



LAKE TAHOE
INVASIVE SPECIES
PROGRAM

AIS Program Update



TRPA **Governing** **Board Meeting**

November 15, 2023
Agenda Item VI. A.

Dennis Zabaglo
Aquatic Invasive Species
Program Manager

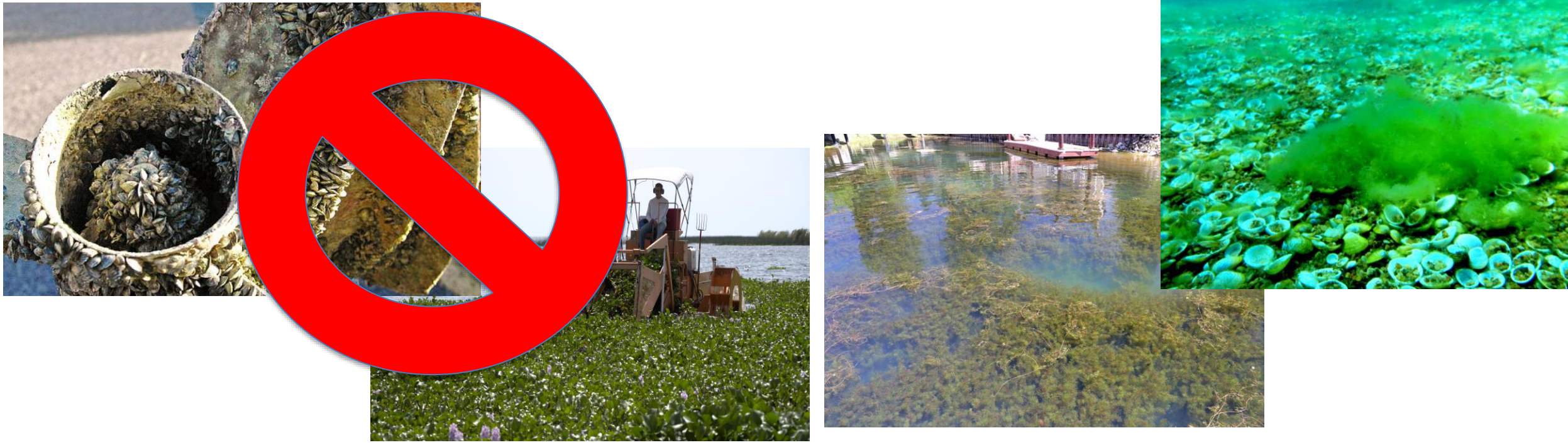
AIS Program Update

- AIS Program Overview
- Prevention
 - Priorities
- Control
 - Action Agenda
 - Major projects
- Monitoring
 - Tracking progress
- New Zealand Mudsnauls
 - Actions and next steps
- AIS Funding



AIS Program Overview

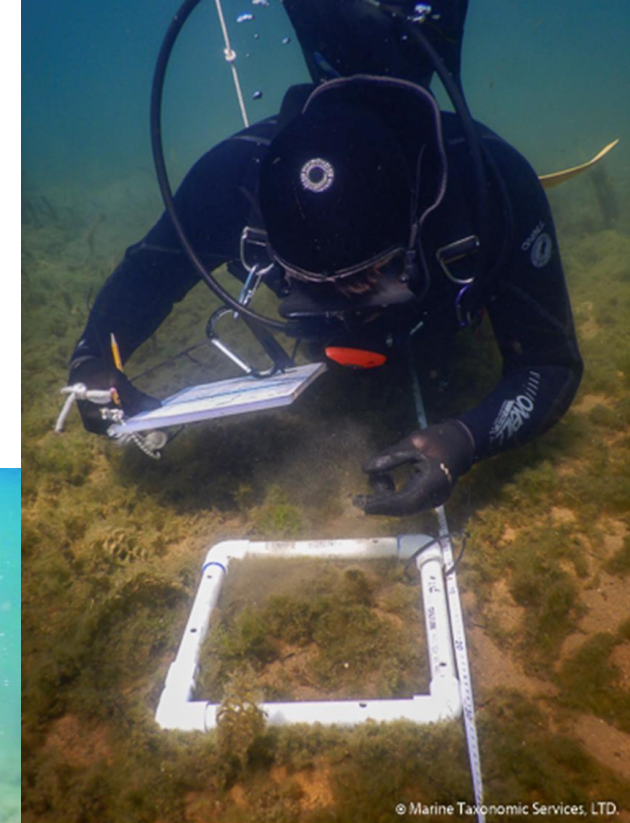
- What are AIS?
 - *A nonindigenous species that threatens the diversity or abundance of the native species or the ecological stability of infested waters, or the commercial, agricultural, aquacultural, or recreational activities dependent on such waters, as identified in the Lake Tahoe Region Aquatic Invasive Species Management Plan.*



AIS Program Overview

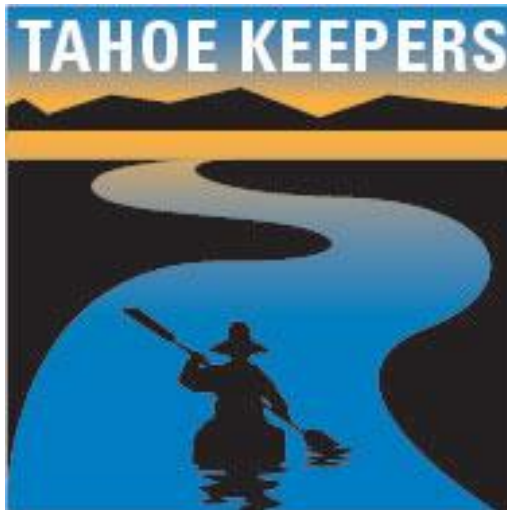
- AIS Program Elements

- Management Plan
- Prevention
 - Reduce risk
- Control
 - Reduce abundance
- Monitoring, Surveillance, and Rapid Response
 - Track progress
 - React quickly
- Coordination and Partnerships
- Science based decisions
- Success and leadership

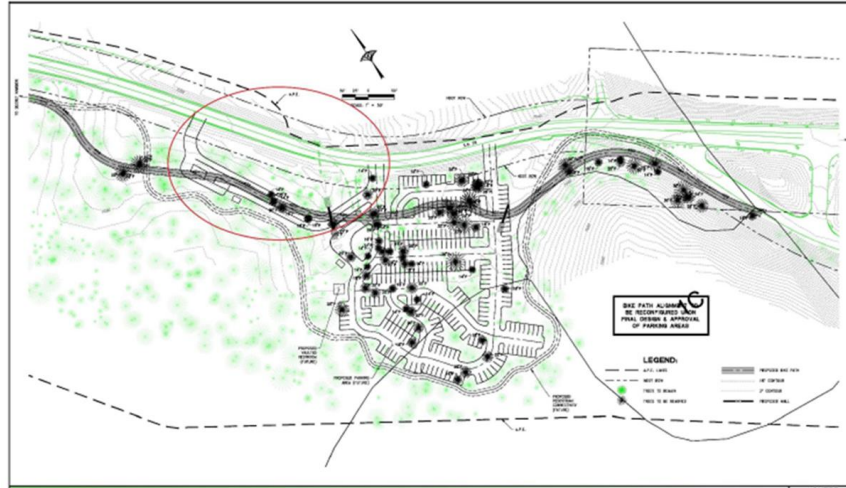


AIS Prevention Priorities

- Prevention Priorities
 - Reduce threat of new invasions
 - Non-motorized
 - Permanent Stations
 - Spanish language



AIS Inspection Station location identified in the Environmental Assessment / 30% Design Plans, circled in red:



Conviértase en un Tahoe Keeper



¡Es rápido y fácil!

1. Visite [TahoeKeepers.org](https://www.tahoekeeper.org)

2. Mire el video breve y aprenda cómo autoinspeccionar su canoa, kayak o tabla de paddleboard.

3. Tome la prueba al final del video.

Luego recibirá su paquete de credenciales de Tahoe Keeper con una calcomanía para demostrar que ha hecho su parte para proteger Lake Tahoe.

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¿Qué hay en el fondo?



Take care.

Para proteger su pasatiempo favorito y evitar la propagación ilegal de especies invasoras acuáticas:

1. **LIMPIE** la embarcación no motorizada con agua limpia, eliminando toda la suciedad, las plantas y otros materiales del timón, el casco, la cabina y el equipo de pesca.

2. **DRENE** el agua de sus escotillas, cabinas, tableros y equipo en tierra antes de abandonar el área inmediata.

3. **SEQUE** su kayak, canoa o equipo antes de lanzarlo.

Hay inspecciones y descontaminaciones gratuitas para los remeros en varios lugares.

888-824-6267

[TahoeKeepers.org](https://www.tahoekeeper.org)

LAKE TAHOE INVASIVE SPECIES PROGRAM

BUILDING A BETTER AMERICA

AIS Control Priorities

- Control Priorities
 - Action Agenda
 - Reduce abundance
 - Pace and Scale
 - Taylor Tallac
 - Emerald Bay
 - Logan Shoals
 - Tahoe Keys
 - Year 2 Interim Report
 - Planning for Year 3



AIS Control Priorities

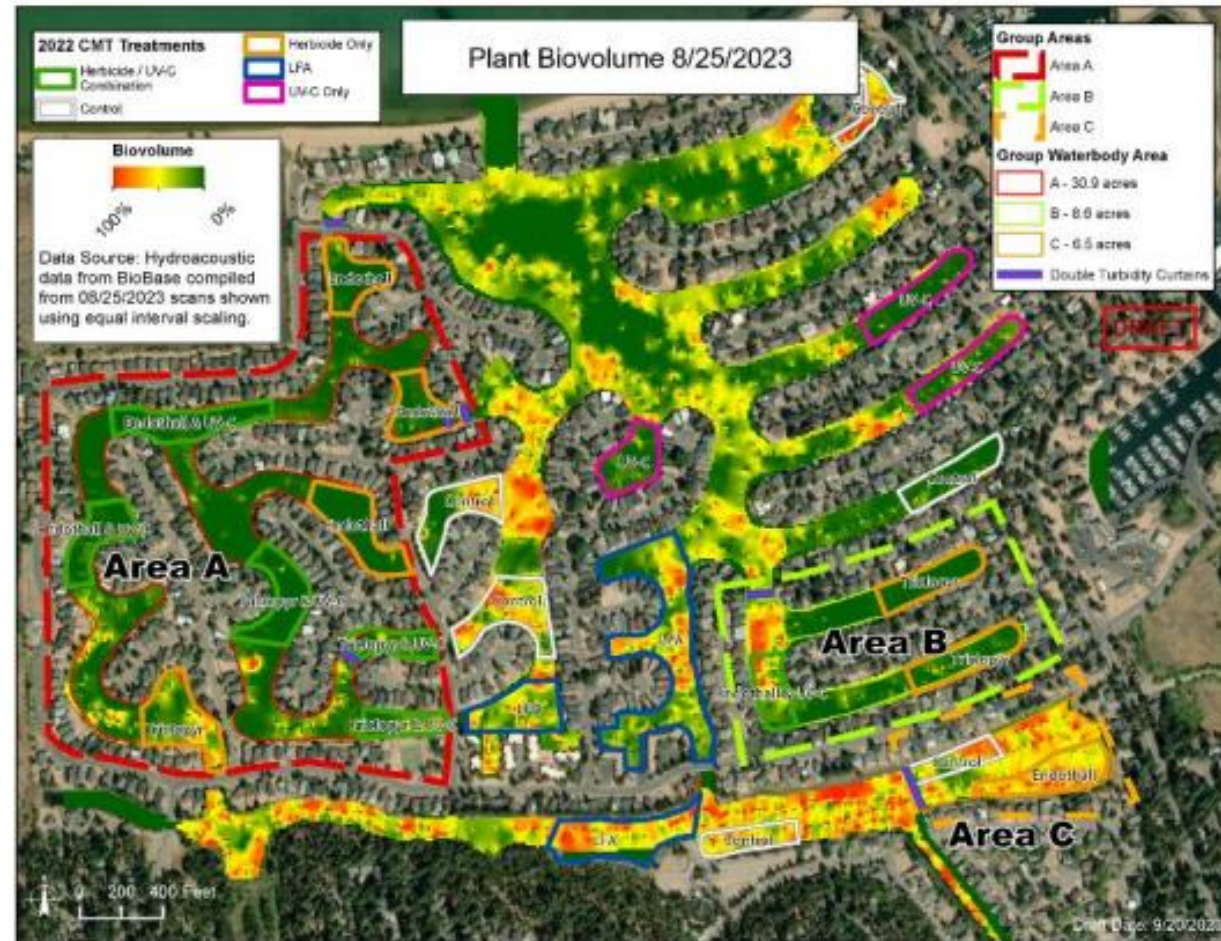
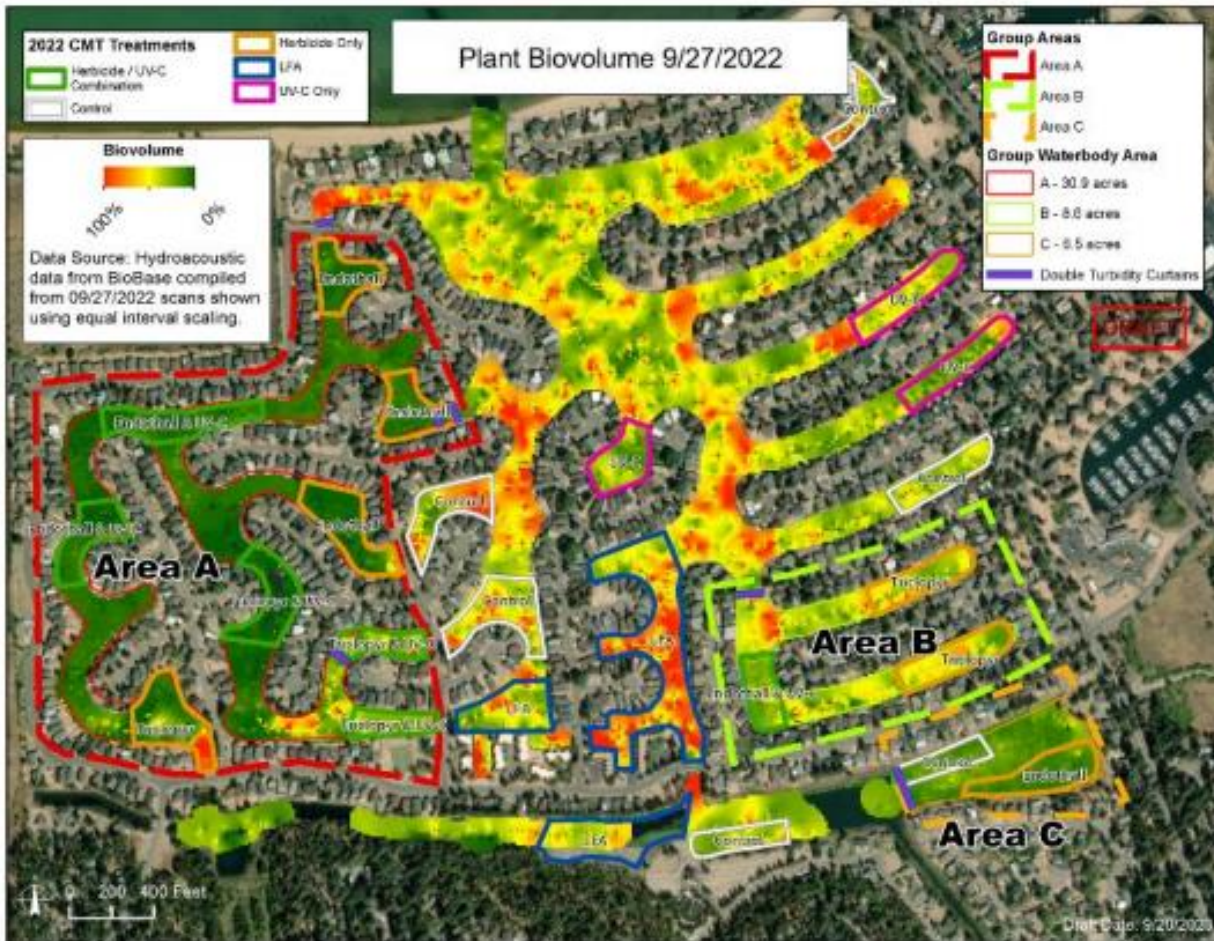
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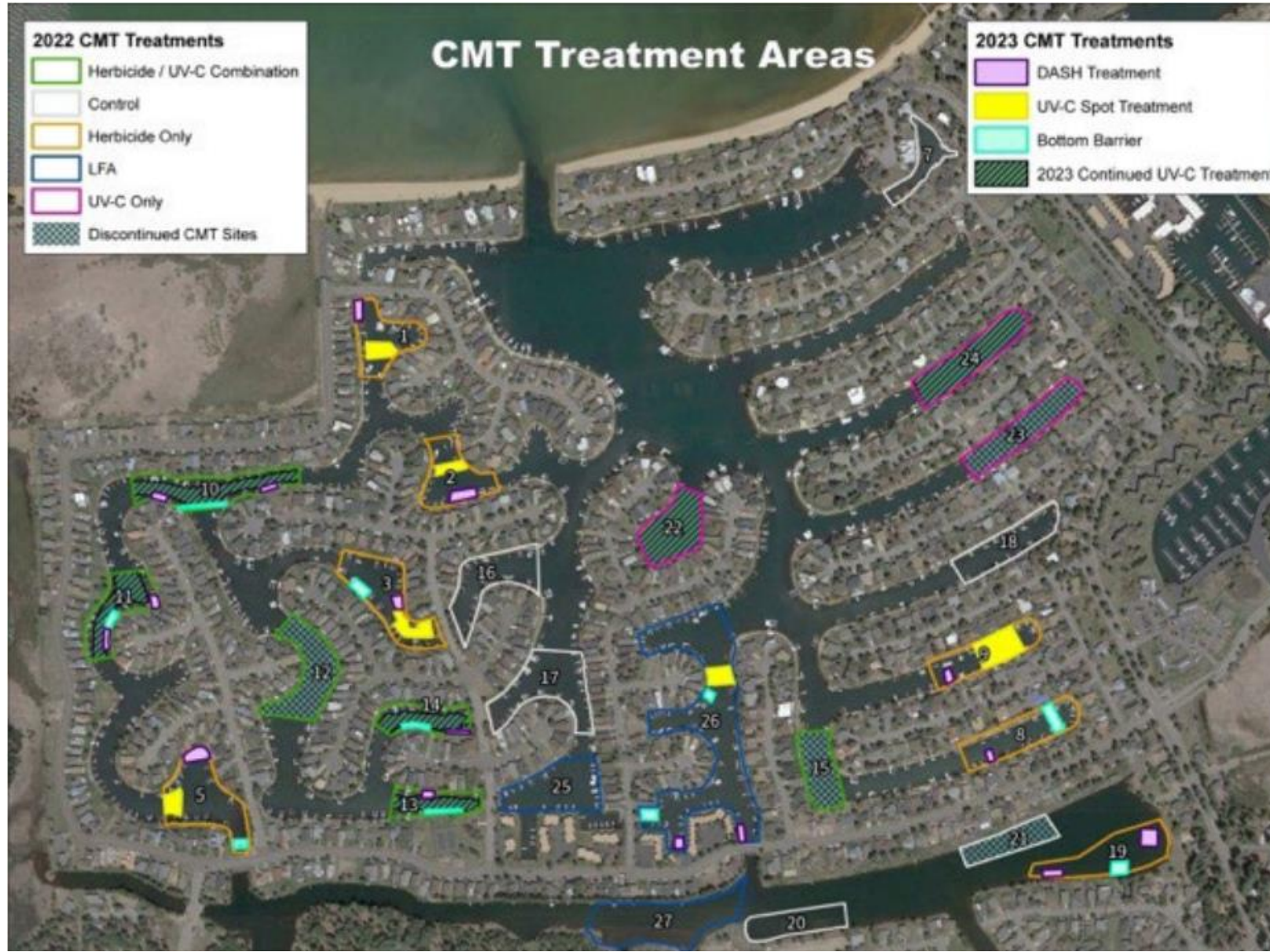


AIS Control Prioirities





AIS Control Priorities



AIS Control Priorities

CMT Year 2 Treatments	# of sites	Total Acreage
Group A Treatments		
UV Light (Repeat UV Only sites)	3	19.6 (4x)
UV Light (Combo sites)	4	4.96 (2x)
Group B Treatments		
Bottom Barriers	9	0.73
Diver Assisted Suction	12	1.15
UV Light (spot)	10	6.08 (4x)

AIS Monitoring Program

- Track Progress
 - Prevention
 - Secret Shopper
 - Plankton tows
 - Substrates
 - Control
 - Measurable metrics
 - Abundance reduced
 - Lake-wide surveys
 - Diver transects
 - Aerial Imagery
 - Sonar
 - Surveillance



AIS Monitoring Program

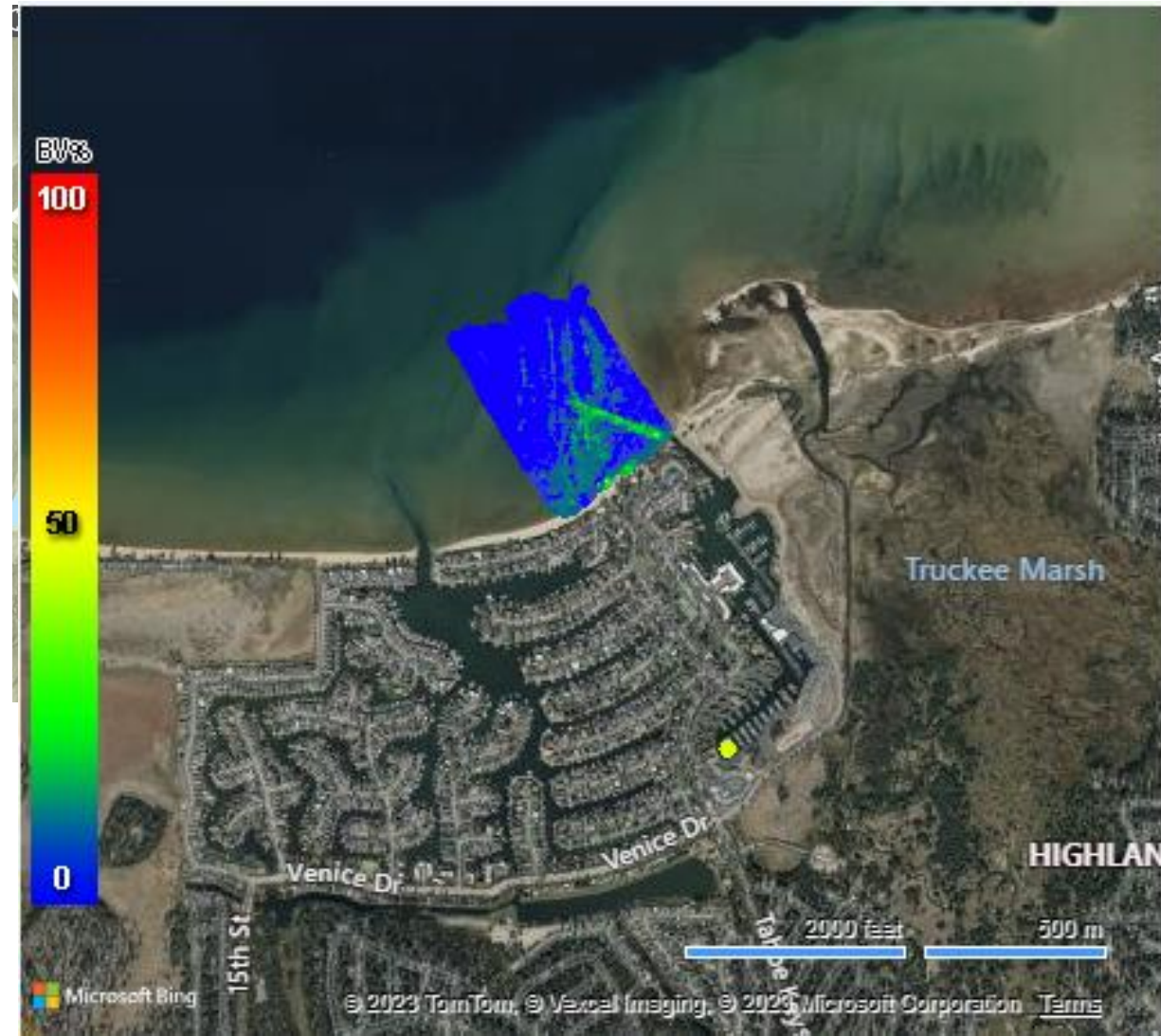
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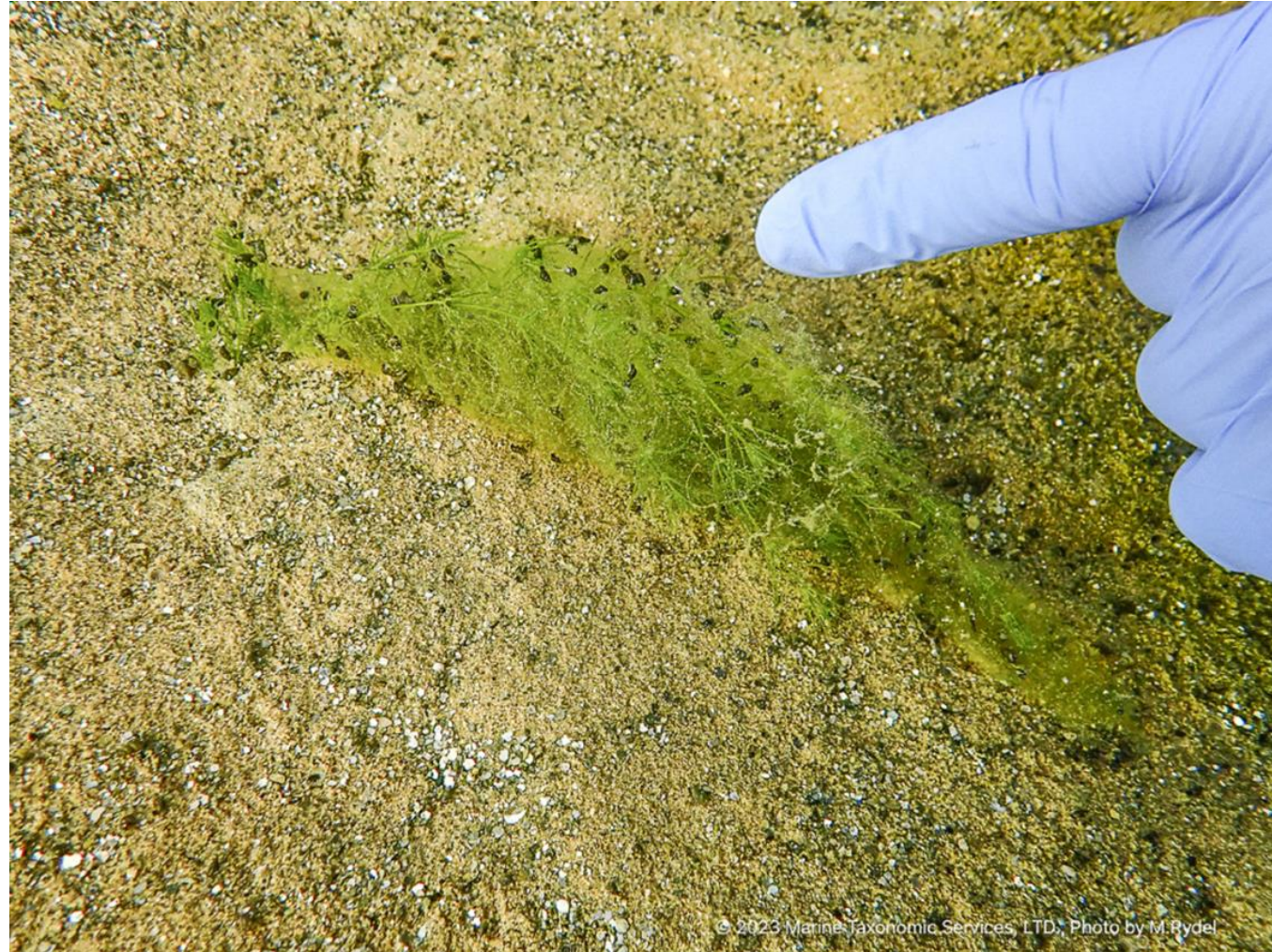
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NZMS Response

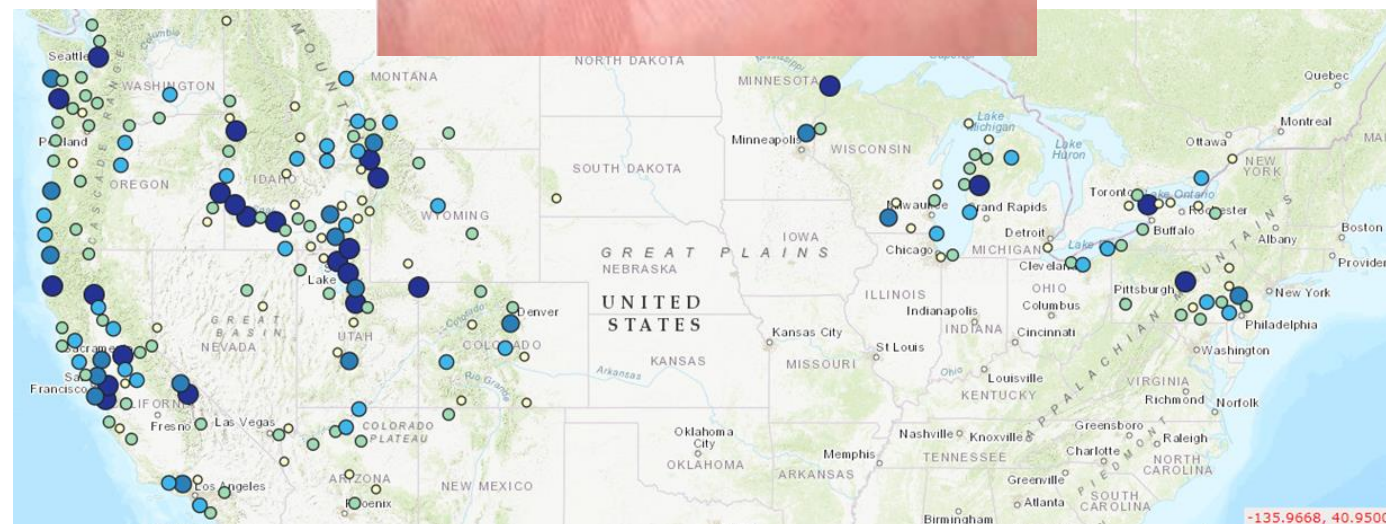
- **Rapid Response Actions**
 - Discovered September 6, 2023
 - Immediate notification
 - Sample collection
 - Rapid Response Plan initiated (TRPA & Tahoe RCD)
 - Species Confirmation
 - Notifications
 - Delineation
 - Grid Surveys
 - Transects
 - Science Council Engagement





NZMS Response

- New Zealand Mudsnails
 - Small (2-6mm)
 - Discovered in US in 1987, CA in 2000
 - Can live in a variety of habitats
 - Spread primarily by recreation
 - Impacts similar to other AIS
 - Outcompete natives
 - Alter food web



NZMS Response

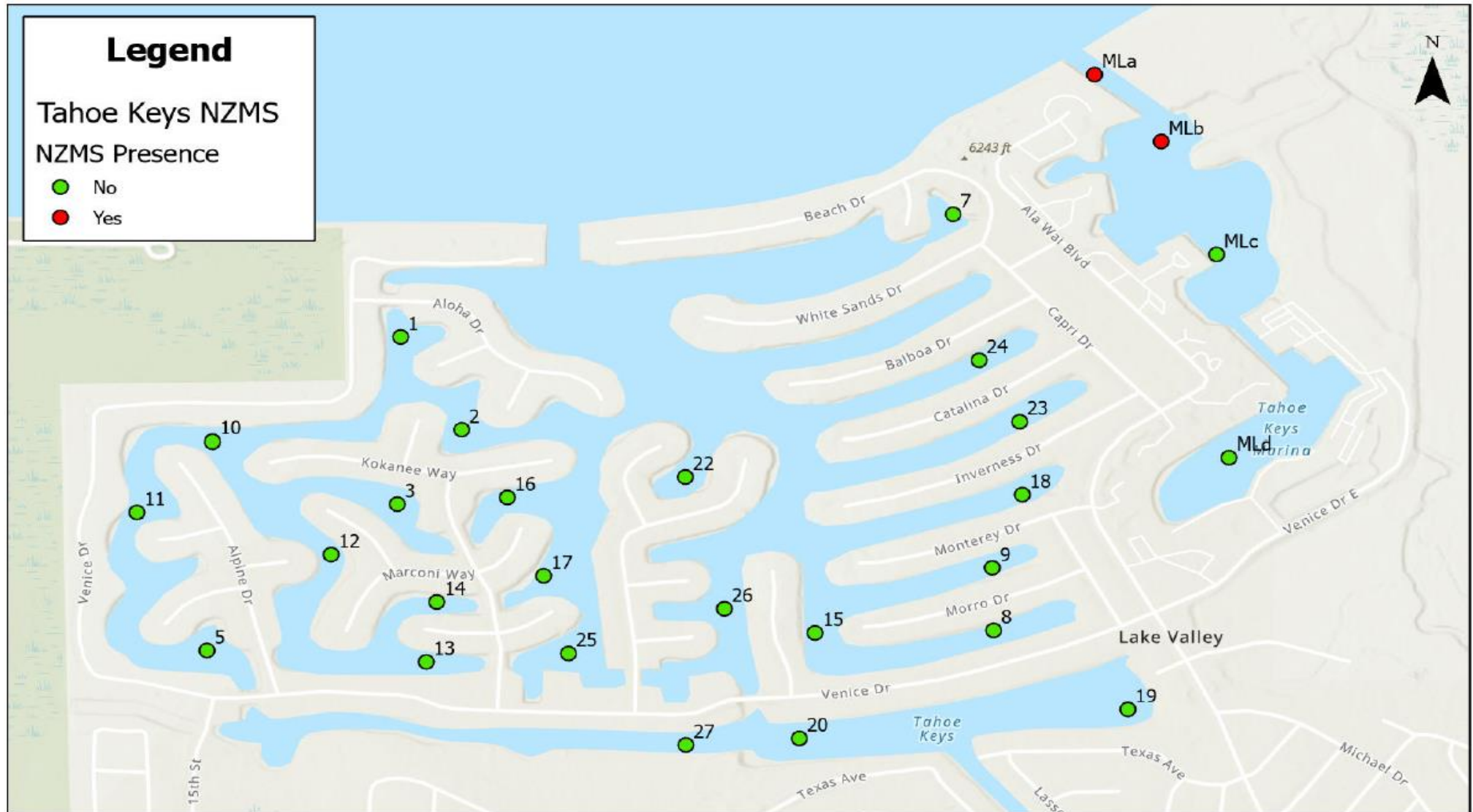
- Subsequent Actions

- Review existing monitoring data
 - Tributaries
 - Tahoe Keys
- Decontamination Protocols
- Alert western partners
- “Pull Your Plug”
- Outreach
- TSAC Recommendations
 - Delineation
 - Contain over control
 - Risk Assessments





Presence of New Zealand Mudsnail in Tahoe Keys



Data collected October 23 - November 1, 2023, using the "bucket method":

Multiple aquatic rake samples were composited throughout a pre-determined area and analyzed for the presence or absence of New Zealand mudsnails.

Data collected by Environmental Science Associates and Marine Taxonomic Services

Map created by Emily Frey, TRPA

- Strategize Future Priorities

- Monitoring
 - Annual Lake-wide Transects
 - Grid Survey
 - eDNA
- Prevention/Containment
 - CD3 and roving inspectors
 - Ramp Infrastructure
- Outreach
 - Signage
 - Tahoe Keepers



- **AIS Program Budgets Pre-New Zealand Mudsnails**
 - Prevention: ~\$2.5M annually
 - Fees, States, Grants (Federal and State)
 - ***Potential gap ~\$200k annually***
 - Control: Action Agenda- ~\$7M annually
 - Grants (Federal and State) ~\$3-\$4M annually
 - ***Gap ~\$3-\$4M annually***
 - Lake-wide Monitoring ~\$200K every 3 years

- **Budgets With Projected New Zealand Mudsnail Priority Actions ***

- Prevention and Containment

- Capitol costs (potentially one-time)
 - Gear cleaning stations: ~\$100,000
 - Ramp Infrastructure: TBD
- Annual costs
 - Roving inspectors ~\$100,000
- ***Total Gap ~\$300,000 annually, plus one-time costs***

- Monitoring

- Annual transects, grid survey, deep water, eDNA
- ***Gap ~\$300,000 annually***

- Outreach

- Tahoe Keepers, Signage, Advertising
- ***Gap ~\$30,000 one-time***

****Does Not Account for ongoing staffing costs (non-seasonal)***

- **Funding Strategies**

- Review Prevention Fee Structure
 - Anticipated January 2024
- Leverage Existing programs
- New Zealand Mudsnail Actions that benefit overall program
 - CD3, monitoring, outreach
- Expand existing and seek new funding opportunities
 - New grants, non-profit, other state and federal sources
- LTRA Reauthorization
- BIL Funding
 - Permanent Inspection Stations
 - Taylor Tallac
 - Spanish Language



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Questions



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