

Science, Service, Stewardship



Meta-Analysis of Nekton Utilization and Production from Coastal Habitats: Implications for Restoration Project Design and Implementation

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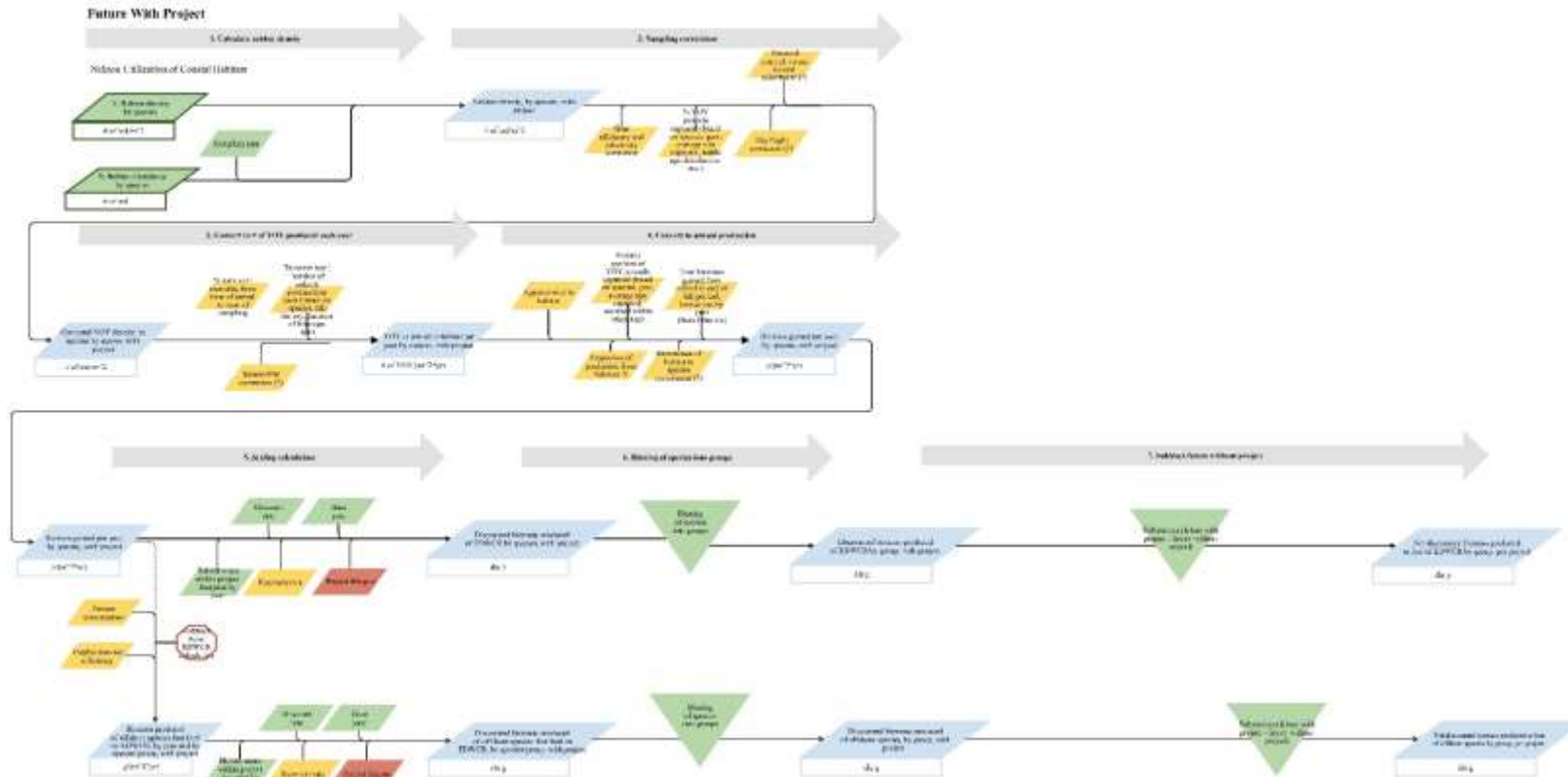


Two Integrated Meta-Analyses

- **Nekton utilization of coastal habitats in the northern GOM**
 - Terill Hollweg, Bryan Wallace, Mary Huisenga, and Diana Lane (Abt Associates)
 - Scott Friedman, Heather Ballesterro (IEc)
 - Mary Christman (MCC Consulting)
 - Kristopher Benson (NOAA)
- **Nekton productivity estimates of restored coastal habitats**
 - Terill Hollweg, Diana Lane (Abt Associates)
 - Scott Friedman, Heather Ballesterro (IEc)
 - Just Cebrian (DISL)
 - Hui Liu (TAMUG)
 - Mary Christman (MCC Consulting)
 - Kristopher Benson (NOAA)



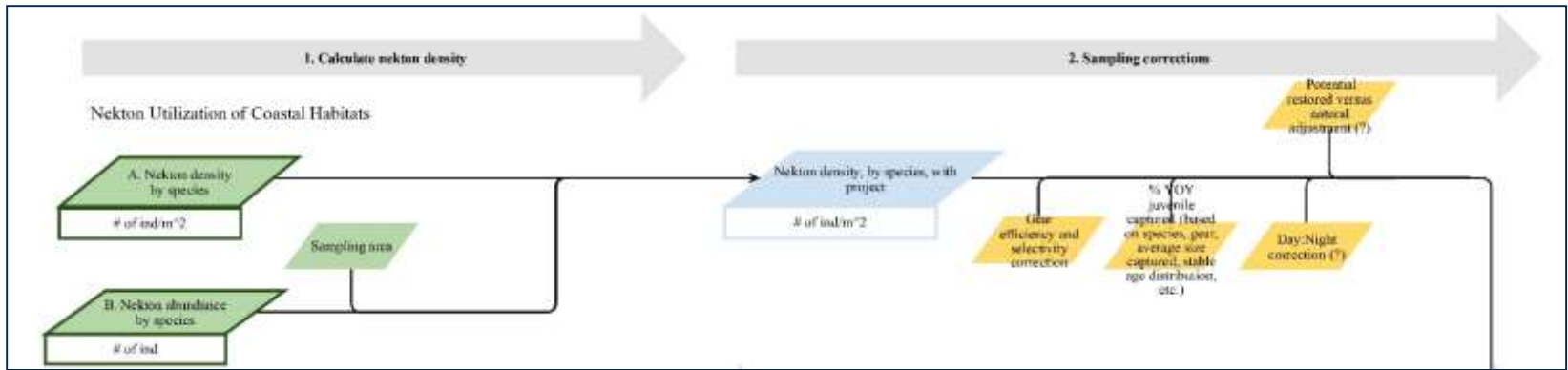
If production of estuarine-dependent fish and invertebrates is a goal...



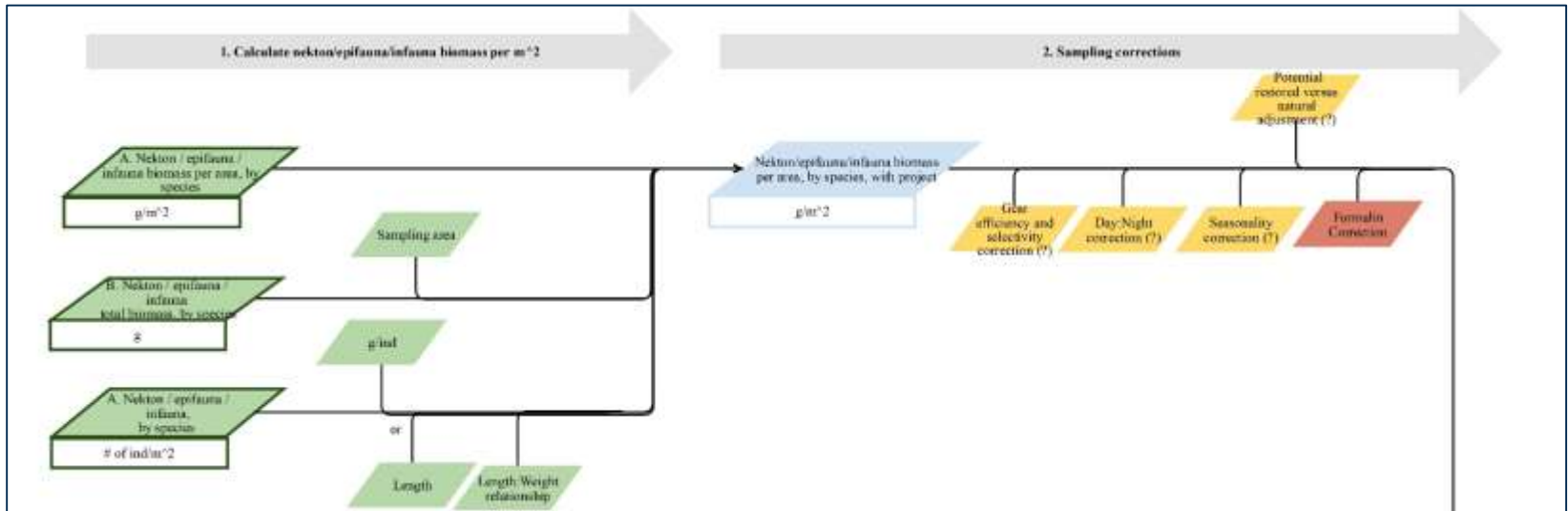


Nekton Utilization

Density



Biomass



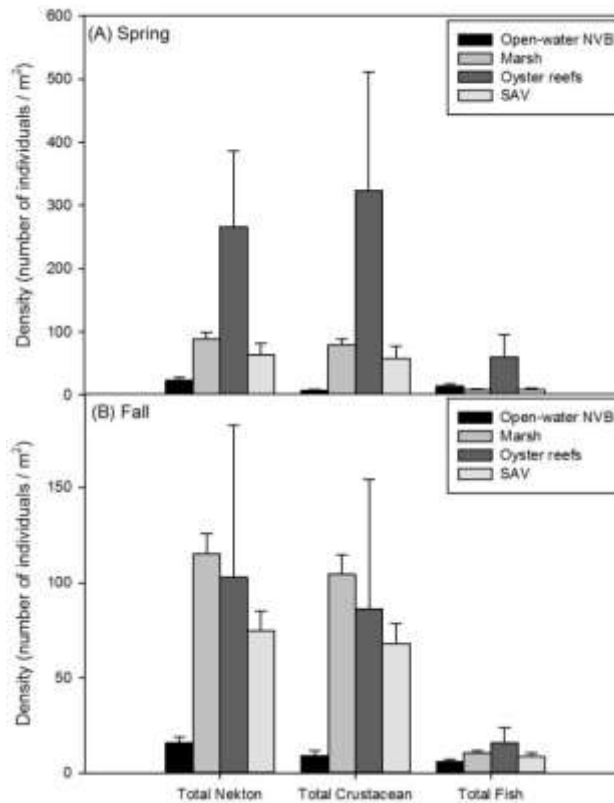


Study Sites





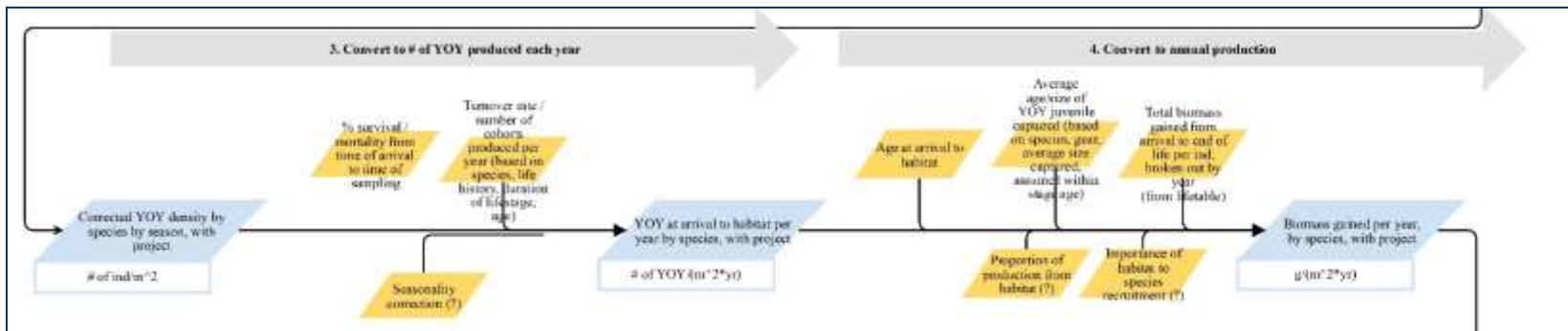
Total Nekton Densities



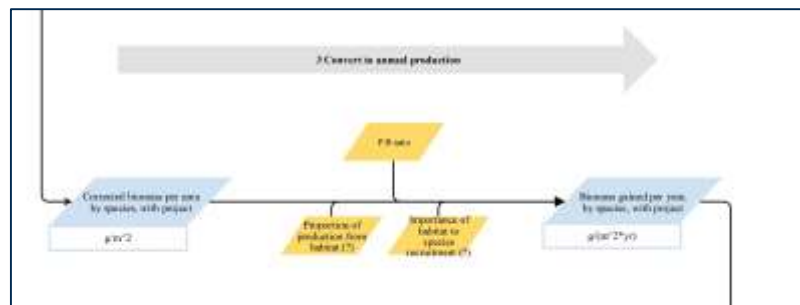


Production

Using Life History Tables



Using P:B Ratios





Grand average and SE of density at recruitment for pinfish and black drum in different habitats

Pinfish

Habitat	Mean (individ./m ²)	SE
Marsh	17	3
Oyster	53	21
SAV	17	13
Near Unvegetated Open Water	3	7
Far Unvegetated Open Water	7	7
Near&Far Unvegetated Open Water	11	7

Black Drum

Habitat	Mean	SE
Marsh	3	61
SAV	0	46
Near Unvegetated Open Water	18	56
Far Unvegetated Open Water	0	98



Mud crab densities, biomass per individual, and secondary production estimates by habitat

Habitat	Density		Biomass* (gm dw/individual)	
	Estimate	S.E.	Estimate	S.E.
Marsh	3.6838	1.9677	0.563	0.013834
Far Unvegetated Open Water	2.7933	2.2993		
Near&Far Unvegetated Open Water	2.9354	2.1425		
Near Unvegetated Open Water	3.2889	3.1083		
Oyster	1.9295	7.2263		
SAV	8.3653	2.5849		

Habitat	Annual secondary production			
	Estimate	S.E. ₁	S.E. ₂	S.E. ₃
Marsh	3.817781	2.040808	2.041079	2.053172
Far Unvegetated Open Water	2.894893	2.383269	2.383329	2.386022
Near&Far Unvegetated Open Water	3.042162	2.221011	2.221115	2.225737
Near Unvegetated Open Water	3.408519	3.221466	3.221487	3.222402
Oyster	1.999677	7.487023	7.486654	7.470101
SAV	8.669549	2.686564	2.687909	2.747359



**THANK YOU!
QUESTIONS?**