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**TECHNICAL CONSULTATION TO IDENTIFY A
STRUCTURE AND STRATEGY FOR THE DEVELOPMENT
AND IMPLEMENTATION OF THE GLOBAL RECORD OF
FISHING VESSELS, REFRIGERATED TRANSPORT VESSELS
AND SUPPLY VESSELS**

Rome, Italy, 8 – 12 November 2010

**COMPREHENSIVE TECHNICAL DOCUMENT IDENTIFYING
OPTIONS FOR A STRUCTURE AND STRATEGY FOR THE
DEVELOPMENT AND IMPLEMENTATION OF THE GLOBAL
RECORD OF FISHING VESSELS, REFRIGERATED TRANSPORT
VESSELS AND SUPPLY VESSELS**

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Introduction

1. The objective of the Technical Consultation convened at FAO headquarters, Rome, 8-12 November 2010, is to determine recommended options for a structure and strategy for the development and implementation of the Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (GR).
2. The Technical Consultation and the documentation which supports it addresses the following key subject areas:
 - The scope of the GR;
 - Development of a suitable Unique Vessel Identifier (UVI) Scheme for the GR;
 - The hosting, management and funding of the GR;
 - Implementation of the GR;
 - Information access and privacy issues;
 - Legal issues, including whether there is a future need for a binding instrument relating to the GR; and
 - Developing country needs.
3. These subject areas are interrelated but presented separately as there are options to be considered on each. The expected output of the Technical Consultation is a report which contains a set of recommendations which will be presented to the Twenty-ninth Session of COFI, 31 January - 4 February 2011. Based on these recommendations, COFI will be asked to consider the ongoing development and implementation of the GR, a strategic framework for that development and implementation, and recognition of the resources needed for its development, implementation and ongoing operation.

Background

4. During the past two decades flag State responsibility has been one of the concerns of the international fisheries community and minimum requirements and obligations are set out in a number of international instruments. Illegal, unreported and unregulated (IUU) fishing, however, remains a serious problem and additional tools are sought to address it. As a result, the GR takes a focused approach utilizing vessel information at a global level in seeking to achieve increased transparency.
5. The general lack of comprehensive and verifiable information in the fisheries sector and in particular, information relating to the identity, ownership, authorization and activity of fishing vessels makes effective monitoring, control and surveillance (MCS) activity very difficult.

6. Cooperation between States and the sharing of information is a fundamental principle in virtually all international and regional fisheries instruments, whether binding or non-binding. In the context of combating IUU fishing, these ideals are perhaps best articulated in the International Plan of Action to Prevent, Deter and Eliminate IUU Fishing¹ (IPOA-IUU). Overall, the IPOA-IUU underlines the fact that IUU fishing is an international, trans-boundary phenomenon that cannot be effectively addressed through individualised national efforts alone.
7. The operational principles of the IPOA-IUU stress the importance of effective national, regional and international coordination and collaboration, including the sharing of information and the need to cooperate to ensure measures are applied in an integrated manner.
8. In particular, the IPOA-IUU calls on all States to maintain a record of fishing vessels entitled to fly their flag² and by strong inference, to share that record widely in the interests of cooperation, collaboration and transparency.³
9. In developing the 2002 guidelines for the implementation of the IPOA-IUU it was acknowledged that the lack of a single and complete database or record of fishing vessels undoubtedly creates opportunities for IUU vessels to escape detection.⁴
10. Subsequently, the 2005 Rome Declaration by Ministers on IUU Fishing called for the development of a comprehensive global record of fishing vessels within FAO, including refrigerated transport vessels and supply vessels. As a result, FAO undertook a feasibility study which determined that a global record was technically feasible if certain prerequisites were met.
11. The Twenty-seventh Session of COFI in 2007 reviewed the preliminary work done on the GR and supported the convening of an expert consultation which was held in 2008 (EC-GR). See Report of Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels, Rome 25-28 February 2008.
12. The EC-GR recommended that :
- There is strong justification for a GR;
 - Development of GR should be pursued as a matter of high priority and be implemented as soon as possible;
 - It should be held in the public domain and be transparent; and
 - It is technically feasible, subject to key issues being addressed, including cooperation from flag States, adoption of a unique vessel identifier, and provision of financial resources.

¹ The IPOA-IUU was developed as a voluntary instrument, within the framework of the Code of Conduct for Responsible Fisheries, in response to a call from the Twenty-third Session of the Committee on Fisheries (COFI). The IPOA-IUU was adopted by consensus at the Twenty-fourth Session of COFI on 2 March 2001 and endorsed by the Hundred and Twentieth Session of the FAO Council on 23 June 2001.

² IPOA-IUU, Art. 42

³ IPOA-IUU, Art. 9

⁴ Implementation of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. *FAO Technical Guidelines for Responsible Fisheries*. No. 9. Rome, FAO. 2002. Section 4.2.

13. The EC-GR also considered what the goals of the GR should be. This involved a wide-ranging discussion, which identified significant benefits to a broad spectrum of users. These goals have evolved as the development work has progressed and it is proposed that a GR should:

- Promote the exchange of unbiased information allowing users to be better informed about the nature of the world fishing fleet and the legitimacy of the activities undertaken by it;
- Improve transparency and significantly enhance the effectiveness of existing sources of information on vessels and other MCS tools, to deter illegal activities;
- Provide a comprehensive global information platform that distinguishes the GR from other records and registers;
- Prevent, deter, and eliminate IUU fishing and related activity by providing the over-arching global picture that will inform resource prioritisation, planning and decision-making. It represents a global response to a global problem;
- Be an international database covering as much of the world fleet as deemed appropriate and necessary by FAO member States to mitigate IUU fishing and other risks;
- Provide public access to relevant information to the extent deemed appropriate by FAO member States;
- Be entirely neutral in the presentation of the data leaving users to make whatever judgments or assessments they feel appropriate;
- Address concerns relating to the transparency and traceability of vessels, and to the extent possible provide access to vessel related information such as Port State Measures (PSM) data and fishing authorization data;
- Have simplicity in its design and user interface that encourages participation and increases levels of compliance through access to a comprehensive information picture; and
- Be aspirational in design and flexible enough to incorporate future data as the need or opportunity arises.

14. The Twenty-eighth Session of COFI in 2009 endorsed a continued programme of work to further explore the GR concept so that the findings could be presented to a Technical Consultation.

Section 1 – Scope

15. The scope of the GR is intended to determine its parameters and what should be included within the Record. The EC-GR (paragraph 33) suggested that the scope should be broad so that the Record can achieve its goal as a comprehensive, effective tool. The EC-GR also recommended that the goals of the GR should be aspirational (paragraph 59) so that future development could be achieved and future circumstances catered for.

16. With this guidance in mind, the scope of the GR can be evaluated through four important parameters. These parameters are not mutually exclusive but rather, they collectively shape the structure and potential of the GR to achieve its goals. The parameters are:

- What *types or classes* of vessels should be included?
- What *areas (high seas and areas under national jurisdiction)* should be included?
- Should all fishing vessels be included or should there be a criteria (such as size) to define eligibility? and
- What information should be included?

Type or class of vessels to be included

17. The 2005 Rome Declaration on IUU Fishing, in calling for the development of a comprehensive global record of fishing vessels within FAO, specifically included refrigerated transport vessels and supply vessels. This broad application recognised the significant role that such vessels play in facilitating IUU fishing.

18. The EC-GR suggested that it would be useful to rely on other pre-existing instruments for definitions of the key terms 'fishing', 'vessel', and 'fishing-related activities' in order to define the scope of coverage of the Global Record.

19. The definitions found in the recently agreed legally-binding instrument on Port State Measures (PSM Agreement) are identified as particularly useful in that they include refrigerated transport vessels and supply vessels, noting the need to exclude recreational fishing vessels. (See **Annex A** for the definitions).

Proposal:

The GR will adopt the definitions of fishing, vessel and fishing-related activities as defined in the PSM Agreement.

Areas of operation of vessels to be included

20. IUU fishing is a global phenomenon which does not respect national boundaries. It is perpetrated by both high seas and inshore fleets and its impacts are such that not only are fish stocks threatened, but the very viability of many coastal communities in both developed and developing countries are endangered.

21. By not differentiating between vessels that operate inside national jurisdictions and vessels that operate on the high seas, the Global Record offers a single reference point for vessel and vessel-related information that will greatly assist a wide range of users. Conversely, if selectivity is applied there will continue to be significant gaps in the information picture and total transparency will not be achieved.

Proposal:

The GR should apply to all eligible vessels, regardless of their area of operation.

Vessels to be included – by size/power

22. IUU fishing is a global phenomenon which occurs in all areas. It poses a significant threat to both food security and the viability of many coastal communities. Therefore, in principle the GR should seek to include all vessels likely to contribute to the problem.

23. The EC-GR (paragraph 59) recommended a comprehensive Record which includes **all** vessels and noted that a carefully planned phased implementation approach would be needed to ensure that priority vessels are introduced in the first instance.

24. Considering that the inclusion of **all** vessels may be too ambitious a target in the initial development of the GR, a study was commissioned by FAO to consider risk-based alternatives that would still achieve optimal coverage. That study categorised vessels into four groups and proposed that the first three groups be included in the GR through a planned implementation programme. This means the introduction of about 725,000 vessels.

25. Table 1 identifies the estimated numbers of fishing vessels⁵ in each category. A breakdown of these numbers by length and tonnage is available in **Annex A**. Implementation would necessarily occur over time and is discussed in **Section 4** of this report.

Category	Table 1 Description	Vessel Numbers
Category 1	≥ 100GT or ≥24m	185,600
Category 2	≥ 50GT but <100 GT or ≥ 18m but < 24m	164,800
Category 3	≥ 10GT but <50 GT or ≥ 12m but < 18m	375,200
Category 4	< 10GT and < 12m	3,274,400
Total		4,000,000

26. An alternative means of determining which vessels to include might be to consider a combination of size and power factors. Table 3 in **Annex A** provides this breakdown of the global fleet.

Proposal:

The GR should include all vessels of ≥ 10 GT or ≥ 12m Length over-all (LOA), regardless of power considerations.

Alternatively, a combination of size and power factors could be used to determine inclusion.

Information to be Included

27. It is impossible at this stage to specify every data requirement for every proposed information module in the GR. Nevertheless, by considering the obligations and recommendations in existing fisheries instruments it is possible to identify a comprehensive range of likely and useful data fields for early introduction.

28. The central core of the GR will consist of a collection of vessel characteristics which describe and define the vessel, its ownership and its operation. Each vessel will be allocated a unique vessel identifier (UVI) which provides a robust and permanent means of identification. The UVI also facilitates the linking of other vessel related information to the core vessel record.

⁵ As defined in the PSM Agreement. i.e. including refrigerated transport vessels and supply vessels.

29. Table 4 in **Annex A** provides a list of proposed data-fields and categorises them into data which should be provided as part of the application for a UVI, data which should be provided within 2 years of the commencement of the GR and data which should be provided within 5 years of commencement of the GR. Further data requirements will be developed as new information modules are introduced.

30. It is envisaged that the State will bear overall responsibility for the provision of the data and should introduce appropriate provisions into its national legislation to facilitate its collection. Primarily this can be coordinated through a national record of fishing vessels in accordance with the provisions of the IPOA-IUU. Much of the initial data will be provided through the application process for a vessel's UVI.

31. While a Record listing the characteristics of vessels and owners should form the core of the GR, a modular development framework would enable other associated information to be linked to the vessel. Such an approach would ensure a comprehensive information picture through which the wider objectives of combating IUU fishing and improving sector transparency can be achieved.

32. Modular development is a proven database model for delivering vessel-related information with a number of successful databases in existence.⁶ The key to the success and integrity of this modular development is the introduction of a comprehensive scheme to facilitate accurate vessel identification and data linkages.

33. While this modular approach would evolve over a number of years, an obvious early candidate for development is a module to support the information needs expressed in the PSM Agreement. State parties to the Agreement have an obligation to cooperate and exchange information and to cooperate to establish an information-sharing mechanism, preferably coordinated by FAO.⁷ Port visit and vessel inspection data could be collated in a standardised format (Annexes A and C of the Agreement), linked to the relevant vessel record within the GR and displayed through the GR to whatever extent is deemed appropriate.

34. The type of modular development envisaged can be seen in Figure 1 in **Annex A**. In particular, the types of additional information modules that could be introduced during a planned implementation programme include:

- Port State Measures;
- Fishing Authorisations;
- Vessels of Interest; and
- Other MCS Data:
 - Boardings and Inspections
 - Offending History
 - Detentions

Proposal:

As a matter of principle the GR should incorporate a wide array of vessel related information through a planned implementation programme. The proposed core information fields are identified in Table 4 of Annex A (a minimum standard) and further fields will need to be developed as new modules are introduced.

⁶ Examples are the EQUASIS database of merchant vessels and the IMO run GISIS database.

⁷ (Articles 6.1 and 16)

Section 2 - Development of a Suitable Unique Vessel Identifier (UVI) Scheme for the GR

35. The EC-GR confirmed that an effective GR must be underpinned by a *unique vessel identifier* (UVI) numbering system so that each vessel can be individually identified through a unique number that is retained by the vessel forever, regardless of flag, ownership or vessel status changes.⁸

36. All of the work done by the project team since the EC-GR, the independent UVI study commissioned by the project team⁹ and a comprehensive independent study on flag-State performance¹⁰ support the notion that a credible and enduring UVI scheme is essential to the effective tracking of vessels and the effective operation of the GR.

37. While many national and regional vessel records and registers incorporate some form of vessel number for national and regional management purposes, their effectiveness is limited to the jurisdiction in which they are developed. Once a vessel moves beyond that jurisdiction the utility of the registration number diminishes and the vessel is free to change its legal and physical personality in ways that can easily make it unrecognisable and difficult to trace. Many national and regional schemes also encounter significant duplication problems that make it difficult to differentiate vessels with similar names.

38. Nevertheless, these national and regional numbering systems are important in the national or regional context in which they operate and a global UVI number should be seen as complementary to them rather than a replacement.

39. For a UVI scheme to be effective and functional for the purposes of the GR it must have the following characteristics. It must:

- be unique and permanent;
- provide underlying integrity in the collection and maintenance of data;
- be feasible to include the full range of fishing vessels envisaged by the GR;
- be practical and effective in terms of the data requirements and the likelihood these requirements can be met; and
- be viable in terms of management structure and cost.

40. With these characteristics in mind, the independent UVI study referred to above examined a range of potential UVI schemes from both within the maritime sector and outside. It concludes that the IMO numbering scheme administered by IHS-Fairplay (IHS-F) is the most suitable on the basis of efficiency (i.e. no need to develop a new and potentially duplicative system), compatibility (i.e. with the merchant fleet system which already includes many fishing vessels), and technical considerations (i.e. data requirements ensure the integrity of the system yet can be met by most national registers with small modifications).¹¹

⁸ This need for a UVI was originally a conclusion of the Feasibility Study into the Global Record which was presented to the 27th Session of COFI in 2007 and formed the basis of COFI's decision to recommend further work

⁹ MRAG Asia Pacific Pty Ltd (Shelley Clarke), Investigation of Unique Vessel Identifier (UVI) and Phasing Options, 26 March 2010, Document number: **TC-GR/2010/Inf.5**

¹⁰ von Kistowski K, Flothmann S, Album G, Dolan E, Fabra A, Lee E, Marrero M, Meere F, Sack K. (2010), Port State Performance: Putting Illegal, Unreported and Unregulated Fishing on the Radar, p. 42, prepared for The Pew Charitable Trusts and published online on 25 May 2010, available at: http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/Port%20State%20Performance%20report.pdf?n=6316

¹¹ MRAG, op cit., p.80

41. The IMO number scheme meets all of the required criteria, has proven highly effective in the maritime sector for merchant vessels, is already in use for over 23,500 fishing vessels and is the preferred UVI to underpin other international initiatives such as AIS¹² and LRIT.¹³

42. IHS-F issues IMO ship numbers free of charge to shipyards, ship-owners/operators, administrations and classification societies on submission of a completed *IMO Number Request Form*, which is available from www.imonumbers.ihsfairplay.com.

43. IHS-F advises that the IMO numbering scheme is currently available to include all fishing vessels (greater than or equal to) $\geq 100\text{GT}$. It may also be possible to extend the numbering scheme to vessels (less than) $< 100\text{GT}$ so that a single source UVI solution is available for all vessels in the GR.¹⁴

44. After extensive consideration of existing UVI alternatives, the independent UVI study suggested 4 options before strongly endorsing Option 1—the IHS-F (IMO) Ship Numbering Scheme—as the most preferred. Option 1 is:

- Option 1: IHS-F (IMO) numbers for all fishing vessels included in the GR regardless of size. This option assumes that IHS-F is willing and able to extend the current IMO Scheme to include this range of vessels.

45. The other three options considered were:

- Option 2: IHS-F (IMO) numbers for all fishing vessels ≥ 100 gross tonnes (GT) plus the development of a separate UVI system for smaller vessels based on allocated code blocks, i.e. blocks of numbers issued to intermediaries such as flag administrations for allocation. While this option would rely on centrally issued blocks of numbers, flag States would be responsible for issuing and managing the numbering scheme for their own vessels;
- Option 3: IHS-F (IMO) numbers for fishing vessels $\geq 100\text{GT}$ plus a separate, State administered UVI scheme based on national registration numbers standardised into a common format for fishing vessels $< 100\text{GT}$. This decentralised model runs the risk of lacking global consistency and integrity;
- Option 4: An entirely new UVI scheme for all fishing vessels in the GR regardless of tonnage, based on the ISO 10087 standard (or similar globally agreed format). Management of such a scheme would be centralised to ensure integrity but global administration would be expensive.

46. While the preferred option has many advantages and few disadvantages, each of the other options presents significant challenges in terms of development, implementation and management, and would also struggle to provide the overall database integrity that

¹² The Automatic Identification System (AIS) is a short range coastal tracking system used on ships and by Vessel Traffic Services (VTS) for identifying and locating vessels by electronically exchanging data with other nearby ships and VTS stations.

¹³ The Long Range Identification and Tracking (LRIT) of ships was established as an international system on 19 May 2006 by the IMO as resolution MSC.202(81). This resolution amends chapter V of the International Convention for the Safety of Life at Sea (SOLAS), regulation 19-1 and binds all governments which have contracted to the IMO. The LRIT regulation applies to certain ship types engaged on international voyages and vessels must automatically report their position to their Flag Administration at least 4 times a day. Other contracting governments may request information about vessels in which they have a legitimate interest under the regulation.

¹⁴ An overall scope incorporating all fishing vessels $> 10\text{GT}$ or 12 Metres in Length (believed to be in the vicinity of 700,000 vessels) has been suggested in a recent independent study. Such a scope could be implemented in a three step process as outlined in the Section dealing with Implementation.

comes with the proven IHS-F (IMO) numbering scheme. For an analysis of the four options refer to **Annex B**.

47. Overall, Options 1 and 4 appear to offer the most comprehensive and seamless solutions with more likelihood of overall scheme integrity. Option 1 is likely to be significantly less expensive and offer a greater degree of ongoing integrity because it utilises existing infrastructure and systems.

- Option 1 - If IHS-F were chosen as the preferred provider of UVIs for fishing vessels using the IMO numbering scheme, it would take responsibility for the development, administration and maintenance of the fishing vessel database and within that, for the issuing of the IMO number. IHS-F would levy an annual fee to the GR to cover the costs of providing this service but it would provide the processed vessel data to the GR free of charge:
 - The IHS-F service is proposed as a value-adding process which provides the GR with access to the premier vessel UVI scheme with the ongoing assurance of database quality and integrity utilising established systems and networks;
 - The cost of this service in years 1 and 2 is estimated US\$520,000 to cover the implementation of Phase 1 (see Section 4).¹⁵ This fee would then decrease as the work transitioned from establishment to maintenance in relation to Phase 1 vessels but the costs associated with subsequent phases must then be applied. For the purposes of projecting cost in Section 3, the IHS-F fee is reflected using the initial cost adjusted annually for inflation at a rate of 6 percent. This will enable all vessels across all three phases to be introduced into the GR;
 - The value-added UVI database would be downloaded to the GR by IHS-F at regular intervals at no additional cost; and
 - An outline of the IHS-F proposal is provided in **Annex B-1**.
- Options 4 - Bearing in mind the importance of data verification processes to maintain the integrity of the database, a structure modelled on that used by IHS-F would need to be developed within the GR Management Unit and in strategic locations globally. It would be a costly exercise requiring at least 12 staff. Contractual relationships would also need to be developed with organisations such as the Port State Control Authorities to have them collect and report fishing vessel movement and inspection data, particularly for refrigerated transport vessels and supply vessels.

48. Options 2 and 3 provide States with an opportunity to develop, implement and manage a substantial portion of the GR UVI scheme but they present the challenge that many States will not be in a position to complete such an exercise without significant development assistance. It is also worth noting that the experience of others using this model suggests that ongoing maintenance of the process and data often fails (see **Annex B** and the Independent UVI Study). Costs similar to those for Option 4 relating to data verification would also need to be considered.)

Proposal:

The GR will contract IHS-F to issue IMO numbers as the preferred GR UVI for all fishing vessels $\geq 100\text{GT}$ or $\geq 24\text{m LOA}$ (Phase 1). Subsequent expansion of the scheme to include vessels $< 100\text{GT}$ or $< 24\text{m}$ (Phases 2 and 3) will proceed based on experience with Phase 1 and subject to agreed criteria to be negotiated with IHS-F.

¹⁵ This represents a cost pre vessel of less than US\$6

Section 3 - Hosting, Development, Management and Funding of the GR

49. This section considers three critical factors in establishing the GR:

- Where and how should the GR be hosted (located)?
- Where and how should the GR database be developed and managed?
- What resources are needed to establish and maintain an effective GR?

50. A number of potential permutations exist within these considerations and recommendations are sought as to how the GR should be structured and managed.

51. The **first consideration** is where the GR should be hosted (located). Two possibilities exist:

- Within FAO; or
- Under the umbrella of an external organisation.

52. If it is decided that the GR should be established within FAO, it will be important to recognise that there is no existing capacity or financial resources to fulfil such an undertaking. Additional new resources will be needed to the same extent that they will be required if the decision is taken to locate the GR outside FAO.

53. The **second consideration** is where and how should the GR database be developed and managed. It is not essential that the database be developed and maintained within the GR Management Unit. The database could be hosted within FAO as part of its e-infrastructure hosting its extended suite of databases or it may be appropriate to outsource the supply of specialist database services. In either case it should take best advantage of existing infrastructure and expertise and minimise cost.

54. An assessment of FAO's capacity to develop and host the GR database is provided in **Annex C-1**.

55. In considering possibilities for outsourcing the specialist database services, two established maritime databases were examined—EQUASIS and GISIS (operated by IMO). A commentary on the merits and suitability of both is included in **Annex C**.

56. A limited pilot trial was also conducted in conjunction with IMO (GISIS) using vessel data supplied by the North-east Atlantic Fisheries Commission (NEAFC). Details of the lessons learned are also included in **Annex C**.

57. With future database design in mind, the GR Project team commissioned a set of preliminary *User Requirements Documents* reflecting both the high level and detailed requirements of a GR database. These documents are included in the list of documents for the Technical Consultation.

58. Three potential GR management models are described in **Annex C**. They describe an operational model where:

- the GR Management Unit is located within FAO and the GR database is also developed and maintained within FAO;
- the GR Management Unit is located within FAO but the GR database is outsourced to a specialist database service provider under a service contract arrangement; and

- the GR Management Unit is located in an organisation other than FAO. In this scenario the database could also be located within the Management Unit or further outsourced to a specialist database service provider.

59. Because there are a range of development, management, and maintenance tasks that must be performed to ensure the ongoing effectiveness of the GR, it is proposed that a Management Unit be established to deliver these requirements. This unit would have day-to-day responsibility for the development and operation of the GR including capacity building and data exchange protocols, as well as development of its strategic direction. Specific duties are described in **Annex C**.

60. In assessing the staff requirements for the Management Unit, the EQUASIS model provided an understanding of the duties and functions that must be undertaken to achieve sustainable integrity in the services provided. At a minimum, the Unit could comprise a manager, 2-4 data quality officers, and one clerical staff. In addition 2 training and development personnel to undertake capacity development work throughout the duration of the implementation process are needed. This reflects the strong direction from COFI that the needs of developing States must be catered for.

61. In addition, information system services should be provided through a separate Technical Unit comprising a manager, 1 system developer, appropriate consultant staff dependent on the development requirements, and 1 clerical position.¹⁶ The term *Technical Unit* is used to quantify the nature and scope of the human resources needed to manage and operate the GR database regardless of where it is located. Such a unit would be responsible for the technical development and maintenance of the GR database by developing and implementing appropriate technical standards that ensure continued delivery of quality information services.

62. If the Technical Unit functions are outsourced to an external agency there is likely to be a premium on the estimated costs.

63. The GR database development and management costs comprise the largest component of the required budget.

- Initial development costs for a new and integrated database where no existing infrastructure exists, whether within FAO or not, using the EQUASIS model as a guide are likely to be as much as US\$4-5 million.
- Initial development (modification) costs if an established database such as FIGIS, EQUASIS or GISIS is utilised are likely to be between US\$1-2 million distributed across the first two years.
- Ongoing annual maintenance and development costs of the GR database will be approximately US\$500 000 from year three and adjusted for inflation thereafter until the end of the development phase.

64. A summary of estimated GR budget requirements over its development years and beyond is set out in the Table below. It should be noted that a conservative approach has been taken to the allocation of resources for the GR development task and extra resources may be needed over time.

¹⁶ This assessment is again based on the EQUASIS experience in the management and operation of a similar database.

Combined Management and Technical Unit for the Development and Operation of the Global Record									
Position / Task	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Global Record Unit (Combined Management & Technical Units	1,572,000	1,666,320	1,917,413	2,032,458	2,154,405	2,444,256	2,590,912	2,746,366	2,203,480
Development Operating Costs	250,000	265,000	269,664	285,844	302,994	321,174	340,445	360,871	191,261
System Design & Development	1,000,000	1,000,000	500,000	530,000	561,800	595,508	631,238	669,113	400,000
IHS-F UVI Management Fee	520,000	520,000	551,200	584,272	619,328	656,488	695,877	737,630	350,000
Total	3,342,000	3,451,320	3,238,277	3,432,574	3,638,528	4,017,426	4,258,472	4,513,980	3,144,741
FTE's	10	10	11	11	11	12	12	12	9
Note:									
1. The staff costs represent an all-inclusive figure incorporating salaries, allowances and operating									
2. The initial system design and development costs are spread over two years with additional budget allowed for ongoing development and maintenance as modules are added and modified.									
3. Figures adjusted annually for inflation by 6%									

Decision:

Guidance is sought for the appropriate location, management mechanisms, and supporting funds to establish and maintain a sustainable GR, i.e.

- Should the GR be located within FAO or should suitable external management arrangements be sought?
- Should the GR database be developed and managed within FAO or should a specialist external database provider be sought?
- What funding mechanisms will be established to ensure sustainable ongoing funding for the GR?

Section 4 - Implementation of the GR

65. Development and implementation of the GR needs to be carefully planned and managed so that member States have the maximum opportunity to engage in the process and develop or modify their own national vessel records in parallel with the implementation programme.

66. Most importantly, member States need to be able to develop the data set within their national vessel record so that UVIs can be applied for and allocated.¹⁷

67. The number of fishing vessels in the global fishing fleet is believed to be about 4 million however as discussed in Section 1 (Scope) the proposed implementation plan would cover approximately 725 000 of these.

68. The number of fishing vessels by tonnage and length categories in FAO's FI database¹⁸ and the number of vessels by tonnage and length categories in the EU Fleet Register, scaled to an estimated 4 million fishing vessels worldwide, produces the breakdown displayed in Table 2 (see **Annex A**).

69. These categories illustrated in Table 2 can be used to form the basis of an implementation plan for the GR.

- Such a plan would involve numerous phases and would span an eight year period requiring significant ongoing political and operational commitment from States. The required components of the implementation plan would include:
 - Establish the GR Management Unit with responsibility for the development, administration, operation and maintenance of the GR;
 - Establish a support programme to assist States to develop their national fishing vessel records and obtain UVIs for their vessels. This activity would span the entire life of the implementation programme and would focus on developing countries. As an example, purpose built software could be developed and supplied along with technical support to develop in-country capacity and capability to manage improved systems and processes going forward;
 - Establish the GR Technical Unit and either build a new GR database system or modify an existing system to deliver the GR product. If the functions of the unit are to be contracted to a third party, negotiations and contracts will need to be concluded;
 - Implement Phase 1 of the GR implementation plan (i.e. introduce all vessels $\geq 100\text{GT}$ and $\geq 24\text{m}$). This phase focuses on establishing the core vessel information at the heart of the GR so that ancillary vessel-related information can be added at a later date. (**Note:** Every State should undertake all necessary amendments to its national laws and processes to ensure that the owners of relevant vessels that are entitled to fly its flag supply the information needed to obtain a GR UVI. States would also coordinate the application process, having verified the accuracy of the information submitted.):

¹⁷ This process could be facilitated by Regional Fisheries Bodies, where applicable, bearing in mind the provisions of the IPOA-IUU regarding National Records of Fishing Vessels.

¹⁸ FAO Fisheries Global Information System

- Implement Phase 2 of the GR implementation plan (i.e. introduce all vessels $< 100\text{GT}$ and $< 24\text{m}$ but $\geq 50\text{GT}$ and $\geq 18\text{m}$). This phase also focuses on establishing the core vessel information for this category of vessels, at the heart of the GR. (see note above);
- Implement Phase 3 of the GR implementation plan (i.e. introduce all vessels $< 50\text{GT}$ and $< 18\text{m}$ but $\geq 10\text{GT}$ and $\geq 12\text{m}$). This phase also focuses on establishing the core vessel information for this category of vessels, at the heart of the GR. (see note above); and
- Overlaying the implementation of these three phases would be the introduction of information modules covering the ancillary vessel-related information as described earlier in the paper

70. Annex D sets out the detail underpinning each proposed implementation phase.

Proposal:

The GR will be implemented according to the plan set out in Annex D.

Section 5 – Information Access Protocols and Privacy Issues

71. Access to information within the GR can be structured to suit the requirements of FAO member States. The GR interface could integrate a functionality to limit access to certain information by user categories according to the guidance and rules established by the States.

72. If the starting point is that the GR will be an online database to which the public have access, the key issue to be addressed in this Section is whether or not access to certain data should be restricted to a narrower audience and if so, who should that audience be?

73. The relevant data categories could be listed as follows:

- Ship characteristics
- Ownership and management characteristics
- Fishing authorization characteristics
- Certification characteristics
- Classification status
- Inspection detail
- History detail
- Vessel photographs

74. In addition, there could be links to external information such as:

- Authorised / Unauthorised vessel lists
- Other MCS data

75. If a vessel already has an IMO number or is listed on a database such as EQUASIS then most of this information (with the exception of the fisheries specific categories) is already in the public domain. Likewise, if a vessel is on the authorized vessel list of some Regional Fisheries Management Organisation (RFMO), similar data is likely to be in the public domain.

76. The core information fields, comprising the *ship characteristics* category, proposed for collection through the UVI process are identified in Tables 3 and 4 (**Annex A**). This information is needed so that ongoing verification processes can be maintained to ensure the accurate identification of a given vessel at any given time. These fields represent the minimum data required by IHS-Fairplay for this purpose and for the issue of a UVI.

77. Provision could also be made to include other useful data in the *ship characteristics* category which would assist in management and MCS processes used across the fisheries sector. Such information could include details on VMS, type of gear used, factory processing facilities and refrigeration capacity.

78. Management Information is also collected through the UVI process and once an IMO number is issued, that information is available in the public domain through the IHS-F *SeaWeb* online database. The information would also be uploaded to the GR database. The specific management data currently collected as part of this process includes owner and operator names and business addresses.

79. Consideration should be given to expanding the management data set to include the names of the vessel master and the fishing master.

80. Ancillary information modules to be added to the GR over time are illustrated in Figure 1 (**Annex B**) and discussed at various stages throughout this paper.

81. As was outlined in Paragraph 6 of the Introduction to this paper, cooperation between States and the open sharing of information is a fundamental principle in virtually all global and regional fisheries instruments, whether binding or non-binding. In the context of combating IUU fishing, it is perhaps best articulated in the International Plan of Action to Prevent, Deter and Eliminate IUU Fishing (IPOA-IUU)—see **Annex E**.

82. Occasionally, States feel constrained in their ability to share information because of privacy laws. Such constraints are a direct barrier to transparency and often impede legitimate investigation into fisheries crime. Further information is available in **Annex E**.

83. It is also sometimes suggested that releasing specific vessel information could reveal sensitive capacity and capability profiles but such arguments are also difficult to understand because most fishing industry competitors have an expert knowledge of each other's capability and don't need databases such as the GR to gain such information.

84. In the case of personal information such as the name and address of the owner and operator or the name of the vessel master, privacy laws do need more serious consideration:

- In general terms, personal information can only be processed or used in the manner and for the purposes specified and conceded to at the point of collection;¹⁹
- The collection purpose must always be legitimate and consent from the individual is generally required; and
- Exceptions to the consent rule generally arise when the use is consistent with the purpose for which the information was collected or consistent with some other implied purpose - such as compliance with a legal obligation or where processing is necessary for the pursuit by the collecting agency of its legitimate interests.²⁰

85. In the context of this general framework, States have an obligation and, in many cases, a legal obligation under international law, to find a pragmatic solution to the privacy issues.

86. The challenge of eradicating IUU fishing, creating sustainable fisheries management on a global scale and achieving meaningful collaboration and information exchange in pursuit of these goals, demands a positive and pragmatic approach.

87. Most privacy laws would simply require that the fishing vessel records (both national and global) be listed as one of the legitimate collection purposes although it may also be arguable that it is an implied purpose. It may also constitute a legal obligation pursuant to international fisheries law.

88. The legitimacy of purpose is obvious, given the scope of the IUU problem, and the nature of existing international commitments and obligations.

¹⁹ Directive 95/46/EC, Article 7; NZ Privacy Act, Section 6; Canadian Privacy Act, Section 7

²⁰ Directive 95/46/EC, Article 7

89. The solution requires political will to create a global climate of transparency across the fisheries sector by replacing the information void that currently exists. By providing open access to information in the GR, States can demonstrate a commitment to transparency as a means of eradicating IUU fishing.

Proposal:

As a general principle and in order to achieve its fundamental objectives as an effective tool to combat IUU fishing and improve transparency as it relates to the identity and operation of fishing vessels, the information in the GR should be as open and unrestricted as possible. If restrictions are to be imposed, the GR interface could integrate a functionality to limit access to certain information by user categories according to the guidance and rules established by the member States.

Section 6 – Legal Issues and Whether a Future Binding Instrument is Appropriate for the Global Record

90. The EC-GR considered a number of legal issues important to the establishment of the GR. Each is relevant to this Technical Consultation and a brief summary of each is presented in **Annex F**.²¹

- The distinction between *Record* and *Registry*;
- FAO’s mandate to establish a GR;
- The value of the existing legal regime for a record of fishing vessels—the High Seas Fishing Vessel Authorisation Record (HSVAR);
- Confidentiality issues; and
- Neutrality and disclaimers.

91. A further legal issue requires consideration at this Technical Consultation, namely, should the GR have a legal instrument as its foundation (other than the FAO Constitution) and if so, what type?

Should the GR have a legal instrument as its foundation and if so, what type?

92. In providing guidance on these questions, a summary of options was presented to the EC-GR and they are repeated here for consideration.²²

93. Firstly, the merits of each of the existing legal instruments should be considered for their suitability to incorporate the GR requirements:

- **UNCLOS** (1982) neither prioritises, nor provides a systematic process for, the exchange of data between States and any international organization. It is a framework convention dealing with broad legal principles.²³ It would not be a suitable instrument in which to provide specific authority for the operation of the GR;
- Nor would the **UN Fish Stocks Agreement** be suitable for such a purpose. While this Agreement does provide specific guidance on the type of vessel data that should be collected and shared, it is legally restricted by applying only to the subject of straddling fish stocks and highly migratory fish stocks;
- The **Compliance Agreement** is perhaps the most relevant of the existing hard law instruments, however, as is outlined in **Appendix F**, despite having some strengths, it has numerous weaknesses as a foundation instrument for the GR which would need to be addressed. Specifically:
 - The problem of IUU fishing is much more than a high seas problem. If the GR is to comprehensively address all forms of IUU fishing, it must have broad application;

²¹ For a more complete account of the issues, several papers provide useful information. G Lugten, Chapter 4 of *Navigating Pacific Fisheries*, *The FAO Global Record of Fishing Vessels: Issues for Pacific Island States & the Forum Fisheries Agency*, 2009, Oceans Publications, ANCORS, University of Wollongong, available at http://www.ancors.uow.edu.au/images/publications/Navigating%20Pacific%20Fisheries%20Ebook/Chapter_4_Navigating_Pacific_Fisheries.pdf. See also G Lugten, *Current Legal Developments Food and Agriculture Organization*, *The International Journal of Marine and Coastal Law* 23 (2008) 761-767

²² Ibid, Appendix H, p. 37

²³ Article 119 on the living resources of the high seas, comes closest to dealing with the proposed Global Record when it provides that “data relevant to the conservation of fish stocks shall be contributed and exchanged on a regular basis through competent international organizations.”

- The Compliance Agreement exempts fishing vessels which are less than 24 metres in length. This reflects the equally problematic provision in Article 94 of the 1982 Convention which states that vessels of a “small size” are excluded from generally accepted international regulations, such as the registry process. Given the emergence of IUU fishing as a significant global problem and the expanding global mobility of smaller fishing vessels, these provisions would prevent a GR from achieving its intended objectives and in particular its key objective as a tool to help prevent, deter and eliminate IUU fishing;
- While Article VI provides for mandatory and discretionary fishing vessel data to be made available to FAO, the quality of the data profile is problematic in terms of addressing IUU fishing and compliance with the requirements by State Parties is varied;
- Article VII of the Compliance Agreement deals with cooperation with Developing Countries however, it provides only cursory attention to this important subject. Full and effective implementation of international instruments will continue to be impossible for many developing States without detailed attention to sustained development support; and
- Finally, the HSVAR database through which Compliance Agreement fishing vessel data is shared, can only be accessed by State Parties, thus failing to provide for the objectives of the GR.
- Article 42 of the **International Plan of Action on Illegal, Unreported and Unregulated Fishing** (IPOA-IUU) would establish a comprehensive profile on vessels and vessel ownership and as such could be a suitable instrument for the GR. Nevertheless, it would require some modification to incorporate all of the specific data necessary to obtain a GR UVI and as a soft-law instrument it does not mandate compliance; and
- The **Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing** (not yet in force) is also a potential instrument in which to provide specific authority for the operation of the GR. Its provisions are binding on State Parties and it already requires vessels to supply a broad range of data when entering a foreign port. It has the advantage of applying to all vessels but amendment would be needed to require all vessels (within the GR size range) to obtain a GR UVI.

94. Overall, perhaps the most suitable and arguably the most successful of the existing instruments is the IPOA-IUU. While it is non-binding, it has enjoyed significant uptake and its general provisions already provide direct support to the GR concept. Some modification would be needed to provide specific framework to the GR and further work could be done within FAO to facilitate this.

95. The alternatives to using an existing instrument are to develop a separate and specific instrument for the GR or to rely on purely voluntary compliance.

96. A specific legal instrument would have the advantage of providing a clear framework for the supply of data and the scope of the GR but being mandatory in nature might mean uptake is slow.

97. In contrast, if purely voluntary participation were relied on, the market through its various import/export mechanisms and other regional controls might impose sufficient pressure to incentivise participation. Nevertheless, it is likely that such incentives may only apply to larger vessels and the wider objective of addressing all IUU fishing might not be achieved.

98. If a binding instrument were deemed to be appropriate, the GR could begin its development as a voluntary code (with guidelines to be developed) with the objective of introducing the binding instrument after an agreed period.

99. In terms of the extent to which a binding instrument should define the GR, the mandating of the UVI should be the primary purpose. Defining the types of associated vessel information to be submitted to the GR could then be addressed.

100. Likewise, if an existing instrument such as the IPOA-IUU was deemed suitable for amendment to include the GR framework, the GR could still begin its development immediately as a voluntary code and evolve in due course to be incorporated into the existing instrument.

Proposal:

The GR should be launched as a purely voluntary initiative, albeit that member States commit through COFI to providing appropriate political and operational support at the national, regional and global levels to ensure its success.

Further work should be completed to establish a legally binding instrument which provides for the application of UVI to relevant vessels along with specification as to the current and future data requirements of the GR.

Section 7 – Developing Country Needs and Opportunities

101. The Twenty-eighth Session of COFI called for the needs of developing countries to be recognised in the development and implementation of the GR.

102. The EC-GR had previously recognised and addressed the fact that developing States would have special needs if they were to contribute to, and benefit from, the GR. Financial assistance and expertise in capacity building should be provided in a format similar to the Trust Fund which exists in Article 21 of the PSM. Further financial and technical assistance for developing States should be provided from other specialized UN agencies and bodies such as the World Bank and the United Nations Environment Programme.

103. Work by the GR Project Team has identified a wide range of capacity development opportunities in its liaison with developing States, including:

- Development of integrated national vessel record systems;
- Assistance with technology;
- Assistance to develop integrated MCS legal frameworks; and
- Training in the effective use of the GR and other MCS tools as an integrated toolbox with which to combat IUU fishing and educate local communities.

104. To coordinate and achieve these objectives, it is proposed that resources be provided to the GR Management Unit to employ 2 training and development personnel to deliver a comprehensive support programme throughout the life of the GR implementation programme (See **Section 3**).

ANNEXES

Annex 'A' - Scope

Type of Vessels to be Included

1. Definitions taken from the Ports State Measures Agreement:
 - **Fishing** means:
 - searching for, attracting, locating, catching, taking or harvesting fish or any activity which can reasonably be expected to result in the attracting, locating, catching, taking or harvesting of fish.
 - **Vessel** means:
 - any vessel, ship of another type or boat used for, equipped to be used for, or intended to be used for, fishing or fishing-related activities.
 - **Fishing-related activities** means:
 - any operation in support of, or in preparation for, fishing, including the landing, packaging, processing, transshipping or transporting of fish that have not been previously landed at a port, as well as the provision of personnel, fuel, gear and other supplies at sea.
2. When read collectively, these definitions clearly exclude vessels engaged solely in the carriage of fish or fish product for trade purposes once that fish has been previously landed and off-loaded at a port. They do, however, include vessels engaged in transshipment or the transport of fish or fish product that has not been previously landed and off loaded at a port. They also include 'supply vessels' involved in the supply of provisions, fuel and other equipment to other fishing vessels at sea.
3. IUU fishing in particular is often facilitated through the use of transshipment and at-sea resupply, making it very difficult to track the movements of vessels and their catch when they are engaged in illegal activity. Including refrigerated transport vessels and supply vessels in the Global Record would ensure that information is available about all vessels involved in the fishing operation and enable data validation in ways not currently possible.

Areas of Operation to be Included

4. The 1999 IPOA-Fishing Capacity calls on States and Regional Fisheries Organizations to quickly achieve equitable and transparent management of fishing capacity globally. To achieve this, the IPOA urged States to develop and maintain appropriate and compatible national records of fishing vessels and to work with FAO to develop an international record of fishing vessels.
5. The 2001 IPOA-IUU encourages States to develop and maintain comprehensive national records incorporating the details of **all** that State's fishing vessels. The implementation guidelines for the IPOA-IUU go on to acknowledge that the absence of a global record of fishing vessels undoubtedly creates opportunities for IUU vessels to escape detection.
6. In 2005, the Ministerial Declaration (Rome) on IUU Fishing called for the development of a global record of fishing vessels incorporating **all** fishing vessels.
7. In 2006, the official report of the High Seas Task Force proposed the establishment of a publicly-available, internet-based, database of information relating to the global high seas fishing fleet with the aim of building a catalogue of objective and

impartial information on the characteristics, current and previous ownership and operations of high seas fishing vessels.

8. In all cases, the proponents understood the scope and effect of IUU fishing and the fact that such activity is prevalent both inside and outside national jurisdictions. They also understood the need for a comprehensive information platform to assist coastal and port States in their management of foreign fishing fleets operating both legally and illegally in their area of interest.

9. While a comprehensive record of fishing vessels authorised to fish on the high seas would be invaluable in its own right, on its own it would not achieve the wider goals sought. The advantage in developing a record of all vessels (within a defined size range) is the comprehensive nature of the information picture that is developed and the increased certainty with which assessments and decisions can be taken. It also reflects the complex nature of some areas of operation and the need for a more complete and reliable information picture.

10. There is also a growing market trend for catch certification and verified traceability in relation to both catch and vessels. A Global Record would provide a useful and simple reference point through which declared information can be validated.

11. Given that the GR is primarily a tool to combat IUU fishing and improve transparency, it could fail in this respect if the area of operation to which it applies is restricted.

Vessels to be included – by size

12. Fishing vessel registration and the maintenance of a comprehensive record of fishing vessels are fundamental pillars for effective fisheries management at the national level and essential for collaborative effort at the regional and global levels. Their importance is recognised in most major international fisheries instruments of recent years but despite this, comprehensive data on the world's fishing fleets is not readily available.

13. Most countries maintain a register or record of larger industrial fishing vessels and carrier vessels, however many do not maintain any records of smaller fishing vessels. Given the concerns about fleet capacity, over-fishing, illegal fishing, ecological sustainability, and the wellbeing of coastal communities, this is an area where significant improvement can be achieved.

14. Table 2 provides a detailed breakdown of the global fleet by length and tonnage and divides it into the categories suggested for implementation of the GR in the independent report.²⁴ As an alternative, Table 3 provides a basis for consideration, based on estimated numbers of vessels in different categories using length and power as the relevant factors. For example, including all decked vessels with built-in engine power would involve about 1.2 million vessels but many undecked vessels may also be of interest to the GR.

²⁴ The vessel estimates illustrated in these tables were prepared after analysing the FAO FIGIS Database and the EU Fleet Register. Unfortunately the former provides a limited sample and the latter may not provide a typical vessel spread when extrapolated over the global fleet. For these reasons, the number of vessels in Category 1 is likely to be global fleet. The number of vessels in Category 1 is likely to be considerably less than predicted above, however the total number of vessels in Categories 1-3 is likely to be reasonably accurate.

	≥ 24m	≥ 18m / < 24m	≥ 12m / < 18m	< 12m	Total
≥ 100 GT	126,400	32,000	1,600		160,000
≥ 50 GT / < 100 GT	25,600	83,200	19,200		128,000
≥ 10 GT / < 50 GT		62,400	274,000	53,200	389,600
< 10GT			48,000	3,274,400	3,322,400
Total	152,000	177,600	342,800	3,327,600	4,000,000

Category One	Category 2	Category 3	Category 4
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Non-power vessels		1,739,500
Undecked vessels with external engine		1,324,600
Decked Vessels with built-in engine		1,198,100
	≥ 24m	75,700
	≥ 12m but < 24m	428,800
	< 12m	693,600
Total		4,262,200

Information to be Included

15. Figure 1 displays the type of modular development that could occur within the GR over time. The list is not definitive and other modules supporting activities such as trade, catch documentation schemes and eco-labelling could also be considered.

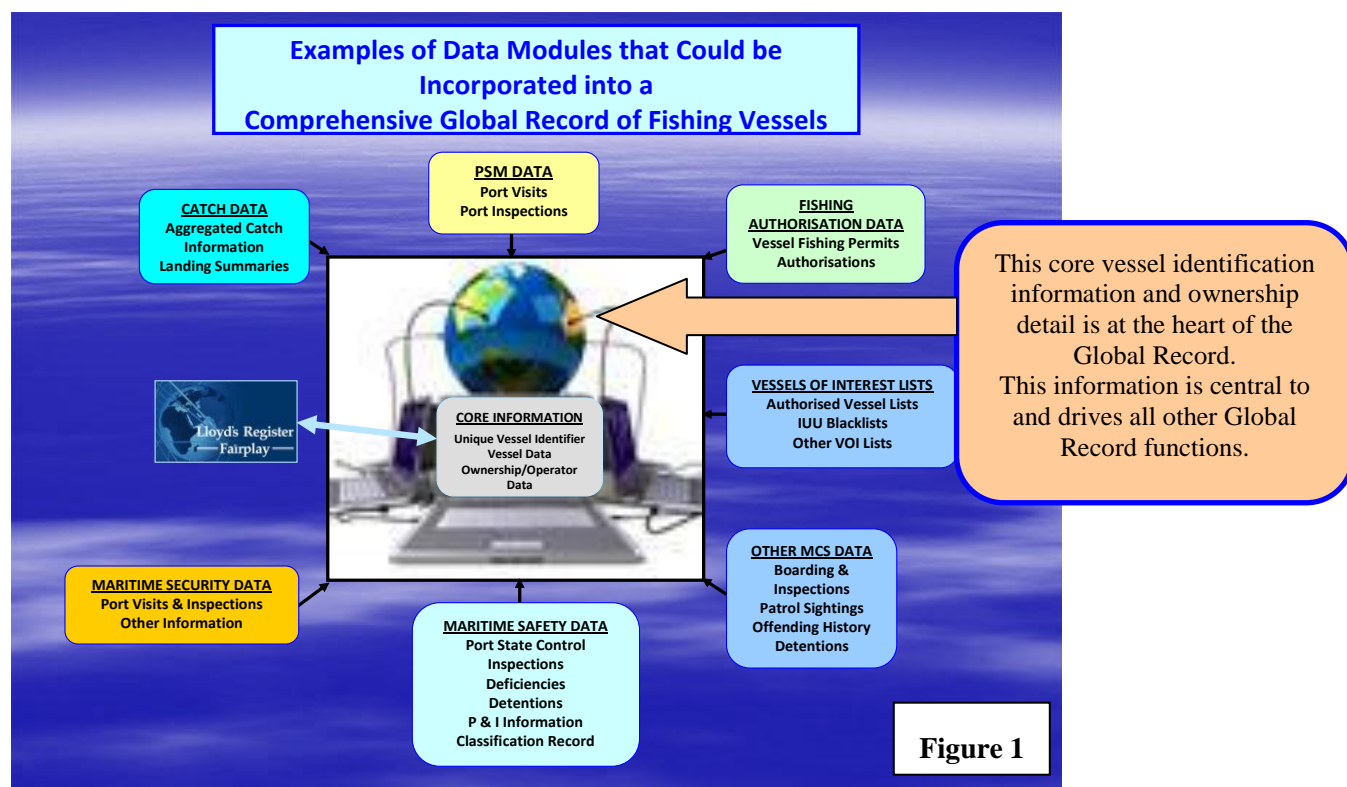


Figure 1

²⁵ Figures supplied by FAO based on the most recent estimates made this year in developing an assessment of the state of the Global Fleet for the SOFIA 2010 publication.

16. Implementation of such a model would necessarily be phased over several years (see Section 4 of this report) so that States are able to introduce the concept into their domestic arrangements in an orderly fashion. The extent to which information is made publicly available is a separate issue that will be discussed in Section 5.

17. Given that no effective global information-sharing mechanism currently exists, the GR offers a unique and valuable opportunity as the vehicle through which States can meet their obligations and objectives under the PSM Agreement and their obligation to cooperate and share information under other international fisheries instruments.

18. The ultimate advantage of using the GR to display this type of information is the underlying integrity of the vessel identification data that will be achieved by using the global UVI structure (to be discussed in Section 2).

19. The following Table consolidates all the information requirements of the key international instruments and compares them to the data set required to obtain an IMO number and finally, to the data proposed for the GR.

Table 4						
Existing Data Requirements /Proposed GR Data Requirements						
Data Item	Compliance Agreement (HSVAR)	Fish Stocks Agreement	PSM Agreement	IPOA IUU	Required for IMO Number	Proposed Global Record
Core Vessel Characteristics						
Global Record UVI Number			X			X
Vessel Name	X		X	X	X	X
Previous Names	X			X	X	X
(Certificate of) Reg No	X		X		X	X
Flag State	X	X	X		X	X
Flag State Identification Number					X	X
Previous Flags	X				X	X
Parallel Flag (if applicable)					X	X
Port of Registry	X	X			X	X
International Radio Call Sign (IRCS)	X	X	X		X	X
Where Built (Shipyard, Country)	X				X	X
When Built (Year)	X	X			X	X
Ship Builders (Name & Nationality)					X	X
Material of Construction		X				X
Type of Vessel	X	X	X		X	X
Main Gear						X
Secondary Gear (if any)						X
Length (units, type)	X	X	X	X	X	X
Moulded Depth	X		X	X	X	X
Beam	X		X	X	X	X
Draft			X	X		X
Tonnage (type GT, GRT, etc.)	X	X		X	X	X
Engine Power (Units KW, HP, etc.)	X	X			X	X
External ID		X	X			X
RFMO Name/ID (if applicable)			X			X

Table 4 Existing Data Requirements /Proposed GR Data Requirements						
Data Item	Compliance Agreement (HSVAR)	Fish Stocks Agreement	PSM Agreement	IPOA IUU	Required for IMO Number	Proposed Global Record
Bareboat/ Demise charter					X	X
MMSI Number					X	XXX
Dead weight					X	XXX
Net Tonnage					X	XXX
Parallel-in Ships True Ownership Registration Details					X	XXX
Parallel-out Ships True Owner					X	XXX
Date Entered onto Flag State Register					X	XXX
Date Ship De-registered (by the previous flag State, if applicable)					X	XXX
Storage Type						XX
Fish-Hold Capacity (capacity units)		X				XX
Fish Storage Method		X				XX
Freezer Type (if applicable)						XX
Fishing Methods	X	X				XX
Vessel Contact Information			X			XX
Vessel Photograph				X		XX
Owner/Operator Details						
Parent Company of Registered Owner					X	XX
Date and Country of Incorporation						XX
(Registered) Owner Name	X		X	X	X	X
(Registered) Owner Address	X			X	X	X
Name(s) of Ownership in History (if available)				X		X
Operator Name	X			X	X	X
Operator Address	X			X	X	X
Vessel Master Name and Nationality			X			X
Ship Manager Name, Address and Nationality					X	X
Fishing Master (Name)						X
Fishing Master (Nationality)						X
Crew (Number/Nationality)		X				XX
Fishing Authorization Data						
Fishing Auth ID(s)			X			XX
Fishing Auth. issuing body(s)			X			XX
Validity of each fishing Auth.			X			XX
Species authorized to fish			X			XX
Area(s) authorized to fish			X			XX
Gear(s) authorized to fish			X			XX
Transshipment Data						
Transshipment Auth ID(s)			X			XX

Table 4						
Existing Data Requirements /Proposed GR Data Requirements						
Data Item	Compliance Agreement (HSVAR)	Fish Stocks Agreement	PSM Agreement	IPOA IUU	Required for IMO Number	Proposed Global Record
Transshipment Auth. issuing body(s)			X			XX
Validity of each Transshipment Authority			X			XX
VMS Data						
VMS Type			X			XX
VMS Number			X			XX
VMS Authority			X			XX
Vessel Compliance Data						
History of non-compliance				X		XXX

Legend	
Data to be supplied prior to issue of UVI	X
Data to be supplied within 2 years of commencement of Global Record (1 January 2011)	XX
Data to be supplied within 5 years of commencement of Global Record (1 January 2011)	XXX

Annex 'B' - UVI

1. The problems associated with vessels not having a global UVI are discussed and the consequences highlighted in a recent independent study on the likely effectiveness of the new PSM Agreement.²⁶ With regard to the importance of UVI the study had this to say: *“Many fishing vessels lack unique identifiers, enabling operators of IUU fishing vessels to disguise their identity by renaming vessels or by switching to a different International Radio Call Sign or flag under which to sail. . . In the absence of a global vessel register and the mandatory use of IMO numbers, or a similar scheme, illegal operators will continue to disguise their vessels easily.”*

2. The only unique vessel identifier globally available is the International Maritime Organization (IMO) number. This scheme is maintained by IHS-Fairplay (IHS-F)—formerly Lloyd’s Register-Fairplay—on behalf of IMO for merchant vessels (greater than) > 100 gross tonnes (GT) in size, as required by SOLAS:²⁷

- IHS-F is the sole authority responsible for assigning and validating IMO Ship Numbers;
- The numbering format consist of a unique seven digit number;
- The Scheme assigns IMO Ship Numbers to propelled, sea-going merchant ships of 100 GT and above, with some exceptions. The most notable of these is the exclusion of fishing vessels,²⁸ however despite this over 23,500 fishing vessels have IMO numbers;
- Once issued, the IMO number is inserted on Ship's Certificates listed in SOLAS regulation I/12 and is required to be permanently and visibly marked on the ship; and
- The IMO number, once issued, is never reassigned to another vessel.

3. With the exclusion of fishing vessels from the SOLAS Convention, an appropriate agreement was sought which identified the special character of such vessels. In 1977 the Torremolinos Convention was adopted at a conference held in Torremolinos, Spain. It was the first-ever international Convention on the safety of fishing vessels:

- The safety of fishing vessels had been a matter of concern to IMO since the Organization came into existence, but the great differences in design and operation between fishing vessels and other types of ships had always proved a major obstacle to their inclusion in the Conventions on Safety of Life at Sea (SOLAS) and Load Lines;
- While other vessels load cargo in port, fishing vessels must sail empty and load their cargo at sea. In the 1980s, it became clear that the 1977 Torremolinos Convention was unlikely to enter into force, largely for technical reasons, and IMO decided to prepare a replacement in the form of a Protocol; and

²⁶ von Kistowski K, Flothmann S, Album G, Dolan E, Fabra A, Lee E, Marrero M, Meere F, Sack K. (2010), Port State Performance: Putting Illegal, Unreported and Unregulated Fishing on the Radar, p. 42, prepared for The Pew Charitable Trusts and published online on 25 May 2010, available at:

http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/Port%20State%20Performance%20report.pdf?n=6316

²⁷ SOLAS – International Convention for the Safety of Life at Sea, 1974

²⁸ A ‘fishing vessel’ for the purposes of the SOLAS Agreement is a vessel used for catching fish. It does not include refrigerated transport vessels and supply vessels.

- The Torremolinos Protocol is not yet in force and negotiations continue to resolve outstanding issues.

4. IHS-F requires a specific set of vessel data in order to issue an IMO number. This data set is important because it provides a range of specific reference points that can be used to ensure the accurate identification of a vessel regardless of the extent to which the vessel's appearance may change. While this data set is well established for vessels currently eligible to be issued with an IMO number, negotiations will continue with IHS-F to see whether a reduced data set is more appropriate for smaller vessels (i.e. vessels < 100GT/24m):

- **Table 5** lists the initial information required by IHS-F for the issue of the IMO number while **Table 6** lists additional information that must be supplied within 5 years of the GR being established. This deferral represents a concession to the GR by IHS-F to assist flag States and vessel owners in updating their own records.

Table 5 Initial IHS-F Data Requirements for the Issue of an IMO Vessel Number	
<ul style="list-style-type: none"> • Registered Owner • Flag State • Name of Fishing Vessel • Registration Number (Fishing No.) • Previous Vessel Names • Port of Registry • Address of Owner or Owners • Previous Flag or Flags (if any) • International Radio Call Sign • Where and When Built • Type of Vessel 	<ul style="list-style-type: none"> • Length • Moulded Depth • Beam • Gross Register Tonnage • GT • Power of Main Engine or Engines • Ship Builder • Nationality of Shipbuilder • Parallel Flag (if applicable) • Commercial Operator (if applicable: Charterer)

Table 6 Additional IHS-F Data Requirements for the Issue of an IMO Vessel Number (deferrable for 5 years)	
<ul style="list-style-type: none"> • Parent Company Registered Owner • Ship Manager • Bareboat / Demise Charter • MMSI Number • Flag State Identification Number (Official No.) • Net Tonnage 	<ul style="list-style-type: none"> • Dead Weight • Parallel-in Ships True Ownership Registration Details • Parallel-out Ships True Owner Details • Date Entered onto Flag State Register • Date Ship De-registered (by the previous flag State, if applicable)

Advantages and disadvantages of each of the 4 UVI options:

5. The **first option** proposes that the IHS-F (IMO) Ship Numbering Scheme be expanded to cover all fishing vessels in the GR. Such an expansion would need the support of IHS-F but preliminary discussions suggest that it is feasible.

5.1. The advantages of Option 1 include:

- The IMO Numbering Scheme:
 - is global and provides unique and permanent vessel identifiers

- has proven effective in tracing and maintaining vessel histories through multiple flag and ownership changes;
- is well established as the pre-eminent vessel numbering system across the global maritime sector;
- despite not being compulsory, already includes approximately 23,500 fishing vessels \geq 100GT as well as some fishing vessels $<$ 100GT; and
- is administered through a single entity with inbuilt checking and verification processes which continuously maintain a high data standard. IHS-F has developed a global infrastructure and reporting system to verify and cross-check vessel data that would be difficult and expensive to replicate;
- Vessel data can be uploaded to the GR from a single source, thus avoiding the necessity of arranging regular data transfers from each and every flag State administration. Flag States and vessel owners will work directly with IHS-F to maintain the integrity of their fleet data.; and
- IHS-F can deliver a single, coherent scheme that would capitalise on more than 23,500 records which already exist for fishing vessels and which would seamlessly integrate into the existing global scheme for merchant ships and other maritime initiatives.

5.2. The challenges which must be overcome in implementing Option 1 include:

- Specific arrangement with IHS-F must be negotiated, particularly as they relate to the use of the data and the data processing cost;
- The IMO Numbering Scheme may need some modification for some portion of the fishing vessel fleet; and
- The current data requirements for the issue of an IMO number are feasible for larger vessels but may need to be modified for smaller vessels.

6. The **second option** proposes the allocation of IMO numbers for all fishing vessels \geq 100 gross tonnes (GT) plus the development of a separate UVI system for smaller vessels based on centrally allocated code blocks, i.e. blocks of numbers issued to intermediaries such as flag administrations for allocation.

6.1. The advantages of Option 2 include:

- This option can be easily implemented for fishing vessels \geq 100GT utilising the existing IHS-F (IMO) Ship Numbering Scheme; and
- A newly developed numbering scheme for smaller fishing vessels would rely on centrally managed and issued blocks of numbers so that some degree of control and audit could be exerted to assist the ongoing integrity of the scheme.

6.2. The challenges which must be overcome in implementing Option 2 include:

- National fleet monitoring capacity would directly impact on quality of UVI;

- The scheme would be administered by flag States risking the loss of global consistency and integrity that can be achieved through a centrally administered scheme;
- The Global Record would need to rely on two UVI systems as opposed to the single system promoted under Option 1, making management more complex and data integration less seamless;
- Issuing blocks of numbers as opposed to issuing individual numbers from a central source requires dual administration and has the potential to cause confusion and errors;
- Vessel data for the new UVI scheme would have to be sourced from multiple flag States as opposed to a single source, significantly increasing the cost and maintenance burden on the GR; and
- A global validation scheme, similar to that run by IHS-F would need to be established for the new UVI scheme to ensure its ongoing integrity. This would be very expensive to both develop and maintain.

7. The **third option** proposes the allocation of IMO numbers for fishing vessels $\geq 100\text{GT}$ plus a separate UVI system based on national registration numbers standardised into a common format for fishing vessels $< 100\text{GT}$.

- 7.1. There are less advantages associated with Option 3 but as with Option 2:
- This option can be easily implemented for fishing vessels $\geq 100\text{GT}$ utilising the existing IHS-F (IMO) Ship Numbering Scheme.
- 7.2. The challenges which must be overcome in implementing Option 3 include:
- Existing flag State registration numbering schemes would need to be modified to achieve uniformity thus unnecessarily disrupting existing arrangements;
 - The new UVI scheme would be administered by flag States thus increasing the burden on them and risking the loss of global consistency and integrity that can be achieved through a centrally administered scheme;
 - The new UVI scheme would lack effective audit, control and verification mechanisms. To create such mechanisms would duplicate the infrastructure already in place through IHS-F and would be very expensive to both develop and maintain; and
 - Vessel data for the GR from the new UVI scheme would have to be sourced from multiple flag States as opposed to a single source, significantly increasing the cost and maintenance burden on The Global Record.
 - The Global Record would need to rely on two UVI systems as opposed to the single system promoted under Option 1, making management more complex and data integration less seamless; and
 - The Option 3 proposal also relies on a number of assumptions that may not be correct. Those assumptions include:
 - That all national vessel registers assign a unique and permanent identifier in some form;

- That the format for all of these various national identifiers can be standardised to form the basis for a global UVI;
- That the data and the identifiers can be provided in digital form;
- That the national authorities responsible for assigning the initial UVI will also be responsible for updating the vessel attribute data and uploading these data to the Global Record;
- That all fishing vessels targeted for inclusion in the GR are registered under the State's fishing vessel registration system; and
- That all participating States will have the capacity and capability to develop and maintain a State system to issue fishing vessel UVIs.

8. The **fourth option** proposes a new UVI scheme for all fishing vessels in the GR regardless of tonnage, based loosely on the ISO 10087 standard (or similar globally agreed format), assigned by one or more centralised entities.

8.1. The advantages of Option 4 include:

- Maximum flexibility because it enables the development of an entirely new UVI scheme to cover every vessel in the GR in one seamless record;
- Unique identifiers would be issued and managed centrally, assuring appropriate audit and control mechanisms; and
- Management of the UVI scheme could be integrated into the GR Management Unit, providing a saving on the purchase of data from an external UVI provider such as IHS-Fairplay.

8.2. The challenges which must be overcome in implementing Option 4 include:

- A new UVI scheme would need to be developed and implemented, incurring both development and implementation costs;
- A management and verification structure (similar to that utilised by IHS-F) would need to be developed, implemented and maintained. The costs associated with this requirement will be far higher than the offset savings achieved through in-house management. It is also unlikely that a global verification network similar to that available to IHS-F could be achieved;
- A new UVI scheme would create a duplicative scheme for the 23,500 vessels that already have IMO number, requiring those vessel owners to submit new UVI applications to the new scheme.

9. The vessel data to be supplied by vessel owners in support of Option 4 is likely to be similar to that required by IHS-F under Option 1 (or any of the other options) and therefore the position in this respect is neutral.

10. It is also noteworthy that the Joint Tuna RFMOs agreed in 2009 (Kobe 2, San Sebastian, Spain) that every authorised tuna vessel should be allocated a UVI and it was agreed that the IMO number was the appropriate standard.

11. In 2010, in support of the Tuna RFMOs initiative, the International Seafood Sustainability Foundation (ISSF) has issued a conservation measure (10-01) encouraging

participants in the seafood industry to refrain from trading or purchasing tuna from vessels without a unique IMO vessel identifier issued by IHS-F by May 31, 2011, so long as the vessel is capable of IMO registration and is of a size to be subject to RFMO active vessel registration requirements.²⁹

12. Efforts by the Joint Tuna RFMOs and this resolution at ISSF recognise that a UVI scheme for fishing vessels will not be effective if the numbers can be falsified and the database is unreliable. They acknowledge the need for a comprehensive data set such as that underpinning the IMO number so that ongoing validation processes can be used to ensure the accuracy of the database.

²⁹ The full text of the Resolution can be viewed at:
<http://www.iss-foundation.org/FileContents.phx?fileid=08111e02-4c33-4ed0-9669-33078b36e91c>

Annex 'B-1' – IHS-F Proposal to FAO for Development and Maintenance of Global Fishing Vessel UVI Scheme

Proposal

1. This proposal covers only Phase 1 of the proposed implementation plan covering the first 2 years of the project. Phases 2-3 will be further considered and quoted on the basis of the experiences of Phase 1. There will be an up front resource load for each Phase, and as that load reduces the resources for the following phases can then be estimated.
2. Cost estimates are based on the IT costs to utilise existing electronic matching tools, but experience indicates that there will also be a large element of manual work to finalise vessel matching. Existing staffing networks and global infrastructure will be available but it is estimated that an additional 6-8 dedicated staff will be needed for this purpose. There will also be additional training and management costs.
3. The cost estimate for the first two years (Phase 1) is US\$ 520,000 per annum.
4. Value-added vessel data will be supplied by IHS-F to the GR at agreed intervals at no cost.
5. Free public access to the database will be available solely within the GR. The vessel data will be available as *look-up* only to retain the sole source integrity of the IMO Numbering Schemes.

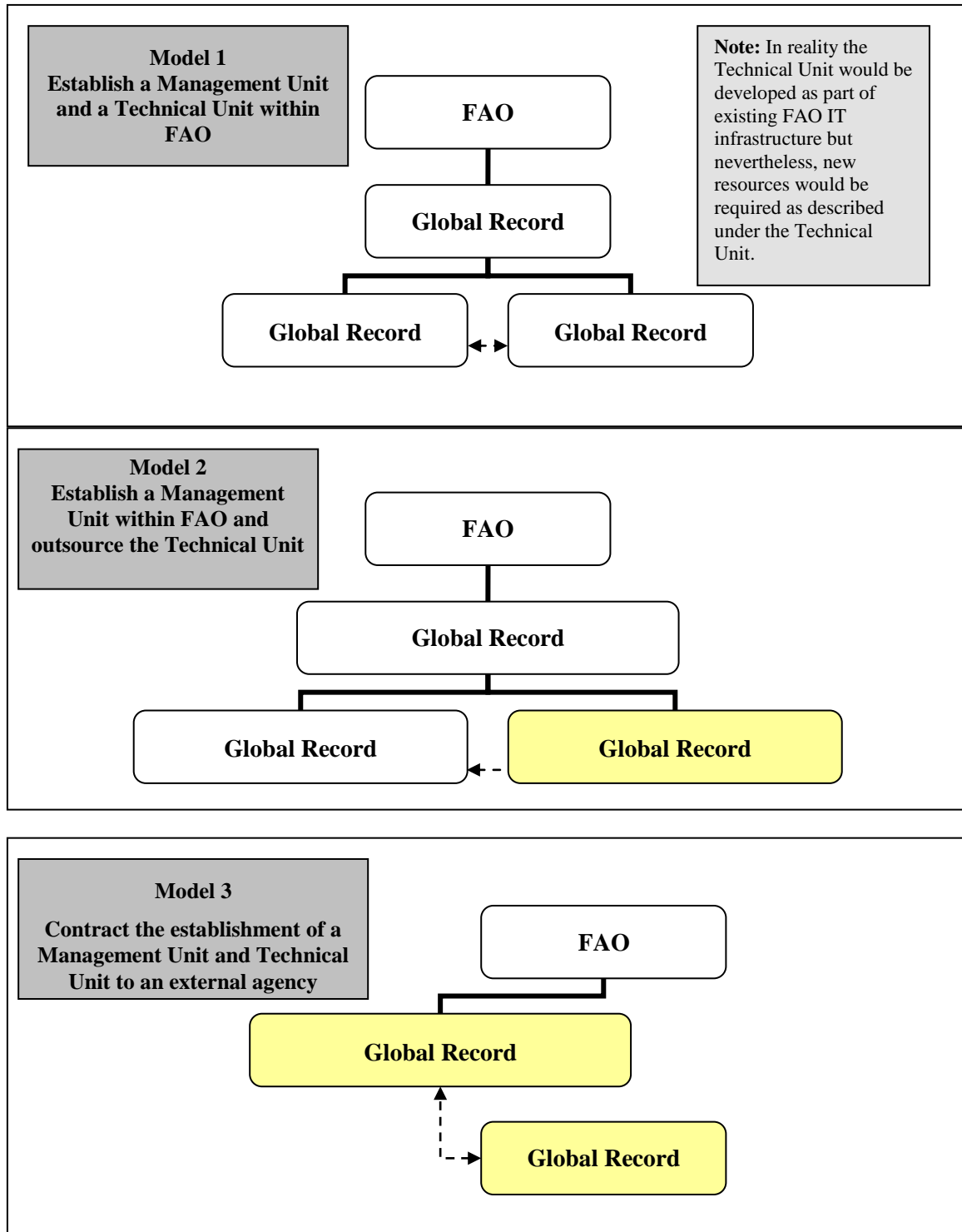
Dependencies

6. Data Exchanges:
 - Fixed data formats and exchange protocol with flags and RFMOs are a requirement (Tables 3 and 4 of Annex 'B' - Section 2 of Technical Report). There will need to be agreement on the standards that will be used: in particular measurement units and language (English only); and
 - No distribution of IMO Numbers to individual owners. IMO Numbers will only be issued via the data exchanges with flags and RFMOs. This is different to the way the existing IMO Numbering Scheme operates, but it is the way IHS-F is agreeing to extend the existing Scheme fleet with flag administrations (e.g. yachts >100GT). This preference offers considerable cost savings in the processing of applications.
7. Data distribution:
 - No requirement to distribute to other third parties.
8. Intellectual Property (IP) Rights:
 - IHS-F to have rights to publish the data in its commercial products;
 - IHS-F retains the IP of the IMO Registered Owner and Company Numbers; and
 - Agreement on the access to, and distribution of, the GR to regulatory authorities.
9. Termination
 - Termination of Agreement on agreed notice; and
 - Both IHS-F and FAO to retain ownership of the database on termination.

Note: This proposal is yet to be subjected to negotiation but is submitted as the current IHS-F position following discussions with the GR Project Team.

Annex ‘C’ - Hosting (or Development), Management and Funding

1. At the operational level it is proposed that the GR should be operated through a Management Unit with the specialist database services being provided either through an associated Technical Unit or through a third-party specialist database provider. Stakeholder input on an ongoing basis would be provided through COFI.
2. The proposed Management Unit would conduct daily business on behalf of the GR. Key responsibilities would include:
 - Conduct all day-to-day business of the GR;
 - Conclude agreements with the providers of information to the GR and arrange the modalities for access to and use of the information system;
 - Manage the ongoing growth and development of the GR in accordance with the approved development plan;
 - Plan, implement and manage appropriate capacity development projects in conjunction with member States and other contributing parties;
 - Facilitate the exchange of information, prepare summaries and statistics of the information provided through the GR and prepare reports as directed;
 - Instruct the Technical Unit as appropriate and if applicable, manage the relationship with the Technical Unit under a service contract;
 - Manage all external relationships to ensure the smooth running of the GR;
 - Handle complaints relating to the services provided by the GR and ensure efficient and effective follow-up action;
 - Prepare and manage annual budgets;
 - Prepare a detailed annual report of the Management Units activities (including the activities of the Technical Unit) for the information of GR Stakeholders and Users; and
 - Carry out such other work as may be necessary to ensure the effective operation of the GR.
3. The proposed Technical Unit, acting under the direction of the Management Unit (whether directly or through a Service Contract), would take charge of the technical operation and the maintenance of the GR database system. Key responsibilities would include:
 - The technical operation of the GR computer system and database;
 - Development of the information system and management of the database so that its full development potential is achieved in line with the planned development path;
 - Development and maintenance of appropriate technical standards to ensure the continued delivery of quality information services to both information suppliers and GR users;
 - Monitor and, where necessary, improve the quality of the system on a continuous basis; and
 - Provide the Management Unit with a detailed annual report of its activities.
4. The three proposed structural models for the GR can be seen in the diagrams below:



5. Two options have been investigated with a view to identifying potential specialist database service providers external to FAO who could deliver these services for the GR.

6. **Firstly**, discussions were held with the management team of the EQUASIS³⁰ database which is managed by the European Maritime Safety Agency (EMSA) in Lisbon:

³⁰ EQUASIS is a non-profit making organization funded by The United Kingdom, France, Spain, Norway, Japan, The Republic of Korea, Canada and the European Maritime Safety Agency (EMSA), acting as representative of the European Commission.

- EQUASIS provides an information system collating existing safety-related information on merchant ships from both public and private sources and makes it available on the Internet in order to help promote the exchange of unbiased information and transparency in maritime transport and thus allow persons involved in maritime transport to be better informed about the performance of ships and maritime organisations with which they are dealing.
7. The EQUASIS database model is useful for the GR to study because it highlights certain criteria that should be important features in the GR's own system:
- It is global and draws information from a wide range of global sources;
 - Its core vessel identification data relies on the IHS-F (IMO) numbering scheme as the central enabler of all associated information modules;
 - The core vessel identification data is sourced entirely from IHS-F, providing a reliable and largely accurate dataset;
 - Information modules are linked using the UVI so that a single search on a particular vessel provides a comprehensive picture relating to that vessel along with links to its wider associations, e.g. a list of other vessels in the same fleet; and
 - Search parameters are carefully controlled so that data cannot be downloaded and used for commercial purposes. For example, it is only possible to search on a single vessel rather than a fleet although it is possible to search on a vessel owner and if more than one vessel is associated with that owner then all will show. The principle here is that pertinent information should be made available without exposing the database to unwarranted commercial exploitation.
8. In the first instance, the GR Project Team sought to conduct a pilot project using vessel information from the Joint Tuna RFMO list of authorised vessels and display the results through EQUASIS. The Tuna RFMOs were willing participants until they realised that their development pathway would be longer than originally expected and that as a result they would be unable to participate.
9. Subsequently, EQUASIS management has indicated that the proposed GR exceeds its safety-related mandate and for that reason it is not possible at this time for EQUASIS to be considered as a potential host of the GR database. Nevertheless, it has also indicated that further discussion is possible.
10. **Secondly**, discussions were held with the International Maritime Organisation (IMO) with a view to utilising their Global Integrated Shipping Information System (GISIS) database for the purposes of a pilot trial. On the basis that it does not represent a long-term commitment by any party, IMO agreed to conduct a limited pilot project involving vessel data from the North East Atlantic Fisheries Commission (NEAFC). Whether GISIS would be suitable as a permanent host for the GR was seen as a separate issue that would require further discussion and input from the IMO member States.
11. IMO have indicated that subject to ongoing discussions, GISIS may be available as a suitable database vehicle for the GR. Any arrangement would need to be cost neutral to IMO and would need the approval of IMO member States. Certain modification would need to be negotiated to facilitate the GR but IMO is confident that these are technically feasible.

12. The pilot trials conducted by IMO on behalf of FAO and NEAFC have confirmed that the concept of the GR is entirely feasible.

- Information can be uploaded from multiple sources;
- Information can be displayed under whatever parameters are deemed appropriate;
- The front screens of the GR database (i.e. the public face of the system) can be branded to a GR style rather than a GISIS style so that there is no confusion as to which system is being accessed and viewed.

Annex ‘C-1’ — An Overview of FAO Capacity to Develop the GR as an Integrated Database within its IT Infrastructure

1. This Annex describes the current FAO capacity, including on-going development with expected outcomes within a few years, in relation to the tasks required to support the GR as a part of its information services. Tasks considered here are limited to those required for collection, collation and dissemination of data and information in an integrated way. Assessments of financial and/or human resource requirement are also included by different options.
2. More detailed information, specifically on IT aspects, is available in an expanded information document (available on the GR website) with some examples of use cases.

FAO’s comparative advantages

3. FAO’s mission is to serve as a knowledge network—to collect, analyse and disseminate data that aid sustainable development.
4. FAO has a mandate to develop and maintain IT infrastructure in support to knowledge exchange in the field of agriculture, forestry and fisheries. In 2009, the FAO Knowledge Exchange Strategy identified best practices illustrated by selected on-going knowledge exchange programmes. The IT facilities already developed by FAO can serve the needs identified for the GR. Such facilities can be made available to the Global Record Management Unit through Service Level Agreements.
5. In the field of Fisheries, FAO has developed a thorough experience in multi-thematic databases integration, systems interoperability, and data and information exchange networks, all of which are highly relevant to needs of the Global Record. The Fisheries and Aquaculture Department (FI) is maintaining a number of multilingual and interoperable data bases which can directly support the core modules of the Global Record or its peripheral modules.
6. In the past FAO has lacked the resources needed to maximize the benefits of information resources such as the HSVAR database. However a substantial renovation of data management and evaluation system is in progress to support both HSVAR database and fleet statistics which envisages the release of services in holding and allowing search for all vessel records maintained and disseminated publicly by RFBs and IGOs at the end of 2011.

FIGIS: the institutionalized information system framework to FI’s global knowledge base

7. In 1999, FAO initiated the development of the Fisheries Global Information System (FIGIS). Conceived as an information management tool that interconnects groups of institutional partnerships to build up a network of subsystems, FIGIS delivers expert knowledge, a set of software tools, collaborative mechanisms, and interoperability solutions to a broad range of needs in fisheries information.
8. In 2003 FIGIS was institutionalised and identified as one of the privileged tools to support the implementation of the FAO Strategy for improving information on Status and Trends of Capture fisheries.
9. In the following years FIGIS has become the information system infrastructure serving FI Department’s goals for web-based integrated information. It covers the main

FI business needs (fishery statistics, geo-mapping, fact sheets, fishery standards, webpages) and offers mechanisms to inter-relate all these domains as well as interoperate with other systems.

10. In 2010, this infrastructure covers more than 30 information domains, powers different websites and offers web-services compliant with W3C standards. With the development of the new PC-based FishStat application, FIGIS has recently extended its capacities by enabling platform independent standalone applications to interact over the internet with a central web-based system, a feature that could be a precious asset for supporting the development of national registers feeding the GR. In 2010, a team composed a manager, 8 software developers, and 5 information management specialists are contributing to the development of the FIGIS infrastructure (including for D4Science below). More on FIGIS is available at: <http://www.fao.org/fishery/figis/en> .

D4Science: extending FIGIS IT capabilities beyond web2.0 technology and enabling information sharing mechanisms beyond the fishery community of practice

11. Since 2008, FI together with FAO's knowledge exchange corporate unit are participating to the D4Science EC funded project. Making use of leading edge Grid- and Cloud-based computing technologies, this project focuses on providing an IT environment which responds to the business needs established by various communities of practice spanning across fisheries, marine biodiversity, marine and earth environment monitoring, digital libraries, and is open to host any other information domain in the future.

12. D4Science offers collections of data and application services, bundled in a secure environment on a grid infrastructure. This architecture reduces hardware and software maintenance costs and offers a wide range of information and user management capabilities. In this initial phase, FI develops its capacities driven by the following objective:

- implementation of new business models for integrated catch statistics, fishery country profiles and integrated RFBs and IGOs vessel list; and
- development of enhanced information sharing mechanisms with communities of practices beyond the fishery sector.

Sustainability of this platform is one of main concerns of the project which dedicates a whole Work Package to this issue. More on D4Science is available at: <http://www.d4science.eu/> .

13. D4Science emulates FIGIS capacities by extending its potential, and accordingly FI has strategically decided that any development supported by D4Science should also strengthen FIGIS capacities. This is a precautionary approach which enables new developments to take place on the proofed FIGIS infrastructure while having the potential to be deployed on the D4Science infrastructure.

FAO-FI resource requirements to provide extended IT capacity as regards the GR

14. FAO FI has adequate experiences and infrastructure to serve for the needs of the GR identified in this document, except capacity conducting independent verification and audit on all.

15. Regarding the database development costs, reasonable development time and appropriate resources will be needed to achieve the required outcomes. With reference to

comparable experience, these development costs are assessed to be in the range of US\$1 to 2 millions.

16. In terms of resources to cover both the “Management” and “Technical” units roles as described in the main part of this document, 10-12 full time equivalents (FTEs) comprising both full-time staff and consultants will be needed across the 8 years initial development period, back to 9 FTEs during the post development phase (year 9). The total cost of this resource is in the vicinity of US\$1.6 million in year 1, peaking at US\$2.75 million in year 8, and back to US\$2.2 million in year 9.

17. The figures in paragraph 16 above include provision for 2 FTEs required during the 8 development years to deliver capacity development and implementation support to member States and to developing States in particular. Development operating costs amounting to US\$250,000 in the first year (subsequently adjusted for inflation) will cover additional support from local consultants, staff and consultants travels and training workshops.

18. The resources needed with regard to content management will depend on the implementation phase and the selected model.

- For UVI Model 1 where only collation and distribution of data is required, one full time staff with possible assistance of consultants would be sufficient for data processing and quality control. However, during implementation it is likely that vessel related data will be received by the GR Management Unit before UVIs are issued for those vessels. That vessel related data should be processed and posted to the GR, requiring at least 1 additional FTE in phase 1 and a further FTE for each of phases 2 and 3. In post development phase (year 9), 3 FTEs will be required to maintain this process.
- In the case of Models 2 or 3, it is essential for States/RFBs to be responsible for issuing, verifications, monitoring and reporting of UVIs. The unit will be able to manage UVIs for block issuance in Model 2 without need for additional staff. However, there is likely to be a need for evaluating the consistency of UVI assignment through analysis of vessel information for all reported records. The resource needed for this will be one FTE for every 60,000 vessel records – a total of 13 FTEs once the GR is fully implemented. The cost of this resource will be approximately US\$2.4 million.

Annex ‘D’ – Implementation

1. The components of the proposed implementation programme are explained below and an indicative timeline for an estimated 8 year implementation programme is shown in the chart below.

2. The establishment of the GR Management Unit will involve the appointment of the GR Unit Manager, the development of appropriate job descriptions and the recruitment of required staff.

3. The establishment of a GR implementation support programme will ensure ongoing development support to member States throughout the duration of the implementation programme and will deliver the development objectives contained in relevant international instruments and expressed by COFI in 2009.

4. The establishment of the GR Technical Unit or the outsourcing of these services by way of a service contract will naturally follow the establishment of the GR Management Unit.

5. **Phase 1** of the implementation programme can commence immediately the GR Management Unit is established if the IHS-F (IMO) numbering scheme is accepted as the UVI scheme for the GR. If not, a new UVI scheme will need to be developed and Phase 1 implementation could commence as soon as that task is completed. Data will then be uploaded to the GR database system as soon as it is established. Vessels in Size Category 1 (i.e. $\geq 100\text{GT}$ and $\geq 24\text{m}$) feature prominently in the IUU fishing analysis³¹ set out in Section 5.3 of the UVI Report supporting this Technical Consultation (TC-GR/2010/Inf.5) and so implementation for this group should be the first priority. This size category will capture many of the vessels operating on the high seas along with many of the refrigerated transport vessels and supply vessels which support these fishing operations. It is estimated that approximately 185,600 fishing vessels are contained in Size Category 1 and would thus be targeted in Phase 1. Approximately 13% (23,400) of these vessels already possess IHS-F (IMO) numbers and so if the IHS-F (IMO) UVI scheme is chosen as the preferred scheme for the GR, these prior registrations mean that Phase 1 is already significantly advanced:

- A breakdown of active fishing vessels (by type) which currently have (IMO) numbers is displayed in Table 7;

Fish Carriers	616
Fish Factory Ships	68
Fishing Vessels	12,842
Trawlers	9,513
Fishing Support Vessels	397
Total	23,436

- A

breakdown of the top 10 flag States carrying IHS-F (IMO) numbers is displayed in Table 8;

³¹ It should be noted that this analysis focuses mainly on IUU fishing perpetrated on the high seas or by distant water fishing fleets as opposed to the significant IUU problem known to exist in inshore waters and perpetrated by local vessels and facilitated by poor legal and enforcement regimes and a general lack of transparency in the fisheries sector.

Table 8			
Top 10 Flag States with Vessels Carrying IHS-F (IMO) Numbers³²			
European Union (22 States)	3,879	Peru	714
United States of America	3,372	Norway	469
Russia	1,465	Peoples Republic of China	462
Japan	1,234	Philippines	444
South Korea	1,136	Morocco	425
Total (Top 10 States represented)			13,600

- A further 120 flag States have fishing vessels carrying IHS-F (IMO) numbers;
- Targeting the remaining large fishing vessels which do not already have IHS-F (IMO) numbers under Phase 1 of the implementation may be facilitated by the fact that vessels ≥ 100 GT can currently apply for and be assigned IHS-F (IMO) numbers free of charge;
- Under these circumstances Phase 1 implementation can progress immediately while discussions are underway with IHS-F regarding upgrading the standards and procedures for fishing vessels within the IHS-F (IMO) database. A data supply contract will also need to be negotiated and established with IHS-F if they are the preferred UVI supplier; and
- States will need to make the necessary political and operational commitment to the GR process and in particular to ensuring that relevant vessels obtain a GR UVI. At the same time, FAO will need to work with States to provide capacity development assistance where it is needed.

6. **Phase 2** of the implementation programme can commence once Phase 1 has been significantly progressed. Phase two should include vessels in Size Category 2 (i.e. vessels not in Size Category 1 but ≥ 50 tonnes or ≥ 18 m length) as well as all remaining fishing vessels on T-RFMO authorised fishing vessels lists. The objective of this phase would be to expand the GR to include slightly smaller fishing vessels which are, or are likely to be, fishing in waters managed by RFMOs. Following on from Phase 1, Phase 2 would capture the majority of the remaining vessel sizes and types that appear frequently in IUU fishing activity databases (Section 5.3 of the UVI Report supporting this Technical Consultation - TC-GR/2010/Inf.5) and that have been noted as being of concern in some RFMOs (e.g. long-liners of 20-24m; ICCAT 2009). Phase 2 is designed to target the approximately 165,000 fishing vessels in Size Category 2, plus an additional 6,000 fishing vessels on T-RFMO lists which are smaller than Size Category 2:

- Under an existing offer to the T-RFMOs (Section 2.1.4 of the UVI Report supporting this Technical Consultation - TC-GR/2010/Inf.5), IHS-F (IMO) numbers can be provided to vessels on the T-RFMO authorised fishing vessel lists free of charge provided that data exchange requirements are met; and
- Full implementation of Phase 2 using the IHS-F (IMO) UVI scheme will require the agreement of IHS-F for the inclusion of all Size Category 2 vessels. If this proves infeasible, a separate UVI scheme would need to be developed.

7. **Phase 3** of the implementation programme can commence once Phases 1 and 2 have been significantly progressed. Vessels in Size Category 3 (i.e. vessels smaller than

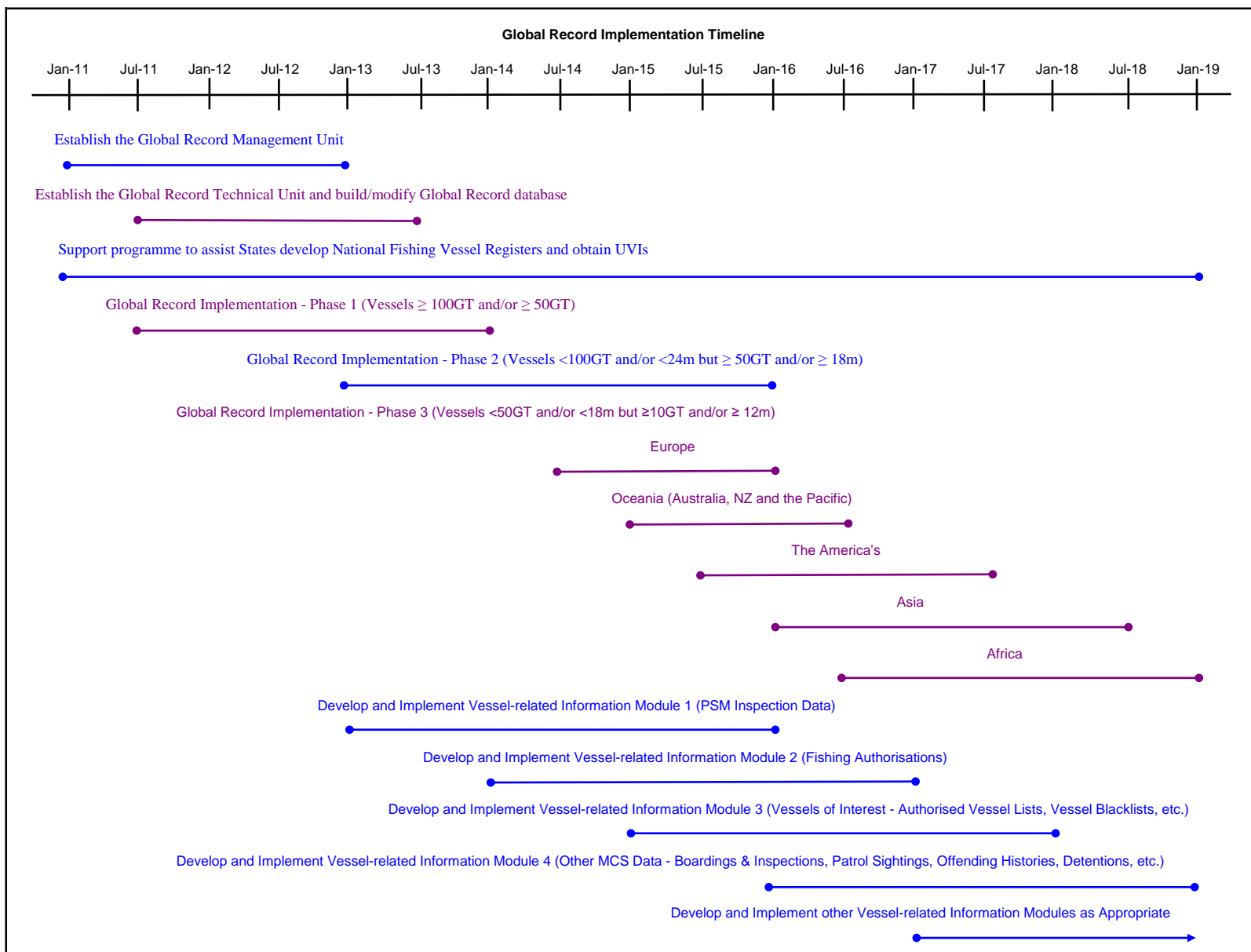
³² Figures provided by IHS-F as at the end of November 2009

Size Categories 1 and 2, but ≥ 10 tonnes or ≥ 12 m length) which are not part of the T-RFMO proposal for inclusion in phases 1 and 2 will comprise the third phase of implementation:

- These vessels have not often been implicated in the type of IUU fishing activities assessed in Section 5.3 of the UVI Report supporting this Technical Consultation - TC-GR/2010/Inf.5 but may be implicated in local and cross-boundary IUU incidents which are not often reported in the global media;
- Size Category 3 vessels are usually registered on national vessel databases and for the sake of a comprehensive system could be incorporated into the UVI scheme;
- The number of vessels involved in Phase 3 is estimated to be approximately 375,000 and it is suggested that implementation occur by region; and
- Full implementation of Phase 3 using the IHS-F (IMO) UVI scheme will require the agreement of IHS-F for the inclusion of all Size Category 3 vessels. This may require modification of the UVI format from the current six-digit-plus-check-digit format either by adding a digit, by converting to hexadecimal, or another option. If these issues are insurmountable, a streamlined UVI scheme for small fishing vessels would need to be developed.

8. The development of the various vessel-related information modules will require considerable cooperation from flag States. Unlike the core vessel data which can be uploaded into the GR from a single source—the UVI supplier (e.g. IHS-F)—this vessel related information will have to be obtained from each and every flag, port and coastal State. Information collation and transfer mechanisms will need to be established.

9. The development of the Port State Measures data module is suggested as the first because timing is likely to coincide with its entry into force and the need for port States to comply with its information sharing provisions.



Annex 'E' - Information access protocols and privacy issues

1. The IPOA-IUU provides the strategic framework through which States can fulfil their obligations as responsible international citizens in the fisheries context and has the single objective to prevent, deter and eliminate IUU fishing through effective and transparent measures. Its operational principles stress the essential nature of close and effective national, regional and international coordination and collaboration, the sharing of information, cooperation to ensure measures are applied in an integrated manner, and transparency. Overall, the IPOA-IUU scheme underlines the fact that IUU fishing is an international, trans-boundary phenomenon that cannot be effectively addressed through disconnected national efforts alone.

2. In cases where privacy laws are cited as a barrier to transparency, one must carefully consider the interpretation being applied and weigh the interests being protected against the wider international interest in long-term fisheries sustainability. Whether such laws can be justifiably applied in the circumstances is a reasonable question:

- When applied to non-personal information such as vessel data the answer is clearly that they do not;
- Privacy law, by definition, applies to 'personal data'³³ which is generally defined as any information relating to an identified or identifiable individual; and
- Stretching this definition to cover non-personal vessel data could be a misuse of privacy laws, especially when the reasons for wide disclosure are robust and justified, ie. the conservation and management of sustainable fisheries and the prevention of IUU fishing.

3. Nevertheless, some national jurisdictions may also have legislation protecting 'official information' which is generally described as information held by a Department, Minister of the Crown or other Government Organisation:³⁴

- Again it is irresponsible to use such provisions in an inappropriate way. Such legislation provides safeguards against the misuse of official information held by government agencies but, as long as the information is used for the purposes for which it was collected, it should be made available unless there is good reason for withholding it;³⁵ and
- Public interest and personal privacy might provide grounds for information to be withheld but if the release is consistent with the stated purpose for collecting the information in the first place, even these reasons are unlikely to be justified.

³³ Examples of established privacy law defining 'personal information' include: Directive 95/46/EC of the European parliament and of the Council of 24 October 1995, on the protection of individuals with regard to the processing of personal data and on the free movement of that data, 23/11/95, Official Journal of the European Communities, No. L281/31, Article 2(a); New Zealand Privacy Act 1993, Section 2(1); Canadian Privacy Act 1983, Section 3.

³⁴ For example, New Zealand's Official Information Act 1982, Section 2

³⁵ New Zealand Parliament, Official Information Act 1982, Sections 4-5

Annex ‘F’ – Legal Issues and Whether a Future Binding Instrument is Appropriate for the GR

The distinction between *Record* and *Registry*

1. The terms *vessel register* and *vessel record* are often used interchangeably but their meanings and applications are distinct and a clear understanding of them is important in the context of IUU fishing, flag State responsibility and effective fisheries management.

2. In fisheries, accurate and effective risk assessment, resource prioritisation, operational planning and practical fleet management all depend on an accurate and complete understanding of fleet dynamics and activity, whether at the national, regional or international level.

3. Without effective fleet management, it is not possible for a State to fulfil its obligations as a flag State, whether in the fisheries context or otherwise, but fleet management is also a dynamic and diverse exercise.

4. In order to introduce consistent structure and standards for the management of fishing vessels, to combat IUU fishing and to generally improve flag State performance, virtually every international fisheries instrument since 1995 has alluded to the need for *national and international records of fishing vessels*. Of particular significance:

- In 1999 the International Plan of Action for the Management of Fishing Capacity (IPOA-Fishing Capacity) sought to improve flag State performance and the management of fishing vessels by advocating the development of *national records of fishing vessels* (Articles 16 & 17) and the establishment of an *international record of fishing vessels* by FAO; and
- In 2001, the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) reinforced the need for both *national and international records of fishing vessels* as a means of improving transparency and combating the growing problem of IUU fishing.

5. Management of vessels from the point of view of nationality, legal personality, classification, safety, pollution and security are inevitably managed by the State’s maritime agency and different rules often apply to different classes and sizes of vessel:

- This means that many vessels, and in particular many fishing vessels (which have traditionally been exempt from some of the provisions of the SOLAS Convention³⁶) are not included in a State’s *vessel registry*; and
- The Torremolinos Convention and its successor the Torremolinos Protocol, have both sought to introduce measures to regulate these areas for larger fishing vessels, however, the Protocol is not yet in force and in any event does not provide coverage for smaller vessels.

6. The management of the fishing activity of fishing vessels is traditionally linked to the authorisation of the vessel to fish (whether in the State’s domestic waters or on the high seas) and this aspect of management is usually the responsibility of the State’s fisheries agency.

7. The distinction between *record* and *registry* is important at all levels:

³⁶ International Convention for the Safety of Life at Sea (SOLAS), 1974

National Level

- At the national level, registration and the maintenance of a vessel register is the means by which a vessel is granted legal personality—i.e. the right to fly the flag of the country issuing the registration and the official record of ownership and associated mortgages and liens. Once registered, the vessel is issued with a certificate of registry:
 - The United Nations Convention on the Law of the Sea (UNCLOS)—Article 94—requires States to “maintain a register of ships containing the names and particulars of ships flying its flag, except those which are excluded from generally accepted international regulations on account of their small size;”
 - The term *small size* is not consistently applied. For example the SOLAS Convention applies various size criteria depending on the activity being regulated. The proposed Torremolinos Protocol which is directly applicable to fishing vessels will apply to vessels ≥ 100 gross tonnes; and
 - A State’s *vessel registry* is typically managed by the State’s maritime authority which is often different and distinct from the agency responsible for fisheries management or fisheries enforcement.
- In contrast, a *record of fishing vessels* could be described as a detailed list of vessels designed to provide information about the vessels contained within it. It does not confer legal personality on the vessel but as will be seen below some records are used to manage fishing authorizations:
 - A number of significant international instruments require States to maintain a *record of fishing vessels*. The FAO Compliance Agreement (Article IV), the FAO Code of Conduct for Responsible Fisheries (Article 8.2.1), UN Fishstocks Agreement (Article 18.3) and the International Plan of Action – IUU (Article 42) all allude to such a mechanism; and
 - Under the provisions of the IPOA-IUU, all fishing vessels should be recorded in a State’s *record of fishing vessels* differentiating this mechanism from the State’s *vessel registry* which may not include all vessels because of size and which is probably not maintained by the State’s agency responsible for fisheries issues.

Regional Level

- At the regional level a registry of fishing vessels may exist if the organisation maintaining it uses it to issue and record authorizations to fish. Many RFMOs maintain such processes and rather than calling the list a *record*, they prefer to use the term *registry*.

International Level

- At the international level, the HSVAR database provides an example of a *vessel record* whereby its sole purpose is to collate and provide information. Even though it is mandated by a binding legal instrument—the FAO Compliance Agreement—the *record* itself serves no other purpose than to provide information and improve transparency.

8. Most States maintain a *vessel registry* although the criteria for vessel registration vary widely. Most registries do not provide open access although vessel data can be obtained through databases such as Sea-web (maintained by IHS-Fairplay) and EQUASIS where comprehensive data on merchant vessels is available.

9. Despite being required under some international fisheries instruments and strongly recommended under the IPOA-Fishing Capacity and the IPOA-IUU, many States do not maintain a *record of fishing vessels*.

FAO's mandate to establish a Global Record

10. The Expert Consultation concluded that FAO does have an implicit mandate for proceeding with a GR based on the FAO Constitution, Articles 1.2 and 1.3.

11. FAO powers described in these articles include the ability to promote research, improve education and public knowledge, provide assistance to governments, encourage the adoption of international policies, and make recommendations on the conservation of natural resources. While these provisions may not expressly authorize the creation of a GR within FAO, they do permit, by implication, the establishment of the Record.

12. Databases already exist within FAO where information supplied by States can be placed in the public domain. The exception is the HSVAR database which restricts the availability of data under the provisions of its authorising instrument—the FAO Compliance Agreement.³⁷

The value of the existing legal regime for a record of fishing vessels—the High Seas Fishing Vessel Authorisation Record (HSVAR)

13. The Expert Consultation examined the FAO Compliance Agreement, and in particular HSVAR to see whether its content, operation and value as a remedial tool in the global fight against IUU fishing were complementary with the proposed GR and conducive to it potentially being the most relevant international instrument in which the development of the GR could be addressed. A number of challenges were immediately evident:

- Only State Parties to the FAO Compliance Agreement are obliged to provide data to the HSVAR;
- Only State Parties have access to information contained in the HSVAR database;
- The HSVAR has both poor quality of data and an inadequate quantity of data. Some State Parties do not provide any data, and those that do, will often provide incomplete data;
- The Compliance Agreement is specifically restricted to the high seas and much IUU fishing occurs within zones of national jurisdiction;
- Fishing vessels which are less than 24 metres in length are exempted from the Compliance Agreement, and an increasing number of vessels are being constructed which are “invisible” by being less than 24 metres;
- Basic ownership details (the legal owner) are required but often not supplied, while manager/operator details are only required to the extent practicable. This data standard falls well short of the transparency and utility being sought in a new GR;

³⁷ HSVAR is mandated under Article VI of the FAO Compliance Agreement, 1993

- The HSVAR gives inadequate recognition to the needs of developing States in that it only provides a brief statement in Article VII on providing assistance to developing countries; and
- The Compliance Agreement lacks any form of review mechanism.

14. The Expert Consultation considered whether HSVAR could be developed or whether the Compliance Agreement could be amended to allow HSVAR to evolve into the FAO's GR. Overall, the constraints outlined above limit the utility of HSVAR as a suitable vehicle for the GR. In its current form it would be inadequate to address the real purpose of the proposed GR.

15. After considering the weakness and limitations associated with HSVAR (noting that, in contrast, RFMOs have enforcement mechanisms to establish effective systems), the EC agreed that efforts would be better directed towards a new and more comprehensive system rather than trying to modify the scope of the HSVAR.³⁸

Confidentiality issues

16. The Technical Consultation noted that confidentiality issues would not arise if the record contained information that was already in the public domain.

17. Nevertheless, if the main goal of the GR is to be a tool to prevent, deter and eliminate IUU fishing and related activities by making it more difficult and expensive for vessels and companies acting illegally to do business, then transparency needs to be improved and information not currently in the public domain needs to be considered for inclusion.

18. The GR should improve the traceability of vessels and products, provide transparency of vessel information, strengthen risk assessment, and aid in decision-making processes regarding fleet capacity, management, safety, pollution, security, statistics, etc. Importantly, if transparency is to be improved, the GR would become a publicly available "one-stop data-shop" with linkages to data sources and databases at the international, regional, and national levels.³⁹

19. Section 5 of this paper has outlined all relevant issues relating to privacy and access and ultimately the GR database can be constructed to cater for whatever confidentiality requirements are sought.

Neutrality and disclaimers

20. As previously described, the nature of a *record* is to provide information and the EC-GR envisaged that the GR should do this from a position of neutrality.

21. The GR would be neutral and used in a variety of ways as a tool to assist many different users as they work to identify IUU fishing and related activities.

22. The GR should not make judgments or accusations about vessels, but should simply provide information, and leave others to interpret the data.

23. For this reason, it would be inappropriate for the GR to become embroiled in the process of "black listing" any vessel. That is not to say, however, that the Record should

³⁸ Report of the Expert Consultation on the Development of a Global record of Fishing Vessels, Rome 25-28 February 2008, FAO Fisheries Report No. 865, p. 6, paragraph 38

³⁹ Ibid, paragraph 30

refrain from providing a link to such information where it is publicly available through a legitimate source such as an RFMO.

24. The EC-GR received legal advice that if incorrect or incomplete information were provided by the GR, it would be unlikely to result in legal action. The GR will essentially be a data base, and FAO (or any other organisation hosting the GR) can take no responsibility for how that data is used or interpreted.

25. To act on the side of caution, the GR Management Unit would be advised to attach a Disclaimer of Liability to any release of information pertaining to the GR. For example:

“The [Food and Agriculture Organization of the United Nations] hereby disclaims any liability or responsibility arising from the use of information or data contained in this Record. The Organization, members of its staff and its contractors shall not be liable for any financial or other consequences whatsoever arising from the use of information or data contained in this Record.”

26. The GR would make every effort to ensure accuracy and by obtaining core vessel data from a single source (i.e. IHS-F or other UVI supplier), the quality and accuracy of data is likely to be considerably better than if it were obtained from every flag State. The management unit would work to maintain data integrity at the highest possible level.