

## Persistent annual migration patterns of a specialist seabird

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*Marine Ecology Progress Series 593: 231–245 (2018)*

**Table S1.** Models selection of group level (annual) smoothers using AIC of bathymetric habitat use by category from September through May of red-legged kittiwakes breeding at St. George Island, Alaska, where oceanic is depths >3000 m, slope is >1000-3000 m, shelf break is >200 – 1000 m, and shelf is ≤200 m. Non-breeding periods are appreciated as the second year of each non-breeding period.

Model Response	Terms	df	AIC
Oceanic (>3000 m)	All years combined	5	899.8792
	<b>2011, (2014 &amp; 2015 &amp; 2016)</b>	<b>7</b>	<b>897.8555</b>
	2014, (2011 & 2015 & 2016)	7	919.4261
	2015, (2011 & 2014 & 2016)	7	917.6548
	2016, (2011 & 2014 & 2015)	7	909.1720
	2011 & 2014, 2015 & 2016	7	904.2254
	2011 & 2015, 2014 & 2016	7	907.1661
	2011 & 2016, 2014 & 2015	7	921.6686
	2011 & 2014, 2015, 2016	9	922.5544
	2011 & 2015, 2014, 2016	9	924.6808
	2011 & 2016, 2014, 2015	9	936.4456
	2014 & 2015, 2011, 2016	9	919.1162
	2014 & 2016, 2011, 2015	9	917.4708
	2015 & 2016, 2011, 2014	9	916.6022
	2011, 2014, 2015, 2016	11	935.1327
Slope (>1000-3000 m)	All years combined	5	1278.213
	2011, (2014 & 2015 & 2016)	7	1283.881
	<b>2014, (2011 &amp; 2015 &amp; 2016)</b>	<b>7</b>	<b>1277.351</b>
	2015, (2011 & 2014 & 2016)	7	1286.832
	2016, (2011 & 2014 & 2015)	7	1283.554
	2011 & 2014, 2015 & 2016	7	1279.475
	2011 & 2015, 2014 & 2016	7	1282.785
	2011 & 2016, 2014 & 2015	7	1284.285
	2011 & 2014, 2015, 2016	9	1285.331
	2011 & 2015, 2014, 2016	9	1281.295
	2011 & 2016, 2014, 2015	9	1285.86
	2014 & 2015, 2011, 2016	9	1287.308
	2014 & 2016, 2011, 2015	9	1290.246
	2015 & 2016, 2011, 2014	9	1282.78
	2011, 2014, 2015, 2016	11	1288.637

<b>Model Response</b>	<b>Terms</b>	<b>df</b>	<b>AIC</b>	
Shelf Break (>200 – 1000 m)	<b>All years combined</b>	<b>5</b>	<b>1667.253</b>	
	2011, (2014 & 2015 & 2016)	7	1671.108	
	2014, (2011 & 2015 & 2016)	7	1674.543	
	2015, (2011 & 2014 & 2016)	7	1670.883	
	2016, (2011 & 2014 & 2015)	7	1677.662	
	2011 & 2014, 2015 & 2016	7	1682.379	
	2011 & 2015, 2014 & 2016	7	1673.191	
	2011 & 2016, 2014 & 2015	7	1682.534	
	2011 & 2014, 2015, 2016	99	1681.836	
	2011 & 2015, 2014, 2016	9	1673.076	
	2011 & 2016, 2014, 2015	9	1674.812	
	2014 & 2015, 2011, 2016	9	1681.773	
	2014 & 2016, 2011, 2015	9	1674.465	
	2015 & 2016, 2011, 2014	9	1674.722	
	2011, 2014, 2015, 2016	11	1674.074	
	Shelf ( $\leq 200\text{m}$ )	All years combined	5	1582.856
		2011, (2014 & 2015 & 2016)	7	1586.969
2014, (2011 & 2015 & 2016)		7	1591.802	
2015, (2011 & 2014 & 2016)		7	1593.280	
2016, (2011 & 2014 & 2015)		7	1593.449	
<b>2011 &amp; 2014, 2015 &amp; 2016</b>		<b>7</b>	<b>1577.499</b>	
2011 & 2015, 2014 & 2016		7	1595.805	
2011 & 2016, 2014 & 2015		7	1596.619	
2011 & 2014, 2015, 2016		9	1593.735	
2011 & 2015, 2014, 2016		9	1600.280	
2011 & 2016, 2014, 2015		9	1602.464	
2014 & 2015, 2011, 2016		9	1603.249	
2014 & 2016, 2011, 2015		9	1601.124	
2015 & 2016, 2011, 2014		9	1588.711	
2011, 2014, 2015, 2016		11	1605.100	