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BACKGROUND

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Smart Fishing Initiative

TRANSPARENCY AT SEA – SATELLITE TECHNOLOGY HELPS TO CURB ILLEGAL FISHING

Pirate fishing is a multi-billion dollar industry that endangers marine ecosystems, hurts law-abiding fishermen, and deceives honest retailers and well-meaning consumers alike. It continues because it is profitable. And it is profitable because pirate fishers find it so easy to bring their tainted goods into ports, across borders, and onto our store shelves and restaurant menus. WWF is working globally to make fishing more transparent and to ensure that the seafood reaching markets is fully traceable to legal sources. This can be achieved by the use of satellite data via the Automatic Identification System (AIS). AIS data is globally available and can be assessed and evaluated with the appropriate technology.

Action Needed to Support Sustainable Fishing Practices

Illegal, unregulated and unreported fishing (IUU) is present in all fisheries from the high seas to coastal zones. It damages ecosystems, undermines livelihoods, and is often associated with other serious problems such as drug trafficking, human slavery, organized crime and maritime security. The global seafood supply chain is complex and often poorly regulated, enabling the origin and movements of illegal products to be concealed, making it more difficult for the fishing industry and consumers to ensure products are legally caught.

In the European Union for example, the Common Fisheries Policy (CFP) sets fishing quotas, marine protected areas and international Fisheries Partnership Agreements to preserve the oceans ecosystem and fish stocks. But the current CFP is not efficient enough: in European waters many of the commercially used fish stocks are still overfished. Monitoring and implementation of EU regulations is weak and control of EU vessels operating under Fisheries Partnership Agreements (FPA), Joint Ventures or on the high seas are often ineffective. At least 10% of the seafood consumed in the EU is from IUU sources.

According to a new study published in the journal Marine Policy more than 20% of wild caught seafood imported into the US – worth at least $1.3 billion – is likely illegal. This study reinforces what the fishing industry, governments and conservationists have been saying for a long time: illegal fishing is a major global problem and threatens the long-term health of our oceans and the livelihoods they support.

While governments, NGOs, and the fishing industry have made some progress combatting illegal fishing through government-led and voluntary programs including Marine Stewardship Council certification, the problem is far from solved. WWF urges national government to improve monitoring of fishing operations and develop procedures requiring all seafood sold in the country to be fully traceable to verifiably legal sources, making it more difficult for illegally caught fish to enter supply chains undetected. Globally, WWF urges all governments to ratify and implement the Port State Measures Agreement to help deliver the dock-side transparency needed to tackle illegal fishing at scale.

WWF's New Approach to Enable Sustainable Management and Combat Illegal Fishing: the AIS System

Good systems to monitor fishing activity and track fish catches are fundamental to the solutions we need. Technically known as monitoring, control and surveillance (MCS), these systems not only allow fisheries managers to know what is going on, they provide the basic information consumers and seafood companies need to make responsible decisions about the fish products they buy and sell. And, of course, strong MCS is the first line of defense against pirate fishing.

Fortunately, the technology exists today to make monitoring fisheries and tracking catches possible and affordable. As one key part of the solution, WWF is working to promote the use of a new, effective, and affordable way to use satellite data to monitor global fisheries, known as the **Automatic Identification System (AIS)**.

AIS is a communications system widely used in commercial shipping to help ships avoid collisions at sea. It relies on an open data standard that allows anyone with an AIS transceiver to send or receive AIS information. AIS is increasingly used by fishing vessels for at-sea safety and activity monitoring.

The Automatic Identification System was introduced by the International Maritime Organization (IMO) in December 2000 for safety reasons but outside the European Union the installation of the AIS system is mandatory only for ships over 300 metric tonnes, but not for fishing vessels.

Beginning in December 2004, the International Maritime Organization (IMO) has required all vessels over 299 GRT to carry an AIS transponder on board; the EU is now requiring the entire EU fishing fleet over 15 meters to install Class A AIS transmitters by 31 May 2014 and Member States may use AIS data for MCS purposes. Additionally, a number of other countries, including China, India, the U.S., and Singapore, have started AIS mandate programmes which require large numbers of vessels to fit an approved AIS device for safety and national security purposes.

AIS, an internationally recognized standard, is a reliable supplier of data to improve transparency in all fishing practices taking place in national waters and on the high seas. The evaluation of AIS data could enable governments and Regional Fisheries Management Organisations (RFMOs) to retrace the routes and fishing activities of vessels all over the world, improving sustainable fisheries management in national waters, and on the high seas, by revealing where IUU activity could potentially be taking place.

WWF evaluated AIS data using a specific methodology developed by the Smart Fishing Initiative and its partner navama, and found out it has become possible to retrace the routes and activities of fishing vessels, including vessels that are suspected of illegal fishing.

Analyzing the data, WWF and navama are able to:

- Visualize routes of fishing vessels and recognize certain fishing activities.
- Notice if boundaries of marine protected areas, closed fish nursery habitats and areas reserved for artisanal small scale fisheries are respected.
- Create more transparency of fishing operations to improve sustainability of fisheries management.
- Locate harboring and potential transshipment positions.
- Detect whether the AIS device was turned off.

WWF analyzes the AIS data but does not pass this information to the authorities. We share reports with competent authorities only if the fisheries agree to this. WWF wants to demonstrate that fisheries management all over the world needs to be improved in order to become sustainable.

WWF Calls for Satellite Technology on All Commercial Fishing Vessels

Fishing should not be "out of sight, out of mind", not when so many human lives and threatened ecosystems depend on the transformation. WWF urges national governments, RFMOs as well as States flagging fishing vessels operating on the high seas, to adopt as soon as possible mandatory installation of the AIS system on all fishing vessels under their flag or fishing in their national waters, in addition to monitoring, control and surveillance (MCS) measures currently being used, such as Vessel Monitoring Systems (VMS).

AIS data offers several key benefits compared to VMS systems: namely, the data is globally available and can facilitate inter-government cooperation to manage fisheries and identify non-compliance with international regulations.

WWF's Pilot Project for the Use of AIS in the South Pacific

WWF initiated a new project to prove that the use of satellite technology in the surveillance of fishing activities can be an efficient and simple method to increase safety on fishing vessels and promote legal and transparent fishing operations. WWF cooperates with Sea Quest, a fishing company in Fiji in the South Pacific that agreed to install Automatic Identification System (AIS) transmitters on its tuna fishing vessels to demonstrate full transparency of the company´s fishing operations.

Since June 2013, AIS transmitters have been activated round-the-clock on the long-line albacore tuna fishing vessels of Sea Quest. The AIS is a reliable supplier of data constantly sending signals from the vessels where it has been installed to the WWF database to monitor and evaluate fishing and vessel operations on the water. WWF can retrace the routes and activities of Sea Quest's fishing vessels and ensure that boundaries of sensitive areas and no take zones are respected. WWF hopes that the Sea Quest project will become a global example of how to make fishing transparent, and that it will trigger other companies to join us aboard.

Sea Quest is a tuna fishing and processing company of substantial size based in Fiji which employs more than 200 people. The fishing vessels haul in their catch using a selective, sustainable long line fishing method and all fisheries in the Economic Exclusive fishing Zones (EEZ) of the waters of Fiji in the South Pacific are certified against Marine Stewardship (MSC) standards, a certification programme that promotes sustainable fishing. The company exports tuna mainly to the U.S. and Japan and newly upcoming markets such as the EU, New Zealand and Australia

Brett Haywood, owner of Sea Quest, declared: "With the AIS installation, safety and transparency of compliance with fishing areas are being addressed. Other issues like illegal fishing, barcoding of fish, electronic monitoring of fisheries as well as satellite monitoring need to be part of a larger framework to be addressed through regulatory measures. I believe that the Maritime Safety Authority of Fiji could look at implementing mandatory use of AIS units on all Fiji flagged vessels as a means of increasing vessel safety at sea. This could also be a backup surveillance for fisheries.

When it comes to the installation of AIS units on industry vessels, it´s up to each company to determine how transparent they wish to be. Some prefer to keep information to themselves, as a privacy matter. Privacy isn't a concern for Sea Quest – because we are more concerned about the safety aspect. The safety aspect far outweighs the benefit of keeping that information for ourselves (position of the boats, in relation to other boats). So I would really encourage the fishing industry to take up AIS units."

Other WWF Projects Involving the Use of AIS

In addition to the pilot project in **Fiji**, WWF supports and plans other projects for fishing vessel utilization of AIS: WWF has been working with the Direction of the National Park **Galapagos** (DPNG) since 2009 on implementation of the Galapagos Marine Reserve Management Plan. In 2011, Sea Shepard Conservation Society and WWF supported the Direction of the National Park Galapagos (DPNG) initiating monitoring of AIS for vessels operating within the Galapagos Marine Reserve (GMR). By late 2011, 10 AIS base stations were installed around the archipelago and soon thereafter transmitted information within the GMR. Additionally, in 2013, WWF Galapagos Program, WildAid, and Conservation International installed an advanced radar and port video surveillance system in the Galapagos to further support DPNG's and the National Direction of Aquatic Spaces's (DIRNEA) monitoring and control efforts within the Galapagos Marine Reserve.

Other WWF-AIS projects are planned in Mozambique, Pakistan and Senegal.

“The stakes are high for the marine environment, for billions of people who depend on fish for their protein, and for hundreds of millions who catch and sell fish for their livelihoods”, said Alfred Schumm, SFI leader.

Through demonstrating the utility of AIS data towards improving vessel safety and serving as a supporting MCS system, WWF hopes that the utilization of the technology spreads beyond fisheries and countries involved in the project and that the use of AIS is made mandatory. Ultimately, through utilizing AIS and other MCS data, governments and responsible management authorities will be able to improve enforcement of fishing in waters within their jurisdiction.

Through the **Smart Fishing Initiative** (SFI), WWF´s global fisheries programme, WWF tackles the many problems of overfishing to contribute to a sustainable future for our global fisheries. Our work entails: advocating good governance and sustainable fisheries management with fisheries administrations, politicians and governments; promoting the adoption of a legal, transparent system that ensures our seafood is sustainably caught, spurring fishers, processors, sellers, buyers and retailers to commit to certified fisheries, and to purchase and sell seafood products that can be traced back to its origin and inciting financial institutions to create new, responsible investment mechanisms that put a halt on overfishing.

Why we are here
To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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