



FIRMS Steering Committee Meeting
Ninth Session
Swakopmund, Namibia, 23-24, and 27 February 2015
FIRMS WEB TRENDS STATISTICS OVER THE PERIOD 2007-2014
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Management Summary

Author	FIRMS Secretariat
Version	1
Project	FIRMS
Distribution	FIRMS Partners
Created	29 January 2015
Saved	4 February 2015
Printed	

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1. Web measurement basics

The analysis of the FIRMS Web site is based on the Web traffic analysis generated by Google Analytics and by the open source software used in FAO, which is called AWStats (Advanced Web Statistics). Google Analytics is a free service provided by Google. It helps to analyze the way people access and use web sites. AWStats is a log analyzer which creates advanced Web, ftp, mail and streaming server statistics reports based on the rich data contained in server logs. For the current analysis only Google Analytics was consulted.

The basic difference in the two methods is Google Analytics being browser based (a JavaScript counting events in a browser), while AWStats is server based by counting lines in the logs with some algorithms to filter out activities generated by spiders and others search engine content harvesters.

1.1 Page Views

The definition of page view is:

A page view is counted with the successful loading of any document containing content that was requested by a web site visitor, regardless of the mechanism of delivery or the number and frequency with which said content is requested.

Page views are the measurement of a visitor's interest in a site and they provide an easy way to convey the popularity of a page.

1.2 Visits

A visit is counted when a unique visitor creates activity on a web site, measured using sequential page views, regardless of the duration of this activity as long as the period of inactivity between page views does not extend beyond 60 minutes.

A visit, also referred to as a session or user session, is used for measuring the amount of traffic a Web site gets. By default, a Google Analytics session lasts 30 minutes.

1.3. Bounce rate

Bounce Rate is the percentage of single-page visits (i.e. percentage of visitors which doesn't go further the accessed page and left the website).

1.4 Geographic location

How it is calculated and how reliable is it?

The country of origin of the access is calculated from IP address the user's computer is assigned when it connects to the internet - which may be fixed or dynamic. This is the IP address that is seen in the web server logs. Each IP address block is assigned by one of the regional internet registries to a particular country. AWStats uses a database built from data published by the regional internet registries to make the calculation of which country an originating IP number is coming from.

That said there are some shortcomings. Few conclusions can be drawn if the data says "US", "EU" or "unknown". If other countries are near the top then this can be considered interesting data. The data can be considered 95% accurate for other countries apart from the three mentioned above.

Similarly to AWStats, Google Analytics reports the country or territory from which visits originated, based on IP address of the visitor, which is mapped to a geographic region.

2. FIRMS Web trends (2007 - 2014)

2.1 Analysis of general trends

The analysis below is based on web traffic data provided by Google Analytics. This software was used to calculate various indicators from January 2007 to December 2014.

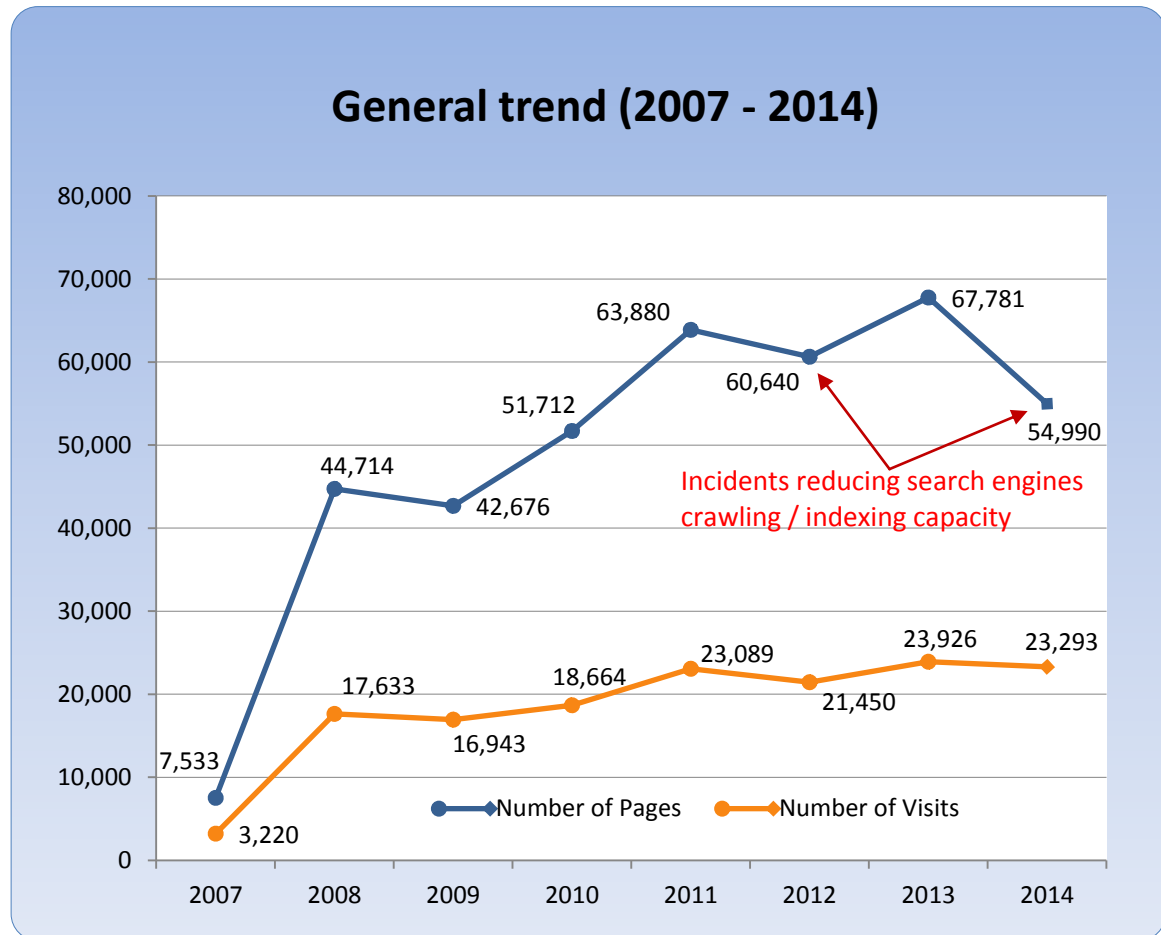


Fig. 2.1 FIRMS general trend (2007 - 2014)

Table 1: FIRMS general trend (2007 - 2014)

Year	No. Visits	No. Pages	No. Pages/Months	Pages/Visit
2014	23293	54990	4,583	2.36
2013	23926	67781	5,648	2.83
2012	21,450	60,640	5,053	2.83
2011	23,089	63,880	5,323	2.77
2010	18,664	51,712	4,309	2.77
2009	16,943	42,676	3,556	2.52
2008	17,633	44,714	3,726	2.54
2007	3,220	7,533	628	2.34

Figure 2.1 and Table 1 show that the overall number of visits and pages mainly increased along time until 2013. During 2014 a negative trend is observed for the number of page views although this is not proportionally reflected in the number of visitors which decreased much less (see more details in section 2.2). At the beginning of the summer 2014 it was noticed that the FIRMS sitemap was no longer read by Google causing a reduced crawling and indexing activity which may contributed to such negative trend. A new dynamic sitemap was then developed and submitted to Google in autumn 2014. A similar incident occurred in 2012 (see FSC8 web trends report) when robots were not able to visit the FIRMS website for some months causing a negative trend due to a lower rank assigned by Google.

The average bounce rate (the percentage of visitors who enter the site and leave it rather than continue viewing other pages) is about 66%. The bounce rate is about 50% for the home page and for the search interfaces; it is more variable for fact sheets with higher and lower values.

The average time on page is 00:01:44 but with greater peaks in selected pages. These numbers suggest that users are interested in authoritative sources of information on status of fishery resources, but, in some cases, they give up for various reasons. Possible causes could be a complex navigation, lack of friendliness, incomplete coverage, and difficulty in finding what they are looking for.

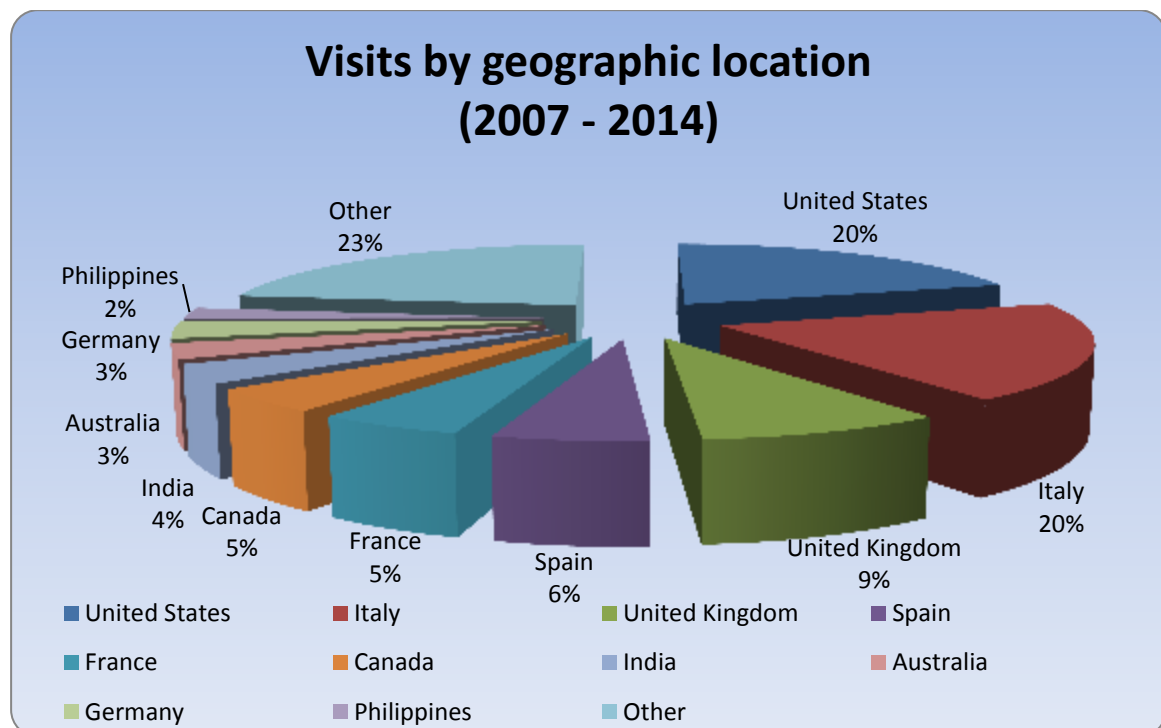


Fig. 2.2 Visits by geographic location (2007 - 2014)

Figure 2.2 describes the geographic location of the visits; the percentage is calculated upon a sample of 25 countries. The highest percentages of visits are originated by United States, Italy and UK. It should be noted that the figure for Italy may be inflated by the activity of the Secretariat which is regularly monitoring and updating the FIRMS site. The category "Other" includes (listed in decreasing order of importance): Portugal, Japan, China, Netherlands, Indonesia, Belgium, Norway and Malaysia as top visitors among other countries.

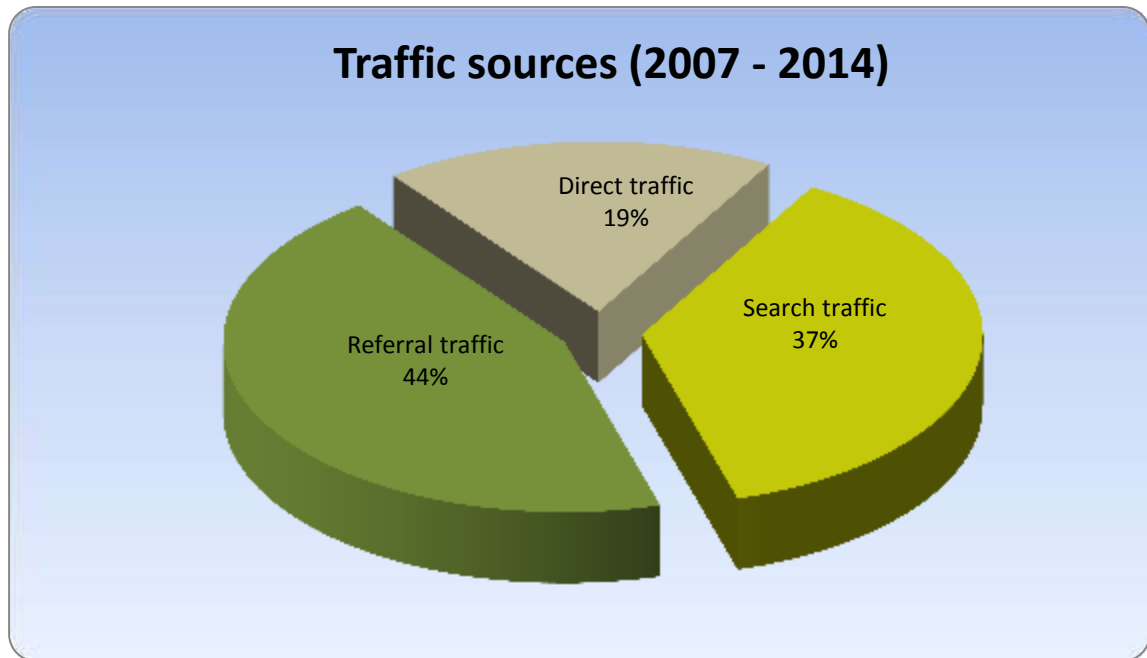


Fig. 2.3 Traffic sources (2007 – 2014)

Figure 2.3 shows that traffic sources for the FIRMS web site are generated mostly by search engines and by referral sites.

The majority of referral traffic (44%) is due to the following web sites (listed in decreasing order of importance): fao.org, fishbase.org, en.wikipedia.org, gfc.m.org, iccat.int, seafo.org, iattc.org, smartfish.d4science.org, images.google.com, ccsbt.org, google.com, nafo.int, friendofthesea.org, ices.dk, facebook.com, tuna-org.org. It should be noted that some of these sites contributed discontinuously to traffic in the considered time frame (e.g. friendofthesea.org and ices.dk had pikes of access in certain periods of the considered time range).

Search traffic (37%) is mostly generated by Google search engine (about 77%), followed by Yahoo, Bing and others.

Direct traffic (19%), visitors who clicked a bookmark or entered a URL, are the third way FIRMS is accessed.

Top Sources/Mediums are the Google search engine, the FAO referral site which equally represents two third of the whole sources of traffic. The direct traffic is also third as source vs. medium.

In the previous analysis (2007-2012, reported in FSC8), the first source of access was the search engines which accounted for 41%. This loss of indexed retrievals may have contributed to the overall negative trend for 2014.

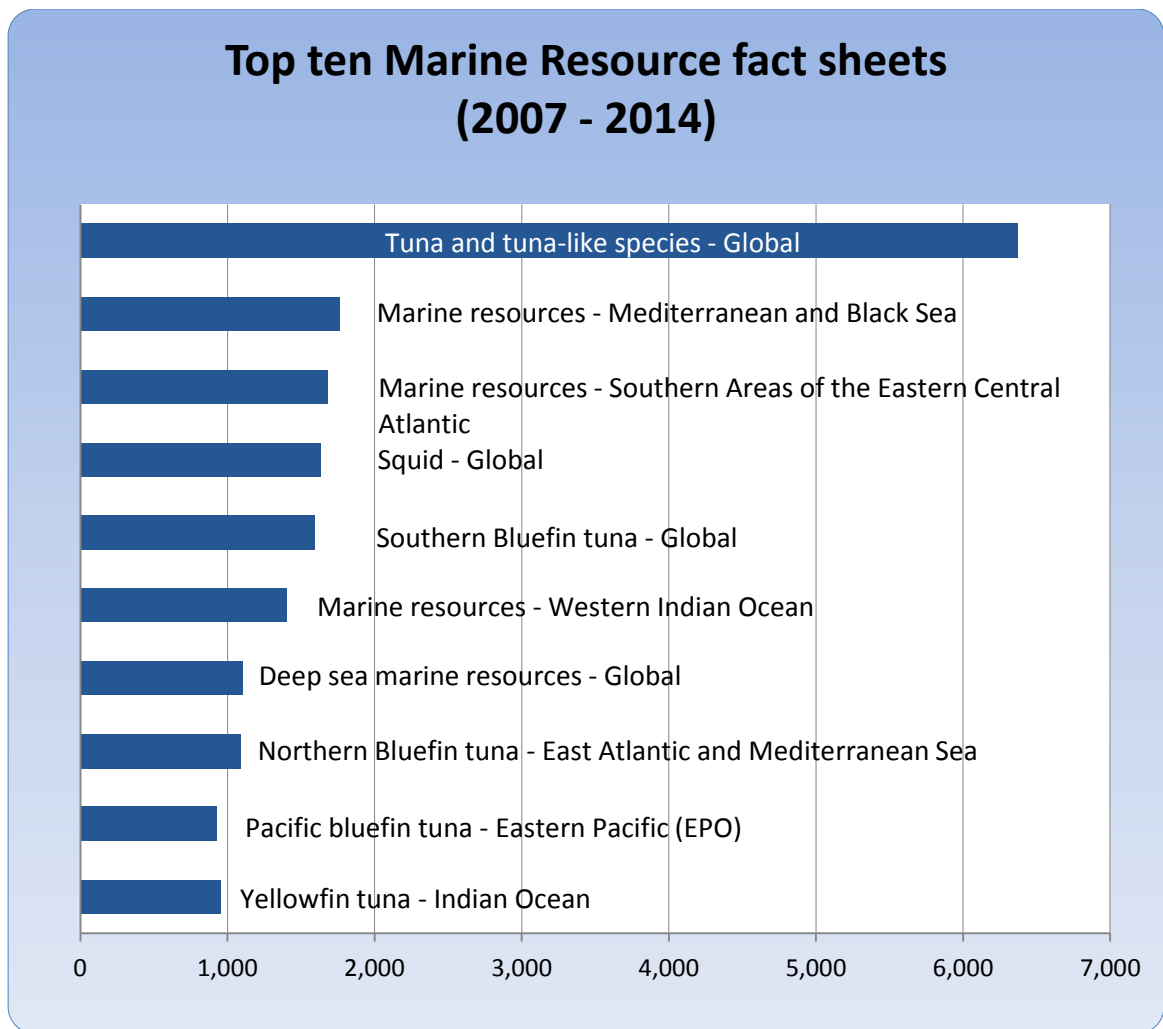


Fig. 2.4 Top ten Marine Resource fact sheets (2007 – 2014)

Figure 2.4 relies upon the total number of page views per Marine resource fact sheets in the period 2007 - 2014. Information on Tuna is considerably more requested (more than threefold higher) across considered years than other fact sheets. The increase of the regional reports may be connected with the considerable FIRMS activities in the Eastern Central Atlantic and Western Indian Ocean.

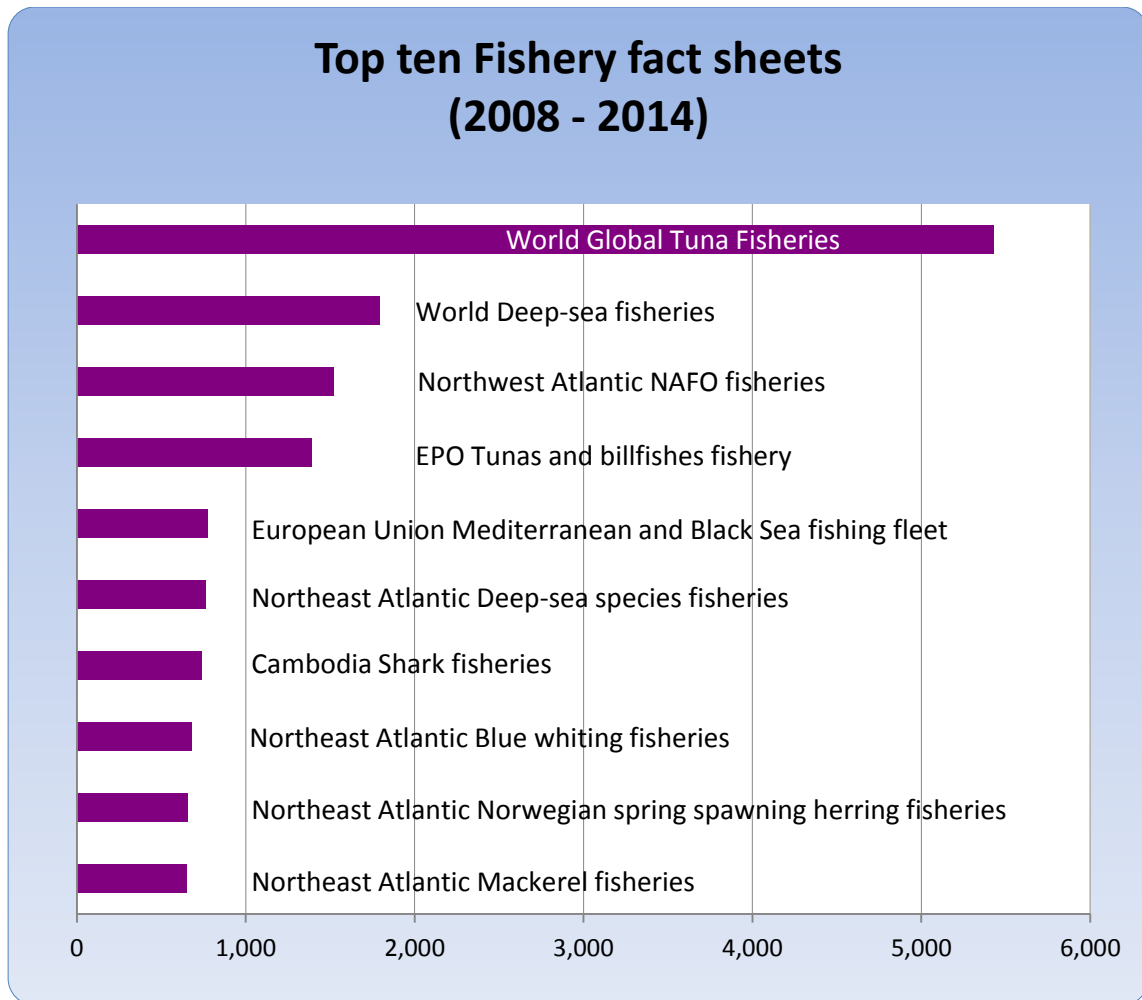


Fig. 2.5 Top ten Fishery fact sheets (2007 – 2014)

Similarly to figure 2.4, the figure 2.5 shows the total number of page views per Fishery fact sheets in the period 2008 - 2014 and again global information on Tuna is considerably more requested although also many other type of fisheries are visited often, particularly the ones containing management information.

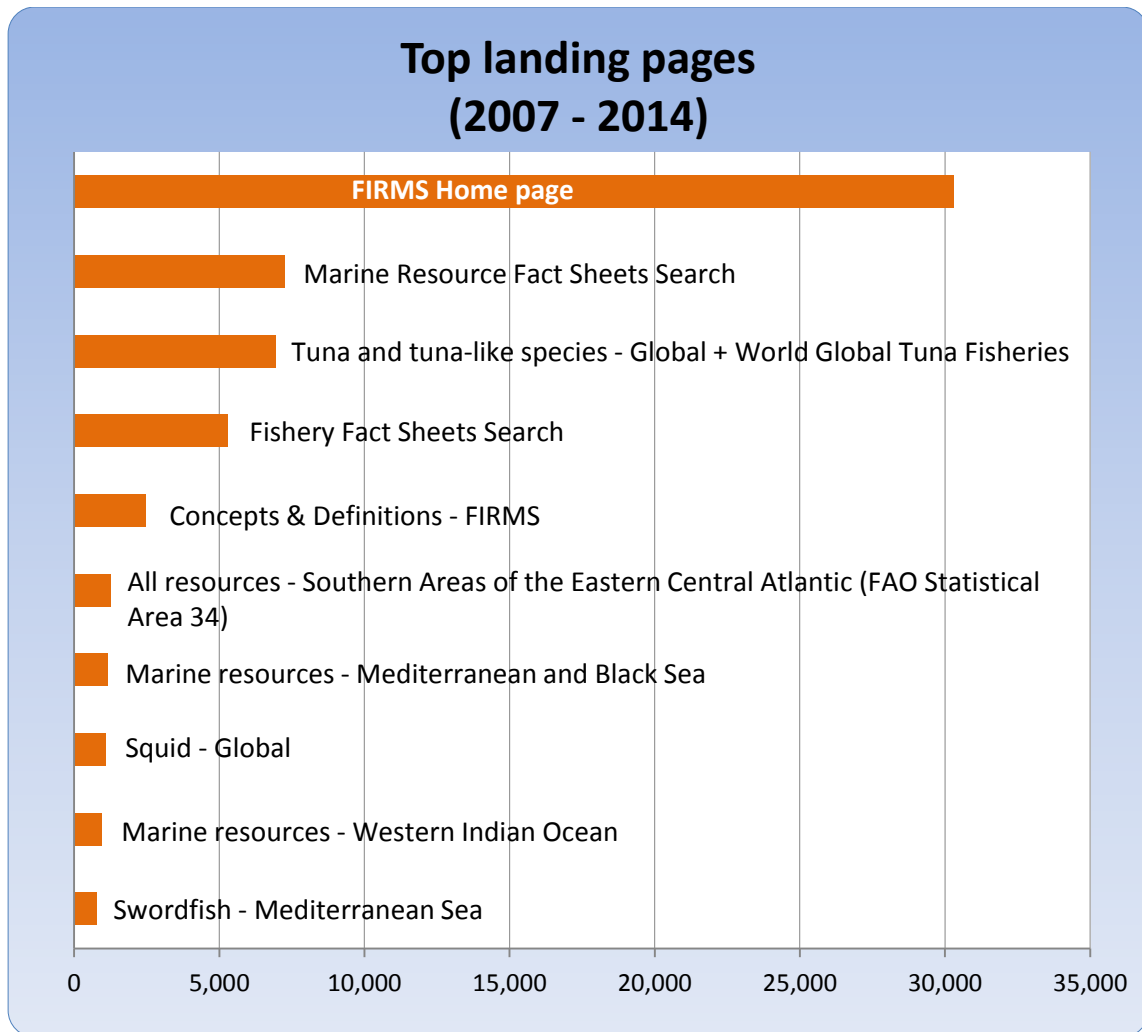


Fig. 2.6 Top landing pages (2007 – 2014)

Figure 2.6 shows the number of visits per “landing” page, those pages which are accessed by users through textual links, banners or others references, including search engine results. The home page is the most viewed, followed by the Marine Resource fact sheets search. Global information on Marine Resource and Fishery fact sheets on Tuna is highly accessed and it is consistent with the above trends.

The page “Concepts & Definitions” is regularly viewed along the considered period and it ranks higher than the majority of the fact sheets taken singularly but with high bounce rate, around 82%.

The web trends for exit pages are sorted in the same way but with lower numbers.

2.2 Comparing 2014 to 2013

The total amount of page views for 2014 is less than 2013; however the negative trend started after May 2013 and slowed down until autumn 2014. As explained in par 2.1 such decrease may be also caused by the reduced role of the Google search engine.

Furthermore, the following figures 2.7 and 2.8 show that to a decreased number of pages does not correspond to an equivalent loss of sessions (visits). Combining these data with the considerations on the bounce rates it may be concluded that users access the site but leave it prematurely. This consideration is also supported by the average number of pages per visits which decreased from 2.83 (2013) to 2.36 (2014).

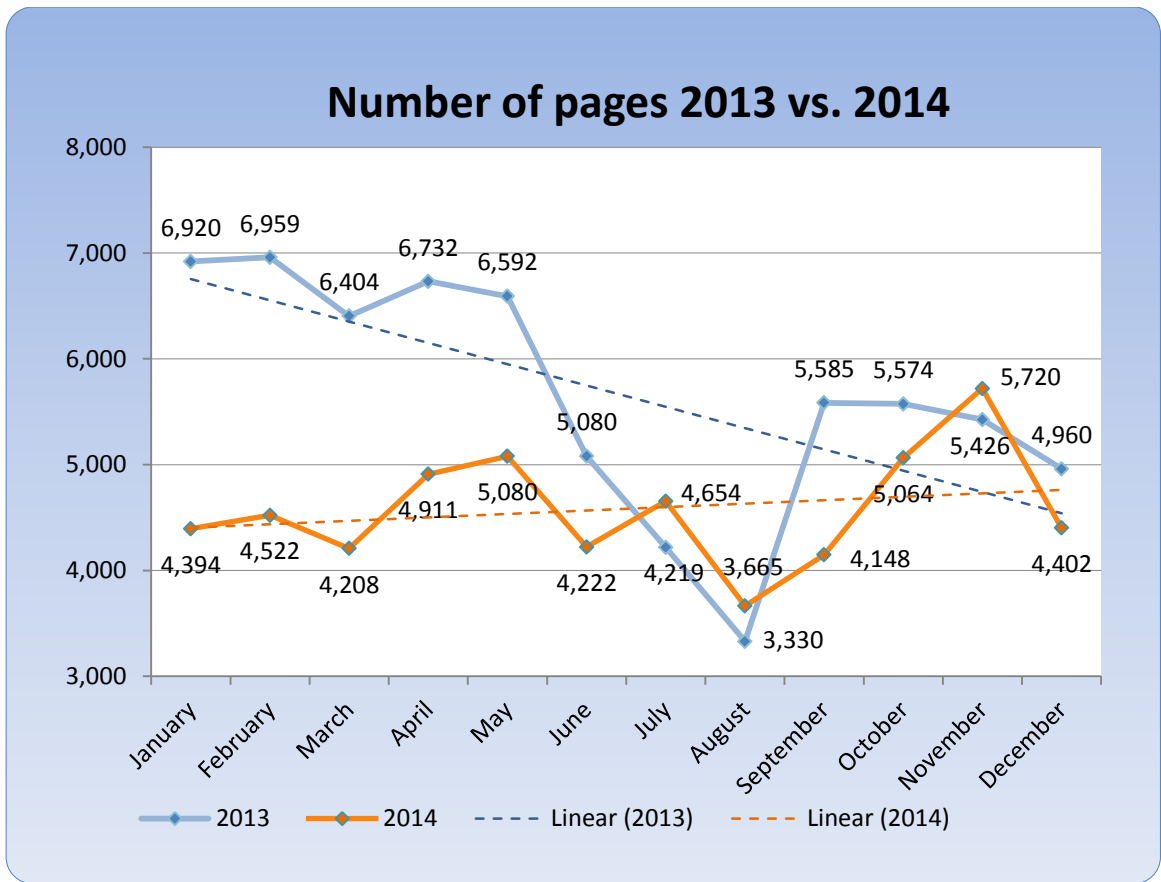


Fig. 2.7 Number of pages 2013 vs. 2014 and related linear trends.

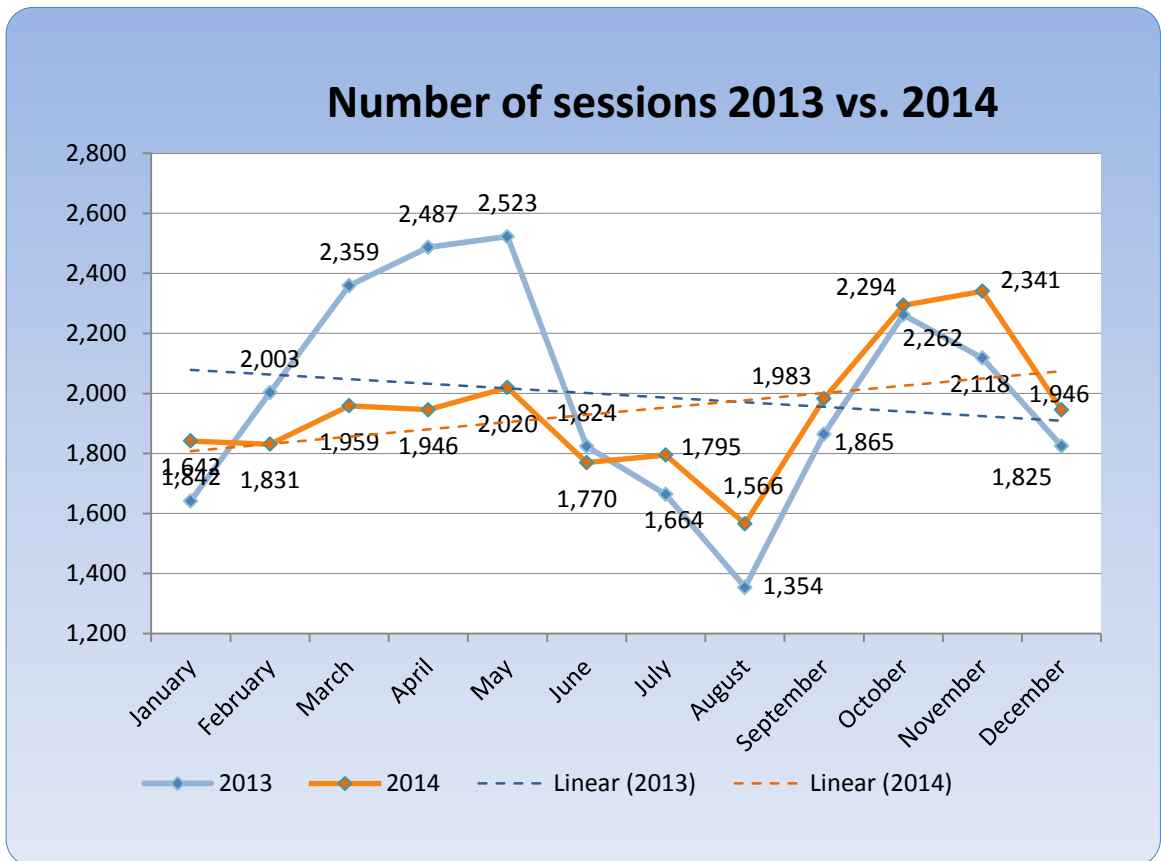


Fig. 2.8 Number of sessions 2013 vs. 2014 and related linear trends.

The general decrease of the page views between 2013 and 2014 is homogenously distributed in the most of the significant pages as displayed in Fig. 2.9, but a considerable difference is observed in the FIRMS home page. The above mentioned incident on reduced crawling and indexing activity may be also relevant in the greater negative fluctuation of the home page.

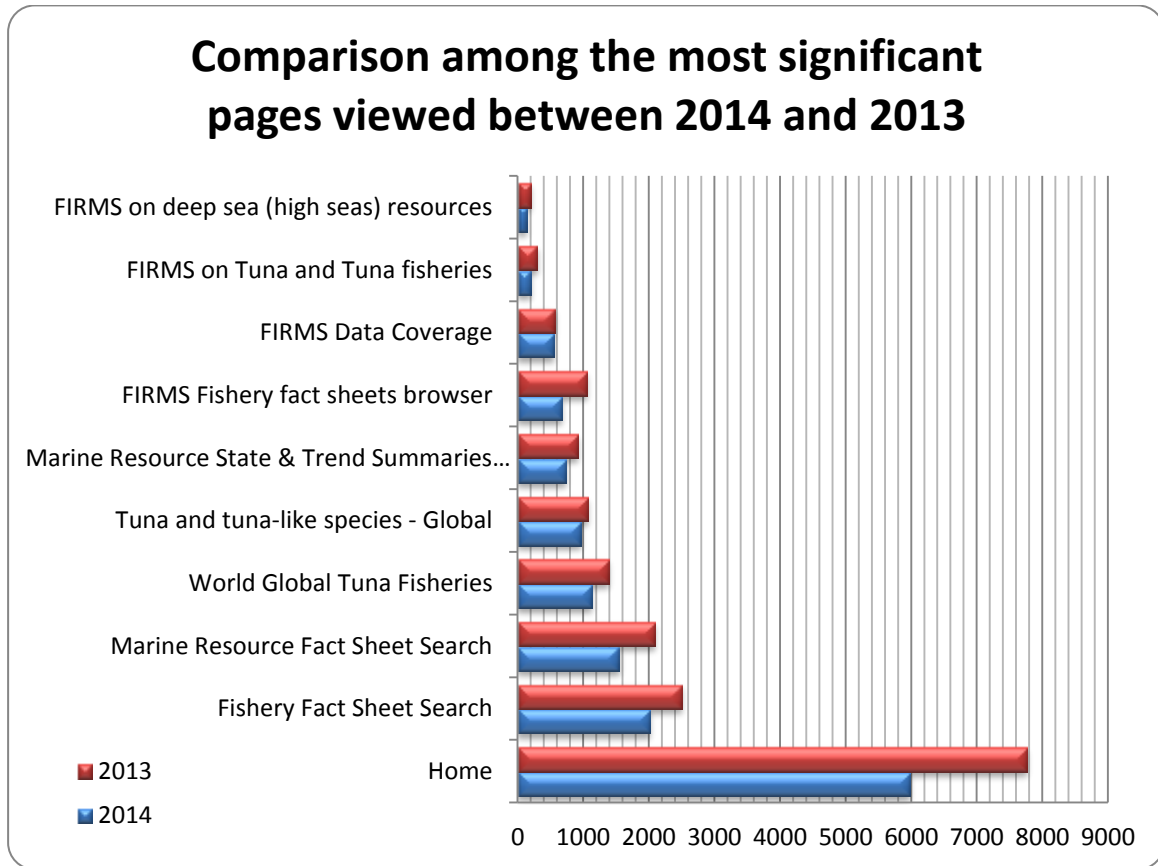


Fig. 2.9 Comparison among the most significant pages viewed between 2014 and 2013

3. Comparing FIRMS Web statistics with other FAO Fisheries and Aquaculture Department collections

FIRMS Web statistics were compared in FSC8 to other FAO Fisheries and Aquaculture department collections of pages over the 2008-2012 period of time on the basis of the Google Analytics figures. Those figures are mostly unchanged during 2013-2014 quantifying the magnitude of the overall web traffic (visits and pages) of the FIRMS web site as amounting to about 2% of the entire FI web site (see also Table 2). As stated in the previous report in FSC8, undoubtedly, the FIRMS web site has been published online much more recently than FI, is composed of much smaller number of pages and treats only a limited set of topics in comparison to the variety covered by the FI web site (2 modules vs. about 35).

Table 2: Number of pages per web site (2014)

Web site	Visits	No. Pages
FIRMS	23,293	54,990
FI	1,608,848	3,659,944
Ratio	1%	2%

In addition, FIRMS Marine Resource and Fishery fact sheets were compared with 3 most popular fact sheet modules of the FI website: “Aquatic Species”, “Fishery and Aquaculture Country Profile (FACP)” and “National Aquaculture Sector Overview (NASO)” fact sheets, see table 3. The criteria utilized are indicated in table 4.

Table 3: Number of pages per fact sheets domain (2014)

Fact sheets domain	No. Pages
Fishery	9,105
Marine Resource	19,060
Fishery and Aquaculture Country Profile (FACP)	93,517
Aquatic Species	198,219
National Aquaculture Sector Overview (NASO)	269,352

Here FIRMS Marine Resource fact sheets correspond to 20% of FACP, 10% of Aquatic Species, about 7% of NASO. Furthermore, when aggregating Fishery and Marine Resource fact sheets the ratio raises to 30%, 14% and 10%, respectively.

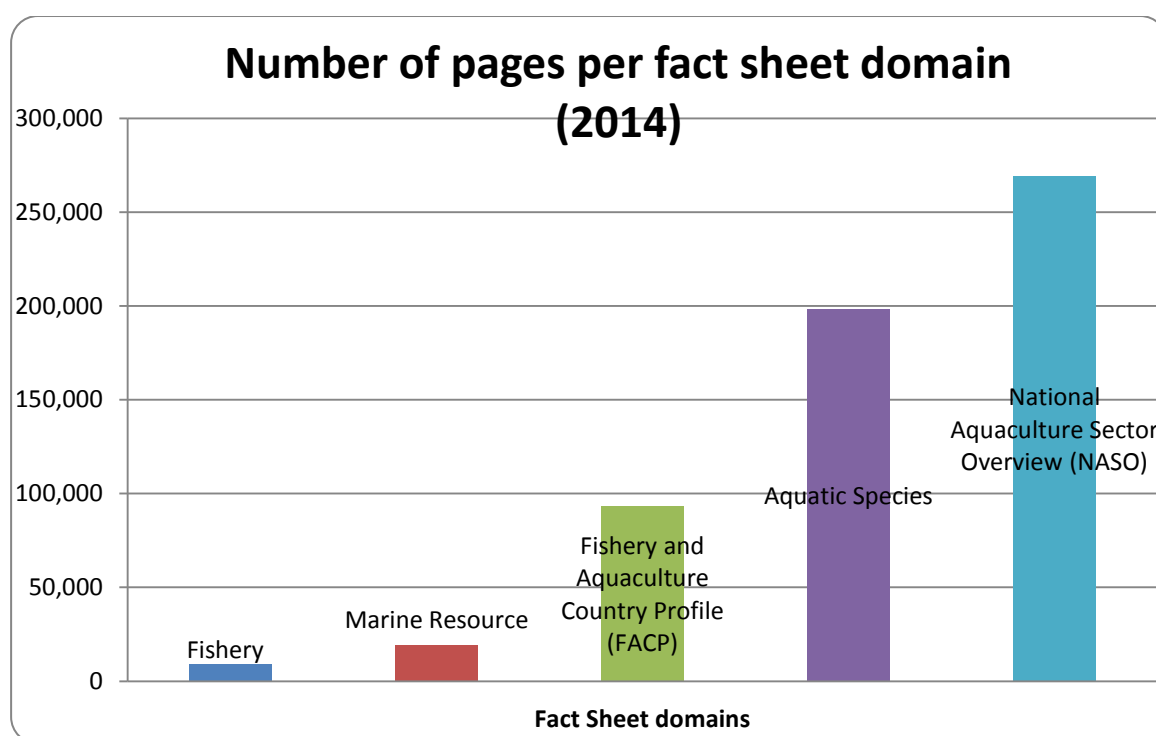


Fig.3.1 Total Number of pages viewed per fact sheets domain (2014)

Similarly to the considerations made during FCS8, this comparison is interesting in providing broad orders of magnitude at global level but limited since the nature of the products disseminated is different.

Table 4 - Criteria: the number of pages was calculated by filtering the full list of concerning URLs in order to consider exclusively the fact sheet visualizations (i.e. omitting URLs of search page interfaces).

Fact sheets domain	Filtered URLs
Marine Resource fact sheets	firms.fao.org/firms/resource/[0-9]
Fishery fact sheets	firms.fao.org/firms/fishery/[0-9]
FishFinder / Aquatic Species fact sheets	www.fao.org/fishery/species/[0-9]
Fishery and Aquaculture Country Profile (FACP)	www.fao.org/fishery/countrysector/fi-cp*
National Aquaculture Sector Overview (NASO)	www.fao.org/fishery/countrysector/naso*