

Aquatic Plant Management in Wisconsin

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Outline

- Importance of aquatic plants
- APM Plan
- Management options
- Chemical Properties and Usage
- Mechanical
- Manual

Importance of Aquatic Plants

- Habitat
- Water Filtration
- Sediment Stabilization
- Aesthetics
- Balance

Habitat

- Spawning – most prey species and pike, musky, crappie, perch
- Cover – all fish and zooplankton
- Food



Filtration

- Clear water aquatic plant state



Turbid/algae dominated state

Sediment Stabilization



Aesthetics



Balance!

- Maintain balance between plants and open space



APM Plan

- Roadmap to success
- Public input
- Research
- Planning according to goals
- Methods
 - Need to know what's out there!



APM Methods in Wisconsin

- Mechanical
- Manual
- Chemical
- Water Level Flux
- Biological

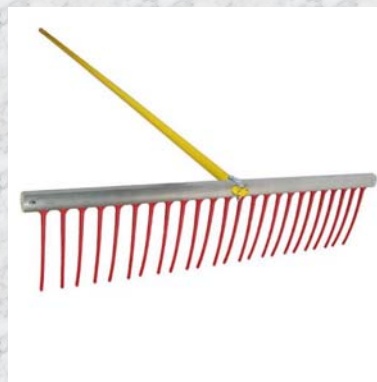
Mechanical

- Harvesting
 - Nuisance control
 - Navigational lanes
 - Pros/cons
 - Removes nutrients
 - Can spread plants
 - Labor intensive
 - Immediate response



Manual Removal

- Without the aid of an external power source
- Labor intensive
- Inexpensive
- Effective at small scale
- Environmentally safe (?)
- Must dispose of plants



Manual Removal Waiver



Common Aquatic Pesticides

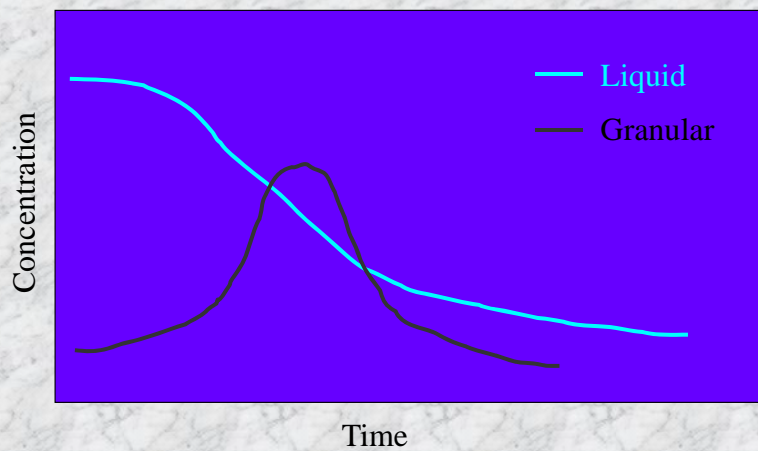
- **2,4-D**
 - AquaKleen
 - DMA 4
 - Navigate
 - **Copper**
 - Aquatrine
 - Captain
 - Clearigate
 - Cutrine plus
 - Komeen
 - K-Tea
 - Nautique
 - **Diquat**
 - Reward
 - Weedtrine
 - **Endothol**
 - Aquathol-K
 - Hydrothol 191
 - **Fluridone**
 - Avast
 - Sonar
 - **Glyphosate**
 - Aquapro
 - Eagre
 - Rodeo
 - **Triclopyr**
 - Renovate
- <http://ohioline.osu.edu/a-fact/0004.html>
- <http://ace.ace.orst.edu/info/extoxnet/ghindex.html>

Chemical

- Herbicides, algaecides, insecticides
- Permit ALWAYS required
- Must know what is there
- Can be expensive
- Timing is critical



Types: Granular Vs Liquid



2,4 - D Products



<http://ace.ace.orst.edu/info/extoxnet/pips/24-D.htm>

2,4 - D Selectivity



- **Controls Dicotyledons**
(Broadleaf Plants)
- **Key Plants Controlled**
Myriophyllum -- Lilies
- **Maximum Dose Required**
Utricularia -- Nymphaea
Nuphar -- Brasenia --
Ceratophyllum -- Bullrush
- **No Control**
Potamogeton --

Endothall Products



<http://ace.ace.orst.edu/info/extoxnet/pips/endothal.htm>

Endothall Selectivity



- **Broad Spectrum**
- **Key Plants Controlled**
Myriophyllum -- Curlyleaf
- **Maximum Dose Required**
Coontail
Elodea ?
- **No Control**
Nuphar, Pontedaria, Typhus,
Polygonum

Diquat Dibromide Products



<http://ace.ace.orst.edu/info/extoxnet/pips/diquatdi.htm>

Diquat Dibromide Selectivity



- **Broad Spectrum**
- **Key Plants Controlled**
Myriophyllum -- Sago
- **Maximum Dose Required**
Coontail, Naiads and Milfoil
Pondweeds
- **No Control**
Waterlilies

Fluridone Dibromide Products



http://www.sepro.com/pdf_lit/aquatics/sonar/fluridone_fact_sheet.pdf

Fluridone Selectivity



- **Broad Spectrum but Dose Selective**
- **Key Plants Controlled**
Myriophyllum -- Duckweed
- **Low Dose Option**
Naiads, Milfoil, Elodea and Some Pondweeds
- **No Control**
???

Field Supervision



Check List

- Treatment Acreage
- Target Species
- Acre-feet
- Nuisance Conditions
- Outflow Restricted

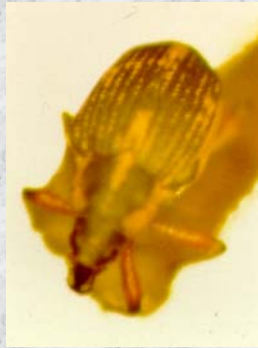
Water Level Flux

- Drawdown duration
- Need to know what's there
- Intensity
- Control/restore
- Timing
- Controversial
- Feasibility



Biological

- Purple Loosestrife Control – effective
- Eurasian Water Milfoil Control - ?



How do you know?

- The Plan
 - Plant survey
 - Public input
 - Working document

WDNR Lake Grant Program

- Planning Grants
 - 33/67% Match
- Protection Grants
 - 25/75% Match
- AIS Grants
 - 25/75% Match

WDNR/UW-Ex/UWSP/Marathon Co./Partners