



LEMN Workshop 1.0 Agenda - Factors Regulating Energy at the Base of the Food Web (1999)

Oct 10th – 11th, 1999, Grosse Ile, Michigan, USA

For more information on the LEMN conference and workshop series, please visit the Lake Erie Millennium Network website: <http://www.lemn.org>

Day 1 - October 10, 1999

Introductory remarks/orientation led by the LEMP Directors.

Several 10-20 min (max) presentations outlining goals, expectations and format of the workshop.

1. Speakers will provide an overview of the factors identified at the Millennium Conference. The LAMP perspective on these features will also be briefly mentioned.

Key points:

- Are we seeing changes not just in fluxes but also in fundamental processes?
 - Is the relative importance of benthic vs. pelagic zones changing?
 - Are there changes in the relative importance of internal vs. external loadings?
 - If habitually pelagic taxa are being forced into the benthic zone; can life stages deal with this?
 - Are we seeing adaptation/evolution of the food web?
2. Summarize the research needs that were identified at the Lake Erie at the Millennium post-conference workshop as they relate to processes at the base of the food web. Topics (taken from web-posted summary) are listed below (at end).
 3. Summary of the strong inference conceptual approach. This includes emphasizing the need to generate:
 - a. hypotheses;
 - b. predictions or expectations of that/those hypotheses; what would it take to disprove hypothesis? what would it take to corroborate hypothesis?
 - c. biologically meaningful effect size [effect must exceed background by large enough fraction to be meaningful to food web].
 - d. where multiple explanations are possible, what are the critical tests/data that would distinguish among them?

Breakout Session 1

Charge to Groups: What are the most important components of the scenario? What's missing? What's most important? Using Fig. 1 as a starting template, what are the compartments most relevant to the base of the food web. What are the most important processes linking the compartments (arrows)? Ordinate the links by scoring likely importance of each: U (unknown), L, M, H.

Guiding questions:

- a) What are the sources of carbon? [heterotrophic - benthic, loading, plankton, riparian, etc.] [autotrophic - benthic, pelagic, nano, pico, micro, macro, etc.]
- b) What are the sinks?
- c) What are the regulators? [and their relative importance]

Reconvene

Summarize group evaluation of base of food web. Is there consensus on specific processes? We will highlight areas where there is disagreement for breakout discussion to develop hypotheses and test regarding importance that would discriminate and resolve differences of opinion.

Lunch

Breakout Session 2

Charge to Groups:

- a) Where do we go from here?
- b) Can we justify what's been said in the LAMP?
- c) Can we document everything that's said to be happening?
- d) If not, where are the research gaps in terms of whole lake and smaller processes?
- e) Phrase responses in terms of hypotheses, tests, and expectations.

Reconvene

Summarize results of Session 2. Is there consensus on hypotheses? Do suites of hypotheses seem to revolve around specific compartments/regulators? (e.g., multiplicity of factors affecting phytoplankton; fate of DOC to various compartments; interactions between dreissenids and other components).

Breakout Session 3

Develop and refine hypotheses. This iterative process may give some pleasant surprises

Reconvene

Summarize and take stock. Compile list of procedures, with feedback on what's likely to work and what isn't. Integrate suites of hypotheses into research direction. Plan for Day 2 (further refinement or resolution of new suites of conflicting hypotheses).

Day 2 - October 11, 1999

Introduction: Recap

- Do we need further breakout sessions for further hypotheses?
- Can we summarize consensus of key suites of research issues?
- Can we group these into something that will help us with logistics of a research plan, i.e., who can do what, and over what time frame?
- What are the likely costs and resources needed? [Framework for the research proposals - one Canadian (NSERC CRO) and one US (EPA Star; protection funds, etc.)]

Lunch

Summary of accomplishments

- Further needs
- Most pressing topic for next workshop
- Avenues of presentation of information from this workshop?
- Time lines for submission of documents, detailed research needs, budgets, etc.

Formal Closing

References

**Proposed for required reading; *Abstract only

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