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## FISHERIES SUBSIDIES

### *Update on fisheries subsidies 'Roadmap' discussions at the WTO<sup>2</sup>*

The Chair of the Negotiating Group on Rules convened a meeting of WTO Members on 30 March to 2 April. The purpose was to discuss further his Roadmap towards establishing disciplines on fisheries subsidies.<sup>3</sup> The focus of the meeting was the Roadmap's questions on prohibitions (Article I.1 in the 2007 Chair's text); these are those subsidies that should be banned (subject to Special and Differential Treatment (S&DT) for developing Members). Members were encouraged by the Chair's Roadmap to provide evidence for their positions.<sup>4</sup>

The meeting opened with a statement by New Zealand delivered on behalf of the 'Friends of Fish' – those Members who have a high level of ambition for eventual disciplines (in this case Argentina, Australia, Brazil, Chile, Ecuador, Iceland, Mexico, New Zealand Norway, Peru and the United States). The following points were made:

- The Chair's 2007 text should remain the basis of the negotiations.<sup>5</sup>
- FAO 2008 *State of World Fisheries and Aquaculture* report indicates that the proportion of fish stocks either overexploited, depleted or recovering from depletion has *increased* in the last two years to 28%.<sup>6</sup>
- The fisheries subsidies debate is not just a question of resource management or the environment. It is also a question of economics. A joint FAO-World Bank report *The Sunken Billions: The Economic Justification for Fisheries Reform* estimates that 'inefficiencies' (including subsidies) and overfishing in the global marine fisheries industry have generated economic losses that add up to USD50 billion per year (or USD2.2 trillion over the last 30 years).<sup>7</sup>
- It is also a question of development and livelihoods in developing countries. The livelihoods of many vulnerable communities depend inter alia on our achieving effective disciplines on those subsidies which have the effect of further depleting the fish stocks on which those communities depend.
- Friends of Fish also noted that the list of prohibited subsidies in the Chair's 2007 text is not closed.
- It is up to the Members who are *contesting* the disciplines

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Second meeting to discuss Chair's 'Roadmap' on fisheries subsidies disciplines

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**The 'Friends of Fish' made a strong statement in support of prohibitions**



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to provide specific reasons as to why they consider that the subsidies listed as prohibited do not contribute to overcapacity or overfishing and therefore should not be prohibited,

- Friends of Fish view fisheries management as a complement to effective disciplines on fisheries subsidies. In other words, fisheries management cannot be a substitute for effective disciplines on subsidies.
- Friends of Fish support effective and appropriate S&DT for developing countries and look forward to working at future meetings to formulate appropriate S&D exceptions including defining how fisheries management requirements would apply to those exceptions.

This detailed set of positions was countered by statements from Korea and Japan. They argued that it is down to the *demandeurs* of disciplines to provide evidence as to why most subsidies should be prohibited. They were joined by Taiwan in their argument that *only* those subsidies that are *directly* linked to overcapacity and overfishing should be prohibited. They contested the ability of any analysis to demonstrate a direct causality between most fisheries subsidies and overcapacity and overfishing. This last point is probably true, as it is inherently difficult to prove causality in such a complex domain as marine fisheries because of the multiplicity of factors influencing fish populations.

The obvious contradiction between these two sets of positions (i.e. on which side should have to argue for and *prove* their case) meant that the discussions on prohibitions were, in effect, at a stalemate. In his closing summary, the Chair noted that the intention of his Roadmap was for those who are contesting the disciplines to provide reasons and evidence for their positions; thereby supporting the position of the Friends of Fish. Importantly, the Chair also noted that the atmosphere in the room of relative entrenchment and hardening of positions was due to the wider political conditions of Doha Round negotiations and the context of the global economic downturn.

The statement delivered by Tonga on behalf of the Pacific Islands noted that the Pacific's level of eventual support for the ambition of the prohibitions depends upon what is eventually agreed upon in the context of S&DT.

A side event was held by UNEP-WWF on 'The History and Status of the WTO Fishery Subsidies Negotiations'. This informal briefing provided a useful overview of the evolution of the fisheries subsidies debates at the WTO. Very useful overview presentations by Anja von Moltke (UNEP) and David Schorr (UNEP-WWF) are available here:

<http://www.unep.ch/etb/events/2009%20FishSubWorkshopWTO1Apr.php>

**Japan, Korea and Taiwan reiterated their argument that prohibitions should only extend to subsidies that are directly linked to overcapacity and overfishing**

**There was a clear contradiction between the two sides, resulting in questions around progress in future discussions**



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## FISHERIES TRADE-RELATED REGULATION

### *Tuna Industry leaders launch International Seafood Sustainability Foundation<sup>8</sup>*

To respond to the growing threats to global tuna populations, leading players in the tuna industry have collaborated with marine scientists and environmental non-governmental organisations to establish the International Seafood Sustainability Foundation (ISSF).<sup>9</sup> The ISSF members are dedicated to undertaking 'science-based initiatives for the long-term conservation and sustainable use of tuna stocks, reducing by-catch and promoting ecosystem health'.<sup>10</sup> Launched in March 2009, the ISSF's first actions were to enact conservation measures committing its members to *refrain* from 1) using any vessels listed as engaging in illegal, unregulated and unreported (IUU) fishing; and, 2) sourcing eastern Pacific bigeye until science-based conservation measures are enacted by the Inter-American Tropical Tuna Commission (IATTC). ISSF also produced a resolution calling on participating members to provide their catch data to Regional Fisheries Management Organisations (RFMOs) to enhance scientific assessments.<sup>11</sup>

ISSF indicates that although RFMOs are well-intentioned, their negotiations procedures too often allow the short-term economic and political interests of some member states to trump good science.<sup>12</sup> ISSF seeks to improve on this record by drawing on the collective power of processing firms, scientists and environmental NGOs to press governments active in RFMOs to adhere to recommendations based on sound science. The ultimate goal is to help flagging tuna stocks. ISSF's members will utilise their collective control over tuna processing to encourage practices that complement the stated conservation and ecosystem objectives of RFMOs. According to ISSF President Susan Jackson, 'Our mission is to help ensure that targeted tuna stocks will be sustained at or above levels of abundance capable of supporting maximum sustainable yield. This includes working towards the reduction of by-catch and helping to fund scientific research that supports improved management of tuna stocks'.<sup>13</sup>

The launch of ISSF comes at a time of increasing public scrutiny over the sustainability of seafood products, including tuna. This scrutiny has put producers under pressure to demonstrate that their products are environmentally sound, often by undergoing third-party sustainability certifications, such as that offered by the Marine Stewardship Council (MSC). Given that most tuna fisheries (particularly canning-grade tuna, much of which is caught with the use of environmentally harmful Fish Aggregating Devices) are unlikely to earn MSC-type ecolabels,<sup>14</sup> ISSF provides the tuna industry with an opportunity to move towards sustainability without relying on third party independent certification schemes. ISSF has already taken important steps towards earning its 'green' seal of approval since the initiative has been vigorously supported by environmental NGOs, including WWF (a central

**The tuna industry has collaborated with marine scientists and environmental NGOs to establish the ISSF**

**ISSF draws on the collective power of processing firms and the influence of scientists and environmental NGOs**



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partner in the project) and Greenpeace.<sup>15</sup> Furthermore, the specific approach the ISSF employs – focusing on ‘sound science’ and strengthening RFMOS – serves to divert attention away from the environmental characteristics of the product, and instead refocuses attention onto reforming failed fisheries management practices and politics. This strategy stands to offer multiple gains for producers as it at once reduces pressure to undergo third party certification and strengthens management terms across the board (i.e. improving environmental sustainability without fostering undue competition among firms).

The production implications of ISSF's efforts remain to be seen. In the near term, the focus on eliminating product from IUU vessels could influence supply, but likely only to a limited degree since IUU is more of a problem in the lucrative longline fishery than in the purse seine sector that supplies tuna processors (ISSF's membership). In the longer-term, if ISSF contributes to the wider push on RFMOs to dramatically reduce total allowable catch, the industry might be forced to reorganise. For example, competition for limited fishing licenses might increase, and producers might look to shift their revenue models away from high-quantity, low-cost products towards more value-added for the limited available supply.

For Pacific island countries, the ISSF holds promise. PICs continue to push for more stringent fishing-effort limits at the WCPFC. Their efforts could be strengthened with support from industry players active in the region. If ISSF efforts do in fact translate into reduced catch limits, PICs would benefit from a more sustainable industry, the potential to increase access revenues (e.g. through higher demand for a smaller amount of resources) and the potential to partake in value-added, onshore processing activities (with, for example, ISSF founders Bumble Bee and Tri Marine, both of whom are already engaged in loining plants in Fiji and the Solomon Islands). However, since ISSF resolutions are voluntary and not binding for any players except for ISSF members, it would be unwise for PICs to put all of their sustainability eggs in ISSF's basket. ISSF is likely only a part of the solution to the growing threats to global tuna populations, not least because the major ISSF players are involved primarily in the purse seine, not longline, sector (with the exception of longline albacore catches), yet PICs maintain significant interests in the sustainability of the broader longline industry.

### **EC support to developing countries to implement IUU Regulation<sup>16</sup>**

The European Commission (EC) has established a new webpage to flag updates and developments in illegal, unreported and unregulated (IUU) fishing issues.<sup>17</sup> This also includes a direct link to the new IUU Regulation that will be in force from 1 January 2010, as well as supporting materials: [http://ec.europa.eu/fisheries/cfp/external\\_](http://ec.europa.eu/fisheries/cfp/external_)

***ISSF provides the tuna industry with an opportunity to move towards sustainability without relying on third party independent certification schemes***

***ISSF resolutions are voluntary and not binding except for its members, thus the initiative can only ever be part of the solution***



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[relations/illegal\\_fishing\\_en.htm](http://relations/illegal_fishing_en.htm)

Importantly for PICs, a new note on EC support to developing countries for the implementation of the EU IUU Regulation is also provided.<sup>18</sup> The note states the following areas for EC cooperation on the issue:

- A Commission work programme to assist the implementation of the Regulation. This includes 'an ongoing study which is specifically dedicated to the catch certification scheme and targeted actions towards developing countries'.
- Based on this study, the EC maintains that it will implement 'targeted actions towards developing countries ... in order to contribute to a proper implementation of the new EU rules'.
- These EC actions '*should* include regional seminars' to provide information on the IUU Regulation, as well as evaluations of 'which cooperation mechanisms could be put in place with a view to the practical implementation of this Regulation'.
- Based upon this evaluation the EC '*might* carry out targeted actions to assist *a certain number* of developing countries in the implementation' of the IUU regulation. The note goes on to say that this '*could* include actions focusing on the training of officials in charge of customs and fisheries control as well as representatives from the export-oriented fishing sector in the countries concerned'.

As is clear from the added emphasis in the last two bullet points, the EC is very far from *committing* itself to provide support to developing countries. As such, the relevant authorities of PICs exporting to the EU should contact relevant representatives of the European Communities to ensure that they fully benefit from the forms of international cooperation raised here.

### **Developments in the US purse seine fleet and the US Treaty<sup>19</sup>**

The US Treaty guarantees 40 licenses for US flagged purse seines, licenses that grant access to *all* of the EEZ's of FFA member countries. The US Treaty is one of the most important access agreements in the WCPO because of two benefits that it brings to FFA countries. First, in exchange for licenses, FFA countries are paid licensing fees plus USD18 million from the US State Department, a sum that constitutes upwards of 25 percent of the value of all access agreements in the region.<sup>20</sup> Second, the US government has relatively high operating standards for its fleet, ensuring that the US fleet is a responsible and accountable fishing partner.<sup>21</sup>

The US Treaty has been operational since 1998 and is currently authorised to 2013. However, recently, its longevity seemed threatened

**EC outlines possible areas of support to developing countries, but its level of commitment is unclear**

**PICs exporting fish to the EU should contact European Community representatives to ensure international cooperation is forthcoming**



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by the precipitous decline in the US fleet. In 1994, 49 US purse seine vessels were licensed under the US Treaty (at that time, 50 licenses were permitted under the Agreement), but by late 2006, that number had dwindled to just 11 as a result of an array of issues that made US vessels economically uncompetitive. The US processing industry recognised that it could become difficult for the US government to justify the US Treaty when so few vessels were utilising the agreement. Without a US fleet, the processing firms would have less control over supply to their facilities, particularly given increased competition for fishing licenses in the WCPO and alterations in fisheries management regimes (e.g. the introduction of the WCPFC and the Vessel Day Scheme).<sup>22</sup>

To secure steady supply, beginning in late 2006, the US processors led an effort to rebuild the US fleet with the secure licenses offered by the US Treaty. Historically constructed, owned and operated exclusively by US capital, US investors (some private, others are the US processors themselves) have incorporated new vessels (built in Taiwan) and used vessels (reflagged from the Taiwanese and Korean fleets) into the US fleet. As a result, the US fleet has grown rapidly. For the 2008-2009 licensing period, 39 US vessels are licensed, 14 of which are brand new.<sup>23</sup>

In the most recent US Treaty meeting between the Pacific Island Parties and the United States (held in Koror, Palau in March 2009), the US confirmed its agreement with the Parties to the Nauru Agreement's recent Third Implementing Arrangement and WCPFC measures (including high seas pocket closures, periodic FAD bans and 100 percent observer coverage and catch retention) and agreed to make the list of US fleet vessels (including names of ships and license holders) publically available. The US and Pacific Island Parties are still negotiating how the Vessel Day Scheme will apply to the US fleet, including the number of fishing days that the fleet will receive. This is particularly contentious since the new vessels in the US fleet will be in competition with other distant water fleets for scarce fishing days. In late 2009, the US and Pacific Island Parties are scheduled to begin discussing scenarios for the renegotiation of the Treaty when it expires in June, 2013.<sup>24</sup>

## TUNA MARKETS

### *Climate change and fisheries: Ecological and economic impacts*<sup>25</sup>

Climate change is having biological and physical impacts on marine systems; impacts that compound the already pressing threats to the sustainability of fisheries and their related production systems. The FAO *State of World Fisheries and Aquaculture* report in 2008 highlighted the effects of gradual ocean warming on the seasonality of biological processes in oceans and the intensity, frequency and seasonality

**Secure licenses provided by the US Treaty have enabled the flagging US fleet to rebuild**

**Many of the new additions to the US fleet are vessels newly built in Taiwan or used vessels formerly under the Taiwanese or Korean flag**

**The US and PICs are in the process of negotiating how the Vessel Day Scheme will apply to the newly expanded US fleet**



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of climatic patterns such as El Niño.<sup>26</sup> These trends are relevant to species like tuna (and societies that are economically dependent upon them) as their migratory patterns are dictated by physical habitat (temperatures and oxygen levels) and food availability. In short, climate plays a large role in determining short-term, seasonal and multi-year patterns in the location and productivity of tuna habitat zones.<sup>27</sup>

The impacts of climate change on the production and trade of fisheries resources in the Pacific will be significant, if difficult to predict. For example, altered migratory routes will impact fisheries access agreements and Pacific island countries' opportunities to capture rents and independently manage fisheries resources. Regional fisheries management organizations (RFMOs) will be challenged to maintain member states' cooperation, despite uncertainties associated with climate-driven changes in productivity and migratory behaviour. As ecological patterns change, power balances in RFMO negotiations will also change;<sup>28</sup> this trend is significant for Pacific island countries, particularly if climate change leads tuna to travel outside of PIC EEZs.

Ecosystem alterations associated with climate change will spur new operational and marketing costs for producers, and global prices for fisheries products will fluctuate in response. In addition to new fisheries management regulations, industry will have to adapt to government-imposed carbon regulations (such as cap-and-trade systems that limit emissions) and/or regulations implemented by private actors (such as retailers publicizing 'food miles' on products for consumers interested in purchasing products based on their carbon footprints).<sup>29</sup> Such regulations are likely to first influence 'carbon-intensive' sashimi-grade tuna, which is air freighted to major markets. Fishing vessels might also be required to adapt, for example by making capitally intensive shifts to more fuel efficient technologies. Any such alterations will shift the dollars and cents of tuna production and consumption, with unpredictable economic outcomes for Pacific island countries, industry actors, and consumers.

A study on the links between climate and economy in the Seychelles, a small island developing state in the Indian Ocean that relies heavily on its tuna economy, reveals the significance of climate effects in the context of wider threats to tuna production.<sup>30</sup> The study demonstrates that the Seychelles is economically vulnerable to climate variability because tuna availability in the country's EEZ is central to its economy and society – a situation identical to that of several Pacific island countries. In a period of short-term warming in 1997-8, tuna landings, port dues, ship chandlery and agency fees all decreased, with significant economic implications for the country. If warming trends persist in the long-term, impacts on processing facilities and access fees will be inevitable, particularly as they are compounded by other production challenges that small economies face (e.g. trade preference erosion).

**Climate change will impact the location and productivity of tuna habitat zones**

**Tuna production and trade will be shaped by new environmental and regulatory circumstances developed to address climate change**



Research on the effects of climate variability on tuna stocks and ocean ecosystems is expanding, but there remains a great need for research on the socio-economic impacts of climate change and on the effects of climate variability for decision-making and planning in the tuna industry. For this work to be relevant, it must be put in the context of wider market and trade issues impacting tuna production practices and in consideration of the time-scales characterising the dynamics of these various processes.<sup>31</sup> In sum, minimizing negative impacts and maximizing opportunities associated with climate change will require that public and private bodies promote a wide range of adaptive strategies and address multiple (and interacting) threats and constraints. These efforts must take into consideration the socio-economic impacts of climate change (and industry adaptations to it), particularly as they relate to small island states such as PICs that are highly reliant on marine environments.

### ***Developments in bluefin tuna farming<sup>32</sup>***

It is well known that demand for sashimi-grade bluefin tuna species far outstrips supply. As a result, not only are bluefin species under pressure from fishing, but investors and scientists are working towards rearing the high-value bluefin species (Northern, Southern and Pacific) in captivity. The objective of captive bluefin rearing is two-fold: to capitalize on unsatisfied demand, and arguably, to save wild tuna stocks. Presently, commercially raised tuna entering the market is 'ranched' – baby, juvenile or mature tuna are caught in the wild, transported to offshore pens where they are fattened and/or conditioned to fetch higher prices.<sup>33</sup>

Tuna farming, on the other hand, involves spawning tuna, collecting viable larvae, and growing out fish from the mature brood stock. Bringing the entire life cycle of bluefin into captivity has presented considerable challenges; but given the promise of high economic reward, research and investments to meet these challenges are robust and advancements have been forthcoming. In March 2008, Clean Seas Tuna, an Australian firm, collected fertilized eggs from breeding stock for the first time. To achieve this breakthrough the firm controls water temperature, water current and light exposure in a giant outdoor tank to convince captive tuna that they are making their seasonal migratory routes towards breeding grounds. Clean Seas Tuna's next challenge is to feed the correct plankton to the millions of larvae so they develop into fish, which will eventually be farmed in offshore pens.<sup>34</sup> Likewise, scientists at Bari University in Southern Italy successfully produced 20 million larvae from tuna in captivity in 2008. The Inter American Tropical Tuna Commission has also had spawning and hatching success in research facilities in Panama.<sup>35</sup> In addition, Kinki University in Japan, home to a tuna aquaculture research centre operating for over thirty years, was the first institution to successfully rear bluefin tuna.<sup>36</sup>

Once brood stock is reared, challenges continue. Like any

***Minimizing negative impacts of climate change will require that public and private bodies develop a range of adaptive strategies***



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aquaculture system, pollution, algae content and disease can plague operations. New challenges arise with raising the large, powerful bluefin. For example, juvenile bluefin in ranching operations have devastating mortality rates from high-speed collisions with pen walls or nets. To combat this problem, Oceanic Tuna Limited, a research and development company based in Scotland, has developed a modular transportable hatchery system with specially designed walls. Robotic 'crash test' tuna have successfully tested the system, surviving high impact collisions with the newly designed walls. The modular pens also help to control environmental conditions: pens can be added if more space is needed, while pens contaminated with pollutants or algae can be removed.<sup>37</sup>

Despite these advances, to date, there are no commercially viable tuna aquaculture operations; although several companies (including those sited above), indicate that they are optimistic that they will be selling farmed tuna within the coming year. Furthermore, controversy surrounds tuna farming operations. Some argue that the successful domestication of bluefin tuna holds the key to sustainable supply and will eliminate pressure on wild stocks. Others fear that it will further contribute to problems in marine fisheries since brood stock come from wild caught tuna, and since it takes between 10-20 kilos of fish feed to produce one kilo of domestically raised bluefin (an exceptionally high 'feed conversion ratio'). To date, there have been few advances in developing artificial diets able to lower the feed conversion ratio.<sup>38</sup> Traceability is also essential to ensuring that breeding tuna are not illegally harvested for aquaculture operations. Supermarkets, fish consumers and activists express concern over animal welfare in the production cycle.<sup>39</sup> In short, while the high value of bluefin makes aquaculture production promising, bringing bluefin to full commercial viability is certain to be full of range of economic, technical and political challenges.

### **Coming in the next issue (May 2009, Vol. 2: Issue 5)**

- Special feature on European Tuna Conference 2009
- Developments in US tuna-mercury debate
- Promises and pitfalls facing the Japanese tuna fleet

***Technical advancements have brought the goal of rearing the valuable bluefin tuna in captivity in sight***

***Achieving commercial viability of bluefin farming will require overcoming a range of economic, technical and political challenges***



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<sup>2</sup> The following draws upon inputs provided by provided by Manleen Dugal, Technical Advisor, Permanent Representation of the Pacific Islands Delegation to the WTO.

<sup>3</sup> For a summary of the Roadmap see *FFA Fisheries Trade News*, January 2009, 2:1. Available at: [http://www.ffa.int/trade\\_news](http://www.ffa.int/trade_news) The text of the Roadmap is available here: TN/RL/W/236, 'New Draft Consolidated Chair Texts of the AD and SCM Agreements', 18 December 2008. Available at: <http://www.wto.org>. A summary of the February meeting is available in *FFA Fisheries Trade News*, February 2009, 2:2. Available at: [http://www.ffa.int/trade\\_news](http://www.ffa.int/trade_news)

<sup>4</sup> For additional overviews of this meeting, see Third World Network, 'WTO Rules Group discusses Chair's text on fisheries subsidies', *TWN Info Service on WTO and Trade Issues*, 8 April 2009. Available at: <http://www.twinside.org.sg/>; ICTSD, 'Fisheries 'Roadmap' Highlighted as WTO Rules Group Meets', *Bridges Trade BioRes*, 9: 7, 17 April 2009. Available at: <http://www.ictsd.org>

<sup>5</sup> TN/RL/W/213, Negotiating Group on Rules, 'Draft consolidated Chair texts of the AD and SCM Agreements', 30 November 2007. The text is available here (see Annex VIII on page 87 onwards): [www.wto.org/english/tratop\\_e/rulesneg\\_e/rules\\_chair\\_text\\_nov07\\_e.doc](http://www.wto.org/english/tratop_e/rulesneg_e/rules_chair_text_nov07_e.doc)

<sup>6</sup> Available here: <http://www.fao.org/fishery/sofia/en>

<sup>7</sup> *The Sunken Billions* report is available here: <http://siteresources.worldbank.org/EXTARD/Resources/336681-1224775570533/SunkenBillionsFinal.pdf>

<sup>8</sup> Authored by Elizabeth Havice.

<sup>9</sup> The founders of ISSF include: Bolton Alimentari; Bumble Bee Foods, LLC / Clover Leaf Seafoods; MW Brands; Princes Ltd; Sea Value Co.; StarKist Co.; Thai Union Manufacturing Co. Ltd. / Chicken of the Sea International; TriMarine International; and the World Wildlife Fund (WWF). See: <http://www.iss-foundation.org/aboutus>. For more information on ISSF, see: [www.iss-foundation.org](http://www.iss-foundation.org).

<sup>10</sup> Quote available at: <http://www.iss-foundation.org/aboutus>.

<sup>11</sup> Mike Crispino (2009), 'First Global Partnership of Scientists, Environmental Organizations and Seafood Companies Launched to Promote Tuna Sustainability: New Entity Announces Initial Actions'. Press Release: International Seafood Sustainability Foundation.

<sup>12</sup> See: <http://www.iss-foundation.org/aboutus>

<sup>13</sup> 'Tuna canners help launch tuna conservation effort'. *Intrafish Media*, 17 March 2009. Available at: <http://www.intrafish.no>.

<sup>14</sup> For example, an MSC 'pre-certification' of the WCPO tuna fishery revealed that the vast majority of tuna is not eligible for MSC certification, at least in the short- or medium-term. For more on the MSC pre-certification in the WCPO, see: Len Rodwell and T. Adams (2008), 'Pacific Islands Forum Fisheries Agency Pre-Assessment of WCPO Tuna Fisheries against the Marine Stewardship Council Principles and Criteria'. Paper read at Sustainable Tuna Roundtable, 28 April, at Brussels.

<sup>15</sup> 'Greenpeace welcomes tuna management group'. *Intrafish Media*, 17 March 2009. Available at: <http://www.intrafish.no>

<sup>16</sup> Thanks to Béatrice Gorez, Coalition for Fair Fisheries Arrangements for this update.

<sup>17</sup> For overviews of the EU IUU Regulation see *FFA Fisheries Trade Briefing*, 1: 11 October 2008 and 1: 12 November-December 2008. Both available at: [http://www.ffa.int/trade\\_news](http://www.ffa.int/trade_news) For a detailed study on the implications of the IUU Regulation from the perspective of the ACP, see Martin Tsamenyi, Mary Ann Palma, Ben Milligan and Kwame Mfodwo, 2008, *Development Impact of the Council Regulation Establishing a European Community System to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing on Commonwealth ACP Member Countries*, London: Commonwealth Secretariat. Available at: <http://www.thecommon->



[wealth.org/Document/159719/159720/international\\_trade](http://wealth.org/Document/159719/159720/international_trade)

<sup>18</sup> The note 'EC Regulation 1005/2008 to Prevent, Deter and Eliminate Illegal, Unreported And Unregulated (IUU) Fishing: International Cooperation' is available here: [http://ec.europa.eu/fisheries/cfp/external\\_relations/illegal\\_fishing/pdf/cooperation\\_note\\_en.pdf](http://ec.europa.eu/fisheries/cfp/external_relations/illegal_fishing/pdf/cooperation_note_en.pdf)

<sup>19</sup> Authored by Elizabeth Havice.

<sup>20</sup> Roman Grynberg (2003), 'WTO fisheries subsidies negotiations: Implications for fisheries access arrangements and sustainable management', *Marine Policy* 27:499-511.

<sup>21</sup> For more on the US Treaty, see: Liam Campling, Elizabeth Havice and Vina Ram-Bidesi (2007), Pacific Island Countries, the Global Tuna Industry and the International Trade Regime, pp: 154-163, 279-282. Available at: <http://www.ffa.int/node/80>

<sup>22</sup> Elizabeth Havice (2007), 'The state of play of access agreements with distant water fishing partners: Implications and options for Pacific island countries', Honiara: Forum Fisheries Agency.

<sup>23</sup> Personal communication, FFA and US industry representatives, 2009.

<sup>24</sup> FFA Media Release (2009), 'Outcomes From FFA's US & Indonesia Talks', March 24.

<sup>25</sup> Authored by Elizabeth Havice.

<sup>26</sup> FAO (2008), *The State of World Fisheries and Aquaculture*, Rome: United Nations Food and Agriculture Organization, pp: 87-92. Available at: <ftp://ftp.fao.org/docrep/fao/011/i0250e/i0250e.pdf>

<sup>27</sup> Kathleen A. Miller (2007), 'Climate variability and tropical tuna: Management challenges for highly migratory fish stocks', *Marine Policy* 31 (1):56-70.

<sup>28</sup> Miller (2007).

<sup>29</sup> For overviews of the food miles/carbon footprint debate see *FFA Fisheries Trade Briefing*, 1: 6, May and 1: 7 June 2008. Available at: [http://www.ffa.int/trade\\_news](http://www.ffa.int/trade_news)

<sup>30</sup> Jan Robinson, et al. (2008), 'Socio-economic impacts of climate variability on Seychelles tuna industry', *Enabling Activities for the Preparation of the Seychelles Second National Communication to the United Nations Framework Convention on Climate Change, Fisheries & Marine Environmental Sector*.

<sup>31</sup> Jan Robinson, et al. (2008): p. 55.

<sup>32</sup> Authored by Elizabeth Havice.

<sup>33</sup> For more on tuna ranching, see *FFA Fisheries Trade Briefing*, 1: 12, Nov-Dec 2008. Available at: [http://www.ffa.int/trade\\_news](http://www.ffa.int/trade_news)

<sup>34</sup> Roy Eccleston, 'Sashimi on demand?', *Time Magazine*, 14 August 2008. Available at: <http://www.time.com/time/magazine/article/0,9171,1832872,00.html>

<sup>35</sup> 'Live tuna eggs could become commercial within a year', *Infofish*, 5 December 2008. Available at: <http://www.atuna.com>; Fishupdate.com (2009), 'Oceanic Tuna Announce Collaborative Research Programmes', *Fishupdate.com*, 16 February 2009. Available at: <http://www.fishupdate.com>

<sup>36</sup> Tom Seaman, 'Clean seas aims to go commercial with bluefin in 2009', *Intrafish Media*, 10 November 2008. Available at: <http://www.intrafish.no>

<sup>37</sup> 'Oceanic tuna announce collaborative research programmes', *Fishupdate.com*, 16 February 2009. Available at <http://www.fishupdate.com>

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