OCEAN POLLUTION

Search for MH370 shines spotlight on trash-strewn oceans

It's been quite a pattern of frustration for investigators looking for a trace of Malaysia Airlines Flight MH370. Satellites and searchers locate debris in the Indian Ocean, only to discover that the objects are not related to the flight at all, complicating an already tricky search for the plane missing since March 8.

All of the world's oceans are cluttered with debris. Even the most remote places on the globe have been touched by the stuff humans toss, including the search site in a remote area of the Indian Ocean.

Five large gyres of junk swirl in the world's oceans, the largest of which is located in the north Pacific Ocean, according to NOAA. A gyre is a spiraling ocean current. That gyre "spans an area roughly twice the size of the US," though its size and shape fluctuates, the nonprofit organization 5 Gyres stated.

Smaller gyres also exist off the coast of Alaska and Antarctica, though researchers don't know yet just how much trash lurks in the oceans.

Because it's located far away from population areas, the Indian Ocean gyre is not as well researched as some of the other gyres.

However, large amounts of trash have reached distant mid-ocean islands such as Christmas, Cocos and Diego Garcia, according to a report by David K.A. Barnes of the British Antarctic Survey.

"Hermit crabs on such remote Indian Ocean shores are even starting to use debris instead of the more usual gastropod shells as the debris is so abundant," Barnes noted.

The trash collects in gyres through the action of meanders and eddies in the oceans, influenced by the interaction between surfaces and surface waves, according to NOAA.

Debris in the world's waters is carried from land via storm drains and sewers into streams, as well as from shoreline and recreational activities.

"Today, there is no place on Earth immune to this problem," NOAA said in its special section devoted to ocean pollution.

Marine trash includes abandoned fishing gear, derelict vessels and plastics. "Abandoned or discarded fishing gear is also a major problem because this trash can entangle, injure, maim and drown marine wildlife and damage property," NOAA stated.

Thousands of scuttled vessels can be found in areas such as ports and estuaries, threatening navigation and polluting the environment.

Plastics are dangerous for sea creatures because, when eaten, the material can block the digestive system, causing creatures to dehydrate, starve and die.

NOAA noted that most plastics are intended for temporary use, yet plastic litter doesn't really go away. It merely breaks down into smaller and smaller pieces, into microplastics of less than 5 mm in length, some pieces even microscopic.

"Cetaceans, all sea turtle species, and a growing list of fish species have been documented with plastic in or around their bodies," 5 Gyres noted.

Plastic debris collects pollutants such as polychlorinated biphenyls "up to 100,000 to 1 mn times the levels found in seawater," according to NOAA.

The jury is still out as to what affect plastics will ultimately have on the animals further up the food chain.

The ocean trash problem is immense, and has been building up for decades with the rise of disposable packaging. However, people can make an impact locally by properly disposing of trash, opting for reusable items and recycling what they can.

Source: Kimberly Wright / Raycom News Network
www.myfoxal.com/story/25136541/search-for-mh370-shines-spotlight-on-trash-strewn-oceans

MARINE BIOLOGY

Electric buzz surrounds new fish species

Scientists say they have discovered a new genus and species of electric knifefish in the Negro River of Brazil.

The *Procerusternarchus pixuna* is a small fish, ranging in size from 75 mm to 138 mm, and the voltage it discharges is so small that it's measured in microvolts, meaning a human would not be able to detect the electric current.

To put that in perspective, an electric eel, which is in the same order of species, can emit up to 600 volts of electrical discharge. Like the other fish in this genus, the *Procerusternarchus pixuna* uses its electric discharge mainly to locate other fish.

According to Professor Cristina Cox Fernandes at the University of Massachusetts Amherst, a co-author of a paper describing *P. pixuna*, the fish do not swim in schools. In fact, they stay away from one another to avoid jamming each other's electrical discharge. She added that male and females are able to change the amplitude of the discharge so as not to jam each other.

Just two decades ago, there were less than 100 species of electric fish documented, but that number has nearly doubled today, researchers said.

Source: VOA
www.voanews.com/content/electric-buzz-surrounds-new-fish-species/1900725.html

ORGANIZATIONAL PROFILE

Myanmar Fishery Federation

The Myanmar Fishery Federation (MFF) was founded in 1989 as a national-level non-profit organization to encourage and promote the fishery industries of Myanmar.

MFF aims to improve the socioeconomic conditions of its member entrepreneurs and enhance the livelihood and all-round development of fishing communities who are not members of MFF. MFF also disseminates information on official economic policies, both national and international, and imparts knowledge of advanced technologies and fishery-related information.

MFF co-operates and co-ordinates with the ministeries and regional authorities concerned as well as with local and international NGOs. It encourages R&D in fisheries, and human resource development (HRD) programmes to raise the sector's standards to international levels. It also seeks to enhance foreign exchange earnings through exports of fishery products, while ensuring sufficient domestic supply.

The recent activities of MFF have included post-cyclone rehabilitation work, liasing with international NGOs, holding training and discussion sessions, dispute settlement of fisheries issues, organizing seminars and workshops, issuing country of origin certificates, conducting Japanese language classes and providing hospitality for visiting foreign delegations.

The Central Executive Committee Members of MFF, the Executive Committee Members of the Functional Associations, and the Executive Committee Members of the Regional Fisheries Associations are elected for a three-year-term.

As of 31 August 2012, the total number of MFF members (both individuals and companies) stood at 28,539 (27,775 individuals and 764 companies).

Capture Fisheries and Aquaculture Production: Trends

According to *The State of World Fisheries and Aquaculture (SOFIA), 2012* of the Food and Agriculture Organization of the United Nations (FAO), from a database updated to 2012, the total global capture production in 2012 showed a new maximum production (86.6 mn tonnes) when the highly variable anchoveta (*Engraulis ringens*) catches are excluded.

Variations in production by country, fishing area and species are buffered at the global level through compensatory developments in different fisheries. After 1998, when extremely low anchoveta catches reduced the total catch to 85.7 mn tonnes, the widest deviations from the annual average of 91.1 mn tonnes in the best and worst years (2011 and 2003, at 93.7 and 88.3 mn tonnes, respectively) have been only about 3 per cent.

Global inland waters capture production marked a new record at 11.6 mn tonnes in 2012. Although its upward trend seems continuous, its share in total global capture production remains below 13 per cent.

Inland waters continue to be the most difficult subsector for which to obtain reliable capture production statistics.

The total number of species items included in the FAO capture production database reached 1,967 with 2012 data. However, the annual rate of increase is progressively decreasing, suggesting that the number of species for which capture statistics are collected is probably approaching a plateau.

According to the newly released statistics, the world aquaculture production in 2012 was 90.43 mn tonnes, including 66.63 mn tonnes of food fish, 23.78 mn tonnes of aquatic algae (mostly marine macroalgae/seaweeds), and 22.4 thousand tonnes of non-food products (pearls and shells, etc.). The term 'food fish' often used by FAO includes finfishes, crustaceans, molluscs, amphibians, freshwater turtles and other aquatic animals (such as sea cucumber, sea urchins, sea squirts and edible jellyfish, etc.) produced for the intended use as food for human consumption.

On global average, aquaculture supplied 9.41 kg of food fish per person for consumption in 2012.

However, production distribution is extremely uneven across the globe and on all continents owing to the imbalance development.

Aquaculture is now fully comparable to capture fisheries when measured by volume of output on a global scale. The contribution from aquaculture to the world total fish production of capture and aquaculture in 2012 reached 42.2 per cent, up from 25.7 per cent in 2000. Asia is the only continent producing more fish (54 per cent) than capture fisheries. The share of aquaculture in total fish production also rose in all other continents, with Europe staying at 18 per cent and others below 15 per cent.

Finfish aquaculture, especially inland aquaculture of herbivorous and omnivorous finfish species, is the most important subsector of aquaculture production in volume terms. It is the source of affordable quality protein food in many developing countries.

When feed is usually seen as the most important cost to aquaculture production, it should be stressed that over 20 mn tonnes, over 30 per cent of the total production of farmed food fish, are produced without intentional use of feeds. The non-fed species include filter feeding carps and bivalves, etc.

Though a total of 567 'species items' had been registered in the global aquaculture statistics database, it is estimated that a great diversity of over 600 aquatic species are cultured worldwide. Well over 200 aquatic species are farmed commercially in China under less than 90 'species items' currently.

Despite the large number of farmed species, the majority of total aquaculture production output rely on several dozens of species only. Geographically, tilapias are the most widespread species for aquaculture production in the world. Close to 140 countries and territories are now recorded for farming of tilapias in the FAO database.

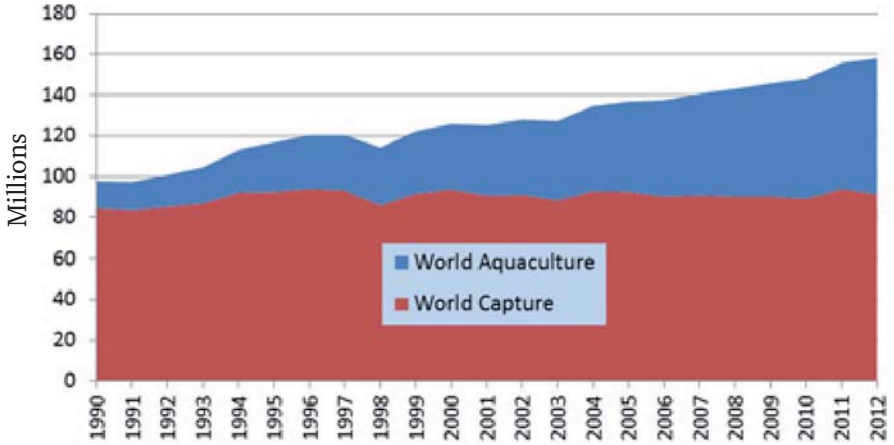
Source: FAO Fisheries and Aquaculture Department, 2014.

Table 1: World aquaculture production of finfish, crustaceans, molluscs and other aquatic species in 2012 from inland aquaculture and mariculture (Unit: thousand tonnes, in live weight equivalent)*

	Inland aquaculture	Mariculture	SUB-TOTAL	
	(thousand tonnes)	(thousand tonnes)	*(thousand tonnes)*	*(percent)*
Finfish	38 599	5 552	*44 151*	*66.3*
Crustacean	2 530	3 917	*6 447*	*9.7*
Molluscs	287	14 884	*15 171*	*22.8*
Other species	530	335	*865*	*1.3*
TOTAL	**41 946**	**24 687**	***66 633***	***100***

** Note: Inland aquaculture also includes operations using inland saline water in inland areas, most notably in Egypt. Mariculture also includes operations using on-shore (land-based) facilities and structures.*

Figure 1: The contribution to total fish production (excluding aquatic plants and non-food products) has been rising in the world and on all continents (Unit: Million tonnes in live weight)



INFOLOG: NEW RESOURCES AT ICSF

ICSF's Documentation Centre (dc.icsf.net) has a range of information resources that are regularly updated. A selection:

Publications

Employment Practices and Working Conditions in Thailand's Fishing Sector. 2013. ILO Tripartite action to protect the rights of migrant workers within and from the Greater Mekong Subregion and Asian Research Centre for Migration, Chulalongkorn University

This report is the result of a large-scale s urvey of employment practices and working conditions within the commercial fishing sector in four major port areas in Thailand.

Implementation Guidelines on Part B of the Code, the Voluntary Guidelines and the Safety Recommendations (Implementation Guidelines)

This publication is the result of the continuing co-operation between the Food and Agriculture Organization of the United Nations (FAO), the International Labour Organization (ILO) and the International Maritime Organization (IMO), in relation to the safety of fishing vessels.

http://www.fao.org/docrep/019/i3662e/i3662e.pdf

Governability of Fisheries and Aquaculture: Theory and Applications. MARE Publication series. Volume 7. 2013. Eds. Maarten Bavinck, Ratana Chuenpagdee, Svein Jentoft and Jan Kooiman

This volume illustrates the contribution of interactive governance theory to understanding core concerns such as ecosystem health, social justice, sustainable livelihoods and food security. The central concept in this perspective is governability—the varied capacity to govern fisheries and aquaculture systems sustainably. The authors of this volume argue that responses to such problems must consider context, specifically, the character of the fisheries and aquaculture systems themselves, their institutional conditions and the internal and external interactions that affect them.

Videos

Bangladesh Hilsa

www.youtube.com/watch?v=WU7xqp2JO-c&feature=youtube

This 13-min documentary, in Bangla with English subtitles, on hilsa fisheries management in Bangladesh has been produced by the Bangladesh Fisheries Research Institute (BFR I) as part of the Bay of Bengal Large Marine Ecosystem (BOBLME) project.

C.188 Decent Work for Fishers

This documentary film by ILO is on the Work in Fishing Convention, 2007 (No. 188). The convention is a landmark in the fishing sector, as it hopes to change the lives of fishers everywhere, guaranteeing a safer and decent workplace for the millions of people who provide a vital source of the world's food.

FLASHBACK

Fishermen's Rights

Filipino fishermen have suffered a great deal on Taiwanese boats. Living conditions on those boats were denounced at the international seminar held in Manila last February. All over the world, unknown fishermen undergo the same or worse treatment and have no way to defend their basic rights.

International agencies and governments do little or nothing to solve these problems. Industrial fleets have hurt small artisanal fishermen in numerous countries, either directly by fishing in their waters, or indirectly, by negotiating with governments to obtain larger fishing quotas. Many national organizations aspire to have a zone reserved for artisanal fishermen, and we can see the day when that right will be universally accepted as a norm.

Women do not participate in organizations and are generally kept in an inferior position. Even though they always participate in the task of processing the catch, they are not allowed to occupy leadership positions. Also, governmental decision-making agencies do not accept the participation of fishworkers' leaders, who are, therefore, forced to use pressure tactics to be taken into account.

We can see some signs on the horizon that allow us to hope for a better day for fishworkers who lack basic rights. Chile has promulgated a law for fishing and aquaculture, which provides for the participation of representatives of fishermen's organizations in fishing councils. It also establishes a five-mile zone reserved for artisanal fishing, a fisheries development fund, and priority access to aquaculture concessions. Fishermen from Brazil, Ecuador, Mexico, Bolivia, Colombia, Senegal, the Philippines, India, Norway, France and other countries are active in their organizations to achieve better living and working conditions.

This progress marks the beginning of a long and difficult road that fishermen's organizations will have to travel to ensure that their members are respected as human beings and can defend their sources of work threatened by pollution and plunder. Fishermen and fishworkers of the entire world should raise their voices to make room for the participation of women, and demand from their governments reserved fishing areas. Credit and technical assistance should be channelled through projects that are elaborated with the active participation of fishermen themselves at every step of the process.

—— from SAMUDRA Report No. 4, May 1991

ANNOUNCEMENTS

MEETINGS

15th Meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea

27 - 30 May, 2014, New York, US

The main focus of the meeting will be discussions and panel presentations on understanding global food security and the current role of seafood therein, the role of seafood in global food security in the context of the three pillars of sustainable development, and opportunities for, and challenges to, the future role of seafood in global food security.

31st Session of the Committee on Fisheries (COFI)

9 - 13 June, 2014 , Rome, Italy

The agenda for the COFI, includes endorsement of the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (the SSF Guidelines) and discussions on the global assistance programme for implementation of the SSF Guidelines.

18th Meeting of the Subsidiary Body on Scientific, Technical and Technological Advice

23 - 28 June 2014, Montreal, Canada

The agenda for SBSTTA includes discussions on the programme of work on marine and coastal biodiversity, including on ecologically and biologically significant areas, ocean acidification, marine spatial planning and on ocean noise.

WEBSITE

www.fao.org/archive/from-the-field/detail/en/c/212878/

Video training packages

The FAO component of the SmartFish Project on Food Security has launched a new video training package to teach small-scale fisheries operators in Africa about the importance of hygiene and quality in the small-scale fisheries for better quality and business. There are five packages in this series.