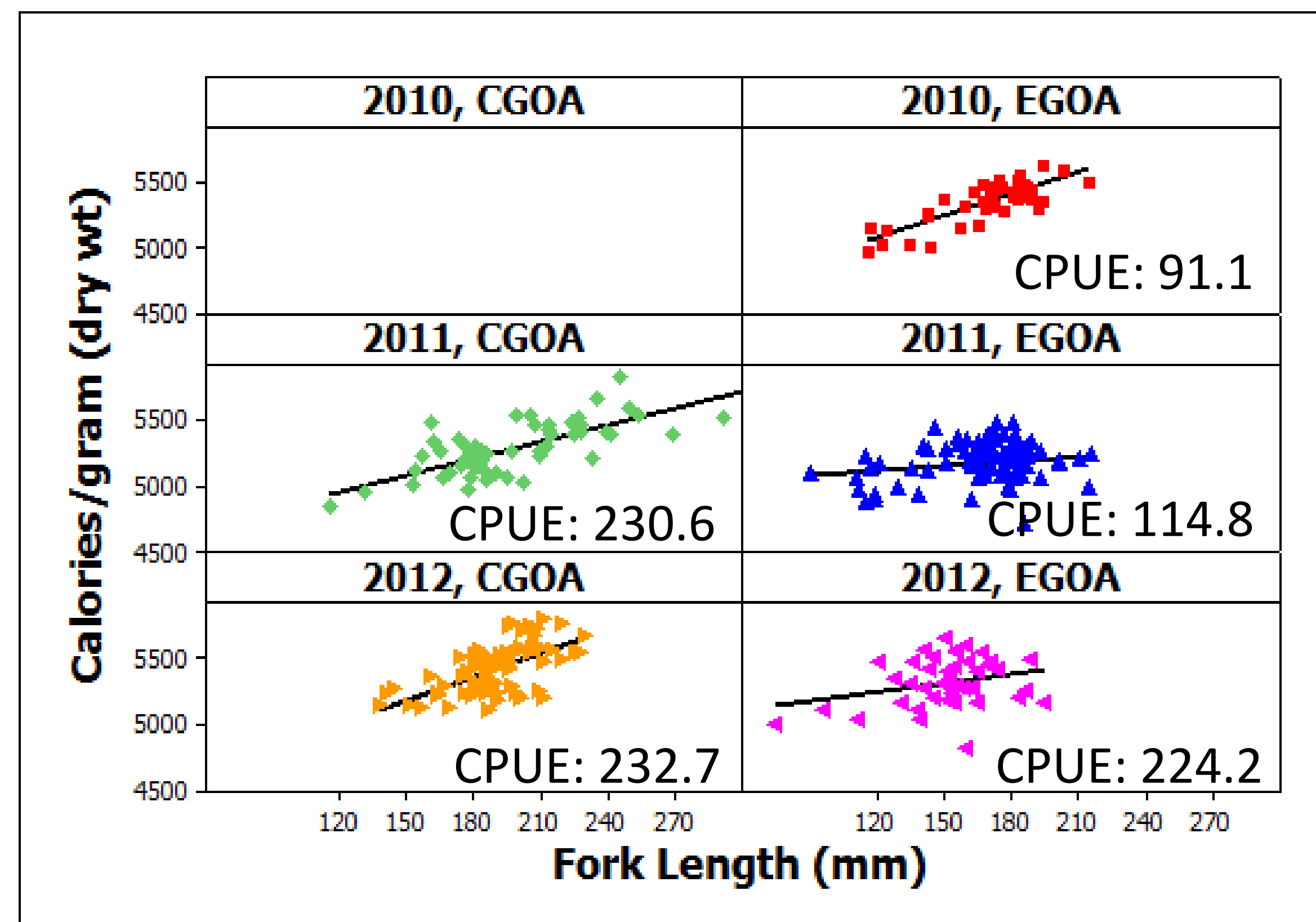
Distribution, relative abundance, and size varied across regions and years.

Regional & interannual effects on length ~ energy relationship.

Conclusions

Variable biological and physical oceanography may alter quality (energetic content) of prey. Stock composition and fresh water growth may influence marine energetic condition.

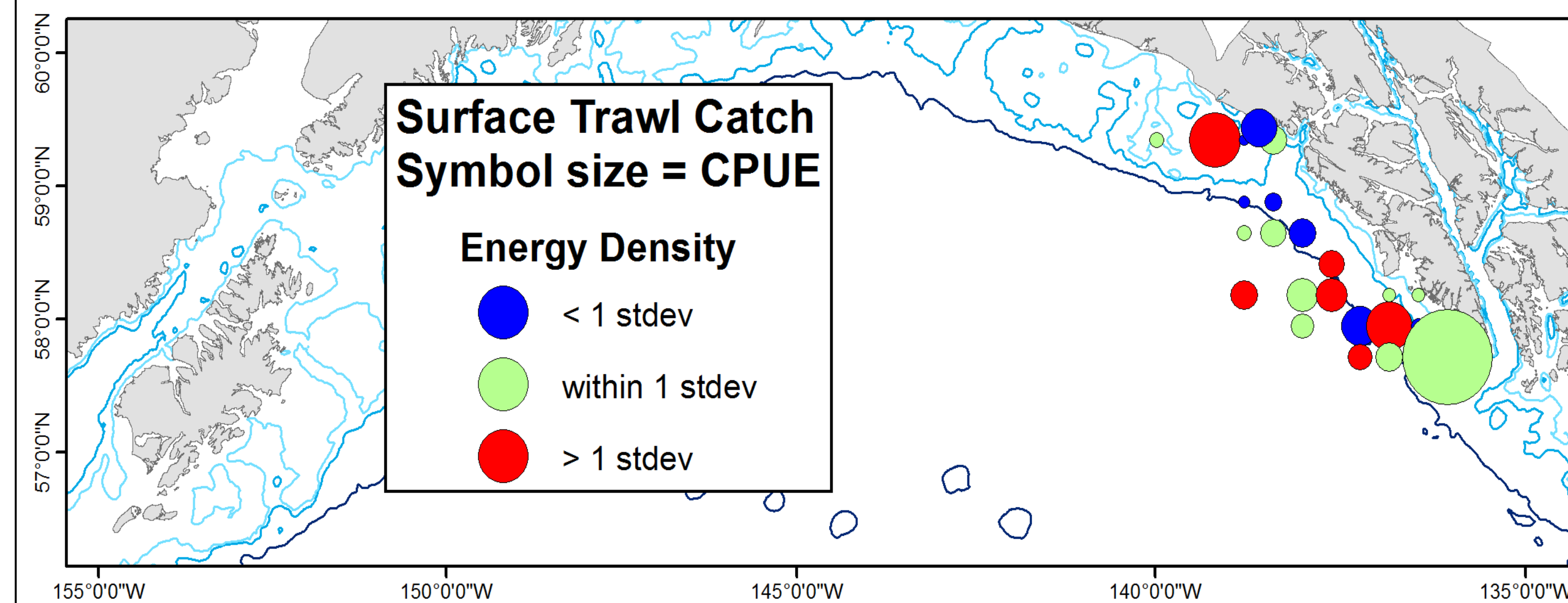
Next Steps



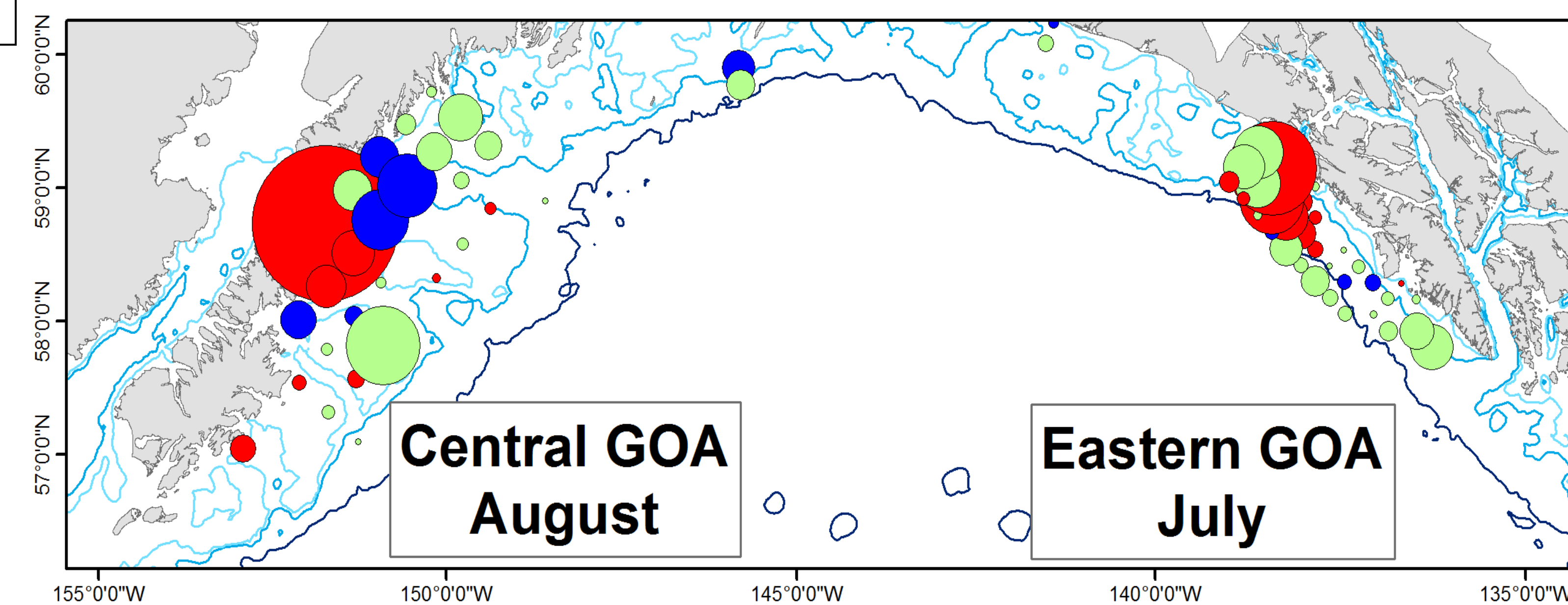
Calories/gram ~ Length + Year + Region + Year:Length + Region:Length

	Estimate	Std Error	t value	Pr(> t)
(Intercept)	3800.9181	213.754	17.782	<.0005
Length	8.9565	1.2302	7.281	<.0005
Year T.2011	590.546	199.1197	2.966	0.003
Year T.2012	626.7346	203.0074	3.087	0.002
Region	587.2163	128.7674	4.56	<.0005
Year T.2011 Interaction	-4.4996	1.1669	-3.856	<.0005
Year T.2012 Interaction	-3.6618	1.2013	-3.048	0.002
Region Interaction	-3.3365	0.7226	-4.617	<.0005

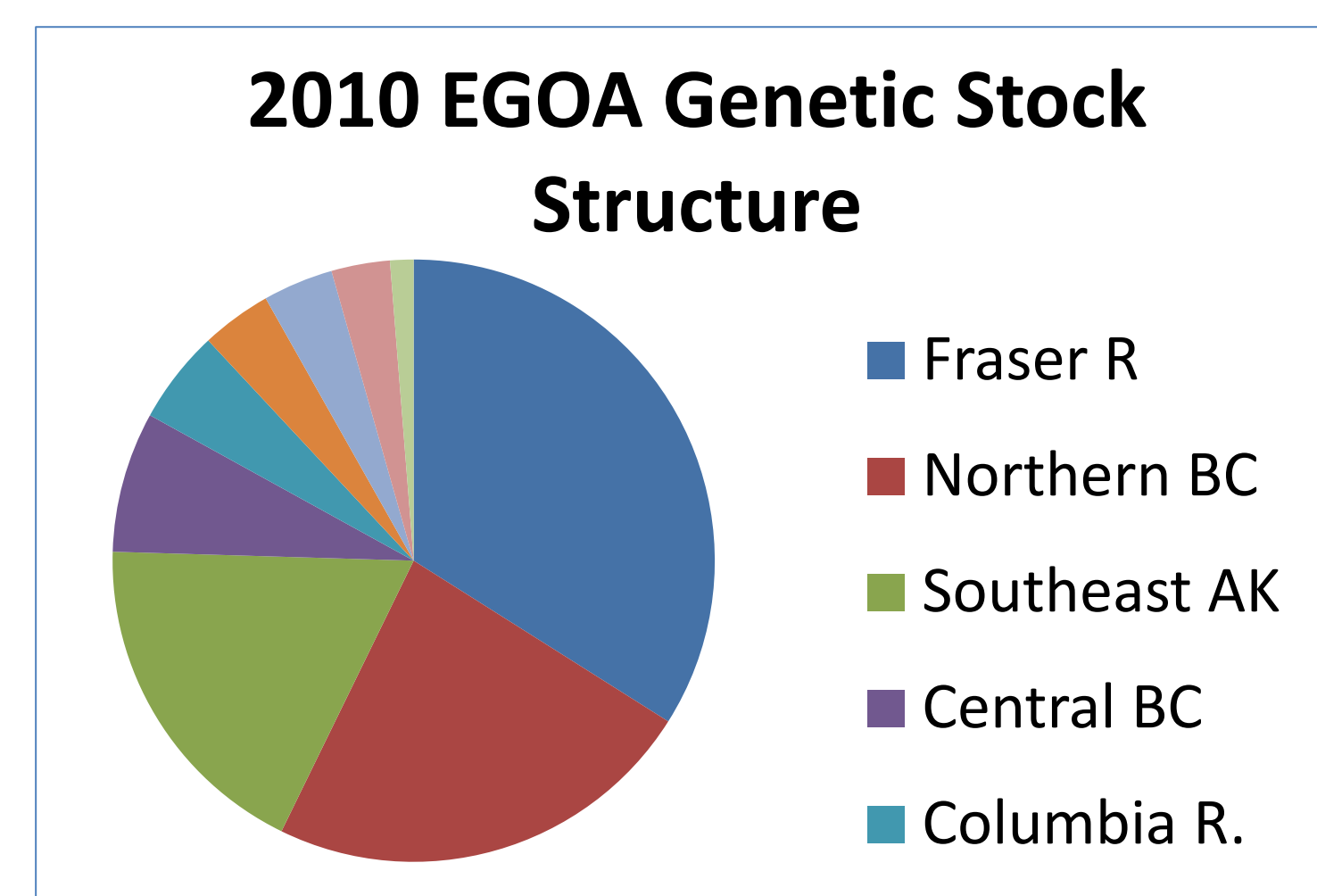
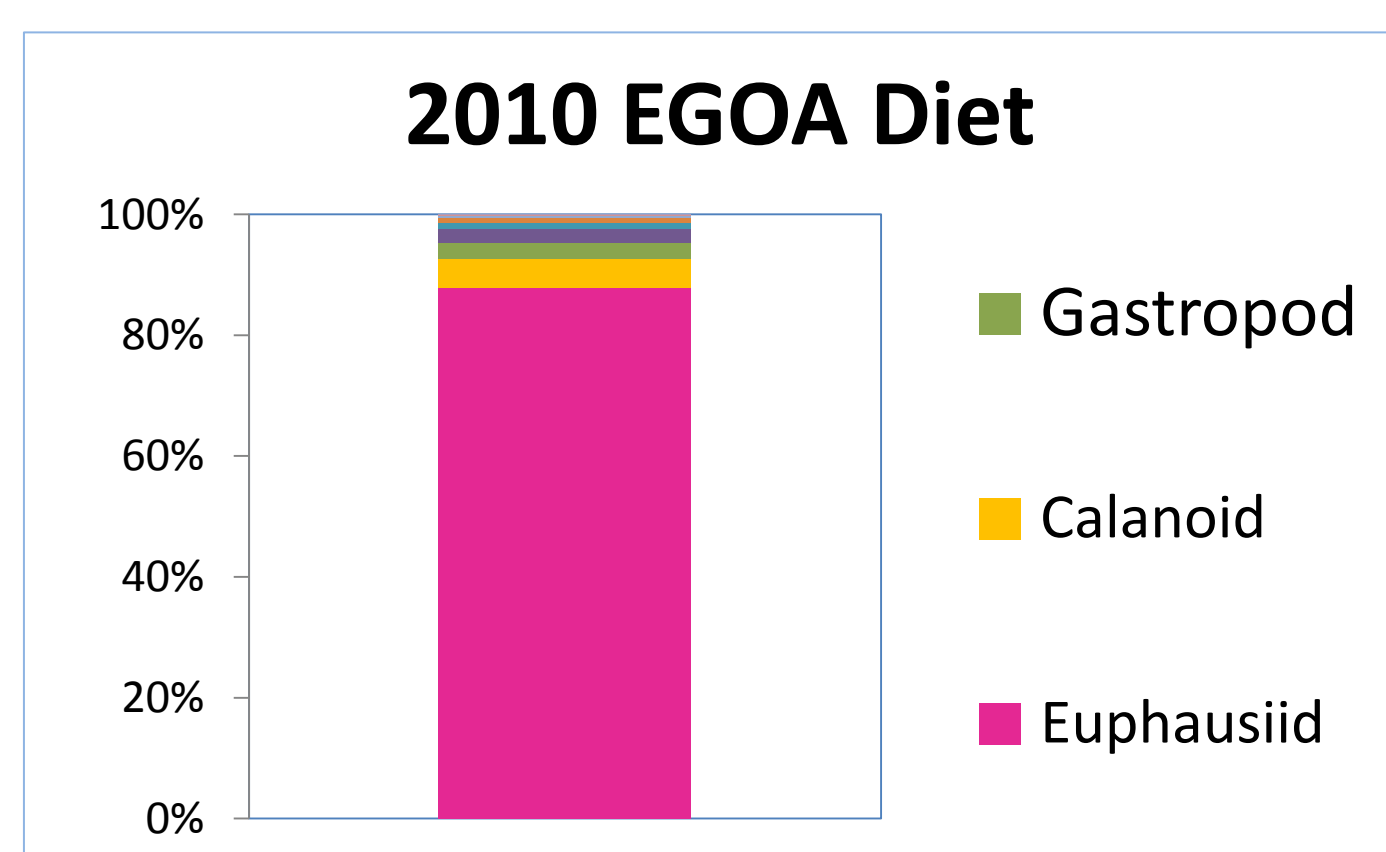
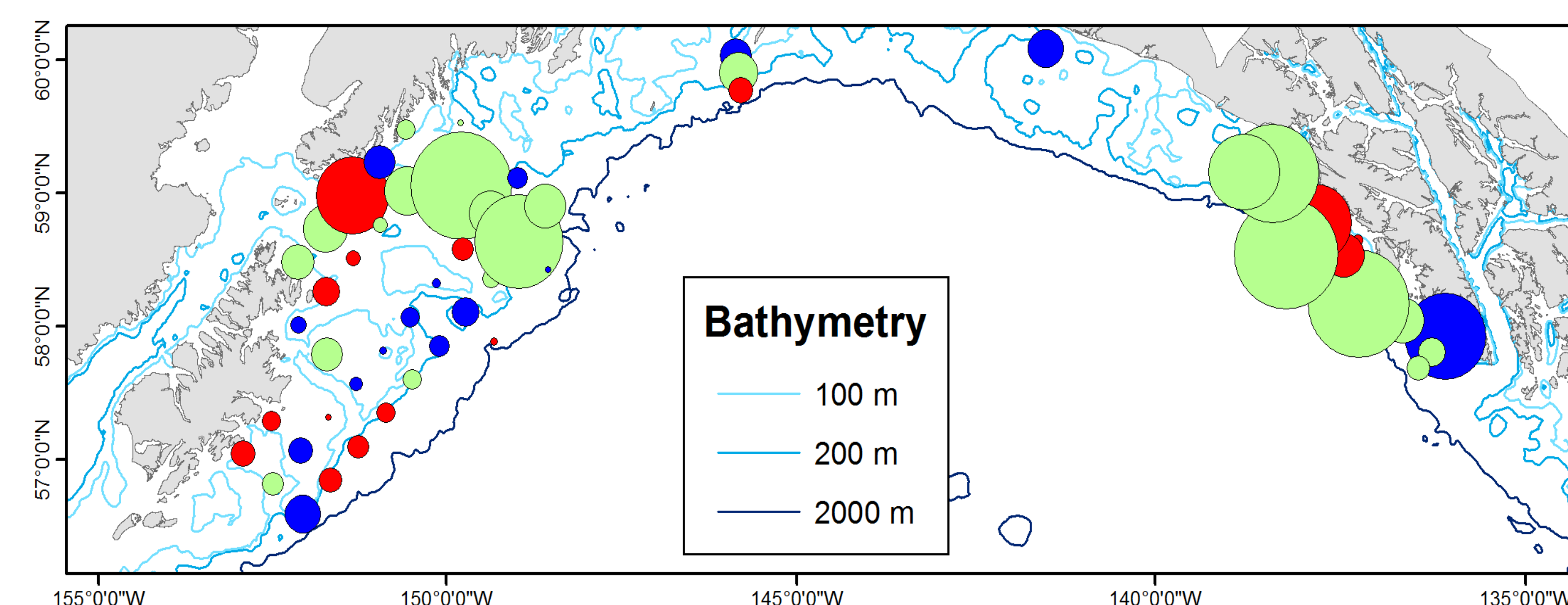
Summer 2010



Summer 2011



Summer 2012



Stomach Content Analysis: Emily Fergusson, FEDZ lab TSMRI

Genetic Stock Analysis: Terry Beacham & Marc Trudel, Fisheries and Oceans Canada