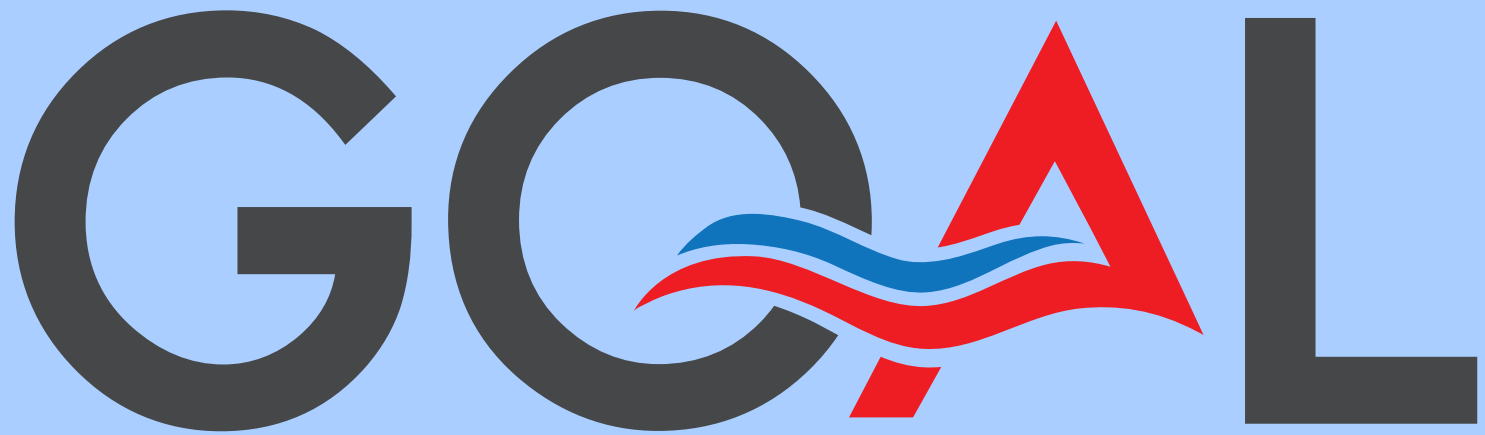


GOAL



VANCOUVER, CANADA 2015



Ragnar Tveteras

Director
University of Stavanger

- 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.

Fish Production Estimates & Trends

Ragnar Nystoyl
Kontali

Ragnar Tveteras
University of Stavanger

Darryl Jory
Global Aquaculture Alliance

Acknowledgements

- Prices: NMFS, Norwegian Seafood Council, Kontali, Eurostat, FAO.
- Production volumes: FAO, Kontali, and many individuals and organizations who 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 forecasts for 2017 for some species.**

Finfish Species Included in Analysis

Freshwater:

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

Diadromous:

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

Marine:

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

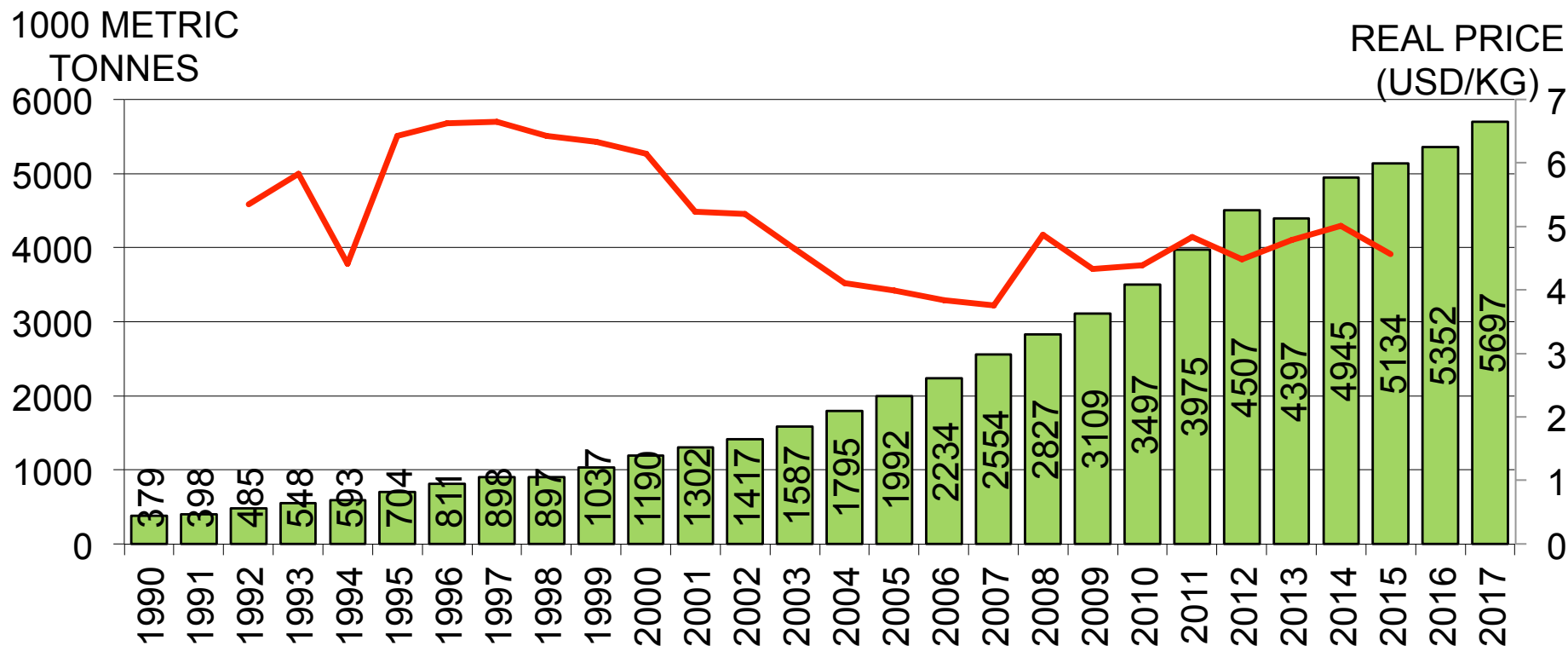
FRESHWATER FISHES

A high-angle, close-up shot of a massive school of tilapia fish. The fish are densely packed, filling the entire frame. They have a pinkish-orange hue, characteristic of certain tilapia species, and are seen from various angles as they swim. The water is dark and slightly murky, with many small bubbles and splashes visible around the fish, indicating active movement. The overall scene conveys a sense of intense natural activity and high population density.

TILAPIA

Global Tilapia Aquaculture Production

US import prices frozen fillet

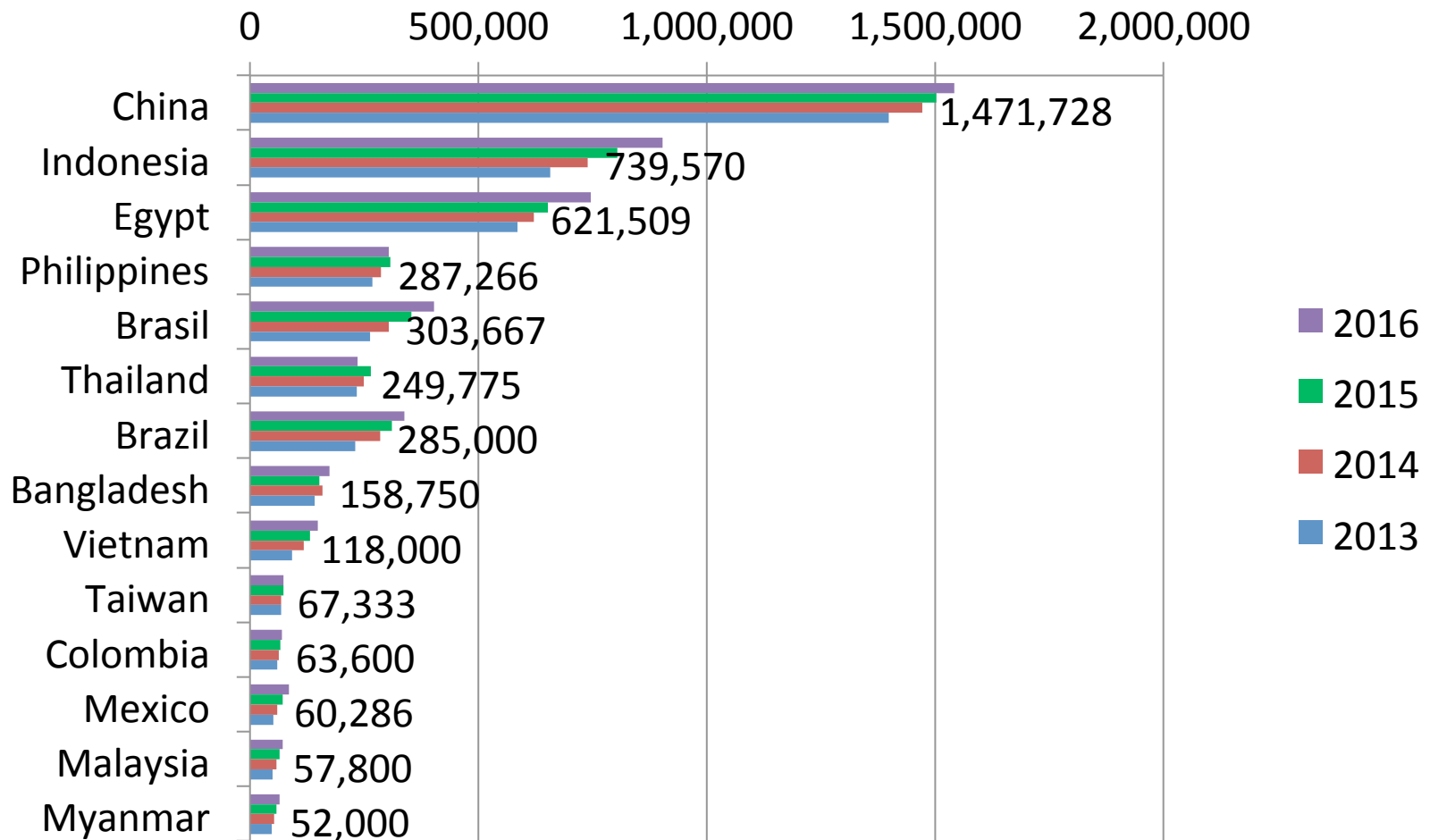


Sources: 1990-2012: FAO; 2013-2017: Miscellaneous sources ; Prices US import frozen fillet: NMFS.

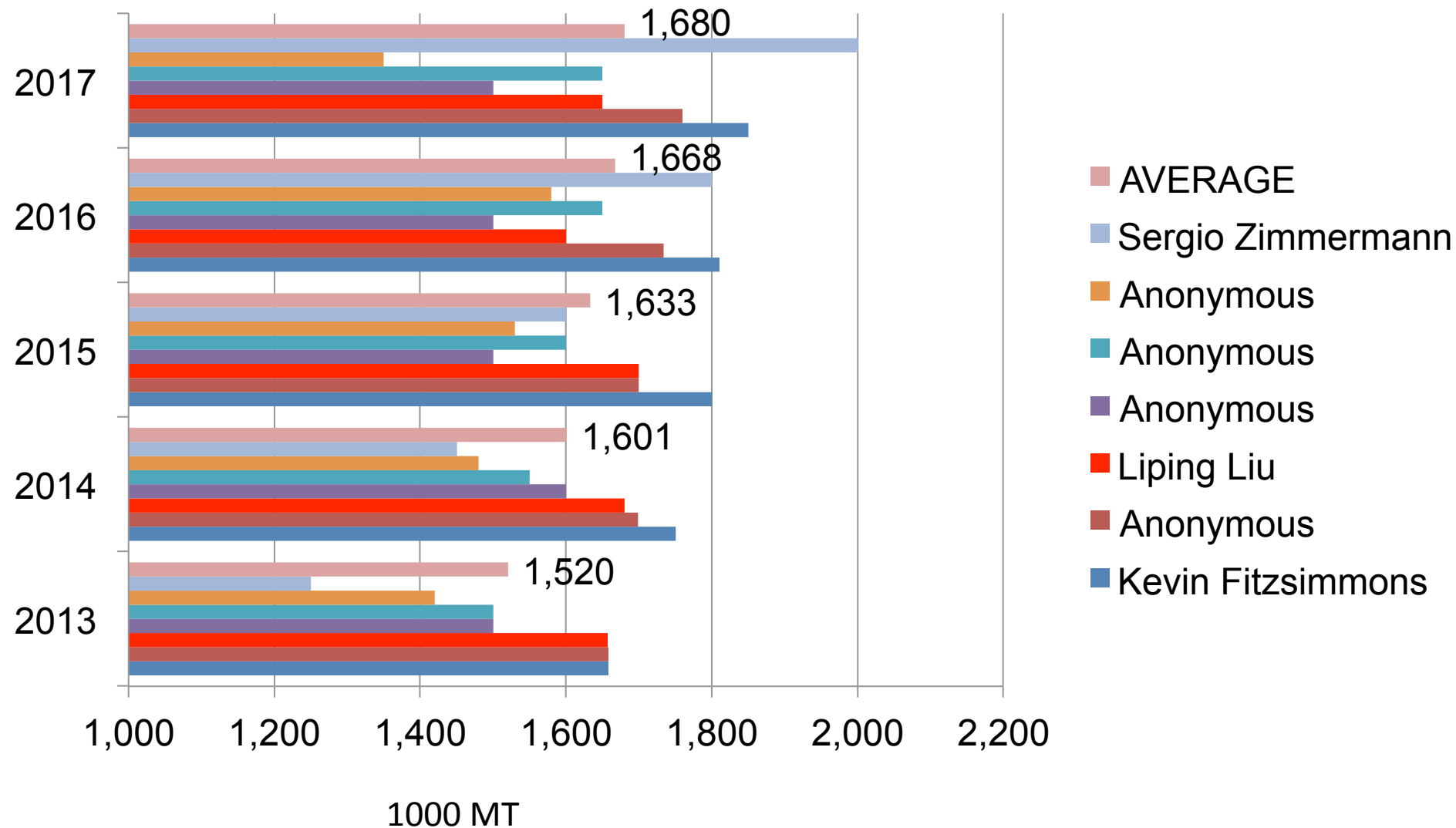
Note: Prices are annual averages, except for 2015(January-August average)

Tilapia

Countries production sorted by 2014 figures



Tilapia Production Estimates for China



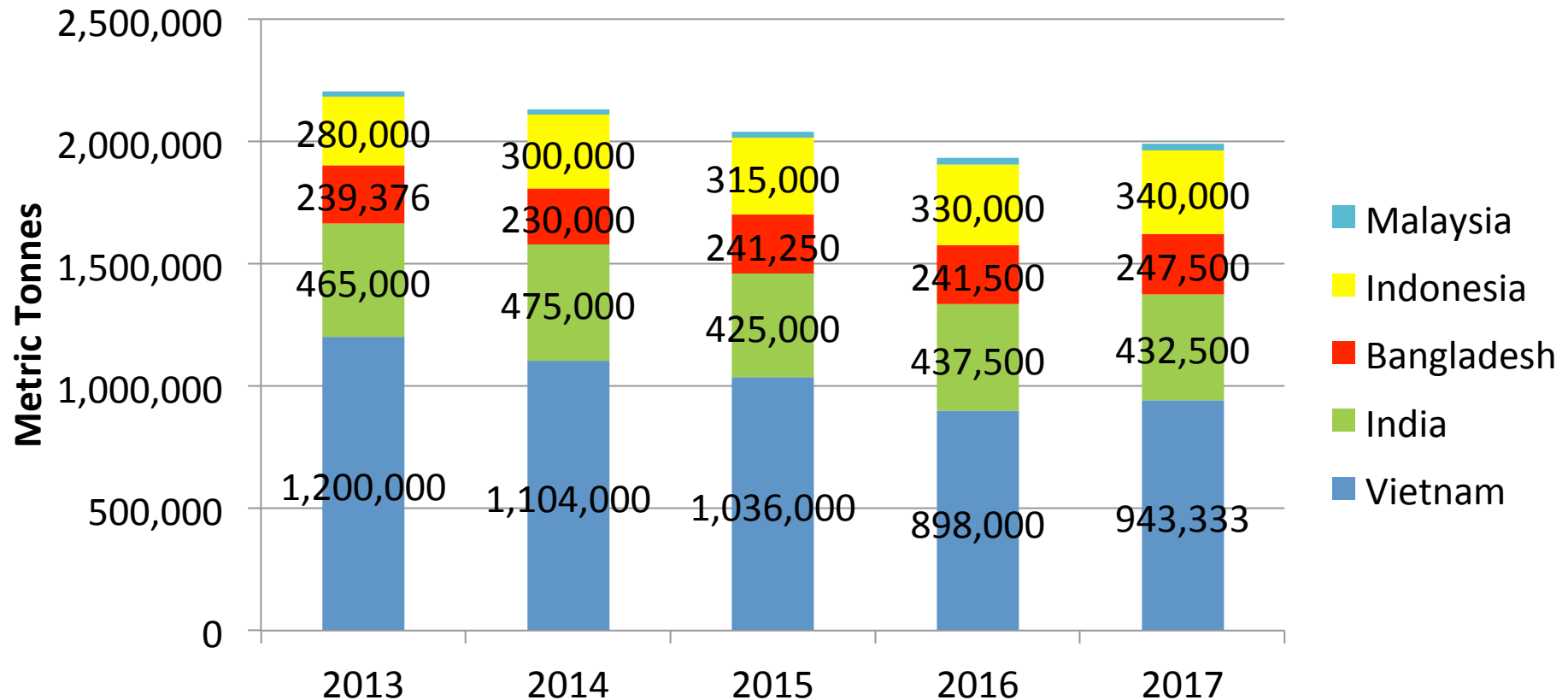
CATFISHES



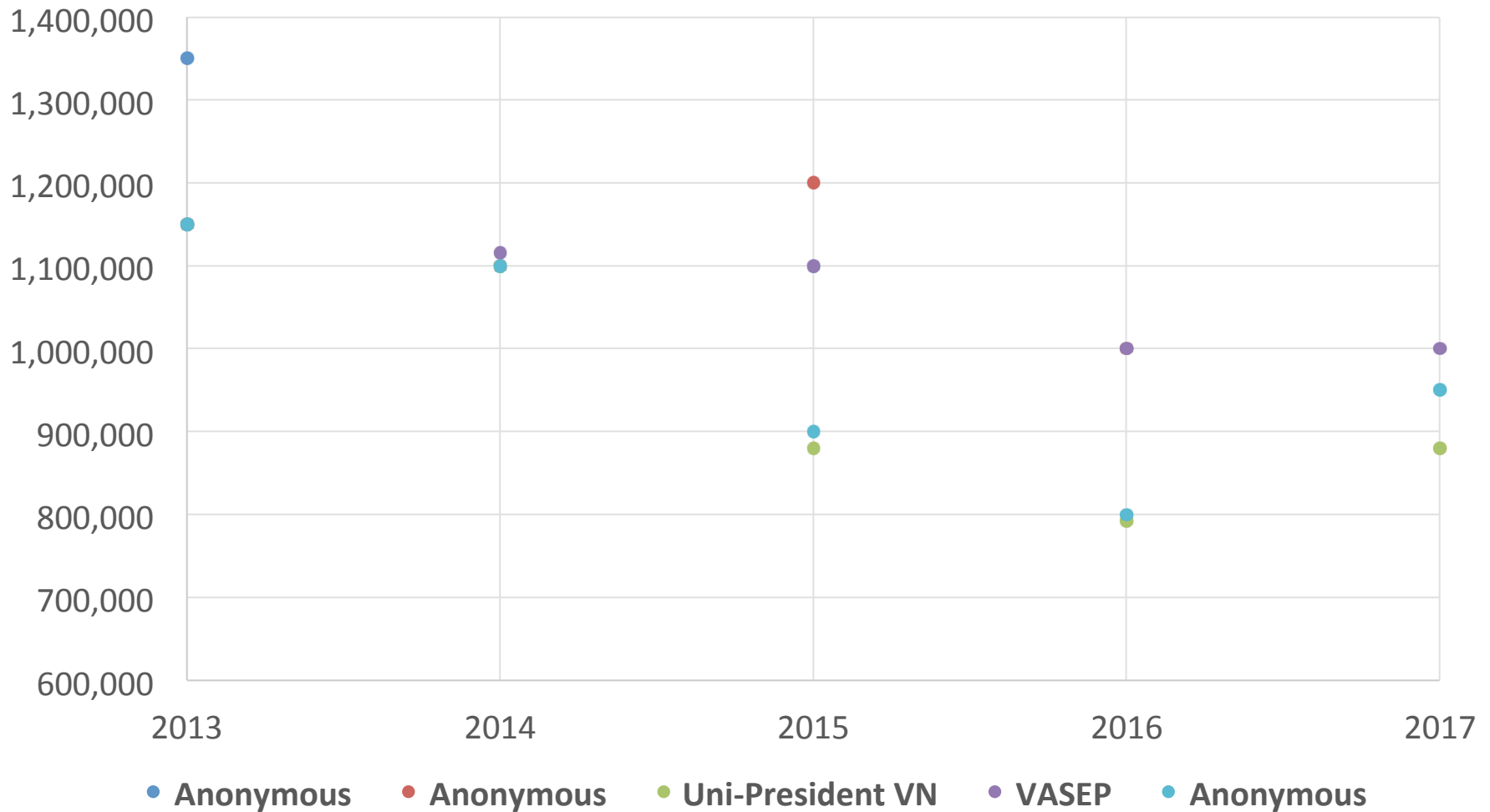
PANGASIUS

Pangasius

Production in selected countries

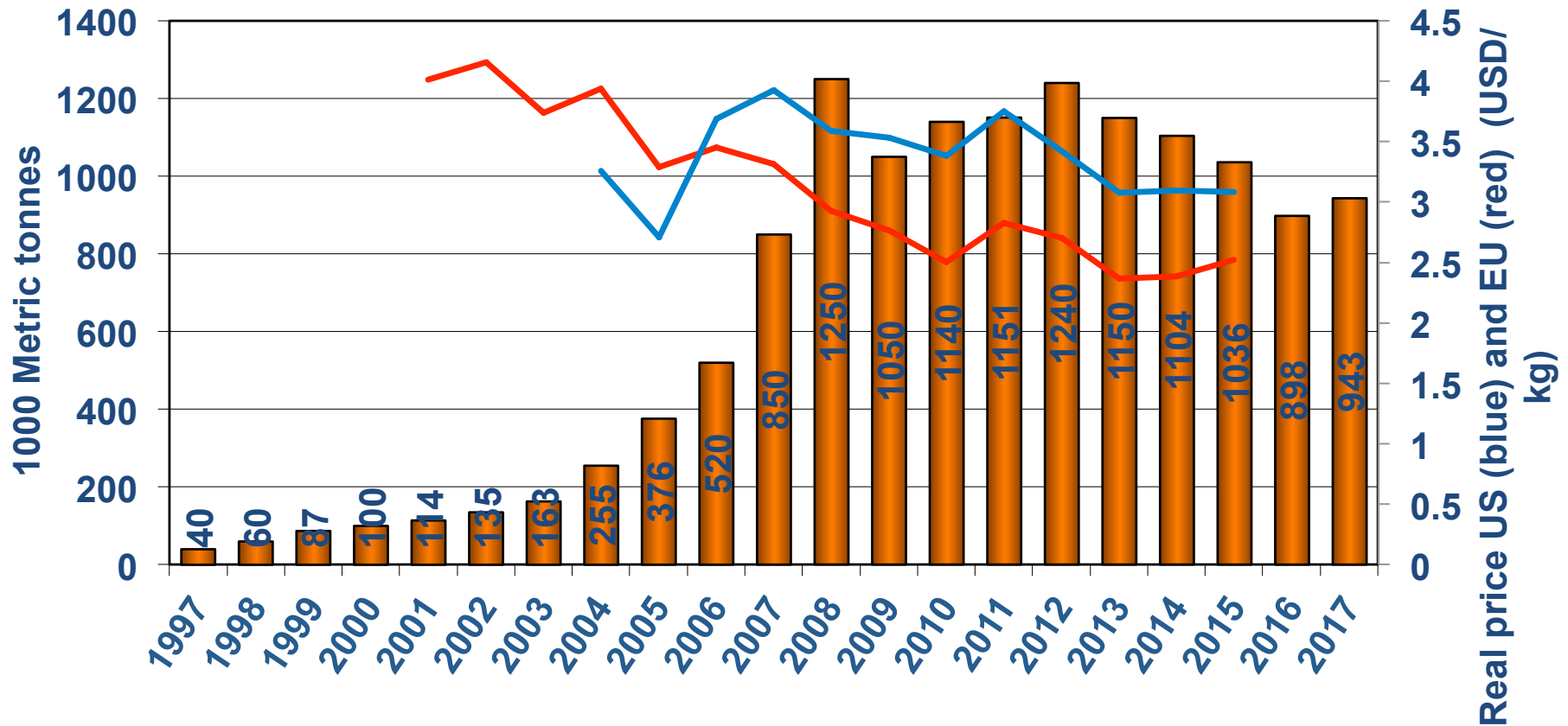


Pangasius Production Estimates for Vietnam



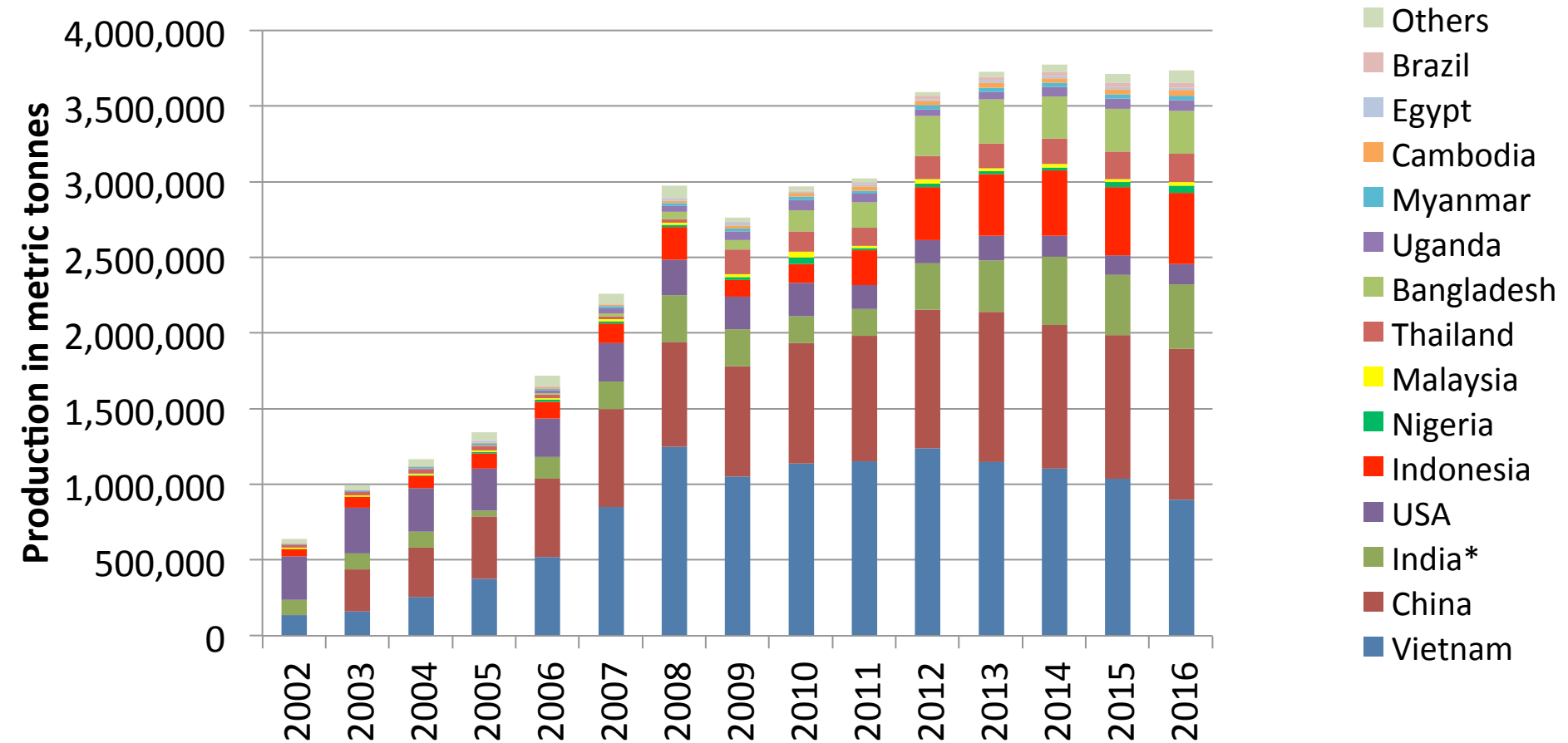
Pangasius

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



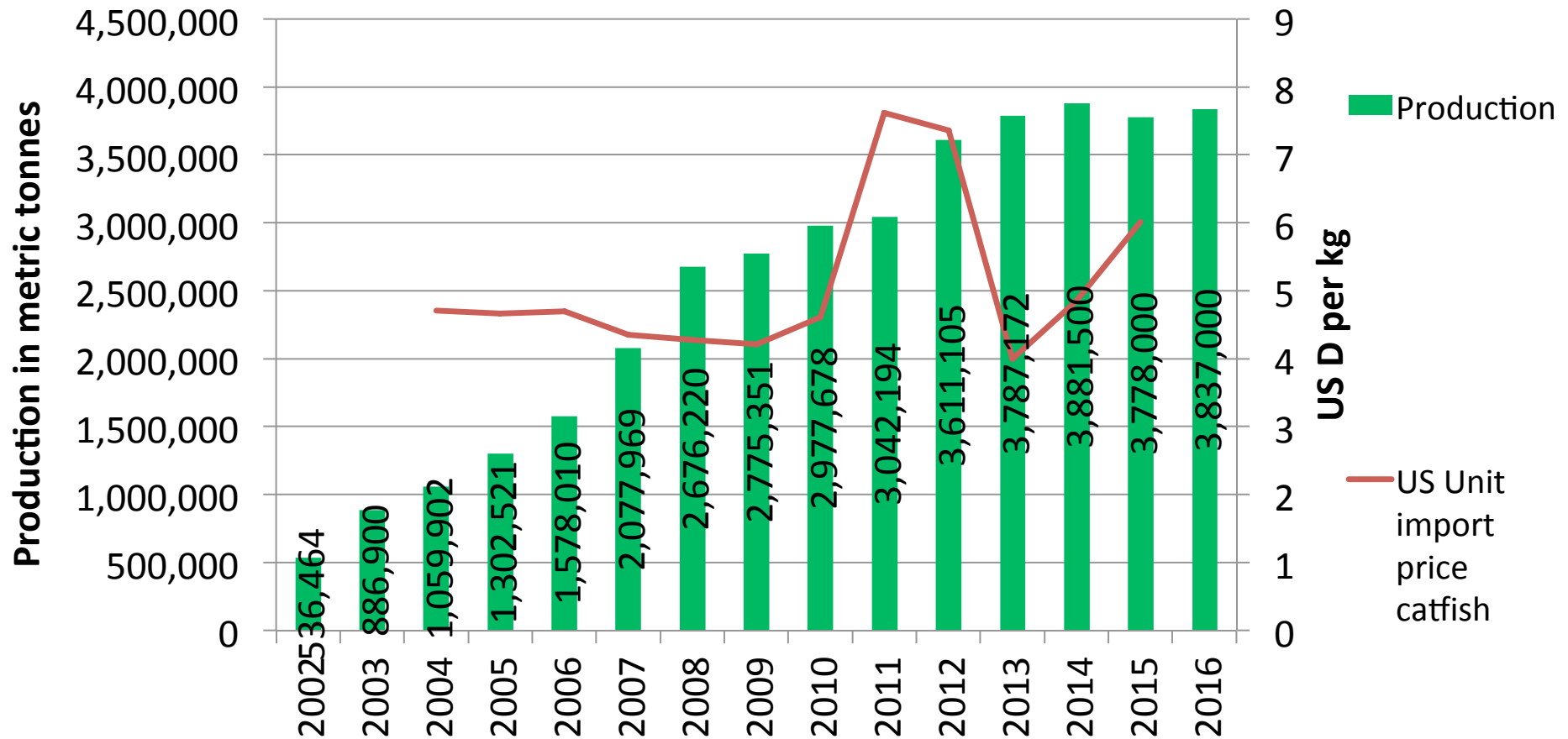
Total production of Catfish species

Incl. Pangasius

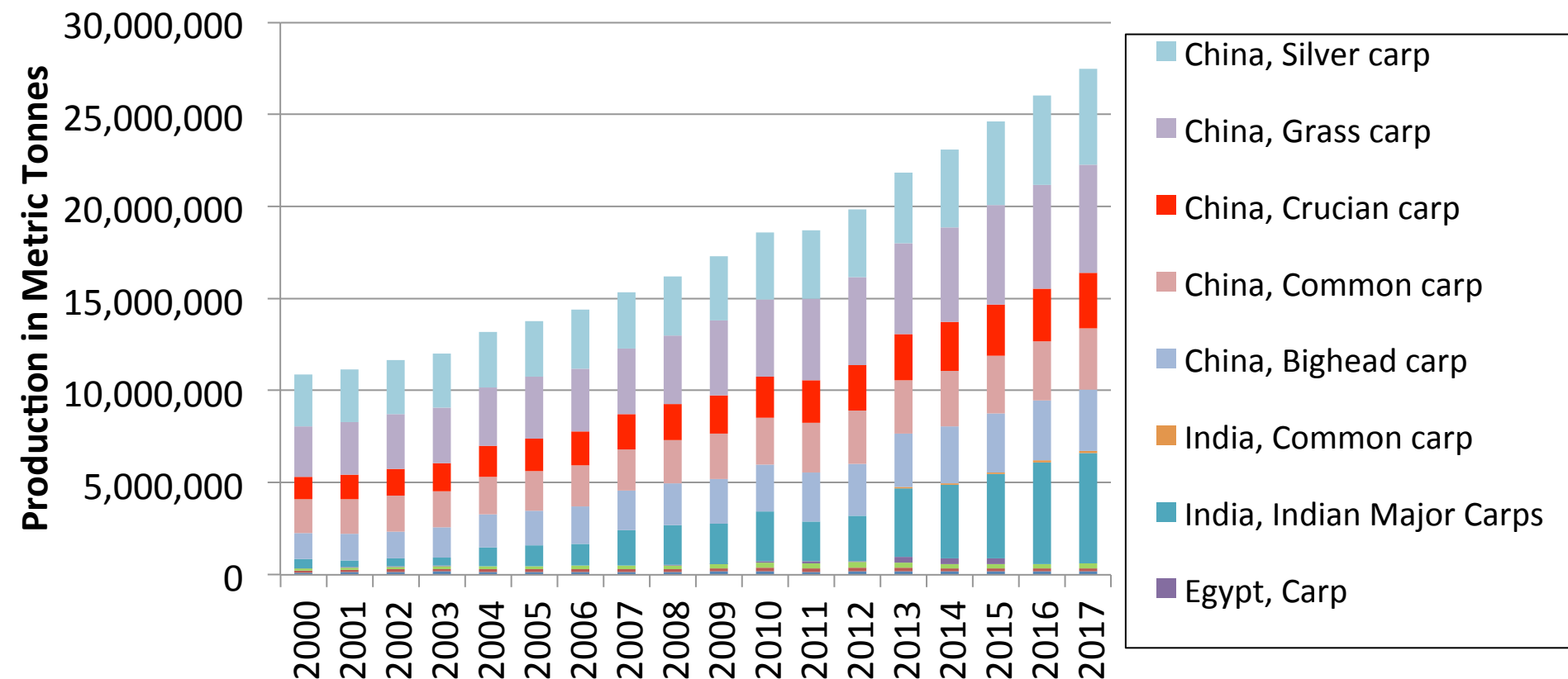


Total Production of Catfish Species

US real import price catfish frozen fillet



Major Carps Species in GAA Survey



Sources: 2000-2012: FAO; 2013-2017: Miscellaneous

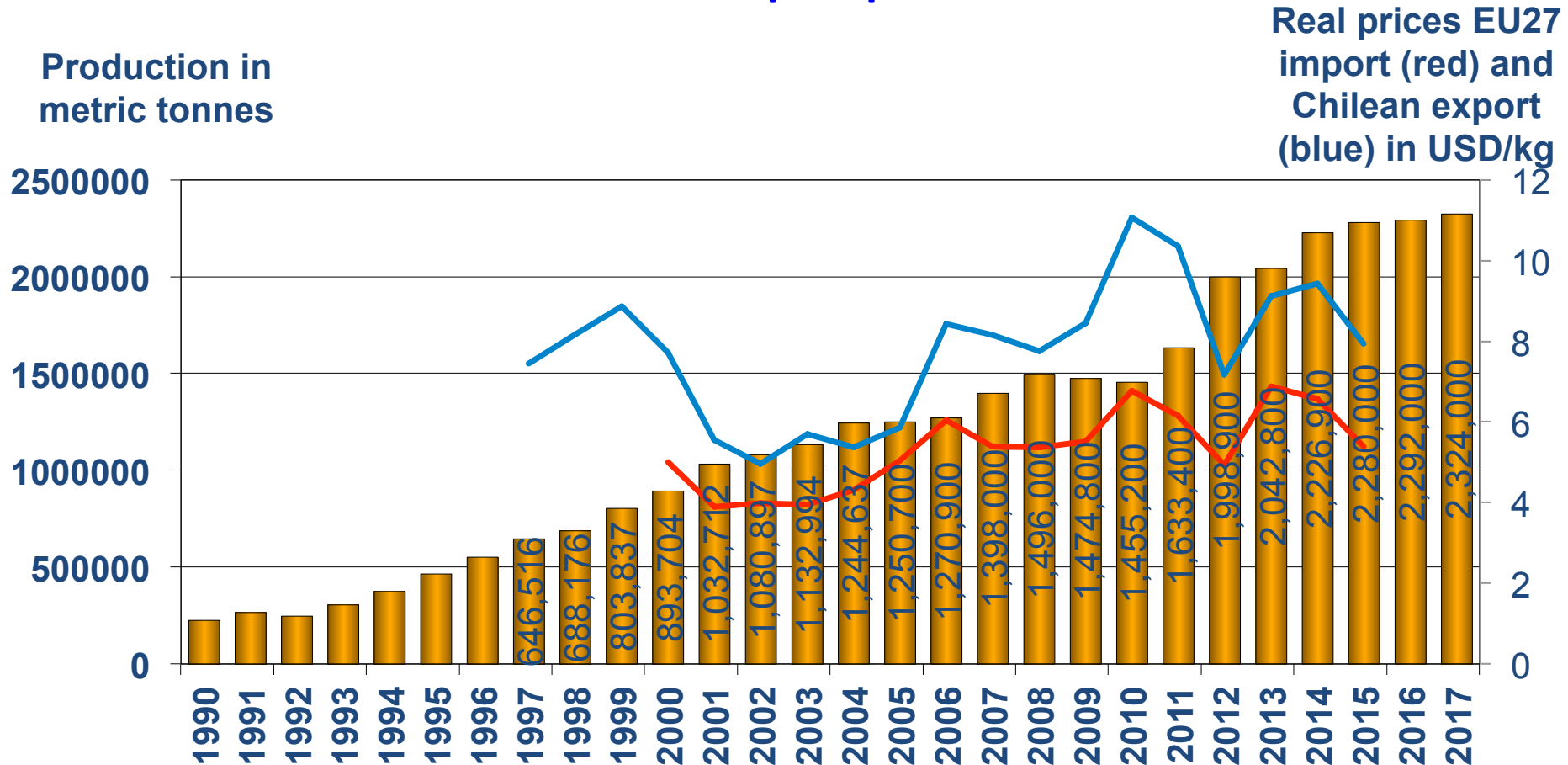
DIADROMOUS FISHES

The image is a composite. The foreground is filled with several large salmonids, likely salmon, swimming in clear blue water. They have silvery scales and some show dark spots. The background is a faded, blue-tinted image of a fishing boat with two people on board, one of whom appears to be handling a net or a large fish. The overall scene suggests a commercial fishing operation.

SALMONIDS

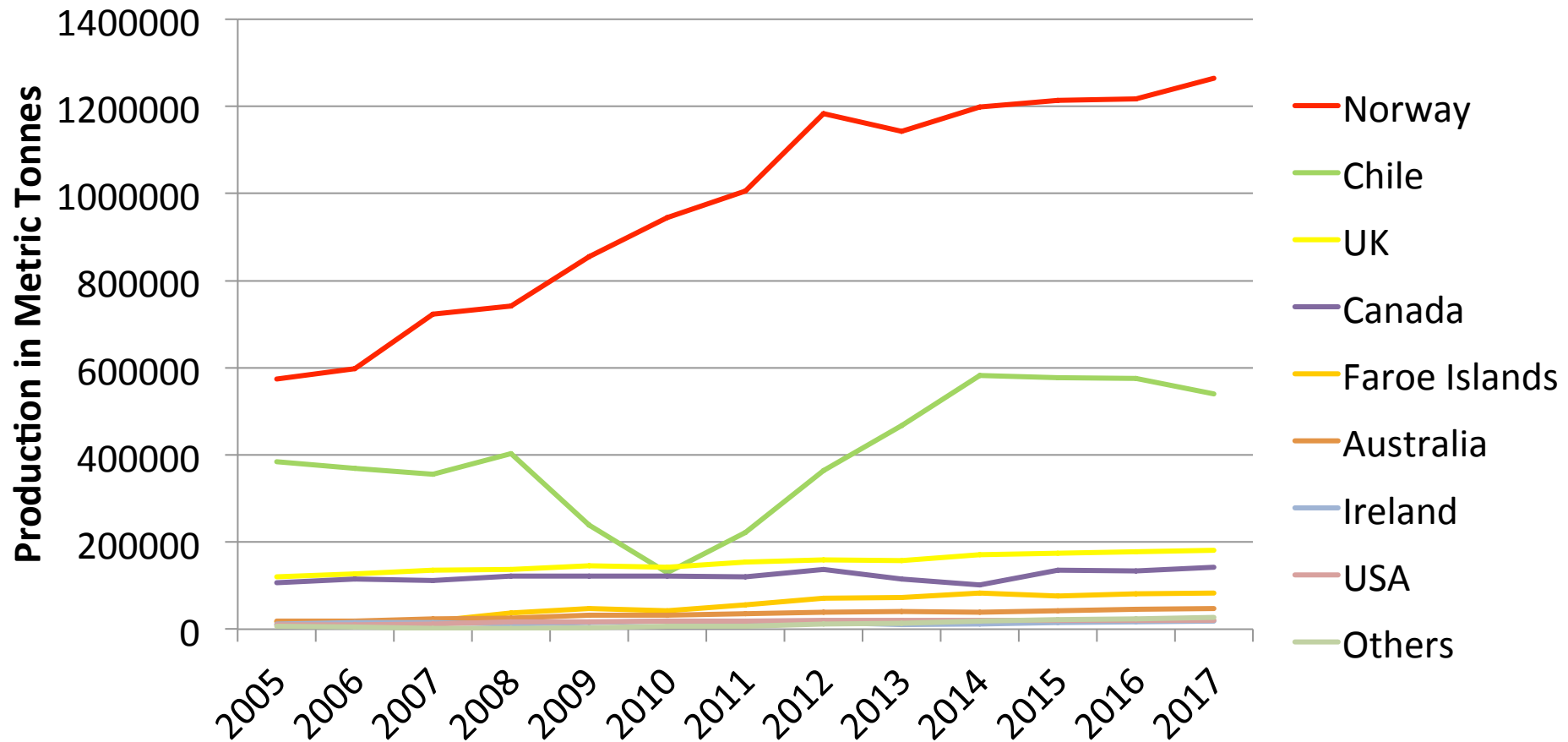
Atlantic Salmon Production

Real EU27 import price for fresh, whole gutted
and real Chilean export price fresh fillet



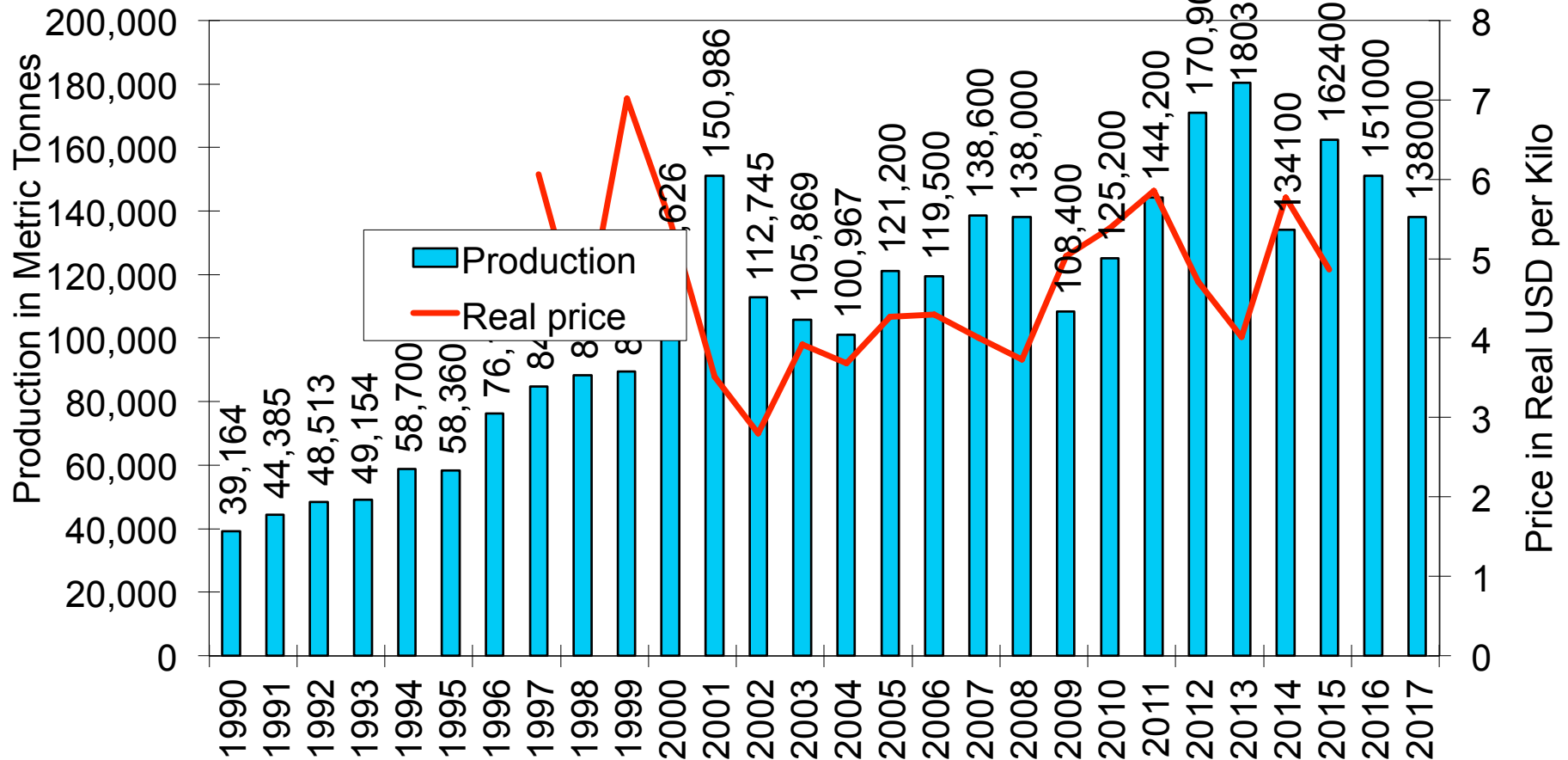
Atlantic Salmon

Production by country



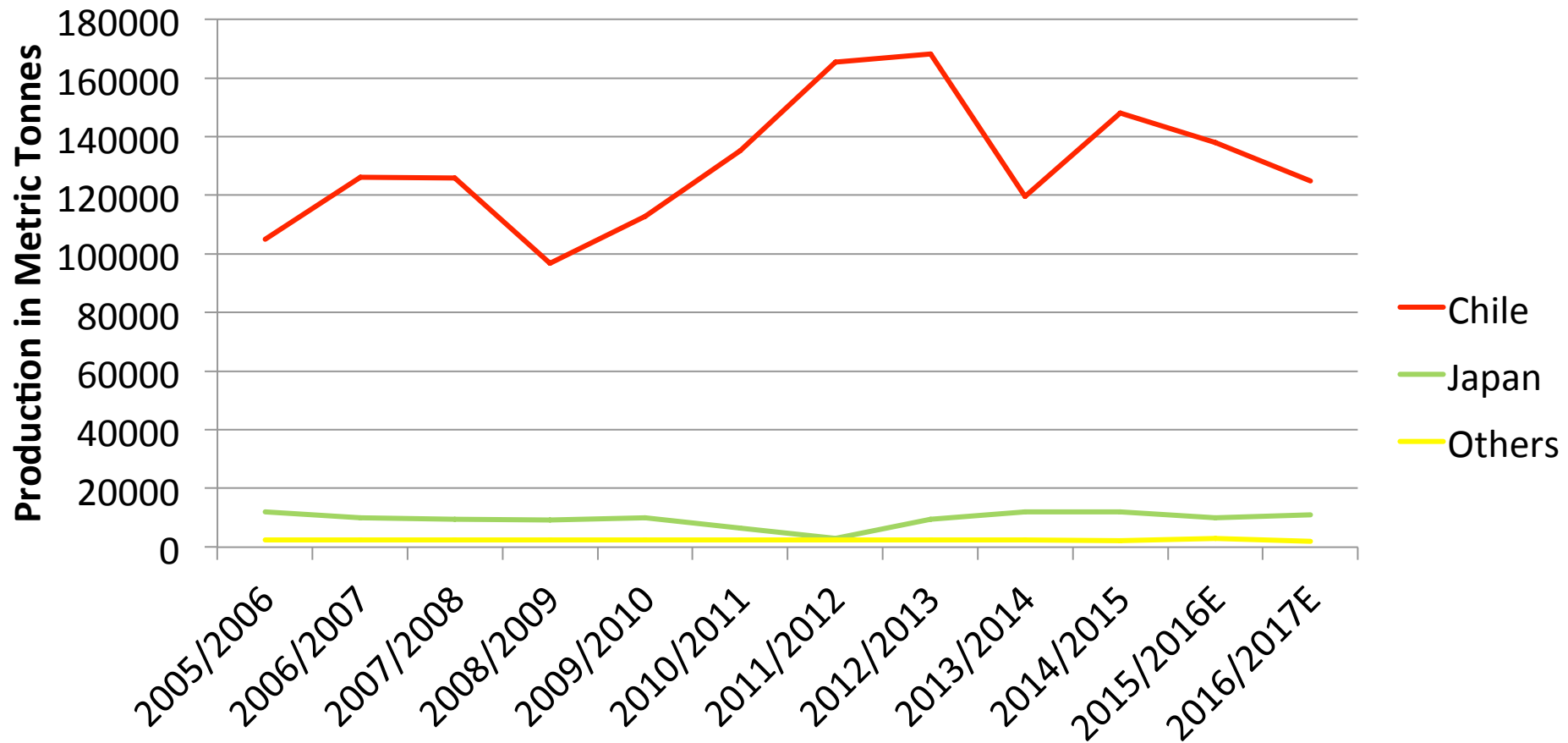
Coho Salmon

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



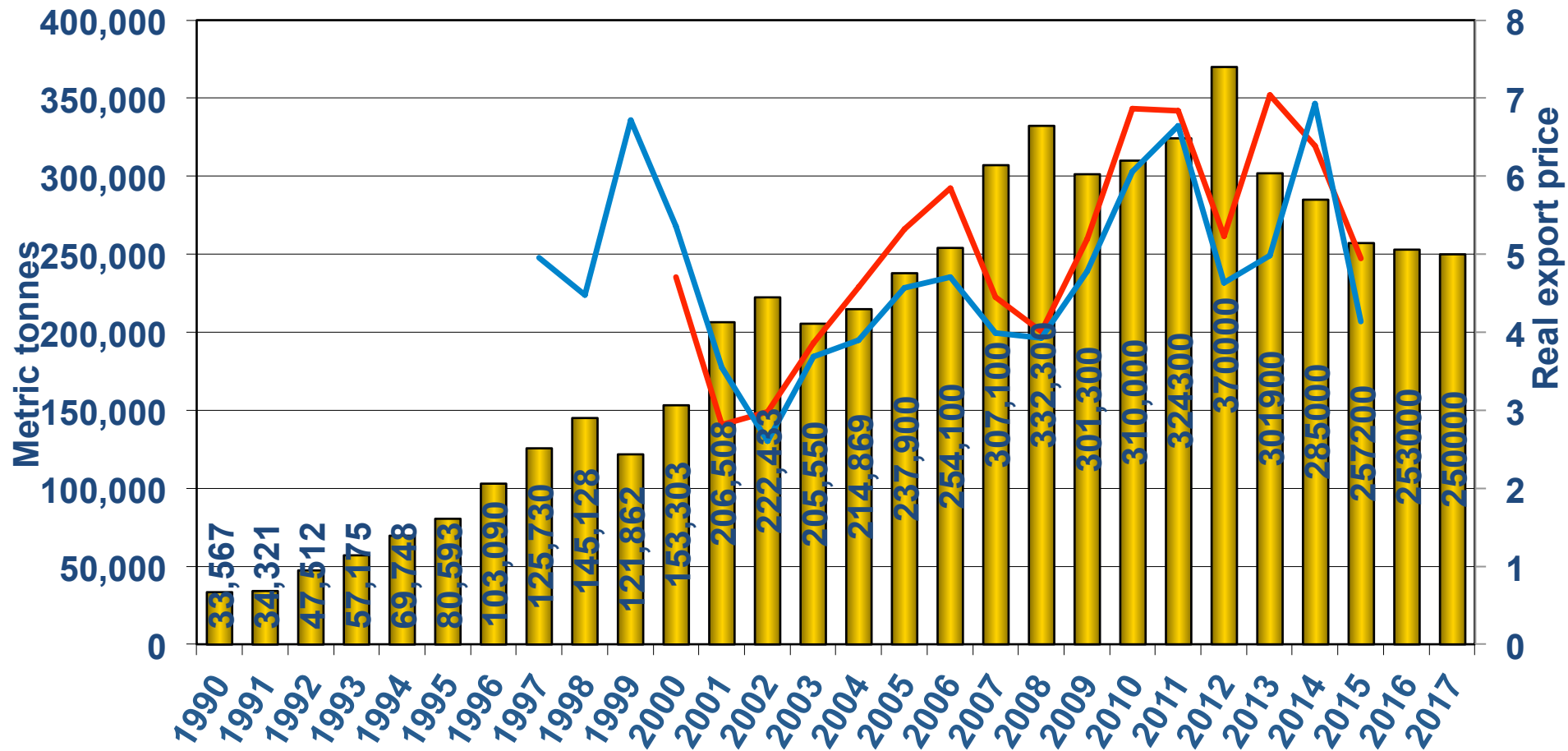
Coho Salmon

Production by country



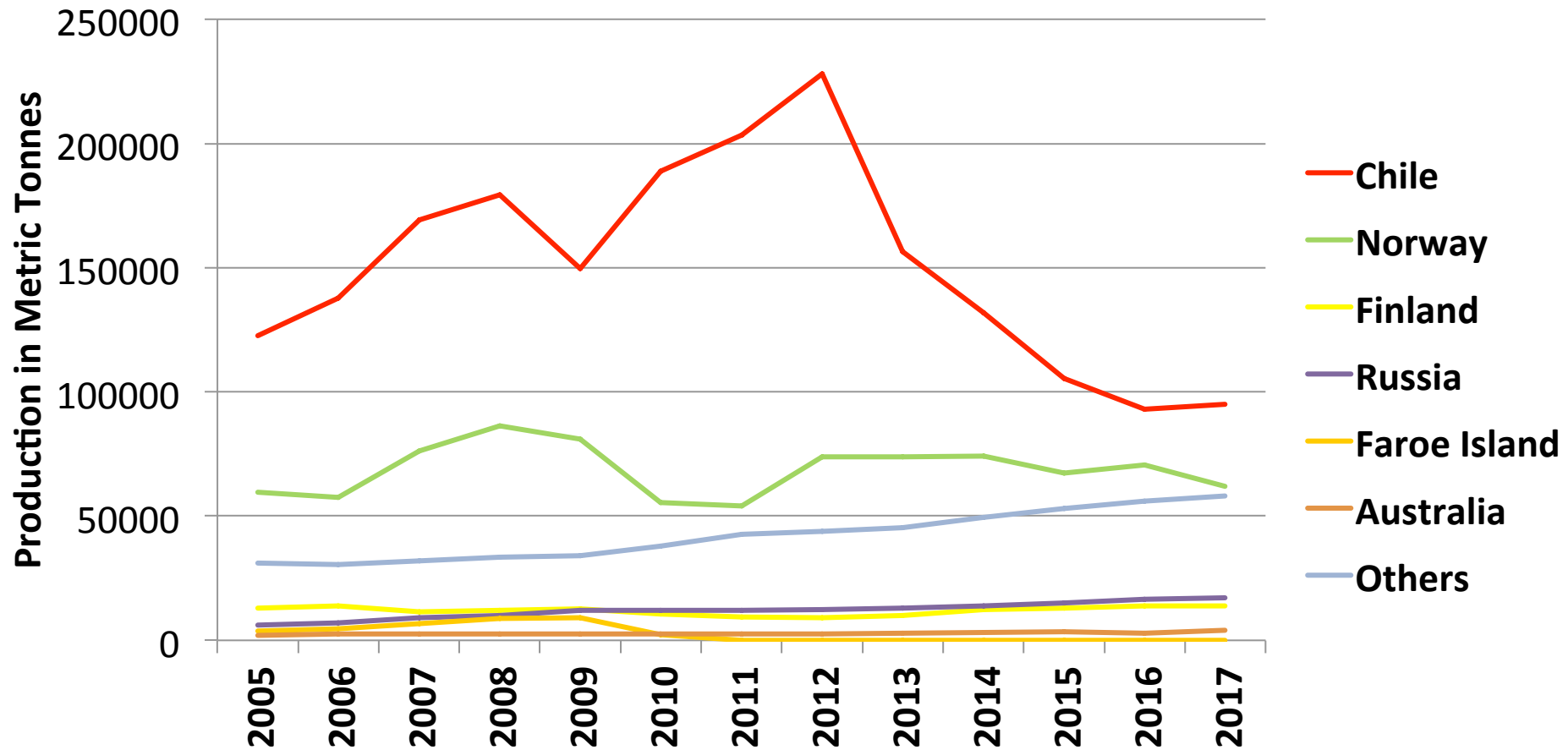
Large Rainbow Trout

Total Marine Production and Chilean frozen USD/kg (blue) and Norwegian fresh EUR/kg (red) real export prices



Large Rainbow Trout

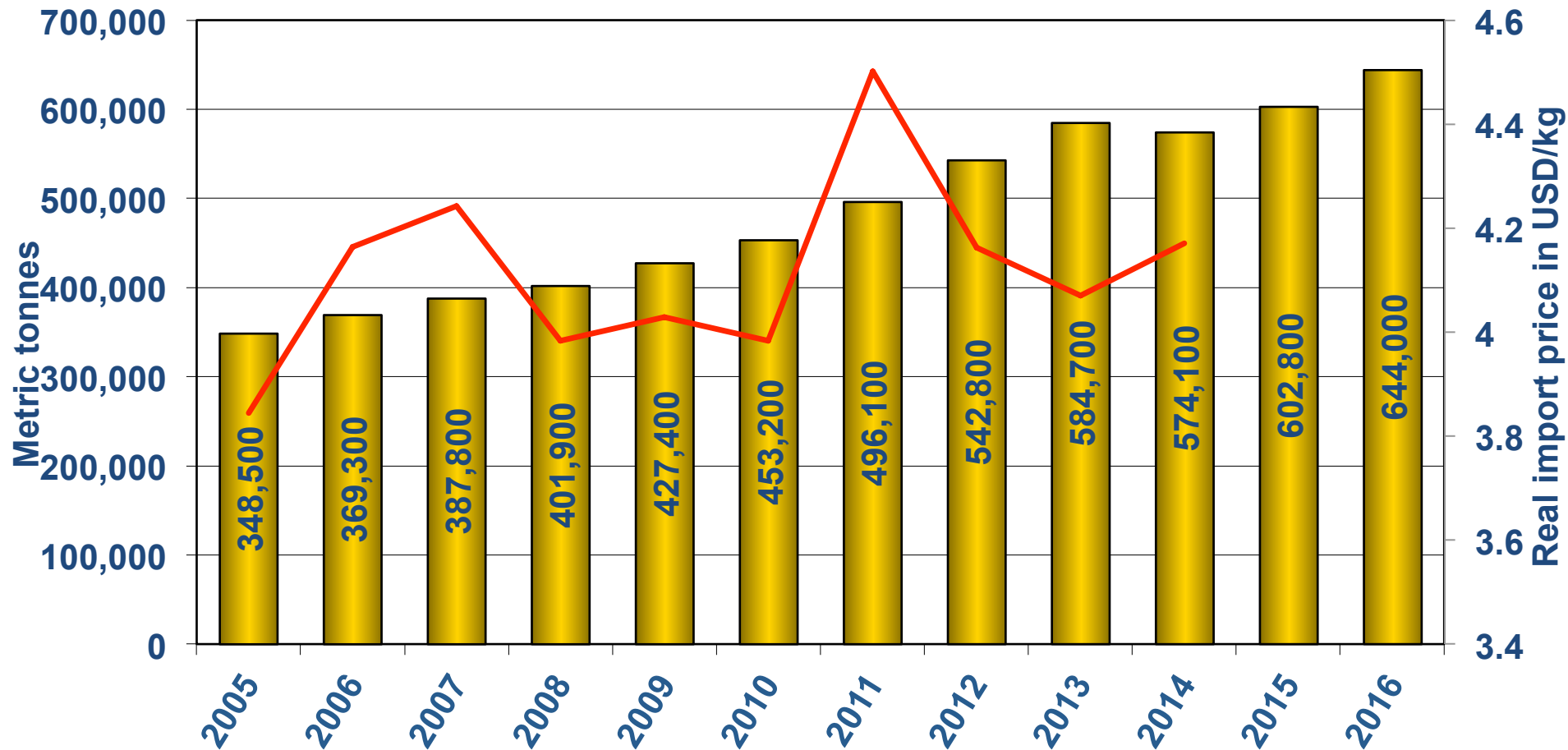
Production by country



Source: Kontali

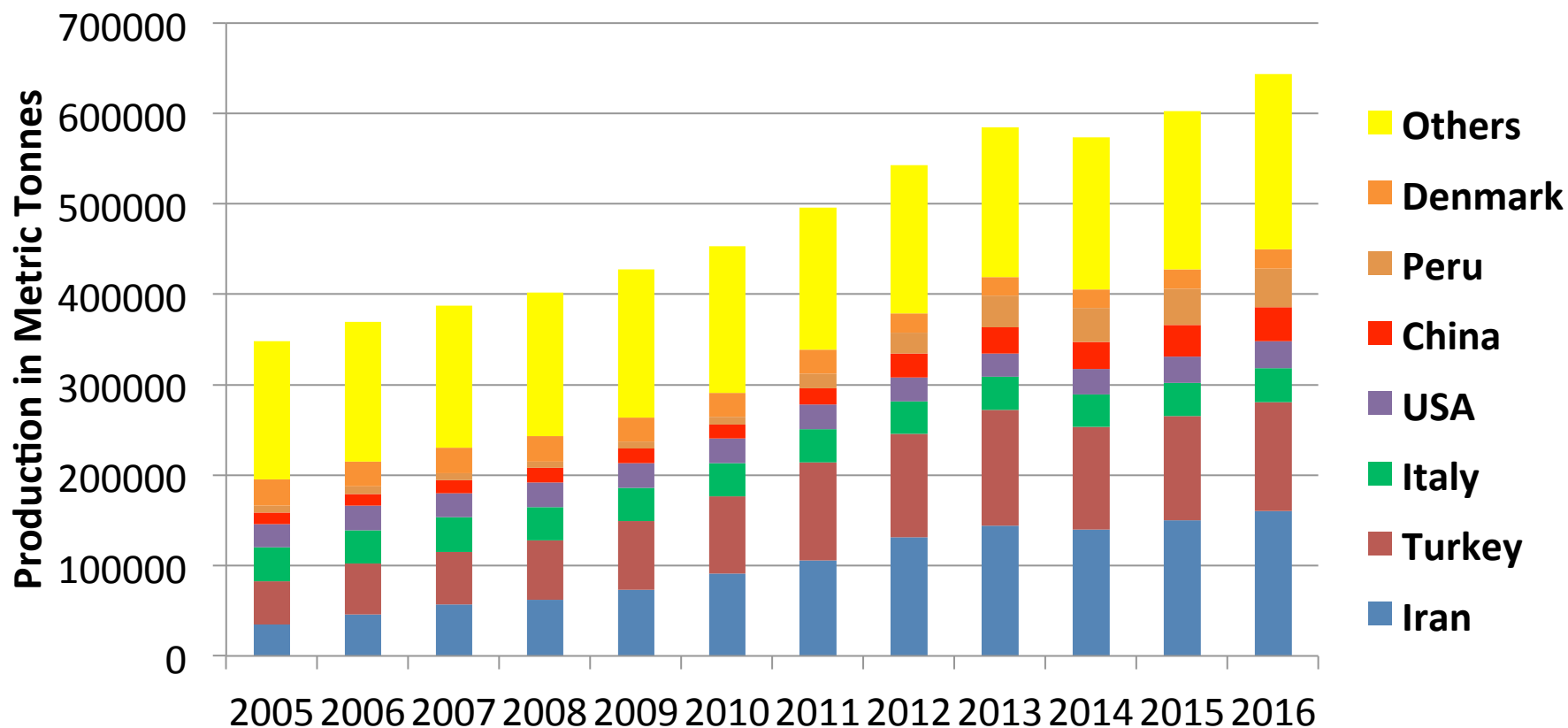
Small Rainbow Trout

Global Production and EU27 real import price for 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

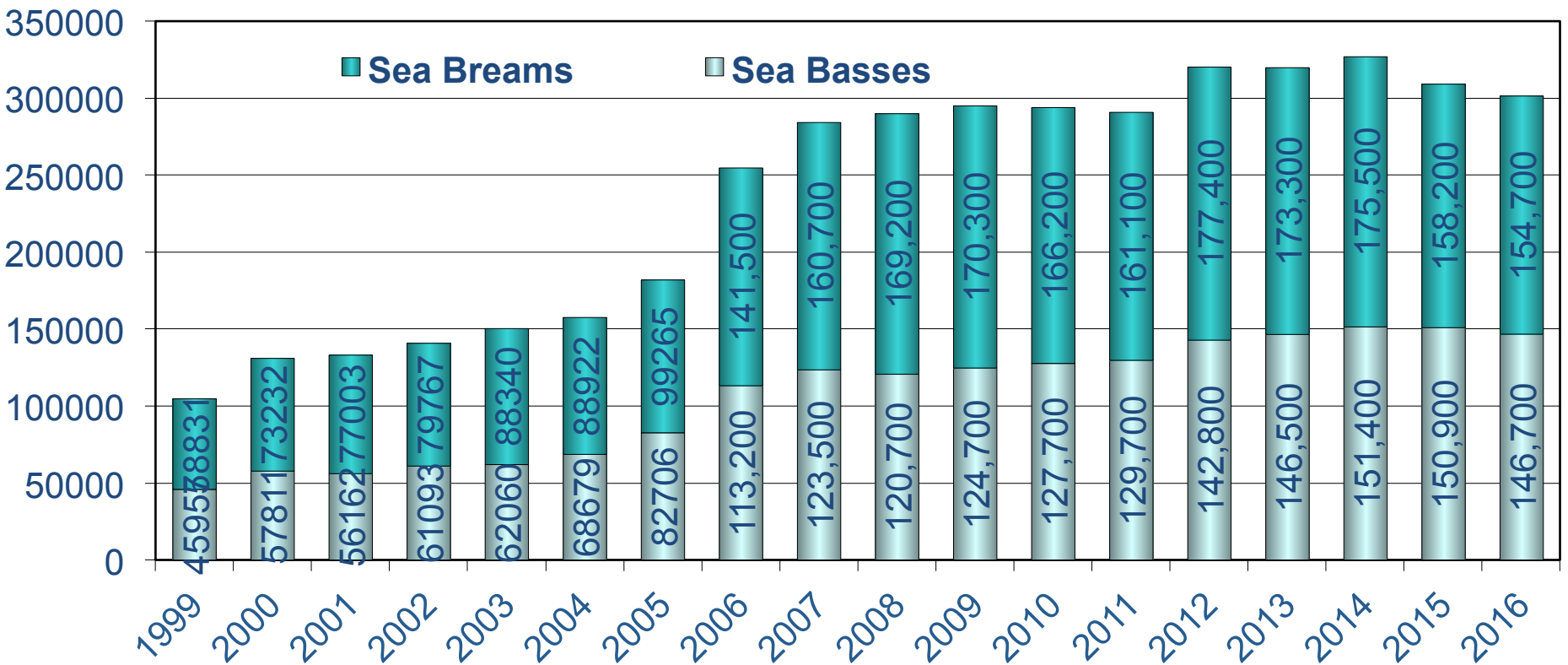


MARINE FISHES

Seabass & Sea Bream

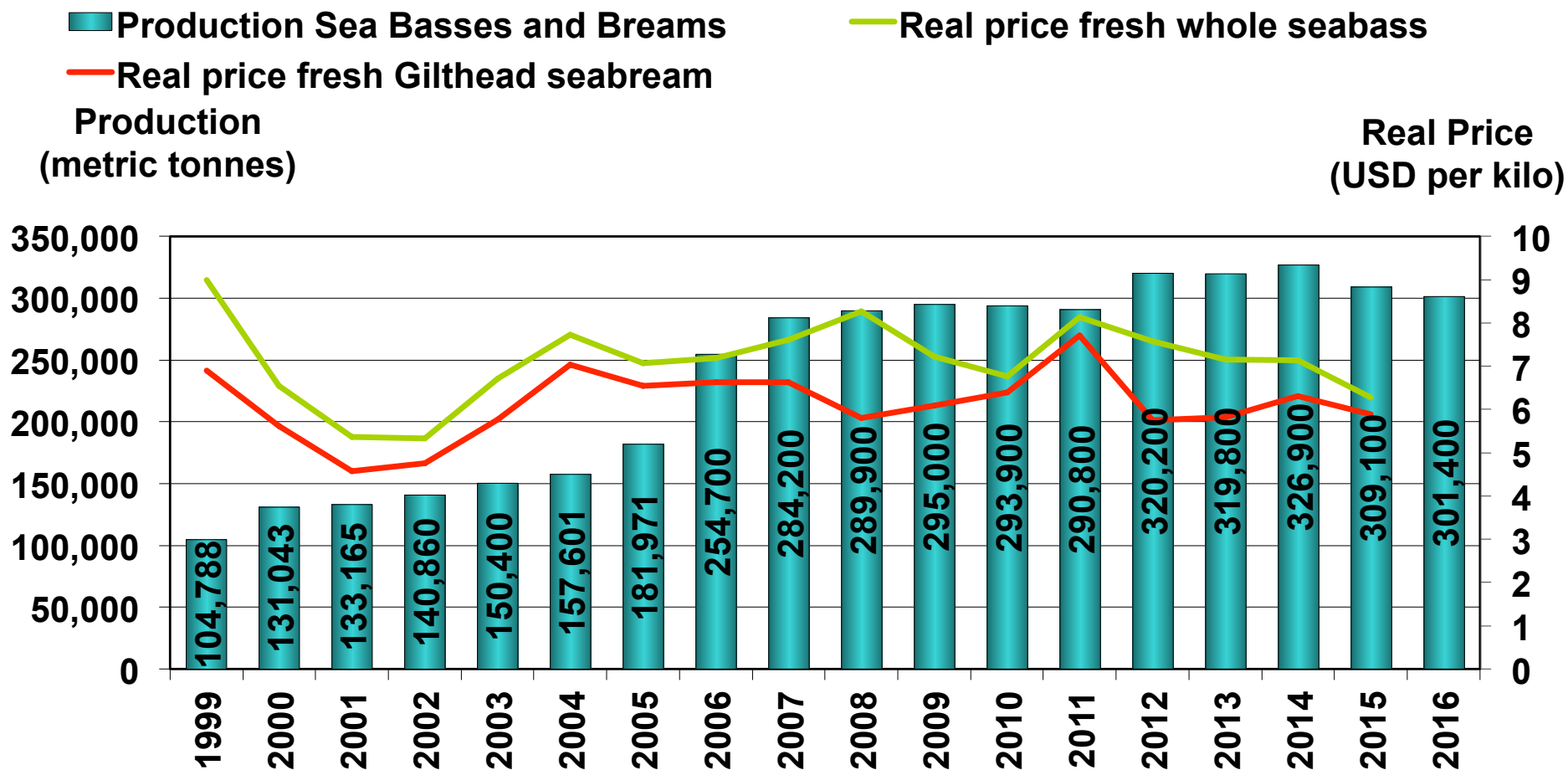
Mediterranean Production

Production
in metric tonnes



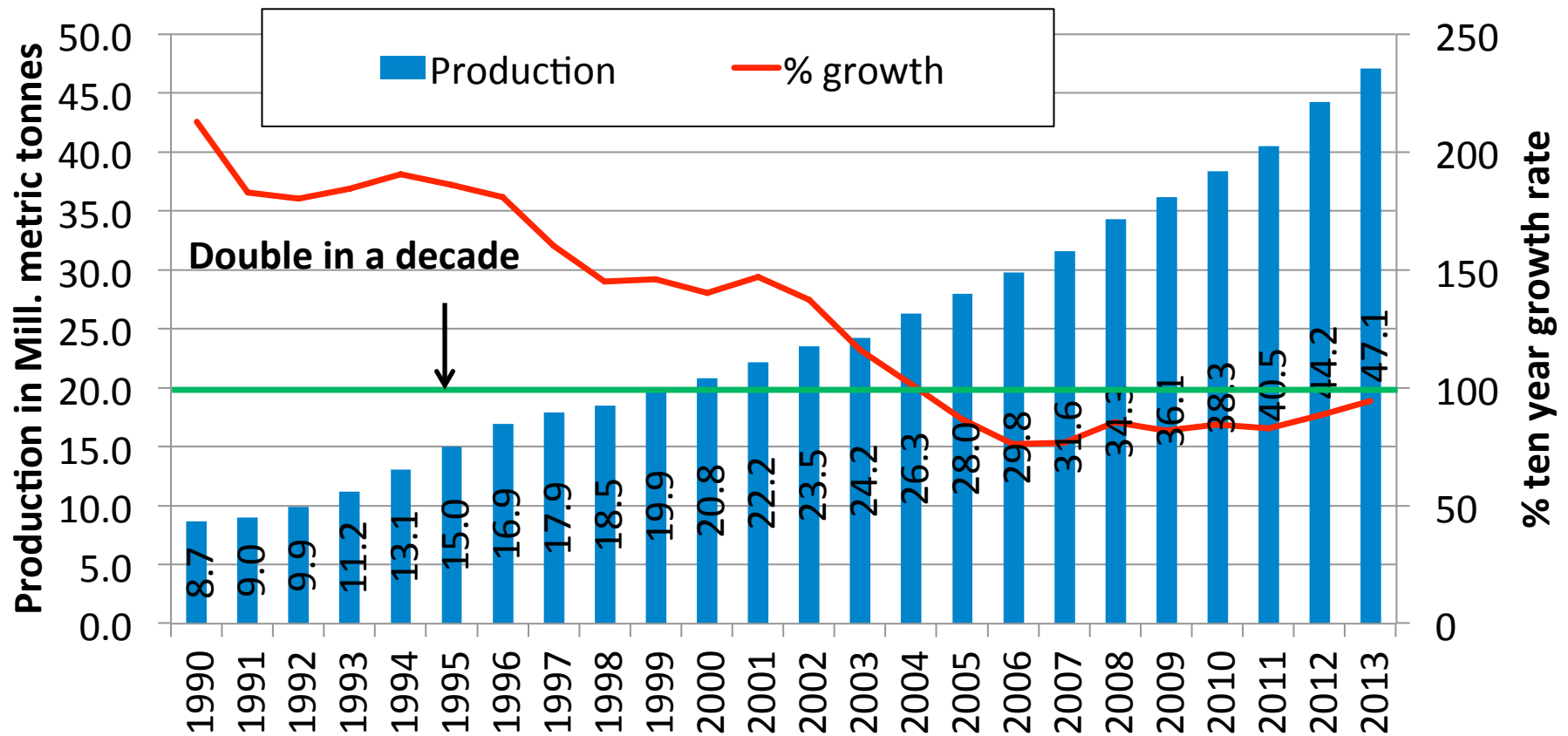
Seabass & Sea Bream

Mediterranean Production & Real Italian Import Price



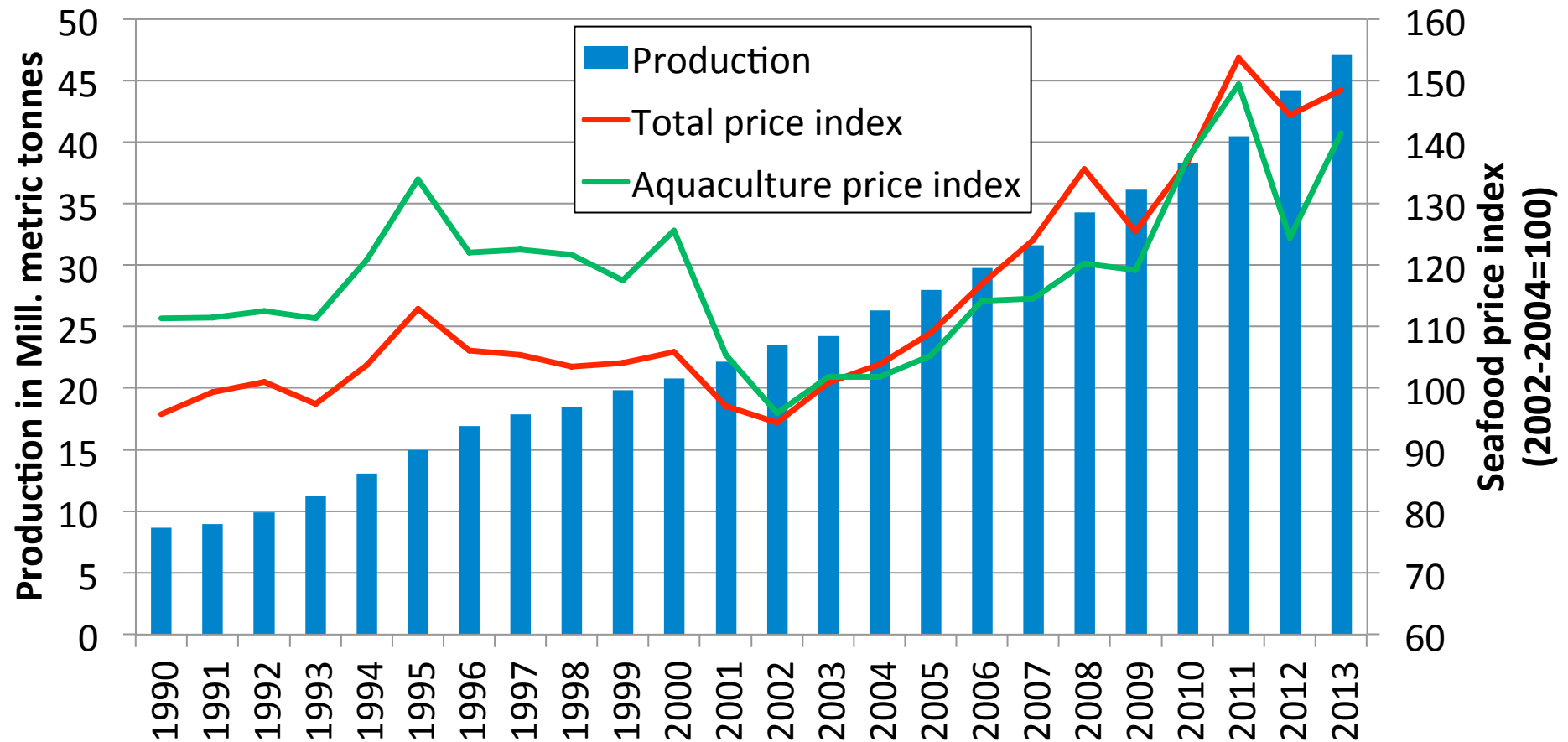
FINFISH SUMMARY

Aquaculture Production of Fish Species and 10-Year Growth Rate, 1990-2013



Source: FAO

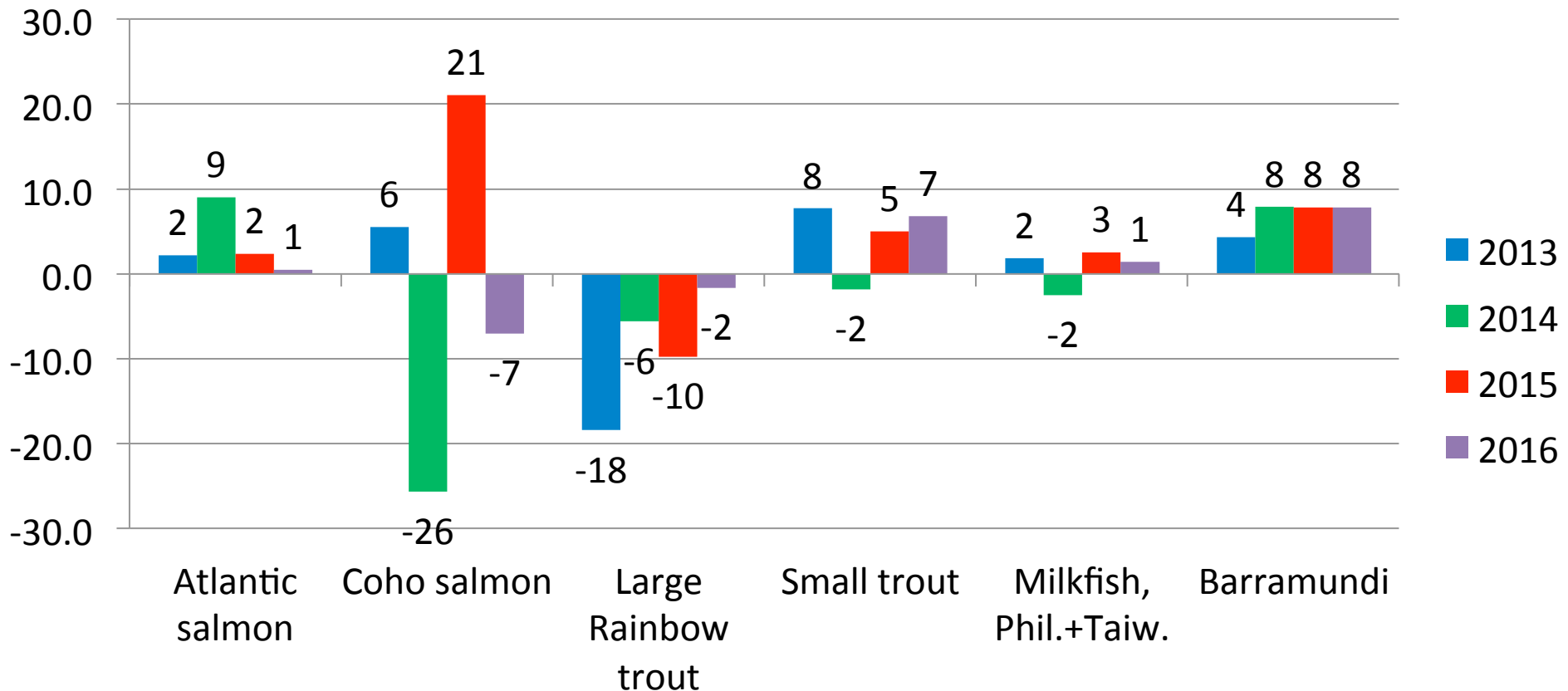
Aquaculture Production of Fish Species and Seafood Price Indices, 1990-2013



Source: FAO

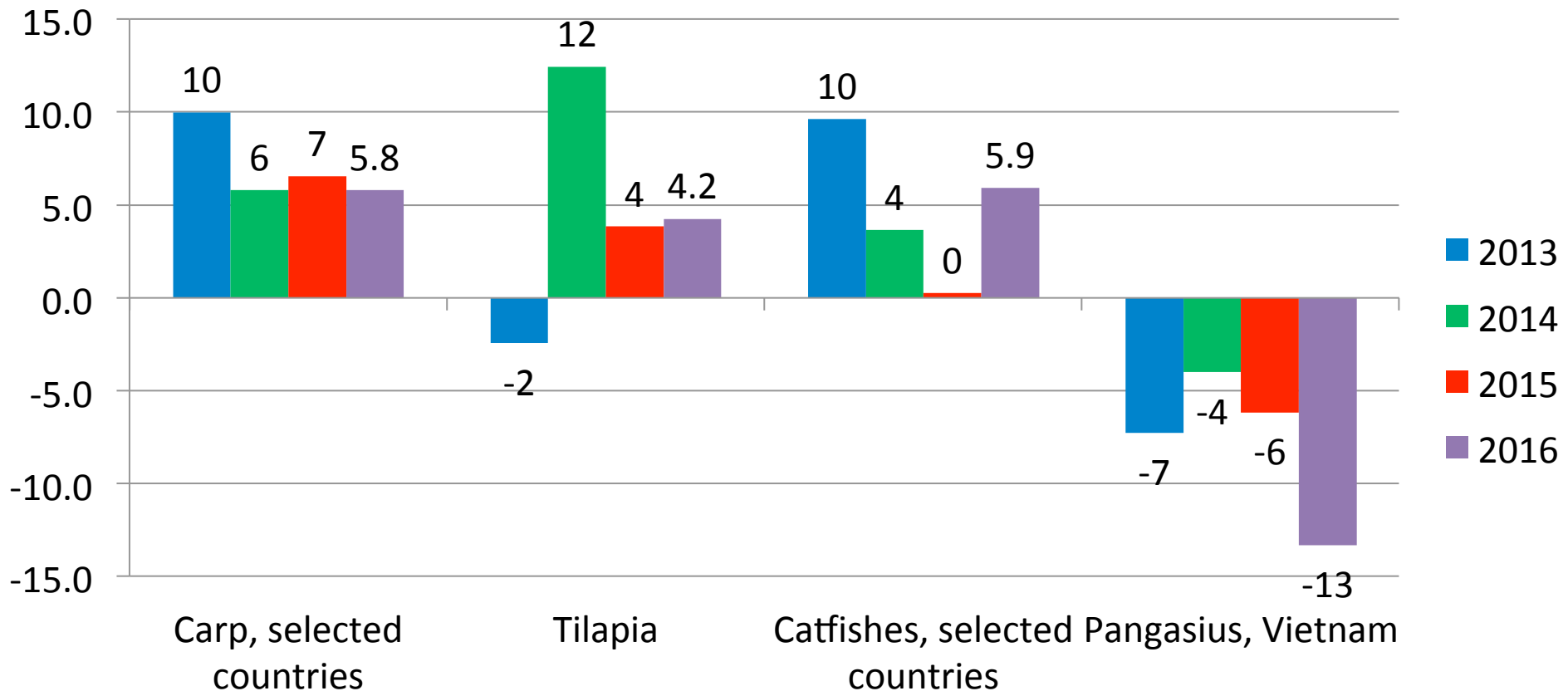
Diadromous Species

Annual Percent Growth Rates, 2012-2015



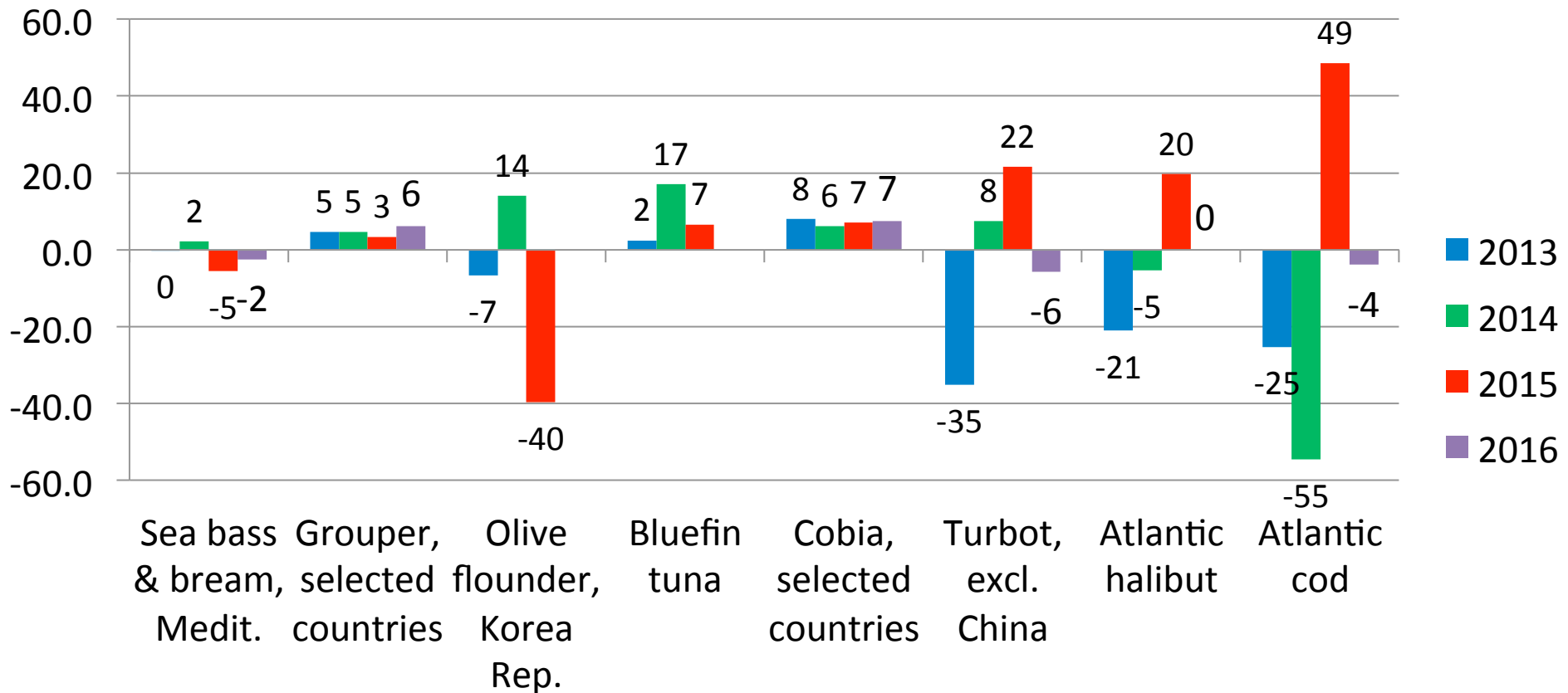
Freshwater Species

Annual Percent Growth Rates, 2012-2015



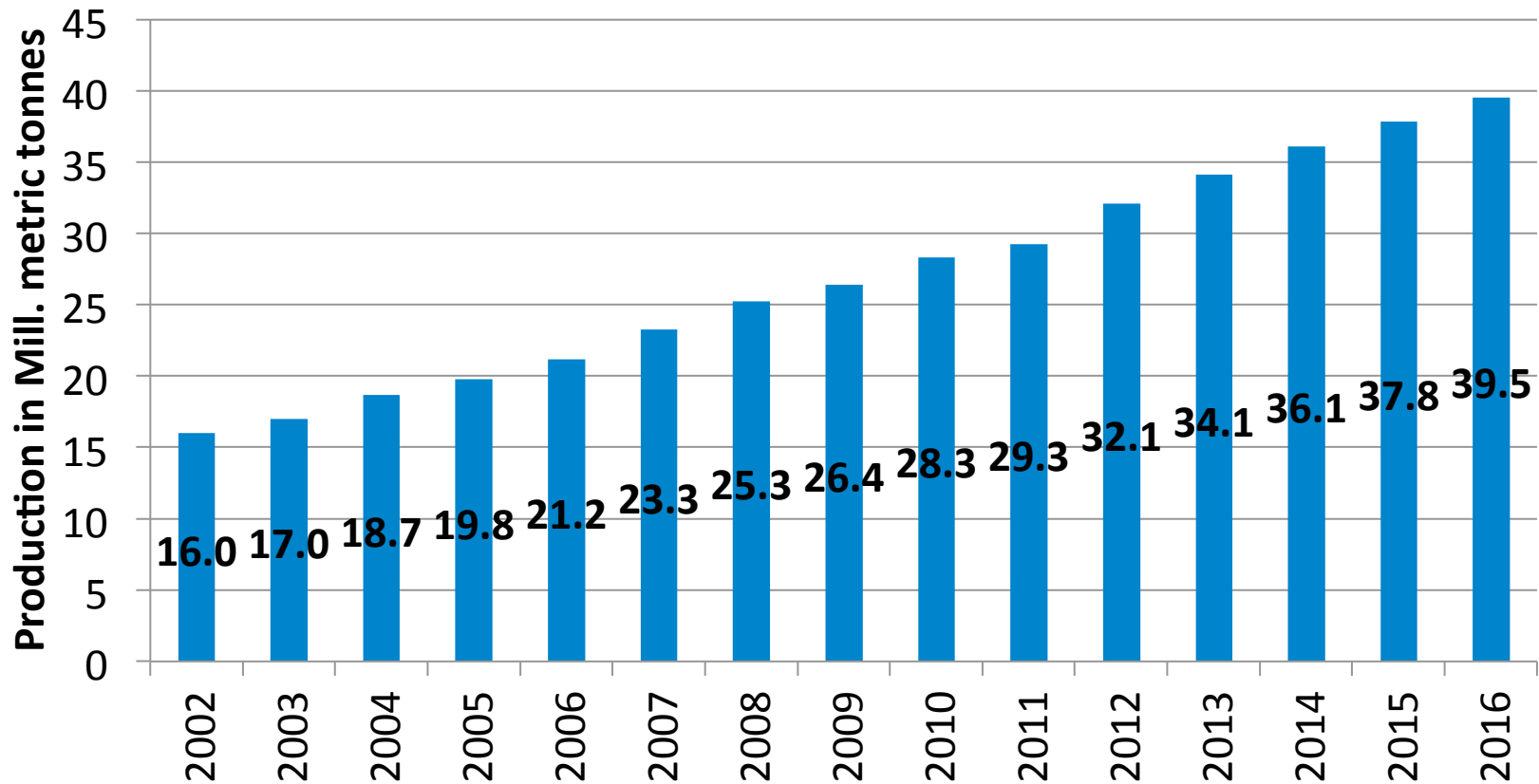
Marine Species

Annual Percent Growth Rates, 2012-2015



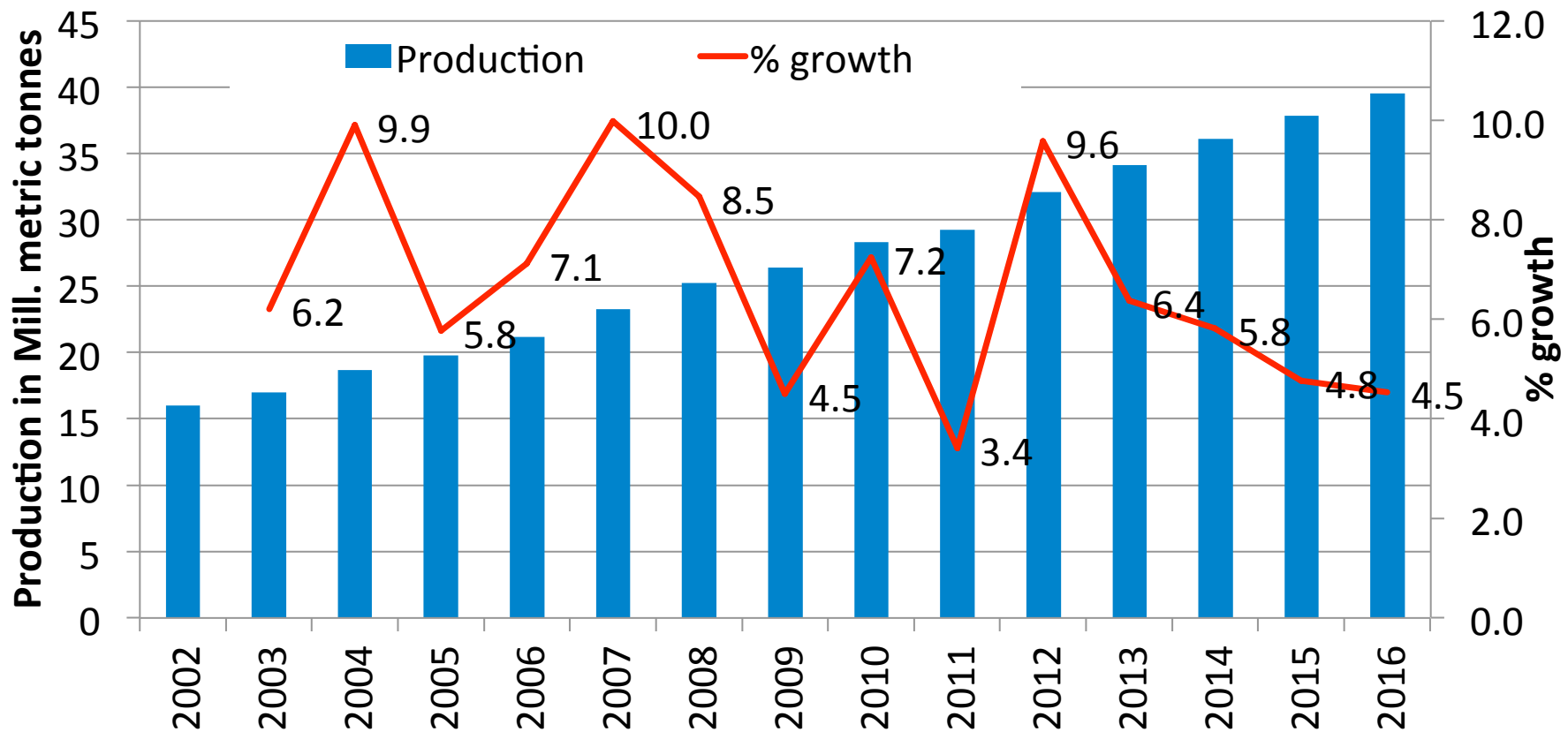
Production of Surveyed Species

Incl. Carp, 2002-2015



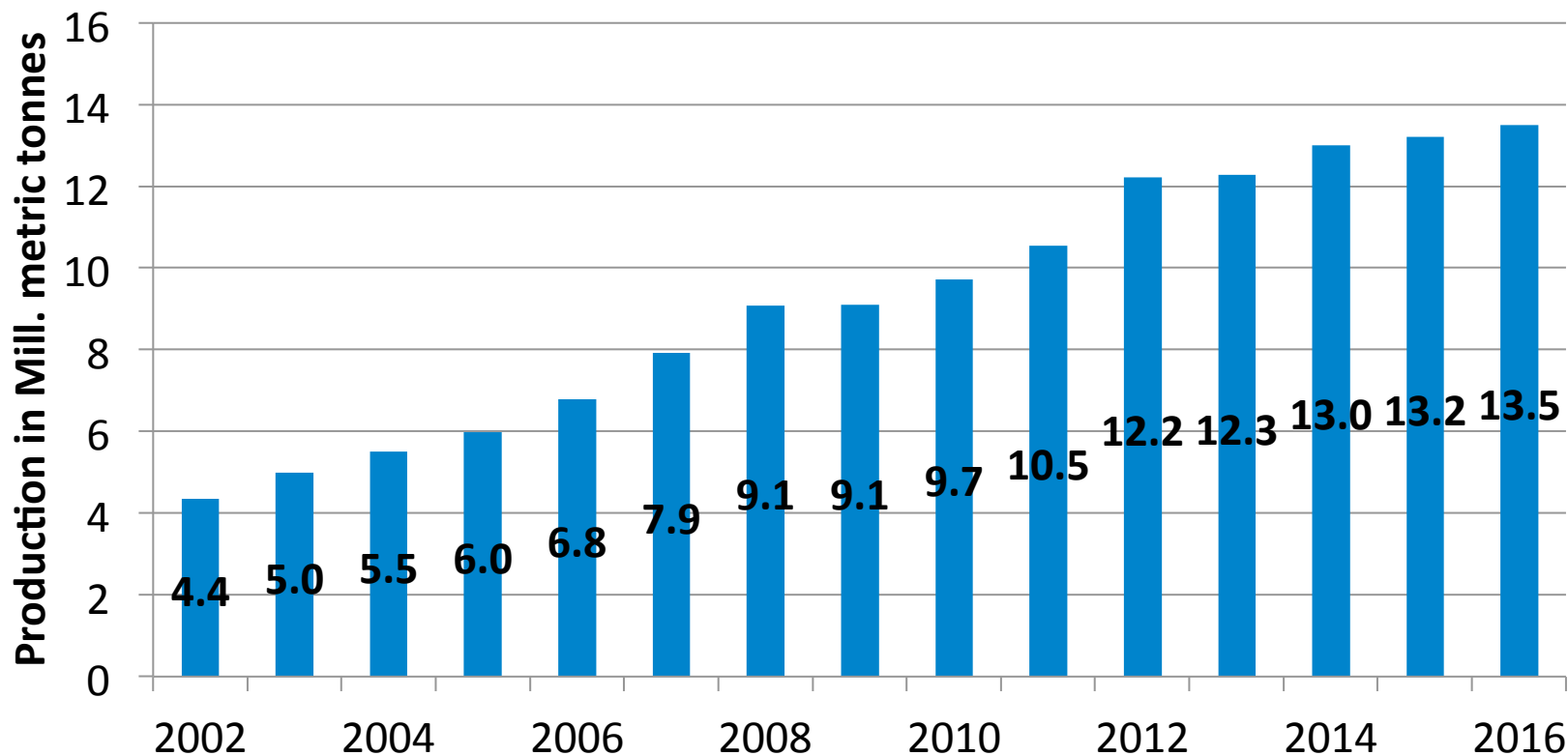
Production of Surveyed Species

Incl. Carp, 2002-2016



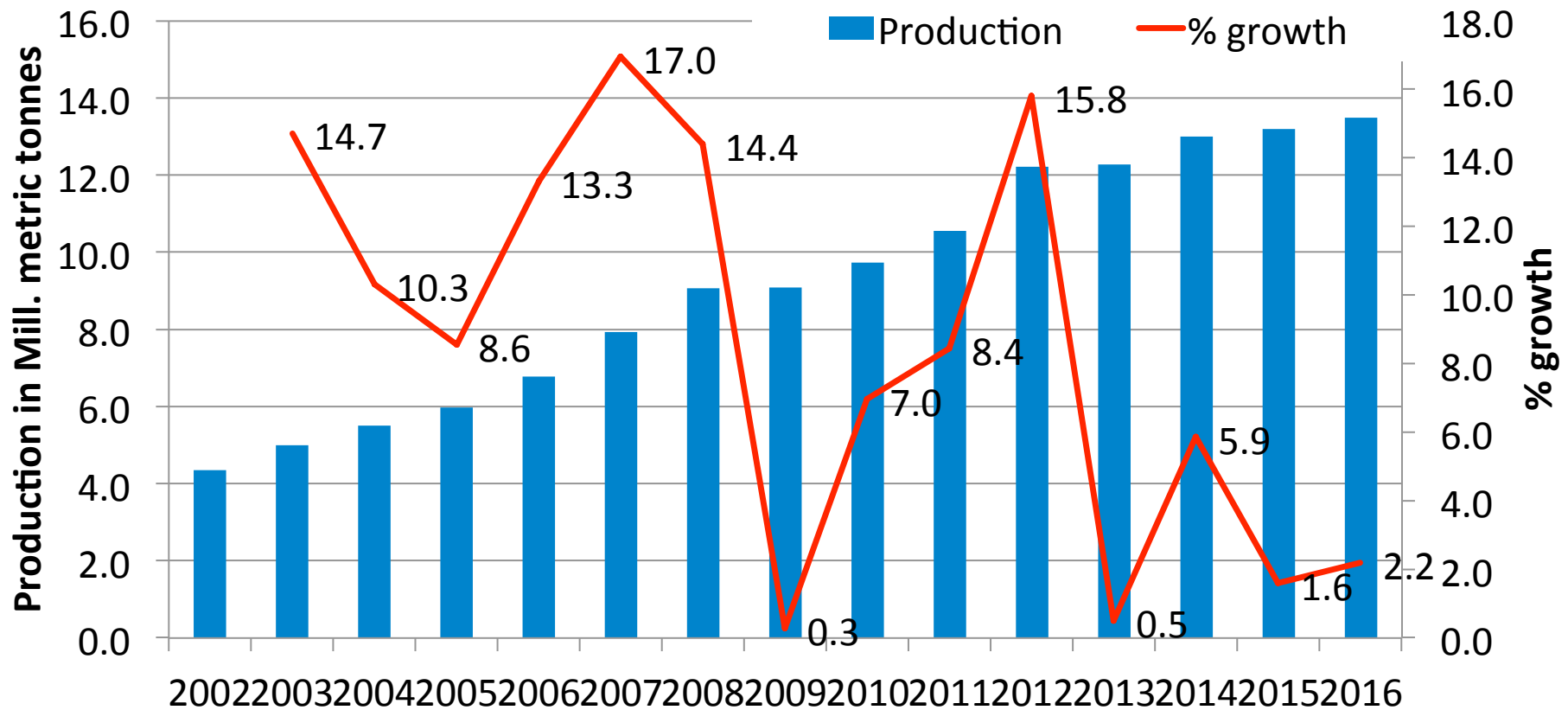
Production of Surveyed Species

Excl. Carp, 2002-2016



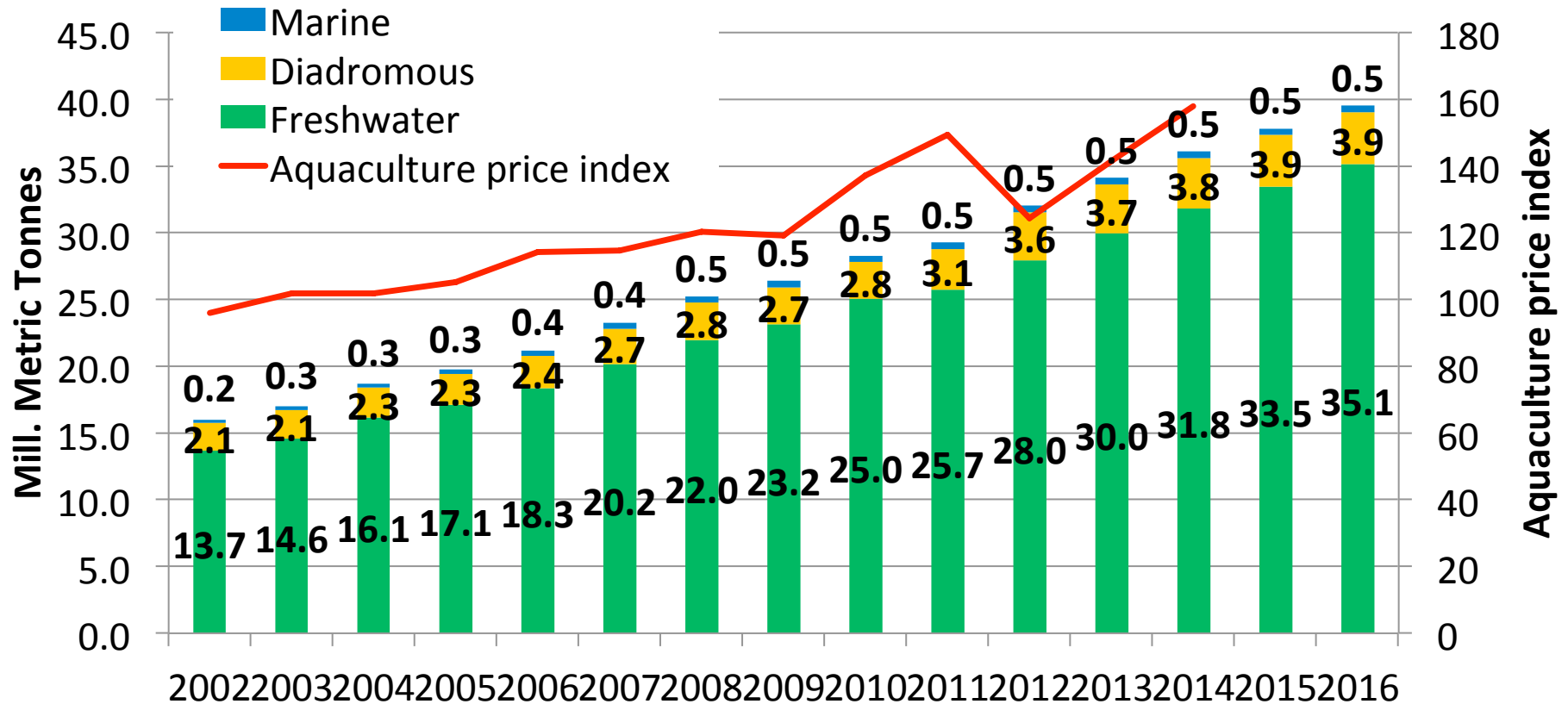
Production of Surveyed Species

Excl. Carp, 2002-2016



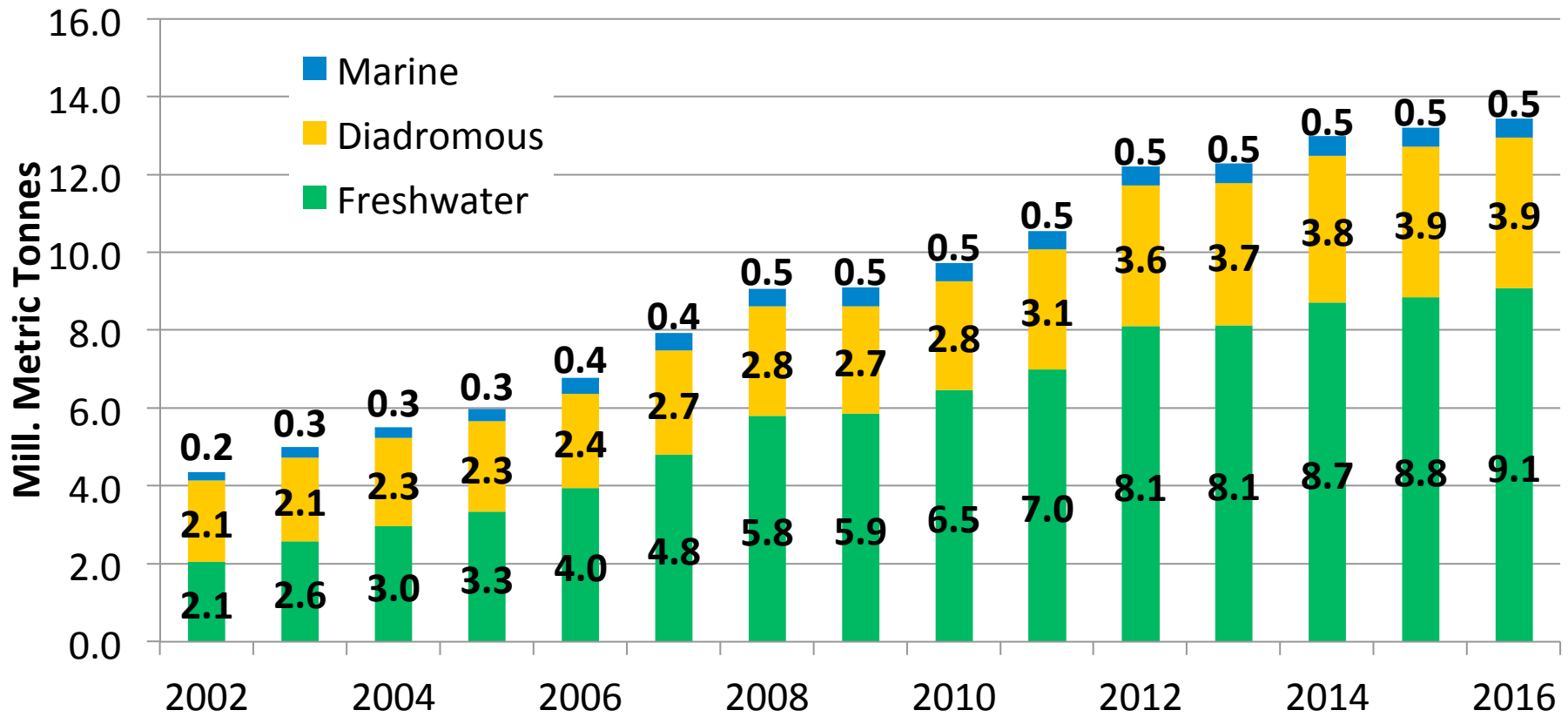
Production of Surveyed Species

By Species Group, 2002-2016



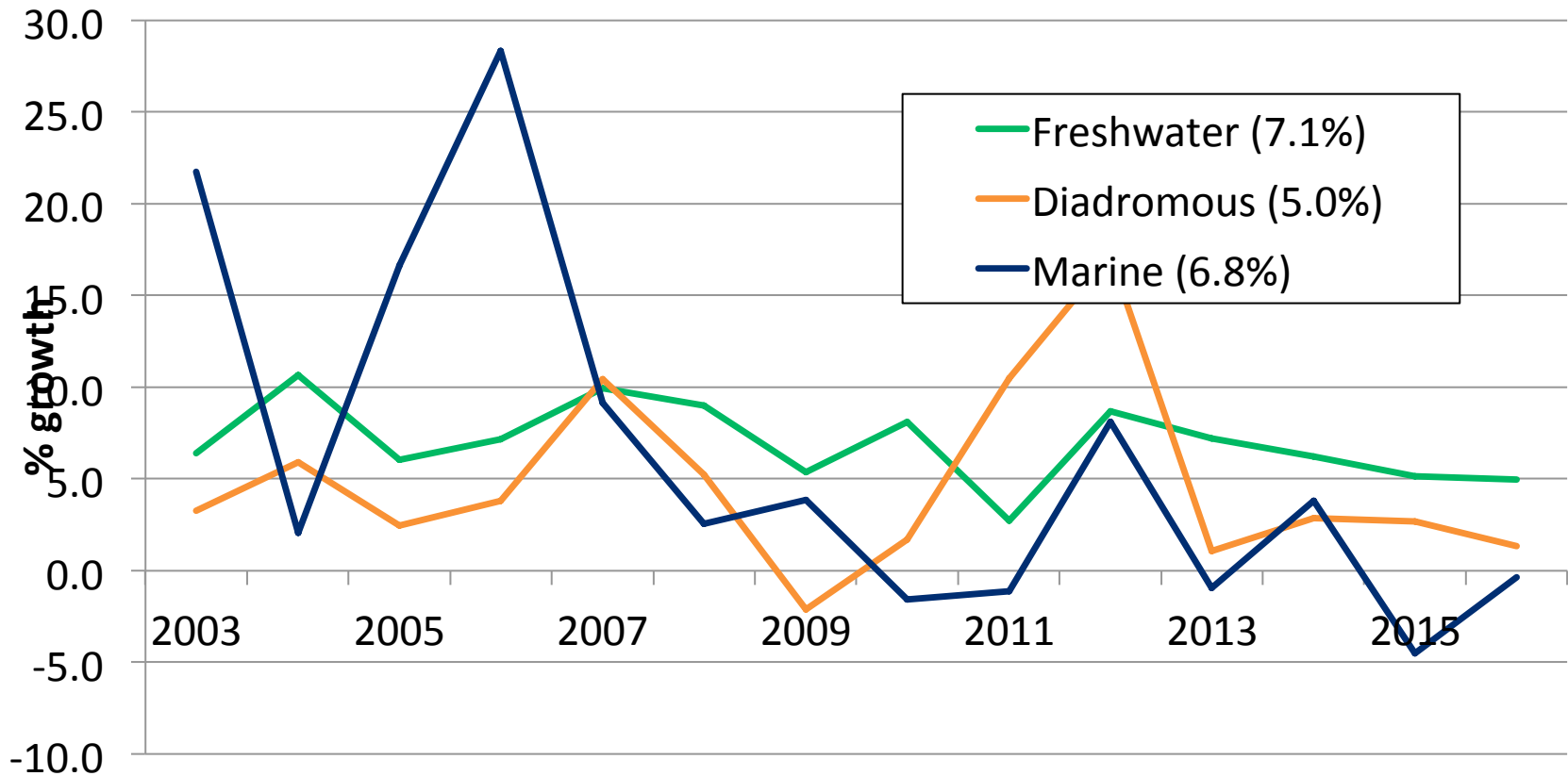
Production of Surveyed Species

Excl. Carp, 2002-2016



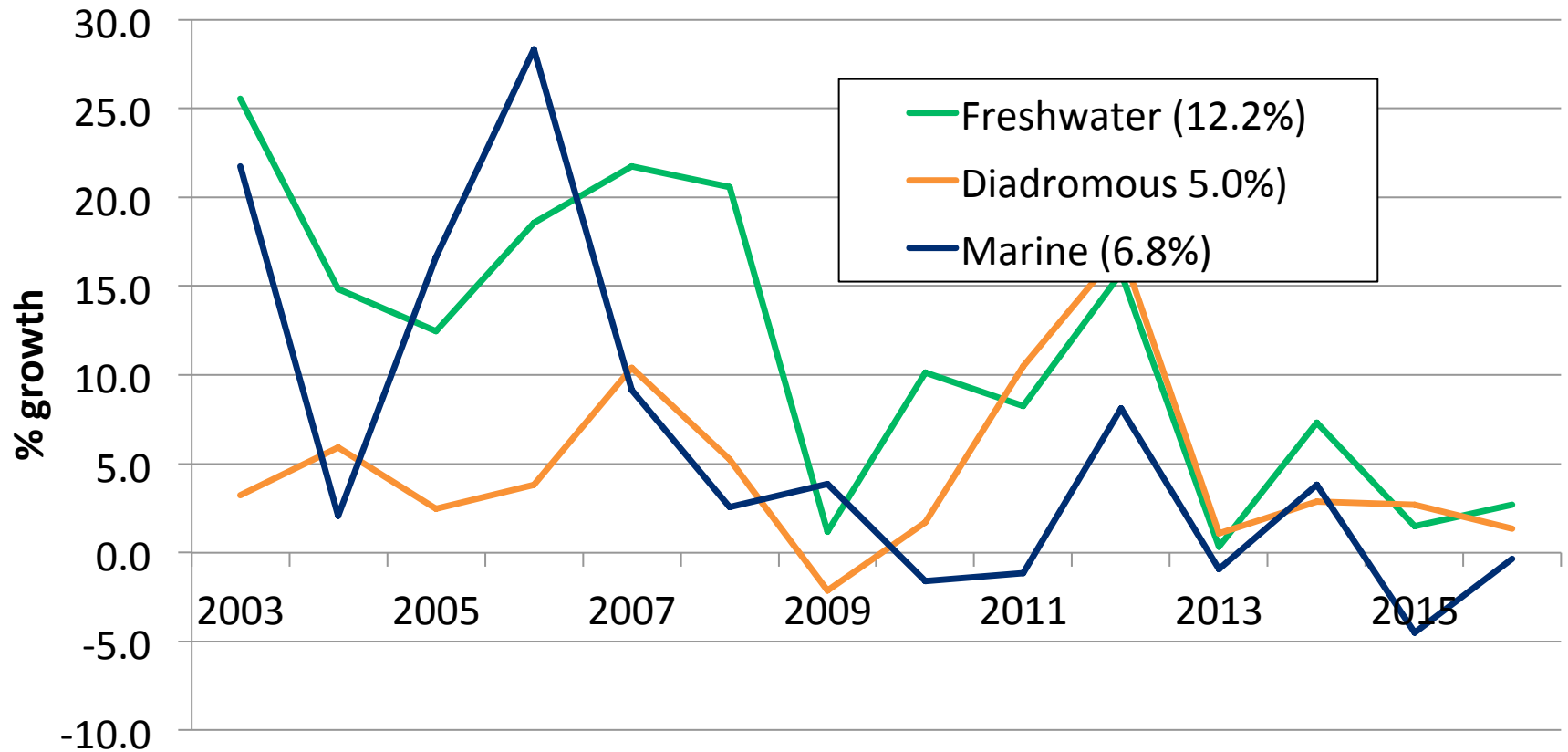
Growth Rates by Species Groups Incl. Carp

(2003-2015 average growth rate in parenthesis)



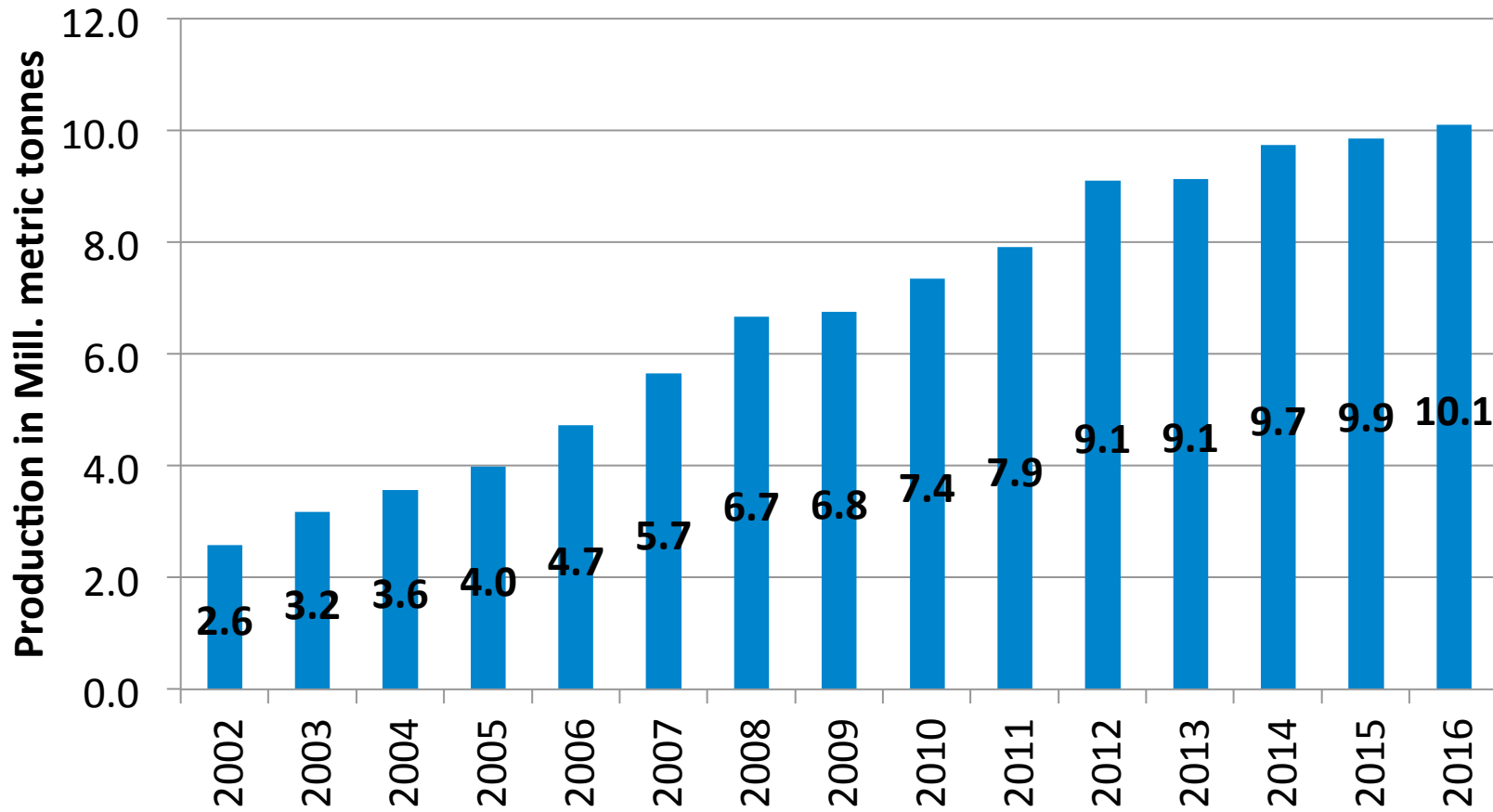
Growth Rates by Species Groups Excl. Carp

(2003-2015 average growth rate in parenthesis)

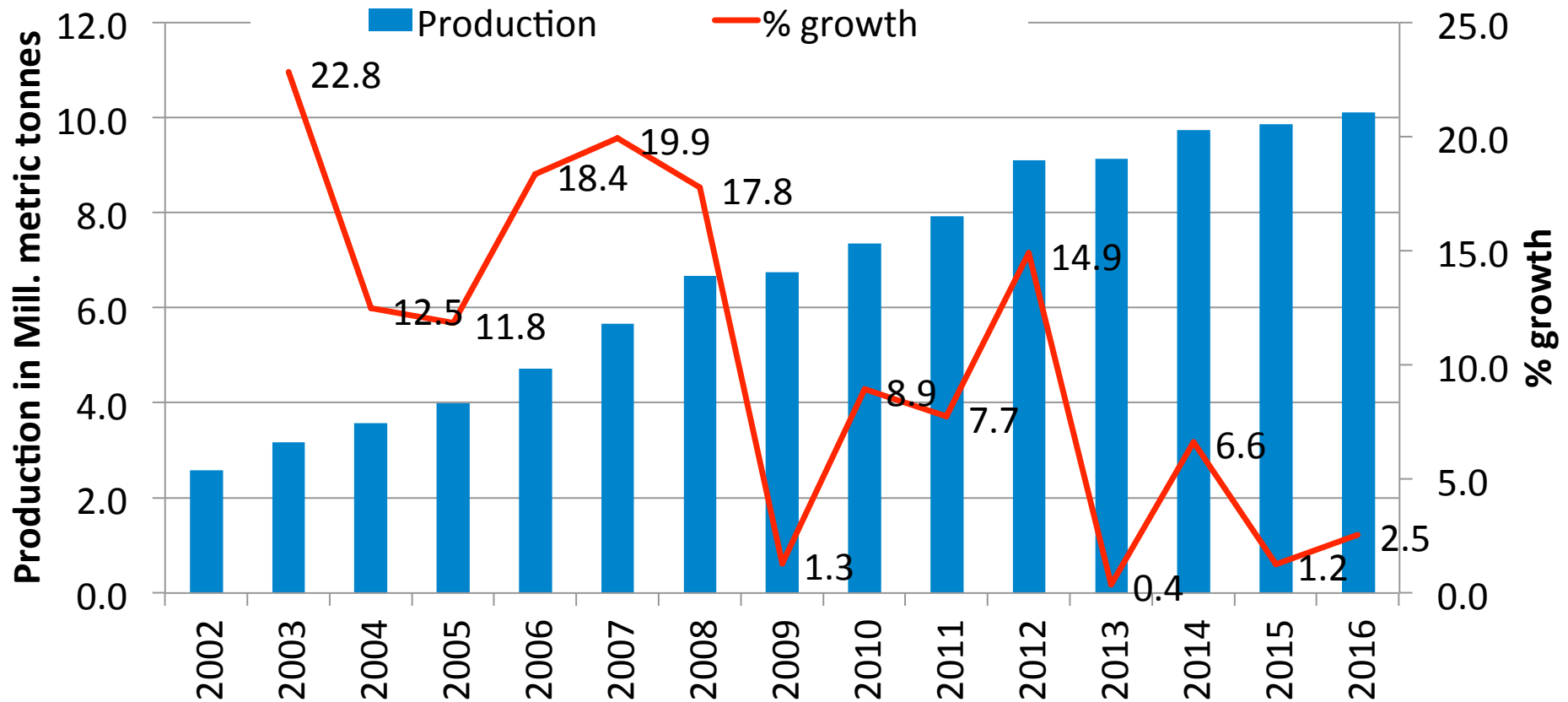


Production of Surveyed Whitefish Species

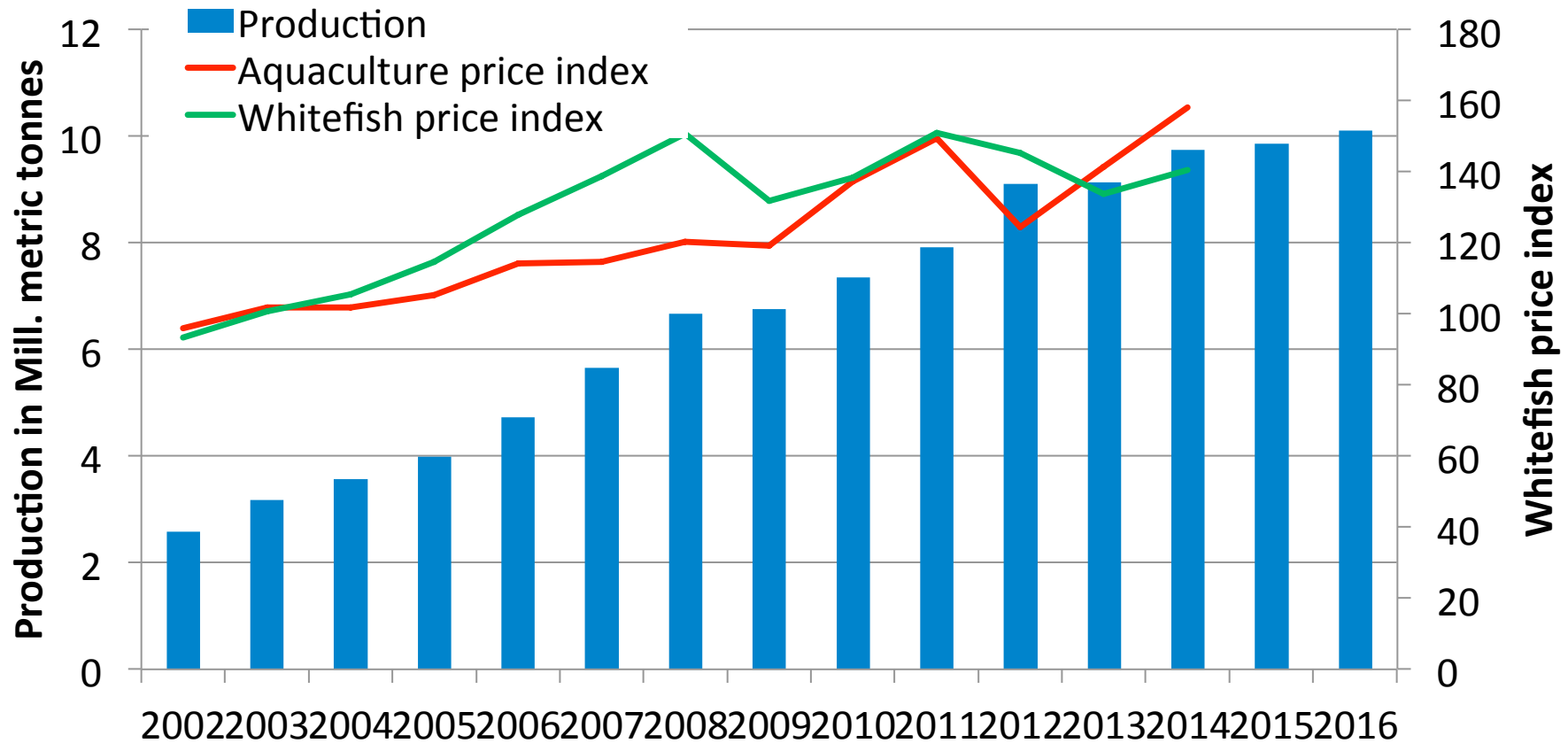
Excluding Carp, 2002-2016



Production of Surveyed Whitefish Species Excluding Carp, 2002-2016

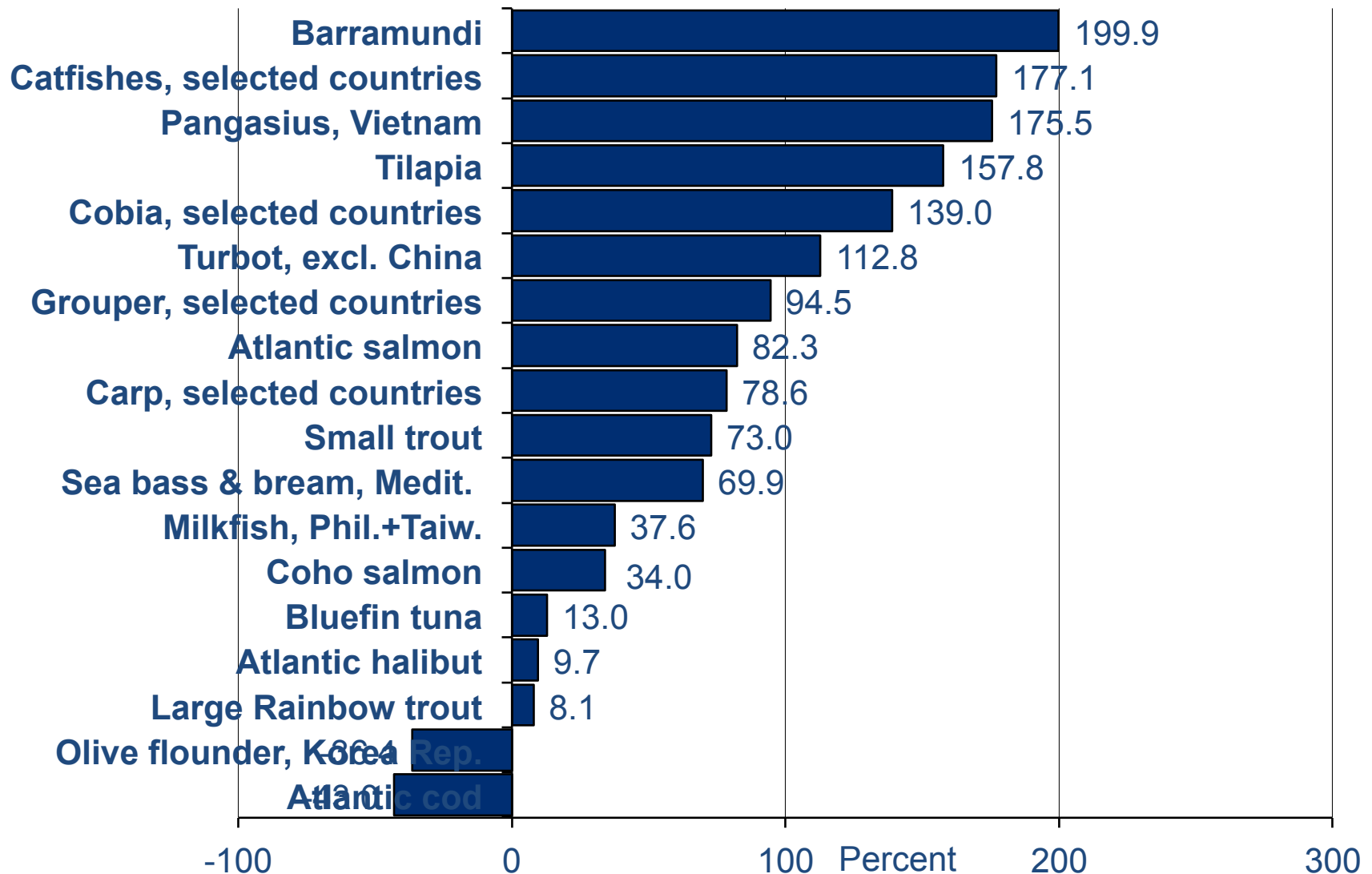


Production of Surveyed Whitefish Species and Price Index Aquaculture & Whitefish Excluding Carp, 2002-2015



Did they double in a decade?

Percentage Growth, 2005-2015



Did they double in a decade?

Percentage Growth, 2005-2015

