

GEOGRAPHY ASSISTS PLANT PROTECTION

Geographic information systems (GIS) have become an essential tool in the Florida Department of Agriculture & Consumer Services Division of Plant Industry's (DPI) efforts to protect Florida agriculture from harmful pests and diseases. For example, every time DPI conducts a targeting survey, maps are required. However, using a map is only one way to work with geographic data and only one type of product generated by a GIS. The problem-solving capabilities of a GIS are far more advanced than that of a simple mapping program.

GIS uses hardware, software and data for capturing, managing, analyzing and displaying geographic information. GIS reveals relationships, patterns and trends through the creation of maps, globes, reports and charts. By combining these features, GIS helps users answer questions and solve problems through data displayed in a way that is easily shared and understood.

GIS WORKFLOW



Collect Data

- field inspections
- plant and insect samples
- property locations
- trapping grids

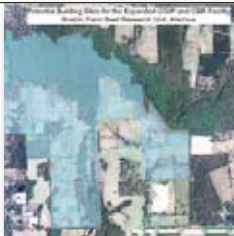
Enter Information into Databases

- plant pathology
- entomology
- botany
- apiary
- plant inspection
- nematology



Information Integrated into GIS Products

- maps
- globes
- reports
- charts



DATA AVAILABLE

Data available to, or created by, the Division of Plant Industry that assists in GIS product development includes, but is not limited to:

Transportation

US and state highways, Interstates and toll roads, major and local roads, bus and ferry terminals, seaports, railways and airports

Imagery

Meter resolution, color hillshade relief, lansat images and digital elevation model

Basemap

National hydrography dataset: rivers, streams, lakes, canals, wetlands, major cities, cities and towns, state and national parks, county boundaries, retail centers, DOR parcels, zip code boundaries and public land survey system (PLSS) grid

Sensitive Properties

Hospitals, schools, prisons, churches, chemically sensitive persons and healthcare facilities

Division of Plant Industry

DPI office locations, commercial citrus production areas, fruit fly PLSS grid, Caribfly-designated areas, positive pest and disease sections, historical citrus canker quarantine areas, nursery and stock dealer locations, and biocontrol release sites

DELIVERING GIS DATA TO USERS

Working with a variety of programs, Division GIS staff must be flexible and sometimes inventive to make sure that data is accessible to all programs in nearly any situation. Methods used to distribute GIS data include:

Emergency Program GIS
Intranet Mapping Services
ArcExplorer Globes
GIS Map Library

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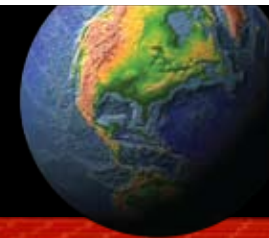
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GEOGRAPHIC INFORMATION SYSTEMS . . .

Helping Protect Florida Agriculture



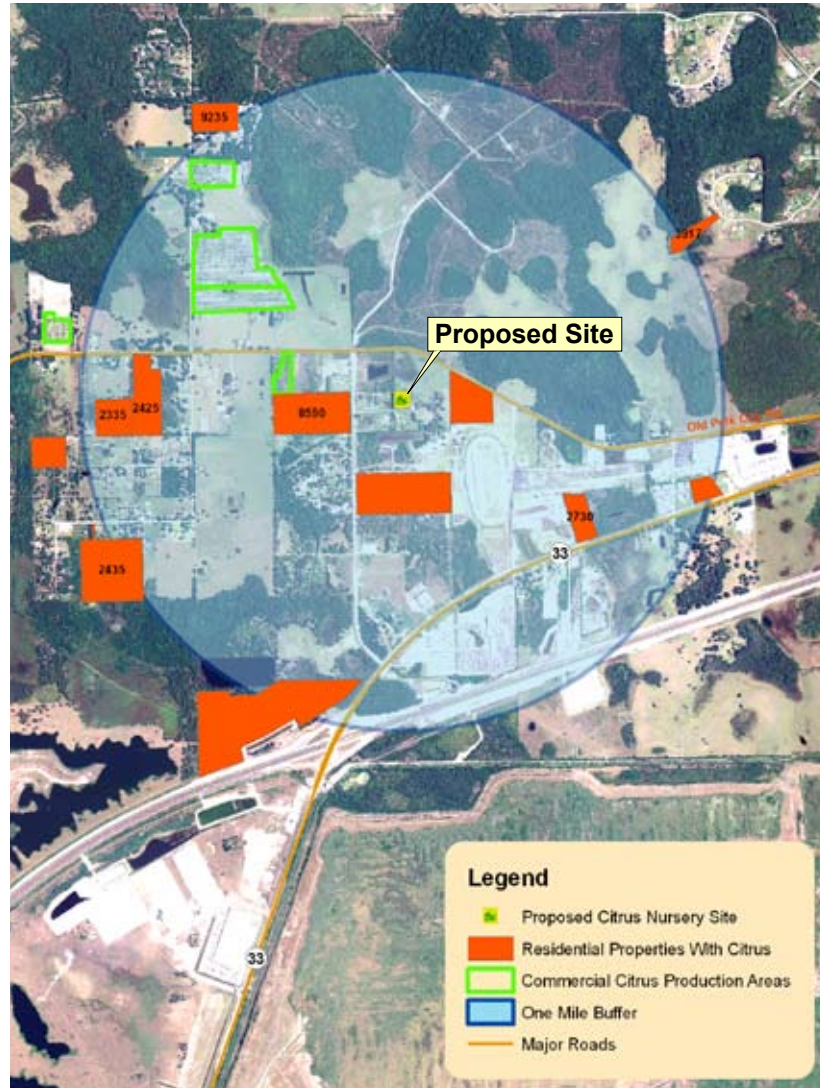
Division of
PLANT INDUSTRY
Protection through Detection
Florida Department of Agriculture & Consumer Services

Charles H. Bronson, Commissioner
Richard Gaskalla, Director

DIVISION OF PLANT INDUSTRY GIS EXAMPLES

Query: Proposed Citrus Nursery Site

How many commercial citrus blocks and residential properties with citrus are located within one mile of the proposed site?

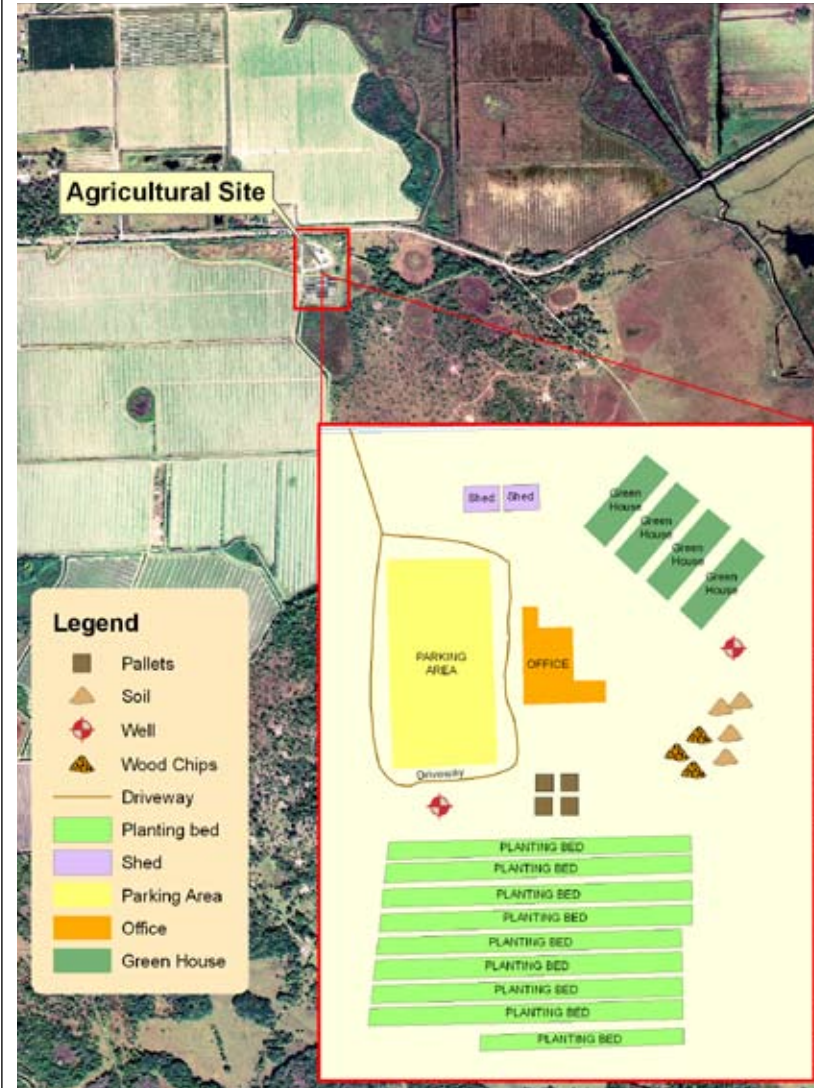


GIS Solution:

Map incorporates aerial view surrounding proposed citrus nursery site. Another layer pinpoints location of proposed site with one-mile radius highlighted. Commercial citrus blocks are outlined in green and residential parcels are noted in orange.

Query: DPI Plant Inspector

Can you prepare an agricultural site survey for a DPI team that will be inspecting a nursery?



GIS Solution:

Map provides aerial view of survey site for the XYZ nursery. Additional layer provides an inset with the site plan of the nursery to assist inspection team.

Query: Homeowner Call to DPI Helpline

What is the distance from my home to known pink hibiscus mealybug infestations and the releases of beneficial biocontrol insects? Also, are there any Africanized honey bee traps near my home? And, are there infestations nearby of the recently discovered fig whitefly?



GIS Solution:

Helpline operator is able to access DPI's online GIS mapping system which calculates the distance from the homeowner's address to PHM infestations, biocontrol releases, AHB traps and fig whitefly infestations.