Integrated Management of Invasive Milfoil in Collins Pond

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DEP Invasive Aquatic Species Program

Overview

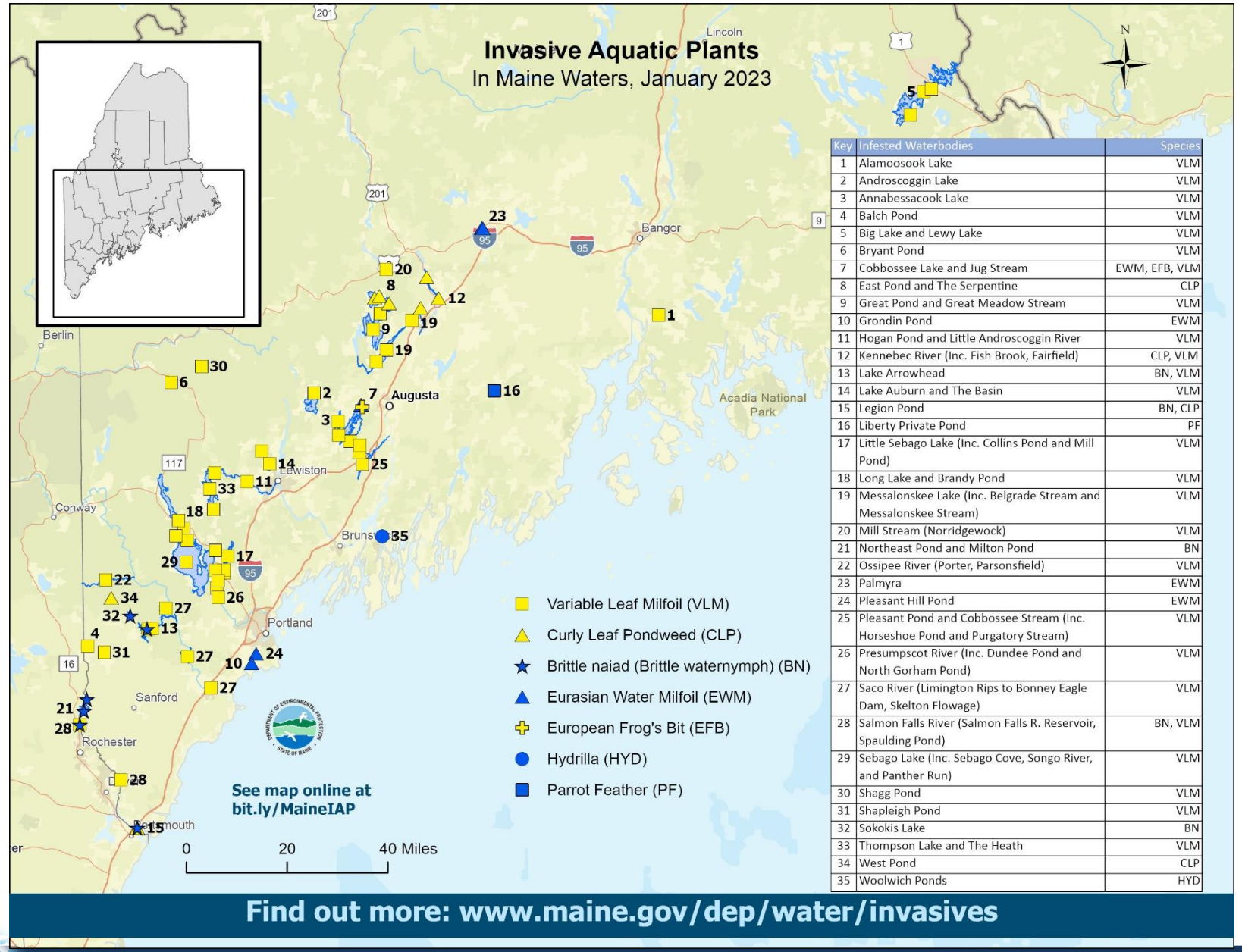
- Invasive aquatic plants
- Collins Pond context: plant locations in Maine
- Spread prevention
- Plant removal
- Objective of proposed herbicide treatment
- Herbicide action, characteristics and risks
- Next steps: submit application, treatment timing, herbicide and plant monitoring

Invasive Aquatic Plants

- Out-compete native species for space and food
- Grow and spread rapidly
- Interfere with boating, fishing & swimming
- Affect water quality
- Eradication is seldom possible
- Impact property values

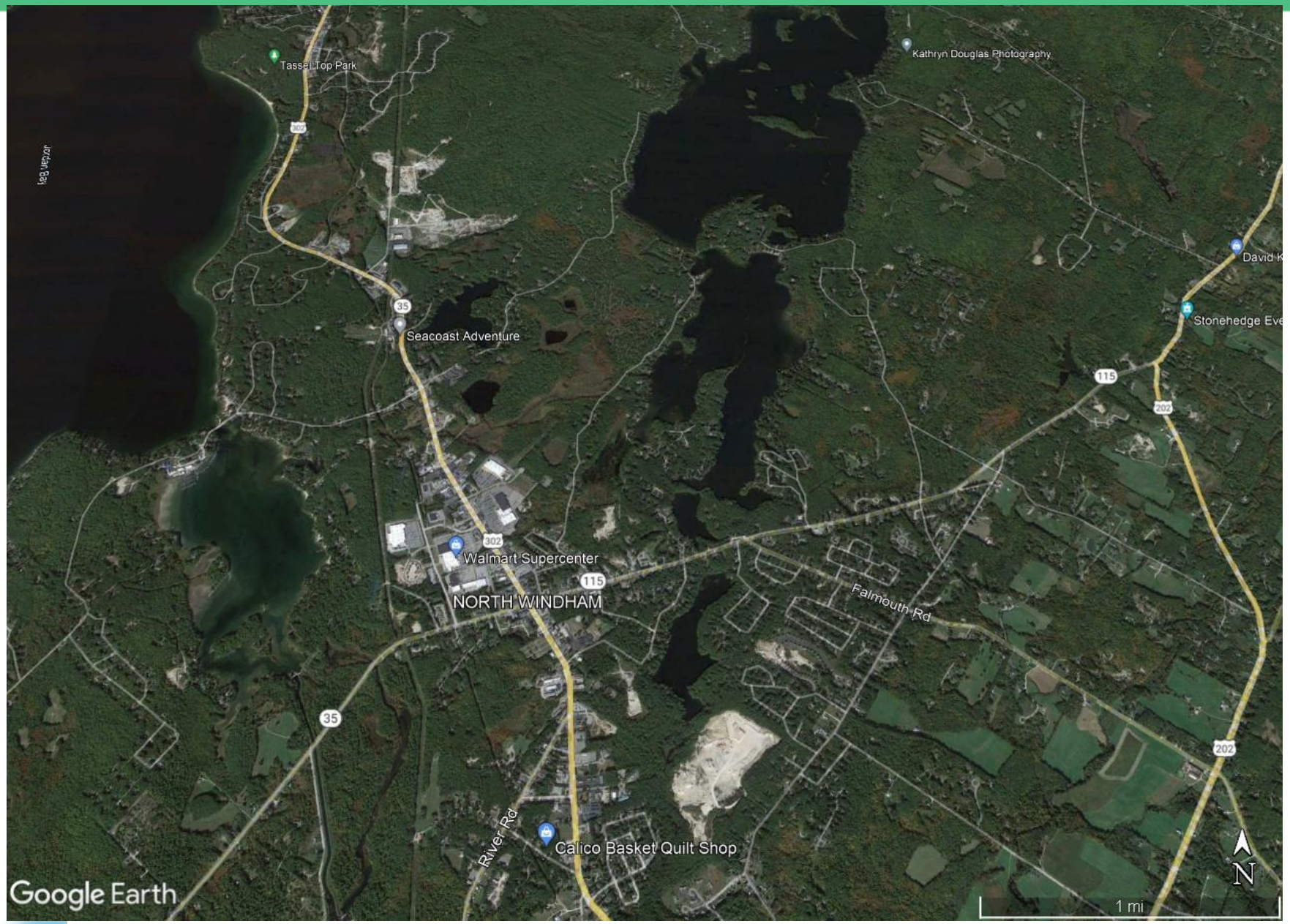
Variable-leaved water-milfoil
Myriophyllum heterophyllum, VWM

Hybrid Variable-leaved water-milfoil
Myriophyllum heterophyllum x *laxum*



Key	Infested Waterbodies	Species
1	Alamoosook Lake	VLM
2	Androscoggin Lake	VLM
3	Annabessacook Lake	VLM
4	Balch Pond	VLM
5	Big Lake and Lewy Lake	VLM
6	Bryant Pond	VLM
7	Cobbossee Lake and Jug Stream	EWM, EFB, VLM
8	East Pond and The Serpentine	CLP
9	Great Pond and Great Meadow Stream	VLM
10	Grondin Pond	EWM
11	Hogan Pond and Little Androscoggin River	VLM
12	Kennebec River (Inc. Fish Brook, Fairfield)	CLP, VLM
13	Lake Arrowhead	BN, VLM
14	Lake Auburn and The Basin	VLM
15	Legion Pond	BN, CLP
16	Liberty Private Pond	PF
17	Little Sebago Lake (Inc. Collins Pond and Mill Pond)	VLM
18	Long Lake and Brandy Pond	VLM
19	Messalonskee Lake (Inc. Belgrade Stream and Messalonskee Stream)	VLM
20	Mill Stream (Norridgewock)	VLM
21	Northeast Pond and Milton Pond	BN
22	Ossipee River (Porter, Parsonsfield)	VLM
23	Palmyra	EWM
24	Pleasant Hill Pond	EWM
25	Pleasant Pond and Cobbossee Stream (Inc. Horseshoe Pond and Purgatory Stream)	VLM
26	Presumpscot River (Inc. Dundee Pond and North Gorham Pond)	VLM
27	Saco River (Limington Rips to Bonney Eagle Dam, Skelton Flowage)	VLM
28	Salmon Falls River (Salmon Falls R. Reservoir, Spaulding Pond)	BN, VLM
29	Sebago Lake (Inc. Sebago Cove, Songo River, and Panther Run)	VLM
30	Shagg Pond	VLM
31	Shapleigh Pond	VLM
32	Sokokis Lake	BN
33	Thompson Lake and The Heath	VLM
34	West Pond	CLP
35	Woolwich Ponds	HYD

Find out more: www.maine.gov/dep/water/invasives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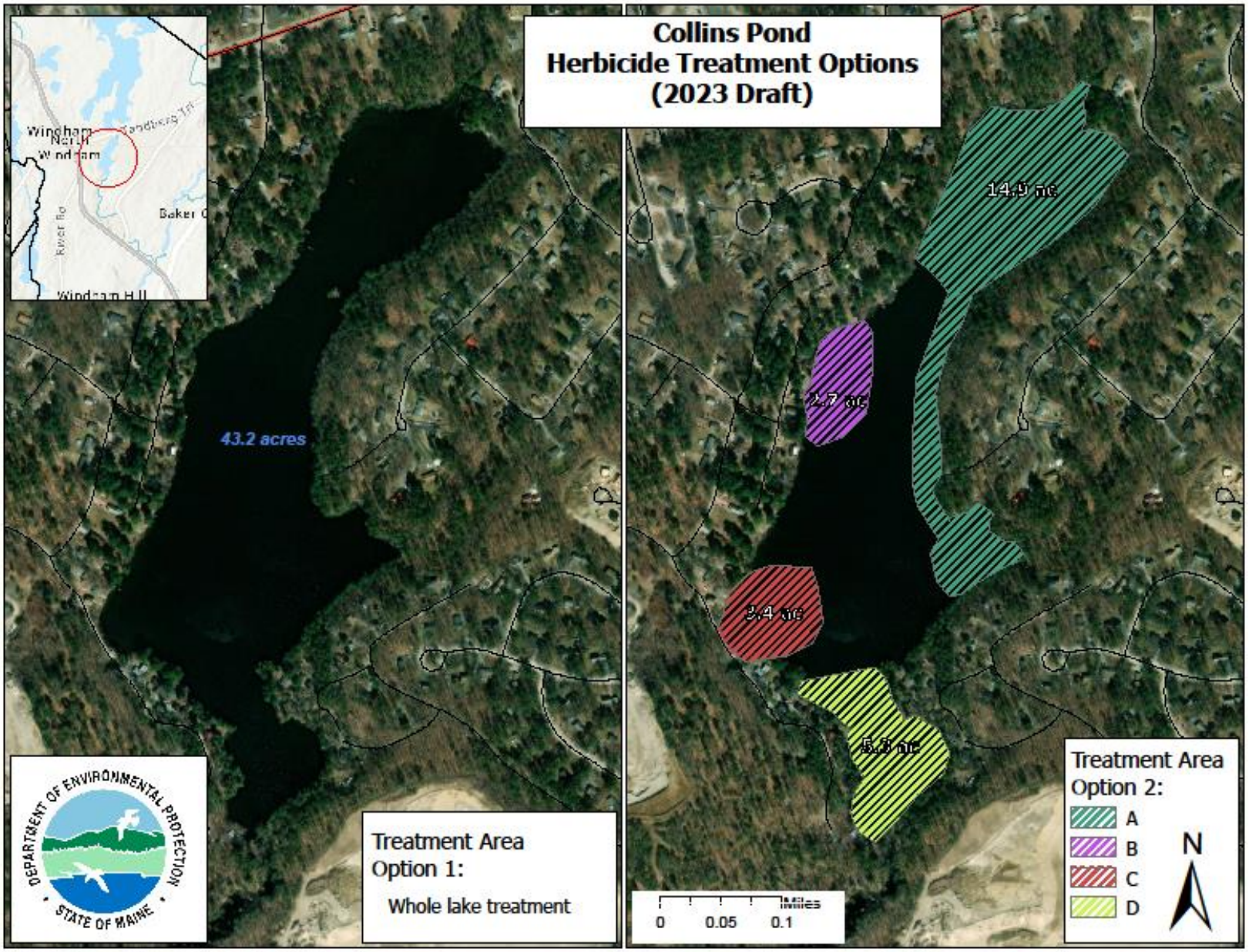
Collins Pond
Herbicide Treatment Options
(2023 Draft)
43.2 acres
14.5 ac
2.7 ac
2.4 ac
5.8 ac
Treatment Area
Option 1:
Whole lake treatment
Treatment Area
Option 2:
A
B
C
D
N
0
0.05
0.1
Miles
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF MAINE

Spread Prevention/Detection

- Courtesy Boat Inspections: 88,357 in 2022
- No formal access on Collins
- Seining restricted by DIFW on all lakes with known infestation
- Training of volunteers in plant identification
- Rental properties

Manual Plant Removal

- Collins Pond Improvement Association (CPIA)
- First bottom barriers
- 2009: CPIA built and staffed Diver Assisted Suction Harvester; barriers continued in monoculture
- Great effort but limited by volunteer crews and equipment problems
- 2019: CPIA hired NE Milfoil
- 2022: 16th year of removal by CPIA
- 2022: Significant growth remains despite long-term control effort


SUNCRUISER

Costs of Removal

- **Total Cost:** **$233,002.95**
- DEP Plant Control Grants: $181,966.00
- Town of Windham: $28,500.00
- CPIA: $21,536.96
- New England Grassroots Environmental Fund $1,000.00

Chemical Plant Control in Maine

- Maine Statute: "…restoring biological communities"
- Priority for use: rapid response to new infestation with potential for eradication
- Past results:

  Pickerel Pond, Limerick
  Private Pond, Scarborough
  Salmon Lake, Belgrade
  Damariscotta Lake, Jefferson
  Northeast Pond, Lebanon
  Cobbossee Lake, Winthrop
  Annabessacook Lake, Monmouth
  Great Pond/Great Meadow Stream, Rome

Herbicide Use: Established Infestations

- Again, DEP priority for herbicides: eradication
- DEP 2020 guidance for established infestations
- Responsibilities of local association
- Objectives
  1. Prevent further spread within lake and to other lakes
  2. Reduce population to level that can be managed manually with sustainable effort


2019/07/22


2019/07/22

ProcellaCOR EC

- Active ingredient florpyrauxifen-benzyl
- Used in rice paddies for weed control
- Mode of action: synthetic plant hormone
- Susceptible plants: hydrilla, milfoils but also some native plants: coontail and watershield
- Preferred product due to toxicology and relatively short contact time required
- No restrictions for drinking water, swimming, fishing and other recreational uses

Florpyrauxifen-benzyl Risks

- EPA: reduced risk status for ProcellaCOR
- Not likely to be cancer-causing or gene-damaging
- Bioaccumulation in environment unlikely
- Low acute toxicity to birds, mammals and bees: “practically non-toxic”
- Chronic toxicity for two invertebrates
- No toxicity to fish and aquatic organisms, in most cases, at highest level tested

ProcellaCOR Advisories

- Do not use lake water for any residential or non-agricultural irrigation (such as shoreline property use for irrigation of residential landscape plants and homeowner gardens, golf course irrigation, and non-residential property irrigation around business or industrial properties) for 3 days following treatment.

ProcellaCOR Advisories cont'd

- Do not use lake water for hydroponic, greenhouse or nursery irrigation before contacting the DEP to confirm the herbicide has dissipated
- There is no swimming restriction for florpyrauxifen-benzyl but the DEP advises residents not to swim within the treated area on the day of treatment as an added safety measure.


2019/07/22

Monitoring Required

- Plant survey prior to treatment and post-treatment plant surveys including native plants
- Herbicide concentration in treatment area until dissipation

Next Steps

- Submit application: "Notice of Intent"
- Maine DEP Div. of Water Quality Management Reviews
- Email gregg.wood@maine.gov with comments
- Pre-treatment plant surveying by DEP
- Treatment in June or July 2023
- Herbicide concentration monitoring until non-detect
- Observe plant impacts
- Post-treatment surveys for the invasive plant into 2024

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www.maine.gov/dep