Benefit of Incorporating Genetic Identification of Watermilfoil into Aquatic Vegetation Mapping

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Outline

- Why Hybrid Watermilfoil are a concern
- The problem with current vegetation mapping
- How genetic identification can help
- Manage Smarter
Hybrid Watermilfoil

- Eurasian x Northern
  - Northern
  - Eurasian

- Hybrid

- Characteristics make identification accuracy important
Branching

3x
More!

![Branching Comparison Graph]

- **NWM**
- **Hybrid**
- **EWM**
Aggressive Growth
Herbicide Response

- Muted 2,4-D response (one of the most common herbicides used for treatment)

LaRue et al. 2013
Northern

Hybrid

Eurasian
Moody and Les 2007
Northern watermilfoil

Eurasian watermilfoil

Hybrid watermilfoil

Northern watermilfoil
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Watermilfoil Identification

- Historically ID was done using visual methods
  - Visual methods may not be as accurate as they need to be
  - ~30% error rate

- Genetic techniques provide an objective alternative
Detailed Genetic Sampling
Detailed Genetic Sampling
The whole story?
The whole story?
Manage Smarter
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- Reliable identification for management and monitoring
Manage Smarter

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- Long term management data
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  - Inform changes
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  - Promotes confidence
Manage Smarter

- Reliable identification for management and monitoring
- Long term management data
  - Inform changes
  - Know what works
- Become an informed consumer
  - Promotes confidence
  - Adds supporting data
Acknowledgements
Questions??