

**STATE OF WASHINGTON**  
**Department of Natural Resources**  
**SOLE SOURCE POSTING**

The Department of Natural Resources (DNR) contemplates awarding a sole source contract to an expert modeler from Natural Resource Geospatial (NRG) to provide geospatial modeling and HexSim analysis to assist the Washington Northern Spotted Owl Implementation Team's (NSOIT) technical team (see specific scope of work below).

The NSOIT, led by DNR, was directed by the Washington Forest Practices Board in 2010 to convene a technical team to "assess the spatial and temporal allocation of conservation efforts on nonfederal lands using best available science." In order to accomplish this directive, the technical team intends on using the spatially-explicit habitat modeling tool developed by the United States Fish and Wildlife Service (USFWS) to model state-specific northern spotted owl conservation scenarios. This spatially-explicit habitat modeling tool was developed to support the development of the 2012 NSO (Northern Spotted Owl) Critical Habitat and 2011 Recovery Plan. A description of the USFWS modeling framework can be found in Appendix C of the 2011 NSO Recovery Plan and the USFWS 2012 NSO Critical Habitat Rule.

Though the NSOIT technical team is composed of highly skilled spotted owl biologists, none are experts on the intricacies of the USFWS model and will require technical consultation with those who have been integrally involved during the critical habitat modeling process. The expert modeler from NRG was contracted by USFWS during the recovery plan and critical habitat processes to run the NSO critical habitat model and has the unmatched level of expertise vital to the technical team process. We believe that this expert modeler from NRG is the only person capable of helping the NSOIT technical team efficiently and effectively modify the USFWS critical habitat model to answer state-level NSO conservation questions due to the unparalleled expertise and insight derived from successfully running the critical habitat model for the USFWS 2011 NSO Recovery Plan and 2012 Critical Habitat projects.

NSOIT Geospatial Modeling and HexSim Analysis Scope of Work

PHASE 1: BASELINE SIMULATIONS

- a. Develop three Federal baseline datasets as specified in the NSOIT Technical Team 'Baseline Modeling Assumptions' document (Northwest Forest Plan [NWFP] as Implemented, NWFP as Intended, and 2012 Critical Habitat).
  - i. Develop and implement methodology to model additional harvest and fire events stratified across the analysis landscape by NWFP regulatory specifications and initial disturbance estimates.
  - ii. Develop Relative Habitat Suitability (RHS) gain and loss rates to apply to modeled disturbance derived from evaluation of real gains and losses for disturbed areas between 1996 and 2006.
- b. Develop one Non-federal baseline dataset for four separate State and private Habitat Conservation Plan, Safe Harbor Agreement and Spotted Owl Special Emphasis Area (SOSEA) land area subsets as specified in 'Baseline Modeling Assumptions' document, and combine with the three Federal baselines.
- c. Develop and implement modified USFWS RHS change logic to model change in habitat value for simulation time-steps by rule sets defined in 'Baseline Assumptions' document and/or using modified rule sets TBD.
- d. Implement initial HexSim simulations to test and evaluate outputs for baseline RHS change rule-sets and iteratively refine and finalize modeling methodology.
- e. Implement final sets of 2 HexSim RHS change scenario simulations (static, dynamic) for each of the 3 composite Federal / Non-federal baseline (6 simulations). Develop and publish final demographic metrics to NSOIT for evaluation and determination of final baselines to move forward into next phase of project.

#### PHASE 2: SCOPE CONSERVATION ALTERNATIVES

- f. Develop and evaluate methodologies for modeling conservation alternatives.
  - i. Develop and evaluate methodology for conservation cost-benefit analysis for both 'passive' analysis using pre-determined areas and 'active' zonation derived 'high value targeted areas'.
  - ii. Implement initial HexSim simulations to evaluate demographics sensitivity to proposed conservation alternative configurations.
- g. Develop and publish demographic metrics and other reports to NSOIT for determination of final conservation alternatives configuration and methodologies.

#### PHASE 3: MODEL FINAL CONSERVATION ALTERNATIVES

- h. Develop final conservation alternative spatial datasets per Phase 2 determinations as a suite of composite alternatives specified for separate HexSim scenarios.
- i. Combine alternatives (a) with the two final Federal / Non-federal baselines to derive the final set of landscape configurations.
- j. Develop two final RHS change time-step scenarios (static, dynamic) for each of the combined alternatives (b) using final rule-sets (to be determined).

- k. Implement final HexSim scenario simulations (a \* b \* c)
- l. Develop and publish demographic metrics and other reports to NSOIT for and assist as required to develop and support policy determinations.
- m. Develop final modeling supplemental document detailing methods and process.

The contract will be issued on or about June 1, 2013 for 6 months with the option for extension. The dollar value is estimated at \$35,000.

Offerors contemplating the above requirements are required to submit capability statements detailing their ability to meet the state's requirements within five (5) calendar days of this announcement. The following information should be included in the capability statements: expertise in the development, functioning and operation of the MaxEnt, Zonation and HexSim models as developed for the 2012 USFWS NSO Critical Habitat Designation; expertise in the USFWS spatially-explicit habitat model for the Northern spotted owl.

In the absence of other qualified sources, it is the state's intent to make a sole source award of the contract.

To submit capability statements or for questions, contact:

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