

# Supplemental Information

Supplementary Table 1. Fisher behavioral and demographic variables derived and used in the clustering and random forest analyses. Variables with asterisks were removed from the final clustering analysis due to high collinearity with other variables.

Category	Variable	Definition
<b>Port Use</b>	Ports per Trip	Average ports visited per trip
	Ports per Month	Number of ports visited per month
	Port Diversity	Shannon diversity index of port use across the entire season
	Total Ports*	Total number of ports visited across the entire season
<b>Trip Length</b>	Mean Trip Distance*	Mean distance per fishing trip
	Mean Trip Duration	Mean number of days per fishing trip
	SD Trip Distance*	Standard deviation of distance traveled per trip
	SD Trip Duration	Standard deviation of days per fishing trip
<b>Participation in Other Fisheries</b>	Season Length	Day-of-season on which fisher reached 90% of eventual, cumulative catch
	Proportion Non-Dungeness Revenue	Proportion of revenue from non-Dungeness crab fisheries
	Proportion Non-Dungeness Tickets*	Proportion of all fish tickets from non-Dungeness crab fisheries
	Revenue Diversity	Inverse Simpson diversity index of revenue by fished species
<b>Risk-taking</b>	Risk Taking	Propensity to fish in high winds. Proportion of trip pursued where the 95% quantile of wind speed was greater than 7.5 m/s
<b>Exploration &amp; Mobility</b>	Location Entropy	Cumulative choice entropy, measuring how likely a vessel is to fish in new versus past locations. The metric used is the 90th percentile of maximum choice entropy per vessel per season

	Home Range Size	Home range defined as the area of the convex hull surrounding all of a vessel's VMS pings during the season, excluding the top 5% spatial outliers
--	-----------------	--

Supplementary Table 2. Tukey's honest significant difference analysis on seasonal non-Dungeness crab revenue per vessel, corresponding to Figure 3b in the main text. MHW: marine heatwave period; Non-MHW: non-marine heatwave period. Bolded rows are within-behavioral-group, between-period comparisons. Of these within-group comparisons, differences with a p-value<0.05 are indicated with stars in Fig. 3b.

Group 1	Group 2	Difference	Lower	Upper	Adjusted p-value
<b>MHW:Local Specialists</b>	<b>Non-MHW:Local Specialists</b>	<b>19014</b>	<b>-51710</b>	<b>89738</b>	<b>0.992</b>
Non-MHW:Local Generalists	Non-MHW:Local Specialists	162616	114336	210897	0.000
MHW:Local Generalists	Non-MHW:Local Specialists	376497	311019	441974	0.000
Non-MHW:Roving Specialists	Non-MHW:Local Specialists	26136	-27947	80219	0.826
MHW:Roving Specialists	Non-MHW:Local Specialists	83978	21786	146169	0.001
Non-MHW:Roving Generalists	Non-MHW:Local Specialists	408766	352788	464743	0.000
MHW:Roving Generalists	Non-MHW:Local Specialists	846315	773088	919542	0.000
Non-MHW:Local Generalists	MHW:Local Specialists	143602	80018	207187	0.000
MHW:Local Generalists	MHW:Local Specialists	357483	280027	434938	0.000
Non-MHW:Roving Specialists	MHW:Local Specialists	7122	-60974	75217	1.000
MHW:Roving Specialists	MHW:Local Specialists	64964	-9734	139662	0.143
Non-MHW:Roving Generalists	MHW:Local Specialists	389751	320141	459361	0.000
MHW:Roving Generalists	MHW:Local Specialists	827301	743193	911410	0.000
<b>MHW:Local Generalists</b>	<b>Non-MHW:Local Generalists</b>	<b>213880</b>	<b>156187</b>	<b>271574</b>	<b>0.000</b>
Non-MHW:Roving Specialists	Non-MHW:Local Generalists	-136481	-180822	-92139	0.000
MHW:Roving Specialists	Non-MHW:Local Generalists	-78639	-132573	-24704	0.000
Non-MHW:Roving Generalists	Non-MHW:Local Generalists	246149	199515	292783	0.000
MHW:Roving Generalists	Non-MHW:Local Generalists	683699	617341	750057	0.000
Non-MHW:Roving Specialists	MHW:Local Generalists	-350361	-412991	-287731	0.000

MHW:Roving Specialists	MHW:Local Generalists	-292519	-362271	-222768	0.000
Non-MHW:Roving Generalists	MHW:Local Generalists	32269	-32004	96542	0.795
MHW:Roving Generalists	MHW:Local Generalists	469819	390071	549566	0.000
<b>MHW:Roving Specialists</b>	<b>Non-MHW:Roving Specialists</b>	<b>57842</b>	<b>-1344</b>	<b>117027</b>	<b>0.061</b>
Non-MHW:Roving Generalists	Non-MHW:Roving Specialists	382630	330012	435248	0.000
MHW:Roving Generalists	Non-MHW:Roving Specialists	820180	749488	890872	0.000
Non-MHW:Roving Generalists	MHW:Roving Specialists	324788	263866	385709	0.000
MHW:Roving Generalists	MHW:Roving Specialists	762338	685266	839410	0.000
<b>MHW:Roving Generalists</b>	<b>Non-MHW:Roving Generalists</b>	<b>437550</b>	<b>365398</b>	<b>509702</b>	<b>0.000</b>

14

15

Supplementary Table 3. Tukey's honest significant difference analysis on seasonal home range size (in square km) per vessel, corresponding to Figure 4b in the main text. MHW: marine heatwave period; Non-MHW: non-marine heatwave period. Bolded rows are within-behavioral-group, between-period comparisons. Of these within-group comparisons, differences with a p-value<0.05 are indicated with stars in Fig. 4b.

Group 1	Group 2	Difference	Lower	Upper	Adjusted p-value
<b>MHW:Local Specialists</b>	<b>Non-MHW:Local Specialists</b>	<b>14.9</b>	<b>-924.2</b>	<b>954.1</b>	<b>1.000</b>
Non-MHW:Local Generalists	Non-MHW:Local Specialists	386.0	-231.0	1003.0	0.553
MHW:Local Generalists	Non-MHW:Local Specialists	391.9	-489.3	1273.1	0.880
Non-MHW:Roving Specialists	Non-MHW:Local Specialists	2378.2	1734.2	3022.3	0.000
MHW:Roving Specialists	Non-MHW:Local Specialists	3305.1	2545.8	4064.3	0.000
Non-MHW:Roving Generalists	Non-MHW:Local Specialists	3913.4	3248.4	4578.4	0.000
MHW:Roving Generalists	Non-MHW:Local Specialists	5342.7	4494.1	6191.3	0.000
Non-MHW:Local Generalists	MHW:Local Specialists	371.1	-492.1	1234.2	0.898
MHW:Local Generalists	MHW:Local Specialists	376.9	-691.1	1445.0	0.963
Non-MHW:Roving Specialists	MHW:Local Specialists	2363.3	1480.6	3246.0	0.000
MHW:Roving Specialists	MHW:Local Specialists	3290.1	2320.2	4260.1	0.000
Non-MHW:Roving Generalists	MHW:Local Specialists	3898.5	3000.4	4796.6	0.000
MHW:Roving Generalists	MHW:Local Specialists	5327.8	4286.4	6369.2	0.000
<b>MHW:Local Generalists</b>	<b>Non-MHW:Local Generalists</b>	<b>5.9</b>	<b>-793.8</b>	<b>805.6</b>	<b>1.000</b>
Non-MHW:Roving Specialists	Non-MHW:Local Generalists	1992.3	1465.2	2519.3	0.000
MHW:Roving Specialists	Non-MHW:Local Generalists	2919.1	2256.1	3582.0	0.000
Non-MHW:Roving Generalists	Non-MHW:Local Generalists	3527.4	2974.9	4079.9	0.000
MHW:Roving	Non-MHW:Local	4956.7	4193.0	5720.4	0.000

Generalists	Generalists				
Non-MHW:Roving Specialists	MHW:Local Generalists	1986.4	1165.6	2807.1	0.000
MHW:Roving Specialists	MHW:Local Generalists	2913.2	1999.3	3827.1	0.000
Non-MHW:Roving Generalists	MHW:Local Generalists	3521.6	2684.3	4358.8	0.000
MHW:Roving Generalists	MHW:Local Generalists	4950.8	3961.4	5940.3	0.000
<b>MHW:Roving Specialists</b>	<b>Non-MHW:Roving Specialists</b>	<b>926.8</b>	<b>238.6</b>	<b>1615.0</b>	<b>0.001</b>
Non-MHW:Roving Generalists	Non-MHW:Roving Specialists	1535.2	952.6	2117.7	0.000
MHW:Roving Generalists	Non-MHW:Roving Specialists	2964.5	2178.8	3750.2	0.000
Non-MHW:Roving Generalists	MHW:Roving Specialists	608.4	-99.4	1316.2	0.154
MHW:Roving Generalists	MHW:Roving Specialists	2037.7	1155.1	2920.2	0.000
<b>MHW:Roving Generalists</b>	<b>Non-MHW:Roving Generalists</b>	<b>1429.3</b>	<b>626.3</b>	<b>2232.2</b>	<b>0.000</b>

22

23

Supplementary Table 4. Tukey's honest significant difference analysis on seasonal profit per vessel, corresponding to Figure 5b in the main text. MHW: marine heatwave period; Non-MHW: non-marine heatwave period. Bolded rows are within-behavioral-group, between-period comparisons. Of these within-group comparisons, differences with a p-value<0.05 are indicated with stars in Fig. 5b.

Group 1	Group 2	Difference	Lower	Upper	Adjusted p-value
<b>MHW:Local Specialists</b>	<b>Non-MHW:Local Specialists</b>	<b>6532</b>	<b>-20938</b>	<b>34003</b>	<b>0.996</b>
Non-MHW:Local Generalists	Non-MHW:Local Specialists	-2143	-21592	17305	1.000
MHW:Local Generalists	Non-MHW:Local Specialists	20129	-5354	45613	0.244
Non-MHW:Roving Specialists	Non-MHW:Local Specialists	41291	19782	62800	0.000
MHW:Roving Specialists	Non-MHW:Local Specialists	71946	47704	96187	0.000
Non-MHW:Roving Generalists	Non-MHW:Local Specialists	96469	73885	119054	0.000
MHW:Roving Generalists	Non-MHW:Local Specialists	161547	133127	189966	0.000
Non-MHW:Local Generalists	MHW:Local Specialists	-8676	-33416	16064	0.964
MHW:Local Generalists	MHW:Local Specialists	13597	-16123	43317	0.863
Non-MHW:Roving Specialists	MHW:Local Specialists	34759	8368	61149	0.002
MHW:Roving Specialists	MHW:Local Specialists	65413	36752	94075	0.000
Non-MHW:Roving Generalists	MHW:Local Specialists	89937	62663	117211	0.000
MHW:Roving Generalists	MHW:Local Specialists	155014	122742	187287	0.000
<b>MHW:Local Generalists</b>	<b>Non-MHW:Local Generalists</b>	<b>22273</b>	<b>-241</b>	<b>44787</b>	<b>0.055</b>
Non-MHW:Roving Specialists	Non-MHW:Local Generalists	43434	25544	61325	0.000
MHW:Roving Specialists	Non-MHW:Local Generalists	74089	52992	95186	0.000
Non-MHW:Roving Generalists	Non-MHW:Local Generalists	98613	79442	117783	0.000
MHW:Roving Generalists	Non-MHW:Local Generalists	163690	137900	189480	0.000
Non-MHW:Roving	MHW:Local Generalists	21161	-3154	45477	0.142

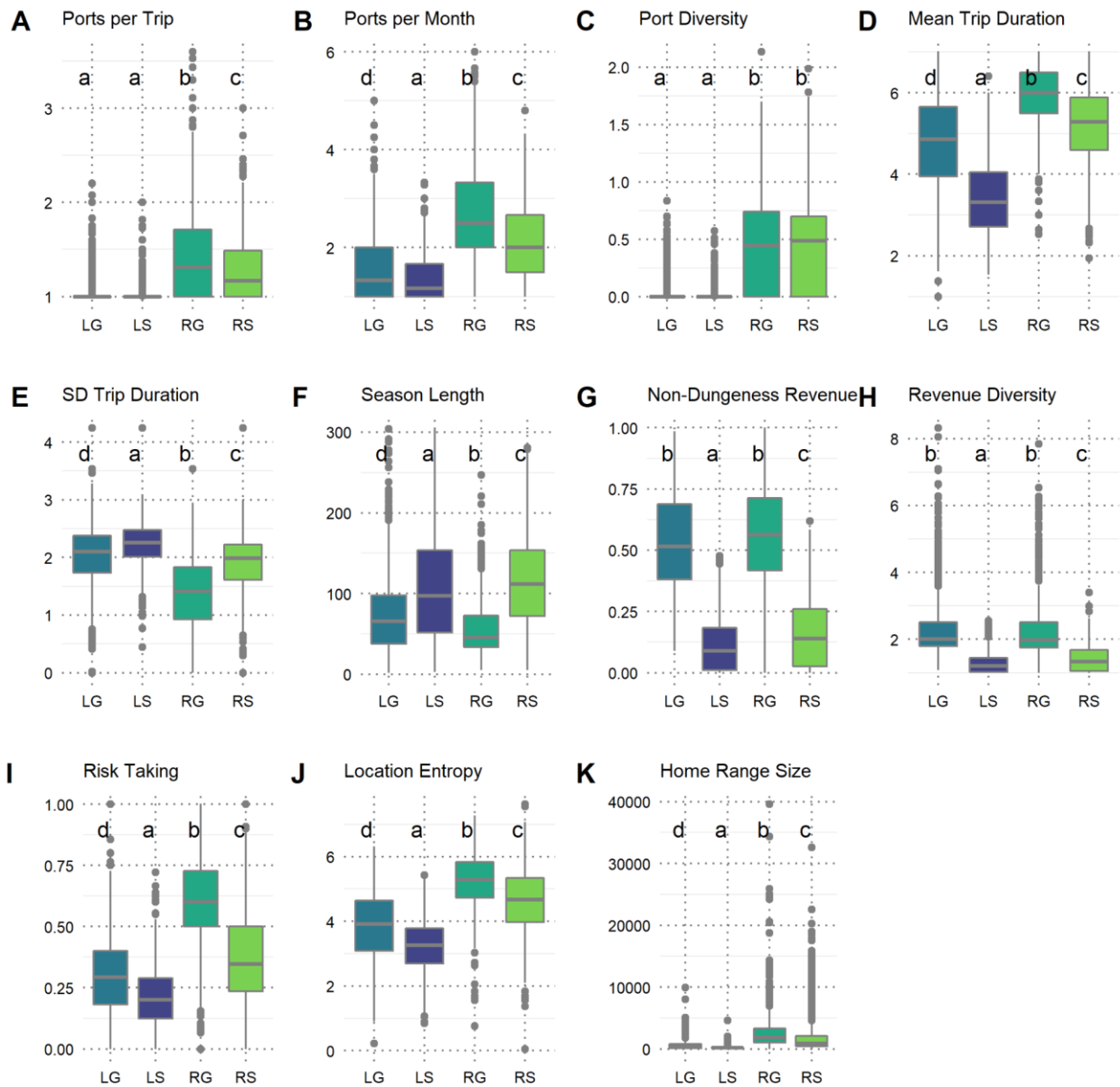
Specialists					
MHW:Roving Specialists	MHW:Local Generalists	51816	25053	78580	0.000
Non-MHW:Roving Generalists	MHW:Local Generalists	76340	51068	101612	0.000
MHW:Roving Generalists	MHW:Local Generalists	141417	110818	172016	0.000
<b>MHW:Roving Specialists</b>	<b>Non-MHW:Roving Specialists</b>	<b>30655</b>	<b>7644</b>	<b>53665</b>	<b>0.001</b>
Non-MHW:Roving Generalists	Non-MHW:Roving Specialists	55178	33921	76436	0.000
MHW:Roving Generalists	Non-MHW:Roving Specialists	120256	92879	147633	0.000
Non-MHW:Roving Generalists	MHW:Roving Specialists	24524	505	48543	0.041
MHW:Roving Generalists	MHW:Roving Specialists	89601	60029	119174	0.000
<b>MHW:Roving Generalists</b>	<b>Non-MHW:Roving Generalists</b>	<b>65077</b>	<b>36847</b>	<b>93308</b>	<b>0.000</b>

29  
30



**Supplementary Figures**

Supplementary Figure 1. Distribution of behavioral variables by behavioral groups (LG: Local Generalists; LS: Local Specialists; RG: Roaming Generalists; RS: Roaming Specialists). Letters represent significant group differences based on Tukey's HSD.

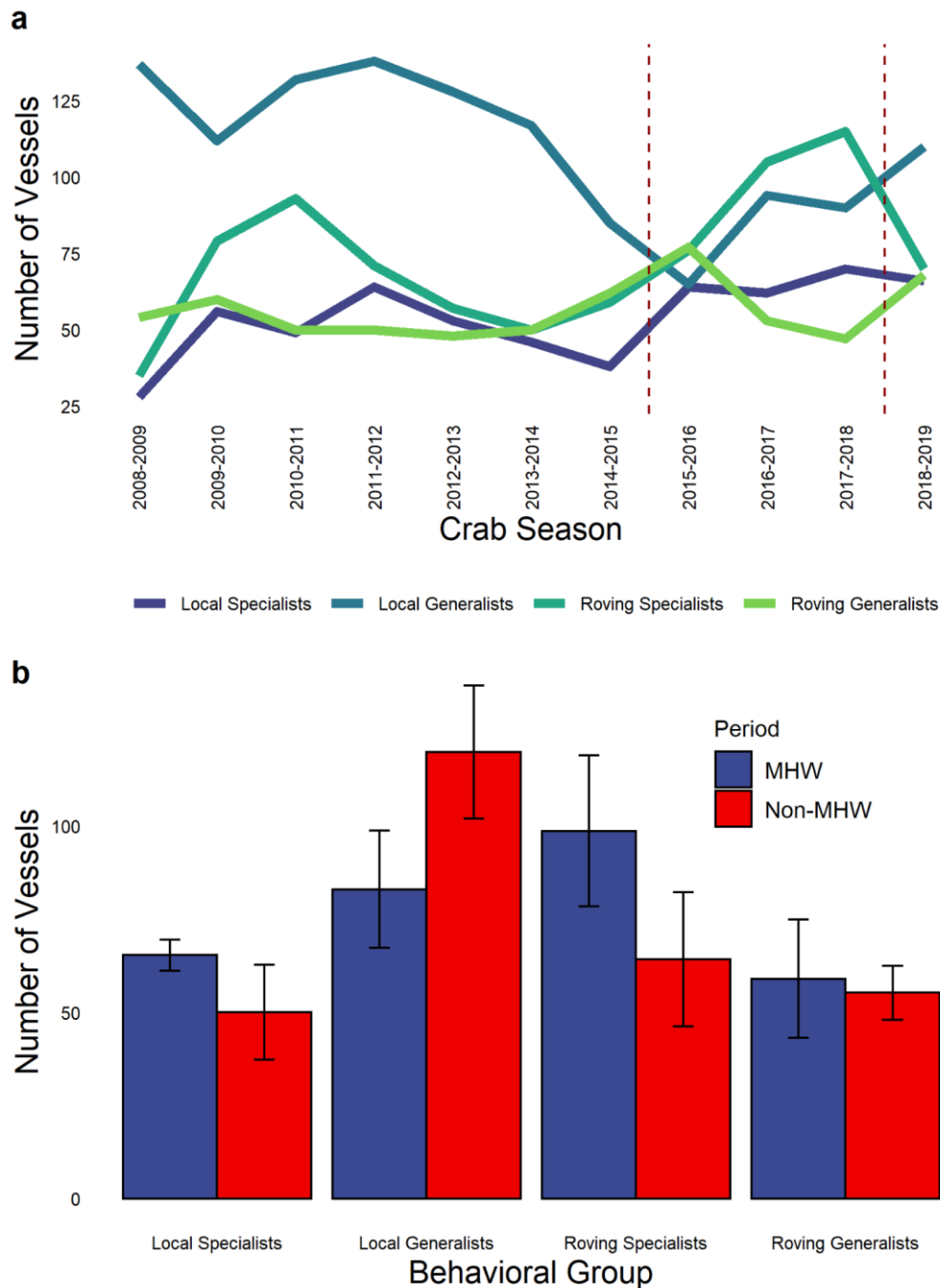


39 Supplementary Figure 2. Rankings of each behavioral group relative to each variable included in the  
 40 cluster analysis. Groups with non-significant differences (according to Tukey's HSD, Supplementary  
 41 Figure 1) are assigned the same rank.

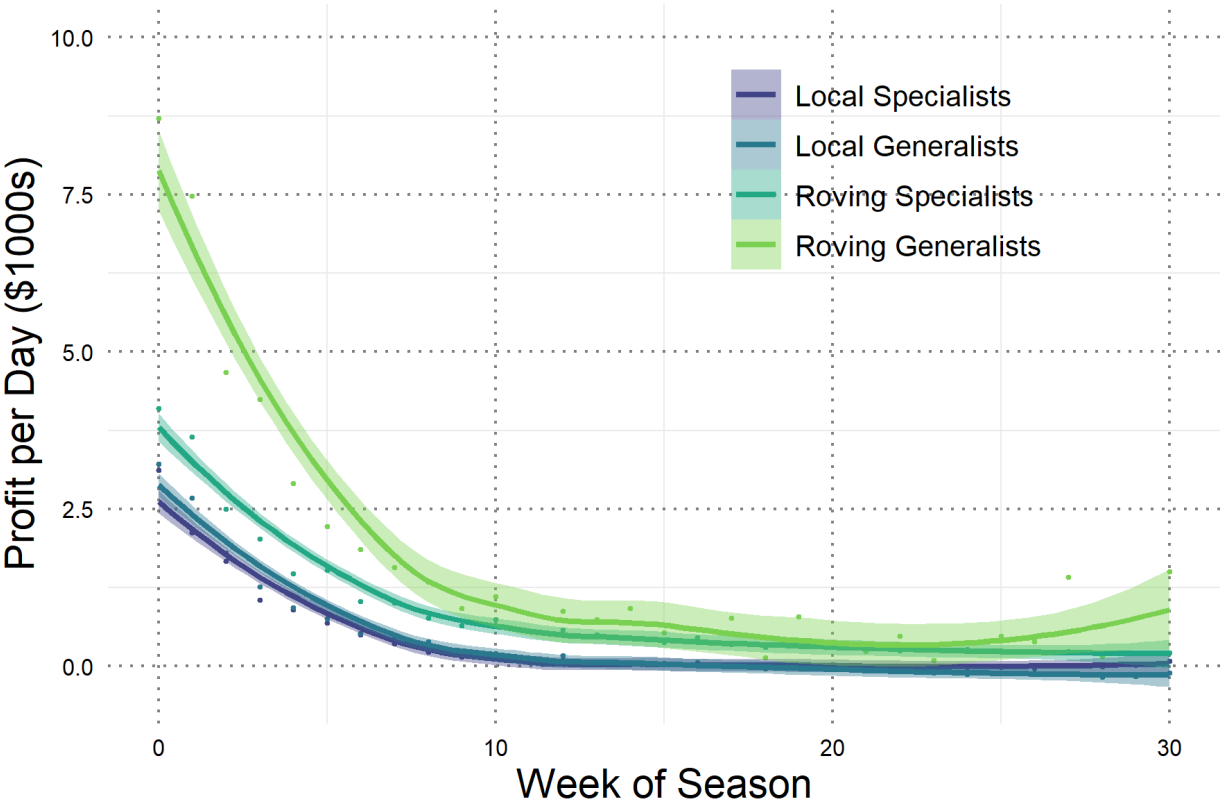
Roving Specialists	2	2	1	2	3	1	2	3	3	2	2
Roving Generalists	1	1	1	1	4	4	1	1	1	1	1
Local Specialists	3	4	3	4	1	2	4	4	4	4	4
Local Generalists	3	3	3	3	2	3	3	1	1	3	3
	Ports per Trip	Ports per Month	Port Diversity	Mean Trip Duration	SD Trip Duration	Season Length	Home Range Size	Non-Dungeness Revenue	Revenue Diversity	Risk Taking	Location Entropy
Metric											

42  
 43  
 44

Supplementary Figure 3. Number of vessels in each clustered behavioral group across crab seasons. (a) Number of vessels in each behavioral group in each crab season. Vertical lines delineate the period of the marine heatwave. (b) Mean number of vessels ( $\pm$  1 SD) in each group in heatwave (MHW) versus non-MHW seasons.



54 Supplementary Figure 4. Mean profit per day fished for each behavioral group in each week of the crab  
55 season, averaged across all seasons. Lines show a loess smooth across weeks for each group.



56  
57

Supplementary Figure 5. Smoothed kernel density distributions of vessel length by behavioral group and crab season. We used vessel registration data from PacFIN to obtain vessel lengths in feet. Vessel lengths were checked for reporting errors, and only the most recent length value was used if a vessel reported multiple different lengths.

