

ENVIRONMENTAL DNA SURVEILLANCE OF THREATENED/ENDANGERED SPECIES ON MILITARY RANGES

PROJECT OVERVIEW

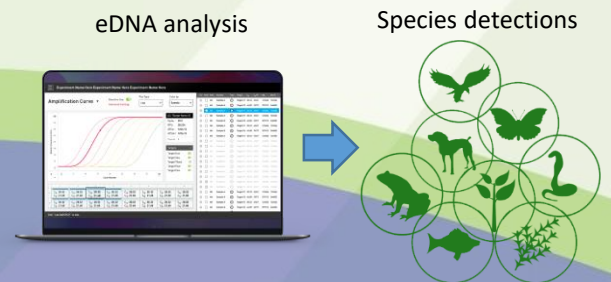
The project goal is to develop standardized environmental DNA (eDNA) sampling protocols and guidance materials to facilitate wide-spread adoption of eDNA surveillance techniques for monitoring threatened/endangered species (TES) on military ranges. Environmental DNA analysis has emerged as a rapid, cost-effective option for detecting and monitoring rare, cryptic, and/or elusive species. This technology can detect and identify species from the DNA that they have shed into the environment, without requiring animals to be physically present at the time of sampling. Specific project objectives include 1) demonstration of the use of eDNA on military ranges, 2) construction of a database of currently available eDNA assays for DoD species and 3) provide detailed guidance on use of eDNA.

BENEFITS

TES on DoD installations can cause restrictions on training via regulatory drivers such as the Endangered Species Act (ESA), often requiring extensive survey efforts. This technology improves efficiency, resulting in cost and time benefits for monitoring TES, thereby enabling regulatory compliance and minimizing impacts of TES encroachment on military training.

PATH FORWARD

We are demonstrating the use of eDNA across a variety of military relevant challenges and contexts including single species assays, community level assays and variable habitats (standing water, flowing water and terrestrial). This demonstration, in combination with detailed guidance and an eDNA database, will facilitate adoption of this technology for more cost effective monitoring of TES on DoD lands.



TES eDNA protocol & guidelines



DoD Executive Agent

Office of the Assistant Secretary of the Army for Installations, Energy, and Environment

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FOR FURTHER INFORMATION

National Defense Center for Energy and Environment
<http://www.denix.osd.mil/ndcee/home>

Engineer Research and Development Center
<https://www.erd.c.usace.army.mil>