



# NET GAINS ALLIANCE

## FIMM UPDATE - May 2022

In September 2019, NMFS' Office of Science and Technology held a two-day Fisheries Information Management Modernization (FIMM) workshop in Silver Spring, MD. The event included seventy-five participants from across NMFS offices as well as external data partners such as state agencies and the Fishery Information Networks (FINs). NMFS released a summary report<sup>1</sup> in 2020, including ten recommendations for improving data and information management to meet the agency's mission.

- 1. Plan and implement a NMFS Data Governance Framework.**
2. Develop a NMFS Information Management Plan for high-volume data systems.
3. Adopt and implement a NMFS Data Management Maturity Matrix tool.
- 4. Establish a coordinated process to develop and review the legal, technical, policy, and governance aspects of NMFS information management policies.**
5. Update the NMFS Data Management Planning Procedural Directive to include regular data architecture revisions.
6. Develop and adopt Program and Project Management Standards and Guidelines for information and technology projects.
- 7. Modernize and expand the NMFS Information Management Workforce.**
8. Establish a NMFS Software Design and Development Professional Specialty Group.
9. Implement a NMFS-wide cloud-based data science, management, and publishing platform (the Cloud Data Science Platform).
10. Develop NMFS guidance for the adoption and use of software project and performance management tools.

In the three years since the workshop, the Net Gains Alliance (NGA) has observed that NMFS has made progress on many of these recommendations. NMFS has also worked to integrate them with other federal programs, such as the NOAA and NMFS Data Strategies, to improve efficiencies and make it easier to coordinate on metrics and progress. For example, the maturity matrix in #3 is an evaluation tool which can be used to assess the skills of a team and/or the performance of a program. There are data maturity matrices already in use by other agencies and available from technology consulting services, so NMFS has built their framework off existing tools rather than start from scratch.

The FIMM workshop was an important milestone in NMFS's efforts to deliver timely and accurate data for conservation and management. However, NGA believes the original FIMM report is no longer the most relevant benchmark for data modernization progress because of

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<sup>1</sup> Technical Memorandum F/SPO-204, 2020

<https://spo.nmfs.noaa.gov/content/tech-memo/fisheries-information-management-modernization-workshop>

progress made since 2019 and because moving forward the data modernization targets should be more explicitly linked with broader impact goals for NMFS and NOAA. The three recommendations in bold above offer an example of where continued focus and investment could improve our national fisheries data infrastructure and we discuss below how they tie to fisheries needs.

Three key ongoing data modernization projects:

- NMFS Data Governance Framework Implementation (FIMM 1)
- Legal, technical, and governance review of NMFS information & data management policies (FIMM 4)
- Workforce modernization and expansion (FIMM 7)

Data governance includes the people, processes, and policies that affect data throughout the data lifecycle, from planning through collection, analysis, and storage.

It is a common practice in businesses and other large organizations and is becoming more common in government. A key function of data governance is that it brings technical and non-technical experts together to strategize around data needs and how to handle them. For example, data governance committees can include enforcement, legal, science, and IT staff in discussing how to manage new data streams from electronic monitoring and reporting systems so the data are both secure and accessible by appropriate staff. That cross-sector discussion is essential to getting the most out of NMFS' data assets. As of this writing, NMFS is setting up data governance teams across every region and science center. It will be important to support those teams in setting priorities and in engaging with external partners, including the FINs, the Councils, and tribes.

Part of making data governance effective is making sure data policies reflect modern data management tools and enable the agency's mission-driven work. While the governance teams can identify policy barriers, a more comprehensive review and guidance from NOAA headquarters could lay a consistent foundation for the whole fisheries data ecosystem and ensure that language written before cell phones existed is not blocking today's critical analyses and decisions. Finally, building a data-savvy workforce is not just about information technology. NMFS should be able to hire a Chief Data Officer, data scientists, and management staff who understand how to craft rules and regulations that are focused on information delivery and not constrained by overly-prescriptive technology specifications.<sup>2</sup>

By supporting strategy through data governance, policy, and staffing, we can help NMFS achieve its mission and deliver a healthy ocean that provides social, economic and environmental benefits to people and nature alike. The Net Gains Alliance believes that America's fishing data should be trusted and reliable and that data systems should be easy to use by the fishing community and by scientists and managers. In our modern information age, we should have an information system that supports stewardship. The FIMM recommendations took NMFS in the right direction towards data modernization. We need to continue that progress and work towards a vision of success for NMFS, for fishermen, and for all of us who use and rely on the ocean.

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<sup>2</sup> See [this Marine Policy paper](#) from Garren et al (2021) for more on performance standards.