

ZooRisk Version Changes

ZooRisk 3.8: Release Date January 31, 2008

Note that projects from previously released versions of ZooRisk can not be read by ZooRisk 3.8.

- **Manual updated for Version 3.8** – see for detailed descriptions of all enhancements
- **Long term pairing** – the user can now designate a period of time greater than one year for monogamous or polygynous pairings to remain together in the model.
- **Export based on genetic characteristics** – the user can now prioritize individuals selected for export based on their genetic relationships as well as their demographic characteristics.
- **Prevent genetic detrimental pairs** – the user can set up the model to only make pairings that improve the gene diversity of the population in that year.
- **Deterministic** – slight modifications were made to the methodology for determining the number of possible pairs in the deterministic model; the new methodology parallels that used in the stochastic model.

ZooRisk 3.6: Release Date August 31, 2007

Note that projects from ZooRisk 2.53, the previously released version, can not be read by ZooRisk 3.6.

- **Manual updated for Version 3.6** – see for detailed descriptions of all enhancements
- **Removal of Excel dependency:** ZooRisk 3.6 no longer requires Excel to function.
- **Target Population Size (TPS) :** The user can now designate 1) a hard TPS that should be reached as soon as possible, 2) the number of years the population should take to reach TPS (new in version 3.6) or 3) a maximum number of births per year as the population is approaching TPS (new in version 3.6).
- **Sensitivity analysis:** a powerful new routine that automates the setup of alternative scenarios to test systematic variations in reproductive or mortality rates
- **Birth Sex Ratio (BSR):** new guidance on setting model BSR through extraction and analysis of historic BSR from studbook data; historical BSR is statistically tested for significant deviations from unbiased BSR.
- **Improved extraction criteria:** User can now specify separate institution (geographic) filters for fecundity, mortality, and living population windows.
- **Revised data extraction/analyses routines:**
 - New method of calculation for Annual Number of Offspring (ANO): The number of offspring a female can produce in a single year is calculated using her age class rather than the calendar year for the births.
 - New method of calculation for pairs in last generation (used in Risk Results tests): The number of unique, known ID, male and female combinations (pairs)

that have reproduced in the last generation are counted. Previous calculations counted the unique, known ID females to have reproduced.

- **Model pairing routines improved**
 - In the stochastic simulations, breeding pairs are made and then succeed/fail based on the female's age-specific probability of breeding. This new process for selecting pairs to breed uses more demographic data and better conforms to conventional management practices.
 - Because each pair is subjected to a probabilistic chance of breeding/not breeding, which is a substantially different approach than that used in ZooRisk 2.53, when genetic management based on mean kinships is applied the amount of GD retained is more conservative than version 2.53. Previous ZooRisk versions projected optimal retention of GD because pairing algorithms ensured that the most valuable pairs always bred.
- **User interface Improvements:** ZooRisk has been redesigned for improved screen layout, simplified user-interface, and improved help information. In addition, underlying algorithms provide better checks and dummy proofing to ensure your model is simulated appropriately. The folders in the directory structure were simplified.
- **New Model Output:**
 - **New metrics:**
 - **Gene Diversity (GD) Threshold option:** this new model parameter is used to generate results that estimate the population's ability to meet a user-defined GD goal (e.g. 90% GD retained)
 - **GD, TPS, and extinction thresholds:** the Result Table Summary lists the probability of reaching these thresholds as well as the median and minimum number of years.
 - **Individual iteration results:** results for individual model iterations for demographic and genetic variables are now exported into your project folder so that you can conduct more sophisticated analyses, if desired
 - **Auto-generated report:** the automatically generated report was removed from ZooRisk 3.6. The report option will be implemented in a future release.

ZooRisk 2.53: Release Date November 19, 2004

- Original ZooRisk release