

Estimating Population Demographics and Allowable Take for Peregrine Falcons (*Falco peregrinus*) in North America

The Migratory Bird Treaty Act requires the US Fish and Wildlife Service (FWS) to govern the take of wild migratory birds, including raptors for their use in falconry. Following the successful recovery of peregrine falcon (*Falco peregrinus*) populations across North America, the FWS, in collaboration with the North American Flyway Councils, States, and representatives of the falconry community, have conservatively managed the reinitiating of harvest of peregrines, with harvest reflecting regional and local management sensitivities. To provide scientific basis for management, FWS periodically reviews the available information on population status and size for a species through a broad scale Status Assessment, a process currently underway for the peregrine falcon. We developed a female-based integrated population model (IPM) in a Bayesian framework that will aid the Status Assessment by estimating population size allowing relevant management agencies to evaluate the status and effects of harvest on peregrine falcons in North America. Our IPM combines long-term banding data, fall migration counts, Breeding Bird Survey counts, and productivity data to estimate trends in abundance and demographic parameters of peregrine falcons in North America. The abundance, fecundity, and survival submodels incorporate population-specific effects separating peregrines into a northern and southern population (division occurring at 54° N latitude) with the survival submodel also accounting for differences in survival across age (first-year and after-first-year) and season (summer and winter). We will use the IPM output to estimate the allowable harvest of migratory first-year (passage) peregrine falcons using a prescribed take level model.