Potential for spatial displacement of Cook Inlet beluga whales by anthropogenic noise in critical habitat

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Table S1. Regression coefficient estimates and standard errors (in parentheses) for models examining beluga detection probability. Estimates are on the logit-scale.

Detection model	Occupancy model	Detection covariates						Occupancy covariates						
		Intercept	EAR	Trading Bay	Tuxedni Bay	Duration	SPL	Intercept	Trading Bay	Tuxedni Bay	Water level	Water level^2	Water level: Trading Bay	Water level: Tuxedni Bay
Site + Device	Water level + Site	0.274 (0.077)	-1.089 (0.107)	0.683 (0.175)	1.924 (0.269)	---	---	0.551 (0.113)	-2.352 (0.183)	-2.767 (0.242)	-0.600 (0.077)	---	---	---
Site + Device + SPL	Water level + Site	0.259 (0.080)	-1.089 (0.107)	0.705 (0.178)	1.930 (0.269)	---	-0.076 (0.106)	0.551 (0.113)	-2.348 (0.183)	-2.768 (0.242)	-0.600 (0.077)	---	---	---
Site + Device + Duration	Water level + Site	0.277 (0.080)	-1.089 (0.107)	0.678 (0.176)	1.921 (0.270)	0.021 (0.122)	---	0.551 (0.113)	-2.352 (0.183)	-2.767 (0.242)	-0.599 (0.077)	---	---	---
Site + Device	Water level * Site	0.268 (0.077)	-1.087 (0.107)	0.704 (0.172)	1.927 (0.269)	---	---	0.691 (0.129)	-2.333 (0.182)	-2.99 (0.334)	-0.808 (0.102)	---	0.705 (0.176)	0.085 (0.360)
Site + Device + SPL	Water level * Site	0.255 (0.080)	-1.087 (0.107)	0.725 (0.176)	1.933 (0.269)	---	-0.068 (0.108)	0.691 (0.129)	-2.331 (0.182)	-2.991 (0.334)	-0.808 (0.102)	---	0.703 (0.176)	0.085 (0.360)
Site + Device + Duration	Water level * Site	0.273 (0.080)	-1.087 (0.107)	0.697 (0.175)	1.923 (0.270)	0.033 (0.123)	---	0.691 (0.129)	-2.334 (0.182)	-2.99 (0.334)	-0.808 (0.102)	---	0.706 (0.176)	0.085 (0.360)
Site + Device	Water level * Site + Water level^2	0.269 (0.077)	-1.087 (0.107)	0.704 (0.172)	1.926 (0.269)	---	---	0.678 (0.126)	-2.362 (0.183)	-3.086 (0.347)	-0.366 (0.392)	-0.395 (0.342)	0.553 (0.219)	-0.143 (0.413)
Site + Device + SPL	Water level * Site + Water level^2	0.256 (0.080)	-1.087 (0.107)	0.725 (0.176)	1.933 (0.269)	---	-0.07 (0.108)	0.678 (0.126)	-2.36 (0.183)	-3.087 (0.347)	-0.362 (0.392)	-0.398 (0.342)	0.549 (0.219)	-0.145 (0.413)
Site + Device + Duration	Water level * Site + Water level^2	0.274 (0.080)	-1.087 (0.107)	0.696 (0.175)	1.922 (0.270)	0.032 (0.123)	---	0.678 (0.126)	-2.363 (0.183)	-3.085 (0.347)	-0.367 (0.392)	-0.394 (0.342)	0.554 (0.219)	-0.142 (0.413)
Site	Water level * Site	-0.267 (0.056)	---	0.152 (0.163)	1.375 (0.263)	---	---	0.713 (0.131)	-2.355 (0.184)	-3.013 (0.335)	-0.817 (0.103)	---	0.713 (0.177)	0.094 (0.361)
Device	Water level * Site	0.284 (0.076)	-0.843 (0.100)	---	---	---	---	0.665 (0.125)	-2.14 (0.179)	-2.658 (0.346)	-0.799 (0.100)	---	0.692 (0.178)	0.021 (0.386)

Table S2. Regression coefficient estimates and standard errors (in parentheses) for models examining beluga occupancy probability. Estimates are on the logit-scale.

Occupancy model	Detection covariates				Occupancy covariates									
	Intercept	Trading Bay	Tuxedni Bay	EAR	Intercept	Trading Bay	Tuxedni Bay	Water level	Water level²	Water level: Trading Bay	Water level: Tuxedni Bay	Sound pressure level	Time since noise event	Duration of noise event
---	0.306 (0.075)	-0.240 (0.175)	1.597 (0.366)	-1.101 (0.108)	-0.591 (0.083)	---	---	---	---	---	---	---	---	---
Water level + Site	0.274 (0.077)	0.683 (0.175)	1.924 (0.269)	-1.089 (0.107)	0.551 (0.113)	-2.352 (0.183)	-2.767 (0.242)	-0.600 (0.077)	---	---	---	---	---	---
Water level * Site	0.268 (0.077)	0.704 (0.172)	1.927 (0.269)	-1.087 (0.107)	0.691 (0.129)	-2.333 (0.182)	-2.99 (0.334)	-0.808 (0.102)	---	0.705 (0.176)	0.085 (0.360)	---	---	---
Water level + Site + Water level²	0.271 (0.077)	0.695 (0.173)	1.925 (0.269)	-1.088 (0.107)	0.616 (0.117)	-2.434 (0.183)	-2.838 (0.241)	0.148 (0.260)	-0.776 (0.259)	---	---	---	---	---
Water level * Site + Water level²	0.269 (0.077)	0.704 (0.172)	1.926 (0.269)	-1.087 (0.107)	0.678 (0.126)	-2.362 (0.183)	-3.086 (0.347)	-0.366 (0.392)	-0.395 (0.342)	0.553 (0.219)	-0.143 (0.413)	---	---	---
Water level + Site + Time	0.274 (0.077)	0.682 (0.175)	1.924 (0.269)	-1.089 (0.107)	0.549 (0.113)	-2.335 (0.187)	-2.804 (0.257)	-0.601 (0.077)	---	---	---	---	0.037 (0.085)	---
Water level + Site + SPL	0.274 (0.077)	0.683 (0.175)	1.923 (0.269)	-1.089 (0.107)	0.538 (0.115)	-2.325 (0.187)	-2.766 (0.242)	-0.601 (0.077)	---	---	---	-0.054 (0.089)	---	---
Water level + Site + Duration	0.274 (0.077)	0.683 (0.174)	1.924 (0.269)	-1.089 (0.107)	0.539 (0.115)	-2.327 (0.186)	-2.765 (0.242)	-0.601 (0.077)	---	---	---	---	---	-0.057 (0.088)
Water level + Site + Time + SPL	0.274 (0.077)	0.683 (0.175)	1.924 (0.269)	-1.089 (0.107)	0.538 (0.115)	-2.315 (0.190)	-2.796 (0.258)	-0.602 (0.077)	---	---	---	-0.049 (0.089)	0.029 (0.086)	---
Water level + Site + Time + Duration	0.274 (0.077)	0.683 (0.175)	1.924 (0.269)	-1.089 (0.107)	0.538 (0.115)	-2.317 (0.189)	-2.793 (0.258)	-0.602 (0.077)	---	---	---	---	0.028 (0.087)	-0.052 (0.089)
Water level * Site + Time	0.267 (0.077)	0.704 (0.172)	1.927 (0.269)	-1.087 (0.107)	0.689 (0.129)	-2.315 (0.186)	-3.039 (0.353)	-0.809 (0.102)	---	0.705 (0.176)	0.073 (0.363)	---	0.041 (0.087)	---
Water level * Site + SPL	0.267 (0.077)	0.704 (0.172)	1.927 (0.269)	-1.087 (0.107)	0.681 (0.131)	-2.314 (0.187)	-2.991 (0.334)	-0.808 (0.102)	---	0.701 (0.176)	0.082 (0.360)	-0.041 (0.088)	---	---
Water level * Site + Duration	0.268 (0.077)	0.704 (0.172)	1.927 (0.269)	-1.087 (0.107)	0.681 (0.130)	-2.317 (0.186)	-2.991 (0.334)	-0.808 (0.102)	---	0.700 (0.176)	0.080 (0.360)	---	---	-0.040 (0.087)
Water level * Site + Time + SPL	0.267 (0.077)	0.704 (0.172)	1.927 (0.269)	-1.087 (0.107)	0.681 (0.131)	-2.301 (0.189)	-3.033 (0.353)	-0.809 (0.102)	---	0.702 (0.176)	0.071 (0.363)	-0.035 (0.089)	0.035 (0.088)	---
Water level * Site + Time + Duration	0.267 (0.077)	0.704 (0.172)	1.927 (0.269)	-1.087 (0.107)	0.682 (0.130)	-2.304 (0.189)	-3.033 (0.353)	-0.809 (0.102)	---	0.701 (0.176)	0.070 (0.363)	---	0.035 (0.088)	-0.033 (0.088)