

Freshwater aquaculture – current situation and future

Catalin PLATON – ROMFISH - National Fish Farmers' Association



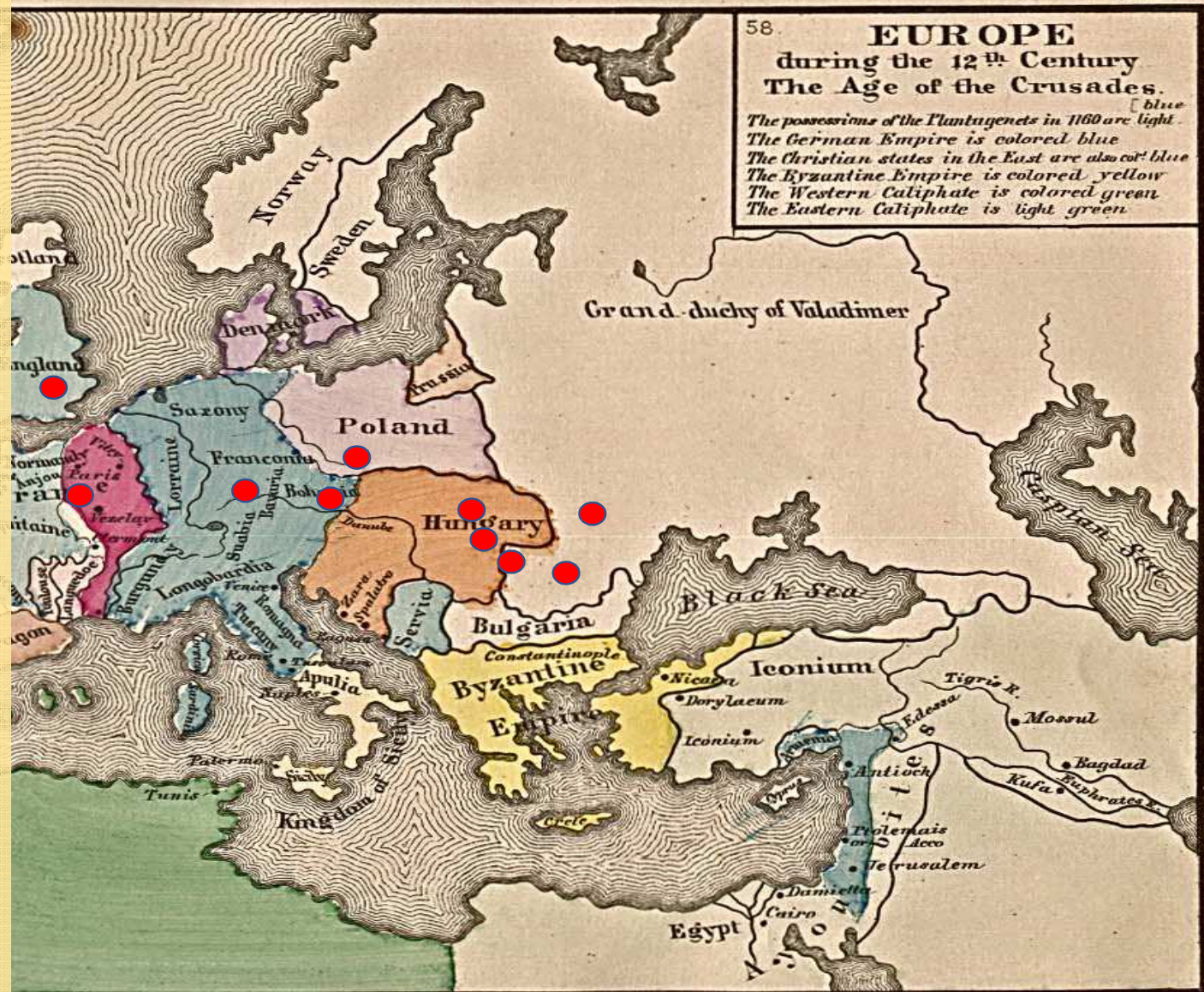
“Whenever the demands of seafood-eating peoples exceed the abilities of their indigenous aquatic ecosystems to provide for them, these cultures, throughout the world, develop **AQUACULTURE**” (Barry Costa-Pierce)

58.

EUROPE

during the 12th Century
The Age of the Crusades.

*The possessions of the Plantagenets in 1160 are light blue.
The German Empire is colored blue.
The Christian states in the East are also colored blue.
The Byzantine Empire is colored yellow.
The Western Caliphate is colored green.
The Eastern Caliphate is light green.*



- England (1086) – William the Conqueror - Domesday Book
- Bohemia (1115) – Kladruby Monastery
- Hungary – Komarom and Szeged ponds (X)
- Poland – Zator ponds (XI)
- Romania (Transilvania) (1247) Diploma of the Hospitaliers – Celei ponds, (1322 – 1329) – ponds near Timisoara and Cluj
- Romania – Muntenia (1247),
- France: 12th – 13th century – Valois (1160), Dombes (1258)
- Germany – Regensburg (XI)
- Romania (Moldova) – 1421



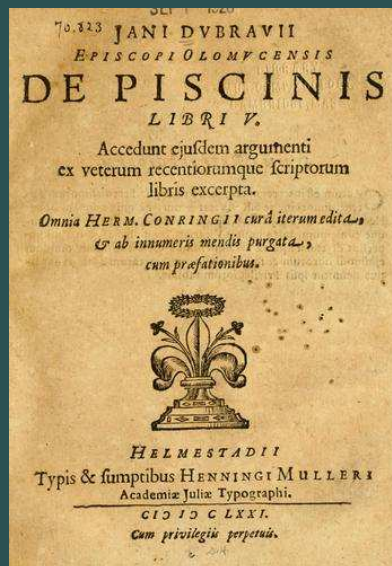
MOLDAVIAE
QUAE OLIM DACIAE PARS,
CHOROGRAPHIA, GEOR-
GIO A REICHERSTORFF,
TRANSYLVANO &c.
AVTORE.

EXCVSVM VIENNAE PAN-
NONIAE PER IOANNEM SIN-
GRENVM M. D. XLI.

Georg Reicherstorffer - Moldaviae quae
olim Daciae pars (Describing Moldova
which was a part of Dacia), Chorographia,
Vienna, first edition 1541 – “**Moldova is
so rich in ponds and lakes in a manner
that one could not ask more from nature
for the daily needs.**”

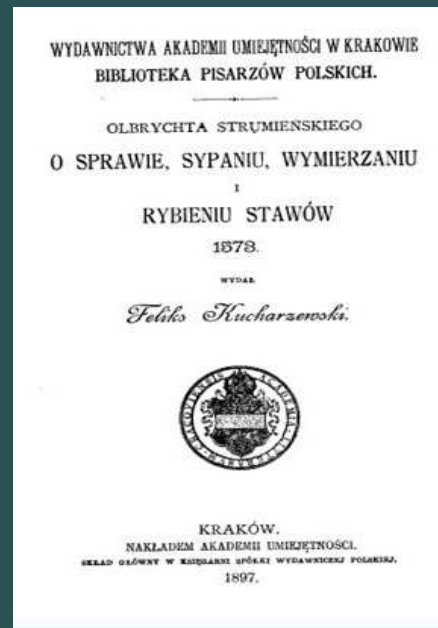


Jan Dubravius, Bishop of Olomuc (Moravia)
 1559 - *De piscinis et piscium qui in eis aluntur naturis* (About ponds and fish growing in them).



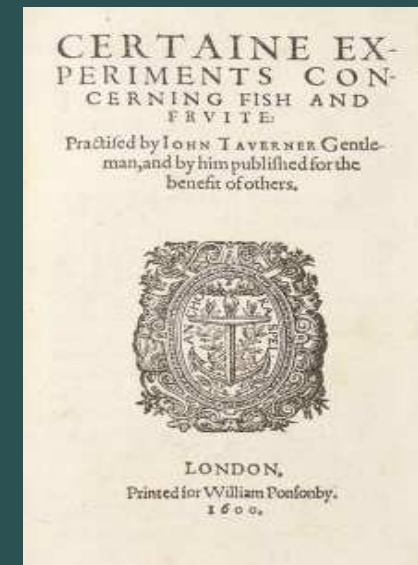
1559

1573



Olbrycht Strumienski. 1573. *O sprawie, sypaniu, wymierzaniu i rybieniu stawów* - On the repair, grading, measuring and stocking of ponds

John Tavernier - *Certaine experiments concerning fish and fruite: practised by John Tavernier Gentleman, and by him published for the benefit of others*, London: Printed [by Richard Field] for William Ponsonby, 1600.



1600

Roger North, an English lawyer publishes in **1714** *A Treatise on Fish and Fish-Ponds*, by the Hon. ROGER NORTH illustrated with eighteen beautifully-coloured specimens, by ELEAZAR ALBIN which will be republished in **1794** as *The history of esculent fish*

1714

THE
HISTORY
OF
ESCULENT FISH,
WITH PLATES, DRAWN AND ENGRAVED BY
ELEAZAR ALBIN:
AND AN
ESSAY
ON THE
BREEDING OF FISH,
AND THE
CONSTRUCTION OF FISH-PONDS,
BY THE HONOURABLE
ROGER NORTH.

LONDON:

Printed for EDWARD JEFFERY, Pall Mall; ROBERT FAULDER, New Bond Street;
J. CUTHELL, and J. DEIGHTON, Holborn; J. WALKER, Paternoster Row;
HAMILTON and Co. Beech Street, Barbican.

MDCXCIV.

Pond fish farming before 1st Industrial Revolution

- **Water management**
- **Circular economy**
- **Short supplying chains**
- **Ecosystem services**
- **Predators control**
- **Self regulatory practices**

Pond fish farming during the 1st Industrial Revolution

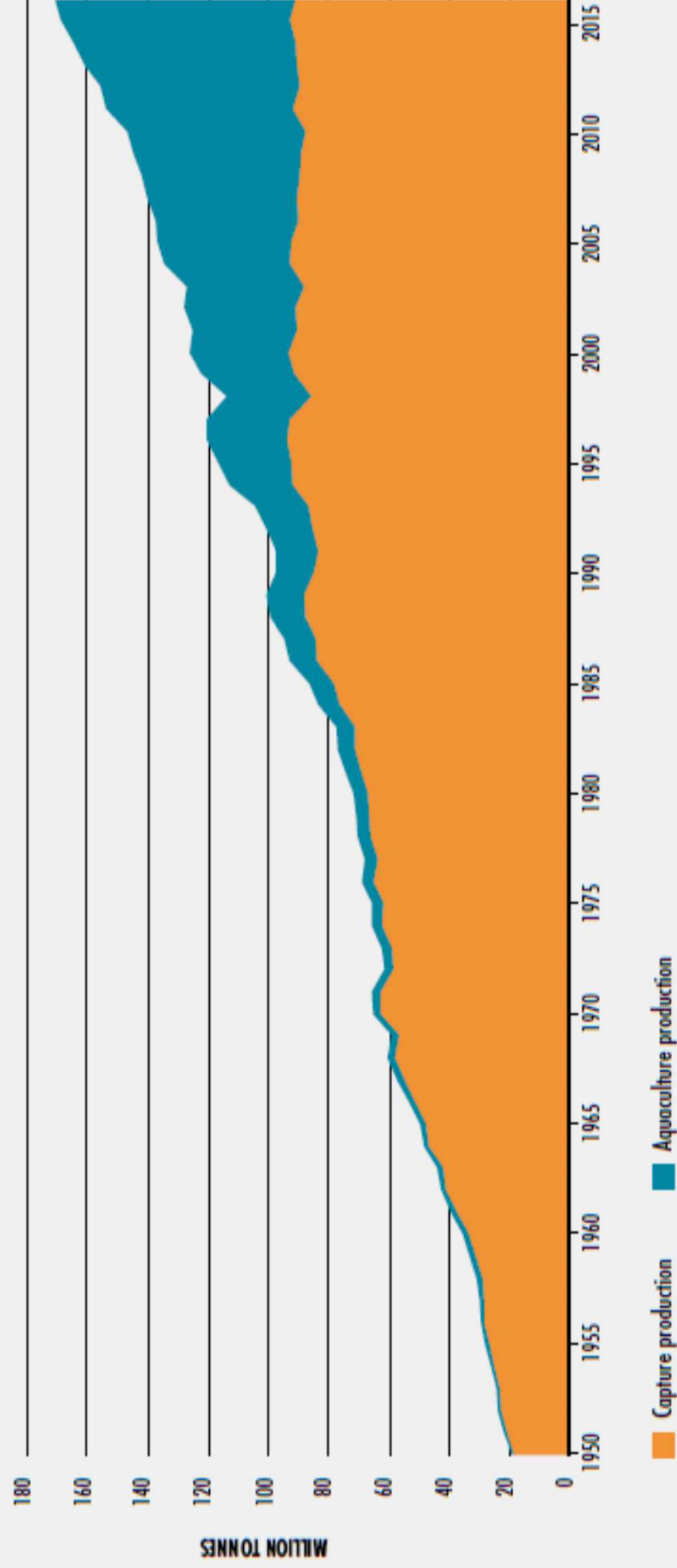
- **Scientific progress**

- 1741 – Stephen Ludwig Jacobi started artificial propagation in Germany
- 1841 – Anton Gehin and Joseph Remy were made famous by their skills in trout artificial fecundation
- 1841 – Gottlieb Boccius publishes **A Treatise On the Management Of Fresh-Water Fish, With a View To Making Them a Source Of Profit To Landed Proprietors**
- 1868 – Tomasz Dubisz, master fisherman at a complex of ponds in Iłownica re-introduced a forgotten carp breeding method of specialised ponds
- 1933 - Wilhelm Schaeperclaus published **Textbook of Pond Culture**, one of the most influential textbook in the first half of the 20th century
- Research on carp selection

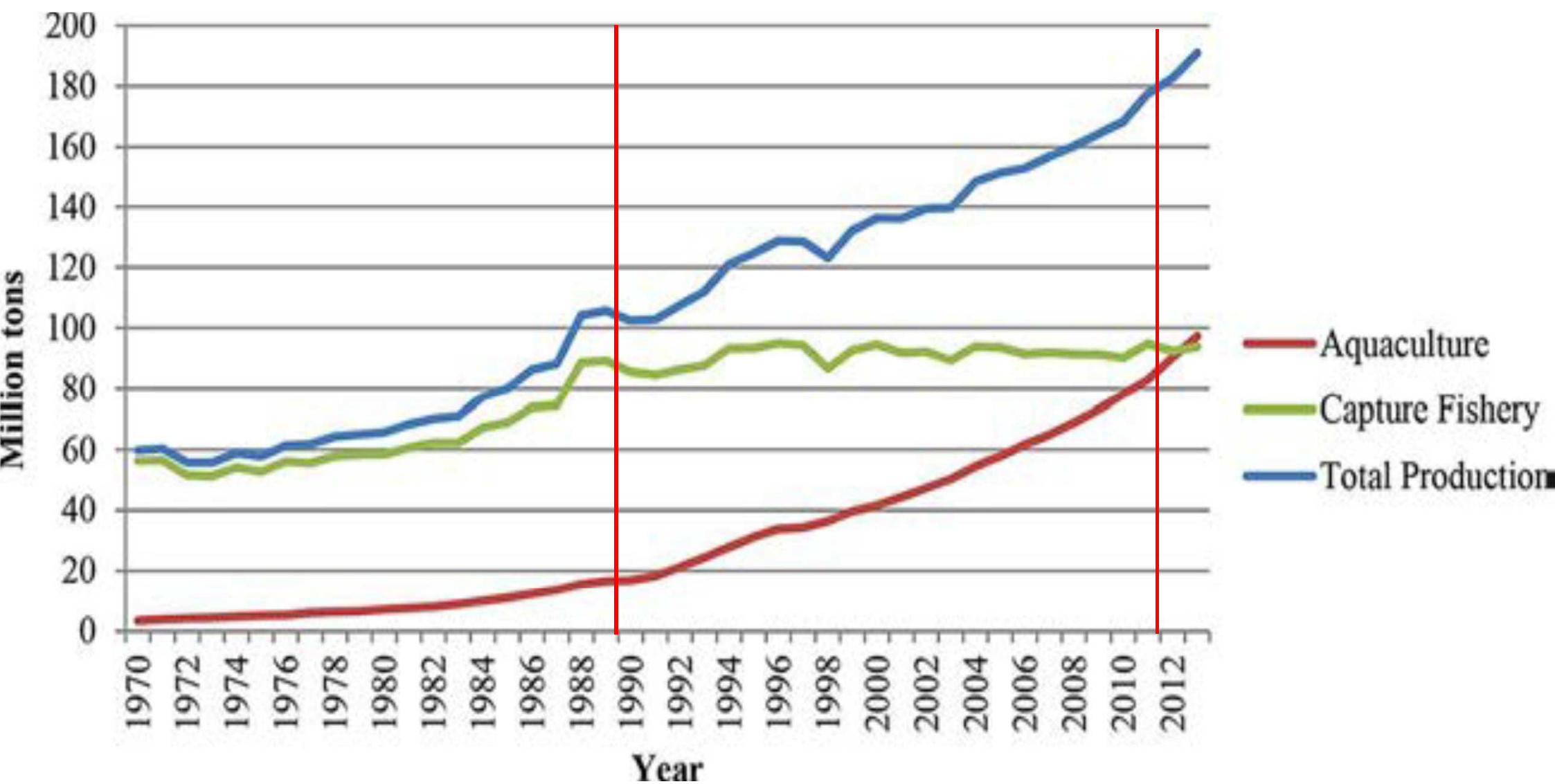
- **Legislative progress**

- **Technical progress (live and fresh transport)**
- **Organisational progress – fish farmers associations**

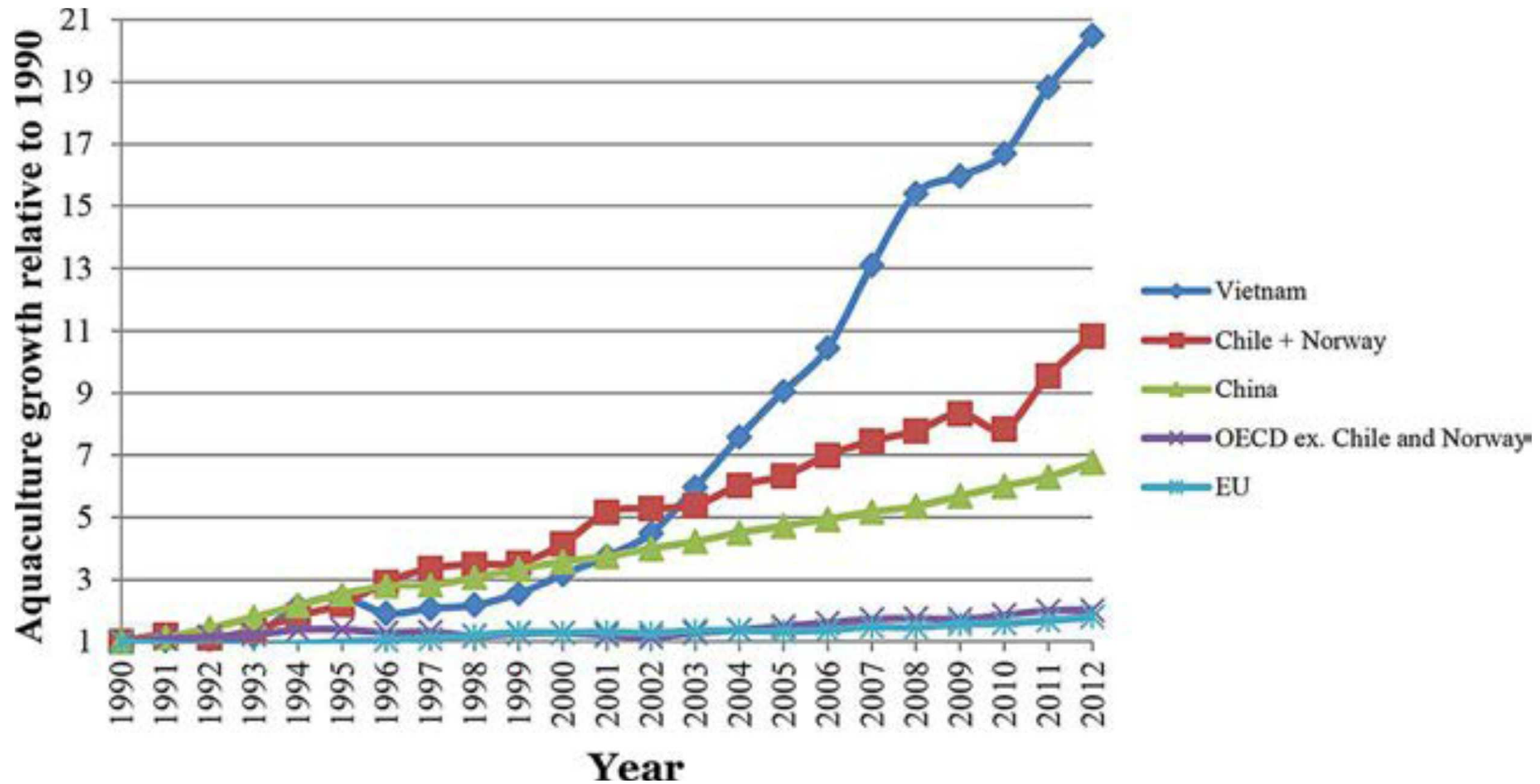
FIGURE 1
WORLD CAPTURE FISHERIES AND AQUACULTURE PRODUCTION



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

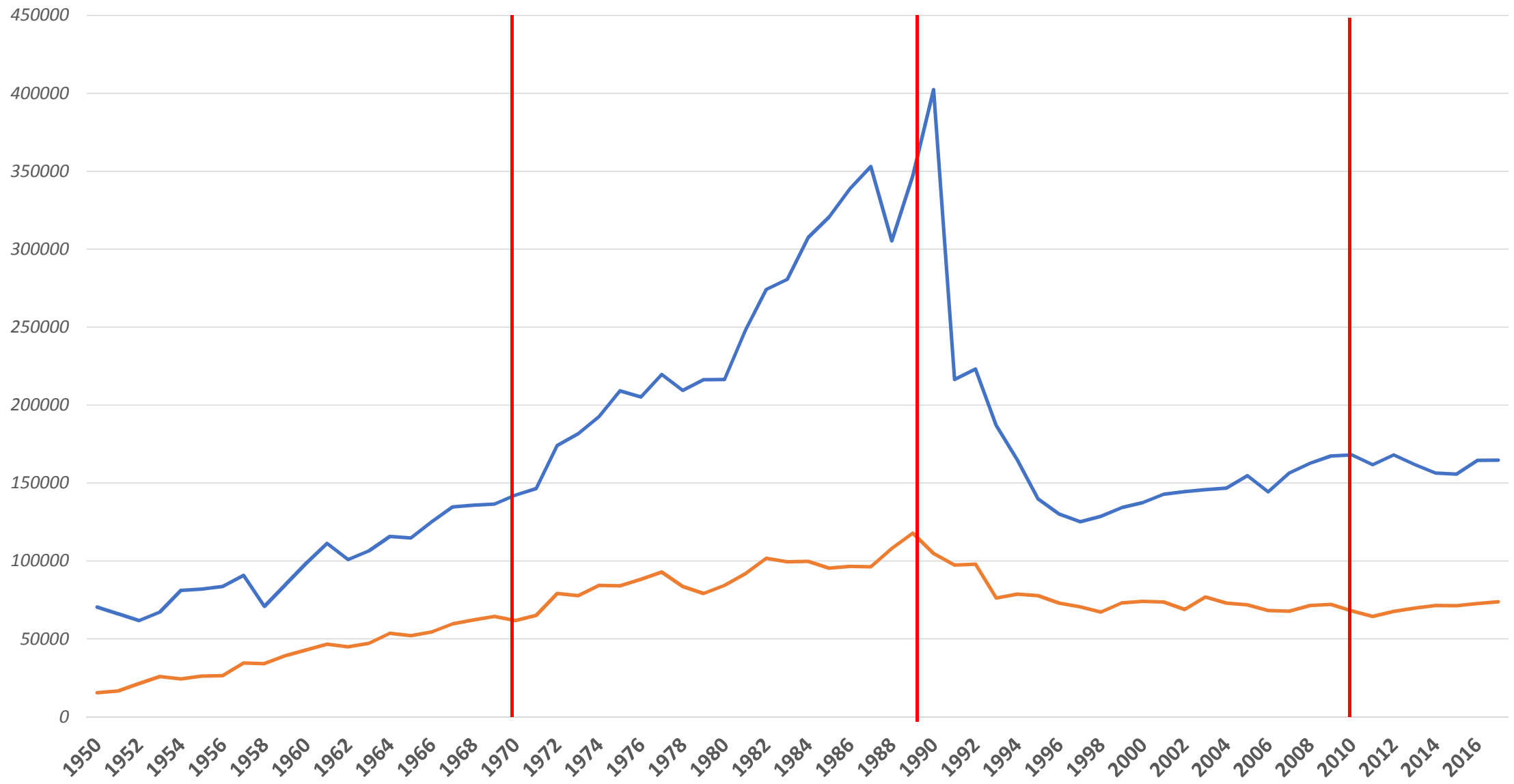


Source: Tenaw Gedefaw Abate, Rasmus Nielsen & Max Nielsen (2017): Agency rivalry in a shared regulatory space and its impact on social welfare: The case of aquaculture regulation, *Aquaculture Economics & Management*, DOI: 10.1080/13657305.2017.1334243

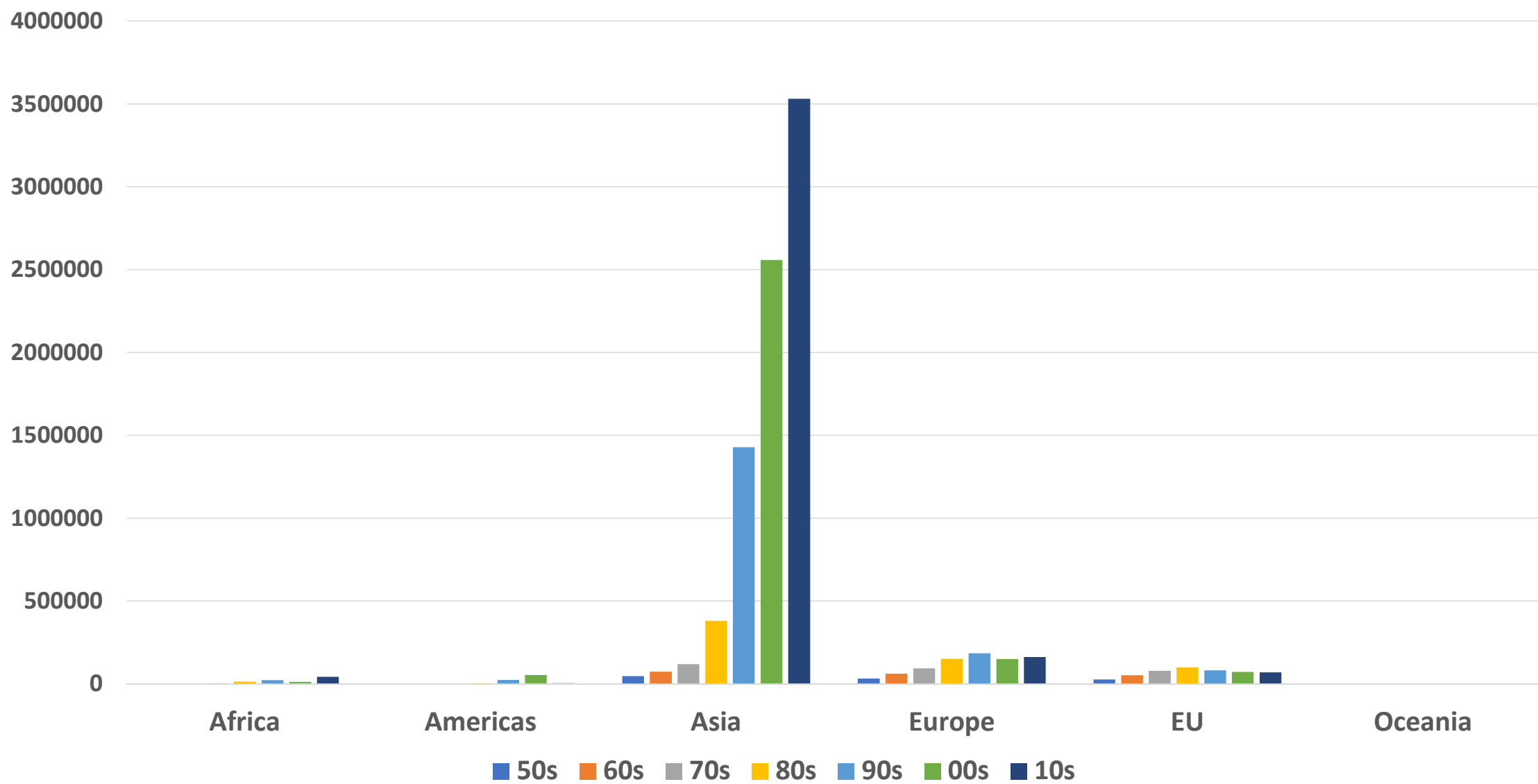


Source: Tenaw Gedefaw Abate, Rasmus Nielsen & Max Nielsen (2017): Agency rivalry in a shared regulatory space and its impact on social welfare: The case of aquaculture regulation, *Aquaculture Economics & Management*, DOI: 10.1080/13657305.2017.1334243

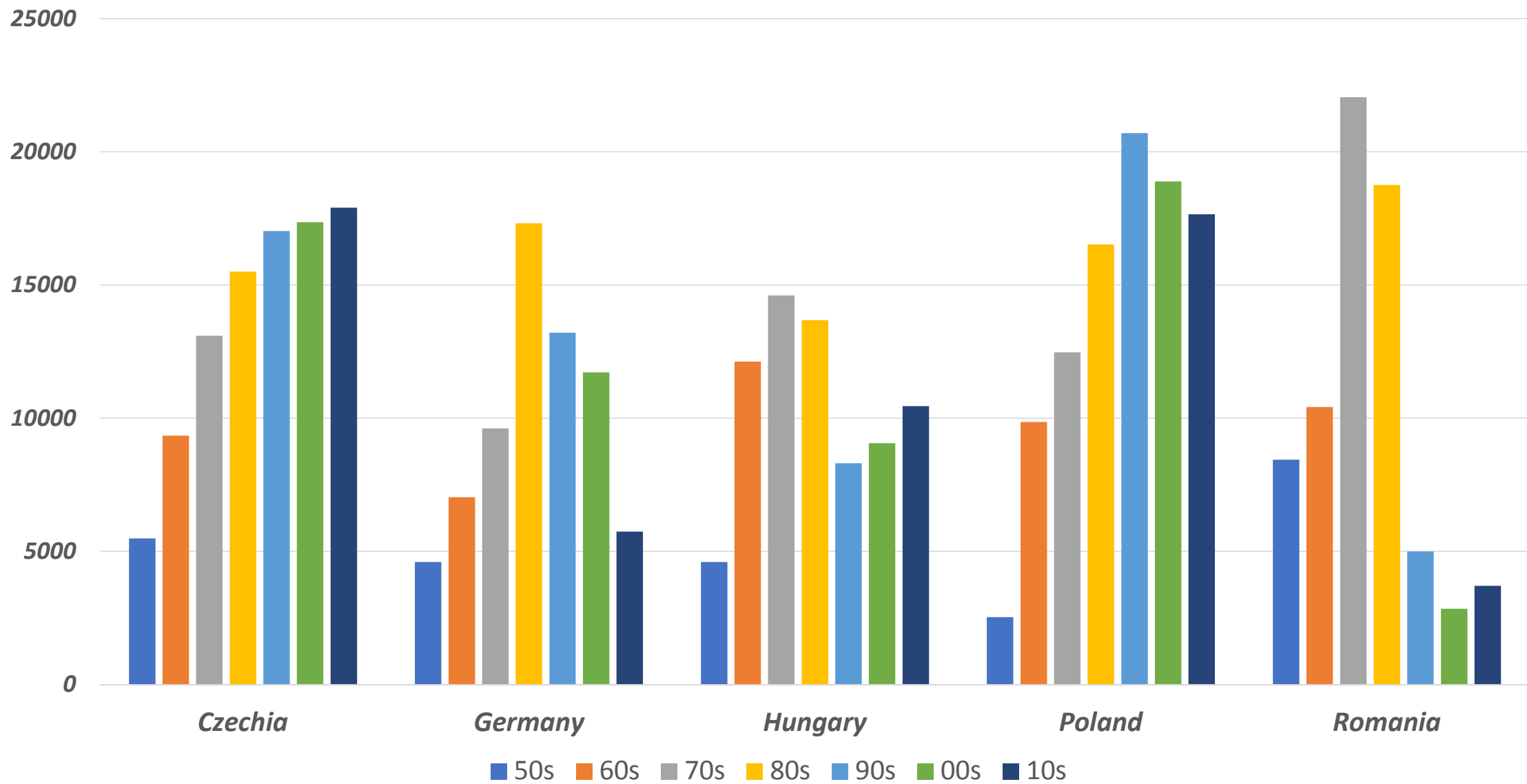
—Europe —EU



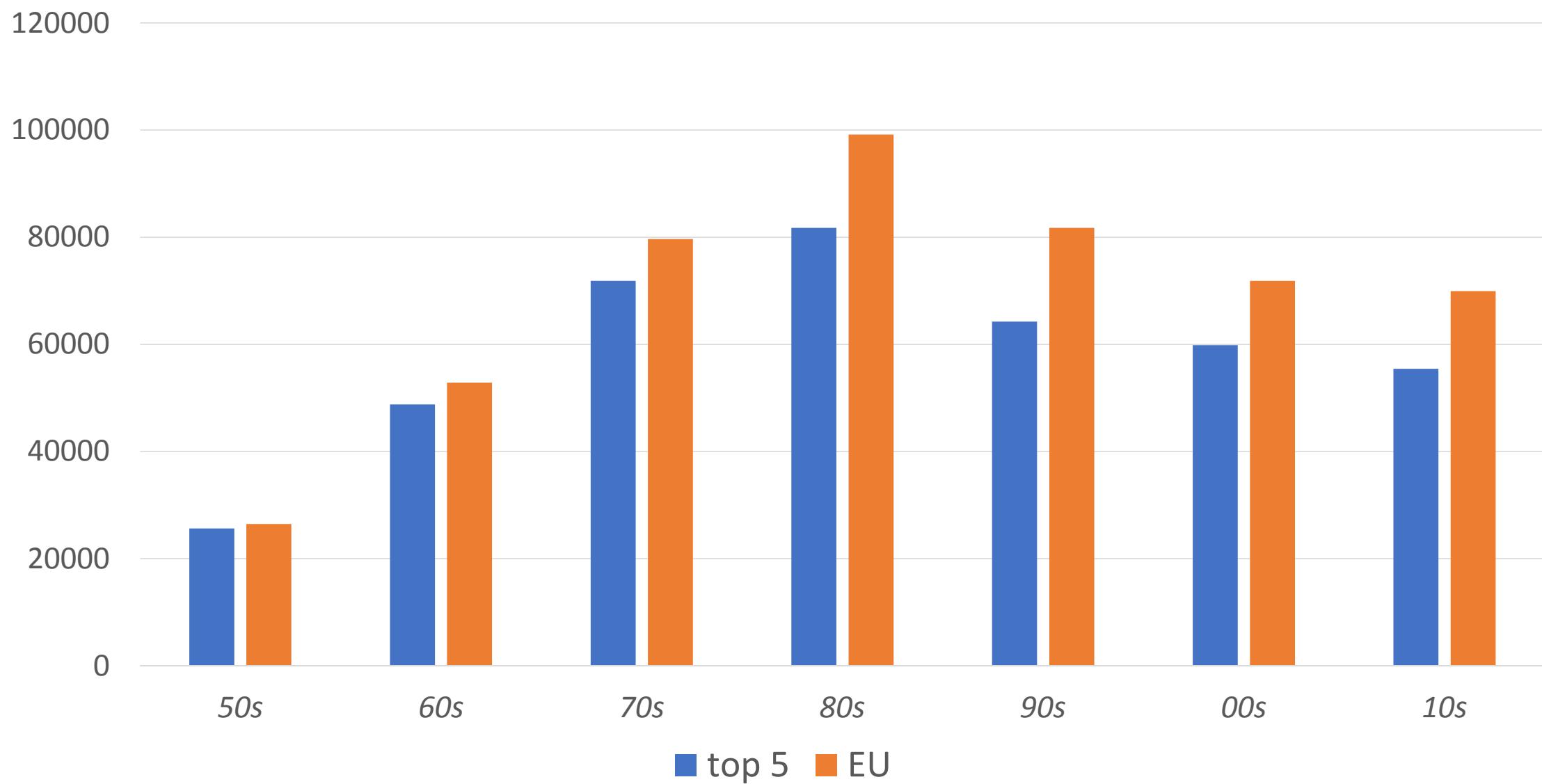
Common Carp global production, by decades



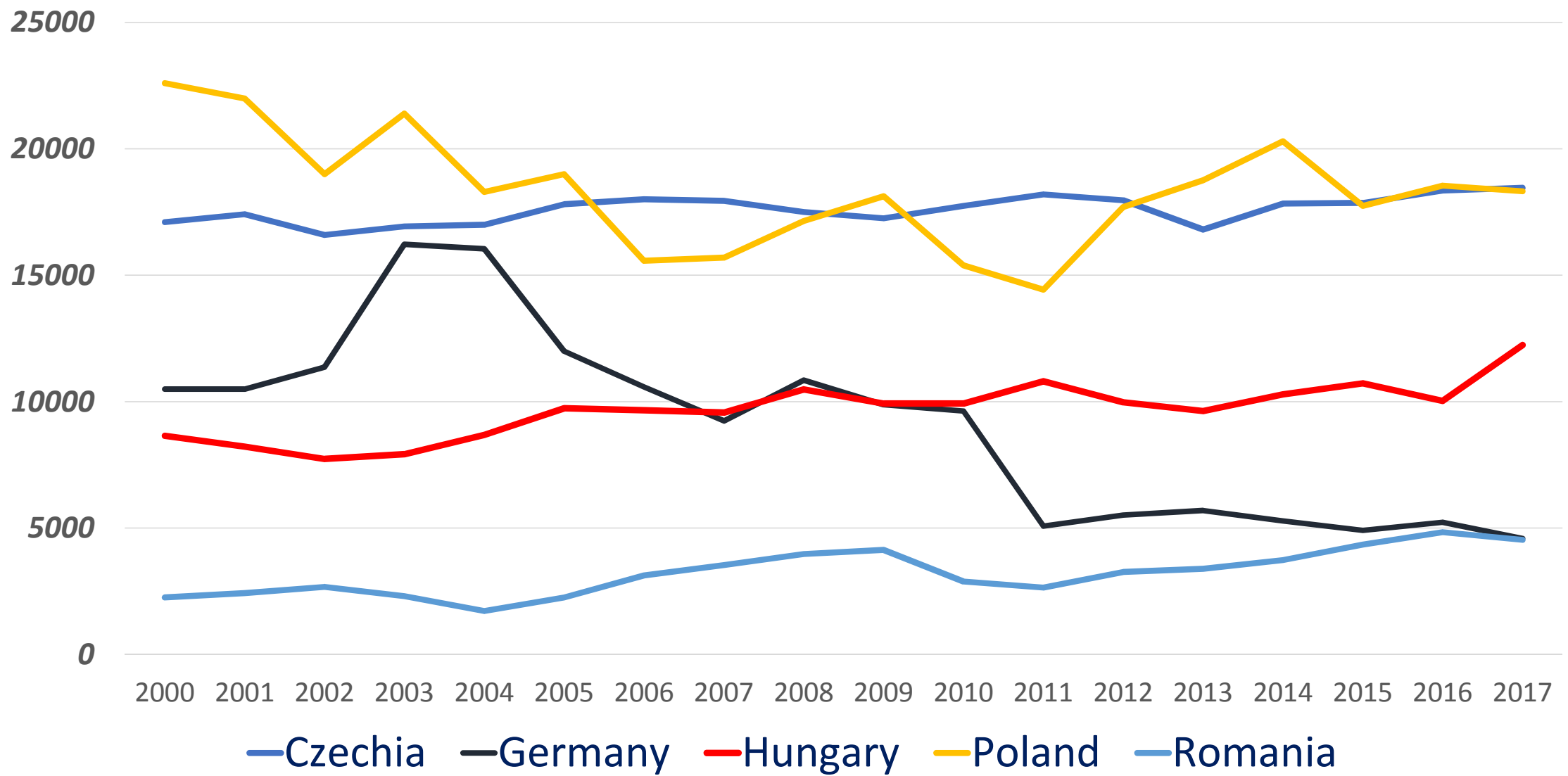
Top 5 carp producers by decades



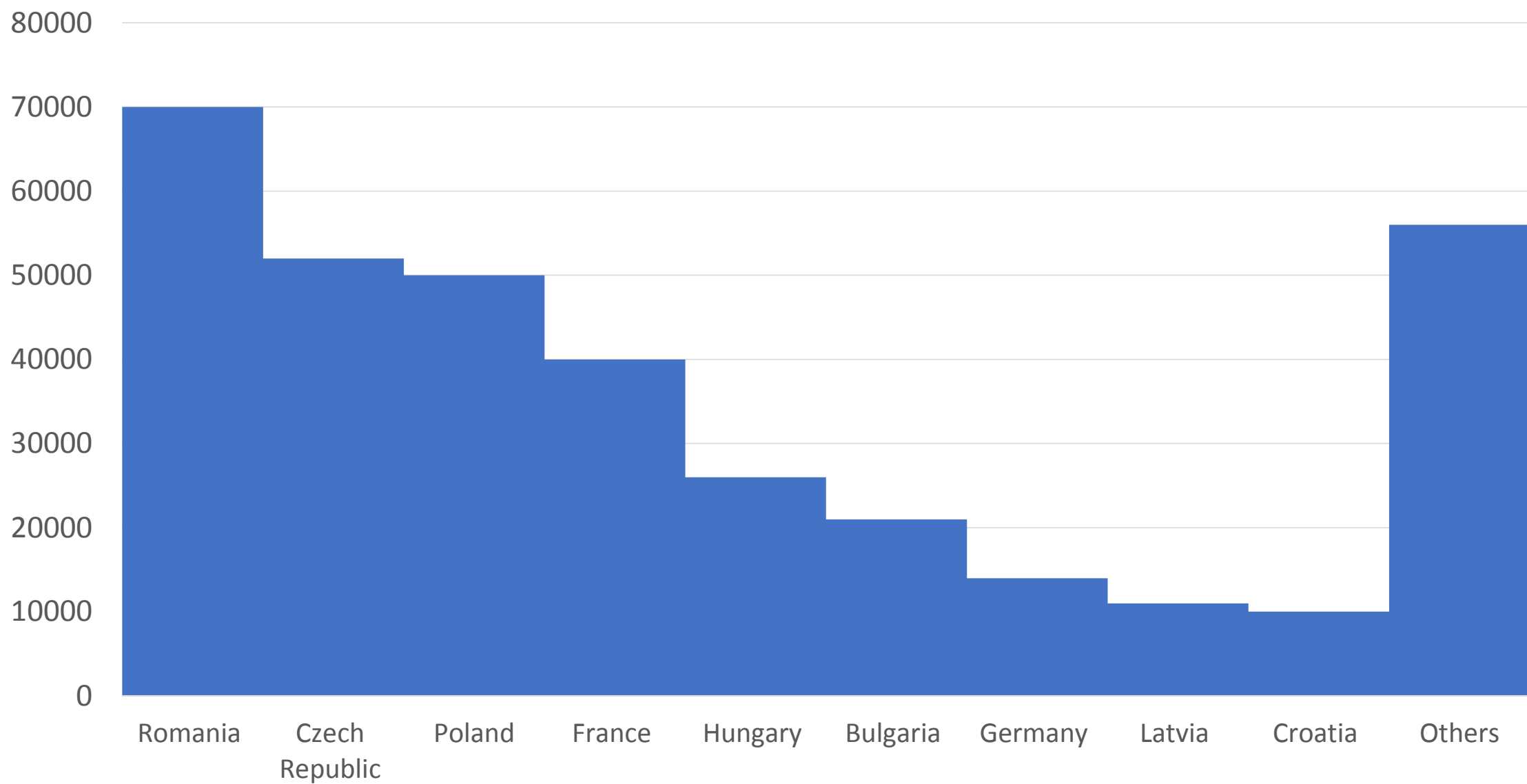
Top 5 carp producers versus EU carp production

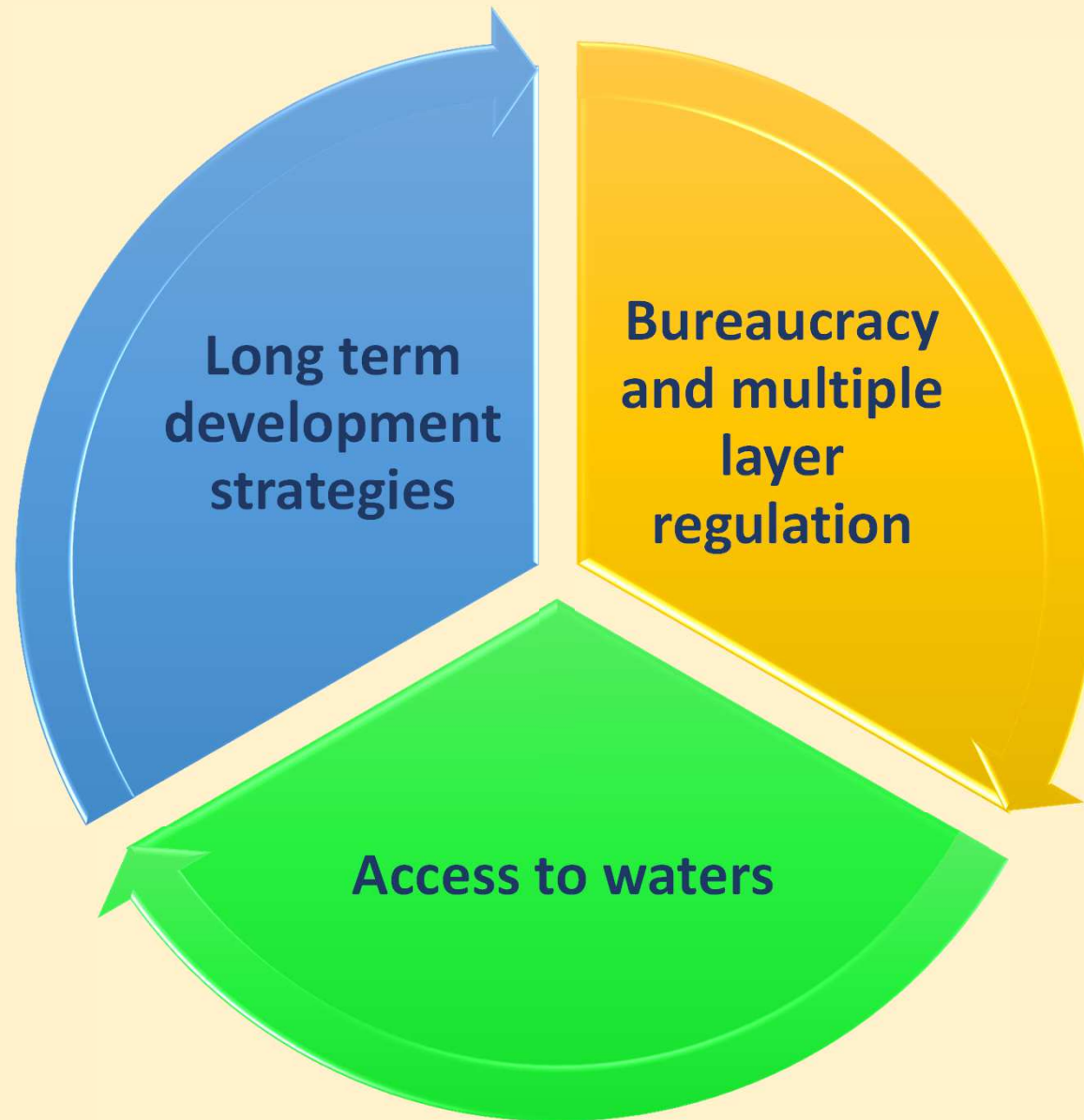


Carp production in top 5

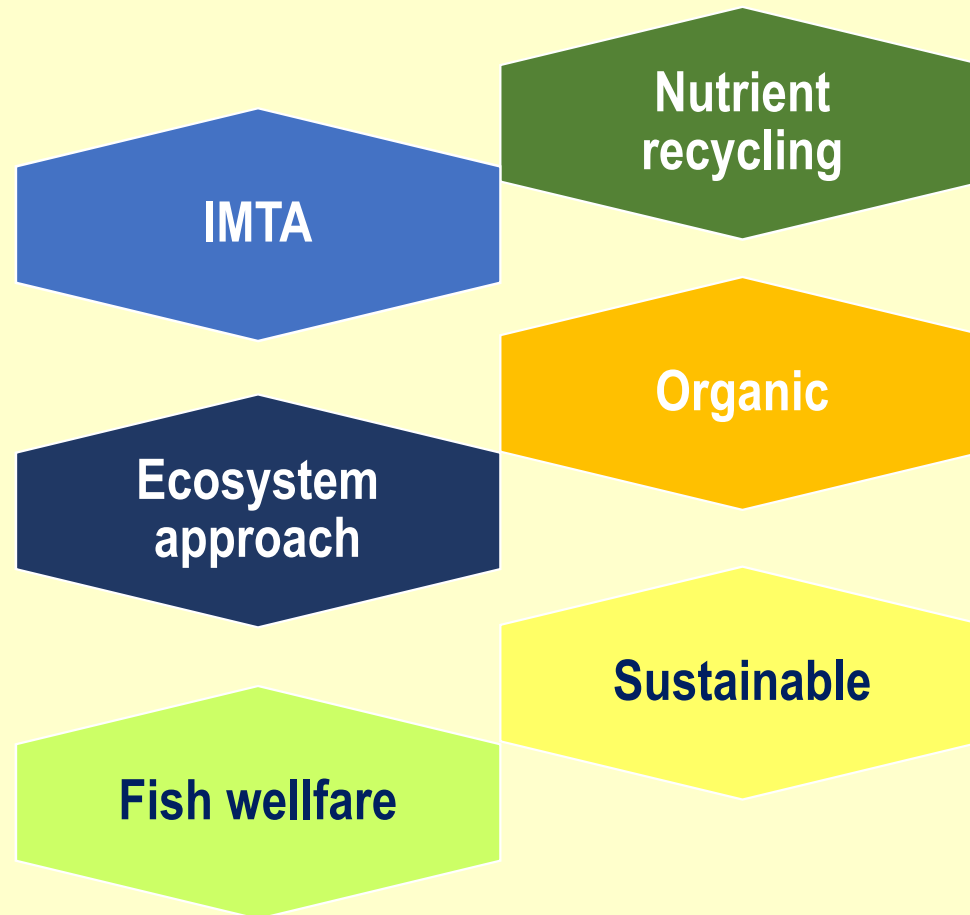


Pond fish farming area in EU





“New” concepts in aquaculture



Issues to be solved

Cooperation&Communication

Adequate, simple and fair
regulations for fish farming

Researchers & farmers

Recognition and support for
ecosystem services

Equal treatment with other
forms of agriculture



Conclusions

- World production of farmed fish relies on inland freshwater production and pond fish farming remain the most common used production facility
- Pond fish farming is one of those few animal husbandry methods which have minimal deterioration effect on the environment
- Pond fish farming is part of our cultural heritage
- Pond fish farming is an ecosystem services net provider and these services must be quantified, recognised and supported
- If increasing production is an European target adequate policies should be developed

THANK YOU FOR YOUR PATIENCE!

