

Indicator 14.4.1

Indicator Name, Target and Goal

Indicator 14.4.1 Proportion of fish stocks within biologically sustainable levels

Target 14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics

Goal 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Definition and Rationale

○ Definition

The indicator is defined as the proportion of marine fish stocks exploited within the maximum sustainable yield (MSY).

○ Concepts

Fish stocks have natural resilience to recover from harvesting through reproduction. The Maximum Sustainable Yield (MSY) is the concept that the largest yield (or catch) can be achieved from a fish stock over an indefinite period, when its biomass is at the level that maximizes the recovery amount, and the catch amount equals to the recovery amount.

○ Rationale and Interpretation:

Until 2018, MSY-based stock assessment was not implemented in Japan. Therefore, the limit reference point (B_{limit}), i.e., the lower limit of the amount of spawning fish, which is required to ensure biologically stable reproduction, was used as a criterion for sustainability.

Japan has been steadily shifting its fish stock assessment method to MSY-based stock assessment since 2019. The status of stocks evaluated with MSY-based stock assessment is determined to be “biologically sustainable” when their SSB, i.e., the amount of spawning fish, is above 0.8 SSB_{MSY}.

Data Sources and Collection Method

Method of Computation and Other Methodological Considerations

○ Computation Method

The indicator is calculated by dividing the number of fish stocks determined to be “biologically sustainable” by the total number of fish stocks evaluated with MSY-based stock assessment and multiplying by 100.

○ Comments and limitations

Until 2018, MSY-based stock assessments were not carried out in Japan. Therefore, stock assessments were based on the limit reference point (Blimit), i.e., the lower limit of the amount of spawning fish required to ensure biologically stable reproduction.

Since 2019, the method of fish stock assessment has been steadily shifting to MSY-based stock assessment in Japan.

Data Disaggregation

None

References

<http://abchan.fra.go.jp/>

Custodian Ministries of Data

Fisheries Agency of the Ministry of Agriculture, Forestry and Fisheries (Food and Agriculture Organization of the United Nations)

Custodian Ministries of Related Policies

Fisheries Agency of the Ministry of Agriculture, Forestry and Fisheries

International Organizations

Food and Agriculture Organization of the United Nations (FAO)