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
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
## Final Statistics

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

**History in Florida:**

**Miami - 2011-2021**
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
Phenotype differences through the years

1966-1973 Dark brown flesh brought into Florida from Hawaii

2011-2021 Greyish brown flesh

2022 Creamy white flesh
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.
Program Methodology

- Regular teams
  - Survey team
  - Control/treat team
- Specialized teams
  - Night team
  - Debris team
  - Detector dog team
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
Current Products for Treatment

Pellets 4% Metaldehyde

Pellets 3.25% Metaldehyde

Granules 7.5% Metaldehyde

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 for all aspects of the program 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.
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.

<table>
<thead>
<tr>
<th>Color Alert Level</th>
<th>RED</th>
<th>YELLOW</th>
<th>GREEN</th>
<th>BLUE</th>
<th>Night Survey</th>
<th>Detector Dog Survey</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Months at this color alert</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey cycle</td>
<td>14-day</td>
<td>30-day</td>
<td>90-day</td>
<td>180-day</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Treatment cycle</td>
<td>14-day</td>
<td>30-day</td>
<td>NONE</td>
<td>NONE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Survey</td>
<td>18</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>32</td>
</tr>
<tr>
<td># of Treatment</td>
<td>18</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>26</td>
</tr>
<tr>
<td># of cumulative months since last live GALS find</td>
<td>9 months</td>
<td>17 months</td>
<td>24 months</td>
<td>36 months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of cumulative months since last treatment</td>
<td>0</td>
<td>0</td>
<td>7 months</td>
<td>19 months</td>
<td></td>
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</tbody>
</table>
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 much analyze that all treatment and survey requirements have been met.
- The decommission team must review every property to ensure all requirements are met.
THANK YOU!
Questions?