Lower Chateaugay Lake
Survey Site Numbers

County: Franklin
Town: Bellmont
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 547.8

Survey Sites *(Rake)*
Survey Sites *(Supplemental)*

374

Turtle-Ln

Lake-Rd

Spear-Hill-Rd

Lower Chateaugay Lake

0 0.3 Kilometers
0 0.3 Miles

ADIRONDACK RESEARCH

The Narrows
Survey Site Numbers (North)

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Survey Sites *(Rake)*
Survey Sites *(Supplemental)*

S113 290 291 293 341 292 S112 344 282 284 286 288 276 277 279 280 339 269 271 S111 273 274 334 265 266 267 S110 260 262 263 331 256 258 251 253 327 247 248 249 243 244 246 325 237 239 241 323 233 234 235 229 231 321 226 320 318 228 220 222 224 313 S108 212 214 216 S107 218 S109 316 207 208 210 205 307 309 201 202 S106 306 199 196 304 S105 302 S104 194 191 192 S103 188 190 S102 S101 297 185 232 295 S86 184 183 S87 S85 178 180 181 182 236 S88 176 177 238 240 174 230 242 171 173 S89 S84 167 169 227 164 165 225 S92 160 162 163 S91 157 158 159 S90 245 155 156 150 152 250 149 223 252 147 148 221 254 145 213 219 215 143 217 211 140 141 S83 209 204 139 203 206 136 137 200 S82

374 374

Harris Rd

Narrows Rd

The Narrows

ADIRONDACK RESEARCH

0 0.2 Kilometers
0 0.2 Miles

The Narrows
Survey Site Numbers (South)

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Survey Sites *(Rake)*
Survey Sites *(Supplemental)*

Gadway Rd
374
Shutts Rd
The Narrows
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.2 Kilometers
0 0.2 Miles

Upper Chateaugay Lake
Survey Site Numbers (North)

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Survey Sites *(Rake)*
Survey Sites *(Supplemental)*

The Narrows

Upper Chateaugay Lake

374

Blanche Rd

Sunset Rd

0 0.3 Kilometers
0 0.3 Miles

ADIRONDACK RESEARCH

Upper Chateaugay Lake
Survey Site Numbers (South)

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Survey Sites *(Rake)*
Survey Sites *(Supplemental)*

Upper Chateaugay Lake

Hemlock-Ln

Boomhower-Rd

ADIRONDACK RESEARCH

0 0.3 Kilometers
0 0.3 Miles

Lower Chateaugay Lake
Survey Site Depth

County: Franklin
Town: Bellmont
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 547.8

Depth (ft)
0-2
2-4
4-7
7-10
10+

Drew Ln
374
Camp Rd
Drew Ln
Turtle Ln
Lake Rd
Lower Chateaugay Lake
374
Spear Hill Rd
Spear Hill Rd

ADIRONDACK RESEARCH

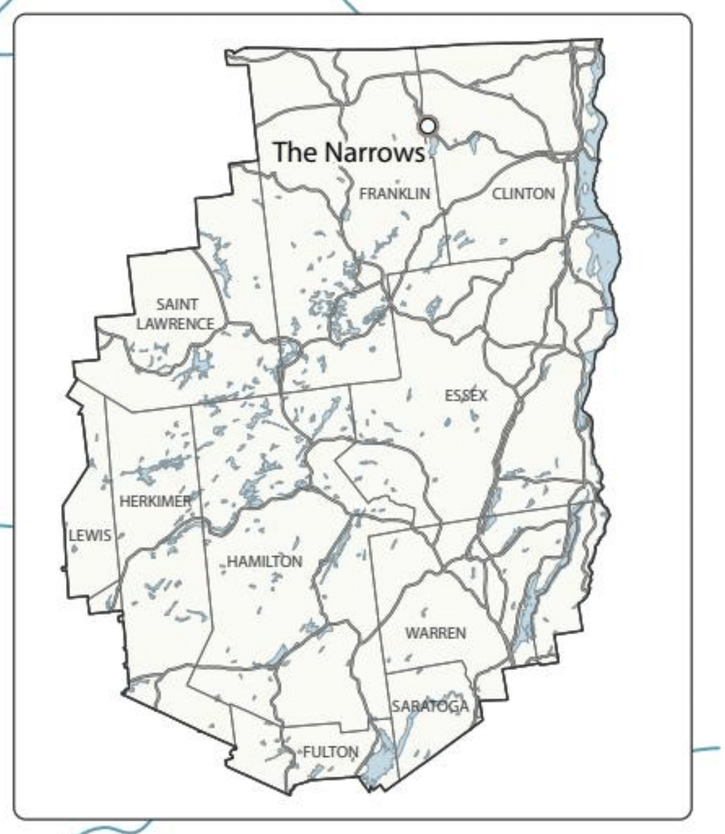
0 0.3 Kilometers
0 0.3 Miles

The Narrows
Survey Site Depth

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Depth (ft)
0-2
2-4
4-7
7-10
10+



Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Gadway Rd
Shutts Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

Upper Chateaugay Lake
Survey Site Depth

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Depth (ft)
0-2
2-4
4-7
7-10
10+

Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
374
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd

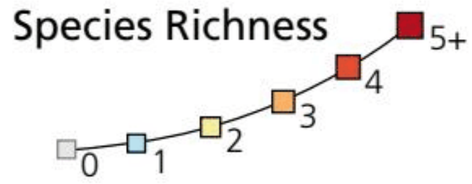
ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Lower Chateaugay Lake
Species Richness

County: Franklin
Town: Bellmont
Data Source: Northeast Aquatic Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 547.8



ADIRONDACK RESEARCH

0 0.3 Kilometers
0 0.3 Miles

The Narrows
Species Richness

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Species Richness

0 1 2 3 4 5+

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

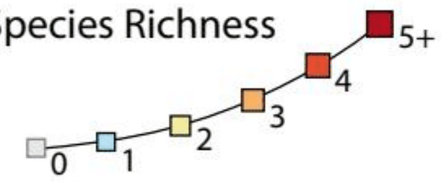
ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

Upper Chateaugay Lake
Species Richness

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Species Richness



Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
374
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Lower Chateaugay Lake
Overall Plant Abundance

County: Franklin
Town: Bellmont
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 547.8
Data Source: Northeast Aquatic Research Surveys

Plant Density (%)

D(76-100)
M(51-75)
S(26-50)
T(5-25)
Z(0)

Drew Ln
374
Camp Rd
Drew Ln
Turtle Ln
Lake Rd
Lower Chateaugay Lake
374
Spear Hill Rd
Spear Hill Rd

ADIRONDACK RESEARCH

0 0.3 Kilometers
0 0.3 Miles

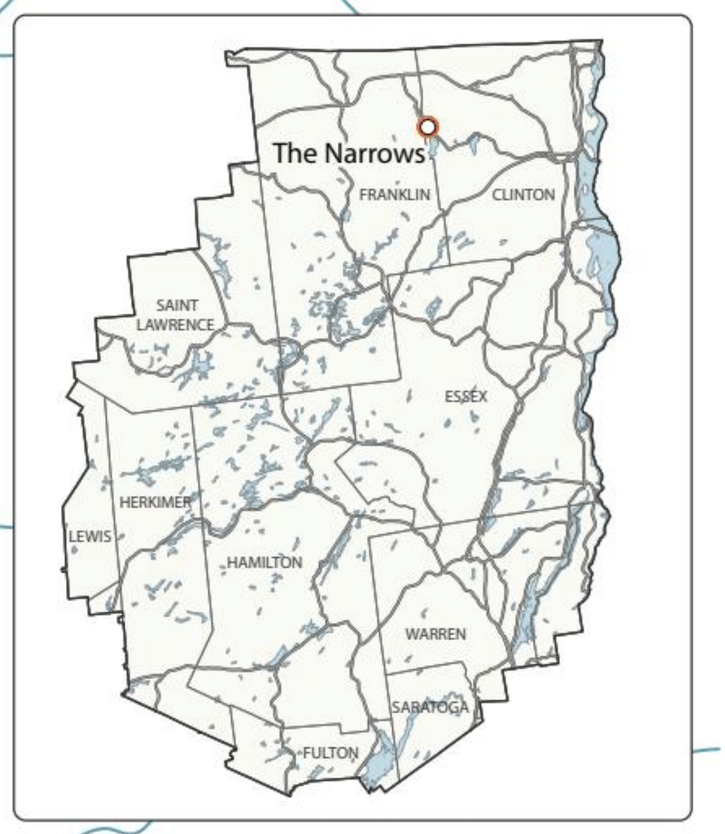
The Narrows
Overall Plant Abundance

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

D(76-100)
M(51-75)
S(26-50)
T(5-25)
Z(0)



Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

Upper Chateaugay Lake
Overall Plant Abundance

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

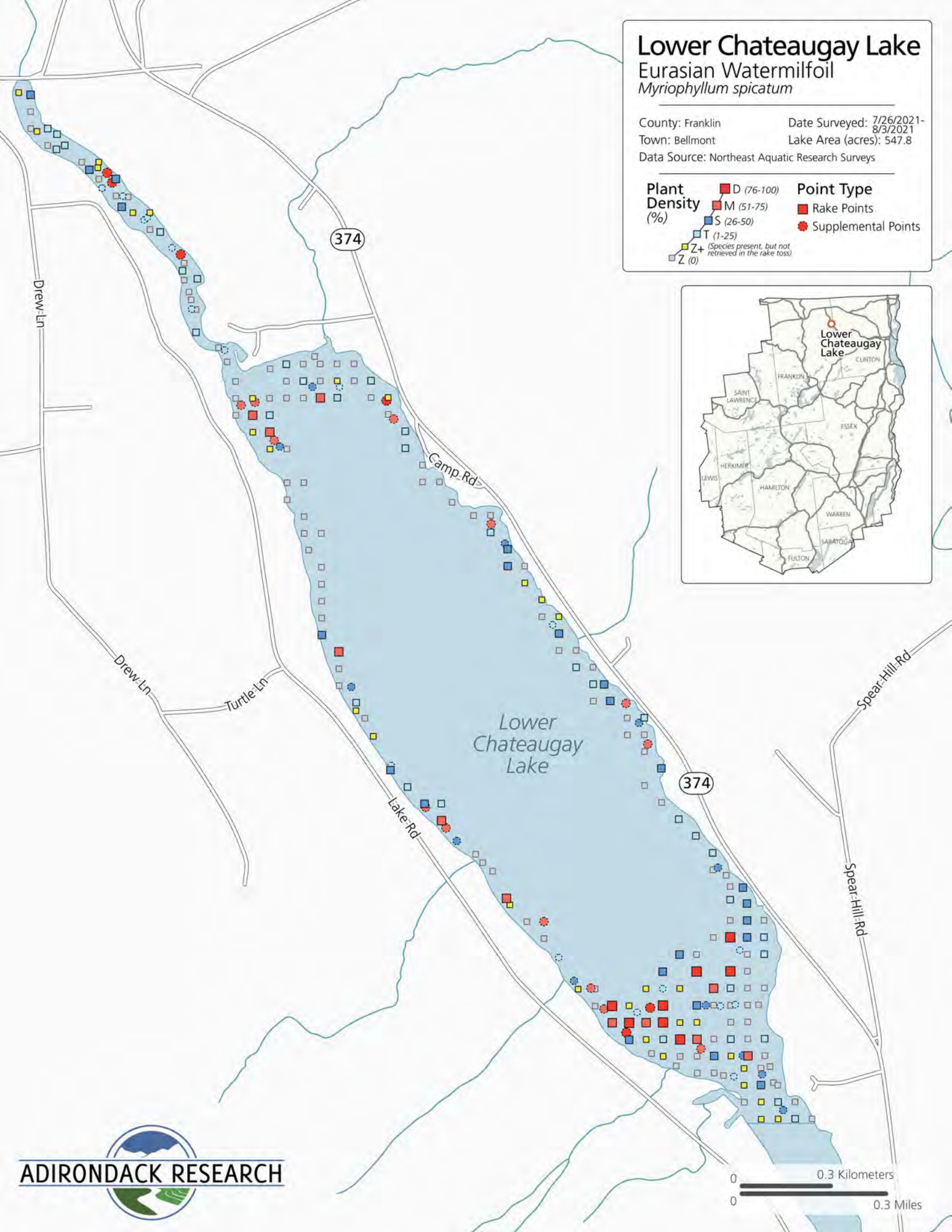
Plant Density (%)

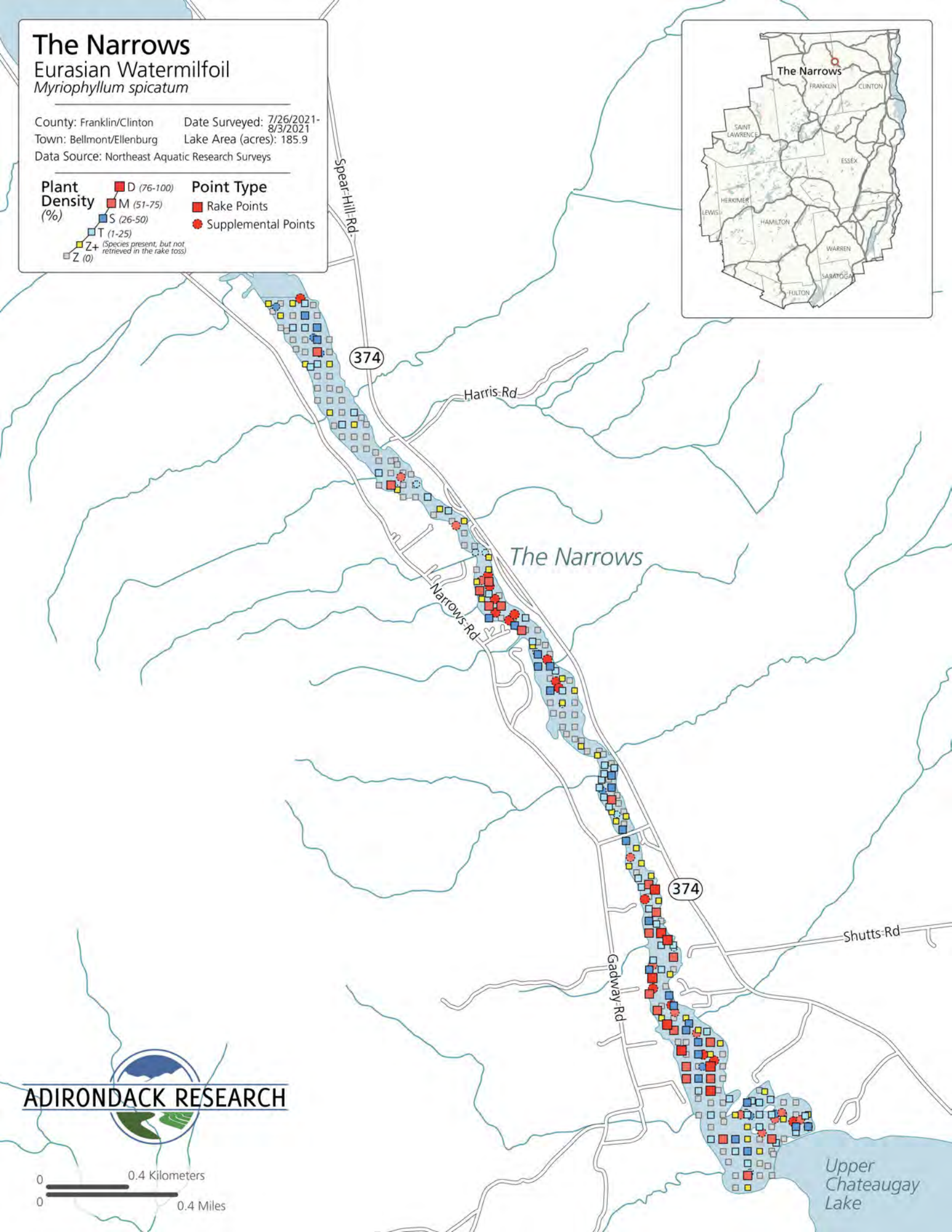
D(76-100)
M(51-75)
S(26-50)
T(5-25)
Z(0)

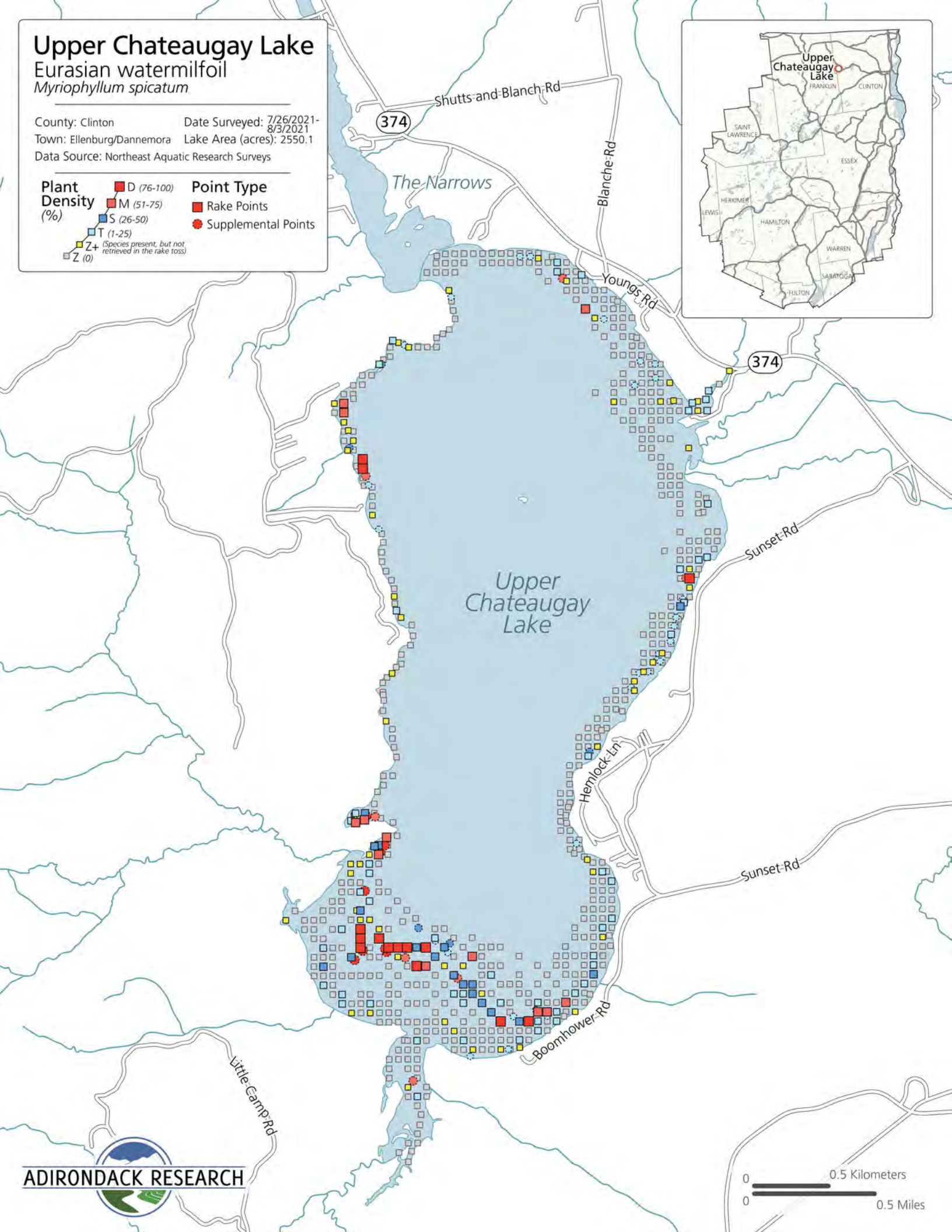
Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
374
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles


Lower Chateaugay Lake
Eurasian Watermilfoil
Myriophyllum spicatum
County: Franklin
Town: Bellmont
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 547.8
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
Point Type
Rake Points
Supplemental Points
Lower Chateaugay Lake
CLINTON
FRANKLIN
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
374
Drew Ln
Camp Rd
Turtle Ln
Lake Rd
Spear Hill Rd
Lower Chateaugay Lake
0
0.3 Kilometers
0
0.3 Miles
ADIRONDACK RESEARCH


The Narrows
Eurasian Watermilfoil
Myriophyllum spicatum
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
Point Type
Rake Points
Supplemental Points
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles


Upper Chateaugay Lake
Eurasian watermilfoil
Myriophyllum spicatum
County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
Point Type
Rake Points
Supplemental Points
Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Boomhower Rd
Little Camp Rd
Upper Chateaugay Lake
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

The Narrows
Watershield
Brasenia schreberi

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

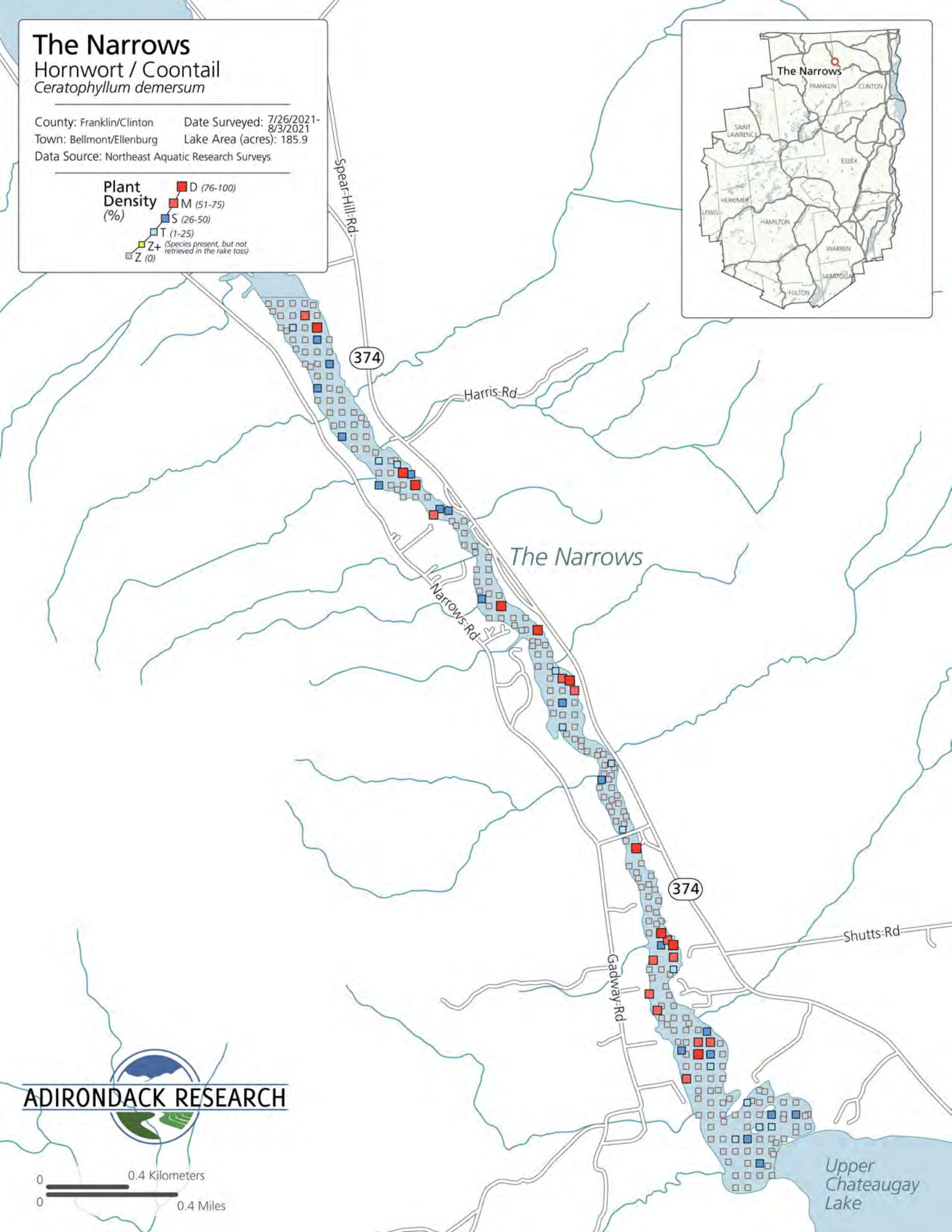
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles


The Narrows
Hornwort / Coontail
Ceratophyllum demersum
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Data Source: Northeast Aquatic Research Surveys
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles

The Narrows

Muskgrass

Chara sp

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

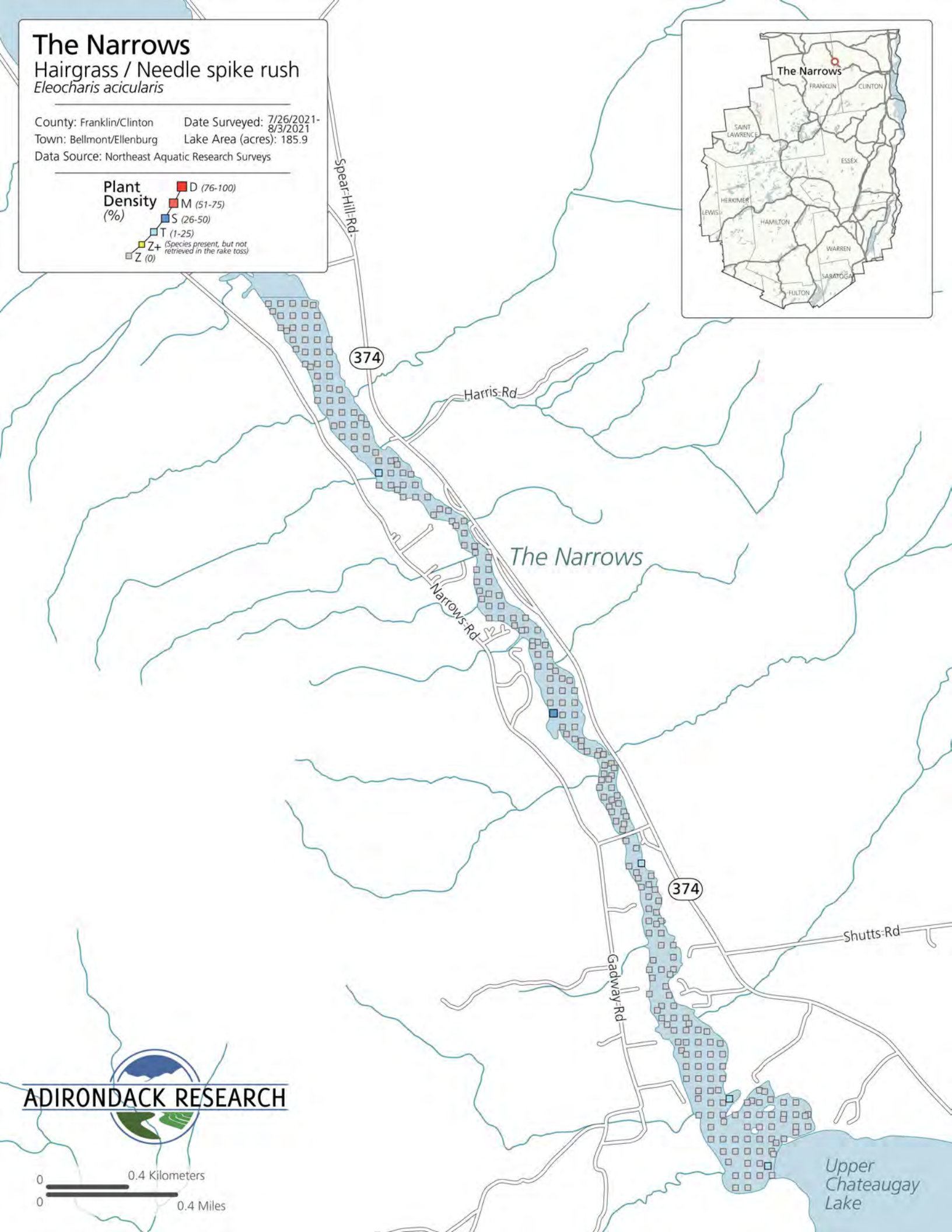
Plant Density (%)

- D *(76-100)*
- M *(51-75)*
- S *(26-50)*
- T *(1-25)*
- Z+ *(Species present, but not retrieved in the rake toss)*
- Z *(0)*

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles


The Narrows
Hairgrass / Needle spike rush
Eleocharis acicularis
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Data Source: Northeast Aquatic Research Surveys
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SABATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles

The Narrows

Nuttall's waterweed

Elodea nuttallii

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Filamentous algae

Filamentous algae

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

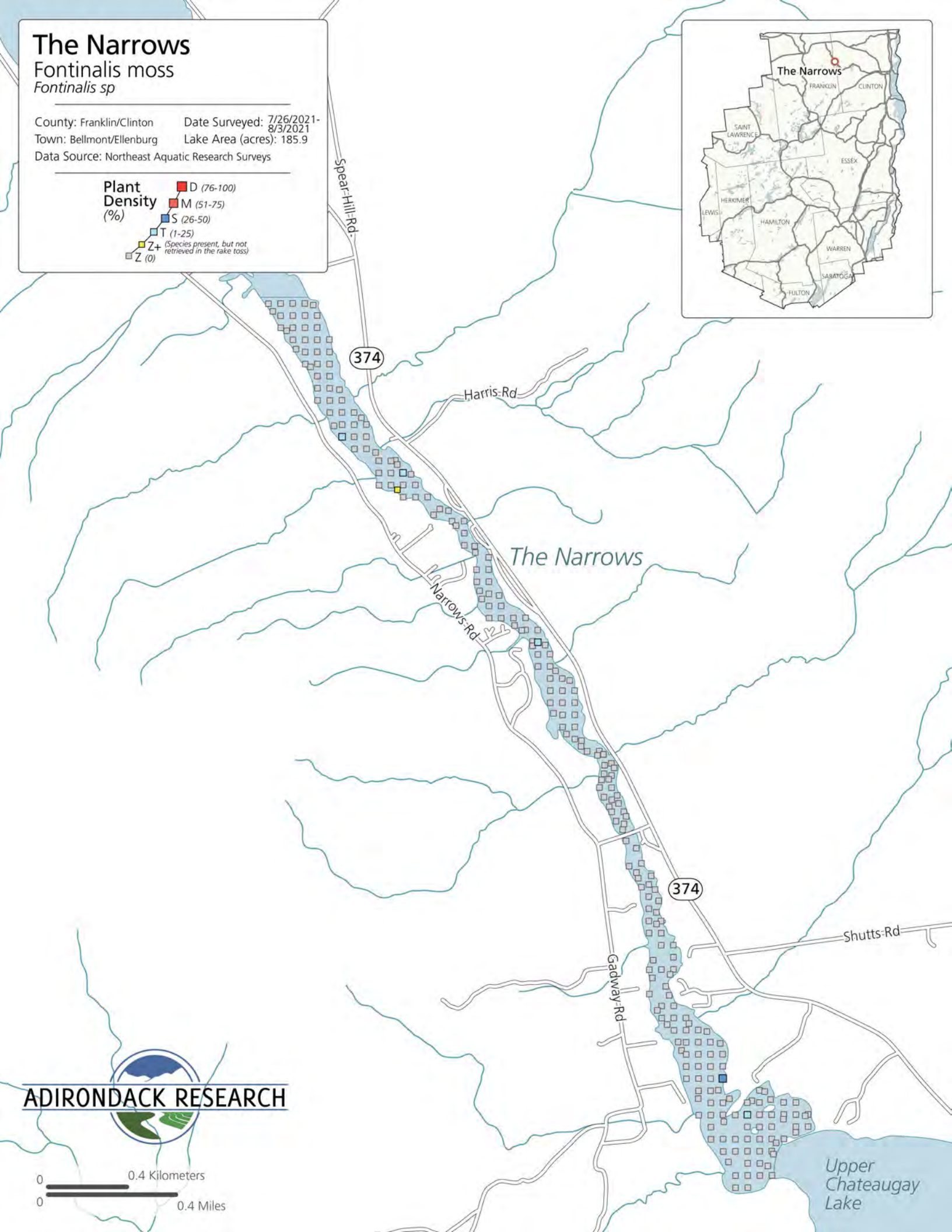
Plant Density (%)

- D *(76-100)*
- M *(51-75)*
- S *(26-50)*
- T *(1-25)*
- Z+ *(Species present, but not retrieved in the rake toss)*
- Z *(0)*

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles


The Narrows
Fontinalis moss
Fontinalis sp
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Data Source: Northeast Aquatic Research Surveys
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles

The Narrows

Isoetes

Isoetes sp

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

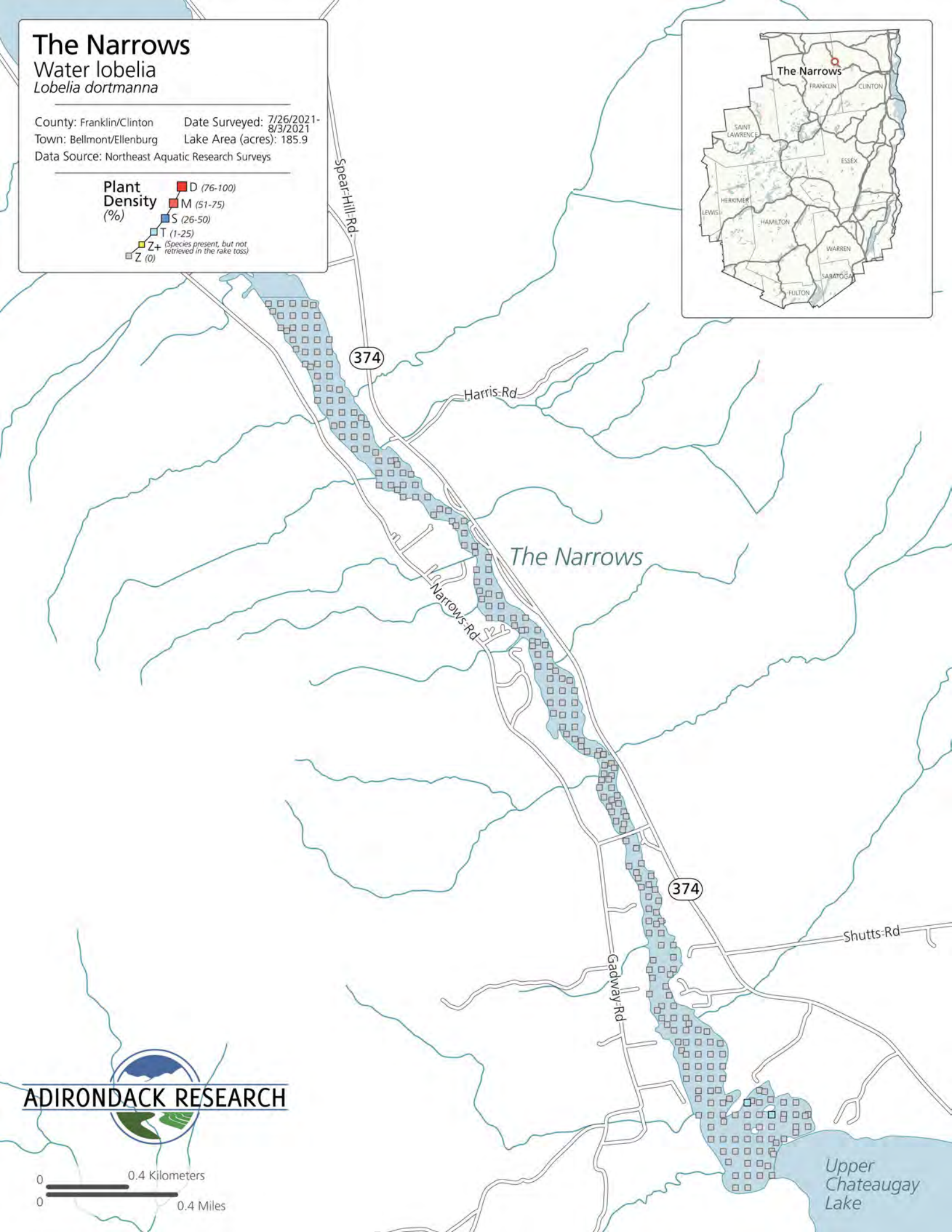
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles


The Narrows
Water lobelia
Lobelia dortmanna
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Data Source: Northeast Aquatic Research Surveys
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SABATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles

The Narrows

Soft watermilfoil / Slender watermilfoil
Myriophyllum tenellum

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D *(76-100)*
- M *(51-75)*
- S *(26-50)*
- T *(1-25)*
- Z+ *(Species present, but not retrieved in the rake toss)*
- Z *(0)*

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Common naiad

Najas flexilis

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Southern naiad

Najas guadalupensis

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D *(76-100)*
- M *(51-75)*
- S *(26-50)*
- T *(1-25)*
- Z+ *(Species present, but not retrieved in the rake toss)*
- Z *(0)*

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Stonewort

Nitella sp

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

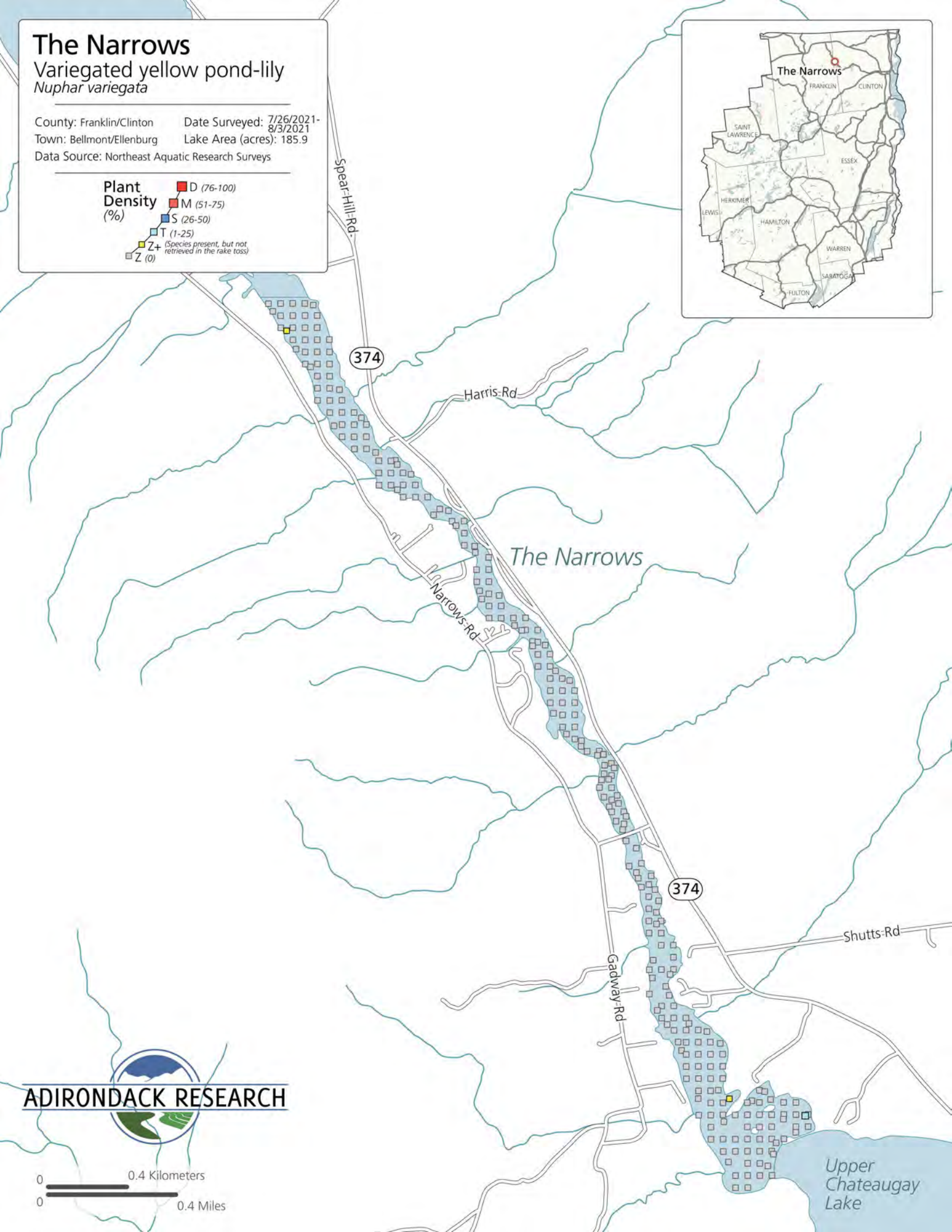
Plant Density (%)

- D *(76-100)*
- M *(51-75)*
- S *(26-50)*
- T *(1-25)*
- Z+ *(Species present, but not retrieved in the rake toss)*
- Z *(0)*

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles


The Narrows
Variegated yellow pond-lily
Nuphar variegata
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Data Source: Northeast Aquatic Research Surveys
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles

The Narrows

Fragrant water lily

Nymphaea odorata

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D *(76-100)*
- M *(51-75)*
- S *(26-50)*
- T *(1-25)*
- Z+ *(Species present, but not retrieved in the rake toss)*
- Z *(0)*

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Amphibious bistort / Smartweed

Persicaria amphibia

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

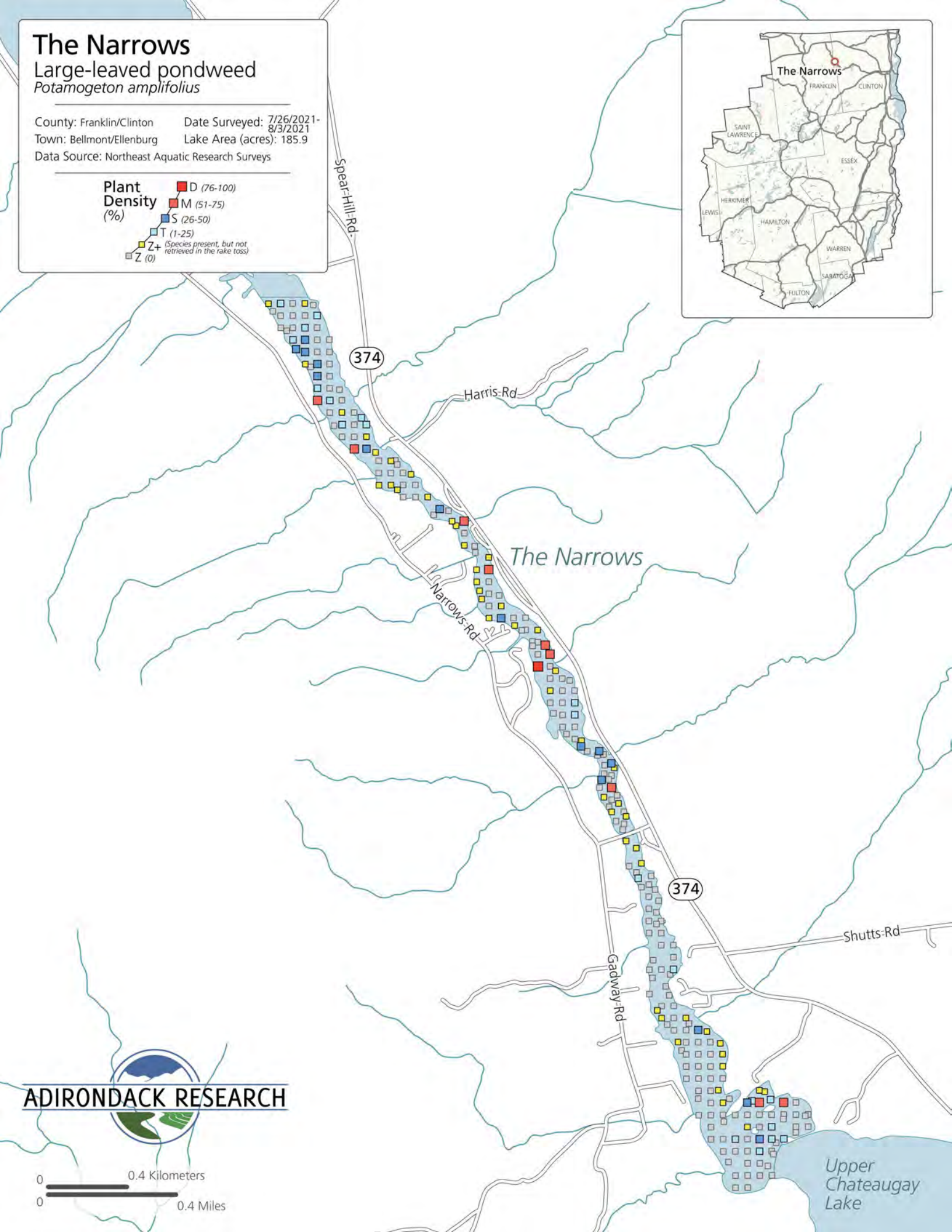
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles


The Narrows
Large-leaved pondweed
Potamogeton amplifolius
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Data Source: Northeast Aquatic Research Surveys
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles

The Narrows

Bog pondweed

Potamogeton bicupulatus

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Nuttall's pondweed /
Ribbon-leaved pondweed
Potamogeton epihydrus

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

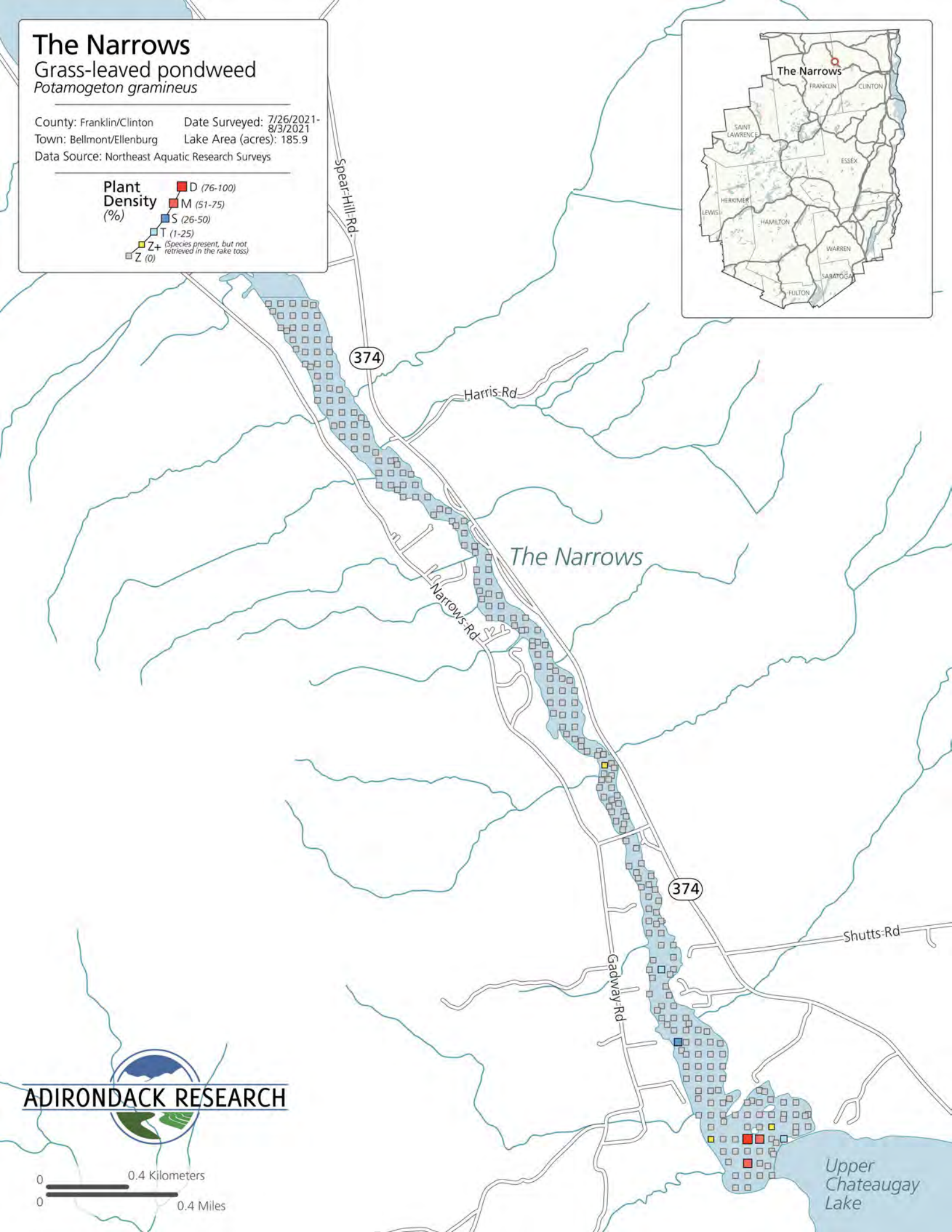
Plant Density (%)

- D *(76-100)*
- M *(51-75)*
- S *(26-50)*
- T *(1-25)*
- Z+ *(Species present, but not retrieved in the rake toss)*
- Z *(0)*

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles


The Narrows
Grass-leaved pondweed
Potamogeton gramineus
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Data Source: Northeast Aquatic Research Surveys
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SABATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles

The Narrows

Broad-leaved pondweed

Potamogeton natans

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Blunt-leaved pondweed

Potamogeton obtusifolius

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

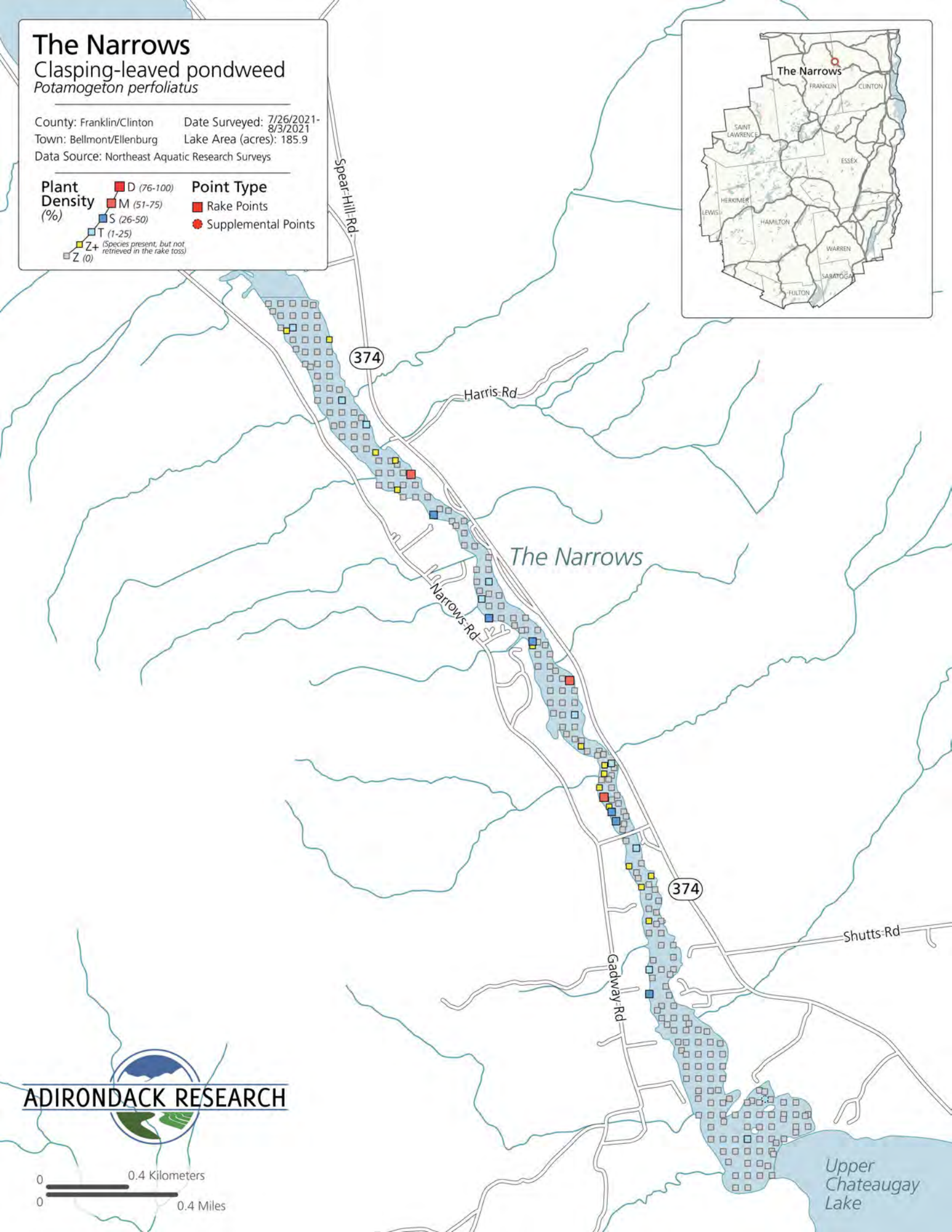
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles


The Narrows
Clasping-leaved pondweed
Potamogeton perfoliatus
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
Point Type
Rake Points
Supplemental Points
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles

The Narrows

Small pondweed

Potamogeton pusillus

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Robbins' pondweed

Potamogeton robbinsii

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

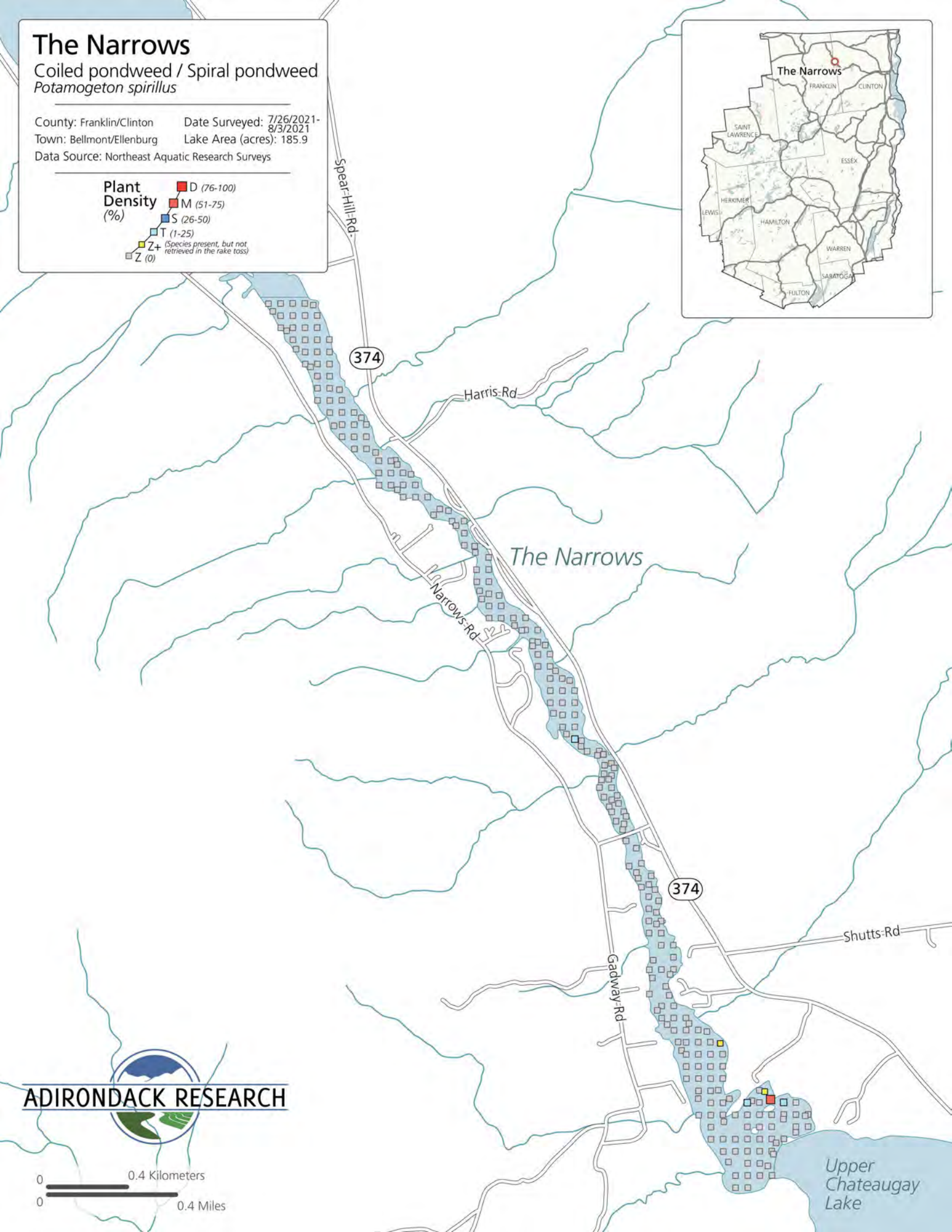
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles


The Narrows
Coiled pondweed / Spiral pondweed
Potamogeton spirillus
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Data Source: Northeast Aquatic Research Surveys
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SABATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles

The Narrows

Thread-leaved crowfoot

Ranunculus trichophyllus

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Point Type

- Rake Points
- Supplemental Points

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Grass-leaved arrowhead

Sagittaria graminea

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Slender bulrush

Schoenoplectus heterochaetus

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

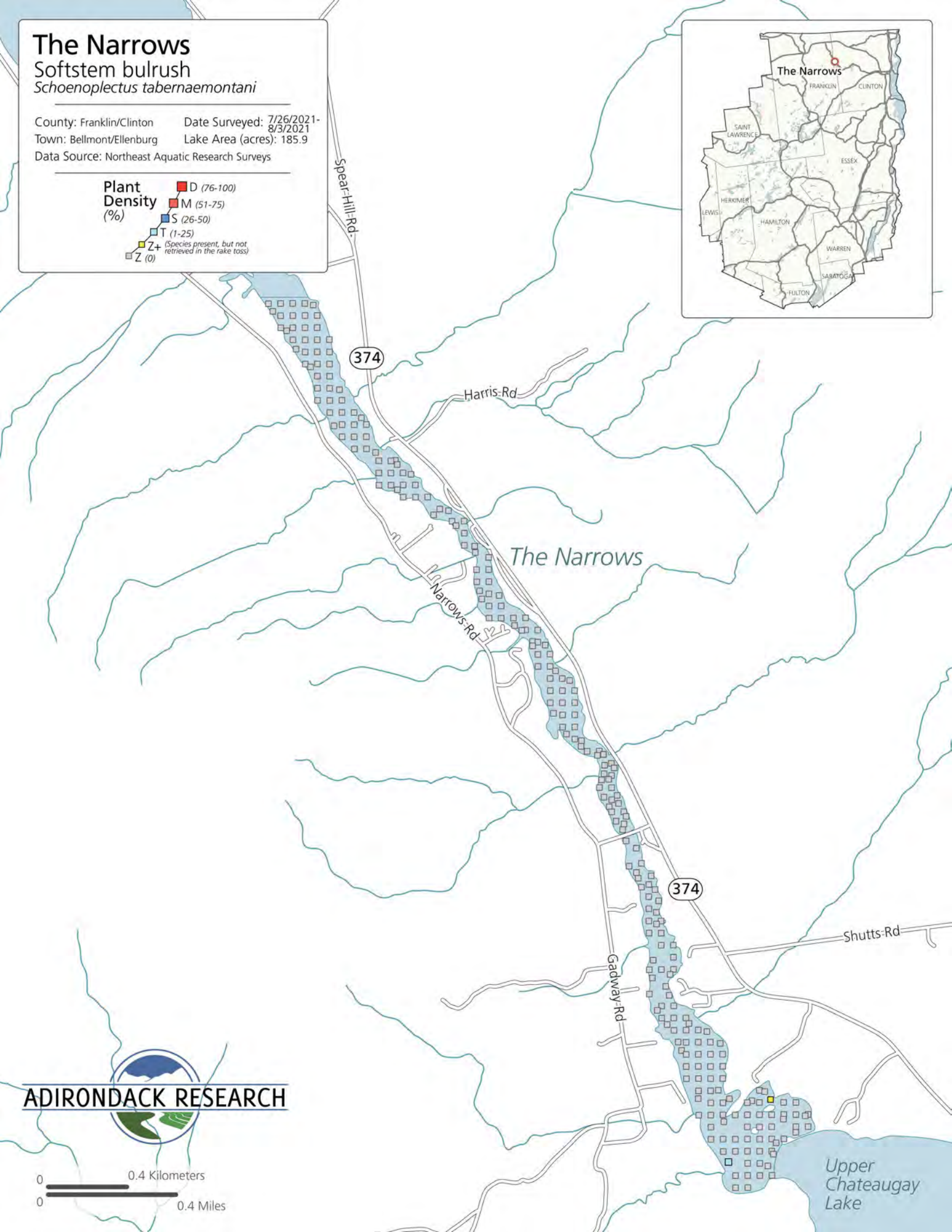
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles


The Narrows
Softstem bulrush
Schoenoplectus tabernaemontani
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Data Source: Northeast Aquatic Research Surveys
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SABATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles
Upper Chateaugay Lake

The Narrows

Narrow-leaved bur-reed

Sparganium angustifolium

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Floating bur-reed

Sparganium fluctuans

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Greater duckweed

Spirodela polyrhiza

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Point Type

- Rake Points
- Supplemental Points

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Cattail

Typha sp

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D *(76-100)*
- M *(51-75)*
- S *(26-50)*
- T *(1-25)*
- Z+ *(Species present, but not retrieved in the rake toss)*
- Z *(0)*

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Michigan bladderwort /
Hidden fruit bladderwort
Utricularia geminiscapa

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Data Source: Northeast Aquatic Research Surveys

Plant Density (%)

- D *(76-100)*
- M *(51-75)*
- S *(26-50)*
- T *(1-25)*
- Z+ *(Species present, but not retrieved in the rake toss)*
- Z *(0)*

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Common bladderwort

Utricularia macrorhiza

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

The Narrows

Lesser bladderwort

Utricularia minor

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

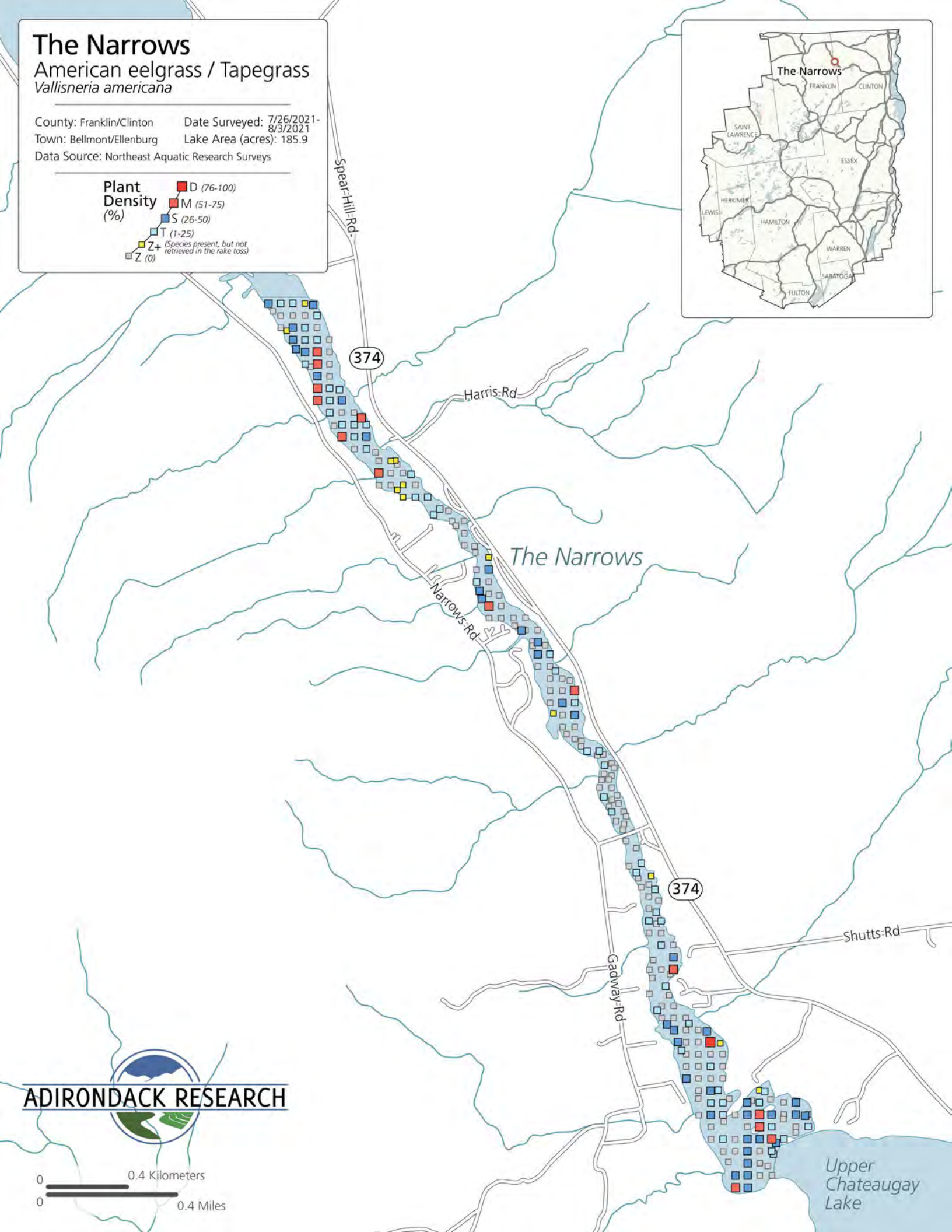
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles


The Narrows
American eelgrass / Tapegrass
Vallisneria americana
County: Franklin/Clinton
Town: Bellmont/Ellenburg
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9
Data Source: Northeast Aquatic Research Surveys
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
The Narrows
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles

The Narrows

Water stargrass

Zosterella dubia

County: Franklin/Clinton
Town: Bellmont/Ellenburg
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 185.9

Plant Density (%)

- D *(76-100)*
- M *(51-75)*
- S *(26-50)*
- T *(1-25)*
- Z+ *(Species present, but not retrieved in the rake toss)*
- Z *(0)*

Point Type

- Rake Points
- Supplemental Points

Spear Hill Rd
374
Harris Rd
The Narrows
Narrows Rd
374
Shutts Rd
Gadway Rd
Upper Chateaugay Lake

ADIRONDACK RESEARCH

0 0.4 Kilometers
0 0.4 Miles

Upper Chateaugay Lake
Watershield
Brasenia schreberi

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)
- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Point Type
- Rake Points
- Supplemental Points

Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
374
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Hornwort / Coontail

Ceratophyllum demersum

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

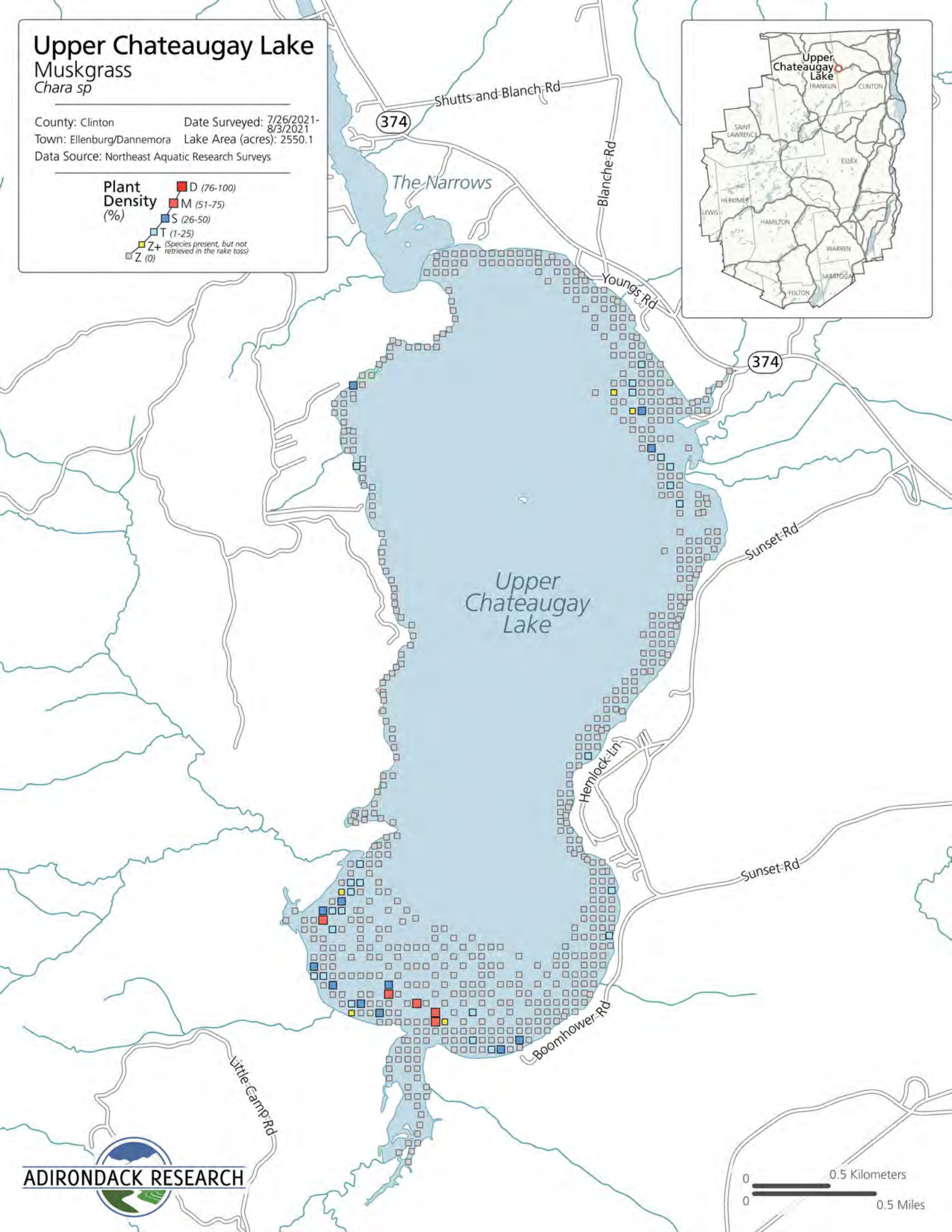
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles


Upper Chateaugay Lake
Muskgrass
Chara sp
County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
374
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd
Upper Chateaugay Lake
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

Upper Chateaugay Lake

Hairgrass / Needle spike rush

Eleocharis acicularis

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
374
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Robbins' spikerush

Eleocharis robbinsii

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

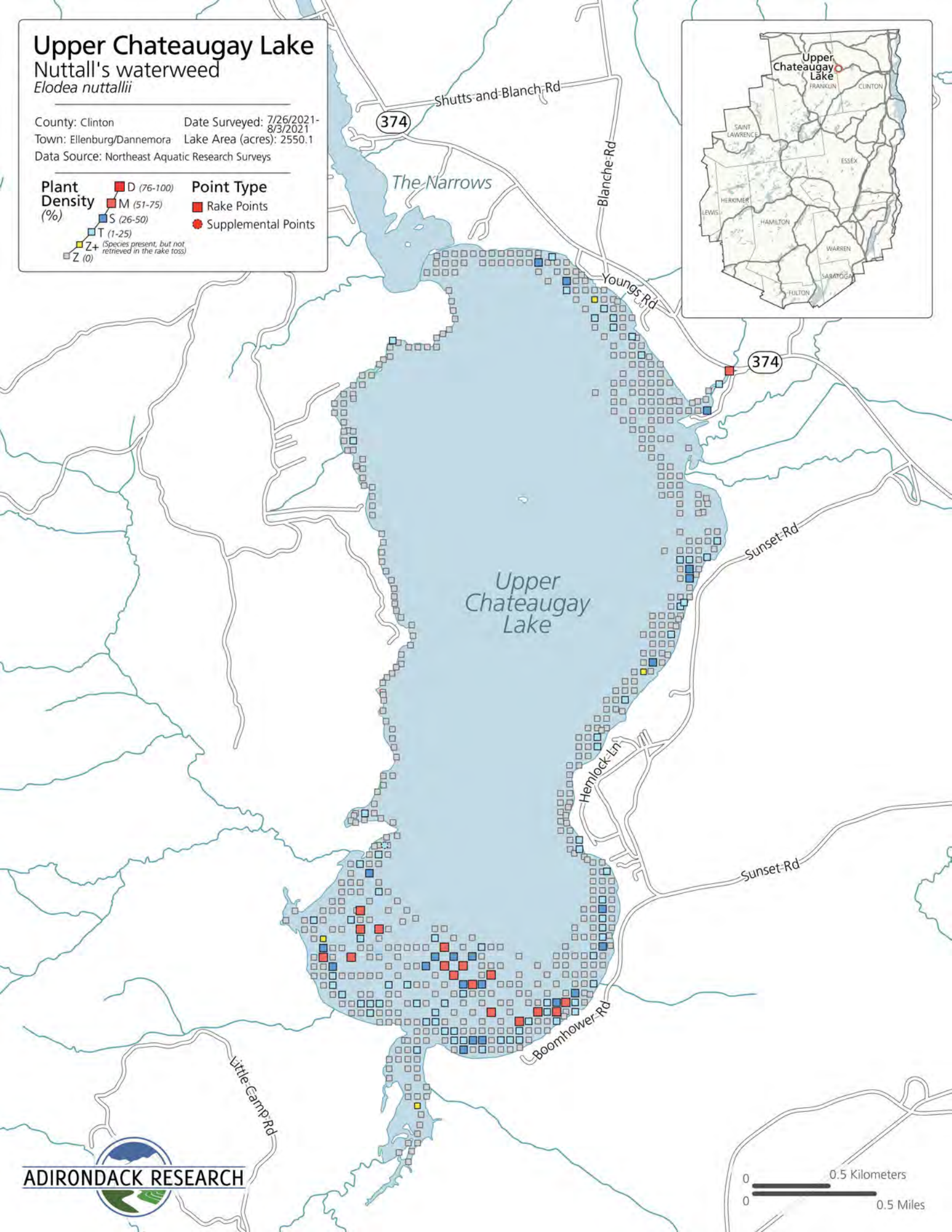
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles


Upper Chateaugay Lake
Nuttall's waterweed
Elodea nuttallii
County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
Point Type
Rake Points
Supplemental Points
Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Boomhower Rd
Little Camp Rd
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

Upper Chateaugay Lake

Horsetail

Equisetum sp

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake
Filamentous algae
Filamentous algae

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)
- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Point Type
- Rake Points
- Supplemental Points

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Fontinalis moss

Fontinalis sp

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Northern mannagrass

Glyceria borealis

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Common mare's tail

Hippuris vulgaris

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Isoetes / Quillwort

Isoetes sp

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
374
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Common duckweed

Lemna minor

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Point Type

- Rake Points
- Supplemental Points

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Water lobelia

Lobelia dortmanna

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Alternate-flowered watermilfoil

Myriophyllum alterniflorum

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Farwell's watermilfoil

Myriophyllum farwellii

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Low watermilfoil

Myriophyllum humile

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Hybrid milfoil

Hybrid milfoil

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Soft watermilfoil / Slender watermilfoil

Myriophyllum tenellum

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
374
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Whorled watermilfoil

Myriophyllum verticillatum

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Common naiad

Najas flexilis

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
374
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Southern naiad

Najas guadalupensis

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

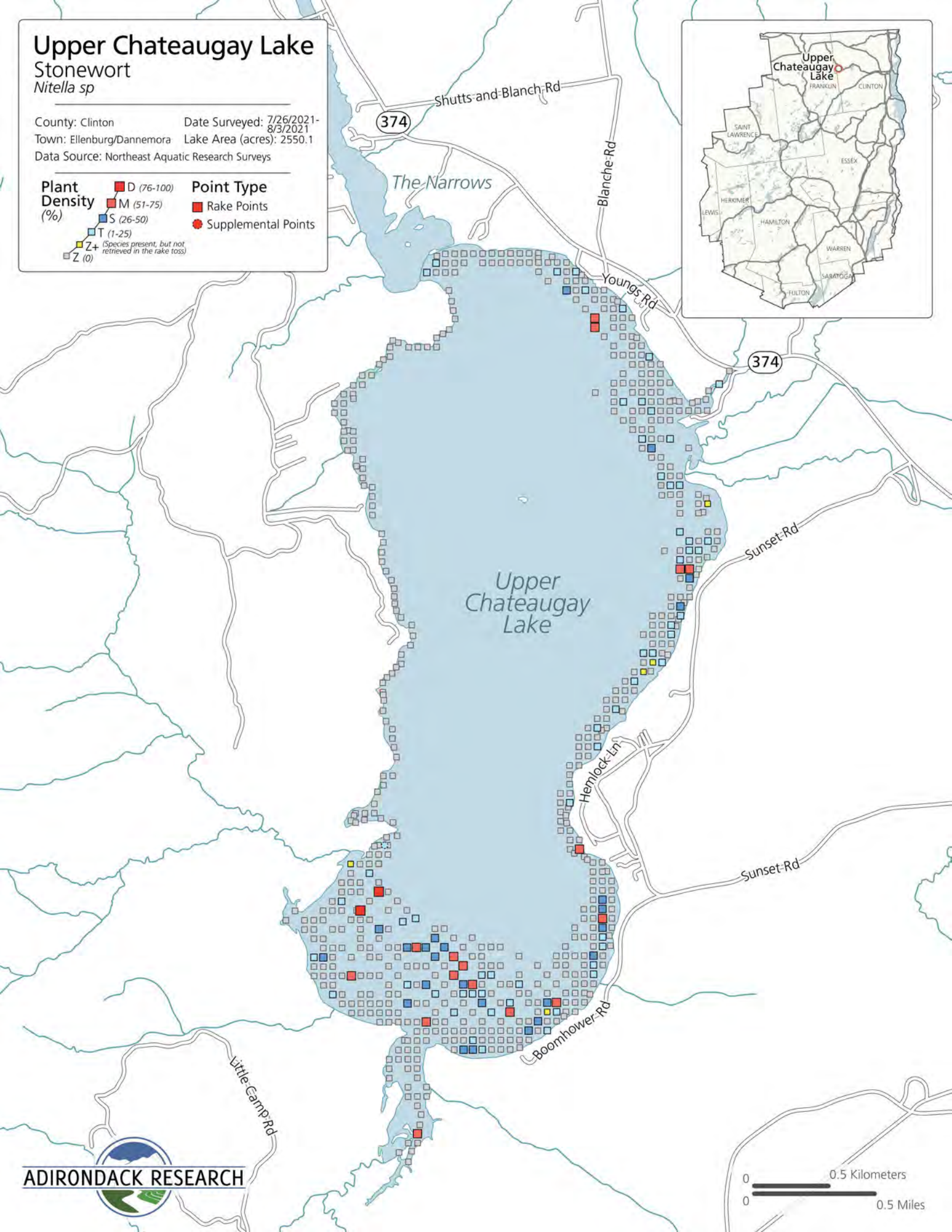
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles


Upper Chateaugay Lake
Stonewort
Nitella sp
County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
Point Type
Rake Points
Supplemental Points
Upper Chateaugay Lake
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

Upper Chateaugay Lake

Variegated yellow pond-lily

Nuphar variegata

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Fragrant water lily

Nymphaea odorata

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Point Type

- Rake Points
- Supplemental Points

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Sunset-Rd
Upper Chateaugay Lake
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Tuberous water lily

Nymphaea tuberosa

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Point Type

- Rake Points
- Supplemental Points

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Sunset-Rd
Upper Chateaugay Lake
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Smartweed

Polygonum sp

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Alpine pondweed

Potamogeton alpinus

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

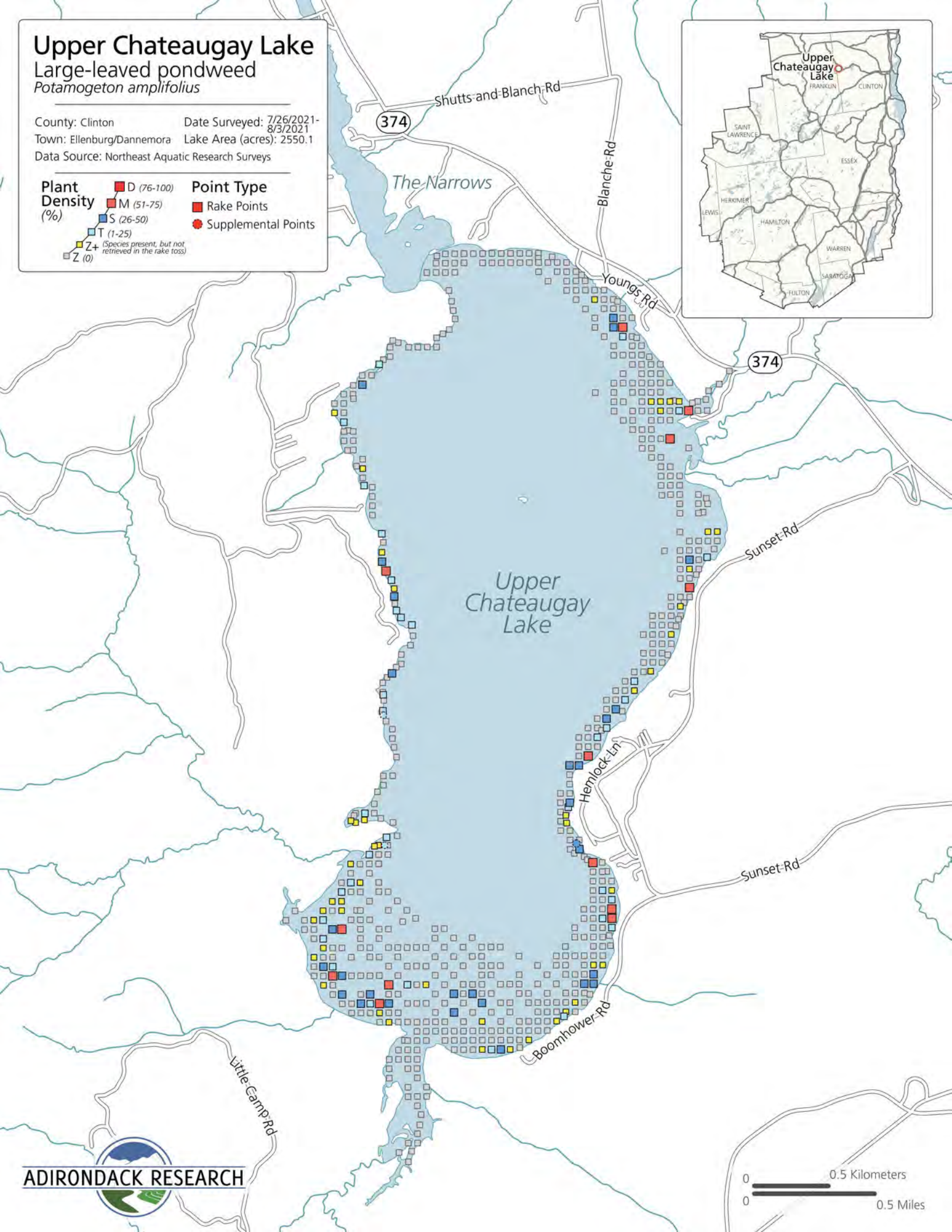
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles


Upper Chateaugay Lake
Large-leaved pondweed
Potamogeton amplifolius
County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
Point Type
Rake Points
Supplemental Points
Upper Chateaugay Lake
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

Upper Chateaugay Lake

Grass-leaved pondweed

Potamogeton gramineus

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Point Type

- Rake Points
- Supplemental Points

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Knotty pondweed

Potamogeton nodosus

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

The Narrows

Upper Chateaugay Lake

Shutts and Blanch Rd

374

Blanche Rd

Youngs Rd

374

Sunset Rd

Hemlock Ln

Sunset Rd

Boomhower Rd

Little Camp Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Blunt-leaved pondweed

Potamogeton obtusifolius

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Clasping-leaved pondweed

Potamogeton perfoliatus

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Point Type

- Rake Points
- Supplemental Points

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Small pondweed

Potamogeton pusillus

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

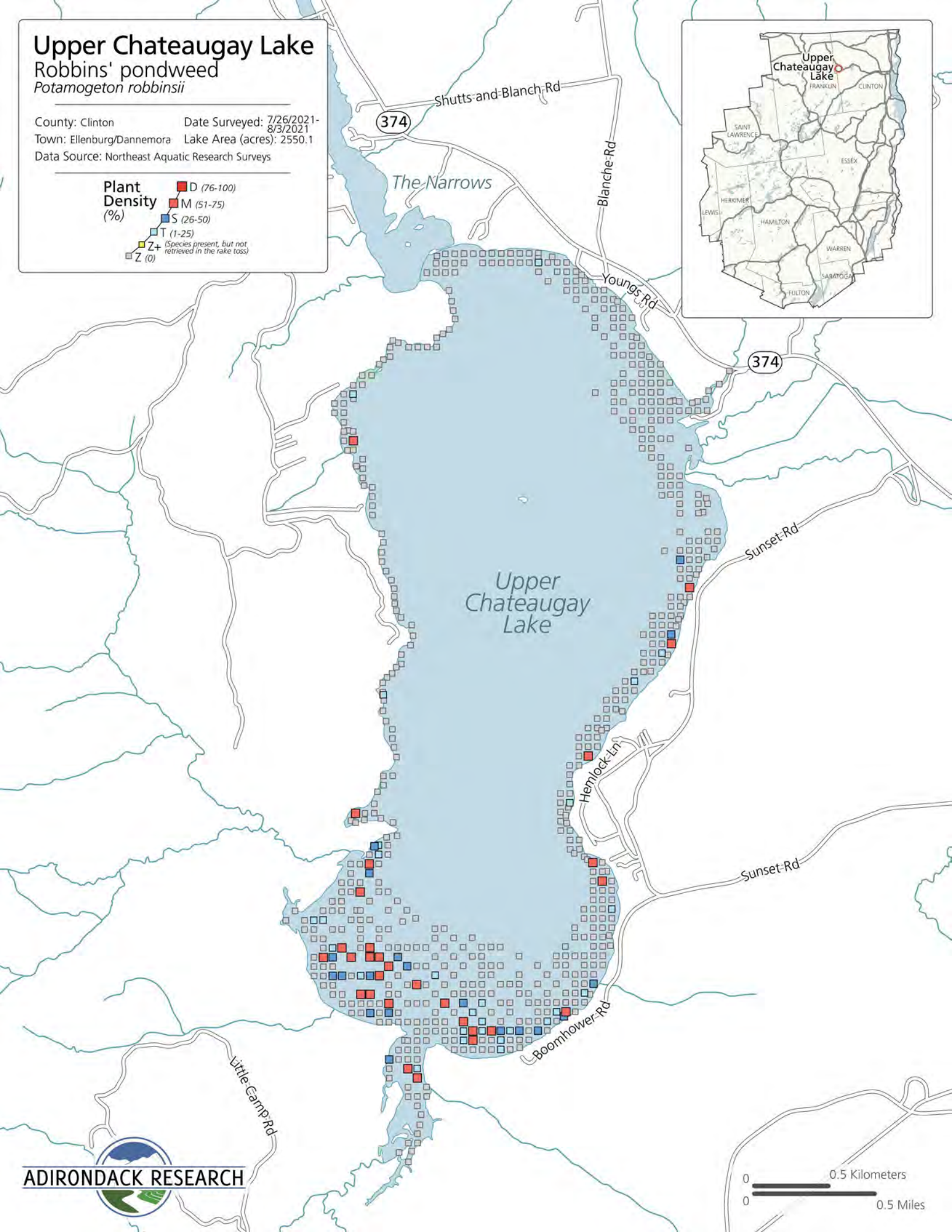
Point Type

- Rake Points
- Supplemental Points

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles


Upper Chateaugay Lake
Robbins' pondweed
Potamogeton robbinsii
County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd
Upper Chateaugay Lake
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

Upper Chateaugay Lake

Coiled pondweed

Potamogeton spirillus

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Flat-stemmed pondweed

Potamogeton zosterformies

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Thread-leaved crowfoot

Ranunculus trichophyllus

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Point Type

- Rake Points
- Supplemental Points

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Grass-leaved arrowhead

Sagittaria graminea

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Point Type

- Rake Points
- Supplemental Points

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Sunset-Rd
Upper Chateaugay Lake
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Slender bulrush

Schoenoplectus heterochaetus

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Softstem bulrush

Schoenoplectus tabernaemontani

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Sunset-Rd
Upper Chateaugay Lake
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake
Sedge
Sedge

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Sunset-Rd
Upper Chateaugay Lake
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Narrow-leaved bur-reed

Sparganium angustifolium

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Sunset-Rd
Upper Chateaugay Lake
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Floating bur-reed

Sparganium fluctuans

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Bur-reed

Sparganium sp

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Greater duckweed

Spirodela polyrhiza

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Upper Chateaugay Lake

Cattail

Typha sp

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

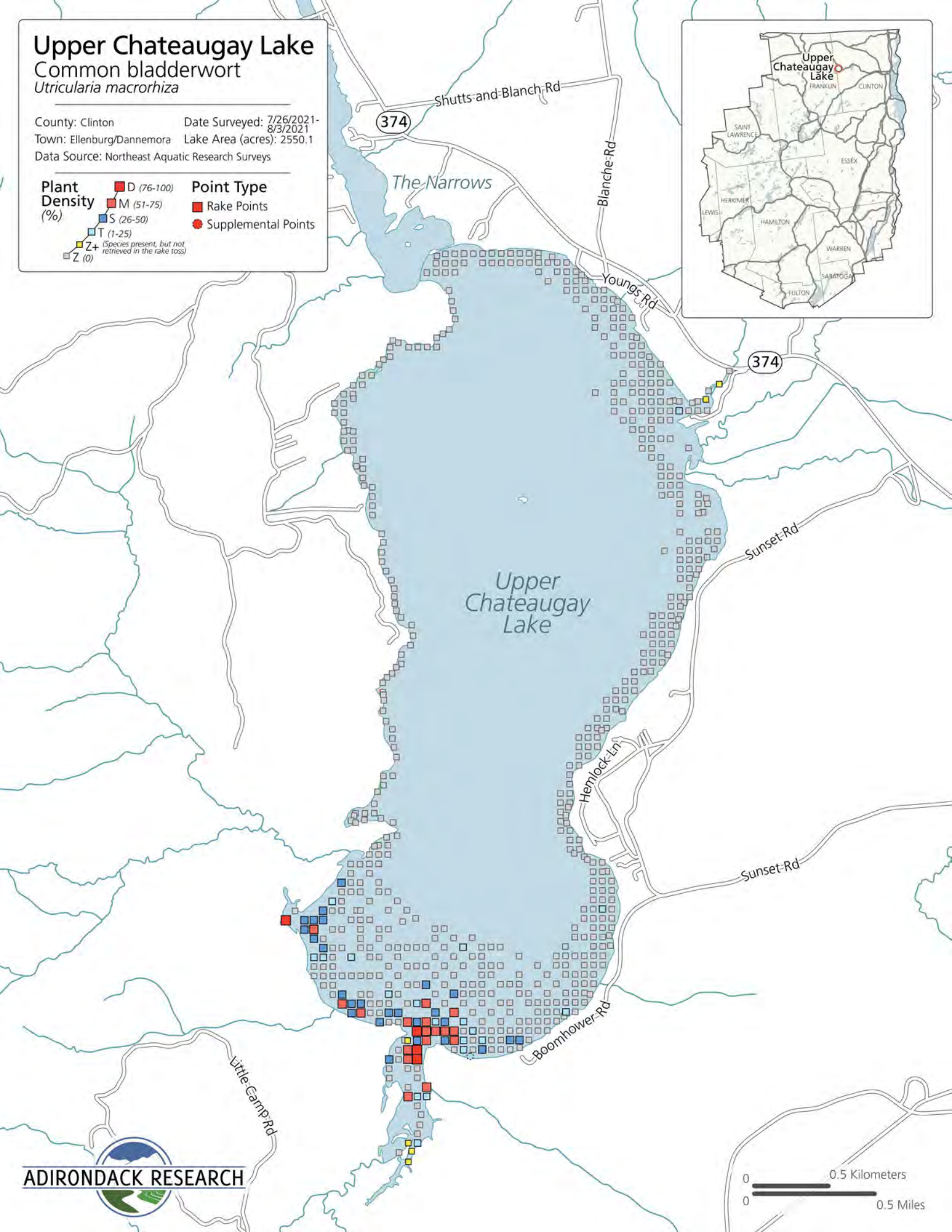
Point Type

- Rake Points
- Supplemental Points

Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
374
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles


Upper Chateaugay Lake
Common bladderwort
Utricularia macrorhiza
County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
Point Type
Rake Points
Supplemental Points
Upper Chateaugay Lake
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Boomhower-Rd
Little-Camp-Rd
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

Upper Chateaugay Lake

Lesser bladderwort

Utricularia minor

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

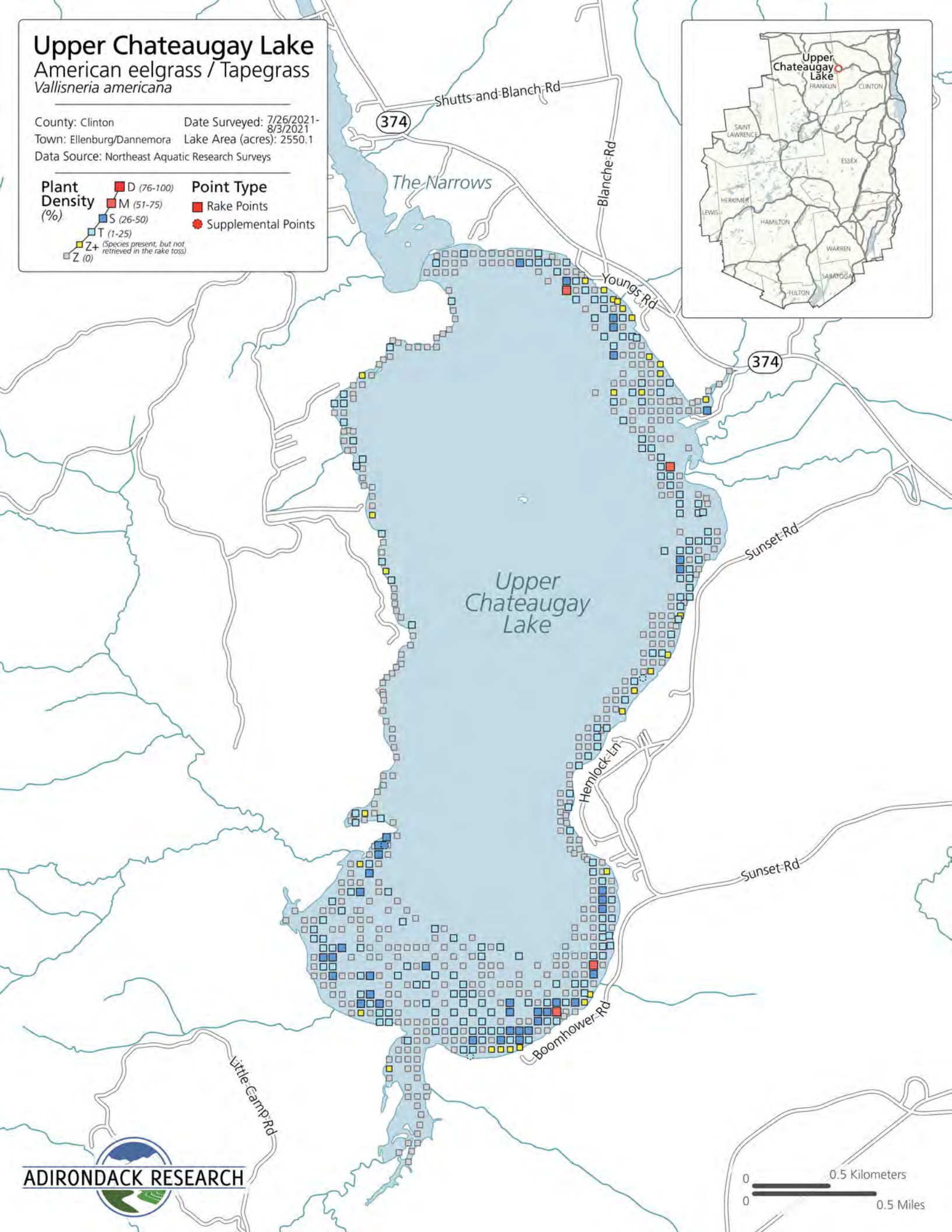
Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
374
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Sunset-Rd
Boomhower-Rd
Little-Camp-Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles


Upper Chateaugay Lake
American eelgrass / Tapegrass
Vallisneria americana
County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys
Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1
Plant Density (%)
D (76-100)
M (51-75)
S (26-50)
T (1-25)
Z+ (Species present, but not retrieved in the rake toss)
Z (0)
Point Type
Rake Points
Supplemental Points
Upper Chateaugay Lake
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Shutts-and-Blanch-Rd
374
The Narrows
Blanche-Rd
Youngs-Rd
Upper Chateaugay Lake
Sunset-Rd
Hemlock-Ln
Boomhower-Rd
Little-Camp-Rd
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

Upper Chateaugay Lake

Water stargrass

Zosterella dubia

County: Clinton
Town: Ellenburg/Dannemora
Data Source: Northeast Aquatic Research Surveys

Date Surveyed: 7/26/2021-8/3/2021
Lake Area (acres): 2550.1

Plant Density (%)

- D (76-100)
- M (51-75)
- S (26-50)
- T (1-25)
- Z+ (Species present, but not retrieved in the rake toss)
- Z (0)

Shutts and Blanch Rd
374
The Narrows
Blanche Rd
Youngs Rd
374
Upper Chateaugay Lake
Sunset Rd
Hemlock Ln
Sunset Rd
Boomhower Rd
Little Camp Rd

ADIRONDACK RESEARCH

0 0.5 Kilometers
0 0.5 Miles

Chateaugay Lake Aquatic Plant Survey Report

Prepared for: Chateaugay Lake Foundation

October 21st, 2022

Contents

List of Figures

List of Tables

Acknowledgements

We would like to thank the Chateaugay Lake Foundation for supporting this lake-wide survey effort. It is a privilege to work on such a beautiful Adirondack waterbody.

Introduction

Northeast Aquatic Research (NEAR) conducted a comprehensive aquatic plant survey of the Chateaugay Lakes system during the summer of 2021. The lake system consists of Upper and Lower Chateaugay Lakes, and the Narrows, the 3.45 mile-long out-flow stream from Upper Chateaugay Lake to Lower Chateaugay Lake.

This survey fulfills the Adirondack Park Agency (APA) requirement for a permit to apply herbicides into lakes within Park boundaries. Eurasian watermilfoil (*Myriophyllum spicatum*) is one of two invasive submersed aquatic plants currently growing in the Chateaugay Lakes system. The other is Curly-leaf pondweed (*Potamogeton crispus*), which had died back at the time of the NEAR survey. Curly-leaf is regularly observed during annual hand-harvesting work early in the season.

The survey was conducted over 6 days in 2021, July 26th, July 27th, 28th, and 29th, and August 2nd and, 3rd. The survey covered the entire littoral zone—shallow water vegetated areas--of both lakes and the Narrows connecting them. Approximately 31 miles of shoreline were investigated during this survey.

Methodology

Study Sites

The Chateaugay Lakes system is a complex of two lakes: Upper Chateaugay Lake to the south, and Lower Chateaugay Lake to the north. The lakes are connected by the outflow from Upper Chateaugay to Lower Chateaugay, a wide 50-250ft, 3.45-mile-long river. The outfall of Lower Chateaugay Lake becomes the Chateaugay River flowing north through the towns of Brainardsville and Chateaugay, where it passes through the United States border and joins the Trout River in Godmanchester, Quebec (CA). From there, the river flows northeast until it empties into the St. Lawrence in the Town of Chateaugay, Quebec.

Upper Chateaugay Lake

Upper Chateaugay Lake at 2,564 acres is 4x larger and with a mean depth of 33 feet, 3x deeper than Lower Chateaugay Lake. The majority of the eastern shoreline is steep, with only a narrow band of littoral zone. There are two expansive shallow water areas, on the south shore there is large shallow shelf associated with the inlet of the Middle Kiln Brook, and on the northeast shore a similar large shallow shelf exists associated with inlets of the Ouleout Creek and Separator Book, both entering the lake at roughly the same site.

Narrows

The Narrows is a riverine reach of 216 acres that connects the lower and upper lake. The channel is between 50 and 250 feet wide with relatively good water flow. The stream runs relatively straight, with little meandering, for 3.45 miles north by northwest to Lower Chateaugay Lake. The Narrows contains a shallow water zone where aquatic plants were abundant, and a slender deeper water channel running along the middle where aquatic plants were scarce.

Lower Chateaugay Lake

Lower Chateaugay has a surface area of 545 acres and a shallow mean depth of 12 feet. However due to overall steep sided basin has more limited littoral zone than Upper Chateaugay Lake. Both the east and west shores of Lower Chateaugay drop off quickly with little vegetation. Most aquatic plant growth occurs on the shallow shelf associated with the inlet of the Narrows at the south end of the lake, and along the northern shore in the area of the lake's outlet.

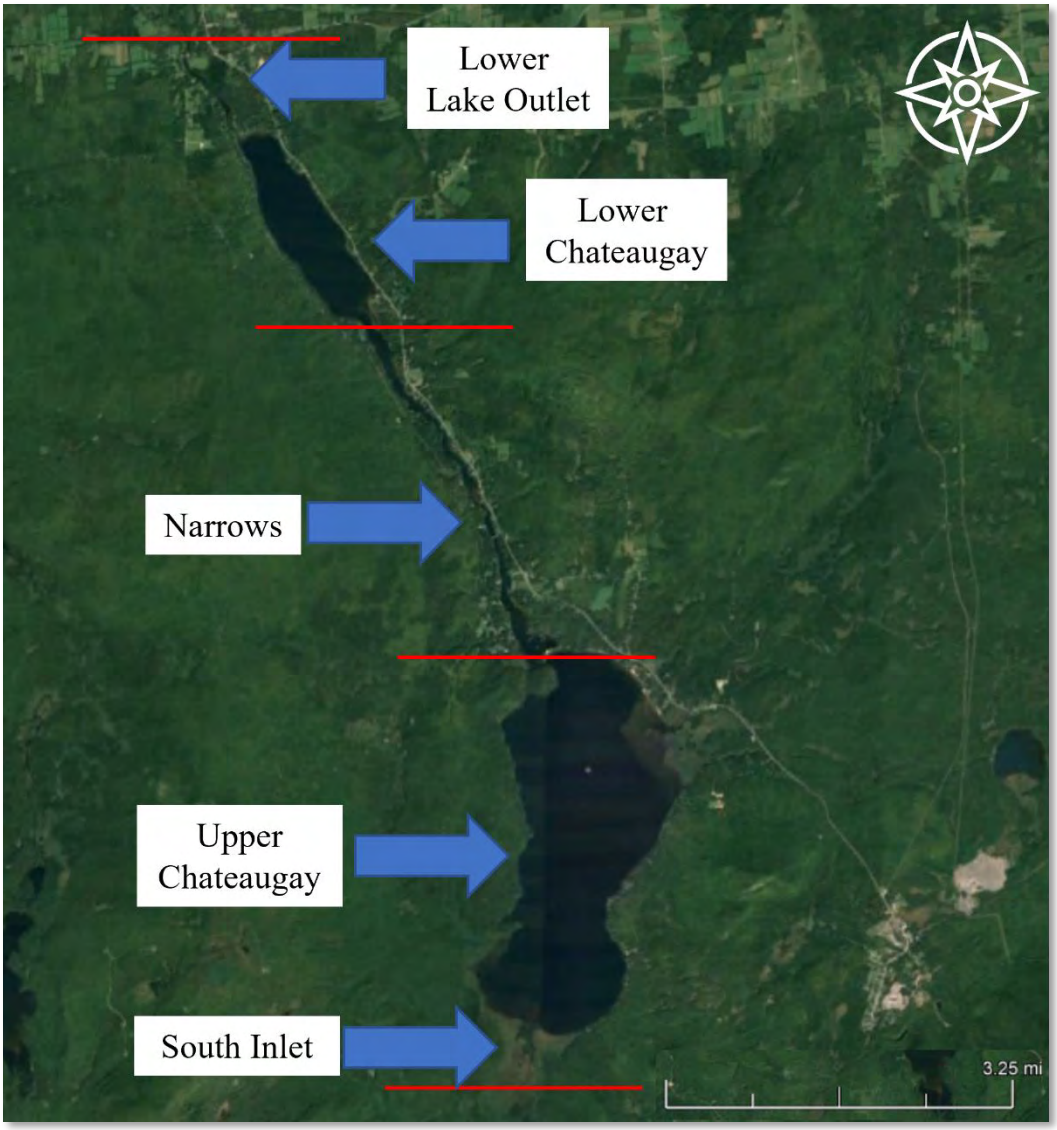


Figure 1. *Map of Chateaugay Lake system investigated during our 2021 survey.*

Survey Methodology

NEAR established a 1-acre grid of GPS waypoints throughout the littoral zone of each lake. Waypoints provide geographical sampling units to estimate community species richness, diversity, abundance, and density. Grid waypoints can also be used for replication in future years, to assess changes over time or in response to management actions. The grid was contained to the littoral zone of each lake segment. The littoral zone area was estimated using previous reports from Adirondack Research. Grid points were generated using the ARC GIS fishnet tool. As per the conversation with the Adirondack Park Agency, sites located within 150 meters of the shoreline were sampled at a frequency of one point per acre and sites outside of the 150 meters of shoreline (excluding the narrows) were sampled at a frequency of no less than 1 point per two vegetated acres.

NEAR staff navigated to each grid point using a Garmin handheld GPS unit. At each point, NEAR staff tossed a 14-inch double tined rake a distance of at least 30 feet off the starboard side of the boat. The rake is constructed by taking the tines off two garden rakes and fastening them back-to-back. A 40-foot line is attached to the rake and tied to the boat to prevent rake loss. The rake was allowed to rest on the bottom before being slowly retrieved. Once plants were on board, NEAR staff followed the rake toss methodology laid out in Lord and Johnson (2006). Overall plant abundance was estimated using the Cornell abundance scale:

Table 1. *Cornell plant abundance scale for point intercept rake toss surveys.*

Rating Code		Description
Z	Zero Plants	No plants on rake
T	Trace Plants	Finger full on rake
S	Sparse Plants	Hand full on rake
M	Moderate Plants	Rake full of plants
D	Dense Plants	Difficult to bring into boat

Collected plants were separated into individual piles based on species and given an abundance ranking based on the above scale. Any plant species unidentifiable on the water were placed into a Ziploc bag labeled with the site, date, and species number and taken back to shore for further identification. At each point, a visual assessment was made to account for plants not captured on the rake.

NEAR Lake Survey Methods

In addition to the survey methods requested via the APA, NEAR utilized a meander style approach to complement the existing survey and move toward a more complete picture of the aquatic plant community.

A Garmin GPS was used to record waypoints and tracks during the survey. GPS waypoints were made when the boat was stopped to improve location accuracy. Additional waypoints were made when water depth changed rapidly, species composition or density changed significantly, or when a new species was found. Special attention was paid to

shallow shoreline or cove areas where rare plants could reside. Water depth was recorded at each waypoint using a Lowrance Elite FS-7 Fishfinder with an HDI transducer.

Plant density at these additional points was determined using a combination of methods. The first, visual determination, is based on what is visible from the surface. This method involves using a hypothetical quadrat (**Figure 2**). In this method, one visually assesses an estimate of how much area is covered by the plant in question. The use of actual survey quadrats in the field is not appropriate for the large scale of most aquatic plant surveys, so surveyors must visualize a rough hypothetical quadrat overlaying the area and estimate percent coverage accordingly.

Visual estimates are made by a single person throughout the survey, but survey team members do input their perceived percent coverage estimates if the primary surveyor's estimate seems too low or too high. Team collaboration encourages objectivity and more accurate estimates.

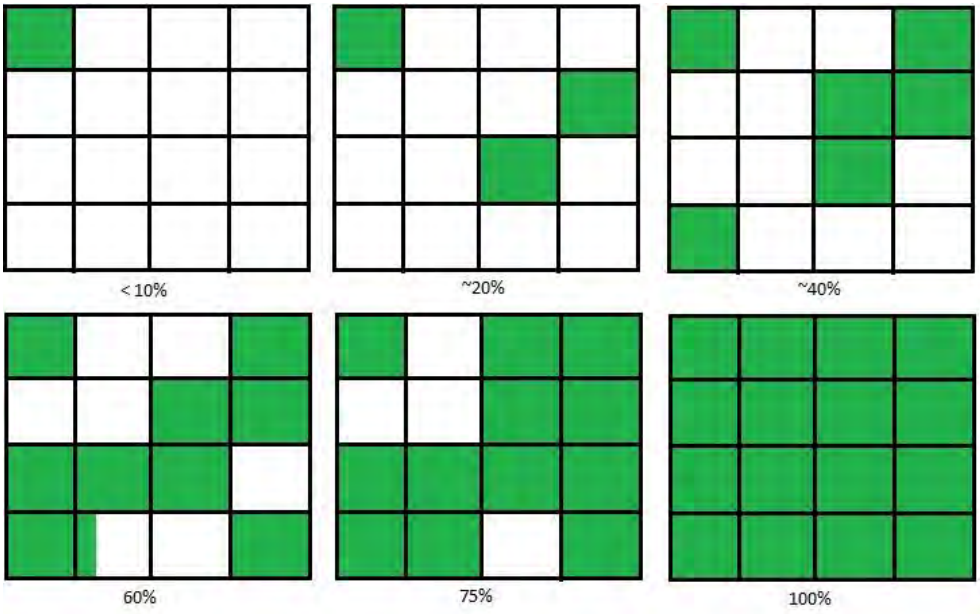


Figure 2. *Visual Percent Cover Estimate Guides - Hypothetical Field Quadrats ~20ft across.*

The visual estimates are also verified with down imaging SONAR. SONAR provides scrolling images of bottom features and water depth, which allows for accurate estimates of invasive species plant height in the water column. When possible, both methods of estimating the percent cover were used at each waypoint, and the resulting estimate was recorded on the datasheet. These combination density estimates tend to be more accurate than the basic rake-toss density determination method from USACE, simply because certain aquatic plant species are not easily retrieved on a standard double-tined throw-rake. Similarly, certain aquatic plants can be dominant and cover >60% of the visible bottom but appear only at "Sparse" amounts when measured by the throw-rake method alone. The rake-toss estimates tend to under-estimate presence of infrequently encountered species and smaller plants that can escape the tines.

As a supplement to the survey methods, NEAR also recorded sonar logs throughout the entire survey. These sonar logs were then uploaded to a third-party software program called CI Biobase, which creates heat maps using the recorded information. The heat maps represent both lake depth and plant biovolume, which is a measure of the percentage of the water column occupied by plants. This helps to establish the true boundaries of the littoral zone and accurately describe the presence and absence of plant beds on a large scale. Heat maps for several areas appear in this report.

General Results

Our survey involved visiting a total of 1,074 waypoints throughout the littoral zone of the two lakes and the stream connecting them. A throw rake was used to collect samples of the aquatic vegetation at all waypoints, with a small fraction of the waypoints being in shallow enough water where visual assessment of plant communities was possible.

Important Species Findings

We found a total of 59 species of submersed and semi-emergent[1] aquatic plant species during the 6 days of surveying (**Table 2**). This is more than twice the number of species found by any prior survey of Chateaugay Lake that NEAR reviewed for this report. We found only one submersed invasive aquatic plant species, Eurasian watermilfoil (*Myriophyllum spicatum*). Curly-leaf pondweed, which appears early in the growing season and then dies back, was not observed during the survey but it has been found in Chateaugay Lake during prior surveys. Four state listed protected submersed aquatic plant species were found: Mare's tail (*Hippuris vulgaris),* Alternate-leaved milfoil *(Myriophyllum alterniflorum),* Farwell's milfoil *(Myriophyllum farwellii)*, and Red pondweed *(Potamogeton alpinus*). Pictures of each species are located in appendix D.

Frequency of Occurrence

Frequency of occurrence is the measure of how often a species was encountered during a survey and is reported as percentage of the waypoints where the plant was collected out of the total 1,074 waypoints. This value is an estimate of the overall abundance of that species in the lake. Species found at all waypoints would have a frequency of occurrence of 100% while those found at only one waypoint would have a frequency of occurrence 0.09%.

The most abundant species, the one encountered the most often, was Tape-Grass (*Vallisneria americana*) which was found at 485 waypoints and had a frequency of occurrence of 45% (**Table 3**). The next most abundant species included Nuttall's waterweed (*Elodea nuttallii*), Eurasian watermilfoil (*Myriophyllum spicatum*) and Large-leaf pondweed (*Potamogeton amplifolius*). These four species have frequency of occurrence values over 20%. Plant species with frequencies of 20% and greater are considered common and tend to have a wide, ubiquitous distribution in a lake. Eurasian watermilfoil was found at 423 points but was documented at an additional 145 points to fill in gaps in map spacing and changes in plant community.

Table 4 shows the density for plant species collected by rake toss. **Table 5** shows the mean percent cover for each species encountered during the survey.

[1] Semi-emergent refers to species that emerge from the water with flowering structures but have greater than 50% of the shoot material underwater

Table 2. *List of all aquatic plant species found in Chateaugay Lake from both current and past surveys. Pictures of species are included in appendix D.*

Scientific Name	Common Name	2002 Cedar Eden	2014 AWI Survey Upper	2014 AWI Narrows	2014 AWI Survey Lower	2021 NEAR Survey
--	Hybrid Milfoil					X
Brasenia schreberi	Watershield	X	X	X		X
Ceratophyllum demersum	Coontail		X	X	X	X
Chara sp	Muskgrass					X
Eleocharis acicularis	Needle Spikerush	.				X
Eleocharis robbinsii	Robbin's Spike-rush					X
Eleocharis sp.	Spikerush	X	X	X		
Elodea canadensis	American Waterweed	X	X	X	X	
Elodea nuttallii	Nuttall's Waterweed			X	X	X
Equisetum sp	Horsetail					X
Eriocaulon sp	Pipewort		X	X	X	
Fontinalis sp	Water Moss					X
Glyceria borealis	Northern Manna Grass					X
Hippuris vulgaris	Mare's Tail	X	X			X
Isoetes sp	Quillwort					X
Lemna minor	Small Duckweed					X
Lobelia dortmanna	Water Lobelia	X	X			X
Lythrum salicaria	Purple Loosestrife	X				X
Myriophyllum alterniflorum	Alternate-Leaf Watermilfoil					X
Myriophyllum farwellii	Farwell's Watermilfoil					X
Myriophyllum humile	Low Watermilfoil					X
Myriophyllum sibiricum	Northern Watermilfoil					X
Myriophyllum spicatum	Eurasian Watermilfoil	X	X	X	X	X
Myriophyllum tenellum	Slender Watermilfoil					X
Myriophyllum verticillatum	Whorled Watermilfoil					X
Najas flexilis	Slender Naiad	X				X
Najas guadalupensis	Southern Naiad					X
Najas sp.	Waternymph		X	X	X	
Nitella sp.	Stonewort	X	X	X	X	X
Nuphar variegata	Yellow Water Pond Lily	X	X	X	X	X
Nymphaea odorata	White Water Lily	X	X	X	X	X
Nymphaea odorata spp tuberosa	American White Waterlily					X
Nymphoides cordata	Little Floating Heart		X			
Persicaria amphibia	Water Smartweed	X		X		X
Phragmites australis	Common Reed					X
Polygonum sp.	Smartweed					X

Scientific Name	Common Name	2002 Cedar Eden	2014 AWI Survey Upper	2014 AWI Narrows	2014 AWI Survey Lower	2021 NEAR Survey
Potamogeton alpinus	Alpine Pondweed					X
Potamogeton amplifolius	Largeleaf Pondweed	X	X	X	X	X
Potamogeton bicupulatus	Snail-seed Pondweed					X
Potamogeton crispus	Curly-Leaf Pondweed		X			
Potamogeton epihydrus	Ribbon-leaf Pondweed	X		X	X	X
Potamogeton gramineus	Grassy-Leaf Pondweed	X	X	X	X	X
Potamogeton natans	Floating-Leaf Pondweed	X	X	X		X
Potamogeton nodosus	American Pondweed					X
Potamogeton obtusifolius	Blunt-Leaf Pondweed					X
Potamogeton perfoliatus	Clasping-Leaf Pondweed	X	X	X	X	X
Potamogeton praelongus	White-Stem Pondweed		X			
Potamogeton pusillus	Small Pondweed					X
Potamogeton robbinsii	Robbin's Pondweed		X	X	X	X
Potamogeton spirillus	Spiral Pondweed					X
Potamogeton zosteriformis	Flat-Stem Pondweed					X
Ranunculus longirostris	Long-beak Buttercup	X				
Ranunculus trichophyllus	Thread-leaf Crowfoot					X
Sagittaria graminea	Grassy Arrowhead		X	X	X	X
Schoenoplectus sp	Bulrush					X
Schoenoplectus tabernaemontani	Soft Stem Bulrush					X
Sparganium angustifolium	Narrowleaf Bur-Reed	X				X
Sparganium fluctuans	Floating Bur-Reed					X
Sparganium sp	Bur-Reed		X	X	X	X
Spirodela polyrhiza	Greater Duckweed	X				X
Spirogyra	Filamentous Algae					X
Typha sp	Cattail	X				X
Utricularia geminiscapa	Hidden Fruit Bladderwort					X
Utricularia macrorhiza	Common Bladderwort		X	X	X	X
Utricularia minor	Lesser Bladderwort					X
Utricularia purpurea	Purple Bladderwort		X	X		
Utricularia sp.	Bladderwort	X				
Vallisneria americana	Tape-Grass	X	X	X	X	X
Zosterella dubia	Water Star-grass					X
	Totals =	**23**	**25**	**23**	**18**	**59**

Table 3. *Aquatic plants (in order of abundance) found during our 2021 Chateaugay Lake survey. Table also gives the number of waypoints where each was observed and resulting frequency of occurrence. Total number of rake toss points: 1074.*

Scientific Name	# of waypoints	Frequency %	Scientific Name	# of waypoints	Frequency %
Vallisneria americana	485	45	*Myriophyllum verticillatum*	17	2
Elodea nuttallii	439	41	*Potamogeton epihydrus*	17	2
Myriophyllum spicatum	423	39	*Potamogeton spirillus*	17	2
Potamogeton amplifolius	281	26	*Hippuris vulgaris*	16	1
Nitella sp	196	18	*Schoenoplectus sp*	16	1
Nymphaea odorata	165	15	*Myriophyllum sibiricum*	13	1
Zosterella dubia	163	15	*Potamogeton obtusifolius*	13	1
Najas flexilis	122	11	*Ranunculus trichophyllus*	12	1
Potamogeton robbinsii	105	10	*Isoetes sp*	13	1
Brasenia schreberi	102	9	*Myriophyllum farwellii*	10	1
Potamogeton perfoliatus	101	9	*Equisetum sp*	9	1
Filamentous algae	98	9	*Myriophyllum tenellum*	9	1
Ceratophyllum demersum	96	9	*Glyceria borealis*	8	1
Potamogeton pusillus	89	8	*Eleocharis robbinsii*	6	1
Lobelia dortmanna	88	8	*Persicaria amphibia*	4	<1
Utricularia macrorhiza	88	8	*Potamogeton zosteriformis*	4	<1
Potamogeton gramineus	85	8	Hybrid milfoil	3	<1
Najas guadalupensis	75	7	*Myriophyllum alterniflorum*	3	<1
Nuphar variegata	73	7	*Potamogeton nodosus*	3	<1
Chara sp	62	6	*Sparganium sp*	3	<1
Eleocharis acicularis	60	6	*Myriophyllum humile*	2	<1
Sparganium angustifolium	55	5	*Lemna minor*	1	<1
Sparganium fluctuans	44	4	*Nymphaea tuberosa*	1	<1
Utricularia geminiscapa	41	4	*Polygonum sp*	1	<1
Fontinalis sp	39	4	*Potamogeton alpinus*	1	<1
Sagittaria graminea	37	3	*Potamogeton bicupulatus*	1	<1
Schoenoplectus tabernaemontani	33	3	*Spirodela polyrhiza*	1	<1
Potamogeton natans	30	3	Nothing present	167	15
Typha sp	23	2			
Utricularia minor	18	2			

Table 4. *Density for aquatic plant species collected during our 2021 survey. Certain plants were not found using the one rake toss off of the side of the boat but were noted visually in the vicinity of the rake. Those species have no density data associated with them.*

Scientific Name	Trace	Sparse	Moderate	Dense	Total
Brasenia schreberi	3	8	9	2	22
Ceratophyllum demersum	30	31	20	13	94
Chara sp	38	12	5	0	55
Eleocharis acicularis	44	11	3	0	58
Eleocharis robbinsii	3	1	2	0	6
Elodea nuttallii	166	95	92	60	413
Equisetum sp	1	0	1	0	2
Filamentous algae	22	24	9	0	55
Fontinalis sp	23	7	7	0	37
Glyceria borealis	1	0	0	0	1
Hippuris vulgaris	3	4	1	1	9
Isoetes sp	2	5	4	0	11
Lemna minor	0	0	0	0	0
Lobelia dortmanna	34	16	0	0	50
Myriophyllum alterniflorum	1	0	1	0	2
Myriophyllum farwellii	6	0	1	0	7
Myriophyllum humile	1	0	0	0	1
Myriophyllum sibiricum	7	2	1	2	12
Myriophyllum spicatum	135	72	47	30	284
Myriophyllum tenellum	8	0	0	0	8
Myriophyllum verticillatum	3	3	5	2	13
Myriophyllum spicatum hybrid	2	1	0	0	3
Najas flexilis	79	27	12	0	118
Najas guadalupensis	53	9	7	0	69
Nitella sp	98	51	34	2	185
Nuphar variegata	17	2	1	1	21
Nymphaea odorata	21	13	4	1	39
Persicaria amphibia	0	1	1	0	2
Potamogeton alpinus	Not found with rake tosses				
Potamogeton amplifolius	79	58	25	1	163
Potamogeton bicupulatus	Not found with rake tosses				
Potamogeton epihydrus	7	1	0	0	8
Potamogeton gramineus	32	18	16	1	67
Potamogeton natans	2	1	2	1	6
Potamogeton nodosus	Not found with rake tosses				
Potamogeton obtusifolius	8	3	2	0	13
Potamogeton perfoliatus	38	21	8	0	67
Potamogeton pusillus	56	16	2	2	76
Potamogeton robbinsii	45	27	32	0	104
Potamogeton spirillus	13	0	1	0	14

Scientific Name	Trace	Sparse	Moderate	Dense	Total
Potamogeton zosteriformis	Not found with rake tosses				
Ranunculus trichophyllus	5	2	1	0	8
Sagittaria graminea	23	2	0	0	25
Schoenoplectus sp	1	3	0	0	4
Schoenoplectus tabernaemontani	5	0	1	0	6
Sparganium angustifolium	9	8	5	0	22
Sparganium fluctuans	8	3	2	0	13
Sparganium sp	Not found with rake tosses				
Spirodela polyrhiza	1	0	0	0	1
Typha sp	Not found with rake tosses				
Utricularia geminiscapa	26	10	1	0	37
Utricularia macrorhiza	28	27	17	4	76
Utricularia minor	13	2	0	0	15
Vallisneria americana	307	93	20	1	421
Zosterella dubia	58	32	15	0	105

Table 5. *Mean percent cover for all species encountered during survey.*

Scientific Name	Mean Percent Cover	Scientific Name	Mean Percent Cover
Brasenia schreberi	22.8%	*Persicaria amphibia*	30.0%
Ceratophyllum demersum	20.2%	*Polygonum sp*	40.0%
Chara sp	11.0%	*Potamogeton alpinus*	5.0%
Eleocharis acicularis	12.6%	*Potamogeton amplifolius*	18.0%
Eleocharis robbinsii	11.7%	*Potamogeton bicupulatus*	5.0%
Elodea nuttallii	26.8%	*Potamogeton epihydrus*	12.7%
Equisetum sp	10.6%	*Potamogeton gramineus*	13.8%
Filamentous algae	19.1%	*Potamogeton natans*	20.2%
Fontinalis sp	13.3%	*Potamogeton nodosus*	6.7%
Glyceria borealis	6.4%	*Potamogeton obtusifolius*	11.7%
Hippuris vulgaris	37.5%	*Potamogeton perfoliatus*	12.2%
Hybrid milfoil	8.3%	*Potamogeton pusillus*	9.3%
Isoetes sp	38.3%	*Potamogeton robbinsii*	18.9%
Lemna minor	10.0%	*Potamogeton spirillus*	9.1%
Lobelia dortmanna	30.7%	*Potamogeton zosteriformis*	5.0%
Myriophyllum alterniflorum	10.0%	*Ranunculus trichophyllus*	8.3%
Myriophyllum farwellii	5.0%	*Sagittaria graminea*	14.5%
Myriophyllum humile	5.0%	*Schoenoplectus sp*	29.6%
Myriophyllum sibiricum	14.5%	*Schoenoplectus tabernaemontani*	28.0%
Myriophyllum spicatum	28.9%	*Sparganium angustifolium*	22.3%
Myriophyllum tenellum	5.6%	*Sparganium fluctuans*	15.5%
Myriophyllum verticillatum	28.5%	*Sparganium sp*	13.3%
Najas flexilis	12.1%	*Spirodela polyrhiza*	5.0%
Najas guadalupensis	12.0%	*Typha sp*	28.0%
Nitella sp	15.8%	*Utricularia geminiscapa*	9.2%
Nothing present	NA	*Utricularia macrorhiza*	18.8%
Nuphar variegata	26.3%	*Utricularia minor*	6.5%
Nymphaea odorata	15.7%	*Vallisneria americana*	10.7%
Nymphaea tuberosa	60.0%	*Zosterella dubia*	22.8%

Eurasian Watermilfoil

All three lake sections had significant Eurasian watermilfoil (EWM) populations (**Figures 3-5**). Steep shorelines on Upper Chateaugay and Lower Chateaugay Lakes, along with the shallow deltas of the major inlets that were found to consist of unconsolidated sands, represented the key areas where EWM was absent.

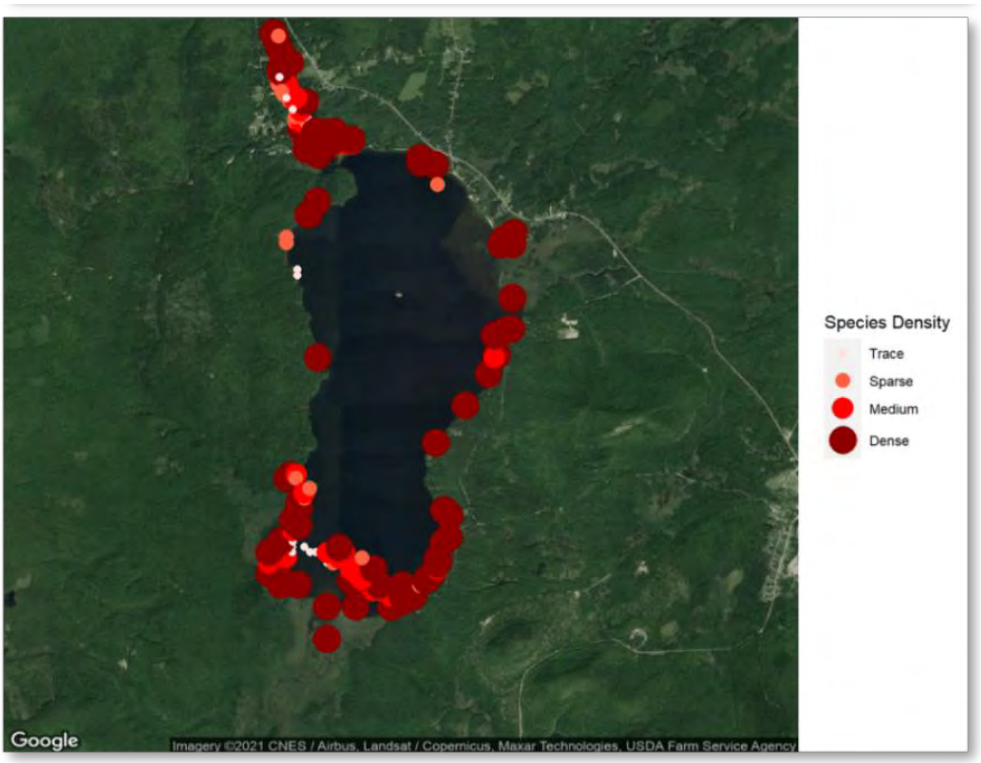


Figure 3. *Eurasian watermilfoil locations and densities in Upper Chateaugay Lake.*

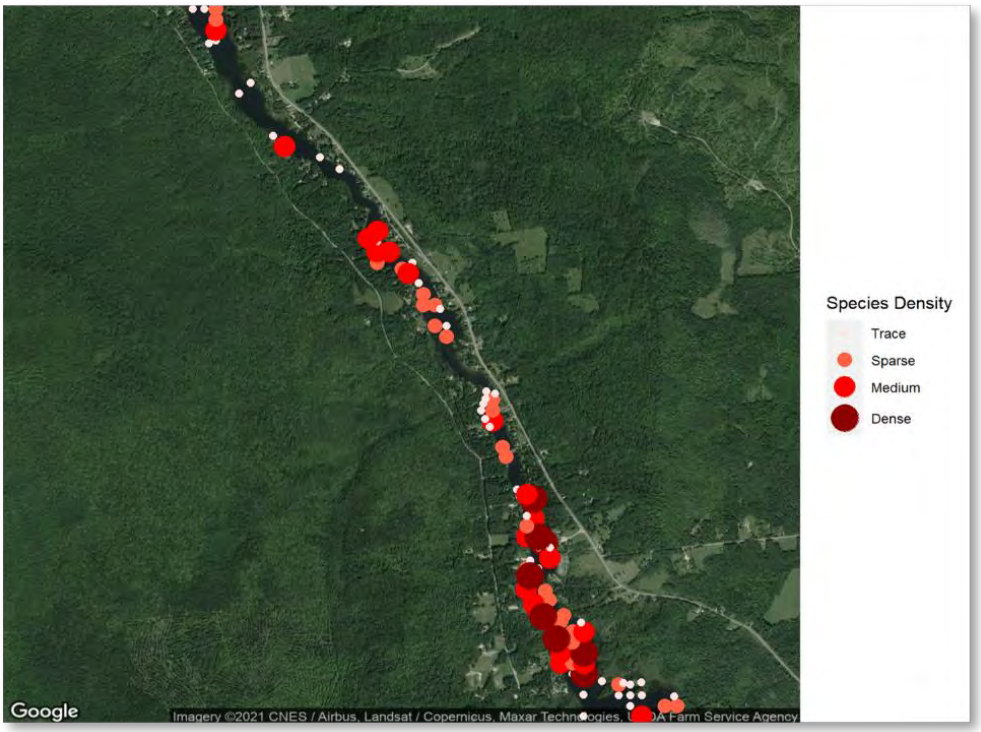


Figure 4. *Eurasian watermilfoil locations and densities in the Narrows.*

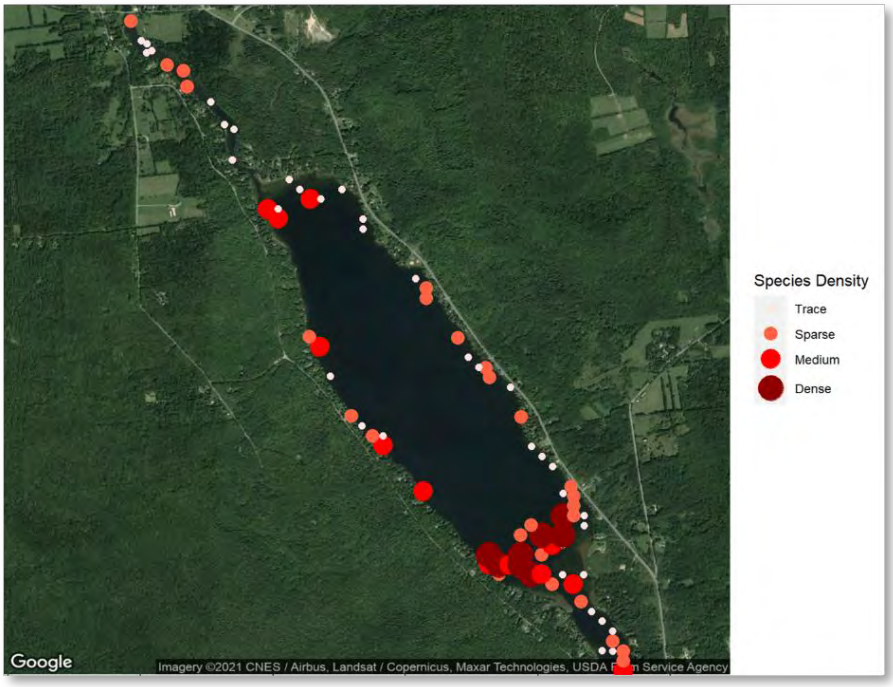


Figure 5. *Eurasian watermilfoil locations and densities in Lower Chateaugay Lake.*

Upper Chateaugay Lake

Southern Shores

The southern section of Upper Chateaugay Lake contained the largest continuous expanse of vegetated littoral zone in the Chateaugay Lake System, with almost all areas with less than 12 feet of water depth containing submersed aquatic plants (**Figure 6**). The following sets of maps show the percent cover of both rake toss and supplemental EWM points.

Figure 6. *Southern section of Upper Chateaugay Lake-within red circle -see text.*

Most of the dense beds of Eurasian watermilfoil generally occurred along the outside edge of the littoral zone, between 8-12 ft of water depth (**Figure 7 & 8**). In shallower water, EWM beds were low density, dominated by a mixed community of native pondweeds, naiads and water weed. Near shore <6feet deep was dominated by dense floating leaved plant coverage, mostly white and yellow water lilies and water-shield. Alternate-leaved watermilfoil and Farwell's watermilfoil were both found within floating-leaved plant beds.

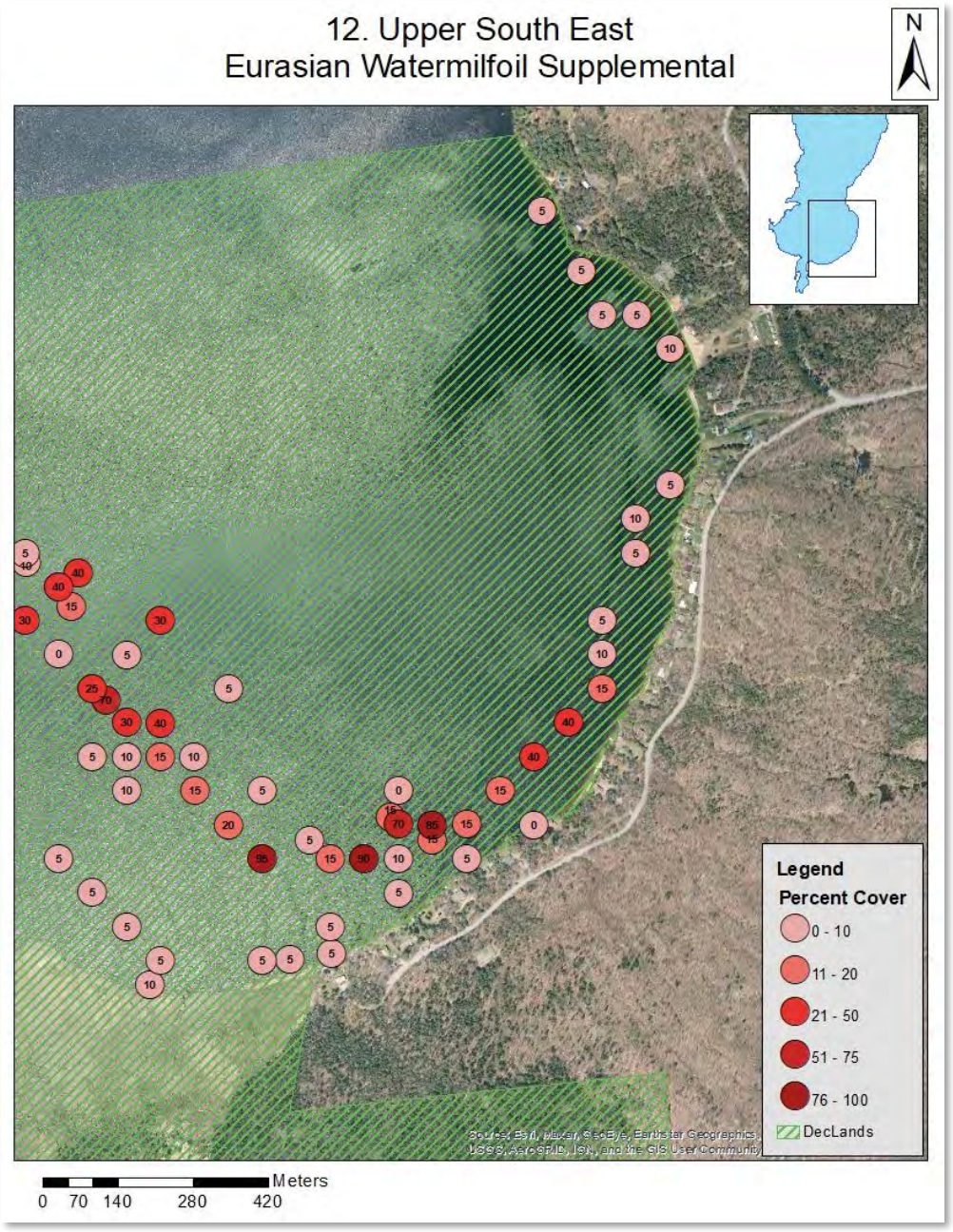


Figure 7. *Density of Eurasian watermilfoil beds in southern Upper Chateaugay Lake: Eastern section.*

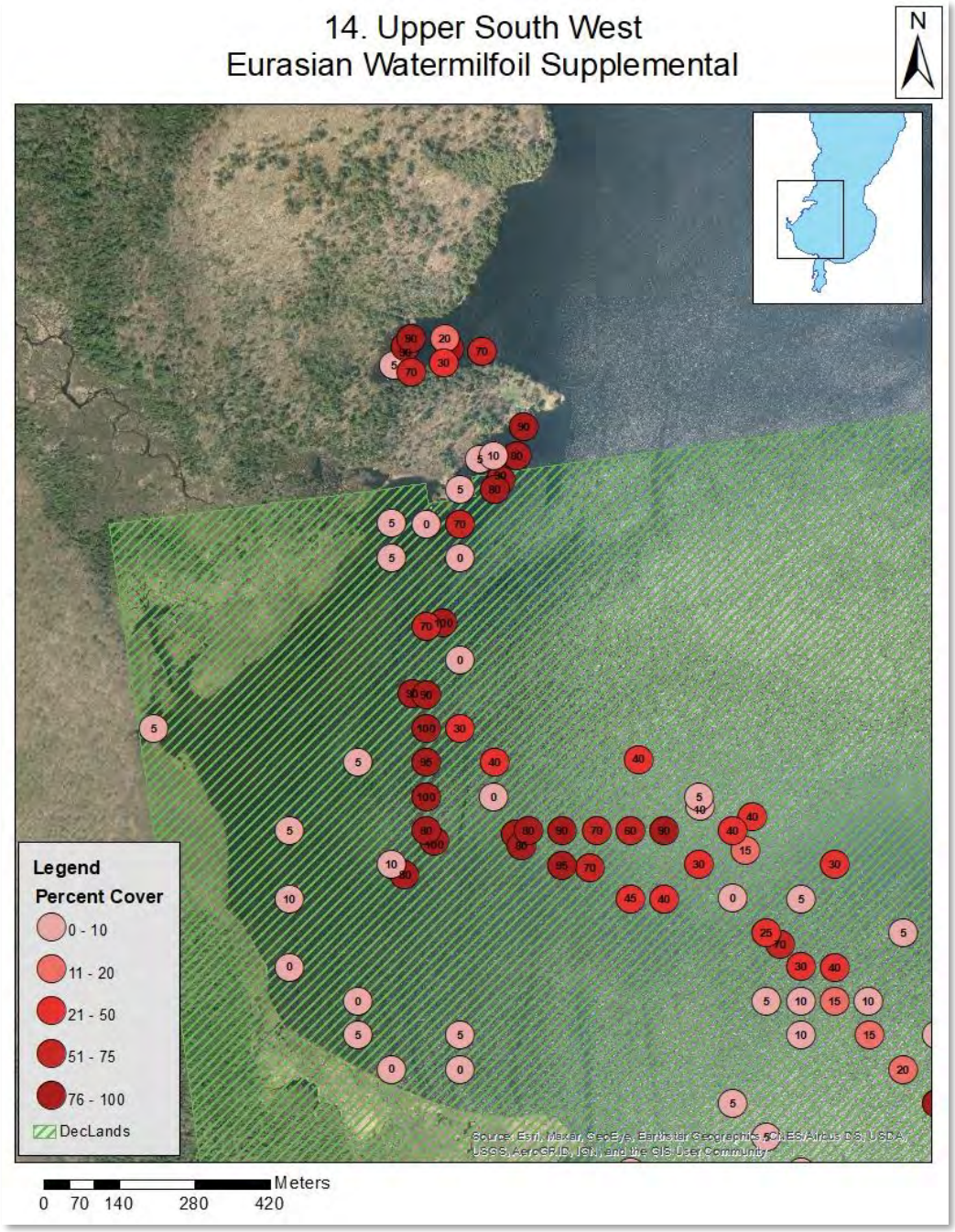


Figure 8. *Density of Eurasian watermilfoil beds in southern Upper Chateaugay Lake: Western Section*

South Inlet

The South Inlet, Middle Kiln Brook, is a large, braided wetland complex approximately 24 acres in size. We found several species in this area that were not found anywhere else in the lake, specifically the endangered Mare's tail (*Hippuris vulgaris*) and Whorled-leaf milfoil (*Myriophyllum verticillatum).* EWM was found in a few locations within the South Inlet, but generally not at high abundance (**Figure 9**).

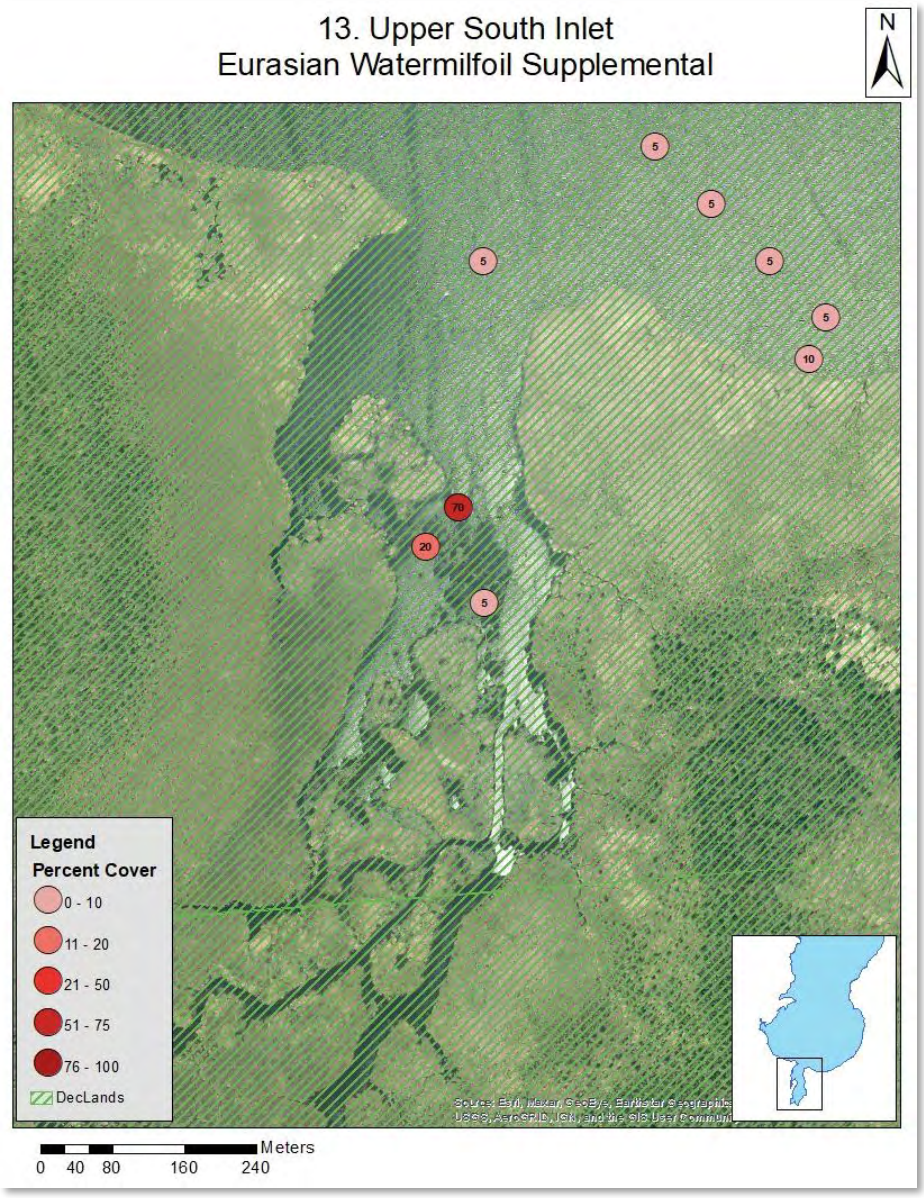


Figure 9. *Eurasian watermilfoil within the South Inlet of Upper Chateaugay Lake.*

Western Shore

The western shore of Upper Chateaugay Lake is almost all undeveloped, with a few camps scattered along this length of the shore (**Figures 10 & 11**). The western shore is characterized by steep sloped bedrock cliffs with intermixed dense forest cover. Due to the steep nature of this area, plant growth is limited to a few specific areas (**Figure 10**). There are a few shallow bays, particularly on the northern end of the western shoreline and the southern end, which support localized, dense aquatic plant patches. The northern beds, south of Bluff Point, support a band of milfoil from 8-11 feet and the southern bay, north of Indian Point, has a lot of milfoil growing close to the surface.

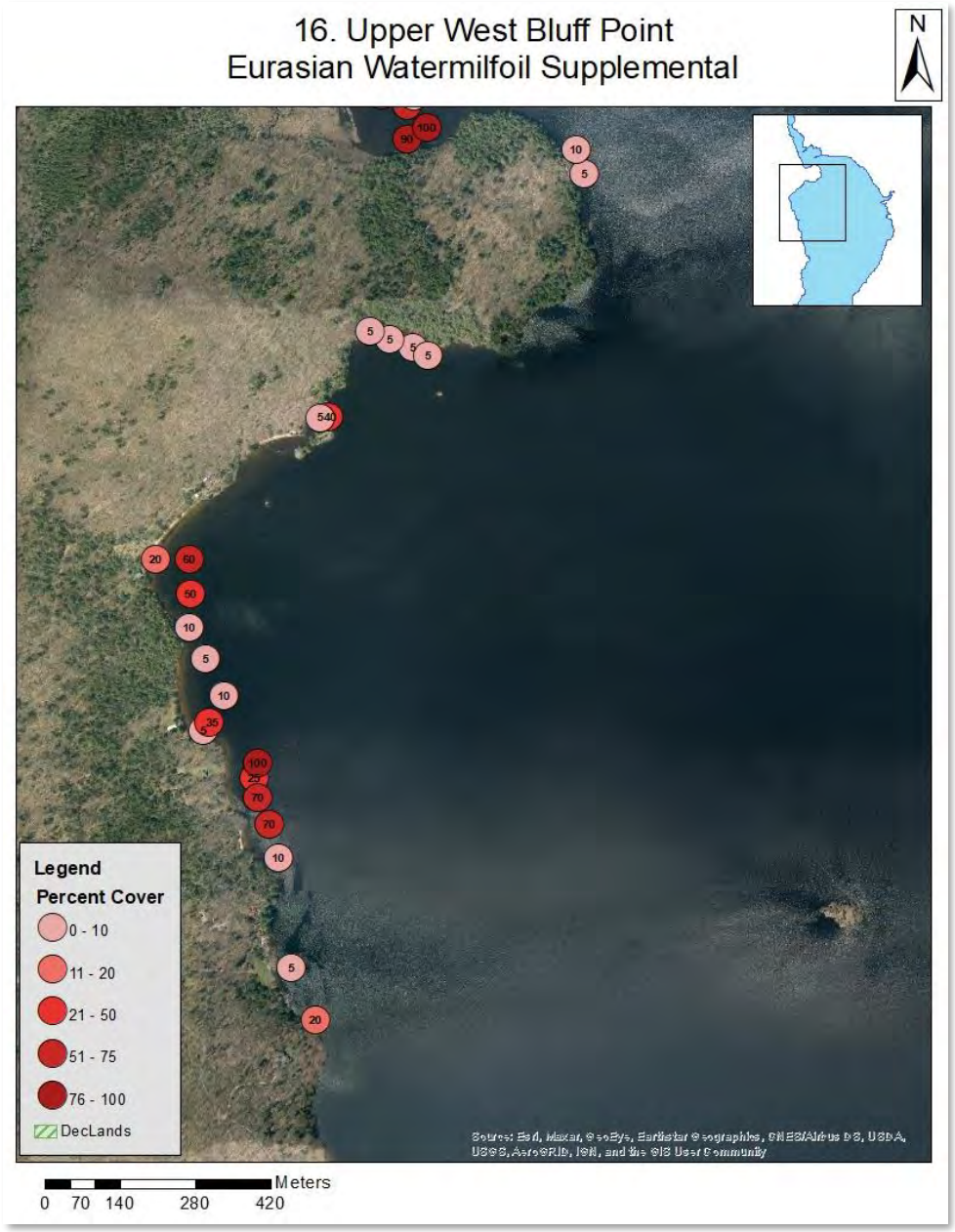


Figure 10. *Northern portion of the Western shoreline and shore area of Upper Chateaugay.*

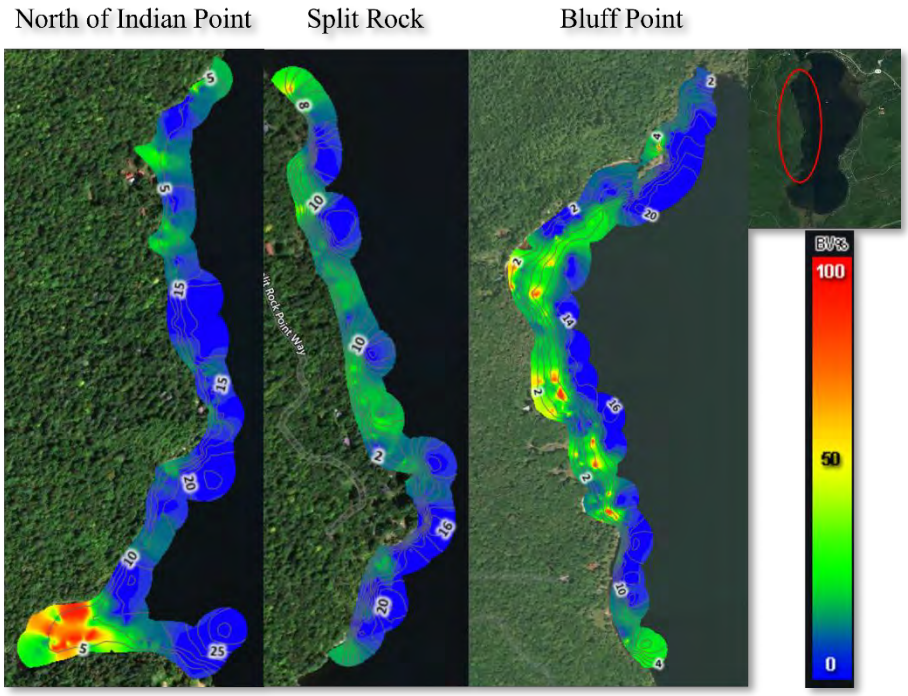


Figure 11. *Western shoreline plant biovolume (map on the right at each area).*

Eastern Shore

The Eastern shore (**Figure 12)** contains a variety of habitats similar to the western shore of Upper Chateaugay. Rocky, steep habitats are prevalent. Near the inlets of Ouleout Creek and Separator Brook the habitat shifts to a shallow shelf of unconsolidated sand. Few aquatic plants were found in this 187-acre area (**Figure 13**), except for the occasional low-lying Tape-grass (*Vallisneria americana*), Water lobelia (*Lobelia dortmanna)*, and Tiny spikerush (*Eleocharis acicularis)* and large stands of Emergent bulrush (*Schonoplectus* sp.). EWM was found throughout this area, especially in the Ouleout creek inlet area, but was mostly single stalks.

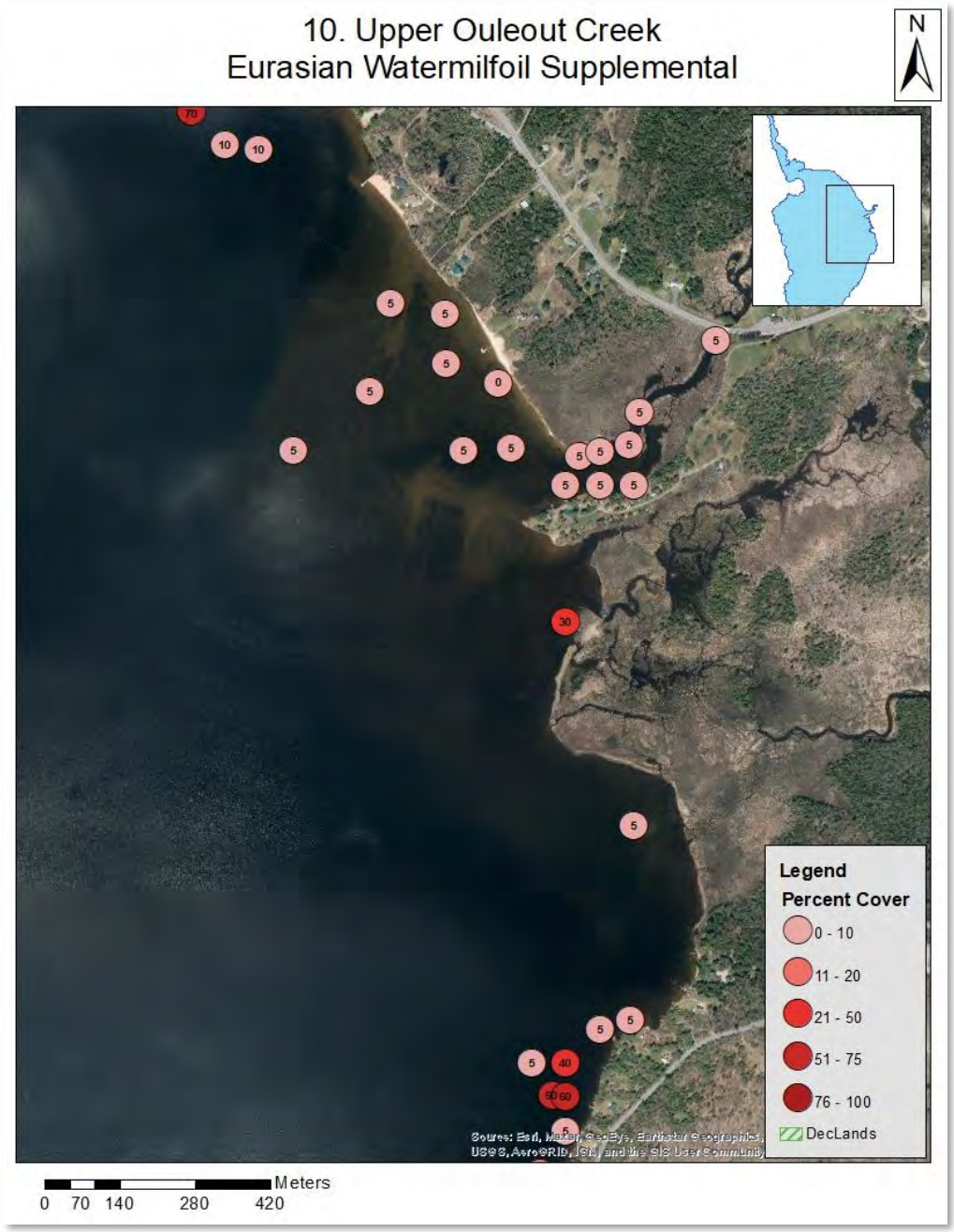


Figure 12. *Eastern shore area of Upper Chateaugay Lake.*

Figure 13. *Sandbar along eastern shore left and bottom right, photograph in upper right shows extensive bulrush beds.*

Narrows

Southern Reach

The southern reach of the Narrows is characterized by a long sandbar at the confluence with Upper Chateaugay Lake that semi- encloses a large bay that see a lot of boat traffic (**Figure 14**). Consequently, this area has been the focus of aquatic plant management efforts, especially in the channel and immediately to the east, north of the sandbar. The bay and the back of the wetlands on either side contained little EWM with most beds trace to sparce in density. EWM becomes more abundant downstream with most beds of medium to high density plants.

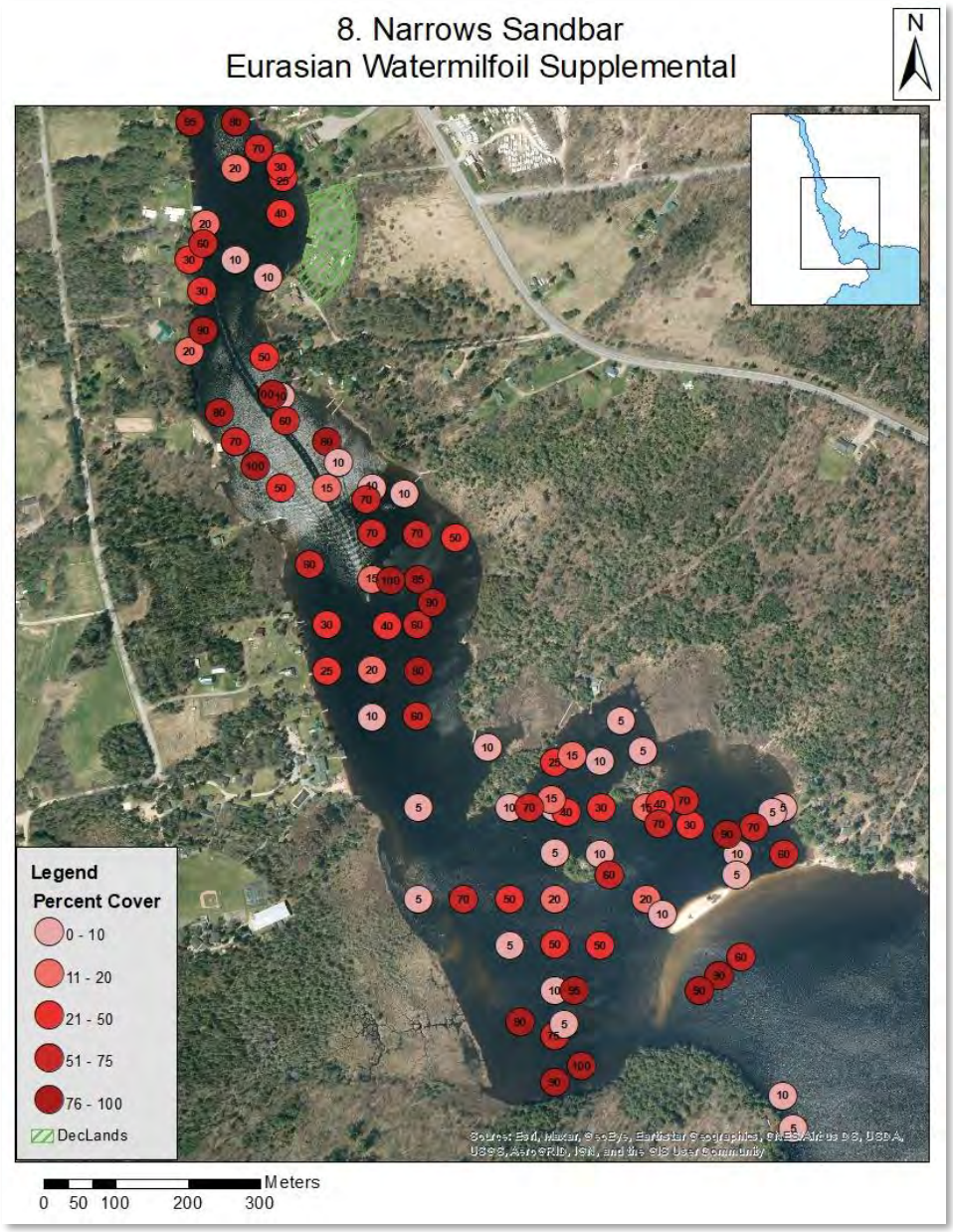


Figure 14. *Eurasian watermilfoil distribution and percent cover in the southern section of the Narrows.*

Boat Launch Section

The State of NY DEC owned boat launch has had significant aquatic plant management in the past. Benthic mats were first used here after the completion of the 2006 aquatic plant management plan (**Figure 15).** The general area around the boat launch is clear of EWM, but there are stands in the water immediately upstream and downstream of this area. North of the boat launch, NEAR also found a small patch of Thread-leaf crowfoot (*Ranunculus trichophyllus*), which is a native plant and one of the few areas in the lake where it is present.

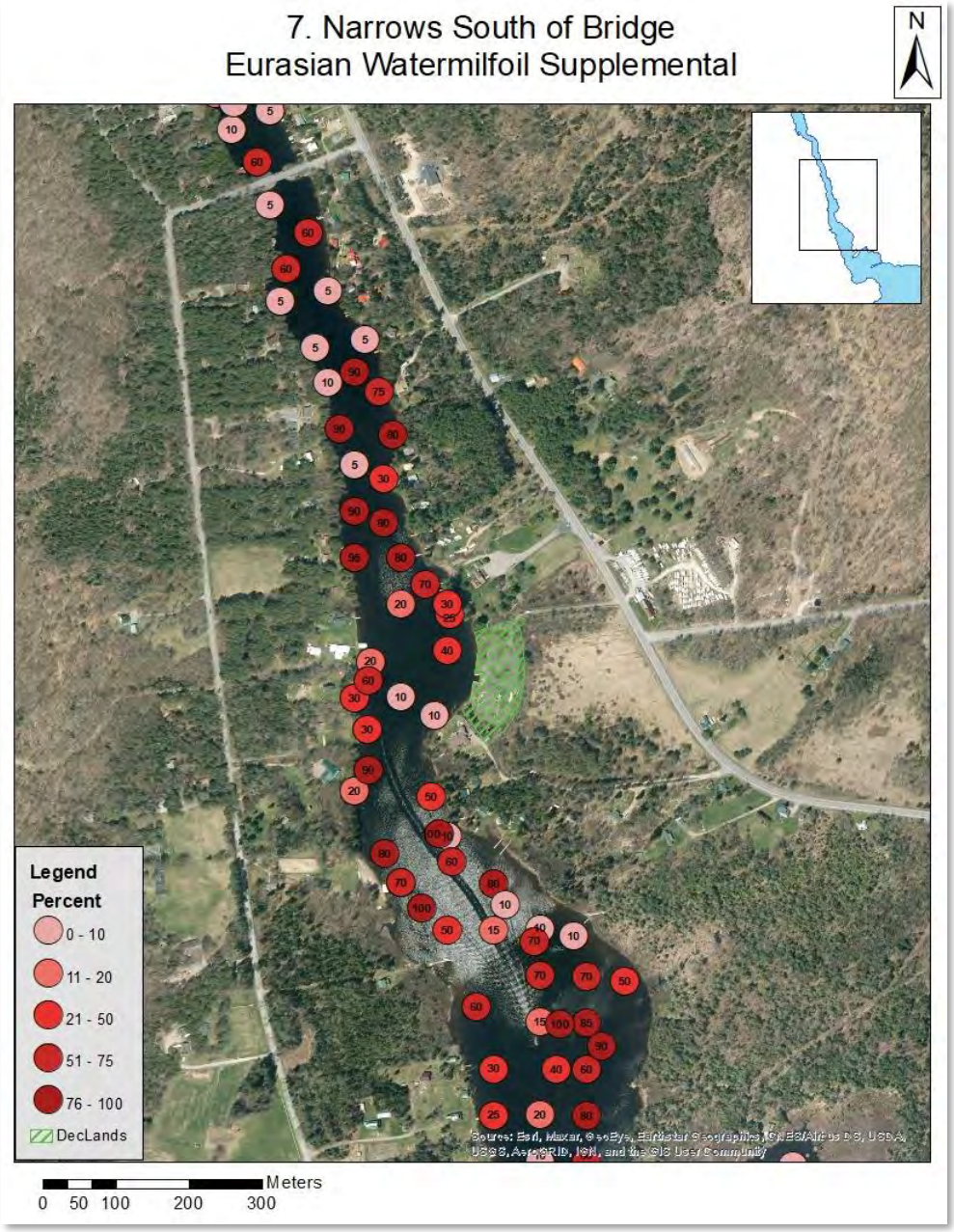


***Figure 15**. Eurasian watermilfoil distribution and percent cover in the Boat Launch area.*

Narrows Middle

Immediately north of the bridge, Eurasian watermilfoil was present, but not in high abundance with most pant cover being native both in the middle of the channel and the western side (**Figure 16**). Native plants were most common including Nuttall's waterweed (*Elodea nuttallii*), especially in the middle of the channel. As the narrows widen, the channel shallows to 4-5 feet, with a population of mixed lilies along the eastern shoreline. Halfway up north of the channel widening, Eurasian watermilfoil starts to become more abundant.

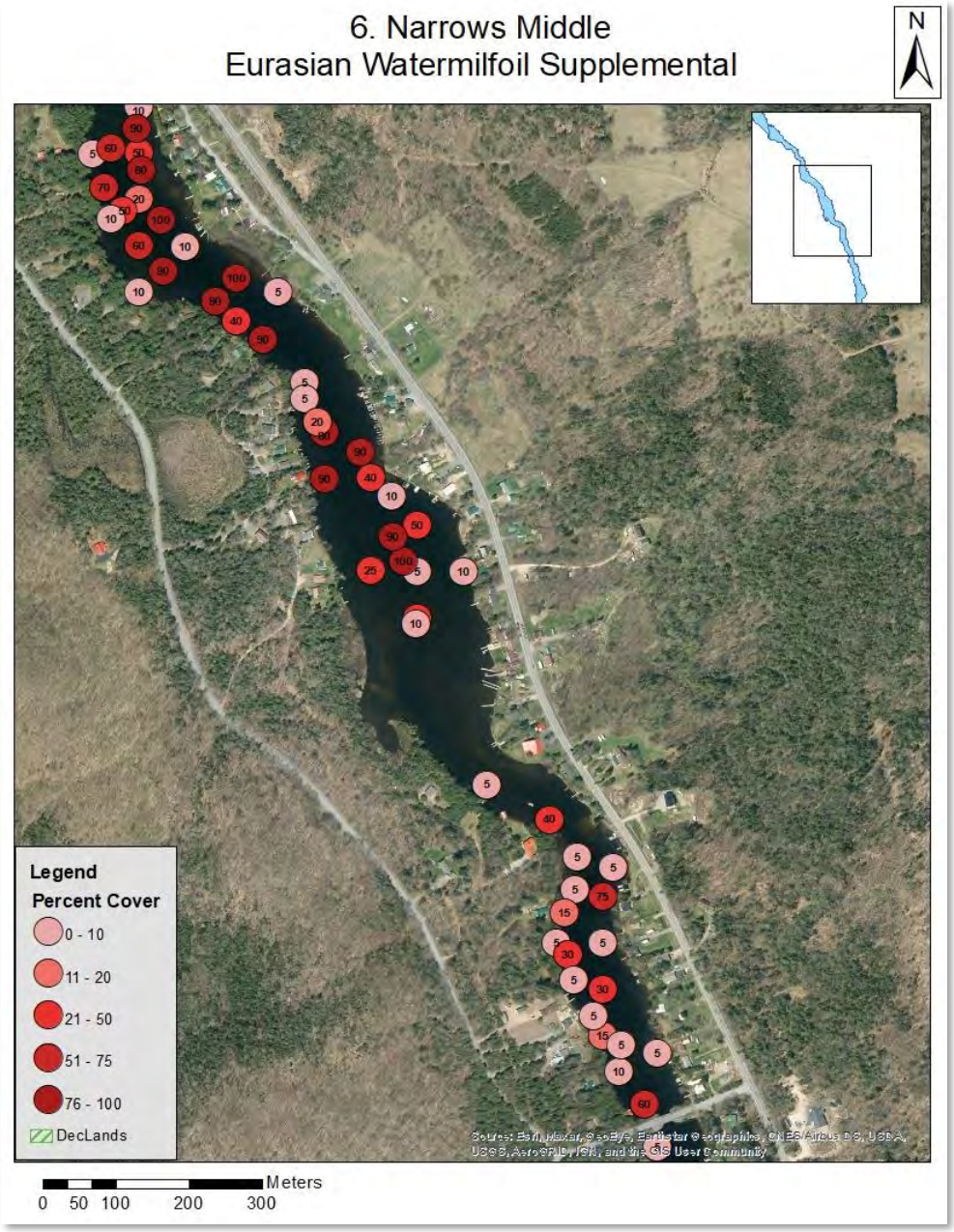


Figure 16. *Eurasian watermilfoil distribution and percent cover at the Narrows middle section.*

Narrows North

Moving north towards the lower lake inlet, Eurasian watermilfoil distribution and abundance was lower than the southern sections of the narrows (**Figure 17**). Small pockets of yellow water lilies were found, along with Nuttall's waterweed and Clasping-leaf pondweed (*Potamogeton perfoliatus*). As the inlet starts to widen, Eurasian watermilfoil becomes more abundant, especially in the middle of the channel.

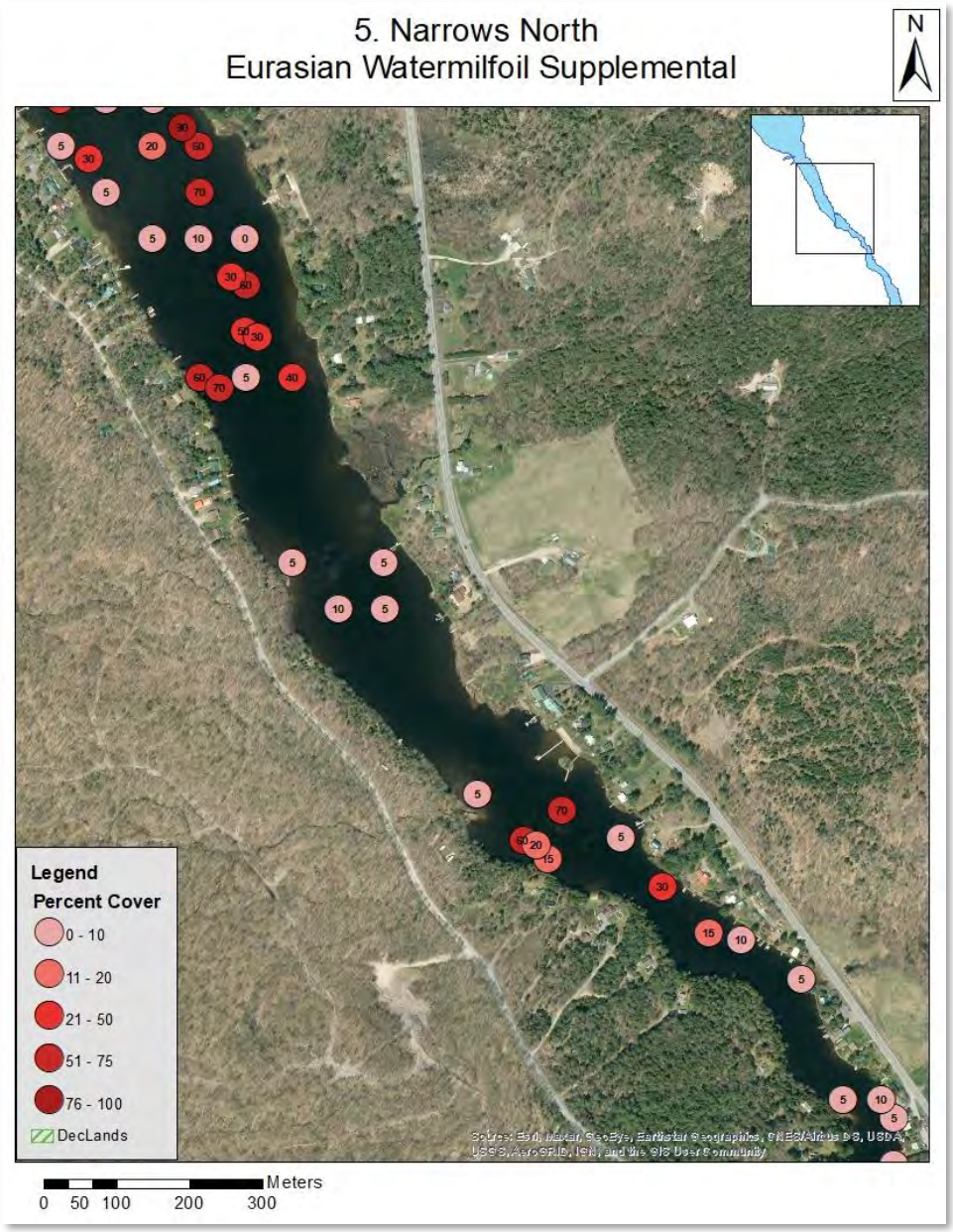


Figure 17. *Eurasian watermilfoil distribution and percent cover at the Narrows middle section.*

Lower Chateaugay Lake

Lower Lake Inlet

The confluence of Lower Chateaugay and the Narrows is an area of significant management interest, as EWM has been historically abundant. On either side of the inlet, large sandbars have formed of very shallow shifting sand preventing growth of aquatic plants. The center of the channel contained a mix of EWM and pondweeds with EWM getting more abundant in deeper water to the north. We noted large beds where EWM was dense that is 100% surface coverage by tall plants almost to the surface (**Figure 18**) especially along the western edge of the littoral zone (**Figure 19**).

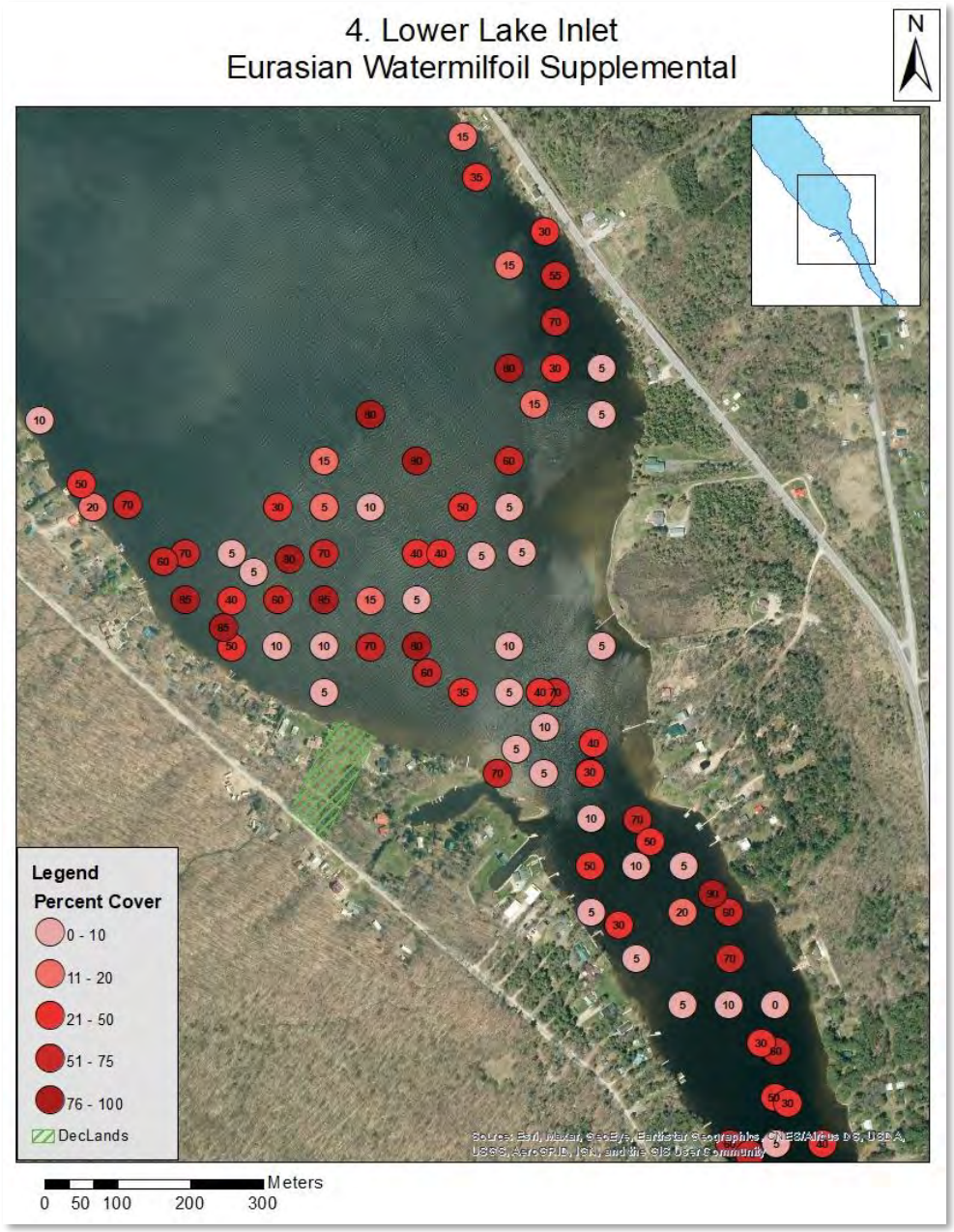


Figure 18. *Eurasian watermilfoil distribution and percent cover in the Lower Chateaugay Lake Inlet Area.*

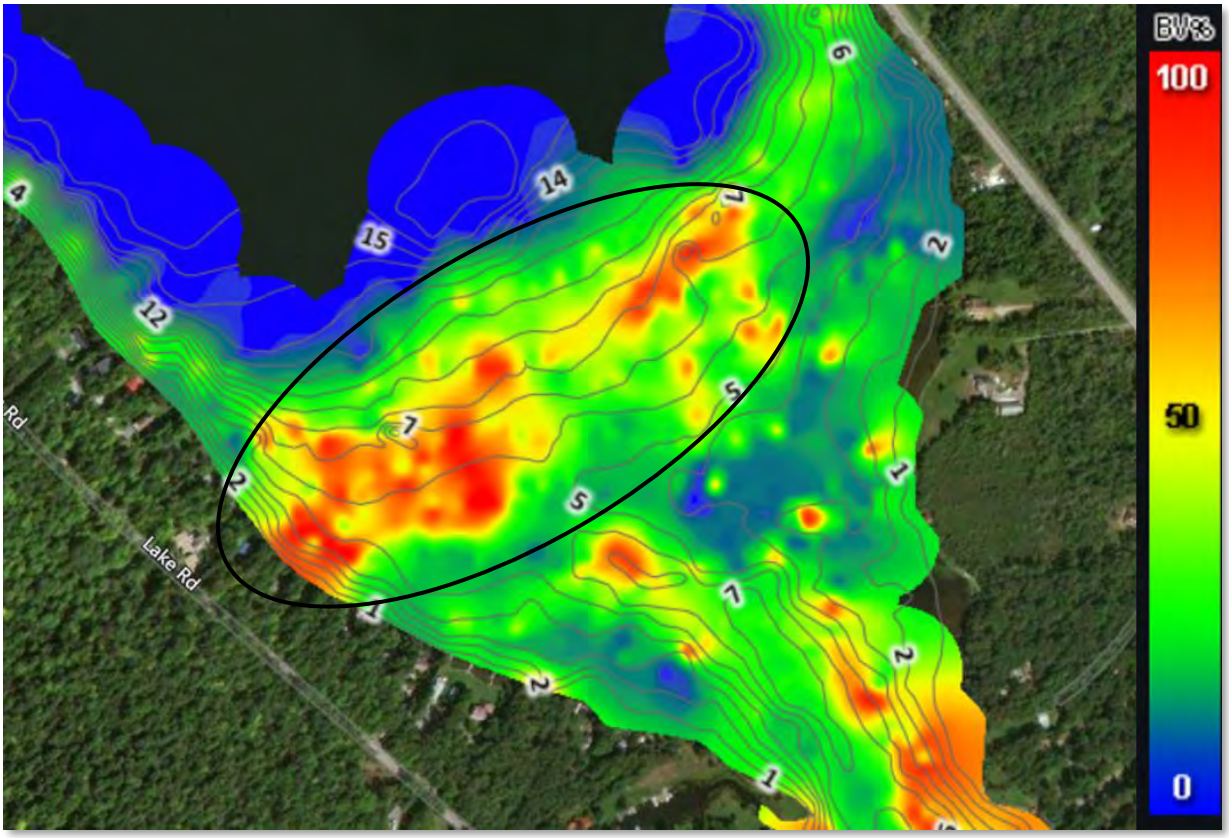


Figure 19. *Aquatic plant coverage and biovolume in Lower Chateaugay Inlet. Black circle on map indicates dense Eurasian watermilfoil locations.*

Lower Lake Middle

The middle of the lower lake is mostly open, deeper water with a very limited area for aquatic plants to grow. Eurasian watermilfoil was found in high abundance, but in narrow bands, sometimes only a few feet wide **(Figure 20**). Depending on how steep the shoreline was, Eurasian watermilfoil was not found. Native plants were sparse, as shallow areas were both small in size and sandy, limiting the colonization potential of species in this area.

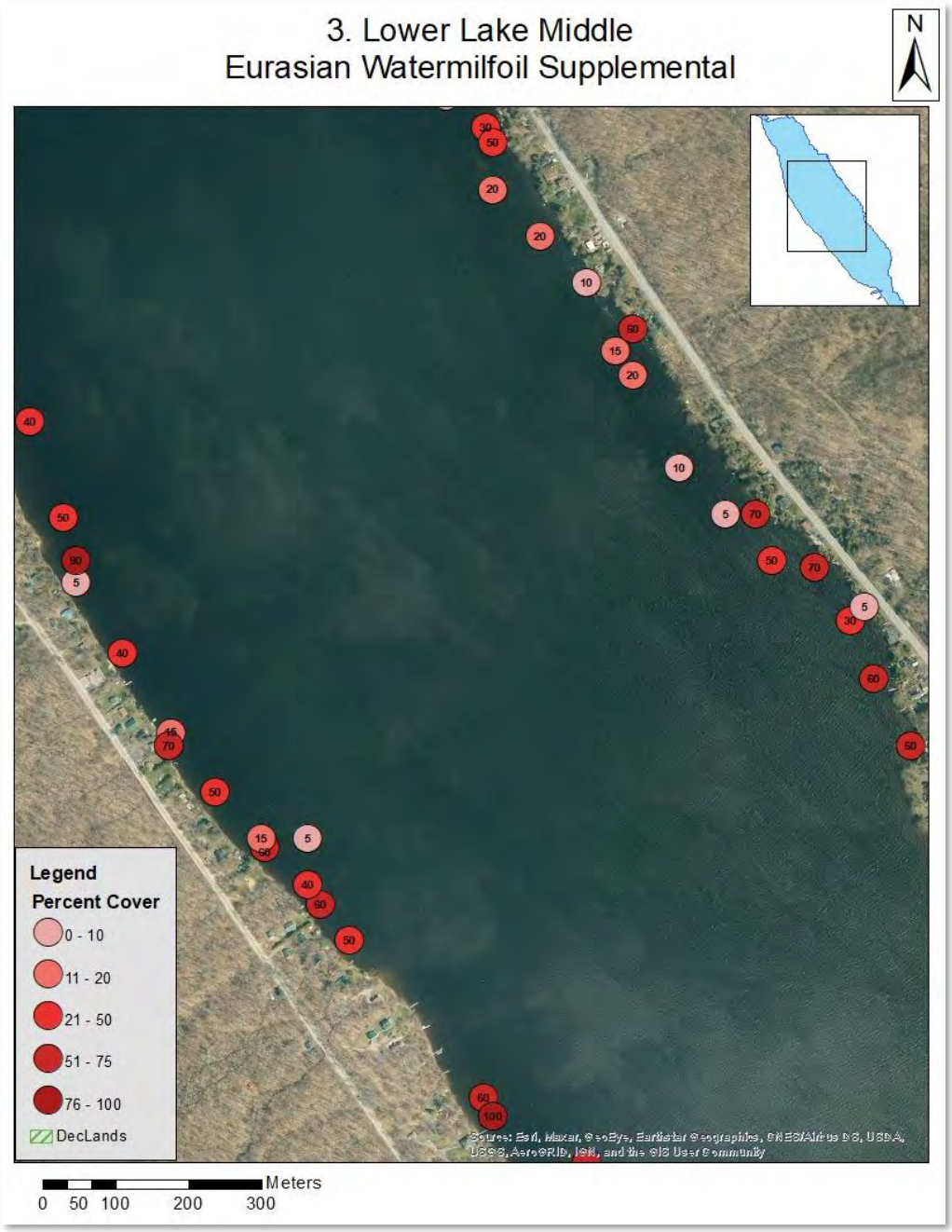


Figure 20. *Eurasian watermilfoil distribution and percent cover in the Lower Chateaugay Lake Middle Area.*

Lower Lake North

The northern section of the lower lake is similar to the middle area, but does have a shallow, sandy shelf at the northmost end, adjacent to the start of the outlet. Eurasian watermilfoil was distributed in the deeper waters adjacent to the sandy sections (**Figure 21**). The western side of the lake had very little Eurasian watermilfoil along the steep contours. Native plants in this area include Large-leaf pondweed, White water lily, and Nuttall's waterweed, mostly in the area closest to the outlet.

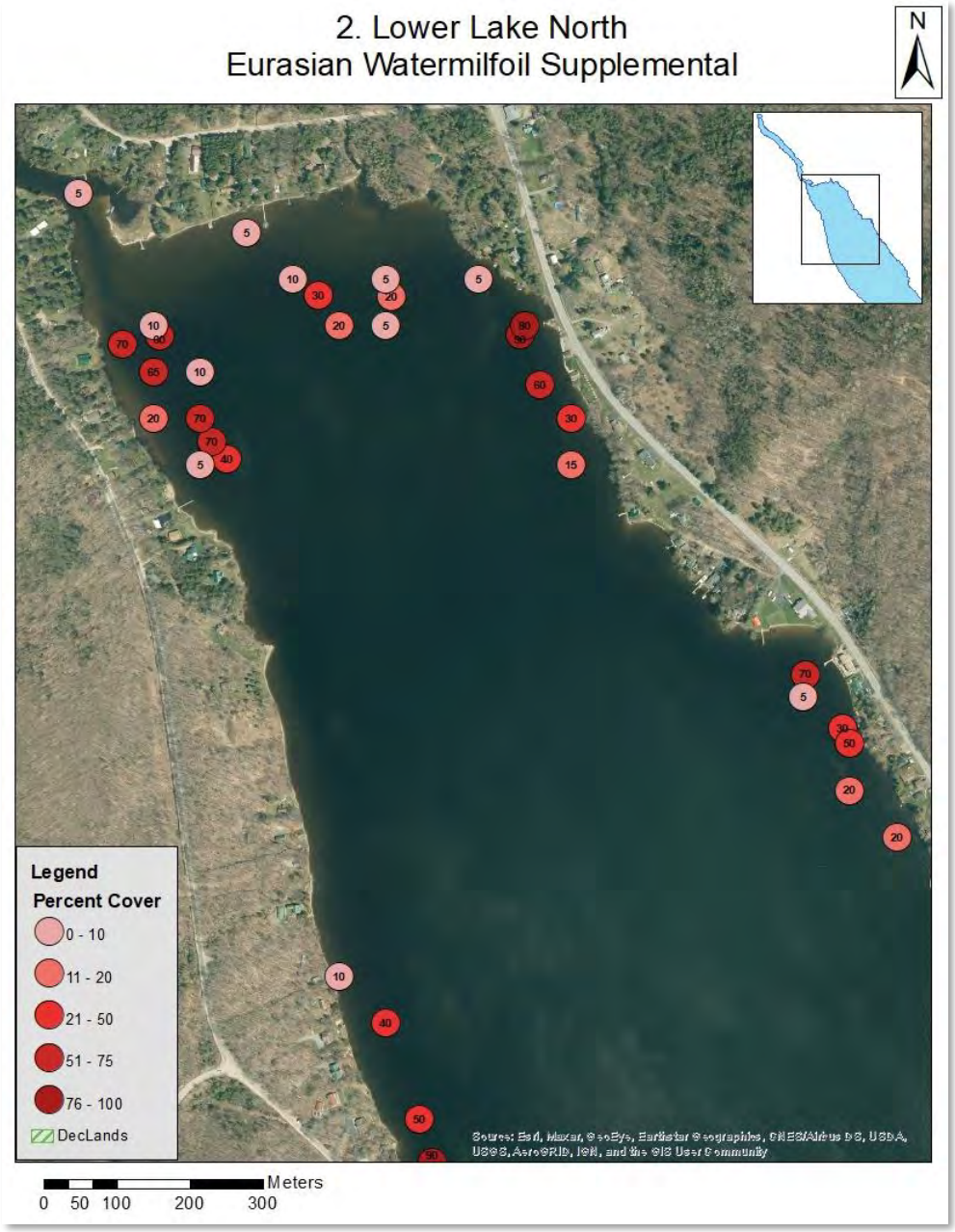


Figure 21. *Eurasian watermilfoil distribution and percent cover in the Lower Chateaugay Lake North Area.*

Lower Lake Outlet

The lake's outlet was mostly vegetated, with EWM present throughout, but in low densities outside of a small area more than halfway down the outlet (**Figure 22**). There were not many "dense" patches of EWM in this section, with native plants such as Nuttall's pondweed, Coontail (*Ceratophyllum demersum*), and Clasping-leaf pondweed commonly encountered. Despite the widespread coverage of aquatic plants within this section, plant height was not significant enough to impede boating access in the middle of the channel. The beginning of the channel was quite rocky, limiting aquatic plant growth as well. There were also two patches of Common reed (*Phragmites australis*) found in the inlet, with the first patch ~70 feet long and the second ~20 ft long (**Figure 24**).

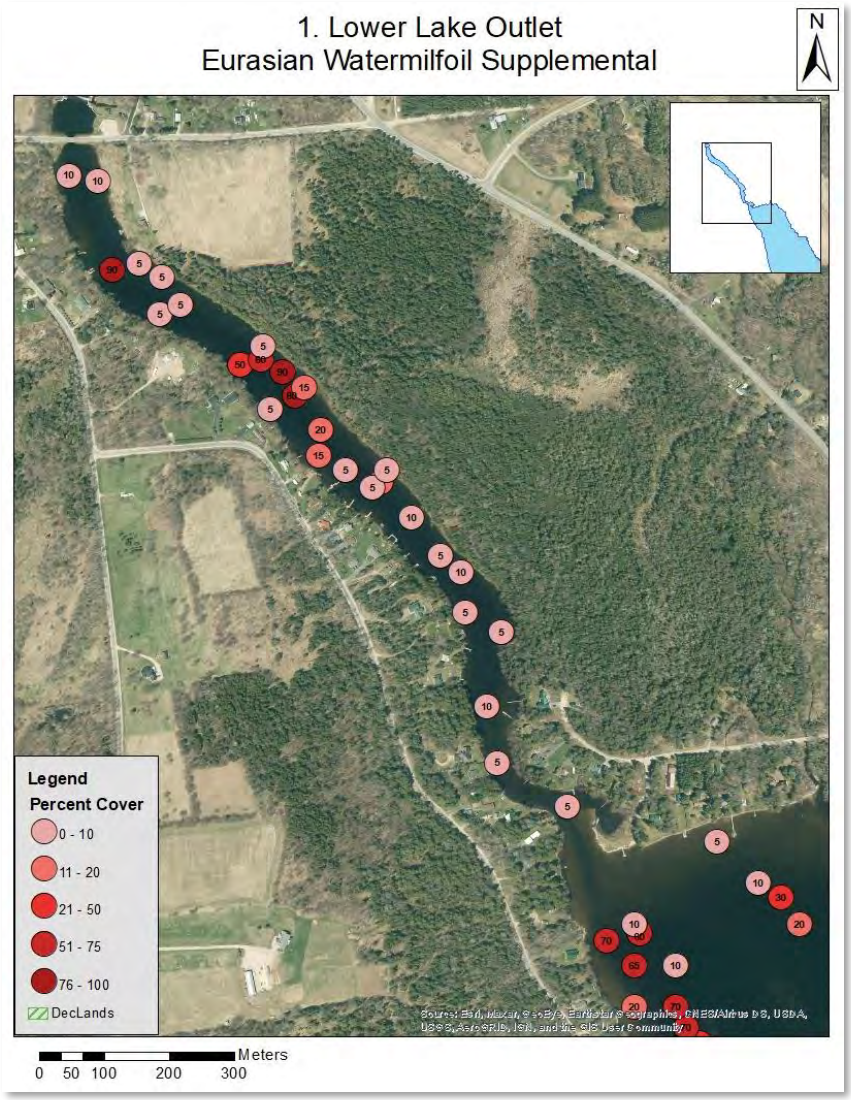


***Figure 22**. Eurasian watermilfoil locations and densities the Lower Chateaugay Lake Outlet Area.*

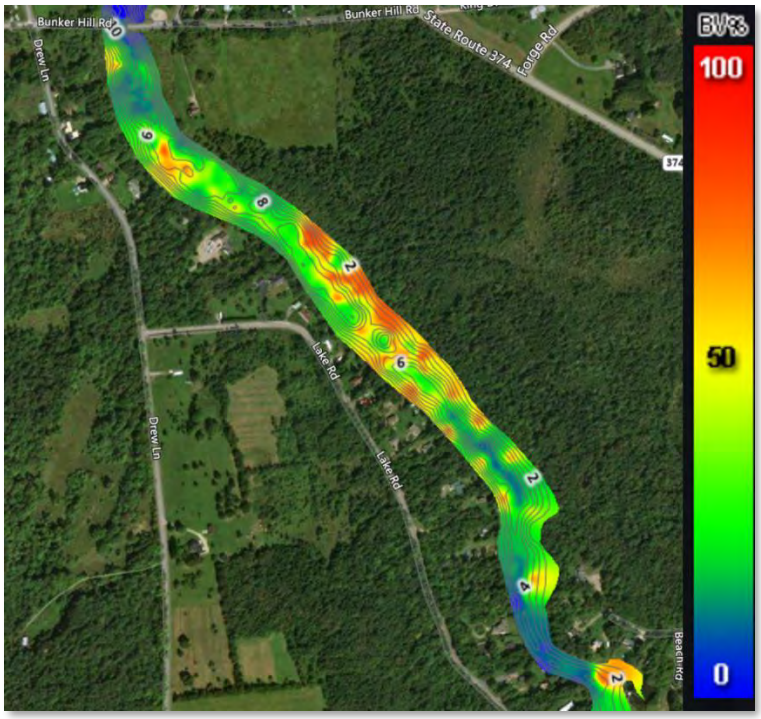


Figure 23. *Aquatic plant coverage and biovolume in Lower Chateaugay Outlet Area.*

Figure 24. *Phragmites australis bed in the Lower Lake Outlet*

Curly-leaf Pondweed

Though the invasive species Curly-leaf pondweed was not found in Chateaugay Lake during the 2021 plant survey, it was found in Upper Chateaugay Lake in 2014 (**Figure 25**). The lake should be closely monitored for the recurrence of this species. Curly-leaf pondweed produces turions (winter buds) that fall to the sediment at the lake bottom and can remain dormant for several years before sprouting. If any turions remain at the bottom of Chateaugay Lake, there is the potential for recurrence. Curly-leaf pondweed is easily identifiable by its 'lasagna-shaped' leaves. This species grows early in the season and dies off by mid- to late-summer.

Figure 25. *Curly-leaf pondweed found in Upper Chateaugay Lake in 2014.*

Protected Species

State Ranking Overview

The Federal Endangered Species Act calls for the protection of species that show declining numbers as well as overall scarcity. The State of New York has established ratings for this class of plants that is consistent with Federal rankings. Protected species in New York fall into one of three categories: "Endangered", "Threatened", and "Rare" based on the number of known locations. Endangered plants are found at 5 or fewer locations, Threatened plants between 6 and 20 locations, and Rare plants are found at between 20 and 35 locations (Young et al. 2020).

The survey conducted in 2021 documented four protected species (**Table 6**): the endangered Mare's Tail (Hippuris vulgaris) and the threatened Alpine pondweed (*Potamogeton alpinus*), Farwell's milfoil (*Myriophyllum farwellii),* and Alternate-leaf watermilfoil (*Myriophyllum alterniflorum*). The rare Water marigold (*Bidens beckii*), documented in

2014 by the Adirondack Watershed Institute, was not found during our survey. Based on the picture accompanying the description of *Bidens beckii* within the report, NEAR strongly believes that this specimen was misidentified and was actually a *Ranunculus* species

Table 6. *List of protected aquatic plant species found in Chateaugay Lake.*

Common Name	Scientific Name	Year and Survey	Protected Status	State Rank	List
Mare's tail	*Hippuris vulgaris*	2021, NEAR	Endangered	S1	Active
Alpine pondweed	*Potamogeton alpinus*	2021, NEAR	Threatened	S1S2	Active
Alternate-leaf milfoil	*Myriophyllum alterniflorum*	2021, NEAR	Threatened	S2	Active
Farwell's milfoil	*Myriophyllum farwellii*	2021, NEAR	Threatened	S2	Active

Alternate Leaf Watermilfoil

Alternate-leaf watermilfoil was found at three locations in the southern section of Upper Chateaugay (**Figure 26**). Two of these locations were south of Indian Point and the other location was in the southwestern portion of the southern Upper Chateaugay. Alternate-leaf watermilfoil can be identified by its whorled leaves (distinguishes it from M. farwellii and M. humile) and shorter leaves (distinguishes it from other Myriophyllum taxa; Crow and Hellquist 2006).

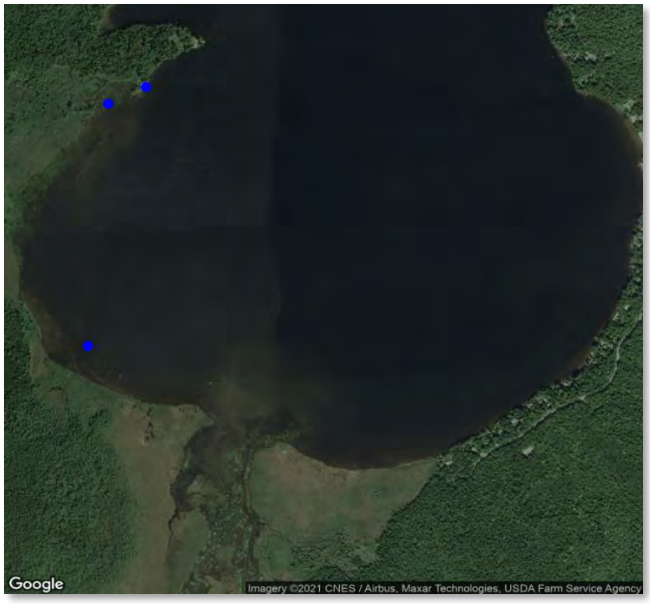


Figure 26. *Locations* of *Alternate-leaf watermilfoil (blue dots) in the southern portion of Upper Chateaugay Lake.*

Figure 27. *Alternate-leaf watermilfoil.*

Farwell's Milfoil

Farwell's milfoil was found at eight locations in the southern section of Upper Chateaugay (**Figure 27**). Occurrences were fairly spread out, with some of the plants being found directly outside of the South Inlet and with some being found on the western side. Farwell's milfoil can be identified by the alternate and whorled nature of its leaves (distinguishes it from *M. alterniflorum* and *M. humile*). The presence of fruits on the submersed stems distinguished it from *M. pinnatum* (**Figure 28**).

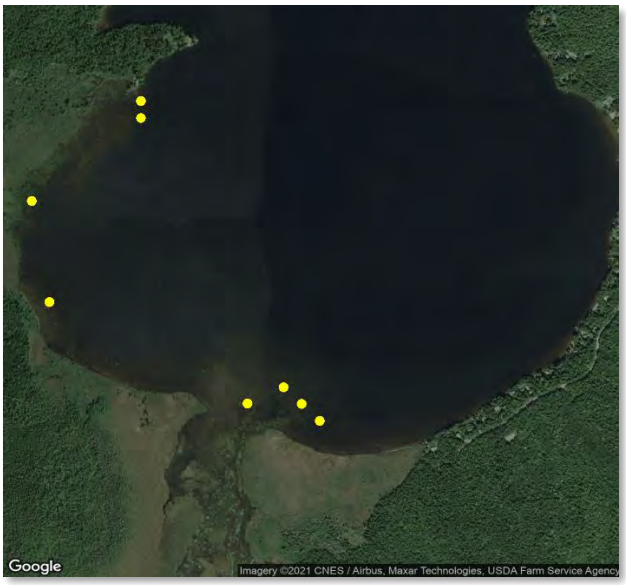


Figure 28. *Locations of Farwell's milfoil (yellow dots) in the southern portion of Upper Chateaugay Lake.*

Figure 29. *Fruits of Farwell's milfoil present on the submersed section of stem, differentiating it from M. pinnatum.*

Mare's Tail

Mare's-tail, the only protected plant species with endangered status in the Chateaugay Lakes System was found abundantly throughout large portions of the South Inlet Area (**Figure 29).** Mare's Tail was found in 13 locations in 2021, but this distribution is most likely an underestimate of the species' true coverage, which can be seen in **Figures 30 & 31**.

Figure 30. *Locations of Mare's tail (red dots) in the southern portion of Upper Chateaugay.*

Figure 31. *Close up of emergent and submergent portions of Mare's tail*

Figure 32. *Large beds of Mare's tail in the South Inlet Area.*

Alpine Pondweed

Alpine pondweed, a protected species with threatened status, was documented at one location north of Indian Point in the southern basin of Upper Chateaugay Lake (**Figure 32**). It is distinguished from its closest relative Grassy pondweed (*Potamogeton gramineus)* by reticulate veins along the center line of the leaf and by obtuse leaf tips (Crow and Hellquist 2006).

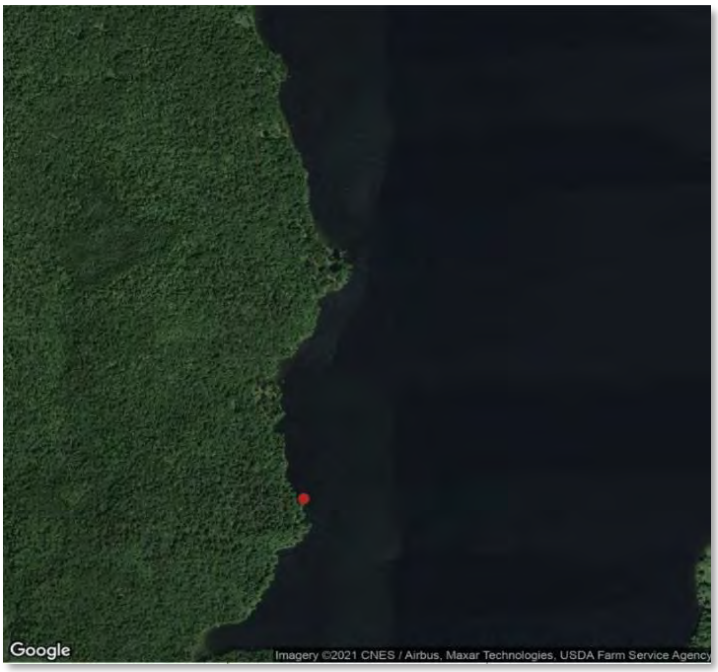


Figure 33. *Location of Alpine pondweed (red dot) in the southern portion of Upper Chateaugay Lake.*

Discussion and Recommendations

Establish Yearly Aquatic Plant Monitoring Program

In anticipation of management in future years, a systematic monitoring approach should be implemented. This monitoring program should be able to provide insight on a few key characteristics of the plant community and management program. Specifically, the program should aim to document:

- Species richness throughout the lake
- Native plant presence and abundance
- Invasive plant presence and abundance
- Rare plant presence and abundance
- Effectiveness of management
- Changes over time to native and invasive plants
- Early detection of invasive plants

These goals can be explored using a combination of annual rotating surveys of each lake section and specific pre- and post-monitoring of treatment areas. The annual rotating survey will cover species richness, native, invasive species and rare species presence and abundance, early detection of new invasive species, and changes over time. The annual rotating surveys should cover the three main lake sections (Upper Chateaugay, Narrows and Lower Chateaugay). In

terms of study design, these three surveys should revisit the pre-determined points from the 2021 survey, and additional points should be created whenever an invasive species is detected.

The pre- and post-surveys, conducted whenever there is a management action taking place, will help determine how successful the action was and if there were any non-target impacts that occurred. The surveys will also provide insight into the other items listed above, especially plant presence and abundance over time. The pre-management survey should ideally be scheduled a week or two before the management action occurs and 3-7 weeks after for the post treatment. The variation in the post treatment scheduling is based on what management action is performed. Results from a Diver Assisted Suction Harvesting (DASH) operation will be evident as soon as a few days after the action, while an herbicide treatment could take a month or so for effects to be noticed. Costs can be reduced if pre- and post-surveys in an area take place in the same year where that area is being surveyed as a part of the annual rotating basis.

The lake tracker program should continue in the southern portion of Upper Chateaugay for the foreseeable future. This program is excellent at engaging volunteer monitors and provides a consistent measure of EWM presence and abundance across time.

Another option for surveying, especially for the shallow wetland sections, would be to use a drone. Drone work has become more popular over the last 8-10 years for natural resource management and for aquatic plant management more recently. The advantage of a drone is that a large area that is inaccessible to motorcraft can be searched in a relatively short amount of time. Drone work is particularly useful for spotting floating invasive plants such as Water Chestnut and European Frogbit (*Hydrocharis morsus-ranae*) over a wide range. There is a tradeoff between resolution and cost, meaning that not every single plant can be ID'd from a drone for a reasonable cost. The drone will also not pick up submersed vegetation unless it is growing right to the surface. The South Inlet would be an area where a drone survey would work well. Another candidate area would be the eastern shoreline, both to search Ouleout Creek and to delineate the coverage of the Softstem Bulrush (*Schoenoplectus tabernaemontani*), which is the dominant plant in that area. These drone surveys would only need to be done once every 3 years.

Rare Plant Investigation

Building off the current survey, a detailed investigation into the rare plants in the Chateaugay Lakes system is warranted. Rare plants are often at lower abundances than common native plants and therefore can be hard to find. While we are confident that our survey accurately captured the distribution of these plants, increased effort in subsequent years may provide further understanding of rare plant distribution and seasonality. Specifically, the southern inlet area, the inlet of Ouleout Creek and the small wetland sections in the narrows and lower lake should be investigated in future years.

Detailing the specific locations of these rare plants would also help with understanding the effects of future invaders. Since EWM is not a plant that does especially well in very shallow waters, some of the rare plants encountered should

not be threatened by its presence. However, this is not the case for other invasive plant species that thrive in these wetland backwater areas. European Frogbit (*Hydrocharis morsus-ranae*), Fanwort (*Cabomba caroliniana*) and Water Chestnut can do well in the 1-3 ft of water present in many of the wetland areas. These plants, if introduced, would likely pose an immediate threat to most of the rare plants within these backwater areas.

EWM Genetics

The current survey identified a few specimens of EWM with inconsistent morphology, leading us to believe that there may be hybrid milfoils present (**Table 6**). These suspected plants may point to significant genetic diversity within the population. With some genetic strains of EWM and hybrid milfoils having greater growth potential, genetic investigations are warranted. NEAR suggests collecting a few representative samples from across the three lakes for species level ID and genotype analysis.

Table 7. Waypoints where suspected hybrid Eurasian watermilfoil was identified.

Waypoint	Lat	Lon
1000	44.71767	-73.9738
1002	44.71766	-73.9722
987	44.71709	-73.973

Appendix A: Literature Cited

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Appendix B: Excerpts from Rare Plant Status Lists (Young 2020)

New York State Legal Status

E = Endangered Species: listed species are those with
1) 5 or fewer extant sites, or
2) fewer than 1,000 individuals, or
3) restricted to fewer than 4 U.S.G.S. 7 1/2 minute topographical maps, or
4) species listed as endangered by the U. S. Department of Interior, as enumerated in the Code of Federal Regulations 50 CFR 17.11.

T = Threatened: listed species are those with
1) 6 to fewer than 20 extant sites, or
2) 1,000 to fewer than 3,000 individuals, or
3) restricted to not less than 4 or more than 7 U.S.G.S. 7 1/2 minute topographical maps, or
4) listed as threatened by the U. S. Department of the Interior, as enumerated in the Code of Federal Regulations 50 CFR 17.11.

R = Rare: listed species have
1) 20 to 35 extant sites, or
2) 3,000 to 5,000 individuals statewide.

EV = Exploitably vulnerable: listed species are likely to become threatened in the near future throughout all or a significant portion of their range within the state if causal factors continue unchecked. [This definition does not apply to many plants on this list and efforts are underway to change the definition or the list - SMY]

U = Unprotected

Explanation of Heritage Ranks and Codes

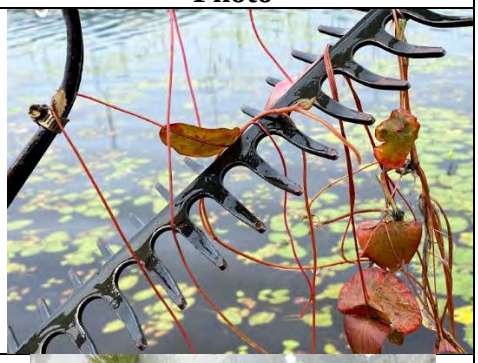
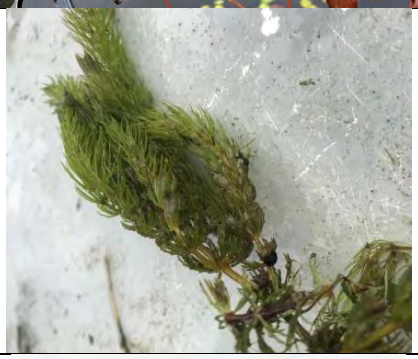
Global Rank

G1 = Critically Imperiled. At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors. (**5 taxa in 2020**)
G2 = Imperiled. At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors. (**9 taxa in 2020**)
G3 = Vulnerable. At moderate risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors. (**43 taxa in 2020**)
G4 = Apparently Secure. Uncommon but not rare; some cause for long-term concern from declines or other factors.
G5 = Secure. Common; widespread and abundant. (but possibly rare in parts).
GH = Historical and Possibly Extinct. No extant sites known but it may be rediscovered.
GX = Presumed Extinct. Species not located despite intensive searches and virtually no likelihood of rediscovery.
GNR = Not Ranked. No global rank has been assigned by NatureServe.

State Rank

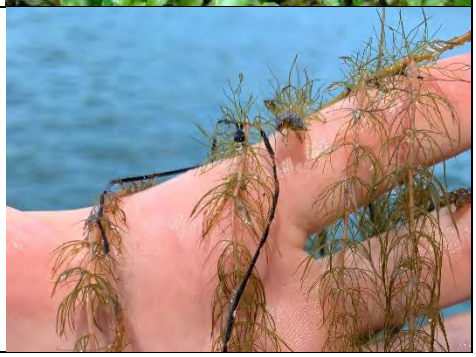
S1 = Critically imperiled in New York State because of extreme rarity (5 or fewer sites or very few remaining individuals) or extremely vulnerable to extirpation from New York State due to biological or human factors.
S2 = Imperiled in New York State because of rarity (6 - 20 sites or few remaining individuals) or highly vulnerable to extirpation from New York State due to biological or human factors.
S3 = Vulnerable in New York State. At moderate risk of extinction or elimination due to very restricted range, very few populations (usually 21 - 35 extant sites), steep declines, or other factors.
S4 = Apparently secure in New York State. Common in many areas of the state but possibly rare in other areas.
S5 = Demonstrably secure in New York State. Common; widespread and abundant.
SH = Historical. No existing sites known in New York State in the last 20-30 years but it may be rediscovered.
SX = Presumed extirpated from New York State with very low probability of rediscovery.

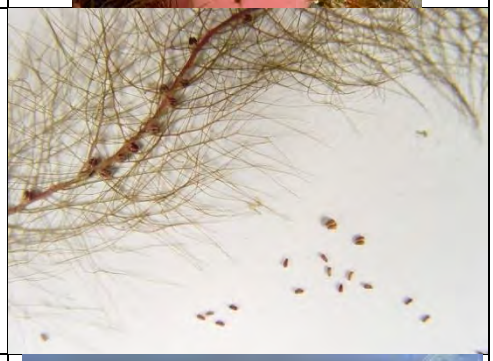
Appendix C: Species Photo Inventory

Scientific Name (Common Name)	Photo
Brasenia schreberi (Watershield) Photo credit: NEAR	
Ceratophyllum demersum (Coontail) Photo credit: NEAR	
Chara vulgarus. (Muskgrass sp.) Photo credit: J.M. DiTomaso & G.B. Kyser	
Eleocharis acicularis (Needle Spikerush) Photo credit: NEAR	

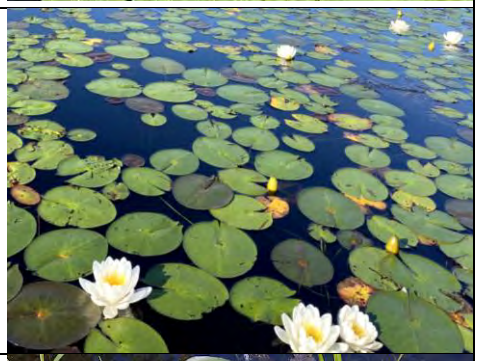
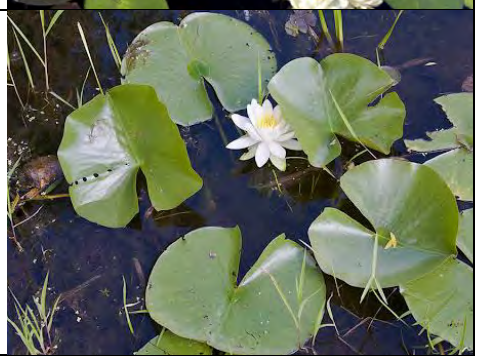
Eleocharis emergent (Emergent Spikerush) Photo credit: https://gobotany.nativeplanttrust.org/species/eleocharis/acicularis/	
Eleocharis robbinsii (Robbin's Spikerush) Photo credit: https://gobotany.nativeplanttrust.org/species/eleocharis/robbinsii/	
Elodea nuttallii (Nuttall's Waterweed) Photo credit: Christian Fisher	
Equisetum sp. (Horsetail) Photo credit: https://www.greenmeadowgrowers.com/plants/horse-tail-or-scouring-rush/	

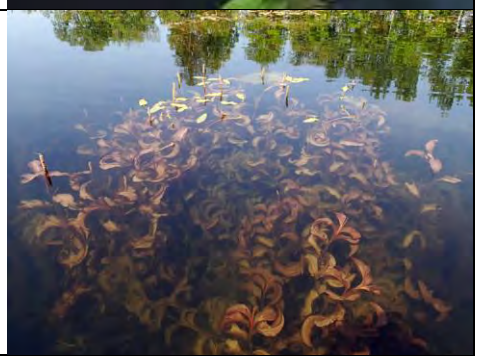
Fontinalis sp. (Aquatic Moss) Photo credit: John Game	
Glyceria borealis (Northern Manna Grass)	
Hippuris vulgaris (Mare's Tail) Photo credit: NEAR	
Isoetes sp. (Quillwort) Photo credit: NEAR	

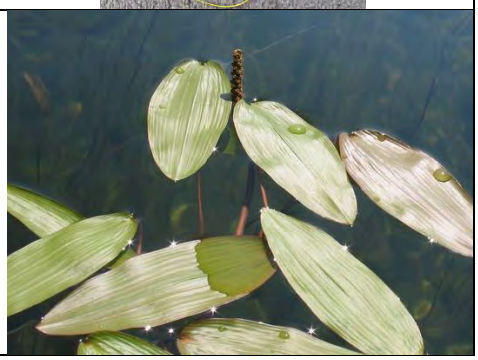
Lemna minor (Duckweed) Photo credit: https://snailemporium.com/product/duck-weed-lemna-minor/	
Lobelia dortmanna (Water Lobelia) Photo credit: https://michiganflora.net/species.aspx?id=704	
Ludwigia palustris (Water Purslane) Photo credit: https://www.gardenia.net/plant/ludwigia-palustris	
Myriophyllum alterniflorum (Alternate-Leaf Watermilfoil) Photo credit: NEAR	

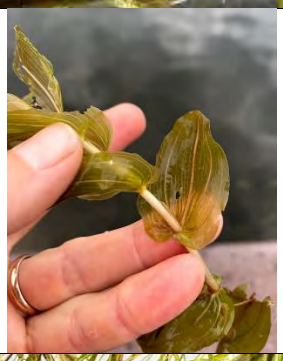
Myriophyllum humile (Low-Watermilfoil) Photo credit: NEAR	
Myriophyllum farwellii (Farwell's Watermilfoil) Photo credit: https://gobotany.nativeplanttrust.org/species/myriophyllum/humile/	
Myriophyllum sibiricum (Northern Watermilfoil) Photo credit: https://gobotany.nativeplanttrust.org/species/myriophyllum/sibiricum/	
Myriophyllum spicatum (Eurasian Watermilfoil) Photo credit: NEAR	

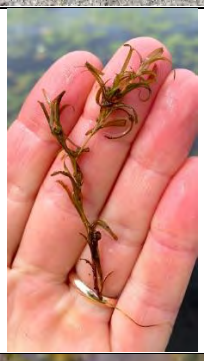
Myriophyllum tenellum (Slender Watermilfoil) Photo credit: NEAR	
Myriophyllum verticillatum (Whorled Watermilfoil) Photo credit: NEAR	
Najas flexilis (Slender Naiad) Photo credit: NEAR	
Najas guadalupensis (Southern Naiad) Photo credit: NEAR	

Nitella sp. (Stonewort sp.) Photo credit: Show Ryn	
Nuphar variegata (Yellow Water Lily) Photo credit: NEAR	
Nymphaea odorata (White Water Lily) Photo credit: NEAR	
Nymphaea odorata tuberosa (American White-Water Lily) Photo credit: http://www.minnesotaseasons.com/Plants/American_white_waterlily_(tuberosa).html	

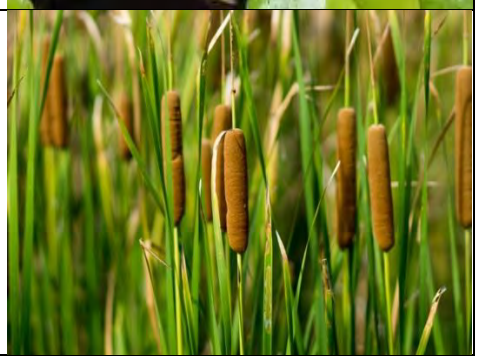
Phragmites australis (Common Reed) Photo credit: R.A. Nonemacher	
Polygonum amphibium (Water Smartweed) Photo credit: NEAR	
Potamogeton alpinus (Alpine Pondweed) Photo credit: https://en.wikipedia.org/wiki/Potamogeton_alpinus	
Potamogeton amplifolius (Large-leaf Pondweed) Photo credit: https://www.minnesotawildflowers.info/aquatic/large-leaved-pondweed	

Potamogeton crispus (Curly-leaf Pondweed) Photo credit: https://www.minnesotawildflowers.info/aquatic/curly-pondweed	
Potamogeton epihydrus (Ribbon-leaf Pondweed) Photo credit: NEAR	
Potamogeton gramineus (Grassy Pondweed) Photo credit: NEAR	
Potamogeton natans (Floating-Leaf Pondweed) Photo credit: https://gobotany.nativeplanttrust.org/species/potamogeton/natans/	

Potamogeton nodosus (River Pondweed) Photo credit: https://www.illinoiswildflowers.info/wetland/plants/ll_pondweed.html	
Potamogeton obtusefolius (Blunt-leaved Pondweed) Photo credit: http://www.biopix.com/blunt-leaved-pondweed-potamogeton-obtusifolius_photo-100751.aspx	
Potamogeton perfoliatus (Clasping-Leaf Pondweed) Photo credit: NEAR	
Potamogeton pusillus (Small Pondweed) Photo credit: NEAR	

Potamogeton robbinsii (Robbin's Pondweed) Photo credit: NEAR	
Potamogeton spirillus (Northern Snailseed Pondweed) Photo credit: NEAR	
Potamogeton zosteriformis (Flat Stemmed Pondweed) Photo credit: https://gobotany.nativeplanttrust.org/species/potamogeton/zosteriformis/	
Ranunculus sp. (Buttercup) Photo credit: NEAR	

Sagittaria graminea (Grassy Arrowhead) Photo credit: NEAR	
Sagittaria sp. Photo credit: NEAR	
Schoenoplectus sp. (Bulrush) Photo credit: NEAR	
Carex sp. (Sedge sp.) Photo credit: https://naturalcommunities.net/products/carex-aquatilis-water-sedge	

Sparganium angustifolium (Narrowleaf Bur-reed) Photo credit: https://gobotany.nativeplanttrust.org/species/sparganium/angustifolium/	
Sparganium fluctuans (Floating Bur-reed) Photo credit: NEAR	
Spirodela polyrhiza (Greater Duckweed) Photo credit: https://sites.google.com/site/herbismundi/aquatic-phytoremediants/spirodela-polyrhiza	
Typha sp. (Cattail) Photo credit: https://www.gardeningknowhow.com/ornamental/water-plants/cattails/controlling-cattails.htm	

Utricularia macrorhiza (Common Bladderwort) Photo credit: https://www.minnesotawildflowers.info/flower/common-bladderwort	
Utricularia minor (Lesser Bladderwort) Photo credit: NEAR	
Vallisneria americana (Tape Grass) Photo credit: William & Wilma Follette	
Zosterella dubia (Water Stargrass) Photo credit: NEAR	

Appendix D: Hybrid Watermilfoil

During the survey, multiple specimens of EWM were observed that had distinctly different characteristics than what is considered standard for the species (**Figure 33)**. The most striking characteristic was the number of leaflets, which varied greatly between plants. Some plants had 16 leaflet pairs while others had only 6. EWM usually has over 12 pairs of leaflets on each leaf (Crow and Hellquist). The specimens also did not exhibit typical characteristics of Northern Watermilfoil (*Myriophyllum sibiricum*). It has been known for about 20 years now that EWM can hybridize with other milfoil species, such as Northern Watermilfoil (Moody and Les 2002). Morphological characteristics alone are not sufficient to identify hybrid Watermilfoils in the field. Moody and Les (2007) examined morphological data from Watermilfoil species that also had genetic analysis done to identify lineage. They found that they could easily distinguish between invasive EWM and native Northern Watermilfoil using morphology but could not identify hybrids using morphology alone.

Hybrid Watermilfoils don't just represent another aspect of lake ecology and intermixing of species, they can pose significant issues for management. Hybrid Watermilfoils have been shown to have increased growth rates, increased sexual reproduction potential and increased tolerances to some herbicides compared to non-hybrid plants (LaRue et al. 2012; Berger et al. 2017; Glisson and Larkin 2021). There is significant genetic variation even within hybrid Watermilfoils, which each have specific traits which allow them to thrive in a variety of conditions (Taylor et al. 2017). Not every hybrid milfoil will have the same tolerance to specific herbicides, meaning that identification of specific genotypes for lakes may be more important than just knowing if a hybrid is present.

Figure 34. *Specimens of EWM and other milfoils from Chateaugay with varying leaflet counts.*