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**TECHNICAL GUIDELINES ON METHODOLOGIES AND
INDICATORS FOR THE ESTIMATION OF THE MAGNITUDE AND
IMPACT OF ILLEGAL, UNREPORTED AND UNREGULATED
FISHING (IUU FISHING)**

**TECHNICAL GUIDELINES ON METHODOLOGIES AND INDICATORS FOR THE ESTIMATION
OF THE MAGNITUDE AND IMPACT OF ILLEGAL, UNREPORTED AND UNREGULATED
FISHING (IUU FISHING)**

**VOLUME 4: Developing and using indicators to evaluate and track
performance in combatting IUU fishing**

(Expected release date: early 2023)

PRÉCIS

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Précis

FAO's Fisheries Global and Regional Processes Team has been engaged since 2015 in developing practical guidance documents to assist countries in combatting illegal, unreported and unregulated (IUU) fishing. Designed as stand-alone volumes on various topics, these guidance documents when published as a compendium will provide a comprehensive set of approaches for understanding, estimating and assessing IUU fishing risks. Previously released volumes describe the quantification of the amount of IUU fishing and include "Guiding Principles and Approaches" (2018), "Practical Guide" (2021), and "Catalog of Examples (2022)". The next volume in the series, currently underway and planned for release in 2023, will shift the focus to indicators of IUU fishing.

Indicators of risk of IUU fishing offer several benefits in comparison to quantitative estimates of IUU removals from a stock or fishery. Indicators measure something that provides insight into, but does not actually estimate, the level of IUU fishing in absolute or relative terms. An indicators approach applies readily available data and straightforward calculations, resulting in metrics that are easy to update and track over time. In addition, indicators often serve as monitoring, control and surveillance (MCS) system performance measures and thus highlight where improvements in enforcement and/or data collection are needed. Finally, while many fisheries are uniquely complex and will need bespoke approaches to estimate quantities of IUU removals, indicators offer a flexible approach which can be adapted to available fishery-specific datasets across a broad range of fisheries and provide a basis for compatible assessments.

The guidance in this forthcoming volume seeks to inform the development of a suite of indicators whose main goal is to evaluate and track performance over time in combatting IUU fishing at the fishery level. This objective differs from those of other recently developed "IUU indicators" systems. For example, a 2022 study introduces a set of indicators designed to allow risk profiling (and potentially calculating a IUU fishing risk score) for fishing vessels¹. These vessel-based indicators are intended as a screening tool to trigger inspections rather than for tracking progress in IUU fishing levels over time. Another recently proposed set of IUU fishing indicators is designed to assign a single risk score at the national level and aims at ranking countries on a global list². This global ranking approach prioritizes indicators which can easily be compiled for all countries and therefore doesn't make use of national MCS data which often offers the most accurate perspective on actual IUU fishing levels.

¹ Ford, J. H., & Wilcox, C. (2022). Quantifying risk assessments for monitoring control and surveillance of illegal fishing. *ICES Journal of Marine Science*, 79(4), 1113-1119.

² Macfadyen, G. and Hosch, G. (2020). The Illegal, Unreported and Unregulated Fishing Index, 2021. Poseidon Aquatic Resource Management Limited and the Global Initiative Against Transnational Organized Crime. <https://globalinitiative.net/analysis/iuu-fishing-index-2021/>

There is thus a need for guidance at the fishery level on simultaneously assessing the effectiveness of MCS systems and triaging the IUU fishing levels they detect. A methodology is currently under development that will measure:

- inputs toward combatting IUU fishing;
- ability to detect IUU fishing based on the scope of monitoring; and
- detected IUU fishing incidents or anomalies;

across areas of potential non-compliance (IUU fishing activity) common to most fisheries. The guidance will provide a comprehensive, though generic, framework designed to be a starting point. Fisheries will be encouraged, through examples, to modify the framework to capture the risks, issues and data sources particular to their situation. Examples will be provided to aid in the interpretation of various combinations of indicators moving in different directions. For example, if MCS inputs and scope have increased, detected incidents of IUU fishing may decrease in the long-term through deterrence, yet increase in the short-term due to a greater surveillance presence. There may also be cases where MCS inputs and scope do not move in the same direction, for example, if there is increased monitoring investment but a rapid influx of new vessels.

In addition to providing an adaptable IUU fishing indicators framework as a conceptual tool, the guidance document will also explore:

- the potential for digital applications to assist with calculation, storage and display of indicator values;
- linkages between the indicator values and MCS system development or resourcing needs;
- the relationship between indicator-based tracking and quantified IUU estimation exercises as part of an overall strategic planning cycle; and
- the potential for sharing indicator values as a communications tool and/or for national and regional awareness building (e.g. opportunities for meta-analysis).