

Appendix G  
**Take Assessment Methodology**

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Placer County Conservation Program  
Appendix G. Plan Effects Model  
May 3, 2019

Estimates of plan effects on natural communities and covered species presented in the HCP/NCCP are derived from the effects model. The effects model is a series of Excel spreadsheets taking input from Geographic Information System (GIS) analysis of the Plan Area, incorporating a quantitative description of covered activities, and applying assumptions and policy decisions from the Placer County Conservation Program planning team. The Excel spreadsheets are part of a collection of supporting documentation, including the GIS coverages which provided input data. The supporting spreadsheets are maintained in active Excel format rather than as a static printed or PDF format so that reviewers can trace link precedents and dependents and see how information flows from input to output.

This Appendix to the HCP/NCCP describes the structure and content of the supporting documentation. The model set comprises six spreadsheets:

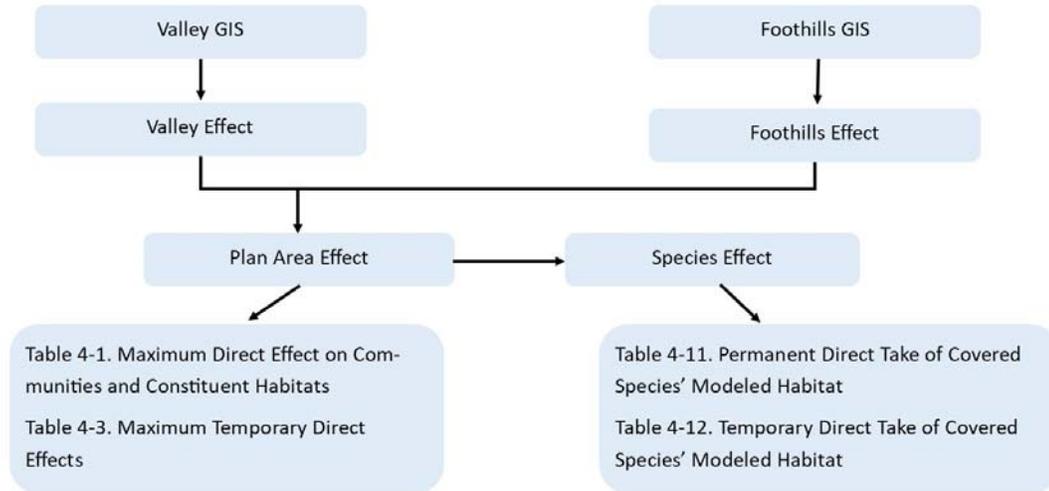
- Foothills Effect
- Foothills GIS
- Plan Area Effect
- Species Effect
- Valley Effect
- Valley GIS

The results match tables as published in the public review draft HCP/NCCP and include references to table numbers and titles. As a protocol, it is intended that a published table reflect the format of results in the effects model with each numerical value of the published table linked to calculations elsewhere in the model. These spreadsheets have gone through several iterations since their origin in 2005 and consequently they may include calculations and results which are no longer in use in the current HCP/NCCP.

The flow of data through the effects model spreadsheets yielding tables in Chapter 4 are illustrated in the flowchart here. The Valley and Foothills GIS spreadsheets input the attribute table from GIS shape files that intersect land cover, Stream System location, PCCP land status, and other data. The GIS spreadsheets use a pivot table to aggregate results of the individual polygons into a standard format for input into the respective Valley and Foothills effects spreadsheets. The effects spreadsheets process the aggregated GIS summary data, compare with estimates of covered activities, apply a factor to estimate constituent habitats embedded within the land cover mapping, and produce overall estimates of land conversion, take of constituent habitats, and conservation opportunities as illustrated in the diagrams found in the PCCP Figures 4-1 and 4-2. The Valley and Foothills effects results are input to the Plan Area effects table which further aggregates and produces results for tables in the HCP/NCCP, as input to the Cost Model developed by Sally Nielsen, Hausrath Economics Group, and quantitative characterization of alternatives to the proposed permit used in the EIR/EIS. The estimate of covered species effects is

based on a habitat model which applies spatial overlays and translates effects on land cover types and certain constituent habitats into estimated take of covered species habitat.

### PCCP Effects Model Spreadsheet Flow Chart



## TSR