



## Lagoon Committee - Meeting Minutes

October 20, 2009, 11:00 AM

Village of Vernon – Village Hall

Meeting Host: Mr. Trevor Graves

Attendees: Bill Ribbens (City of Belding), Michael Barricklow (Allendale Public Works), Rich Grant (F&V), Trevor Graves (Village of Vernon), Brad Smith (Village of Vernon), Joe Keefe (United Water – MWEA Liaison), Anne Heyt (OMM Engineering), Adam Mudge (Rowe PSC), Gary Bendall (City of Laingsburg), Jason Laney (Village of Quincy), Mike Granger (Village of Byron)

1. Welcome by Bill Ribbens, Committee Chair, and Trevor Graves, Meeting Host
2. Reviewed/approved August 18 meeting minutes submitted by Rich Grant, Committee Secretary
3. Business
  - a) Follow up: Discussed the draft for the Lagoon Operator's Survey. Survey questions reviewed and added (see Attachment). We will ship out a survey along with the MWEA Lagoon Seminar invitation in January.  
Approximately 600 lagoons in Michigan.  
Send list of lagoons to MWEA. Fax, email, or mail back to MWEA or bring to seminar.  
Need time frame; seminar date.  
In seminar mailing:
    - December 5, 2009 to MWEA
    - January 5, 2010 Survey Form Mailing (no emails)
  - b) Discussed topics of interest for the 2010 MWEA Lagoon Seminar: 4 topics, 5+ hours = 0.5 CECs.  
Seminar Date/Location: Thursday, February 25, 2010 at Eagle Eye (near Lansing).
    - Permitting: Groundwater and Surface water permit details (90 minutes)
      - Draft permit procedure, what is flexible?
      - Mike Barricklow will contact Tom Berdinski at MDEQ for MDEQ speaker(s), Jim Janiczek regarding lagoon specialist.
      - Tom Berdinski has a basic starting lagoon operations and draft Lagoon Permit that shows "standard" language. Can we edit the language? Meetings needed to negotiate these changes.
    - State of the Art in Duckweed control: Organizer Wally Delamater?
      - MDEQ and some Engineer/Scientist(s): Dawn Rausch MDEQ, Swamp Thing (Email: [manager@swampthing.us](mailto:manager@swampthing.us); Phone: 517-781-6484; Web: ([http://www.swampthing.us/lakeweeds\\_harvesting\\_dredge.html](http://www.swampthing.us/lakeweeds_harvesting_dredge.html)) – Doug Hill/Dan Holmquist?
      - Duckweed occurs most commonly in highly polished ponds.
      - Mark Dezinski's procedure to transfer a bulk volume of water one foot at a time to significantly lower water level over a few days, thereby controlling



- their duckweed. Mark's pond depths vary from 6.5 to 11.5 feet and can be dropped down to 2 feet over a few days. They are discharging all summer.
- AVAST chemical, MDEQ permitted, \$1600/gallon, 1 quart per acre, Springtime Application, wait 3 months before discharge. Permitted, used at Byron WWTP by Mike.
  - How a Lagoon Works: Pond Health, Operations, Weed control (90 minutes) Bill Ribbens
    - Overall biology of Lagoon operations, anaerobic/facultative/aerobic
    - Light penetration depths from shallow water level operations.
    - Need for aeration (or not)
    - Case Study: Photo-documentary of Belding Lagoons through 1 year
    - Operating at shallow water levels for long care lead to extra weed growth.
  - Energy Use/Conservation Opportunities at Lagoon WWTP and Collection systems – Eric Scheibold in charge.
  - Emerging Issues: BOD/metals mobilization ... nutrient control: Jim Janiczek?
  - POSSIBLE SEMINAR TOPICS – Compliance and Operations Focus
    - 1) Discharge Permit Negotiations and requests for an “addendum” to permit
    - 2) BOD in groundwater discharges consumes oxygen and can mobilize arsenic, iron and manganese.
    - 3) Natural Systems (vegetation) used for polishing in lagoons WWTPs, ensure protection from burrowing animals, evaluate habitat for waterfowl versus operational nuisance.
    - 4) Seasonal and Non-human coliform source issues – EPA says all coliforms must be killed wherever associated with POTW facilities, regardless of source. Winter coliform under ice cover (who is swimming in the winter?)

Did not yet discuss:

- How can we get MDEQ to allow use of (wetland) vegetation in a WWTF lagoon for polishing?
  - Procedure for discharge Permit Amendment: Operators should be informed of options to improve their permit conditions. Summarize the regulations regarding testing frequency and parameters (can be negotiated); amend permit after a number of results show non-detect or way below limits consistently, seasonal vs. continuous discharge, flow and mass based discharge limits, delete parameters (Mark Dezinski does this a lot). Identify examples of where MDEQ did work with the POTWs to improve permit conditions.
4. Other business, info, questions, and comments from attendees: None
  5. Set next meeting date – Conference Call October 28, 2009 3:00 PM at location TBD
  6. Adjourn to lunch provided by MWEA Lagoon Committee
  7. Vernon WWTP Plant tour with Trevor Graves.





**Preliminary Draft of Lagoon Operator's Survey**

Name (optional): \_\_\_\_\_  
*Individual information will be held confidential by MWEA.*

Date: \_\_\_\_\_

**Let's talk about You:**

How long have you been a Lagoon Operator?

- A. 0-5 yrs.
- B. 5-10 yrs.
- C. 10-20 yrs.
- D. Over 20 yrs.

What is your highest current License?

- A. None
- B. L-1
- C. L-2
- D. C or D
- E. A or B

**Let's talk about your Lagoons:**

What is your average daily Influent Flow?

- A. 0-50,000 gal.
- B. 50,000-250,000 gal.
- C. 250,000-500,000 gal.
- D. 0.5-1.0 MGD
- E. More than 1.0 MGD

How old are your Lagoons?

- A. 0-10 yrs.
- B. 10-20 yrs.
- C. 20-30 yrs.
- D. 30-40 yrs.
- E. Over 40 yrs.

How many industries does your lagoon service?

- A. 1-5
- B. >5.
- C. SIU

What type of lining do you have in your lagoons?

- A. PVC
- B. HDPE
- C. Clay
- D. Other: \_\_\_\_\_

Do you have chemical feed?

- A. Yes
- B. No

Do you have aeration?

- A. Yes
- B. No

Do you regularly need weed control?

- A. Yes
- B. No

Do you have problems with sodium or chloride?

- A. Yes
- B. No

**Let's talk Permits:**

What does your Discharge Permit cover?

- A. Surface water discharge
- B. Groundwater discharge
- C. Both

If you have a Surface Water Discharge Permit, does it require Groundwater Monitoring?

- A. Yes
- B. No

What type of discharge does your Discharge Permit cover?

- A. Seasonal discharge
- B. Continuous discharge

How are your Discharge Permit water quality limits?

- A. Too restrictive
- B. About right
- C. Too lax

How is your NPDES Permit generic language?

- A. Too restrictive
- B. About right
- C. Too lax
- D. What do you mean by generic?

Which Water Quality Permit Limit is your most difficult for you to meet?

- A. BOD
- B. Dissolved Oxygen
- C. Suspended Solids
- D. Ammonia N
- E. Bacti/Fecal Coliform
- F. Other: \_\_\_\_\_

What Facility Operation and Maintenance requirements are most difficult for you to achieve?

- A. Inspection
- B. Maintenance
- C. Drawdown conditions

**Let's talk Sludge:**

How often is sludge removed from your lagoons?

- A. Never (yet)
- B. Every 1-5 yrs.
- C. Every 5-10 yrs.
- D. Every 10-20 yrs.

What happened with the sludge the last time it was removed from your lagoons?

- A. Dried and land-filled
- B. Land-applied
- C. Dried and incinerated
- D. Moved to another lagoon

How do you handle sludge?

- A. Handle it yourself/in-house
- B. Contract it out
- C. Haven't had to handle it yet

**Let's talk networking:**

Who's your "go to" advocate?

- A. DEQ
- B. MWEA
- C. Rural Water
- D. College or University
- E. Consulting engineer

Do you have e-mail?

- A. At work only
- B. At home only
- C. At work and home
- D. Not at all

Do you communicate by e-mail regularly with the following? (select all that apply)

- A. DEQ Reports
- B. Fellow lagoon operators
- C. MWEA or Rural Water
- D. Personal friends
- E. No one

In the past year, which of the following have you participated in?

- A. MWEA Lagoon Seminar
- B. Lagoon Committee meeting
- C. None

Why would you most likely NOT participate in a Seminar or Committee Meeting?

- A. Meeting too far away
- B. Subjects/topics not relevant enough
- C. Can't spend the time/too busy
- D. Not enough CEC's
- E. Costs too much

What is your biggest lagoon problem?

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What is the most recent improvement you've made regarding your lagoons?

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**Please complete and return this form on or before January 18, 2010.**

**Email:** [rgrant@fveng.com](mailto:rgrant@fveng.com), or  
**Fax:** (616) 977-1005, or  
**Mail:** Rich Grant  
Fleis & VandenBrink Engineering, Inc.  
2960 Lucerne Drive SE  
Grand Rapids MI 49546

If you cannot return the completed survey in time, please bring it with you to the 2/25/10 Lagoon Seminar.

Contact Rich Grant at [rgrant@fveng.com](mailto:rgrant@fveng.com) or (616) 977-1000 with questions.

