

Recommendations from the Invasive Species Advisory Committee (ISAC) to the National Invasive Species Council

ADOPTED MAY 2, 2024

The National Invasive Species Council posed a series of questions to the Invasive Species Advisory Committee (ISAC) for input and advice to support efforts to develop and implement a National Early Detection and Rapid Response (EDRR) Framework. The questions were considered by a joint subcommittee of ISAC and the Aquatic Nuisance Species Task Force. This document contains responses adopted by ISAC to the first two questions regarding the Framework's mission statement and measuring success.

Question 1:

What recommendations do you have, if any, on the National EDRR Framework draft Mission statement?

WORKING MISSION STATEMENT

The mission of the National Early Detection and Rapid Response Framework is to find and eradicate invasive species new to the United States or those demonstrating secondary spread by coordinating across federal and non-federal partners and investing in innovative approaches for surveillance, data integration, and response capabilities for natural resource management.

ISAC suggests the following points/questions be addressed in the mission statement:

- Address how the mission statement relates to existing early detection and rapid response efforts, specifically those at the USDA.
- Place emphasis on the second part of the mission statement.
- Focus on conservation and management of natural resources and define what is meant by natural resources.
- Is there a better word than investing, or are we investing in and implementing?
- Should it include “expand our capability and capacity”?
- Should it include preventing species from establishment?
- Should it say something about the speed of the response?
- Should “secondary” be removed from the mission statement, since it is jargony?

Question 2:

How would you define successful implementation of the Framework, and what metrics would be most effective at measuring that success?

ISAC approved the following metrics to address the question posed above.

PARTICIPATION

1. Number of jurisdictions participating in the Framework
 - a. Total count of organizations that have participated in Framework projects: commented on design or products; edited content or products; joined a listserv; or sat on communities of practice
 - i. *A high number suggests better engagement*
 - ii. *Multiyear participation demonstrates true engagement and dedication/or that it works for the partners*
 - iii. *Percent change over time indicated*
2. Number of groups participating in the Framework (broken down into Federal, State, Tribal, Local, University, or non-governmental (NGO) groups)
 - a. Count by organizations that have participated in Framework projects: commented on design or products; edited content or products; joined a listserv; or sat on communities of practice
 - i. *A high number suggest better engagement across Federal, State, Tribal, Local, University, or NGO groups*
 - ii. *Multiyear participation demonstrates true engagement and dedication/or that it works for the partners*
 - iii. *Percent change over time indicated*
3. Activity in across diverse ecosystem types, habitats, and organisms,
 - a. Descriptions of the ecosystem areas of focus for the Framework. The goal is good representation across the U.S. that includes freshwater, marine, and terrestrial ecosystems and species
 - i. *More ecosystems and species/taxonomic groups covered by the Framework projects the better*

SURVEILLANCE

4. Framework surveillance (either informed by the Framework or funded surveillance) for non-native species that are not yet present/established in the United States, a jurisdiction, or watershed country or within a region, the continued non-establishment of those species
 - a. Count of species/taxonomic groups with surveillance projects in the Framework not in the United States, State, watershed
 - i. *A higher number may not be the goal, look towards proportion of the high-risk species identified through the horizon scan and risk assessments from the Framework*
 - b. Surveillance type for organisms, damage/symptoms, and environmental DNA (eDNA)
 - i. *Good to see all types of surveillance*
5. How many new species to the United States, a jurisdiction, or watershed are found due to the Framework surveillance or planning?
 - a. Count of newly detected species found due to Framework information, projects or partners (surveillance, hotspots, horizon scans)
 - b. Count of newly detected species found to the U.S., a jurisdiction, or watershed due to Framework information or projects (surveillance, hotspots, horizon scans)
 - i. *Higher number indicates the additional focus or investments in surveillance has provided more opportunities for detection*
6. Number of high-risk invasion hotspots surveyed from Framework planning including pilot surveillance projects
 - a. Count of hotspots (stream, lake, terrestrial)
 - b. Proportion by number of hotspots in the watershed or State
 - i. *Higher number shows more effort on the ground for early detection*

7. Surveillance triggered by hot spot analysis
 - a. Number of target species or taxonomic groups
 - b. Number of surveys and survey area coverage (acres, hectares, other) grouped by methods used
 - c. Amount of resources and costs (labor, vehicles/boats, fuel, permits) included
 - d. Number of organization(s) involved
 8. Number of eDNA samples run through the Molecular Lab Network associated with the surveillance projects
 - a. Utilization of the Molecular Lab Network is important for the eDNA detection portion of the Framework. A proportion of the funded samples vs. what was processed. The goal would be 100% of funded sample processing would be utilized.
 9. Description of the locations, ecosystems and target species the READINET usage/use of loaner program was utilized
 - a. General description of the areas the READINET system was used.
 - i. *More diversity the better*
 10. The number of verified positive detections for target species through the READINET system
 - a. Count and description of verified positive detections found through the surveillance of READINET
 - i. *Not sure of a baseline for this metric, but verified detections would show the technology works.*
 11. Surveillance triggered by READINET
 - a. Number of target species or taxonomic groups
 - b. Number of surveys and survey area coverage (acres, hectares, other) grouped by methods used
 - c. Amount of resources and costs (labor, vehicles/boats, fuel, permits) included
 - d. Number of organization(s) involved
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- EARLY DETECTION AND RAPID RESPONSE**
12. Percentage of new species found due to Framework surveillance, planning and partners, and management action was initiated by the jurisdiction (control, additional surveillance, risk assessment, spread prevention)
 - a. Proportion of all species found in total from question 4
 - b. Proportion of species found by the jurisdiction
 - i. *The closer to 100% the better – response to all new finds*
 13. Percentage of new species found due to Framework surveillance, planning and partners, and jurisdiction is planning an eradication attempt through rapid response funds
 - a. GOLD STAR metric – Count of species
 - b. Proportion of all species found in total from question 4
 - c. Proportion of species found by the jurisdiction
 - i. *Higher numbers are better, but never will be 100%*
 14. Percentage of new infestations found due to the Framework surveillance, planning and partners, and management action was initiated by the jurisdiction (control, additional surveillance, risk assessment, spread prevention)
 - a. Proportion of all infestations found in total from question 4
 - b. Proportion of infestations found by the jurisdiction
 - i. *The closer to 100% the better – response to all new finds*
 15. Percentage of new infestations found due to the Framework surveillance, planning and partners, and jurisdiction is planning an eradication attempt through rapid response funds
 - a. GOLD STAR metric – Count of infestations
 - b. Proportion of all infestations found in total from question 4
 - c. Proportion of infestations found by the jurisdiction
 - i. *Higher numbers are better, but never will be 100%*
 16. Continue to exhaust Rapid Response Fund
 - a. Proportion of the available funds
 - i. *Want to use 100% of available funds*
 17. Number applications for the Rapid Response Fund
 - a. Count of unique applications
 - i. *Higher diversity of groups using the Rapid Response Fund the better to show wide adoption and need for its continuation*
 18. Diversity of applications for the Rapid Response Funds
 - a. Count of lead groups (Federal, State, and Tribal) and support groups (e.g., university and NGOs) associated with a proposal
 - i. *Higher the number better*

19. Number funded Rapid Response projects (by project, jurisdiction, and species of focus)
- a. Count of projects, jurisdiction, and species of focus
 - i. *Higher diversity of groups using the Rapid Response Fund the better to show wide adoption and need for its continuation*
20. How do we count actual eradications? Understanding timelines, etc. (not limited to rapid response fund)
21. Are we getting earlier detections and more responses?
22. Number programs utilizing other resources after the rapid response fund

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REPORTING

23. Reporting to Framework surveillance from individual databases – EDDMapS, Nonindigenous Aquatic Species (NAS) database, Wild Spotter, iMapInvasives
- a. Count of invasive species observations associated with Framework surveillance, including unique species and unique users
 - i. *More reporting is better*
24. Reporting EDRR projects through SIREN website
- a. Count of reports associated with Framework or Rapid Response Fund
 - i. *More reporting is better*

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USE OF TOOLS/ PRODUCTS

25. Traffic to SIREN website, USGS NAS website, INHABIT website, eDNA toolkit website, EDDMapS/Wild Spotter
- a. Total Number of Visits
 - i. *This metric tells you the total number of times your website was visited during a specified period: monthly, quarterly, or annually*
 - b. Total Unique Visitors
 - i. *Unique visitors are the actual number of people you reached*
 - c. Page Views
 - i. *This metric shows the total number of times any of your webpages loaded in a browser. So, even repeated page loads by the same user are counted.*
26. Logins to SIREN website – different agencies and organizations, regional use
- a. Total Number of Visits

- i. *This metric tells you the total number of times your website was visited during a specified period: monthly, quarterly, or annually*

27. How many species were added to genetic library
- a. Count of new taxa
 - i. *More is better*
28. Integration of eDNA standards, designs, and error concerns in surveillance projects.
- a. Description of the process of inclusion of eDNA standards, designs, and error concerns into sampling plans for Framework projects
 - b. Provides more confidence in the process and results by addressing concerns
 - c. Number of grey or peer-reviewed papers documenting sample plan development, implementation, lessons learned
29. Usage of a catalog of sampling methods
- a. Number of grey or peer-reviewed papers documenting sample plan development, implementation, lessons learned
30. Adoption of metabarcoding standards by agencies and labs
- a. Count of labs and agencies adopting the new metabarcoding standards
 - i. *More is better, proportion of agencies and labs using eDNA with surveillance with the Framework*

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BIG PICTURE QUESTIONS

- Is the framework adaptive based on user feedback?
- Do non-federal partners believe the framework is benefiting them, and they have a role in implementation?
- Is the framework user-friendly?
- Are there incentives necessary to encourage participation?
- Are there mechanisms in the framework to show improvement on how we are doing EDRR in the United States?
- Is the EDRR framework detecting species early and responding rapidly, or are we seeing the same rate of establishment? What percentage of new introductions are successfully detecting and responding to?
- All metrics should be about improvement