

1 **Subsidy Accessibility Drives Asymmetric Food Web Responses**

2 Marie Gutgesell¹, Bailey C. McMeans², Matthew M. Guzzo¹, Valesca deGroot³, Aaron T. Fisk⁵,

3 Timothy B. Johnson⁴, Kevin S. McCann¹

4 Ecology

5 **Appendix 1: Supplementary Tables & Figures**

6 **Table S1** Composition of feed pellets used by AquaCage Fisheries Inc. in 2016 and 2017. In

7 2016, only one size of feed was sampled.

Year	Feed Size (mm)	Fish Size (g)	Protein (min)	Oil (min)	Moisture (max)	Fibre (max)	Ash (max)	Phos (max)	DE (MJ/KG)
2016	6	500-1000	46%	24%	8%	2%	10%	1%	19.5
2017	4	100-400	45%	28%	8.50%	1.50%	12%	NA	20.2
2017	6	400-1000	43%	31%	8.50%	1.50%	12%	NA	20.2
2017	7.5	1000+	39%	32%	8.50%	1.50%	12%	NA	20.2

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11 **Table S2.** Proportion (%) of fatty acids (>1% in system) in feed in 2016 and 2017. Values for
 12 2017 were calculated as an average of fatty acid % in all three feed sizes. Fatty Acid Type
 13 describes how fatty acids were characterized in our study: Dietary Fatty Acids (DFA); and Feed
 14 Indicator Fatty Acids (FIFA). The year following FIFA indicates which year fatty was a feed
 15 indicator. % FIFA are indicated in bold.
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Fatty Acid	Fatty Acid Type	2016	2017 ¹⁷
			18
C14:0	EDFA	3.289	2.587
C16:0	EDFA	19.919	19.016
C16:1n7	FIFA_2017	5.230	9.497
C18:0	EDFA	4.587	5.818
C18.1n9	FIFA_2016/7	23.993	30.430
C:18:1n7	EDFA	2.073	unk
C18.2n6	FIFA_2016/7	17.265	22.180
C20.1n9	FIFA_2016	3.775	0.000
C18:3n3	FIFA_2017	1.550	5.529
C20:4n6	EDFA	0.558	0.247
C20:5n3c	EDFA	3.705	2.384
C22:5n3	EDFA	0.514	unk
C22:6n3c	EDFA	3.645	0.216

20 **Table S3.** Final temperature preferendum (FTP), thermal guild, and proportion (%) biomass of
 21 each species caught in 5 locations as part of the OMNRF 2017 Broad-scale Monitoring Program
 22 in Lake Huron. Values were extracted from UGLMU, 2018 Figure 4 (Key River); Fig. 7 (Moon
 23 River); Fig. 10 (Parry Sound); Fig 12 (Severn Sound); and Fig. 14 (South Bay). The BROADSCALE
 24 Fish Community Monitoring design used both large mesh and small mesh gillnets. The large
 25 mesh gillnets had eight panels (mesh sizes 38 mm to 127 mm stretched mesh) and a total length
 26 of 24.85 m. The small mesh gillnets had five panels (mesh sizes from 13 mm to 38 mm stretched
 27 mesh) with a total length of 12.5 m. Nets were set overnight and in pairs. Sites were selected
 28 using a depth-stratified randomized design using ArcGIS.

Species	FTP (°C)	Thermal Guild	Key River	Moon River	Parry Sound	Severn Sound	South Bay
<i>Alewife</i>	16.9	Cold	0.10	0.10	1.20	0.34	0.34
<i>Black Crappie</i>	23.4	Cool	0.26	0.10	-	0.68	-
<i>Bluntnose Minnow</i>	24.1	Cool	0.10	0.10	0.34	-	0.34
<i>Blackchin Shiner</i>	21.8	Cool	0.10	0.10	-	-	-
<i>Blacknose Shiner</i>		Cool	0.10	-	-	-	-
<i>Bowfin</i>	30.3	Warm	3.07	1.17	3.59	0.68	4.47
<i>Brown Bullhead</i>	26.2	Warm	6.14	7.49	2.39	2.38	3.44
<i>Bluegill</i>	30.2	Warm	-	-	-	0.34	-
<i>Brook Stickleback</i>	21.3	Cool	-	-	-	-	0.34
<i>Burbot</i>	13.2	Cold	1.02	6.79	-	1.02	5.84
<i>Channel Catfish</i>	27.3	Warm	0.26	1.40	-	-	-

<i>Common Shiner</i>	21.9	Cool	-	0.10	0.17	-	-	
<i>Chinook Salmon</i>	13.8	Cold	-	-	-	3.40	-	
<i>Common Carp</i>	27.7	Warm	-	-	2.56	3.40	3.09	
<i>Golden Shiner</i>	21.8	Cool	0.10	0.10	-	-	-	
<i>Emerald Shiner</i>	19.3	Cool	-	-	0.17	-	-	
<i>Johnny Darter</i>	22.8	Cool	0.10	0.10	-	-	-	
<i>Lake Chub</i>	27	Warm	0.26	0.10	-	-	-	
<i>Lake Herring,</i>								
<i>Cisco</i>	12.4	Cold	0.26	0.10	2.91	0.34	1.72	
<i>Lake Trout</i>	11.8	Cold	-	3.04	12.31	-	-	
<i>Lake Whitefish</i>	12.7	Cold	-	-	2.22	0.34	16.49	
<i>Largemouth Bass</i>	28.6	Warm	0.10	0.10	1.54	2.72	-	
<i>Longnose Gar</i>	27.4	Warm	1.54	10.53	3.93	24.15	-	
<i>Logperch</i>		Cool	0.10	-	-	-	-	
<i>Longnose Sucker</i>	11.1	Cold	0.77	0.23	-	-	-	
<i>Mimic Shiner</i>		Cool	-	0.10	-	0.34	0.34	
<i>Muskellunge</i>	25.4	Warm	-	-	-	1.70	-	
<i>Northern Pike</i>	20.7	Cool	20.98	21.30	9.74	7.82	-	
<i>Pumpkinseed</i>	27.7	Warm	0.26	0.47	0.17	0.68	-	
<i>Rainbow Smelt</i>	11.2	Cold	0.26	0.23	0.17	0.68	1.37	
<i>Rainbow Trout</i>	15.5	Cold	-	-	0.85	-	-	
<i>Rock Bass</i>	24.9	Cool	2.56	3.04	2.05	1.02	1.72	
<i>Round Goby</i>	20.7	Cool	0.26	0.10	0.34	0.34	0.69	

<i>Smallmouth Bass</i>	25	Warm	16.12	26.91	32.14	17.69	9.97
<i>Spoonhead</i>							
<i>Sculpin</i>	6	Cold	-	-	0.17	-	-
<i>Spottail Shiner</i>	16.6	Cold	0.10	-	0.17	0.34	-
<i>Threespine</i>							
<i>Stickleback</i>	12.5	Cold	0.10	-	-	-	-
<i>Trout-perch</i>	13.4	Cold	-	-	0.17	0.34	-
<i>Walleye</i>	22.5	Cool	20.98	13.57	8.38	11.90	2.06
<i>White Sucker</i>	23.4	Cool	14.84	-	8.03	2.72	12.71
<i>White Perch</i>	29.8	Warm	1.54	0.94	-	0.68	-
<i>White Bass</i>	27.3	Warm	-	0.23	-	-	-
<i>Yellow Perch</i>	17.6	Cool	7.68	1.40	4.27	13.95	35.40

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31 **Figure S1.** Map of sampling locations used in manuscript. Colour of site indicates what analysis
32 data collected was used in. (SI = Stable Isotope Analysis; FA = Fatty Acid Analysis; Biomass =
33 Biomass analysis using Broad-scale Monitoring Data). If sites were used for more than one
34 analysis, all analysis used for are indicated by colour (e.g., data collected from Parry Sound was
35 used for stable isotope, fatty acid and biomass analysis). Parry Sound is where the net-pen
36 aquaculture facility is located and thus represents the experimental study site, all other sites are
37 considered controls.

38 **Figure S2.** Comparison of the three % feed indicator fatty acids in net-pen feed to littoral forage
39 fish (LFF), littoral baselines (LB), pelagic baselines (PB) and pelagic forage fish (PFF) between
40 net-pen (Parry Sound) and control sites in 2016.

41 **Figure S3.** Comparison of the four % feed indicator fatty acids in net-pen feed to littoral forage
42 fish (LFF), littoral baselines (LB), pelagic baselines (PB) and pelagic forage fish (PFF) between
43 net-pen (Parry Sound) and control sites in 2017.

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46 **Figure S1.**

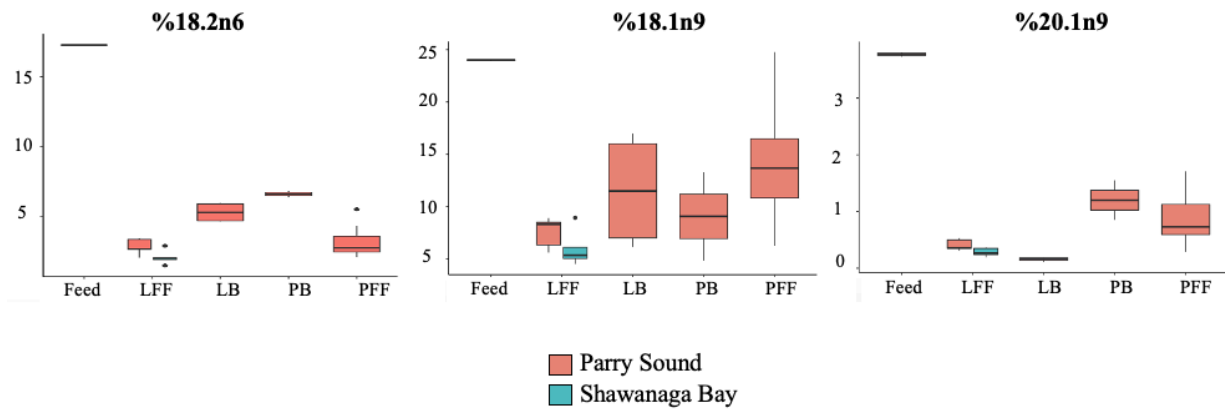
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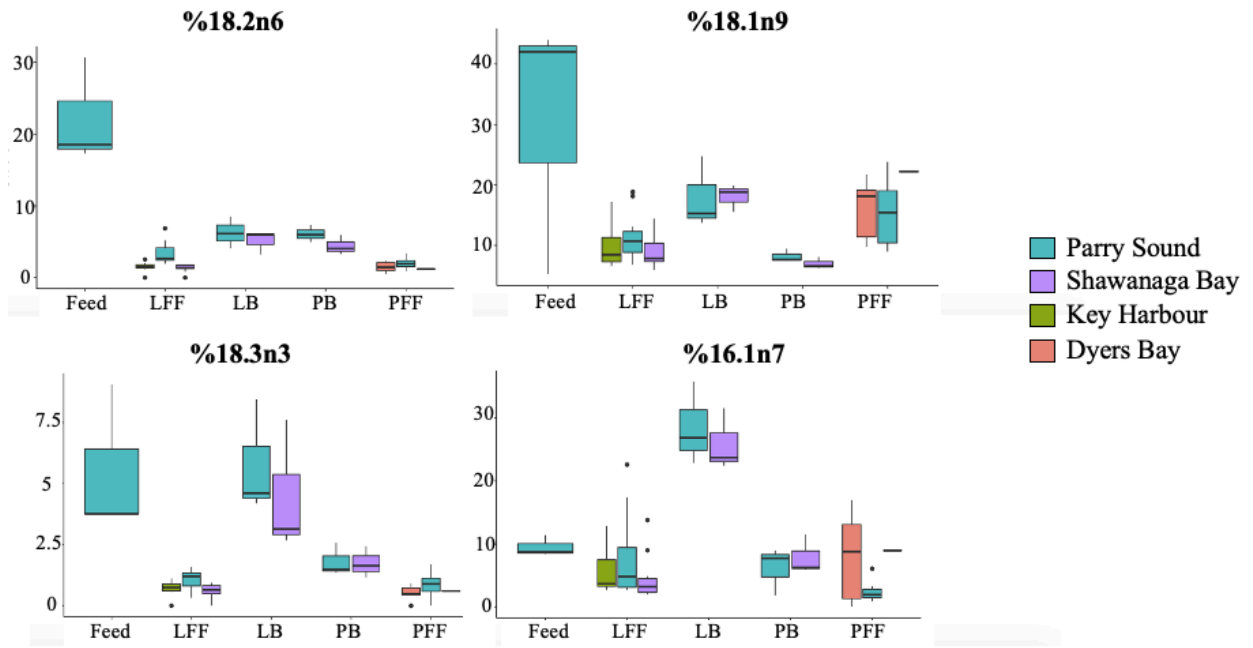
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53 **Figure S2.**

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57 **Figure S3.**