

AQS106  
Introduction to Aquatic  
Sciences

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# Weekly topics

- 1. Week      Aquaculture in Turkey and world**
2. Week      The role of Aquatic Sciences in Human Life and Consumption
3. Week      What is Fish? Taxonomy of Fish
4. Week      Water Quality for aquaculture
5. Week      Live foods (microalgae, zooplankton, Artemia)
6. Week      Fish transport
7. Week      Aquatic crustaceans
8. Week      Introduction to Marine Fish
9. Week      Introduction to Freshwater Fish
10. Week     Introduction to Fish Diseases
11. Week     Introduction to Fishing Techniques
12. Week     Aquaculture Production Systems – Aquaponics & RAS
13. Week     Introduction to Freshwater Aquarium Systems
14. Week     Introduction to Marine Aquarium Systems

1. Week

Aquaculture in Turkey and  
world

# What is "Aquaculture"

- Aquaculture is the **breeding, rearing,** and **harvesting** of fish, shellfish, algae, and other organisms in all types of water environments.

# What is "Aquaculture"

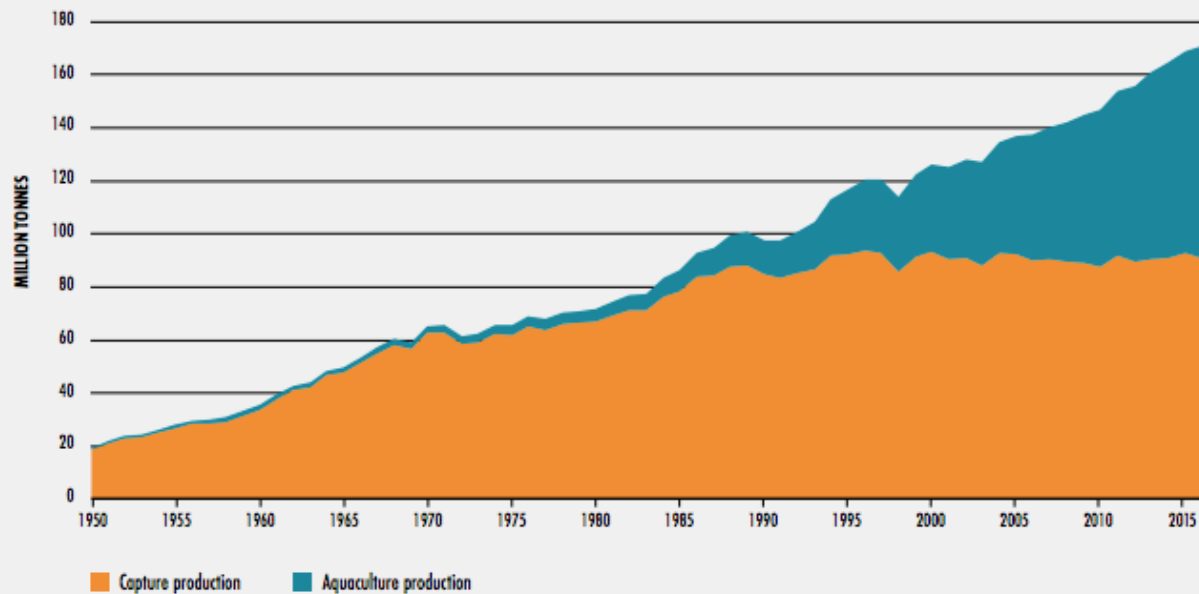
- As the demand for seafood has increased, technology has made it possible to grow food in coastal marine waters and the open ocean. Aquaculture is a method used to produce food and other commercial products, restore habitat and replenish wild stocks, and rebuild populations of threatened and endangered species.

# What is "Aquaculture"

- There are two main types of aquaculture—marine and freshwater.

# Aquaculture in World

FIGURE 1  
WORLD CAPTURE FISHERIES AND AQUACULTURE PRODUCTION



NOTE: Excludes aquatic mammals, crocodiles, alligators and caimans, seaweeds and other aquatic plants

**TABLE 1**  
**WORLD FISHERIES AND AQUACULTURE PRODUCTION AND UTILIZATION (MILLION TONNES)<sup>a</sup>**

Category	2011	2012	2013	2014	2015	2016
<b>Production</b>						
Capture						
Inland	10.7	11.2	11.2	11.3	11.4	11.6
Marine	81.5	78.4	79.4	79.9	81.2	79.3
<b>Total capture</b>	<b>92.2</b>	<b>89.5</b>	<b>90.6</b>	<b>91.2</b>	<b>92.7</b>	<b>90.9</b>
Aquaculture						
Inland	38.6	42.0	44.8	46.9	48.6	51.4
Marine	23.2	24.4	25.4	26.8	27.5	28.7
<b>Total aquaculture</b>	<b>61.8</b>	<b>66.4</b>	<b>70.2</b>	<b>73.7</b>	<b>76.1</b>	<b>80.0</b>
<b>Total world fisheries and aquaculture</b>	<b>154.0</b>	<b>156.0</b>	<b>160.7</b>	<b>164.9</b>	<b>168.7</b>	<b>170.9</b>
<b>Utilization<sup>b</sup></b>						
Human consumption	130.0	136.4	140.1	144.8	148.4	151.2
Non-food uses	24.0	19.6	20.6	20.0	20.3	19.7
Population ( <i>billions</i> ) <sup>c</sup>	7.0	7.1	7.2	7.3	7.3	7.4
Per capita apparent consumption ( <i>kg</i> )	18.5	19.2	19.5	19.9	20.2	20.3

<sup>a</sup> Excludes aquatic mammals, crocodiles, alligators and caimans, seaweeds and other aquatic plants.

<sup>b</sup> Utilization data for 2014–2016 are provisional estimates.

<sup>c</sup> Source of population figures: UN, 2015e.



## World Aquaculture Production

	Capture (ton)			Aquaculture (ton)			Total (ton)
	Marine	Fresh	Total	Marine	Fresh	Total	
2010	77.828.396	11.271.565	<b>89.099.961</b>	22.310.734	36.790.052	<b>59.100.786</b>	<b>148.200.747</b>
2011	82.623.550	11.124.401	<b>93.747.951</b>	23.366.371	38.698.805	<b>62.065.176</b>	<b>155.813.127</b>
2012	79.719.854	11.630.320	<b>91.350.174</b>	24.707.343	41.948.313	<b>66.655.656</b>	<b>158.005.830</b>
2013	80.899.153	11.687.507	<b>92.586.660</b>	25.536.710	44.686.846	<b>70.223.556</b>	<b>162.810.216</b>
2014	81.564.094	11.895.922	<b>93.460.016</b>	26.727.687	47.104.420	<b>73.832.107</b>	<b>167.292.123</b>
2015	81.179.323	12.525.293	<b>93.704.616</b>	27.879.872	48.761.154	<b>76.641.025</b>	<b>170.345.641</b>
2016	79.288.046	11.635.500	<b>90.923.545</b>	28.703.601	51.368.288	<b>80.071.894</b>	<b>170.995.437</b>

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

## Turkey Aquaculture Production (ton)

Years	Capture (tones)			Aquaculture (tones)			Total (tones)
	Marine	Fresh	Total	Marine	Fresh	Total	
2000	460.521	42.824	<b>503.345</b>	35.646	43.385	<b>79.031</b>	<b>582.376</b>
2001	484.410	43.323	<b>527.733</b>	29.730	37.514	<b>67.244</b>	<b>594.977</b>
2002	522.744	43.938	<b>566.682</b>	26.868	34.297	<b>61.165</b>	<b>627.847</b>
2003	463.074	44.698	<b>507.772</b>	39.726	40.217	<b>79.943</b>	<b>587.715</b>
2004	504.897	45.585	<b>550.482</b>	49.895	44.115	<b>94.010</b>	<b>644.492</b>
2005	380.381	46.115	<b>426.496</b>	69.673	48.604	<b>118.277</b>	<b>544.773</b>
2006	488.966	44.082	<b>533.048</b>	72.249	56.694	<b>128.943</b>	<b>661.991</b>
2007	589.129	43.321	<b>632.450</b>	80.840	59.033	<b>139.873</b>	<b>772.323</b>
2008	453.113	41.011	<b>494.124</b>	85.629	66.557	<b>152.186</b>	<b>646.310</b>
2009	425.275	39.187	<b>464.462</b>	82.481	76.248	<b>158.729</b>	<b>623.191</b>
2010	445.680	40.259	<b>485.939</b>	88.573	78.568	<b>167.141</b>	<b>653.080</b>
2011	477.658	37.097	<b>514.755</b>	88.344	100.446	<b>188.790</b>	<b>703.545</b>
2012	396.322	36.120	<b>432.442</b>	100.853	111.557	<b>212.410</b>	<b>644.852</b>
2013	339.047	35.074	<b>374.121</b>	110.375	123.019	<b>233.394</b>	<b>607.515</b>
2014	266.078	36.134	<b>302.212</b>	126.894	108.239	<b>235.133</b>	<b>537.345</b>
2015	397.731	34.176	<b>431.907</b>	138.879	101.455	<b>240.334</b>	<b>672.241</b>
2016	301.464	33.856	<b>335.320</b>	151.794	101.601	<b>253.395</b>	<b>588.715</b>
2017	322.173	32.145	<b>354.318</b>	172.492	104.010	<b>276.502</b>	<b>630.820</b>

# Aquaculture in Turkey

Fishery Statistics			
	Sea Products	Aquaculture Production	Freshwater Products
	(Ton - Tonnes)	(Ton - Tonnes)	(Ton - Tonnes)
2006	488 966	128 943	44 082
2007	589 129	139 873	43 321
2008	453 113	152 186	41 011
2009	425 046	158 729	39 187
2010	445 680	167 141	40 259
2011	477 658	188 790	37 097
2012	396 322	212 410	36 120
2013	339 047	233 394	35 074
2014	266 078	235 133	36 134
2015	397 731	240 334	34 176
2016	301 464	253 395	33 856
2017	322 173	276 502	32 145
<b>2018</b>	<b>283 955</b>	<b>314 537</b>	<b>30 139</b>

Source: For aquaculture production and freshwater products, Ministry of Agriculture and Forestry.