



Status and change in wetland condition: Preliminary results from the NWCA 2021

MAWWG-NEBAWWG Joint Meeting

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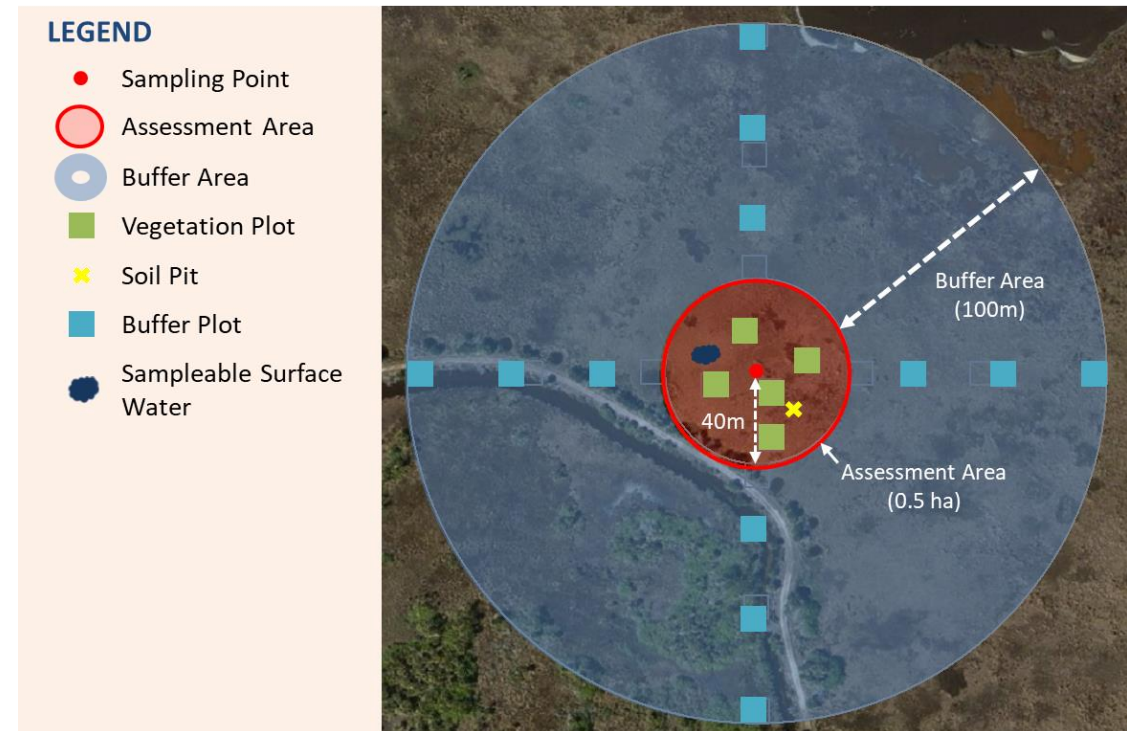
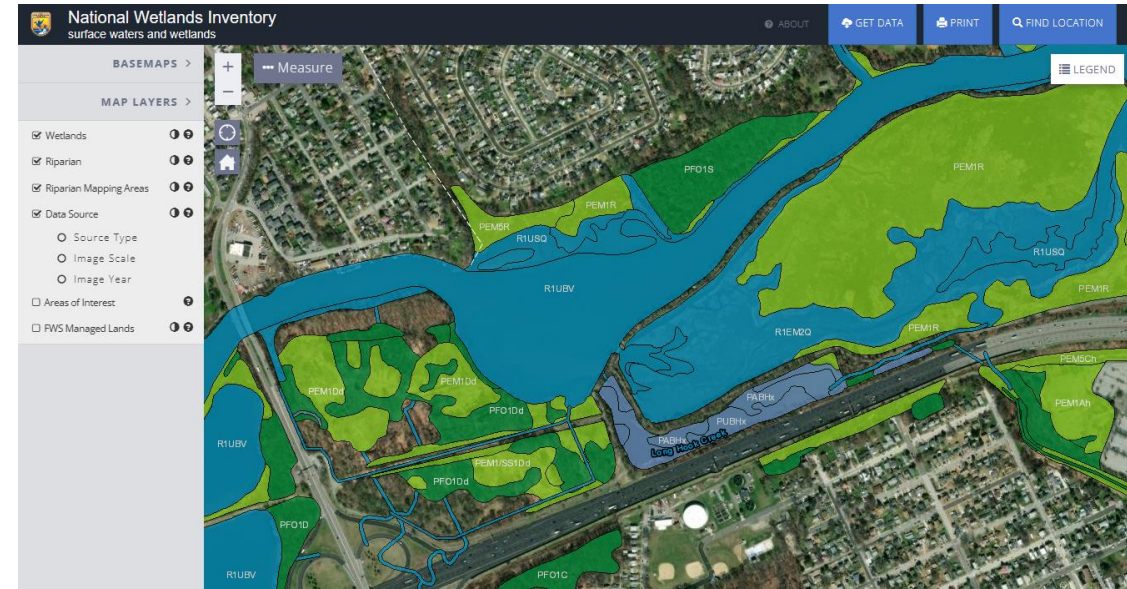


Overview

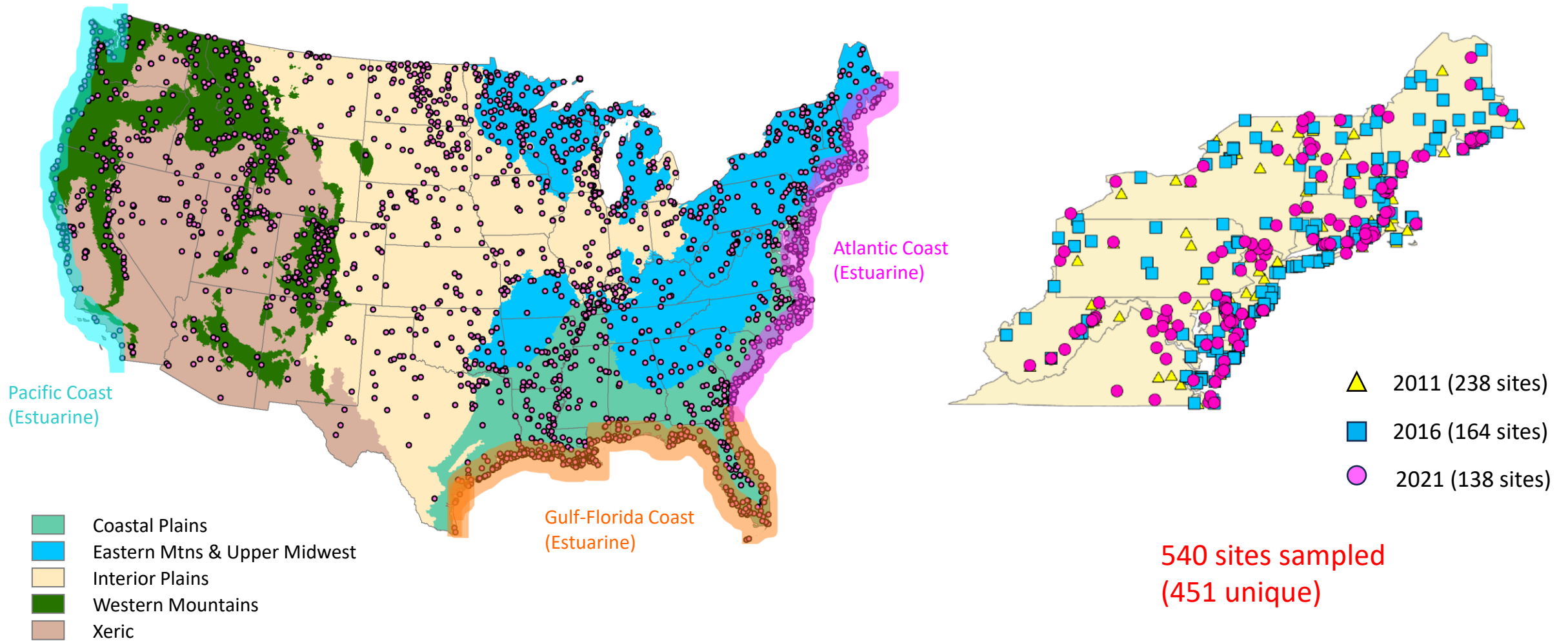
- Statistical survey to assess and report on condition of U.S. wetlands
- Collaboration between EPA and State and Tribal WQ and wetland agencies
- Surveys conducted every 5 years
 - 2011, 2016, 2021
- One of 4 companion surveys under EPA's National Aquatic Resource Survey (NARS)
- Supports EPA, State and Tribal responsibilities under CWA

Survey design

- 1,000 sites sampled across conterminous U.S. each survey cycle
 - Statistical design allows extrapolation of results to entire population of interest
 - Tidal and nontidal wetlands with rooted vegetation and, when present, shallow open water < 1m deep
 - NWI maps used to identify sampling locations
- At each site, ecological data is collected during a 1-day sampling visit using standard protocols
 - Vegetation, soil, surface water, hydrology, and physical alterations
- Data used to develop and report on indicators of wetland condition for national and regional subpopulations



Sites sampled in NWCA (2011-2021)



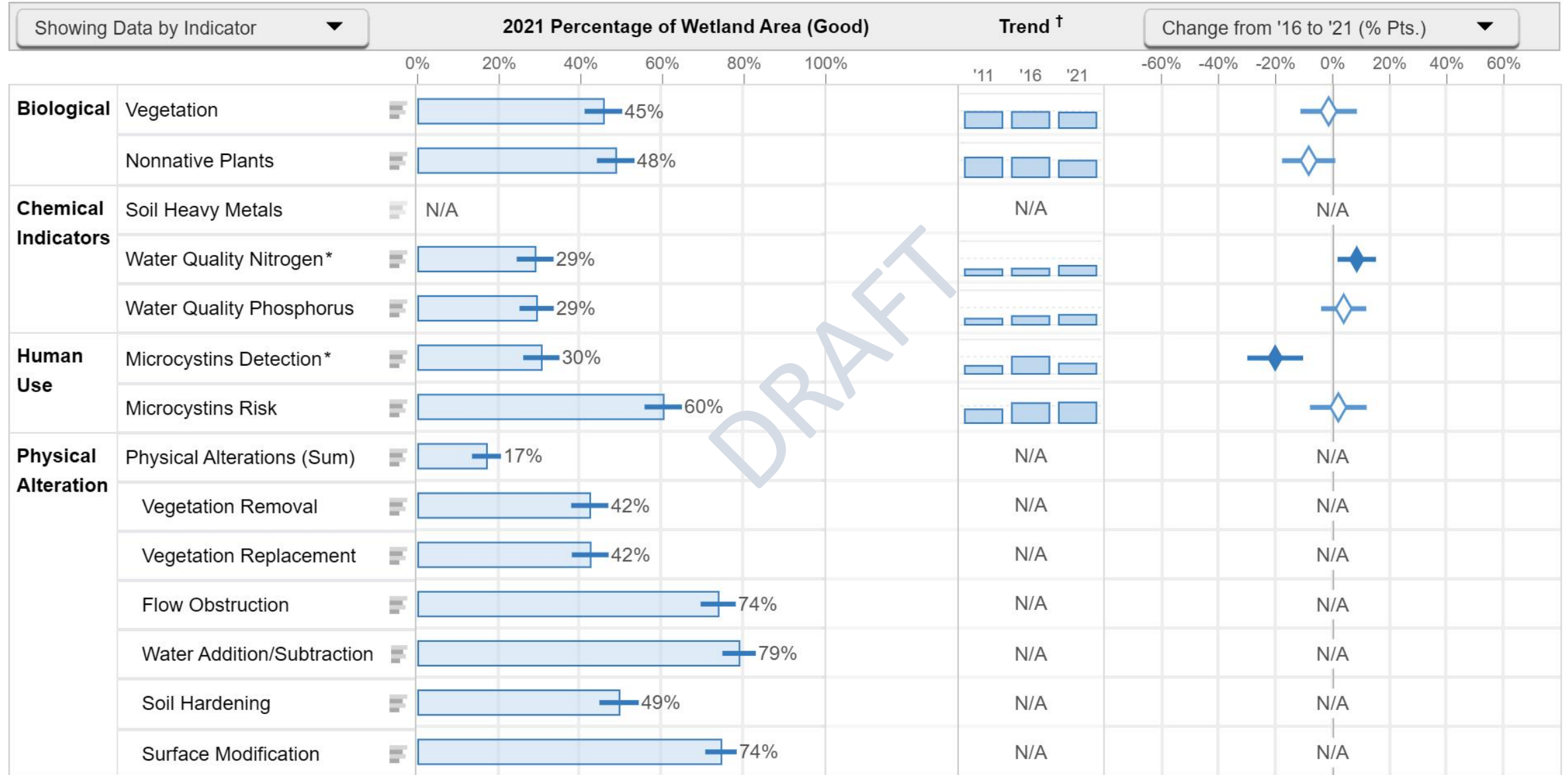
NWCA Indicators

| Category | Indicator | Data | Benchmark | 21 Est | Change | Notes |
|----------|----------------------------|-----------------|----------------|--------|--------|-----------------------|
| BIO | Vegetation | Field/ancillary | NWCA reference | x | 11-21 | |
| BIO | Nonnative Plants | Field/ancillary | Fixed-BPJ | x | 11-21 | |
| PHYS | Vegetation removal | Field | Fixed-BPJ | x | -- | Protocol change in 21 |
| PHYS | Vegetation replacement | Field | Fixed-BPJ | x | -- | Protocol change in 21 |
| PHYS | Flow Obstruction | Field | Fixed-BPJ | x | -- | Protocol change in 21 |
| PHYS | Water addition-subtraction | Field | Fixed-BPJ | x | -- | Protocol change in 21 |
| PHYS | Soil hardening | Field | Fixed-BPJ | x | -- | Protocol change in 21 |
| PHYS | Surface modification | Field | Fixed-BPJ | x | -- | Protocol change in 21 |
| PHYS | Physical alterations sum | Field | Fixed-BPJ | x | -- | Protocol change in 21 |
| CHEM | WQ Nitrogen | Lab | NWCA reference | x | 16-21 | Protocol change in 16 |
| CHEM | WQ Phosphorus | Lab | NWCA reference | x | 16-21 | Protocol change in 16 |
| CHEM | Soil Heavy Metals | Lab | NWCA reference | -- | -- | Data delay |
| HHEALTH | Microcystin | Lab | Fixed-EPA std | x | 16-21 | Protocol change in 16 |

U.S. EPA National Wetland Condition Assessment 2021

Percentage of Wetland Area in Good Condition

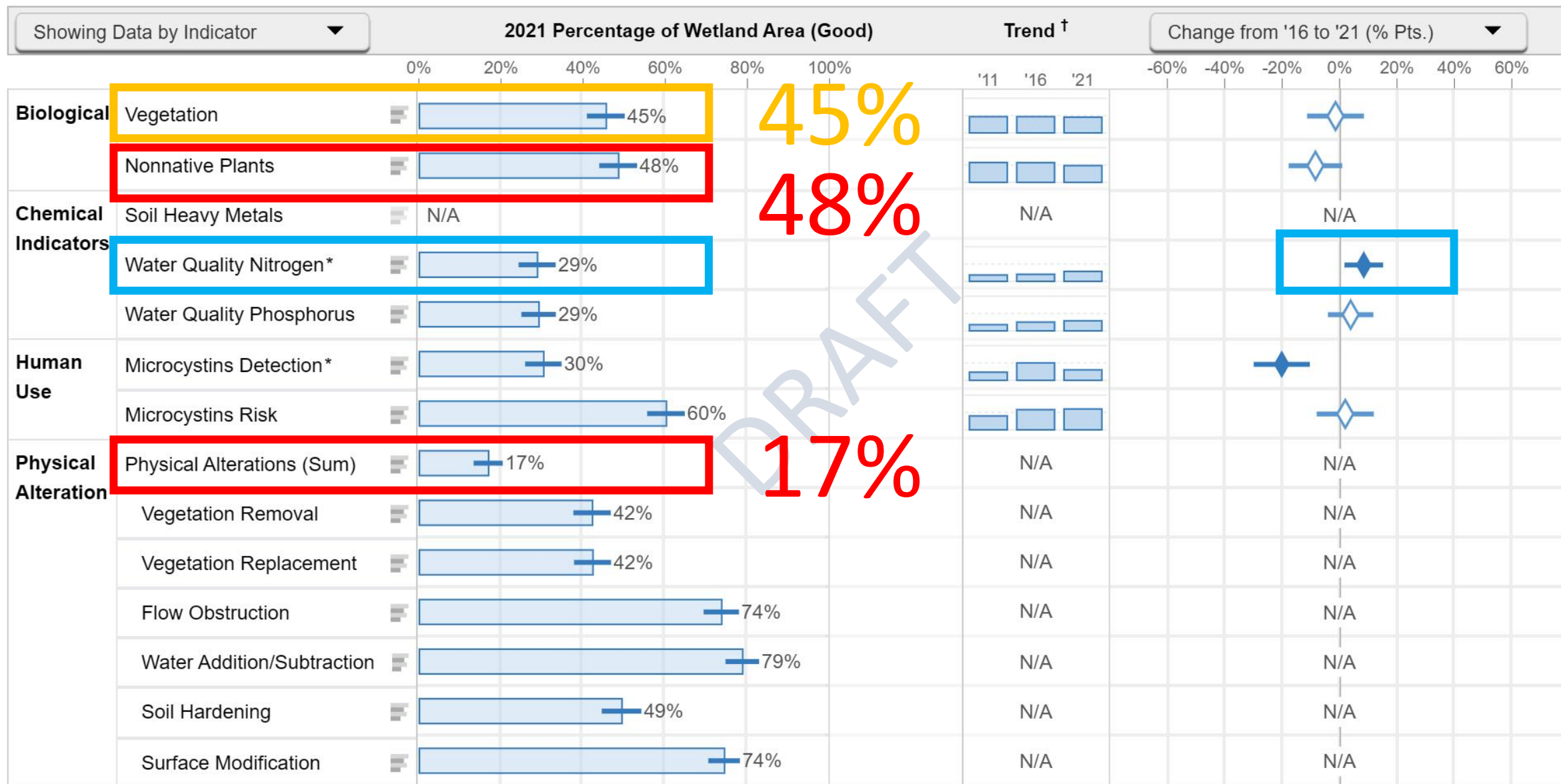
2021 Estimates and Change Over Time | National (All Wetlands)



U.S. EPA National Wetland Condition Assessment 2021

Percentage of Wetland Area in Good Condition

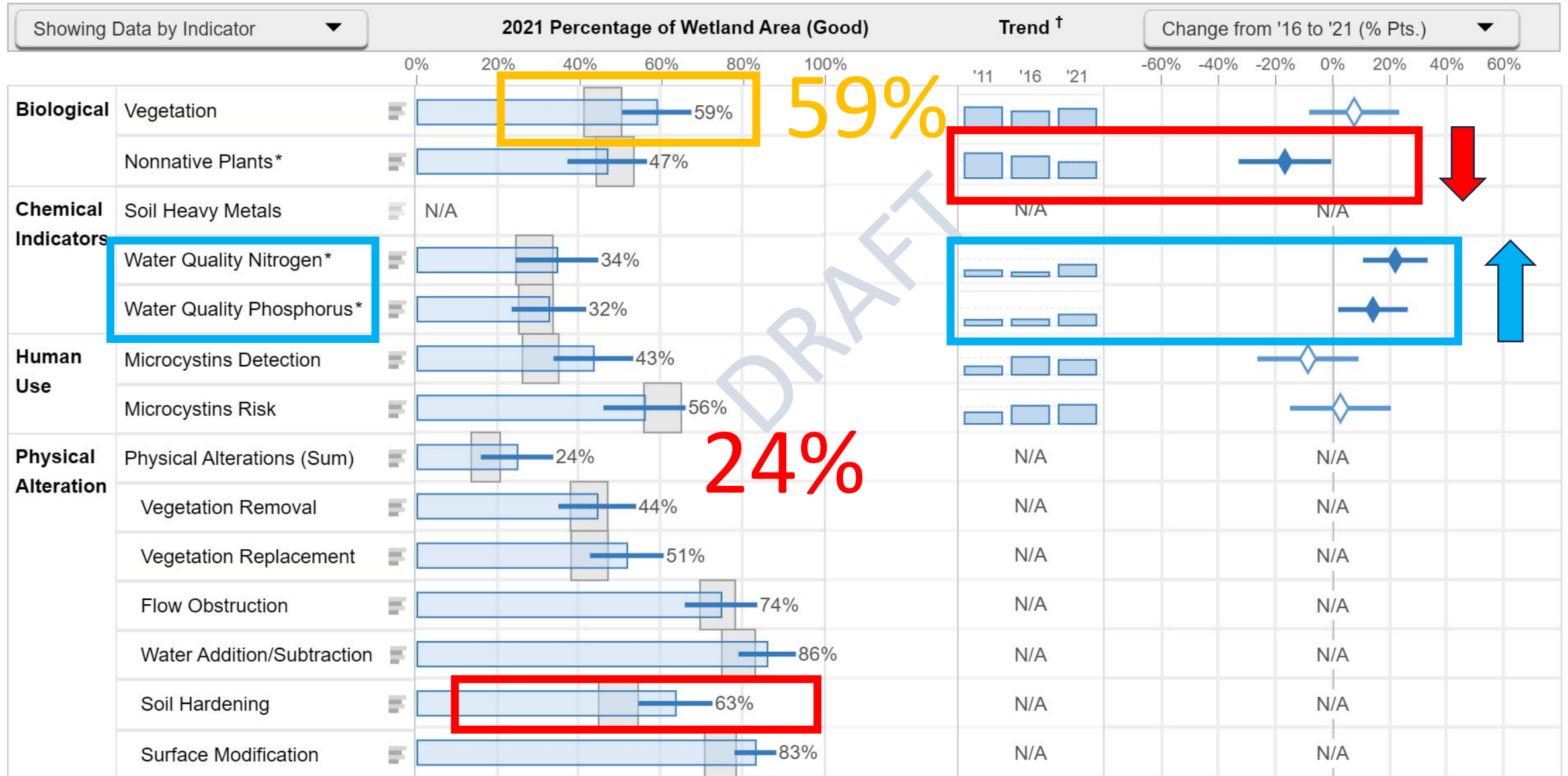
2021 Estimates and Change Over Time | National (All Wetlands)



U.S. EPA National Wetland Condition Assessment 2021

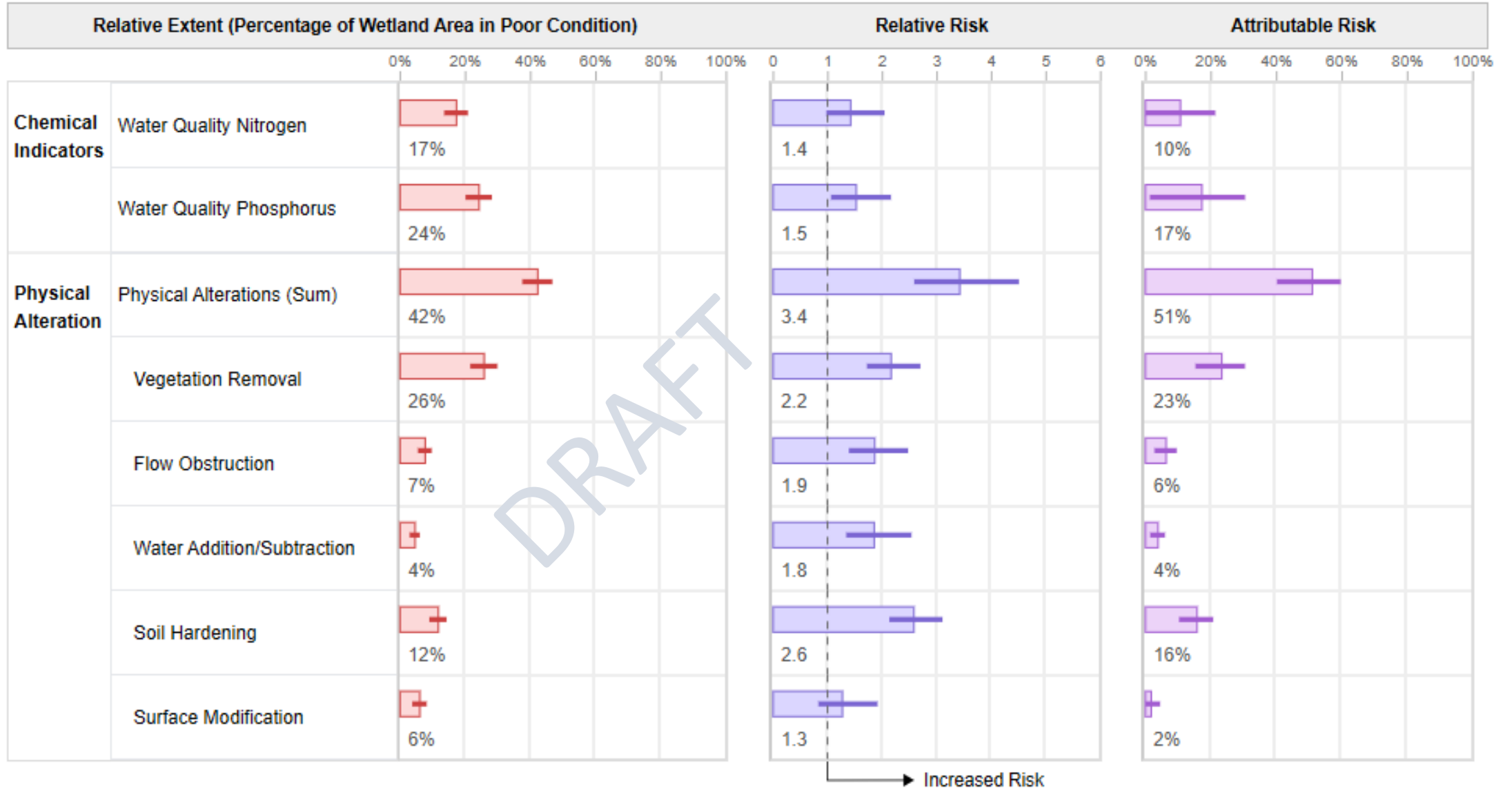
Percentage of Wetland Area in Good Condition

2021 Estimates and Change Over Time | E. Mtns. & Upp. Midwest (All Wetlands)



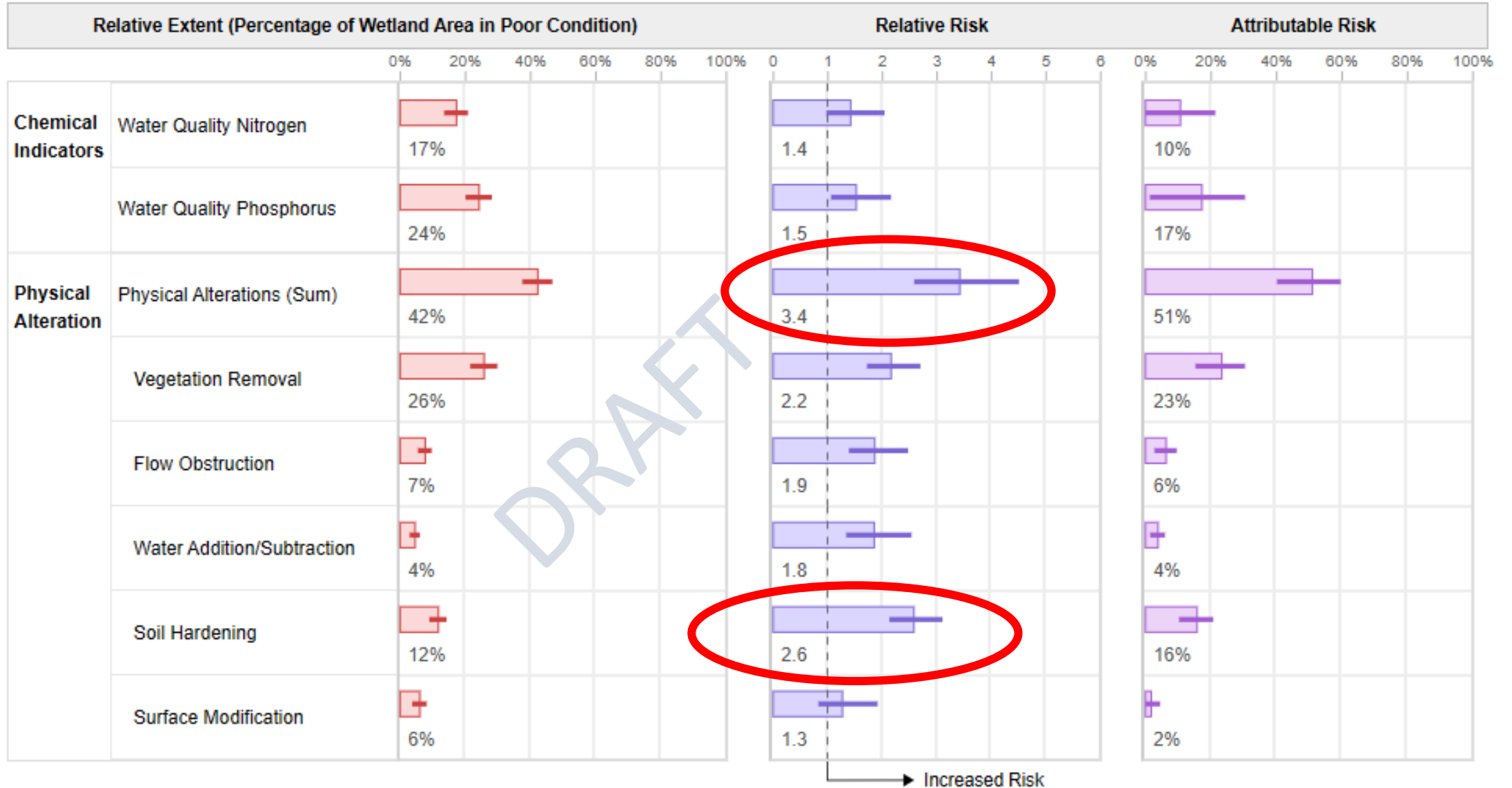
Estimated Risk to Biota Associated with Stressors

In Relation to: Vegetation | National (All Wetlands)



Estimated Risk to Biota Associated with Stressors

In Relation to: Vegetation | National (All Wetlands)



Web Report



National Wetland Condition Assessment: The Third Collaborative Survey

This report summarizes the National Wetland Condition Assessment's key findings on U.S. wetland condition. The EPA and its state and Tribal partners conducted the survey in 2021.

Photo credit: Wetland at the edge of Johns Lake, Glacier National Park, Montana. Lindsey Belcher, Four Peaks Environmental Science and Data Solutions.

SCROLL TO BEGIN

National Wetland Condition Assessment 2021

- Introduction
 - Key Findings 2021
 - Key Findings on Change
 - NWCA Dashboard
 - Find Out More
- Background
 - About Wetlands
 - Choosing Indicators

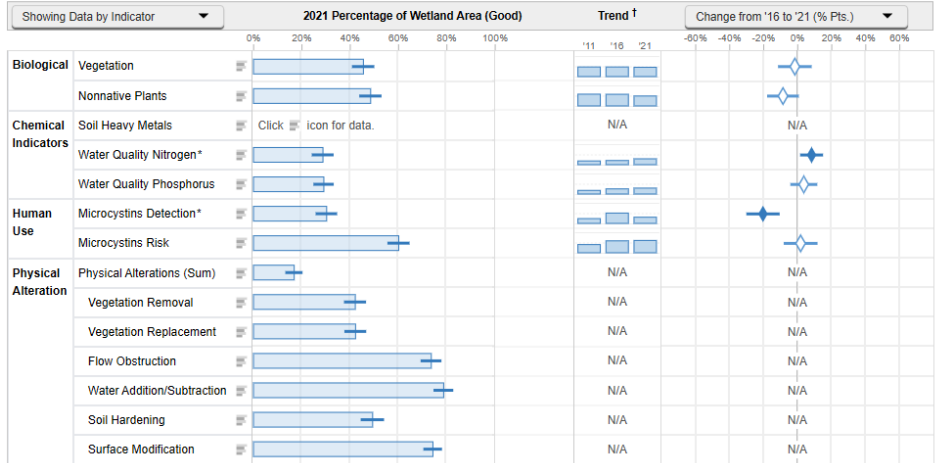
Introduction

Healthy wetlands enhance our quality of life and provide many critical services and recreational opportunities. Wetlands are among the most productive ecosystems in the world, home to an immense variety of fish and wildlife. They trap pollutants, store carbon and buffer our shorelines from waves. To learn more about EPA activities to protect and restore these vital resources, visit the [EPA wetlands page](#).

The National Wetland Condition Assessment (NWCA) is an EPA, state and Tribal partnership to assess the condition of wetlands across the United States (see [acknowledgments](#) for a list of partners). It is one of four statistical surveys in the National Wetland Condition Assessment (NWCA) program. For more information, see the

U.S. EPA National Wetland Condition Assessment 2021 Percentage of Wetland Area in Good Condition

2021 Estimates and Change Over Time | National (All Wetlands)



*Trends in the proportion of wetland area in a condition category. Surveys were conducted in 2011, 2016, and 2021. Hover over graphs in the "trend" column to see trendlines.
 * Indicates statistically significant difference (95% confidence) between time periods compared. Also represented by a filled diamond in the right-hand column of the dashboard. Statistical significance is provided as a useful way of highlighting results that may warrant additional exploration and analyses.
 Data Interpretation Notes: (1) Values presented in tooltips and data labels are rounded. For unrounded data, please click the data-download icon in the lower right. (2) "N/A" in dashboard views indicates that data are not available. [This summary](#) explains the various reasons that data may not be available. (3) The EPA did not report results for change between two time periods (and is instead displaying "NR") when the percentage of wetland area that was not assessed increased or decreased by more than 5 percentage points. When these change estimates are not reported, trend is also not reported. This limits the likelihood of erroneous interpretation (discussed further in [this document](#)). For transparency, the dashboard in these cases still provides results for individual years, but users are cautioned to consider the effect of the not assessed data when interpreting changes in any condition category. (4) To learn more about NWCA 2021, read EPA's [summary report](#). For detailed methodological information, see EPA's [technical support document](#).
 Recommended Citation: U.S. Environmental Protection Agency (USEPA). 2024. *National Wetland Condition Assessment 2021: The Third Collaborative Survey*. Interactive NWCA Dashboard. <https://wetlandassessment.epa.gov/dashboard>. Accessed on 9/24/2024. Last modified on 09/13/2024 10:32:16.



Condition Estimates

Select Condition: Good

Select Subpopulation: National (All Wetlands)

Select Label Options: None

Additional Information
 This dashboard displays results from the national assessments of wetlands in the conterminous United States. From left to right, the graphs show the percentage of wetland area in good, fair or poor condition in 2021, as well as percentage not assessed; the trend; and the percentage point change between selected surveys. All confidence intervals are calculated at a 95% confidence level.
 For information on the benchmarks used to determine conditions such as good, fair and poor in NWCA 2021, see the [NWCA summary report benchmark section](#).



Data Dashboard

Tools to report, explore, visualize NWCA data

- NARS tools
 - NARS Data Download Tool
 - NARS Reference Site Visualization Tool
- State-scale reports
- **Observed plant viewer**

| PUBLICATION_DATE | UID | UNIQUE_ID | DSGN_CYCLE | SITE_ID | YEAR | VISIT_NO | LAT_ANI |
|------------------|--------|--------------|------------|-------------|------|----------|---------|
| 4/13/2022 | 198630 | NWC_CA-10154 | 2016 | NWCA16-1253 | 2016 | 1 | 37 |
| 4/13/2022 | 198630 | NWC_CA-10154 | 2016 | NWCA16-1253 | 2016 | 1 | 37 |

View the reference sites used to set benchmarks

- 1) Select Survey: Wetlands (NWCA)
- 2) Select Indicator: Vegetation MMI (VMMI)
- 3) Select Region/Group: Inland herbaceous (PRLH)

Buttons: Select, Download

Map: Site Map, Screening Process, Indicator Benchmarks

Buttons: Full view, Clear map

<https://www.epa.gov/national-aquatic-resource-surveys/tools-related-national-aquatic-resource-surveys>



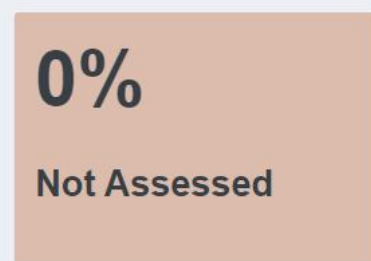
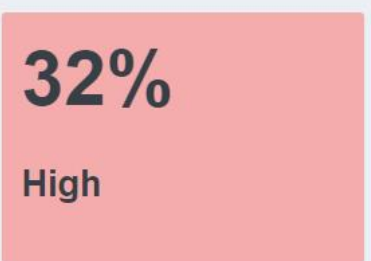
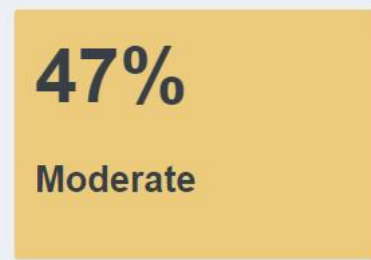
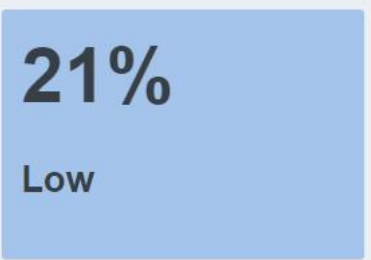
Select a plant species:

ACER RUBRUM

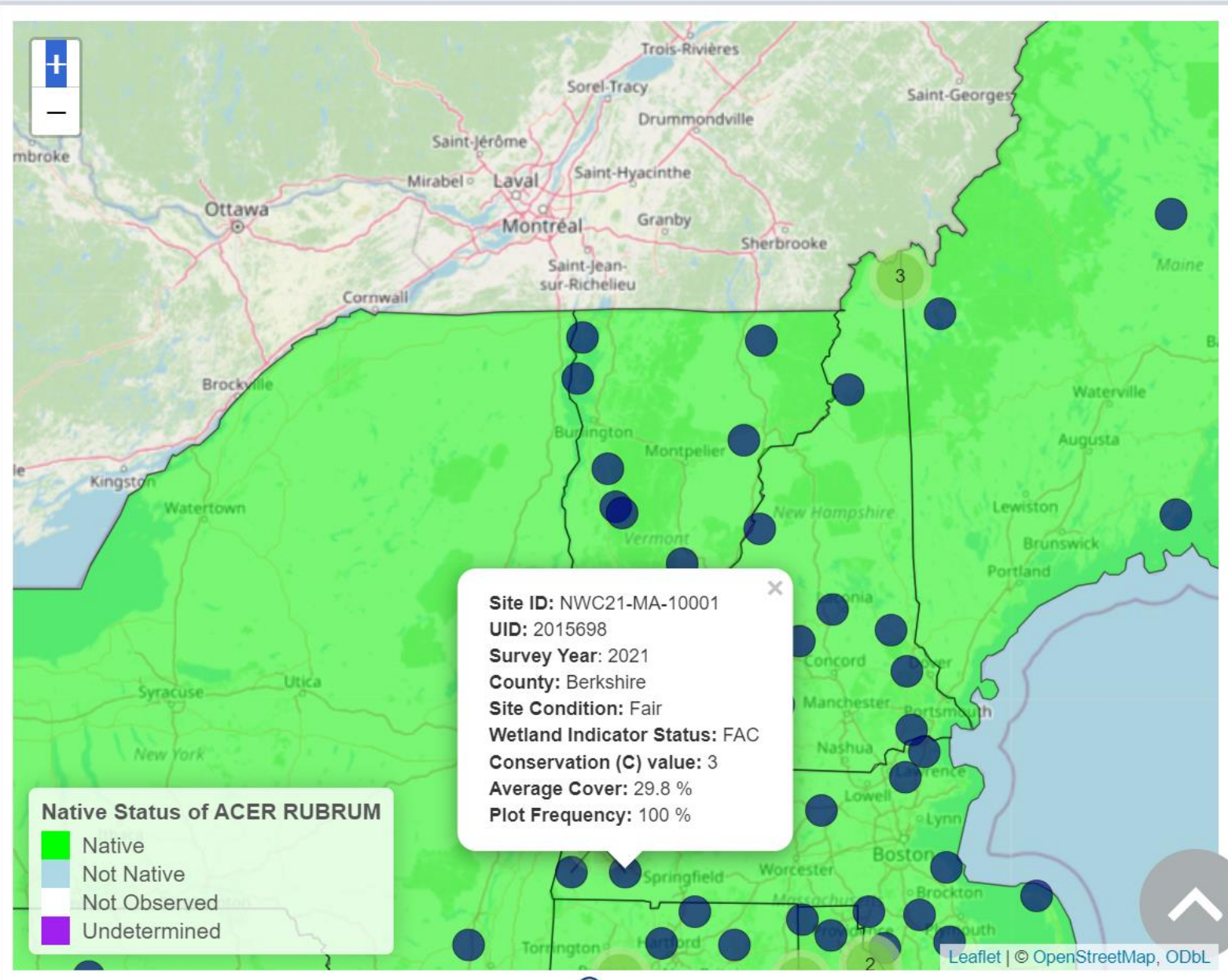
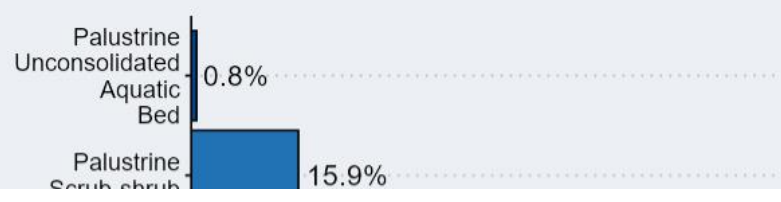
Common name: RED MAPLE

[USDA Plant Profile](#)

Percentage of sites with physical alteration disturbance:

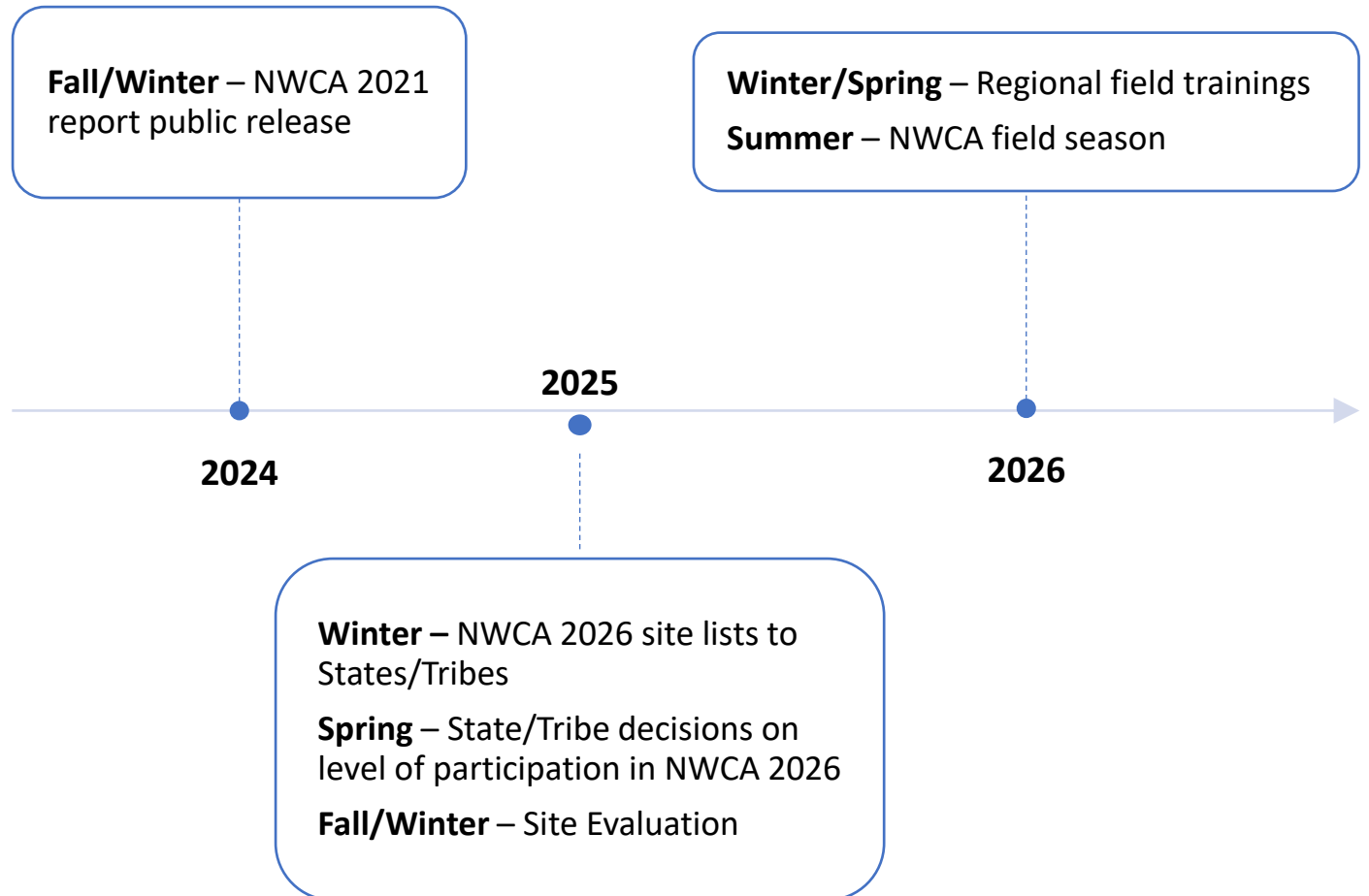


Wetland types where ACER RUBRUM is found:





What's next for NWCA?



Acknowledgements

- State and Tribal Agencies
- Federal Agencies
 - USDA Natural Resources Conservation Service
 - U.S. Fish and Wildlife Service
 - National Park Service
- Other collaborators
 - Contractors
 - Academic institutions
- Colleagues in EPA Office of Water, EPA Office of Research and Development, and EPA Regional Offices

Delaware Department of Natural Resources and Environmental Control
District of Columbia Department of Energy and Environment
Maine Department of Environmental Protection
Maine Natural Areas Program
Maryland Department of the Environment
Massachusetts Department of Environmental Protection
New Hampshire Department of Environmental Services
New Jersey Department of Environmental Protection
New York Natural Heritage Program
North Carolina Department of Environmental Quality
Pennsylvania Department of Environmental Protection
Vermont Department of Environmental Conservation
Virginia Department of Environmental Quality
West Virginia Department of Environmental Protection

Acadia National Park
U.S. Department of Agriculture, Natural Resources Conservation Service
U.S. EPA Regions 1-3

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