Integrated Pest Management Plan

2024 Spongy Moth Eradication

Washington State Department of Agriculture-Pest Program

Washington State Department of Agriculture

Management Plan Team

Incident Commander-
Sven-Erik Spichiger sspichiger@agr.wa.gov cell: 360-280-6327

Has the responsibility for the overall eradication program. The Incident Commander has the authority to stop all spray activities if a contract dispute arises. The Incident Commander has the authority to release blocks for treatment, schedules block treatment, and terminate spray sessions when weather is unfavorable or other problems arise. The Incident Commander is also responsible for keeping an updated treatment schedule.

Managing Entomologist-
Tiffany Pahs tpahs@agr.wa.gov cell: 360-481-5712

Has the responsibility for helping organize, implement, and evaluate the spray program. The Managing Entomologist will work with the Operations Chief and Incident Commander to carry out the logistics of spray operations. These logistics include: 1) treatment area familiarization; 2) treatment timing based on degree-day models, larvae/foliage development and desirable weather conditions; 3) evaluation of the overall treatment effectiveness; and 4) establishing an effective communication system.

Operations Chief-
Rian Wojahn rwojahn@agr.wa.gov cell: 360-481-6219

Has the responsibility to work with the Incident Commander and Managing Entomologist on organization, implementation, evaluation, and logistics of the spray program. The Operations Chief will have the responsibility of working with the contractor upon award of the contract. The Operations Chief will be located at the staging area to oversee loading operations, keep records, and communicate with the contractor, field crews, Incident Commander, Managing Entomologist and Trapping Coordinator. The Operations Chief is also responsible for setting up field crew responsibilities and making sure staff adhere to the safety plan.

Trapping Coordinator-
Susan Brush sbrush@agr.wa.gov cell: 360-791-1355

Has the responsibility to work with the Managing Entomologist and Operation Chief on evaluation of the spray program. The Trapping Coordinator will establish and oversee the post-treatment delimiting-trapping.

Contractor (applicator)-

Primary Pilot: Jed Hennis
Pesticide license number: 108876 Expiration date: 12/2024

Backup Pilot: George Parker
Pesticide license number: 60614 Expiration date: 12/2026

Air Tractor 802A, N41119 will be used for all aerial applications.

Rian Wojahn is in-charge of developing and revising the IPM plan, as well as developing, revising, and implementing corrective actions and other permit requirements.

If changes are made to the above team, notification will be sent to Ecology

Resource Management

Establishment of spongy moth in Washington State would alter thousands of acres of varied habitat and cause extensive damage to forests, nurseries, hardwood plantations, orchards, vegetation along creeks and rivers, trees on city streets, and residential yards. The economic and environmental effects from this would be wide-ranging. In addition to loss of crops and production, economic consequences would include quarantine actions taken by other states and the federal government against our state's agricultural and natural resource products (for instance, Christmas trees, nursery and timber products) thereby slowing commodity movement and adding to costs of production. Also, international trading partners in areas currently free of spongy moth would institute phytosanitary regulations requiring additional inspections of goods, containers and/or vessels at point of shipment and/or point of entry thereby slowing movement of goods through Washington ports. Eradication of spongy moth facilitates movement of forestry, agricultural, horticultural, and related products to domestic and foreign markets.

See **Appendix A** for maps of the treatment sites.

See **Appendix B** for an action threshold (triggers) document.

Management Options

<u>No action</u>

Taking no action would allow the current infestation to spread and lead to larger treatment projects. Furthermore, it would damage natural resources, impede trade and cause an overall decrease in lifestyle of affected communities.

<u>Prevention</u>

Preventing spongy moth introductions is next to impossible due to its wandering nature. Egg masses can be easily moved on equipment, household goods, etc. and caterpillars can "balloon" with the wind using silk they produce.

<u>Alternate control methods</u>

WSDA has used mass trapping (high-density trapping) along with mating disruption in the past. However, the pheromone used for mating disruption is also used in spongy moth traps. Deciphering which control method may or may not be effective becomes difficult.

Sterile insect release is another alternative method. This method is rarely used and is not feasible for WSDA due to the need for lab raised sterile male spongy moths.

Pesticides

Bacillus thuringiensis var. kurstaki (Btk) is the preferred pesticide for WSDA spongy moth eradication projects. Btk is a biological insecticide which specifically targets the caterpillars of moths and butterflies.

Diflubenzuron and Tebufenozide are other pesticide options. While they control spongy moth, they also bring water quality and non-target concerns.

Surveillance

Post treatment delimiting surveys will be used to evaluate project efficacy for three seasons (2024, 2025, and 2026). Additional years of negative trap data may be required in order to declare the infestations fully eradicated.

Approximately 1,320 delta traps baited with a pheromone string lure containing disparlure will be deployed at 49 traps per square mile centered on the detection sites for the first square mile and 25 traps per square mile for an additional four-square mile for a total survey area of 5 square miles. Traps will begin to be deployed in late May. Traps will be monitored on a regular two–three week cycle for the presence of spongy moth and removed by mid-October 2024.

See **Appendix C** for the delimiting approach and delimiting maps for each treatment site.

Pesticide Use

The decision to use pesticide, specifically Btk, during the eradication project was made after consideration of all management options. Monitoring treatment efficacy will be done using droplet cards during treatment, as well as delimiting trapping for three years after. Effects on non-targets will be done through water quality sampling before the first treatment and after the final treatment. All water quality samples will be sent to an accredited lab for analysis.

Response Procedures

Treatments using Bacillus thuringiensis var. kurstaki (Foray® 48B) will be made at label rate of half gallon per acre (64 oz.)-undiluted (neat). Nozzle calibration and characterization will be done before the spray project begins. After each treatment the nozzles will be cleaned with water using a hand pump sprayer and checked for potential problems. All nozzles will have a positive shutoff mechanism to prevent leakage when shut off. Spill response equipment and guidelines, as well as a safety plan will be available at the operations base. Ground observers at each treatment site will also have spill response equipment and guidelines. Pesticide spills will be reported to:

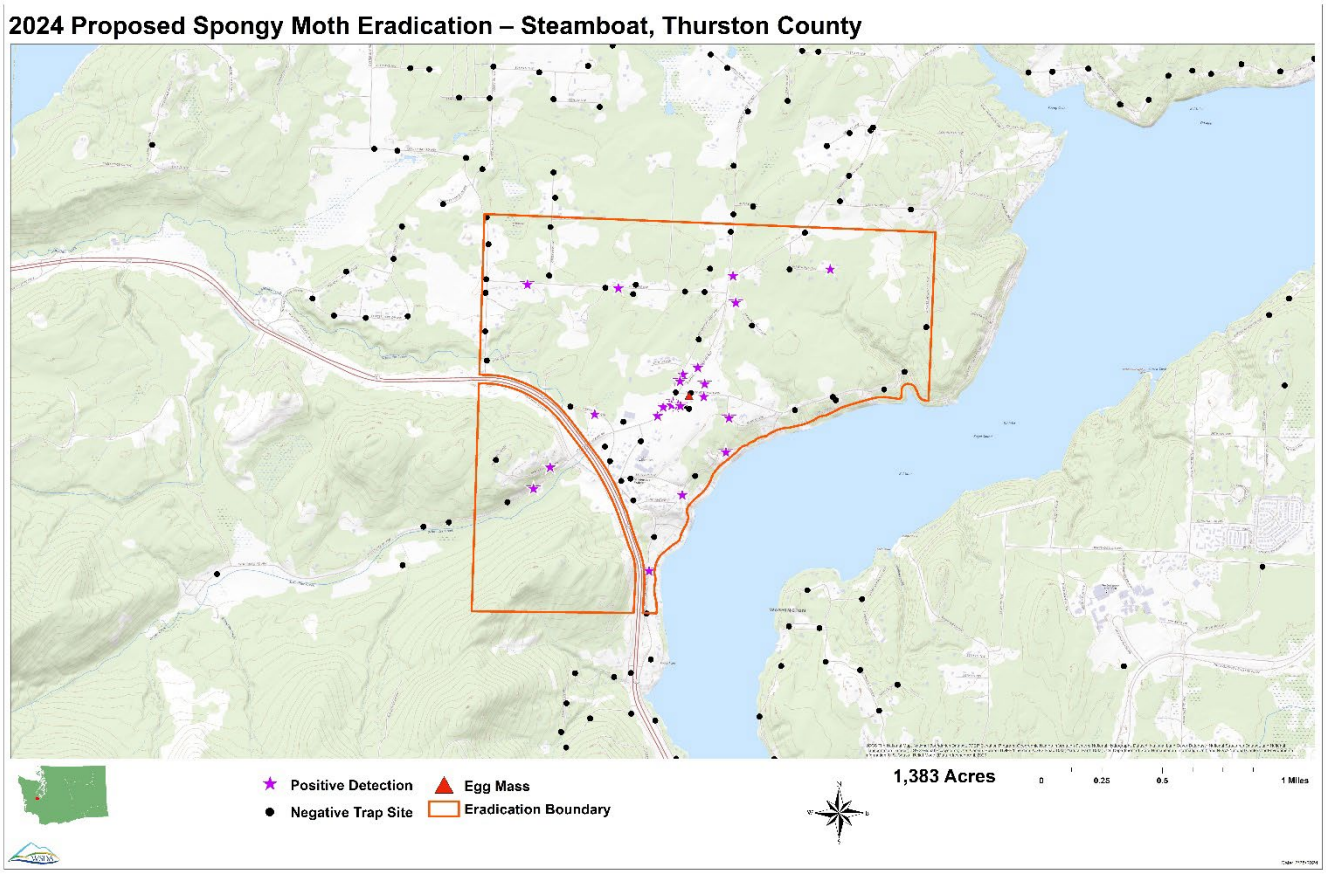
Concrete treatment site- Northwest Office, Shoreline: 206-594-0000

Steamboat treatment site- Southwest Office, Olympia: 360-407-6300

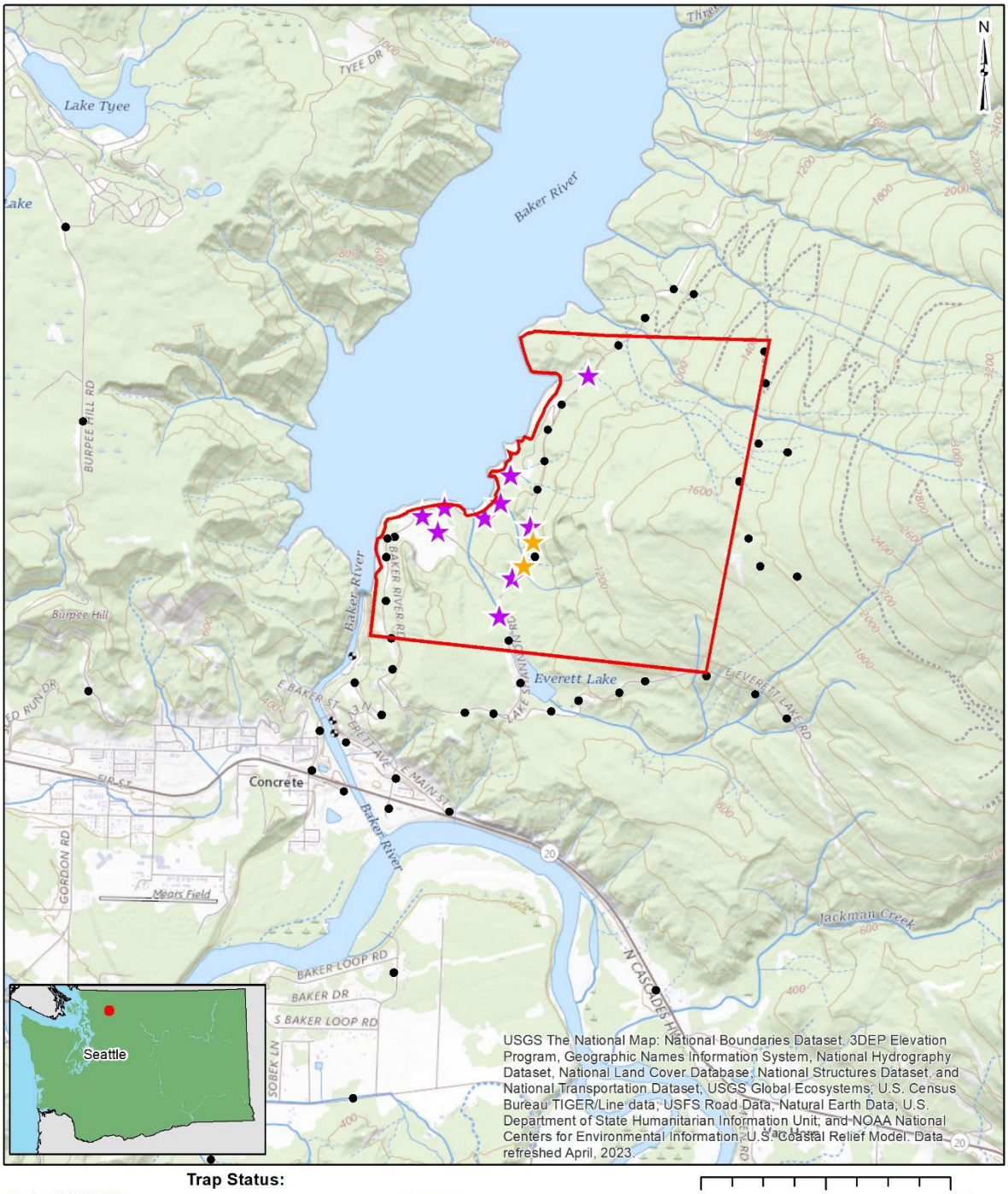
Major spills will be reported to:

National Response Center (Federal): 800-424-8802, and Emergency Management Division (State): 800-258-5990, as well as the correct regional office.

APPENDIX A



2024 Proposed Spongy Moth Eradication – Concrete, Skagit County



Date: 3/7/2024

Trap Status:

- Positive Detection, 2022
- Positive Detection, 2023
- Negative Trap Site
- Eradication Boundary

0 0.25 0.5 1 Miles

WSDA

920 Acres

APPENDIX B

Washington State Spongy Moth (*Lymantria dispar dispar*) Guidelines

For the purpose of this document Spongy Moth refers to *Lymantria dispar dispar* only.
All statements on this document refer to introductions of spongy moth and not interceptions.

These guidelines are based on past successful strategies employed under the ecological conditions present in Washington State.

Survey

Standard detection level trapping is conducted at one trap/square mile throughout Washington State where suitable habitat is present.

Detection Response

A five square mile buffer will be established surrounding each confirmed spongy moth detection.

First year of delimiting

The first year following a detection, traps will be deployed at 49 traps for the first 1 square mile centered on the detection and 25 traps for an additional 4 square miles creating a 5-mile buffer surrounding each detection site.

Second year of delimiting

If there are no detections during the first year of delimitation, the trap density will be decreased to 25 traps for the first square mile and 16 traps for an additional 4 square miles creating a 5-mile buffer surrounding each detection site.

If there are detections during the first year of delimitation, the trap density remains 49/25 for an additional year.

Eradication Triggers

- Trapping one or more moths and finding evidence of an alternate life stage.
- Trapping two or more adult moths in one year followed by trapping five or more moths the following year within a ¼ mile radius of the previous catches.
- Trapping two or more adult moths in one year followed by trapping one or more adult moths in each of the following three years (4 years of catches) within a ¼ mile radius of the previous catches.
- Trapping three or more moths in a single year within two years of treatment. All three moths must fall within a ¼ mile of the previous treatment zone.
- Finding a viable alternate life stage.

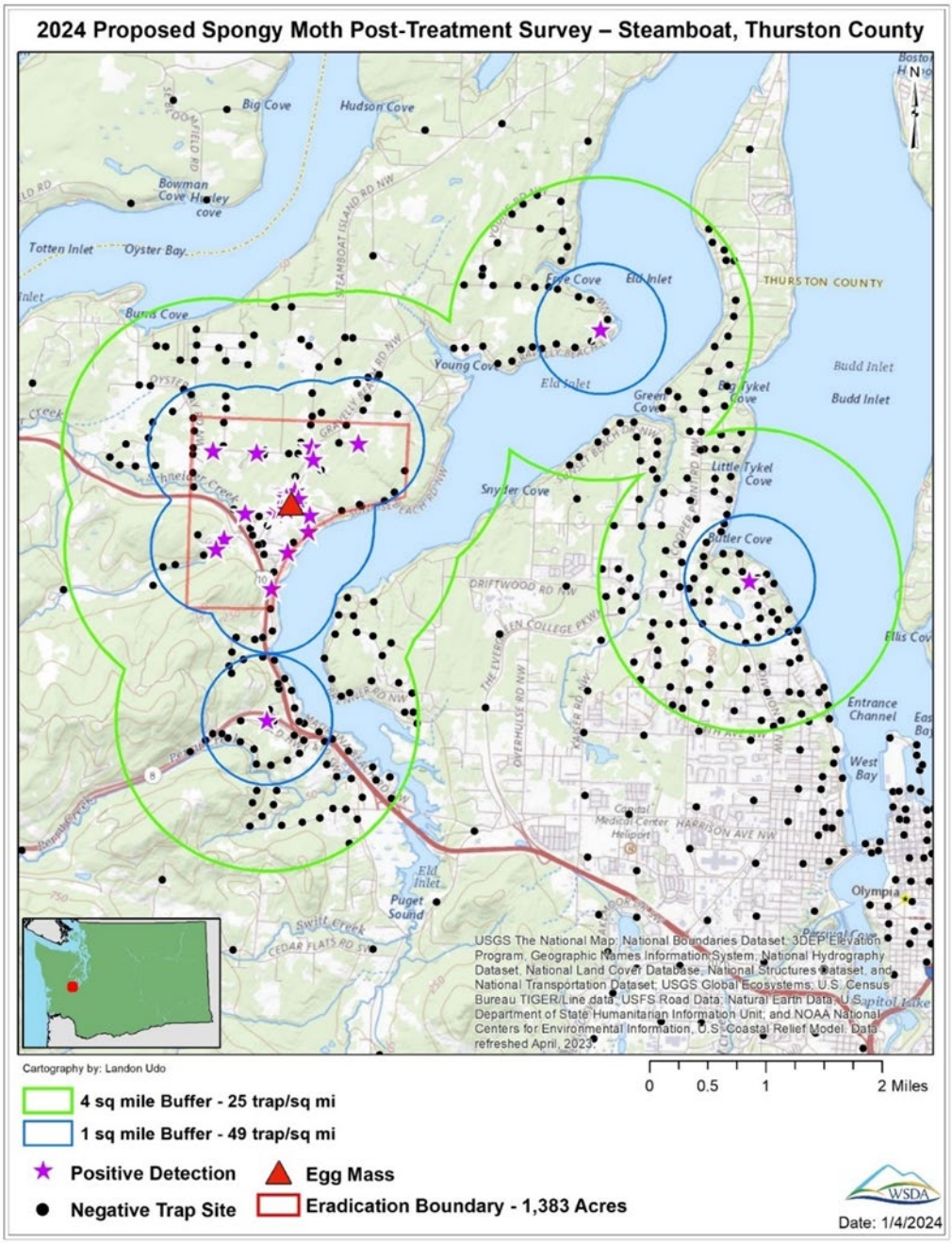
Treatment area factors

- Identification of the core (might result in smaller treatment area)
- Distribution of moth catches outside the core
- Distribution of available host
- Barriers to dispersion
- Property boundaries
- Pesticide used
- Steep terrain
- Tall trees

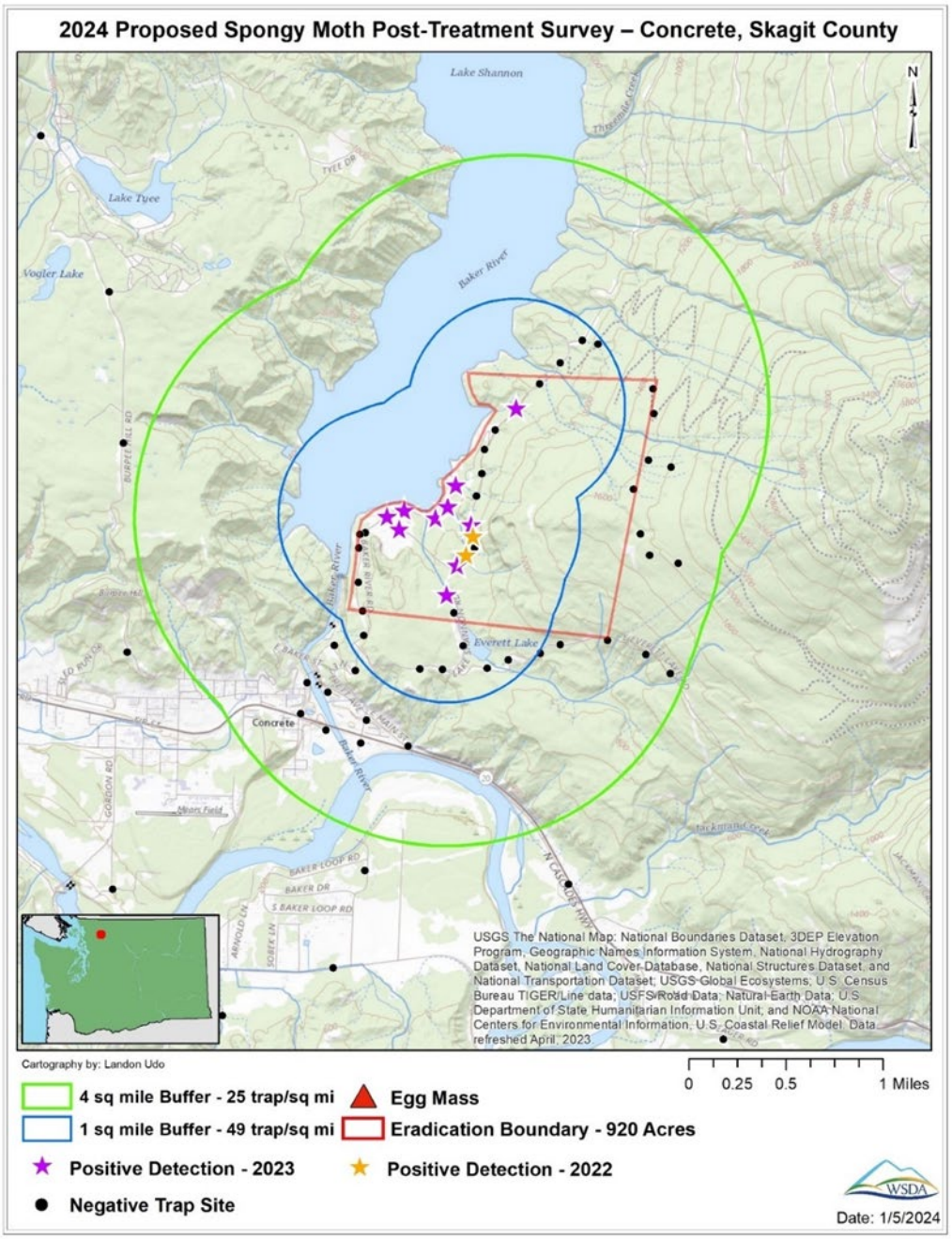
APPENDIX C

Site Name	Scientific Name	Trap	Lure	Trap Density	# of Traps
Steamboat, Thurston County	*Lymantria dispar dispar*	Paper Delta Trap, 2 sticky sides	disparlure string lure	5 square mile buffer Inner 1 sq mi: 49 traps/sq mi Outer 4 sq mi: 25 traps/sq mi	Approximately 1,000*
Concrete, Skagit County	*Lymantria dispar dispar*	Paper Delta Trap, 2 sticky sides	disparlure string lure	5 square mile buffer Inner 1 sq mi: 49 traps/sq mi Outer 4 sq mi: 25 traps/sq mi	Approximately 320*

*Trap numbers are estimates based on the number of grids assigned to the areas. The actual number of traps is highly dependent on accessibility.



Steamboat, Thurston County



Concrete, Skagit County

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Name: Rian Wojahn

Signature: DocuSigned by: Rian Wojahn 4846DE691F194CA... Date: 4/2/2024 | 9:12 AM PDT