

APPENDIX D

TABLE D1

Leave-One-Out Cross Validation Metrics for 2D Density Predictions

Flight Group	Common	Season	Residual Value (Individuals Observed - Individuals Predicted)						
			Min	2.50%	Mean	Median	97.5%	Max	SD
Small Albatross	Black-footed Albatross	Up	-15.6	-1	0	-0.2	1.8	149.3	3.2
		Oc	-4.5	-0.4	0	0	0.9	37.8	0.9
		Da	-1.1	-0.1	0	0	0	11.8	0.4
	Laysan Albatross	Up	-0.1	0	0	0	0	7	0.1
		Oc	0	0	0	0	0	1	0
		Da	-0.1	0	0	0	0	4	0.1
Fulmar	Northern Fulmar	Up	-3.5	-0.6	0	-0.2	1.8	92.6	1.8
		Oc	-25.9	-1.8	0	-0.3	3.7	81.9	2.8
		Da	-21.1	-1.9	0	-0.8	4	1002.3	18.4
Surface-Feeding Shearwater	Buller's Shearwater	Up	-0.8	-0.1	0	0	0	10	0.2
		Oc	-11.7	-1.4	0	-0.4	2.2	1002.6	14.3
		Da	0	0	0	0	0	1	0
	Pink-footed Shearwater	Up	-5.8	-0.7	0	-0.3	2.4	132.9	2.5
		Oc	-14.3	-1.6	0	-0.4	3.2	319.2	5.8
		Da	-0.4	-0.1	0	0	0	3.9	0.1
Larger Diving Shearwater	Sooty Shearwater	Up	-311.9	-51.9	-0.4	-11.2	91.6	15254.6	197.9
		Oc	-165.5	-31.3	-1.3	-9.7	24.5	9166.3	184.1
		Da	-1.7	-0.2	0	0	0	65	1.2
	Short-tailed Shearwater	Up	-0.1	0	0	0	0	2.5	0.1
		Oc	-0.8	-0.1	0	0	0	54	0.8
		Da	-0.4	-0.1	0	0	0	5	0.2
Smaller Diving Shearwater	Black-vented Shearwater	Up	0	0	0	0	0	2	0
		Oc	-4.9	-0.5	0	-0.1	0	66.9	1.5
		Da	-8.4	-1.3	0	-0.3	0.4	249.4	6.2
Storm-Petrel	Ashy Storm-Petrel	Up	-0.7	-0.2	0	0	0.3	30	0.5
		Oc	-4.3	-0.7	0	-0.2	1.2	90.4	2.6
		Da	-1.1	-0.1	0	0	0	51	1

Flight Group	Common	Season	Residual Value (Individuals Observed - Individuals Predicted)						
			Min	2.50%	Mean	Median	97.5%	Max	SD
	Fork-tailed Storm-Petrel	Up	-39.4	-4.4	0.1	-0.2	0.2	3998	43.9
		Oc	-23	-1.2	0	0	0	449.6	7.2
		Da	0	0	0	0	0	1	0.1
	Leach's Storm-Petrel	Up	-11.6	-1	0	0	1	74.8	2.1
		Oc	-1.3	-0.2	0	0	0	19.5	0.4
		Da	-0.3	0	0	0	0	6	0.2
Pelican	Brown Pelican	Up	-3.6	-0.3	0	-0.1	0.7	34.9	1
		Oc	-9.9	-1	0	-0.3	2.8	75.5	2
		Da	-2.7	-0.8	0	-0.3	2.6	89.6	2.3
Phalarope	Phalaropes	Up	-80.2	-5	0.3	-1.8	16.1	1575.1	28.9
		Oc	-60.2	-10.2	-0.1	-4.7	30.6	3943.8	63.5
		Da	-23.7	-2.2	0.1	-0.5	4.6	621.7	12.6
Skua	Long-tailed Jaeger	Up	-0.5	0	0	0	0	21	0.2
		Oc	-0.4	-0.1	0	0	0	7	0.2
		Da	-0.1	0	0	0	0	1	0
	Parasitic Jaeger	Up	-0.2	0	0	0	0	5	0.1
		Oc	-1	-0.1	0	0	0.9	8.3	0.3
		Da	0	0	0	0	0	1	0
	Pomarine Jaeger	Up	-0.2	0	0	0	0	6	0.1
		Oc	-0.3	-0.1	0	-0.1	0.9	7.9	0.4
		Da	-0.5	-0.1	0	0	0.5	5	0.2
	South Polar Skua	Up	-0.1	0	0	0	0	2	0.1
		Oc	-0.1	0	0	0	0	3	0.1
		Da	0	0	0	0	0	0	0
Large Gull	California Gull	Up	-10.7	-1.7	0	-0.4	2.6	303.1	5.5
		Oc	-72.4	-12.5	-0.1	-1.5	15.5	592	21.6
		Da	-77.1	-15.3	-0.5	-2.8	34.3	706.3	28.5
	Herring Gull	Up	-1.1	-0.2	0	-0.1	0.9	114.9	1.5
		Oc	-34	-0.8	0	-0.1	0.9	202.9	3.9
		Da	-12.7	-2.2	0	-1.1	5.6	663	15.6

Flight Group	Common	Season	Residual Value (Individuals Observed - Individuals Predicted)						
			Min	2.50%	Mean	Median	97.5%	Max	SD
	Western Gull	Up	-30.1	-2.9	-0.1	-0.8	5.3	899.8	11.2
		Oc	-43.2	-4.5	-0.1	-0.8	8.6	301.2	8.6
		Da	-23.2	-3.6	-0.2	-1.2	9.9	252.5	8.2
	Glaucous-winged Gull	Up	-0.2	-0.1	0	0	0.4	6.9	0.2
		Oc	-2.4	-0.3	0	0	0.9	20	0.6
		Da	-10	-1.2	0	-0.4	3.3	92.4	2.7
	Heermann's Gull	Up	-2.6	-0.2	0	0	0.4	60.8	0.8
		Oc	-4	-0.9	0	-0.2	1.7	82.6	2.3
		Da	-2.8	-0.6	0	-0.2	1.2	61.6	2.1
Medium Gull	Black-legged Kittiwake	Up	-12.4	-2	0	-0.4	2.3	338.8	7.2
		Oc	-0.2	-0.1	0	0	0	15	0.4
		Da	-13.9	-1.9	0	-0.8	4.6	687	13.2
	Short-billed Gull	Up	-0.2	0	0	0	0	8	0.1
		Oc	-0.2	0	0	0	0	12	0.2
		Da	-0.3	-0.1	0	0	0	17	0.5
Small Gull	Bonaparte's Gull	Up	-22	-0.8	0	-0.1	0	890.7	10.1
		Oc	-23.2	-1.1	0.1	-0.3	0.7	1003.7	14.3
		Da	-5.8	-0.7	0	-0.1	0	250.8	4.7
	Sabine's Gull	Up	-1.2	-0.3	0	-0.1	0.8	84.7	1.5
		Oc	-1.5	-0.4	0	-0.1	1.4	33.1	1.2
		Da	0	0	0	0	0	0.5	0
Tern	Arctic Tern	Up	-0.6	-0.1	0	0	0	45	0.6
		Oc	-15.8	-1.1	0	-0.1	0.5	457.6	6.8
		Da	0	0	0	0	0	0	0
	Caspian Tern	Up	-0.7	-0.1	0	0	0	5	0.2
		Oc	-0.1	0	0	0	0	2	0.1
		Da	-0.1	0	0	0	0	2	0
	Elegant Tern	Up	-1.6	-0.1	0	0	0	50	0.7
		Oc	-4.3	-0.8	0	-0.1	0.6	37.8	1.5
		Da	0	0	0	0	0	0	0

Flight Group	Common	Season	Residual Value (Individuals Observed - Individuals Predicted)						
			Min	2.50%	Mean	Median	97.5%	Max	SD
Cormorant	Brandt's Cormorant	Up	-28.2	-2.8	-0.2	-0.9	1.5	3999.4	43.7
		Oc	-33.1	-2	0	-0.4	4.1	549.6	10.3
		Da	-16.5	-2	-0.1	-0.6	5.3	160.3	4.8
	Double-crested Cormorant	Up	-0.4	0	0	0	0	13	0.2
		Oc	-0.3	0	0	0	0	8	0.1
		Da	-1.9	-0.1	0	0	0	40	0.8
	Pelagic Cormorant	Up	-0.5	-0.1	0	0	0	5.9	0.2
		Oc	-0.6	0	0	0	0	3	0.1
		Da	-0.5	-0.1	0	0	0	6.9	0.2
Large Alcid	Common Murre	Up	-128.3	-19.1	-0.5	-4.2	44.4	1979.8	42.2
		Oc	-126.9	-28.2	-0.6	-5.3	65.6	1035.8	42.4
		Da	-89.6	-26.9	-1.1	-9.4	82.3	1055.9	56.4
	Tufted Puffin	Up	-0.2	0	0	0	0	8	0.1
		Oc	-0.1	0	0	0	0	2	0.1
		Da	-0.1	0	0	0	0	2	0
Medium Alcid	Rhinoceros Auklet	Up	-3.6	-1.1	0	-0.6	4.2	173	3.7
		Oc	-5.2	-1.7	-0.1	-0.5	5.5	88.5	3.1
		Da	-33.5	-5.4	-0.2	-1.4	10.3	1037.4	21.1
	Pigeon Guillemot	Up	-1.9	-0.2	0	0	0	7.2	0.2
		Oc	-0.2	0	0	0	0	3	0.1
		Da	-2.5	-0.3	0	0	0	119.9	2.3
Small Alcid	Cassin's Auklet	Up	-92.3	-6.5	-0.1	-0.9	8.4	465.7	14.6
		Oc	-37.9	-5.3	-0.1	-1.3	14.4	579.5	13
		Da	-21.6	-4.3	0.2	-0.8	11.1	295.7	9.2
	Marbled Murrelet	Up	-1	-0.1	0	0	0	5.1	0.2
		Oc	-2	-0.2	0	0	0	22.9	0.6
		Da	-6	-0.7	0	-0.1	1.5	61.6	1.5
	Scripps's, Guadalupe, Craveri's Murrelet	Up	0	0	0	0	0	2	0.1
		Oc	-0.2	0	0	0	0	3	0.1
		Da	-0.1	0	0	0	0	5	0.1

Flight Group	Common	Season	Residual Value (Individuals Observed - Individuals Predicted)						
			Min	2.50%	Mean	Median	97.5%	Max	SD
Loon, Grebe, Duck	Grebes	Up	-158.6	-7.1	0	-0.1	1.7	566.1	13.8
		Oc	-183.6	-8.8	0	-0.3	4.9	915.7	19.5
		Da	-133.7	-24.3	-0.9	-3.6	45.8	1076.1	33.6
	Surf Scoter	Up	-9.3	-1	0	-0.1	0	100.9	3.2
		Oc	-36.6	-2.1	0.1	-0.3	-0.1	763.8	12.5
		Da	-138.4	-24	-0.6	-1.4	29	647.3	24.9
	Pacific Loon	Up	-3.9	-0.8	0	-0.2	1	124.4	3.2
		Oc	-3.6	-0.7	0	-0.1	0.8	106.3	2.2
		Da	-3.1	-1.1	0	-0.3	2.8	28.1	1.7
	Common Loon	Up	-0.6	-0.1	0	0	0	30.5	0.4
		Oc	-0.6	-0.1	0	0	0	24.9	0.4
		Da	-4	-0.6	0	-0.1	1.3	25.1	0.9
	Red-throated Loon	Up	-0.3	0	0	0	0	4	0.1
		Oc	-0.1	0	0	0	0	3	0.1
		Da	-1.1	-0.3	0	-0.1	0.9	14.9	0.6