

Supplementary Material

Table S1. Measurements taken and formulas used for examining the nutritional condition and overall health of *Panulirus argus* lobsters in the Florida Keys; from Butler et al. (2018b). Lobster total weight is abbreviated TW.

Measurement taken	Method or formula used	References
Carapace length (CL)		
Sex		
Presence of injuries		
Presence of shell disease	Presence/Absence of small pits or burn marks on the cuticle, blackening of the exoskeleton, pitting, and melanization	Porter et al. 2001
Molt stage	Microscopic determination by pleopod tip	Lyle and McDonald 1983
Blood serum protein (BSP)	$-0.13 + 1.203 \times$ Hemolymph refractive index	Behringer and Butler 2006, Gutzler and Butler 2017
Hepatopancreas dry weight index (DWI)	$\frac{\text{Hepatopancreas dry weight}}{\text{Animal wet weight}} \times 100$	Bryars and Geddes 2005, Gutzler and Butler 2017
Animal wet weight	Males TW = $0.002229 \times \text{CL}^{2.77012}$ Females TW = $0.001839 \times \text{CL}^{2.82810}$	Matthews et al. 2003

Table S2. Mean and standard error of blood serum protein (BSP, mg mL⁻¹) of sublegal-size lobsters (<76.2 mm carapace length, CL; sublegal) and legal-size (≥76.2 mm CL; legal) lobsters surveyed in 2019–2020 around Long Key, FL, within two areas that differed by fishing pressure: fished area (Long Key Viaduct Bridge), and traps (traps fished north of Long Key Viaduct Bridge in Florida Bay). Ns represent the number of intermolt lobsters included in the survey each period for each area; there were months in which sampling was not done in an area (NA).

Month	Lobster type	Fished area			Traps		
		Mean	SE	N	Mean	SE	N
Jul-2019	Sublegal	19.57	0.92	25	NA	NA	NA
	Legal	17.06	1.08	25	NA	NA	NA
Aug-2019	Sublegal	17.84	1.17	18	14.00	0.46	90
	Legal	21.31	1.50	6	15.44	0.94	19
Sep-2019	Sublegal	21.26	1.63	14	13.58	0.34	133
	Legal	21.52	1.67	9	14.54	0.49	34
Nov-2019	Sublegal	19.17	1.05	10	12.95	0.53	98
	Legal	15.80	2.11	2	17.18	0.90	15
Dec-2019	Sublegal	18.65	0.76	26	14.52	0.29	161
	Legal	19.11	1.39	15	16.77	0.44	59
Jan-2020	Sublegal	13.90	0.73	27	12.36	0.35	98
	Legal	15.53	0.68	18	12.92	0.56	21
Feb-2020	Sublegal	16.18	0.65	40	NA	NA	NA
	Legal	17.51	2.21	6	NA	NA	NA
Mar-2020	Sublegal	20.85	1.84	10	10.52	0.35	111
	Legal	16.40	3.31	2	14.07	0.83	21
Apr-2020	Sublegal	20.02	0.66	27	NA	NA	NA
	Legal	19.58	0.78	18	NA	NA	NA
Jun-2020	Sublegal	20.67	0.36	22	NA	NA	NA
	Legal	19.61	1.01	12	NA	NA	NA

Table S3. Mean and standard error of hepatopancreas dry weight index (DWI) of sublegal-size lobsters (<76.2 mm carapace length, CL; sublegal) and legal-size (\geq 76.2 mm CL; legal) lobsters surveyed in 2019–2020 around Long Key, FL, within two areas that differed by fishing pressure: fished area (Long Key Viaduct Bridge), and traps (traps fished north of Long Key Viaduct Bridge in Florida Bay). Ns represent the number of lobsters (a subset of all lobsters sampled) and included in the survey each period for each area; there were months in which sampling was not done in an area (NA).

Month	Lobster type	Fished area			Traps		
		Mean	SE	N	Mean	SE	N
Jul-2019	Sublegal	1.52	0.09	35	NA	NA	NA
	Legal	1.64	0.15	33	NA	NA	NA
Aug-2019	Sublegal	1.32	0.16	17	0.74	0.13	15
	Legal	1.60	0.15	13	0.87	0.10	15
Sep-2019	Sublegal	1.90	0.13	19	0.6	0.09	15
	Legal	2.08	0.13	21	0.97	0.13	15
Nov-2019	Sublegal	1.73	0.14	15	0.55	0.14	15
	Legal	1.53	0.27	7	1.13	0.20	15
Dec-2019	Sublegal	1.61	0.13	15	0.77	0.09	16
	Legal	1.86	0.30	16	0.99	0.08	15
Jan-2020	Sublegal	1.31	0.13	20	0.69	0.10	15
	Legal	1.56	0.08	16	0.8	0.12	15
Feb-2020	Sublegal	1.16	0.12	30	NA	NA	NA
	Legal	1.73	0.22	8	NA	NA	NA
Mar-2020	Sublegal	1.32	0.13	20	0.5	0.06	15
	Legal	1.18	0.01	2	1.03	0.16	15
Apr-2020	Sublegal	1.30	0.11	20	NA	NA	NA
	Legal	1.26	0.11	14	NA	NA	NA
Jun-2020	Sublegal	1.59	0.07	30	NA	NA	NA
	Legal	1.38	0.13	18	NA	NA	NA

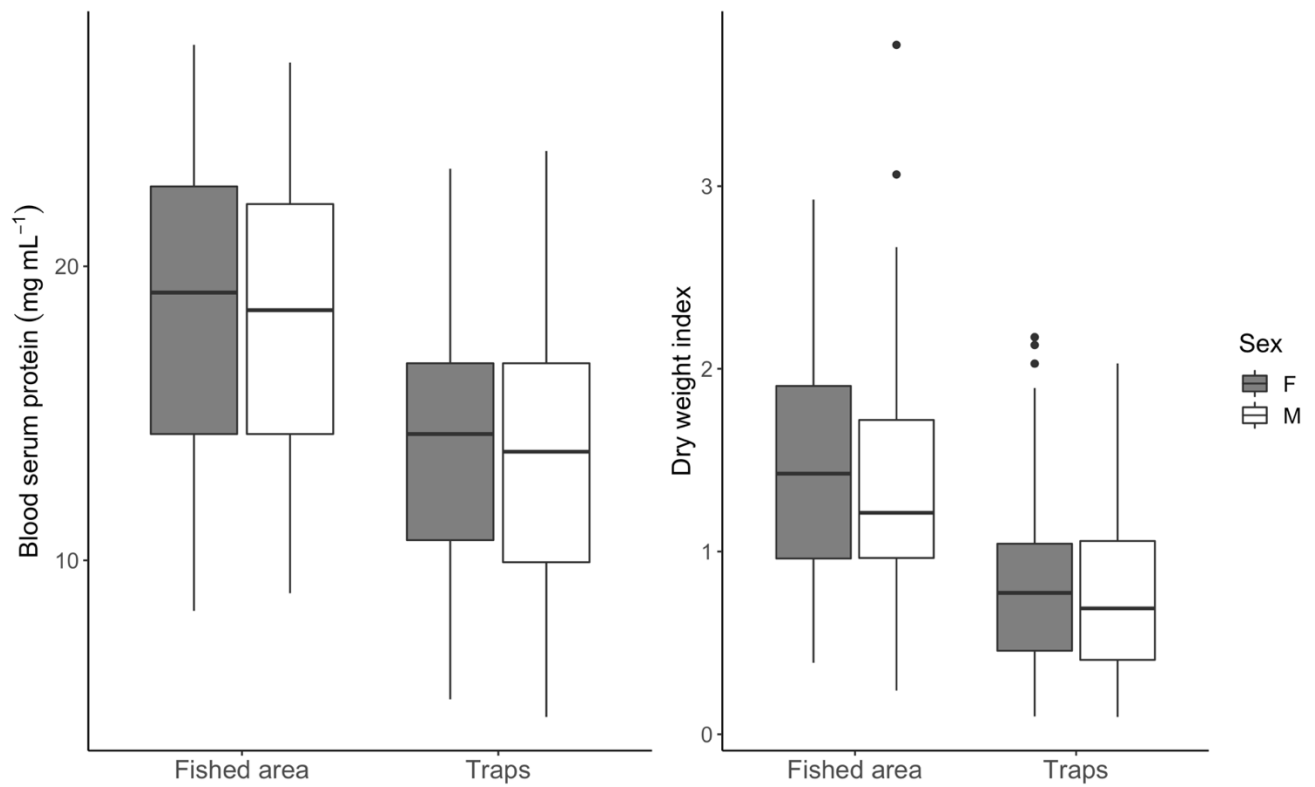


Fig. S1. Box-and-whisker plots of blood serum protein (left panel) or dry weight index (right panel) created to determine whether either metric differed by lobster sex among the three areas surveyed during 2019–2020. Boxes are drawn from the 25th to the 75th percentile, and whiskers are drawn from $1.5\times$ the interquartile range (i.e., the distance between the first and third quartiles); points lying outside the whiskers are outliers.