

# Delivery Priority Tool for the Northeast Texas Conservation Delivery Network



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## **INTRODUCTION**

The NETX CDN Delivery Priority Tool Working Group was established to support the CDN in the development of a Delivery Priority Tool (DPT), to serve as decision support in identifying focal and/or priority areas within the work area of the Northeast Texas Conservation Delivery Network. The tasks assigned to the working group were as follows:

1. Identify and evaluate available models, maps and datasets important to the NETX CDN Service Area;
2. Utilize the most spatially explicit information available to identify priority focus areas within the NETX CDN Service Area;
3. Develop a Delivery Prioritization Tool;
4. Draft a CDN Delivery Priority Strategy document that describes the Working Group's DPT development process.

After evaluating many of the conservation issues, habitats, and available data sets, the working group chose to focus on open pine habitats and riparian habitats; and those areas where the two appear spatially significant. Our approach was to utilize two wildlife habitat models and two vegetation suitability indices, one of each for the two habitats, in a weighted sum analysis to establish an overall suitability index. We then looked for areas with concentration of high suitability using a focal area model to statistically identify focal areas.

## **LMVJV OPEN PINE MODEL**

Open pine habitat (defined as a forest composed of greater than 80% pine and 25-60% canopy cover), has become high priority for applying conservation measures. The LMVJV developed an open pine (longleaf pine/shortleaf/loblolly pine) model to identify areas for the conservation of eleven priority bird species within the LMVJV geography. Priority bird species include northern bobwhite, eastern wild turkey, American kestrel, red-cockaded woodpecker, brown-headed nuthatch, red-headed woodpecker, sedge wren, prairie warbler, Henslow's sparrow, Le Conte's sparrow and Bachman's sparrow. For a more in-depth look at the model, please refer to the Open Pine Landbird Plan West Gulf Coastal Plains/Ouachitas, October 2011

([http://www.lmvjv.org/library/WGCPO\\_Landbird\\_Open\\_Pine\\_Plan\\_Oct\\_2011.pdf](http://www.lmvjv.org/library/WGCPO_Landbird_Open_Pine_Plan_Oct_2011.pdf)).

## **EASTERN WILD TURKEY HABITAT SUITABILITY INDEX**

The eastern wild turkey HSI was developed by Texas Parks and Wildlife to identify focal areas for eastern wild turkey restoration. The HSI is composed of 4 landscape data sets:

1. Edge
2. Avoidance/Human Impact
3. Ecological Mapping Systems Landcover Classification
4. Riparian/Wet Forest Vegetation Types

Edge values were classified to reflect the ecotone (defined as the interface of forested and open habitats) as the most favorable habitat. Avoidance values were classified to reflect areas of least human activity (urban) as the most favorable for turkeys. Landcover types were categorized as Brood, Nesting, and Dispersion cover, then weighed and scored by 7 regional turkey and habitat experts. Riparian and wet forest areas were classified using vegetation and floodplain data. Variables were then combined and calculated using a weighted sum analysis equation, to an evaluation scale of 0-1, with 1 being the most favorable.

## **RIPARIAN/WET FOREST VEGETATION TYPES**

Using the Texas Parks and Wildlife's Ecological Mapping Systems, riparian and wet forest vegetation were extrapolated and mapped to provide more weight for identified riparian zones.

## **FOCAL AREA ANALYSIS**

This tool displays where features with high and/or low values cluster spatially. An area of high suitability might not always show up "hot", if it is

isolated or fragmented off by itself. It is dependent on nearby areas of high value.

Fig 1. Focal Area Analysis Dialog Box in ArcMap

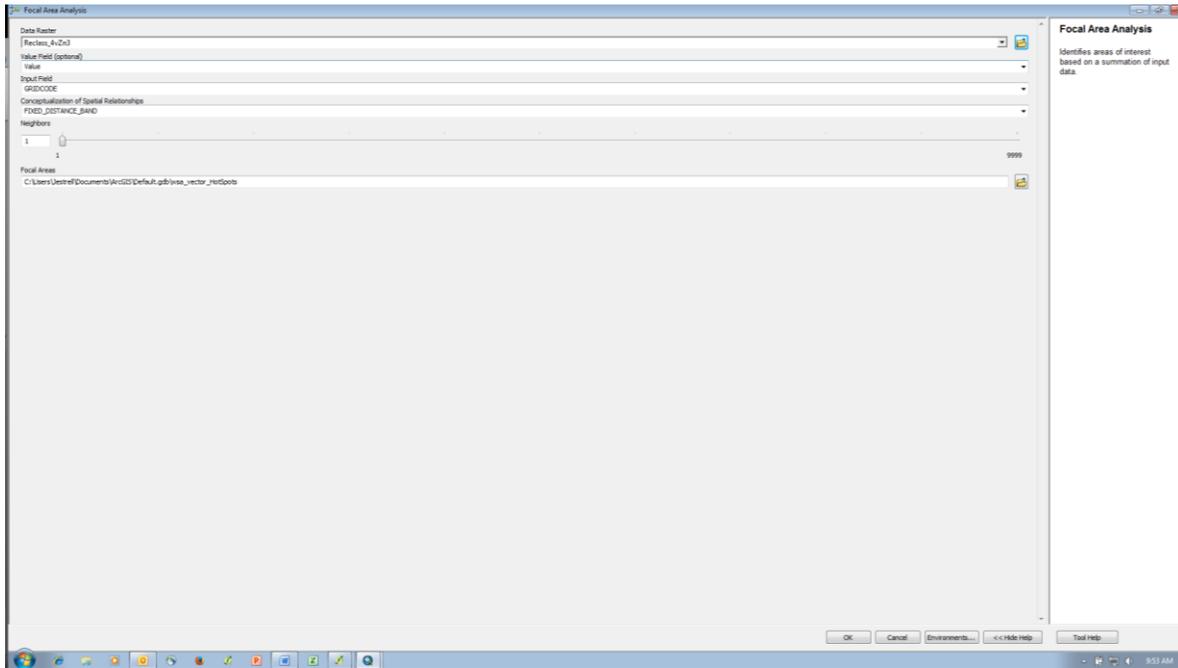
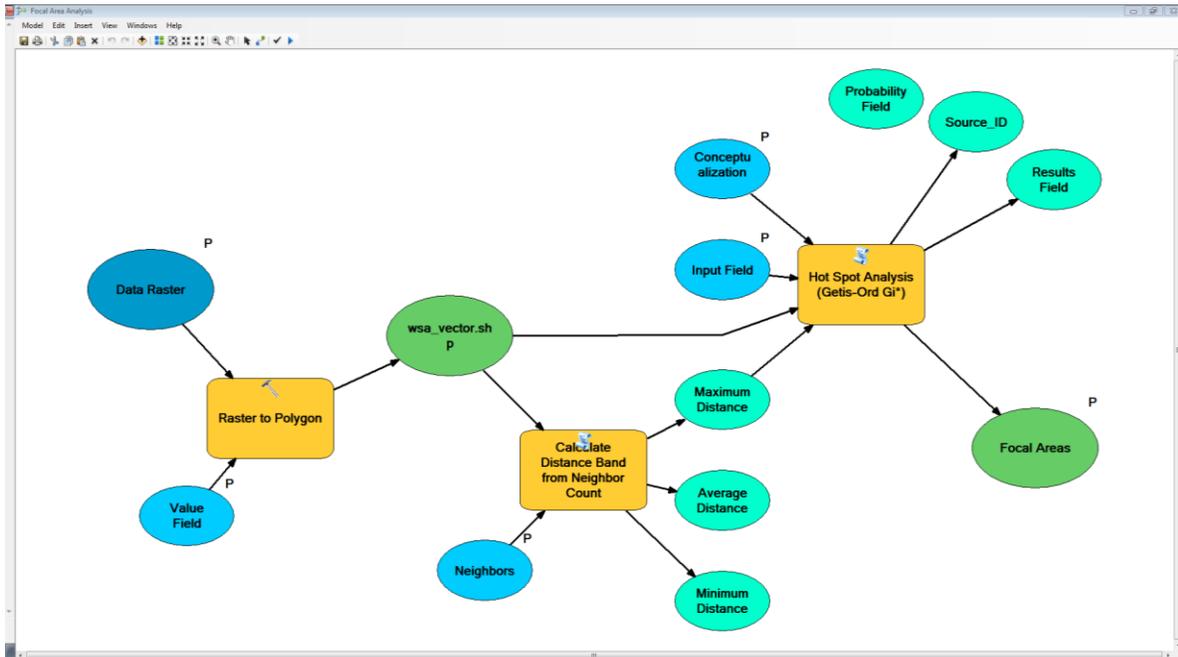


Fig 2. Flow Model Schematic of Focal Area Analysis Tool



## FOCAL AREAS OF THE DELIVERY PRIORITY TOOL

Fig 3. Final output of focal area analysis applied to the overall habitat suitability score, using 95% confidence.

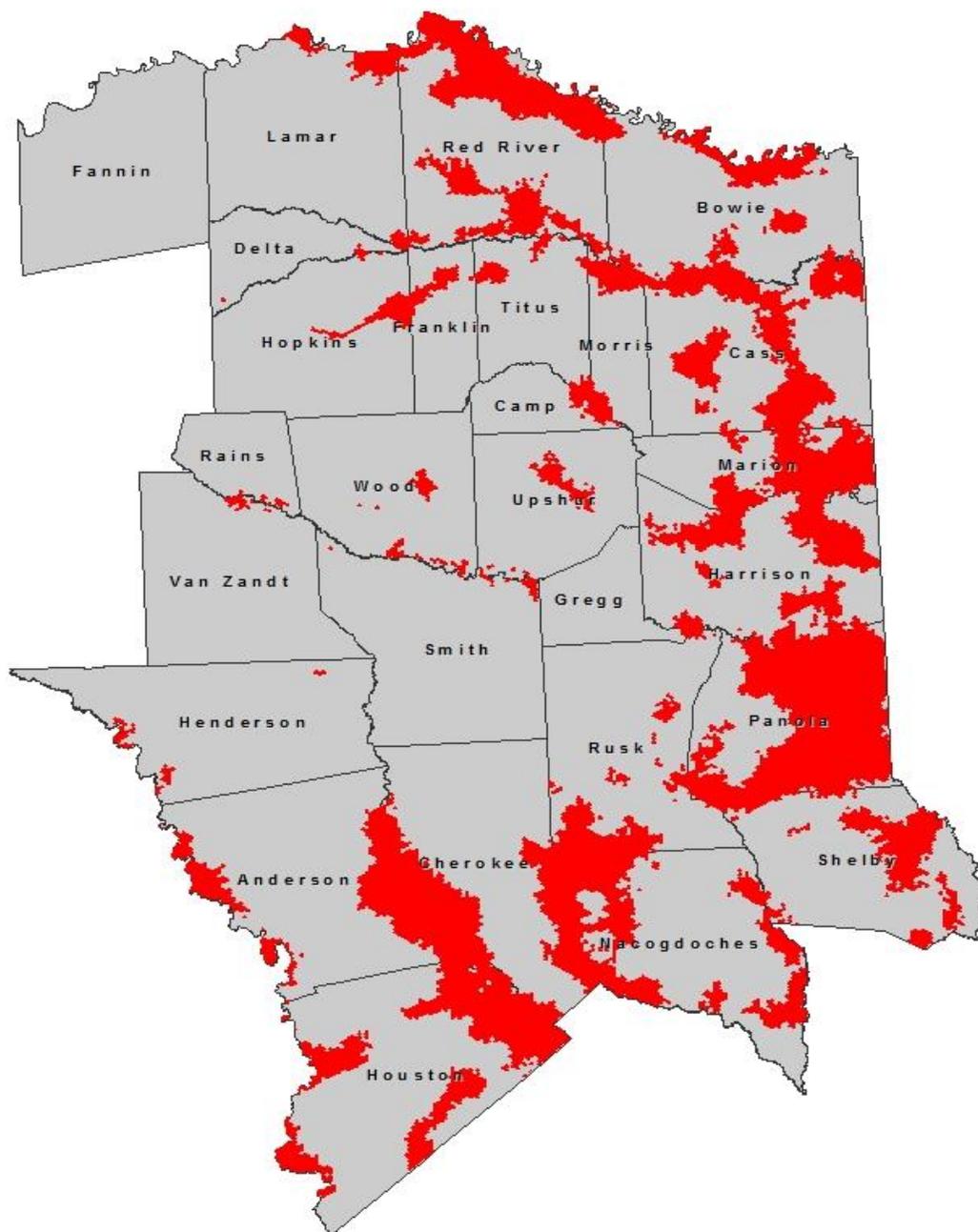


Fig 4. Final output of focal area analysis with significant conservation features included as reference.

