Citizen Science for Decision Making. Utopia or Reality?: An Approach from the Córdoba Wetland

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Conservation and management decisions about wetlands don’t consider the environmental services that they provide, in addition the lack of connection between available scientific information and intervention decisions increase the growing threats and degradation. Given this gap between scientific knowledge and decision-making policies actors, the practices of citizen science emerge as an opportunity for civil society to fabricate ties that connect this knowledge plus the reality of the territory with the political decisions taken, in order to have a sustainable management of ecosystems. To answer how the practices of citizen science can contribute to conservation decision-making of the Córdoba wetland (Bogota, Colombia), a comprehensive document analysis and semi-structured interviews with stakeholders were performed, comprising district administration, NGOs, and volunteers and scientists involved in census or monitoring programs of birds, which for more than 20 years have been part of the conservation and management process of this wetland. As a result, it was found that the design of citizen science projects, the participation level of civil society and the credibility of these processes by policy makers are some of the factors affecting the creation of connections by civil society. Thanks to this first analysis methodological guidelines are proposed to increase and encourage the impact of citizen science in decision-making process for this important ecosystem.

Community Science Enhances and Engenders Civic Participation

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Community science-- collaborative exploration and scientific investigation to address community-defined questions-- can bolster civic participation beyond initial projects. Participation inherent in community science models civic engagement through democratic process and personal contributions to decisions about where, how, and why to collect data. Open community science facilitates multi-directional teaching and learning, which promotes development of diverse skillsets, and can amplify engagement in scientific and civic realms. Community science grounds scientific inquiry in social context and consequence, engendering civic awareness at its core. Through discussion of theory and participant interviews focusing on learning skills, sharing knowledge, and public communications' impacts on individuals and relevant policies, this talk will explore links between open and community science, resultant advocacy, and future civic engagement. Through inquiry and collaborative reflection on influential factors and productive advocacy approaches, community scientists can raise their collective knowledge and enhance their ability to effectively engage in civic processes. Pilot inquiries will be presented regarding the efficacy of scientific, legislative, and political literacy, and various communication strategies. Subsequent participation in civic processes including public commenting, petitioning, voting, and developing long-term advocacy groups will also be discussed. These initial results will launch a more thorough examination into the conditions and mechanisms by which community science engenders civic engagement.
Dead Birds, Data & Decision-Making: How Resource Managers Use the COASST Project to Inform Management & Policy

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Citizen science is increasingly used to conduct long-term ecological monitoring and supply data to management decisions. Therefore, it is crucial to build a better understanding of how citizen science contributes to decision-making and actions in natural resource management and policy. This research investigates how and why local, state and federal resource managers use data from the Coastal Observation & Seabird Survey Team (COASST) project, a citizen science program that trains participants to monitor presence of beach-cast birds on the Pacific Northwest Coast. Coastal managers who had worked/are working with COASST were interviewed about their interactions with the project including how working with COASST contributed to management decisions and more broadly, what the role of citizen science in resource management could/should be. While we found that COASST results don’t always directly lead to decisions, preliminary findings suggest managers rely on the program’s broad spatial and temporal dataset, and that baseline monitoring helps managers signal and track both short- and long-term environmental change. Managers proposed diverse perspectives and experiences about what the broader role of citizen science in resource management could become in the future, expressing that agencies on their own may lack personnel and funding required to monitor resources and manage data in the ways COASST can. This research supports claims that COASST and other citizen science projects increase public awareness and understanding of agency decision-making and policies through their ability to help managers clearly convey what’s happening in the marine environment.

Is Citizen Science Informing Water Policy in Canada?: From Data Legitimacy to Policy Integration

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Community-based water monitoring (CBWM) is often undertaken with an intention of linking citizen science to water governance at local, regional, or national scales. This linkage of citizen data to government decision-making is thought to be largely contingent on CBWM programs using data collection protocols that are standardized and scientifically-defensible. Yet, in the Canadian context, there is a prevalence of standardized water monitoring protocols supported by the provincial and federal governments. This is further supported by evidence suggesting citizen scientists are collecting water quality data with similar levels of accuracy as professional scientists. However, in spite of these conditions, the literature has thus far indicated CBWM data remains largely underutilised by governments in Canada, and more research is needed regarding the conditions that foster or hinder linkages between citizen data and government decision-making. This paper investigates the relationship between water monitoring protocols followed by CBWM programs across Canada and the resulting policy impact as perceived by CBWM groups (n=123). We find that despite the majority (78%) of CBWM groups following standardized water monitoring protocols prescribed by governments, only 46% report that their data is being used to inform water policy at any level of government. While concern of data credibility in CBWM is still warranted, more attention should be drawn to prominent gaps in the integration and implementation of citizen science in water policy-making.