

Exploring the Use of Participatory Information to Monitor, Map, and Assess Aquatic Ecosystem Services at Landscape Scales

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Traditionally, the EPA has monitored aquatic ecosystems using statistically rigorous sample designs and intensive field efforts which provide high quality datasets. But by their nature they leave many aquatic systems unsampled, follow a top down approach, have a long lag between data collection and dissemination, and miss important ephemeral events. To overcome some of these short falls, we have augmented these robust datasets with landscape assessment techniques and models. Another source of complimentary data is participatory information obtained using Web 2.0 technologies, mobile-phone applications, crowd-sourced data, and citizen-science monitoring. We report on initial efforts to tap into the potential of participatory information in the understanding, monitoring, assessment, and mapping of aquatic ecosystem services at a landscape scale. In this talk, we: 1) review existing applications and technologies that can benefit monitoring of aquatic ecosystem services, with an emphasis on wetlands and lakes; 2) highlight untapped sources of information; 3) evaluate how existing EPA datasets and monitoring efforts can compliment and be complimented by the use of participatory information; 4) assess how this type of information can inform our understanding of citizens' interaction with and valuation of aquatic ecosystems; and 5) identify institutional barriers and opportunities to this type of paradigm shift in data collection.