

Country Report

TURKEY

AQUATNET
WP 1

Hijran YAVUZCAN

Hasan H. ATAR

Ankara University
Department of Fisheries and
Aquaculture
yavuzcan@ankara.edu.tr

Turkey's standpoint to aquaculture

Turkey consider the fact that aquaculture sector is important in national economy !

Three pillars

Production

Employment

Exportation

Turkey location



Aquatic Resources

Coast line: 8,333 km

Economic coastal zone: 151,080 square km

Total river length: 177,714 km

Natural lakes: 900,000 ha

Dam reservoirs: 500,000 ha

Potential Area for Aquaculture: 24,607,200 ha

Current aquaculture picture

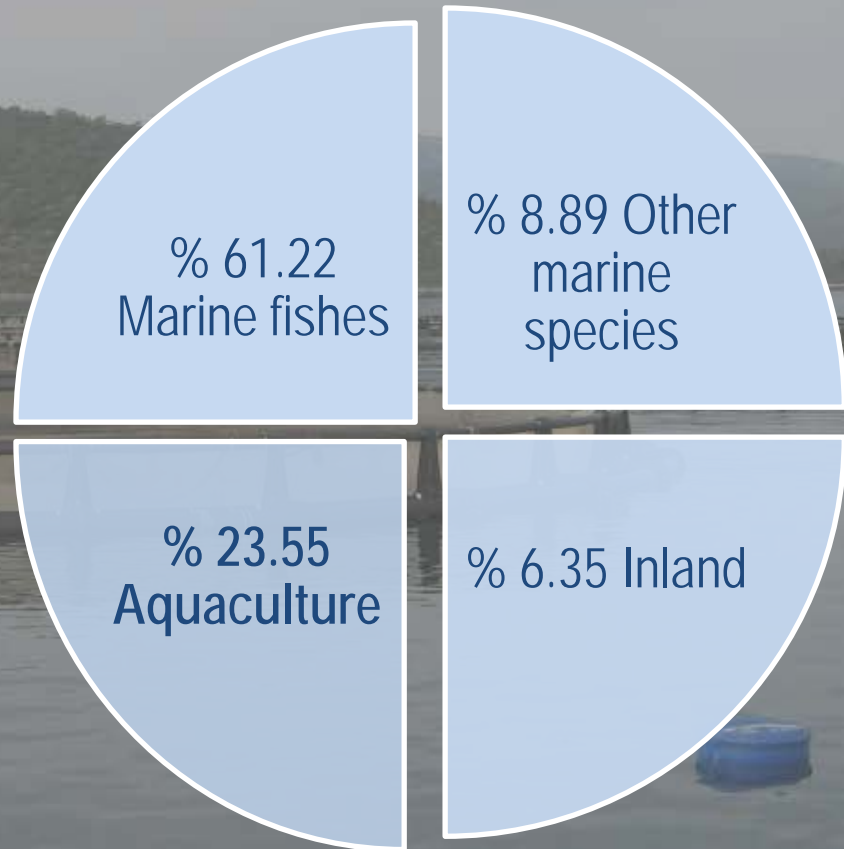


Table 1. Aquaculture production by species (2012)

Fish species	Production (tonnes)
Large Rainbow Trout	3.234
Portion Rainbow Trout	111.335
Sea bass	65.212
Sea bream	30.743
Total	210.824

AQUACULTURE PRODUCTION SYSTEMS

- Intensive production in cages (sea bass, sea bream, trout)
- Intensive production in raceways and fiberglass tanks (trout, sea bass, sea bream, and turbot)
- Semi-intensive production in earthen ponds and man-made lakes (sea bass, sea bream, carp, trout and large trout)
- Re-circulation system (sea bass, sea bream and turbot)
- Extensive production in lagoons

Tuna fattening

- Turkey is a member of ICCAT (International Commission for the Conservation of Atlantic Tuna) since 2003.
 - Quota for Tuna is applied
- 6 Tuna farms exist..

Rainbow trout mariculture in Black Sea



**Transfer from
freshwater to
Black Sea
(20-30 gram)**

Sea cages in Black sea

Black Sea salinity ~ 17 ppt

**Harvest
0.5-0.7 kg**

300-500 gram
Stocking

1.5-2.5 kg
Harvest

Water temperature is critical for stocking and harvesting!

Hatcheries

▶ Marine

17 marine hatcheries with a total production capacity of 348 million fry per annum using recirculation technology

▶ Inland

- Freshwater fish farms rely on their own fry production
- Governmental hatcheries support in inland water for stock enhancement (mostly carp sp.)

Major new or alternative Mediterranean species cultured

- Dentex (*Dentex dentex*)
- Common sea-bream (*Pagrus pagrus*)
- Common pandora (*Pagellus erythrinus*)
- Sharpshout sea-bream (*Puntazzo puntazzo*)
- White grouper (*Epinephelus aeneus*)
- Shi drum (*Umbrina cirrosa*)
- Striped sea-bream (*Lithognathus mormmyrus*)
- Meagre (*Argyrosomus regius*)
- Greater amberjack (*Seriola dumerili*)
- Brown meagre (*Sciena umbra*)
- White sea-bream (*Diplodus sargus*)
- Two-banded sea-bream (*Diplodus vulgaris*)

Domestic fish consumption

- Annual per capita fish consumption = 7.2 kg (2009)
- Promotions to increase fish consumption...



Water resources

- Main issue: availability of good quality water in sufficient amounts
- Competition and increasing demand for water by different end-users
- Water Framework Directive! (Turkey adopted WFD)

Environmental issues

All types of farming interact with the environment



Aquaculture is no exception !

**Environmental Impact Assessment
(EIA) in marine cage culture**

**Aquaculture farms with 30–1000
tonnes/year have to submit EIA
report to the Ministry of
Environment and Forestry and
Ministry of Rural Affairs and
Agriculture.**

**Environmental Impact is monitored
by MARA**

Decision criteria for Sensitive Areas (No sea cage areas)

Parameter	Criteria
Depth	≤ 30 m.
Distance from the coast	≤ 0.5 sea miles
Current velocity	≤ 0.1 m/second
Wind direction	From sea to the coast
Current direction	From sea to the coast

Aquafeed industry in Turkey

Aquafeed
manufacturing
mills:20

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graph TD; A[Aquafeed manufacturing mills:20] --> B[Both extrude and pelleted feed]; B --> C[130.000 tonnes]
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Both extrude
and pelleted
feed

130.000 tonnes

- Main fish meal source



- European anchovy
- (*Engraulis encrasicolus*)



- 42 % of total catch



processed as fish meal and
fish oil

- FCR for the major species
- Sea bream: 1.6-2.2 (1.9)
- Sea bass: 1.8-2.4 (2.1)
- Rainbow trout: 1.1-1.8 (1.5)

NGO's

Aquaculture Association

Fish Farmer Association

Fish Promotion Association

Fisheries Foundation

Producer Organizations (14)

Central Producer Organization

