

Readme

This folder contains all the input files used for analyses of Yellowstone grizzly bear (*Ursus arctos*) effective population size and genetic diversity. Below is a brief description of the subfolders and files. For more details, please see the following paper:

Kamath P, Haroldson M, Luikart G, Paetkau D, Whitman C, van Manen F. Multiple estimates of effective population size for monitoring a long-lived vertebrate: application to Yellowstone grizzly bears. *Molecular Ecology*.

- 1) GENEPOP: This folder contains 3 genepop files
 - a. GrizData-ALL: Genepop input file to test for departures from Hardy-Weinberg proportions and genotypic linkage equilibrium at 20 microsatellite loci.
 - b. GrizData-1985to2010: Genepop input file used to analyze contemporary genetic diversity over time (from 1985 to 2010).
- 2) Single Sample Estimators: Files used to estimate effective population size (N_e) and effective number of breeders (N_b) using single samples.
 - a. EPA: This folder contains 27 input files needed to estimate N_e and generation interval (GI) over time in the program AgeStructure (Wang et al. 2010). Each input file is a single population sample taken in a given year from 1982 to 2008.
 - b. LDNe: This folder contains 24 input files needed to estimate N_b over time in the program LDNe (Waples and Do 2008). Files represent consecutive 3-year cohorts (all bears with birth years in a given 3-year period) starting in 1983-1985 and ending in 2006-2008.
 - c. SA: This folder contains 24 folders, each with 5 input files to run in the program Colony2 (Jones & Wang 2010). Each folder includes files needed to estimate N_b for consecutive 3-year cohorts starting in 1983-1985 and ending in 2006-2008. Separate files are for the cohort genotypes, potential mothers' and fathers' genotypes, and fathers and mothers to be excluded as possible parents.
- 3) Temporal Estimators: Files used to estimate N_e using the two-sample temporal method.
 - a. GONe: Input file (with consecutive birth year cohort genotypes) and parameter file used to estimate N_e based on the Jorde and Ryman (2007) approach, as implemented in the program GONe (Coombs et al. 2012).
 - b. MLNe: Input files used in the program MLNe (Wang 2001; Wang & Whitlock 2003) to estimate contemporary N_e when assuming a 10-year or 12 year GI.
 - c. NeEstimator: Input file to estimate moment-based N_e estimates in the program NeEstimator V2 (Do et al. 2014).