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COMMITTEE ON FISHERIES

SUB-COMMITTEE ON FISH TRADE

Twentieth Session

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Virtual Meeting on Zoom

FOOD SAFETY AND QUALITY FOR AQUATIC PRODUCTS

Executive Summary

This document examines recent advancements in food safety and quality concerning market access for aquatic products; FAO activities on food safety and quality in fisheries and aquaculture; FAO's specific collaboration with other UN agencies and relevant institutions; FAO's contributions to scientific advice to the Codex Alimentarius Commission; and the support provided to Members to implement Codex standards.

Suggested actions by the Sub-Committee

- Recommend future areas of work for ensuring food safety and quality in fisheries and aquaculture in a changing environment in the context of food security and trade.
- Comment and provide guidance on FAO's overall work in the area of safety and quality of aquatic products, particularly involving scientific advice to Codex Alimentarius processes and capacity building to implement Codex standards, guidelines, and codes of practice.
- Suggest additional areas for data collection and dissemination regarding food safety and quality.
- Share national experiences regarding market access issues related to food safety and quality for fisheries and aquaculture products.

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RECENT DEVELOPMENTS IN THE STANDARD-SETTING PROCESS WITHIN CODEX ALIMENTARIUS

1. The Codex Alimentarius guides and promotes the elaboration and establishment of definitions and requirements for foods to assist in their harmonization and facilitate international trade. Codex standards and related texts are periodically revised to ensure consistency and reflect current scientific knowledge and other relevant information.
2. The 47th Session of the Codex Alimentarius Commission (CAC47) addressed various food safety topics, some of which are highly relevant to the aquatic sector and carry implications for producers, processors, and authorities.¹ A significant development for fisheries and aquaculture is the decision by CAC47 to keep the Codex Committee on Fish and Fishery Products (CCFFP) active while awaiting concrete proposals. Members expressed considerable interest in creating standards and codes of practice for food safety regarding seaweed, and proposals will be assessed during CAC48 in November 2025. Norway, the host country for CCFFP, has shown interest in supporting new initiatives under the Committee.
3. The adopted texts and the most relevant information for aquatic products extracted from CAC47 are presented by the committees below.
4. Derived from CCFFP,² CAC47 adopted:
 - The inclusion of *Sardinella lemuru* in the list of sardine species under Section 2.1 in the Standard for Canned Sardines and Sardine-Type Products (CXS 94-1981).
 - The editorial amendments of scientific names in Section 2.1 of CXS 94-1981.
 - The resultant amendments to the labelling provisions for non-retail containers in fish and fishery products standards.
5. CAC47 also noted:
 - The insertion of *Sardinella fimbriata* and *Amblygaster sirm* (formerly known as *Sardinella sirm*) in CXS 94-1981 based on previous decisions of CAC.
 - The considerable interest in future Codex work on seaweed and other algae, for which the terms of reference of CCFFP might need to be adjusted.
6. From the Codex Committee on Fats and Oils (CCFO), CAC47 adopted the revisions to the Standard for Fish Oils (CXS 329-2017) and the inclusion of *Calanus* oil.
7. Derived from the Codex Committee on Contaminants in Foods (CCCCF), CAC47 adopted the Code of Practice for the Prevention and Reduction of Ciguatera Poisoning in Foods. Members commended CCCCCF for the prompt completion of this text, observing that it was concluded ahead of schedule and within one year after CAC46 approved this work in 2023.
8. This Code of Practice (CoP) benefited from work undertaken by FAO and WHO that provided scientific advice on ciguatera management through the Report of the Expert Meeting on Ciguatera Poisoning.³ It addresses measures for preventing or reducing ciguatera poisoning, including surveillance and monitoring programmes,

¹ FAO and WHO. 2024. *Report of the Forty-seventh Session of the Codex Alimentarius Commission, Geneva, Switzerland, 25–30 November 2024*. https://www.fao.org/fao-who-codexalimentarius/sh-proxy/ua/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-701-47%252FFINAL%252520REPORT%252FREP24_CACe.pdf

² FAO and WHO. 2024. *Report of the Thirty-Sixth Session of the Codex Committee on Fish and Fishery Products, REP24/FFP*. https://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-722-36%252FReport%252FFINAL%252520REPORT%252FREP24_FFPe.pdf

³ FAO and WHO. 2020. *Report of the Expert Meeting on Ciguatera Poisoning*. Rome, 19–23 November 2018. Food Safety and Quality No. 9. Rome. <https://doi.org/10.4060/ca8817en>.

food safety management systems, data sharing, and consumer advice directed at stakeholders such as competent authorities, fish sector operators (harvesters and producers), healthcare professionals, and consumers.

9. From the Codex Committee on Methods of Analysis and Sampling (CCMAS), CAC47 adopted the amended sampling plan for methylmercury in fish for inclusion in the General standard for contaminants and toxins in food and feed (CXS 193-1995). It is only applicable to the species of fish for which there are Codex maximum levels for a contaminant (alfonsino at 1.5 mg/kg, marlin at 1.7 mg/kg, orange roughy at 0.8 mg/kg, pink cusk-eel 1.0 mg/kg, shark 1.6 mg/kg and tuna 1.2 mg/kg).

10. CAC47 revoked the General methods for the detection of irradiated foods (CXS 231-2001) as new and more effective techniques have been developed.

11. From the Codex Committee on Food Import and Export Inspection and Certification Systems (CCFICS), CAC47 adopted the Guidelines on the Prevention and Control of Food Fraud.⁴

12. Derived from the Codex Committee on Residues of Veterinary Drugs in Foods (CCRVDF), CAC47 adopted:

- Maximum residue limits (MRLs) for imidacloprid in finfish fillet (muscle with skin in natural proportions) and/or muscle.
- MRLs extrapolated for finfish for Lufenuron in fillet and for Emamectin benzoate in muscle and fillet.

13. From the Codex Committee on Food Hygiene (CCFH), CAC47 adopted the revised Guidelines on the Application of the General Principles of Food Hygiene to the Control of Pathogenic *Vibrio* species in Seafood (CXG 73-2010), noting that the completion of this work was related to the finalization of Annex II on fish and fishery products of CXG 100-2023.

14. Derived from the Codex Committee on Food Labelling (CCFL), CAC47 adopted:

- The revision to the General Standard for the Labelling of Pre-Packaged Foods (CXS 1-1985): Provisions relevant to Allergen Labelling.
- The Guidelines on the Provision of Food Information for Pre-Packaged Foods to be offered via e-Commerce.
- The Guidelines on the Use of Technology to Provide Food Information in Food Labelling.

SCIENTIFIC ADVICE AND POLICY GUIDANCE PROVIDED BY FAO

Joint FAO/WHO Work on the Risks and Benefits of Fish Consumption

15. Since the publication of the Report of the Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption in 2010, additional evidence has become available regarding the risks and benefits of fish consumption.⁵ In October 2023, FAO and WHO held a second Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption, focusing on the health benefits of fish consumption, the toxic effects of dioxins and dl-PCBs, the toxic impact of Methylmercury, and its interactions with Selenium. The

⁴ FAO and WHO. 2024. *Draft Guidelines on the Prevention and Control of Food Fraud (Step 3/4)*. Twenty-seventh Session of the Codex Committee on Food Import and Export Inspection and Certification Systems (CCFICS), Cairns, Australia, 16–20 September 2024. CX/FICS 24/27/5. https://www.fao.org/fao-who-codexalimentarius/sh-proxy/it/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-733-27%252FWorking%2Bdocuments%252Ffc27_05e.pdf

⁵ FAO/WHO. Report of the Joint Expert Consultation on the Risks and Benefits of Fish Consumption. Rome, 25–29 January 2010. FAO Fishery and Aquaculture Report. No. 978. Rome, FAO. 2011. 50 pp. <https://openknowledge.fao.org/handle/20.500.14283/ba0136e>

exercise was supported by a Background Document on the Risks and Benefits of Fish Consumption,⁶ containing information from a systematic literature review. The expert consultation aimed to establish a framework for evaluating the health benefits and risks associated with fish consumption and to offer recommendations to the Codex Alimentarius Commission in their risk management efforts, considering the available data on the risks and benefits of fish consumption. The objectives were to analyse the findings of recent systematic literature reviews on the health risks and benefits of fish consumption to formulate conclusions about the health implications of fish consumption and to propose a series of measures that Members could implement to enhance the assessment and management of the risks and benefits associated with fish consumption.⁷ This exercise confirmed the conclusions of the 2010 Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption report, highlighting that fish consumption delivers essential nutrients for health, with substantial evidence endorsing the benefits of total fish intake throughout all life stages, including maternal fish consumption during pregnancy, which is linked to enhanced neurological development in offspring. Moreover, in addition to other findings, there is limited evidence of detrimental health impacts from methylmercury exposure concerning cardiovascular, neurological, and other health outcomes in adulthood, while the intake of ocean fish abundant in selenium mitigates methylmercury toxicity.⁸

FAO's Work on Harmful Algal Blooms and Biotoxins

16. Harmful algal blooms (HABs) substantially affect food safety and security by causing contamination or mass mortalities among aquatic organisms. Enhancing HABs forecasting presents an opportunity to establish early warning systems for HABs occurrences, including food contamination, mass mortalities, and foodborne illnesses.

17. Surveillance systems have been established to monitor HABs in numerous nations. Nonetheless, the lead time or the nature of the data (e.g. species-level identification toxicity assessment) may be inadequate for implementing efficient food safety management measures or for other purposes, such as distributing aquaculture products to different regions. Implementing forecasting or early warning systems could alleviate the effects of HABs and diminish the frequency of HABs occurrences. In this regard, FAO, the Intergovernmental Oceanographic Commission of UNESCO (IOC) and the International Atomic Energy Agency (IAEA) agreed to join efforts and FAO took the lead in developing the Joint FAO-IOC-IAEA technical guidance for the implementation of early warning systems for harmful algal blooms to assist competent authorities and pertinent institutions engaged in consumer protection or environmental monitoring in establishing early warning systems for HABs in their regions (marine and brackish waters), particularly those impacting food safety or food security (benthic HABs, fish-killing HABs, pelagic toxic HABs, and cyanobacteria HABs).⁹

18. Additional efforts are planned to create Joint FAO-IOC/UNESCO Technical Guidance in 2025 to establish marine biotoxin monitoring systems, complementing recent initiatives on ciguatera poisoning^{10, 11} and bivalve mollusc sanitation.

⁶ FAO and WHO. 2024. *FAO/WHO background document on the risks and benefits of fish consumption*. Food Safety and Quality Series, No. 27. Rome. <https://doi.org/10.4060/cd1548en>

⁷ For the report, the term “fish” is defined as finfish (vertebrates) and shellfish (invertebrates), whether of marine or freshwater origin, farmed or wild. Marine mammals and algae are outside the scope of the report.

⁸ FAO and WHO. 2024. *Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption: Meeting report, Rome, 9–13 October 2023*. Food Safety and Quality Series, No. 28. Rome. <https://doi.org/10.4060/cd2394en>

⁹ FAO, IOC and IAEA. 2023. *Joint FAO-IOC-IAEA technical guidance for the implementation of early warning systems for harmful algal blooms*. Fisheries and Aquaculture Technical Paper, No. 690. Rome, FAO. <https://doi.org/10.4060/cc4794en>

¹⁰ FAO and WHO. 2020. *Report of the Expert Meeting on Ciguatera Poisoning, Rome, 19–23 November 2018*. Food Safety and Quality No. 9. Rome. <https://doi.org/10.4060/ca8817en>

¹¹ FAO. 2020. *Monitoring and preventing ciguatera poisoning* [online course]. FAO eLearning Academy. Rome. <https://elearning.fao.org/course/view.php?id=648>

FAO's Work on Bivalve Mollusc Sanitation

19. International trade has been one of the main driving factors for the rapid growth in the production of bivalve molluscs during the last six decades. However, only a few countries have effective monitoring programmes for bivalve molluscs. In this regard, the need for international guidance for implementing bivalve mollusc sanitation programmes was addressed by FAO and WHO by creating the Joint FAO-WHO Technical guidance for the development of the growing area aspects of Bivalve Mollusc Sanitation Programmes. The guidance was recently updated by FAO and the FAO Reference Centre for Bivalve Sanitation, the United Kingdom Centre for Environment Fisheries and Aquaculture Science (Cefas), with a second edition available in English,¹² Spanish,¹³ and French.¹⁴

20. The guidance also served as the basis for developing four e-learning courses on bivalve sanitation, jointly developed by FAO and Cefas, targeting policymakers, development practitioners and programme managers, sectoral specialists and researchers, bivalve farmers, trainers, and extension agents. As of January 2025, the four courses are offered online in English¹⁵ and French,¹⁶ with the initial two courses also available in Spanish.¹⁷

Microplastics in Food Commodities

21. The FAO report on "Microplastics in food commodities"¹⁸ was presented at the 19th Session of the COFI Sub-Committee on Fish Trade (COFI:FT), and it was suggested that FAO play a role in the development of standardized testing.¹⁹ In this regard, FAO informed the Codex Committee on Methods of Analysis and Sampling (CCMAS) of the significance of employing suitable sampling and testing methodologies, which are essential to understanding the exposure and critical for toxicological studies and assessments by accurately ascertaining the quantity, dimensions, and morphology of particles, in addition to identifying the types of polymers and additives present in microplastics. CCMAS43 acknowledged the facts presented by FAO and recommended that FAO and WHO keep the Committee informed about initiatives concerning microplastics to guide evaluation strategies and eventually enhance the associated work. FAO is considering holding an Expert Consultation jointly with the International Atomic Energy Agency (IAEA) in 2026 to provide the necessary information on sampling and testing methods for microplastics to CCMAS, potentially serving as a foundation for subsequent discussions.

Food Safety of Cell-Based Seafood

22. Cell-based seafood is seen as a possible new food source. The Joint FAO-WHO report about food safety aspects of cell-based food²⁰ was presented during the 19th Session of COFI:FT. Members expressed interest in this domain and requested scientific evidence to enhance understanding of food safety implications. In this regard, FAO is planning an expert meeting to elucidate the food safety implications and to assess the current

¹² FAO and WHO. 2021. *Technical guidance for the development of the growing area aspects of Bivalve Mollusc Sanitation Programmes. Second edition.* Food Safety and Quality Series No. 5A. Rome. <https://doi.org/10.4060/cb5072en>

¹³ FAO y OMS. 2021. *Orientación técnica para el desarrollo de los aspectos relativos a las zonas de cría de los programas de saneamiento de moluscos bivalvos.* Serie Inocuidad y calidad de los alimentos, No. 5A. Roma. <https://doi.org/10.4060/cb5072es>

¹⁴ FAO et OMS. 2022. *Guide technique pour l'élaboration du volet zones conchylicoles des programmes de contrôle sanitaire des mollusques bivalves.* Série Sécurité sanitaire et qualité des aliments No. 5A. Rome. <https://doi.org/10.4060/cb5072fr>

¹⁵ FAO. 2019. *Bivalve mollusc sanitation: Growing area risk profile* [online course]. FAO eLearning Academy. Rome. <https://elearning.fao.org/course/view.php?id=481>

¹⁶ FAO. 2023. *Contrôle sanitaire des mollusques bivalves : profil de risques des zones de production conchylicole* [cours en ligne]. Académie Numérique de la FAO. Rome. <https://elearning.fao.org/course/view.php?id=913>

¹⁷ FAO. 2023. *Saneamiento de moluscos bivalvos: perfil de riesgo de la zona de cría* [curso en línea]. Academia de aprendizaje electrónico de la FAO. Roma. <https://elearning.fao.org/course/view.php?id=911>

¹⁸ Garrido Gamarro, E. & Costanzo, V. 2022. *Microplastics in food commodities – A food safety review on human exposure through dietary sources.* Food Safety and Quality Series No. 18. Rome, FAO. <https://doi.org/10.4060/cc2392en>

¹⁹ FAO. 2023. *COFI Sub-Committee on Fish Trade – 19th Session, Bergen, Norway, 11–15 September 2023.* Fisheries and Aquaculture Division. Rome. <https://www.fao.org/fishery/en/meeting/41402>

²⁰ FAO and WHO. 2023. *Food safety aspects of cell-based food.* Rome. <https://doi.org/10.4060/cc4855en>

status and prospects of this novel food source through a food system approach, taking into account various technologies, production costs, environmental impact, consumer acceptance, nutrient composition, and existing standards and regulations. The outcomes of the expert meeting will provide essential insights into the technology's potential to enhance food security and nutrition, establishing the basis for subsequent work in this area.

Antimicrobial Resistance (AMR)

23. Growing concerns over antimicrobial use in aquaculture have been highlighted in recent scientific studies, reinforcing the urgent need to reduce reliance on antimicrobials in aquaculture through better management and innovation. For this reason, in April 2024, FAO launched the "Reduce the Need for Antimicrobials on Farms for Sustainable Agrifood Systems Transformation" (RENOFARM) initiative.²¹ This ten-year global initiative²² aims to significantly reduce antimicrobial use across agrifood systems, including aquaculture, by promoting good health services, good production practices, reasonable alternatives to antimicrobials, and good incentives. Pilot programmes are underway in Indonesia, Nigeria and Uganda, focusing on improved biosecurity, farmer training, and adopting effective antimicrobial alternatives. RENOFAARM aligns with the Quadripartite One Health approach and directly supports national AMR action plans.

The Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA) Work on Fisheries and Aquaculture Products

24. In response to the 53rd Session of the Codex Committee on Food Hygiene (CCFH) request, JEMRA had two meetings on microbiological risk assessment of viruses in 2023 and 2024. The JEMRA Expert Committee examined relevant scientific literature and surveillance databases; prioritized food commodities posing the most significant public health risk; evaluated virus testing methodologies for outbreak investigations and product tests; assessed current and prospective indicators of viral contamination; discussed advancements in the management of foodborne viruses within relevant food supply chains since 2008; and identified the most effective strategies to enhance the protection of the food supply chain against viral contamination.

25. The JEMRA Expert Committee evaluated commodities globally and identified the virus-commodity combinations with the most significant public health burden linked to certain infections.

Norovirus	Hepatitis A virus	Hepatitis E virus
1. Prepared foods	1. Shellfish*	1. Pork
2. Frozen berries*	1. Frozen berries*	2. Wild game
2. Shellfish*	1. Prepared foods*	-

*Substantial regional differences were noted.

26. The JEMRA Expert Committee evaluation report²³ provides information for food safety management related to testing methods, indicators, and control measurements of foodborne viruses.

²¹ FAO. *Reduce the need for antimicrobials on farms for sustainable agrifood systems transformation (RENOFARM)*. <https://www.fao.org/antimicrobial-resistance/background/fao-role/renofarm/en/>

²² FAO. 2024. FAO launches global 10-year initiative to reduce the need for antimicrobials for sustainable agrifood systems transformation. Rome. <https://www.fao.org/newsroom/detail/fao-launches-global-10-year-initiative-to-reduce-the-need-for-antimicrobials-for-sustainable-agrifood-systems-transformation/en>

²³ FAO and WHO. 2024. *Microbiological risk assessment of viruses in foods: Part 1: Food attribution, analytical methods and indicators – Meeting report*. Microbiological Risk Assessment Series, No. 49. Rome. <https://doi.org/10.4060/cd3396en>

*JEMRA's Work on the Microbiological Risk Assessment of *Listeria Monocytogenes* in Foods*

27. In response to the request by CCFH52, JEMRA had two meetings on microbiological risk assessment of *Listeria monocytogenes* in 2022 and 2023. In the first meeting, the expert group elaborated formal models for the risk assessment of *L. monocytogenes* for lettuce, cantaloupe, frozen vegetables, and ready-to-eat (RTE) fish. It was concluded that these models should be programmed, tested, and reviewed. In the second meeting, the expert group tested and evaluated risk assessment models with different scenarios, including factors related to climate change, to characterize the risk of listeriosis due to the consumption of diced RTE cantaloupe, frozen vegetables, and cold-smoked RTE fish. From the application of the risk assessment models, it was concluded that increased levels of *L. monocytogenes* on incoming fish and poor environmental hygiene practices at the filleting and slicing stage of fish increased the risk of listeriosis. The meeting report²⁴ recommends that risk assessors and risk managers, both nationally and internationally, and professionals in the food industry focus on mitigating food hazards.

FAO's Work on Food Fraud for Aquatic Products

28. In 2018, FAO developed and published the FAO Fisheries and Aquaculture Circular Overview of Food Fraud in the Fisheries Sector, which emphasizes that the fisheries and aquaculture sector is among the food sectors most vulnerable to fraud. Building on this effort, FAO collaborated with the International Atomic Energy Agency (IAEA) to produce a joint publication detailing tools to combat food fraud in the aquatic sector while convening experts from multiple countries to create case studies illustrating prevalent instances of food fraud in the fisheries and aquaculture sector, their frequency, and the implications for public health. The report, anticipated for publication by the end of 2025, would include background information on the economic consequences of fraud, the current test methods for aquatic products, applicable legislation in major countries, and existing standards.

SANITARY AND PHYTOSANITARY (SPS) ISSUES IN THE FISHERIES AND AQUACULTURE SECTOR - ANALYSIS OF IMPORT NOTIFICATIONS

29. The variety of inspection frameworks and requirements to ensure consumer protection in importing countries poses one of the most significant challenges for food exporters of aquatic products. Exporters frequently struggle to comprehend import controls, resulting in food products being rejected, detained, or destroyed. Since 2016, FAO has been analysing import notifications from the leading importing countries and has made this information publicly available to enhance transparency and disseminate knowledge. The resultant data is categorized into six risk classifications: chemical, microbiological, histamine, toxins, parasites, and a general category termed "other causes". The analysis can be accessed on the FAO GLOBEFISH website,²⁵ while raw data regarding import notifications is publicly available in FAO FishstatJ.²⁶ The FAO GLOBEFISH website and FAO FishstatJ encompass rejections, detentions, recalls, and issues documented by competent authorities in the European Union, Japan, and the United States of America from 2016 to 2024, and Australia from 2019 to 2024. More recently, FishStatJ also has data on rejections of the People's Republic of China.

Import Notifications for Aquatic Products in 2024

30. In 2024, Australia recorded 74 import notifications of fisheries and aquaculture products through the Imported Food Inspection Scheme of the Australian Government. Import notifications increased from 59 in 2023 to 74 in 2024. Most significant notifications were attributed to histamine exceeding maximum levels, totalling 34 cases, followed by the chemical category with 30 instances and microbiological issues with 10

²⁴ FAO and WHO. 2024. *Risk assessment of *Listeria monocytogenes* in foods: Part 1: Formal models – Meeting report*. Microbiological Risk Assessment Series, No. 47. Rome. <https://doi.org/10.4060/cd3383en>

²⁵ FAO. *GLOBEFISH – Information and Analysis on International Fish Trade and Markets*. Rome. [Cited 30 April 2025]. <https://www.fao.org/in-action/globefish/en/>

²⁶ FAO. 2025. FishStat: Import notifications for fisheries and aquaculture products. [Accessed on 30 April 2025]. In: FishStatJ. Available at www.fao.org/fishery/en/statistics/software/fishstatj. Licence: CC-BY-4.0

cases. The primary chemical issue was the presence of enrofloxacin (13 cases), while the principal microbiological issue was the detection of *Listeria monocytogenes* (five cases).

31. In 2024, the European Union recorded 211 import notifications through the Rapid Alert System for Food and Feed (RASFF). Notifications rose from 198 in 2023 to 211 in 2024. The majority of notifications were attributed to chemical causes (79 cases), followed by the category of "other causes" category (64 cases) and microbiological causes (50 cases). The fourth reason for import notification was histamine exceeding maximum levels, with nine cases documented, followed by parasites (six cases) and toxins (three cases). The primary chemical issue was mercury above the maximum levels, with 40 notifications, while the predominant issue in the "other causes" category was inadequate temperature control, including 41 cases. *Listeria monocytogenes* was the most reported bacteria, with 27 cases, while *Anisakis* was the sole recorded parasite with six cases.

32. In Japan, 69 import notifications of aquatic products were recorded by the Ministry of Health, Labour, and Welfare in 2024. Most of the notifications were attributed to microbiological issues, totalling 46 cases, followed by chemicals with 21 cases and toxins with two cases. The presence of coliforms was the predominant microbiological issue, comprising 29 cases, constituting 63 percent of the microbiological category and 42 percent of the total notifications in 2024. The primary chemical issue pertained to the detection of enrofloxacin in six cases. Of the 21 chemical cases, 14 were attributed to antibiotics, including furazolidone (four cases), doxycycline (two cases), and oxytetracycline (two cases). The only marine biotoxins recorded were those responsible for paralytic shellfish poisoning (PSP), with two cases reported. The total number of cases of import notifications decreased from 96 in 2023 to 69 in 2024.

33. In 2024, the Import and Export Food Safety Bureau of the General Administration of Customs of the People's Republic of China documented 885 import notifications of aquatic products. Most import notifications originated from the "others" category, totalling 528 cases, followed by chemical issues, which accounted for 346 cases. The third reason for food safety issues was the presence of parasites, with six cases reported, followed by microbiological, which accounted for five cases. The instances of import notifications increased significantly from 539 in 2023 to 885 in 2024. Within the "others" category, the predominant issues were linked to products that did not conform to the documentation, totalling 259 cases. The primary chemical issue was the presence of sodium metabisulfite, recorded in 265 cases, whereas the sole microbiological issue was the presence of coliform bacteria.

34. In 2024, the Food and Drug Administration Import Refusal Report system documented 767 import notifications of aquatic products in the United States of America. The majority of import notifications were from the "others" category (439 cases), followed by microbiological issues (181 cases). The third most prominent reason for notifications was chemicals, accounting for 117 cases, followed by histamine above the maximum levels, with 30 cases. Within the "others" category, the predominant problems pertained to products deemed unfit for human consumption, accounting for 327 cases, constituting 74 percent of this category and 43 percent of the total import notifications of aquatic products in 2024. The primary microbiological issue was the presence of *Salmonella*, totalling 138 cases, whereas the principal chemical issue involved the presence of residues of veterinary drugs, accounting for 61 cases. Import notifications decreased from 790 in 2023 to 767 in 2024.

35. COFI:FT/XX/2025/Inf. 11 presents more information on import notifications.

INFORMATION ON IMPORT REQUIREMENTS AND FOOD SAFETY AND QUALITY REGULATIONS FOR AQUATIC PRODUCTS

36. FAO has developed summary regulatory frameworks for food safety pertinent to major importing countries, recognizing the obstacles exporters encounter in complying with food safety and quality requirements across various markets. This information regarding fisheries and aquaculture products, and bivalve molluscs is updated annually, organized by country, and accessible on the FAO GLOBEFISH website. It is classified as "general requirements for imports," "requirements for additives, contaminants, antimicrobials, and residues,"

"requirements for microbiological and organic," "requirements for labelling and packaging," and "traceability requirements."^{27, 28}

RECENT FAO PARTNERSHIPS IN FISH SAFETY AND QUALITY

Formalization of the Collaboration with UNESCO's Intergovernmental Oceanographic Commission (IOC)

37. In the past decade, FAO has engaged in a highly productive collaboration with IOC in various domains related to HABs. The FAO food safety programme has progressed significantly due to cooperation with the IOC, bolstering FAO's Programme Priority Areas (PPA) for Better Nutrition and Better Environment.²⁹ This is increasingly vital in light of climate change, which challenges the prediction of HABs and subsequently affects food security, food safety, and the environment. FAO collaborated with the IOC to establish a joint IOC-FAO Secretariat for the Intergovernmental Panel on Harmful Algal Blooms (IPHAB) through a Memorandum of Understanding signed in April 2024, recognizing the necessity for a more robust and adaptable cooperative framework between the organizations. The Seventeenth Session of the IOC-FAO IPHAB took place from 18 to 20 March 2025 in Paris, France. The IOC-FAO IPHAB is a worldwide partnership of decision-makers, policymakers, managers, scientists, international organizations, and NGOs to tackle harmful microalgae. Membership in IPHAB is open to Member States of both the IOC and FAO.³⁰ The Executive Summary of the Seventeenth Session of the IOC-FAO IPHAB, along with the adopted decisions, recommendations, and session documents, is publicly accessible.^{31, 32}

Reappointment of Cefas as FAO Reference Centre

38. Cefas has been reappointed as FAO Reference Centre for Bivalve Mollusc Sanitation for another four years.³³

39. The Reference Centre endorses the FAO vision to advocate for safe, sustainable bivalve shellfish, acknowledging the significance of wild-caught and aquaculture production in global food security and trade. The Reference Centre is dedicated to partnering with Responsible Authorities, Official Laboratories, industry, and academia. Annual activities can be found in yearly reports.³⁴

²⁷ FAO. *Food safety regulations for fisheries and aquaculture products*. In: GLOBEFISH – Information and analysis on international fish trade and markets [online]. Rome. [Cited 30 April 2025]. <https://www.fao.org/in-action/globefish/markets---trade/food-safety-regulations-for-fisheries-and-aquaculture-products/en>

²⁸ FAO. *Food safety regulations for bivalve molluscs*. In: GLOBEFISH – Information and analysis on international fish trade and markets [online]. Rome. [Cited 30 April 2025]. <https://www.fao.org/in-action/globefish/markets---trade/food-safety-regulations-for-bivalve-molluscs/en>

²⁹ FAO. 2021. *Strategic Framework 2022–31*. Rome. <https://openknowledge.fao.org/handle/20.500.14283/cb7099en>

³⁰ Member States that have not formally indicated their intention to participate in IPHAB are urged to express their interest by submitting a letter of intent to the IPHAB Secretariat at IPHAB@fao.org. Individuals selected to engage in IPHAB sessions must have national responsibilities relevant to harmful algal bloom (HAB) science or management, and their candidacy requires endorsement from the National Coordinating Body for Liaison with FAO.

³¹ OceanExpert. Executive Summary Report of the Seventeenth Session of the IOC-FAO IPHAB. [Cited 30 May 2025]. | <https://oceanexpert.org/document/36439>

³² OceanExpert - A Directory of Marine and Freshwater Professionals. Documents of the the Seventeenth Session of the IOC-FAO IPHAB [Cited 30 May 2025] <https://oceanexpert.org/event/4605#documents>

³³ FAO Reference centre work programmes and annual reports. [Cited 30 April 2025]. <https://www.cefas.co.uk/icoe/seafood-safety/designations/fao-reference-centre/work-programmes-and-annual-reports/>

³⁴ Centre for Environment, Fisheries and Aquaculture Science (CEFAS). *Work programmes and annual reports – FAO Reference Centre for Bivalve Mollusc Sanitation*. [Cited 30 April 2025]. <https://www.cefas.co.uk/icoe/seafood-safety/designations/fao-reference-centre/work-programmes-and-annual-reports/>

CAPACITY-BUILDING ACTIVITIES

40. FAO continued its capacity-building activities in food safety and quality for aquatic products by:
- Supporting Members in fulfilling major market requirements of import markets and implementing and complying with SPS requirements by facilitating the implementation of the Codex Standards and texts and international requirements in Gambia, Georgia, Malawi, Peru, Senegal, and Sri Lanka through different projects.
 - Organizing training programmes with other institutions like the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) to disseminate market access requirements related to food safety and quality, traceability, and labelling.
 - Facilitating the organization of international courses and conferences, like the World Seafood Congress, fostering the participation of developing countries.
 - Disseminating information on regulatory requirements, including import notifications, on the GLOBEFISH website and FishstatJ.
 - Supporting the implementation of Hazard Analysis and Critical Control Points (HACCP) systems through training initiatives, exemplified by the recent Global Training on the Implementation of HACCP for fisheries and aquaculture,³⁵ conducted virtually with over 1 400 participants attending three consecutive sessions.
 - Promoting online training on bivalve mollusc sanitation in collaboration with the FAO Reference Centre, focusing on guiding relevant laboratory protocols, accreditation, and use of methods for bivalve mollusc testing.³⁶

³⁵ Codex Alimentarius. 2024. *Importance of GHP and HACCP for fisheries and aquaculture showcased at FAO virtual training event*. [Cited 30 April 2025]. <https://www.fao.org/fao-who-codexalimentarius/news-and-events/news-details/en/c/1717932/>

³⁶ Centre for Environment, Fisheries and Aquaculture Science (CEFAS). *FAO regional training workshops – FAO Reference Centre for Bivalve Mollusc Sanitation*. [Cited 30 April 2025]. <https://www.cefas.co.uk/icoe/seafood-safety/designations/fao-reference-centre/fao-regional-training-workshops/>