

# Global Fish Production Data & Analysis

- PRESENTER DR. RAGNAR TVETERAS | UNIVERSITY OF STAVANGER

GLOBAL OUTLOOK FOR AQUACULTURE LEADERSHIP

GUANGZHOU, CHINA | DAY 1

HEALTHY FISH | HEALTHY PEOPLE | HEALTHY PLANET



# Dr. Ragnar Tveteras

- Professor Ragnar Tveteras is a business economist at the University of Stavanger's Department for Industrial Economics, Risk Management and Planning in Norway.
- His research focuses primarily on aquaculture and seafood markets.
- As a writer and lecturer, he maintains relationships with authorities and private decision makers at the regional, national and international levels.
- Tveteras received the 2006 Scana research prize for his many publications and ability to communicate research findings beyond a narrow academic circle.

# Global Fish Production Estimates & Trends

Ragnar Tveteras – University of Stavanger

Ragnar Nystoyl – Kontali

Darryl Jory – Global Aquaculture Alliance

# Acknowledgements

- **Prices:** NMFS, Norwegian Seafood Council, Kontali, Eurostat, FAO.
- **Production volumes:** FAO, Kontali, and many individuals and organizations who kindly responded to the GAA survey, sharing their time and knowledge.

# Scope of Analysis

- **Most focus on internationally traded species:**
  - **Typically imported to USA, Europe & Japan.**
- **Production forecasts for 2015 and 2016 for all chosen species:**
  - **But for some species only major producer countries/regions.**
- **Production forecast for 2017 for some species.**

# Finfish Species Included in Analysis

## Freshwater species:

- Tilapia
- Catfish
  - Pangasius
  - Channel catfish, etc.
- Carps

## Diadromous species:

- Salmon & Trout
  - Atlantic salmon
  - Coho salmon
  - Trout
  - Barramundi
  - Milkfish

## Marine species:

- Seabass & Sea Bream
- Flatfishes
  - Olive Flounder
  - Atlantic Halibut
  - Turbot
- Cobia
- Atlantic cod
- Bluefin tuna
- Groupers

# Freshwater Species

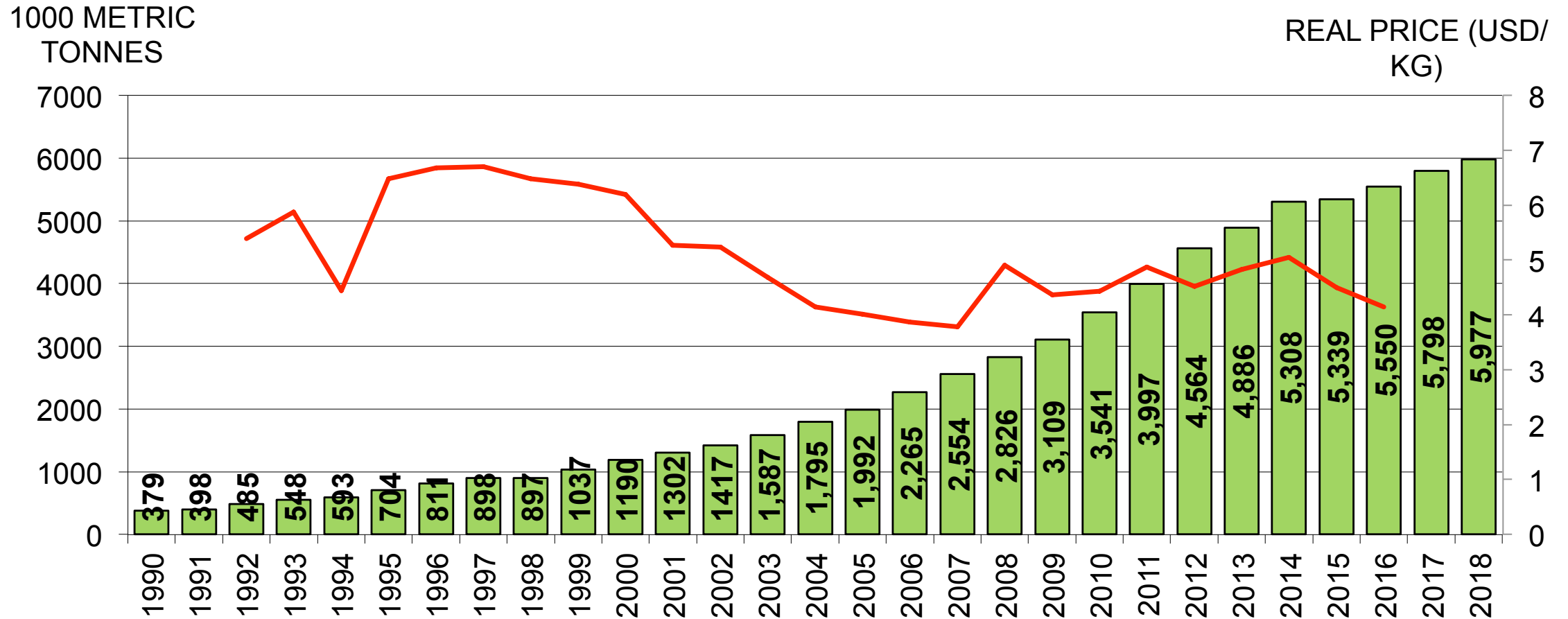


**TILAPIA**



# Global Tilapia Aquaculture Production

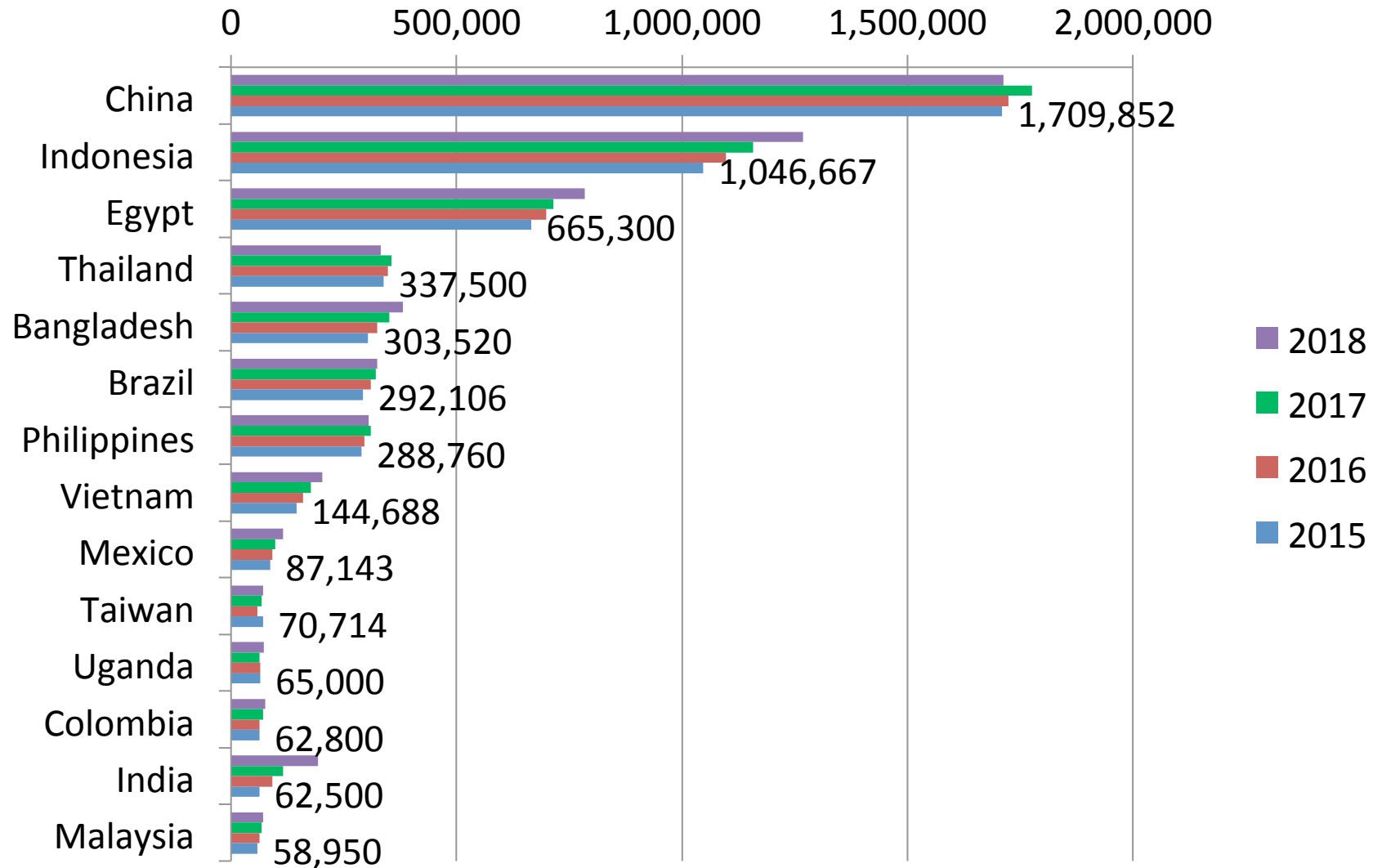
## US import prices frozen fillet



Sources: FAO: 1990-2014. Miscellaneous sources: 2015-2018. NMFS: Prices US import frozen fillet.  
Note: Prices are annual averages, except for 2015(January-July average)

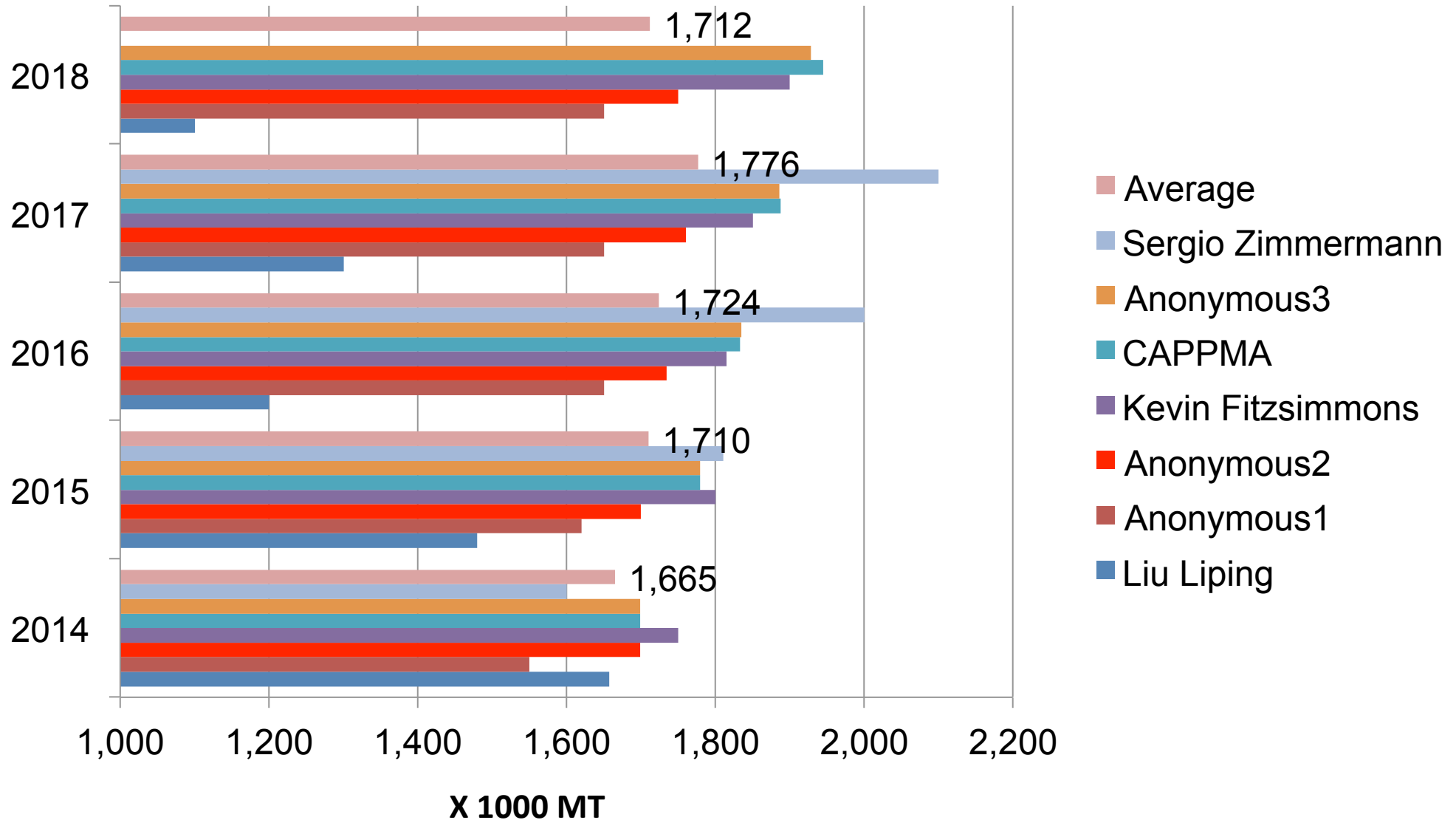
# Tilapia

## Countries production sorted by 2015 figures



Average of estimates from several sources.

# Tilapia production estimates for China



**CATFISHES**

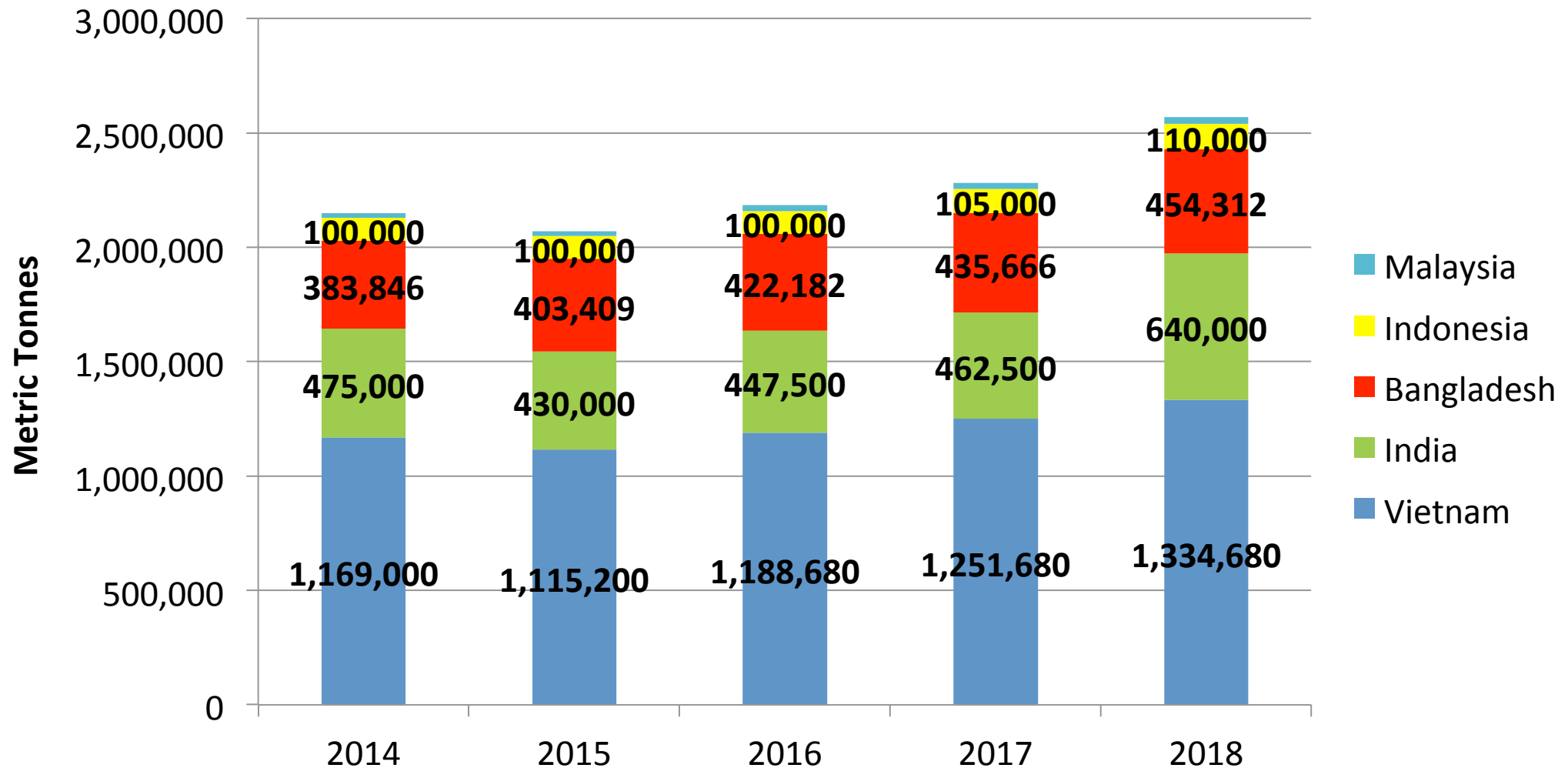


**PANGASIUS**

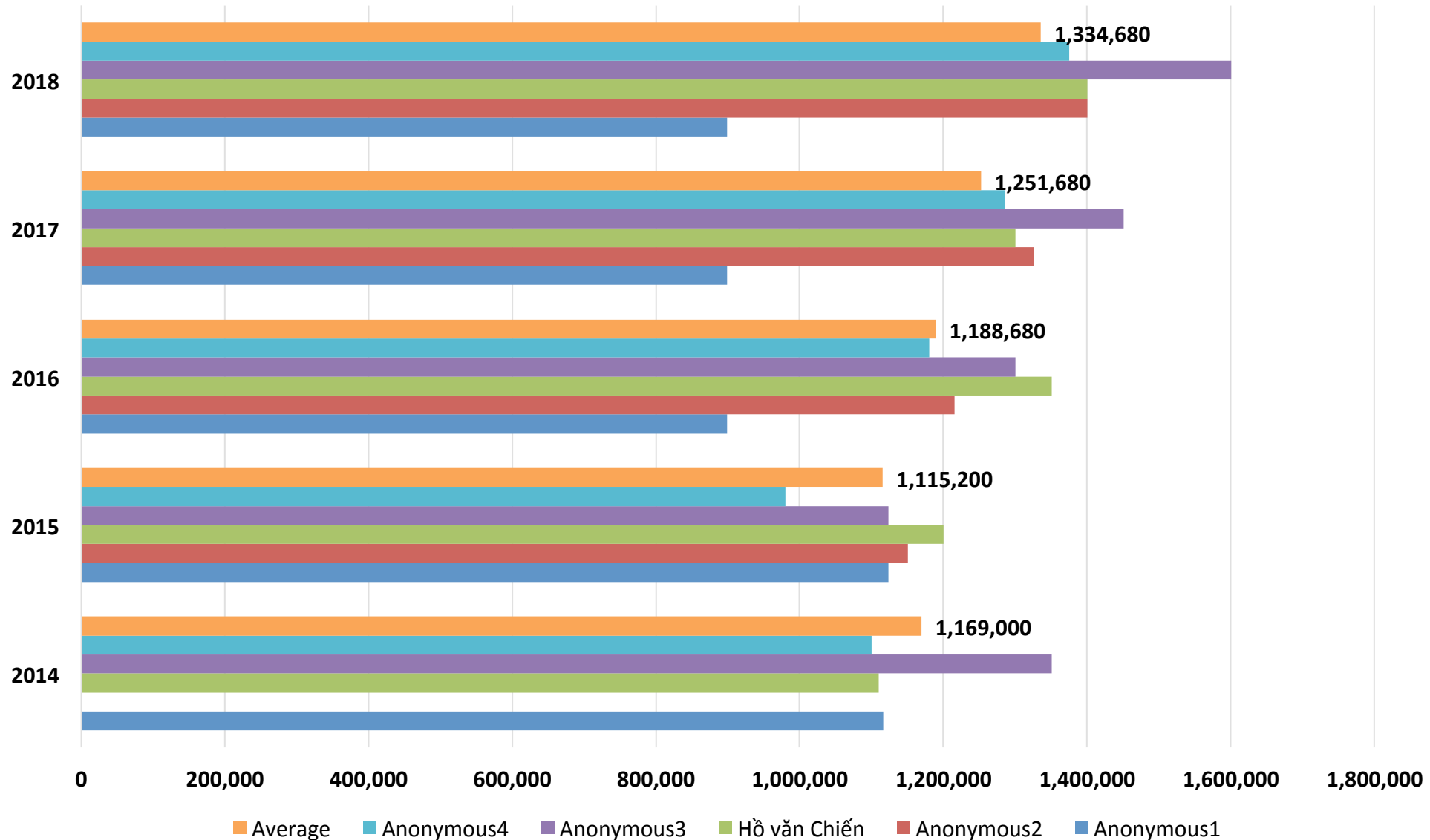


# Pangasius

## Production in selected countries

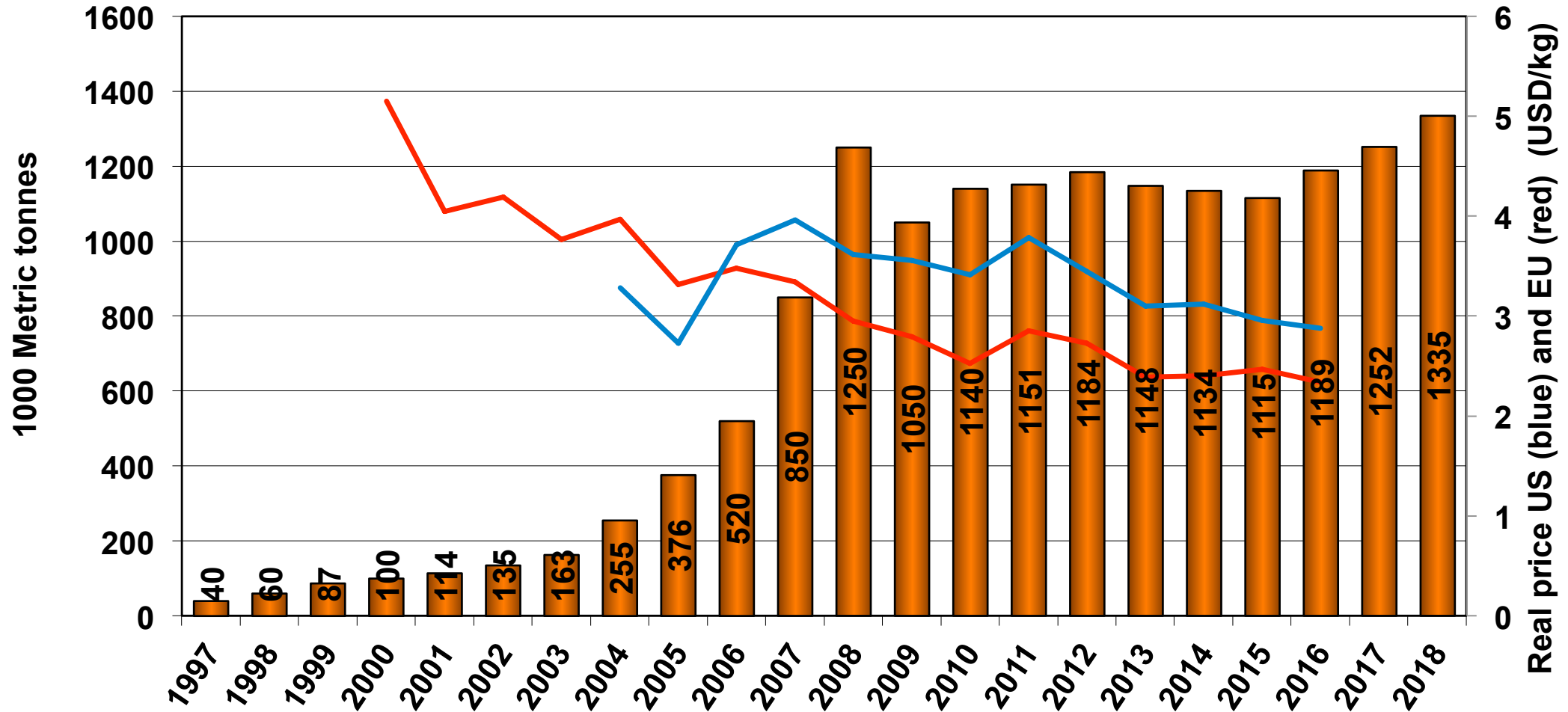


# Pangasius production estimates for Vietnam



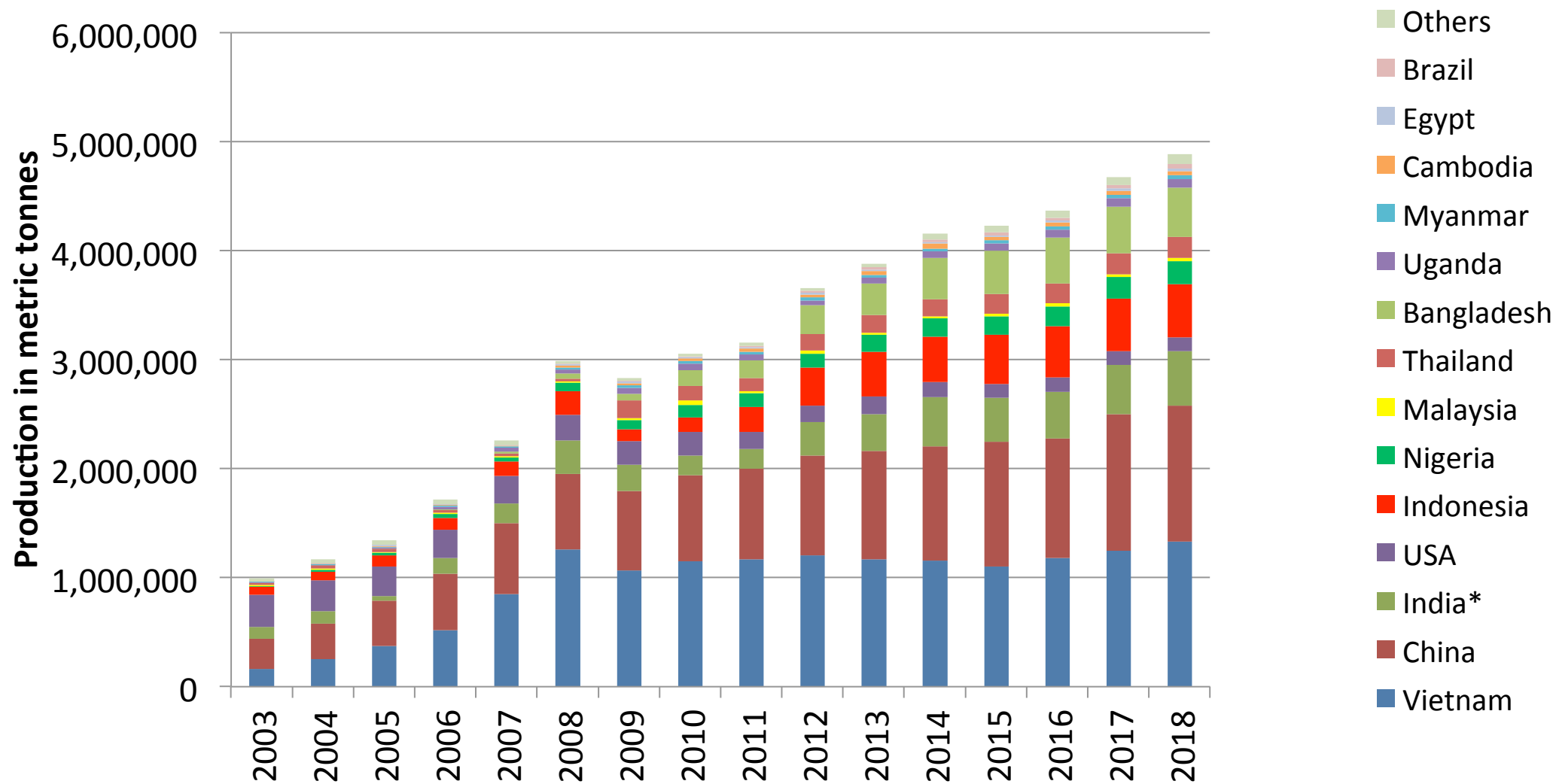
# Pangasius

Production in Vietnam and US (blue) & EU (red) real import prices frozen fillet (USD/kg)



# Total production of Catfish species

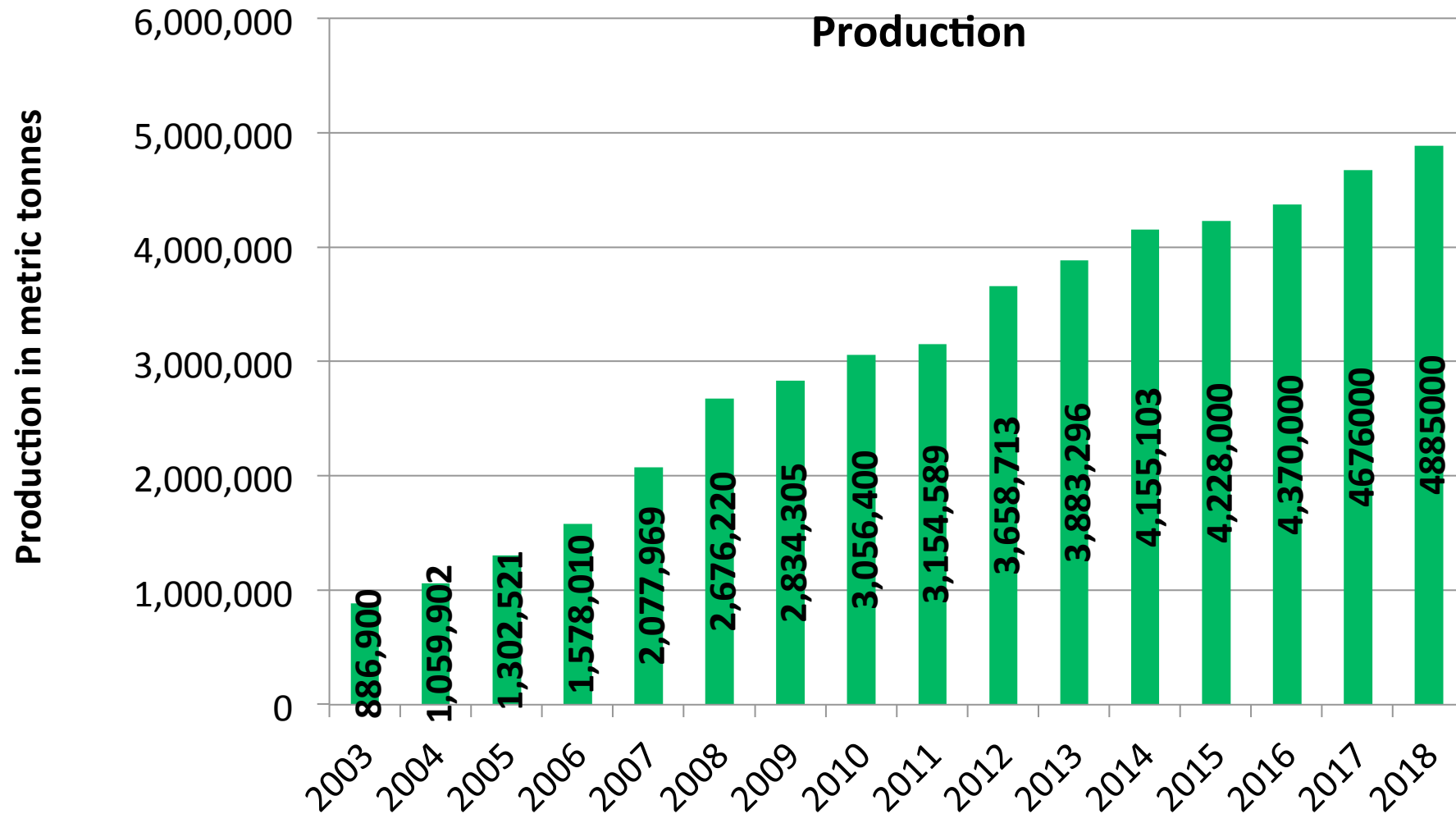
## Incl. Pangasius



Sources: FAO, Kontali and miscellaneous.

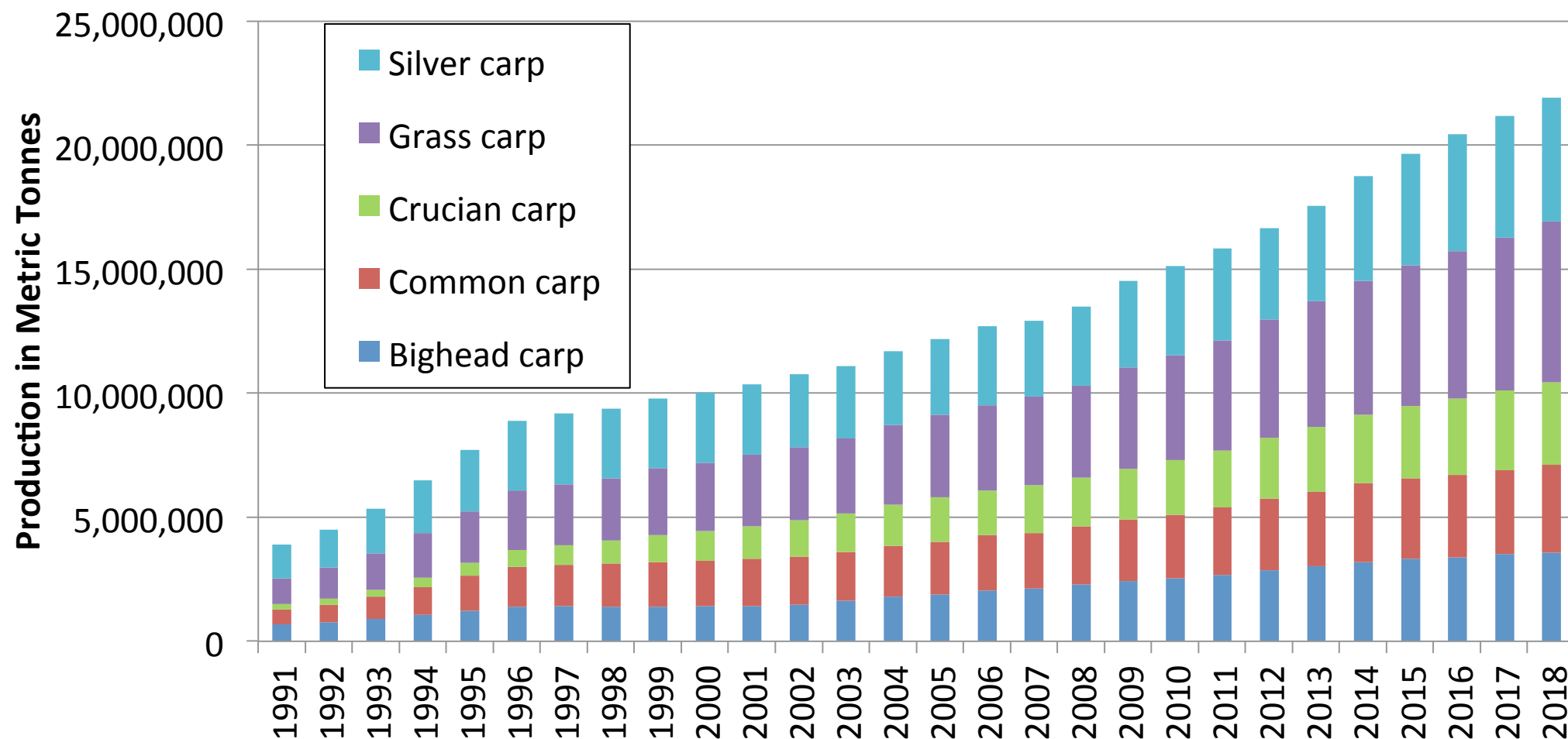


# Total production of Catfish species



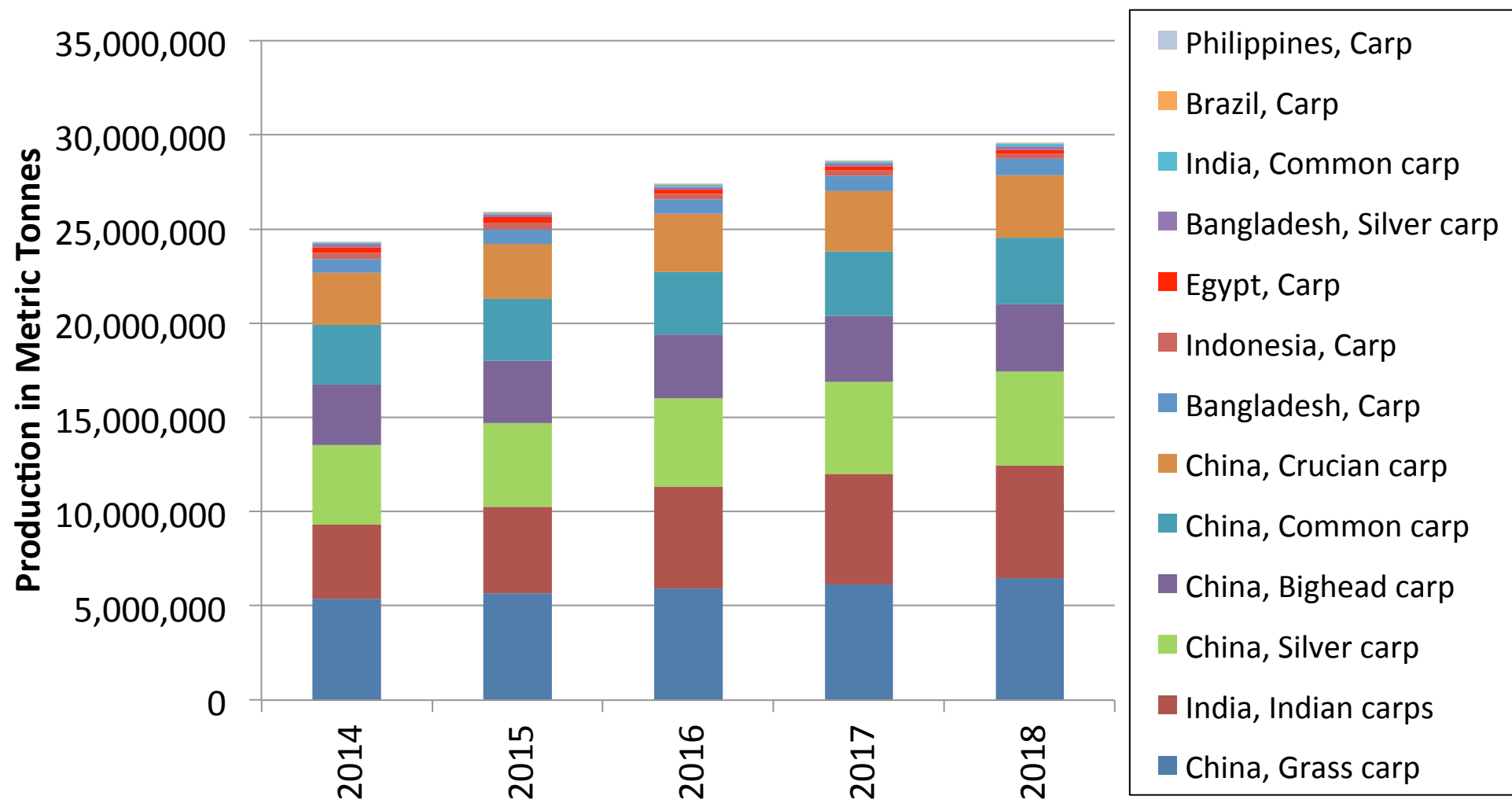
# Carps in China

## Production by major species



Sources: 2000-2014: FAO; 2013-2017: Miscellaneous

# Major Carp species in GAA survey



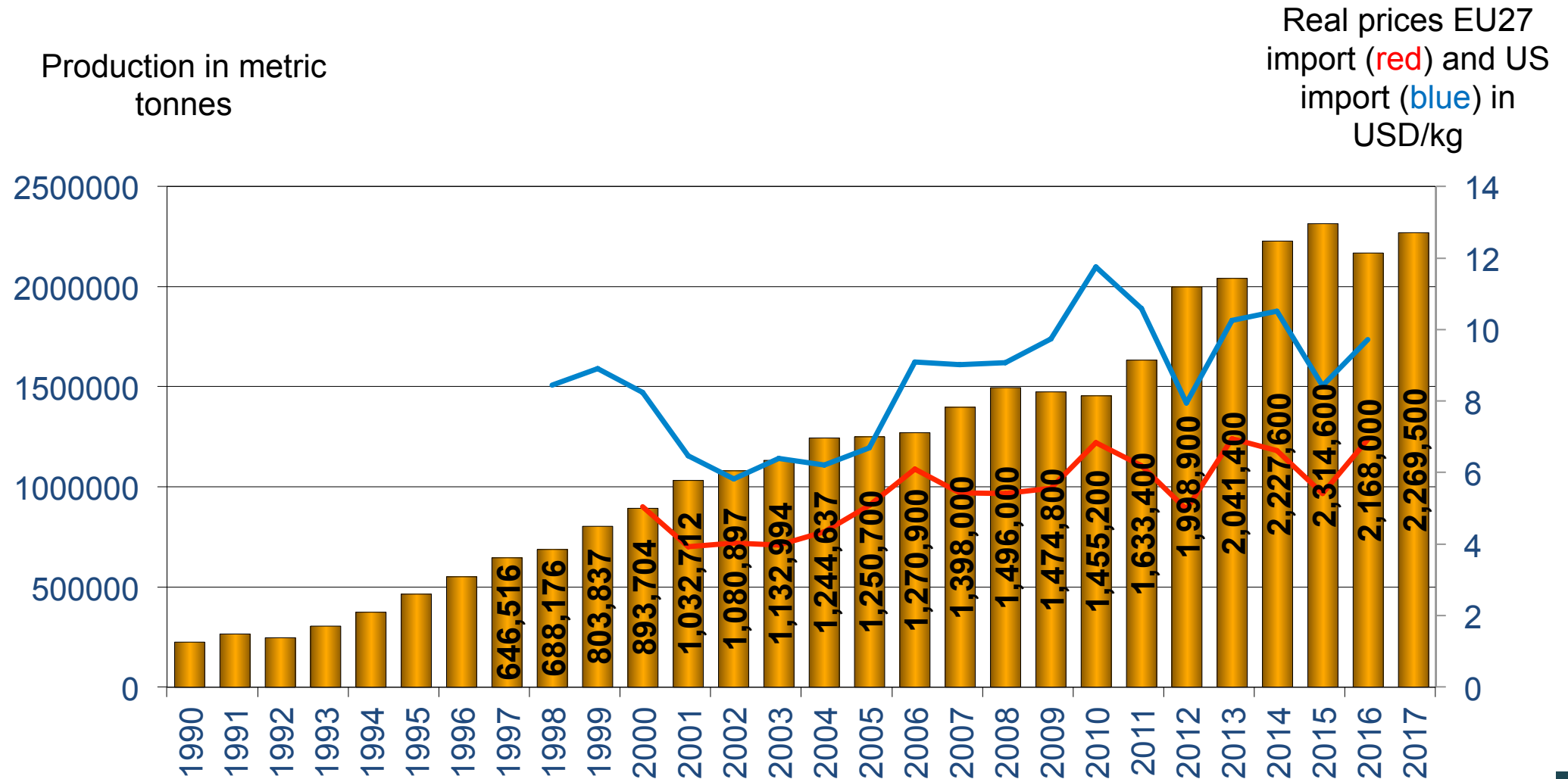
# Diadromous Species



**SALMONIDS**

# Atlantic Salmon Production

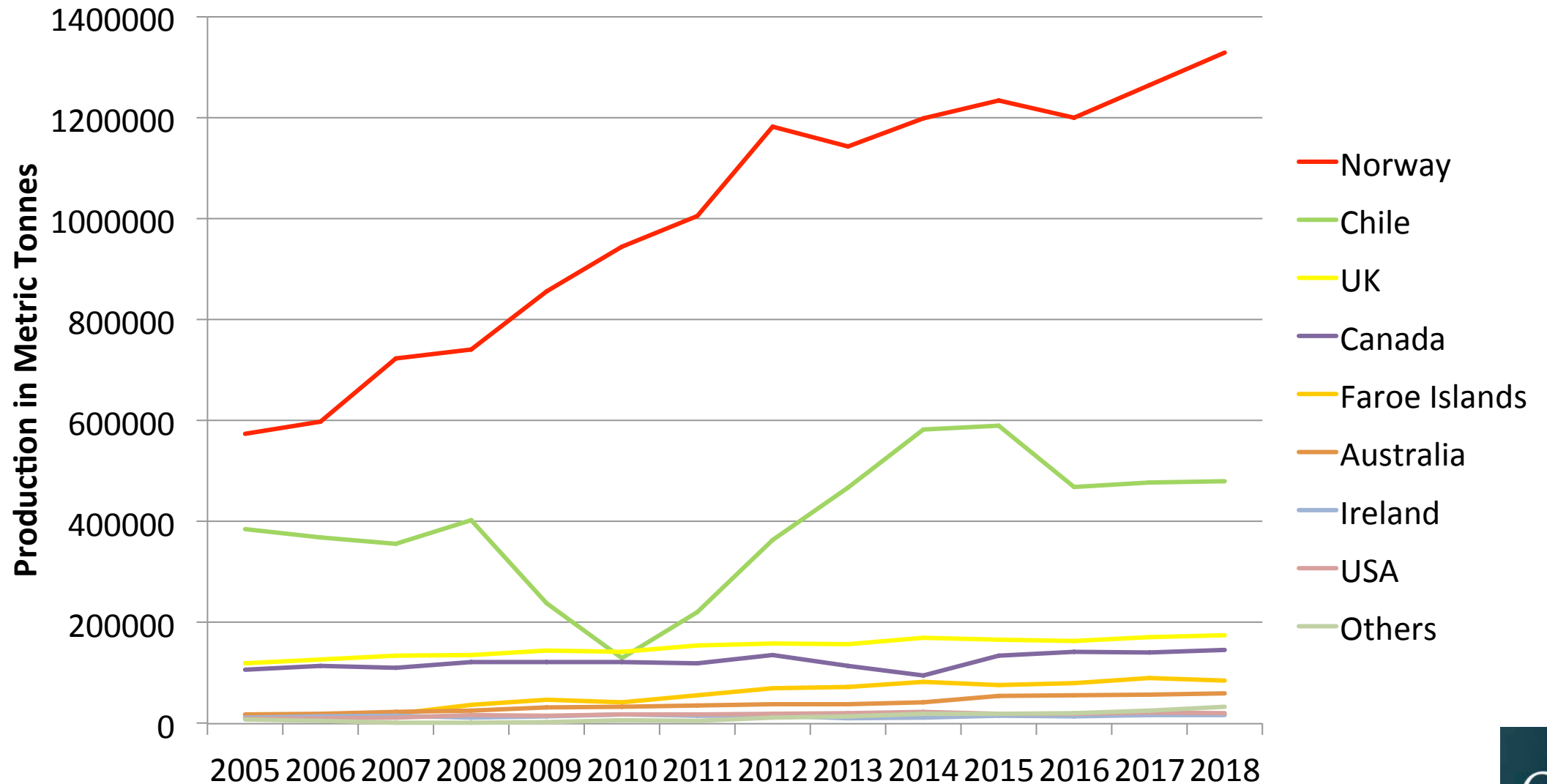
Real EU27 import price fresh whole gutted and real US import price fresh fillet



Sources: FAO, Kontali, NSC/Eurostat (prices). Note: Prices until 2013 are annual averages. Price in 2015 is January-August average.

# Atlantic Salmon

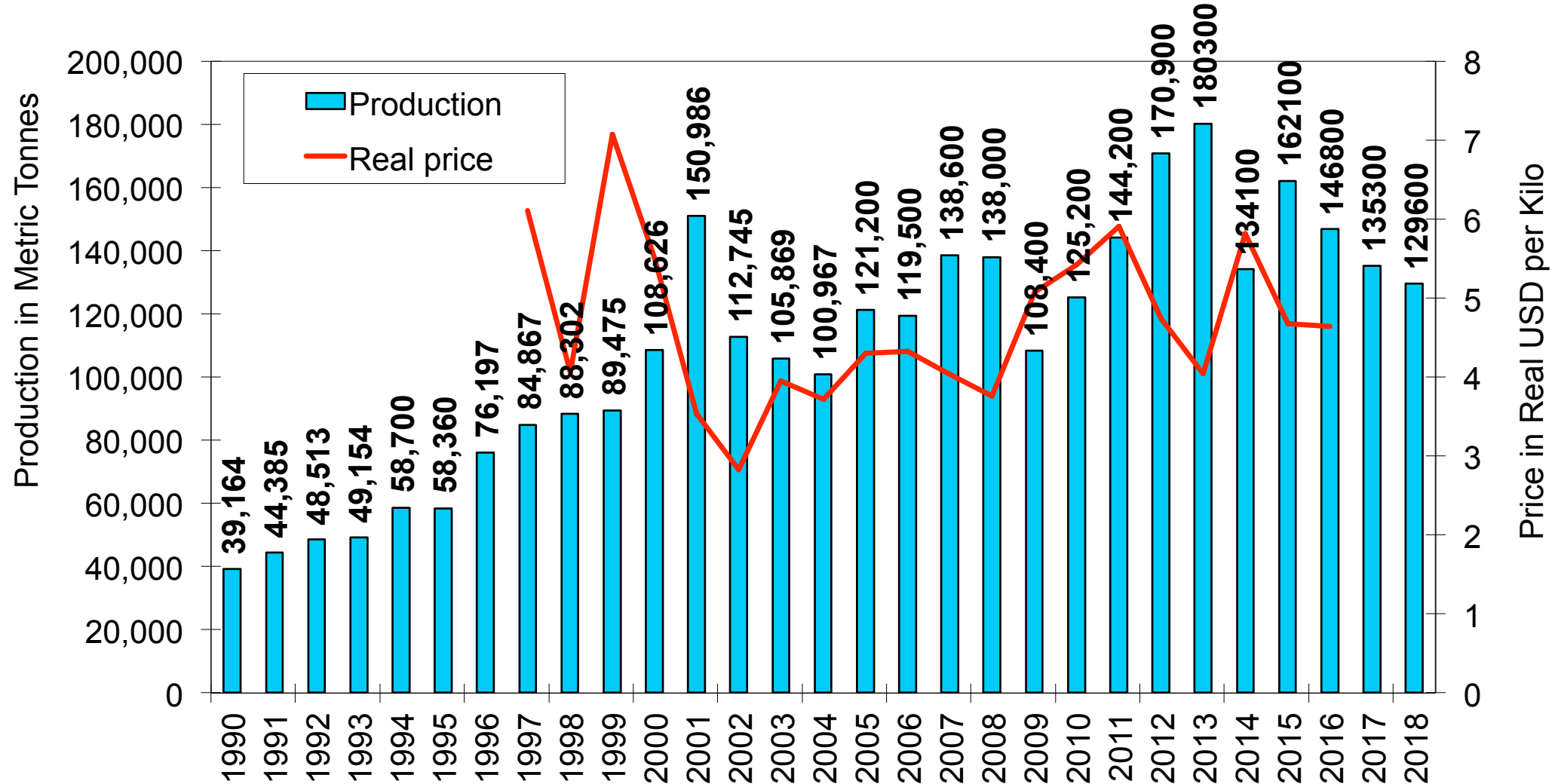
## Production by country



Source: Kontali

# Coho Salmon

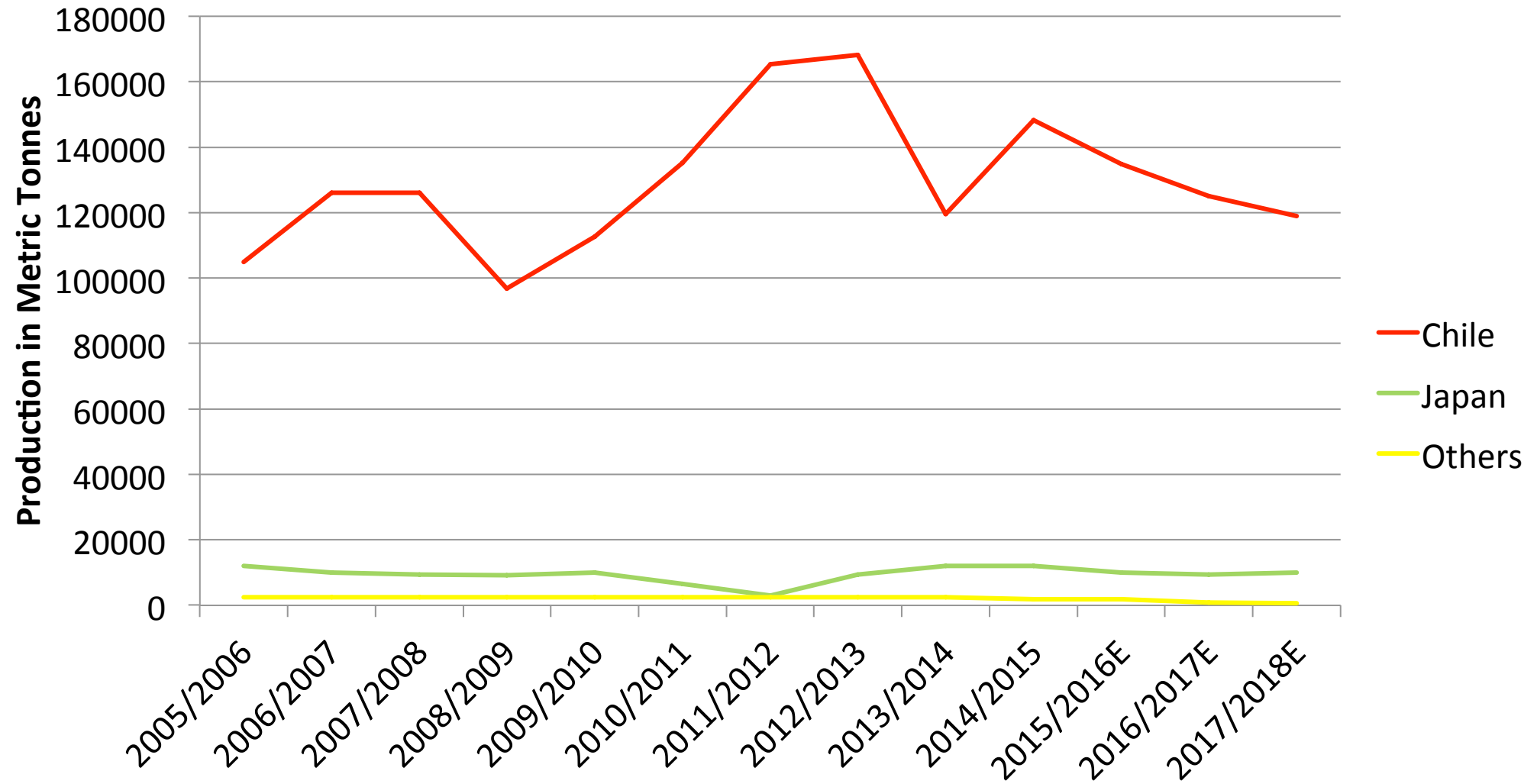
## Total Production and Real Export Price for Chilean Coho Frozen, Head off





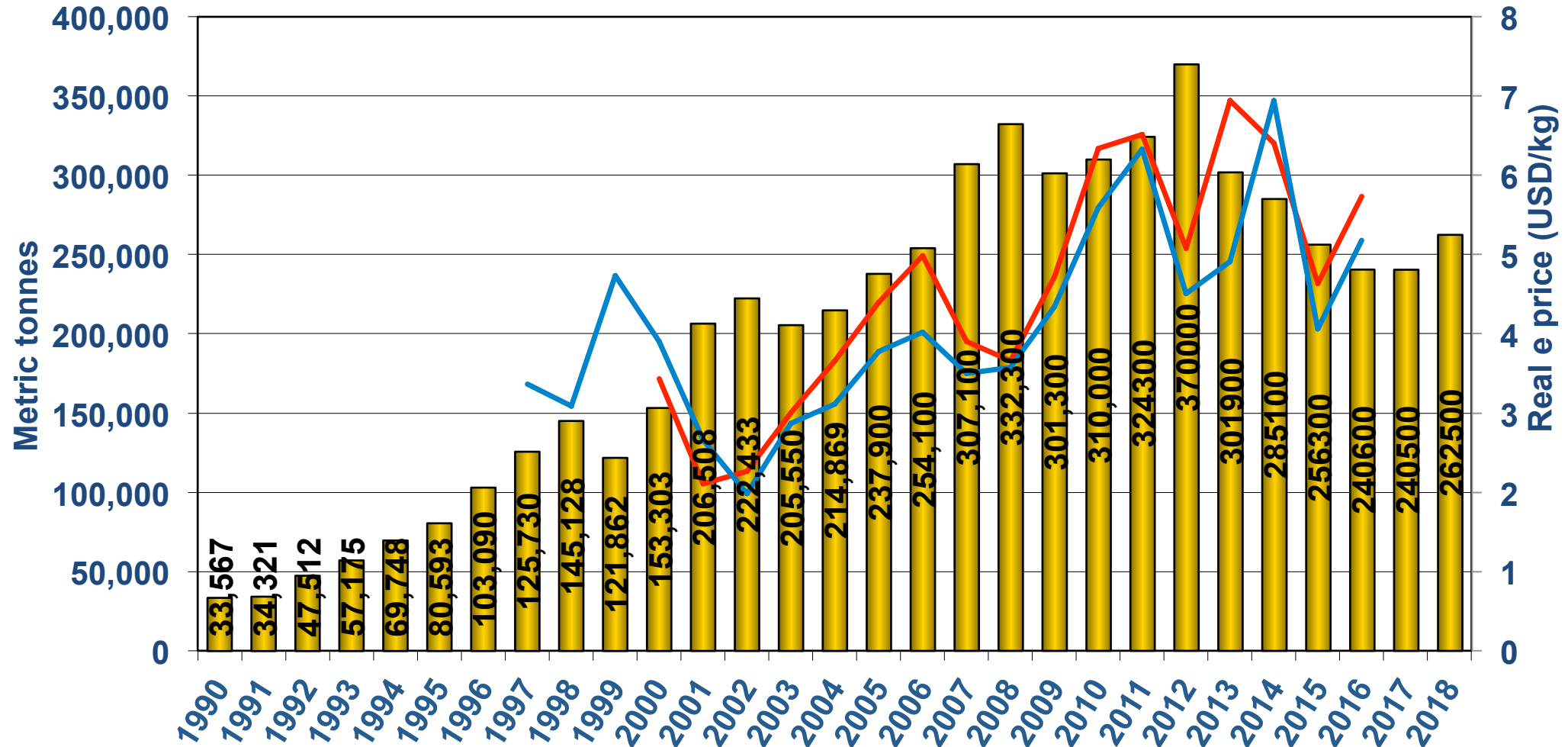
# Coho Salmon

## Production by country



# Large Rainbow Trout

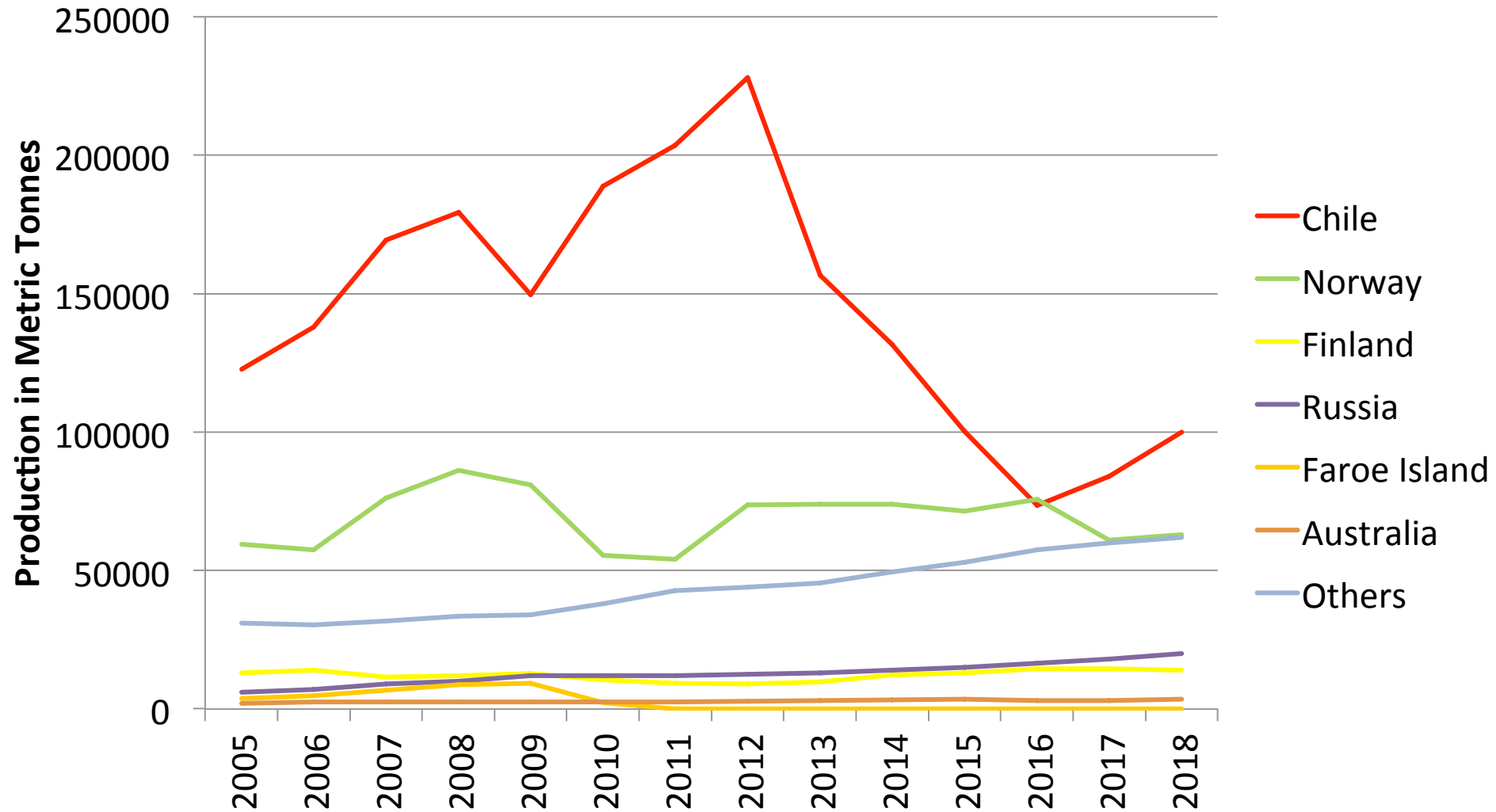
Total Marine Production, real Chilean frozen export price (blue) and real EU fresh import price EUR/kg (red)



Sources: FAO, Kontali and miscellaneous, NSC. Note: Prices are annual averages except 2015 (January-August average).

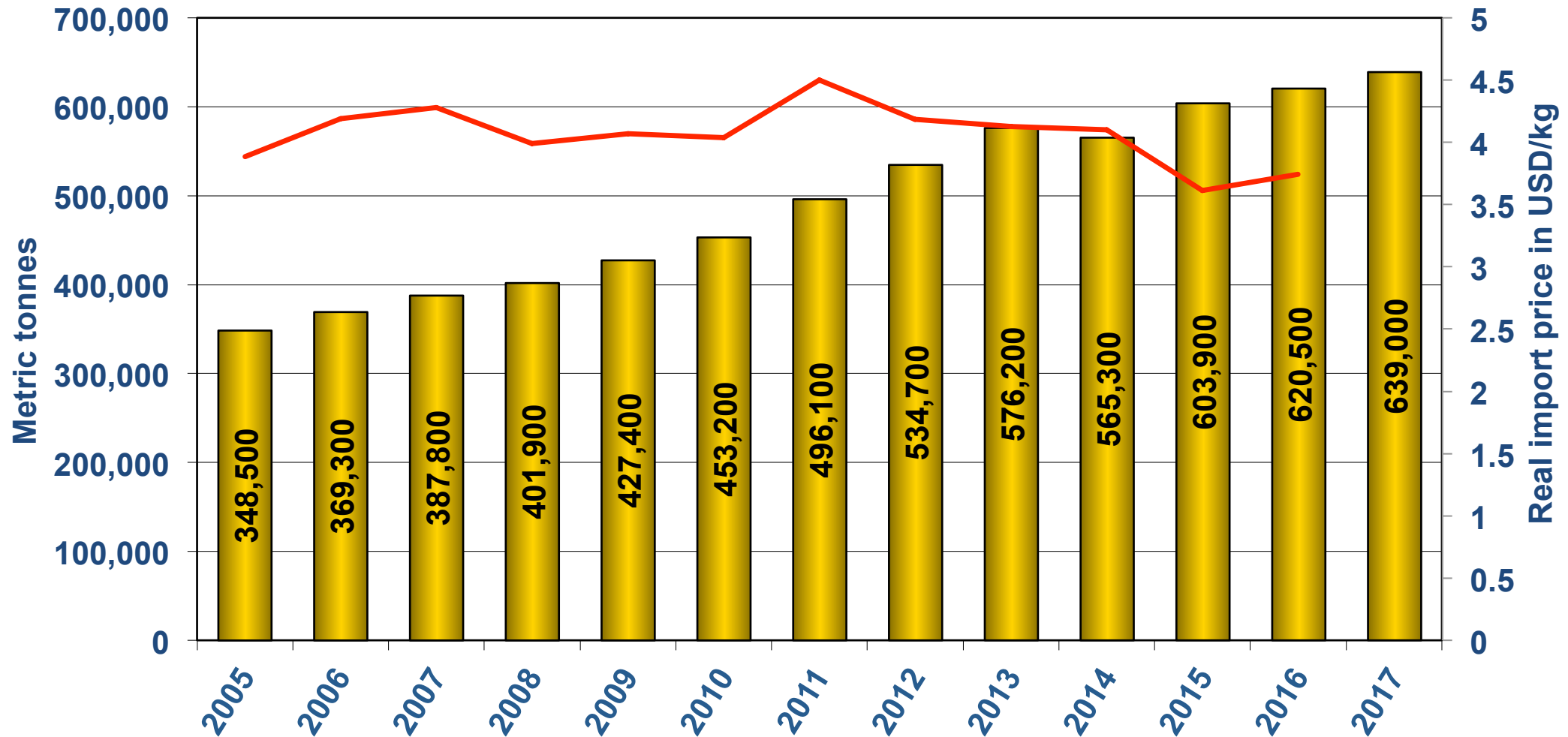
# Large Rainbow Trout

## Production by country



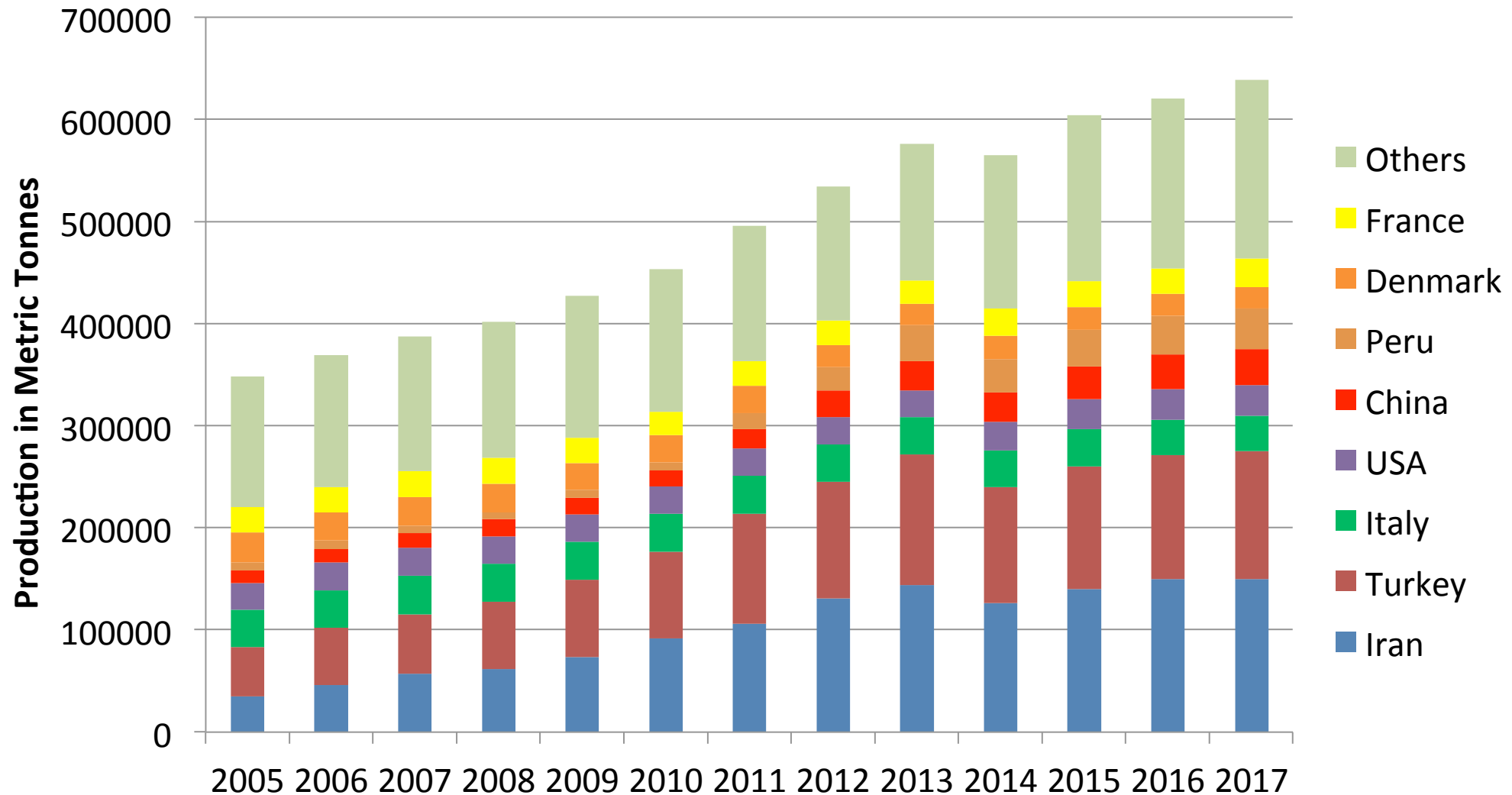
# Small Rainbow Trout

Global Production and EU27 real import price frozen whole trout < 1.2 kg



Sources: FAO, Kontali, NSC. Note: Prices are annual averages except 2015 (January-August average).

# Small Rainbow Trout Production by Country



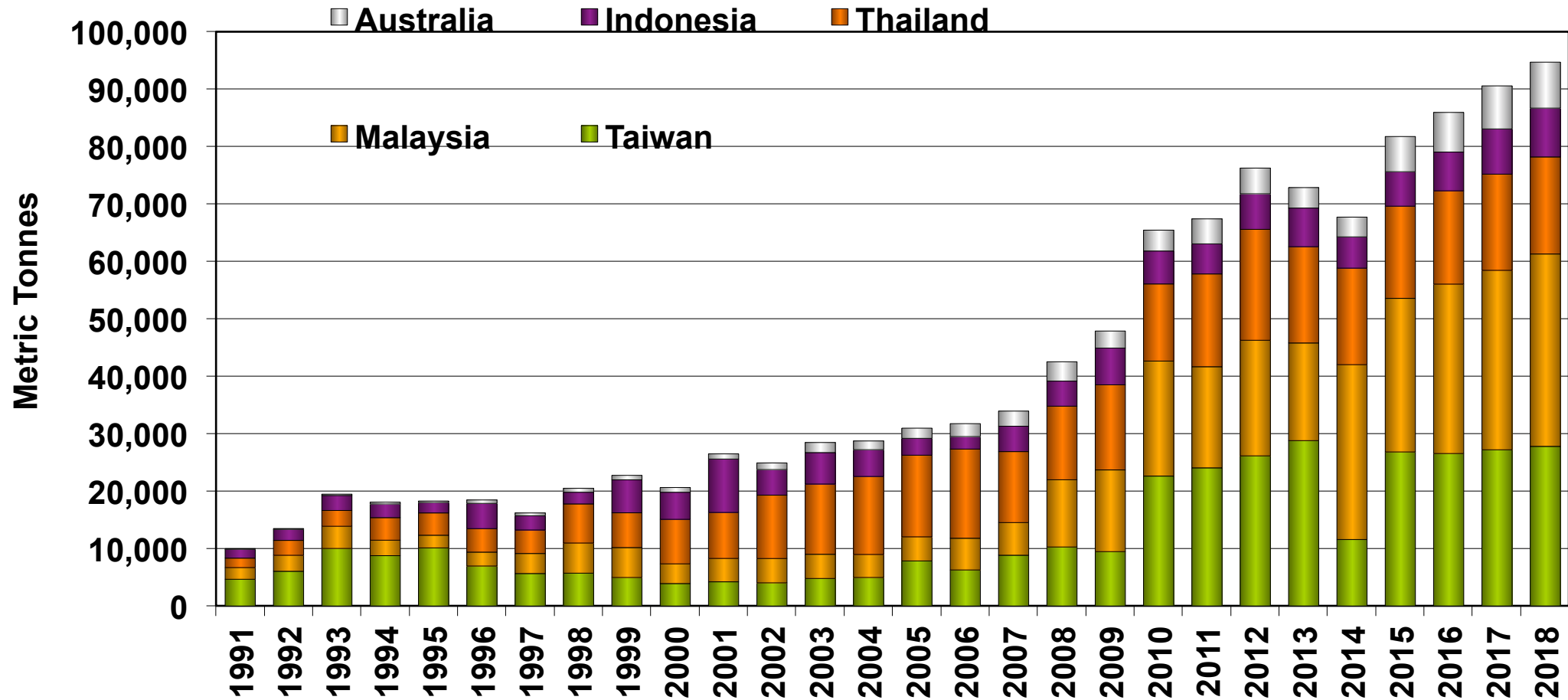
Sources: FAO (1999-2012); Kontali and miscellaneous (2013-2016).

# Asian Seabass, Barramundi



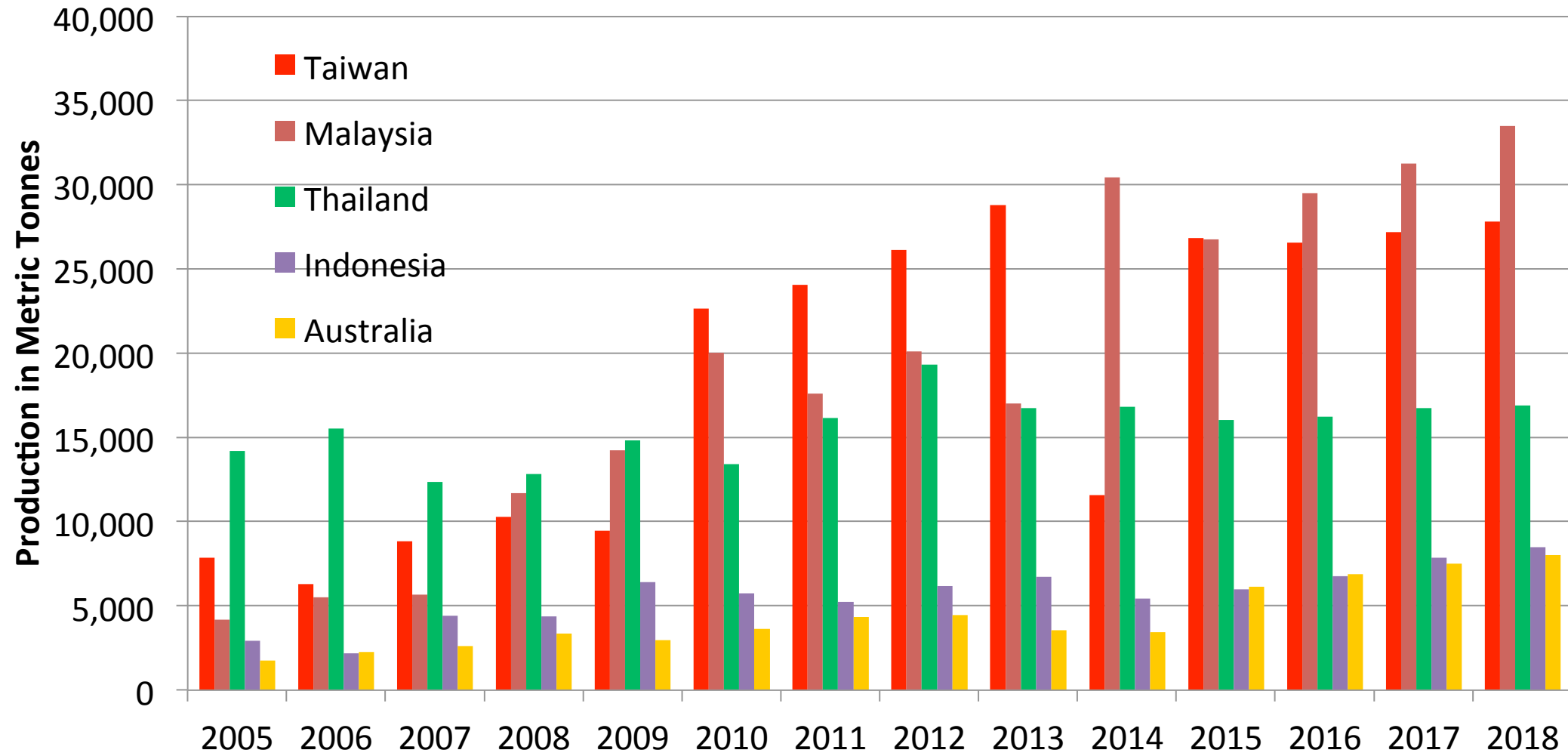
# Barramundi

## Total production by major producing countries



# Barramundi

## Production forecasts for selected countries



Sources: FAO (2002-2012) and miscellaneous (2013-2017)

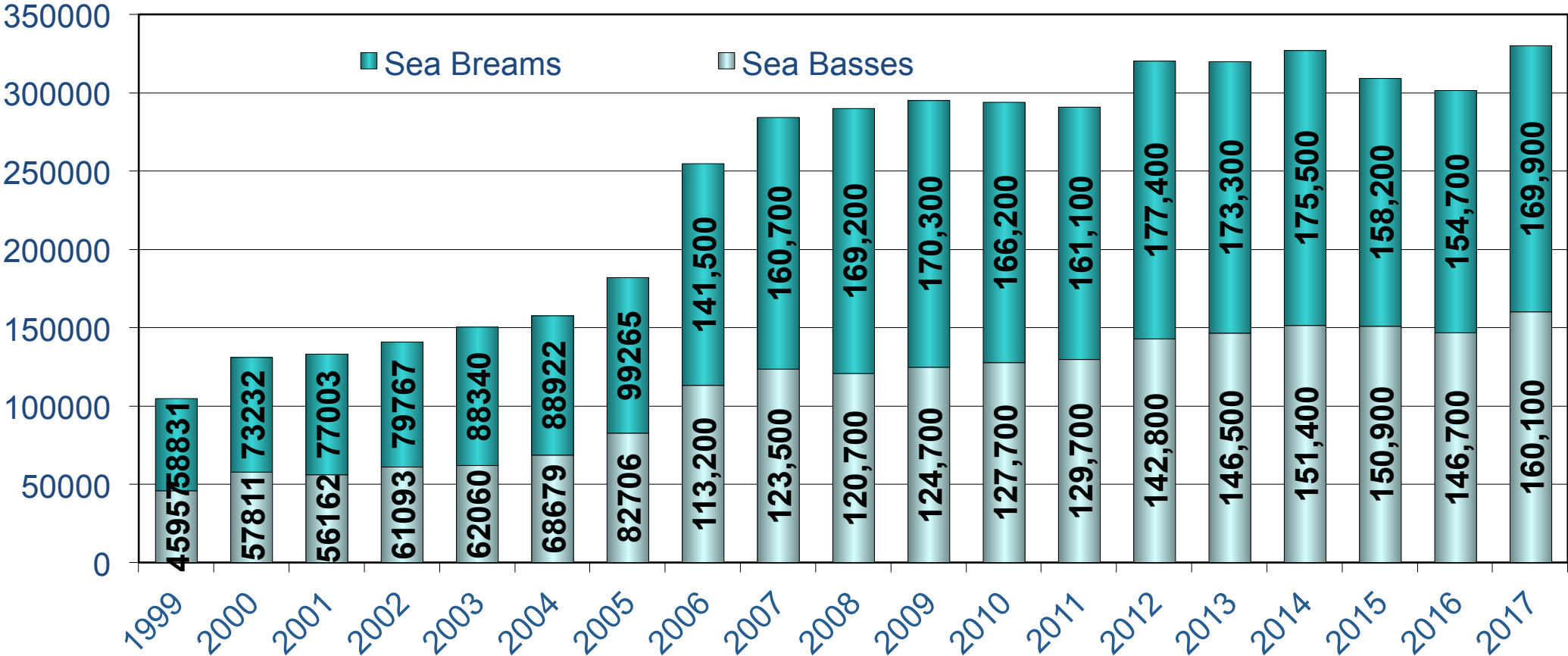


# Marine Species

# Seabass & Sea Bream

## Mediterranean Production

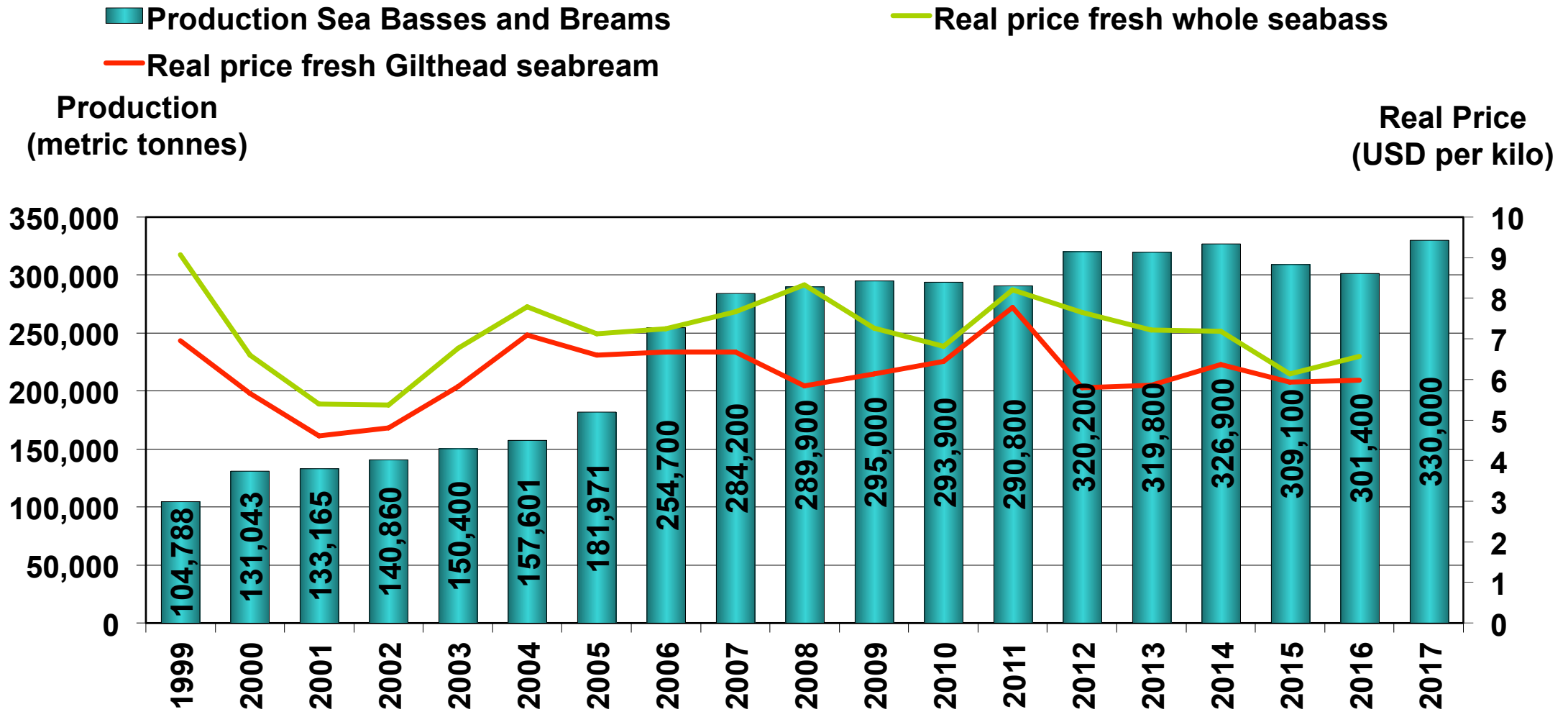
Production  
in metric tonnes



Source: Kontali

# Seabass & Sea Bream

## Mediterranean Production & Real Italian Import Price



**COBIA**

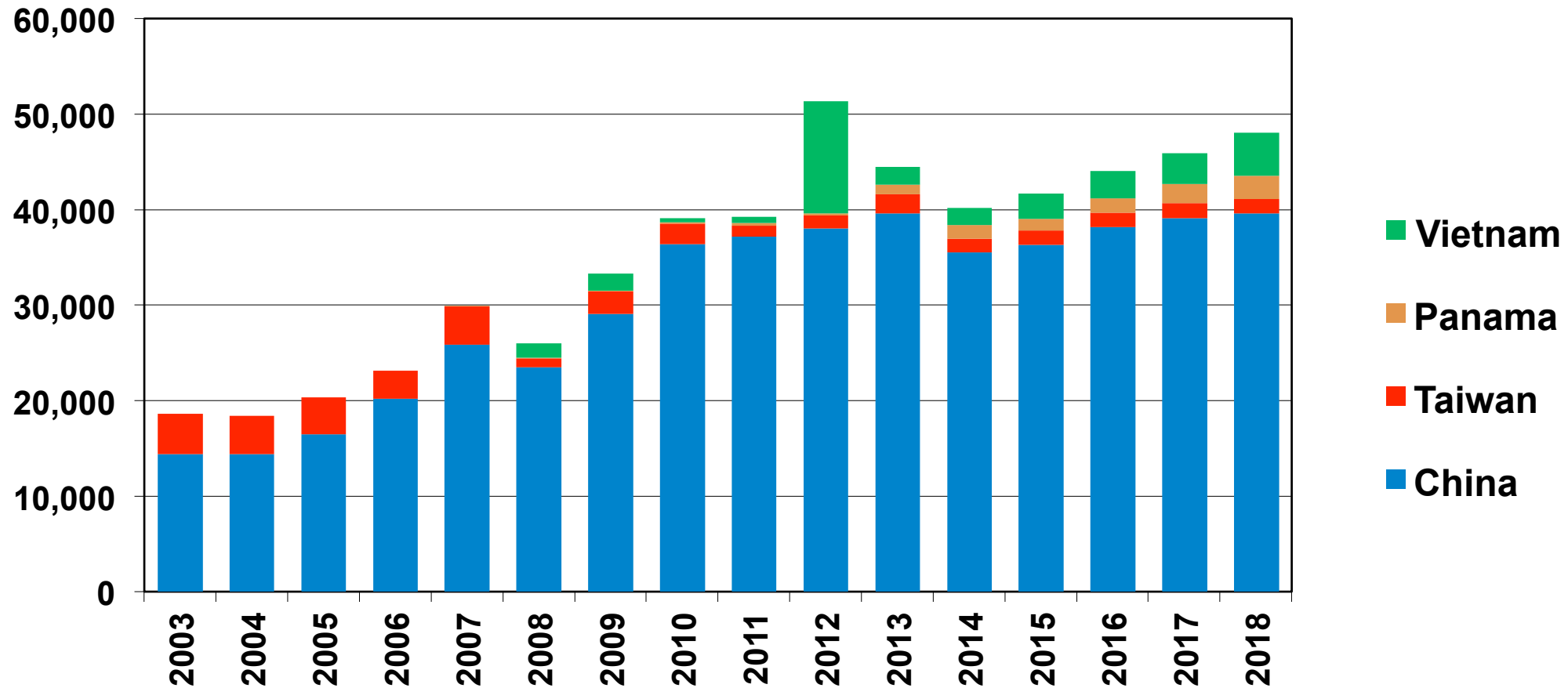


**SNAPPERFARMS**

# Farmed Cobia

## Estimates for China, Taiwan, Panama and Vietnam

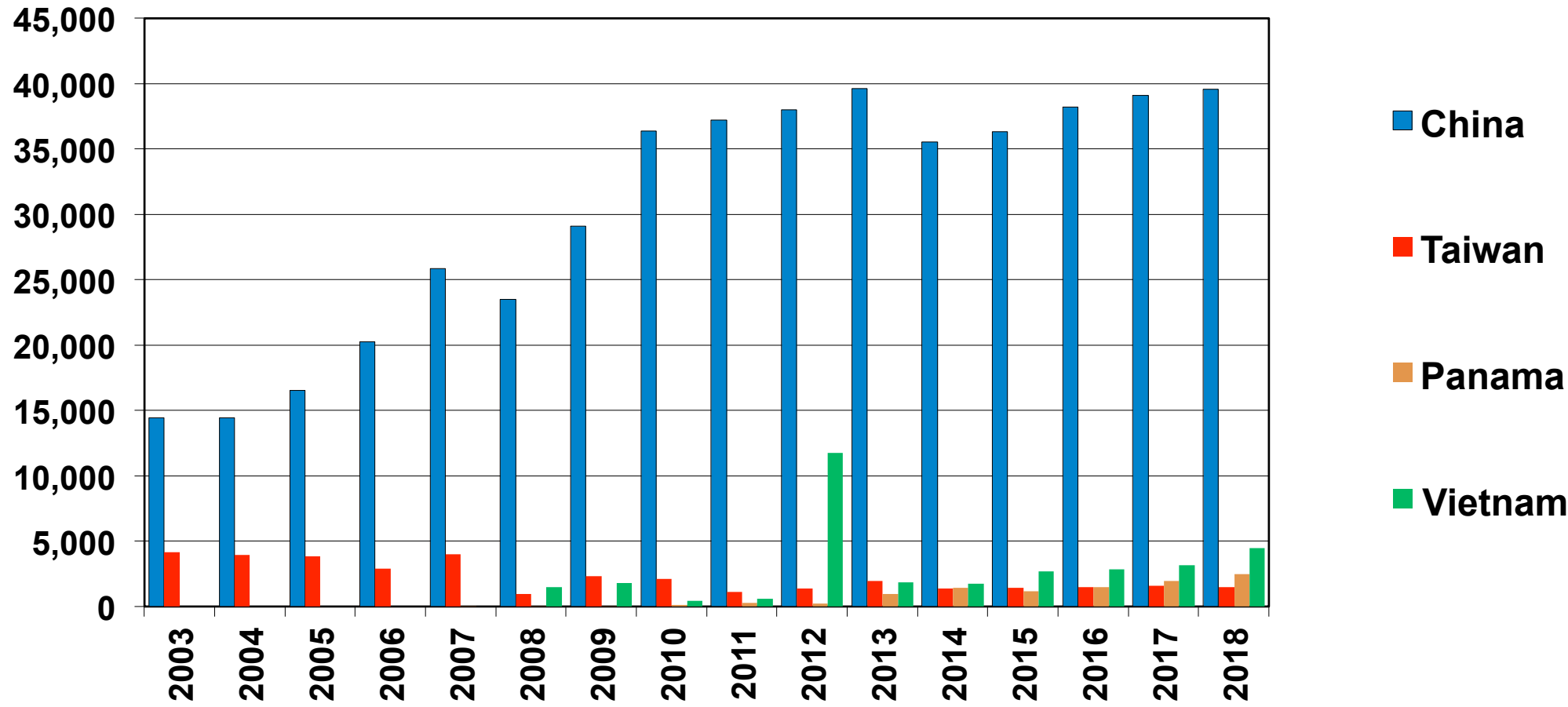
Metric Tonnes



# Farmed Cobia

## Estimates for China, Taiwan, Panama and Vietnam

Metric Tonnes



Source: Various sources

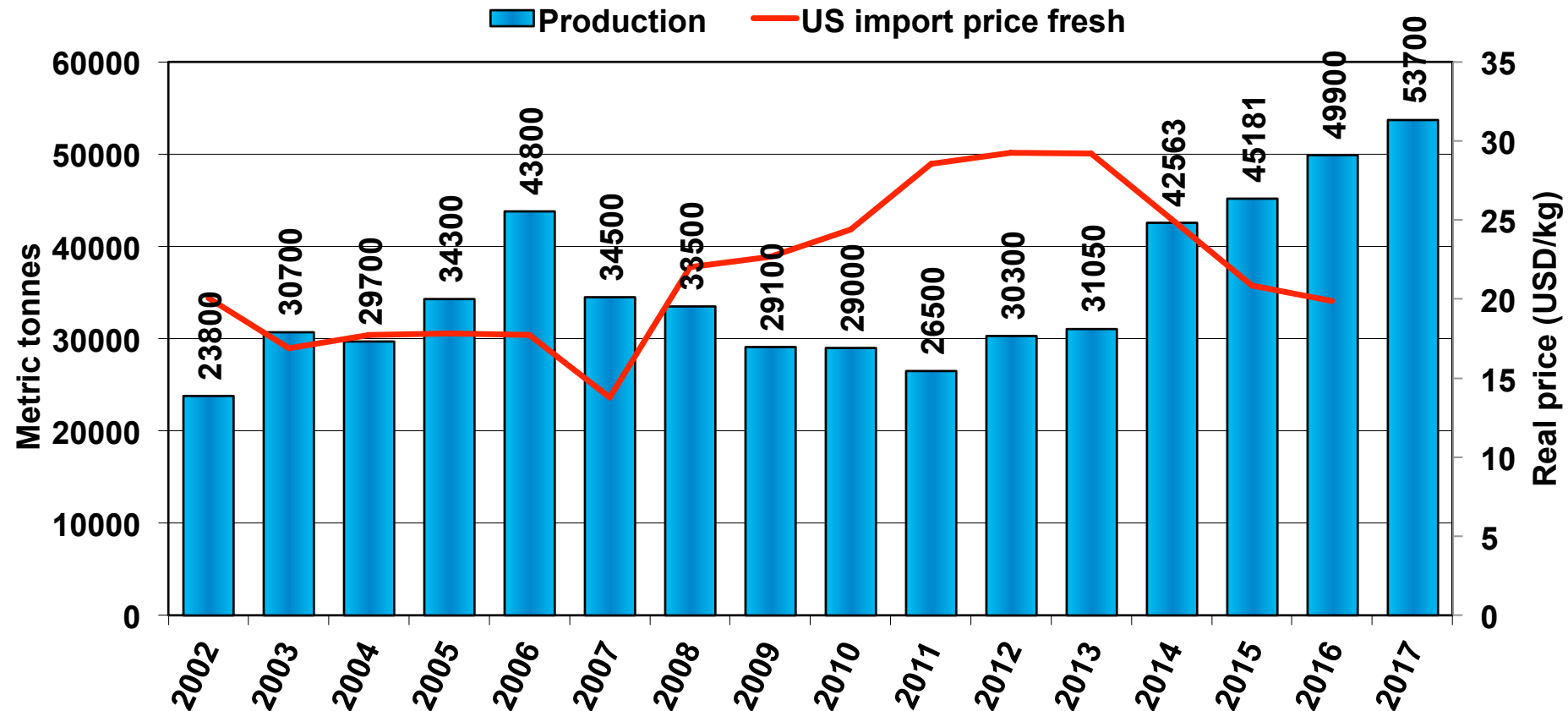




**Bluefin Tuna**

# Bluefin Tuna

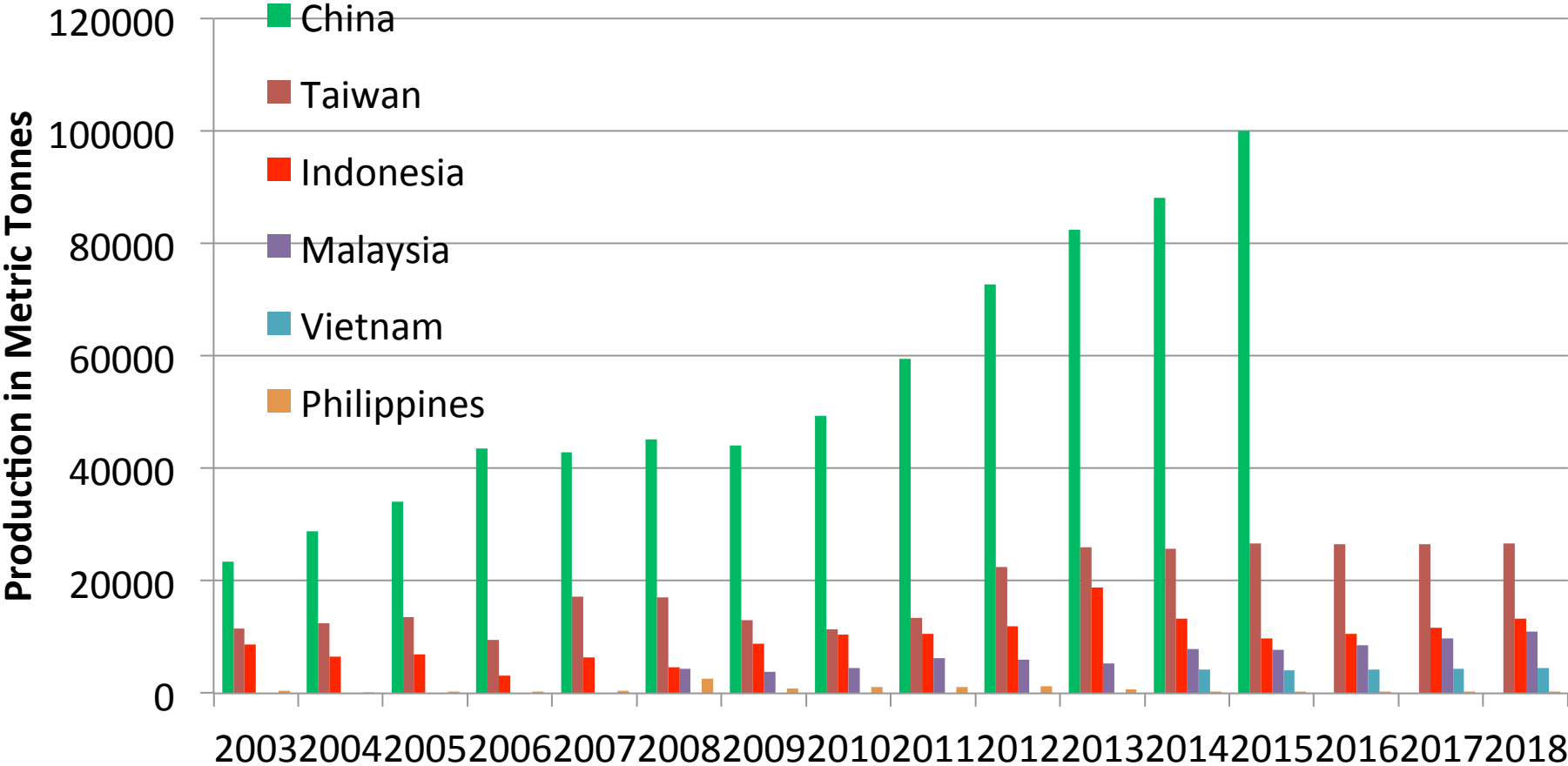
## Total Production and US real import price fresh



Sources: Production - Apostolos Tzoumas; import price- NMFS. Note: Prices are annual averages, except price in 2015 is January-August average.



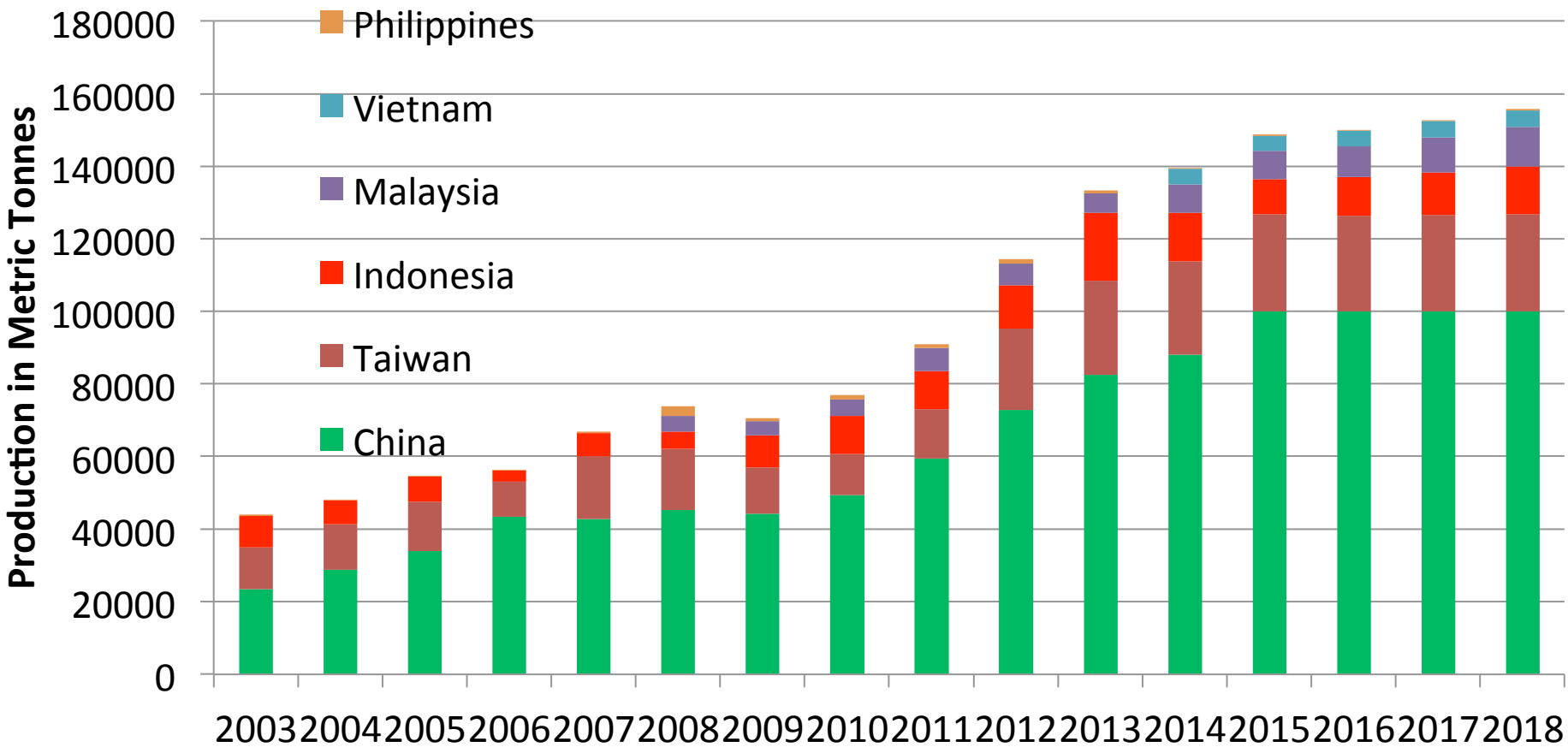
# Grouper production in countries surveyed by GAA



Sources: FAO (1999-2012); miscellaneous (2013-2017).



# Grouper production in countries surveyed by GAA



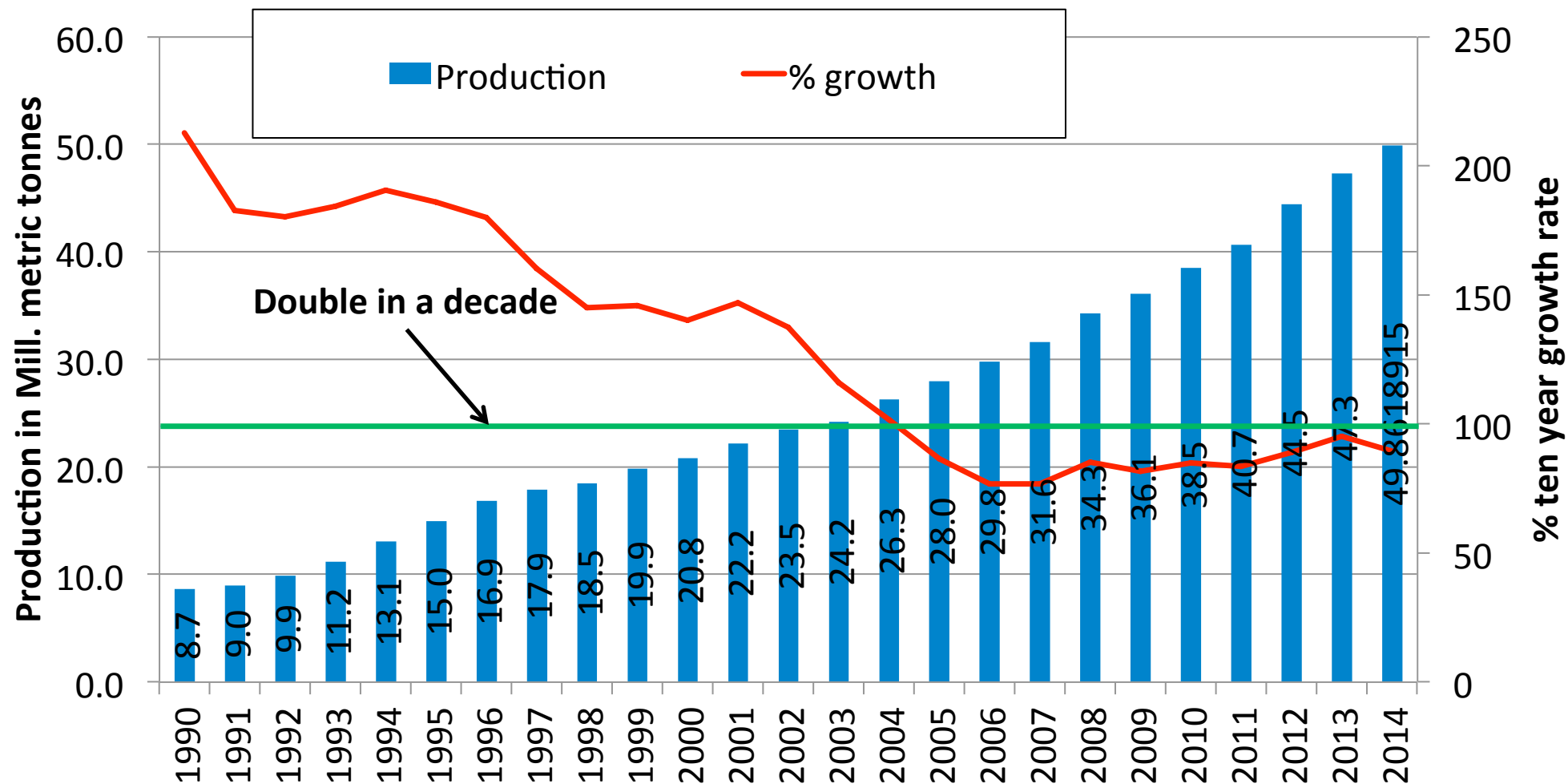
Note: Data not available for China 2016-18. Assume production of 100,000 MT these years.

Sources: FAO (1999-2012); miscellaneous (2013-2017).



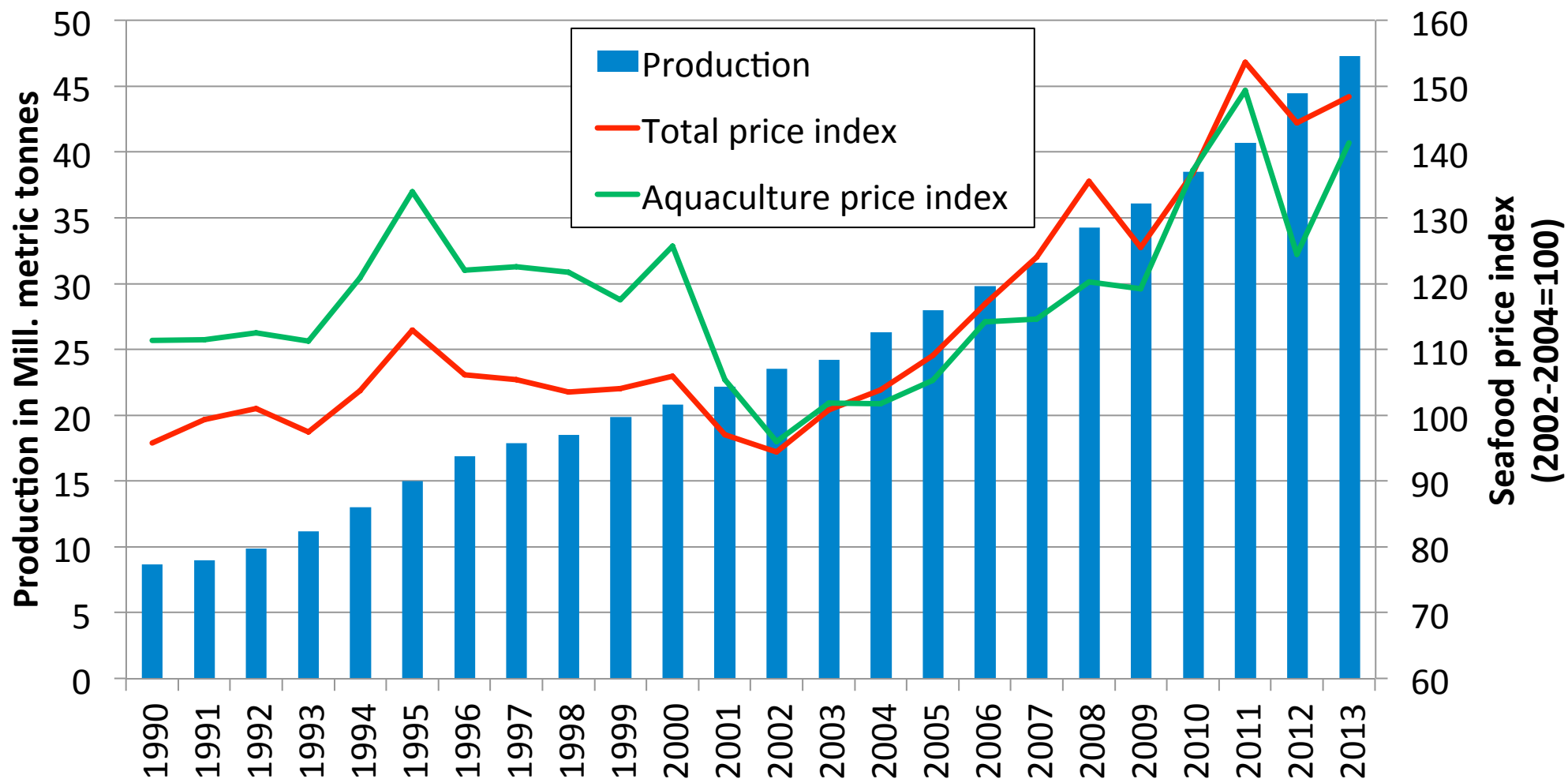
# Summary Finfish

# Aquaculture Production of Fish Species and 10-year growth rate 1990-2014



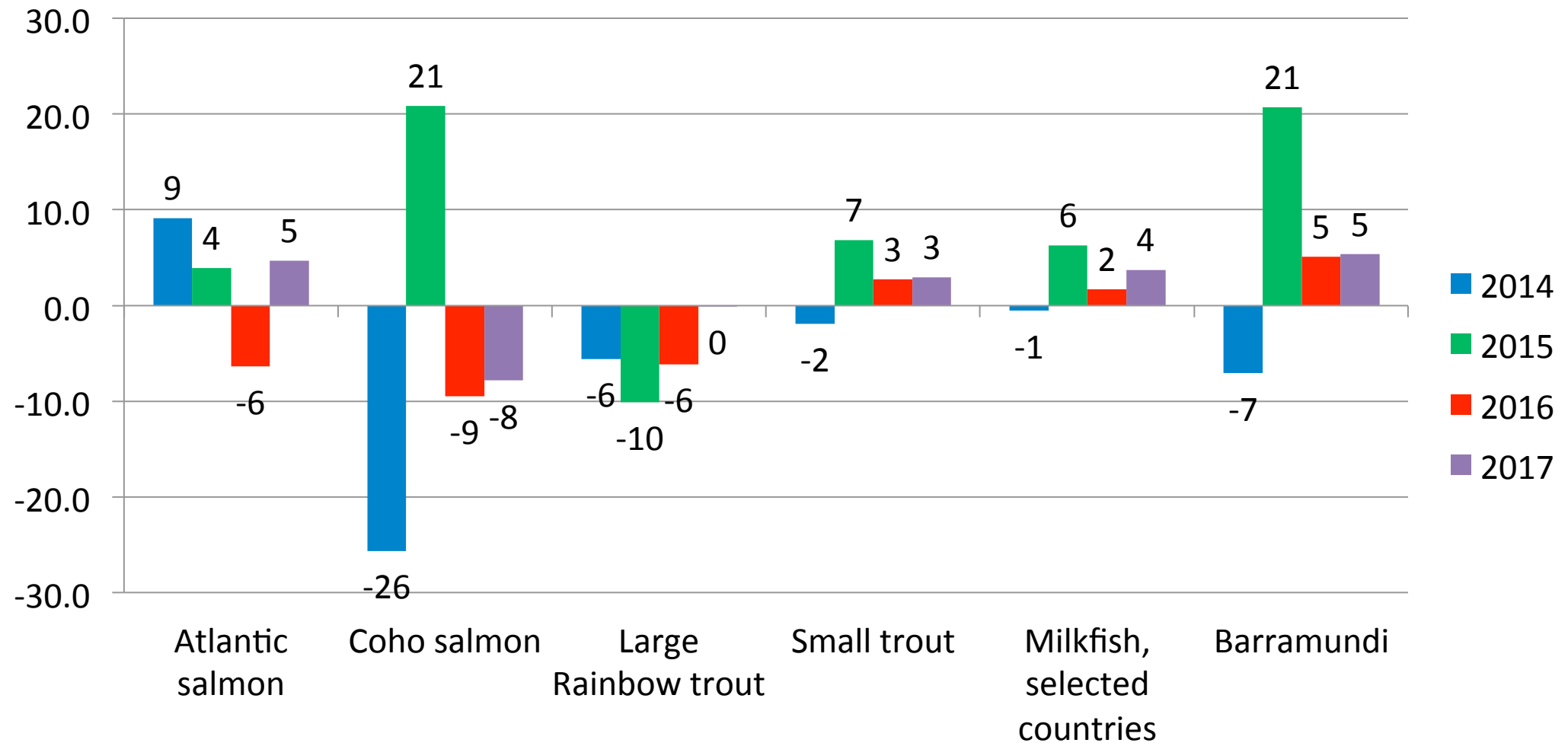
# Aquaculture Production of Fish Species and Seafood Price Indices

## 1990-2013



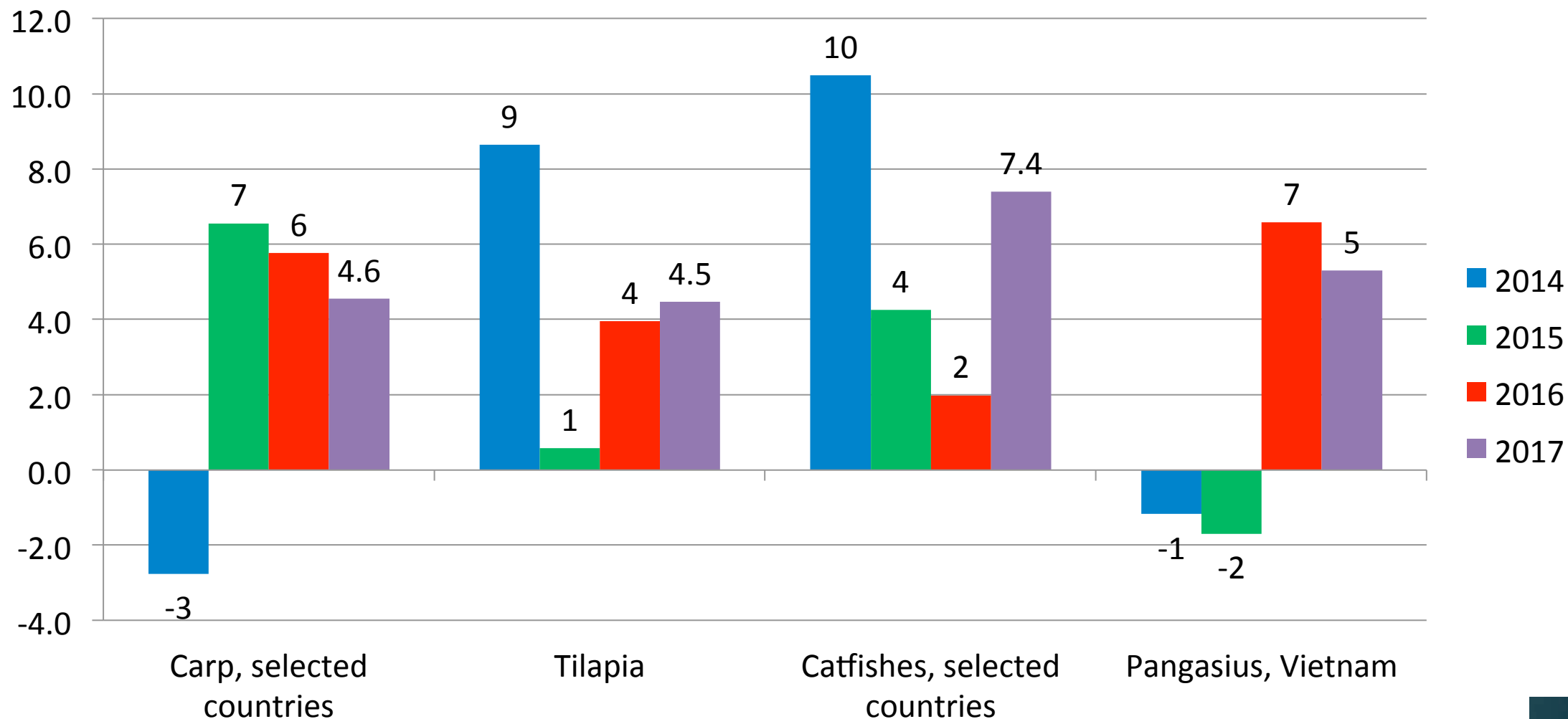
# Diadromous Species

## Annual Percent Growth Rates



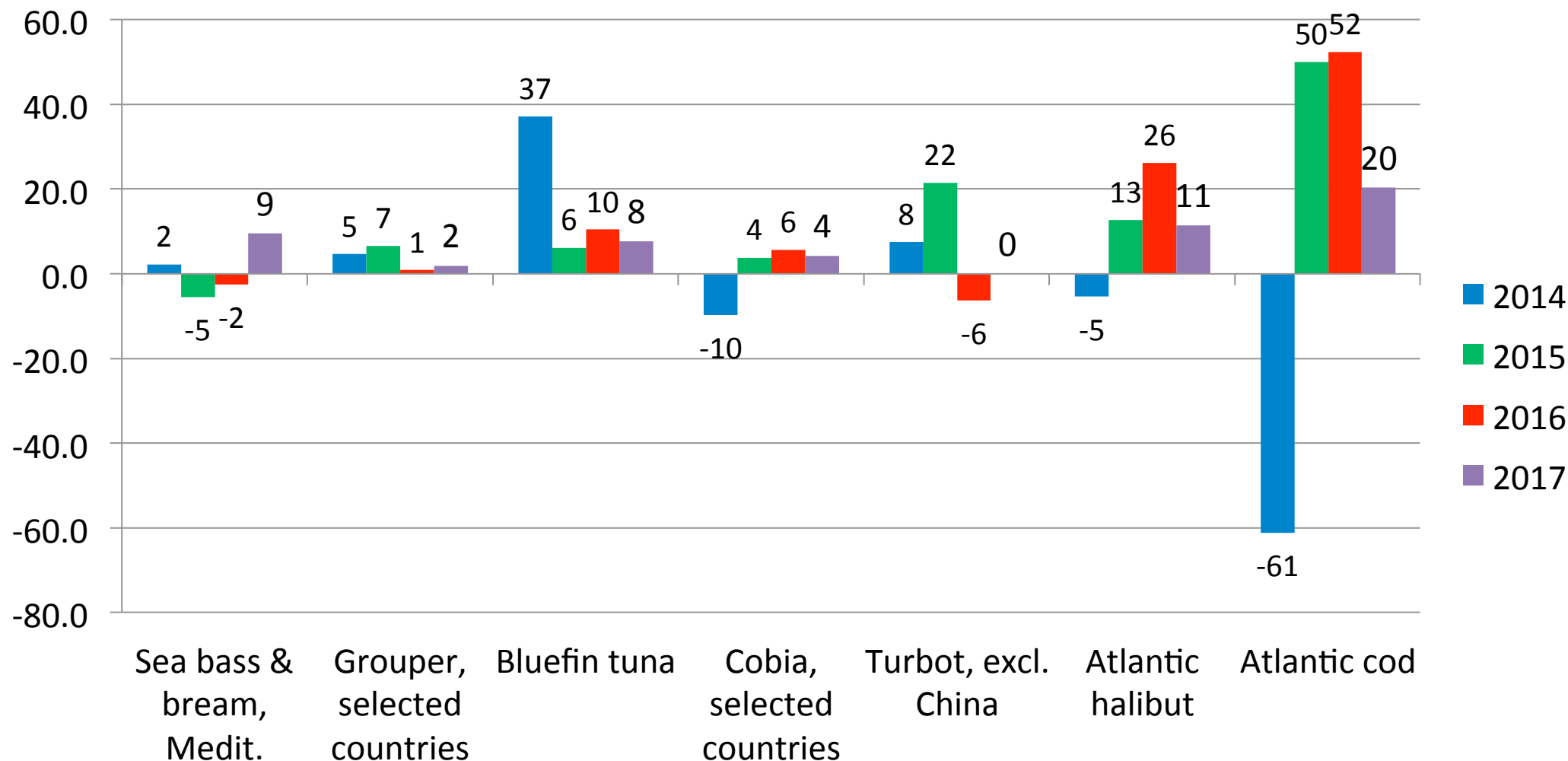
# Freshwater Species

## Annual Percent Growth Rates



# Marine Species

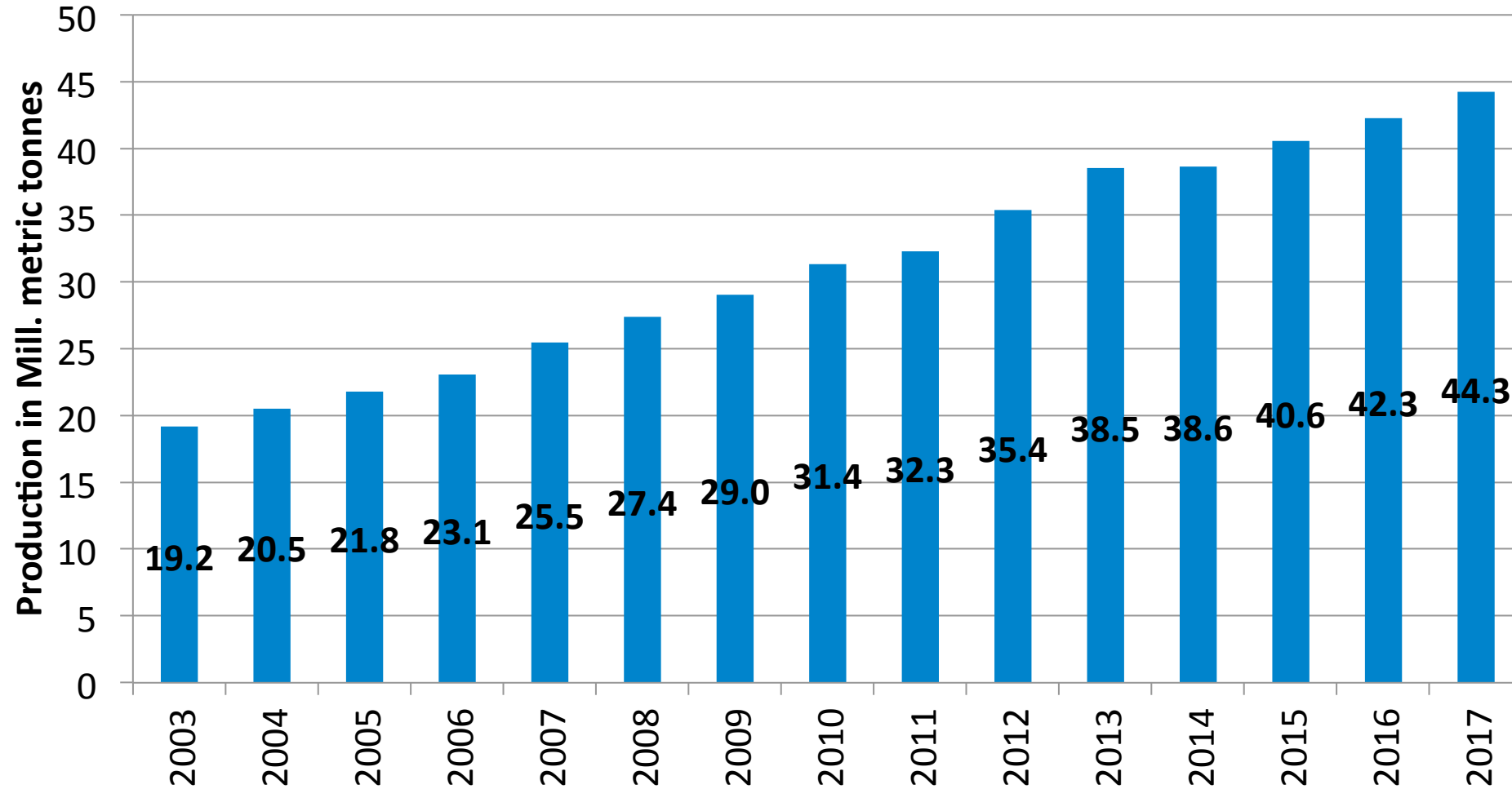
## Annual Percent Growth Rates





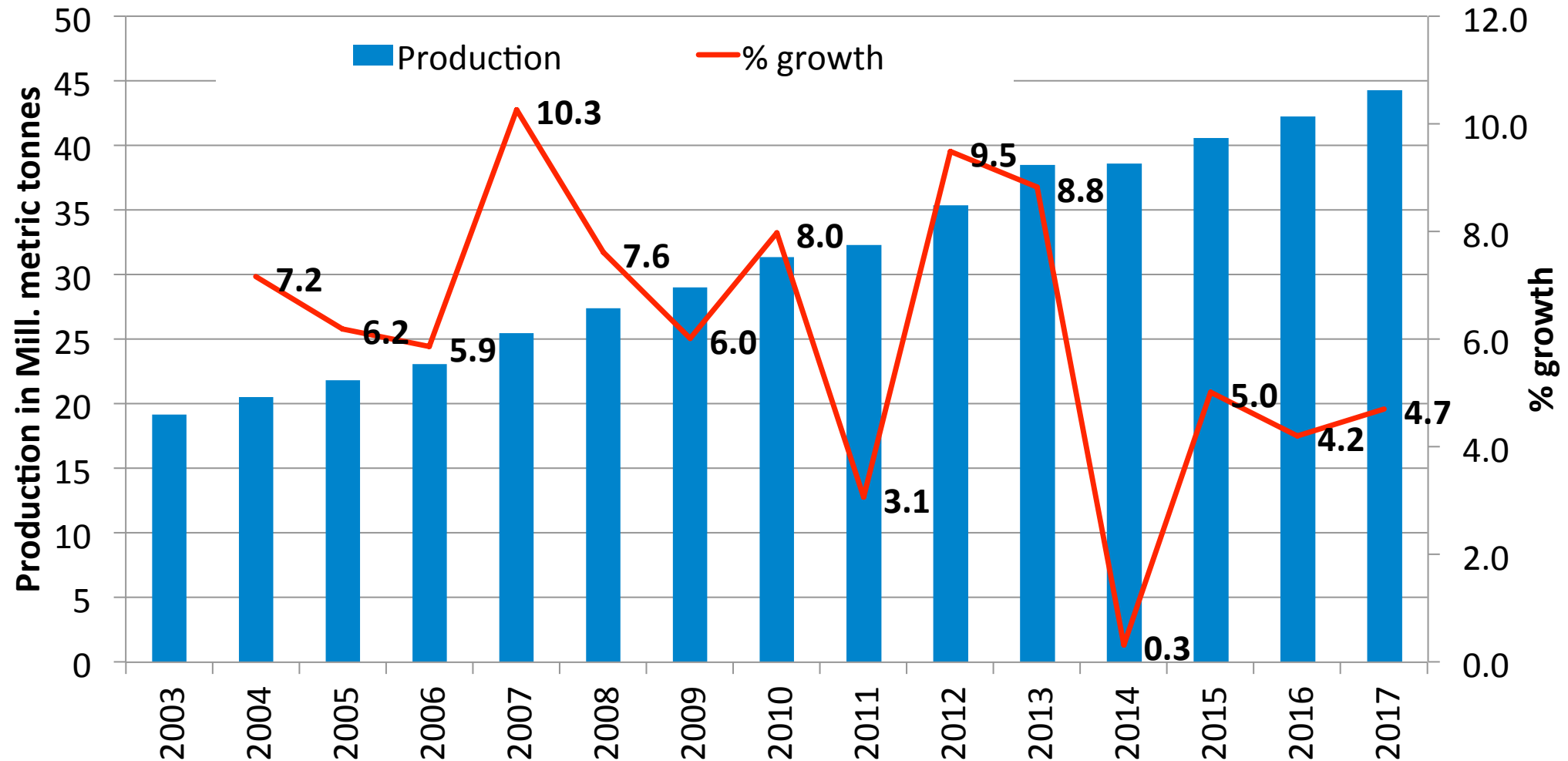
# Production of Surveyed Species

Incl. Carp, 2003-2017



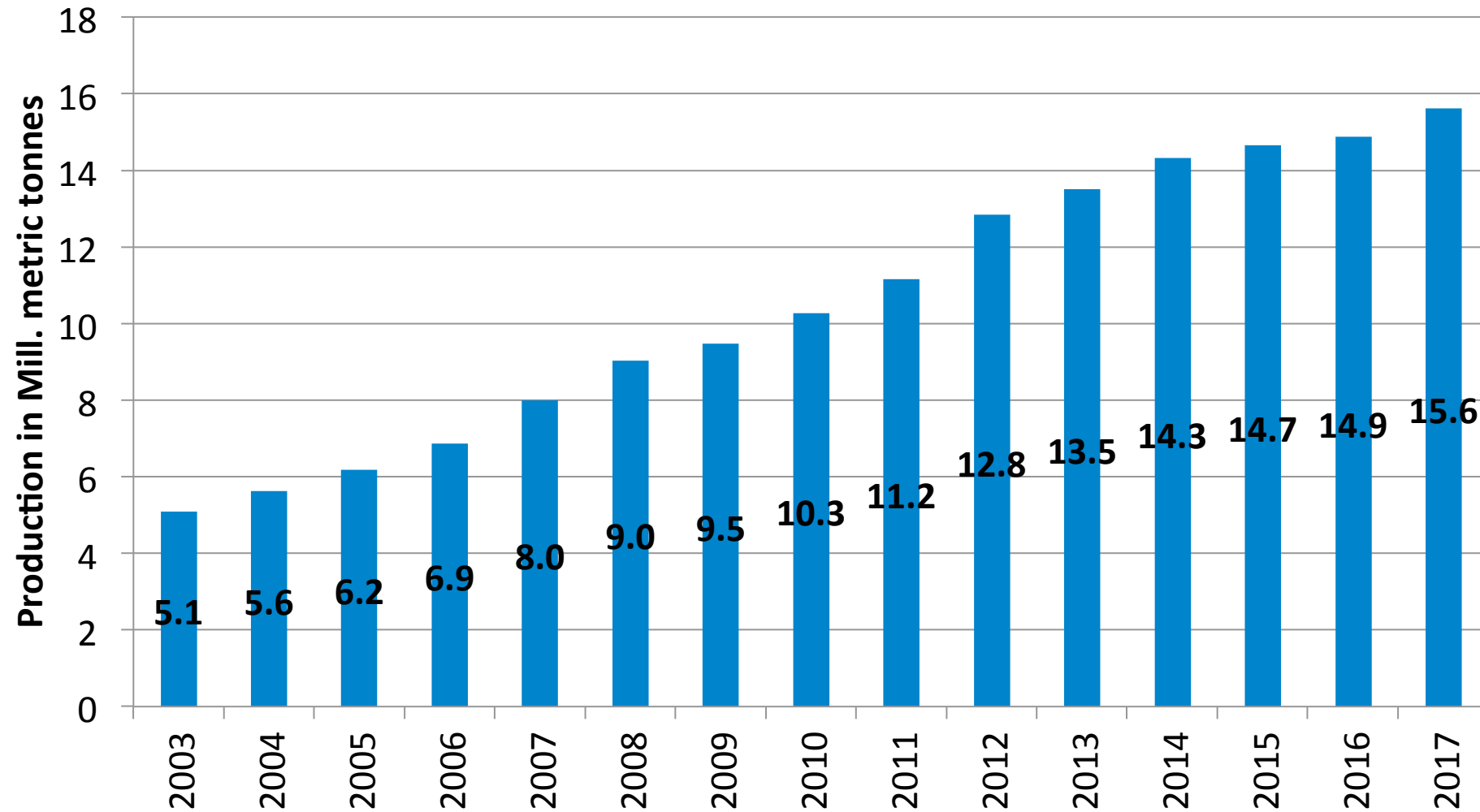
# Production of Surveyed Species

Incl. Carp, 2003-2017



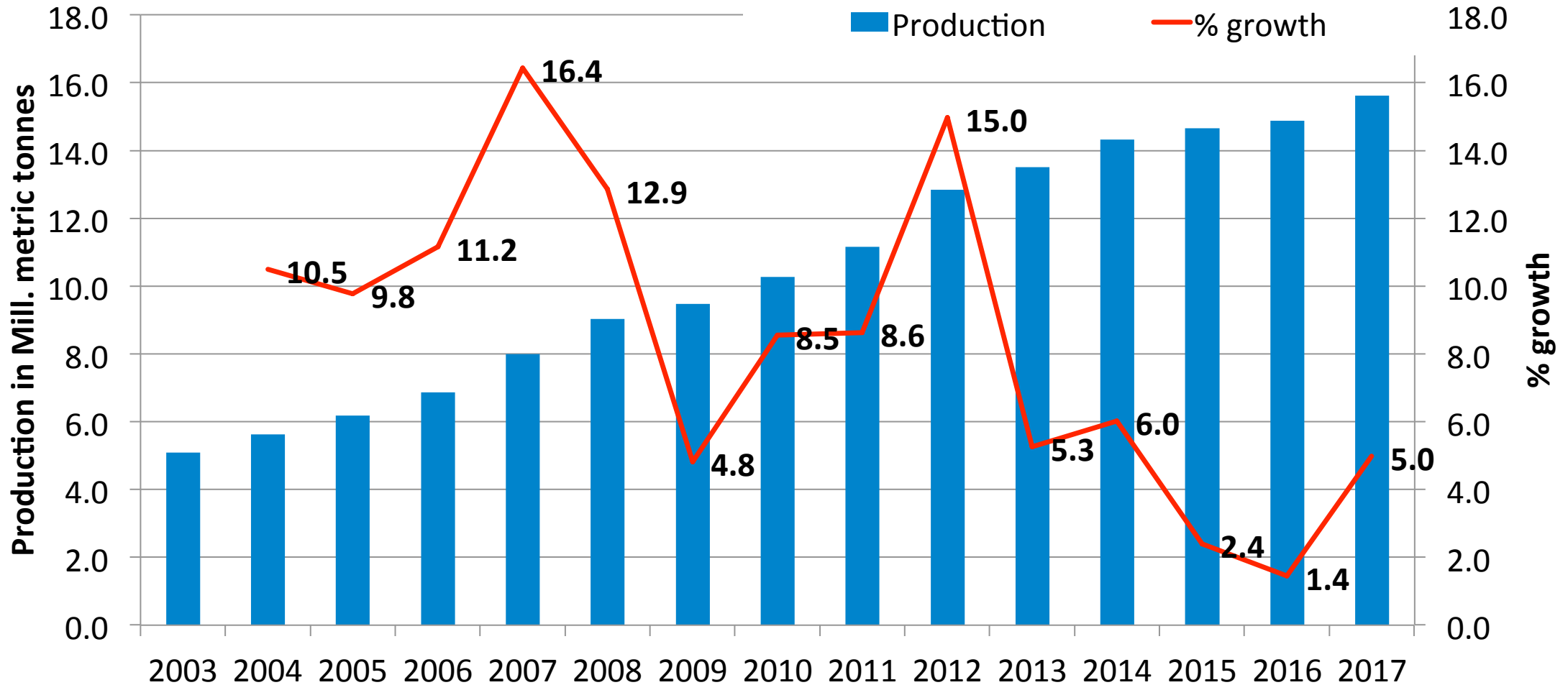
# Production of Surveyed Species

Excl. Carp, 2003-2017



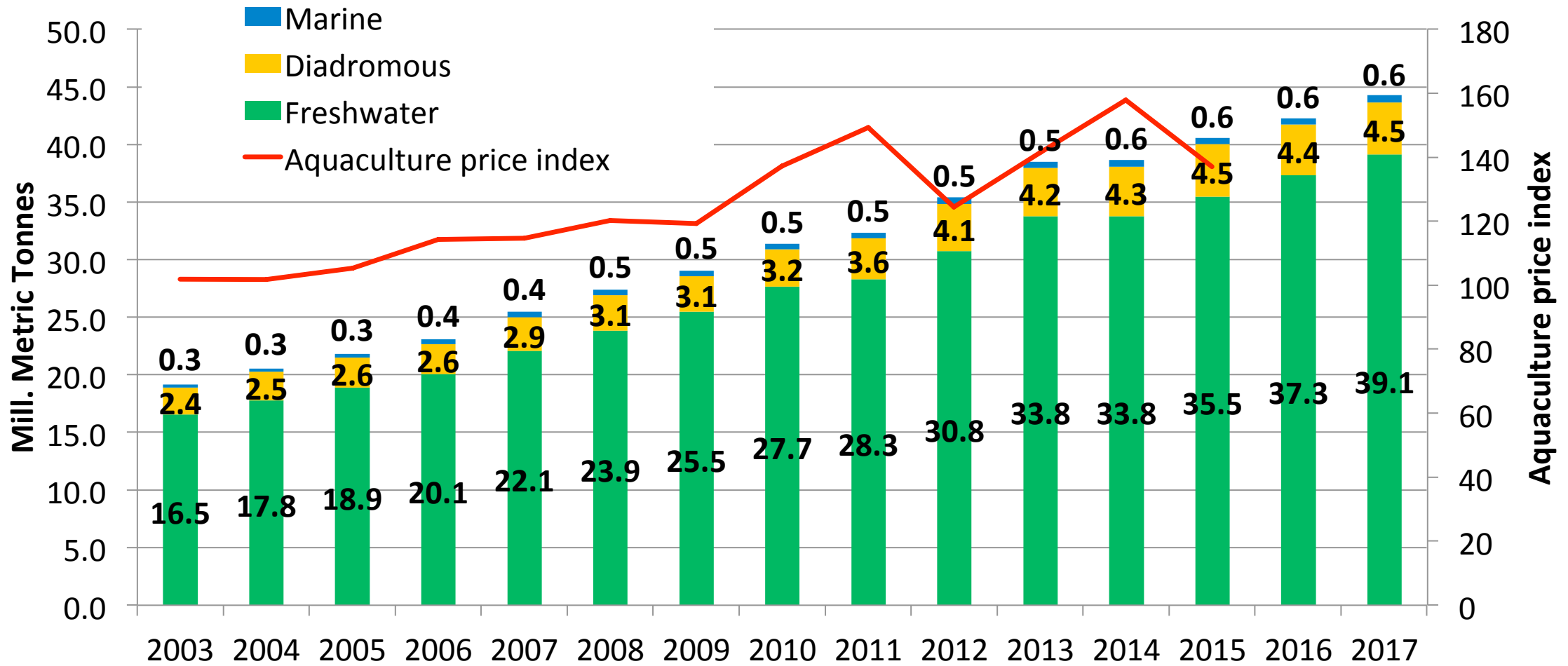
# Production of Surveyed Species

Excl. Carp, 2003-2017



# Production of Surveyed Species

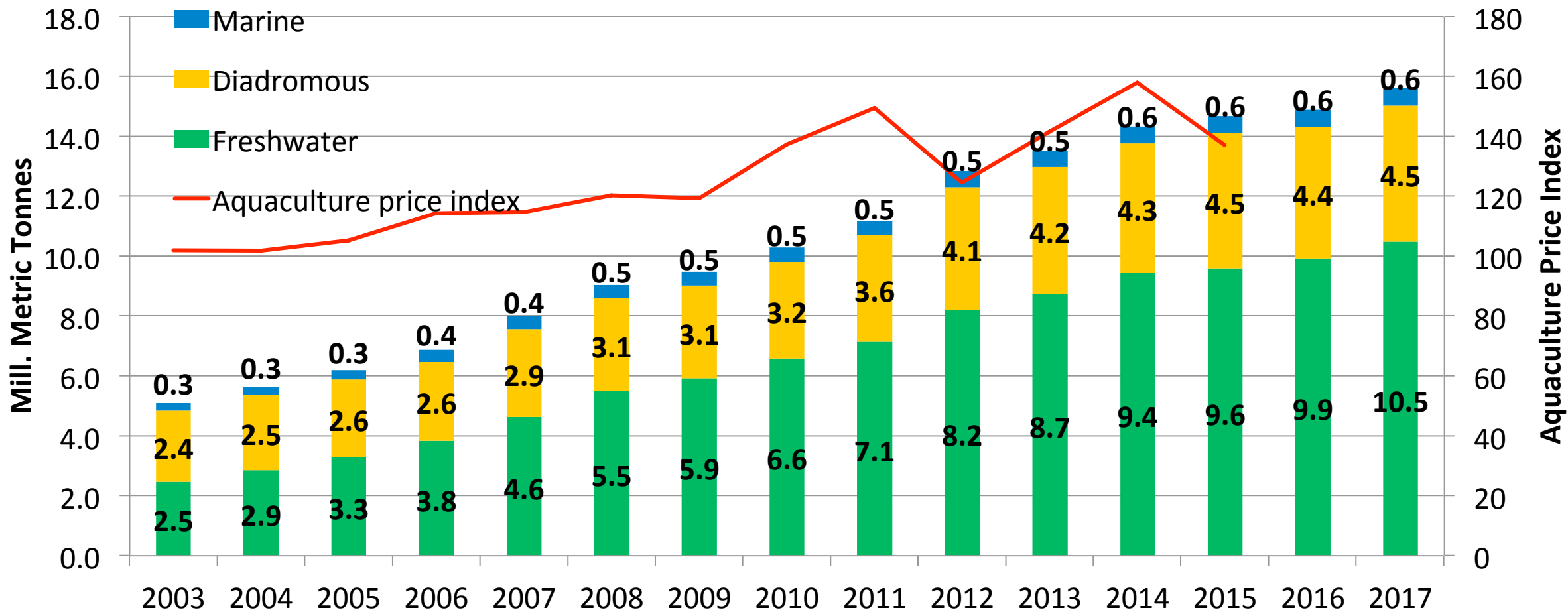
By species group 2003-2017



Source price index: FAO, Univ. of Stavanger, Norwegian Seafood Council

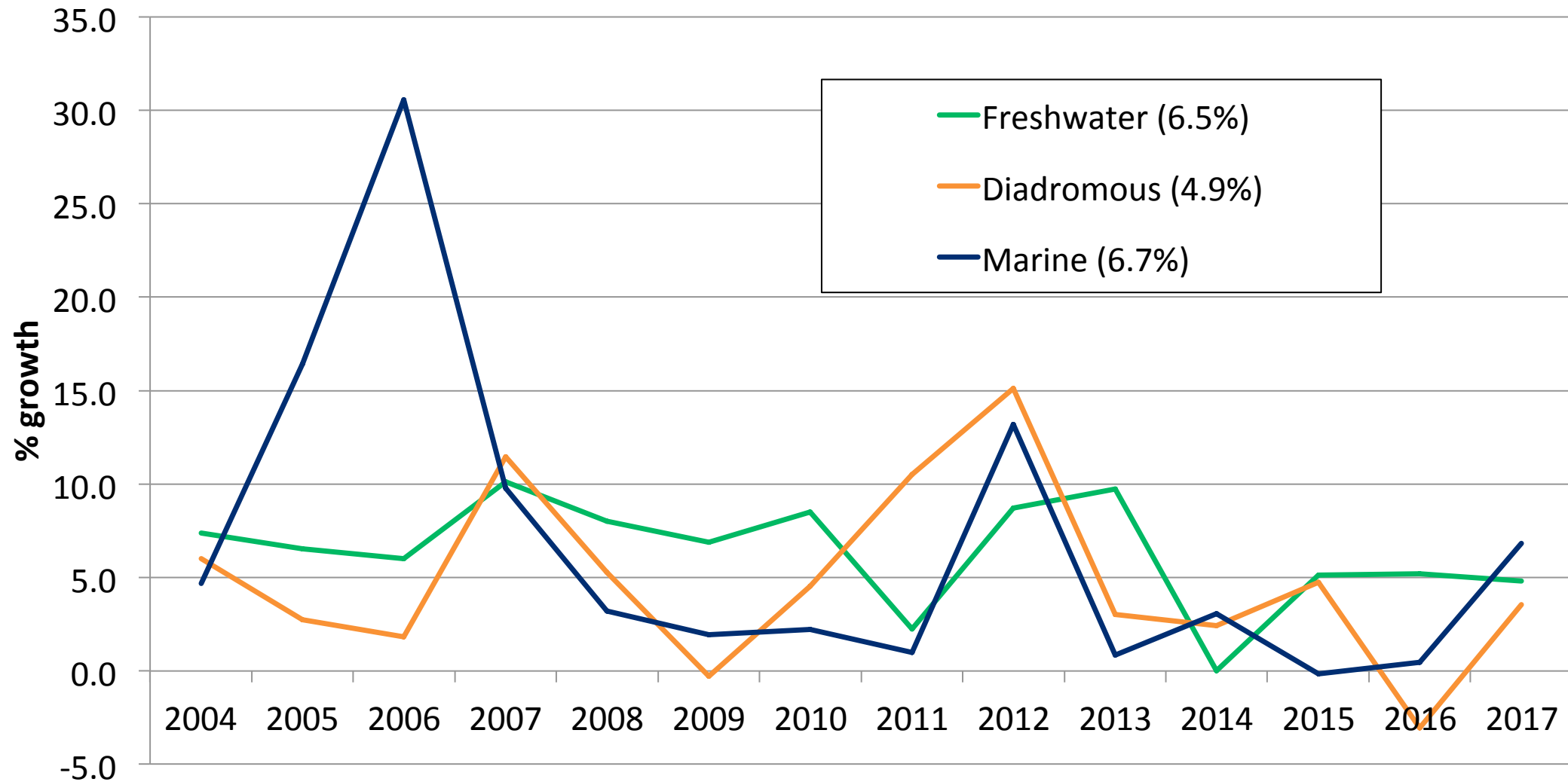
# Production of Surveyed Species

Excl. Carp 2003-2017



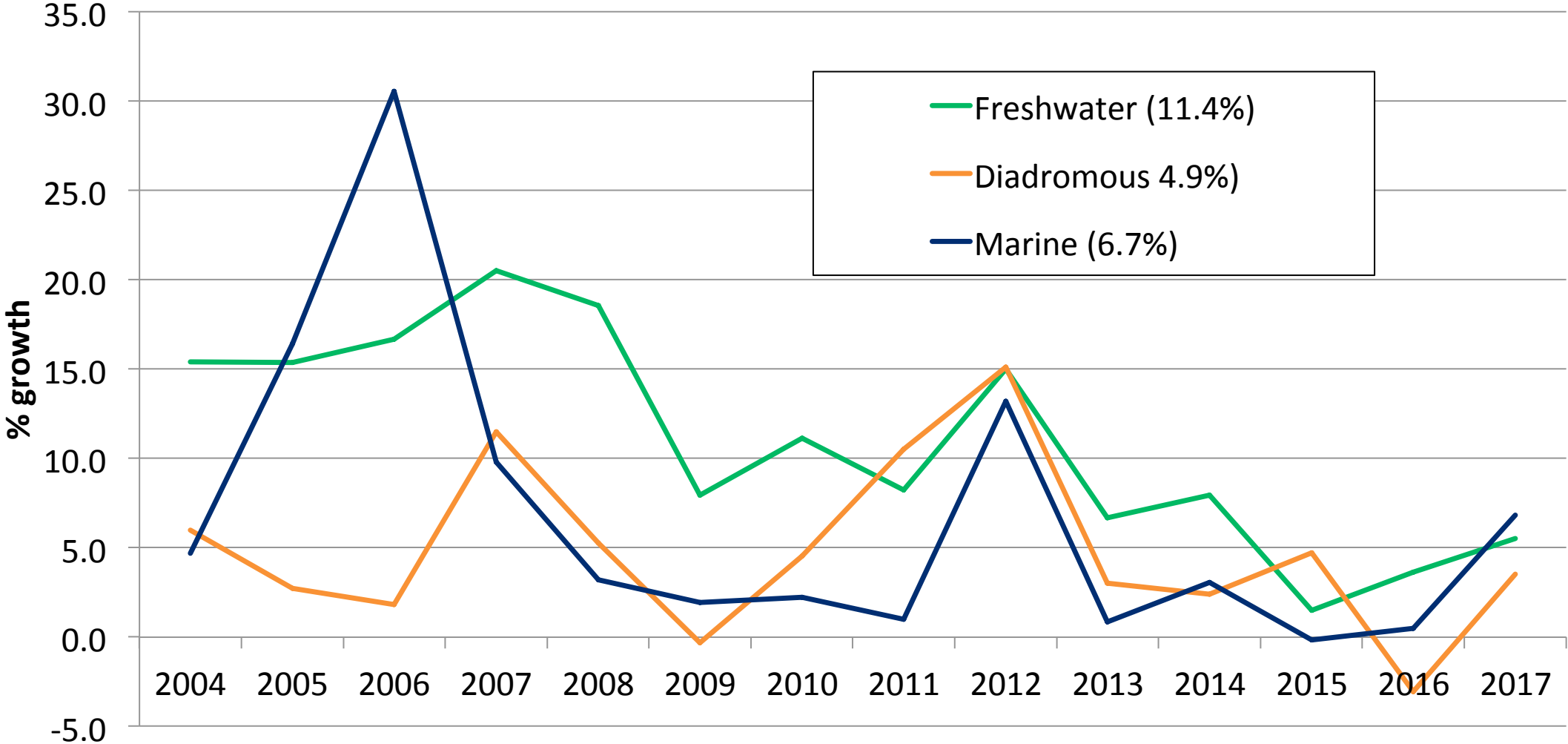
# Growth Rates by Species Groups - Incl. Carps

2004-2016 average growth rate (in parenthesis)



# Growth Rates by Species Groups - Excl. Carp

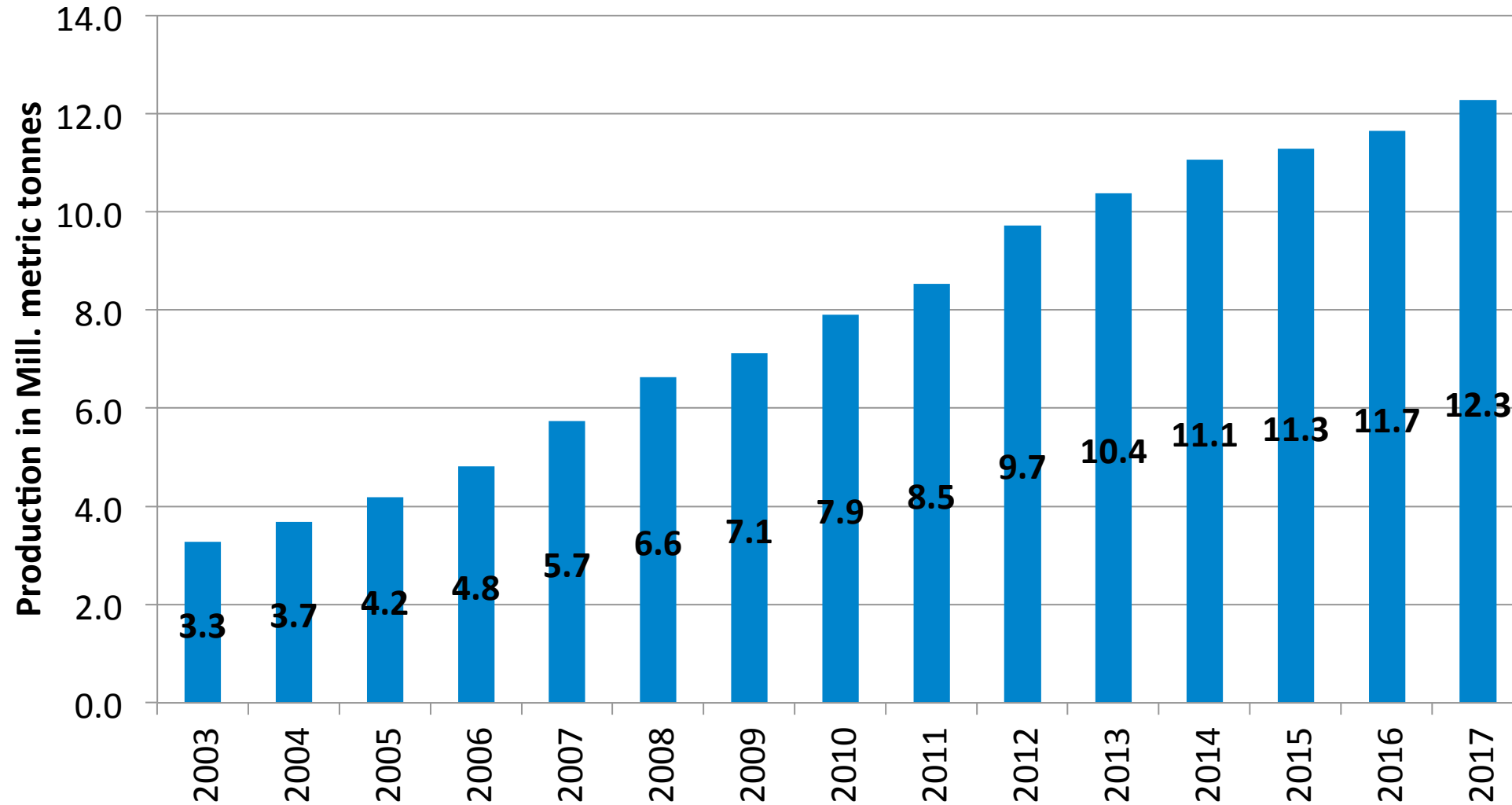
(2004-2016 average growth rate in parenthesis)





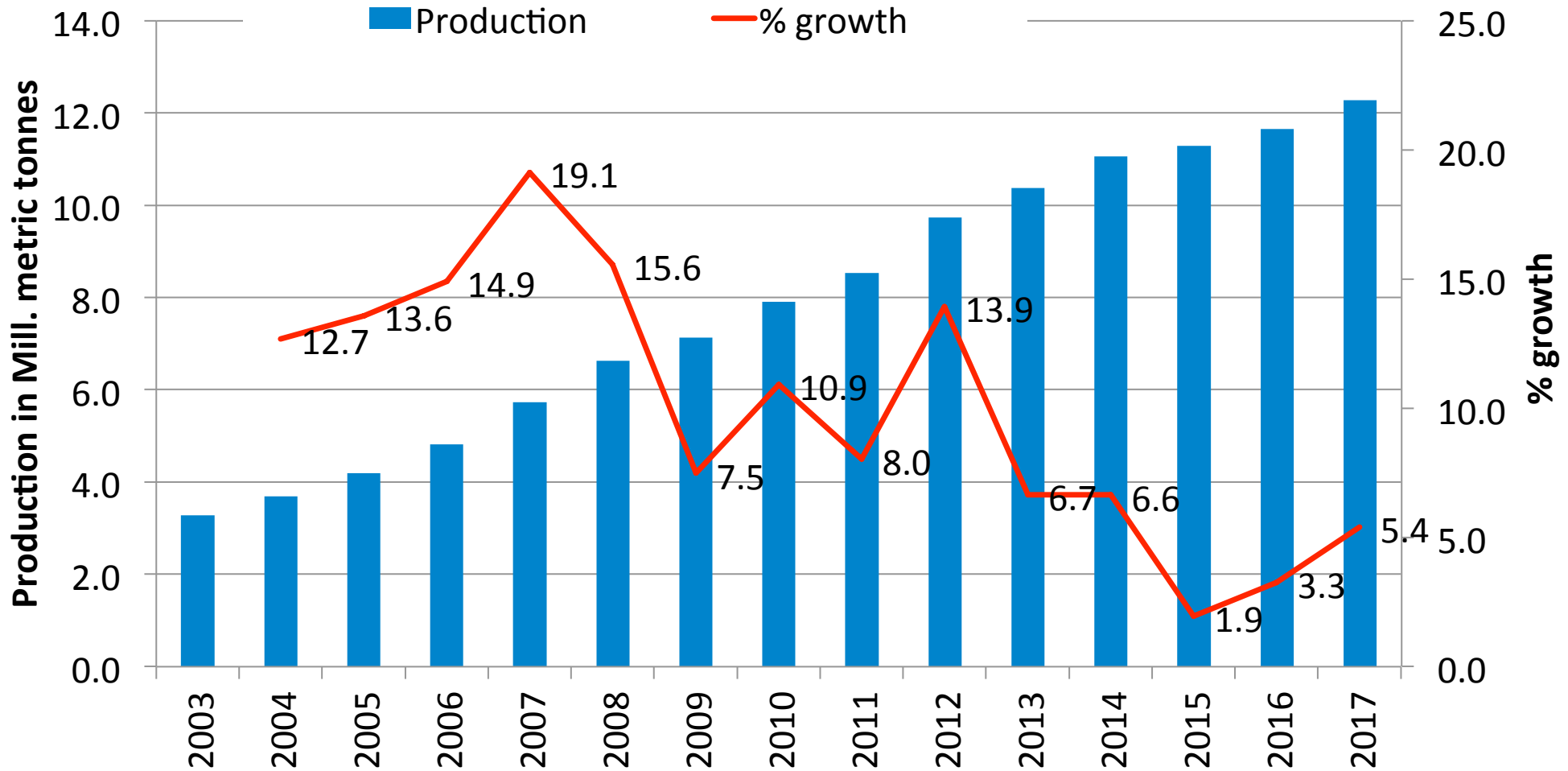
# Production of Surveyed Whitefish Species

Excluding Carp (2003-2017)



# Production of Surveyed Whitefish Species

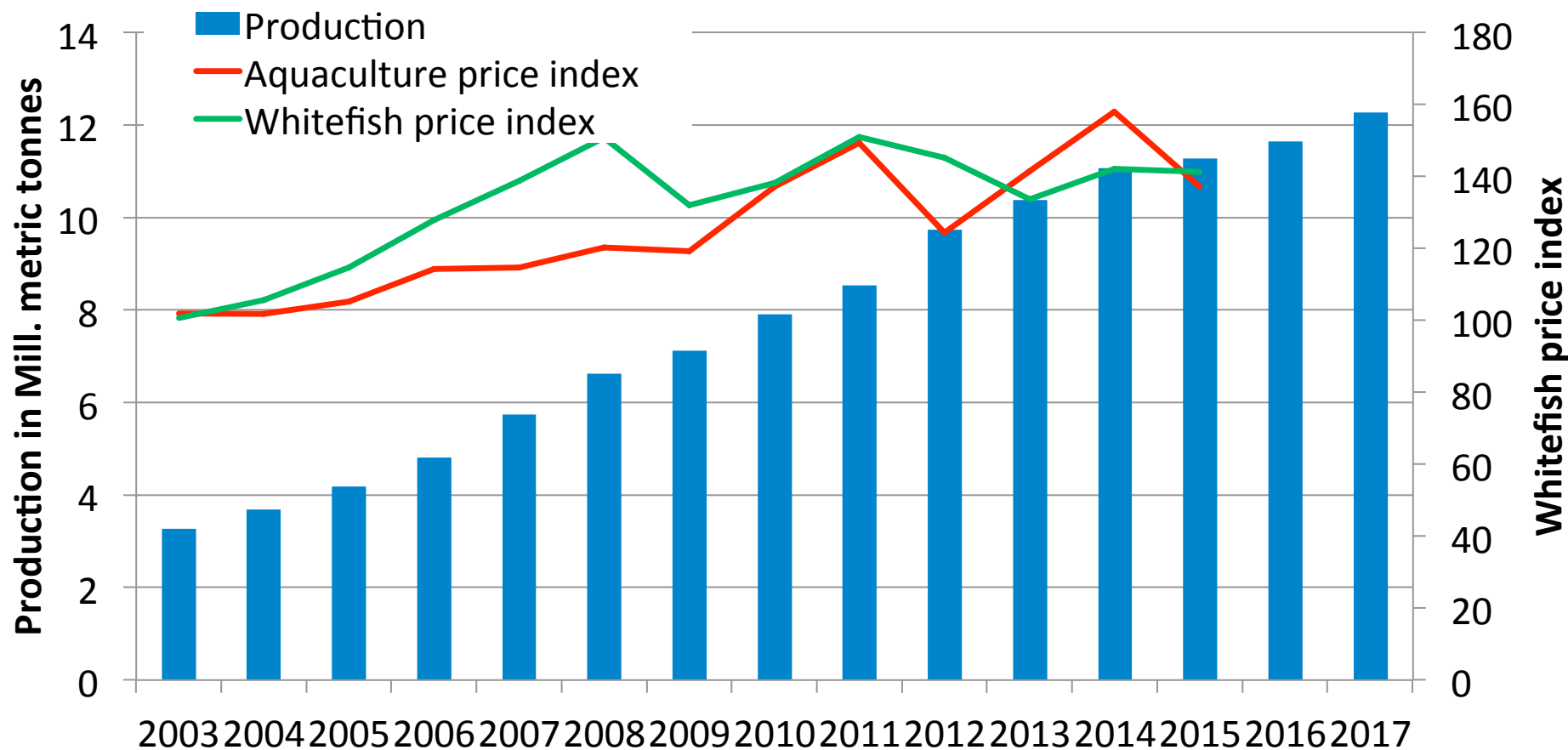
Excluding Carp (2003-2017)



# Production of Surveyed Whitefish Species and Price Index

## Aquaculture & Whitefish

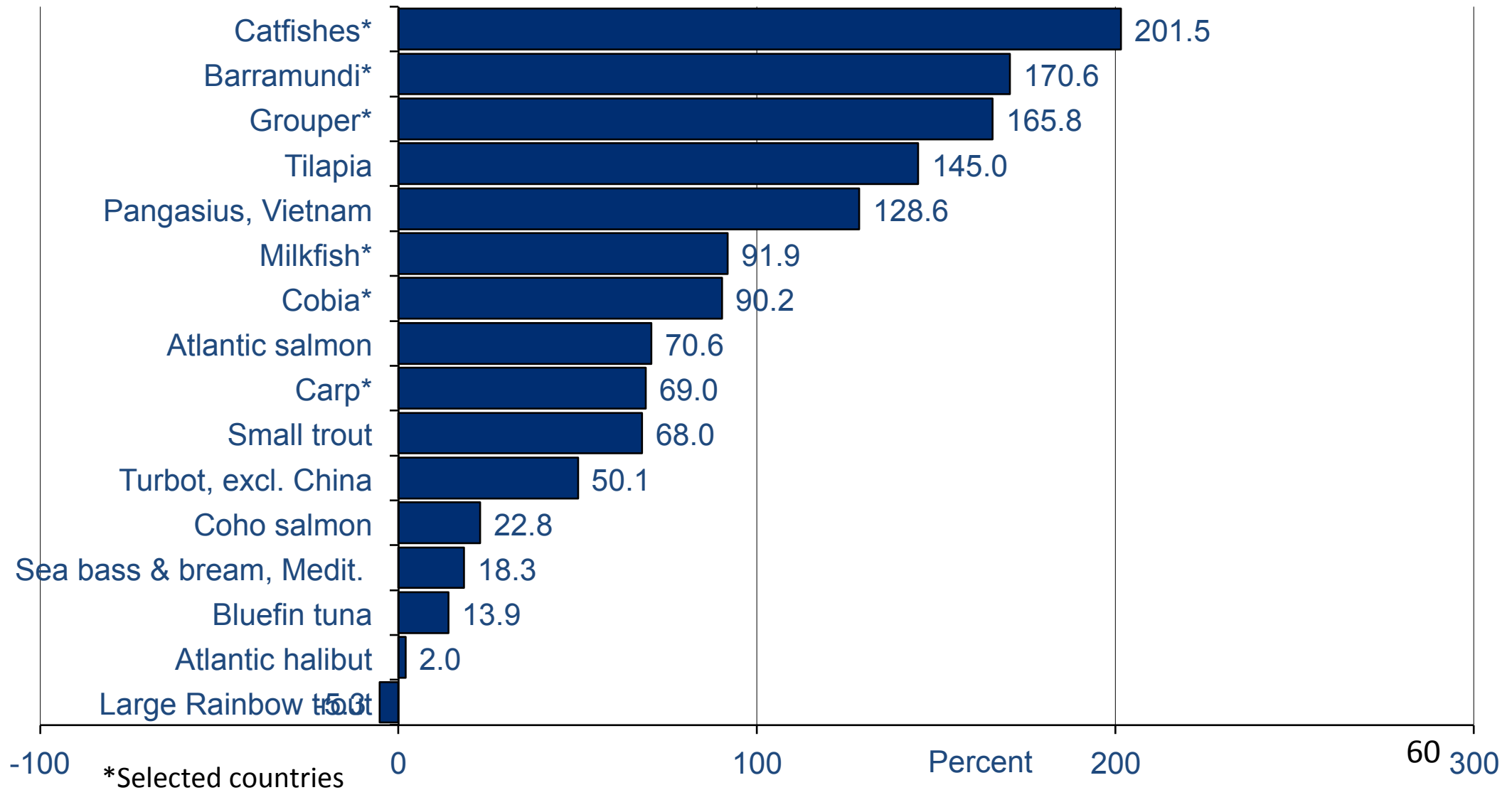
Excluding Carp, 2003-2017



Source prices: FAO, Norwegian Seafood Council

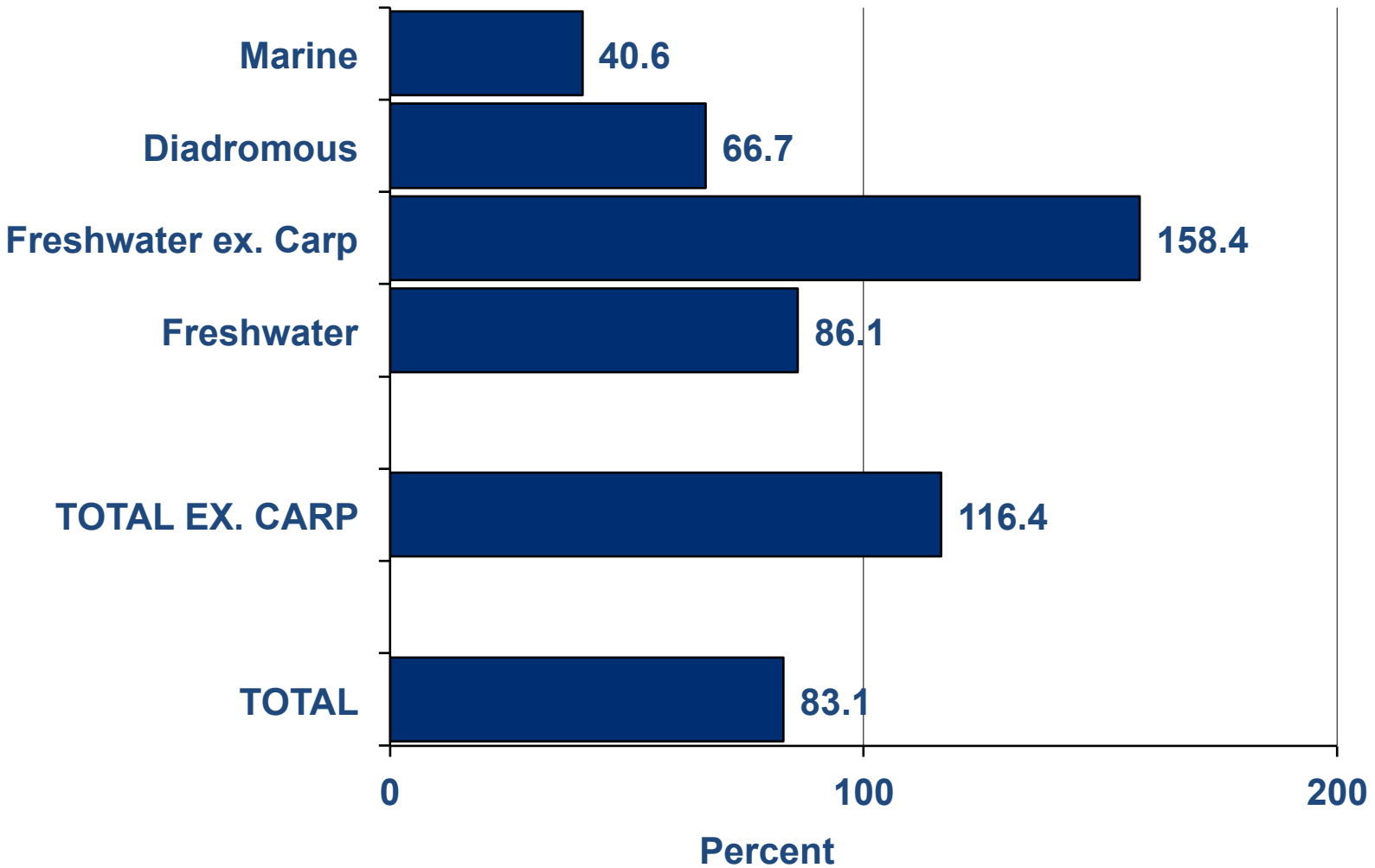
# Did they double in a decade?

## Percentage growth, 2006-2016



# Did they double in a decade?

## Percentage growth 2006-2016



**Thank You!**