



Regional awareness of historical and ecological impacts of invasive species

A Case for Highlighting Government Resources for Local History Research

ABSTRACT

Historically the lower Rio Grande Valley of Texas has relied on agriculture for economic development as well as travel and tourism given its proximity to Mexico. UTRGV University Library Special Collections & Archives compiles research guides to facilitate access and discovery of relevant information and resources among our collections. Our Invasive Plant & Insect Species Research Guide is also intended to raise regional awareness of the historical impacts of invasive species on the local environment and agriculture, including the transformation of ecological landscapes, endangerment of native species, economic harms, and threats to human safety and border security.

Special Collections & University Archives: Invasive Plant & Insect Species

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Invasive Plant & Insect Species Research Guide

Summary

This research guide gives information on invasive species and their impact on the local environment and agriculture. The purpose of this research guide is to offer students access to primary and secondary source materials found within the University of Texas Rio Grande Valley library as well as external resources.

Background

Invasers entered Estero Llano Grande State Park in 2016. Staff of the park noticed the absence of local insects and reptiles. And something was blinding the baby rabbits. While the invasion was large, the invaders themselves were no bigger than 2.4 mm long.

Known as the tawny crazy ant, these small creatures are just one of the many invasive species that consider the Rio Grande Valley home. According to House Bill 865, the 81st Texas Legislature defined invasive species as any "species that is not native to an ecosystem and whose introduction to the ecosystem causes or has caused economic harm, environmental harm, or harm to human health."

Resources from Our Catalog

Calculating evapotranspiration of Arundo donax along the Rio Grande [Thesis] by Escamilla, Jose R. **i**
 Publication Date: 2016

Ecological and socio-economic impacts of invasive water hyacinth (Eichhornia crassipes): a review [Article] by Villamagna, A.M.; Murphy, B. R. **i**
 Publication Date: 2010

Effects of Patch Size, Fragmentation, and Invasive Species on Plant and Lepidoptera Communities in Southern Texas [Article] by Stilley, James A.; Gabler, Christopher A. **i**
 Publication Date: 2021

Encyclopedia of Entomology by John L. Capinera (Editor) **i**
 ISBN: 9781402062421
 Publication Date: 2008-08-11

Encyclopedia of Invasive Species [2 Volumes] by Susan L. Woodward; Joyce A. Quinn

LRGV's Infamous Invasive Species

Water Hyacinth (Pontederia crassipes) Tawny Crazy Ant (Nylanderia fulva)

Hydrilla (Hydrilla verticillata) Screwworm (Cochliomyia hominivorax)

Carrizo Cane (Arundo donax) Africanized Killer Bees

Carrizo Cane (Arundo Donax)

Arundo Donax is known by many names: Giant reed, Spanish reed, Spanish cane, giant cane, wild cane. In the Rio Grande simply, carrizo. While it is thought to be an indigenous plant from the Mediterranean when it was brought in purpose in the United States is to assist in soil erosion control, thatching, making musical instruments, and walking sticks, throughout warm coastal freshwater, reaching as far as Commons).

Growing along the Rio Grande River, carrizo cane not only

Government Information & Resources

FDLP FDLP Resource Guides: Invasive Species
 Invasive species are "alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health," per Executive Order 13112. Click on each tab in this box to learn more about invasive species from the NOAA, National Park Service, USDA, U.S. Department of the Interior, USFWS, and USGS.

USGS U.S. Geological Survey
 We provide science about the natural hazards that threaten lives and livelihoods, the water, energy, minerals, and other natural resources we rely on, the health of our ecosystems and environment, and the impacts of climate and land-use change. Our scientists develop new methods and tools to enable timely, relevant, and useful information about the Earth and its processes.

USDA National Agricultural Library
 The National Agricultural Library (NAL) facilitates the creation of agricultural knowledge through the acquisition, curation, and dissemination of the information needed to solve agricultural challenges today and in the future.

USDA/APHIS Agricultural Quarantine and Inspection (AQI) Program
 The Agricultural Quarantine and Inspection (AQI) program is a system of activities that play a critical role in facilitating the safe trade of agricultural commodities while protecting United States agriculture and the environment from invasive plant and animal pests and diseases. To implement this program, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) and the U.S. Department of Homeland Security's Customs and Border Protection (CBP) work together at the Nation's 328 land, air, and sea ports of entry. They carry out all AQI program activities to intercept and keep out foreign agricultural pests and diseases that could affect U.S. agriculture, trade, and the environment. The scope and scale of this work is vast.

US Fish & Wildlife Service Injurious Wildlife Listings - Keeping Risky Wildlife Species Out of the United States
 Preventing the introduction of new harmful species is the only way to fully avoid impacts of injurious species on local, regional, and national economies and infrastructure, and on the natural resources of the United States.

Access the Invasive Plants & Insects Research Guide via <https://utrgv.libguides.com/SCAI/invasive>

UTRGV PRIMARY & SECONDARY SOURCES

- Eligio "Kika" de la Garza Congressional Papers
- Rubén Hinojosa Congressional Papers
- Howard T. Dulmage Collection on USDA insect pathology research

GOVERNMENT INFORMATION & DATA

- USDA National Agricultural Library
- FDLP Invasive Species Resource Guides
- USDA/APHIS | Agricultural Quarantine and Inspection (AQI) Program
- National Park Service: Invasive Species

ADDITIONAL GOVERNMENT RESOURCES

- USDA NAL "STOP Screwworms: Selection from the Screwworm Eradication Collection"
- Library of Congress blog, "The Life and Times of Boll Weevil," by Stephanie Hall.
- National Invasive Species Information Center: Africanized Honeybees

RESEARCH GUIDES

Why incorporate government resources into historical research guides? By including government documents in these guides, students have access to primary sources and reliable historical data to contextualize their research and understand trends.

EXPECTED OUTCOMES

How will government resources help students and what will they learn? Government information expands students' understanding of legislative and policy changes by providing them with authoritative, open access data that tracks trends impacting regional agriculture, the economy, ecology, and social concerns. The resources also provide insight for communities and citizens potentially impacted by invasive species.

FUTURE OPPORTUNITIES

- Expand current invasive species research guide to include mammalian and aquatic species.
- Solicit feedback from interdisciplinary faculty and researchers on other government resources for inclusion.
- Poll students on whether the research guides expanded their awareness of invasive species.