Harpeth Conservancy's TN Water Watch Report

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Tennessee Water Watch is a predictive river advisory tool that Harpeth Conservancy developed and launched for public use in June 2024. This tool forecasts the levels of *E. coli* at select, highly recreated river access points and compares it to thresholds set by the Environmental Protection Agency(EPA) in order to provide insight into the relative health risks of the water.

In 2012 the EPA published recreational water quality criteria(RWQC) recommendations in order to protect human health in coastal and non-coastal waters designated for primary contact (swimming, wading, *etc.*). These recommendations can be used as precautionary criteria to make recreation decisions based on the densities of *E. coli* in the water. The recommended threshold for individual freshwater samples is 235 colony forming units(CFUs)/100 mL. EPA recommends this threshold can be used for notification purposes to protect human health when participating in primary contact activities - 235 CFUs/100 mL equates to an human estimated illness rate of 36 out of 1000 primary contact recreators. To learn more about the EPA's recreational water quality criteria and estimated illness rates, feel free to explore the guidance documents found on their webpage.

As people make recreation plans, they can use this tool to make informed decisions about when and where to recreate and to gauge safety precautions.

"Before you play, check the water for the day!"

TN Water Watch sampling began in June 2020. Since then Harpeth Conservancy has collected 886 samples from 21 different locations. Samples were collected on a weekly basis and analyzed for *E. coli* between June and October each year. We focus on the recreational season to help inform and protect human health risks during recreational activities along our rivers.

TN Water Watch is Harpeth Conservancy's *E. coli* forecast tool. You can access the TN Water Watch tool by visiting TNWaterWatch.org.

So far this year, 2025, volunteers have collected 250 samples.

Table 1: Weekly Round-up

Date	Location	River	E. coli (CFUs/100 mL)
2025-09-22	Browns Creek - Battlemont Park	West Fork Browns Creek	1553.1
2025-09-29	Ellington Ag Center	Sevenmile Creek	547.5
2025-09-29	Richland Creek Greenway	Richland Creek	78.2
2025-09-28	Centerville River Park	Duck River	461.1
2025-09-29	Moran Road Bridge	Harpeth River	51.2
2025-09-29	Richland Creek @ Belle Meade Winery	NA	220.9
2025-09-29	Coley Davis Access	Harpeth River	93.3
2025-09-29	Little Harpeth - Warner Parks	Little Harpeth River	488.4
2025-09-28	Lewisburg Pike	Harpeth River	57.0
2025-09-29	Cottonwood - Del Rio Bridge	West Harpeth River	146.7
2025-09-29	Mill Creek Greenway	Mill Creek	91.0
2025-09-29	Whitsett Park	Mill Creek	123.6
2025-09-29	Walter Hill Dam Recreational Area	Stones River	12.0
2025-09-29	Cumberland River - Downtown Access	Cumberland River	8.5
2025-09-29	Whites Creek at Hartman Park	Whites Creek	163.8

-Locations highlighted in red had *E. coli* values higher than the EPA recommended threshold of 235 CFUs/100 mL

Table 2: Summary of All Water Quality Data since 2020

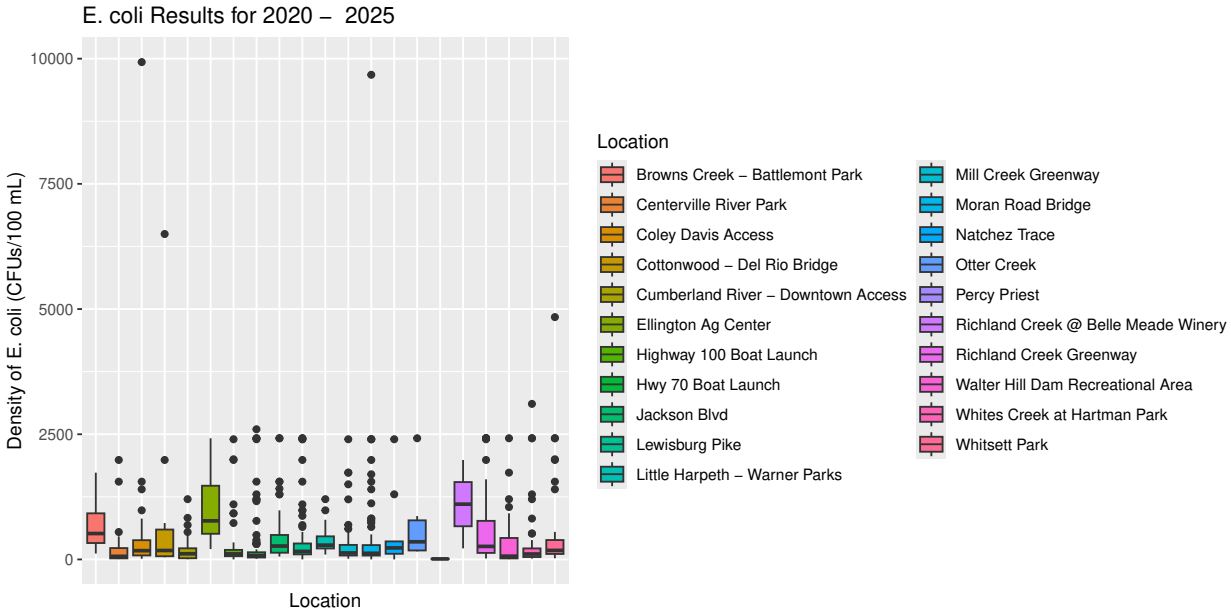
Location	Total Number of Samples	Samples Above EPA Threshold	Green Status	Yellow Status	Orange Status	Red Status	Percent Advisory
Browns Creek - Battlemont Park	56	49	7	8	22	19	87.5
Centerville River Park	26	7	19	3	2	2	26.9
Coley Davis Access	40	17	23	7	5	5	42.5
Cottonwood - Del Rio Bridge	16	7	9	2	3	2	43.8
Cumberland River - Downtown Access	41	10	31	3	5	2	24.4
Ellington Ag Center	16	15	1	0	6	9	93.8
Highway 100 Boat Launch	57	12	45	5	1	6	21.1
Hwy 70 Boat Launch	78	16	62	4	2	10	20.5
Jackson Blvd	68	40	28	16	15	9	58.8
Lewisburg Pike	82	25	57	5	10	10	30.5
Little Harpeth - Warner Parks	37	26	11	12	11	3	70.3
Mill Creek Greenway	65	22	43	11	6	5	33.8
Moran Road Bridge	80	24	56	6	6	12	30.0
Otter Creek	6	3	3	0	1	2	50.0
Richland Creek @ Belle Meade Winery	2	1	1	0	0	1	50.0
Richland Creek Greenway	69	37	32	9	10	18	53.6
Walter Hill Dam Recreational Area	29	10	19	1	4	5	34.5
Whites Creek at Hartman Park	48	10	38	1	3	6	20.8
Whitsett Park	57	21	36	4	10	7	36.8

Table Explanation:

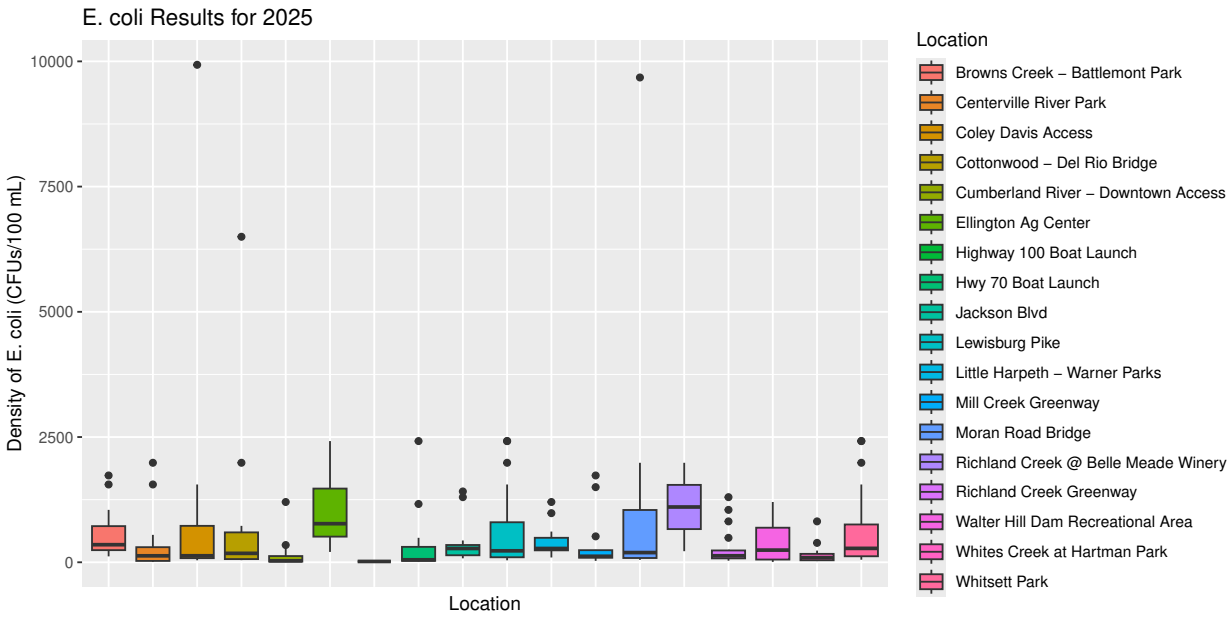
- Number of Samples = Total number of sampling days for the specified location
- Samples Above EPA Threshold = Number of samples that were above the EPA advisory threshold of 235 colony forming units (CFUs) per 100 mL
- Green Status = Number of samples that were below the EPA threshold - Green results are equivilent to a "Safe" status
- Yellow Status = Number of samples that were above the EPA threshold of 235 CFUs/100 mL but below 350 CFUs/100 mL - Yellow results are equivilent to an "Advisory" status
- Orange Status = Number of samples that were above 350 CFUs/100 mL and below 750 CFUs/100 mL - Orange results are equivilent to a "Caution" status
- Red Status = Number of samples that were above 750 CFUs/100 mL - Red results are equivilent to a "Warning" status
- Percent Advisory = Percentage of samples that were above 235 CFUs/100 mL

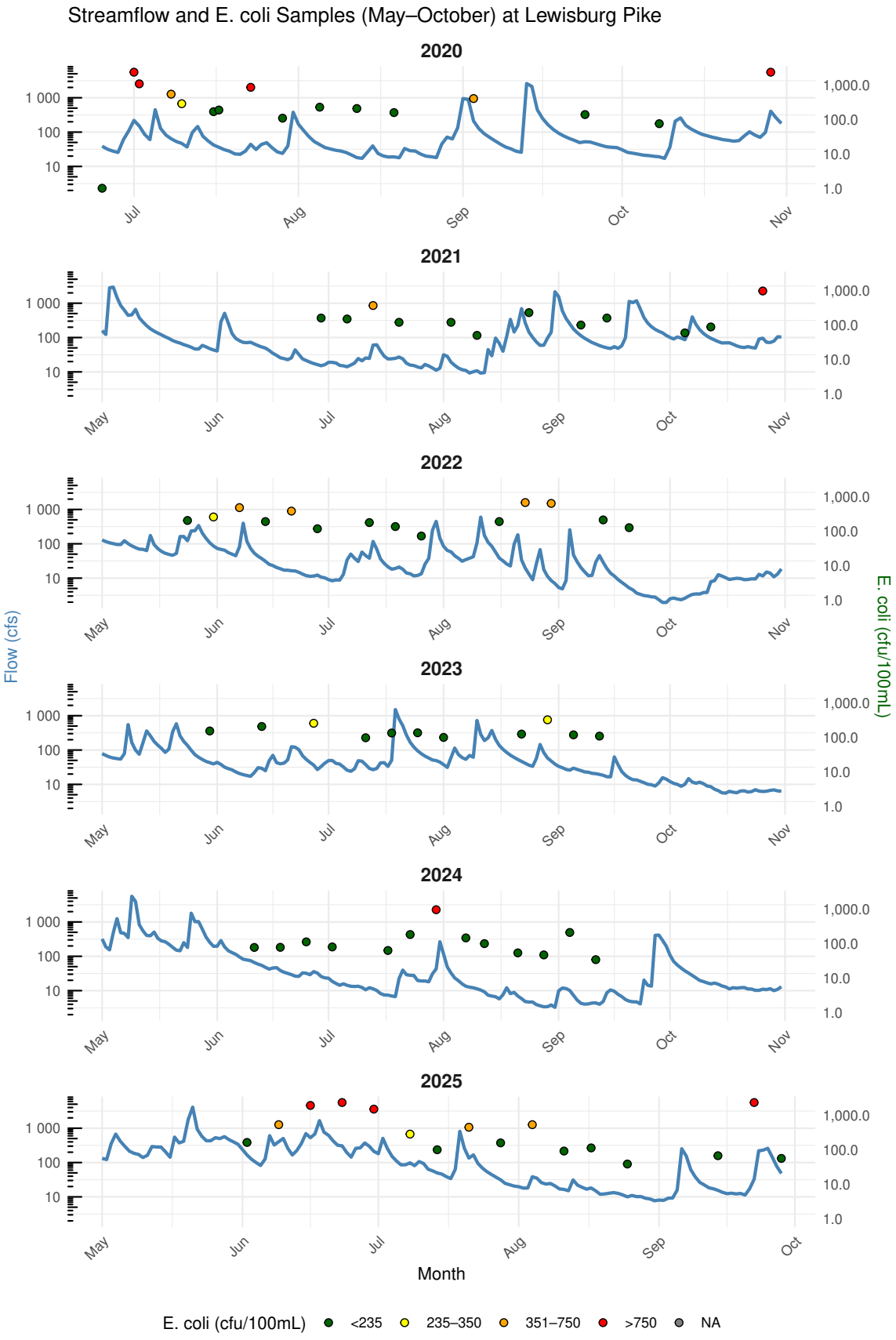
***E. coli* Boxplots:** Below is a boxplot that represents all of the *E. coli* samples collected by the Harpeth Conservancy. Here is a brief summary to understand how to read a boxplot:

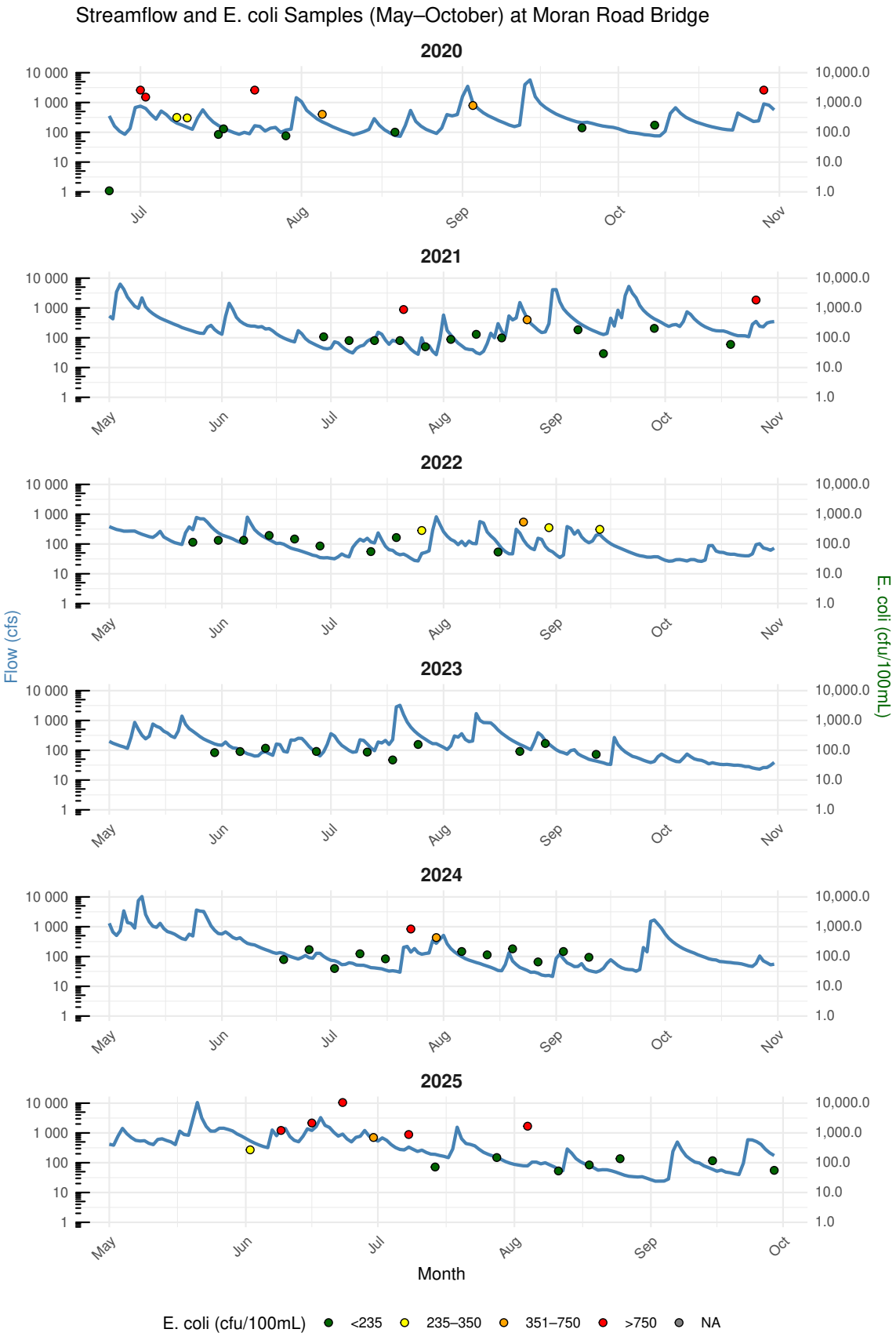
- Box: Represents the middle 50% of the data, from the 1st quartile (Q1) to the 3rd quartile (Q3).
- Median Line: Inside the box, shows the median value (50th percentile) of the data.
- Whiskers: Extend from the box to the smallest and largest values within 1.5 times the interquartile range (IQR) from Q1 and Q3.
- Outliers: Data points outside the whiskers are considered outliers and are plotted individually.

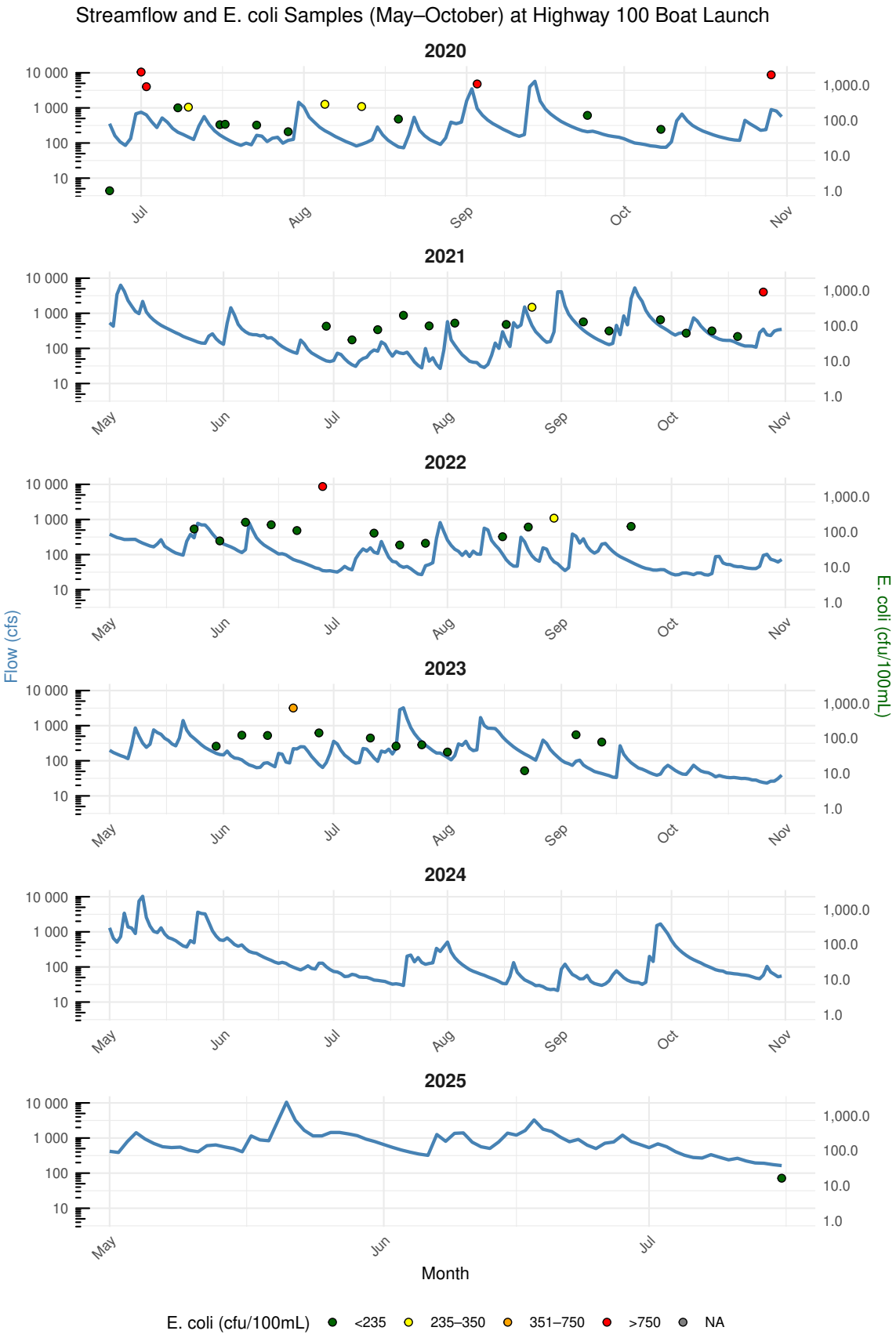


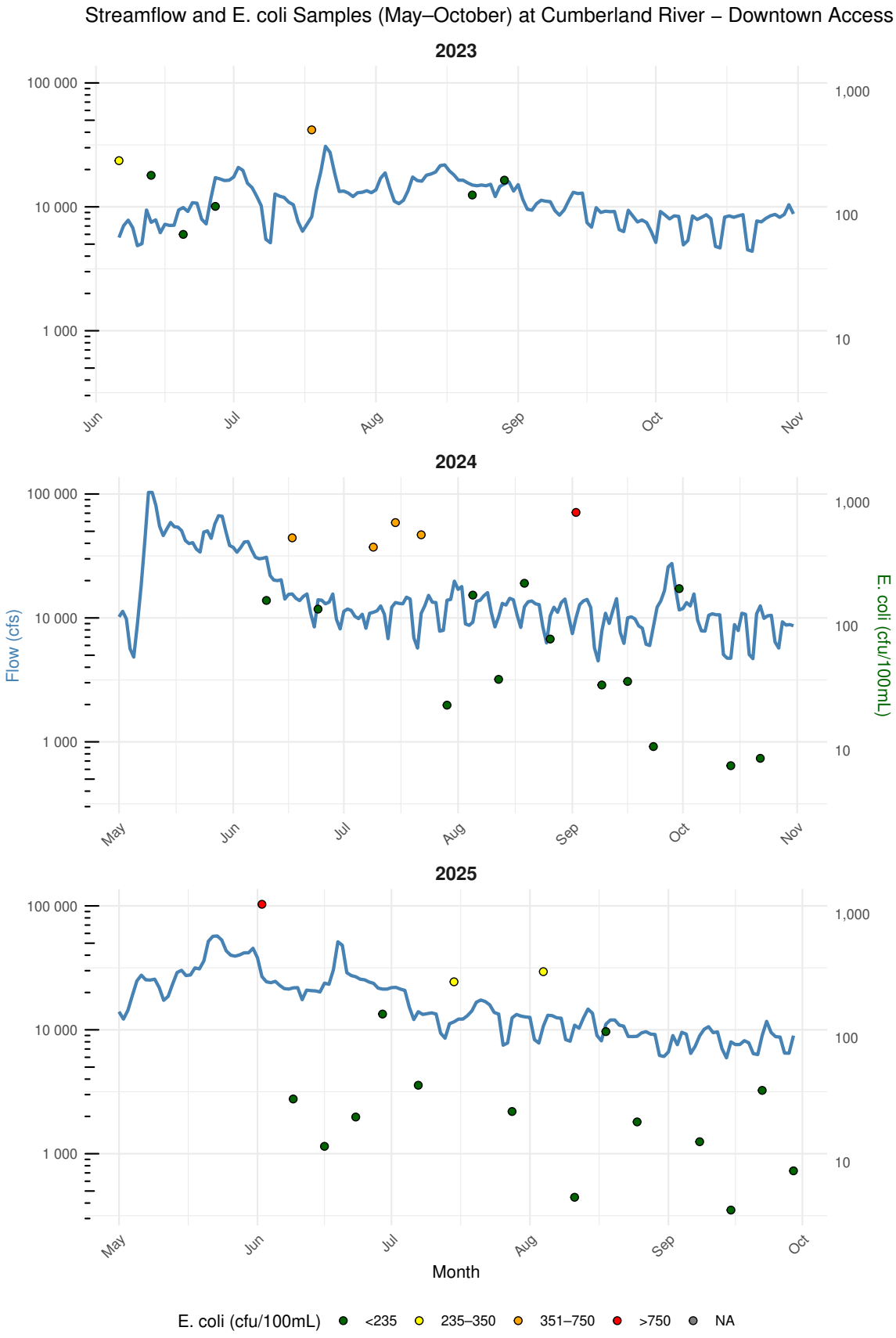
Below is a boxplot that displays *E. coli* samples collected so far this year (2025) by the Harpeth Conservancy.

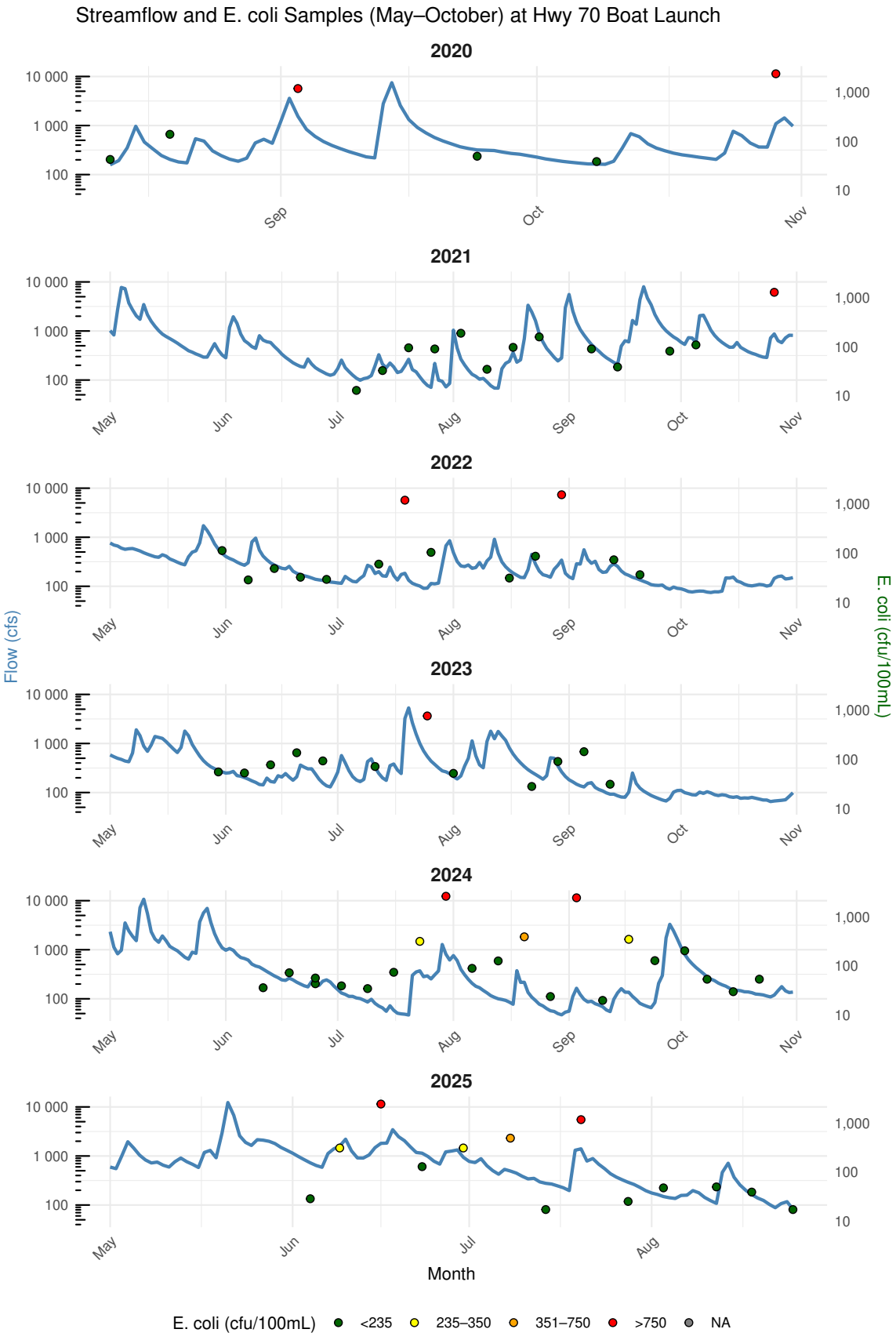


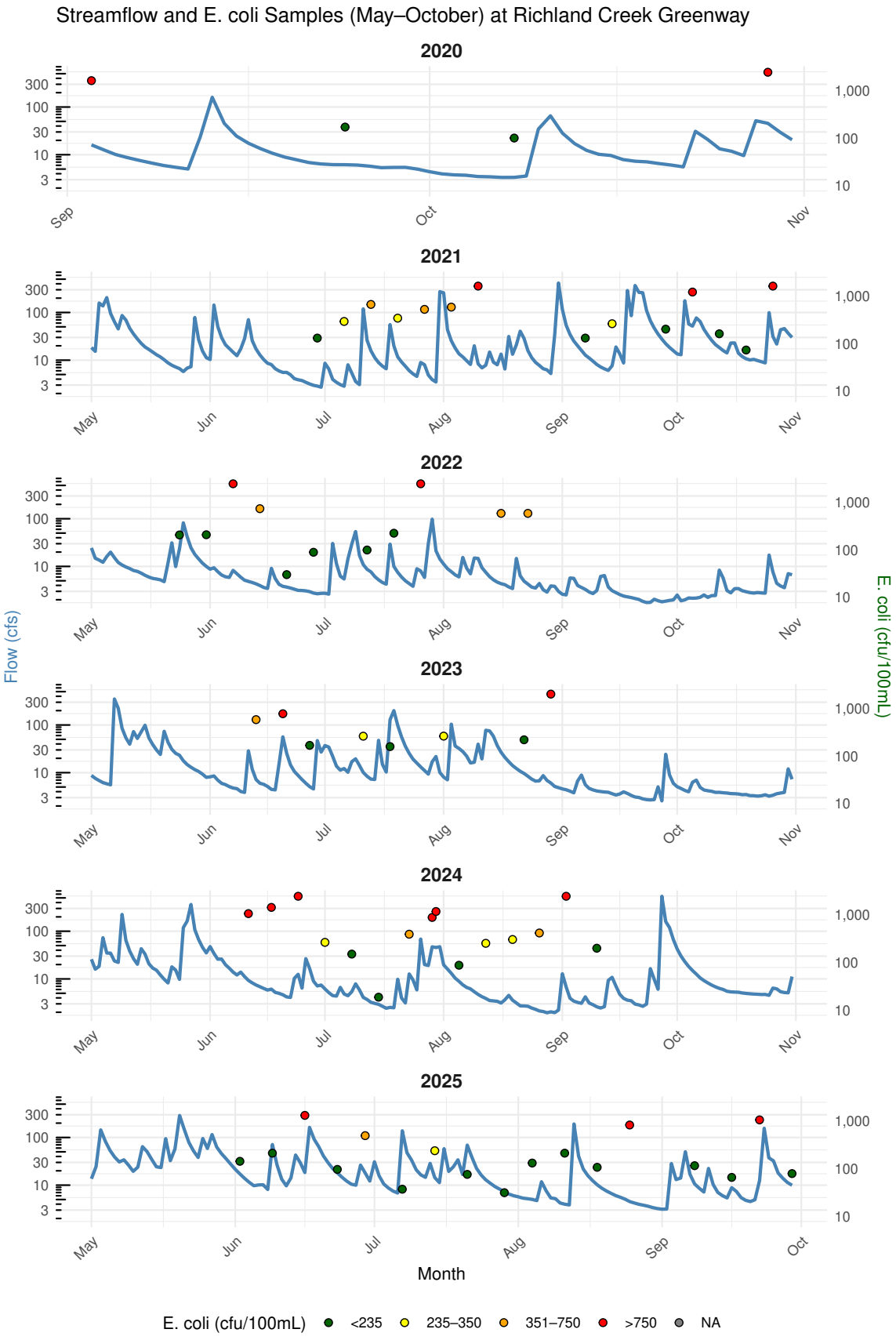

Streamflow and E. coli Samples (May–October) at Lewisburg Pike
2020
2021
2022
2023
2024
2025
Flow (cfs)
1 000
100
10
E. coli (cfu/100mL)
1,000.0
100.0
10.0
1.0
May
Jun
Jul
Aug
Sep
Oct
Nov
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA

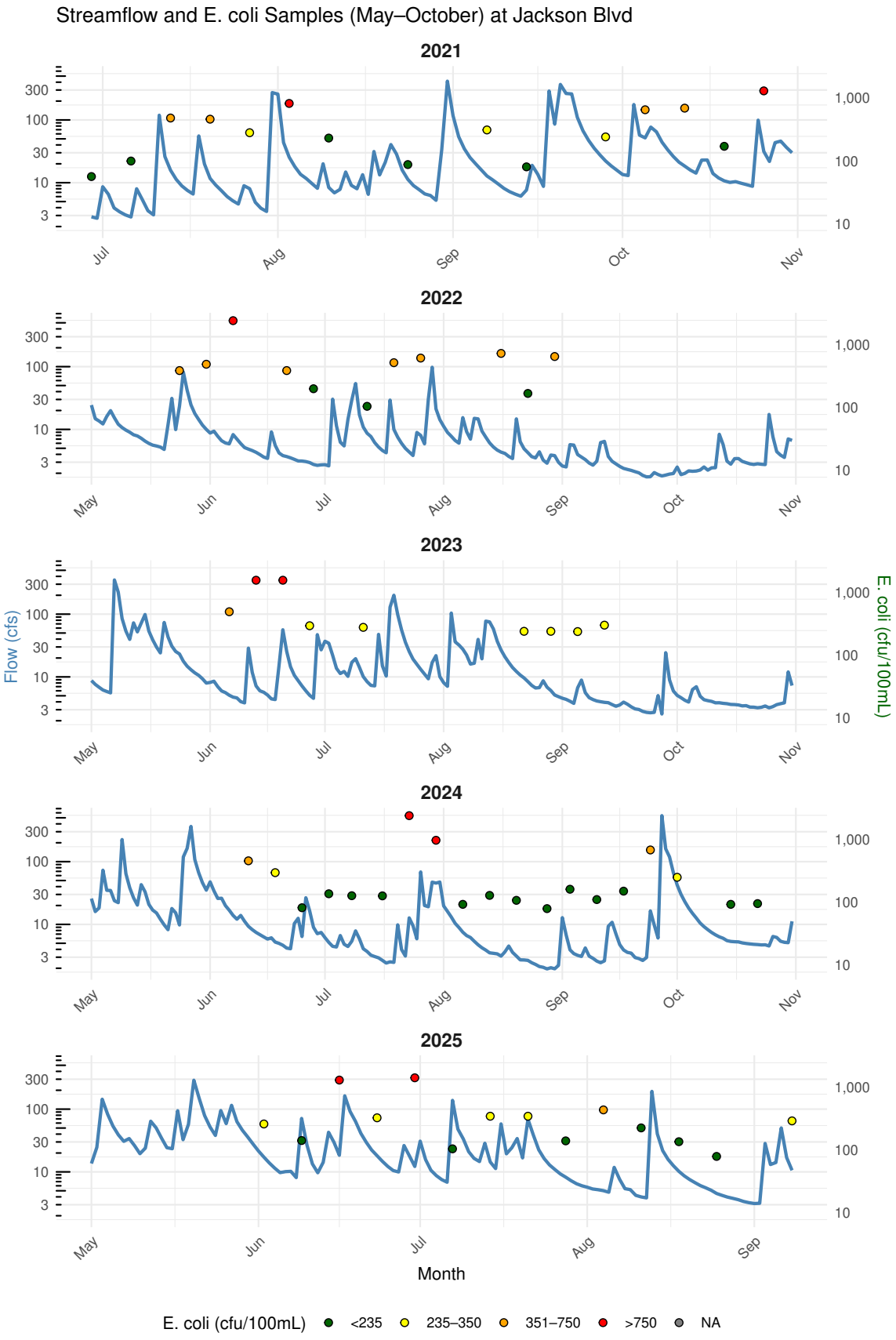

Streamflow and E. coli Samples (May–October) at Moran Road Bridge
2020
2021
2022
2023
2024
2025
Flow (cfs)
E. coli (cfu/100mL)
10 000
1 000
100
10
1
10,000.0
1,000.0
100.0
10.0
1.0
May
Jun
Jul
Aug
Sep
Oct
Nov
Month
E. coli (cfu/100mL) <235 235–350 351–750 >750 NA

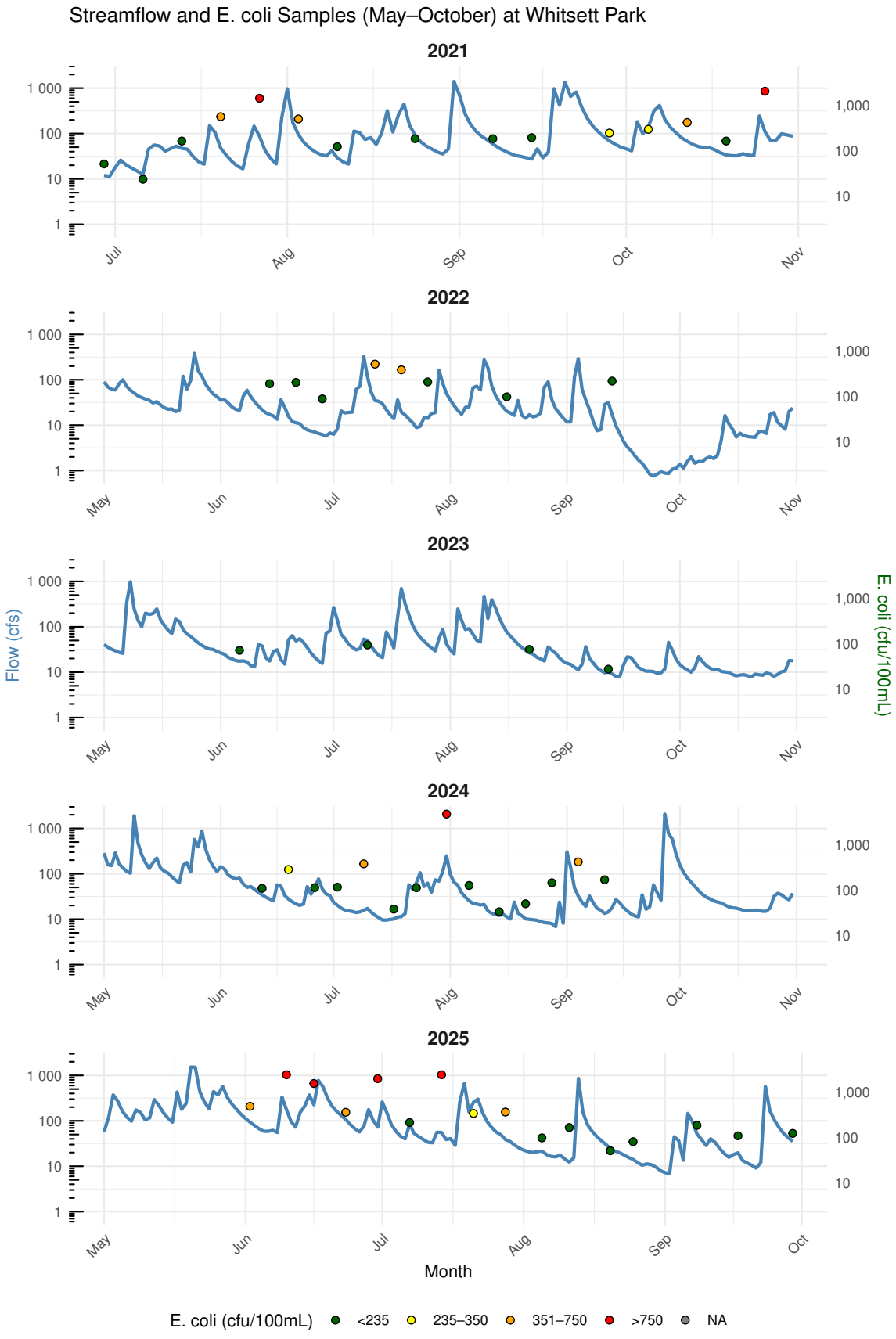

Streamflow and E. coli Samples (May–October) at Highway 100 Boat Launch
2020
2021
2022
2023
2024
2025
10 000
1 000
100
10
1,000.0
100.0
10.0
1.0
May
Jun
Jul
Aug
Sep
Oct
Nov
Flow (cfs)
E. coli (cfu/100mL)
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA

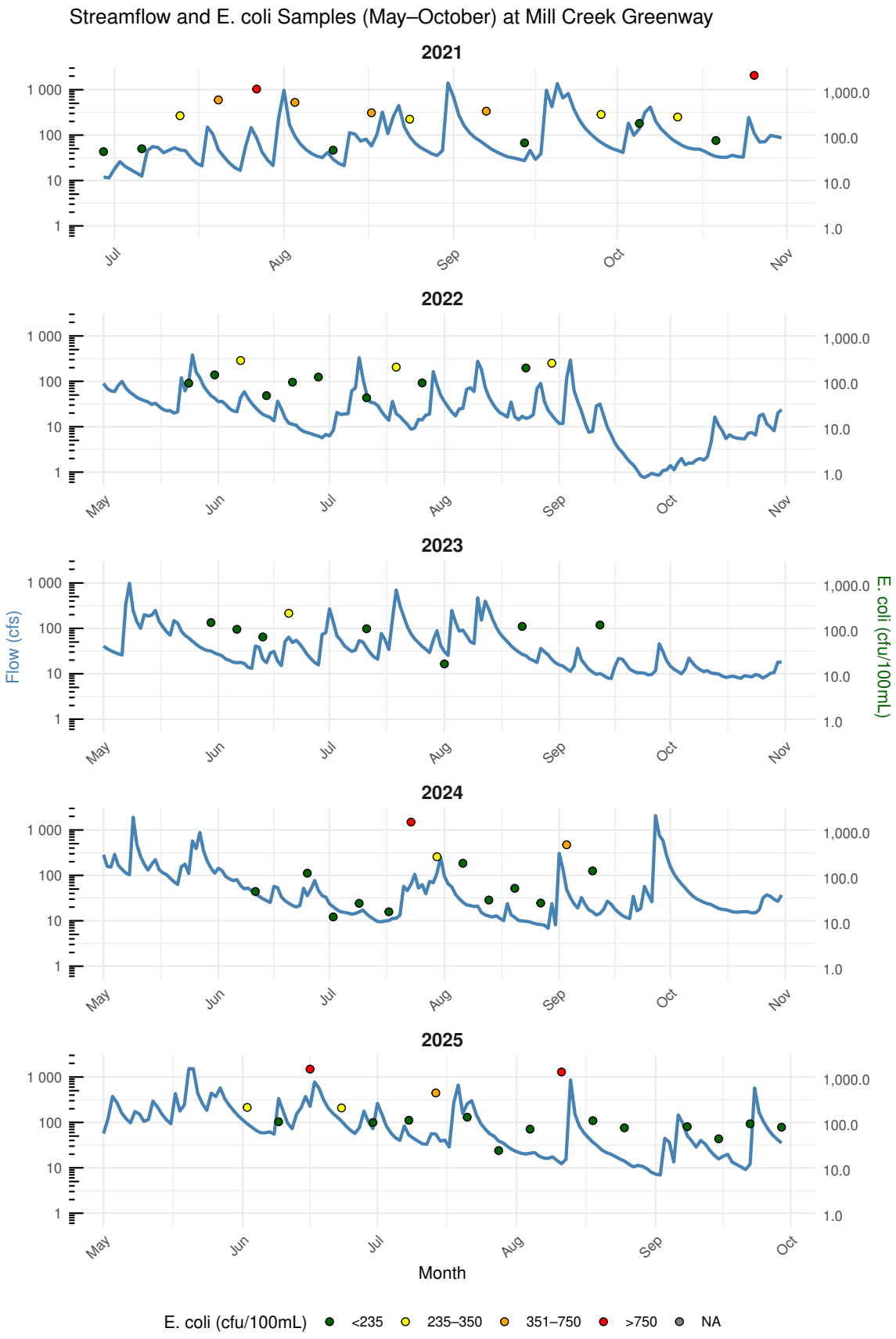

Streamflow and E. coli Samples (May–October) at Cumberland River – Downtown Access
2023
2024
2025
100 000
10 000
1 000
1,000
100
10
Flow (cfs)
E. coli (cfu/100mL)
May
Jun
Jul
Aug
Sep
Oct
Nov
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA

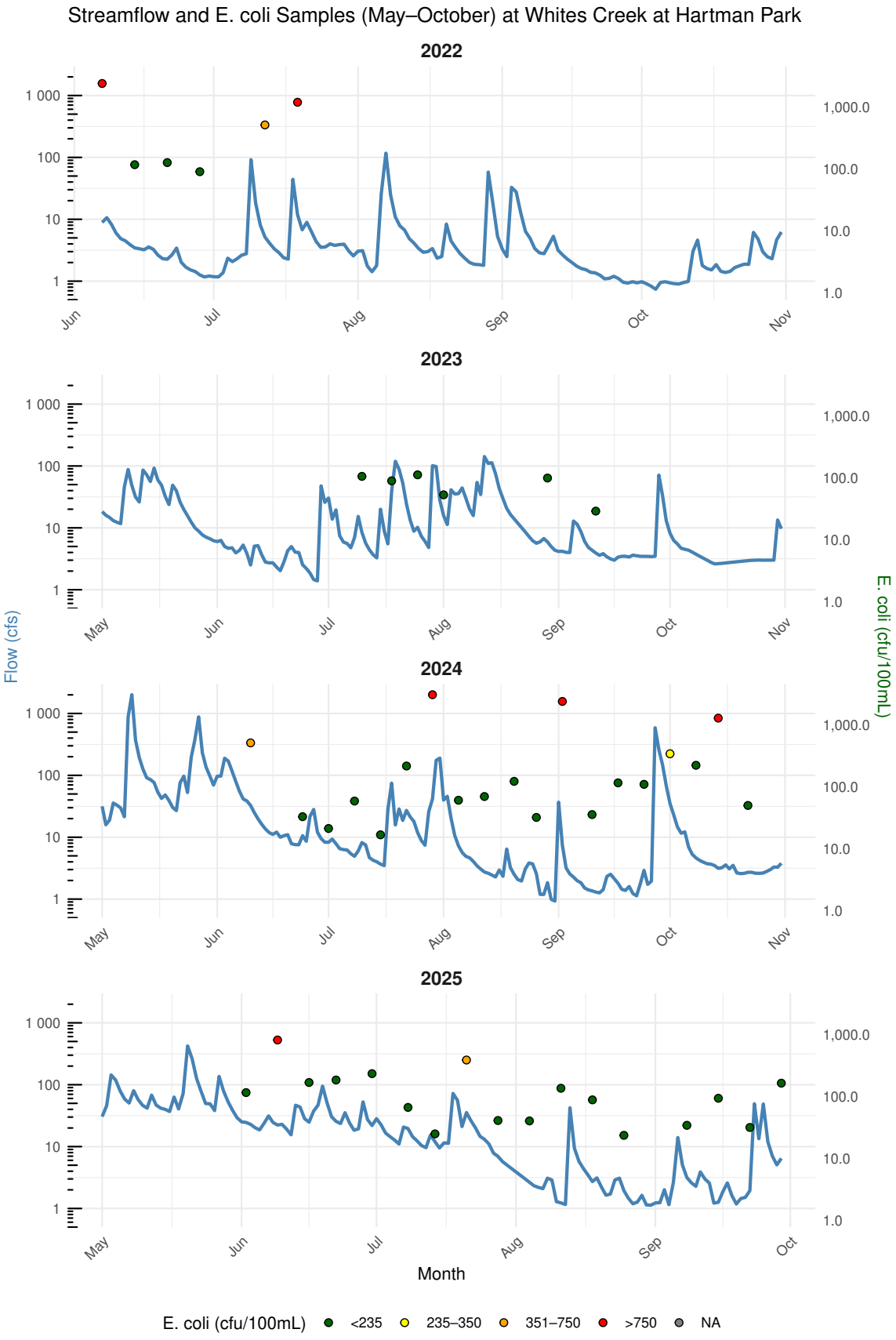

Streamflow and E. coli Samples (May–October) at Hwy 70 Boat Launch
2020
2021
2022
2023
2024
2025
Flow (cfs)
E. coli (cfu/100mL)
10 000
1 000
100
1,000
100
10
May
Jun
Jul
Aug
Sep
Oct
Nov
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA

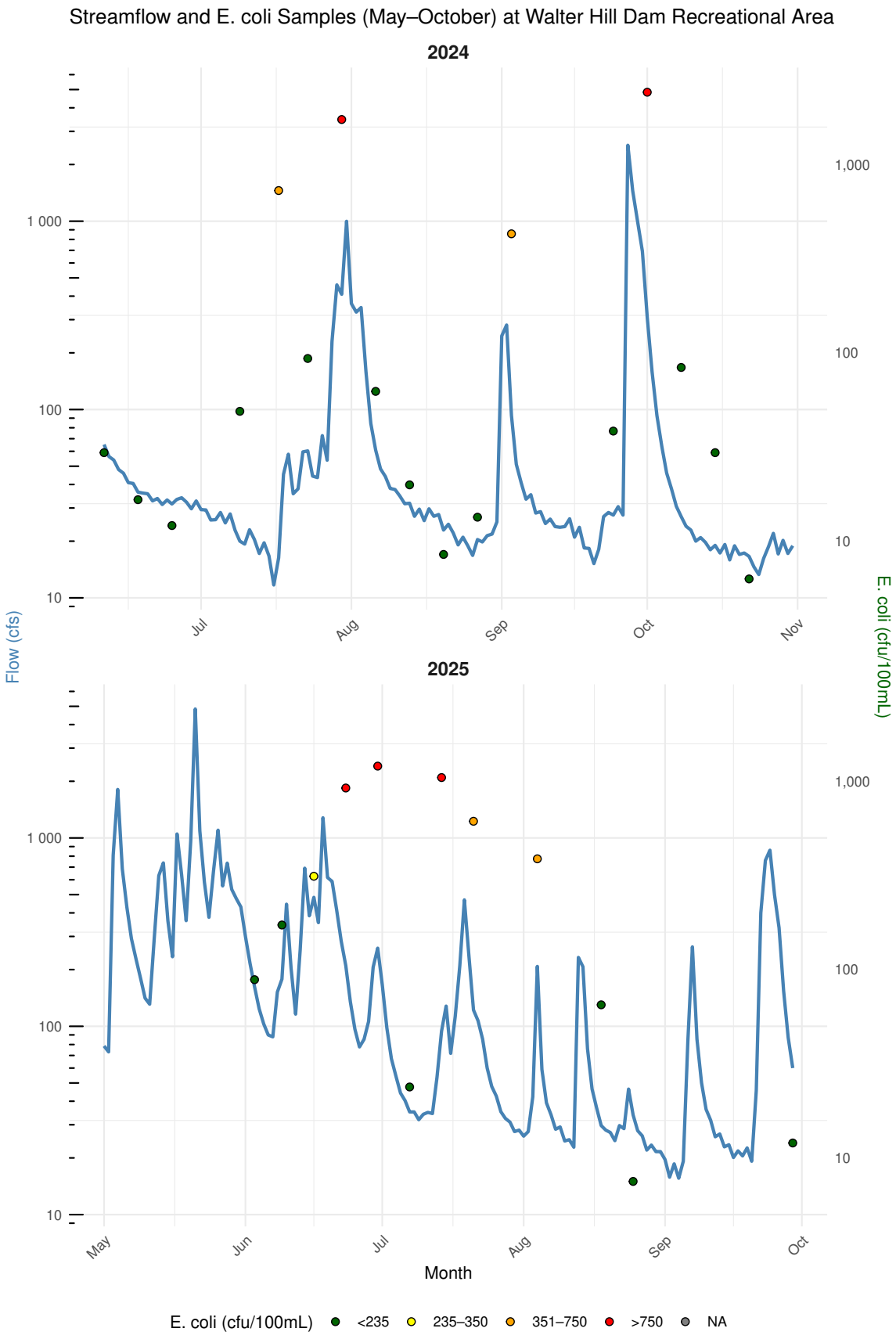

Streamflow and E. coli Samples (May–October) at Richland Creek Greenway
2020
2021
2022
2023
2024
2025
Flow (cfs)
E. coli (cfu/100mL)
300
100
30
10
3
1,000
100
10
May
Jun
Jul
Aug
Sep
Oct
Nov
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA

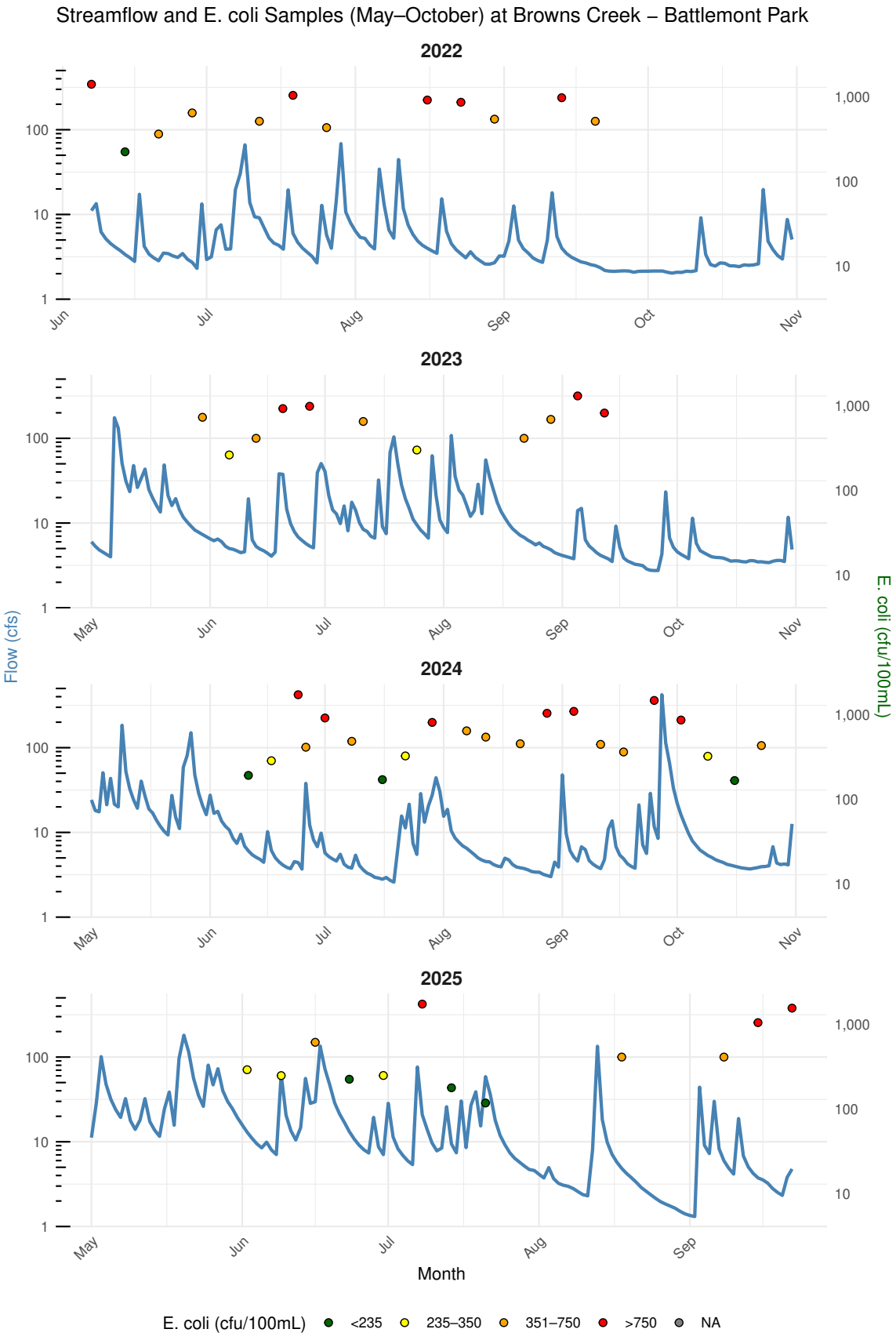

Streamflow and E. coli Samples (May–October) at Jackson Blvd
2021
2022
2023
2024
2025
Flow (cfs)
E. coli (cfu/100mL)
300
100
30
10
3
1,000
100
10
May
Jun
Jul
Aug
Sep
Oct
Nov
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA

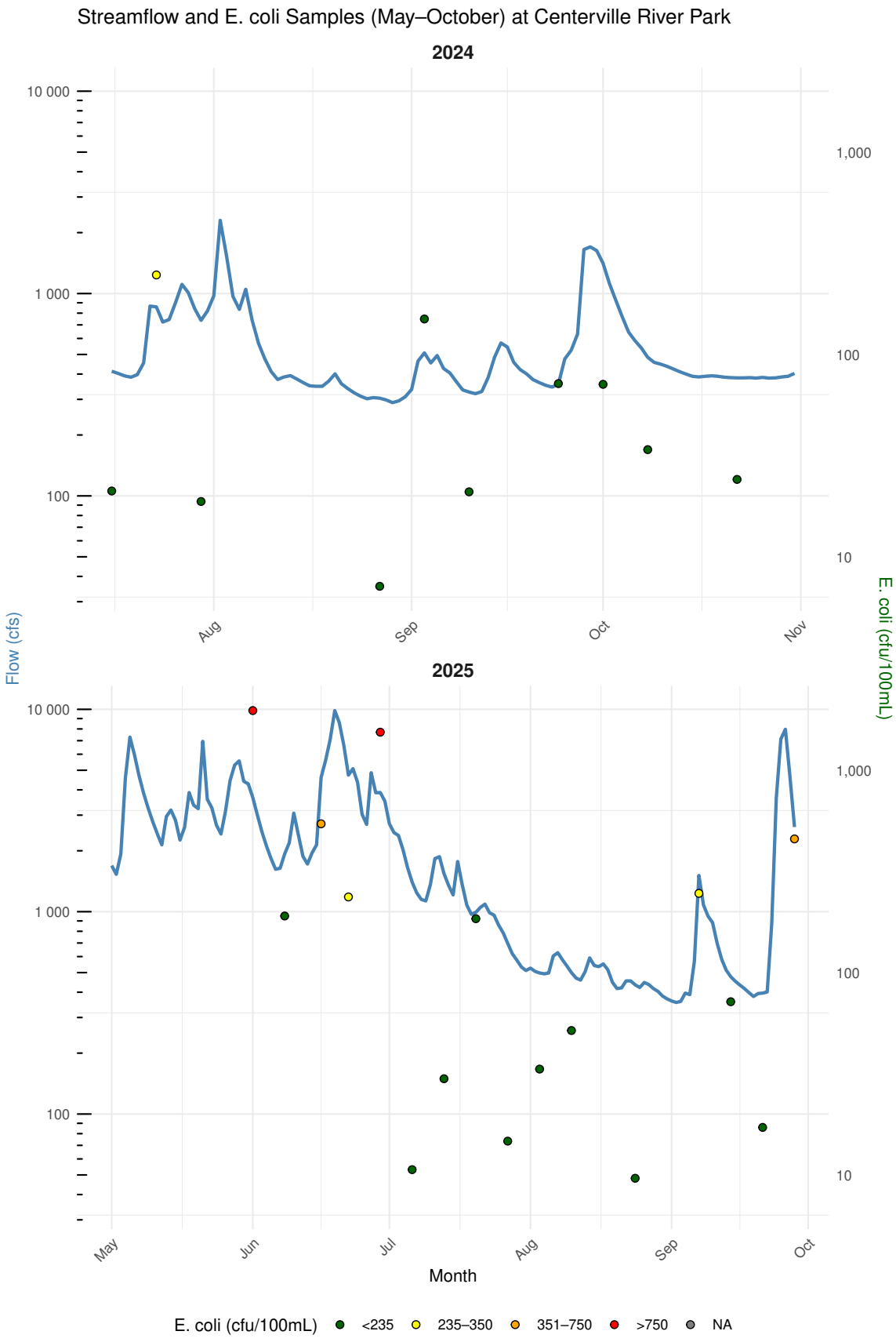

Streamflow and E. coli Samples (May–October) at Whitsett Park
2021
2022
2023
2024
2025
Flow (cfs)
E. coli (cfu/100mL)
1 000
100
10
1
1,000
100
10
May
Jun
Jul
Aug
Sep
Oct
Nov
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA

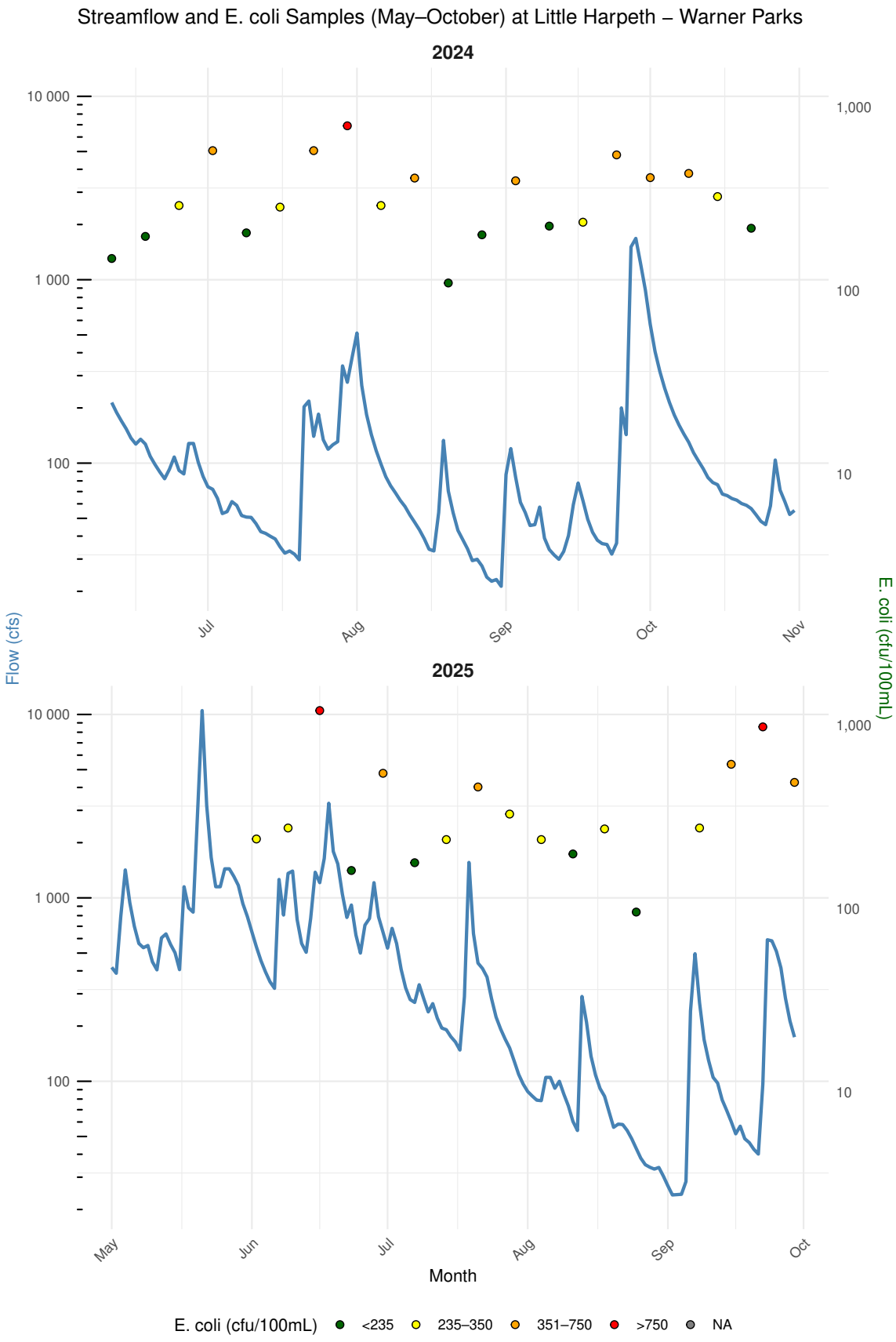

Streamflow and E. coli Samples (May–October) at Mill Creek Greenway
2021
2022
2023
2024
2025
Flow (cfs)
E. coli (cfu/100mL)
1 000
100
10
1
1,000.0
100.0
10.0
1.0
May
Jun
Jul
Aug
Sep
Oct
Nov
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA

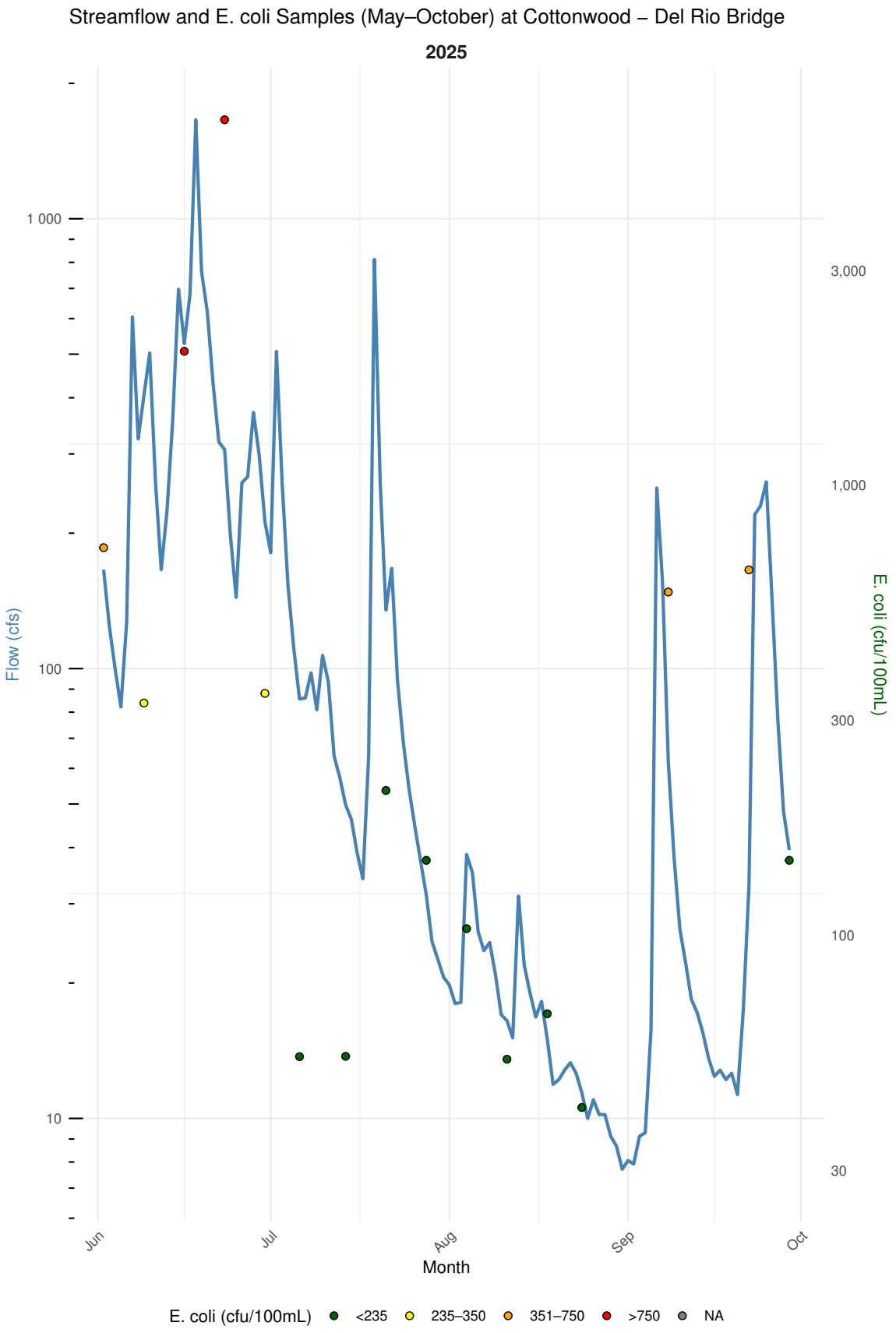

Streamflow and E. coli Samples (May–October) at Whites Creek at Hartman Park
2022
2023
2024
2025
Flow (cfs)
E. coli (cfu/100mL)
1 000
100
10
1
1,000.0
100.0
10.0
1.0
May
Jun
Jul
Aug
Sep
Oct
Nov
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA


Streamflow and E. coli Samples (May–October) at Walter Hill Dam Recreational Area
2024
2025
Flow (cfs)
E. coli (cfu/100mL)
1 000
100
10
1,000
Jul
Aug
Sep
Oct
Nov
May
Jun
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA


Streamflow and E. coli Samples (May–October) at Browns Creek – Battlemont Park
2022
2023
2024
2025
Flow (cfs)
E. coli (cfu/100mL)
1
10
100
1,000
May
Jun
Jul
Aug
Sep
Oct
Nov
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA


Streamflow and E. coli Samples (May–October) at Centerville River Park
2024
2025
Flow (cfs)
E. coli (cfu/100mL)
10 000
1 000
100
1,000
10
Aug
Sep
Oct
Nov
May
Jun
Jul
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA


Streamflow and E. coli Samples (May–October) at Little Harpeth – Warner Parks
2024
2025
Flow (cfs)
E. coli (cfu/100mL)
10 000
1 000
100
1,000
100
10
Jul
Aug
Sep
Oct
Nov
May
Jun
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA


Streamflow and E. coli Samples (May–October) at Cottonwood – Del Rio Bridge
2025
Flow (cfs)
1 000
100
10
E. coli (cfu/100mL)
3,000
1,000
300
100
30
Jun
Jul
Aug
Sep
Oct
Month
E. coli (cfu/100mL)
<235
235–350
351–750
>750
NA