The 56th Annual Conference on Great Lakes Research (IAGLR)will be held on the campus of Purdue University, in West Lafayette, Indiana. June 2-6, 2013.

Session 57. Nearshore/Coastal Conditions and Watershed Connections

In the last 10-25 years, there has been increasing concern about ecological changes in the nearshore region of the Great Lakes. Nutrient loading, land use/land cover change, and other watershed stressors, as well as biogeochemical interactions involving invasive species, water quality, and benthic macroalgae, are all implicated in the degradation of coastal margin and nearshore habitats. The intent of this session is to highlight projects that are exploring novel sampling approaches for coastal ecosystems and adapting landscape ecology tools to answer ecological questions within Great Lakes nearshore systems, in order to increase our understanding of the nearshore-watershed connection.

(title 250 characters abstract 1350 characters (~200 words) maybe edited online until 2/28/13)

ABSTRACT:

Monitoring landscape influence on nearshore condition. Peder Yurista, Jack Kelly, and others.

A major source of stress to the Great Lakes comes from tributary and landscape run-off. The large number of watersheds and the disparate landuse within them create variability in the tributary input along the extent of the nearshore. Identifying the local or regional response to the impact of tributary and landscape run-off is difficult as input becomes incorporated into a dynamic nearshore system. We have been developing a monitoring strategy that correlates nearshore water quality with adjacent landscape characterization based on several broad categories of stress. We conducted a high-resolution survey of the Lake Michigan (1049 km) nearshore (approximate 20 m depth contour) using towed electronic instrumentation and fixed station sampling. We describe the variability of the nearshore region and show conditions are correlated with adjacent landscape. We make comparisons to offshore waters to identify the nearshore as a distinct region of the lake. Along shore tow surveys are an effective and efficient way to capture the character and condition of large expanses of coastal nearshore.

Task: SSWR 1.2B Evaluate and develop modeling (process-and empricial-based) approaches for management scenarios and alternative futures.