

Long-Term Assessment of Spatio-Temporal Association Patterns of Dusky Dolphins (*Lagenorhynchus obscurus*) off Kaikoura, New Zealand

Supplemental Tables

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Supplementary Table 1. Number of resightings of individual dusky dolphins (*Lagenorhynchus obscurus*) off Kaikoura between 1984 and 2014

# of sightings of per dolphin	1	2	3	4	5	6	7	8	9	10	11	13	14	15
# of individuals sighted	3,212	535	141	64	31	12	15	3	2	3	1	1	1	1

Supplementary Table 2. Lagged identification rate models for dusky dolphins photographed between 1984 and 2014

Function type	Explanation	χ^2	qAIC	Fitted function rate
1/a1	a1 = N	2,397.724	5,494.3026	1/5197.6653
a2*exp(-a1*td)	Emigration/mortality	1,372.141	5,397.2205	0.00036482*exp(-0.00035863*td)
a2+a3*exp(-a1*td)	Closed: Emigration + reimmigration	2,399.862	10,595.3008	-0.44444+0.68889*exp(-1.0694*td)
(1/a1)*exp(-td/a2)	a1 = N; a2 = Mean residence	1,371.879	5397.2205	(1/2741.5347)*exp(-td/2789.0797)

Supplementary Table 3. Lagged association rate models for dusky dolphins photographed between 1984 and 2014

Function type	Explanation	χ^2	qAIC	Fitted function rate
a1	Preferred companions	1,341.573	35,736.1315	-0.05
a2*exp(-a1*td)	Casual acquaintances	1,044.710	14,063.1265	0.0025003*exp(-0.00033331*td)
a2+a3*exp(-a1*td)	Preferred companions + casual acquaintances	0	34,939.4437	-0.26374+0.66232*exp(-0.9075*td)
a3*exp(-a1*td)+a4*exp(-a2*td)	Two levels of casual acquaintances	0	34,941.4436	0.3263*exp(-0.91846*td)+-0.25233*exp(-0.68882*td)