ProcellaCOR EC use in New York An Update

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SOLITUDE LAKE MANAGEMENT

Restoring Balance. Enhancing Beauty.

What is ProcellaCOR EC?

- A selective, systemic aquatic herbicide
- New auxin-mimic herbicide
- Selective on dicots, especially milfoils
- Extremely low application rate (< 10ppb)
- Rapid disappearance in the water column
- No restriction on swimming, fishing or drinking water

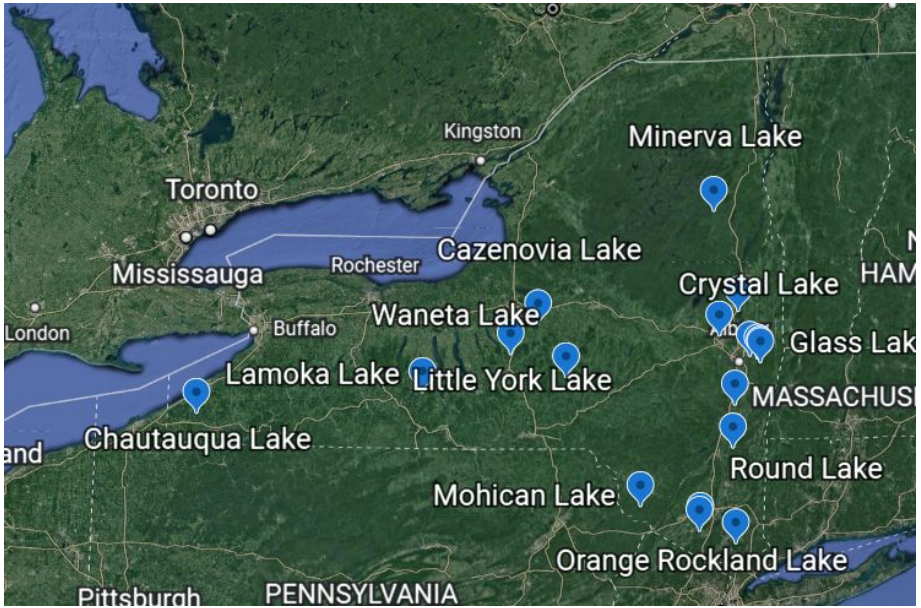
New York applications

2019-2020

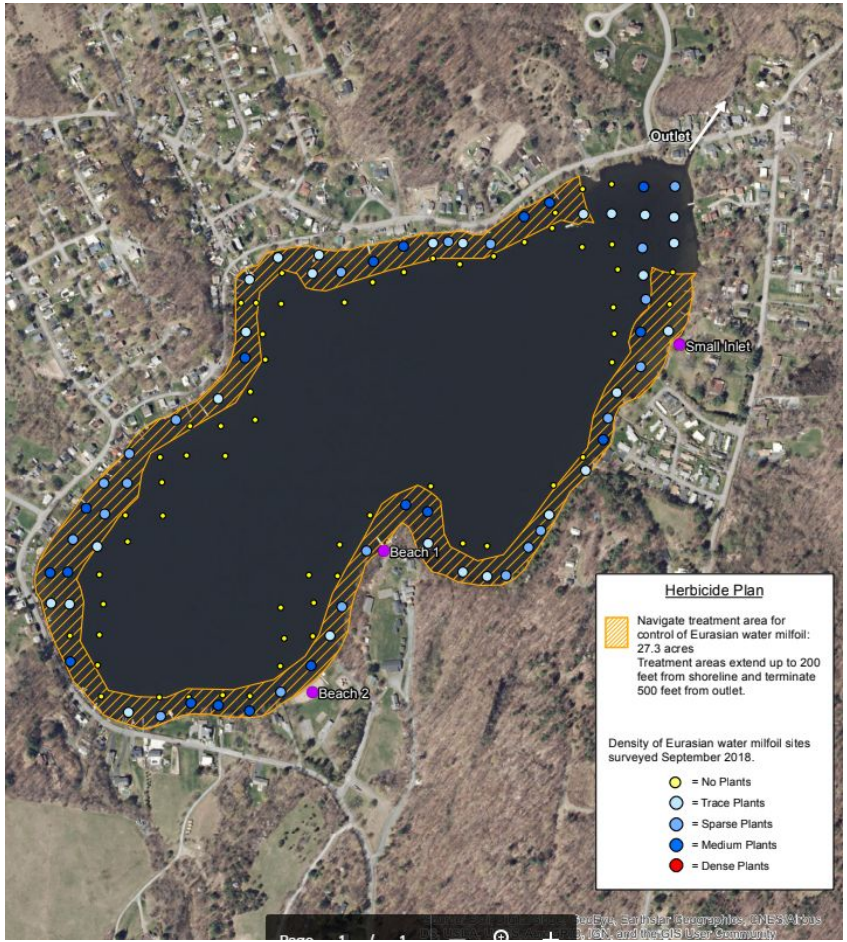
- Snyders Lake - 4
- Waneta Lake - 8
- Lamoka Lake - 8
- Chautauqua Lake - 9
- Crooked Lake - 4
- Sleepy Hollow Lake - 4
- Saratoga Lake - 5
- Little York Lake - 7
- Minerva Lake - 5
- Round Lake - 3
- Sepasco Lake - 3

Add'l lakes in 2021

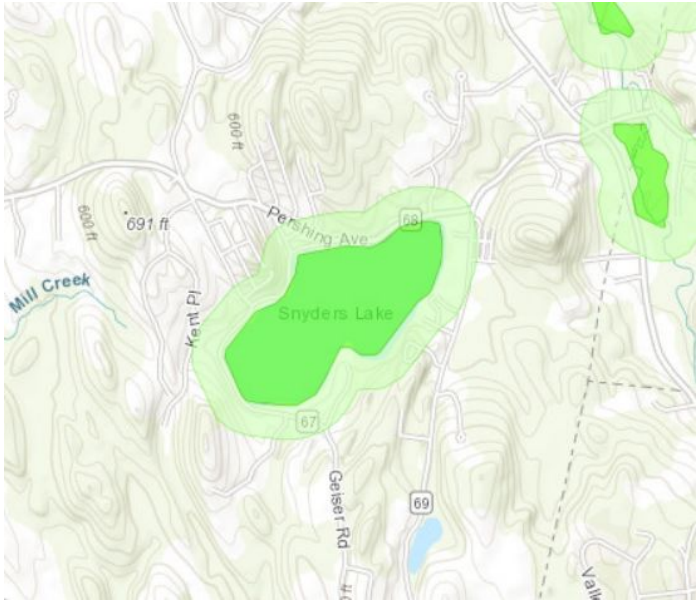
- Cazenovia Lake - 7
- Glass Lake - 4
- Crystal Lake - 4
- Collins Lake - 4
- Orange-Rockland Lake - 3
- Teatown Lake - 3
- Lake Mohican - 3
- Waneta Lake - 8
- Lamoka Lake - 8
- Saratoga Lake - 5
- Chautauqua Lake - 9



Snyders Lake ProcellaCOR EC treatment



- 109 acres, 16.5 feet average depth
- Treatment area 27.5 acres, 5’AD
- ProcellaCOR EC at 2 PDU’s/acft



Snyders Lake - post-treatment survey notes

- **Eurasian watermilfoil** - no viable stems found in treatment areas, severe damage in untreated outlet area
- **Longleaf Pondweed** – unaffected and widespread, at surface in up to 4’ of water and seeds present

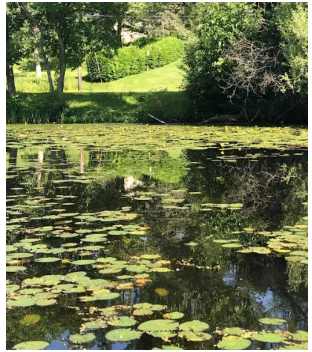
- **Coontail** – abundant, but appears to be stunted, plants green and stems vigorous, most growth low to the bottom, likely rebounding from temporary herbicide impact
- **Elodea** – unaffected and abundant

- **White Water Lily** – some leaves visibly curled (10-15%), but overall abundance seems consistent from 2018, not much difference between treated and untreated shorelines.

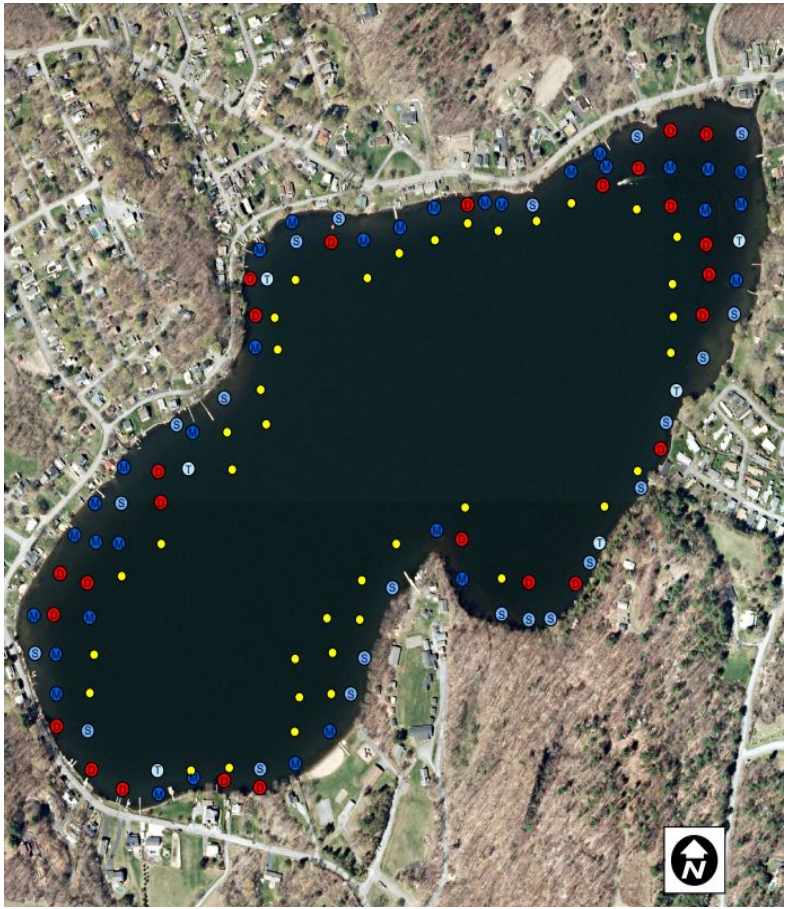
- **White water crowfoot** – abundant throughout shore, flowering, some stems seems ragged, but leaves mostly green and intact. Control of EWM may have facilitated new growth.





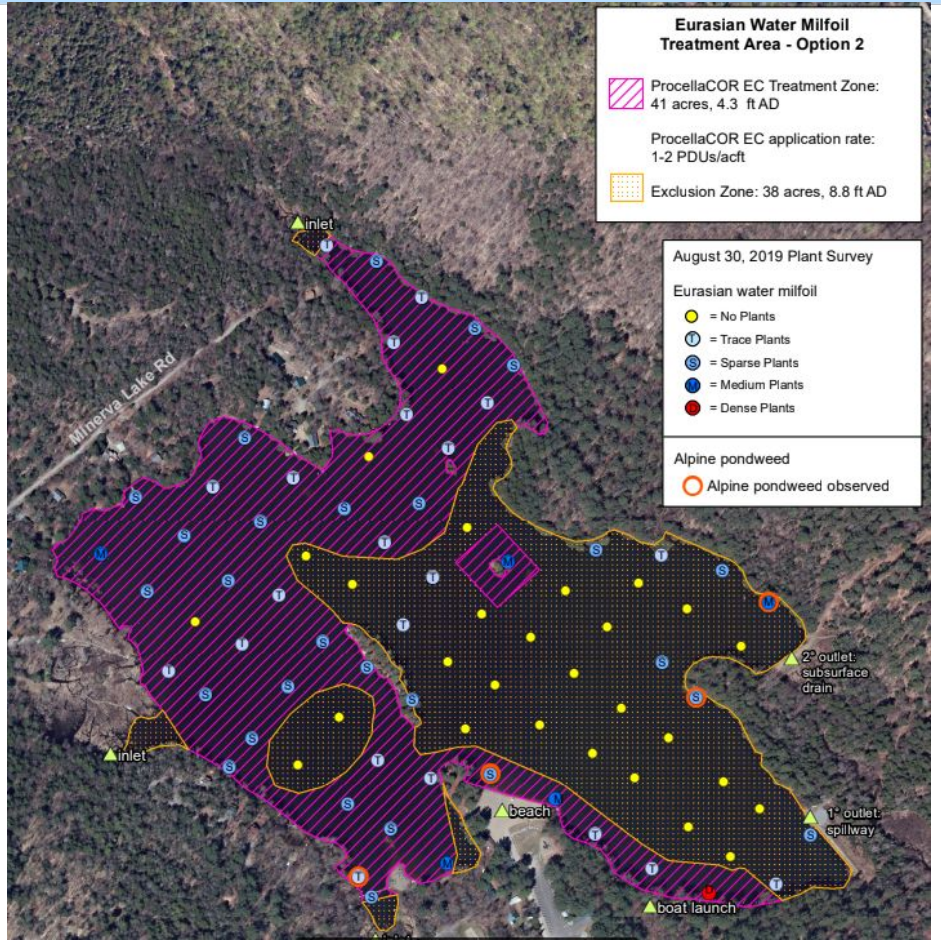
Plant Abundance - Snyders Lake 2019 vs. 2020



	2018	2019
EWM	52%	0%
Coontail	55%	46%
Longleaf Pondweed	26%	**38%**
Common Waterweed	6%	**15%**
White Water Crowfoot	0%	**6%**
White Water Lily	10%	**14%**
Water Stargrass	15%	6%

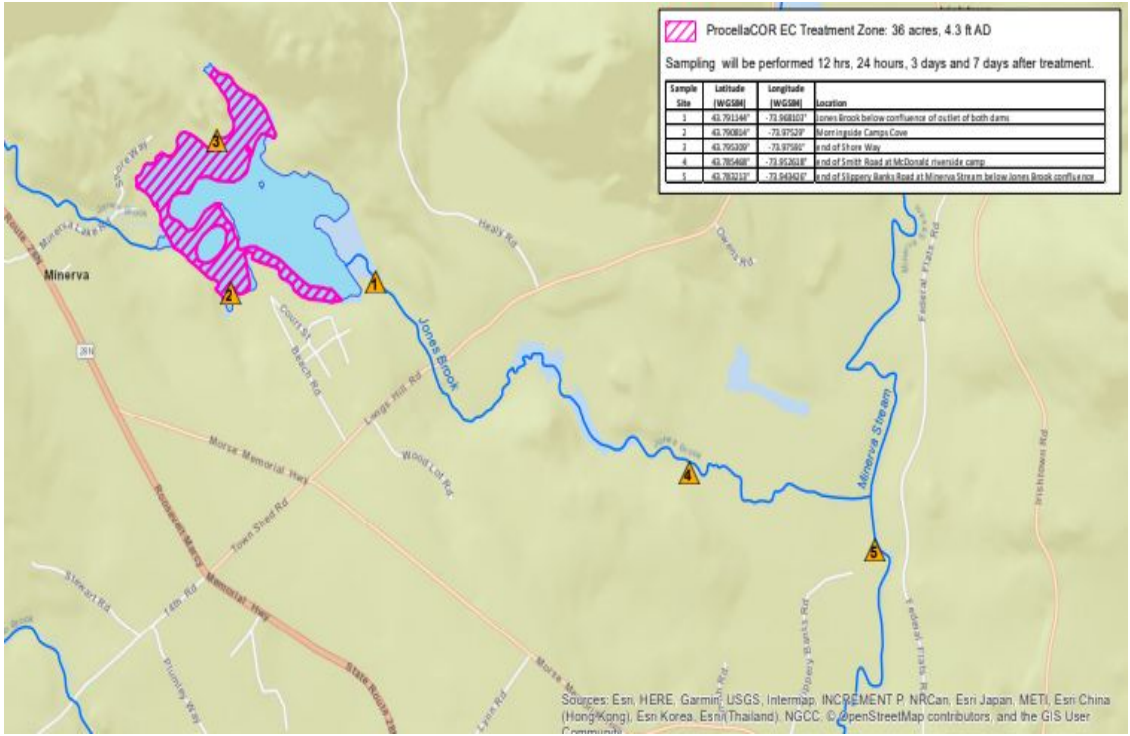
Minerva Lake, Town of Minerva

- Treatment of 41 of 79 acres in May, 2020 with ProcellaCOR EC at 2 PDU's/acft (3.86ppb)
- Pre-treatment plant survey - 27 macrophytes, only 1 invasive - eurasian watermilfoil (EWM)
- EWM present at 66% of sample sites
- Western waterweed next most abundant at 59% of sites

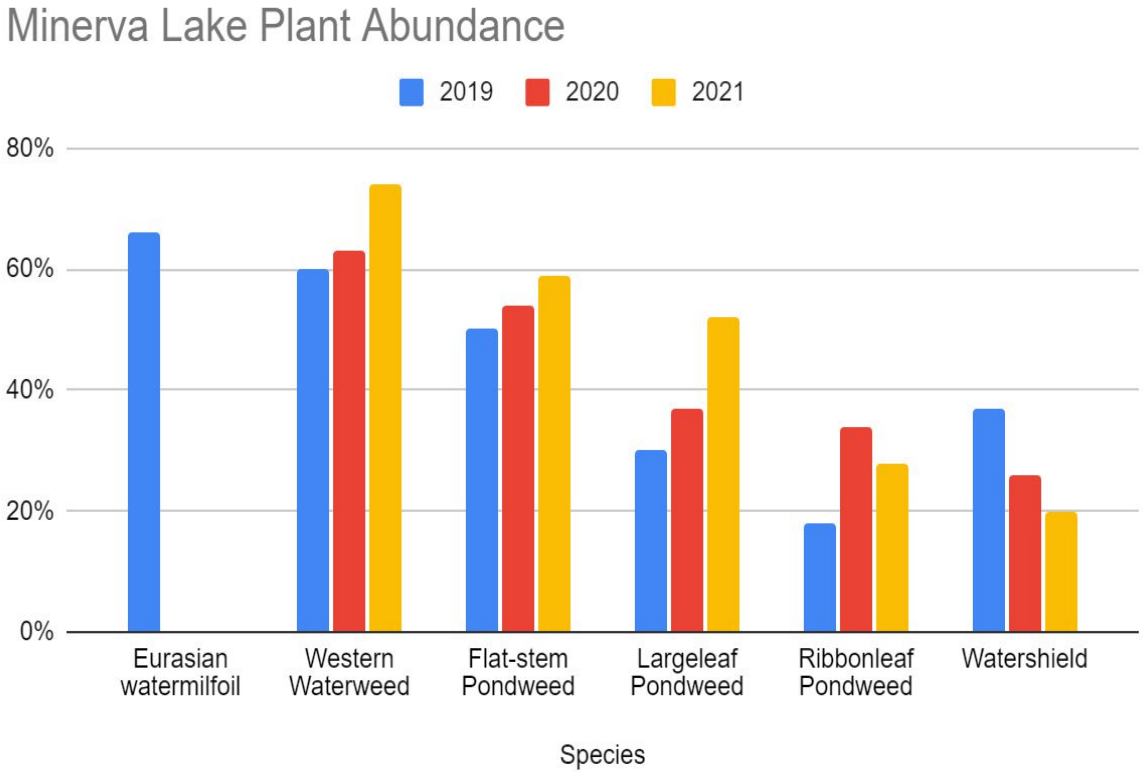


Minerva Lake - herbicide sampling

- Samples for florpyrauxifen-benzyl collected at 12 hrs, 24 hrs, 3 days and 7 days after application.
- Samples from lake, outlet, outlet stream, Minerva Brook (1.83 miles)
- Samples collected in clean glass vial, then transferred to preserved glass vial and sealed for overnight shipment.
- All 3 DAT and 7DAT sample results <1ppb

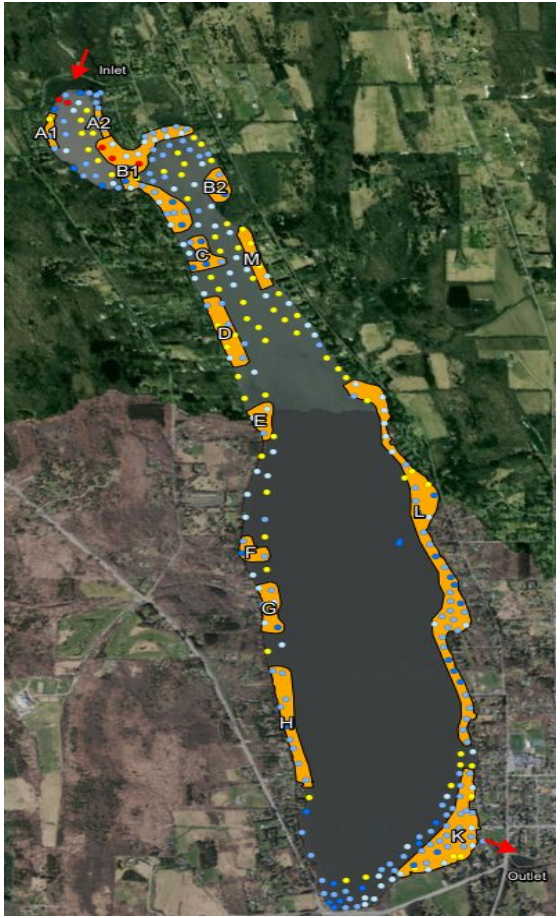


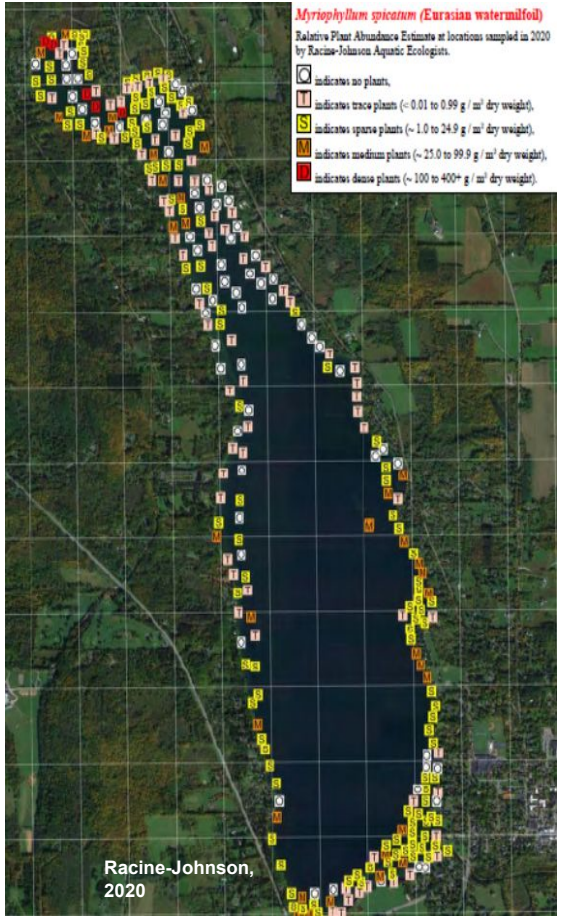
Minerva Lake - Post-treatment



Cazenovia Lake

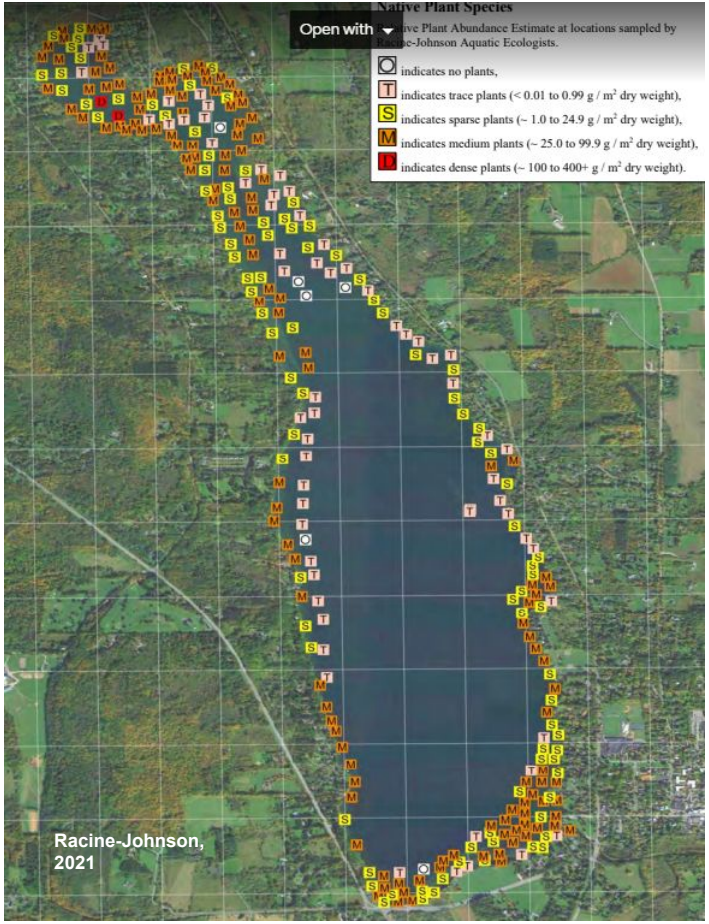
- ~1,100 acres, Madison County
- Six partial treatments with Renovate 2005 - 2019, mostly every other year
- Species Richness **31-37 species**, 4 invasives
- 2020 EWM present at **236 of 304** sample sites (78%)
- 2021 Application of ProcellaCOR EC of ~200 acres at 2-3 PDUs/acft.





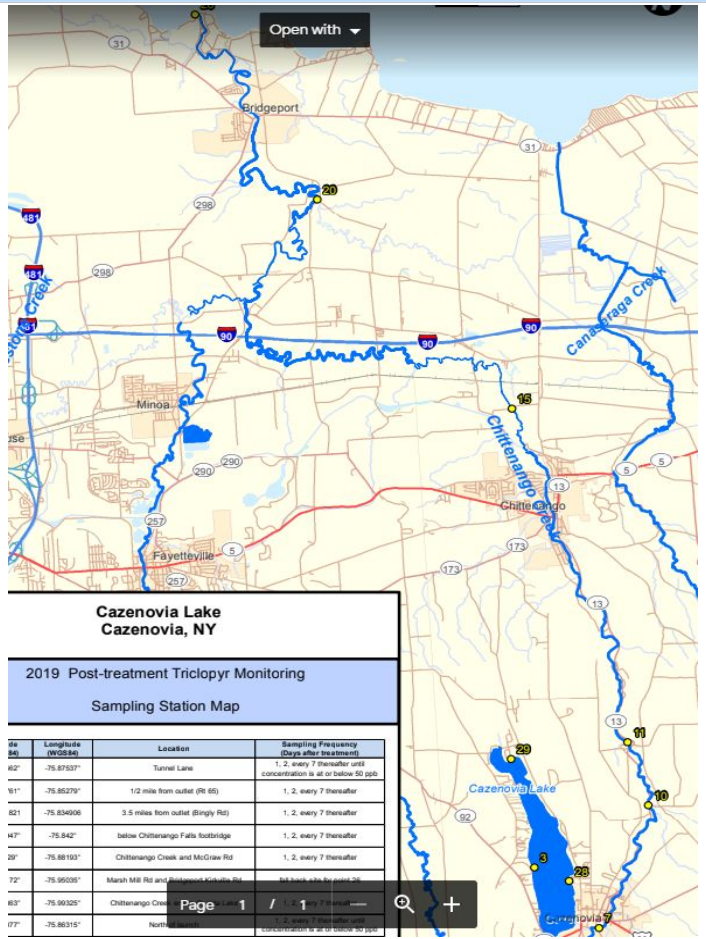
Cazenovia Lake - Post-treatment

- EWM reduced to 25 sites of 304 (8%)
- EWM at lowest abundance since 2008.
- Species Richness - 33 (consistent with 2017-2019)
- reported decline in Coontail (C. demersum)



Source: Racine-Johnson 2021 report

Cazenovia - 2019 vs 2021 sampling area



Cazenovia Lake
Cazenovia, NY

2019 Post-treatment Triclopyr Monitoring

Sampling Station Map

Longitude (WGS84)	Location	Sampling Frequency (Days after treatment)
-75.87537°	Tunnel Lane	1, 2, every 7 thereafter until concentration is at or below 50 ppb
-75.85279°	1/2 mile from outlet (Rt 65)	1, 2, every 7 thereafter
-75.834906	3.5 miles from outlet (Bingly Rd)	1, 2, every 7 thereafter
-75.842°	below Chittenango Falls footbridge	1, 2, every 7 thereafter
-75.88193°	Chittenango Creek and McGraw Rd	1, 2, every 7 thereafter
-75.95035°	Marsh Mill Rd and Bridgeport Kirkville Rd	1, 2, every 7 thereafter
-75.99325°	Chittenango Creek	1, 2, every 7 thereafter
-75.86315°	North of Route	1, 2, every 7 thereafter until concentration is at or below 50 ppb

- 2019

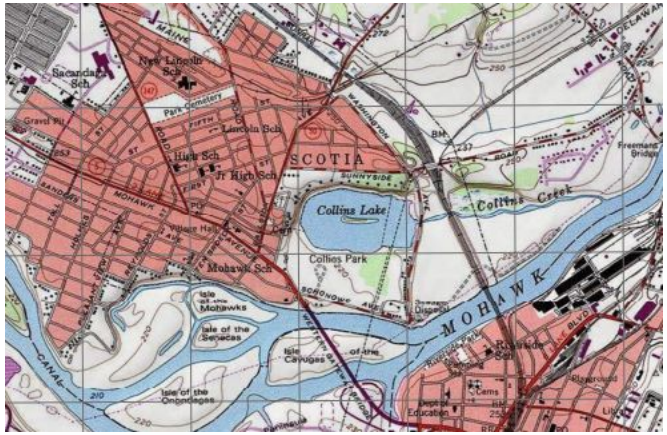
9 sample locations, furthest 36 miles downstream - Lake Oneida

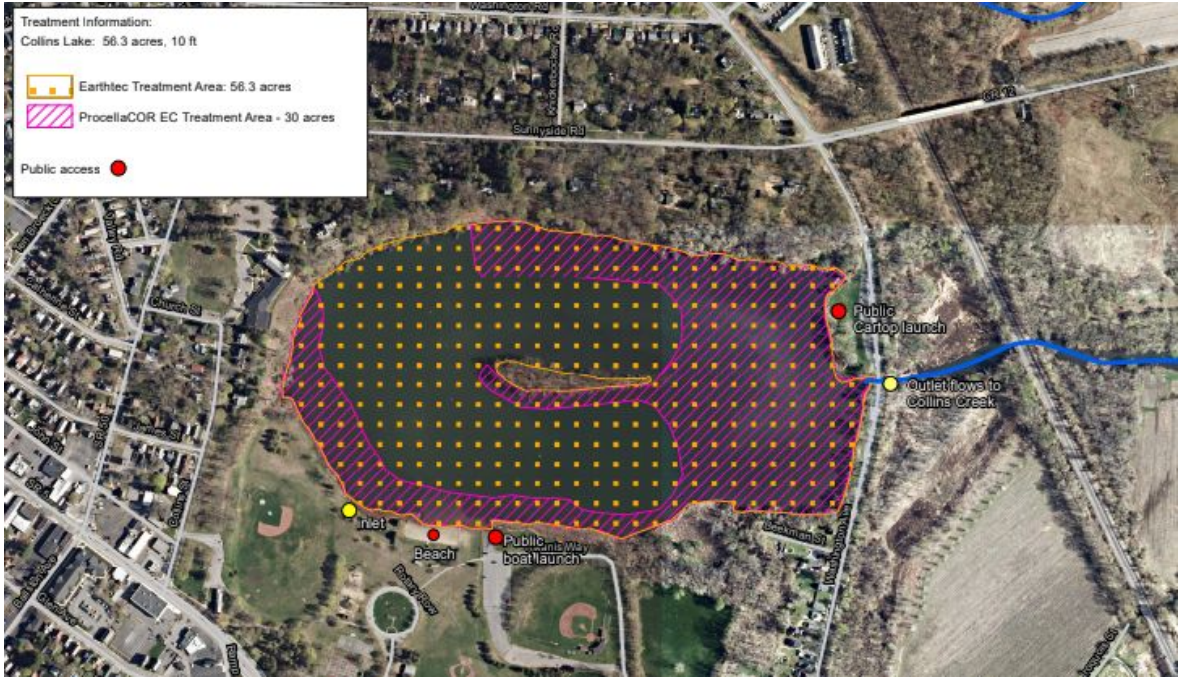
- 2021

4 sample locations, furthest 0.35 miles downstream

Collins Lake 2021 ProcellaCOR treatment

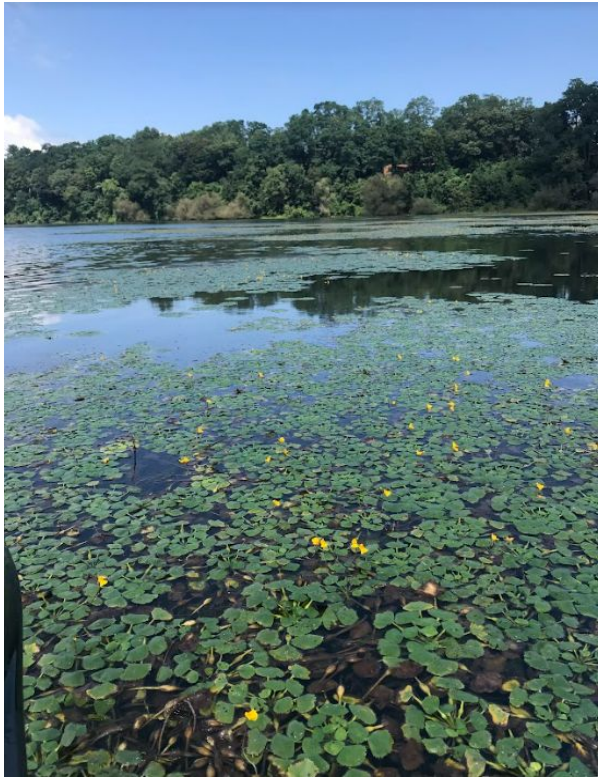
- 56.3 acres, 10’ average depth
- ProcellaCOR EC @
  2 PDU’s/acft (3.86 ppb)
- Primary target plant - Eurasian watermilfoil
- Secondary species for observation - Water Chestnut





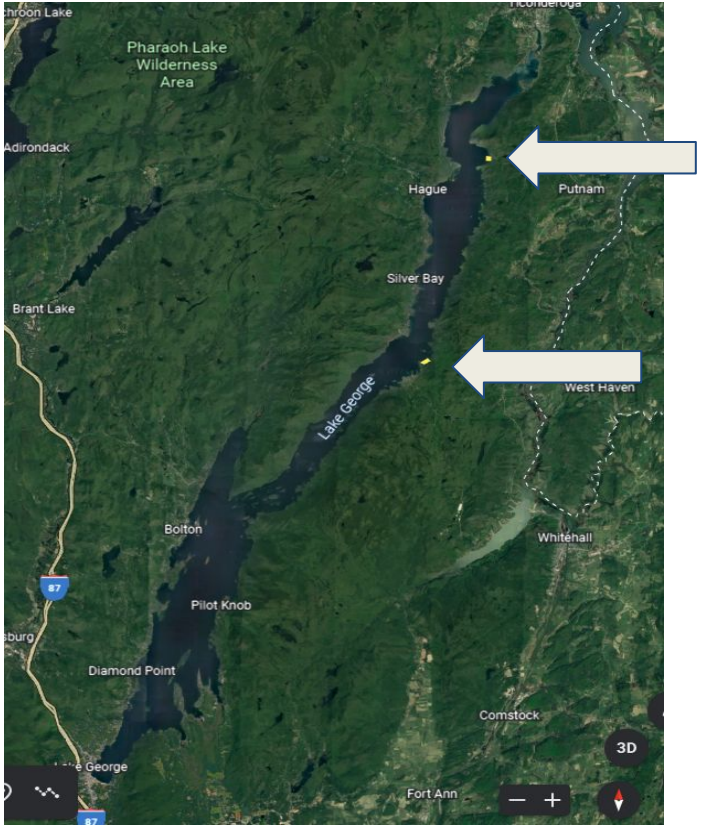
Collins Lake, Town Scotia

90% control of EWM, Temporary damage to water chestnut



Lake George ProcellaCOR EC Demonstration Project

- Lake George Park Commission
- 200+ EWM sites in the lake
- LGPC conducts annual DASH program
- Blairs Bay and Sheep Meadow Bay
- APA and DEC permit applications submitted January 7.
- DEC permits approved - 9 weeks
- APA permits approved - 15 weeks



Sheep Meadow Bay Treatment Area

3.6 acre site

13.4 feet average depth

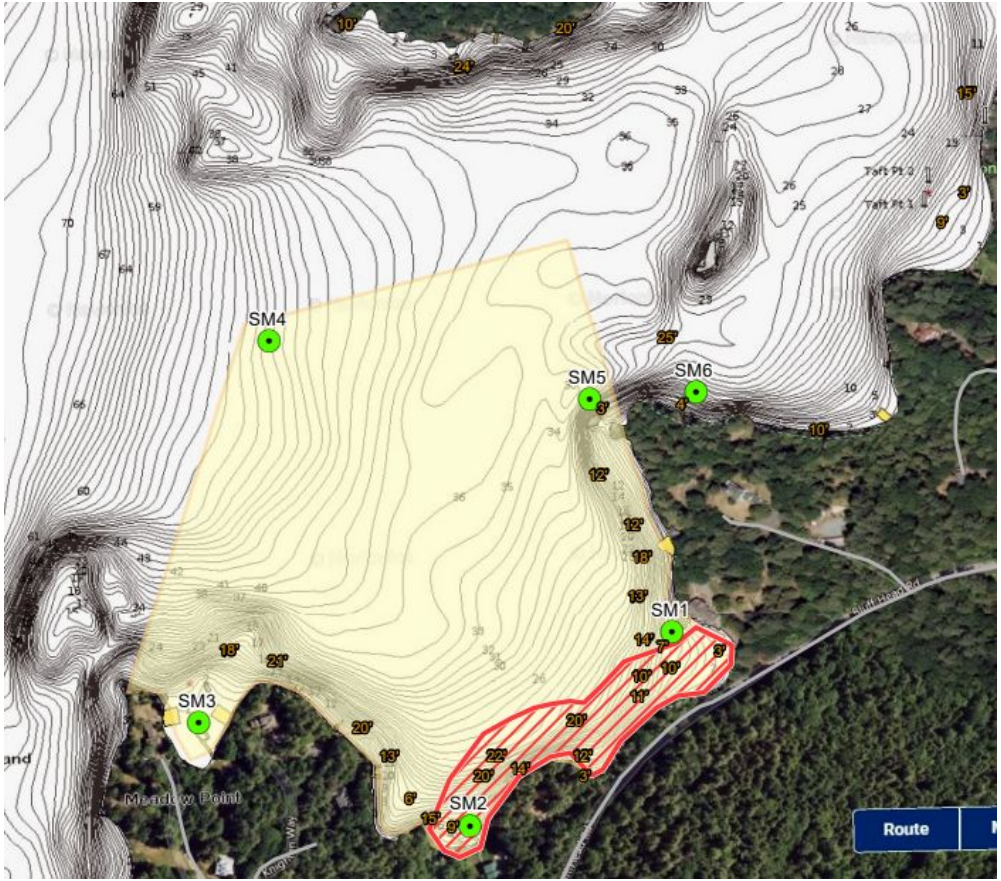
4 PDU's/acft (7.72 ppb)

40 acre dilution zone

6 sample sites

5 sample events

1-3hrs, 10-12hrs, 24 hrs, 3 & 7 DAT



Blairs Bay Treatment Area

4 acre treatment area

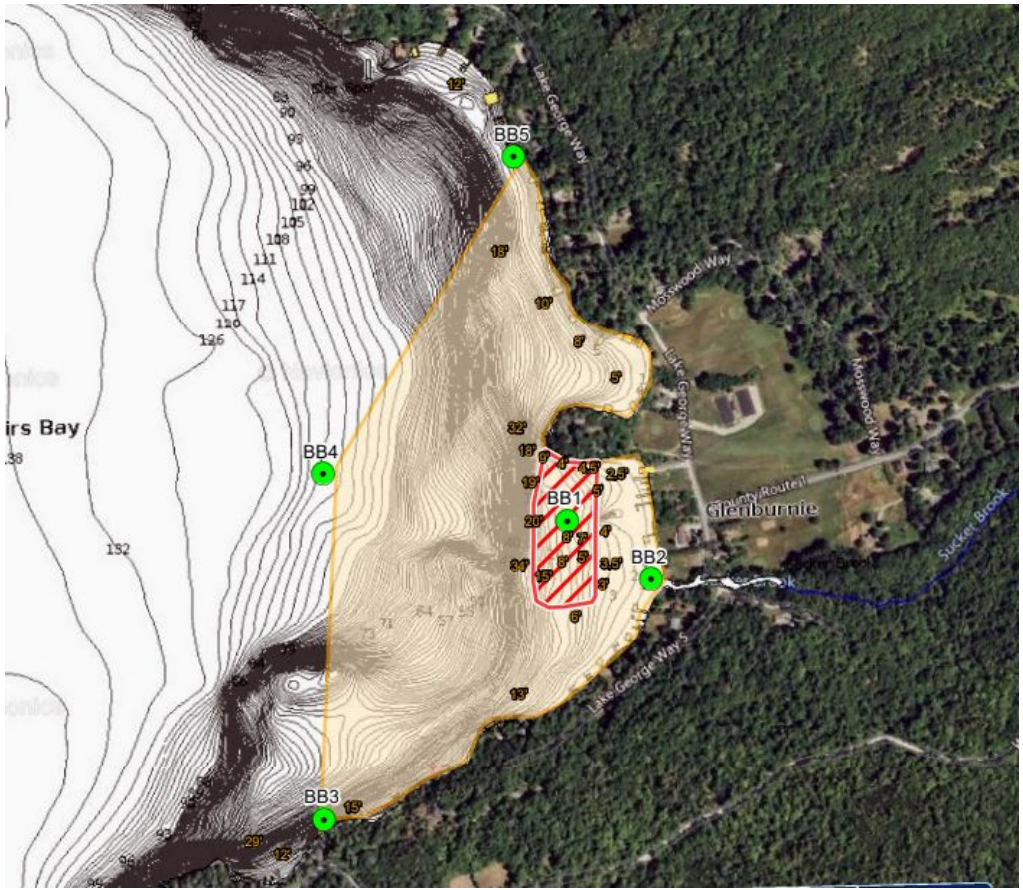
10.6 ‘ average depth

4 PDU’s acft

60 acre site “dilution zone”

5 sample sites

5 sample events



ProcellaCOR EC label application rates

TABLE 5: Prescription Dose Units (PDU) per acre-foot of water***

Percent Area of Waterbody Treated	Target Species			
	Eurasian Watermilfoil	Hybrid Watermilfoil	Variable Leaf Watermilfoil	Other
≤ 2%	3 - 4	4 - 5	3 - 5	3 - 25
>2 - 10%	2 - 3	3 - 5	3 - 4	3 - 20
>10 - 20%	1 - 3	3 - 4	2 - 4	3 - 15
>20 - 30%	1 - 2	2 - 3	2 - 3	2 - 10
>30%	1 - 2	2 - 3	1 - 2	1 - 5

ProcellaCOR EC Labeled Target species

No exceptions in NY without 2(ee) label

In-water

Emersed Plants	
Alligatorweed	*Alternanthera philoxeroides*
American lotus	*Nelumbo lutea*
Floating heart	*Nymphoides* spp.
Water pennywort	*Hydrocotyle umbellata*
Water primrose	*Ludwigia* spp.
Watershield	*Brasenia schreberi*
Submersed Plants	
Bacopa	*Bacopa* spp.
Coontail[1]	*Ceratophyllum demersum*
Hydrilla[1]	*Hydrilla verticillata*
Parrotfeather	*Myriophyllum aquaticum*
Water chestnut	*Trapa* spp.
Watermilfoil, Eurasian	*Myriophyllum spicatum*
Watermilfoil, Hybrid Eurasian	*Myriophyllum spicatum X M.* spp.
Watermilfoil, Variable	*Myriophyllum heterophyllum*

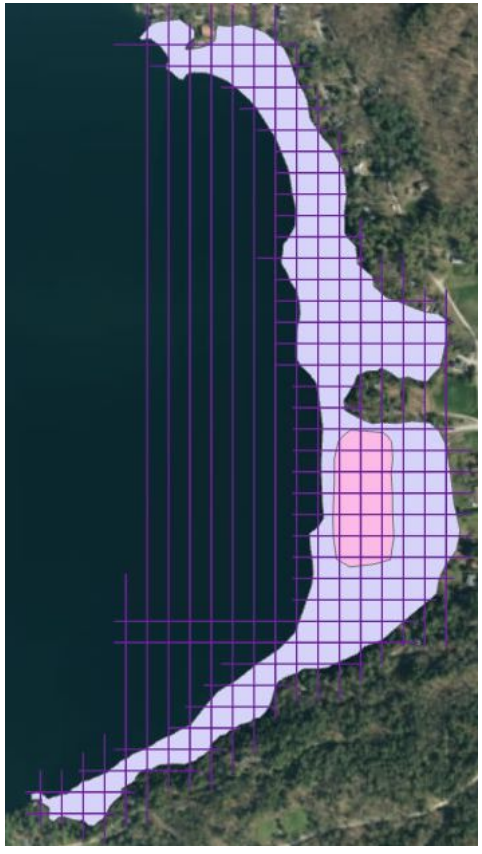
Foliar

Vascular Aquatic Plants Controlled: Foliar Application	
Common name	**Scientific name**
Floating Plants	
Mosquito fern	*Azolla* spp.
Water hyacinth	*Eichhornia crassipes*
Emersed Plants	
Alligatorweed	*Alternanthera philoxeroides*
American lotus	*Nelumbo lutea*
Floating heart	*Nymphoides* spp.
Parrotfeather (emersed)	*Myriophyllum aquaticum*
Water pennywort	*Hydrocotyle umbellata*
Water primrose	*Ludwigia spp.*
Watershield	*Brasenia schreberi*

No Curlyleaf Pondweed control

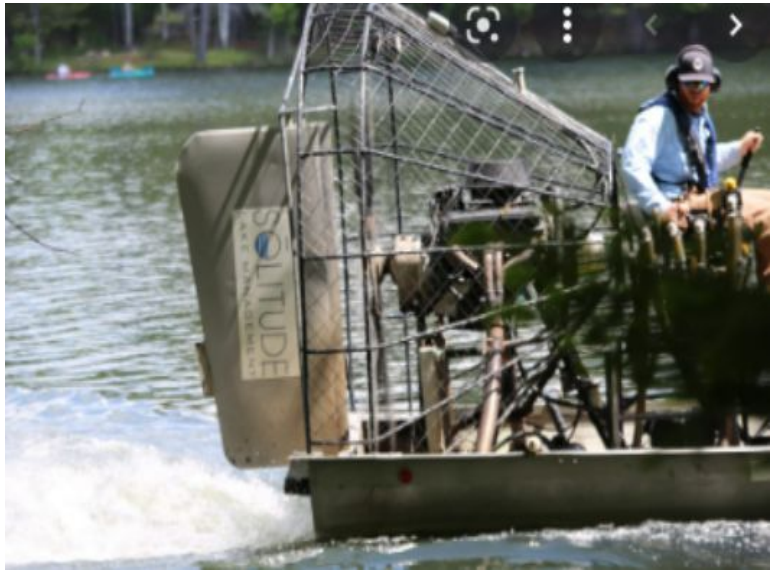
ProcellaCOR EC Treatment - Cost factors

1. Water depth
2. Size of Treatment area in waterbody
3. Application rate 1-4 PDU's/acft for EWM



ProcellaCOR EC Treatment - Cost factors

1. Water depth
2. Size of Treatment area in waterbody
3. Application rate 1-4 PDU's/acft for milfoil
4. **$663 - $3,000/acre application cost**
5. **Wetland/APA - add'l monitoring requirements +$$$**



Questions?

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