

ENVIRONMENTAL DNA: A CRAB-TIVATING CASE STUDY OF SCIENCE COMMUNICATION

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As global temperatures increase, we're seeing the habitat ranges expand for the invasive European green crab in Washington. This is problematic because they favor critical nursery habitat like eelgrass and marshes that contain keystone species which could result in damaging impacts to keystone species, coastal communities living in these areas, and fisheries revenue in Washington. The purpose of my research was to determine if environmental DNA (eDNA), a genetic detection method, could improve our current monitoring efforts for the green crab. I conducted my research by interviewing 17 people with a range of backgrounds in the environmental DNA field including geneticists, researchers, academics, managers, and policy makers, asking them their opinions on incorporation of eDNA sampling into invasive species management. My findings showed that all my interviewees, regardless of their area of expertise, agreed that eDNA was a valuable scientific resource, but not on its ability to improve current invasive species management policy. The three common barriers to incorporating eDNA into environmental policy were issues of funding, managers and the general public not trusting the science, and difficulties understanding what a detection means and how to communicate the results of eDNA. These results suggest a lack of trust and understanding around eDNA that must be addressed before it can be implemented into invasive species management in a policy setting. The results also suggest that there's potential for eDNA to benefit invasive species management by increasing efficiency and sampling areas but only with improved communication between scientists, managers, and the public.