

# THE GIANT AFRICAN LAND SNAIL PROGRAMS IN FLORIDA

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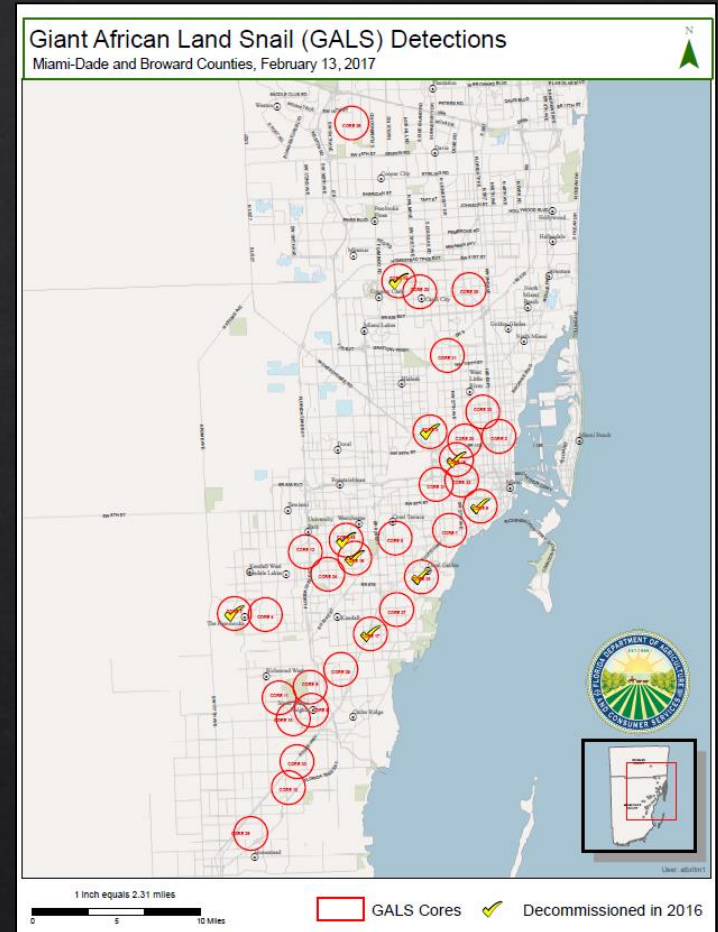
# History in Florida, Miami 1966-1973

- ◆ 1966 Florida 3 GALS specimens were discovered in a residential neighborhood in NW Miami
  - ◆ They were released by the grandmother of a young child who brought them from Hawaii as pets
- ◆ The eradication effort spanned the length of **7 years at a cost of \$1 million dollars (1960's)**
- ◆ This program included use of arsenic-based metaldehyde products, now banned by the EPA.
- ◆ More than 18,000 GALS were collected



# History in Florida: Miami - 2011-2021

- ◇ September 9, 2011, GALS found in Miami
- ◇ Found widely in Miami-Dade County; one area in Broward Co
- ◇ **10 years, 24 million dollars** to eradicate, September 2021
  - ◇ Hand-collected 168,577 GALS
  - ◇ Completed 102,587 treatments
  - ◇ 4.2 million pounds of debris collected



# History in Florida:

## Miami - 2011-2021

### Final Statistics

<b>Positive Properties</b>	719
<b>Core Surveys</b>	240,595
<b>Non-Core Visual Surveys</b>	56,846
<b>Controls</b>	102,085
<b>Total Snails</b>	168,538
<b>Debris Removed</b>	4.2 million pounds
<b>Number of Employees Assigned to Program</b>	92
<b>Total Hours of Labor</b>	~752,960
<b>Total Size of GALS Quarantine Zones</b>	27,368.13 acres
<b>Total Area of Non-Core Visual Surveys Completed</b>	14,554.57 acres
<b>Total Canine Surveys</b>	5,400

# GALS History in Florida: Pasco County 2022-Current

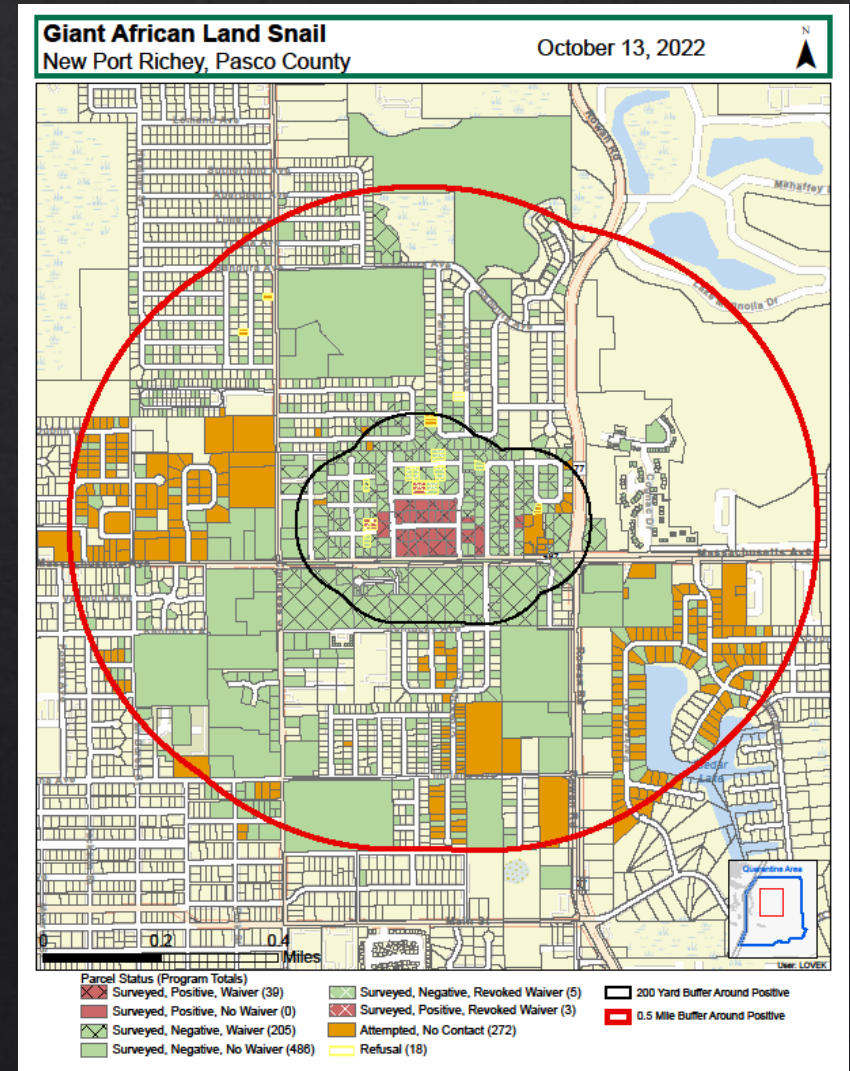


- ◇ Tuesday, June 21, 2022, snails sent by master gardener for ID to the University of Florida (UF) in Gainesville
- ◇ UF researcher sent to Division of Plant Industry (DPI) scientist for ID; confirmed as GALS
- ◇ Thursday, June 23, DPI inspector went to ground zero location, collected a sample of 39 GALS and sent them to the DPI lab



# GALS in Pasco County June 2022

- ◇ Current status
  - ◇ 1,890 surveys
  - ◇ 43 positive parcels
  - ◇ GALS collected alive 2,355
  - ◇ GALS collected dead 4,339
  - ◇ K9 surveys 229
  - ◇ Total treatments 1,134





1966-1973 Dark brown flesh brought into Florida from Hawaii



2011-2021 Greyish brown flesh



2022 Creamy white flesh

## Phenotype differences through the years



Florida Department of Agriculture and Consumer Services • Division of Plant Industry

# Program keys to success

OUTREACH

SURVEY AND CONTROL

DATA COLLECTION

DECOMMISSION



# Eradication Program Structure

- ◆ **Command Staff**
- ◆ **Inspectors/Surveyors**
- ◆ **Control Team**
- ◆ **Scientists**
- ◆ **Agriculture Law Enforcement Officers**
- ◆ **Public Information Officer/Liaison**



# GALS Outreach

- ◇ Strong communication tactics give the public understanding and the conviction to act.
- ◇ Throughout any program, continual outreach is the key to making sure all snail sightings are reported.
- ◇ Outreach campaigns are implemented through advertisements in digital and print media.
  - ◇ Billboards
  - ◇ Radio and TV spots
  - ◇ Mall banners
  - ◇ Bus benches,
  - ◇ Newspaper articles
  - ◇ Movie theaters ads.



# GALS Outreach

- ❖ Program vehicles were wrapped with GALS messaging to simultaneously assist with safety and outreach.
- ❖ In addition to paid advertising campaigns, DPI utilized the distribution of printed materials and promotional items to reach millions of people.



**GIANT AFRICAN LAND SNAIL  
ERADICATION  
PROGRAM**

**CAUTION**

**RISKS:**

- MAJOR AGRICULTURAL PEST
- EATS OVER 500 DIFFERENT KINDS OF PLANTS
- FEEDS ON STUCCO HOMES AS A SOURCE OF CALCIUM
- MAY CARRY RAT LUNGWORM, A PARASITE THAT CAUSES MENINGITIS IN HUMANS AND ANIMALS

**PEST INFO:**

- GROW UP TO EIGHT INCHES LONG
- NO NATURAL ENEMIES IN THE U.S.
- REPRODUCE RAPIDLY - ONE SNAIL CAN LAY OVER 2,500 EGGS IN ONE YEAR

**DO NOT HANDLE SNAILS WITH  
SERIOUS HEALTH RISKS**

**ILLEGAL TO POSSESS OR  
INTRODUCE INTO THE U.S. WITHOUT  
PERMITS**

**LOCATE | COMMUNICATE | ERADICATE**      **1-888-397-1517**

# Program Methodology

- ◆ Regular teams
  - ◆ Survey team
  - ◆ Control/treat team
- ◆ Specialized teams
  - ◆ Night team
  - ◆ Debris team
  - ◆ Detector dog team



# Survey

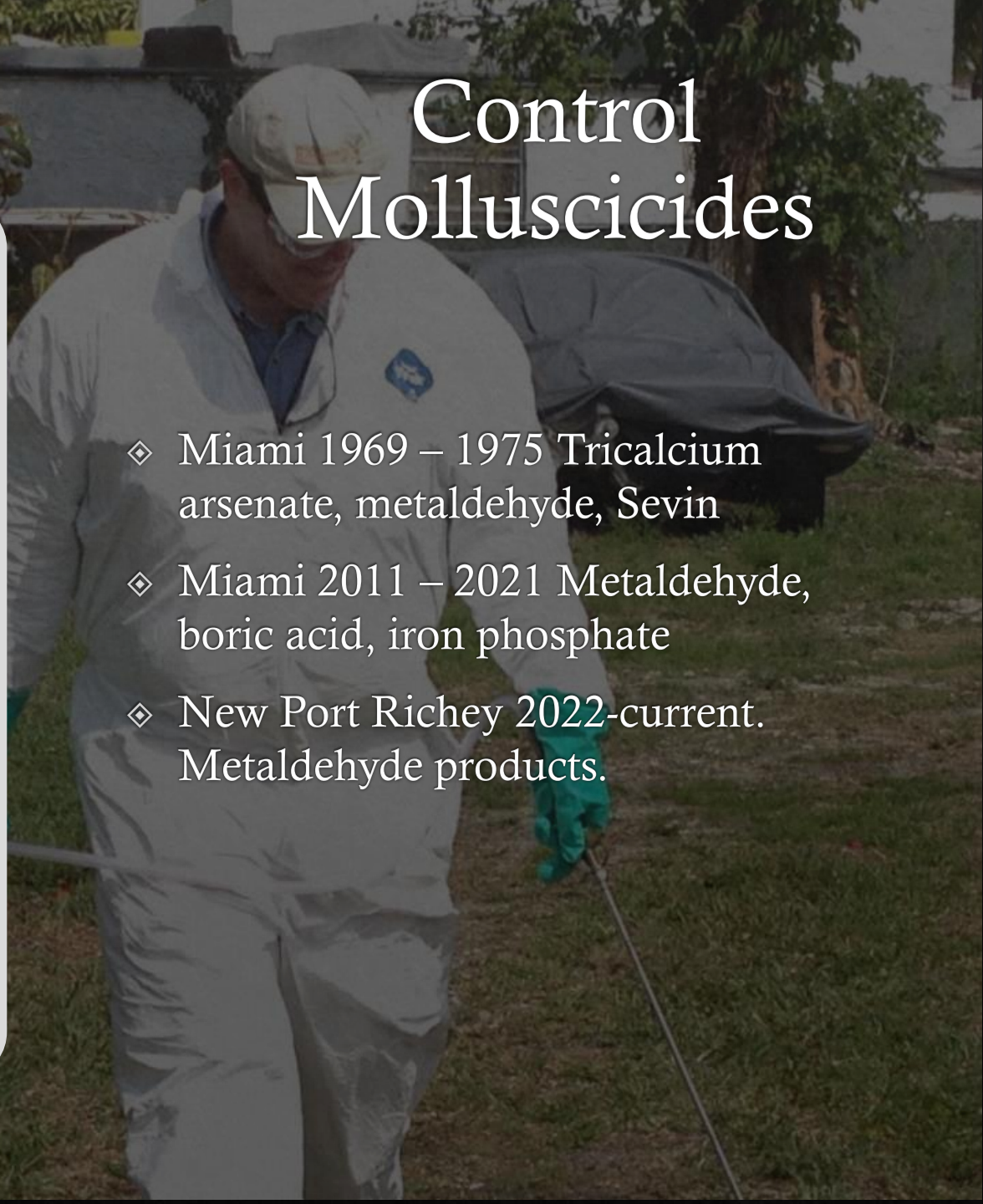
- ◆ Survey crews may use a number of garden tools to disturb the soil as well as remove debris that may harbor GALS.
- ◆ Any positive properties must then be cleared of all debris.
- ◆ Debris collected at a property is double-bagged and disposed of in an approved landfill site.



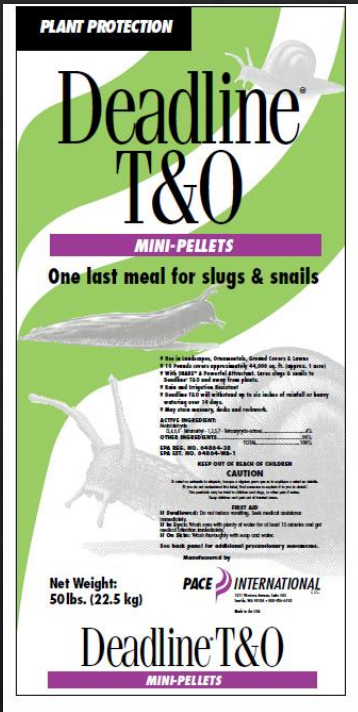
# Control Molluscicides



- ◆ Miami 1969 – 1975 Tricalcium arsenate, metaldehyde, Sevin
- ◆ Miami 2011 – 2021 Metaldehyde, boric acid, iron phosphate
- ◆ New Port Richey 2022-current. Metaldehyde products.



# Current Products for Treatment



Pellets 4% Metaldehyde

**SUBLABEL A – Agricultural Label** Rev 11/15/2016

**OR-CAL Slug & Snail Bait**

Controlled Release Pellet to Control Slugs and Snails  
Around Listed Vegetables, Citrus, and Ornamentals

Controls Giant African Land Snail

Active Ingredient:		
Metaldehyde .....	3.25%	EPA Reg. No. 71096-7
Other Ingredients: .....	96.75%	EPA Est. No. 66876-OR-001
Total .....	100.00%	

Pellets 3.25% Metaldehyde

**DURHAM®**

**METALDEHYDE GRANULES 7.5**

A SOIL SURFACE TREATMENT FOR CONTROL OF SNAILS AND SLUGS AROUND:  
ORNAMENTALS, LISTED SMALL FRUITS & BERRIES, CITRUS, LISTED VEGETABLE  
CROPS, AND GRASS GROWN FOR SEED.

ACTIVE INGREDIENT:		
Metaldehyde (2,4,6,8-tetramethyl-1,3,5,7-tetraoxacyclo-octane) .....	7.5%	
INERT INGREDIENTS: .....	92.5%	
TOTAL: .....	100.0%	

Granules 7.5% Metaldehyde

**ORCAL®**  
**SLUG-FEST**  
ALL WEATHER FORMULA

Lasts longer under wet conditions

EPA Reg. No. 71096-4  
EPA Est. No. 52251-OR-005

KEEP OUT OF REACH OF CHILDREN  
**CAUTION PRECAUCION**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

SEE ADDITIONAL PRECAUTIONARY STATEMENTS INSIDE BOOKLET.

**NET CONTENTS**  
☐ 1 Gallon    ☐ 2.5 Gallons

OR-CAL, INC.  
29454 MEADOWVIEW RD.  
JUNCTION CITY, OR. 97448  
(541) 689-4413

**ACTIVE INGREDIENT:**  
Metaldehyde (2,4,6,8-tetramethyl-1,3,5,7-tetraoxacyclo-octane) ..... 25%  
OTHER INGREDIENTS ..... 75%  
TOTAL ..... 100%

Contains 2.1 pounds  
Metaldehyde per gallon

ALL APPLICABLE DIRECTIONS, RESTRICTIONS AND PRECAUTIONS ON THE LABEL ARE TO BE FOLLOWED. SEE DIRECTIONS FOR USE IN BOOKLET.

**SHAKE WELL**  
5-10 / 9-11-12

Liquid 25% Metaldehyde

# Regulatory oversight

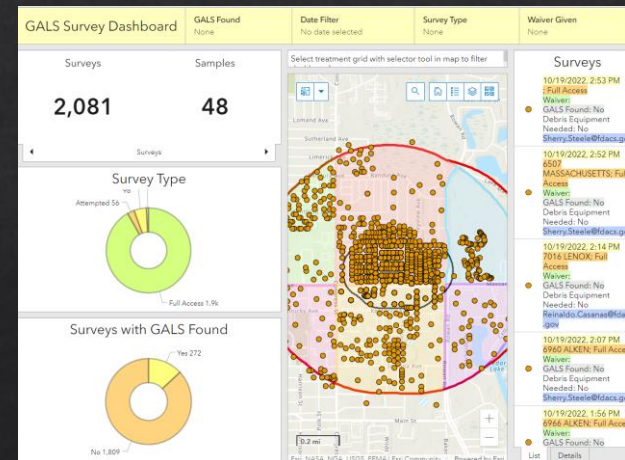
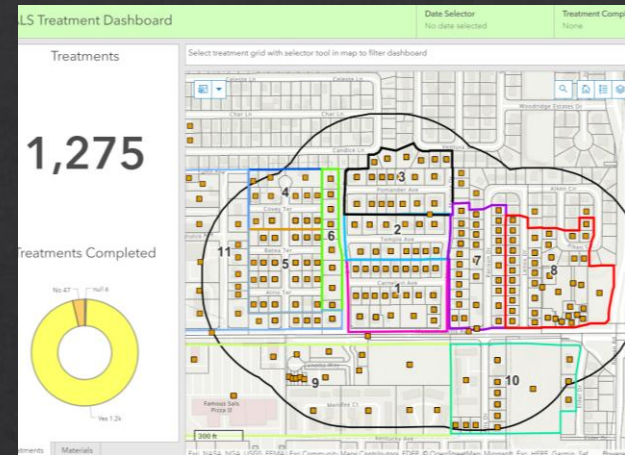
- ◆ Landscapers moving in and out of the quarantine area must sign a compliance agreement with DPI
- ◆ Plant inspectors also ensure compliance agreements with nurseries and stock dealers to inspect for GALS and to ensure no contaminated quarantine plant material gets into their nursery





# Data Collection

- ❖ Data tracking is a crucial part of the program's success.
- ❖ DPI's inspectors went from paper tracking to real-time GPS data entry and viewing on tablets.
- ❖ Current data collection is an ESRI, Arcgis platform that uses real-time data collection in the field using various apps in addition to dashboards for managing data.



# Challenges

## No Access Properties

- ◆ Locked and gated
- ◆ Refusals
- ◆ Chemically Sensitive
- ◆ Excessive debris
- ◆ In some cases, warrants and law enforcement assistance is required.

		IN THE CIRCUIT COURT OF THE 11 <sup>TH</sup> JUDICIAL CIRCUIT IN AND FOR MIAMI-DADE COUNTY, FLORIDA
In re: Application of Florida Department Of Agriculture and Consumer Services For Agriculture Warrant	) ) )	<b>AGRICULTURE WARRANT</b>

Location: 2332 SW 19th Terrace, Miami, Florida – Folio # 0141100560620

To: All Persons Authorized to Serve Agriculture Warrants Under Fla. Stat. §933.40

Probable cause for the issuance of this Search Warrant has been shown to this Court by affidavits submitted to this Court by the Florida Department of Agriculture and Consumer Services (the “Department”) as follows: There is a fair probability that Giant African Snails Family *Achatinidae*, exists at the above location. Giant African Land Snails are a plant pest, may not be lawfully possessed in Florida, and pose a serious threat to plants and agriculture in Miami-Dade County.

You are hereby authorized to enter and search the above property (including without limitation the back, front, and side yards, any porch, garbage, soil, concrete, plants, and plant materials, and any gated or fenced areas, and curtilage, but excluding the interior of the home) to confiscate and seize or destroy all Giant African Land Snails, their eggs, and all container for them, and conduct treatments.

You shall serve this Agriculture Warrant between the hours of 7:00 a.m. and 7:00 p.m., but not on a legal holiday, and with the assistance of third parties supervised by employees of the Department, on multiple occasions if necessary. You shall deliver a copy of this Agriculture Warrant to a person 18 years of age or older who is occupying or living on the above property or you shall attach a copy to a conspicuous place on the above property. You shall return this Agriculture Warrant to the official issuing it within 60 days of the date of issuance. This Agriculture Warrant is issued pursuant to Fla. Stat. §933.40.

ORDERED on February \_\_\_\_, 2018

\_\_\_\_\_  
CIRCUIT COURT JUDGE

# Decommission Process

- ◇ For all properties
  - ◇ Seventeen months of surveys and treatments (minimum 26 each)
  - ◇ Nineteen months of survey with no treatments (4 surveys)
  - ◇ Minimum of one detector dog survey
  - ◇ Minimum of one night survey

# The Decommission Process

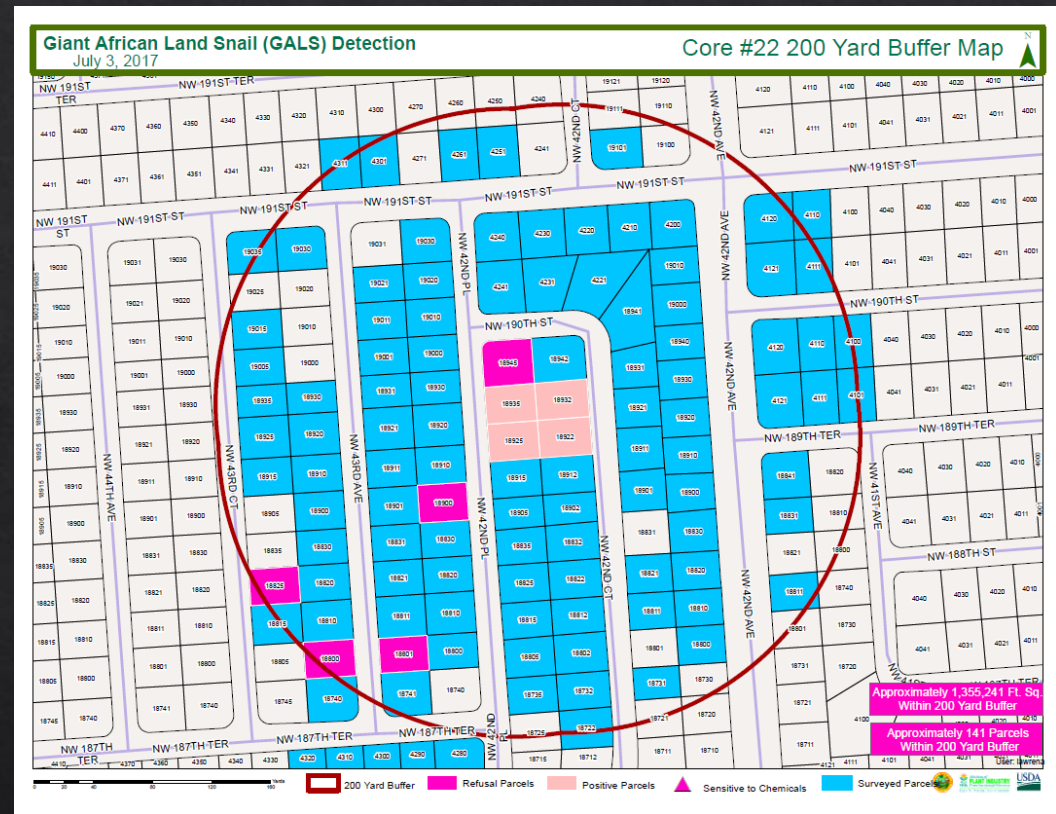
## Color Alert Plan

- The Color Alert Plan was developed and implemented as a risk-based approach to survey & treatments, colors changes are based on last live GALS.
- There are five alert statuses: red, gray, yellow, green and blue. Red, gray, and yellow are treatment status, while green and blue are non-treatment.
- Positive properties are automatically designated as red, negative properties are manually designated as gray
- There are 36 months from last live snail find to decommission eligible.

Color Alert Level	RED	YELLOW	GREEN	BLUE	Night Survey	Detector Dog Survey	Total
	GRAY						
# of Months at this color alert	9	8	7	12			
Survey cycle	14-day	30-day	90-day	180-day			
Treatment cycle	14-day	30-day	NONE	NONE			
# of Survey	18	8	2	2	1	1	32
# of Treatment	18	8	0	0	0	0	26
# of cumulative months since last live GALS find	9 months	17 months	24 months	36 months			
# of cumulative months since last treatment	0	0	7 months	19 months			

# Decommission Team

- ❖ A collaborative team of regulatory officials and scientists is assembled to decommission each core.
- ❖ In order to consider a core decommissioned, the decommission team must analyze that all treatment and survey requirements have been met
- ❖ The decommission team must review every property to ensure all requirements are met.



A tropical beach scene with several tall palm trees in the foreground on the left. The ground is sandy and leads to a grassy field. In the background, there is a line of trees and a body of water under a clear blue sky.

THANK YOU!  
Questions?