

WORLDWIDE TRENDS FOR FISHMEAL AND FISH OIL – PRODUCTION, SUSTAINABILITY AND MARKET

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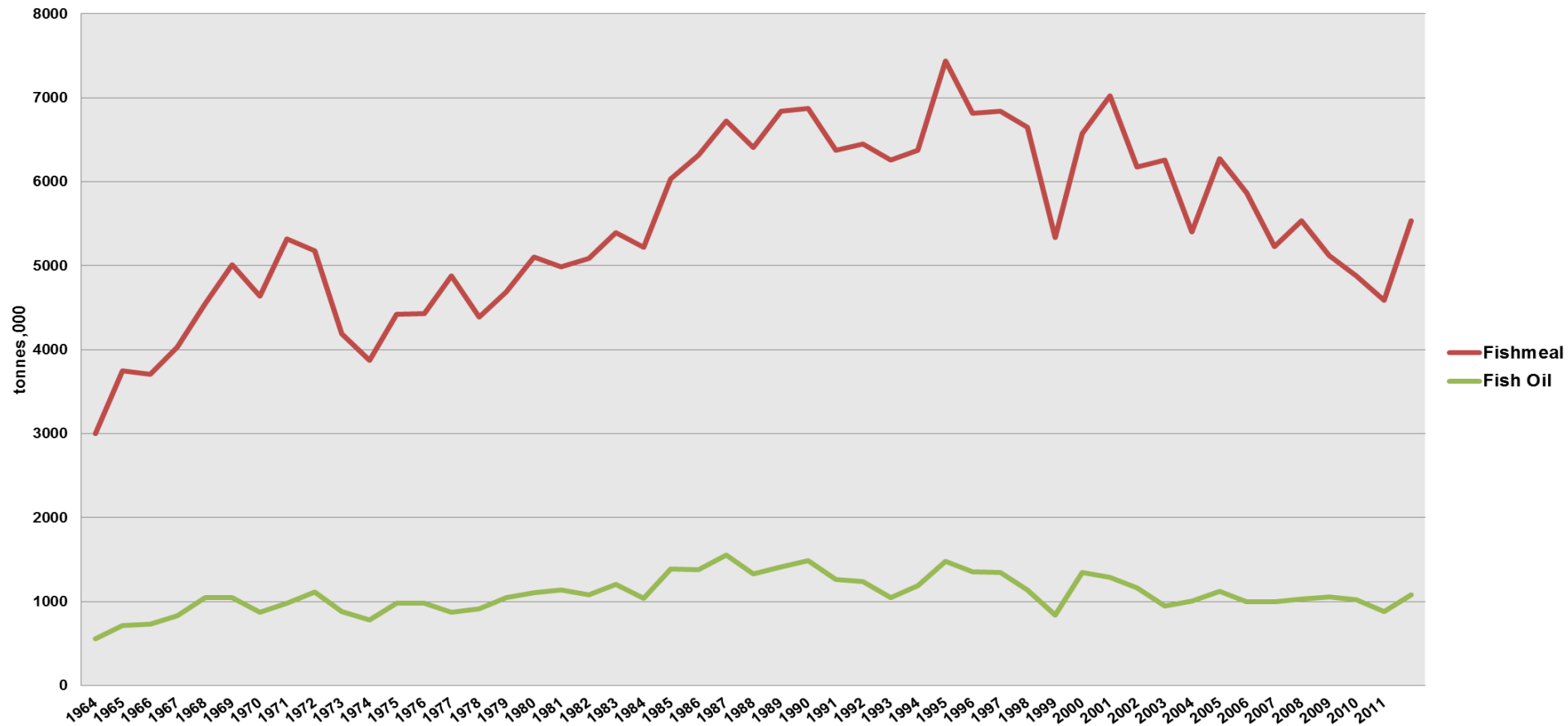
- **IFFO is the global trade association representing marine ingredient producers and others in the supply chain.**
- **Represents over 50% of world production and 75% of trade in fishmeal and fish oil worldwide with producers in Europe, South America, Africa, USA, China and India.**

SUPPLY



FISHMEAL & FISH OIL PRODUCTION

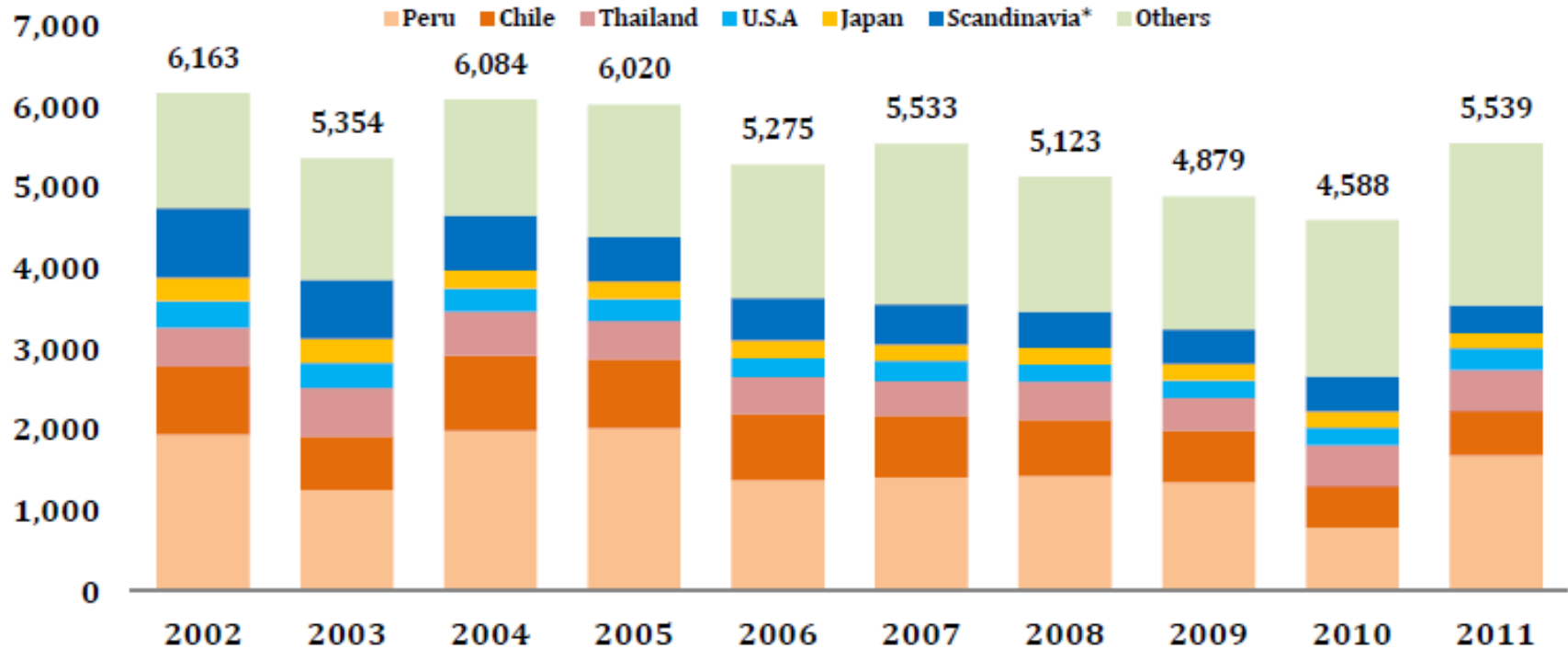
Global Fishmeal & Fish Oil Production 1964-2011
thousand tonnes



FISHMEAL PRODUCTION

FIGURE A

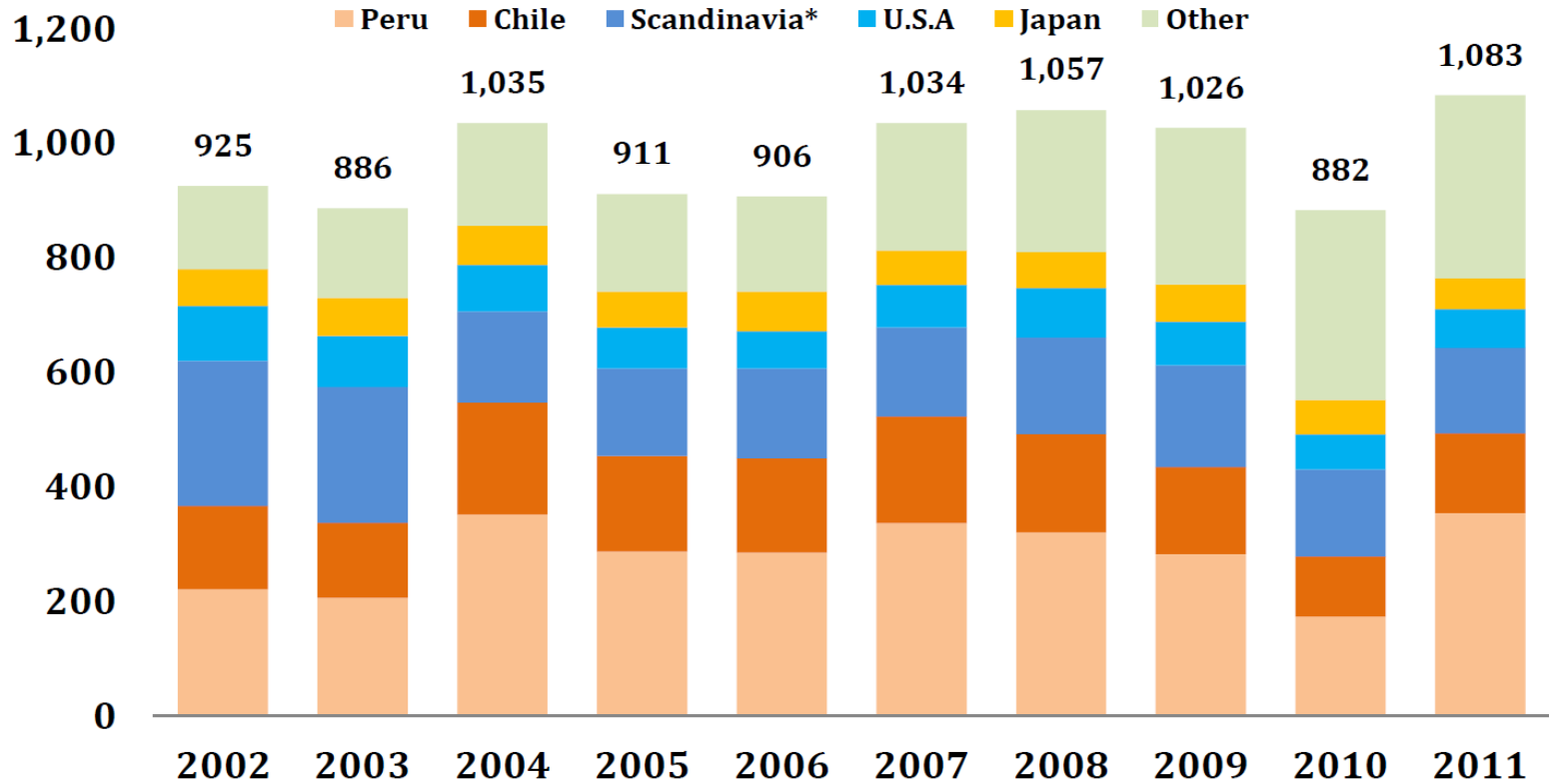
WORLD FISHMEAL PRODUCTION MAJOR PRODUCER ('000 mt)



FISH OIL PRODUCTION

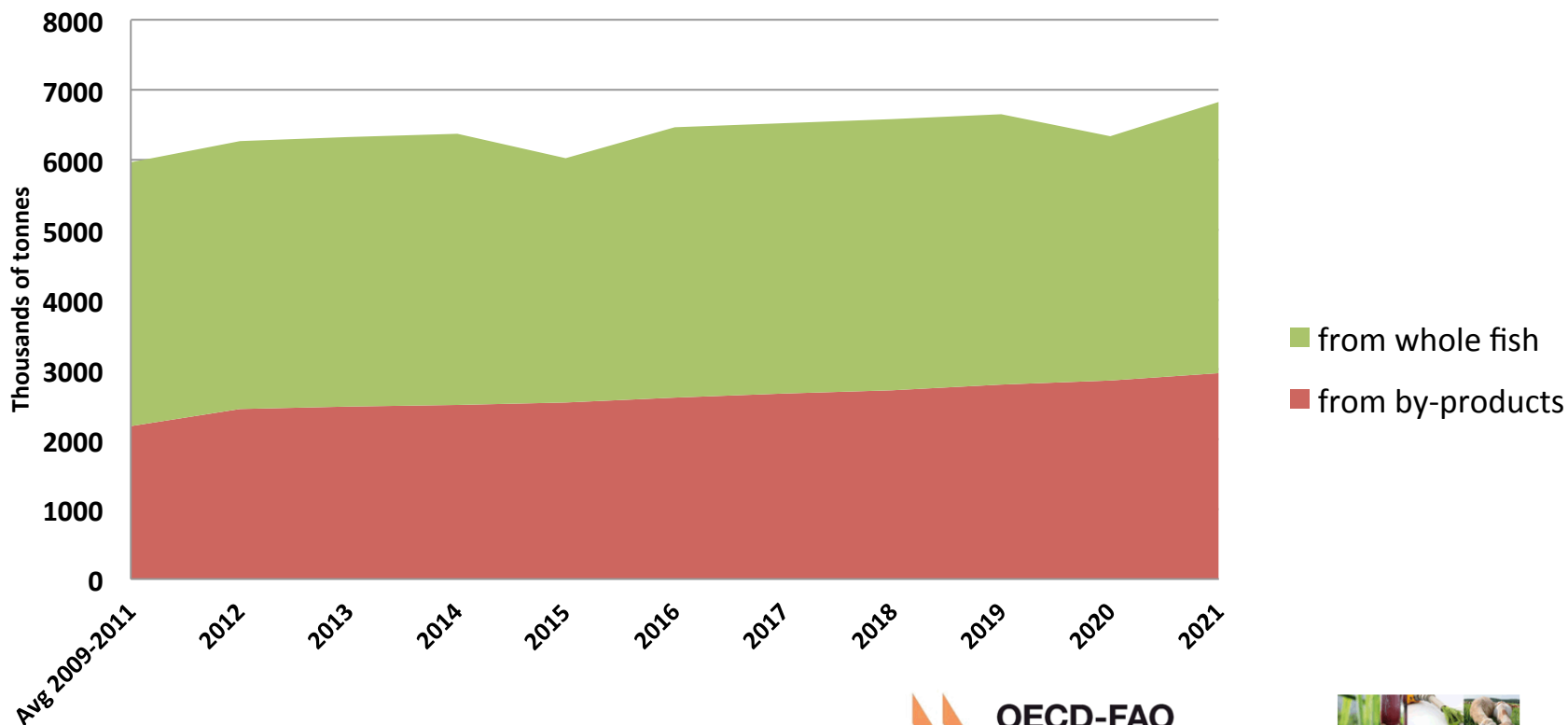
FIGURE I

WORLD FISH BODY OIL PRODUCTION MAJOR PRODUCERS ('000 mt)



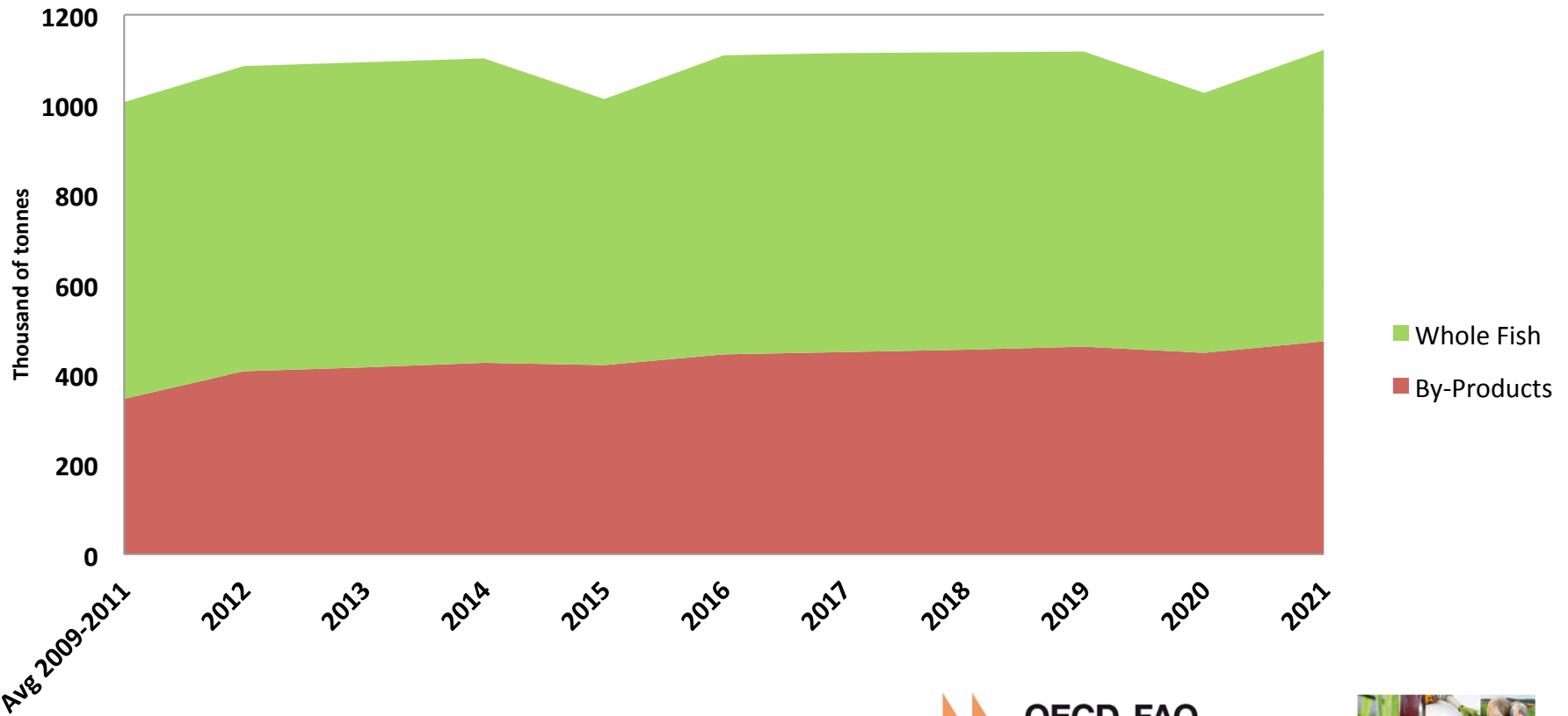
INCREASINGLY FISHMEAL IS COMING FROM BY-PRODUCTS

Estimated Fishmeal Production



THE SAME IS TRUE FOR FISH OIL

Estimated Fish Oil Production



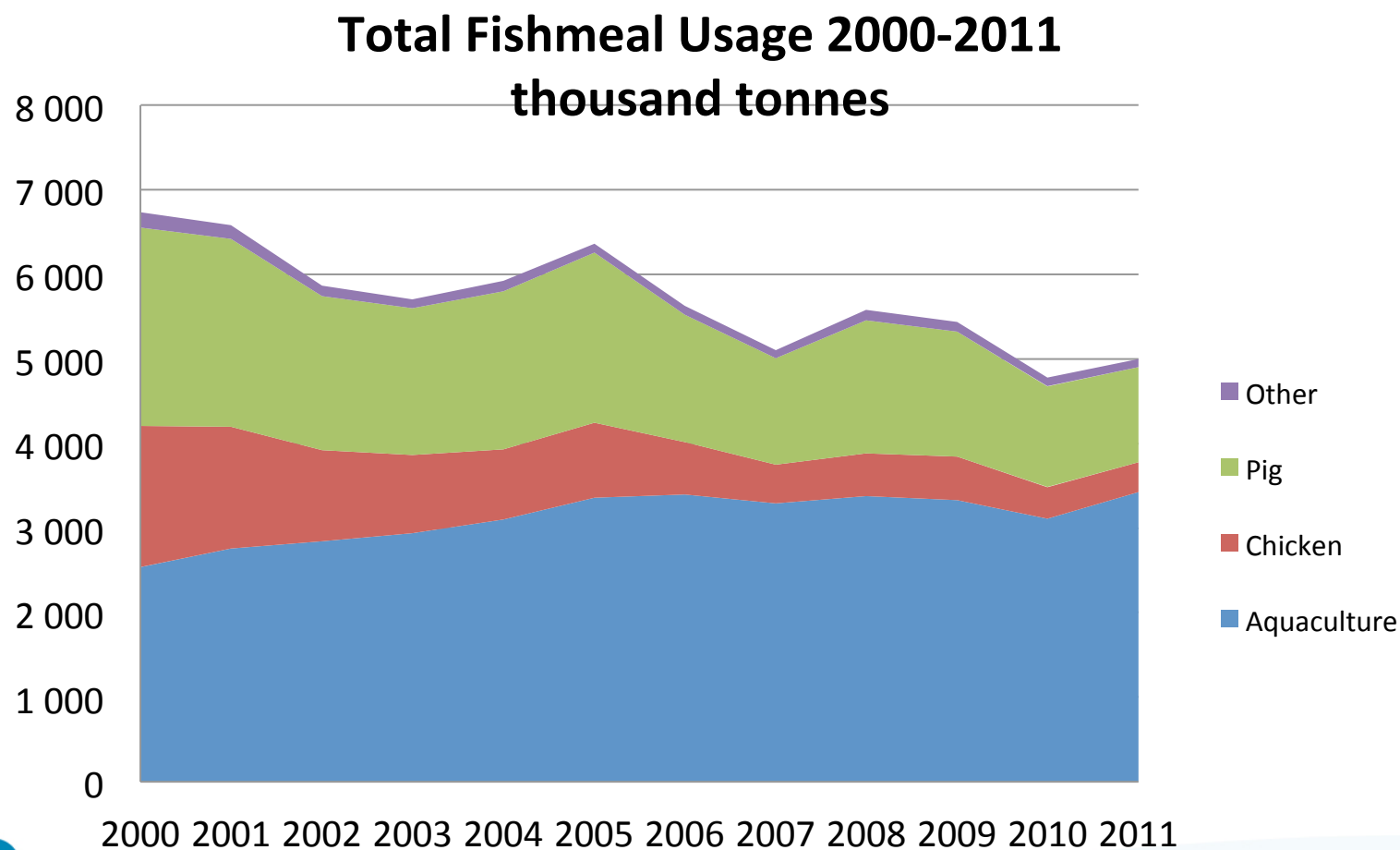
OUTLOOK FOR RAW MATERIALS

- The availability of raw materials is holding back the growth of marine ingredients
- Fewer whole fish are available due to precautionary fishing and more going for direct human consumption
- Rising value is making more by-products available
- Aquaculture by-products are increasingly providing raw material for marine ingredients

DEMAND

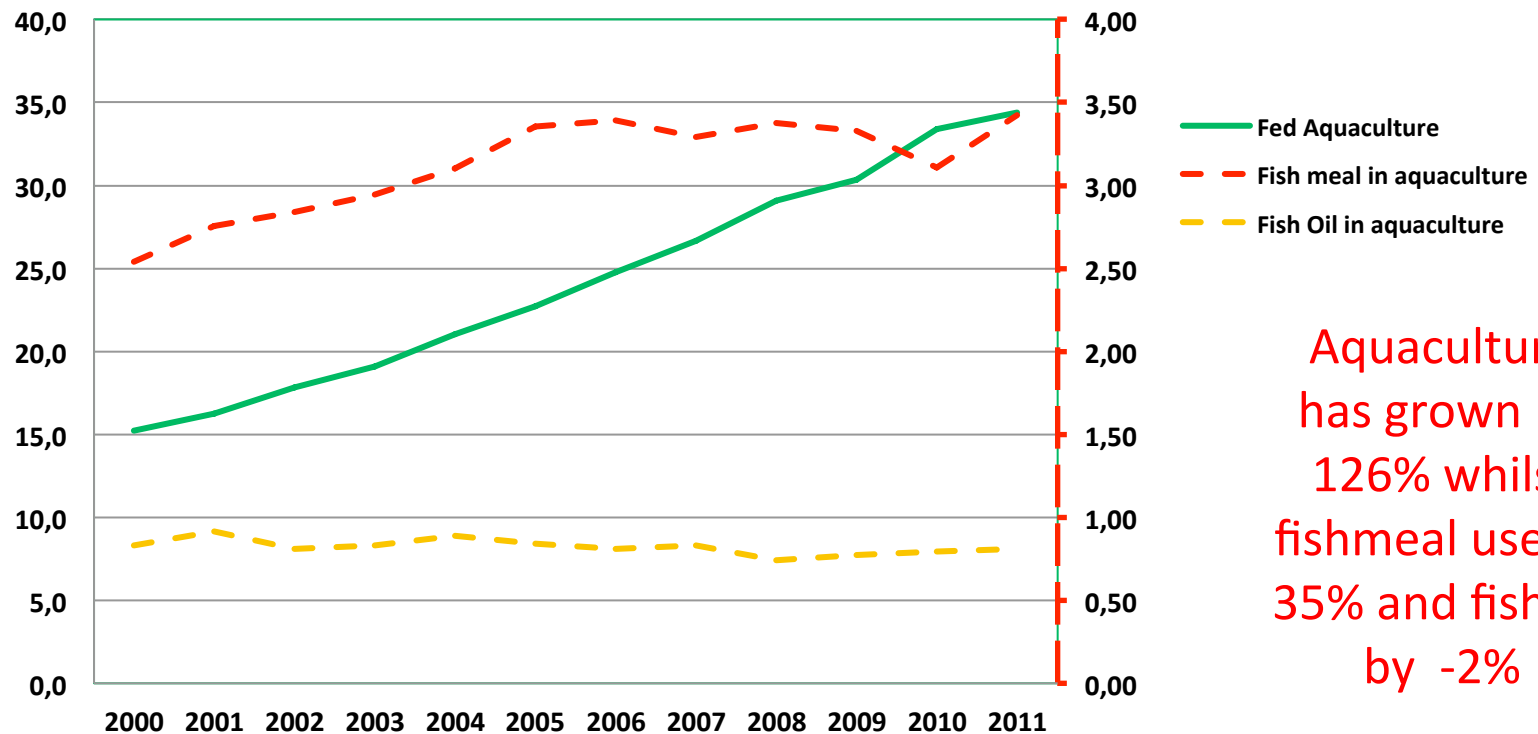


CHANGING DEMAND FOR FISHMEAL FROM DIFFERENT MARKETS



STRONG GROWTH IN AQUACULTURE WHILST LESS GROWTH IN USE OF MARINE INGREDIENTS

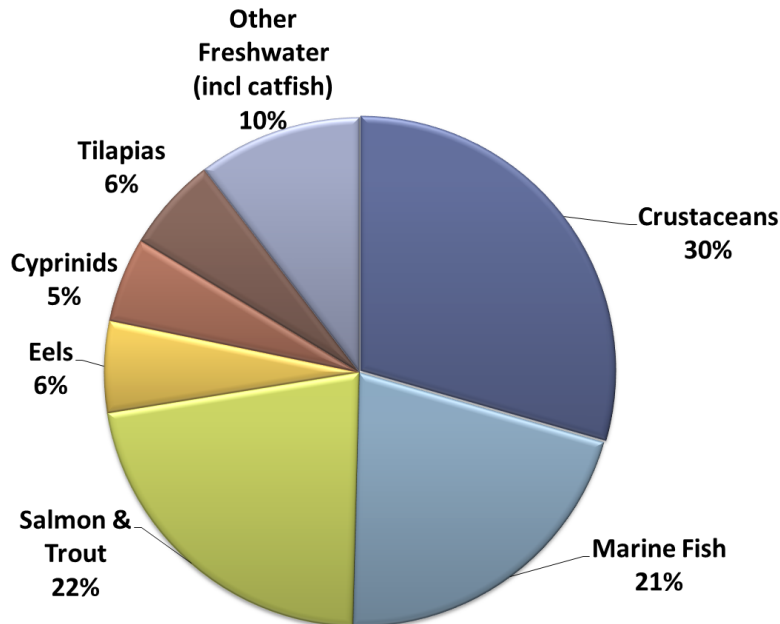
Global Aquaculture Production with fishmeal and fish oil usage 2000-2011 tonnes millions



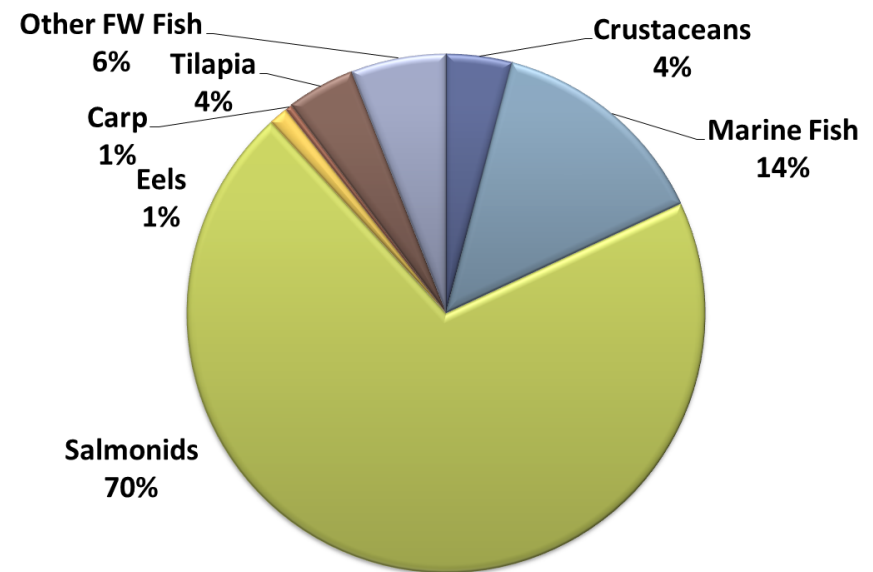
Aquaculture has grown by 126% whilst fishmeal use by 35% and fish oil by -2%

MARINE INGREDIENT USE IN AQUACULTURE

Use of Fishmeal in Aquaculture 2011

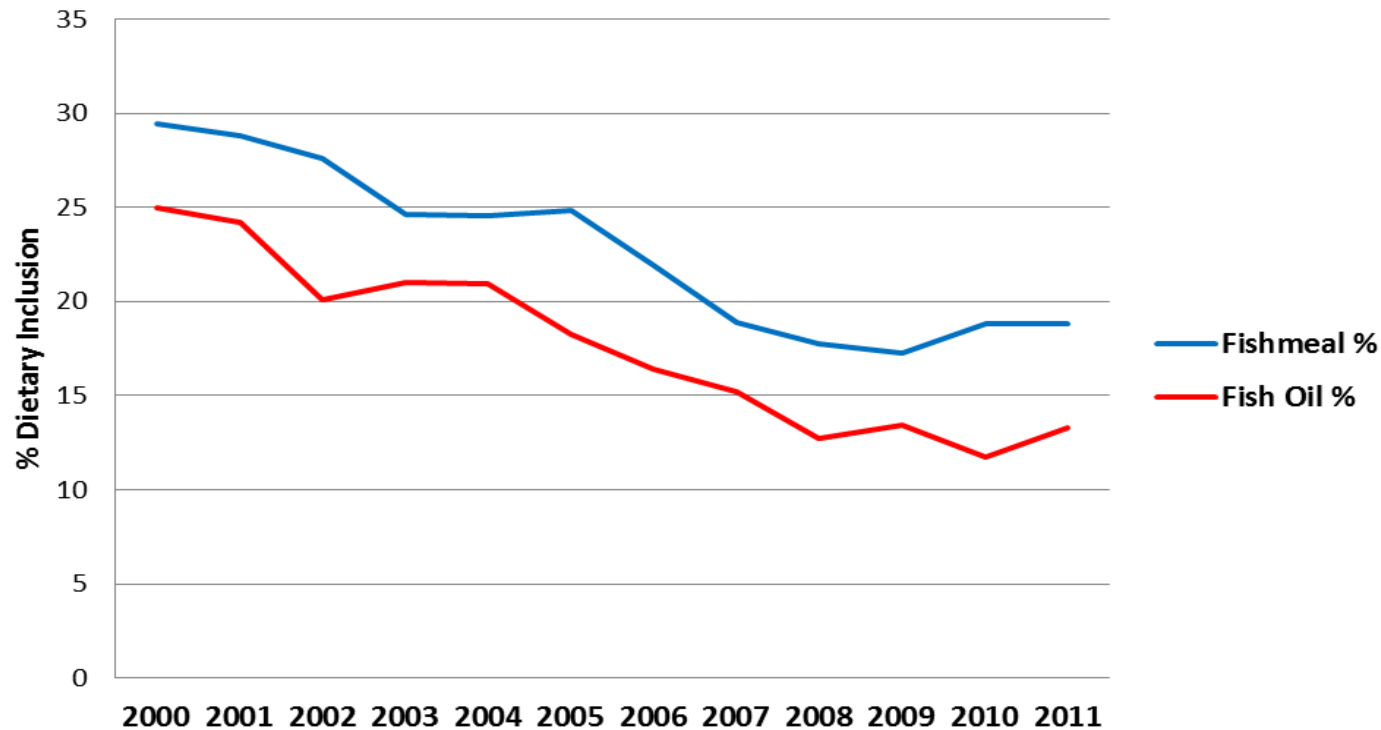


Use of fish oil in Aquaculture 2011



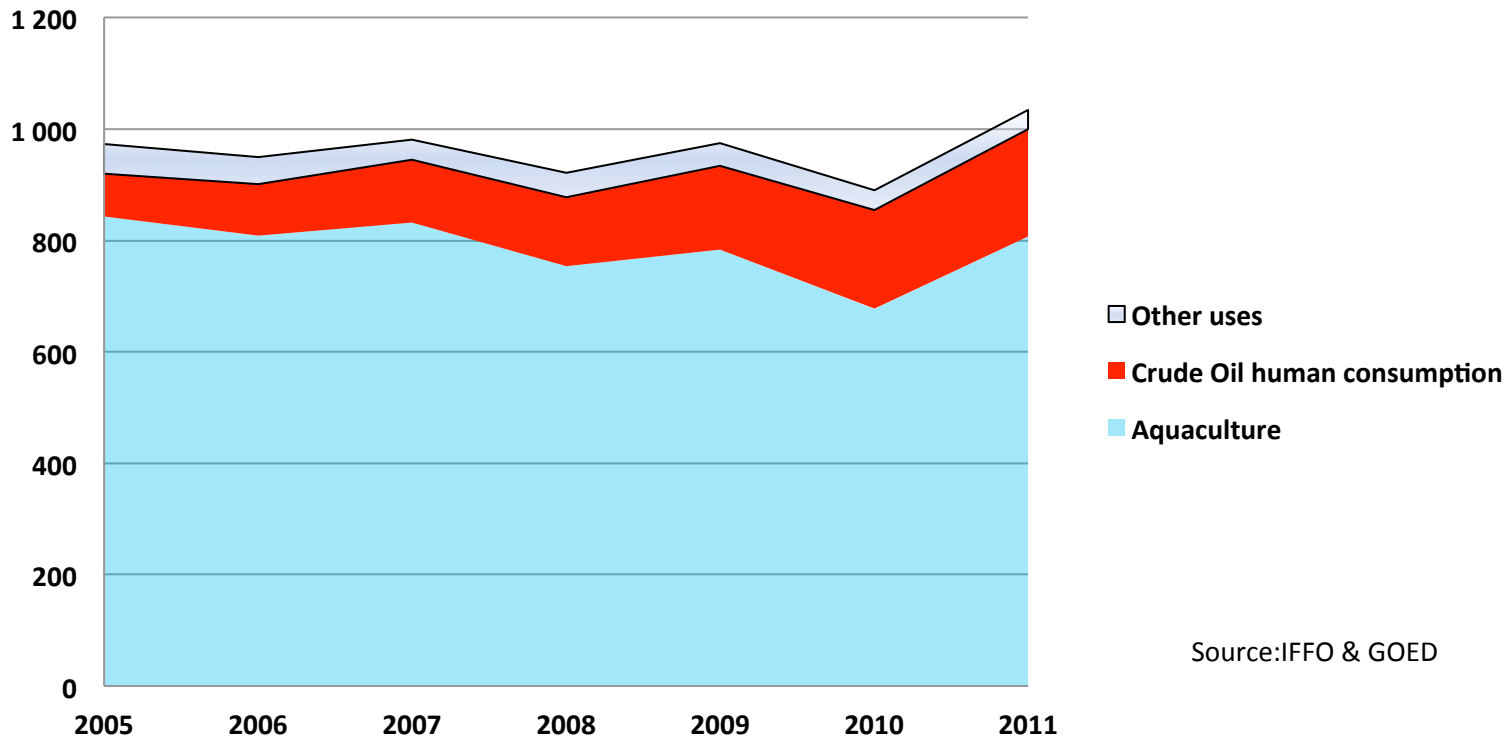
INCLUSION LEVELS IN DIETS ARE FALLING

Inclusion levels of marine ingredients in Salmonid diets 2000-2008



INCREASING VOLUMES OF OIL GOING FOR DIRECT HUMAN CONSUMPTION

Global Fish Oil usage (tonnes ,000)
2005-2011



Source:IFFO & GOED

OUTLOOK DEMAND

- **Fishmeal**

- Continuing demand from specialist pig & poultry diets
- Aquaculture will continue to be the biggest user – reducing inclusion levels will be compensated by growth in volumes
- Small but growing volumes for direct human consumption

- **Fish Oil**

- Growing volumes for direct human consumption
- Salmon will continue to use significant volumes to maintain health claims (what about tuna?)
- Essential fatty acid requirement of other aquaculture species will continue to be a significant user

SUSTAINABILITY



90%
ALL LARGE PREDATORY FISH
INCLUDING TUNA, SHARKS,
SARDINES, COD & HALIBUT
ARE GONE

27
MILLION
TONNES OF FISH ARE
THROWN OUT
EACH YEAR!

80%
OF THE WORLD'S FISHSTOCKS
ARE ALREADY FULLY
EXPLOITED

SCIENTISTS PREDICT THAT
CURRENT TRENDS CONTINUE
WORLD FOOD FISHERIES
COULD
COLLAPSE ENTIRELY
BY 2050

WWF

Dear Mr. Simon Conway, President of the Council of European Fisheries Ministers:
DO SOMETHING HISTORIC. END OVERFISHING. NOW.

EUROPE IS WATCHING YOU

FISHMEAL & FISH OIL SHOULD ONLY BE MADE FROM RESPONSIBLY SOURCED RAW MATERIALS

- Increasingly buyers/consumers are looking for reassurance about sourcing of marine ingredients
- Very little raw material from “Sustainably” certified fisheries
- What there is comes mostly from by-products of MSC certified fisheries



FISHMEAL SHOULD ONLY BE MADE FROM RESPONSIBLY SOURCED RAW MATERIALS

- Six years ago IFFO decided a Responsible Supply standard was needed
- Working with multi-stakeholder group including eNGOs & retailers a standard was developed
- Unit of certification is the factory which must responsibly source raw material and responsibly produce meal & oil
- Whole fish raw material must come from fisheries that are managed under FAO Code of Conduct for Responsible Fishing



INCREASING VOLUMES OF IFFO RS CERTIFIED MATERIAL ARE AVAILABLE

- First factory was certified in 2009
- Around 40% of global fishmeal and fish oil production is now certified
- Chain of Custody standard also available



THANK YOU