Aquatic Plant Management Updates and Q/A



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Topics for discussion

- DATCP rule revision update
- Questions about permits, certification, and pesticide use for invasive species control
- Other NR107 "grey areas"
- New labels for 2,4-D products
- Early-season treatments for EWM and CLP
- Residual monitoring
- NPDES
- APM Planning Guide and Monitoring Protocols

Discussion items – Grey areas

- When do I need a permit?
- When do I need to be certified?
- Are all invasive plants in aquatic areas considered to be "aquatic plants or organisms"?
- Do I need an NR107 permit if the lakebed is dry?
  - "Wet Socks" rule
- What about private ponds and fish farms?

Do I Need a Permit?

- **NR 107.02 Applicability.** Any person sponsoring or conducting chemical treatment for the management of aquatic plants or control of other aquatic organisms in waters of the state shall obtain a permit from the department.
- Waters of the state include those portions of Lake Michigan and Lake Superior, and all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, watercourses, drainage systems and other ground or surface water, natural or artificial, public or private, within the state or its jurisdiction as specified in s. 281.01 (18), Stats.

Do I need to be certified?

NR 107.08 Conditions of the permit.

(5) Treatment shall be performed by an applicator currently certified by the Wisconsin department of agriculture, trade and consumer protection in the aquatic nuisance control category whenever:

(a) Treatment is to be performed for compensation by an applicator acting as an independent contractor for hire;

(b) The area to be treated is greater than 0.25 acres;

(c) The product to be used is classified as a "restricted use pesticide";

or

(d) Liquid chemicals are to be used.

Are all invasive plants in aquatic areas considered to be "aquatic plants or organisms"?

- It is the Department's opinion that ch. NR 109 covers all plants that are located below the OHWM because Ch. NR 109 deals with the mechanical removal of aquatic plants from "navigable waters."
- NR107 applies to chemical applications to waters of the state (below the OHWM)

Example: herbicide control on exposed shorelines

- An NR 107 permit is always required if the proposed treatment area is wet at the time of treatment. This means that you would get your socks wet if you stood without wearing shoes.
- A permit may still be needed if the area is dry (exception is *Phragmites* control on Lake Michigan shorelines)
- Regardless if wet or dry, a product with an aquatic label must be used.
  - Habitat®, Rodeo®, and Aquaneat® have aquatic labels. Other Glyphosate formulations may also have aquatic labels. Roundup® does not have an aquatic label, so it cannot be used even on dry exposed beach areas.
- Habitat® can only be applied by an applicator certified by the Department of Agriculture, Trade and Consumer Protection (DATCP) in the aquatics and mosquito category 5.

Exemptions

(2) The treatment of purple loosestrife is exempt from ss. NR 107.04 (2) (a) and (3), and 107.08 (5).

(3) The use of chemicals in private ponds is exempt from the provisions of this chapter except for ss. NR 107.04 (1), (2), (4) and (5), 107.05, 107.07, 107.08 (1), (2), (8) and (9), and 107.10.

(4) The use of chemicals in accordance with label instructions is exempt from the provisions of this chapter, when used in:

(a) Water tanks used for potable water supplies;

(b) Swimming pools;

(c) Treatment of public or private wells;

(d) Private fish hatcheries licensed under s. 95.60, Stats.;

(e) Treatment of emergent vegetation in drainage ditches or rights–of–way where the department determines that fish and wildlife resources are insignificant;

(f) Wastewater treatment facilities

Purple loosestrife control

- No fees
- No "large-scale" worksheet, plan elements needed
- No public notice required
- Certification not needed, unless for hire or otherwise required by label or DATCP

Example: Private Ponds

- Definition:
  - located entirely on the land of an applicant,
  - no surface water discharge or a discharge that can be controlled to prevent chemical loss, and
  - without access by the public
- Still need an NR107 permit (unless registered as a fish farm) and pay application fee
- Department may still deny or condition permit
- Do not need to be a certified applicator (unless required by the product label or For Hire)
- Still need to follow label guidelines

Fish Farm registrations

- Current language in NR107 is out of date: NR107 exempts "private fish hatcheries"
- Registration of private pond as a fish farm (Type 1, 2, or 3) does not automatically exempt owner from needing an NR107 permit
- However, in practice, permits are not required unless there is an inlet or outlet connecting it to public water; then NR107 permit may be needed to ensure protection of public water
- WPDES permit may also be required if discharge of chemical cannot be controlled
- Certification and label requirements still apply

New 2,4-D labels

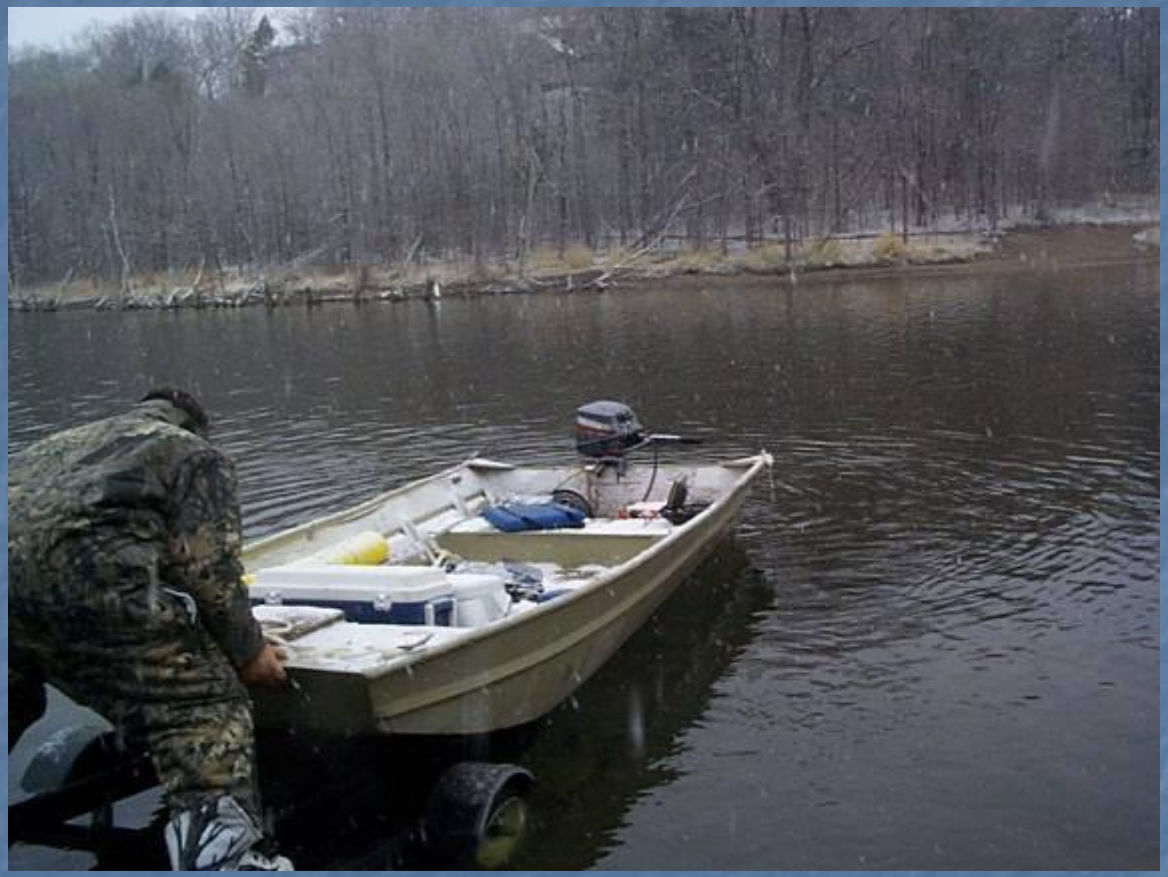
- Irrigation use restrictions
- Confusing statements on Weedar 64 label
  - No longer restricted to TVA reservoirs
  - Use table for proper application rates
- 24-hr swimming restriction for granular (BEE) formulations on the way
- Label is the law! Whether new or old

Liquid 2,4-D irrigation use restrictions

- 3 alternatives to lift the irrigation water use restriction:
  1) A setback distance based on the initial application rate (600 ft at 1 ppm to 2400 ft at 4 ppm), OR
  2) A waiting period of 21 days from the time of application, OR
  3) Testing of the water at the intake by an approved assay indicates that the 2,4-D concentration is 100 ppb or less.
- Because "intakes" not defined or always known, in practice, should post for 21 days minimum
- Alternative is to collect herbicide residues at multiple locations

Large-scale EWM and CLP Control

Early Spring Herbicide Applications



- Exotic species small and most vulnerable
- Native species are dormant
- Minimal microbial degradation

Blackhawk Lake, Eagan, MN

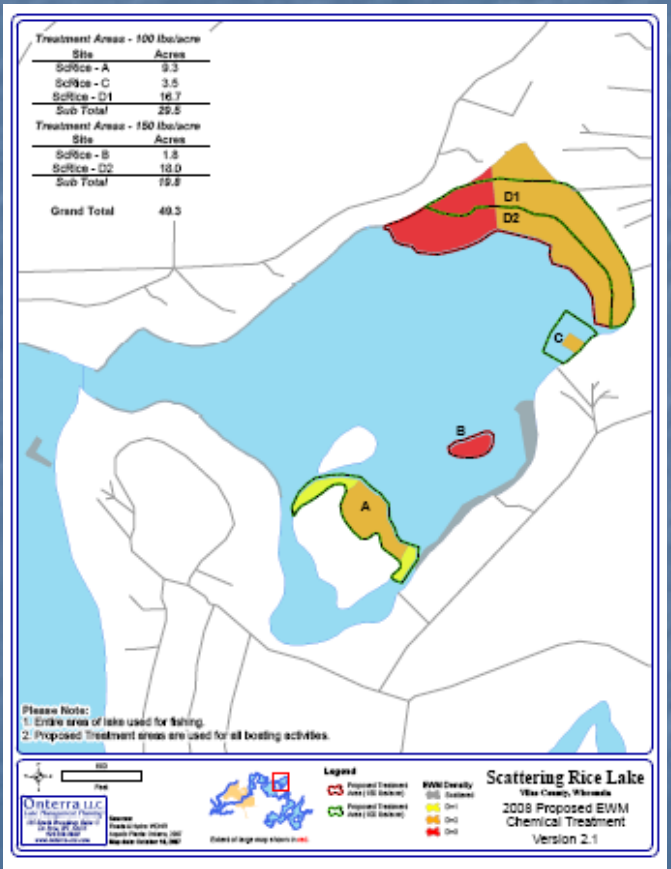
Timing: "early season" approach

- Target window is after ice out, but before water has warmed for optimal native plant growth
- EWM/CLP should be actively growing, but before reaching full growth stage; 6 inches or more – may require site visit
- generally mid-April to mid-May, depending on climate and latitude;
- Endothall has narrow window for application (50 – 60 degrees F)
- Treatments after June 1 only if cool spring

Application rates

- Application rates for liquid and granular formulations are not interchangeable.
- Application rates should be based on concentration-exposure time considerations.
  - Lower for large scale treatments or when target plants are mixed in with natives;
  - Higher where exposure times may be seriously reduced (isolated beds or spot treatments)
- Water depth should be factored in to achieve target concentration (rather than relying on pounds per acre)
- Must not exceed label guidelines, but maximum rates may be too high if being used at whole lake scale

Lake-specific considerations



- Trophic status and productivity
- Hydrology and flow considerations (Drainage vs seepage lake)
- Lake depth (littoral dominated or littoral fringe)
- Extent and density of invasive plant distribution
- Native species of concern (northern milfoil, other dictots, pondweeds, etc)

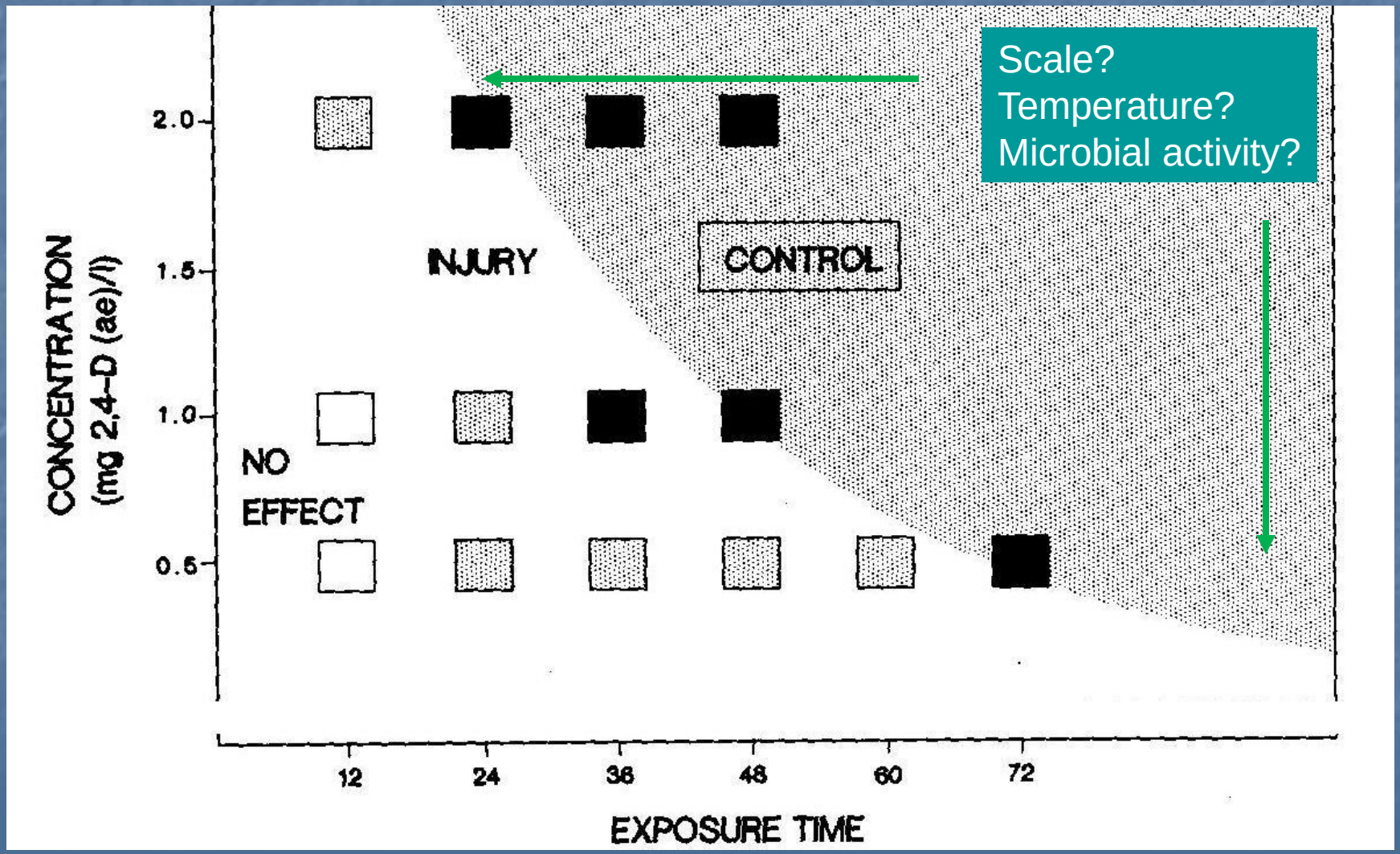
Persistence of 2,4-D residues following large scale, early season herbicide treatments for EWM in northern Wisconsin lakes and observed effects on non-target plants

Tim Asplund, Jennifer Hauxwell, WDNR
John Skogerboe, Mike Netherland, US Army Corps of Engineers

US Army Corps of Engineers

Wisconsin DNR

Concentration/Exposure Time Relationship 2,4-D

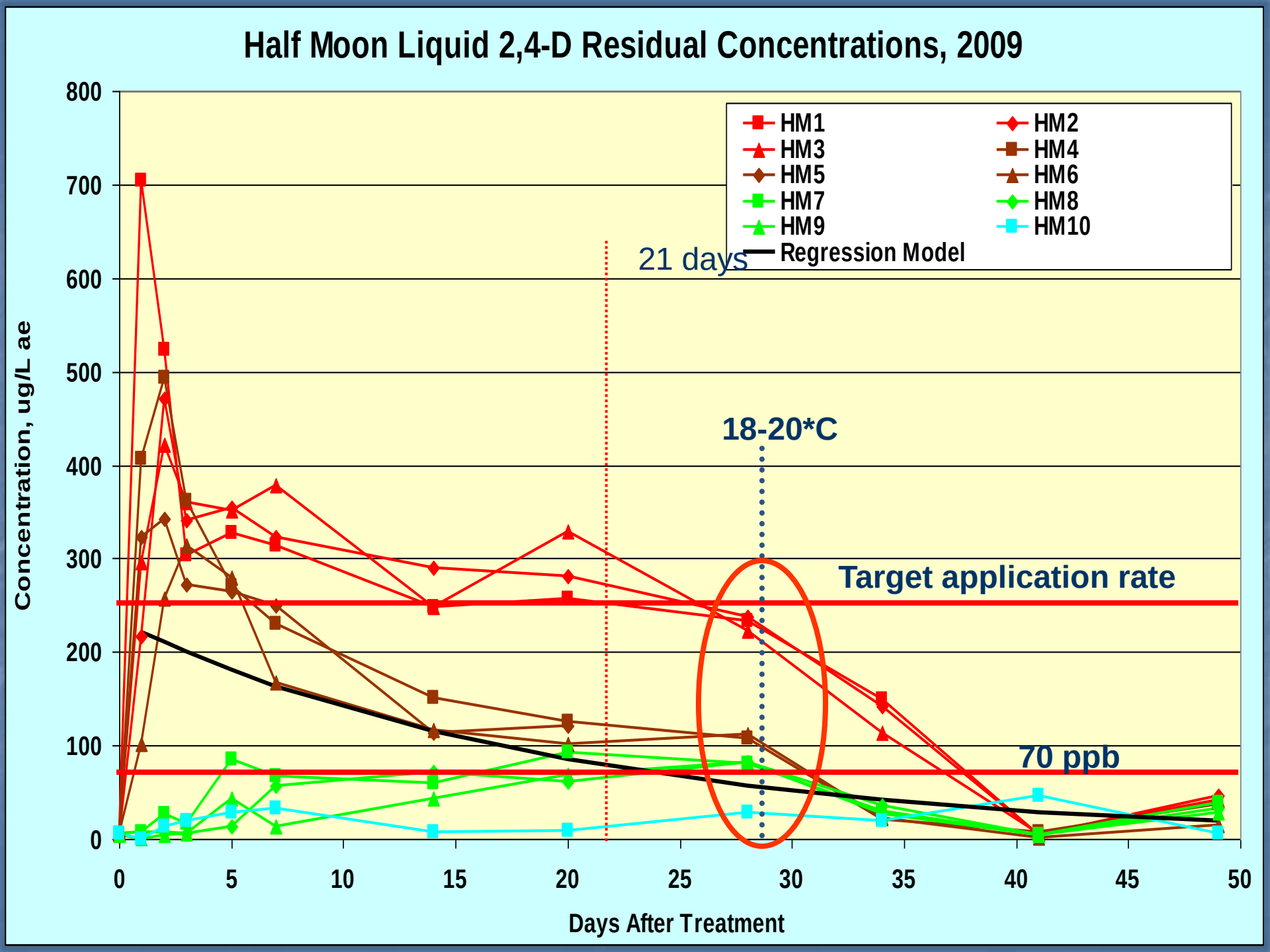


J. Aquat. Plant Manage 30: 1-5

Preliminary Findings

- Early spring, large scale treatments in northern lakes may result in longer persistence of herbicides than expected
- Label concentrations (application rates) may not be applicable (too high)
- Residual monitoring is important, both to understand treatment efficacy, as well as ecological risks

Tomahawk 2,4-D Residues


Half Moon Liquid 2,4-D Residual Concentrations, 2009
Concentration, ug/L ae
Days After Treatment
HM1
HM2
HM3
HM4
HM5
HM6
HM7
HM8
HM9
HM10
Regression Model
21 days
18-20*C
Target application rate
70 ppb
800
700
600
500
400
300
200
100
0
0
5
10
15
20
25
30
35
40
45
50

Residuals (effectiveness of treatments and safety thresholds)

- Advised for large scale and whole-lake scale projects
- Collect samples from multiple sites within treatment areas and mid-lake as a reference point (mid-depth or multiple depths)
- Ideally pre-treatment (0) and 1, 4, 7, 14, 28 DAT
- May need to be more frequent or longer duration, depending upon treatment scenario
- Label use restrictions for irrigation or drinking water intakes are useful guidelines for evaluation (e.g 100 ppb and 70 ppb for 2,4-D respectively)
- Possible ecological thresholds (reference EPA and USFS websites)

NPDES looming

- Recent court case overturned previous determination that aquatic pesticide applications are exempt from Clean Water Act
- Some, if not all, aquatic pesticide applications will be subject to WPDES starting April 2011
- Draft EPA General Permit due out soon (April 2010)
- WDNR will evaluate and decide whether to use or modify EPA model
- Likely will issue draft permit language this summer
- NR107 will need to be updated

Lake Ecology - APM Guide - Microsoft Internet Explorer provided by Wisconsin DNR

http://www.uwsp.edu/cnr/uwexlakes/ecology/APMguide.asp

Lake Ecology

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Aquatic Plant Management In Wisconsin

Aquatic Plant Management in Wisconsin

Full APM Guide (3.5 MB)
(excluding appendices C, D1 and D2)

APM Guide Excerpts

- **DRAFT** - Preface and Table of Contents
- Chapter I - Aquatic Plant Management (APM) in Wisconsin **(pdf)**
- Chapter II - Components of a Seven-Step APM Plan **(pdf)**
- Chapter III - Specific Elements of Your Aquatic Plant Management Plan **(pdf)**
  1. **Creating Your Plan**
  2. **Implementing and Evaluating Your Plan for an Aquatic Plant Manipulation**
  3. **Contingency Plan for Newly-found Populations of an Aquatic Invasive Species**

Appendices

A. Glossary of Common Lake Terms (pdf)
B. **DRAFT** - Recommended Baseline Monitoring of Aquatic Plants in Wisconsin: Sampling Design, Field and Laboratory Procedures, Data Entry and Analysis, and Applications (pdf)
   1. Regional WDNR Staff Contact Information (pdf)
   2. Statistical Output Examples (pdf)
   3. Creating a Plant Distribution Map Using PI Data (pdf)

New Chapter III: Implementation Guidelines

New and improved Aquatic Plant Survey Tools!

Internet