

These .csv files contain data used for analyses in:

Zylstra ER, Steidl RJ, Swann DE, Ratzlaff K. Hydrologic variability governs population dynamics of a vulnerable amphibian in an arid environment. PLoS ONE.

FrogCounts.csv

Counts of adult lowland leopard frogs during visual encounter surveys in the Rincon Mountains, Tucson, Arizona, 1996-2011. Counts are the number of frogs observed at each of 33 pool complexes. Pool complexes are identified by number (1 through 33) rather than name because the species is protected in Arizona. 0-3 surveys of each pool complex were completed during each of 32 sampling periods. In the .csv file, each column represents a survey and are presented in chronological order. Surveys are labeled with “s” for spring sampling periods and “f” for fall sampling periods. For example, the first survey of the spring sampling period in 1996 is labeled, “s1996.1” and the third survey of the fall sampling period in 2008 is labeled, “f2008.3”. NA indicates the pool complex was not surveyed.

SiteCharacteristics.csv

Characteristics of each pool complex, including a canyon identification number, watershed (N or S), number of pools per complex, mean elevation (m), area of each canyon basin (km²), and potential connectivity. Pool complexes and canyons are identified by number rather than name because the species is protected in Arizona.

DistancesBetweenComplexes.csv

A matrix of pairwise, stream distances (m) between pool complexes in the same watershed. These distances, along with movement data from mark-resight surveys of adult frogs, were used to calculate potential connectivity for each pool complex.

MaxDistanceMoved.csv

A vector of the maximum distance moved along stream courses (m) for each uniquely-identified frog that we observed in more than one location during mark-resight surveys in 2013. These distances, along with the stream distances between each pair of pool complexes, were used to calculate potential connectivity for each pool complex.

SurveyCovariates.csv

Covariates (date, effort, and water availability) measured during each survey. The first column is the identification number for each pool complex (1-33). The next 96 columns list the day number of the sampling period for each survey. For surveys completed during spring sampling periods, this is the number of days since 01 May and for fall sampling periods, this is the number of days since 01 Oct. For the occasional survey that spanned more than one calendar day, we provide the mean of the two day numbers. Column labels are the same as those used in FrogCounts.csv, except they are preceded by the letter “d” (e.g., “d.s1996.1”). The next 96 columns (columns 98 through 193) list the proportion of pools in each complex that were visited by observers during each survey (i.e., survey effort). Column labels are preceded by the letter “e” (e.g., “e.s1996.1”). The last 96 columns (columns 194 through 289) list the proportion of pools in each complex that contained water during each survey (i.e., survey-specific water availability). Missing data were imputed based on a model relating the number of pools with water to regional precipitation data. Column labels are preceded by the letter “w” (e.g., “w.s1996.1”). NA indicates the pool complex was not surveyed.

SeasonalWater.csv

Minimum proportion of pools in each complex with water during each sampling period (i.e., seasonal water availability). Missing data were imputed based on a model relating the number of pools with water to regional precipitation data. In the .csv file, each row represents a pool complex and each column represents a sampling period; column labels are similar to those used in FrogCounts.csv.