

Great Lakes/Lake Michigan Research Institute at Sturgeon Bay Proposal  
Project Coordinator: Caitlin Oleson  
January 2016

Background:

The idea for a Great Lakes Research Institute was first discussed when the city of Sturgeon Bay issued a call for proposals to redevelop or repurpose the timber grain elevator on the working waterfront. It was decided to pursue this plan and reach out to the UW-Milwaukee SFS, UWGB and UW-Oshkosh as all have had longstanding research in the area.

The Stakeholders:

At the moment we are reaching out to UW-Green Bay, UW-Milwaukee and UW-Oshkosh about utilizing the space. We are also engaging The Nature Conservancy, Door County Land Trust, The Ridges and Crossroads at Big Creek.

The Proposal:

There are three components to this proposal:

- 1) Research for freshwater studies
- 2) Housing for students, faculty and interns
- 3) Educational and community outreach

A shared concern among non-profits in our community is lack of housing for summer interns. Including a component of housing in this plan is necessary as it would be beneficial not only to the interns but to the students and faculty using the research labs.

The Freshwater Resource Outpost would have a strategic location being positioned on the canal offering easy access to Green Bay and Lake Michigan. Thereby developing the universities and non-profits role in freshwater ecology. The Outpost would promote long-term observations, fieldwork and process studies that are imperative for understanding and developing future ecological services.

We are seeking input for this project from you, our stakeholders. Excitement is high regarding connecting this with local students as well and introducing marine biology/science as a career option! Broad opportunities for local collaboration seem possible as well. We are seeking input for this project from you, our stakeholders.

## Great Lakes Research Institute at Sturgeon Bay

05 January 2016

UW Green Bay

Meeting Notes from Dan Collins and Nancy Aten

### Introductions - brief notes on interests/focuses:

Matt D: research focus on wetlands/forests

Greg K: microbiology, DC 15 yrs - beach/water monitoring, state-certified lab

Kim B: land manager; microbiology

Nilay S: lab scientist, manage DC work, pathogen testing

Chris H: fish ecologist, post-doc

Patrick F: fisheries, coastal wetland energy

Mark H: native fish species restoration

Laurel B: Sturgeon Bay plan commission nine years, candidate for mayor

Amanda P: land stewardship, incorporation of interns

Mike G: ecologist

David B: fisheries; operate two research vessels

Martin R: UW Northeast campuses; chemistry

Jim K: shared staff resources; many DC partnerships

Dan C: planning and ecological restoration

Nancy A: planning and ecological restoration

Lidia N: grant writing; aquatic ecology

Kevin F: soil & water; hypoxia; high-school-based monitoring in Fox Valley

Bob H: great lakes coastal wetlands; AOC delisting for habitat/wildlife

John K: large agriculture operations/interactions

Betty P: 500-member Bay Shore Property Owners Association

Bill P: career building/launching boats out of Sturgeon Bay

Jerry K: benthic ecology; stocking Green Bay with 344M mayfly eggs

Val K: biogeochemist; hypoxia; Neeskay (1 wk/mo) in SB; observational buoy

Brian F: Ridges research focus, researchers (orchids, d.l.iris, flying squirrels)

Patrick R: Lake Superior Estuarine Research Reserve

Scott F: environmental and regulatory policy



### *Caitlin's Presentation*

#### Phase I: Exploration

Three key parts:

1. Research/Lab for freshwater studies
2. Housing for students, faculty, interns
3. Education and Community Outreach - opening doors to students regionally, “bringing research to life”, “city of excellence in freshwater science”

## Breakout session 1: Vision

### Dan's Group

- Emulate other facilities - Woods hole, University of Georgia Long Term Ecological Research at Sapelo Island, UWM research station at Cedarburg Bog, LSNE (Lake Superior National Estuary Research Reserve) Traverse City. Look at the other facilities *best practices* for funding, pub/priv partnerships, alumni/membership, staffing, ramp-up etc. [Bob H, Jim K, Mark H, Mike G, Martin R].
- *Why Sturgeon Bay? Answer: Location, location, location.* SB is regionally (Lake Michigan) optimally located to launch and service the monitoring and survey activities to a broad aquatic / terrestrial geography which is structurally and ecologically diverse and further these offers extreme variable in health and ecological function. The SB waterfront location adjacent to WDNR, US Coast guard and Maritime Museum create a waterfront “Campus” setting. All of these characteristics combine to enable efficient and effective research. Restated; the combinations of convenient access to significant gradients of both ecotypes and eco-function (from pristine to dead) is regionally unique [synthesis of many comments].
- Formation of a Great Lakes Research Consortium has been considered by UWM, but rejected due to time, etc. [Jerry K]. The LRNP has a formed and working Lake Michigan Stakeholders Group [Jim K].
- Should host annual conference(s) attracting / enhancing local connections which could include research, education and high school competition (this would connect well with UWGB vision for using GLRI@SB as a recruiting conduit).
- Research and Education should be seamlessly connected [Bob H].
- It should be an Institution, not just an outpost [Bob H].
- Is it just a “summer camp”? [Patrick F] / Must turn research into action [Mark H].
- Winter activation would lever utilization. Should be year-round, working through the ice with a winter program.
- Should have strong connection to local economy, both primary (eco-science technology cluster and commercial/sport fishing) and secondary (gas, food, lodging). Should integrate with State and Fed fish management perspective.
- It should answer the questions that we need to know to manage the GL assets without duplicating what we already have.

- Should tightly integrate Science, Education, Community (at various scales, city, county regionally) [Mike G, David B, others].
- Should include a clearinghouse database of work [Lidia].
- Should include support for housing of short (days) to long (months) for interns and researchers. Would help to include support services for interns (selection, relocation, logistics, orientation, collaboration). This would expand the ability of non-profits to accept interns.
- Should address multiple audiences which include:
  - Local ecology
  - Research
  - Local educators K-12
  - Urban Youth (a la work done at UWM) [Jerry K]
  - High school "pipelines" to continuing education paths. Start with Kids on Boats [Jerry K]
  - Summer time visitors. Include programs for teen youth [Matt D] and adult.

Nancy's Group:

- Group housing is a key need that could drive vision [Brian F]. Short-term, long-term. Days/weeks; whole summer; winter too. Institutions solve this ad hoc now, but there is benefit to collaborative group housing, a physical Center, that is important.
- An academic *Campus*. Hub, catalyst, destination for scientists and researchers.
- Think of this facility as a *gateway* to leverage and share resources. A facility like this is cost-prohibitive for any particular institution, but it can be a gateway for all. Leverage faculty among institutions as well.
- Community interaction with student researchers. Community connections with collaborative student facility could assist in the *retention of talent in Wisconsin*. Presentation of research, talks, visits, tours.
- "Summer camp" is an important aspect. Extensive academic field course program would be readily subscribed. Two-week classes. This could engage other partners who want to leverage facility for such offerings (e.g. Schlitz Audubon in Milwaukee runs courses up here). Also to bring together in the field a class cohort for minor or certificate programs.
- Year-round is important and also needed - a base of operations for winter courses and winter research too [Val K].
- Communication with Public. Could be synergistic, mutual benefit. Share all research. Weekly lectures (good for public, good practice for students). Share on public access tv.

Have a physical central presence (building). Give facility tours. Info on display for public. Volunteer docents. *Important to be intentional about educational aspect of mission during planning.*

- Sturgeon Bay is unique. Culture embraces environment. Environmental stewardship has been important here for a long time, part of the culture and the economy. Synergy.
- A metaphorical doorway needs a physical doorway. Central physical presence important.
- Be a *facilitator, catalyst* for research in the great lakes (encompassing outreach, education at all levels, basic research, applied research).
- Need a local or regional name. *Sturgeon Bay Freshwater Research Center*. Could be Lake Michigan or Door County in the name, but we like the sound of Sturgeon Bay. Center rather than Institute. Laboratory. Innovation Center?
- How much use? It is here in Sturgeon Bay and Lake Michigan / Great Lakes - but the engagement is *national*. Active summer course curriculum (also a revenue generator). Unique setting. Researchers from beyond the midwest. Multi-university collaboration an important factor. Field trips.

*Other notes from joint discussion:*

- National Estuarine Research Reserve models
- Integrative aspects: community opportunities, resource assistance to community, interaction/feedback, community sees as resource.
- How to have year-round vibrancy? (what is the range of winter research?). Expect seasonal variability, but has to be year-round. Research facility a hive at many times of year.
- Commercial vibrancy. Fisheries. What are we bringing to the broader table?
- As a Center, we should aspire to this idea to meet broader goals. Community clearinghouse. Increasingly solidified connection from community to research.
- Center as Conduit / catalyst / facilitator.
- The waterfront aspect is unique. Research vessels are important. Maritime aspect is unique.

## **Breakout session 2: Focus, Organization, Structure**

### Dan's Group (NGO, Govt, Community):

- Impressive support for GLRI@SB is already obvious as shown by attendance by various academic community members [Bill P].
- Should be a non-profit to offer operational and managerial flexibility. Should enhance funding options too [Jim K].
- Should offer housing options, simple & basic. Should layer on services to expand non-profits capacity to attract and use interns. These services could be an intern “clearinghouse” and might include; recruitments, selection, relocation, logistics, orientation, collaboration/teaming [Amanda P. & others]. U of I and U of South Dakota have housing needs for 3 month stays of 4 people each in Door County [Mike G].
- Listen to the conservation needs of the community. TNC is delving into integrated conservation aspects which include Economic, Sociological in conjunction with research [Mike G].
- Integration of place, forming the connection with the community [Laurel B].
- FWS needs a place to park a boat [Mark H]. Currently DNR has a 60' vessel at their dock used 100% non-ice and 40' used 1/3 by FWS [David B].
- Need to support work on Asian Carp (using genetics lab in La Crosse) and possible cisco restoration [Mark H].
- We need to perform a detailed needs assessment [Betty P].
- Center for climate studies – air and water quality [Brian F].

### Nancy's Group (Academic):

- USFWS and WDNR should drive research questions. Their requirements for fish community objectives, aquatic ecosystem objectives, particular fish species, etc. should drive. Use these existing priorities. Funding drives research. [Patrick F]
- Research also influences lab facilities needs.
- Why a new facility? Answer: allow us to look at new questions; give us new access. Lead to larger research vessels.

- Grants very competitive - multi-institution proposals strengthen grant applications. Also, there are funding mechanisms set up specifically for ideas like this - can open up completely new funding. [Matt, Patrick R, Val]
- Location, location, location. Green Bay represents every ecological issue we are facing/ researching - 2 hrs from Sturgeon Bay. Ideal laboratory for research - every part of environmental gradient [Val K]. Same in Door County for terrestrial systems [Matt D]. Ability to provide time-sensitive lab facilities [Kim B].
- Although Sturgeon Bay / Green Bay is a model to test a range of ecological conditions, both aquatic and terrestrial -- the questions are broader than Sturgeon Bay / Green Bay [Patrick, Kevin]. *Local resource provides broadly useful research.*
- Cater to basic research. E.g. agricultural / groundwater / surface water connections. This also strengthens community focus, helps community to see value [Greg K].
- Opportunity to add to “place-based research” - long term studies e.g. for climate change, be a repository for long-term research data/focus [Val K].
- Consider environmental economics questions/research. Social / environmental impacts/ interactions [Matt D].
- A way to help serve “place-bound students” [Martin] - providing career options for students to return to (start at UW college campuses; may continue education elsewhere, but this facility and their experiences with it give them “something to return to”).
- The issues are complex - the *key for this facility is collaboration - a consortium* [Bob H].
- On the west waterfront is already a campus - Maritime Museum, WDNR, Coast Guard - this effort should lead to the *formation of a technology / subject matter cluster and campus* [Val K].
- Many consortium models - Pigeon Lake, Kemp, Treehaven, Black Rock Forest. Look at other facilities [Kevin, Bob, others]
- Diversity in research is a strength. A collaborative facility can make better use of existing dollars already being spent. [John K].
- Form inter-agency agreements. Multi-institution agreements. Funding now: from private donations and businesses. Funding ongoing - academic subscriptions, endowment. [Lidia]. This needs to be a nonprofit consortium with institutional subscribers - provides



broadest funding opportunities, flexible consensus policy ability. [all]. Needs quasi-academic identity [Bob]. Needs academic fiscal agent [Greg].

- Operation: a diverse board (academic, business, community, govt). Annual subscription/membership fees for organizations/institutions. Everybody has a place at the table. Could be a public/private partnership with City or County taking the lead. Use simple contracts/agreements for organizational participation. [Greg and others].
- Hinges on long-term base funding, not grant-to-grant funding [Patrick R]. Could aim at multi-year funding sources for long-term ecological research stations. Or private donor endowment. Consider sea grant, history survey, GLRO for ongoing funding [Lidia].
- University contributions are not sufficient to support ongoing operations (and coordinator staff). Could structure as institutional commitment for annual subscription for 5-year period at a time.
- Example from Lake Superior National Estuarine Research Reserve - \$2M facilities capital expense (1850 SF - housing, office, lab), \$1M annual operating. Raised up to \$11M to cover first few years. 5 staff - coordinators. Base funding every year from NOAA. [Patrick R].
- Local vs. national ... in terms of base funding opportunities? This bioregion not currently represented in NEER program [Patrick R].
- Experience with potential funding sources for improving a facility, buying a boat, planning, e.g. \$25k, could help now in next planning phases [Val K].

Other notes from joint discussion:

- Suggest adding Wisconsin Geological Natural History Survey (groundwater work in DC) and UW Madison (tributary stream / biomass work in DC) to collaborative team [Mike G].

### **Breakout session 3: Challenges**

#### Dan's Group (NGO, Govt, Community):

- Careful not to duplicate the work of others. Consider Crossroads, maybe become affiliates if appropriate.
- Funding; 1) Capital, 2) Operations, 3) Maintenance.
  - Funding sources; direct corporate sponsorship from commercial and sport fishing is limited. Other sources; shipping (ballast water work already being done) etc seem limited. Commercial partners not obvious. Could consider laboratory, genetics equipment suppliers.
  - Green tier model for water quality should be looked at.
- SB city council has a defined plan for one of the prime locations (hotel). The idea of GLRI@SB creates value, it is a destination compelling / motivating institution. A hotel is not typically the reason for visiting, it is simply where you stay [Bill P].

#### Nancy's Group (Academic):

- How will Green Bay community react to UWGB in Sturgeon Bay? [Kevin]. Depends how you define local community - for UWGB, Sturgeon Bay is already seen as "local community". [Matt]. Might be an issue for others?
- Continuing ongoing leadership [John K].
- Finding the site. Competing proposals for competing space in Sturgeon Bay. *The advantage of this facility on the west waterfront is strength in identity as part of the already existing maritime campus.* That's an advantage both for the facility and for the community.
- Finding base funding. Phase things in: what do we start with? Shared facilities. Create buzz. [Matt and others].
- Getting people on the boats seems like it will be an important part of outreach and connections. Challenges with managing student groups, public, boat operators need captain's license and that's a barrier too [Patrick F]

- The consortium doesn't need a building to start with. It needs an entity - an initial board [Bob]. *Consortium has to have glue between its components* [Jerry K]. Consortium hosts course. *Consortium runs annual research symposium*. These could be first actions of board - programs under the auspices of the new facility/consortium [Matt, Jerry, Patrick R].
- Some urgency around housing. Find a solution for this summer. *Create an immediate community presence by coordinating researcher/student housing under the auspices of the Consortium* (even if it's the same housing as found independently now). This coordinated housing could begin to hold this thing together [Martin, Matt].
- Utilize host families - seems very doable in Sturgeon Bay. [Lidia]. Or host facilities. Family stays for grubby researchers might not be a universally good match. [Patrick F].
- Raising money for capital / construction expenses seems relatively easy, compared to ongoing sustaining funding. Probably a significant endowment will be needed.
- Need to develop acceptable rules for how funding / resources are allocated among member institutions. Institutions - off-campus rates and use fees.
- How to coordinate research / facilities - need coordinators (on site?).



**Great Lakes Research Institute in Sturgeon Bay**

Jan 5, 2016

**UW-Green Bay**

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