

IDNR Lake Michigan Coastal Program
Coastal Advisory Board Meeting
Informational Meeting and Field Trip

August 19th, 2015

10 AM CT

Purdue University Calumet

Center for Innovation Through Visualization And Simulation Center Theater

Powers Building, Room 123

2200 169th Street

Hammond, IN

Attendees:

Voting: Tiffany Tolbert (Indiana Landmarks/Historical), Ken Purze (LaPorte County – Chamber of Commerce), Richard Morrisroe (Citizen at Large – Lake), Shannon Eason (Park and Recreation/Michigan City Parks) Nicole Barker (Save the Dunes), Dan Plath (Nisource), Paul Labus (Local Natural Resource Management) Kim Swift (Indiana Dunes National Lakeshore), Tim Kingsland (Lake County)

Non-Voting: Kathy Luther (NIRPC), Elizabeth McCloskey (USFWS), Ashley Snyder (IDEM), Leslie Dorworth (IL IN Sea Grant)

Non-Board Members: Sergio Mendoza (City of Hobart), Mike Smith (DNR), Chris Smith (DNR), Brenda Richey (DNR), Jeff Saucerman (DNR), Beiying Chen (DNR), Kimberly Hiser-Weaver (DNR), Erica Wayne (Coffee Creek Watershed), Katie Rizer (Coffee Creek Watershed), Christopher Meyers, Kristina Kuzma (City of Hobart), Debra Alexander (Purdue Calumet), Carolyn Marsh, Ethan Brown (Alliance for the Great Lakes), Michael Kuss (Michigan City Sanitary District), Cory Johnson (Indiana Landmarks), Sam Hyer (DNR), Laura Crawford (DNR), Chenghang Sheng (Purdue Water Institute), Yanghe Lin (Purdue Water Institute), Justus Ndukaife (Purdue Water Institute), Michelle Caldwell (IDEM)

LMCP Staff: Mike Molnar, Maggie Byrne, Dorreen Carey, Derek Nimetz, Kacey Alexander, Dejan Koch

- **Old Business** – Approval of CAB Meeting Minutes from June 15, 2015

- **New Business**

Guest Presentations:

Introduction to CIVS John ‘Jack’ Moreland, Senior Research Scientist

Jack gave a brief overview of the purpose and activities of the Center for Innovation through Visualization and Simulation (CIVS). The CIVS works with many of the departments on campus as well as with local industries. The CIVS employs simulation techniques with 3-D visualization and virtual reality technologies. This allows them to interact with data in different ways to help solve problems and offers new ways for education and training. The mission of the CIVS is:

To foster innovation through advanced visualization and simulation using multidisciplinary approaches,

To conduct cutting edge applied research using state-of-the-art computer simulation, visualization technologies and high performance computing to solve challenging problems and promote economic development, and

To educate individuals and organizations in the use of modeling, simulation and visualization.

Mercury Reduction from Municipal Effluents Discharged into Lake Michigan – Dr. Agbai Nnanna (Purdue Water Institute)

Dr. Nnanna introduced one of Purdue Water Institute’s recently completed Applied Research project, partially funded through the LMCP grant program, which examined methods of removing mercury from wastewater effluents that are discharged into Lake Michigan. The focus of the project was on the methodology of how to improve the way current technologies remove mercury at local wastewater treatment plants. **Methods:** Two technologies which were utilized in this project to remove mercury from municipal wastewater samples include UF membrane process, and iron co-precipitation coupled with dynamic sand filtration.

Dr. Nnanna also recently completed the Applied Research project titled “Occurrence of Emerging Contaminants in Lake Michigan and Sensory Development.” The Purdue Water Institute determined the presence of 16 selected emerging pharmaceutical contaminants, including Acetaminophen, Carbamazepine, and Ibuprofen, in the waterbodies within the watershed of Lake Michigan. The goal of the project was to assess the emerging contaminant removal efficiencies of technologies employed by local wastewater treatment plants, to conduct preliminary studies on the removal of selected emerging contaminants using membrane filtration technologies, and to evaluate the feasibility of using Nuclear Magnetic Resonance Spectroscopy to determine the concentration of emerging contaminants.

Dr. Nnanna also talked very briefly about the two 2015 funding cycle projects that the Purdue Water Institute will be starting this fall, one titled, “Northwest Indiana Well Water Testing

Program,” and the other, “Smart-Phone Based Device for Monitoring Chemical Pollutants in Water.”

Educational 3D Modules to Demonstrate the Movement of Contamination due to Underground Fuel Pipeline Failure– Dr. Chandramouli Viswanathan (Purdue Calumet)

Dr. Viswanathan gave a demonstration of the Virtual 3D visualization modules that were created at the CIVS with funding from the Coastal Program. These modules were developed for educational purposes, in order to be able to demonstrate how petroleum product contaminants would move through ground water and surface water, in the event of an underground petroleum pipeline failure. The three-dimensional models can be used to educate pipeline owners and maintainers, disaster responders, and the general public, about how best to deal with and clean up potential oil spills, depending on soil types, water tables, and presence of wells.

Field Trip Overview – Maggie Byrne –

Before the field trip to the Coastal Grant funded project sites, Maggie briefly discussed the agenda for the day including the bus route and the sites that we were planning to see. The first stop for the bus would be Whiting Lakefront Park, with subsequent stops to include Lake George Access, Fred Rose Park (shoreline restoration), Robinson Lake (Hobart Marsh Plan and Oak Savanna Trail), 54th Court Rain Garden in Merrillville and Hoosier Prairie Nature Preserve driving tour.

Plans for lunch were also discussed that included an option for a boxed lunch option available for pickup at the cafeteria located in the Student Union building for a cost of \$6.90.

Next Meeting – October 21st, 2015 – Grant Pre-Proposal Meeting - 6:30 PM CDT

Woodland Park - Sycamore Hall
2100 Willowcreek Rd, Portage, IN

Topics:

1. Coastal Grant Pre-proposals
2. Presentations
3. Program/Committee Reports