WWF

POSITION

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Fishing in Puru © Jurgen Freund/WWF-Canon

Smart Fishing Initiative

SATELLITE TRACKING TO CREATE TRANSPARENCY IN FISHING

The facts are frightening, to say the least. In 2014, the United Nations Food and Agricultural Organization (FAO) declared that 28 percent of world fisheries are overfished and over 60% fished to their limits. Still, the demand for seafood is expected to increase, wild capture and farmed seafood remaining one of the most traded food commodities worldwide with over 200 countries exporting fish and seafood products. By 2030 the FAO estimates we will need and additional 45 million tons to meet demand. It has never been more important to make a global shift towards well-managed, sustainable fisheries.

Overfishing has pushed oceans to the limits of their productivity, and is threatening the world's fisheries, and consequently, the human populations that depend on the sea. Unsustainable management and illegal, unreported and unregulated (IUU) fishing damage ecosystems, undermine livelihoods, and are often associated with other serious problems such as drug trafficking, human slavery, organized crime and maritime security. Every year, millions of tons of fish are stolen from our oceans and brought to market disguised as legal catch. Pirate fishing is a multi-billion dollar industry that endangers marine ecosystems. It continues because it is profitable: pirate fishers find it easy to bring their tainted goods into ports, across borders, and onto our store shelves and restaurant menus. 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. A crucial step against illegal, unreported and unregulated fishing and sustainable resource use is transparency.

The Smart Fishing Initiative (SFI), the global fisheries programme of WWF, is meeting the challenge of global overfishing head-on and working to mitigate the potential "ecological disaster" of worldwide overfishing by advocating good governance, supporting sustainable markets, and encouraging responsible investment. To create transparency at sea and stop illegal fishing we need good systems to monitor global fishing activities and track fish.

Satellite technology is offering a way to help combat overfishing by monitoring fisheries and tracking catches and asking commercial fishing companies to be transparent. Technologies such as the Automatic Identification System (AIS), Vessel Monitoring System (VMS) and other tracking systems can be of great help to create transparency. AIS is an open communication tool widely used in commercial shipping to help ships avoid collisions. It can be captured by satellite and provides information about GPS location, speed, direction of travel and ship identity. VMS is a fishery management system which allows selected groups to track and monitor the activities of fishing vessels. Other tracking systems entail systems based on mobile network technology and GPS location. They are developed to track small scale fishery vessels and have a low power consumption and low operating costs.

WWF and its partner navama, the Munich based technology company, have been developing and actively promoting the use of the Automatic Identification System, which is an affordable way to use satellite data to monitor fishing operations.

AIS was introduced by the International Maritime Organization (IMO) in December 2000 for safety reasons but outside the European Union Exclusive Economic Zone (EEZ) and several other state EEZs 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 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 and Member States may use AIS data for Monitoring, Control and Surveillance (MCS) purposes. Additionally, a number of other countries, including China, India, the U.S., Argentina 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.

WWF initiated several projects 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 and navama for example cooperate 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 MSC certified tuna fishing vessels of Sea Quest. The AIS, a reliable supplier of data is constantly sending signals from the vessels where it has been installed to the WWF/navama database to monitor and evaluate fishing and vessel operations on the water. WWF/navama 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. Similar projects exist in Mozambique, Senegal, and Pakistan.

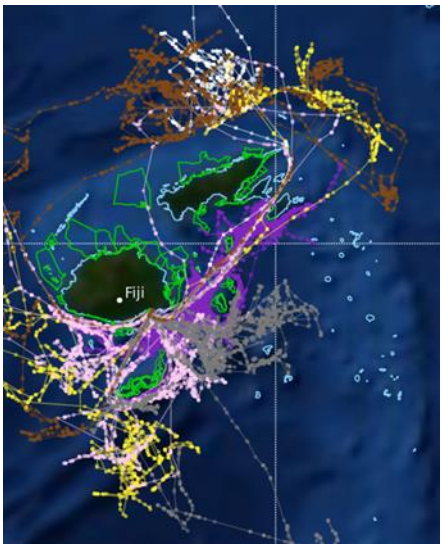

Figure 1: Sea Quest Tuna Vessels

WWF and navama, the environmental technology innovators, gained a lot of experiences working for more than 4 years with AIS data and now we have developed some sophisticated analytical tools and crosschecks to enable a good understanding of the satellite-data. Our aim is to make fishing operations transparent and to ensure that the seafood reaching markets is fully traceable to legal sources.

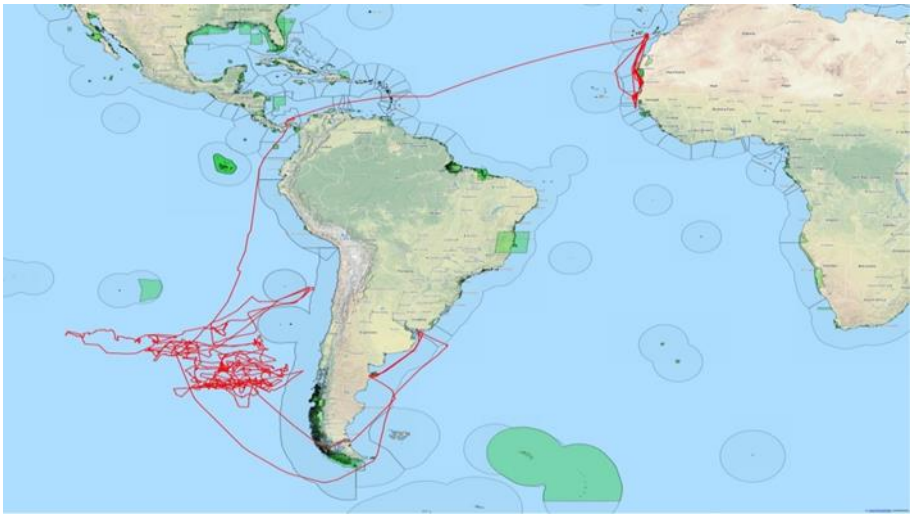

Figure 2: Global track of fishing vessel

WWF and navama have developed **four tools** based on Vessel Monitoring technologies, to create more transparency at sea, which I am going to describe below.

Together with navama, we introduced **TransparentSea.org**, a tracking tool and data sharing platform that allows fisheries all over the world to voluntarily register with the system, and make their fishing activities "transparent." We visualize routes of fishing vessels, and cooperate with fisheries who want to make their operations transparent and register on our new website www.transparentsea.org.

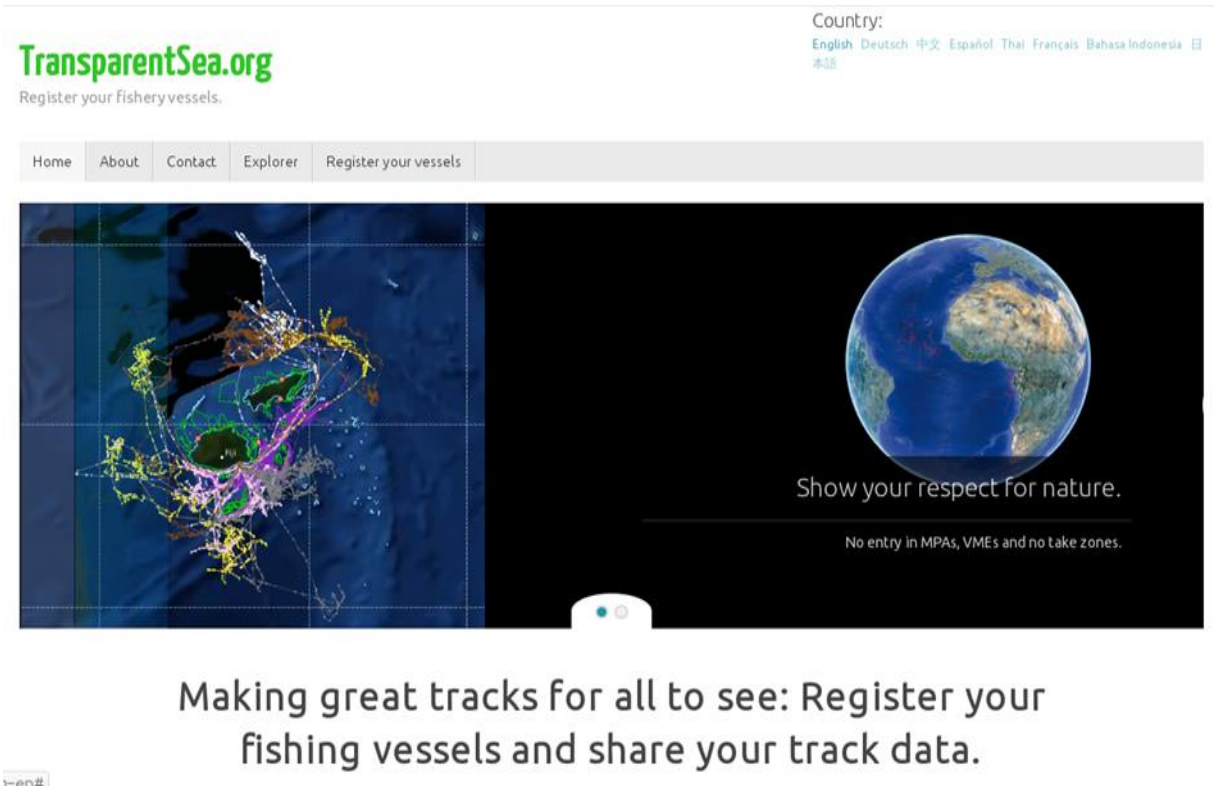

Figure 3: Homepage: www.TransparentSea.org

With their registration fisheries agree to share 24/7, either satellite AIS data, VMS data or other location based information data of their vessels with independent experts from WWF, navama, other NGOs, governments and science. With the fishing company's approval, the data from their experience can even be published. Fisheries which cooperate with us can thus show their customers that they are committed to legal and responsible fishing and demonstrate that they respect boundaries of sensitive areas and no take zones and use responsible fishing practices.

seeFish builds on modern technology to establish a consumer friendly traceability system from catch to supermarket shelf. Consumers will be able to trace products back to the catch location with smartphones and tablet PCs. Satellite technologies (GPS, satellite AIS and VMS), modern database management and automated analysis procedures play a vital role in tracking fish products. It is a joined project of Luxspace, WWF and navama, funded by the European Space Agency (ESA) and German Aerospace (DLR).

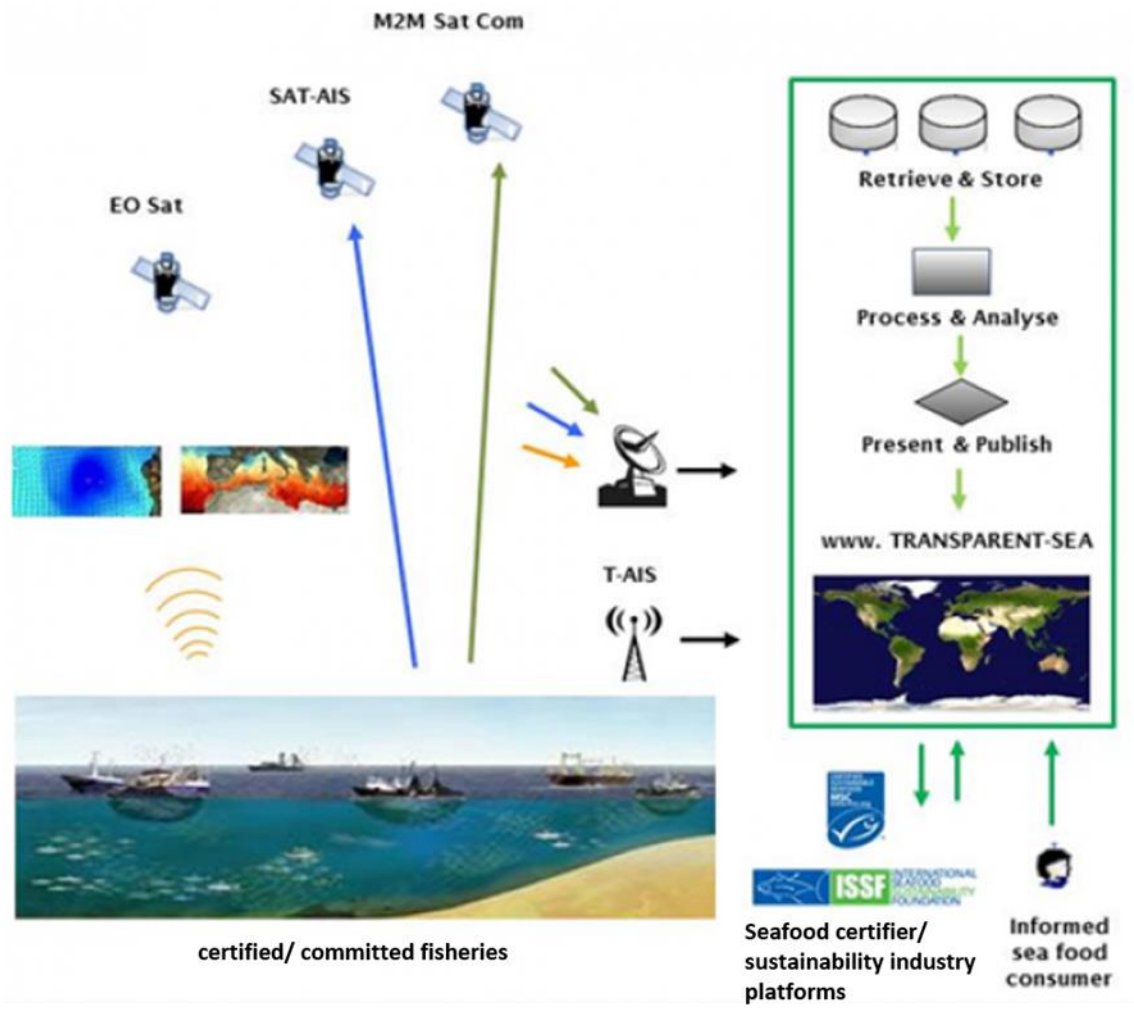

Figure 4: The SeeFish Project - a traceability system from catch to plate

We also developed a new fishery track data analysis platform for fisheries experts called **seeOcean** - a web based analysis tool for marine geographic information and AIS/VMS/GSM tracks. It enables access to a big AIS satellite database with data about global AIS coverage, individual shared fishery tracks, marine protected areas, wind and waves, track patterns, ports, and economic data which can be combined and visualized to provide a holistic view of fishing operations. It can be used by governments, supply chain representatives, fishermen and scientists to monitor and visualize fishing activities worldwide.

smartTrack is a vessel tracking system for artisanal fisheries based on vendor independent hardware solutions. smartTrack supports small scale and artisanal fisheries who seek better access to efficient and affordable sustainability certification processes. It is a project in which WWF and navama test and install various position tracking systems on artisanal vessels, supplied with solar power where necessary.

All these tools contribute to improve collaboration on transparency between fisheries, NGOs, administration, the seafood industry and science.

We want to create transparency and understanding and show that the fisheries management, monitoring and control measures are essential to make fishing sustainable. Governments over the world should make AIS installation mandatory for every commercial fishing vessel to increase safety and transparency.

WWF urges national governments, Regional Fisheries Management Organisations as well as states flagging fishing vessels operating on the high seas to promote transparency at sea and adopt mandatory installation of the AIS system on all commercial fishing vessels under their flag or fishing in their national waters in addition to monitoring, control and surveillance (MCS) measures currently used such as VMS systems.

We support the critical steps to implement sustainable fishing methods, to create transparency at sea, to preserve fish stocks, secure and improve coastal communities' livelihoods. Only through joint efforts to make fisheries and the whole global seafood industry fully transparent and sustainable, can we stop the over-exploitation of the seas.

Figure 5: Indian Ocean tuna: Tuna is a vital source of food, a source of income and an essential link in the marine food web.

Alfred Schumm, Director WWF -Smart Fishing Initiative

Our Smart Fishing Vision and Goals:

Vision: The world's oceans are healthy, well-managed and full of life, providing valuable resources for the welfare of humanity.

2020 Goals: The responsible management and trade of global priority fisheries result in recovering and resilient marine eco-systems, improved livelihoods for coastal communities and strengthened food security for the Planet.

WWF

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.

panda.org

For more information

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