



# **Nevada's Aquatic Invasive Species (AIS) Program**

**Karen Vargas  
Nevada Department of Wildlife  
Fisheries Division  
Aquatic Invasive Species Coordinator**

**April 2014**

# AIS Presentation

- Laws and Regulations
  - Penalties
  - Watercraft Inspections
  - Watercraft Decal Requirements
- NDOW's AIS Program
  - Decontamination Stations
  - Quagga Mussels
  - New Zealand Mud Snails (NZMS)

# NDOW'S Regulatory Authority

AB 167

## Nevada's Aquatic Invasive Species Bill

- Passed Legislature and Signed by Governor in 2011
- **Bill Included**
  - Penalties for Introducing AIS into Nevada's Waters
  - Provides for an Annual AIS "Decal" for Motorized & Non-Motorized Watercraft
  - Authority for Watercraft Inspection and Decontaminations



# Nevada AIS Laws and Regulations

- **NAC 503.110**
  - Illegal to import, transport or possess live quagga/zebra mussels
- **NRS 503.597(1)**
  - “...It is unlawful...for any person at anytime to receive, bring or have brought or shipped into this State, or remove from one stream or body of water...to any other, or from one portion of the State or any other, or to any other state, any aquatic life of wildlife, or any spawn, eggs or young of any of them”





# Nevada AIS Laws and Regulations

- NRS 503.597(5)
    - “A person who knowingly or intentionally introduces, causes to be introduced or attempts to introduce an aquatic invasive species or injurious aquatic species into any waters of this State is guilty of:
      - 1<sup>st</sup> Offense: **Misdemeanor Charge**
      - Subsequent Offense: **Category E Felony**
- Penalty: \$25,000 to \$250,000



# Inspection and Decontamination AB167

- ❑ All vessels must comply with Department approved Inspection Stations
- ❑ Decontamination can be Required



# AIS Prevention Decal

## AB167

- **Aquatic Invasive Species Prevention Decal**

- Resident Non-Motorized Watercraft: \$5.00
- Non-Resident Non-Motorized Watercraft: \$10.00
- Resident Motorized Watercraft: \$10.00
- Non-Resident Motorized Watercraft \$20.00
- Sold: NDOW Counters, Vendor Phone (24/7), & NDOW.ORG



- **Implementation of Decal**

- January 1, 2013 - Annual
- Includes: motor boats, canoes, sailboats, kayaks, & dinghies: capable of retaining water
- Not Included: Water/Beach Toys (inner tubes, air mattress, water skis, paddleboards, float tubes)





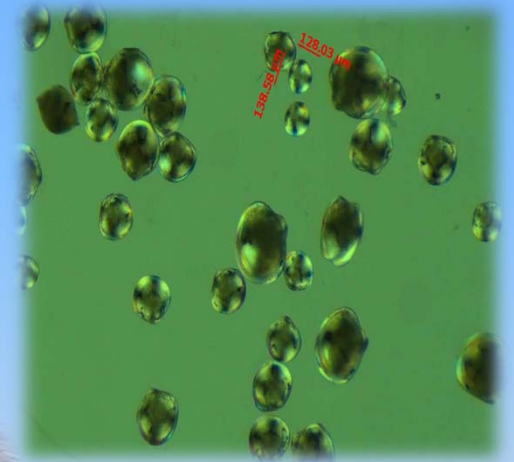
# What does the AIS Decal Fund?

- NDOW'S AIS Program
  - Surface Water Monitoring
  - Law Enforcement
  - Inspection & Decontamination Stations
  - Outreach Efforts



# Quagga Mussel Monitoring

- ❑ No Adults have been found in Northern NV
- ❑ Veligers detected in
  - Lahontan (2011) & Rye Patch (2011)
- ❑ PCR (Polymerase Chain Reaction/DNA)
  - Some Positive Results for:
    - ❑ Topaz Reservoir (2012)
    - ❑ Wildhorse Reservoir (2012)
    - ❑ Ruby Lake NWA (2012)
    - ❑ Lahontan Reservoir
    - ❑ Rye Patch Reservoir
  - Positive PCR Does Not Necessarily Mean QM are Present





# Watercraft Inspection/Decontamination Stations

- 4 “Free of Charge” Seasonal Stations/NV State Parks
  - Wildhorse (1) , Rye Patch (1) & Lahontan Reservoirs (2)
  - NV State Parks, NDOW and USFWS
  - Provide Hot Water/High Pressure Decontamination (140°F)
- 3 “Free of Charge” – Year-Round Stations at Lake Mead NRA
  - NDOW, NPS & USFW
- Two Statewide Seasonal Traveling Rovers

# Decontamination Stations



# **Largest Threat of Spread & Economic Damage Continues to be Quagga Mussels**



**Present in Lakes Mead & Mohave**

**\*Quagga Veligers (Larvae)  
detected at Lahontan & Rye Patch Reservoirs  
April 2011**





## Zebra and Quagga Mussel Sightings Distribution

*Dreissena polymorpha* and *D. rostriformis bugensis*

Rye Patch

Lahontan



- Zebra mussel occurrences
- Quagga mussel occurrences
- Both species occurrences
- ★ Mussels trailed overland on boat hulls

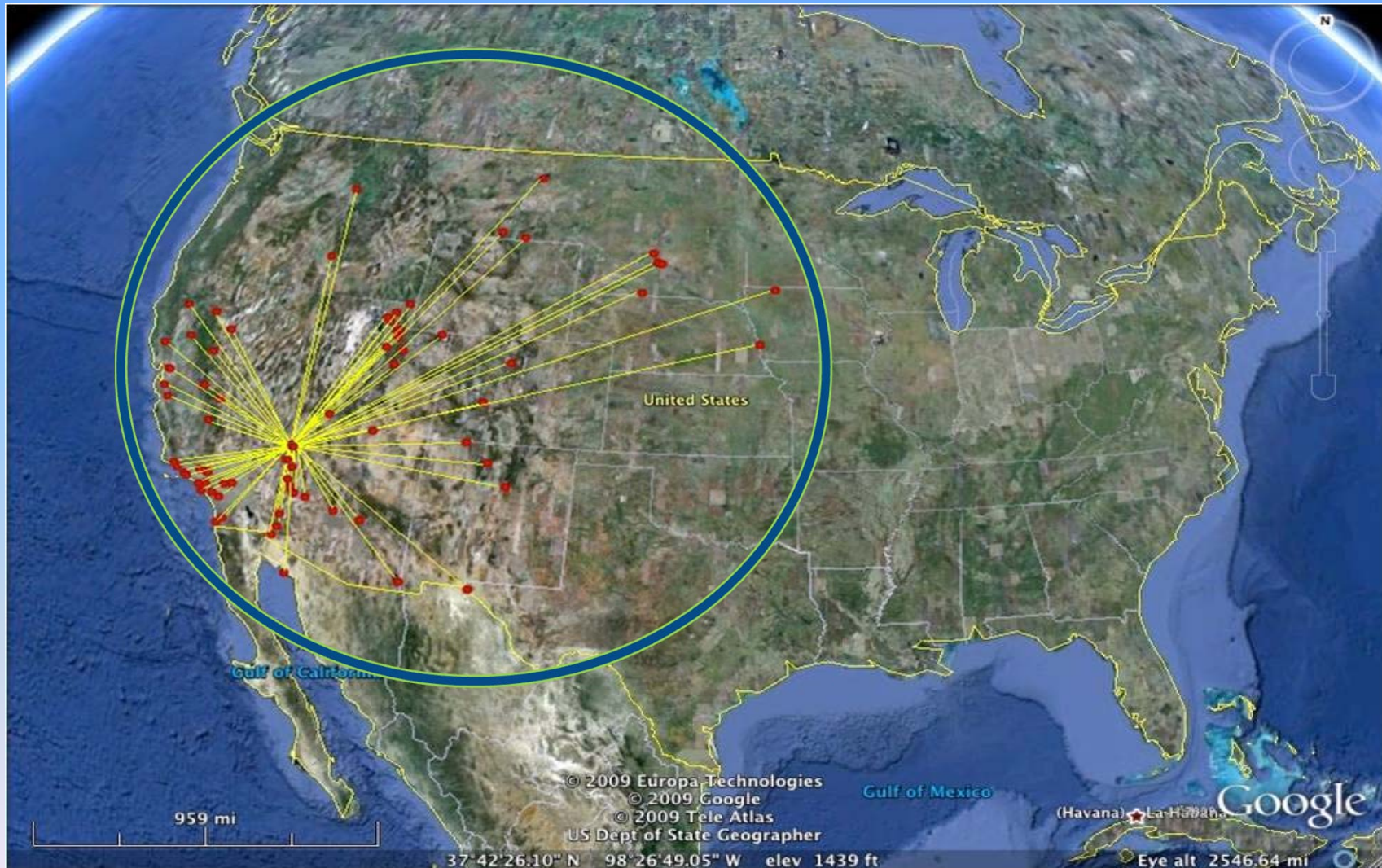
Map produced by the U.S. Geological Survey, Gainesville, Florida, May 18, 2009.

Illustration edited by Karen Vargas, NDOW



# Source of Quagga Mussel Spread?

## Trailerred Watercraft from Infested Areas



**Watercraft Distribution traveling from Lake Mead**

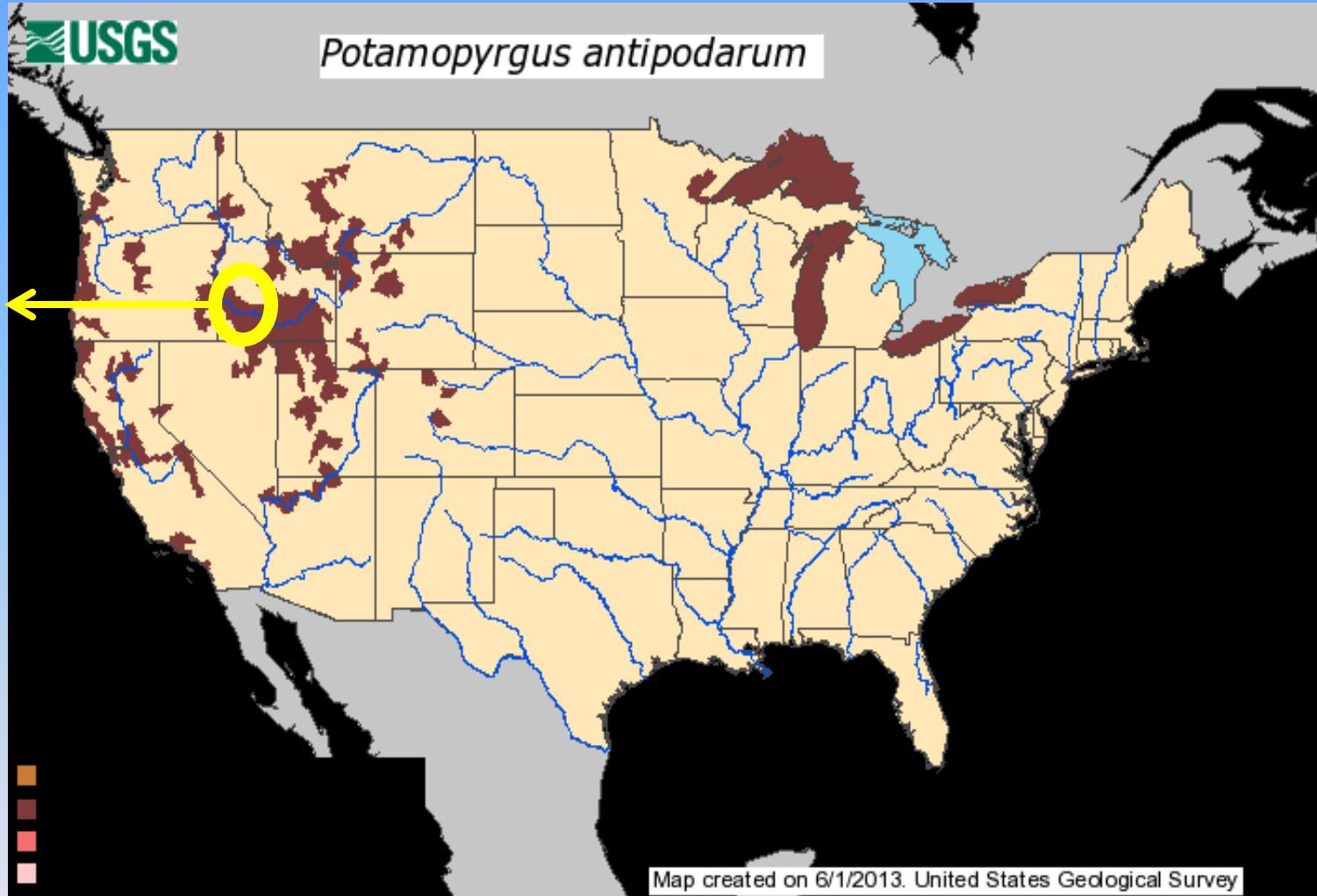
Source: 100<sup>th</sup> Meridian Initiative Survey 2003-2007



# **ALS Spreading in Nevada**

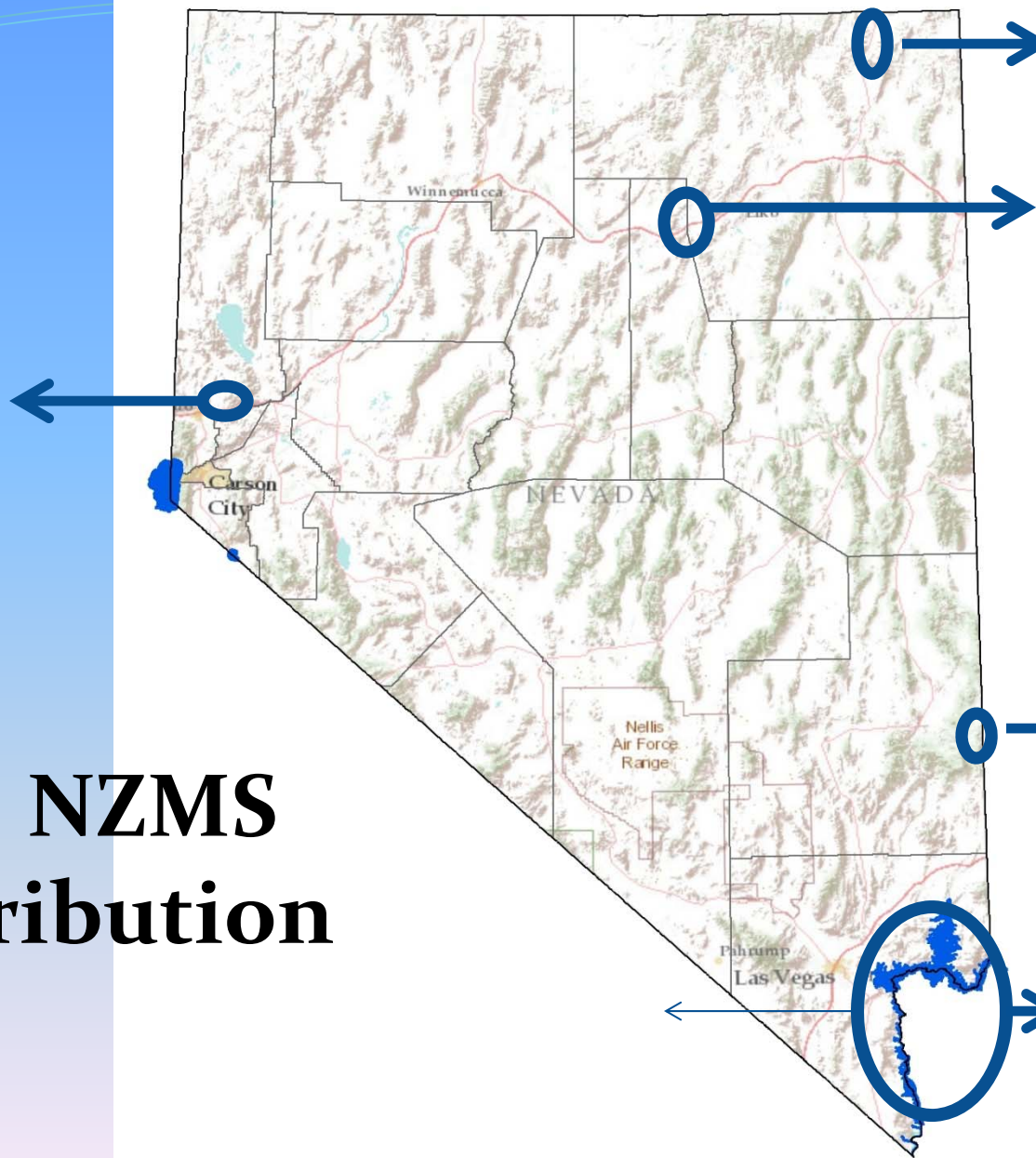
## **New Zealand Mud Snails**





# NV NZMS Distribution

Truckee  
River  
(2012/2013)



Salmon Falls Ck

Maggie Ck  
and  
Humboldt  
River@Carlin  
(2012)

Beaver Dam  
Wash  
(2012)

Lake Mead NRA



# How are they NZMS Spreading?

- Contaminated Watercraft
  - Motorized and Non-Motorized
- Contaminated Waders & Equipment
  - Felt Soles
  - Pets
- Wildlife?



# NZMS Preferred Habitat

- Lakes – Littoral (shore) Zone
- Large & Small Rivers
- Estuaries & Brackish Waters
- Macrophytes/Vegetation
- Prefers slow streams with silt & organic matter
- Can tolerate higher flow where they can burrow





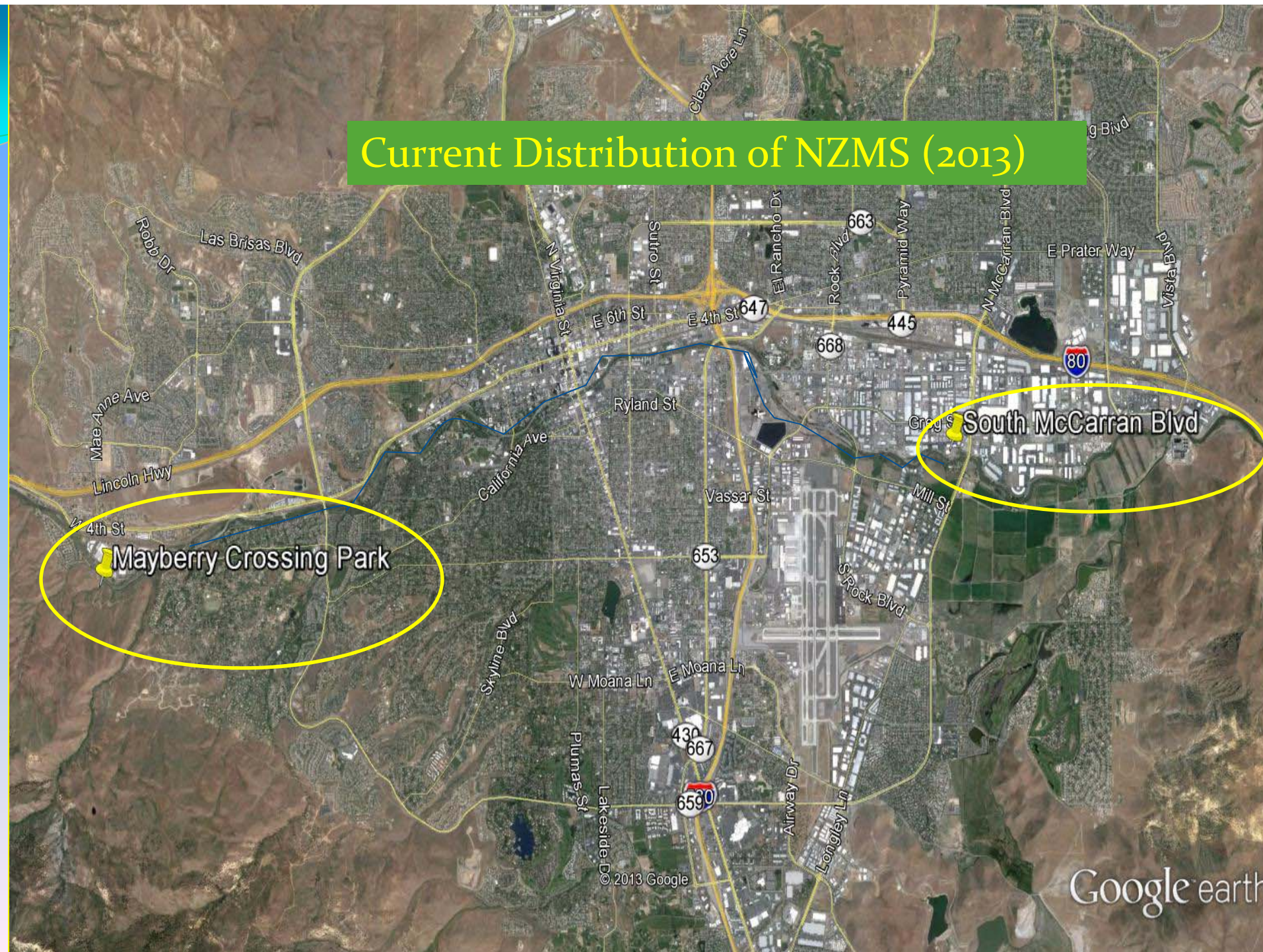
# Problems NZMS Create?

- Small (1/8" long) but can form clusters
- Out-compete native invertebrates
- Can pass through a fish's digestive tract and survive
- Can Survive up to 25 days in a moist media
- Control is unlikely
- Prevention of Spread is the best Option for Control





## Current Distribution of NZMS (2013)





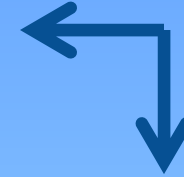
# Similar Species in Truckee River



NZMS



Physa sp.



Guide:

<http://www.fws.gov/idaho/home/snailguidefinal92009topkg.pdf>

# NZMS Size



# Preventing the Spread of AIS

## **CLEAN, DRAIN & DRY**

- ✓ **HOT WATER (~120-140 F.)**
- ✓ **FREEZING (>6-24 HOURS)**
- ✓ **DEDICATED GEAR FOR SPECIFIC WATERBODY AREAS**
- ✓ **ELIMINATE FELT SOLED WADERS**

**(New CDD Video at [NDOW.ORG/Fisheries/AIS](http://NDOW.ORG/Fisheries/AIS))**



# Questions?



**STOP AQUATIC  
HITCHHIKERS!™**

Prevent the transport of nuisance species.  
Clean all recreational equipment.  
[www.ProtectYourWaters.net](http://www.ProtectYourWaters.net)

