

Table S1. Frequency and relative abundance (*maxN*) of species observed in Baited Underwater Video (BUV) surveys in Doubtful Sound during 2018. Species are ranked by proportion of videos they occur in.

Common name	Scientific name	# of videos observed in	Proportion of videos	Mean <i>maxN</i>	SE
Spotty	<i>Notolabrus celidotus</i>	265	0.820	7.45	± 3.84
Sea perch	<i>Helicolenus percooides</i>	201	0.622	6.76	± 3.50
Tarakihi	<i>Nemadactylus macropterus</i>	162	0.502	3.09	± 1.82
Scarlet wrasse	<i>Pseudolabrus miles</i>	161	0.498	4.25	± 2.33
Blue cod	<i>Parapercis colias</i>	157	0.486	3.09	± 1.82
Butterfly perch	<i>Caesioperca lepidoptera</i>	104	0.322	6.91	± 3.56
Girdled wrasse	<i>Notolabrus cinctus</i>	100	0.310	6.89	± 3.55
Spiny dogfish	<i>Squalus acanthias</i>	28	0.087	2.76	± 1.60
School shark	<i>Galeorhinus galeus</i>	16	0.050	1.88	± 1.21
Carpet shark	<i>Cephaloscyllium Isabella</i>	13	0.040	2.00	± 1.22
Southern bastard cod	<i>Pseudophycis barbata</i>	11	0.034	2.17	± 1.24
Sevengill shark	<i>Notorynchus cepedianus</i>	10	0.031	1.82	± 1.11
Spiny lobster	<i>Jasus edwardsii</i>	9	0.028	3.40	± 1.65
Hagfish	<i>Eptatretus cirrhatus</i>	7	0.022	2.80	± 1.14
Leatherjacket	<i>Parika scaber</i>	6	0.019	1.71	± 0.94
Red gurnard	<i>Chelidonichthys kumu</i>	5	0.015	1.67	± 0.87
Scorpionfish	<i>Scorpaena cardinalis</i>	4	0.012	1.60	± 0.77
Copper moki	<i>Latridopsis forsteri</i>	4	0.012	2.00	± 0.88
Marblefish	<i>Aplodactylus arctidens</i>	3	0.009	1.50	± 0.63
Splendid perch	<i>Callanthias allporti</i>	3	0.009	1.50	± 0.63
Octopus	<i>Macroctopus maorum</i>	3	0.009	1.50	± 0.63
Rig	<i>Mustelus lenticulatus</i>	2	0.006	2.00	± 0.58
Northern dogfish	<i>Squalus griffin</i>	2	0.006	1.33	± 0.41
Rough skate	<i>Zearaja nasutus</i>	1	0.003	1.00	± 0.00
Trumpeter	<i>Latris lineata</i>	1	0.003	1.00	± 0.00
Pigfish	<i>Congiopodus leucopaecilus</i>	1	0.003	1.00	± 0.00

Table S2. Estimated pairwise concurrency for smoothed (s) terms of predictor variables for bottlenose dolphins in Doubtful Sound: distance from the entrance (dist\_ent); distance from the fjord wall (Dist\_Wall); depth (depth); slope (slope); aspect (aspect); sea surface temperature at 0.5m depth (sst0.5); and temperature at 19m depth (temp19). Pairwise concurrency estimates greater than 0.3 are displayed in **bold**.

	s(dist_ent)	s(dist_wall)	s(depth)	s(slope)	s(aspect)	s(sst0.5)	s(temp19)
s(dist_ent)	1.000	0.107	0.252	0.118	0.025	0.031	0.008
s(dist_wall)	0.098	1.000	<b>0.435</b>	0.020	0.027	0.004	0.005
s(depth)	0.164	<b>0.341</b>	1.000	0.077	0.008	0.010	0.003
s(slope)	0.110	0.029	0.045	1.000	0.014	0.016	0.006
s(aspect)	0.026	0.022	0.018	0.012	1.000	0.002	0.002
s(sst0.5)	0.039	0.009	0.014	0.010	0.010	1.000	0.285
s(temp19)	0.027	0.004	0.011	0.013	0.002	0.280	1.000

Table S3. Estimated pairwise concavity for smoothed terms of predictor variables in habitat use models for bottlenose dolphins in Doubtful Sound during 2018: a) distance to the fjord entrance; b) distance to the fjord wall; c) percent change in slope; d) diversity; e) combined relative abundance of the five most prevalent fish species; and the relative abundance of: f) spotty (*Notolabrus celidotus*); g) sea perch (*Helicolenus percoides*); h) butterfly perch (*Caesioperca lepidoptera*); i) girdled wrasse (*Notolabrus cinctus*); j) scarlet wrasse (*Pseudolabrus miles*); k) bluecod (*Paraperca colias*); l) tarakihi (*Nemadactylus macropterus*). Pairwise concavity estimates greater than 0.3 are displayed in **bold**.

	a)	b)	c)	d)	e)	f)	g)	h)	i)	j)	k)	l)
a)	1.00	0.22	0.12	<b>0.43</b>	0.16	0.06	0.18	0.27	0.26	<b>0.57</b>	0.12	0.15
b)	0.15	1.00	0.03	0.08	0.01	0.01	0.03	0.02	0.03	0.08	0.02	0.04
c)	0.13	0.03	1.00	0.08	0.05	0.04	0.02	0.08	0.07	0.05	0.04	0.01
d)	<b>0.47</b>	0.08	0.05	1.00	0.09	0.04	0.12	0.11	0.20	<b>0.40</b>	0.22	0.08
e)	0.21	0.03	0.05	0.16	1.00	0.43	0.26	<b>0.46</b>	<b>0.58</b>	0.29	0.06	0.02
f)	0.03	0.04	0.04	0.06	0.41	1.00	0.06	0.07	0.08	0.05	0.07	0.01
g)	0.13	0.04	0.02	0.07	0.15	0.08	1.00	0.05	0.07	0.02	0.06	0.02
h)	<b>0.45</b>	0.16	0.15	0.23	<b>0.50</b>	0.03	0.02	1.00	<b>0.68</b>	<b>0.40</b>	0.03	0.01
i)	<b>0.54</b>	0.13	0.15	<b>0.39</b>	<b>0.53</b>	0.05	0.08	0.59	1.00	<b>0.54</b>	0.06	0.02
j)	<b>0.64</b>	0.08	0.09	<b>0.39</b>	<b>0.31</b>	0.06	0.03	<b>0.40</b>	<b>0.49</b>	1.00	0.16	0.04
k)	0.15	0.06	0.03	<b>0.33</b>	0.06	0.04	0.13	0.04	0.04	0.11	1.00	0.07
l)	0.07	0.03	0.03	0.22	0.01	0.01	0.06	0.01	0.01	0.04	0.09	1.00

Table S4. Comparison of univariate logistic generalised additive models on presence of bottlenose dolphins in Doubtful Sound. Displayed are models created with data collected between 2005 and 2018 (the long term model) and with data for 2018 only with the associated statistics: estimated degrees of freedom (edf), Akaike Information Criterion (AIC) with a correction for small sample size (AICc), adjusted R<sup>2</sup> (Adj R<sup>2</sup>), the percent deviance explained (d.e. %). AIC values were used for the models using the long term data, while AICc was used for models containing only 2018 data.

Model	Formula	edf	AIC/ AICc	Adj R <sup>2</sup>	d.e. (%)
Long-term (2005– 2018)	Presence ~ dist_ent	3.281	1119.3	0.090	6.94
	Presence ~ dist_wall	2.168	1193.7	0.005	0.53
	Presence ~ slope	1.000	1195.4	0.001	0.18
	Presence ~ aspect	3.772	1192.4	0.008	0.90
	Presence ~ Temp19	1.002	1125.5	-0.001	0.001
	Presence ~ SST0.5	1.004	1152.5	-0.000	0.065
	Presence ~ depth	2.087	1194.8	0.003	0.42
2018	Presence ~ dist_ent	1.872	139.6	0.126	10.7
	Presence ~ dist_wall	3.004	151.5	0.032	4.43
	Presence ~ slope	1.000	149.9	0.023	2.62
	Presence ~ girdled_wrasse	1.000	104.5	0.196	19.1
	Presence ~ tarakihi	1.000	122.4	0.047	4.7
	Presence ~ sea_perch	3.438	123.5	0.063	8.06
	Presence ~ spotty	1.000	127.8	-0.007	0.342
	Presence ~ butterfly_perch	1.431	115.2	0.129	11.2
	Presence ~ scarlett_wrasse	1.000	117.3	0.104	8.74
	Presence ~ bluecod	2.074	125.9	0.395	3.73
	Presence ~ diversity	1.000	119.0	0.084	7.41
Presence ~ abun5	1.000	121.4	0.061	5.45	