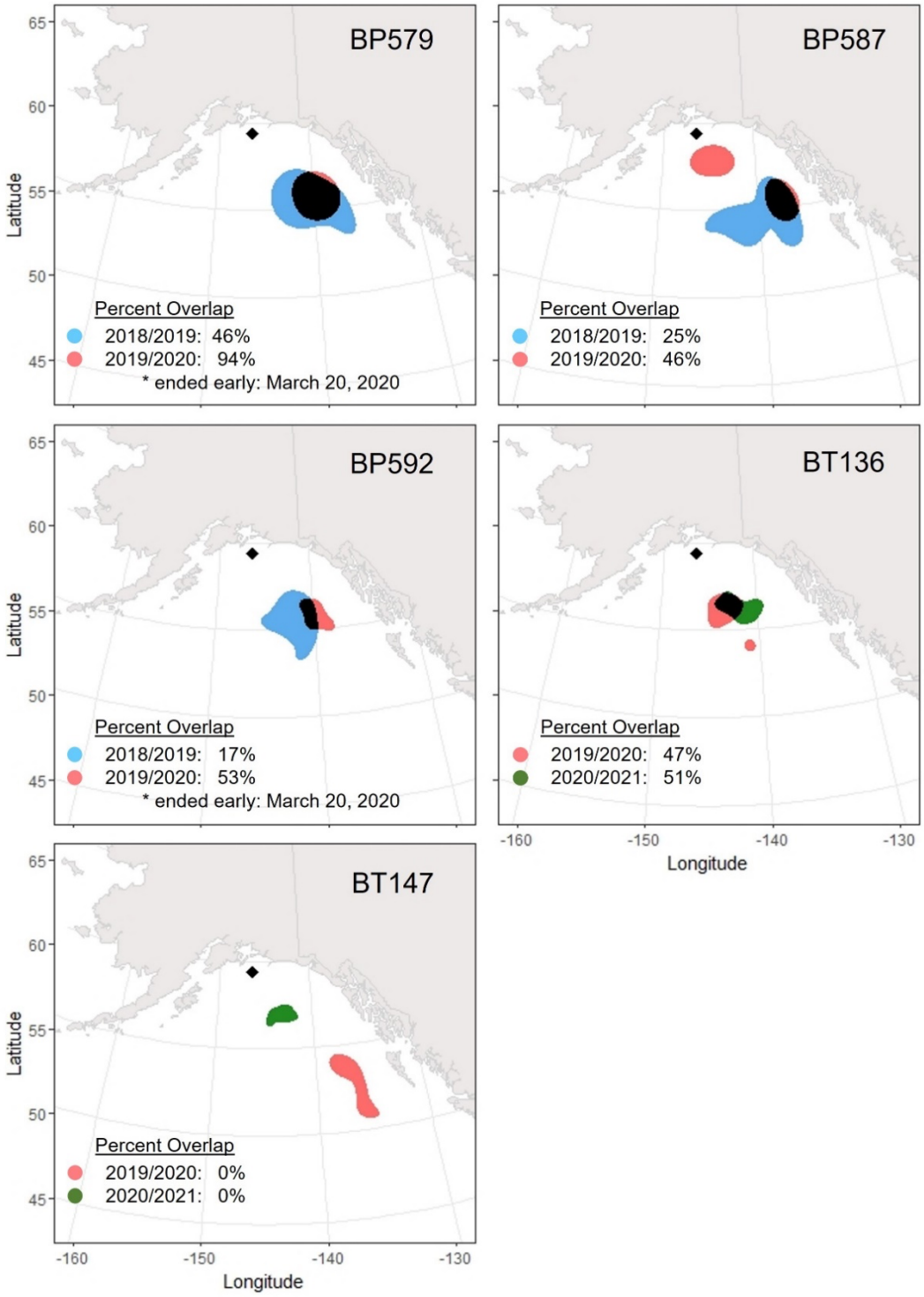
Supplementary Material

1 Supplementary Tables

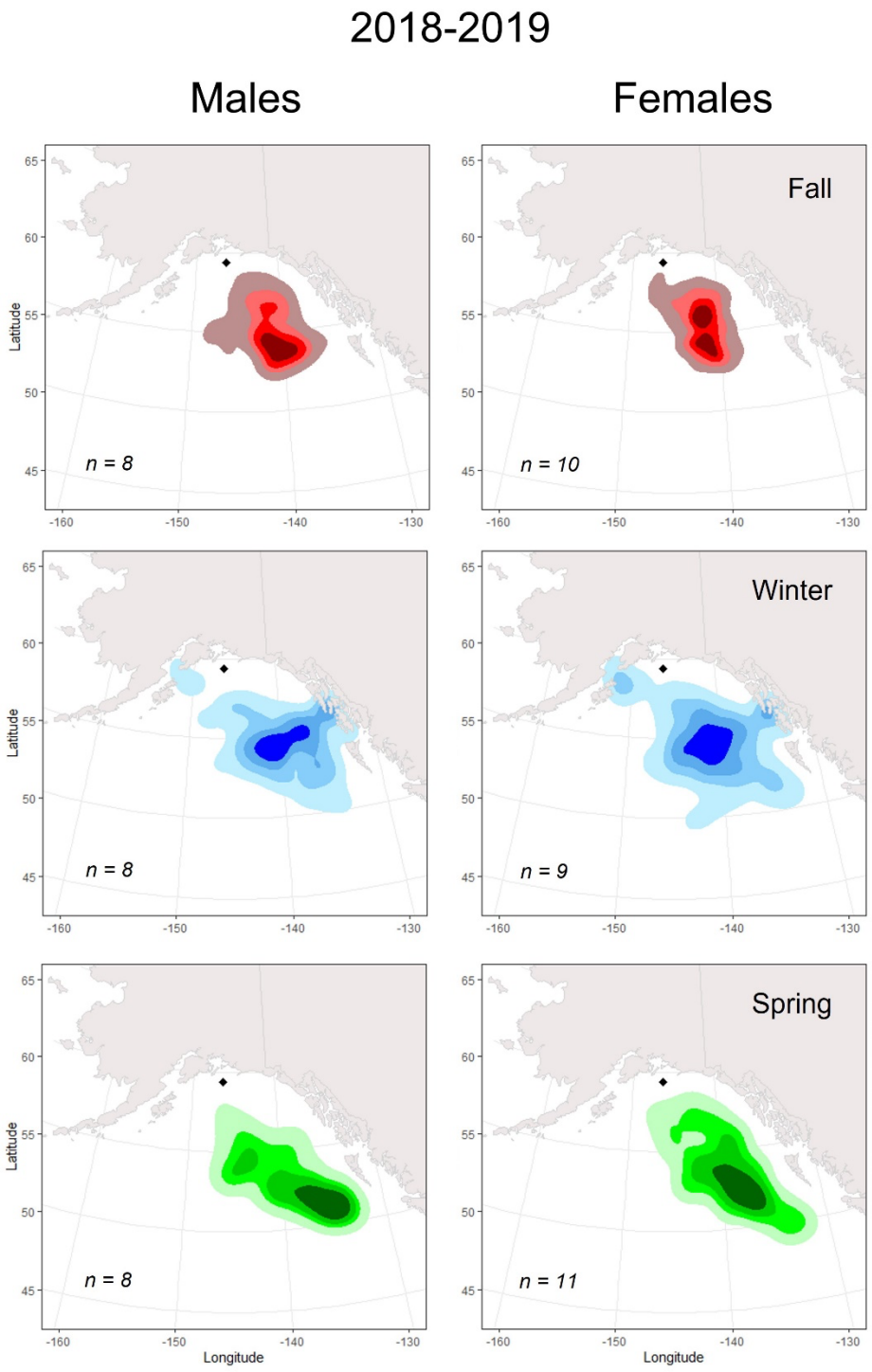
Supplementary Table 1. *A priori* candidate model set developed to test the effects of sex, year, and body condition on 14 response variables for tufted puffin movements using linear regression.

Model	Explanatory Variables
1	null
2	sex
3	year
4	condition
5	sex + year
6	sex + condition
7	year + condition
8	sex + year + condition
9	sex + condition + sex * condition
10	year + condition + year * condition
11	sex + year + sex* year

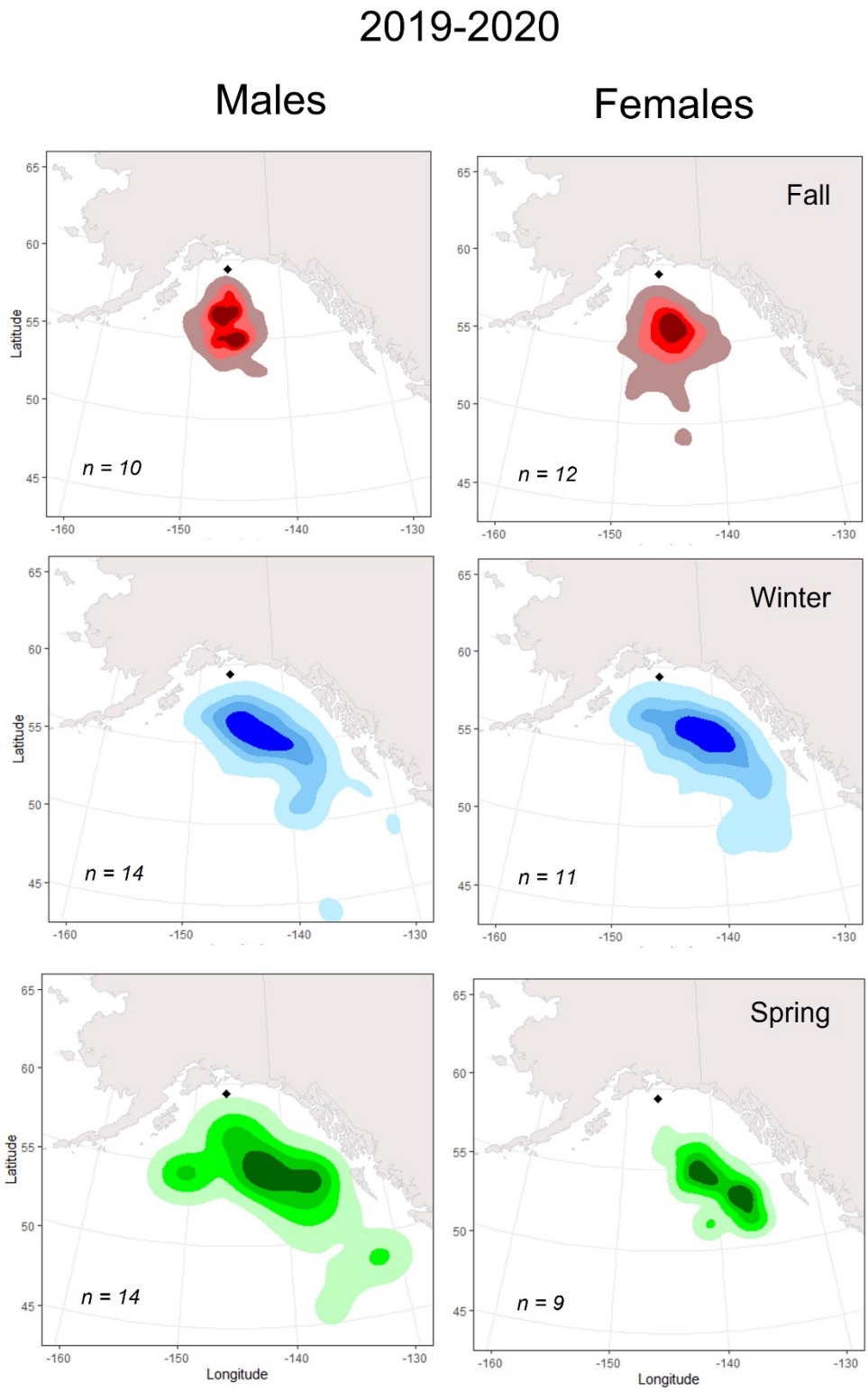
2 Supplementary Figures



Supplementary Figure 1. Overlap of core (50%) winter utilization distributions for five tufted puffins tracked over two consecutive years. Adult tufted puffins were fitted with archival light-level geolocators at Middleton Island, Alaska (2018 – 2020; location of Middleton denoted by black diamond) during the breeding season. Areas where the winter distributions overlap across years are displayed in black. The "winter" period was determined by a change point analysis for each tracked puffin. See section 2.4 of manuscript for description of methods.



Supplementary Figure 2. Comparison of seasonal utilization distributions (95%, 75%, 50%, 25% from lighter to darker colors, respectively) for male (left) and female (right) tufted puffins during the 2018/2019 non-breeding season. Seasonal designations were determined using a change point analysis for each tracked tufted puffin. The location of Middleton Island is denoted by the black diamond.



Supplementary Figure 3. Comparison of seasonal utilization distributions (95%, 75%, 50%, 25% from lighter to darker colors, respectively) for male (left) and female (right) tufted puffins during the 2019/2020 non-breeding season. Seasonal designations were determined using a change point analysis for each tracked tufted puffin. The location of Middleton Island is denoted by the diamond.