Time-scales alter the inferred strength and temporal consistency of intraspecific diet specialization.

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Supplementary Material

S4. *Consequences of classifying prey into functional categories*

Table S4.1. Sea otter prey items as used in the main text, and their categorization following Tinker et al. (2008; 2012).

Highest resolvable prey taxon	Functional category
Haliotus spp.	Abalone
Bivalve, *unid.*	Bivalve
Clam, *unid.*	Bivalve
Cockle, *unid.*	Bivalve
Gaper clam	Bivalve
Razor clam	Bivalve
Rock jingle	Bivalve
Scallop, *unid.*	Bivalve
Washington clam	Bivalve
Cancer spp.	Cancer crab
Logio sp., squid	Cephalopod
Octopus sp.	Cephalopod
Crab, *unid.*	Decapod
Decorator crabs	Decapod
Pugettia sp., Kelp crab	Kelp crab
Modiolus sp., Horse mussel	Mussel
Mytilus sp. or *Musculus sp.* mussel	Mussel
Algae	Other
Anemone	Other
Barnacle	Other
Chiton	Other
Coralline algae	Other
Crustacean, *unid.*	Other
Isopod	Other
Limpet	Other
Mollusk, *unid.*	Other
Nudibranch	Other
Ochre star	Other
Sea cucumber	Other
Sponge	Other
Tunicate	Other
Emerita sp. or *Blepharipoda sp.* sand crab	Other sand habitat
Sand dollar	Other sand habitat
Asteroidea seastar	Seastar
Ophiuroidea brittlestar	Seastar
Gastropod	Snail
Green urchin	Urchin
Purple urchin	Urchin
Red urchin	Urchin
Annelida worm	Worm
Fat innkeeper worm	Worm
Worm-like, *unid.*	Worm

Table S4.2. As in Table 1 of main text, but with *prey grouped into functional categories*.

Index	Monterey Peninsula (*MON*)			Pt. Piedras Blancas (*PBL*)		
	Observed	**Expected**	***p***	**Observed**	**Expected**	***p***
S_J	0.60	0.95-0.97	<0.001	0.69	0.92-0.96	<0.001
S_{Ja}	0.59	0.99-1.00	<0.001	0.74	0.99-1.00	<0.001
S_{Je}	0.61	0.99-1.00	<0.001	0.76	0.99-1.00	<0.001
S_{PS}	0.31	0.89-0.90	<0.001	0.40	0.90-0.92	<0.001

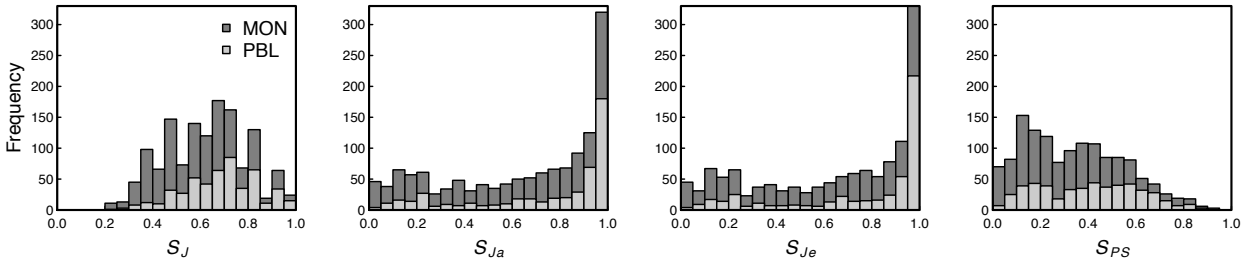

Figure S4.1. Frequency distribution of all pairwise individual-to-individual diet similarity comparisons by index using *prey grouped into functional categories.*

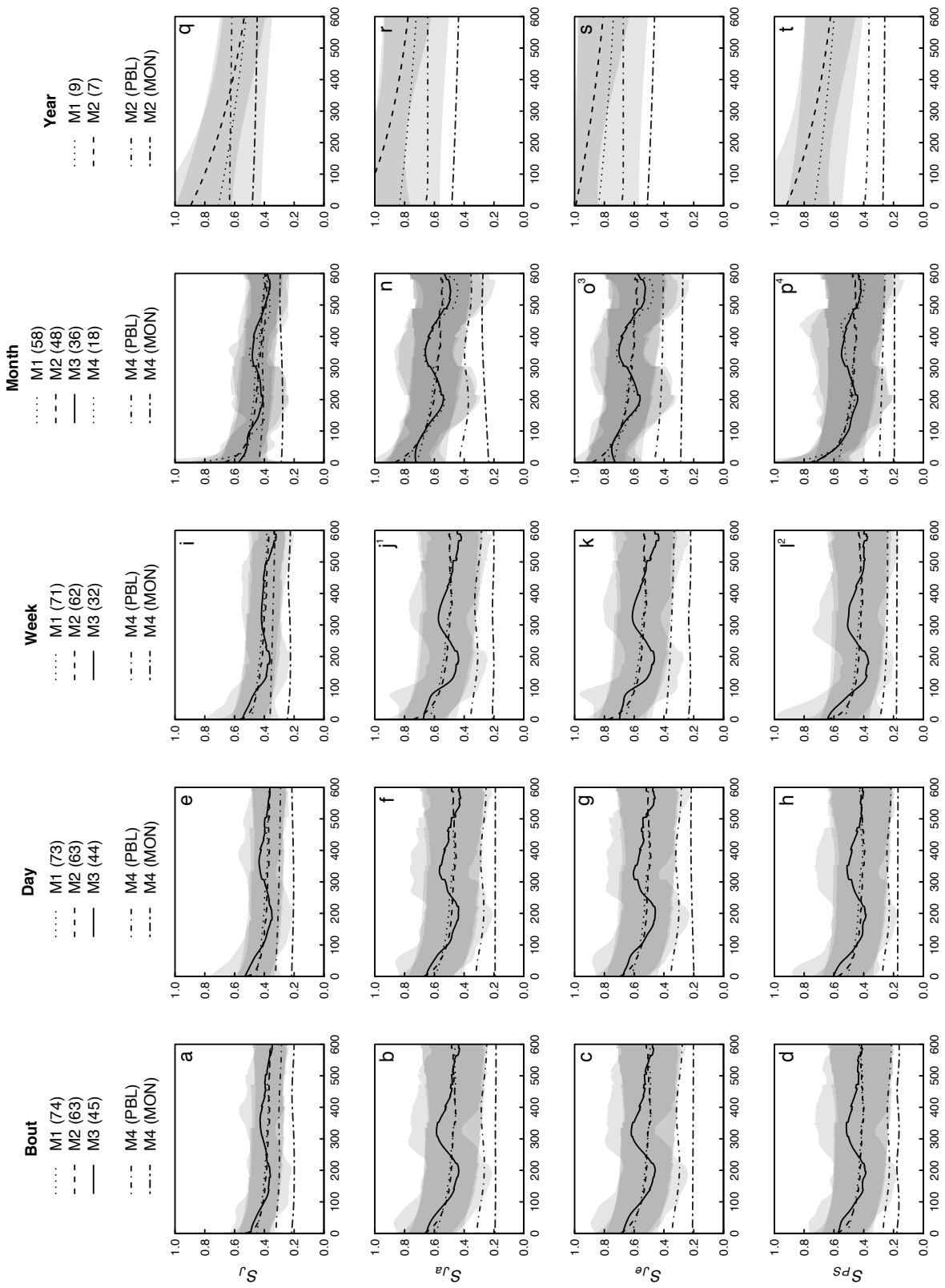

Figure S4.2. As in Figure 1 of main text, but with *prey grouped into functional categories*.

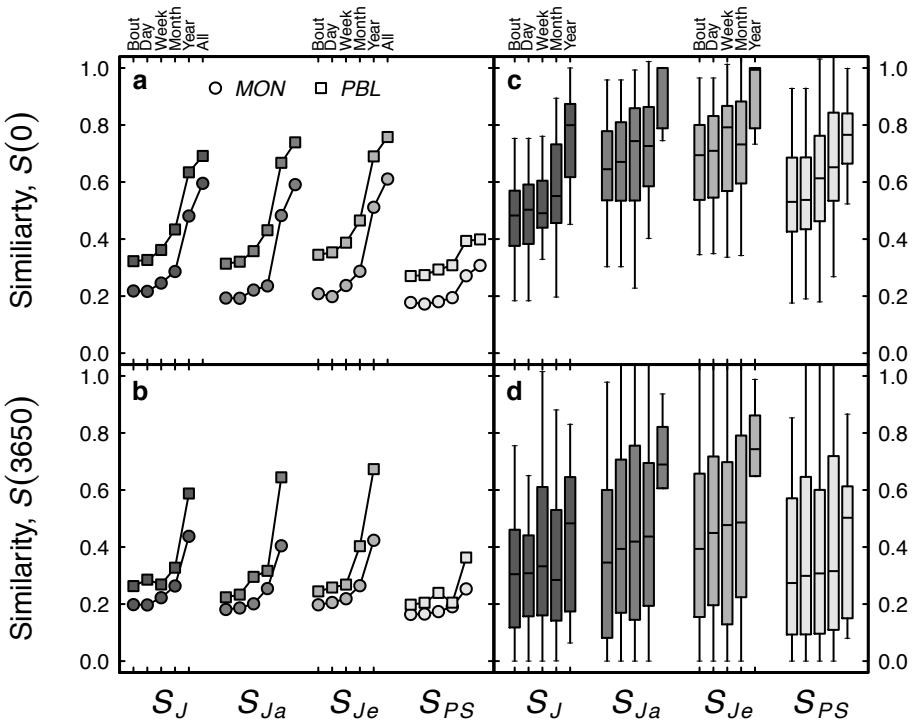

Figure S4.3. As in Figure 2 of main text, but with *prey grouped into functional categories*.

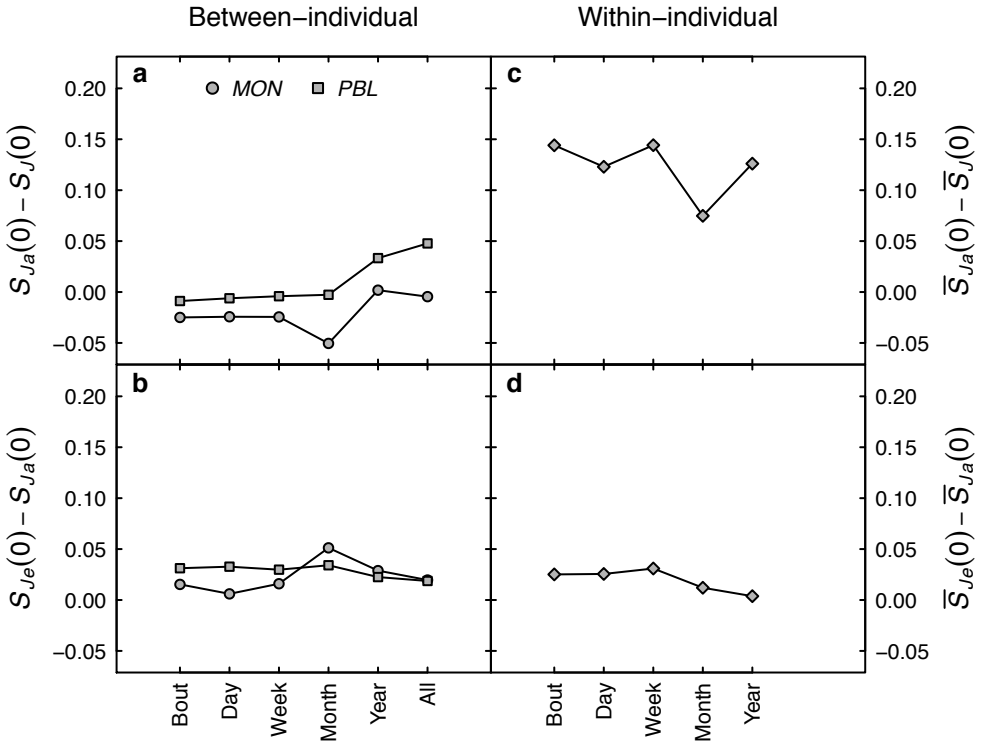

Figure S4.4. As in Figure 4 of main text, but with *prey grouped into functional categories*.

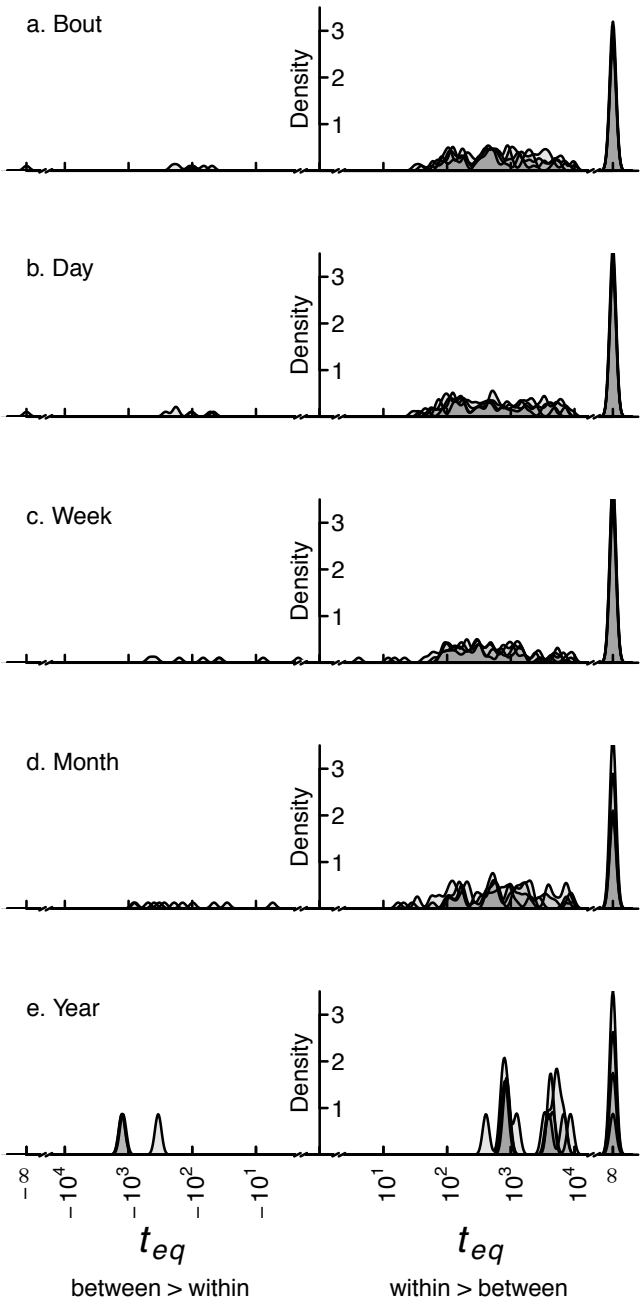

Figure S4.5. As in Figure S3.2, but with *prey grouped into functional categories*.

Table S4.3. As in Table S2.2 of main text, but with *prey grouped into functional categories*. Values reflect dAICc scores.

Time-scale	Model	Similarity Index			
		S_J	S_{Ja}	S_{Je}	S_{PS}
Bout	M1	210.6	659	501	699.4
	M2	124.6	215.8	154.2	173.2
	M3	133.1	49.8	35	76.8
	M4	0	0	0	0
Day	M1	246.8	620.6	942.2	684.7
	M2	166.1	211	625.3	139.9
	M3	184.9	34	504.8	96
	M4	0	0	0	0
Week	M1	142.4	234.8	91.8	260.3
	M2	102.6	170.1	50.1	0
	M3	47.7	0	97.8	240.8
	M4	0	138.3	0	199.8
Month	M1	268	864.9	53.6	149.3
	M2	224.8	792.4	0	29
	M3	174.9	870.9	52.9	0
	M4	0	0	5.8	14.3
Year	M1	9.2	5.3	0.6	7.9
	M2	0	0	0	0

Table S4.4. As in Table S2.4, but with *prey grouped into functional categories*. Values reflect dAICc scores.

Time-scale	Model set	Model set individuals	Model	Similarity Index				Best model individuals
				S_J	S_{Ja}	S_{Je}	S_{PS}	
Bout	M1-M4	13	M1	302	367.5	331.7	346.1	-
			M2	224.2	287.1	264.5	287.6	-
			M3	0.2	0	0	0	45
			M4	0	59.2	19.3	81.9	-
	M1-M3	37	M1	624.8	970.7	900.3	905.3	-
			M2	393	712.6	687	653.7	-
			M3	0	0	0	0	45
	M1-M2	63	M1	293.2	341.6	277.1	334.8	-
			M2	0	0	0	0	63
	M1	74	M1	-	-	-	-	-
Day	M1-M4	15	M1	265.8	361.7	331.8	358.2	-
			M2	240	298.6	302.3	303.2	-
			M3	0	0	0	0	44
			M4	13.9	65.5	23.5	63.7	-
	M1-M3	35	M1	535.5	802	761.9	829.7	-
			M2	449.7	625.6	643	573.7	-
			M3	0	0	0	0	44
	M1-M2	62	M1	223.9	313	227.6	338.1	-
			M2	0	0	0	0	63
	M1	73	M1	-	-	-	-	-
Week	M1-M4	7	M1	68.7	174.8	177.6	182.1	-
			M2	52.6	141.9	146.8	123.3	-
			M3	0	0	0	0	32

			M4	2.3	9.8	8.4	1.6	-
	M1-M3	25	M1	359	459.6	456.5	494.4	-
			M2	312	373.7	369	394.5	-
			M3	0	0	0	0	32
	M1-M2	60	M1	100.1	169.5	171.4	218.2	-
			M2	0	0	0	0	62
	M1	71	M1	-	-	-	-	-
Month	M1-M4	13	M1	167.6	129.2	115.6	142.3	-
			M2	146.3	106.5	107.2	107.9	-
			M3	37.3	2.4	2.8	0	-
			M4	0	0	0	5	18
	M1-M3	31	M1	307.3	318.3	296.3	377.5	-
			M2	224.8	273.5	261.1	287.8	-
			M3	0	0	0	0	36
	M1-M2	46	M1	96.3	74.4	61.4	136.2	-
			M2	0	0	0	0	48
	M1	58	M1	-	-	-	-	-
Year	M1-M2	7	M1	1.7	16.2	6.4	201.4	-
			M2	0	0	0	0	7
	M1	9	M1	-	-	-	-	-

Table S4.5. As in Table S2.3, but with *prey grouped into functional categories*. Values reflect Akaike weights based on the dAICc scores of Table S4.3.

Time-scale	Model	Similarity Index			
		S_J	S_{Ja}	S_{Je}	S_{PS}
Bout	M1	0	0	0	0
	M2	0	0	0	0
	M3	0	0	0	0
	M4	1	1	1	1
Day	M1	0	0	0	0
	M2	0	0	0	0
	M3	0	0	0	0
	M4	1	1	1	1
Week	M1	0	0	0	0
	M2	0	0	0	1
	M3	0	1	0	0
	M4	1	0	1	0
Month	M1	0	0	0	0
	M2	0	0	0.95	0
	M3	0	0	0	1
	M4	1	1	0.05	0
Year	M1	0.01	0.07	0.42	0.02
	M2	0.99	0.93	0.58	0.9

Table S4.6. As in Table S2.4, but with *prey grouped into functional categories*. Values reflect Akaike weights based on the dAICc scores of Table S4.4.

Time-scale	Model set	Model set individuals	Model	Similarity Index				Best model individuals
				S_J	S_{Ja}	S_{Je}	S_{PS}	
Bout	M1-M4	13	M1	0	0	0	0	-
			M2	0	0	0	0	-
			M3	0.47	1	1	1	45
			M4	0.53	0	0	0	-
	M1-M3	37	M1	0	0	0	0	-
			M2	0	0	0	0	-
			M3	1	1	1	1	45
	M1-M2	63	M1	0	0	0	0	-
			M2	1	1	1	1	63
	M1	74	M1	-	-	-	-	-
Day	M1-M4	15	M1	0	0	0	0	-
			M2	0	0	0	0	-
			M3	1	1	1	1	44
			M4	0	0	0	0	-
	M1-M3	35	M1	0	0	0	0	-
			M2	0	0	0	0	-
			M3	1	1	1	1	44
	M1-M2	62	M1	0	0	0	0	-
			M2	1	1	1	1	63
	M1	73	M1	-	-	-	-	-
Week	M1-M4	7	M1	0	0	0	0	-
			M2	0	0	0	0	-
			M3	0.76	0.99	0.99	0.69	32

			M4	0.24	0.01	0.01	0.31	-
	M1-M3	25	M1	0	0	0	0	-
			M2	0	0	0	0	-
			M3	1	1	1	1	32
	M1-M2	60	M1	0	0	0	0	-
			M2	1	1	1	1	62
	M1	71	M1	-	-	-	-	-
Month	M1-M4	13	M1	0	0	0	0	-
			M2	0	0	0	0	-
			M3	0	0.23	0.19	0.92	-
			M4	1	0.77	0.81	0.08	18
	M1-M3	31	M1	0	0	0	0	-
			M2	0	0	0	0	-
			M3	1	1	1	1	36
	M1-M2	46	M1	0	0	0	0	
			M2	1	1	1	1	48
	M1	58	M1	-	-	-	-	-
Year	M1-M2	7	M1	0.42	0	0.04	0	-
			M2	1	1	1	1	7
	M1	9	M1	-	-	-	-	-

References Cited

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