Appendix 2. Results of General Linear Model with Redness Value

A) *Breeding Season*

Iris redness differed significantly between sexes, with males having redder irises than females (ANOVA Type III; $p < 0.0001$, 95% CI [19.19, 53.90]). Iris redness did not differ significantly between age categories (ANOVA Type III; $p = 0.08$, 95% CI [-2.18, 37.82]). Likewise, iris redness was not significantly influenced by an interaction between age and sex (ANOVA Type III; $p = 0.09$, 95% CI [-46.26,3.10]). Males had lighter, redder irises than females regardless of age. Differences in iris redness among study sites were not significant (ANOVA Type III; $p = 0.23$). In contrast to the GLMs involving PC1 and PC2 iris color values, we found that the red value of irises did not vary significantly between 2022 and 2023 (ANOVA Type III: p 0.33; 95% CI [-6.05,18.05]).

B) *Non-Breeding Season*

Males had redder irises than female but this difference in redness was not significant (ANOVA Type III: $p = 0.18$, 95% CI [-7.01, 36.97]). AHY birds had redder irises than HYs, but this difference was also not significant (ANOVA Type III; $p = 0.93$, 95% CI [26.58, 24.45]). Iris redness was also not influenced by any interaction between age and sex (ANOVA Type III, $p = 0.56$, 95% CI [-38.63, 20.78]). Males had lighter, redder irises than females regardless of age. Iris redness was not significantly different between birds captured at Alaksen/Reifel compared to those captured at Terra Nova (ANOVA Type III, $p = 0.65$, 95% CI [-10.88, 17.33]). Finally, iris redness was not different among years (ANOVA Type III, $p = 0.15$).