



2024 Rouge River Watershed Frog and Toad Survey

Friends of the Rouge
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The Rouge River Watershed Frog and Toad Survey is a volunteer listening survey that has been coordinated by Friends of the Rouge since 1998. Volunteers are trained to recognize local frog and toad breeding calls and survey quarter-square-mile blocks within the Rouge River watershed from March through July. The purpose of the survey is to collect baseline data on the distribution of frogs and toads within the watershed as well as to give residents of an urbanizing area a positive experience with their local natural areas.

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Michigan Association of Environmental Professionals
and Mercedes Benz Financial Services

Summary of Volunteer Effort

After three years of online workshops, the training for the 2024 Frog & Toad Survey was held in person for the first time since the pandemic and volunteers were able to meet other surveyors in person. The workshop was held at the Livonia Civic Center Library on Saturday March 2, 2024. There were 81 attendees. Former surveyor Kathy Ableson presented the Froggyvoice app she designed to help people learn Michigan frog and toad breeding calls. Veteran surveyors Dondra Elie and Jennifer Chinn provided their advice and experience. Dondra has done the survey off and on for 19 years, starting with her dad in 2005 and now participating with her family. Jennifer has been surveying the same block for eight years since 2016. Education and Monitoring Coordinator Sam Davis taught participants how to use Survey123 to submit data. Attendees who signed up were given new Frog and Toad Patrol name badges.

The survey block maps for volunteers were updated this year with assistance from Ryan Dividock with Oakland County's Planning Division. The 2010 aerial photos on the maps were replaced with 2020 aerial images for Wayne and Washtenaw Counties and with 2023 images for Oakland County. Next year, the wetlands layer that is overlaid on the maps will be updated with a new layer from Ducks Unlimited, supplanting our layer based on 2005 aerial images.

A total of 181 people signed up to survey an area for frogs and toads: 92 veteran surveyors and 89 new surveyors. To support the surveyors and to provide an opportunity to practice listening skills, three group listen were held. The first was at Heritage Park in Farmington Hills on April 24th with 14 attendees. The second was on

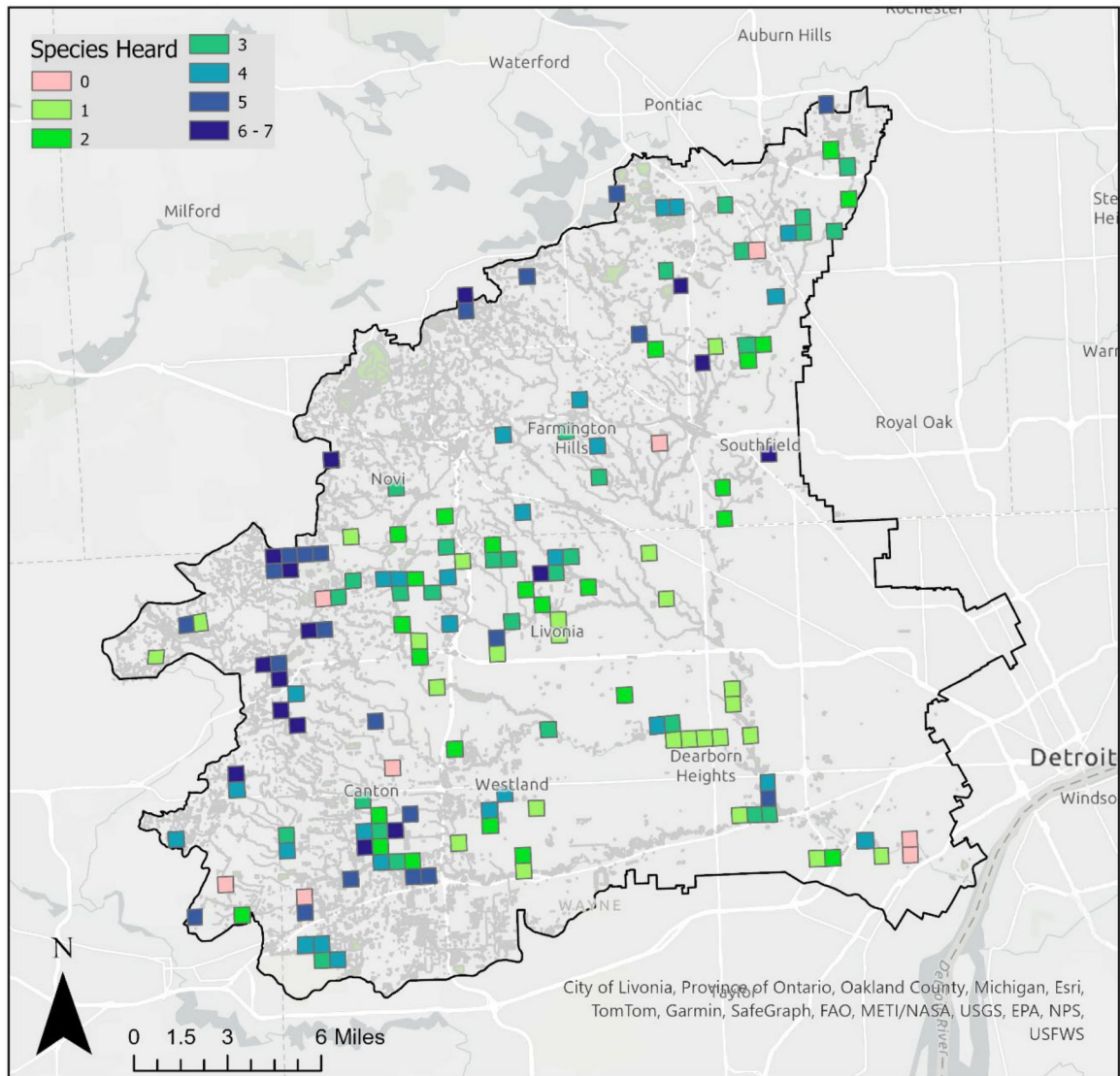
May 3rd at West Bloomfield Woods Nature Preserve, co-sponsored by West Bloomfield Parks and Recreation. The third was held on May 13th at Maybury State Park, led by surveyor Fred Fee and had 12 attendees.

A total of 245 survey blocks were assigned. Data was submitted for 152 blocks. More of the data is now coming in via the Survey123 app. Survey volunteers and interns assisted Friends of the Rouge in inputting data from paper and electronic forms into the app.

2024 Survey Results

Surveyors submitted data observations for 152 blocks. At least 12 of these were new blocks and we now have observations for 1017 blocks of 2128 possible in the watershed. Of those 152 blocks surveyed this year, 120 (79%) were fully surveyed. To be considered fully surveyed, the block must have at least four observation dates, spread between March and July. With consistent observations, we can generalize that the surveyor was able to document all of the species calling within the block. We also received partial data for 32 blocks. Occasional observations for a block are useful in documenting that a species was calling in that block in 2024, but it is not enough observations to say that other species were not also found there.

Map 1: 2024 Survey Results for Fully Surveyed Blocks



For the 120 blocks that were fully surveyed, an average of 3.5 species was heard per block. Five fully surveyed blocks had no species calling. American toads (76%), green frogs (61%) and gray treefrogs (61%) were the most commonly heard species in 2024. Northern leopard frogs were the least commonly heard species (8%), followed by wood frogs (13%) and bullfrogs (22%). Wood frogs, chorus frogs, spring peepers, American toads and northern leopard frogs were all heard in fewer blocks than average for the species.

For each species, we looked at the trend over time in the percent of blocks in which they were heard (see Figure 1, Table 1 and Species Maps and Graphs). Overall, four early calling species seem to be declining while the later calling frogs seem to be increasing. The largest slope (increase) was for gray treefrogs which also had the highest R^2 value (Table 2). Gray treefrogs rely on forested wetlands which have been increasing in the

watershed since 2001. There is a lot of variation year to year but it is alarming that the early calling species may be declining. Chaotic spring weather with a spring drought in 2023 and a cold spring in 2024 may be affecting them more. We rely on surveyors to continue to collect this data so we can monitor these trends over time, keeping an eye out for these sensitive special creatures.

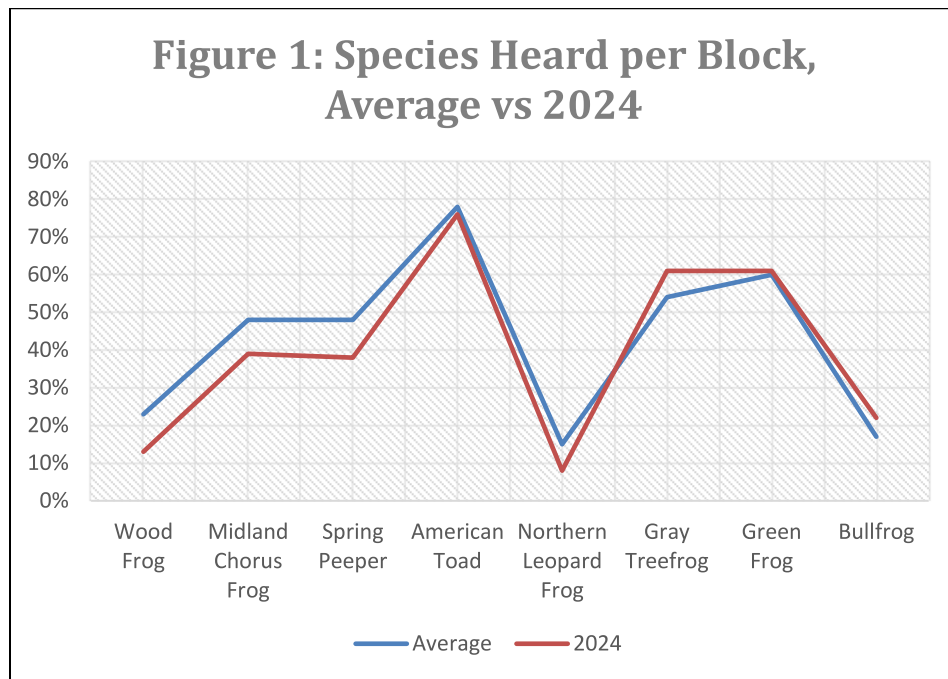
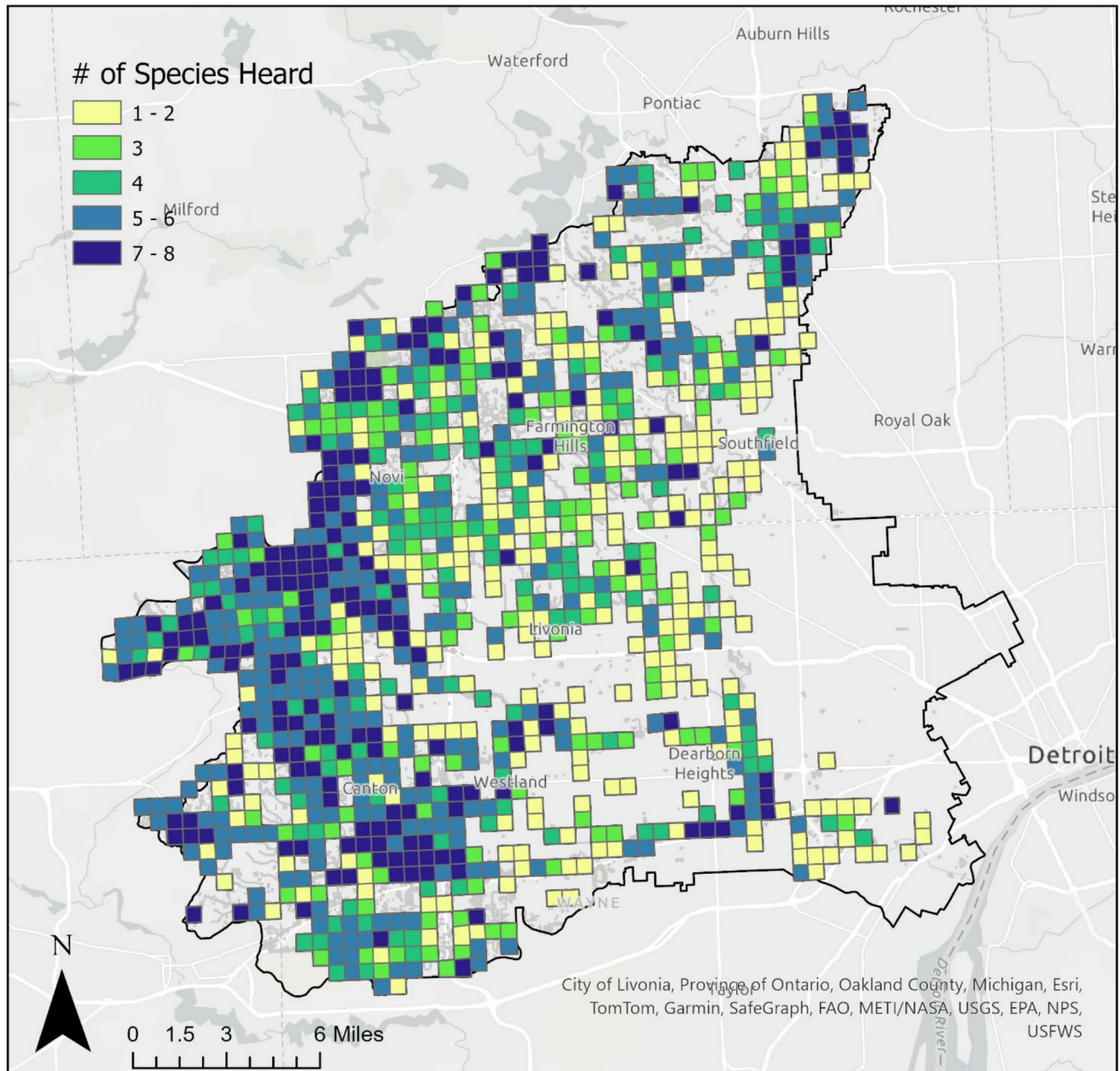


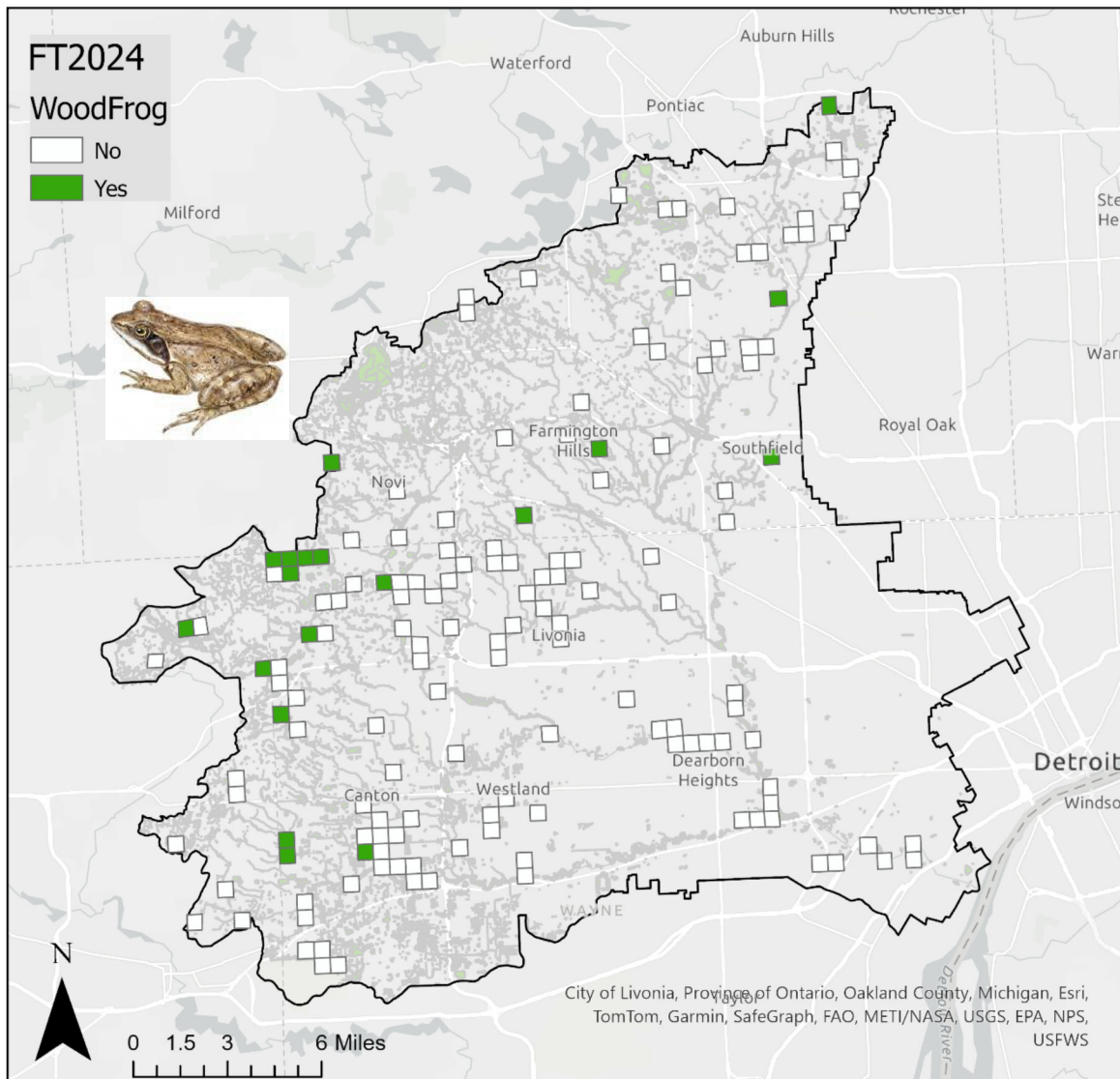
Table 1: Trends				
Species	2024	Average	Trend	R ²
Wood Frog	13%	23%	-0.18	0.22
Midland Chorus Frog	39%	48%	-0.29	0.13
Spring Peeper	38%	48%	-0.48	0.22
American Toad	76%	78%	0.61	0.26
Northern Leopard Frog	8%	15%	-0.006	0.00007
Gray Treefrog	61%	54%	0.97	0.51
Green Frog	61%	60%	0.47	0.13
Bullfrog	22%	17%	0.49	0.39

Species Maps & Graphs

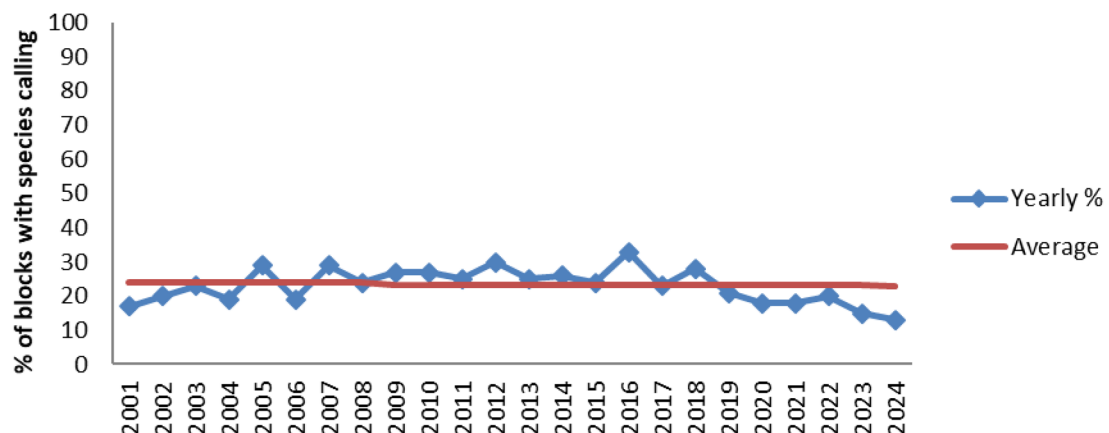
Map 1: Cumulative Map Showing Total Number of Species Heard per Block, 1998-2024



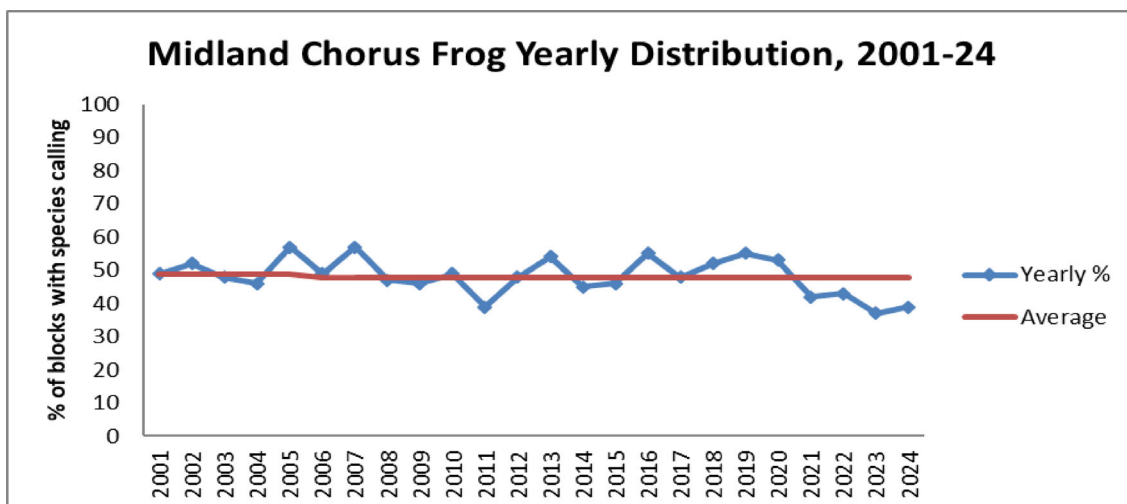
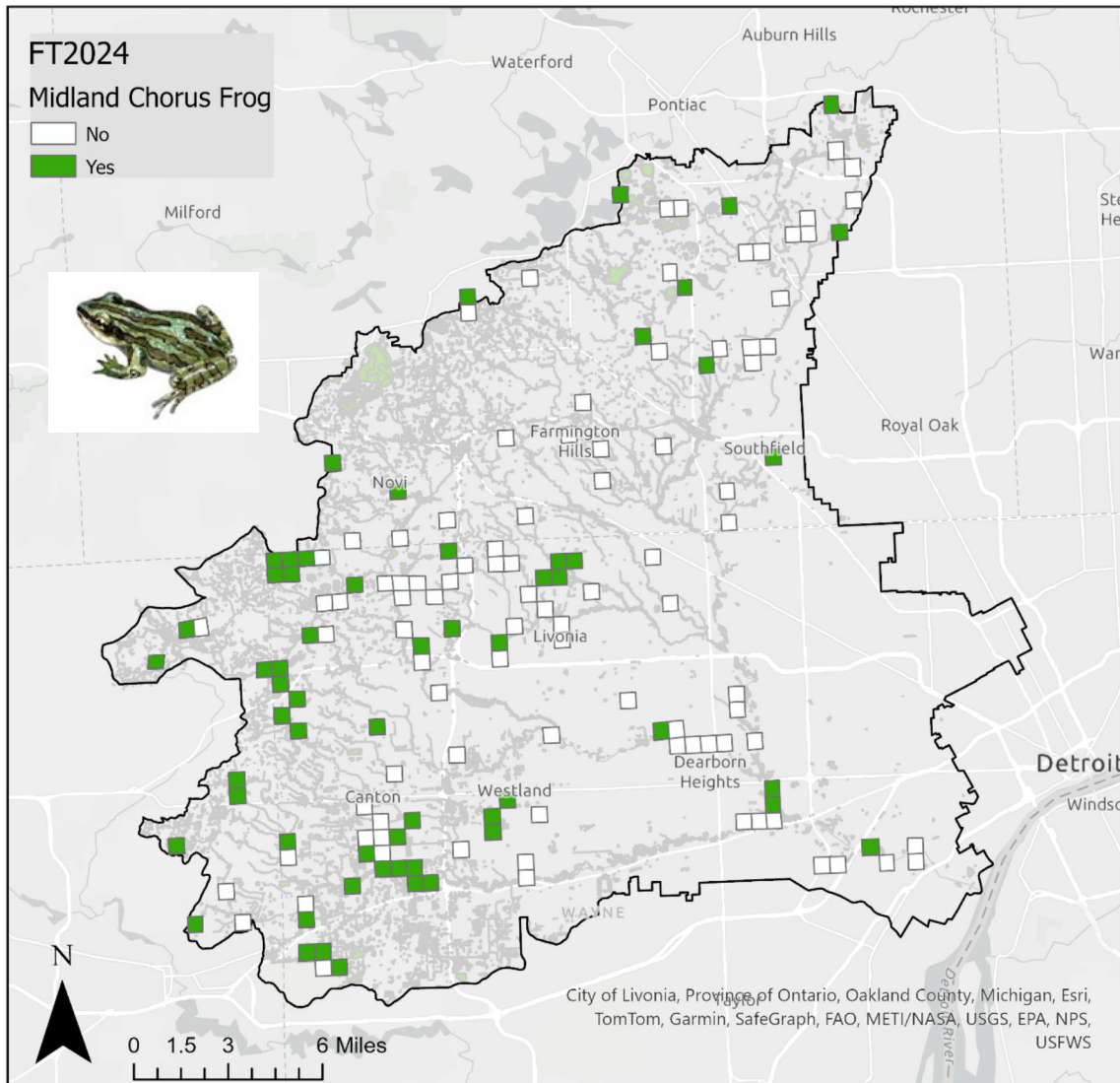
Map 2: Wood Frog (*Rana sylvatica*)



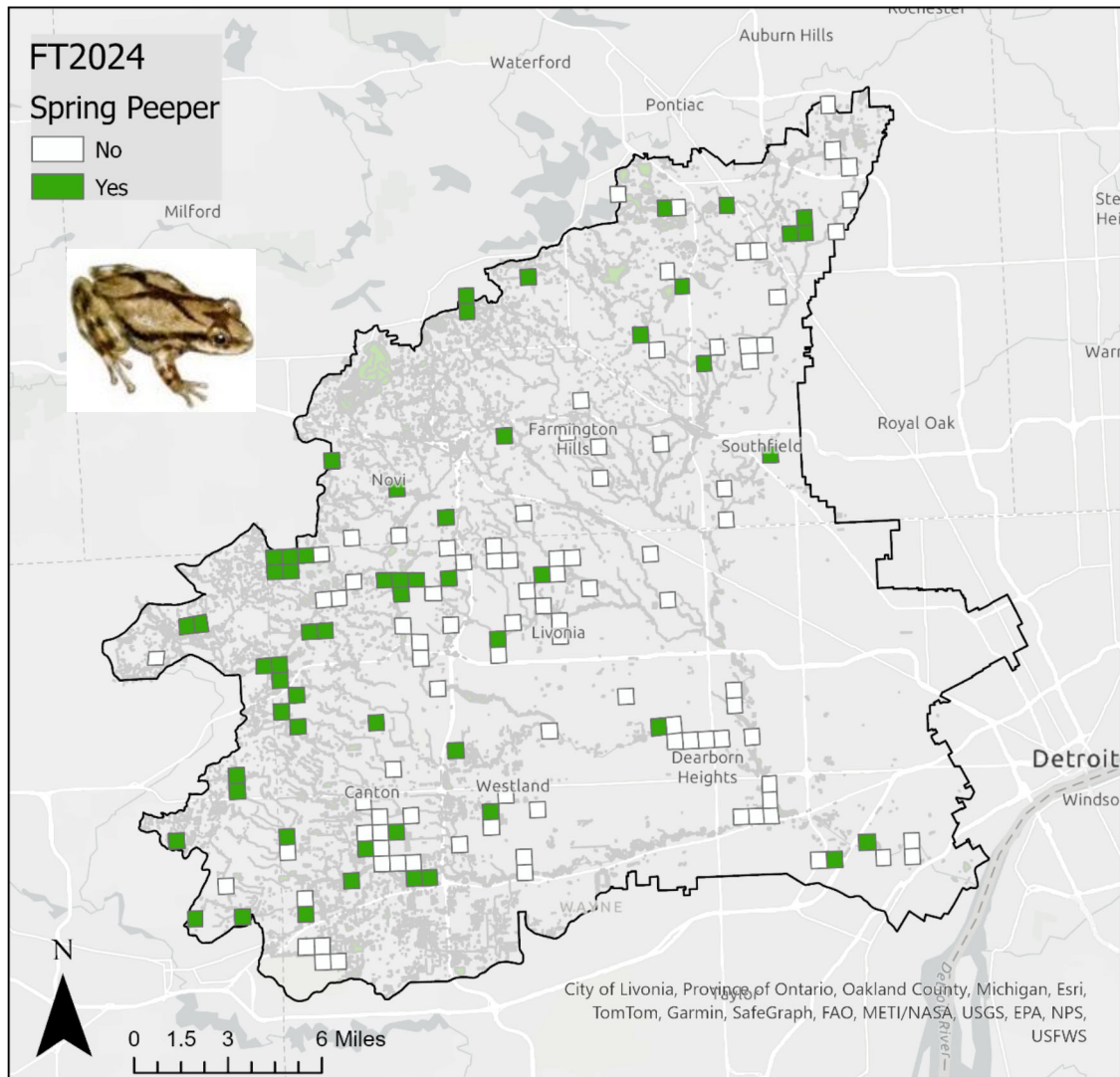
Wood Frog Yearly Distribution 2001-24



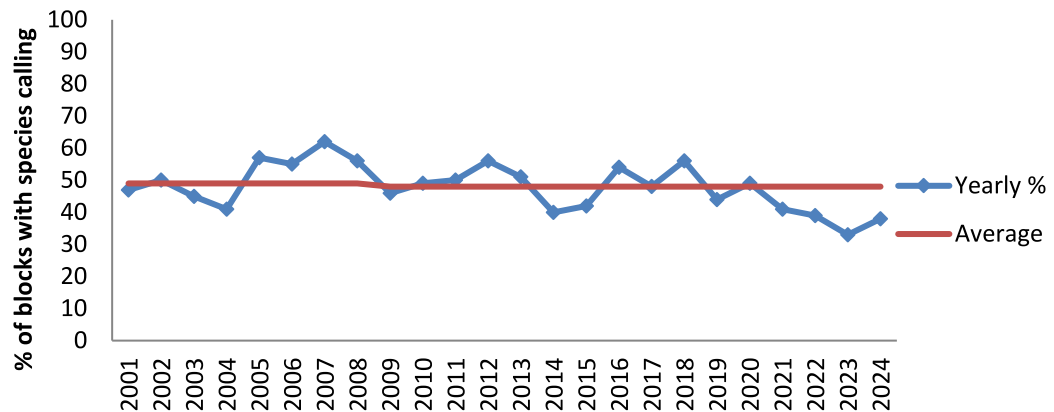
Map 3: Midland Chorus Frog (*Pseudacris triseriata*)



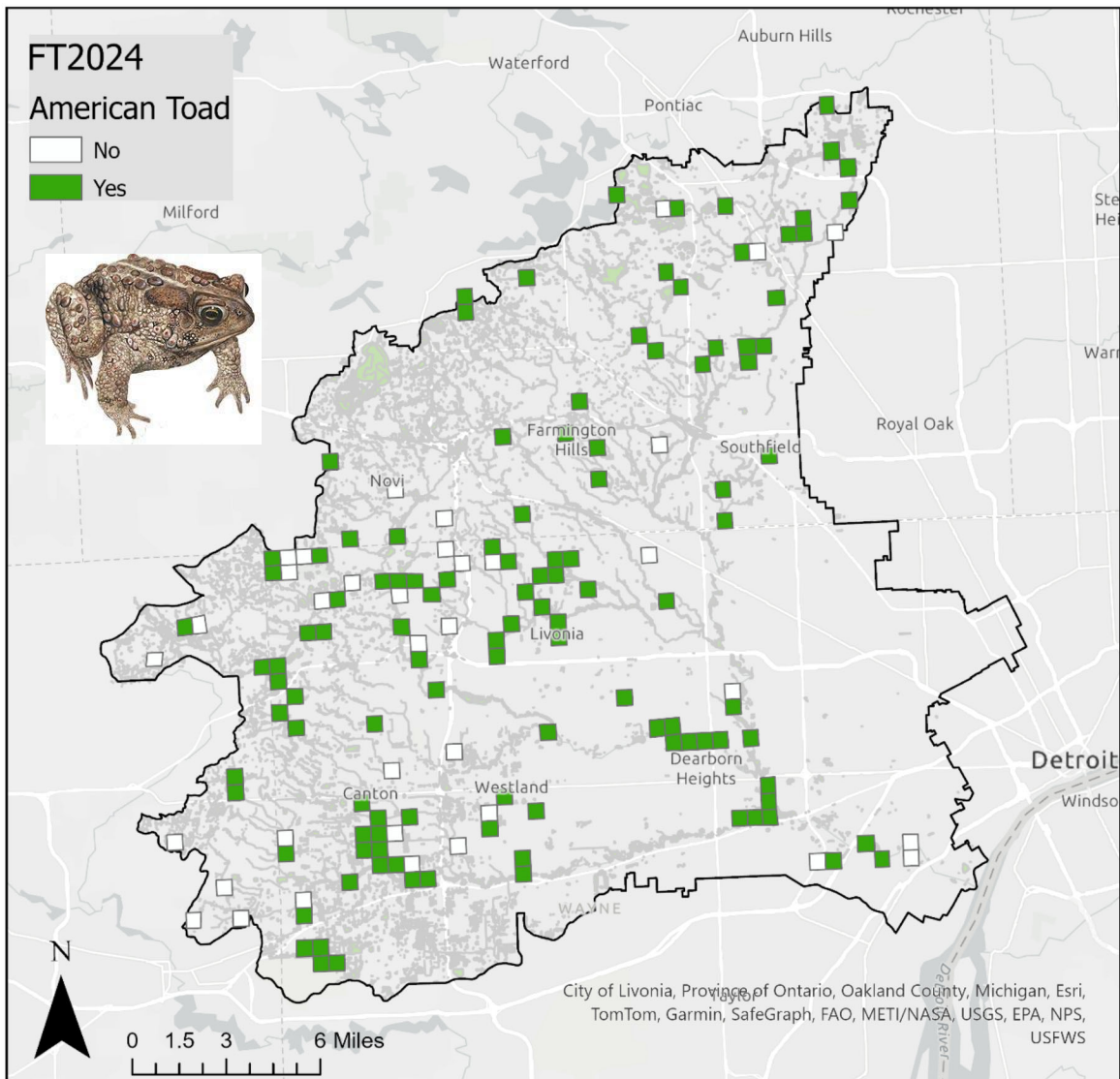
Map 4: Spring Peeper (*Pseudacris crucifer*)



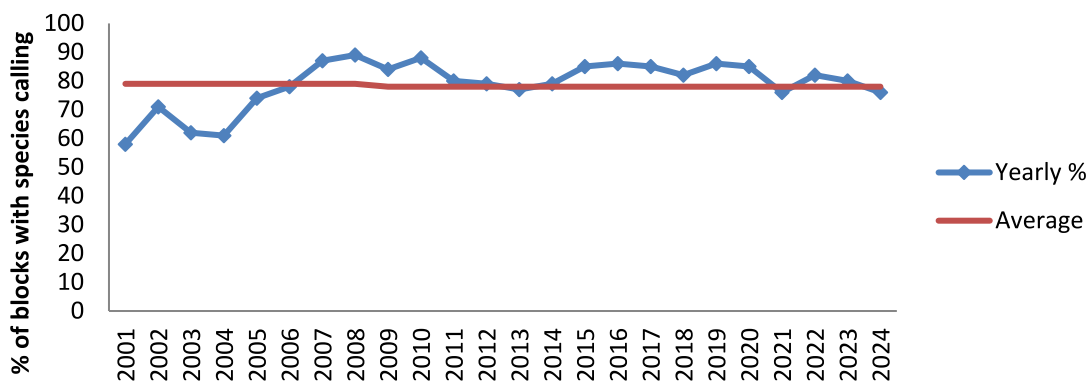
Spring Peeper Yearly Distribution, 2001-24



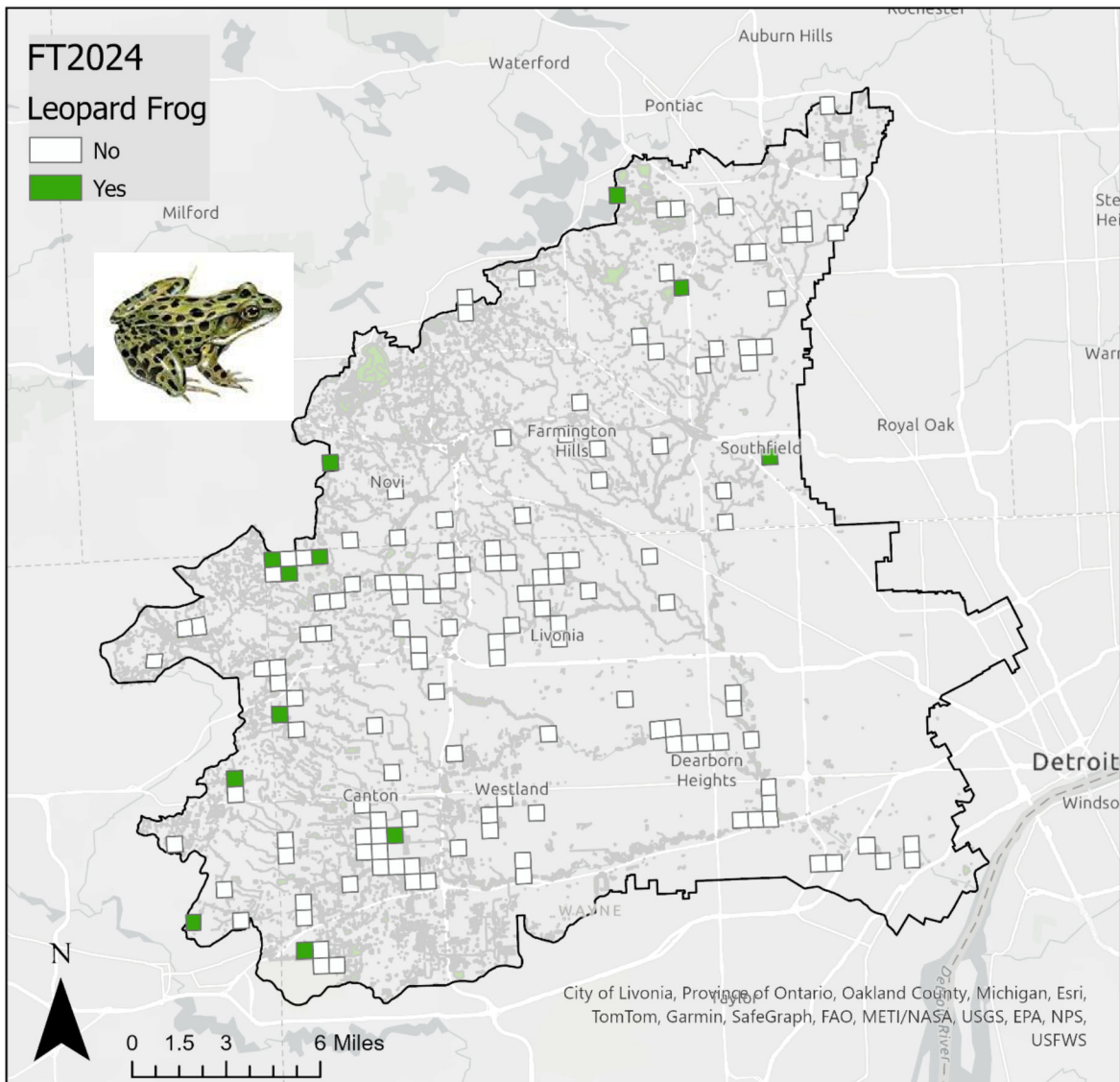
Map 5: American Toad (*Bufo americanus*)



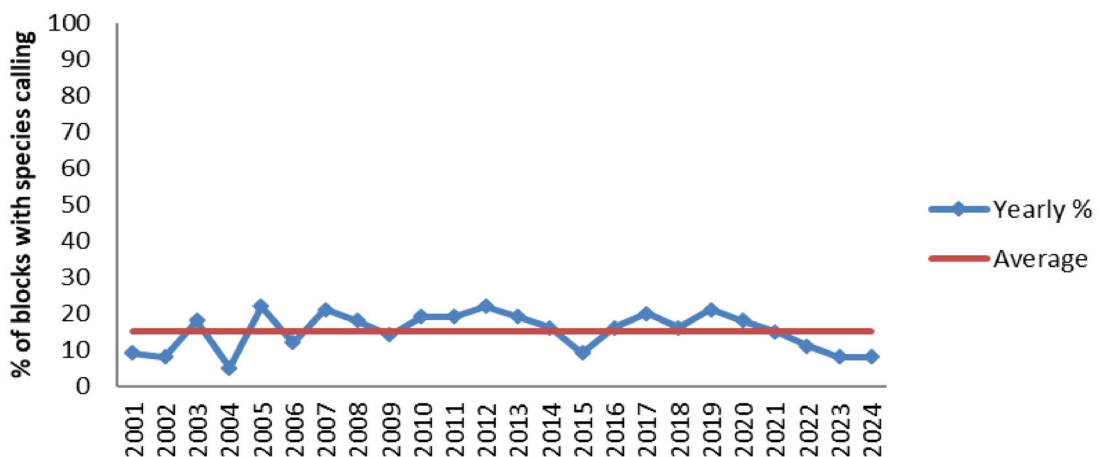
American Toad Yearly Distribution, 2001-24



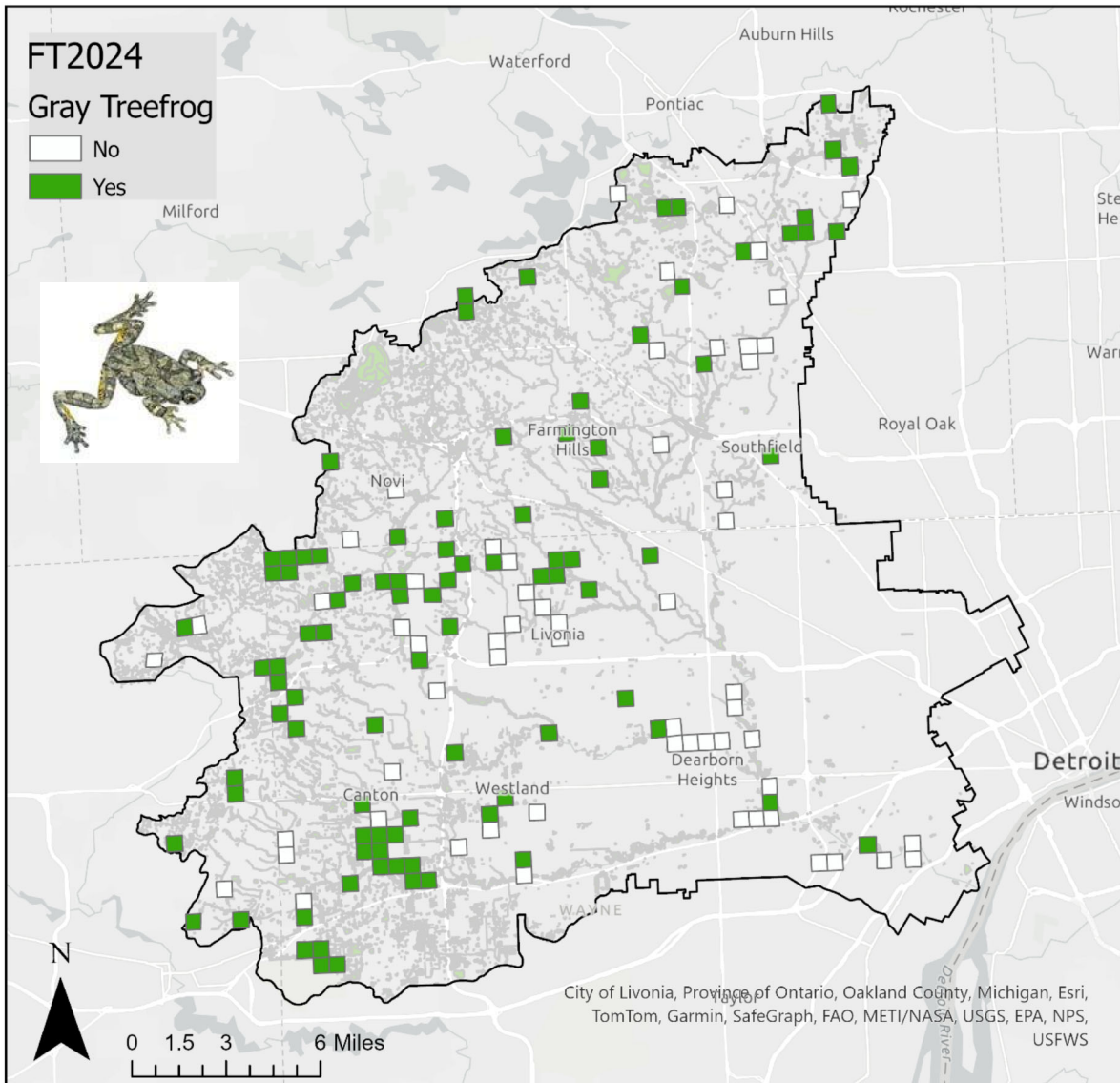
Map 6: Northern Leopard Frog (*Rana pipiens*)



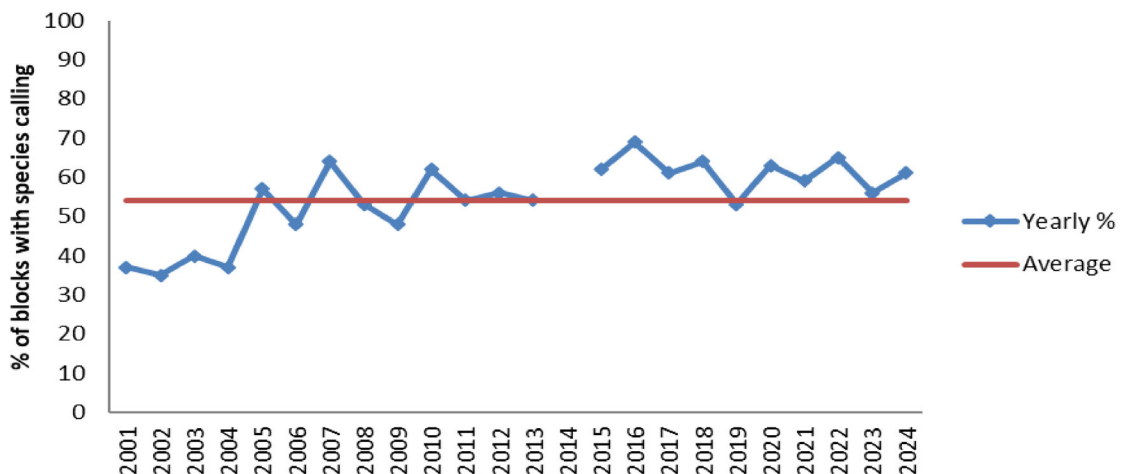
Leopard Frog Yearly Distribution, 2001-24



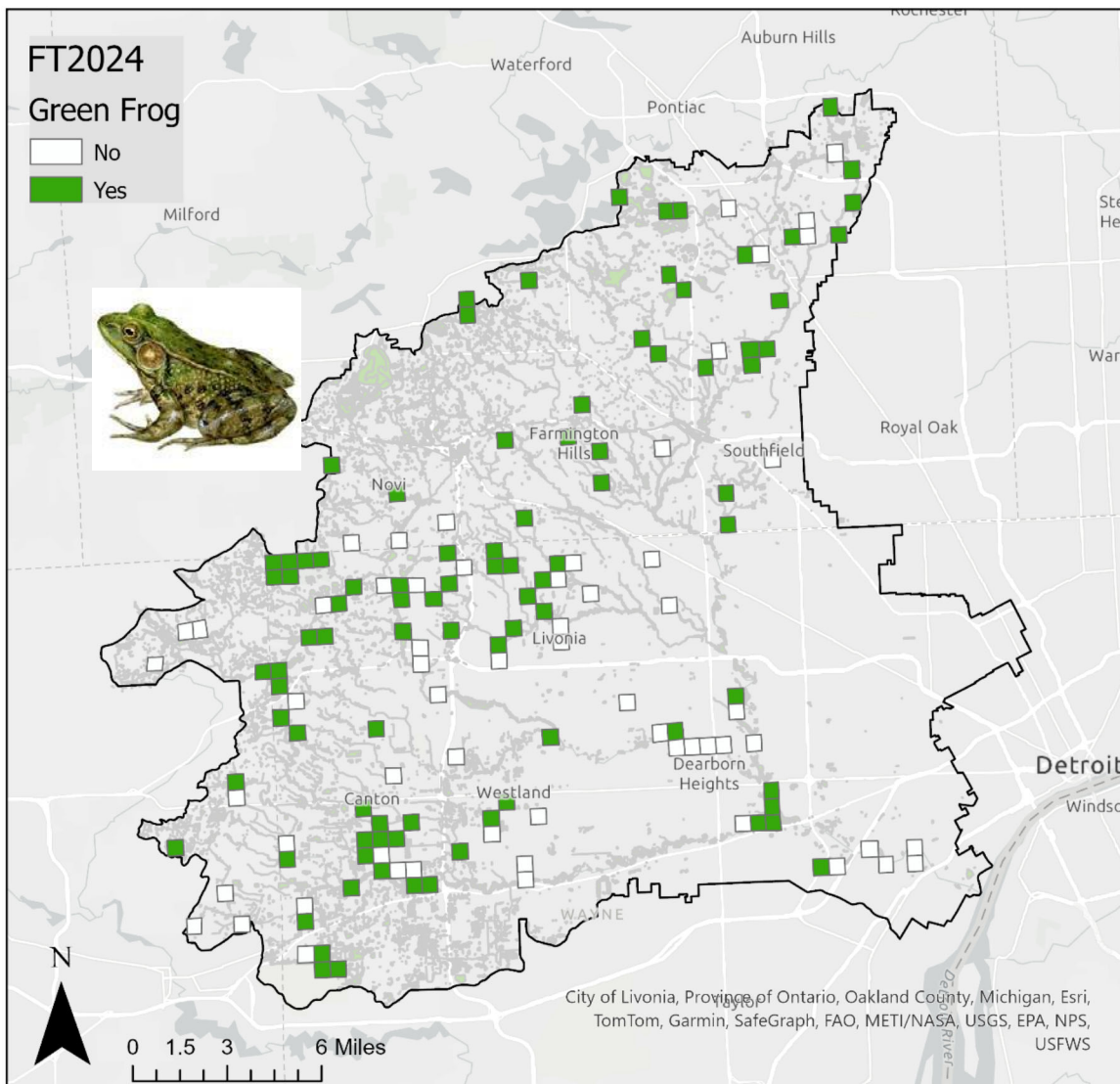
Map 7: Gray Treefrog (*Hyla versicolor*)



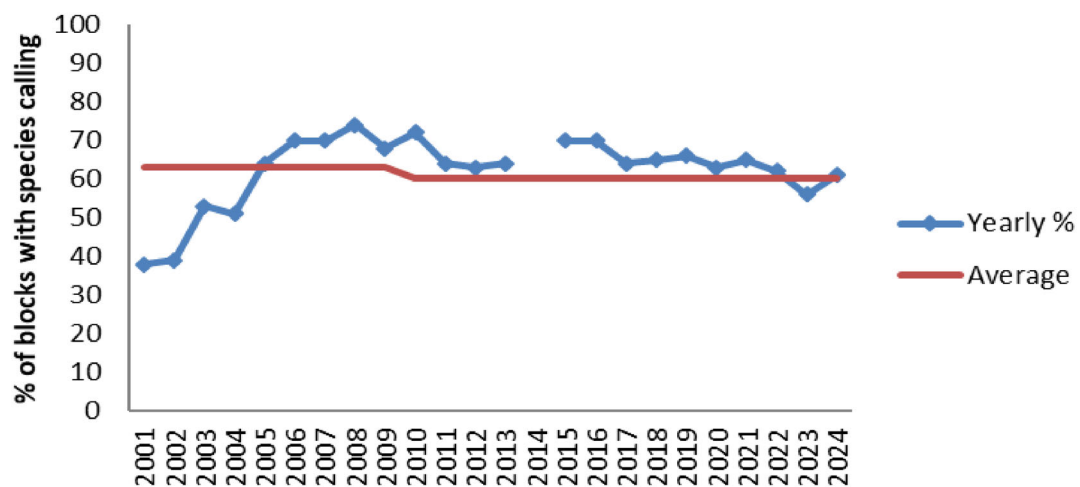
Eastern Gray Treefrog Yearly Distribution, 2001-24



Map 8: Green Frog (*Rana clamitans*)



Green Frog Yearly Distribution, 2001-24



Map 9: Bullfrog (*Rana catesbeiana*)

