

in the drift

The NABS Newsletter

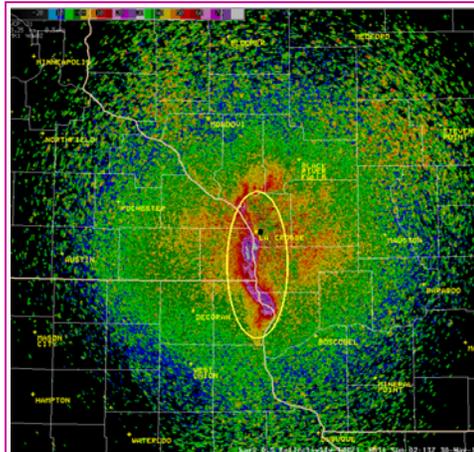


Strategic creativity for the NABS strategic plan

Following a lively meeting in Santa Fe, the PIP (Public Information and Publicity: that's us!) committee has seen a flurry of activity in response to the NABS 5-year 'Strategic Plan'. A majority of this Plan focuses on a need for NABS to improve our visibility as freshwater science experts to the wider public, including advancing education and outreach, as well as improving our availability to inform management and policy decisions.

The PIP has a new co-chair, Jennifer Follstad-Shah, and Erin Hotchkiss joined the ranks as a benthos news and facebook expert. Current goals are to use social networking sites to improve our visibility and to keep folks posted about NABSsters whose science has been featured in the popular media. Please use our new "news" email address (news@benthos.org) to inform us of any of your benthic news! (and read more on p.3)

Another milestone in Santa Fe was the Ex-Comm's passing of a NABS statement on economic and population growth (read it here: <http://tiny.cc/b2rg6>). The next *in the drift* issue



On May 29, 2010 (just before NABS!) the National Weather Service caught this huge mayfly hatch on radar along the Mississippi near LaCrosse, WI.

will provide more info about what this statement means for NABS.

Finally: the name change discussion = a big component in addressing the Strategic Plan. Please give this some thoughtful consideration, put in your 2 cents in the forum on the NABS website, and see p. 3 for more info!

issue 8:
Summer 2010

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Did you know... ? (if you didn't, check the Summer Bulletin!)

- ALL of the committee and editorial reports for 2010 are in the Bulletin. Check there for any details on the latest committee activities. And join one if you get the urge!
- A lot of people didn't like the abstract fee for the Santa Fe meeting. (duh -?)
- ASLO leadership was impressed with the coordinated meeting event and has requested that we plan another.
- NABS 2011 is in Providence, RI and is themed "Responding to the Global Water Crisis". Abstracts due: 21 January.
- The Education & Diversity committee is planning a new mentoring program called NABS INSTARS, to start at the 2011 meeting. The 'instars' will be undergraduates from under-represented groups.
- The GRC has put together its own section of the website (see 'Students and Postdocs' tab). It still is under some development but looks to be a great resource, listing award deadlines, graduate positions and jobs, and other relevant info.
- Nancy Tuchman's presidential discretionary funds provided 4 additional endowment awards this year!

benthos.org

URGENT: Special session abstracts due very soon!

Do you have an idea for a special session or workshop at NABS 2011 in Providence? If so, time is running out: Send an abstract for the session, including a brief description of the topic and a list of potential speakers, to judyli@comcast.net OR troyer@indiana.edu by **30 SEPT 2010**. By proposing a session, you are expected to serve as its organizer, to invite speakers for the session, and to keep speakers informed of deadlines and other info.

JNABS article spotlight:

Are net-spinning caddisflies what they eat?

Torres-Ruiz, Wehr, & Perrone. *JNABS* 29: 803-813.

This spotlight is a direct contribution from first author Monica Torres-Ruiz. Thanks much for the fascinating story, Monica!

The idea for this work came as part of my dissertation proposal in 2004. I had been working in John Wehr's lab at Fordham University for about a year, studying the food web of an upstate New York stream, the Muscoot. We were particularly interested in how and why essential fatty acids (EFAs: omega-3, omega-6) profiles change with season in different members of the food web.

At that point, we realized that an important piece of information was missing: can macroinvertebrates synthesize their own EFAs? Although probable, we had no real evidence to suggest that animals must gain all their



Monica Torres-Ruiz demonstrates the successful design for the flow-simulating caddisfly beakers with stir plates and an incubator.

EFAs from their diet, when in fact they could either synthesize or process (i.e. elongate) other FA building blocks to meet their nutritional requirements. Our clue was that omega-3-rich algae were only abundant in late winter and spring, due to shading, but some EFAs were abundant in animals year-round. So we needed to test this in a controlled environment, and this was when the adventure started.

From the beginning we thought that net-spinning caddisfly larvae are ideal organisms to test due to their prevalence in many streams and because they are generalist feeders that obtain their food by constructing nets to trap drifting particles. We chose to use the caddisfly, *Hydropsyche* sp. as a study animal because of its high abundance in the Muscoot. But caddisflies, like many stream macroinvertebrates, are notoriously difficult to rear in the lab. The first challenge was to find a way to rear them in containers small enough to allow replication and to conduct our studies in an incubator.

The literature almost entirely used artificial streams, which allow for little replication. Our colleague at Fordham, Gordon Plague, pointed us to a paper from 1953 by G. N. Philipson that described a method using a beaker with a stirring device to simulate current. We modified the apparatus by using a stirring plate and attaching stone pebbles to the beakers so the animals could have a retreat where they could spin their webs. We tried it and it worked!

The second challenge was to find food sources with high and/or low content of the essential fatty acids we wanted to study, mainly 18:2w6, 18:3w3, 20:4w6 and 20:5w3. The last two are of particular importance for most animals. Although the task seemed easy, it ended up being quite tricky. In addition to the fatty acid requirements, the food items had to be of a particular size (to be captured in nets), non-soluble in water (to keep nutrients from leaching), and appetizing to our new pets. After several trials and errors we finally settled on four different food items that varied in FA content: conditioned, autumn-shed leaves, the green alga *Cladophora glomerata*, oats, and the commercial fish food Aquadine.



Above: *Hydropsyche* builds a retreat and net to catch food particles on a pebble glued to the side of a beaker during the diet study.

During the experiments we observed that the caddisflies' FA profiles quickly resembled those of the food provided. They lost FA which were absent in their food sources, which we interpreted to mean that they were

See a video of *Hydropsyche* net-building-on-a-stir-plate in action (!) on NABS's new YouTube channel, here: <http://tiny.cc/fw19v>

unable to produce these nutrients themselves. Of particular importance was the EFA 20:5w3. This FA is present mostly in algae, especially in diatoms, and is critical for survival and reproduction of most freshwater invertebrates. Caddisflies seem to need this FA more than others and could be an important link to transferring this essential FA to higher levels of stream food webs and to us (if we have a taste for fish).

Although not without challenges, having pet caddisflies in the lab turned out to be fun and productive. Hopefully we and others will continue to explore the exciting world of fatty acid processing in streams.

—M. Torres-Ruiz

Pam's JNABS corner



We all love open access articles—those papers that can be accessed by anyone with access to the internet, without a journal subscription or institutional affiliation. Because open access papers are so widely available they also tend to be read and cited more frequently than other articles. Did you know that you can purchase open access for your JNABS pubs?

- **Want open access for your next publication in JNABS? Cost is \$400 (low compared with other journals).**

Open access articles can be opened, read, or downloaded through search engines, the NABS/Allen Press websites, BioOne, or JSTOR. Open access requires only that potential readers have access to the internet (which admittedly can still create barriers for some readers in remote or economically disadvantaged regions).

The greatest benefit to open access is increased availability—these articles tend to have higher citation rates, greater “impact,” and are more likely to be used and built-upon by others than articles that are published in print only

News about news: send us what you've got & we'll deliver!



The PIP (Public Information and Publicity) committee has fully embraced the new NABS spirit of connecting, networking, and generally increasing our public visibility (as called for in the Strategic Plan). Erin Hotchkiss is the newest PIP committee member and will serve officially as the NABS “news guru”. With Erin’s help, and after a flurry of activity in the PIP, there are now several ways that all NABS members can be involved in sharing their science with the Society and beyond to the general public:

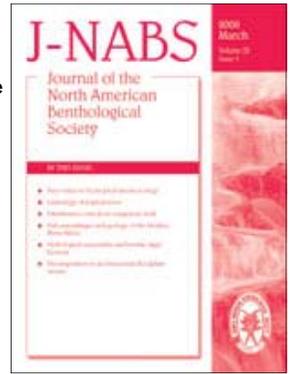
Send freshwater news, cool videos, photos, or any other benthic publicity to:
news@benthos.org

- Foremost, use the email address just above to share any news you've got. Have you or colleagues been interviewed by the popular media? Do you have fabulous benthic photos or video you'd like to share? Don't hold back! Write us!
- NABS has an official Facebook page (www.facebook.com/NABSonFB). Erin and Deb will use this to provide links to NABSters in the news and to communicate NABS-specific deadlines and other info. Check it out, and become a fan!
- Thanks to web master Patina Mendez, NABS also now has its own channel on YouTube (www.youtube.com/user/NABSbenthos). Go there, subscribe, share, give us ideas for what to add,...

or that require a subscription. Indeed, many governmental agencies now require that authors find ways to make their articles open access because research was conducted using public funds.

Open access articles are provided at no cost to readers, but these articles are not “free” because all of the usual publishing costs except those for printing, binding, and mailing still exist. These costs include those associated with administration of the peer-review system, editorial services, typesetting/formatting, electronic tagging, and maintenance on the internet. Therefore, publishers must charge authors a fee to provide this service to their readers.

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- Finally, the “Benthos news” feature on the front page of benthos.org has been getting a bit stale. With your help (again, see email at left!), we plan to update this section regularly. Keep us posted!

Several other NABS website updates of note:

- The “About NABS” video, created by Freshwaters Illustrated, is now front and center on the benthos.org home page.
- The PIP has revamped the “About NABS” and “What is the Benthos?” pages (look under “Explore NABS” on the homepage), including adding photos.
- A section called “Society Business” has been launched. The first item here is re: the NABS name-change discussion. More items added soon...
- Pam Silver revamped the *JNABS* section of the website. Now: reorganized and easier to use!

Quick name-change update

Sherri Johnson, chair of the NABS name committee, urges all members to 1) revisit the email (dated 8 Sept) to the membership, and 2) look on the website under “Society Business” to keep abreast of this important topic. This time (vs. 2003), the goal is to involve members as much as possible in the discussion. Next up: a survey via email. Keep an eye out!

Science and creativity blossom in Santa Fe: a NABS/ASLO meeting wrap-up



2010 photo contest winner: Epeorus pleuralis, by Dave Funk. Actually, the official title was a bit longer, but this is the gist. Dave's photo and the rest of the top 12 will be featured in the 2012 NABS calendar. If you'd like a 2011 calendar NOW, contact: jeremy@freshwatersillustrated.org.

Yes, the meeting was large: The conference had ~1700 registrants and >1400 abstracts, with >40 countries represented. The various talk venues occupied a rather large area of town, as well—enough to warrant the free loop shuttle that connected locations for session-hoppers!

400 years of cultural and fluvial history: Tara Plewa, specialist on the natural and cultural history of the Santa Fe River, gave a captivating synopsis of drought history, pueblo revolts, acequias and dams during the opening plenary.

White station wagons and prestigious NABS awards: William Hilsenhoff received BOTH the Award of Excellence and the Environmental Stewardship Award in Santa Fe. Michael



Michael Barbour presents Bill Hilsenhoff the NABS Award of Excellence, with his wife Jane backing him up. (photo by Mark Wetzel)

Barbour claimed that Hilsenhoff lab folks were required to drive white station wagons around, because they showed off the “muck and dirt” from the field better. Among countless lifetime accomplishments, Bill saw the MBS through to NABS (and so knows a thing or 2 about name changes!). He was surrounded by friends and family for the presentation.

Other NABS awards: John M. Davis received the Hynes Award for his great PNAS paper about decoupling of predator and prey production; and Bern Sweeney got the Distinguished Service Award (and admitted to us his near-“spousal” relationship with NABS over the years).

Successful trial of new open-format special sessions: The first half of Wed. am saw several concurrent “interactive” sessions, including one about education and outreach, sponsored by the PIP and Ed+Diversity Committees. Audience participation reached high levels, and we had fantastic guest presentations from both NABS insiders and “outsiders”—including Teresa Moroud (the ESA education web director). Let us know what you thought of any of these sessions. Should they continue?

Historic presidential handoff: The business lunch this year saw the first-ever woman-to-woman presidential transition, as Nancy Tuchman passed the reigns to Lucinda Johnson. Lucinda's ex-comm chair is Randy Fuller.

Some other items from business lunch: Paper journal subscription cost going up again (\$65 to \$75); Mark Wetzel is the new Lit-Review Committee Chair; and Cliff Dahm and Stuart Bunn are the Program Committee co-chairs for the meeting next year in Providence, Rhode Island.

Stuart Bunn and Cliff Dahm also gave a 2010 plenary: It was on Friday morning at 8. It was about urgent and global-scale issues in arid-land rivers. Lots of folks made it in spite of the time and the parched topic, and Stuart left us with the take-home message of hope that we'll all see “these systems are more important than hosing down your driveway or having a green lawn.”



Chama River, Ghost Ranch 1937, Georgia O'Keeffe



Nancy Tuchman hands off the NABS presidency to Lucinda Johnson during the business lunch. (photo by Mark Wetzel)