

Conservation status assessment of the Mexican Blindcat, *Prietella phreatophila*

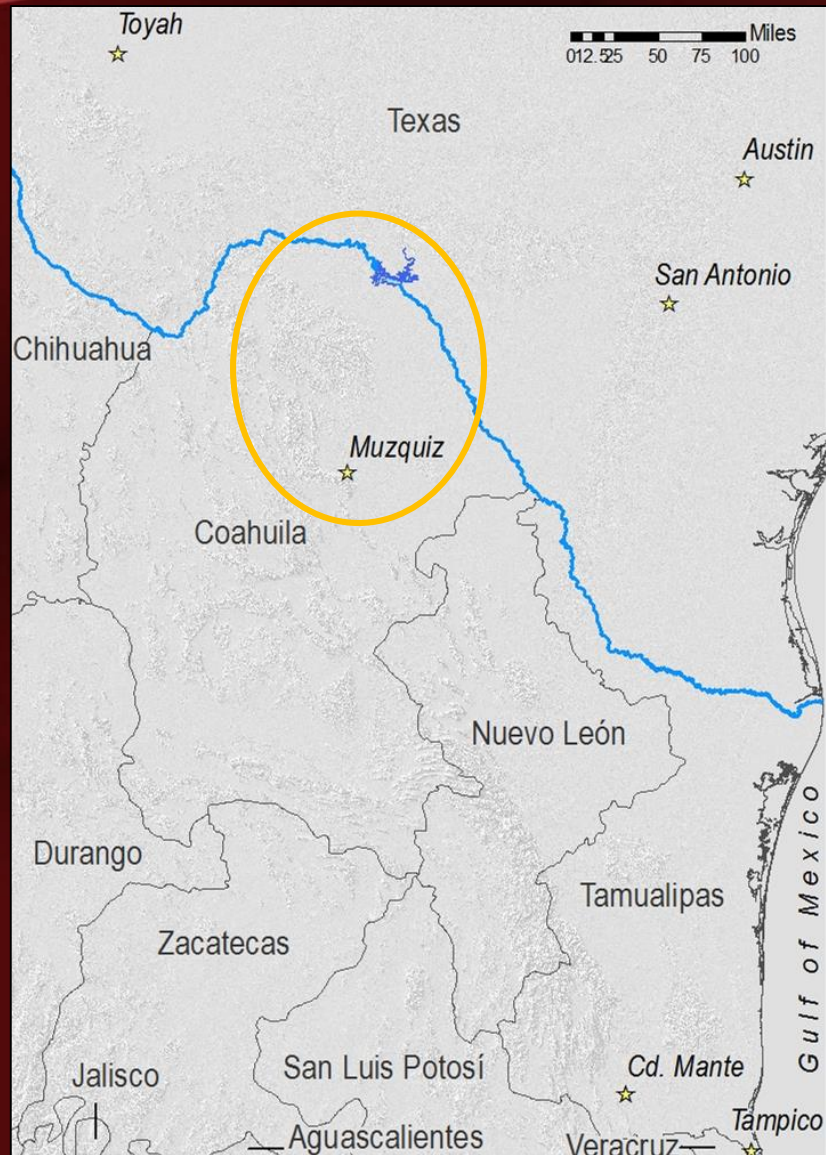
Laura E. Dugan, Dean A. Hendrickson, Antonio Hernández-Espriú, Gary P.
Garrett, Adam E. Cohen, Brad Wolaver, Ryan Smith

July 15, 2017

Joint Meeting of Ichthyologists and Herpetologists



Prietella phreatophila



Prietella phreatophila

Jueves 30 de diciembre de 2010

DIARIO OFICIAL

(Segunda Sección) 1

NORMA Oficial Mexicana NOM-059-SEMARNAT-2010, Protección ambiental-Especies nativas de México de flora y fauna silvestres-Categorías de riesgo y especificaciones para su inclusión, exclusión o cambio-Lista de especies en riesgo.

Al margen un sello con el Escudo Nacional de México.
Ambiente y Recursos Naturales.

SANDRA DENISSE HERREZ
Secretaría de Medio Ambiente y Recursos Naturales
Normalización del Medio Ambiente y Recursos Naturales
IV, XXXIX y XLI de la Ley Orgánica de la Administración Pública Federal y 47 fracción IV de la Ley Federal de Procedimiento Administrativo y 171 de la Ley General del Equilibrio Ecológico y la Protección al Ambiente, V, 56, 57, 58 y 59 de la Ley General de Metrología y Normalización, 1 y



U.S. Fish & Wildlife Service

ECOS Environmental Conservation Online System

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Mexican blindcat (*Prietella phreatophila*)

[Federal Register](#) | [Recovery](#) | [Critical Habitat](#) | [Conservation Plans](#) | [Petitions](#) | [Life History](#)

Taxonomy: [View taxonomy in ITIS](#)

Listing Status: **Endangered**

Where Listed: **WHEREVER FOUND**

- Countries in which the the Mexican blindcat, Wherever found is known to

Current Listing Status Summary

Status	Date Listed	Lead Region
Endangered	06/02/1970	Foreign (He



The IUCN Red List of Threatened Species™

2017-1

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Prietella phreatophila

<http://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T18136A7669809.en>

NOT EVALUATED DATA DEFICIENT LEAST CONCERN NEAR THREATENED VULNERABLE **<ENDANGERED>** CRITICALLY ENDANGERED

NE

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Prietella phreatophila

UT News
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Rare, Blind Catfish Never Before Found in U.S. Discovered in National Park Cave in Texas

June 17, 2016

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These two Mexican blindcats were discovered in an underwater cave near Del Rio, Texas. *Danté Fenolio.*





AUSTIN, Texas — An extremely rare eyeless catfish species previously known to exist only in Mexico has been discovered in Texas.

CONSERVATION STATUS ASSESSMENTS

- Determining the extinction risk of species
- Assigning conservation ranks
 - informing listing statuses and policy decisions
 - determining conservation and funding priorities
 - direct conservation action

RANK CALCULATOR

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Conservation Rank Calculator

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Overview

The Conservation Rank Calculator is a tool that automates the process of assigning a conservation status rank—an evaluation of the level of risk of extinction of species and elimination of ecosystems. It is used extensively by NatureServe and its member programs and collaborators that collect and evaluate data for species and ecosystems of concern using a common methodology. The Rank Calculator tool facilitates the accurate application of this methodology and promotes greater accuracy and consistency of the assessments. It is programmed in Microsoft Excel.



[Download version 3.186](#)

Updated March 20, 2015. See "Version History" for the details of our latest updates.

- [Download Conservation Status Factors](#)
- [Download Conservation Status Methodology](#)

Learn More
Related Publications


- [NatureServe Conservation Status Assessments: Factors for Evaluating Species and Ecosystem Risk](#)
- [NatureServe Conservation Status Assessments: Methodology for Assigning Ranks](#)

Purpose

- [Data Collection & Recording](#)
- [Data Management & Quality Assurance](#)
- [Information Access & Interoperability](#)
- [Scientific Standards & Methods](#)

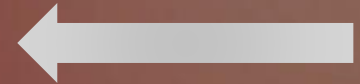
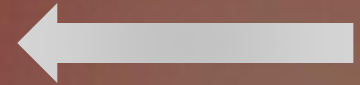
Conservation Topic

- [Imperiled Species](#)
- [Threatened Ecosystems](#)
- [Conservation Status](#)

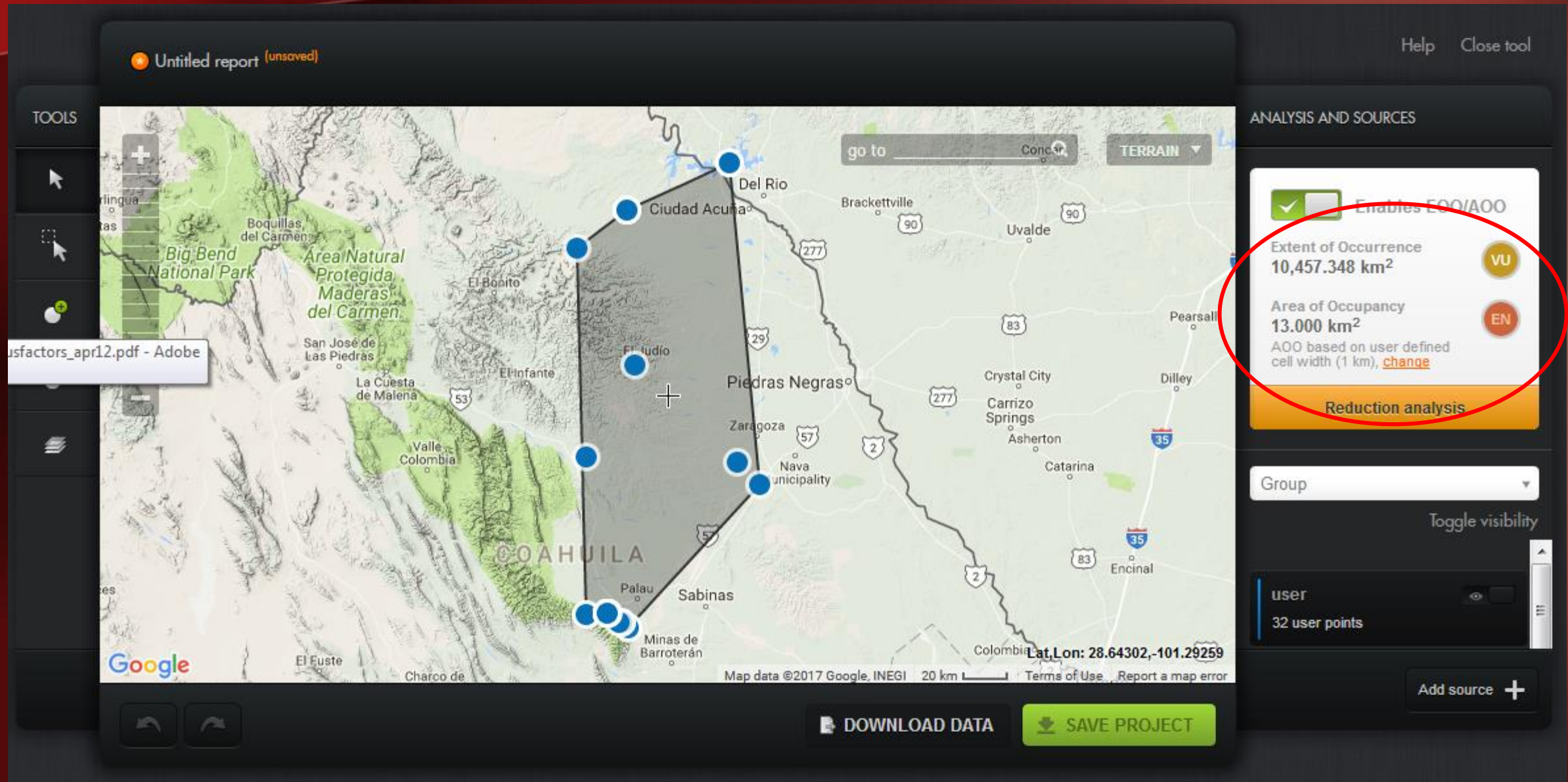
Contact 
Margaret Ormes
NatureServe

RANKING CRITERIA

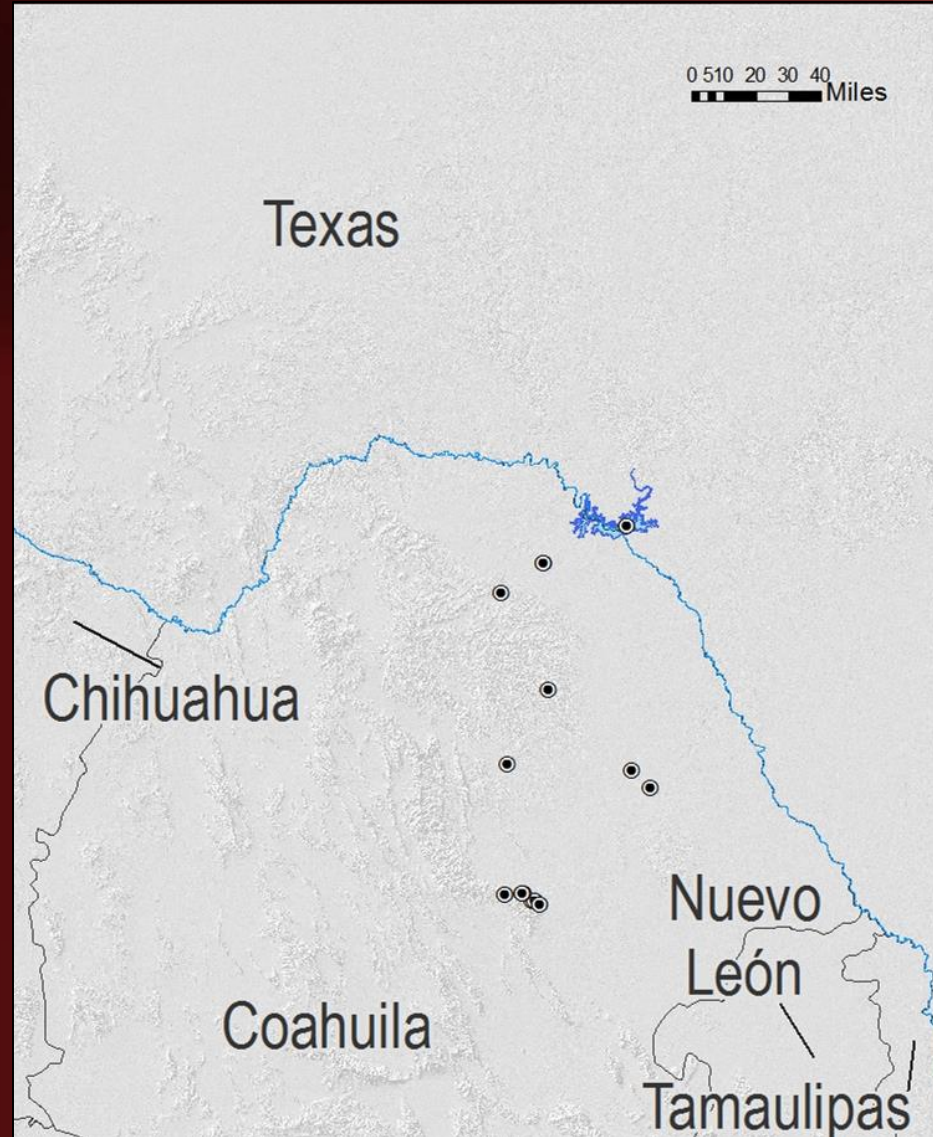
- Rarity
 - range/distribution
 - range extent, area of occupancy
 - abundance/condition
 - number of occurrences, population size, viability of occurrences
- Threats
 - scope, severity
- Trends
 - short-term, long-term



FACTORS: RANGE EXTENT and AREA OF OCCUPANCY



NUMBER OF OCCURRENCES

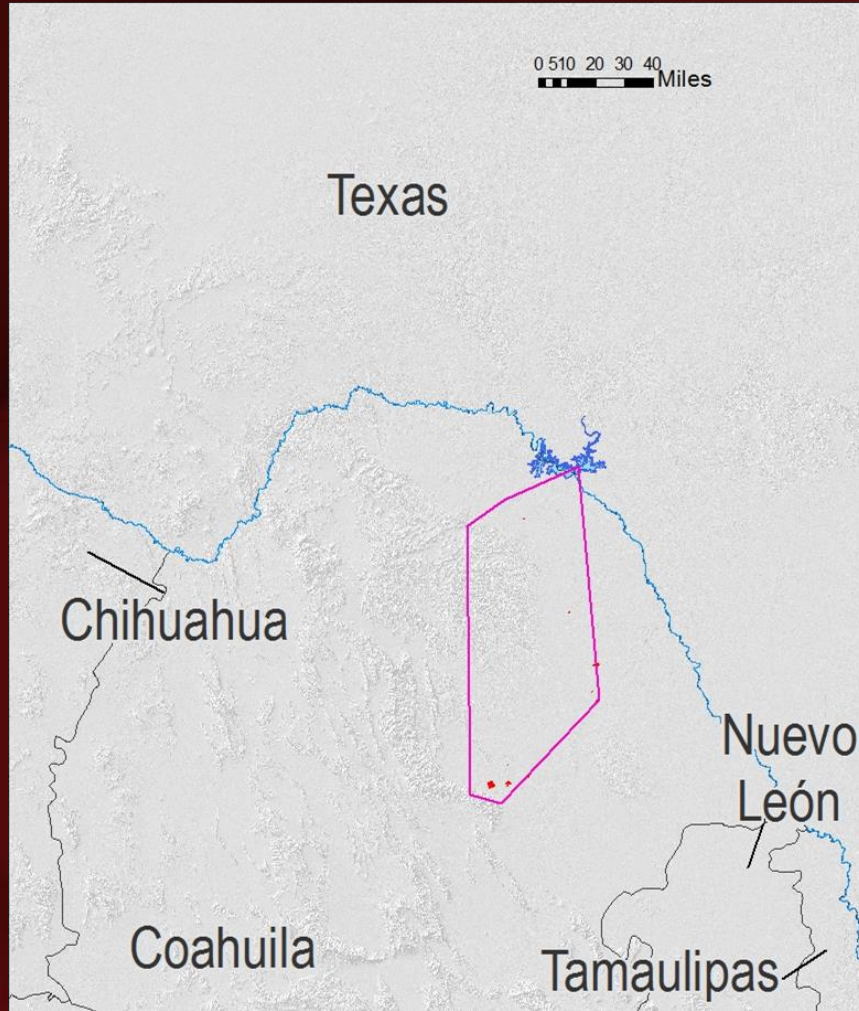


1-14 occurrences

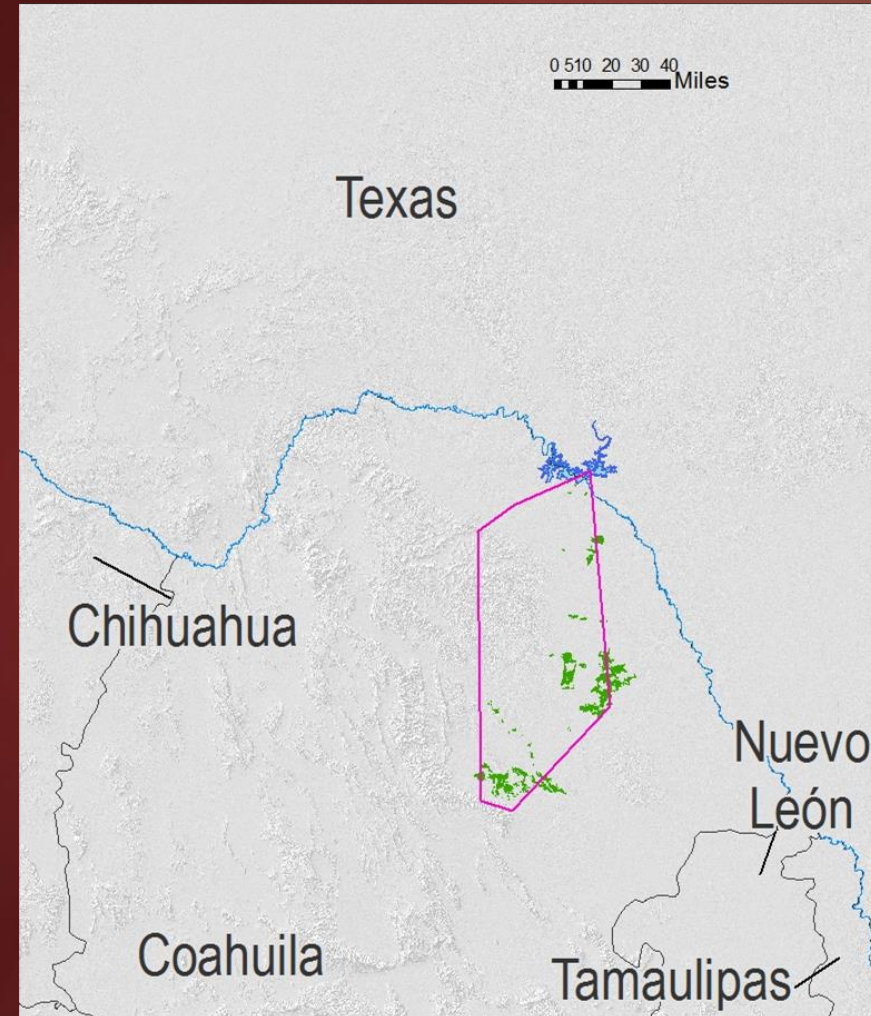
THREATS

Scope	“proportion of the species or ecosystem that can reasonably be expected to be affected...by the threat within 10- 20 years with continuation of current circumstances and trends”	Pervasive	71–100%
		Large	31–70%
		Restricted	11–30%
		Small	1–10%
Severity	“level of damage to the species or ecosystem from the threat that can reasonably be expected with continuation of current circumstances and trends”	Extreme	71–100%
		Serious	31–70%
		Moderate	11–30%
		Slight	1–10%
Timing		Continuing	
		Short-term	
		Long-term	

THREATS: URBANIZATION and AGRICULTURE

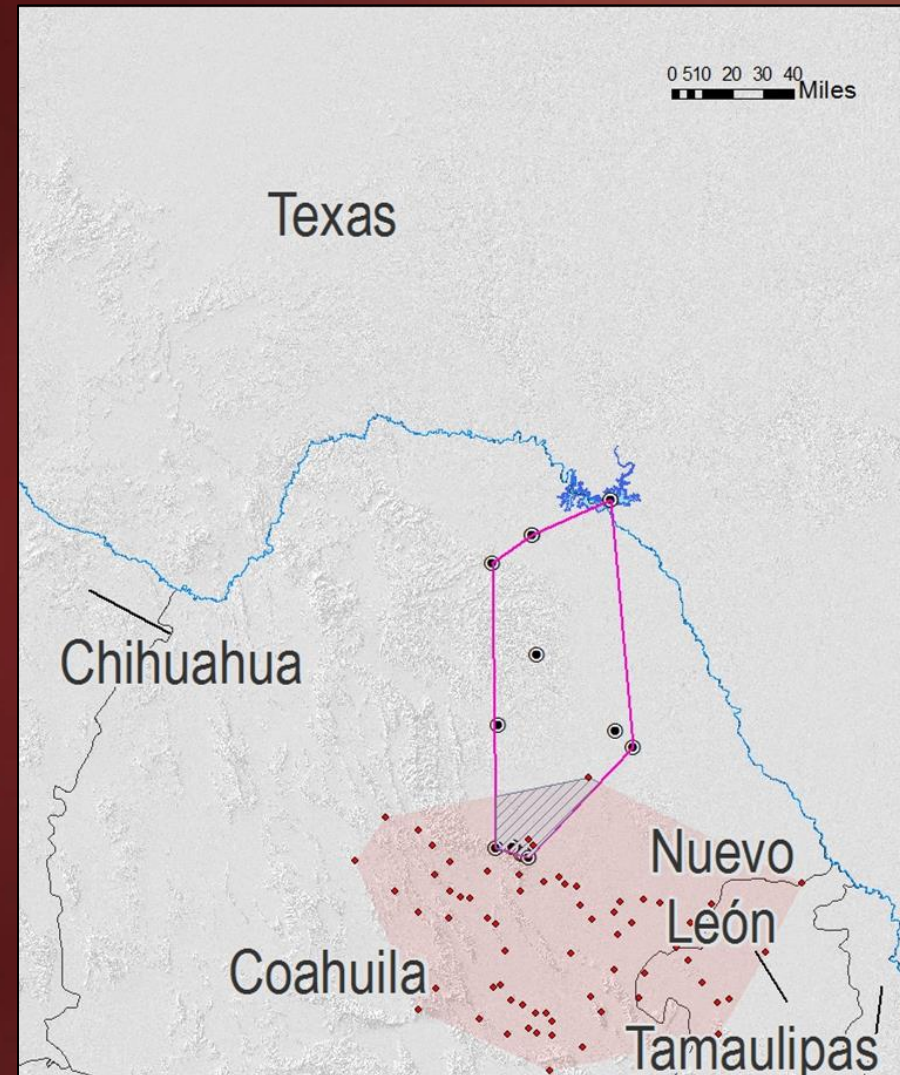
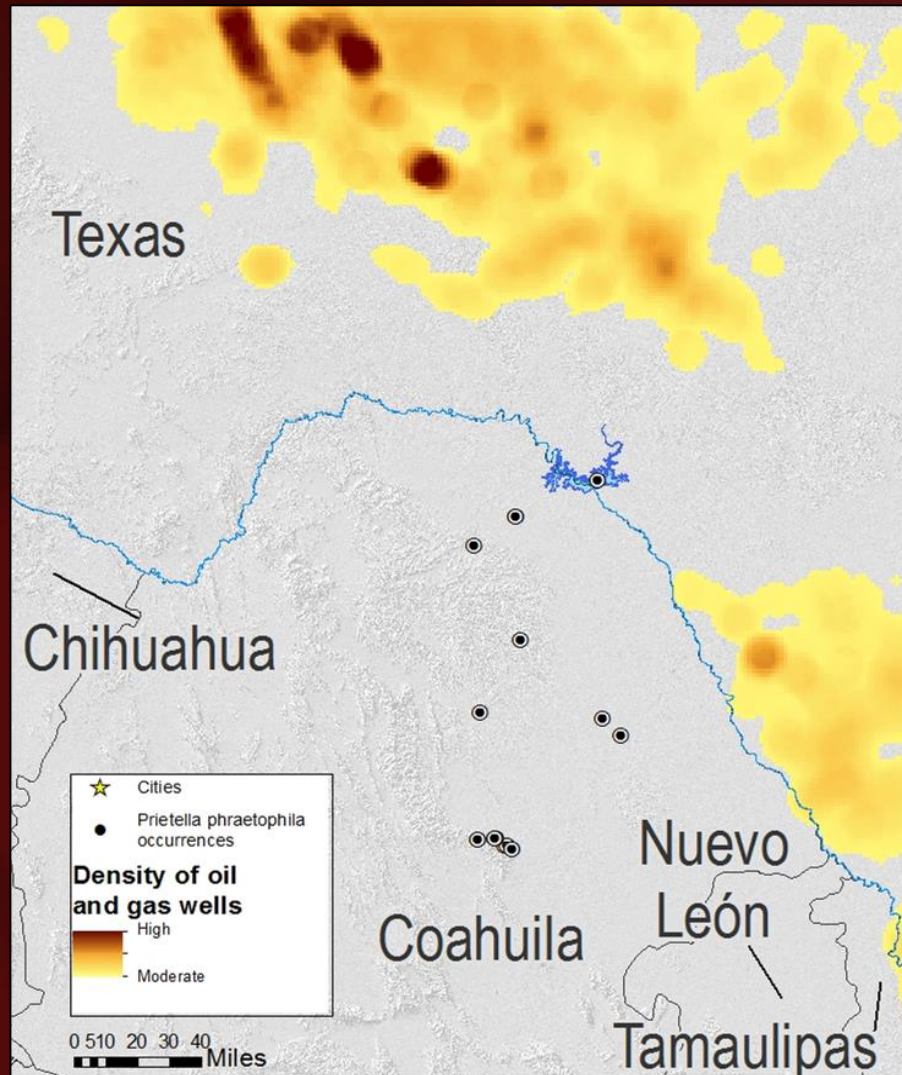


Data from TPWD Texas Ecological Mapping Systems (US); INEGI (Mex)



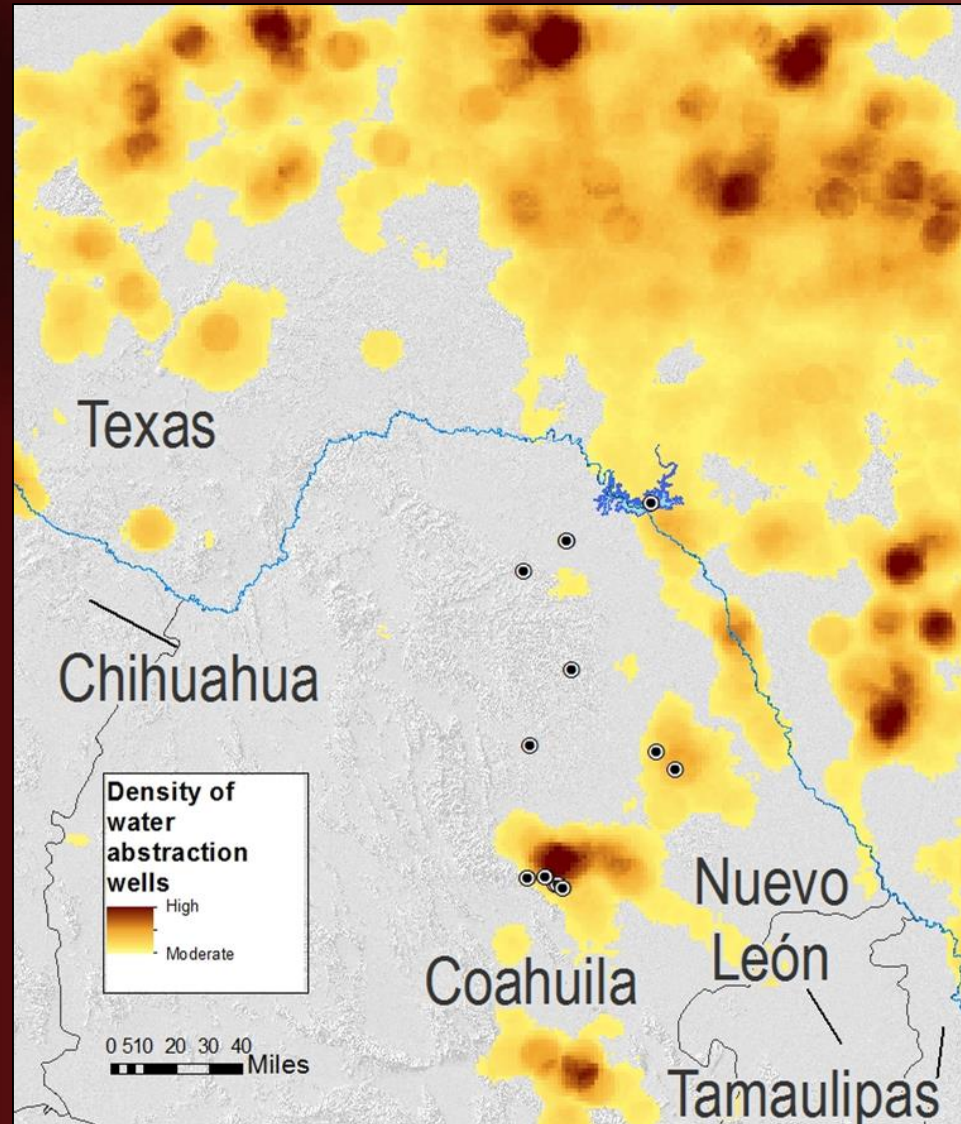
Data from TPWD Texas Ecological Mapping Systems (US); INEGI (Mex)

THREATS: OIL AND GAS



Data from the Texas Railroad Commission (US);
Antuñano 2001 (Mex)

THREATS: WATER ABSTRACTION



Data from the Texas Water Development Board (US);
Antonio Hernández-Espriú (pers. comm.) (Mex)

RESULTS: THREATS ASSESSMENT

Threat (primary)	Threat (secondary)	Score	Scope	Severity	Timing
3 Energy production & mining	Oil and gas drilling (direct effects)	D – Low	Restricted (11-30%)	Slight (1-10% pop decline)	High
7 Natural systems modification	Dams and water management/ use	B – High	Pervasive (71-100%)	Serious (31-70% pop decline)	High
9 Pollution	Domestic and urban wastewater; Agricultural and forestry effluents	D – Low	Small (1-10%)	Slight (1-10% pop decline)	High
11 Climate change & severe weather	(not parsed)	C – Medium	Pervasive (71-100%)	Moderate (11-30% pop decline)	Moderate-Low

FACTOR SUMMARY

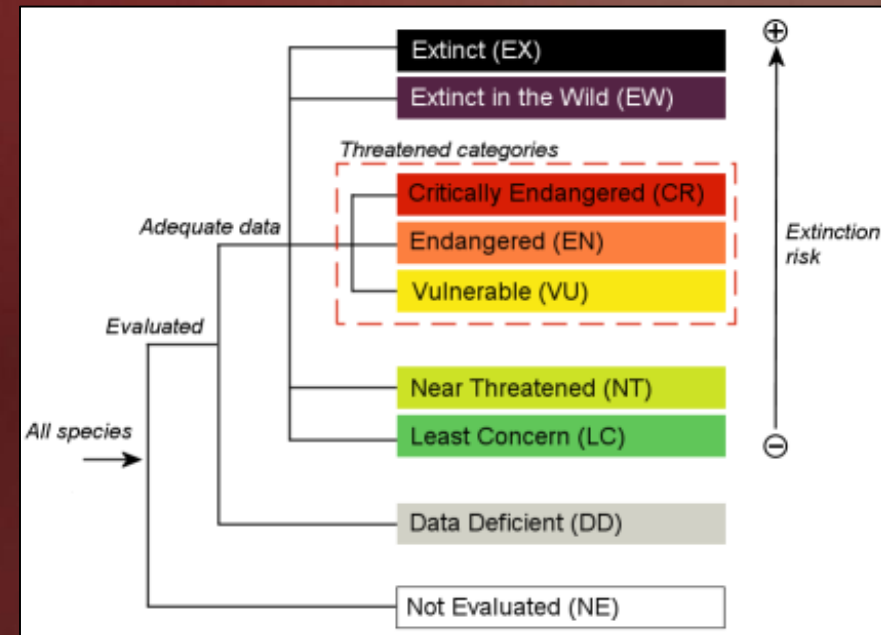
Factor Group	Factor	Value	Score
Rarity 1: Range/ Distribution	Range extent	10,457 km ²	E = 5,000-20,000 km ²
	Area of occupancy	12 km ²	C = 11-20 1-km ² grid cells
Rarity 2: Abundance/ Condition	Number of occurrences	1-14	AB* = 1-20 occurrences
	Population size	unknown	-
	Good Viability	unknown	-
Threats	Assigned overall threat impact	(see threats table)	B = High
Trends	Short-term trend	unknown	-
	Long-term trend	unknown	-

CONSERVATION RANK

- **G2 – Imperiled – At high risk of extinction or elimination** due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors

Calculated Status Rank	Status Description
G1 (N1, S1)	Critically imperiled
G2 (N2, S2)	Imperiled
G3 (N3, S3)	Vulnerable
G4 (N4, S4)	Apparently secure
G5 (N5, S5)	Secure

- Relates to an IUCN Red List status of VU - **Vulnerable** – **Facing a high risk of extinction** due to at least one of five criteria defined in the IUCN Red List Categories and Criteria v3.1



DISCUSSION



- Conservation status of *Prietella phreatophila*
 - Based on this analysis, *P. phreatophila* is in danger of extinction and in need of conservation action.
 - The conservation rank was driven mostly by the small Area of Occupancy, few Number of Occurrences, and high Threat Impact.
 - The major threats facing *P. phreatophila* were water abstraction and climate change. The direct effects of oil and gas exploration and extraction were a lesser threat currently, but could become more important as exploration and extraction in the Burgos Basin increases.
 - However, this was a preliminary assessment, and more data are needed to further refine and improve this conservation assessment.

QUESTIONS?

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GeoCat Tool: geocat.kew.org

Rank Calculator: <http://www.natureserve.org/download-rank-calculator>