Yesterday vs. Today vs. Tomorrow

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Yesterday.....
Goals of Aquatic Plant Management

• Control Exotic Species
  – Promote a Balanced and Diverse Native Plant Community
  – Improve Fisheries
  – Maintain Property and Recreational Values
Native Plants

• “Typically” do not cause recreational problems
• Fundamental component of aquatic ecosystems
• Perform important functions
  – Stabilizing sediments
  – Support aquatic insects
  – Maintaining Oxygen
  – Provide forage and refuge areas for fish
• When control is needed, harvesting or use of contact herbicides are best management options.
Diverse, Native Plant Community

The goal of Aquatic Plant Control: A healthy & diverse plant community.
This is NOT the goal!
Curlyleaf pondweed

- Emerges early each spring, flowers and sets seed in the late spring and early summer,
- Usually collapses by the first week in July. There are, however, exceptions to this pattern regarding juvenile plants, part of this re-growth community can occasionally be found in the late summer or early autumn. These small plants are capable of over-wintering below ice cover
- Severe nuisance during the early part of the peak recreational use season.
- Early control of this species is recommended so that the plant is not allowed to produce large quantities of biomass that die naturally and decompose in early July when water temperatures and the potential for oxygen stress are high.
- Early treatment/management is also encouraged to take place prior to seed production therefore, reducing the next generation of early pondweed growth.
Eurasian Watermilfoil
Eurasian Watermilfoil (EWM)

- Not native to North America
- Highly invasive, forms a canopy & monoculture
- Spreads from root system, seed, and fragmentation (cutting, raking increases spread)
- Over winters (lives under the ice).
- Outcompetes other native plants
- Negatively impacts fisheries
EWM

CANOPY
Cabomba....
Today...
Starry stonewort

- Macro algae
- Native in Europe
- First found in St. Clair River/Detroit Area
- Can grow in 20’ of water
- Preferred by Zebra Mussels
- Forms a dense mat
- Rated as one of the more detrimental species to infest our waterways
Zebra Mussels

“Zequanox”
Hybrid Milfoil

2009 (20/49 lakes 40%)
2010 (9/18 lakes 50%)
2011 (5/10 lakes 50%)
2012 (4 lakes 100%)
2013 (5/12 lakes 42%)
Yesterday + Today = Tomorrow......
Hybrid(s) Milfoil

More than one type? Hmm? Big Deal?
Hybrid(s) Milfoil

Resistance/Tolerance
Natural /influenced
Hybrid(s) Milfoil
Yes-Tolerance
Resistance-Maybe-not yet?
Hybrid Milfoil

This cannot be tomorrow!
Summary...

• Last three years 60% lakes have hybrids!
  – What if we only had 2,4-D....
  – What if we do not have new active’s in the future

• Science is critical: advanced genetic analysis required.
  – Michigan Technological University
    • “Innovative and Multifaceted Control of Invasive Eurasian and Hybrid Watermilfoils Using Integrative Pest Management Principles”
  – Grand Valley State University- Thank You!
    • NPDES... In the long run science is the answer!
Thank you!