

INTEGRATING RECENT LAND COVER MAPPING EFFORTS TO UPDATE THE NATIONAL GAP ANALYSIS PROGRAMS SPECIES HABITAT MAP

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ABSTRACT:

Over the past decade great progress has been made to develop national extent land cover mapping products to address natural resource issues. One of the core products of the GAP Program is the creation of range-wide species distribution models for each of the over 2000 terrestrial vertebrate species in the U.S. We rely on deductive modeling of habitat affinities using these products to create models of habitat availability. That approach requires that we have a thematically rich and ecologically meaningful map legend to support the modeling effort. In this work we are integrating the Multi-Resolution Landscape Characterization Consortium's National Land Cover Dataset 2011 and LANDFIRE's Disturbance Products to update the 2001 National GAP Vegetation Dataset to reflect 2011 conditions. The revised product will then be used to update the species models.

We used the NLCD product to identify areas where the cover type mapped in 2011 was different from what was in the 2001 land cover map. Upon further inspection, areas initially identified as "changed" were recoded to the appropriate class from our map legend. Areas mapped as urban or water in the 2011 NLCD map that were mapped differently in the 2001 GAP map were accepted without further validation and recoded to the corresponding GAP class. We used LANDFIRE's Disturbance products to identify changes that are the result of recent disturbance and to inform the reassignment of areas to their updated thematic label. For one wide-ranging mid-western species, the white-tailed jack rabbit (*Lepus townsendii*), we found the resulting refinements in the agricultural classes would be the most important improvement in the model and would reduce of commission. In the Southeast and Pacific Northwest refinements due to timber management activities are locally significant.

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