

Arizona Fish and Wildlife Conservation Office  
Parker, AZ  
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James Clayton – Biological Science Technician

Presented by  
Mitch Thorson – Fisheries Biologist

Summary of Giant Salvinia Spraying  
Activities on the Palo Verde Irrigation  
Drain, 2011



# Background

- Giant Salvinia (*Salvinia molesta*) is a invasive aquatic fern native to Brazil.
- It was discovered in Arizona and California on the lower Colorado River in April 1999 near Blythe, CA.
- The Arizona Fish & Wildlife Conservation Office, Parker (AFWCOP) was contracted in 2004 to spray salvinia in the PVID drainage.
- Impacts, irrigation, hydroelectric facilities, recreational activities, waterfowl by denying them places to forage and roost, and fish by decreasing levels of DO

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# Herbicides used:

- Diquat @ 0.7% conc.
- Glyphosate @ 0.7% conc.
- Silicone surfactant
- This year, a total of 48 gallons of diquat, and 48 gallons of glyphosate was applied on the Palo Verde drain.

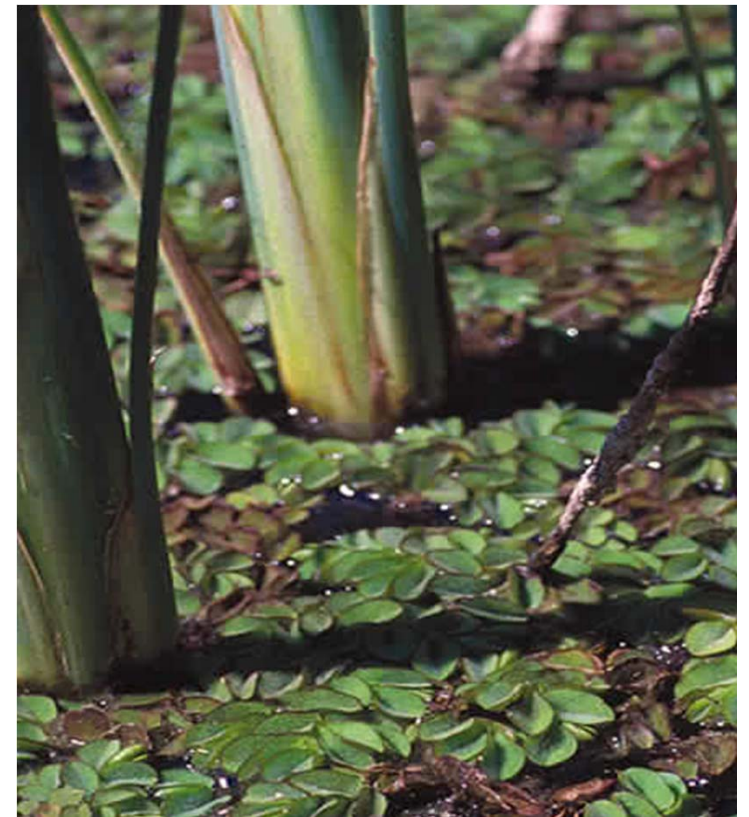
# Giant salvinia control techniques

## Herbicide treatment

- boat application
- shoreline application

## Biological control

- Salvinia Weevils – USDA



# Biological Control



Photograph by R. Chan

UGA1929044

In 2011, three reaches were treated:

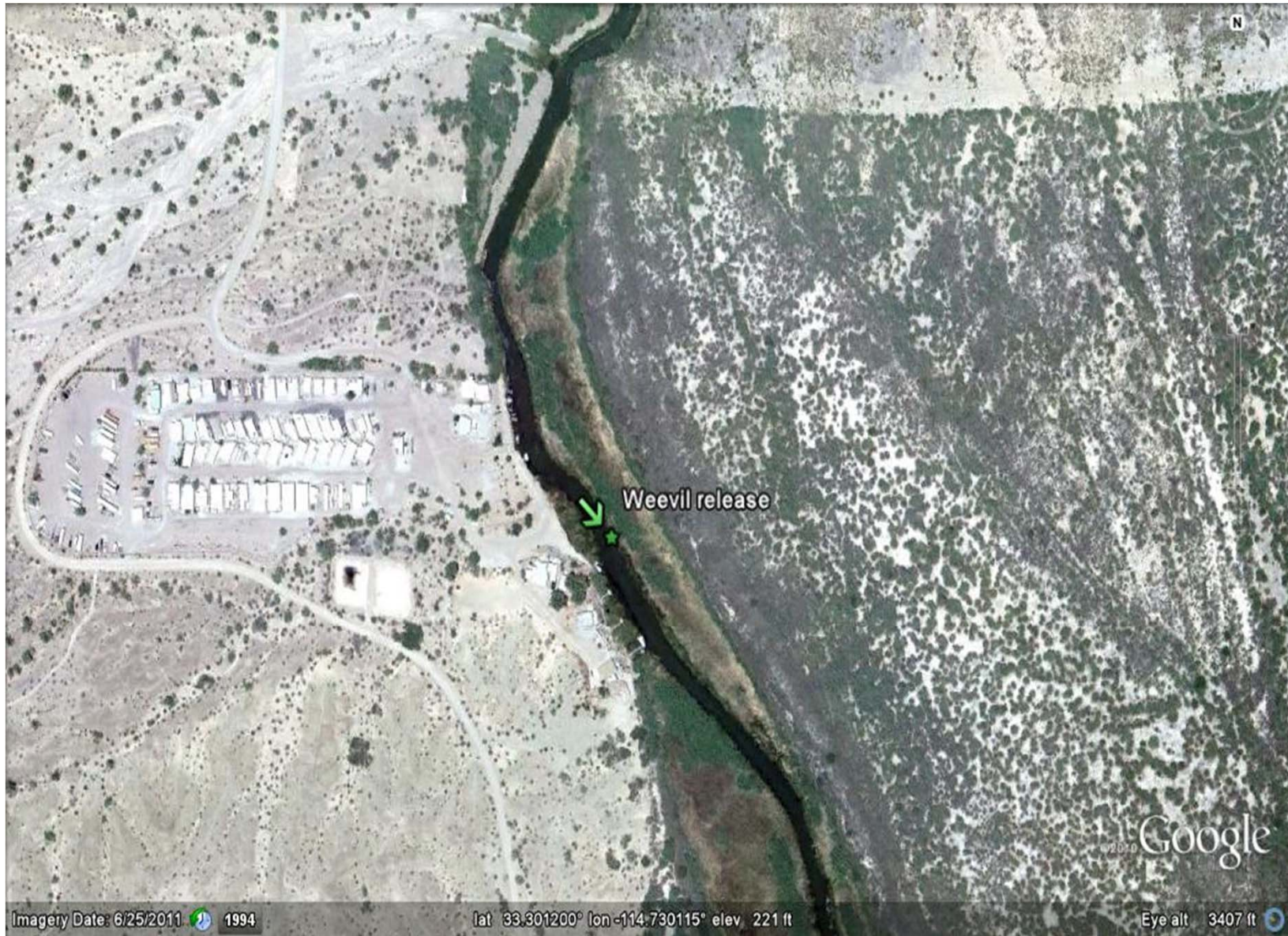
- Reach 3 - 35<sup>th</sup> avenue to the Hwy 78 crossing.
- Reach 4 - Hwy 78 crossing to the northern border of Cibola NWR.
- Reach 5 – Northern boundary of Cibola NWR to Walters Camp

# Herbicide Spraying on the Palo Verde Drainage

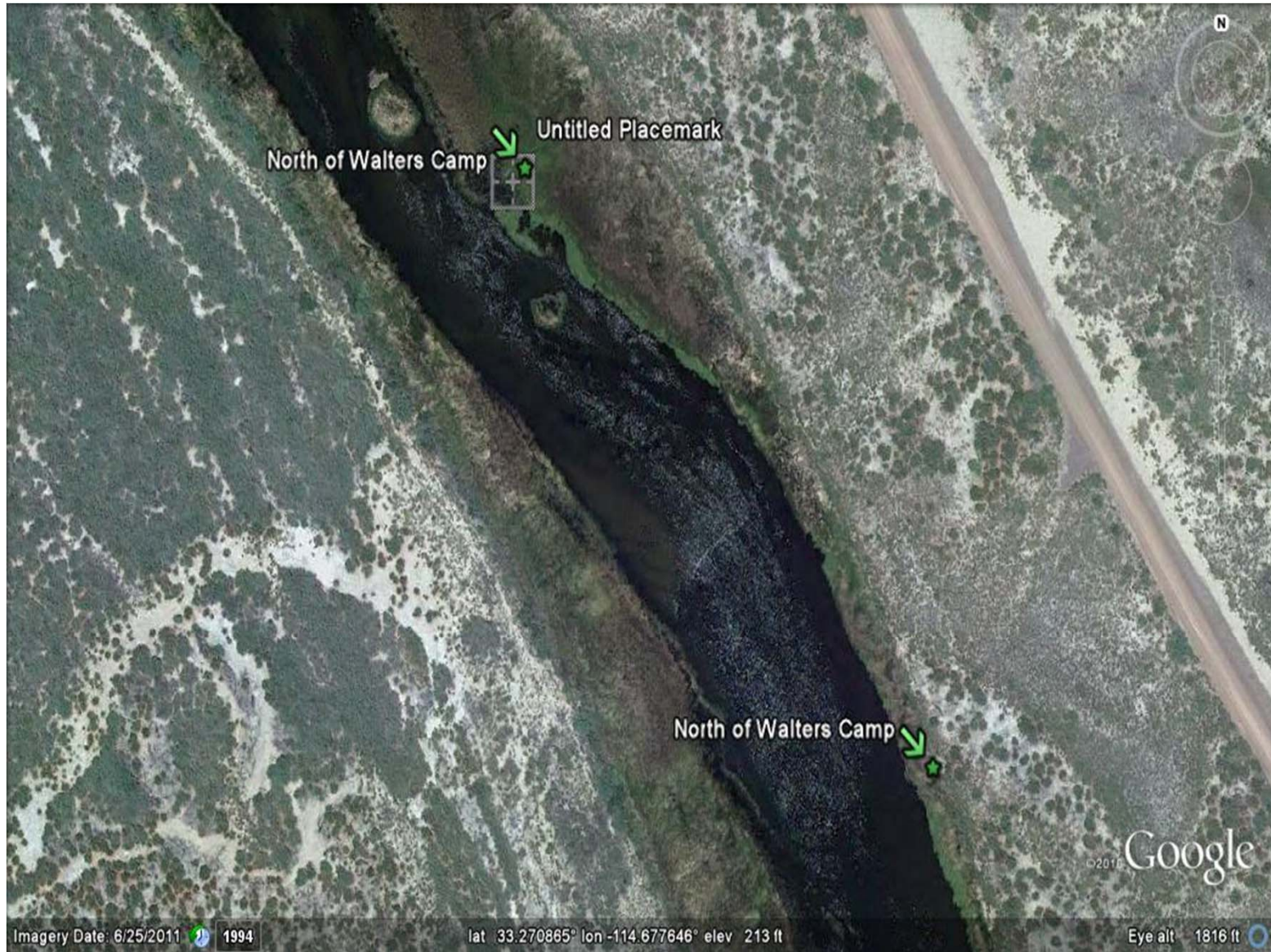




# Weevil Release

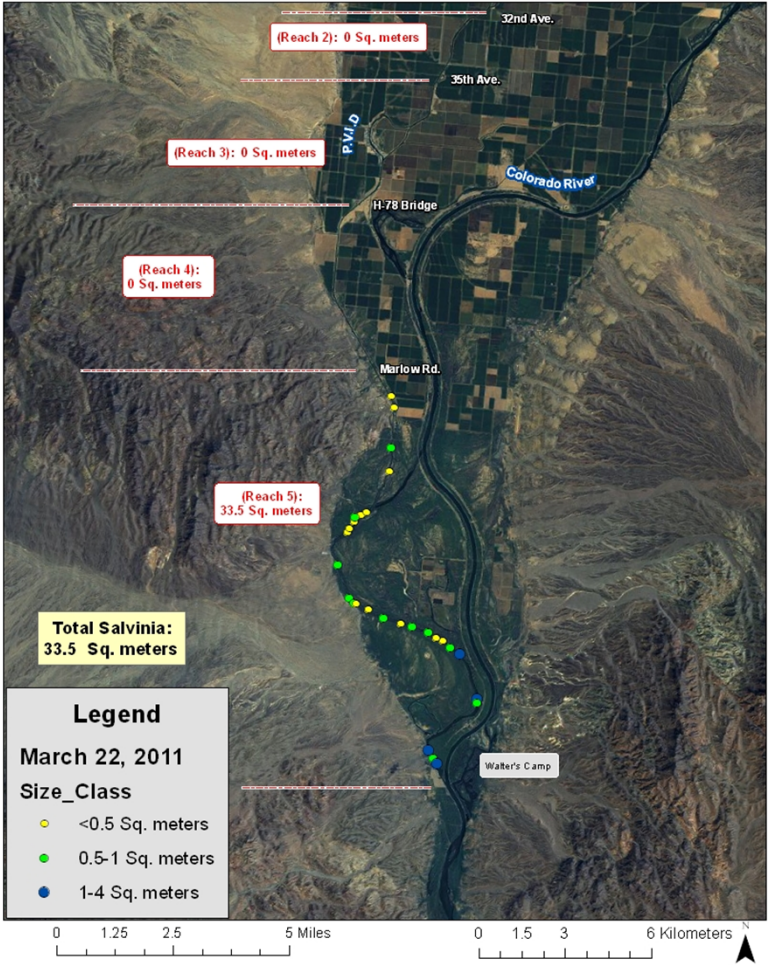


# North of Walters Camp

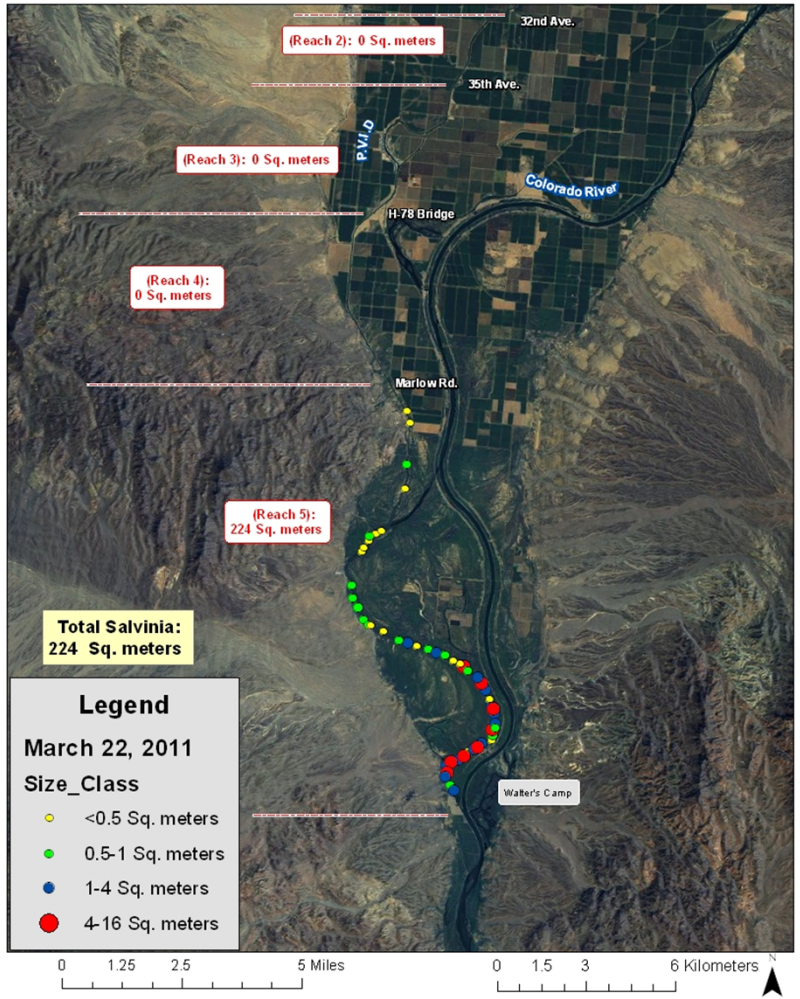


# PVID Salvinia Survey

PVID Salvinia Survey March 22, 2011

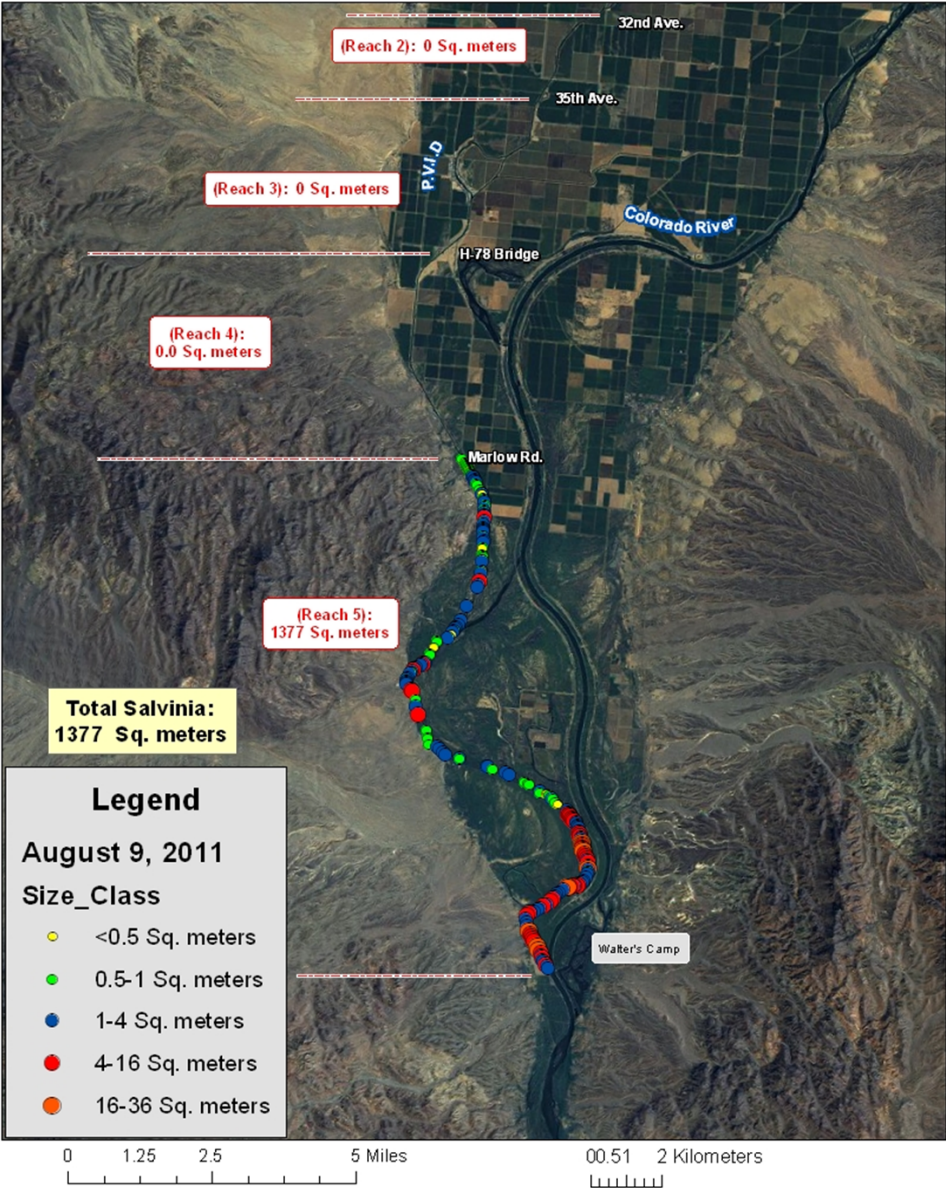


PVID Salvinia Survey March 22, 2011

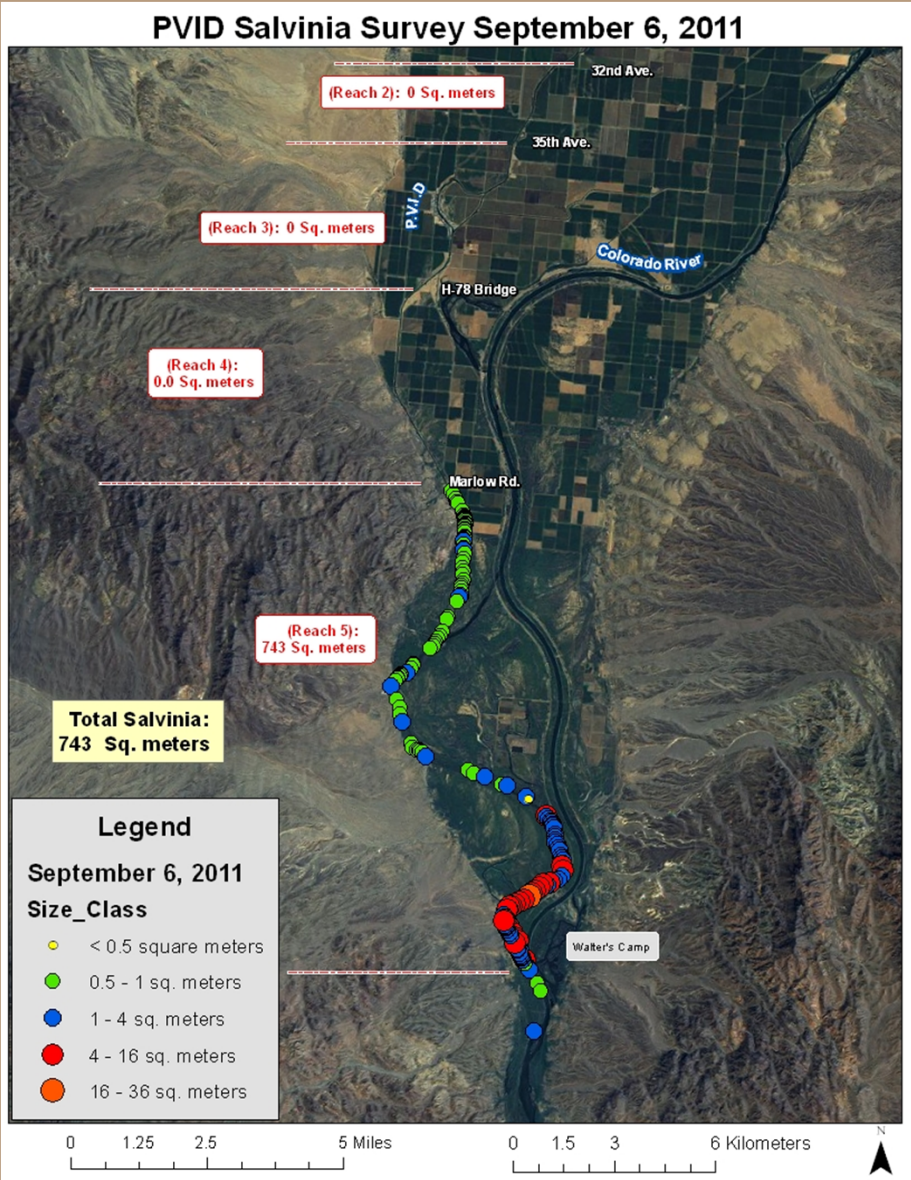


# PVID Salvinia Survey

PVID Salvinia Survey August 9, 2011



# PVID Salvinia Survey



# Reach 5



08/09/2011

# Reach 5



# Summary

- 3 reaches of PVID drain were sprayed in 2011 totaling 66 miles.
- Levels of the various herbicides did not exceed CA standards for the drain.
- Removed from Estes and Brown Drains.



# Recommendations FY12

- Coordination with National Wildlife Refuges to collaborate on challenges regarding the control of giant salvinia.
- Introduction of the salvinia weevil to inaccessible areas

# Questions