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Predicting Phragmites Expansion in the Laurentian Great Lakes: Combining Radar Mapping and Habitat Suitability Modeling in an Online Decision Support

The non-native strain of Phragmites australis (common reed) spreading through the Great Lakes basin can alter wetland functions and reduce property values. Once established, Phragmites control requires costly monitoring and treatment efforts over multiple years. Using recently mapped and modeled Phragmites presence and vulnerability data, the USGS - Great Lakes Science Center partnered with the USGS Center for Integrated Data Analysis to create an online Phragmites mapper and decision support tool (DST). The DST is a user-friendly mapping platform (found at http://cida.usgs.gov/glri/phragmites/) that allows custom views of distribution maps and vulnerability assessments at user-defined scales. At basin- or lake-wide scales, the DST provides managers with a broad view of the range of Phragmites prevalence and allows the identification of areas of suitable habitat that are not yet colonized. More locally, the DST allows managers to assess the extent of Phragmites establishment and characterize the vulnerability of future establishment in their management unit. Through targeted outreach, the DST has received excellent feedback and has been used by many groups in their local mapping and monitoring plans. As the number of users and amount of feedback increases, additional development and expansion of the tool will allow users to interact with the data more efficiently and maximize the utility of the DST among resource managers throughout the Great Lakes basin.