

**Texas Environmental Resource Stewards (TERS):
Texas Ecological Assessment Protocol (TEAP) Results
Pilot Project**

Prepared by

**U. S. Environmental Protection Agency Region 6, Texas Parks and
Wildlife Department, and The Nature Conservancy**

**S. L. Osowski, J. Danielson, S. Schwelling, D. German, S. Gilbert, D.
Lueckenhoff, D. Parrish, A. K. Ludeke, and J. Bergan**

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EXECUTIVE SUMMARY

Background

Texas Environmental Resource Stewards ([TERS](#)) was established in July 2002 to seek greater federal and state interagency collaboration on identifying and supporting joint priorities, particularly regarding transportation issues. Leaders from participating agencies identified common interests and target activities for collaborative ecosystem management of benefit to each agency. Common interests included identification of ecologically important natural resource areas (wetland, aquatic, and terrestrial) for avoidance, or potential compensatory mitigation, preservation, or restoration; “streamlining” of regulatory processes; early identification of some National Environmental Policy Act ([NEPA](#)) requirements in project planning; and analysis of cumulative impacts. The [TERS](#) executives developed a vision which included the following actions:

Improve mutual understanding

Use collective knowledge to support decision-making

Strive for synergism

The initial approach to achieving a portion of the [TERS](#) vision was to develop an ecosystem approach to organize strategies that achieve effective and measurable environmental results, and jointly communicate the results to the public. The initial goals of [TERS](#) were to identify ecologically important areas, identify potential mitigation areas, and streamline regulatory processes. This report serves to communicate progress on the first goal: the ecological assessment and identification of ecologically important resources in the state of Texas.

addition, areas in the Chihuahuan Desert Basin and Range, Edward's Plateau, Oak Woods and Prairies, and the southern portion of the Rio Grande Plain ecoregion show moderately high levels of rarity.

Sustainability (Figure C): [Figure C](#) shows the combination of all eleven layers in a map representing sustainability. There are only a few highly sustainable (top 1%, 10%) locations in the Chihuahuan Desert Basin and Range, Stockton Plateau, southern Rio Grande Plain, southern Rolling Plains, and a few other areas in Texas. The more sustainable areas occur where there are fewer human disturbance activities. Most of the population lives in the eastern half of the state. Thus, the Cross Timbers and Prairies, Central Gulf Prairies and Marshes, Mid Coastal Plains Western Section, and Blackland Prairies ecoregions show the lowest sustainability.

These three layers were combined into a composite map that shows where ecologically important areas occur in Texas ([Figure D](#)). The top 1% highly ecologically important areas in Texas are highlighted in red. Most of the ecologically important (1%, 10%) areas are located in Chihuahuan Desert Basin and Range, Stockton Plateau, and Rio Grande Plain ecoregions. Other areas that have high or moderately high ecologically important areas are the Edwards Plateau and the southern portion of the Mid Coastal Plains Western Section. Conversely, the most threatened areas are in the Blackland Prairies, Oak Woods and Prairies, Central Gulf Prairies and Marshes, and Louisiana/Eastern Gulf Prairies and Marshes ecoregions which [TEAP](#) indicates have the least sustainable ecological areas. The Nature Conservancy ([The Conservancy](#)) performed an independent accuracy assessment on the [TEAP](#) comparing the composite scores

and [The Conservancy](#) portfolio sites. This assessment showed, in general, that those areas ranked as highly important ecologically by [TEAP](#) corresponded to areas identified as very ecologically important in [The Conservancy](#) portfolio. Field investigation would be necessary to better determine the accuracy of locations that had low [TEAP](#) composite scores.

[TEAP](#) was applied to rapidly assess the entire Texas landscape by ecoregion through the use of a statewide [GIS](#) grid. The results of [TEAP](#) provide a tool for use in project planning and for reducing very large corridors to more manageable areas for more detailed field investigation. Identification of ecologically important areas in each ecoregion can be used as a tool to support ecosystem-driven mitigation sequencing (avoidance of impacts, minimization, and then compensation) and conservation planning throughout the state. [TEAP](#) can also be used to find high quality habitat remnants in all ecoregions in Texas. The [TEAP](#) is intended to be a supplemental tool for agency use, not to circumvent or replace agency policies, processes, or regulations.

Actions

Updated analyses using 2002 land cover data can be performed once this data is made available in a [GIS](#) format. In addition, several other databases (e.g., pipelines, oil and gas wells) were suggested for incorporation. These databases, as well as modifications to the current protocol, can be made in subsequent iterations. [TEAP](#) will be reevaluated every 2 to 3 years when new land cover and other data become available. Therefore, [TEAP](#) can be used to identify trends in ecological condition by comparing results from previous years.