

INTRODUCTION TO AQUATIC SCIENCES

1. Week | Aquaculture in Turkey
and world

Introduction to Aquatic Sciences

WEEKLY TOPICS (CONTENT)

Week	Topics
1. Week	Aquaculture in Turkey and world
2. Week	The role of fish in human consumption
3. Week	What is fish? Taxonomy of fish
4. Week	Aquatic Crustacean
5. Week	Water quality for aquaculture
6. Week	Introduction to marine fish
7. Week	Introduction to freshwater fish
8. Week	Live foods (microalgae, zooplankton and <i>Artemia</i>)
9. Week	Introduction to fishing techniques
10. Week	Fish transport
11. Week	Introduction to fish disease
12. Week	Introduction to fisheries economy
13. Week	Processing and marketing of fish
14. Week	Introduction to fisheries and aquaculture management

Issue: 24657
June 23, 2017
Time: 10:00

Aquaculture, 2016

Aquaculture production declined by 12.4% in 2016

In 2016, the production of aquatic products decreased by 12.4% to 588,715 tons compared to the previous year. 44.8% of the production is marine fish, 6.4% is other sea products, 5.8% is inland water products and 43% is aquaculture products.

Aquaculture hunting decreased by 22.4% in 2016 while aquaculture rose by 5.4%

The production made by hunting was 335 thousand 320 tons while the breeding production was 253 thousand 395 tons. The marine fleet decreased by 24.2% compared to the previous year and the domestic marine fleet decreased by 0.9%.

40.1% of the breeding production is in the inner waters and 59.9% is in the seas.

Eastern Black Sea Region took the first place with production rate of 40.7% in production made with seafood hunting. This region was followed by West Black Sea with 33.3%, Aegean with 11.5%, Marmara with 10.6% and Mediterranean Region with 3.9%.

Amount of seafood hunted, 2016



The next news bulletin related to this issue is due June 2018.



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Aquaculture in Turkey:

Aquaculture in Turkey have grown substantially.

In 2016 the production of Turkish fisheries and aquaculture sectors' products approximately 588,715 tons. Aquacultured fish production calculated as 253,395 tons in 2016 data declerated from the official statistics from Turkish Republic.

Turkish Marine aquaculture production dominated by cage farming of European sea bass (*Dicentrarchus labrax*) and sea bream (*Sparus aurata*). And also shellfish farming (Mediterranean black mussel: *Mytilus galloprovincialis*) and some alternative finfish species culture applications have gain popularity.

All the fish culturist must obtain permits (for establish of farm, for production and for marketing) from the govermental agencies.

Tutkish aquaculture sector have been working with a great effort since 1970s. Today fish export capacity day by day increasing by the European market demands. It is known that in European fish market 2 of 3 fish orginated from the Turkish aquaculture sector. Moreover Turkey is placed in second position in terms of the larveal production and hatchery capacity.



Turkish fisheries and aquaculture have been regulating by European standard since 2000. Please read and discuss on this regulations (The Common Fisheries Policy, CFP is the one of common policies of the European Union).

Fisheries decision making mechanisms in Turkey was evaluated within the context of 2013 CFP reform and its alignment status with the acquis.



Table 1. The special format used in an application for an EIA report in connection with the establishment of an aquaculture project (MEF Form, 2008)

Chapter I: Detailed description of the project, including its feasibility.

Chapter II: Detailed description of the environmental characteristics of the area in which the farm will be located. Given that the project will have an impact on both the immediate area and its surroundings, such a report is required of applicants.

Chapter III: Identification of impacts of the project on the environment and the necessary precautions to be taken to mitigate any effects.

Table 1 Global weight and value for nine of the most widely consumed aquaculture species^{1,87}

Species	1997 weight (kilotonnes)	Annual weight growth (1987–97) %	1997 value in US\$ (millions)
Common carp	2,237	7.6	2,709
Grass carp	2,662	15.9	2,444
Silver carp	3,146	7.8	2,917
Nile tilapia	742	18.0	885
Channel catfish	238	3.4	372
Atlantic salmon	639	22.4	2,113
Milkfish	393	1.7	697
Giant tiger prawn	490	10.6	3,501
Pacific cupped oyster*	2,968	9.5	3,164

* Weight includes shell.

Naylor, Rosamond L., Rebecca J. Goldberg, Jurgenne H. Primavera, Nils Kautsky, Malcolm CM Beveridge, Jason Clay, Carl Folke, Jane Lubchenco, Harold Mooney, and Max Troell. "Effect of aquaculture on world fish supplies." *Nature* 405, no. 6790 (2000): 1017.

Table 2 Wild fish inputs used in feed for the ten types of fish and shell fish most commonly farmed in 1997*

Farmed fish	Total production (kilotonnes)	Percentage produced with compound feeds (by weight)	Production with compound feeds (kilotonnes)	Percentage fishmeal in feed	Percentage fish oil in feed	Average feed conversion ratio	Wild fish used for fishmeal (kilotonnes)	Ratio of wild fish: fed farmed fish†
Marine finfish‡	754	50	377	50	15	2.2	1,944	5.16
Eel	233	50	117	50	10	2	546	4.69
Marine Shrimp	942	77	725	30	2	2	2,040	2.81
Salmon	737	100	737	45	25	1.5	2,332	3.16
Trout	473	100	473	35	20	1.5	1,164	2.46
Tilapia	946	35	331	15	1	2	466	1.41
Milkfish	392	20	78	10	3	2	74	0.94
Catfish	428	82	351	10	3	1.8	296	0.84
Carp§								
Fed	6,985	35	2,445	8	1	2	1,834	0.75
Filter-feeding	5,189	0	0	–	–	–	–	–
Molluscs	7,321	0	0	–	–	–	–	–
Total	24,400		5,634				10,695	1.90

* Taken from refs 1, 16, 23 and A. Tacon, personal communication.

† Ratio is wild fish used for fishmeal to farmed fish produced using compound feeds. We assume a 5:1 conversion ratio of fish ("wet weights") to fishmeal and that one-sixteenth of fishmeal is obtained from processing byproducts²².

‡ Marine finfish (other than salmon, which is listed separately because it is diadromous and because of its market significance) include flounder, halibut, sole, cod, hake, haddock, redfish, seabass, congers, tuna, bonito and billfish.

§ Fed carp refers to carp species that are sometimes fed compound feeds. Filter-feeding carp are silver carp, bighead carp and catla.

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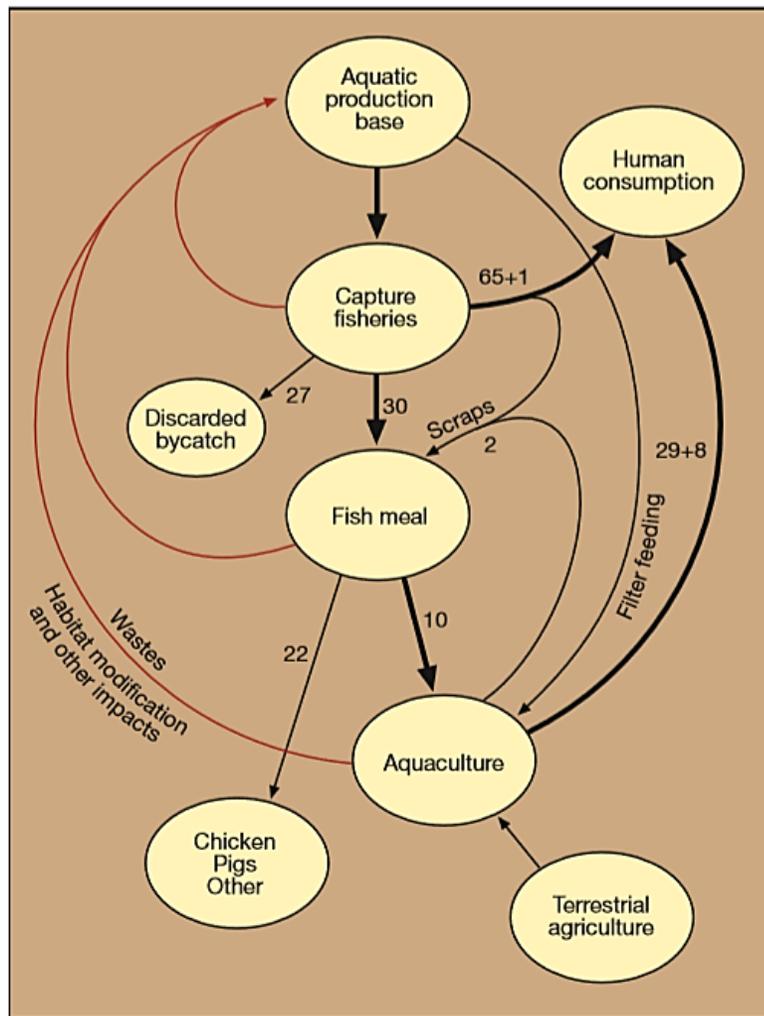


Figure 1 Flow chart of capture and farmed fisheries products from aquatic primary production. Numbers refer to 1997 data and are in units of megatons (million metric tonnes) of fish. Thicker lines refer to direct flows of aquatic primary production through

capture fisheries and aquaculture to humans. Thin lines refer to indirect and minor flows. Red lines indicate negative feedbacks on production base.

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Statistics

- Global Statistical Collections
 - Fishery Commodities and Trade
 - Global Production
 - Global Aquaculture Production
 - Global Capture Production
 - Global Tuna Catches by Stock
 - Global Number of Fishers
 - Atlas of Tuna & Billfish Catches
 - Consumption of Fish and Fishery Products
- Regional Capture Statistical Collections
- All information collections
- Software
- Information Networks
- Publications

Statistics - Introduction

The FAO Fisheries and Aquaculture Department provides advice and objective information to Members to help promote responsible aquaculture and fisheries. To fulfil this role, the Department compiles, analyses and disseminates fishery data, structured within data collections.

Highlights

- **March 2018:** The FAO Capture, Aquaculture and Global production databases have been updated with an additional year and now include data from 1950 to 2016.
- **November 2017:** **FAO Yearbook of fisheries and aquaculture statistics** has just been officially released.
- **November 2017:** New workspace "Fisheries Commodities Production and Trade 1976-2015" has been released in FishStatJ.
- **November 2017:** New workspace "Food balance sheets of fish and fishery products (1961-2013)" has been released in FishStatJ, with refreshed time series and complete 2013 updating.
- **November 2017:** New version of FishstatJ application has been released. This version is required to access to the new workspace "Fisheries Commodities Production and Trade 1976-2015".

Related topics

[FAO Vessel Record Management Framework \(FVRMF\)](#)

Related information

[ASFIS List of Species for Fishery Statistics Purposes](#)

[FAO Major Fishing Areas - fact sheets](#)

[CWP Handbook of Fisheries Statistics](#)

Related links

[Coordinating Working Party on Fishery Statistics \(CWP\)](#)

To ensure quality assurance, each collection is documented to highlight definitions and to specify the structure, sources, coverage, processes, intended use, etc. This is further complemented with the [CWP Handbook of Fisheries Statistics](#), which includes comprehensive definitions of concepts and details of standard classifications.

Statistical collections

Global time series have been maintained over more than 60 years. To meet diverse user needs, data from each statistical collection are available through various formats, tools and information products.

How to access the data:

- 1) [FishStatJ - Software for fishery statistical time series](#) offers experts and scientists a stand-alone application for complex and sophisticated data exploration and extraction.
- 2) [Online Query Panels](#) enable advanced users to extract customized information and reports.
- 3) [FAO Yearbook of Fishery and Aquaculture Statistics](#) provide a full range of tables with detailed statistics.

List of all data collections

All data collections, also fully-documented, are organized by records, Fact Sheets and maps, thus complementing the overall statistical collections... [full list of data collections](#)

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References

Memis, D., Demir, N., Eroldogan, O.T., & Kucuk, S. (2002). Aquaculture in Turkey. *The Israeli Journal of Aquaculture - Bamidgeh*, 54(1), 34-40.

Yucel-Gier, G., Uslu, O., & Kucuksezgin, F. (2009). Regulating and monitoring marine finfish aquaculture in Turkey. *Journal of Applied Ichthyology*, 25(6), 686-694.

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<https://www.tarim.gov.tr/sgb/Belgeler/SagMenuVeriler/BSGM.pdf>

<http://www.fao.org/fishery/statistics/en>