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Marketing and
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Greater Bath, Maine Oral Rabies Vaccination (ORV) Zone Designs

ORV Baits

- Boehringer Ingelheim Animal Health (BIAH) RABORAL V-RG® is the only licensed oral rabies vaccine for use in the US and it's licensed for raccoon and coyotes.
- BIAH coated sachet (CS) bait: lightweight and used for aerial distribution; standard bait density in rural/suburban areas (based on raccoon densities) is 75 baits/km²
- BIAH fishmeal polymer (FMP) bait: easier to throw and used for ground baiting; standard bait density in urban areas (based on raccoon densities) is 150 baits/km²

Figure 1. Helicopter and Ground Bait Distribution (Bait Density: 75/km²)

- Helicopter Area: 476 km² (184 mi²)
- Bait Density: 75/km²
- Helicopter Baits: 24,600 CS @ \$1.25 = \$30,750
- Hours: ~17 flying at 40 knots (\$1,100 - \$1,350/hour)
- Staffing typically involves at least 3 people: 1 pilot, 1 navigator (in air bait distributor), 1 ground crew; flight time is estimated at 17 hours so all 3 of these people needed for 17 hours each
- Need a 10 digit phone # that is printed on the baits that must be answered 24/7 area code
- Ground Area: 18 km² (7 mi²)
- Bait Density: 150/km²
- Ground Baits: 2,160 FMP @ \$1.50 = \$3,240
- Hours: ~18
- Staffing typically involves 2 people per vehicle: 1 driver, 1 navigator (bait distributor); distribution time is estimated at 18 hours so both of these people needed for 18 hours each (or 4 people for 9 hours each, etc.)
- Total Baits: 26,760
- Total Area: 495 km² (191 mi²)
- Baits need to be kept at 35-46 degrees Fahrenheit
- Purchase order/work order/state approval letter/Scientific Collection Permit

Other Considerations:

- Costs for commercial or local government helicopters (e.g., State Police, Dept. of Natural Resources, etc.) will need to be investigated.
- Will need to estimate staffing costs for both distribution methods based on operational hours and also estimate vehicle costs for ground baiting.
- The total ORV area should be at least this size (≥400 km²); any smaller and there will not be enough area to buffer from enzootic rabies areas.

- ORV should target raccoons, as it is raccoon rabies variant that gray foxes are confirmed with; and RABORAL V-RG® is not licensed for gray fox.
- To determine baseline levels of rabies virus neutralizing antibodies (RVNA) and biomarker in the raccoon population, pre-bait monitoring (trapping) should be conducted to collect blood (RVNA) and tooth samples to analyze for tetracycline biomarker/age. This trapping should be done in July when juvenile raccoons are big enough to capture as well as adults. \$45,000
- ORV baiting should be conducted in a 1-week period in August to maximize adult and juvenile raccoon populations on the landscape and prior to copious natural food sources in the fall like grapes, corn, etc.
- To determine effectiveness of ORV, post-bait monitoring (trapping) should be conducted starting 4 weeks after baiting to collect blood and teeth samples to analyze for RVNA and bait uptake in raccoons and other rabies vectors. \$45,000
- Due to building population immunity and raccoon population turnover, it may be 3 years or more before rabies cases decline significantly.
- Enhanced rabies surveillance should be conducted throughout the year to collect animals not typically submitted via the public health system like roadkills, strange-acting animals with no human or domestic exposures, and animals found dead by citizens not on roads (e.g., on front lawns, in the woods, etc.) and not involved in exposure situations.
- A minimum of 3-5 year commitment of all considerations above is necessary.

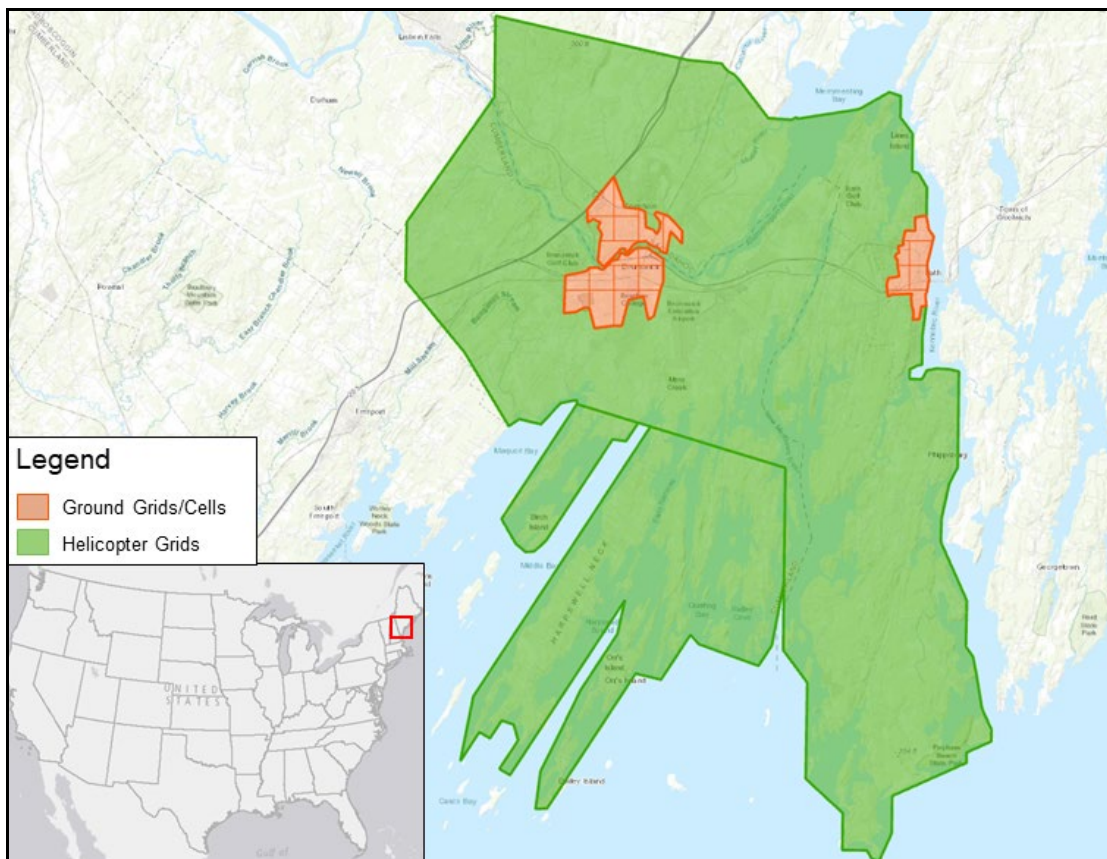


Figure 1. Helicopter and ground grids for Greater Bath Oral Rabies Vaccination Project around towns of Bath, Brunswick, Harpswell, Phippsburg, Topsham, and West Bath, Maine.

USDA can provide GIS shapefiles of these zones including helicopter flight lines and 1-km² cells used for ground baiting.

Baits are purchased through:

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