Upper Mississippi Forest Partnership

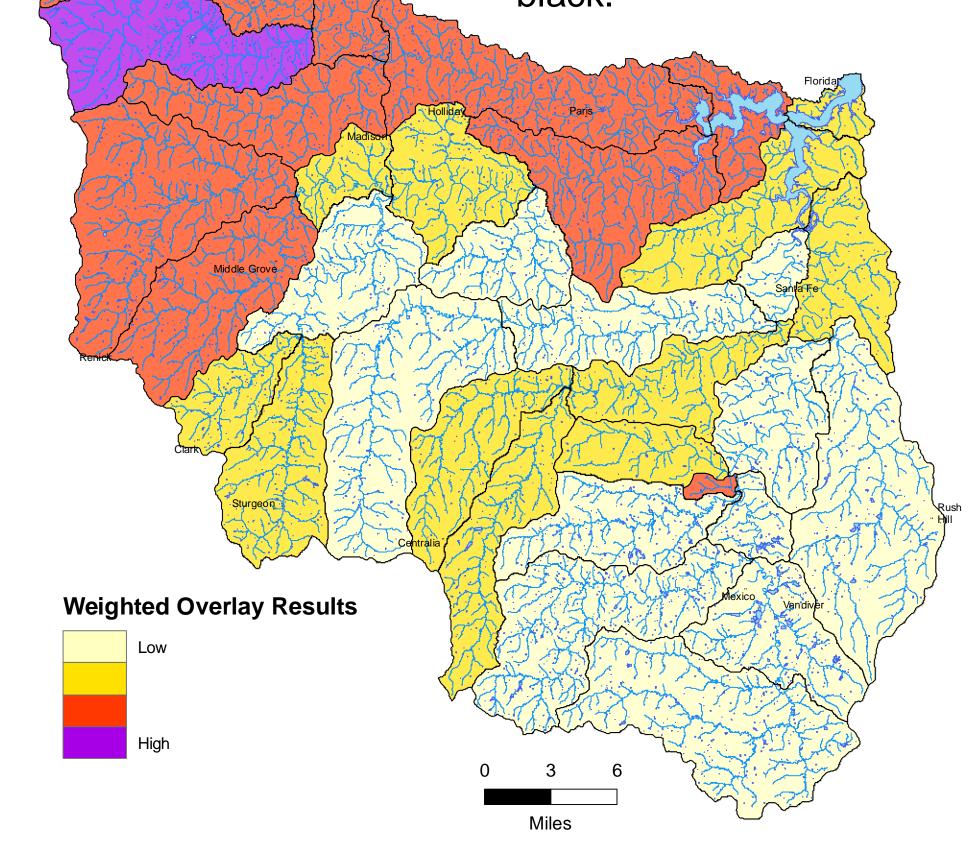
Preservation of Riparian Corridor Water Quality and Aquatic Habitat South Fork Salt River Watershed Analysis

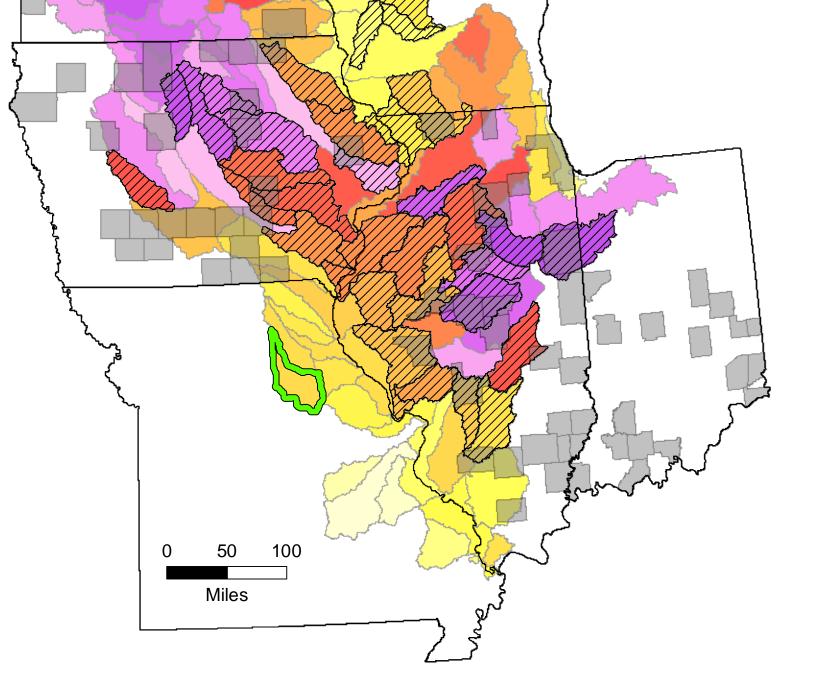
Model Influence



Riparian corridor afforestation priority Riparian corridor forest conservation priority model model Step 1: Location of watersheds with high percentage agriculture and high percentage South Fork Salt 8-Digit HUC agriculture within a 300-foot **Counties without SSURGO** Step 2: Rank Step 2: Rank corridor of waterbodies. National Land Cover Dataset (1992) National Land Cover Dataset (1992) spatial data Description Score Description Score subwatersheds according subwatersheds according 8-digit HUCs without high Open Water Open Water resolution NHD spatial data to land use and erosive to land use and erosive Low Intensity Residential Low Intensity Residentia 8-digit HUC soils. Agricultural areas soils. Forested areas High Intensity Residentia High Intensity Residential Percent Ag (HUC + 300 ft Corridor) Commerical/Industrial/Transp. Commerical/Industrial/Transp. with erosive soils rank with erosive soils rank Bare Rock/Sand/Clay Bare Rock/Sand/Clay Low higher. higher. Quarries Quarries Transitional Transitional Deciduous Forest Deciduous Forest High Evergreen Fores Evergreen Forest Land Capability Classification - Subclass "E" Land Capability Classification - Subclass "E" Mixed Forest Mixed Forest Score Description Description Shrubland Shrubland Not susceptible to erosion Not susceptible to erosion Orchards/Vineyards Orchards/Vineyards 0-1 (LCC Class) 0 – 1 (LCC Class) Grassland/Herbaceou: Grassland/Herbaceou 1 - 2 1 - 2 Pasture / Hay Pasture / Hay 2-3 2-3 Row Crops Row Crops 3 - 4 3 - 4 Small Grains Small Grains 4 - 5 4 - 5 Urban Recreational Grasses Urban Recreational Grasses 5-6 5-6 Woody Wetlands

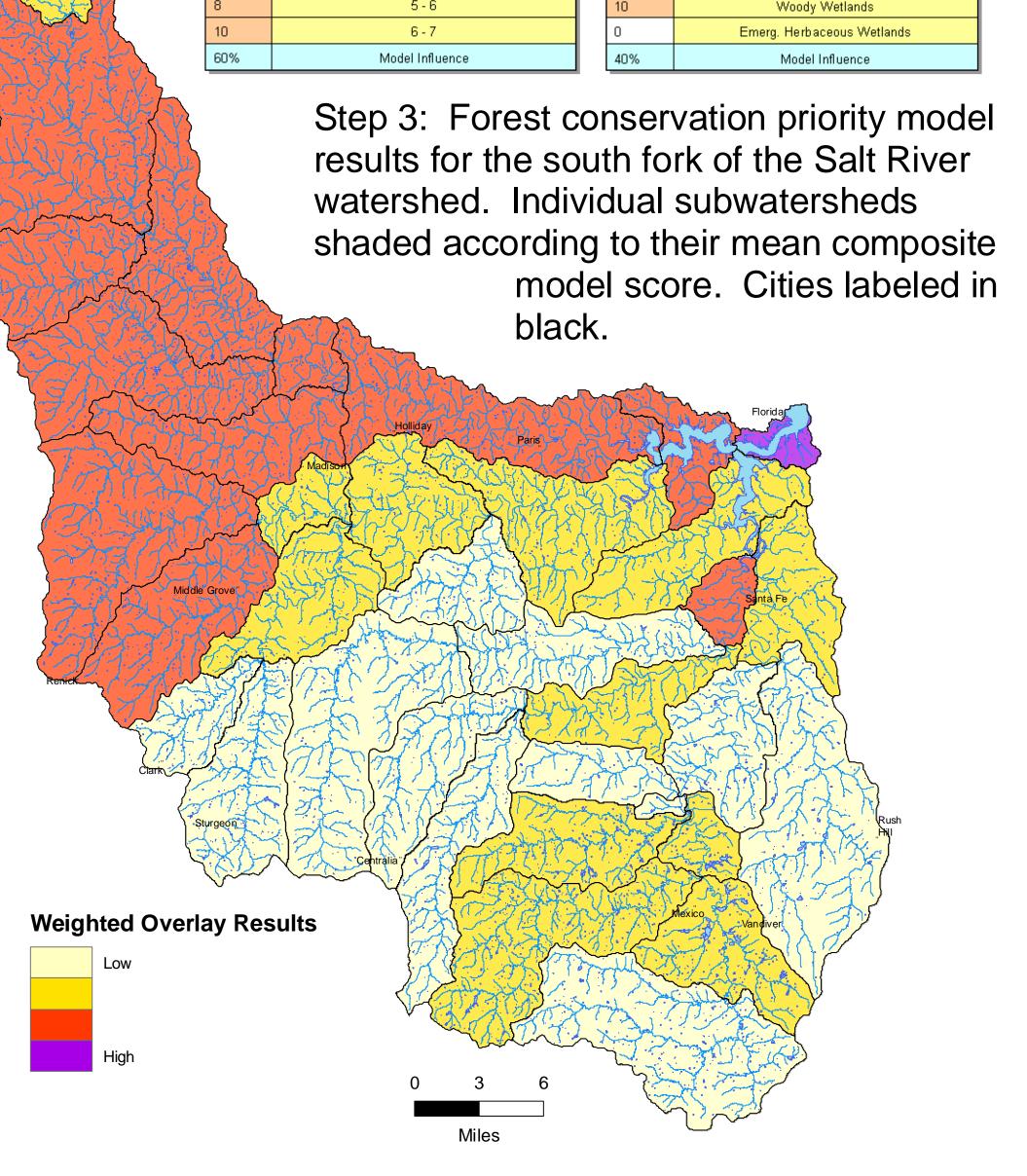
Step 3: Afforestation priority model results for the south fork of the Salt River watershed. Individual subwatersheds shaded according to their mean composite model score. Cities labeled in black.





South fork Salt River watershed chosen based upon having a contrasting landscape to the Watonwan River watershed. The Watonwan River watershed is dominated by agriculture and gentle slopes, whereas the south fork Salt River watershed has steeper slopes and is less dominated by agriculture. Additionally, this watershed has surface run-off and other erosion problems and water quality concerns in Mark Twain Lake. This watershed also met the minimum data requirements with the availability of high resolution hydrography (NHD) and high resolution soils (SSURGO) data.

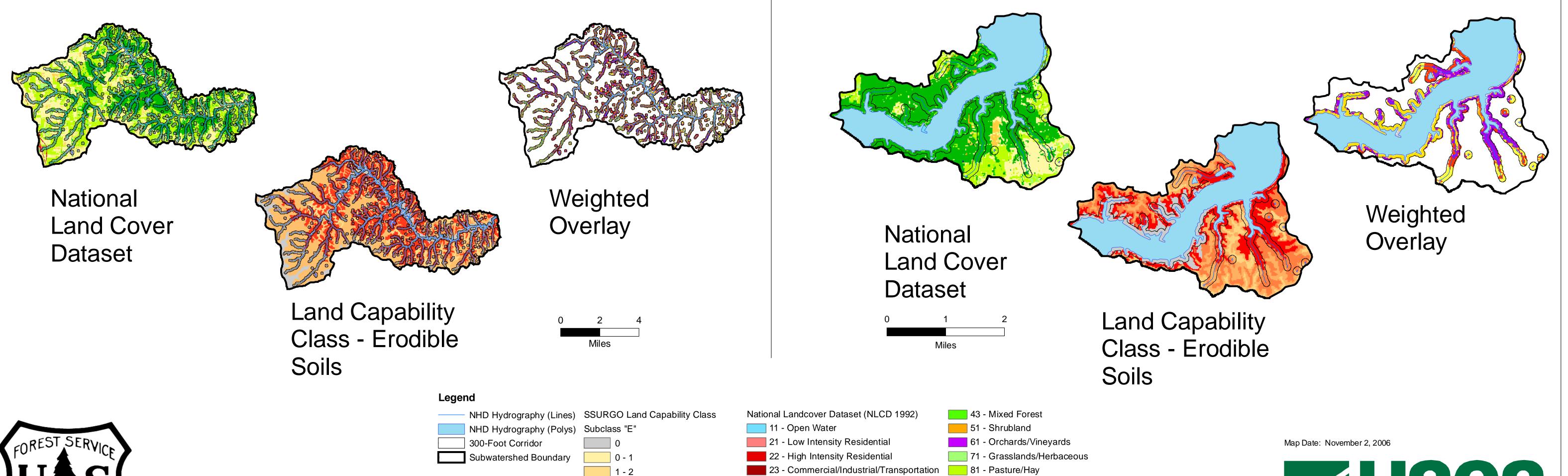
Afforestation and forest conservation models were individually run on land area within a 300 foot corridor surrounding perennial and intermittent water bodies within the south fork Salt River watershed as delineated by the National Hydrography Dataset (NHD). These results were then averaged by subwatershed boundary (MO NRCS) and are displayed in the map layers to the left and right.



Step 4: Delineating agricultural areas with potentially erosive soils within 300 feet of a water body.

Step 4: Delineating forested areas with potentially erosive soils within 300 feet

Example subwatershed (shaded in purple in map above) depicting NLCD, Land Capability Class, and weighted overlay results. Example subwatershed chosen based on highest mean afforestation priority model score.



of a water body.

Example subwatershed (shaded in purple in map above) depicting NLCD, Land Capability Class, and weighted overlay results. Example subwatershed chosen based on highest mean forest conservation priority model score.



