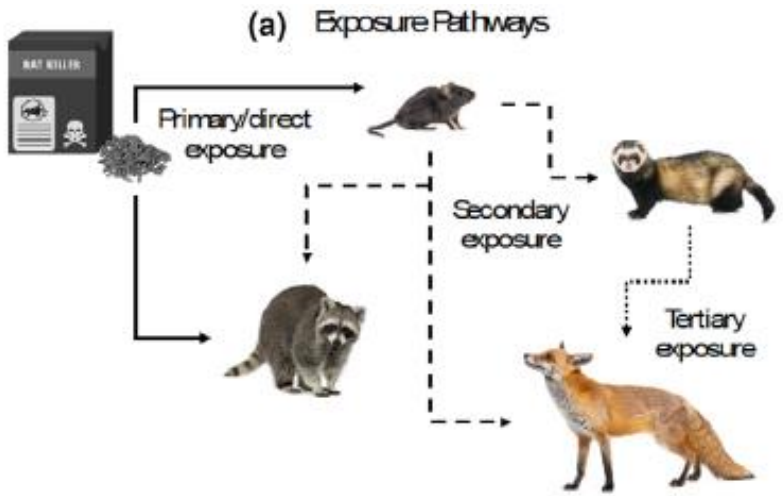
Vermont Fish and Wildlife Department
Testimony on H. 758

House Committee on Agriculture, Food Resiliency, and Forestry

March 11, 2026

H. 758

- Humans can indirectly threaten carnivores through several means
- Non-target exposure to pesticides is a growing reality on global scale
- Growing literature documenting exposure in mustelids, canids, felines



Keating et. al 2024

Keating et. al. 2024. Global Review of anticoagulant rodenticide exposure in wild mammalian carnivores. Animal Conservation (27): 585- 599

Why does this matter?

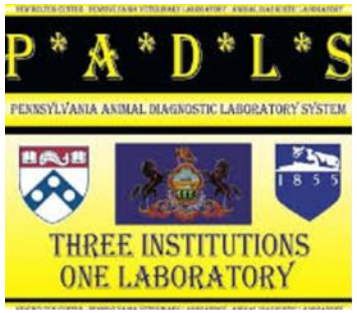
- Carnivores help regulate rodent populations
- AR exposure may affect predator health
- Monitoring helps identify emerging risks
- Like many things, environmental contamination is important

Necropsies

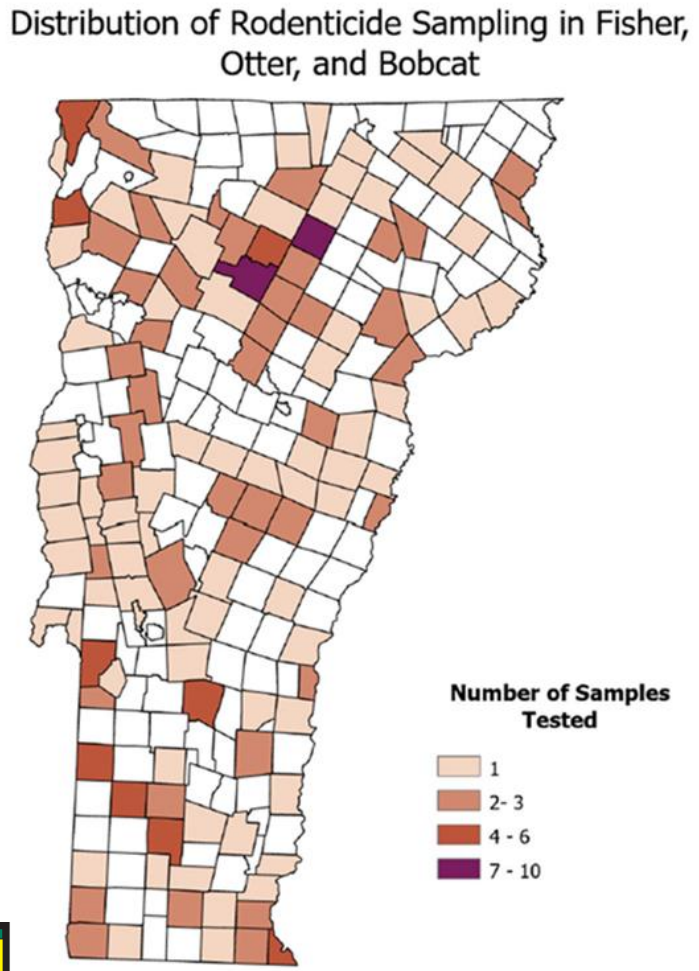
Very difficult to link AR exposure to mortality in wildlife populations

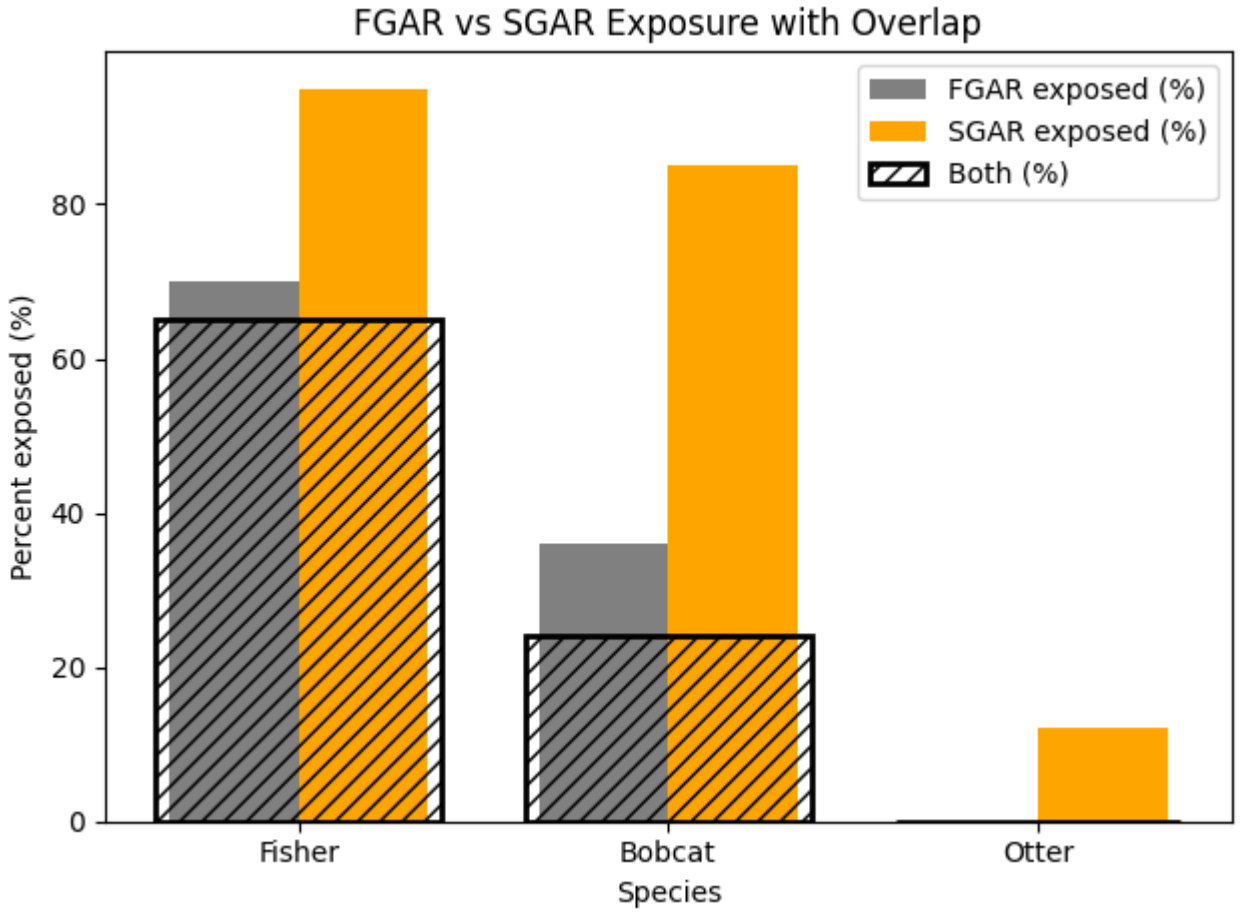
Mostly sampling liver, where toxins accumulate and persist, potentially revealing a history of exposure rather than just recent exposure

Collaboration is Key



2018- 2023 Trapping Seasons



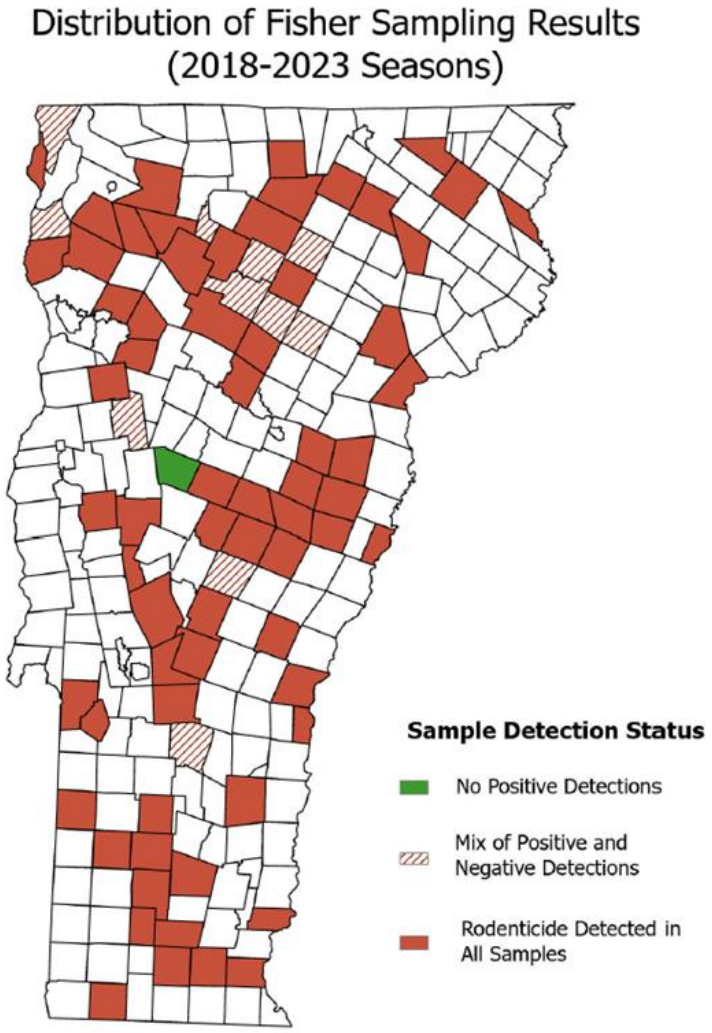


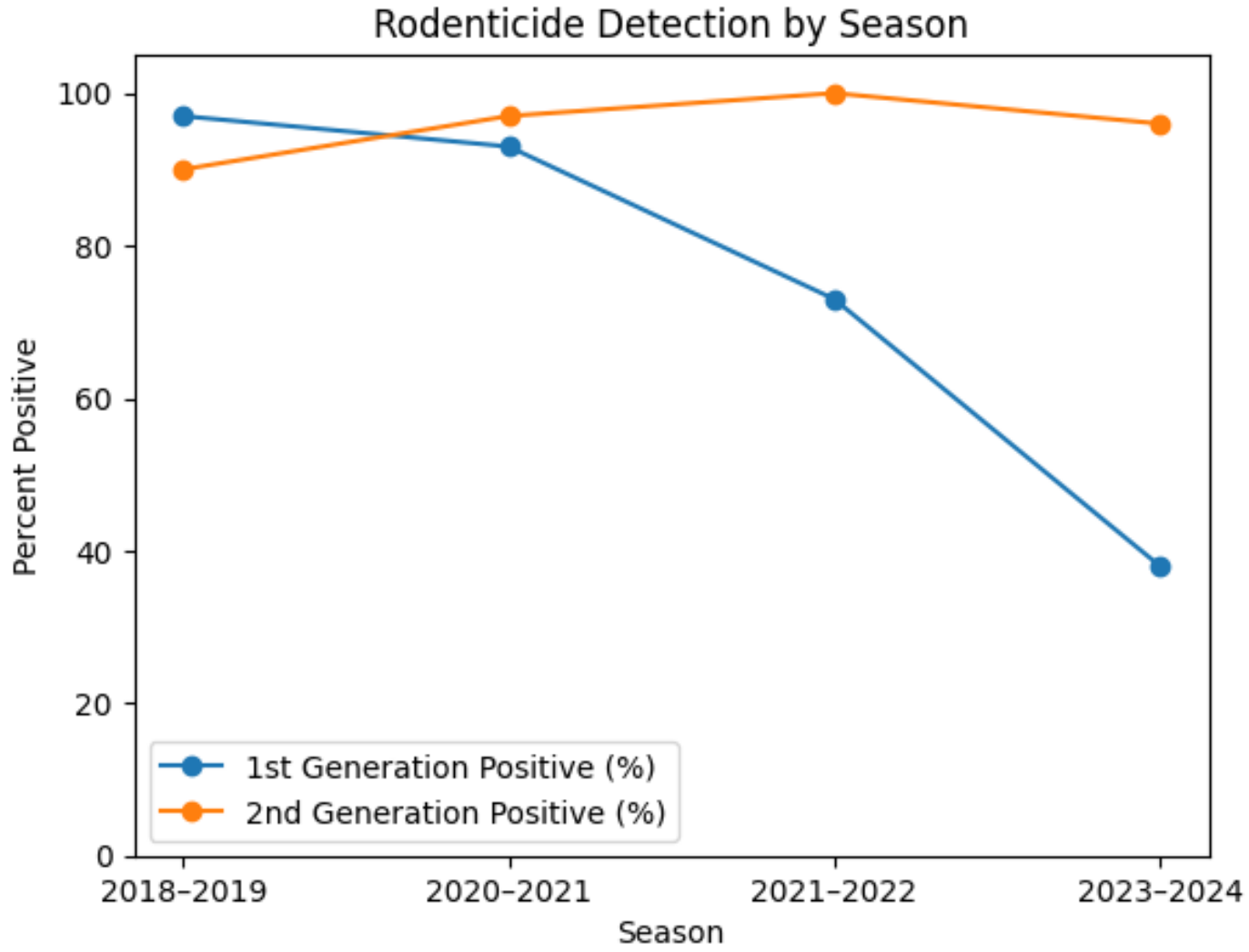
N= 118

N= 74

N= 25

2018- 2023 Trapping Seasons: Fisher





Season	Sample Size
2018–2019	30
2020–2021	30
2021–2022	11
2023–2024	48
Total	**119**

Includes Trace Amounts: below detection limits

The method detection limits are: Brodifacoum (0.025 ppm), Bromadiolone (0.100 ppm), Chlorophacinone (0.100 ppm), Coumachlor (0.025 ppm), Coumafuryl (0.025 ppm), Dicoumarol (0.100 ppm), Difenacoum (0.025 ppm), Difethialone (0.025 ppm), Diphacinone (0.050 ppm), Pindone (0.200 ppm), Warfarin (0.025 ppm)

Diphacinone most common FGAR

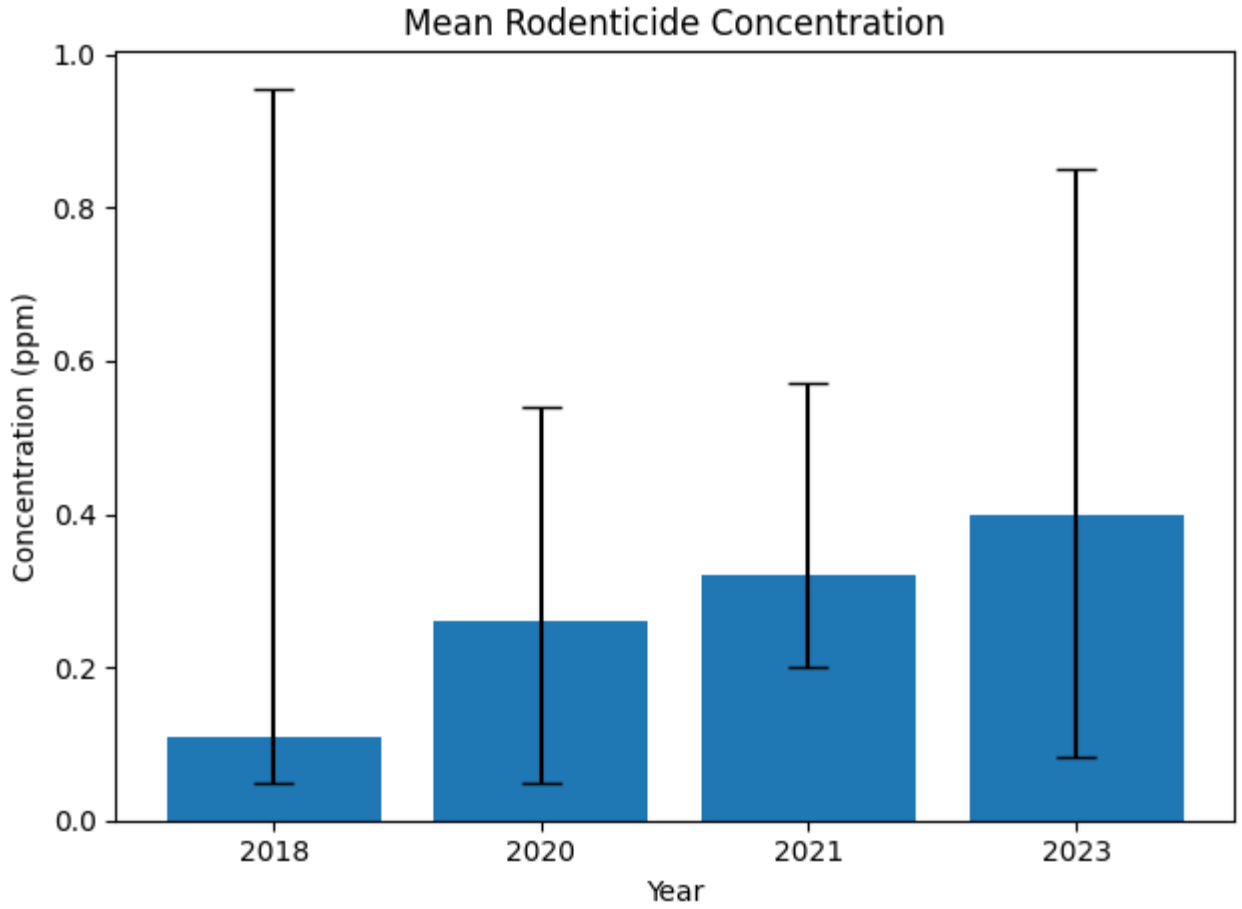
Remaining FGARs had barely any detection (Warafin had zero detection across all years)

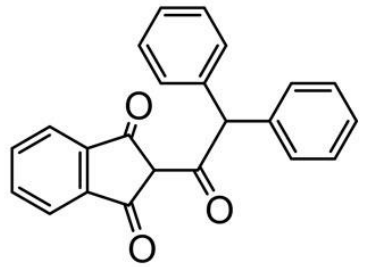
ONLY Diphacinone was detected in 2023 season, no others

Brodifacoum most common SGAR

followed by **Bromadiolone**

Diphacinone: Most Common FGAR

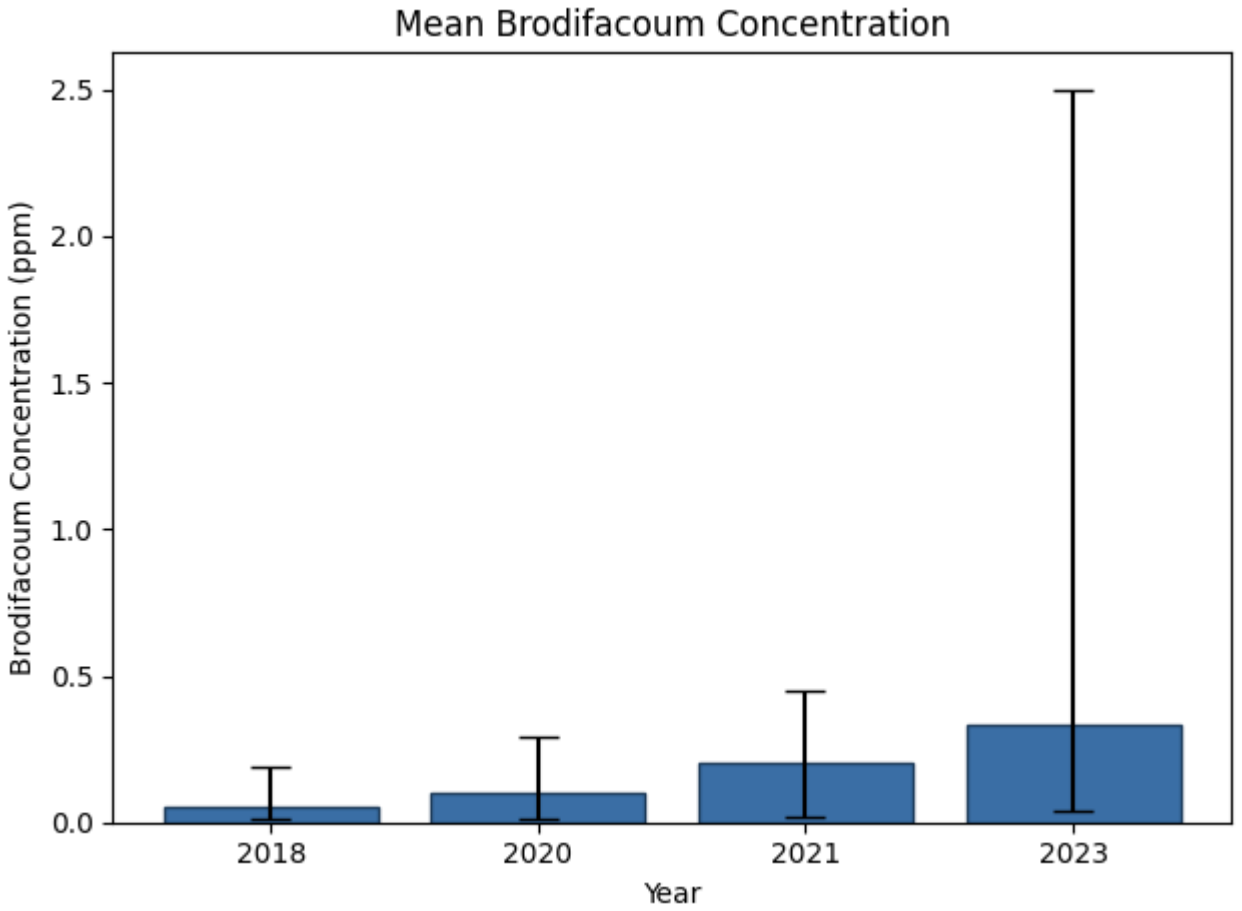


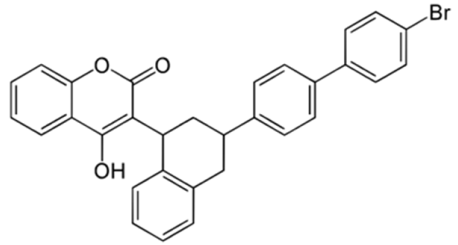


Reported range of mean concentrations in mammalian carnivores: 0.03 – 55 ppm

Quantifiable data only, does not include traces

Brodifacoum: Most Common SGAR

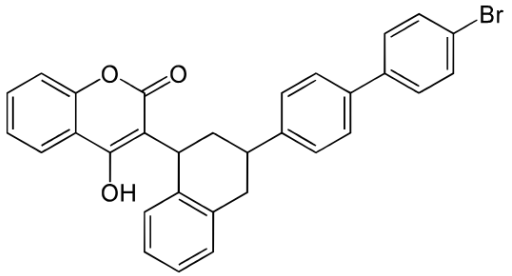




Reported range of mean concentrations in mammalian carnivores: 0.002 – 2.93 ppm

Quantifiable data only, does not include traces

Brodifacoum



- Has a high liver retention rate (100-300 d)
- May affect detection frequency & duration prey remain toxic to predators
- Highest half-life in the liver
- Many LD50’s in mammals far exceed birds
- Does liver retention rates affect detection more than potency?

A Closer Look on “Trace Amounts”

Number of samples with trace occurrences (Both FGAR & SGAR)

2018: 0 (0%)

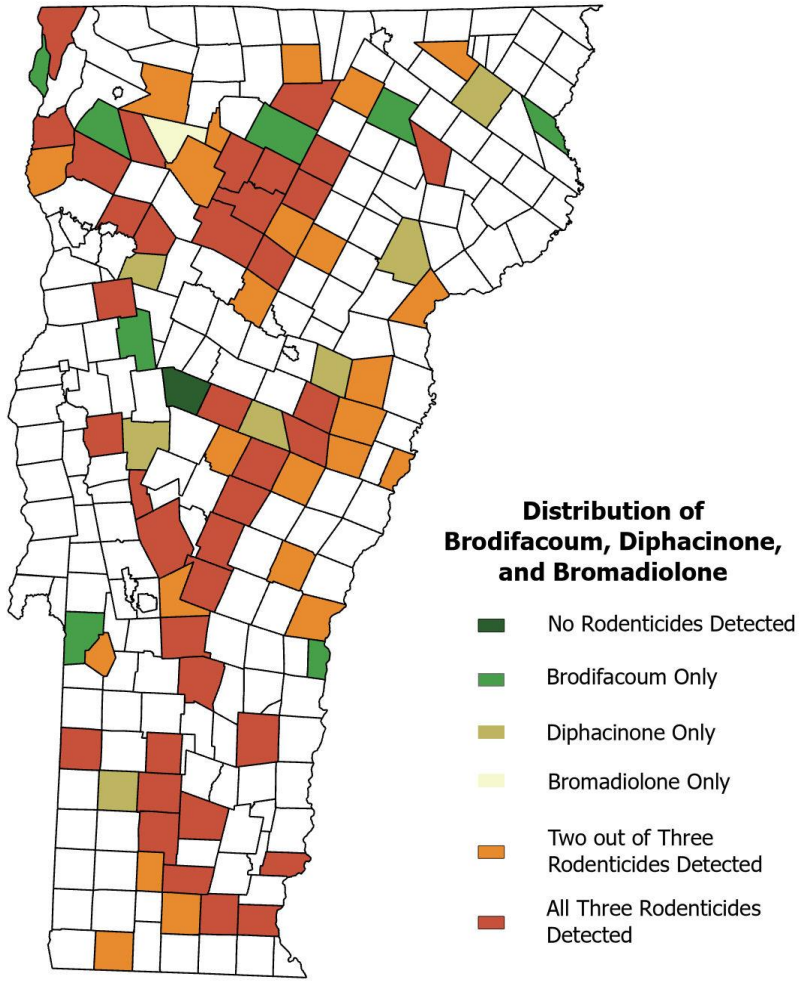
2020: 47 (20%)

2021: 12 (14%)

2023: 64 (17%)

- The co-occurrence matters
- It points more toward: repeated exposure, multiple products in the environment, or prey encountering different bait types/settings.

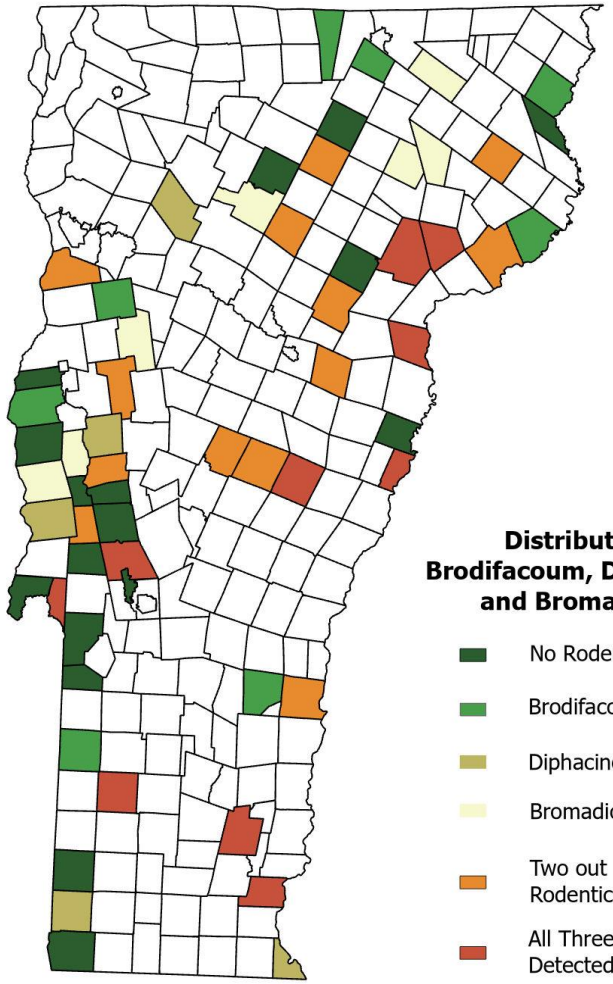
Distribution of the Three Most Common Rodenticides Detected in Fisher (2018-2023 Seasons)



Distribution of Brodifacoum, Diphacinone, and Bromadiolone

- No Rodenticides Detected
- Brodifacoum Only
- Diphacinone Only
- Bromadiolone Only
- Two out of Three Rodenticides Detected
- All Three Rodenticides Detected

Distribution of the Three Most Common Rodenticides Detected in Bobcat (2021-2023 Seasons)



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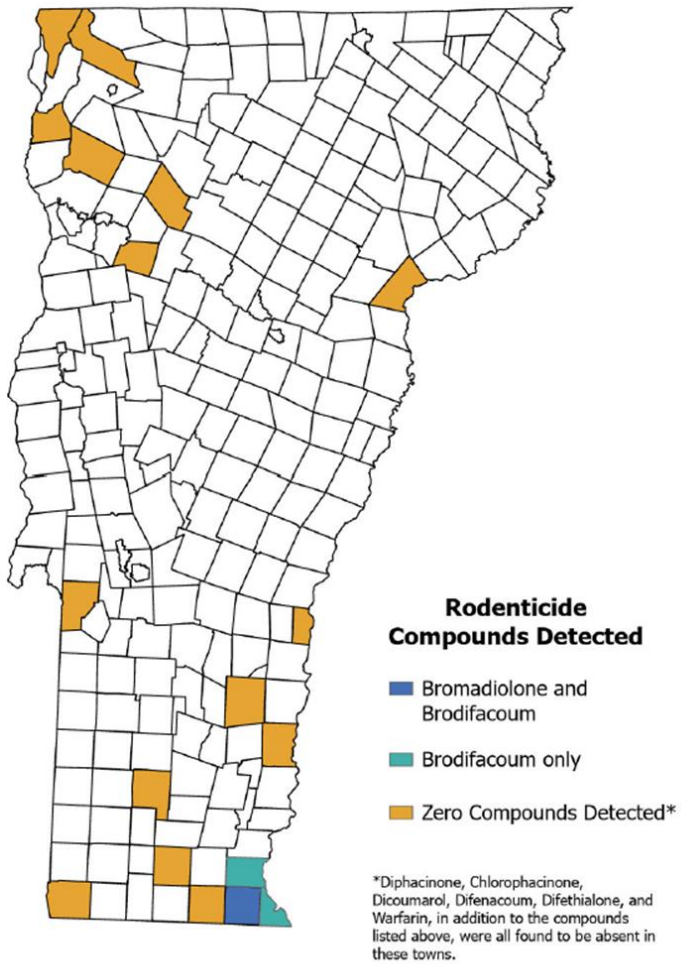
Distribution of Rodenticides Detected in Otter



While this was only trace amounts, this is still beneficial information

What does this all mean?

- ✓ AR exposure in multiple carnivore species
- ✓ SGAR dominant detections
- ✓ Co-exposure to both is common
- ✓ Mortality link remains uncertain
- ✓ Continue monitoring