



Shrimp Production Estimates & Trends

James L. Anderson

**Fisheries and Aquaculture Adviser, The World Bank's Global
Program on Fisheries (PROFISH)**

Zhi Li

PhD Candidate, University of Rhode Island



JIM ANDERSON

World Bank

Dr. Anderson is in charge of the World Bank's Fisheries & Aquaculture Team and its Global Program on Fisheries (PROFISH).

Until recently, he was Professor and Chair at the Dept. of Environmental & Natural Resource Economics, University of Rhode Island, Kingston, USA

Conducted research in the area of fisheries and aquacultural economics since 1980.

Focused on seafood price forecasting, analysis of seafood markets, auctions, market structure and other pricing mechanisms, and the relationship between the seafood market and environmental policies and regulation.

GOAL 2010

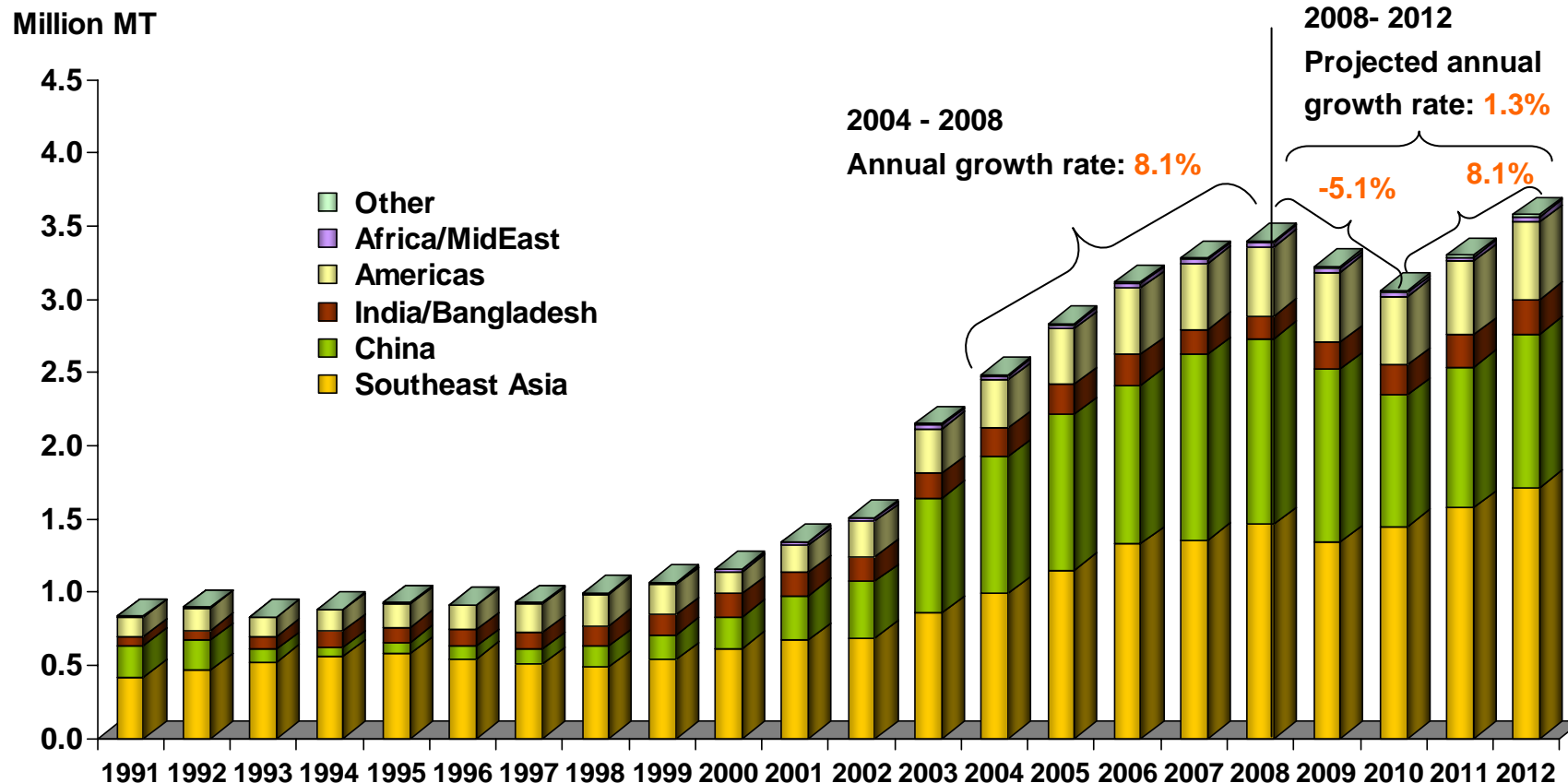
Shrimp Production Survey

Issues & Challenges



GOAL 2010 Survey

Shrimp Aquaculture Production by World Region: 1991 - 2012



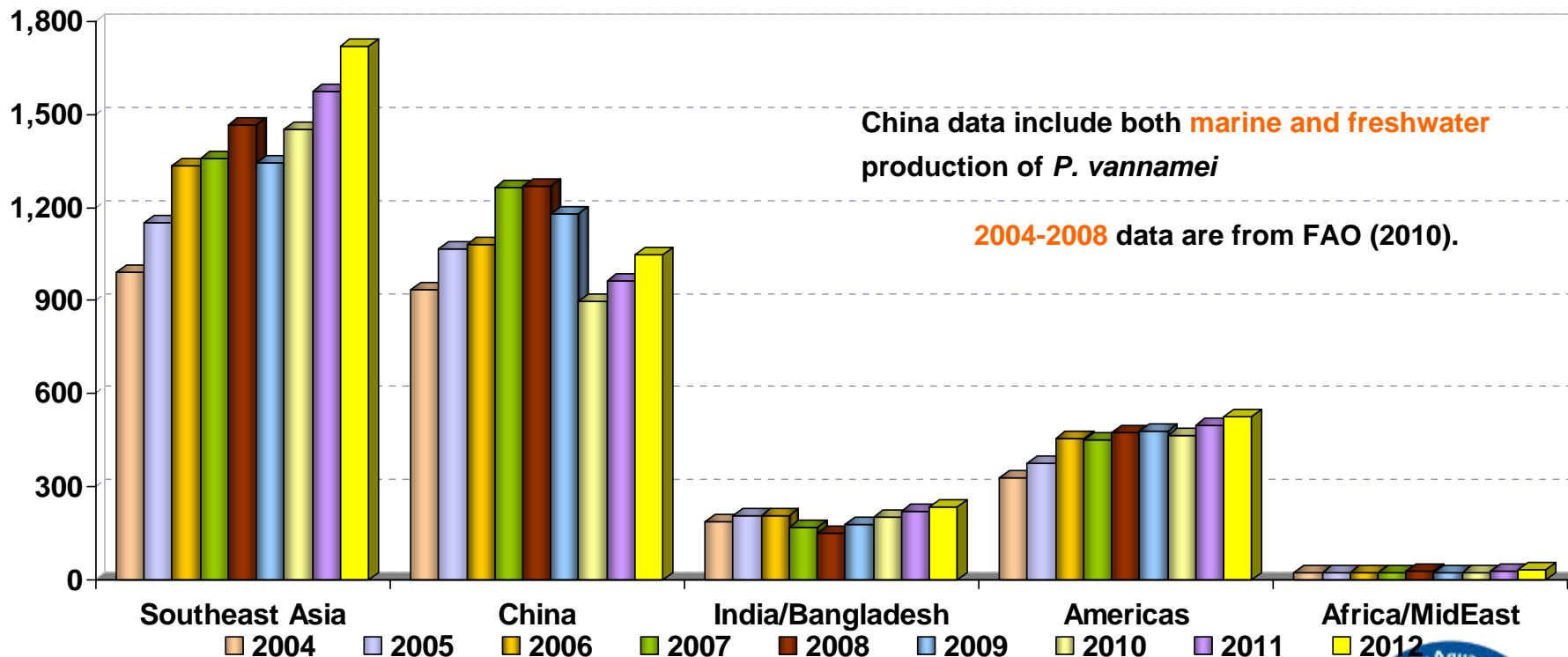
Sources: FAO (2010) & GOAL (2010, 2009).

Note: *M. rosenbergii* is not included.



Shrimp Aquaculture by Major Producing Regions: 2004 – 2012

Thousand MT



Sources: FAO (2010) & GOAL (2010, 2009).

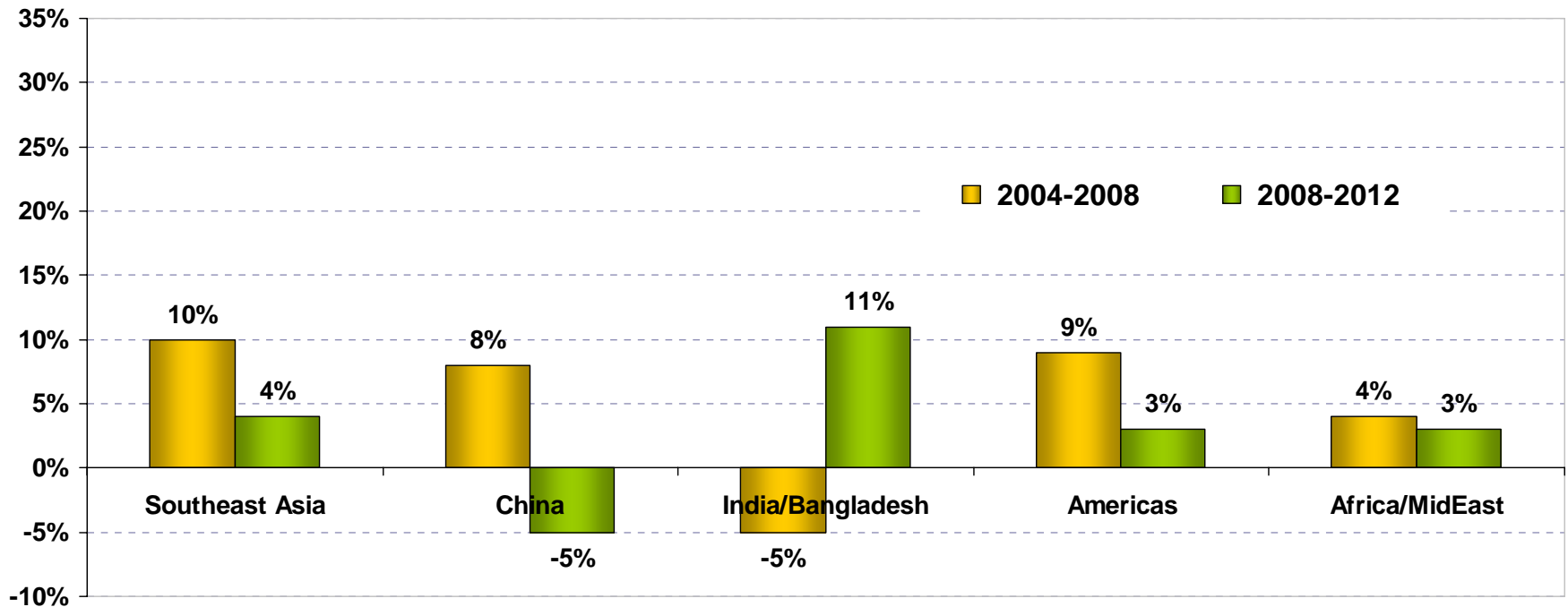
Note: *M. rosenbergii* is not included.



Shrimp Aquaculture by Major Producing Regions:

2004-2008 vs. 2008-2012

Average Annual
Growth Rate



Sources: FAO (2010) & GOAL (2010, 2009).

Note: *M. rosenbergii* is not considered.

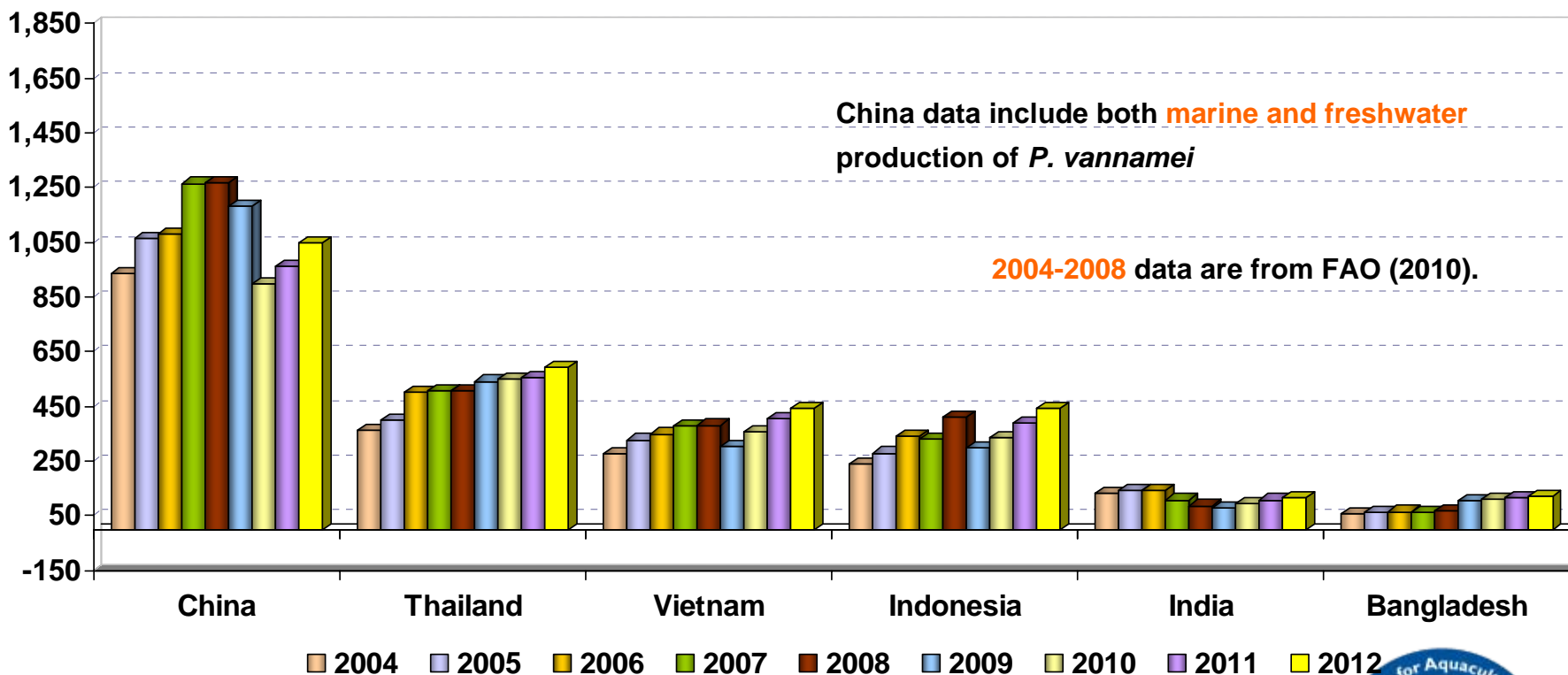


GOAL 2010 Survey

Shrimp Aquaculture Production in Asia:

2004 - 2012

Thousand MT



Sources: FAO (2010) & GOAL (2010, 2009).

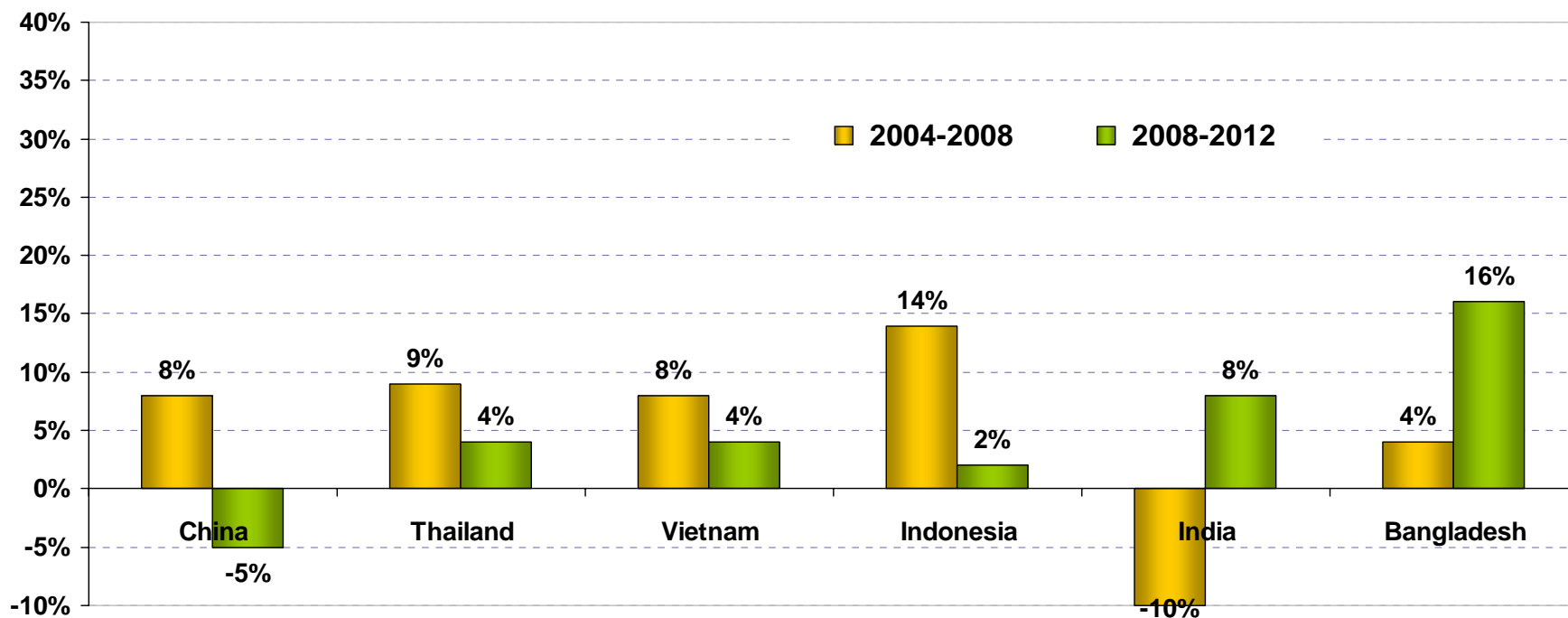
Note: *M. rosenbergii* is not included.



Shrimp Aquaculture Production in Asia:

2004-2008 vs. 2008-2012

Average Annual
Growth Rate

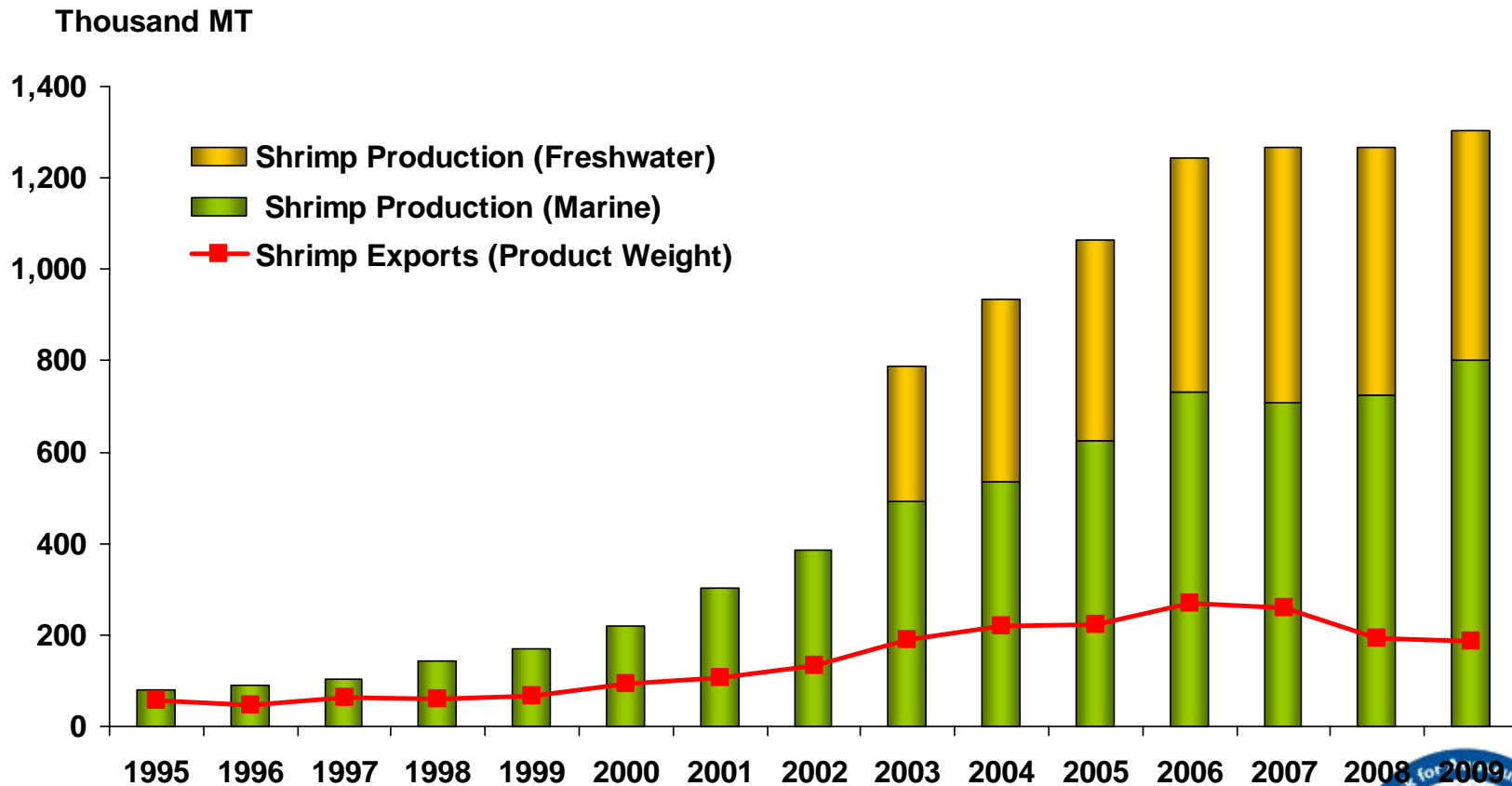


Sources: FAO (2010) & GOAL (2010, 2009).

Note: *M. rosenbergii* is not considered.



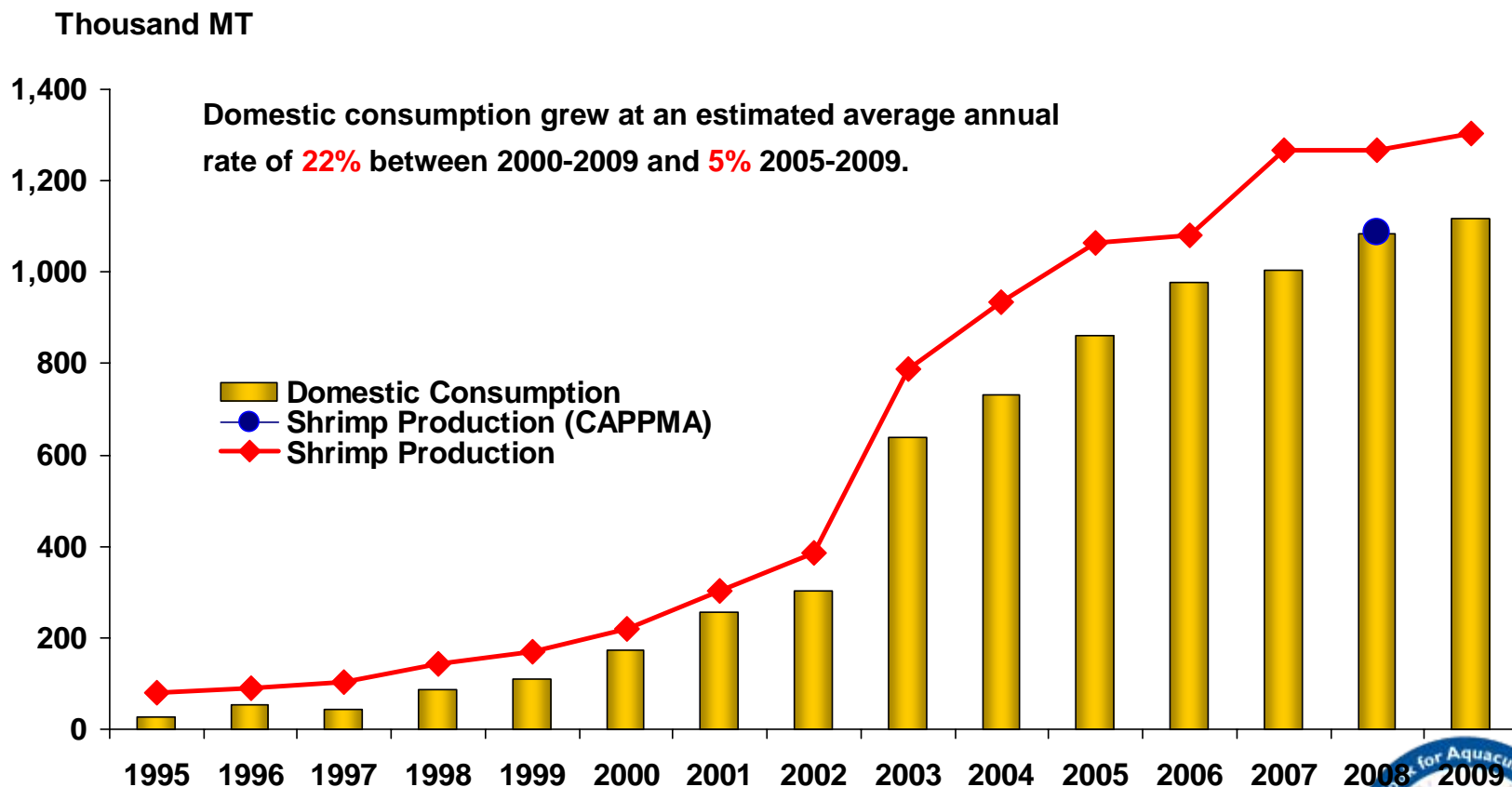
Shrimp Aquaculture Production & Shrimp Exports from China



Sources: Chinese Fisheries Yearbook (several years); FAO (2009).



China – Estimated Domestic Shrimp Consumption (Round Weight)



Sources: Chinese Fisheries Yearbook (several years); FAO (2010).

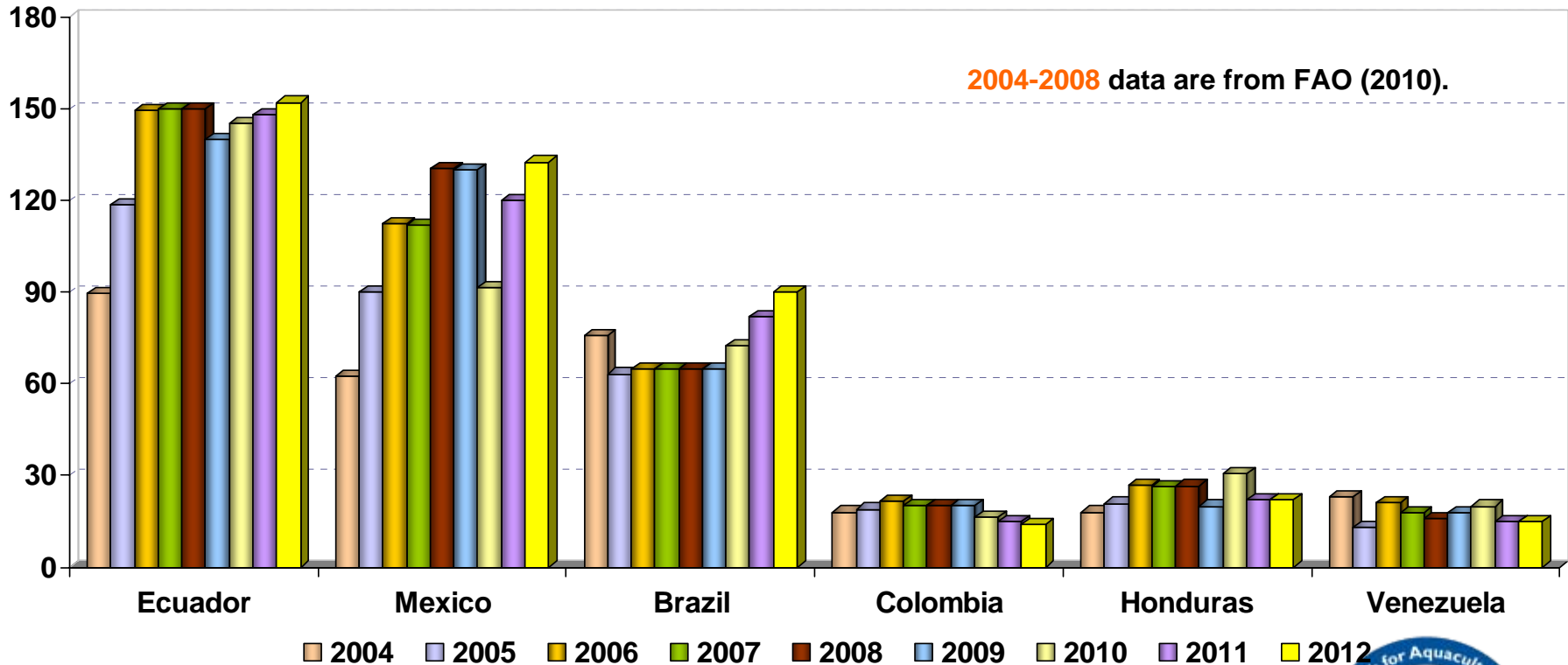
CAPPMA: China Aquatic Products Processing & Marketing Association (2010)



GOAL 2010 Survey

Shrimp Aquaculture Production in Latin America: 2004 - 2012

Thousand MT



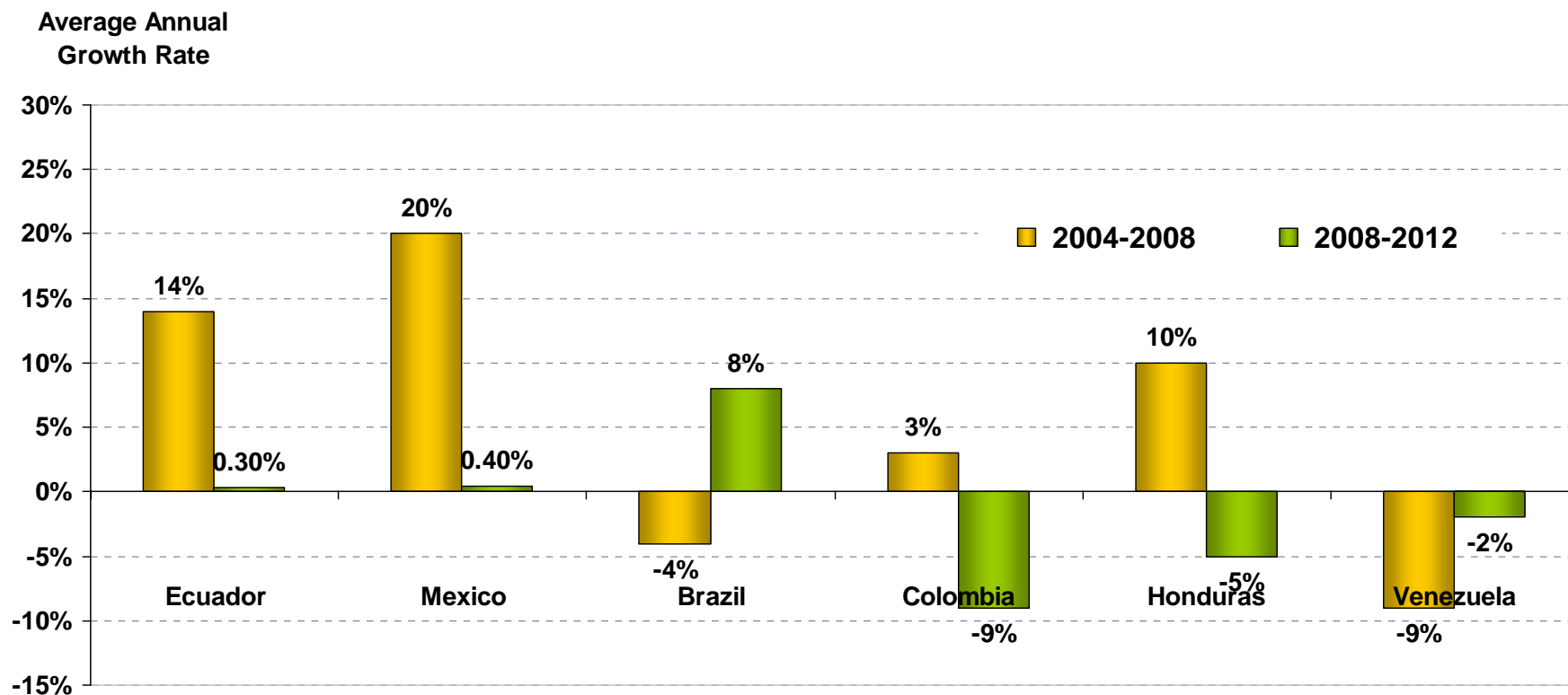
Sources: FAO (2010) & GOAL (2010, 2009).

Note: *M. rosenbergii* is not included.



Shrimp Aquaculture Production in Latin America:

2004-2008 vs. 2008-2012



Sources: FAO (2010) & GOAL (2010, 2009).

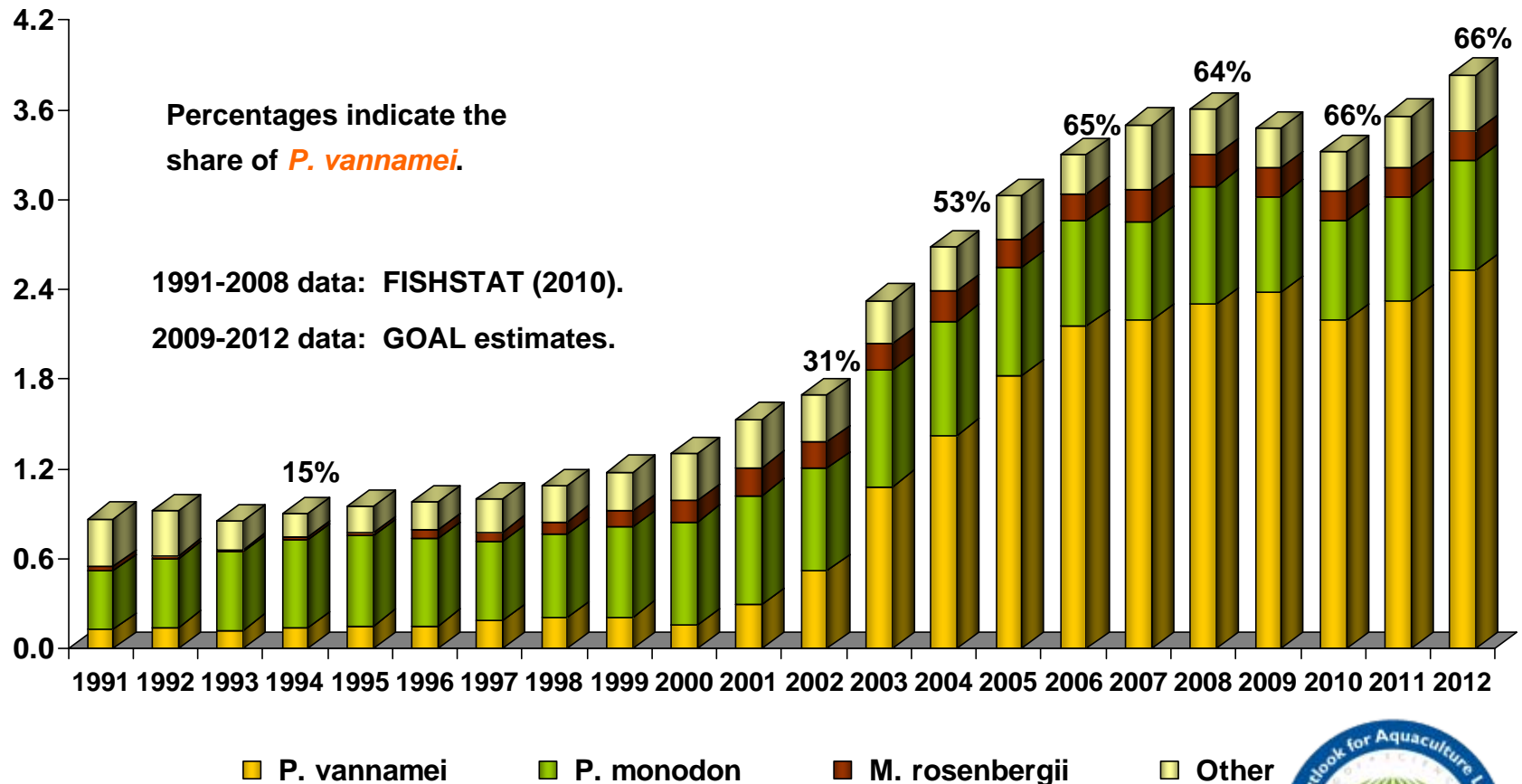
Note: *M. rosenbergii* is not considered.



GOAL 2010 Survey

World Shrimp Aquaculture (including *M. rosenbergii*) by Species: 1991 - 2012

Million MT



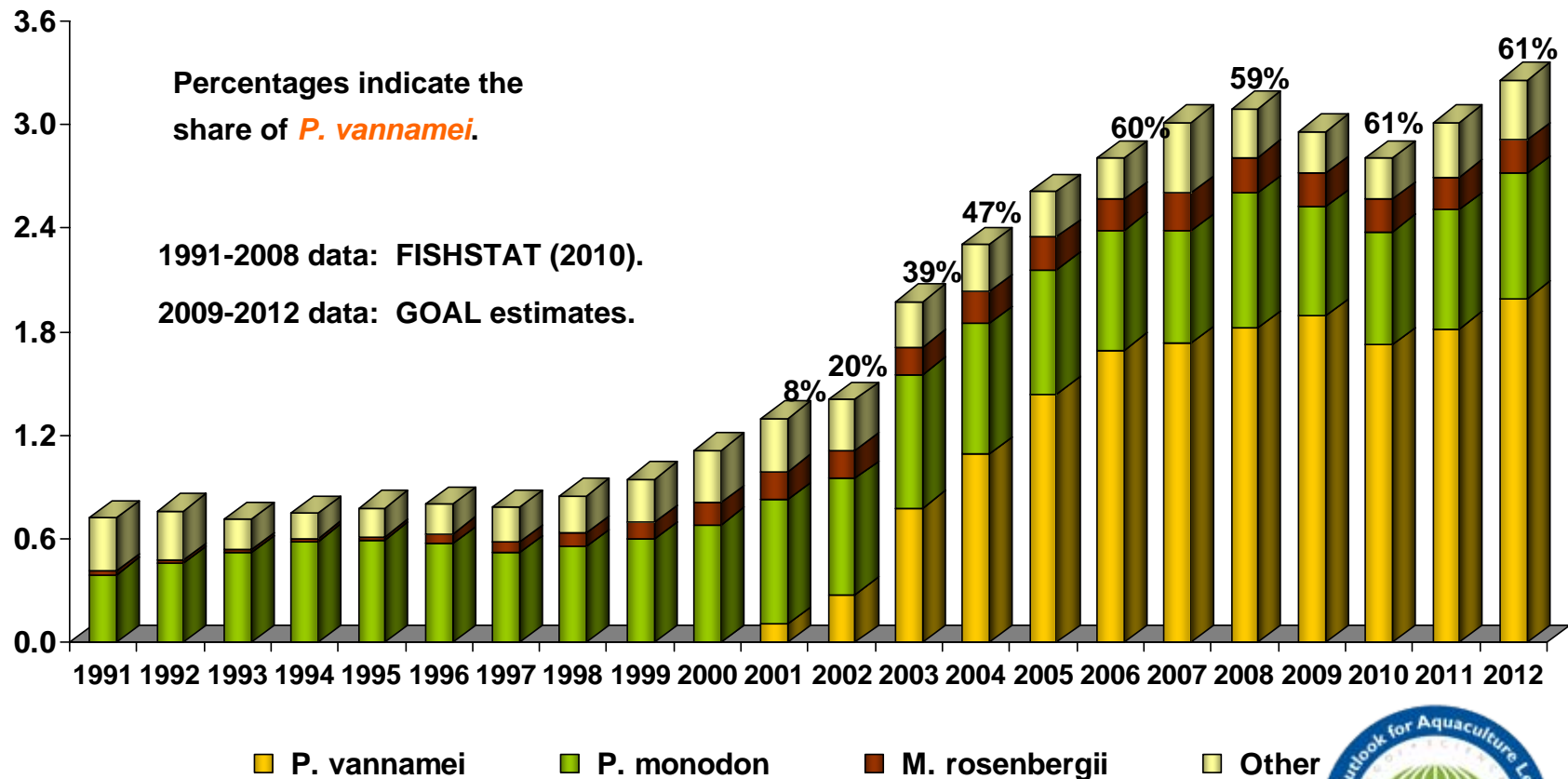
Sources: FAO (2010) & GOAL (2010, 2009).



GOAL 2010 Survey

Shrimp Aquaculture (including *M. rosenbergii*) in Asia by Species: 1991 - 2012

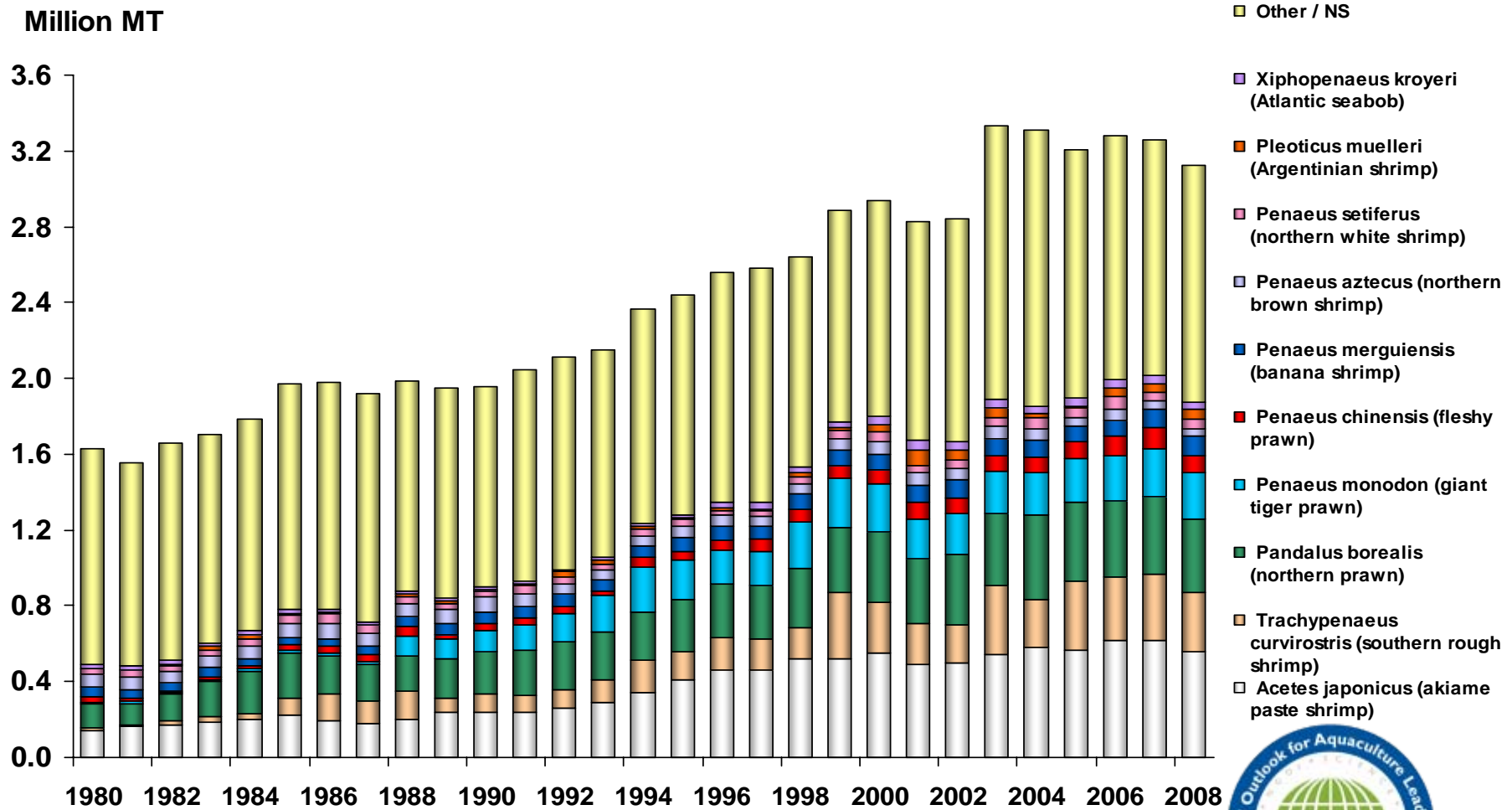
Million MT



Sources: FAO (2010) & GOAL (2010, 2009).



World Landings of Wild-Caught Shrimp by Species

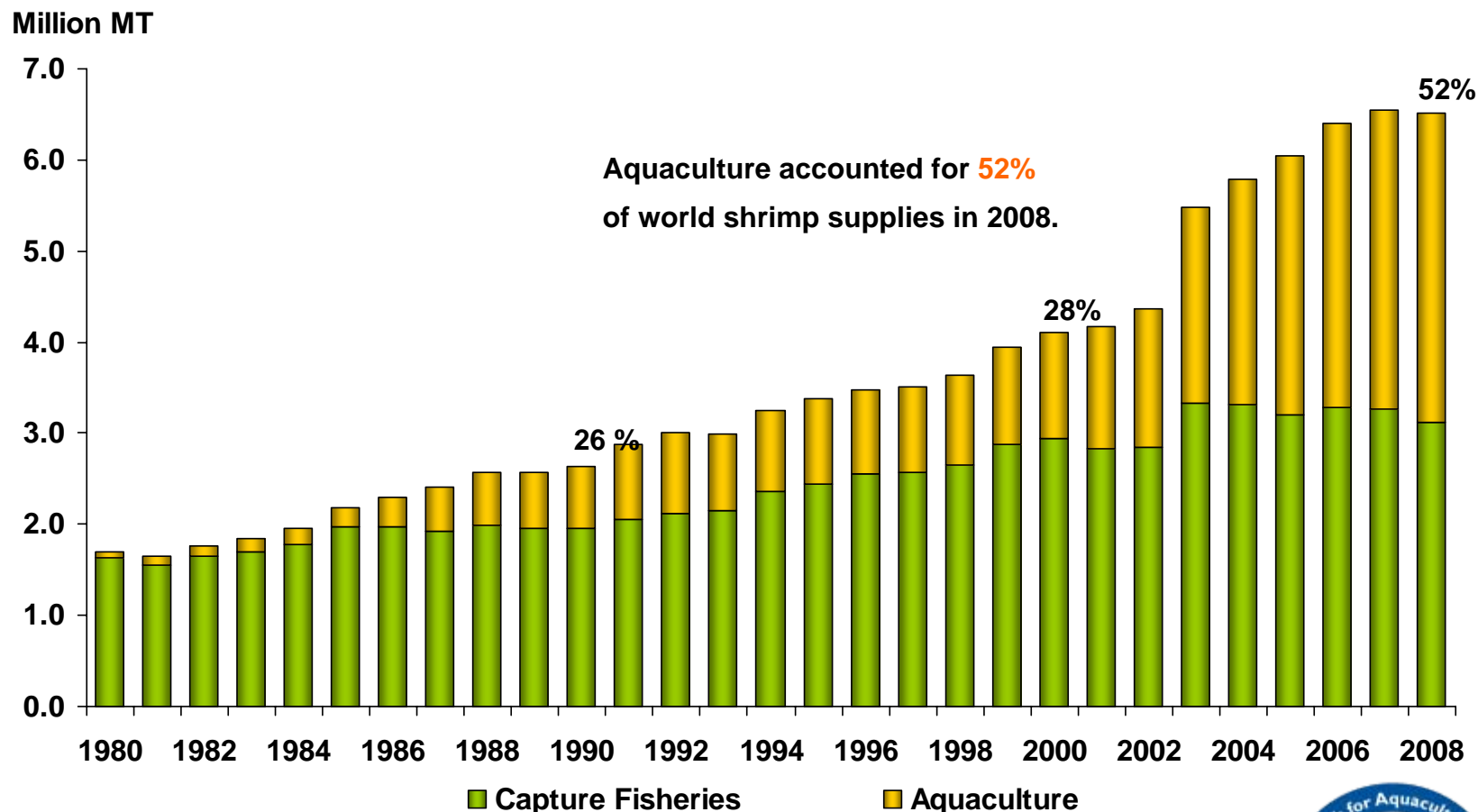


Source: FAO (2010).



World Production of Shrimp

Capture Fisheries & Aquaculture



Source: FAO (2010).

Notes: *M. rosenbergii* is not included.

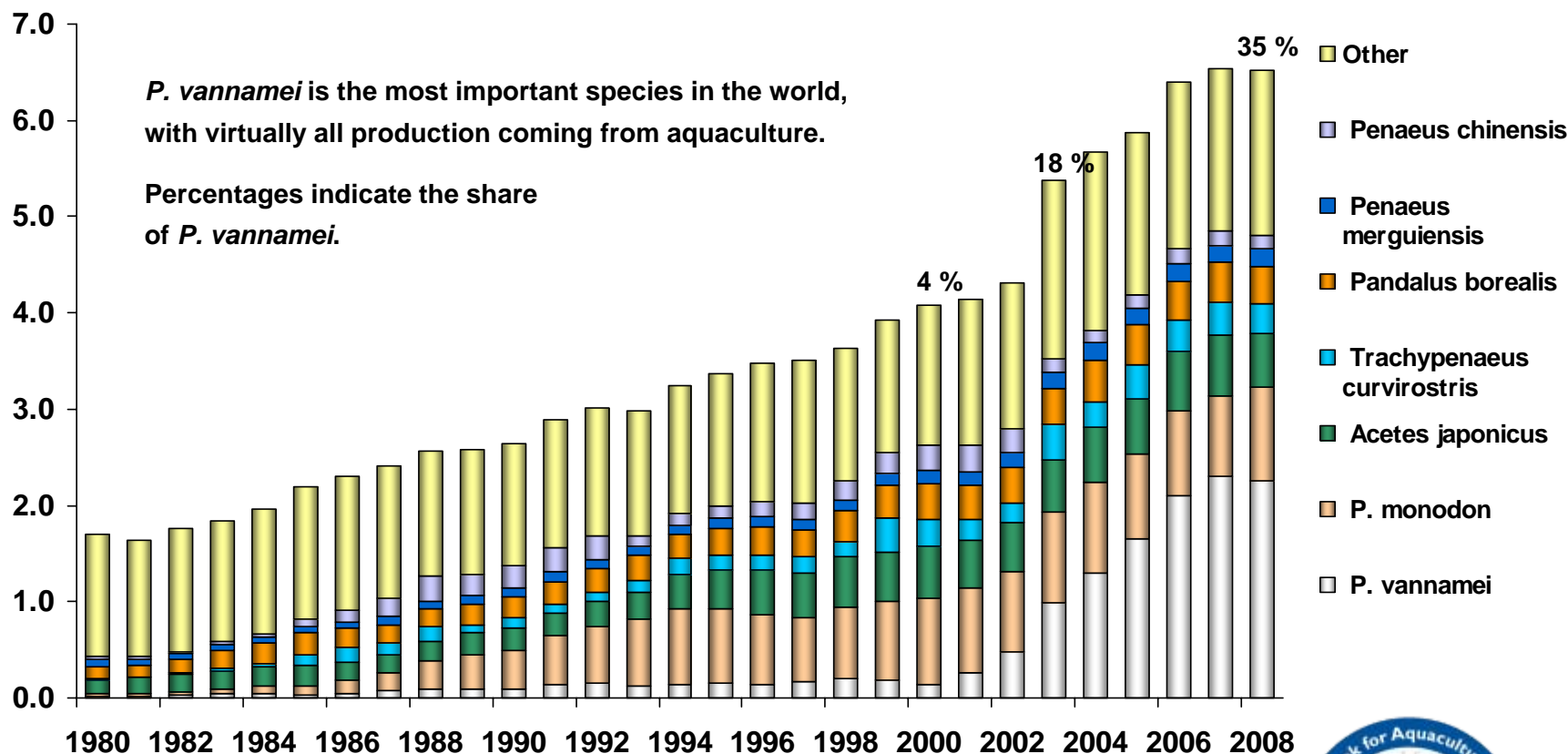
China includes freshwater production of *P. vannamei*.



World Production of Shrimp by Species

Capture Fisheries & Aquaculture Combined

Million MT



Source: FAO (2010).

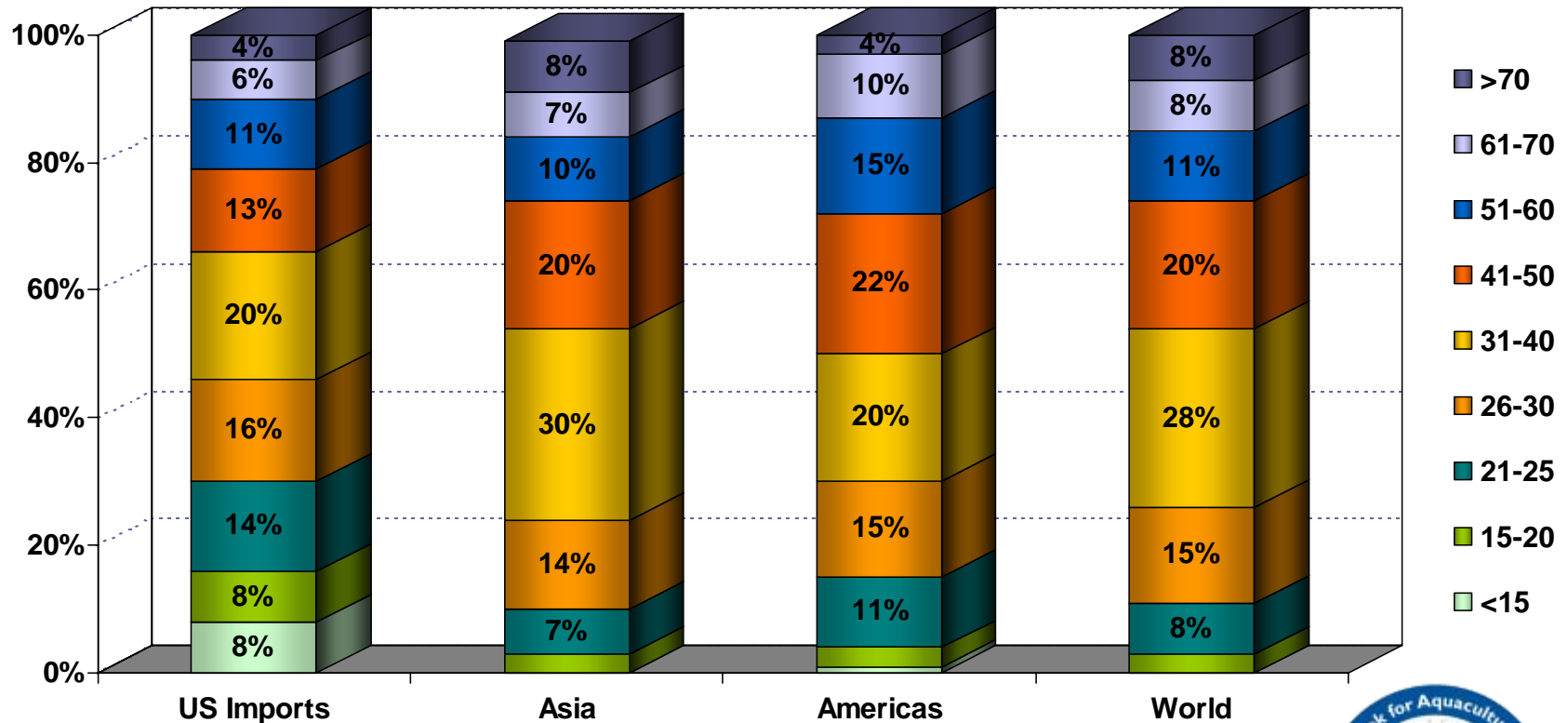
Notes: *M. rosenbergii* is not included.

Freshwater production of *P. vannamei* in China is included.



GOAL 2010 Survey

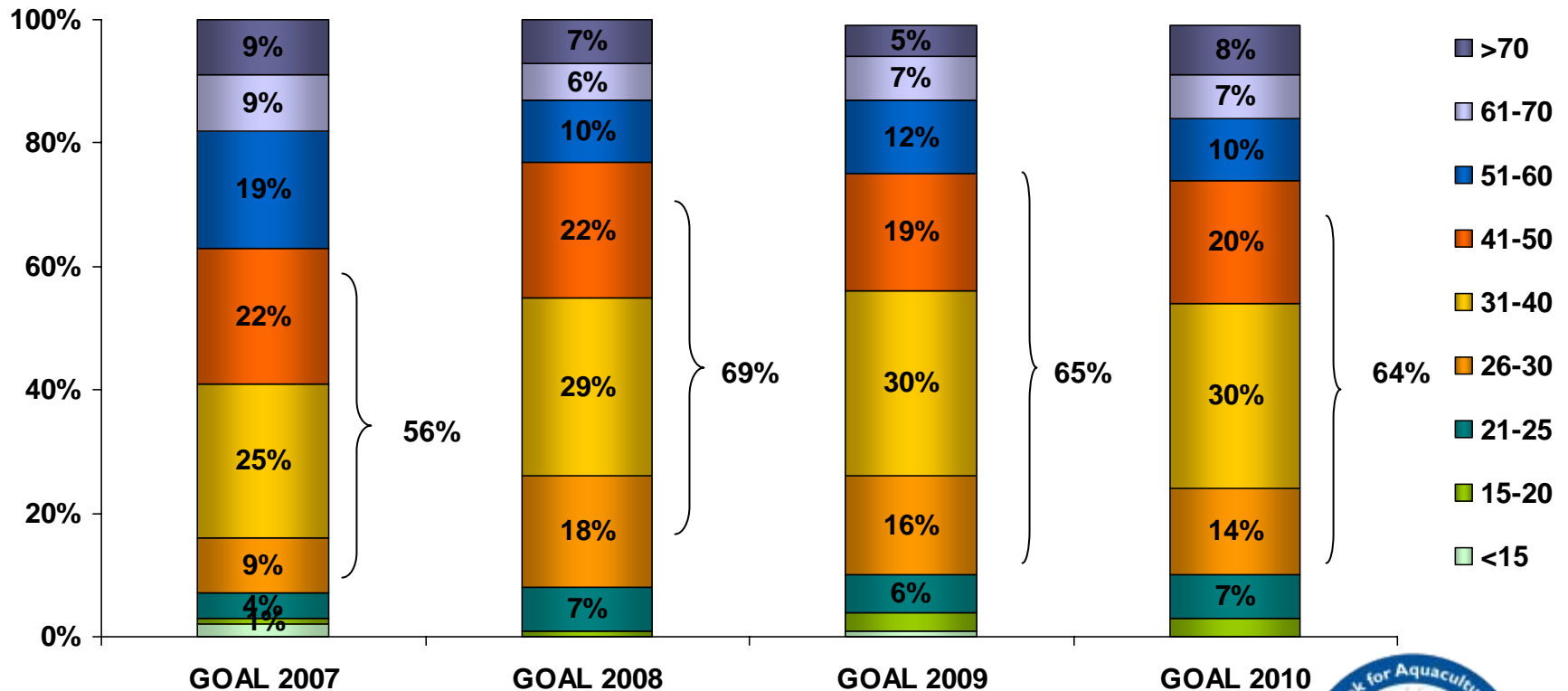
Composition of Shrimp Aquaculture Production by Size Categories – Aggregate 2009



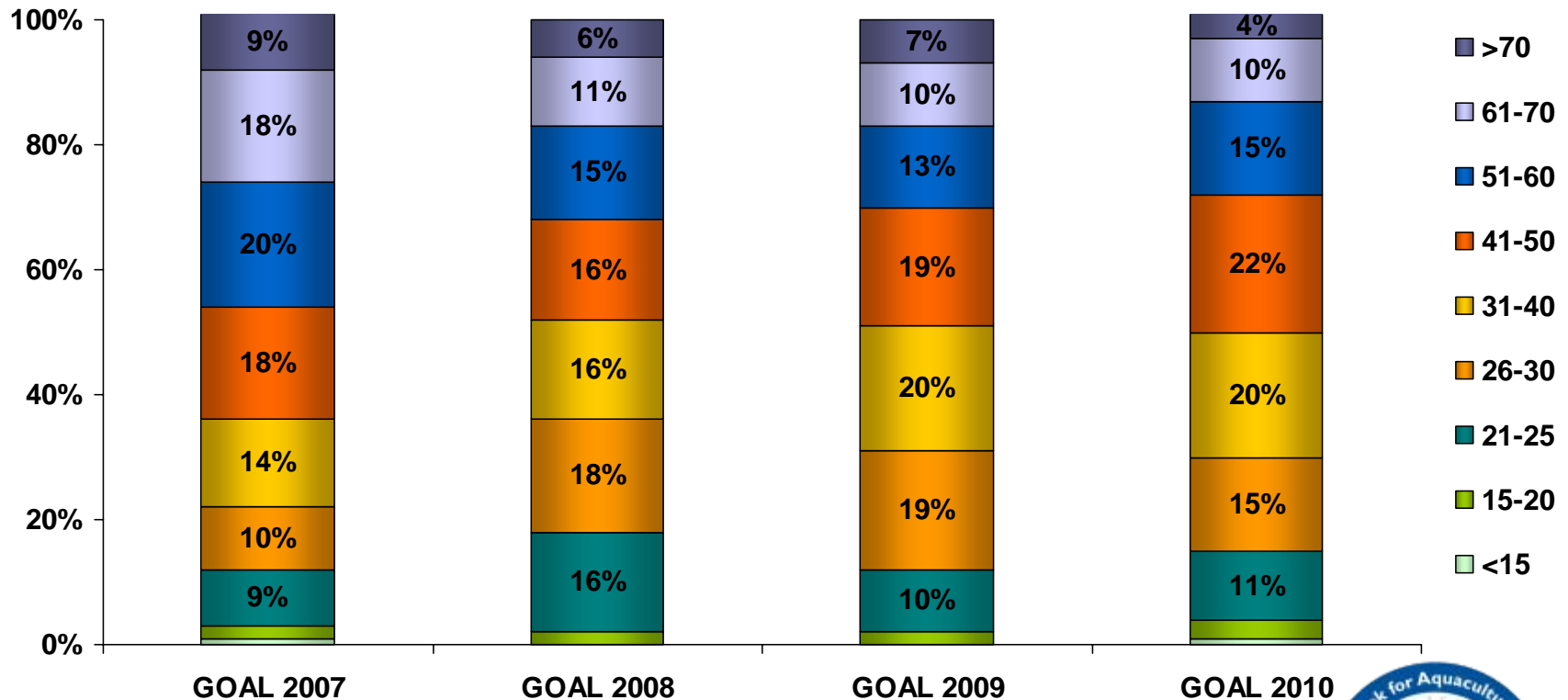
Source: GOAL (2010).



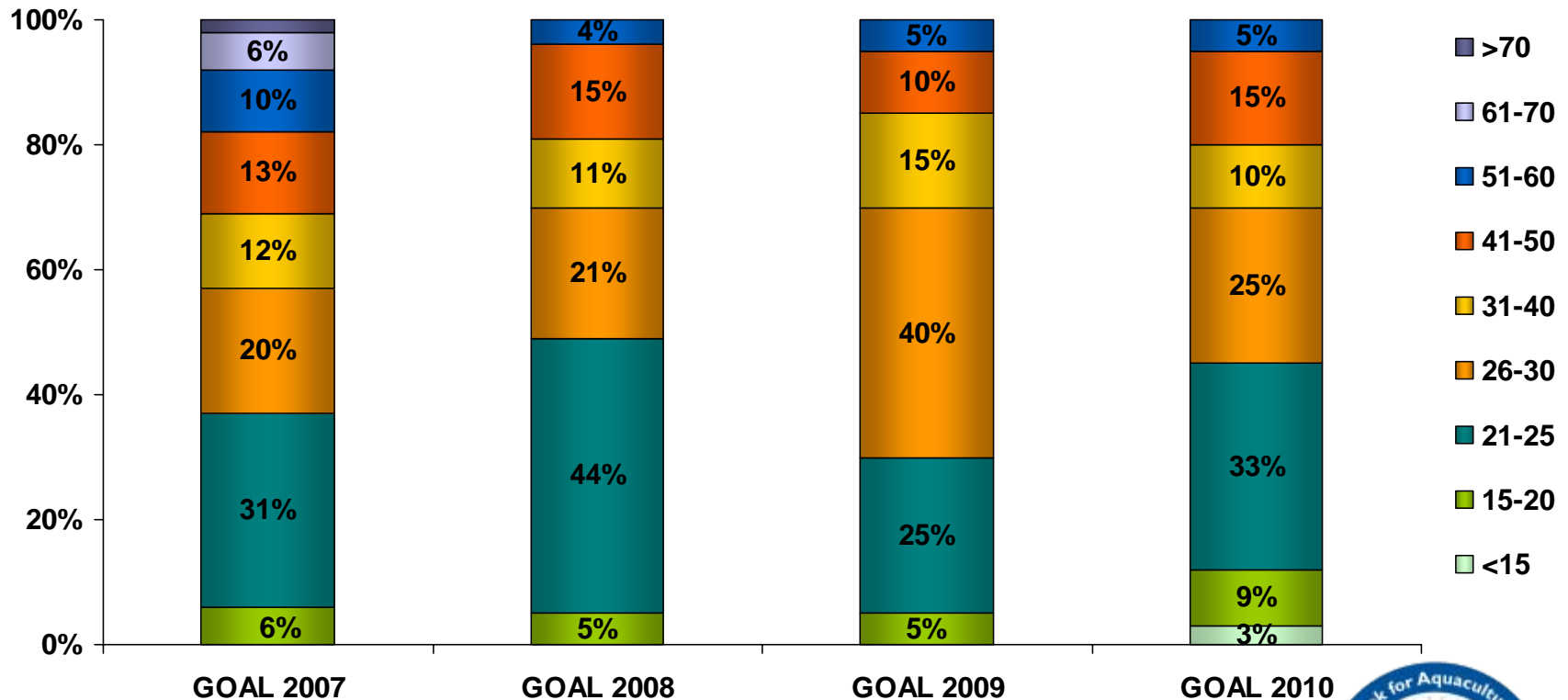
Composition of Shrimp Aquaculture Production by Size Categories – Comparison of Survey Data for Asia



Composition of Shrimp Aquaculture Production by Size Categories – Comparison of Survey Data for the Americas



Composition of Shrimp Aquaculture Production by Size Categories – Comparison of Survey Data for Mexico



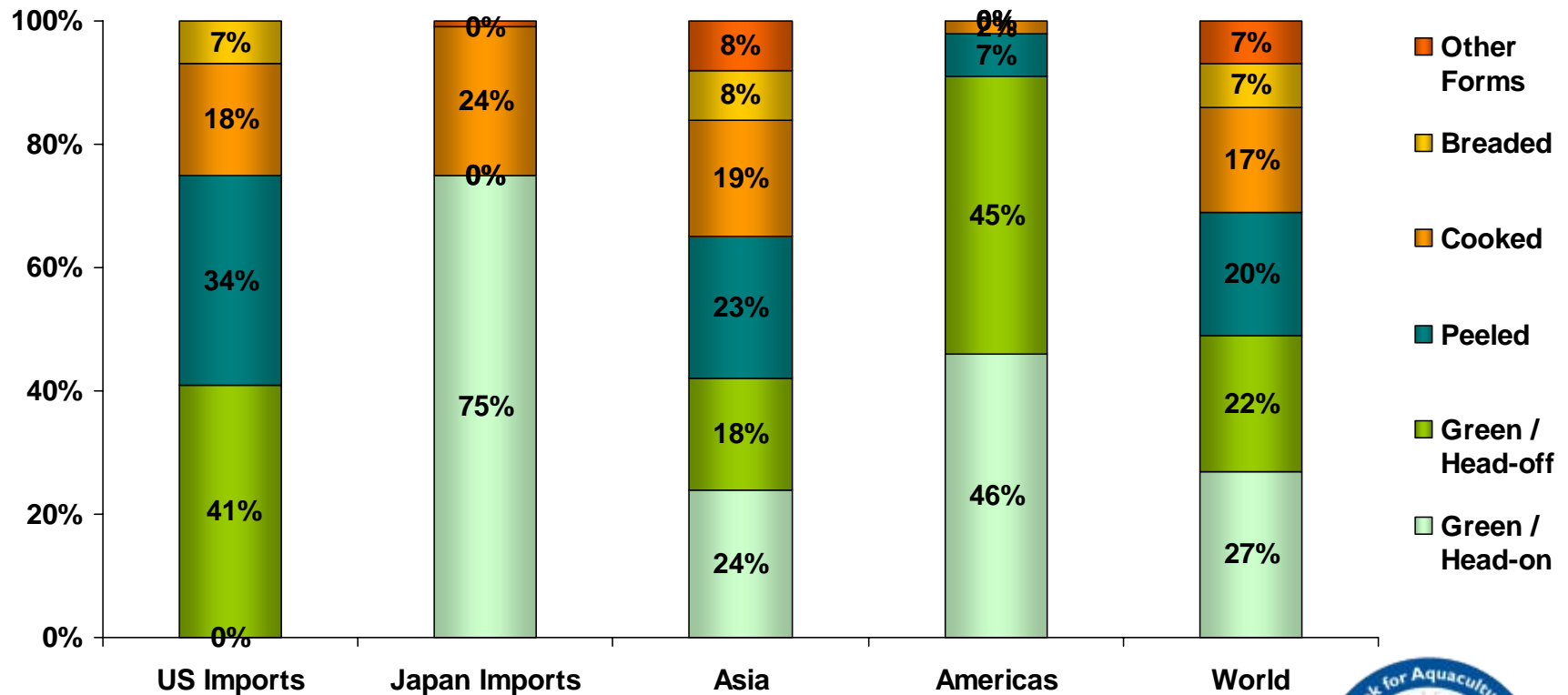
Expected Trends in Shrimp Aquaculture

Size Categories - GOAL Survey 2010

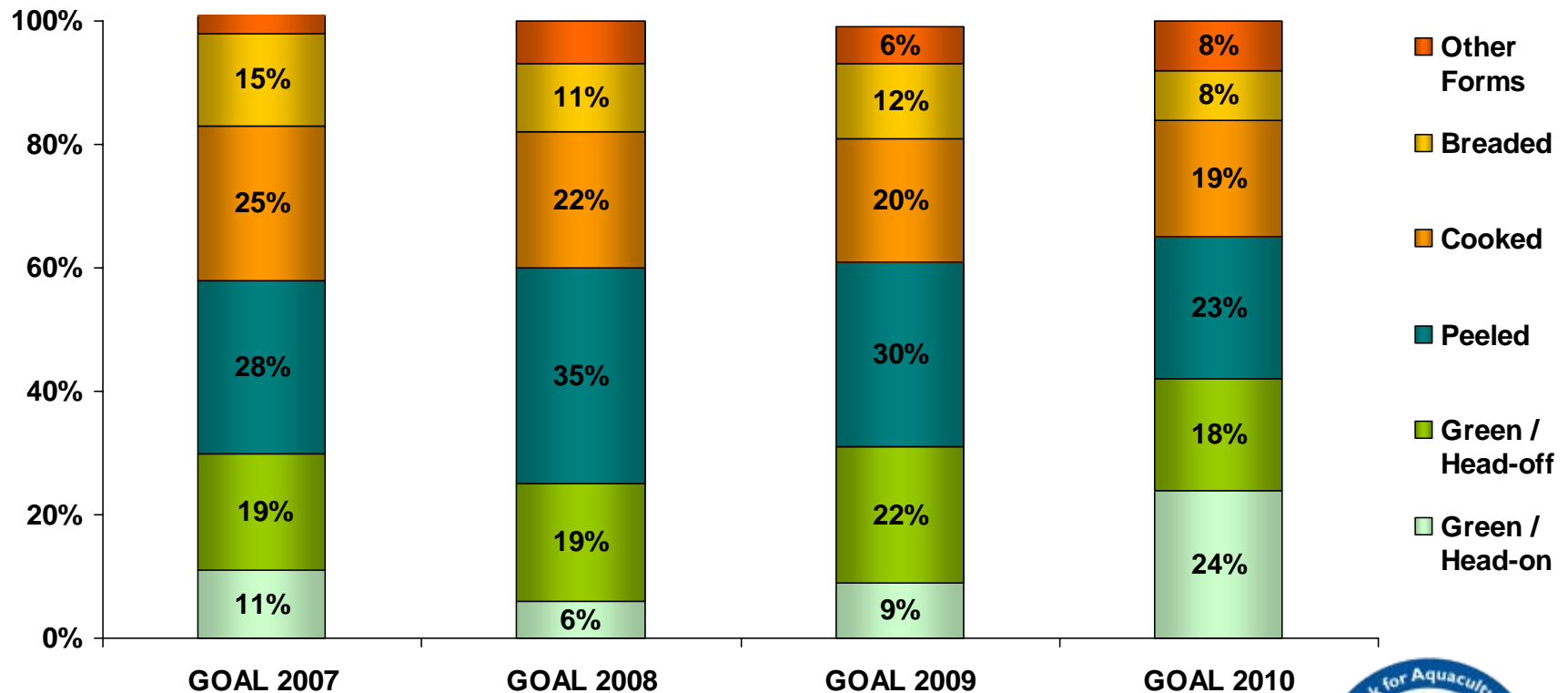
Size Category	Asia	Americas	World
<15	Stable	Increase	Stable/Increase
15-20	Stable/Decrease	Increase	Stable
21-25	Stable	Increase	Stable
26-30	Stable	Decrease/Stable	Stable
31-40	Stable/Decrease	Stable	Stable/Decrease
41-50	Stable	Stable	Stable
51-60	Stable	Stable	Stable
61-70	Stable	Stable	Stable
>70	Increase	Stable	Increase/Stable

GOAL 2010 Survey

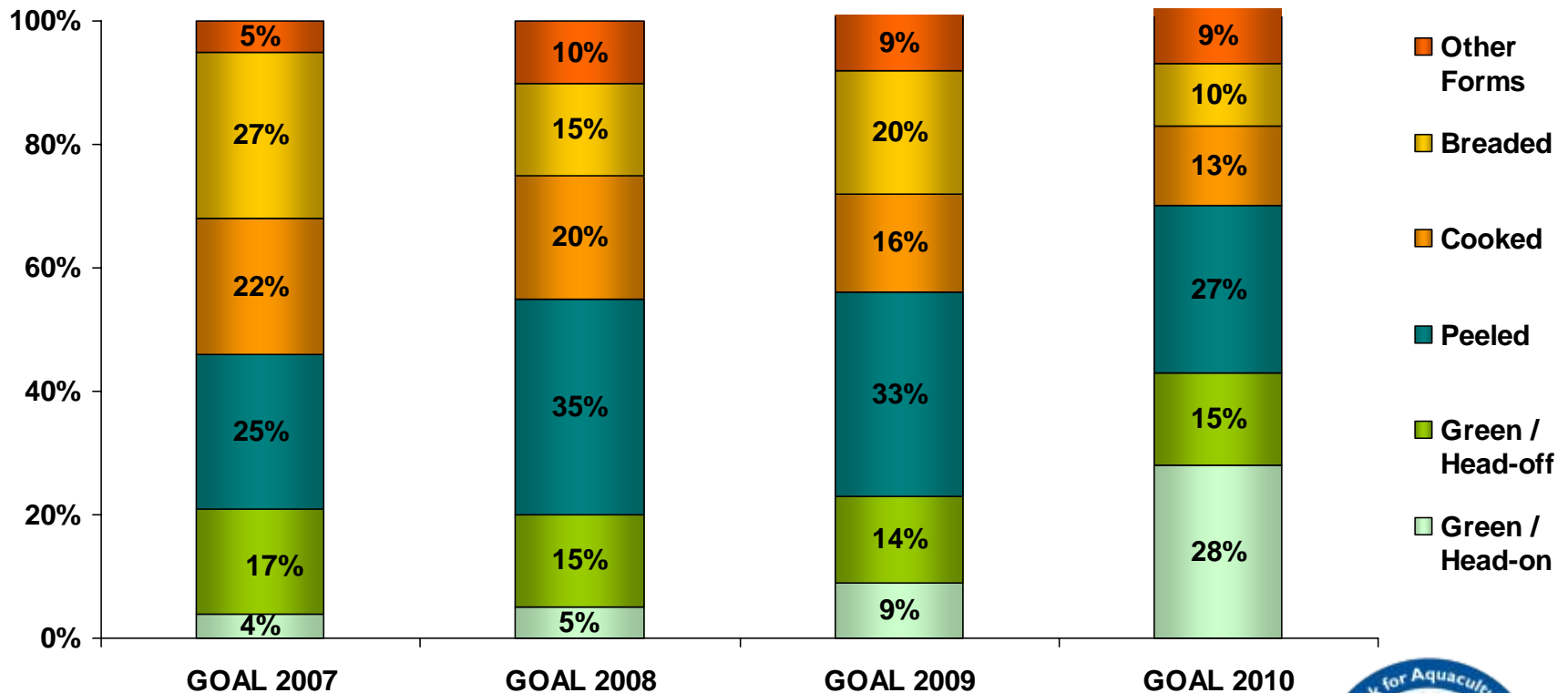
Composition of Shrimp Aquaculture Production by Product Form – Aggregate 2009



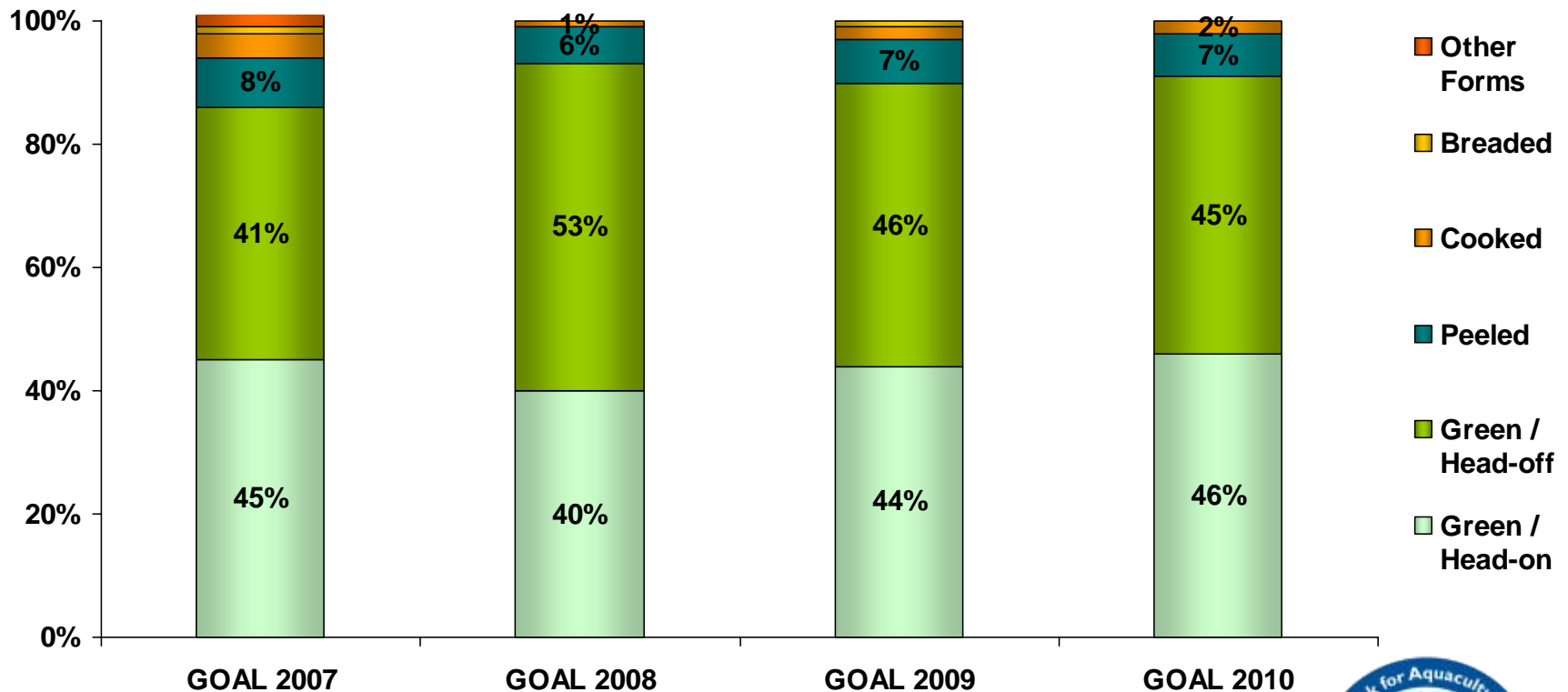
Composition of Shrimp Aquaculture Production by Product Form – Comparison of Survey Data for Asia



Composition of Shrimp Aquaculture Production by Product Form – Comparison of Survey Data for China



Composition of Shrimp Aquaculture Production by Product Form – Comparison of Survey Data for the Americas



Expected Trends in Shrimp Aquaculture

Product Form - GOAL Survey 2010

Product Form	Asia	Americas	World
Green / Head-on	Stable	Stable	Stable
Green / Head-off	Decrease	Stable	Stable/Decrease
Peeled	Stable	Stable	Stable
Cooked	Stable	Stable	Stable
Breaded	Stable	Stable	Stable
Other Forms	Stable	Stable	Stable

Trends in Product Form

Comparing Responses from 2010 vs. 2009 Surveys

Product Form	Asia	Americas	World
Green / Head-on	↔	↓	↔
Green / Head-off	↑	↑	↑
Peeled	↓	↓	↓
Cooked	↓	↔	↓
Breaded	↑	↑	↑
Other Forms	↓	↑	↓

Cell colors indicate response in 2010 survey (e.g., white = Stable, Stable/decrease).

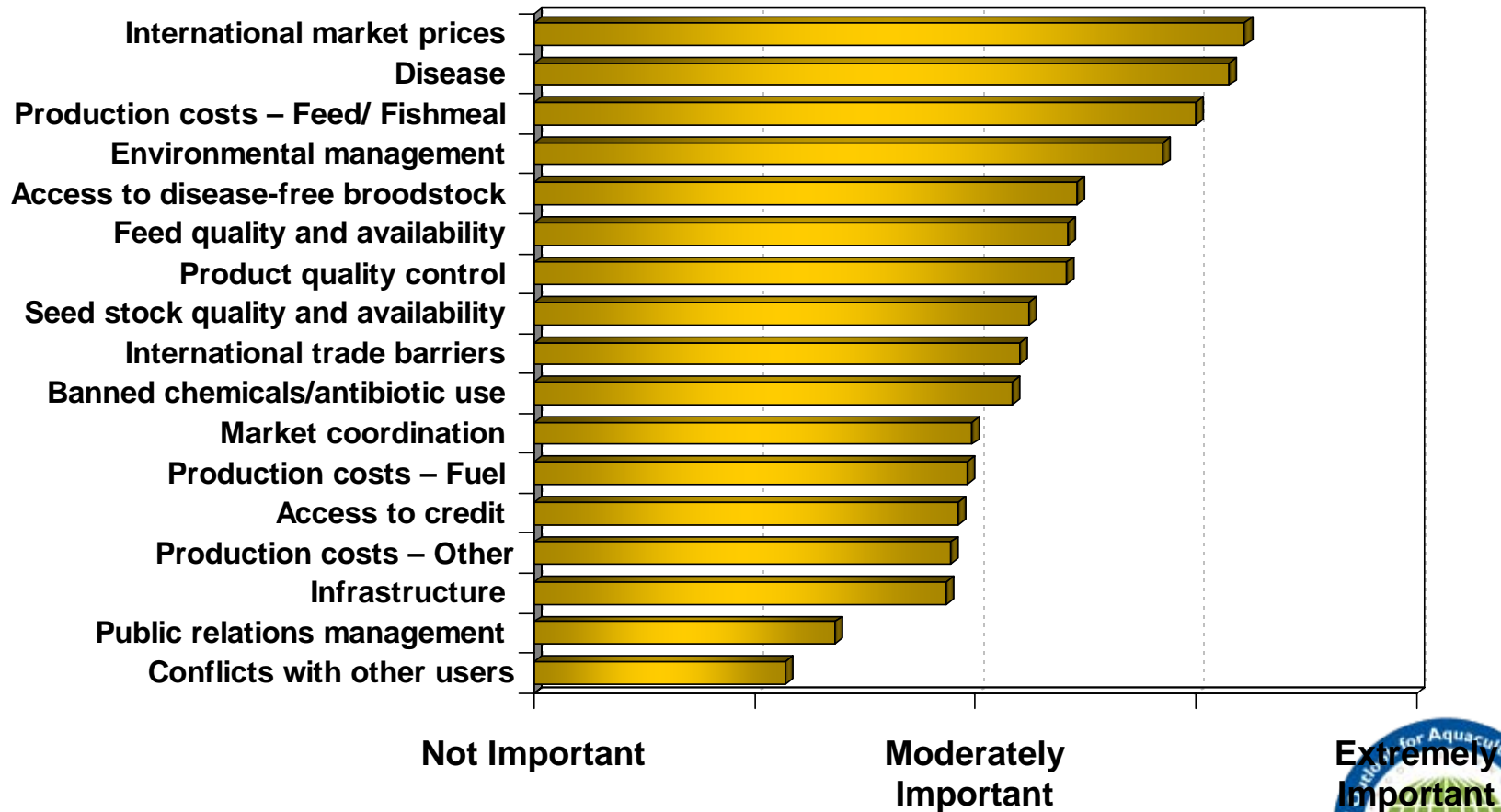
Arrows indicate change in trend compared to 2009 survey.



GOAL 2010 Survey

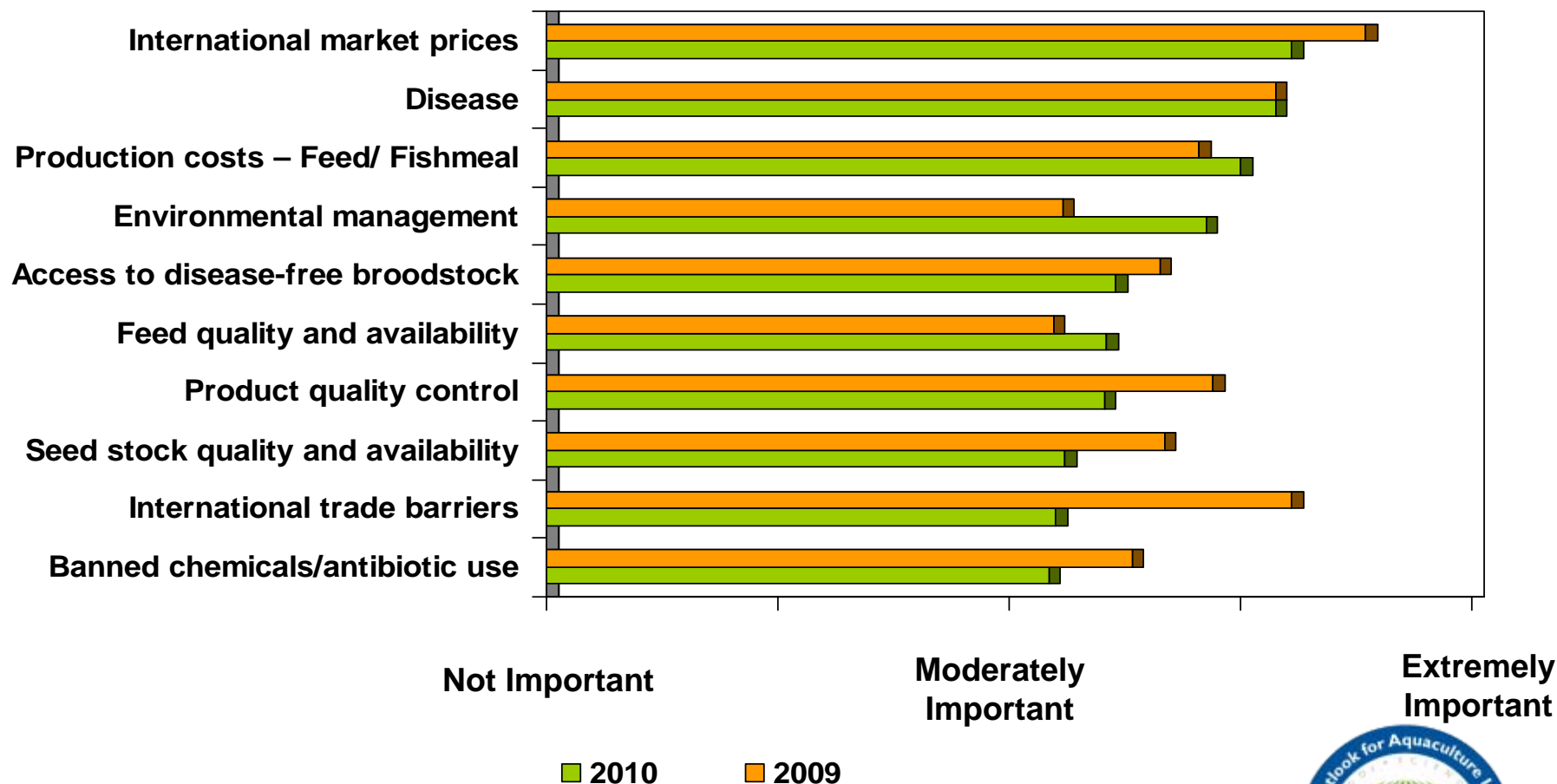
Issues & Challenges in Shrimp Aquaculture

All Countries



Worldwide Top Issues & Challenges in Shrimp Aquaculture

2010 Survey vs. 2009 Survey



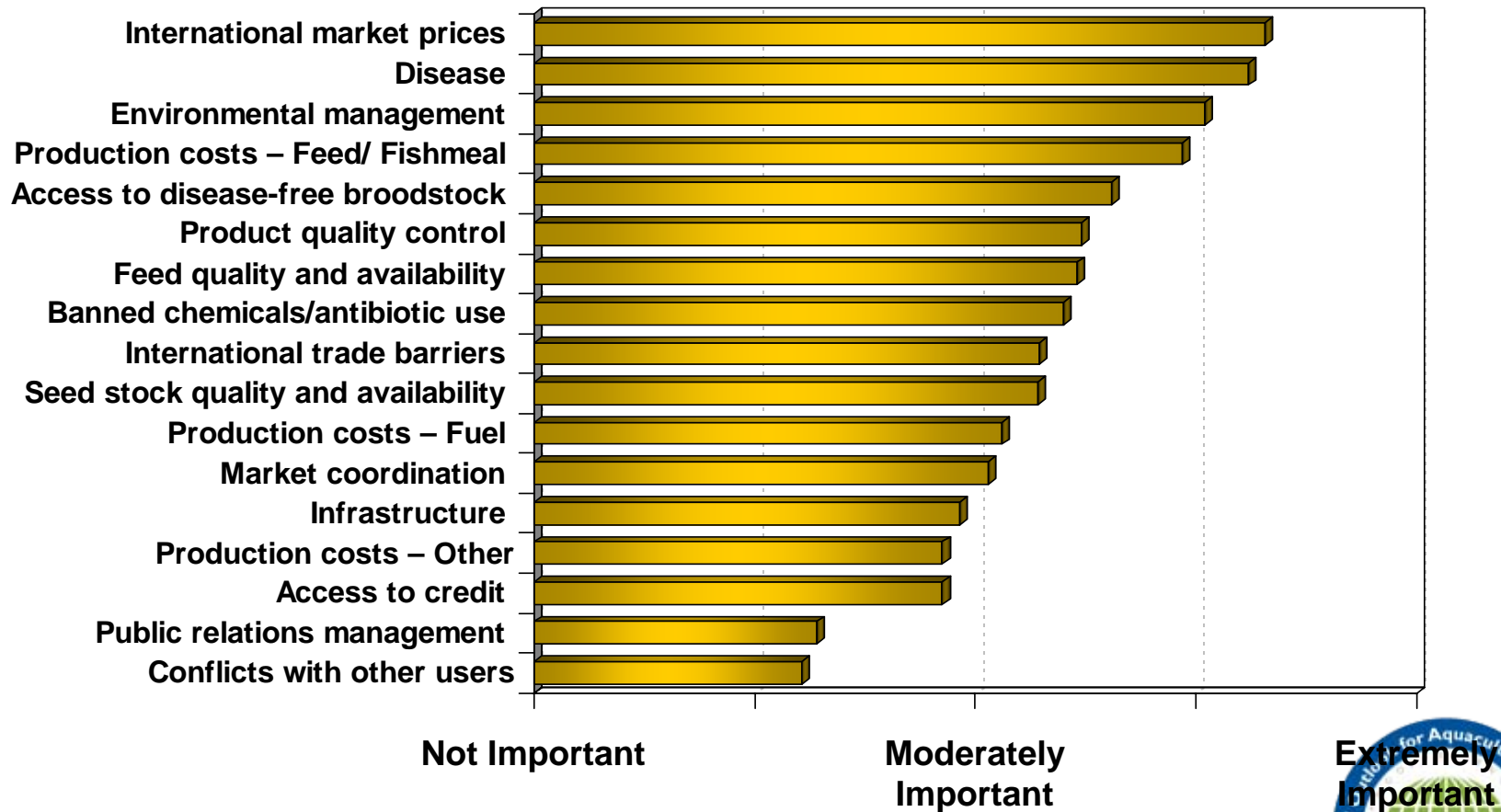
Source: GOAL (2010).



GOAL 2010 Survey

Issues & Challenges in Shrimp Aquaculture

Asia



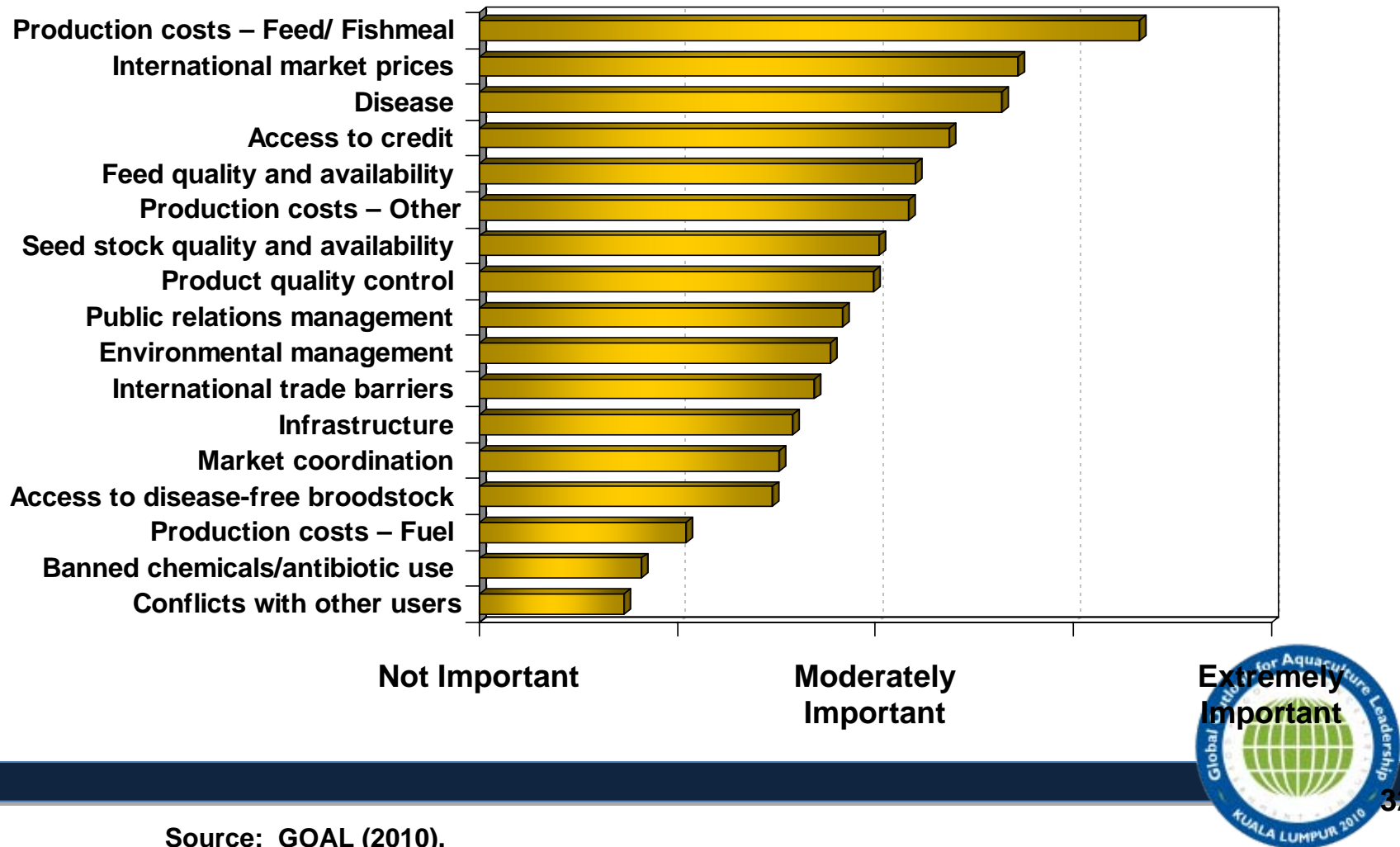
Source: GOAL (2010).



GOAL 2010 Survey

Issues & Challenges in Shrimp Aquaculture

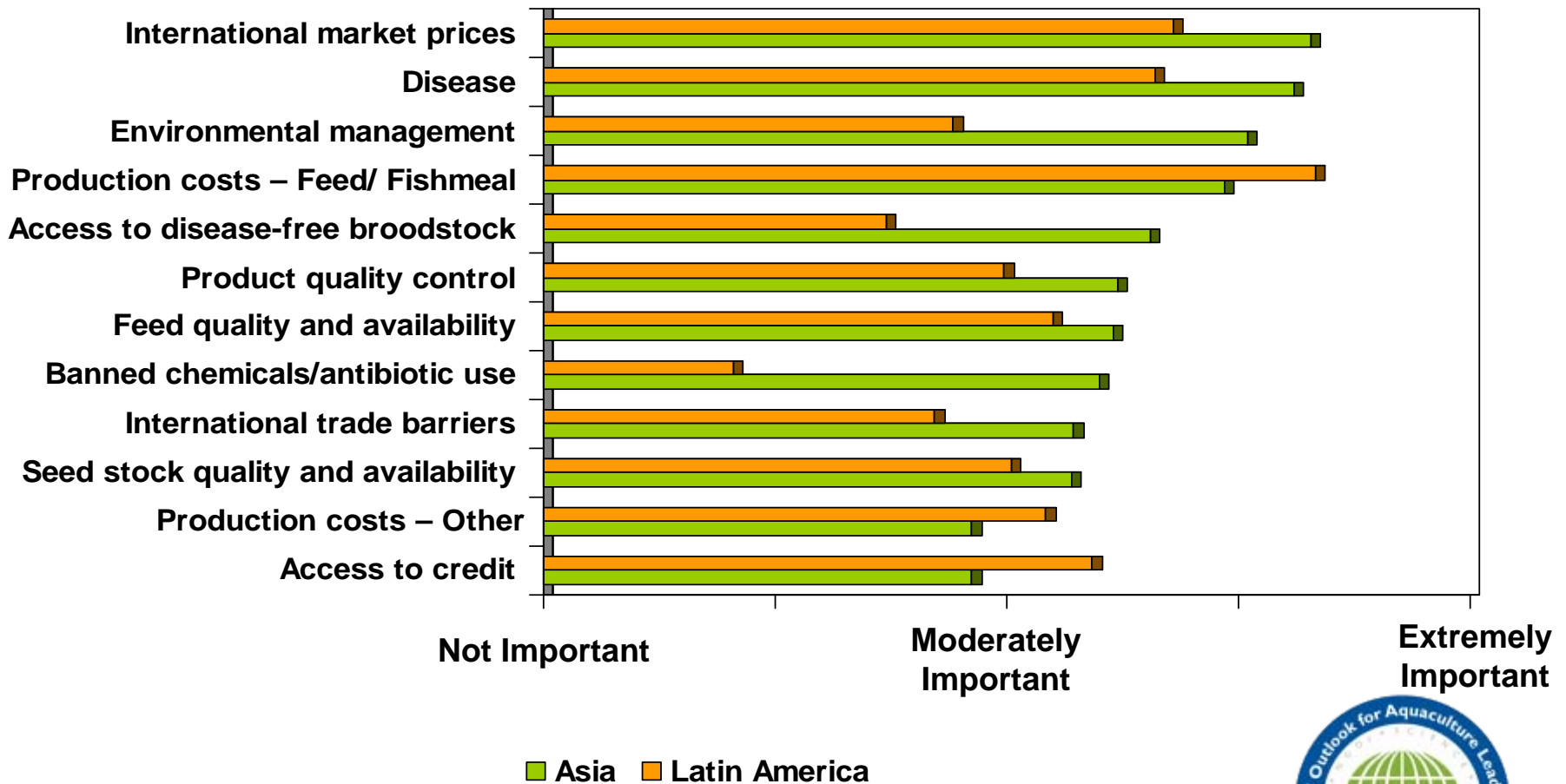
Latin America



GOAL 2010 Survey

Top Issues & Challenges in Shrimp Aquaculture

Asia vs. Latin America



GOAL 2010 Survey

Question 4a1. Global economic conditions will be better in 2011 compared to 2010

Outlook	Asia	Latin America	Oceania
Strongly Agree	Vietnam		
Agree	<i>China, Vietnam, Thailand, India, Indonesia, Malaysia, Taiwan, Philippines, Saudi Arabia</i>	<i>Ecuador, Mexico, Brazil, Colombia, Peru, Nicaragua,</i>	Australia
Neutral/No Opinion	<i>China, Thailand, Korea, Philippines</i>	<i>Guatemala, Honduras, Nicaragua</i>	
Disagree	<i>Thailand</i>	<i>Brazil, Colombia, Venezuela</i>	
Strongly Disagree			

GOAL 2010 Survey

Question 4a2. Feed prices will be lower in 2011 compared to 2010

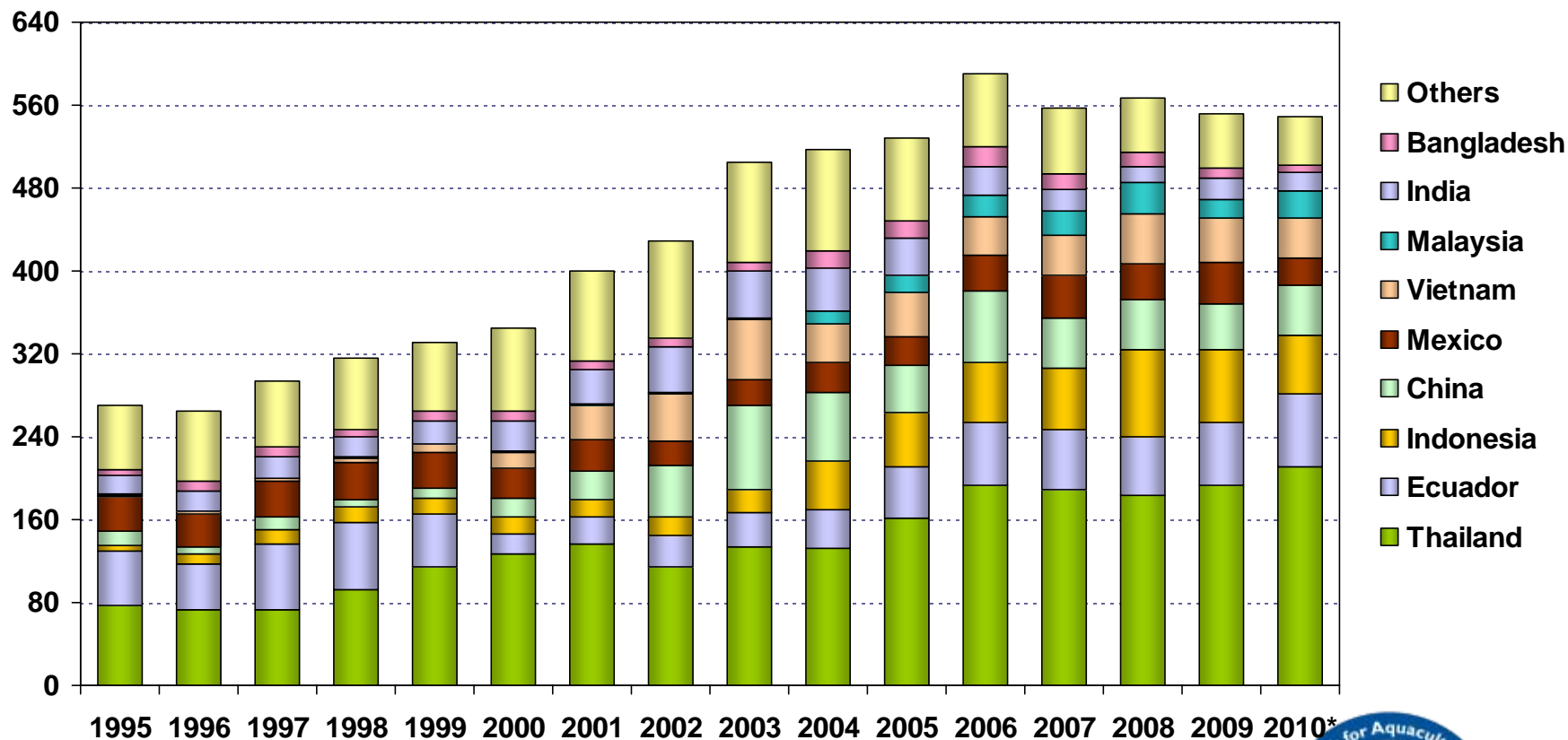
Outlook	Asia	Latin America	Oceania
Strongly Agree			
Agree	<i>China, Malaysia</i>	<i>Colombia</i>	
Neutral/No Opinion	<i>China, Indonesia, Korea,</i>	<i>Mexico</i>	
Disagree	<i>China, Vietnam, Bangladesh, Thailand, India, Indonesia, Taiwan, Philippines, Saudi Arabia</i>	<i>Brazil, Ecuador, Colombia, Mexico, Peru, Nicaragua, Venezuela</i>	<i>Australia</i>
Strongly Disagree	<i>India, Malaysia, Philippines, Thailand, Vietnam</i>	<i>Brazil, Guatemala, Honduras, Nicaragua</i>	

Trends in Trade: US, Japan, EU (France, Spain)



Composition of U.S. Shrimp Imports by Exporting Country

Thousand MT



6/28/07 – FDA initiates import alert against farmed shrimp from China.

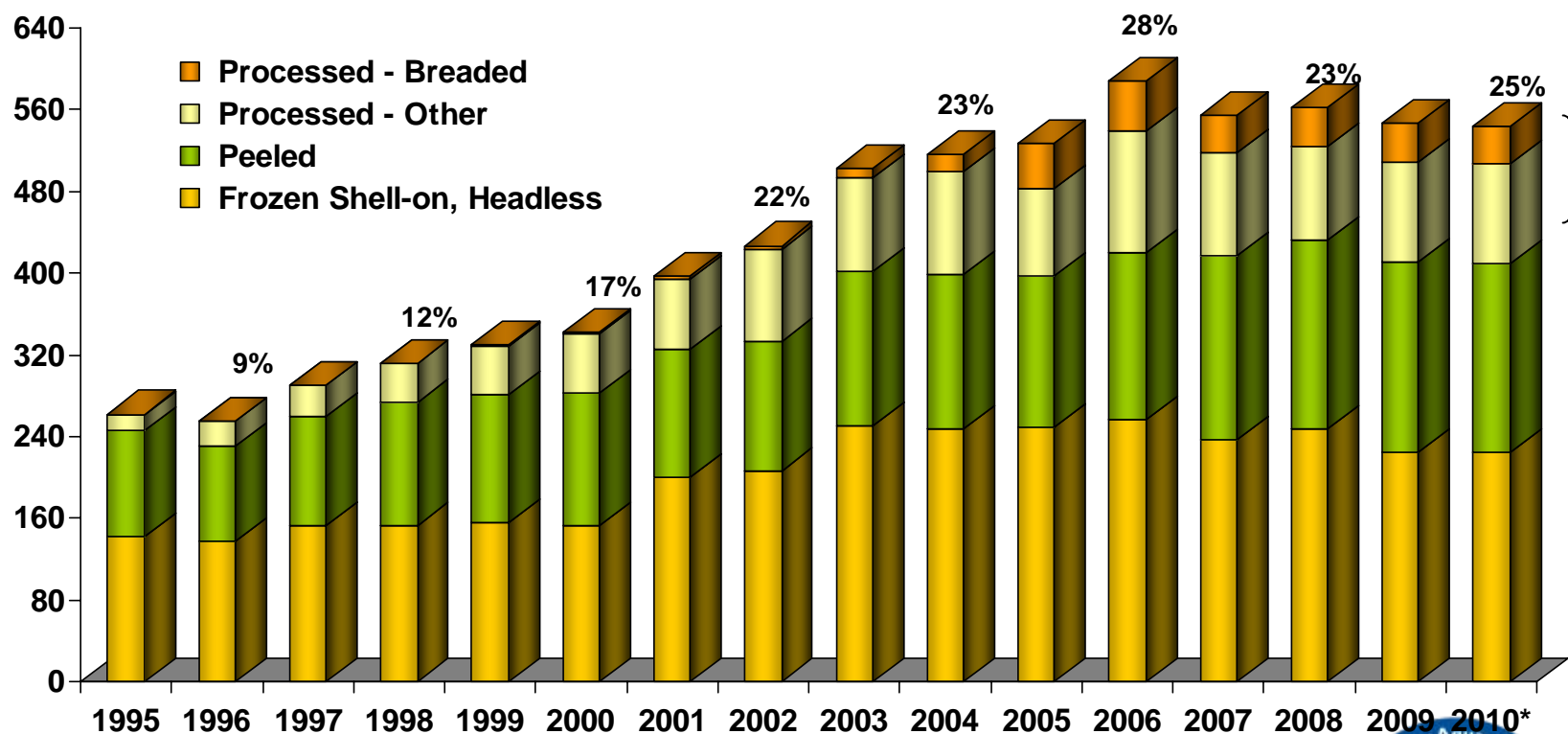
Source: USDC/NMFS (2010).

* Estimate.



Composition of U.S. Shrimp Imports by Product Form

Thousand MT



Source: USDC/NMFS (2010).

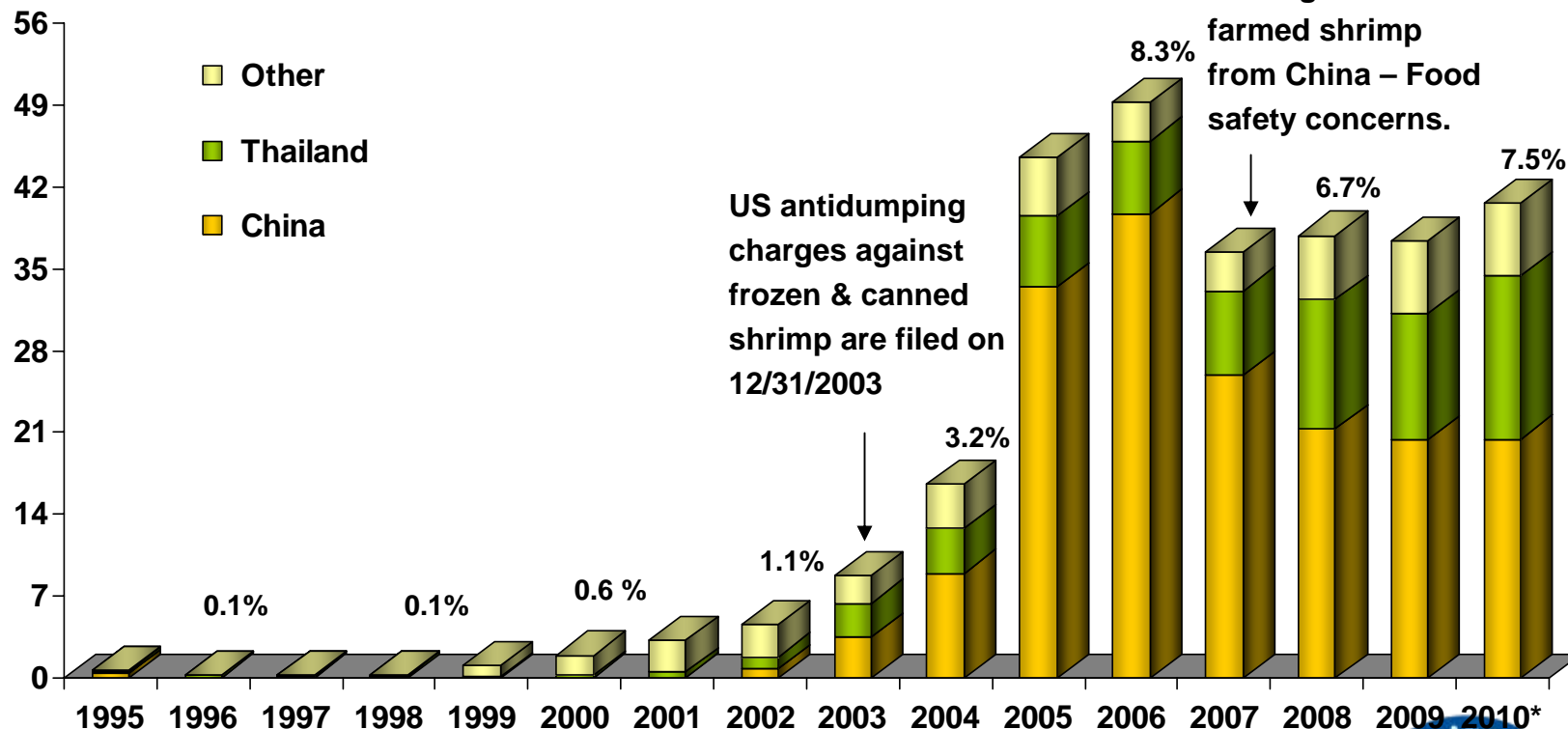
* Estimate.

Percentages indicate the
share of processed products
in the U.S. market.



U.S. Imports of Breaded Shrimp Products

Thousand MT



Source: USDC/NMFS (2010).

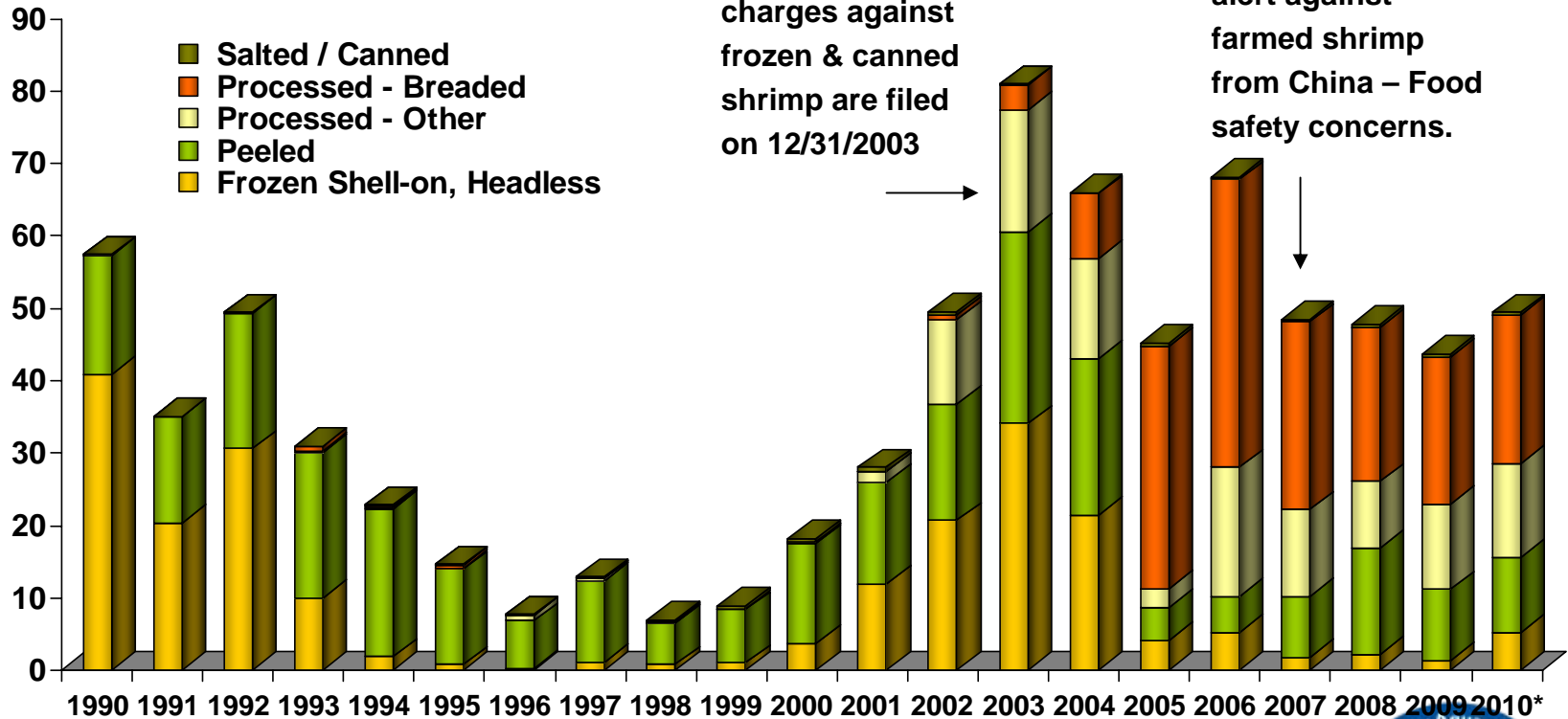
* Estimate.

Percentages indicate share of total U.S. shrimp import market.



U.S. Imports of Chinese Shrimp Products

Thousand MT



Source: USDC/NMFS (2010).

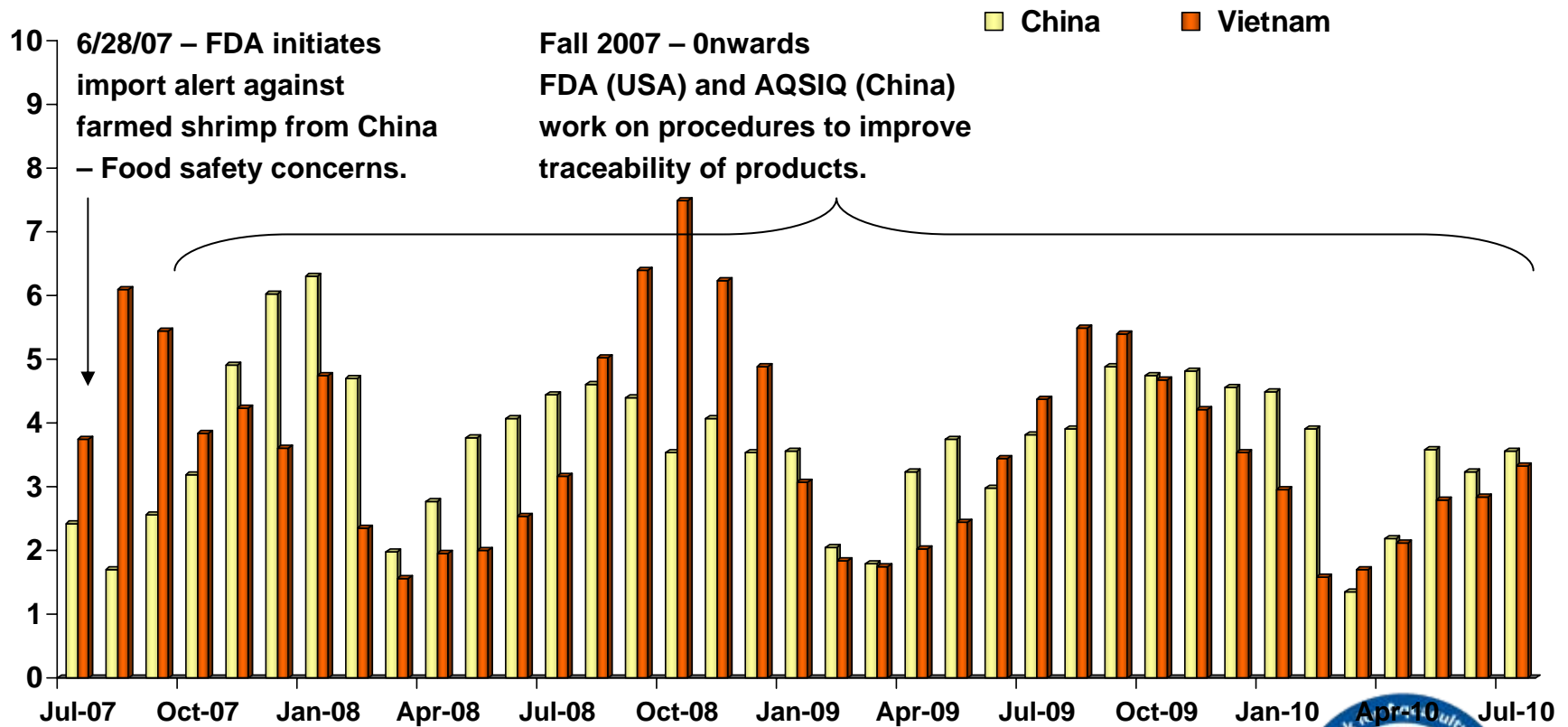
* Estimate.



U.S. Imports of Shrimp from China & Vietnam

All Product Forms

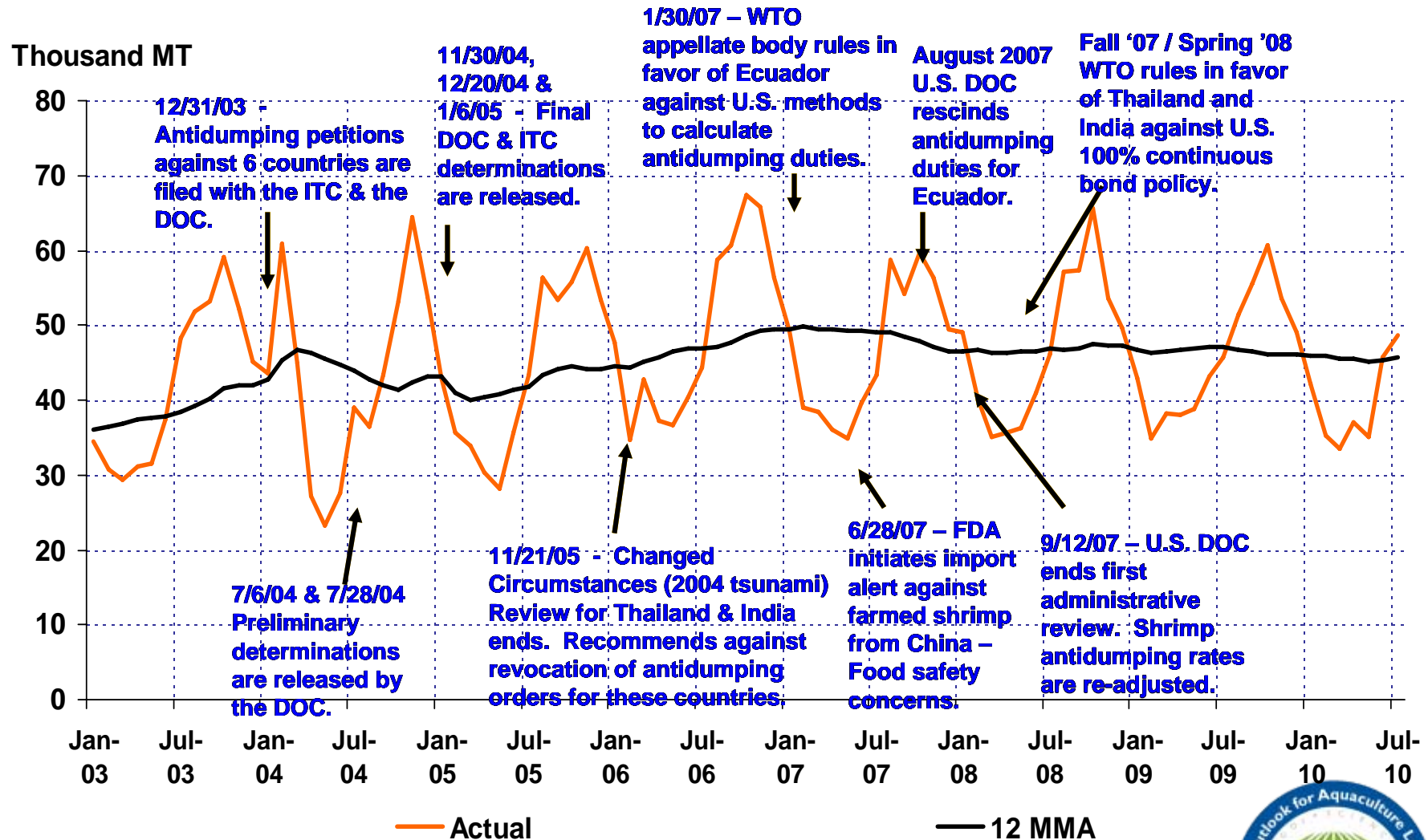
Thousand MT



Source: USDC/NMFS (2010).



U.S. Shrimp Imports (Jan 2003 – July 2010)

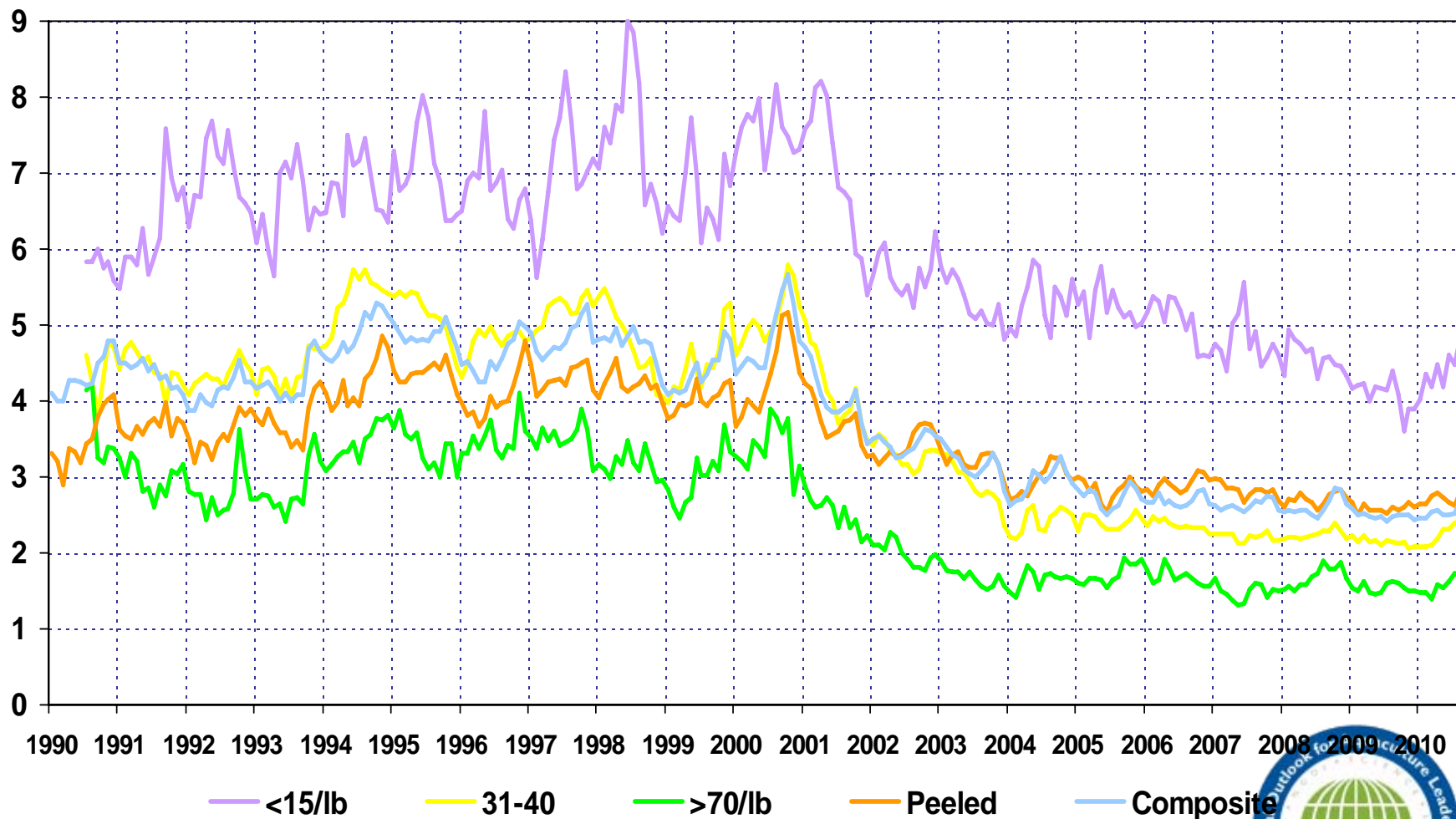


Source: USDC/NMFS (2010).



Trends in U.S. Shrimp Import Prices (Real Price)

2000 US\$/lb



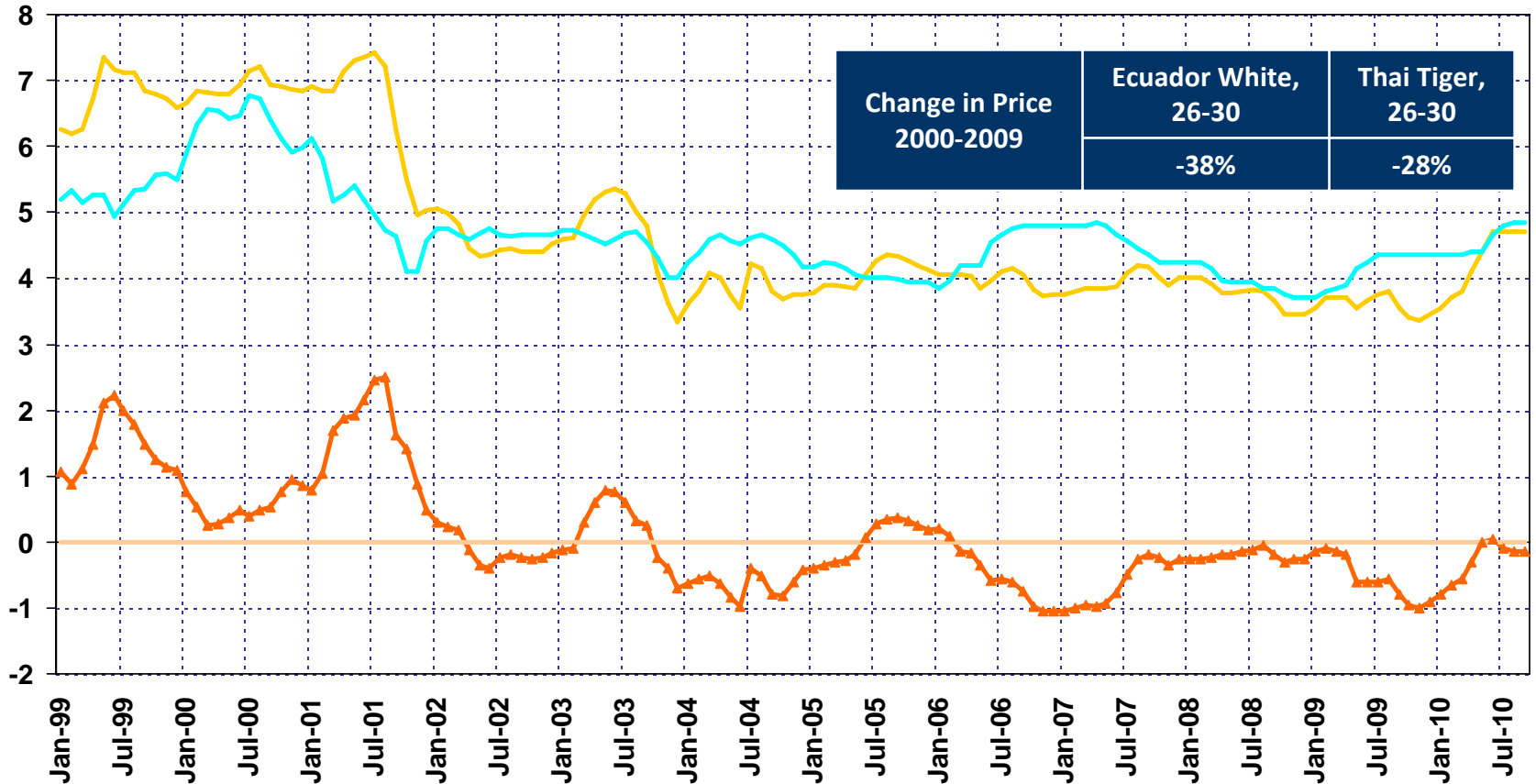
Source: USDC/NMFS (2010).



P. vannamei vs. *P. monodon*

U.S. Wholesale Prices

US\$/lb



— Farmed, Ecuador White, 26-30

— Farmed, Thai Tiger 26-30

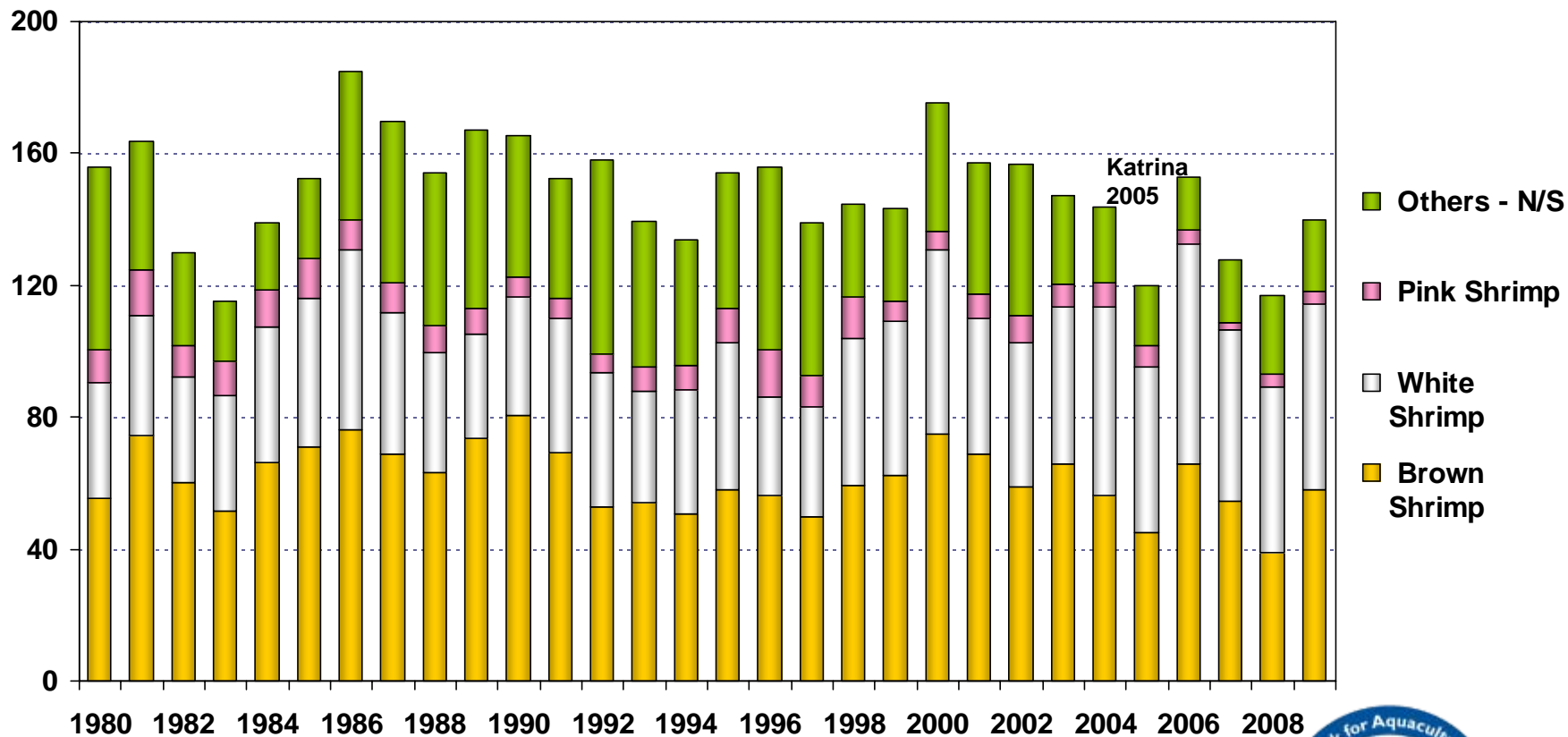
— Premium (White minus Tiger)

Source: Urner Barry, Several Years.



US Landings of Wild-Caught Shrimp

Thousand MT

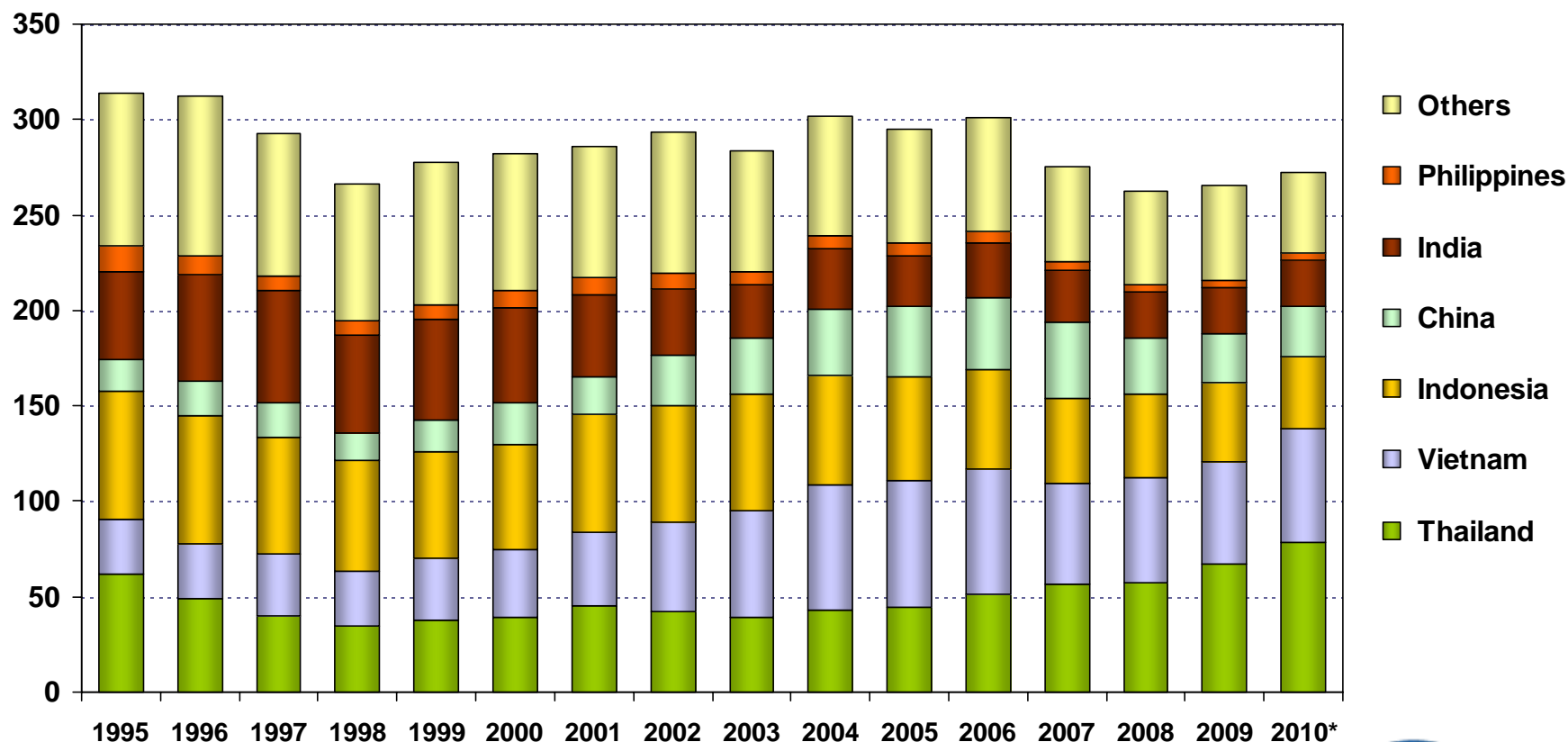


Source: USDC/NMFS (2010).



Composition of Japanese Shrimp Imports by Exporting Country

Thousand MT



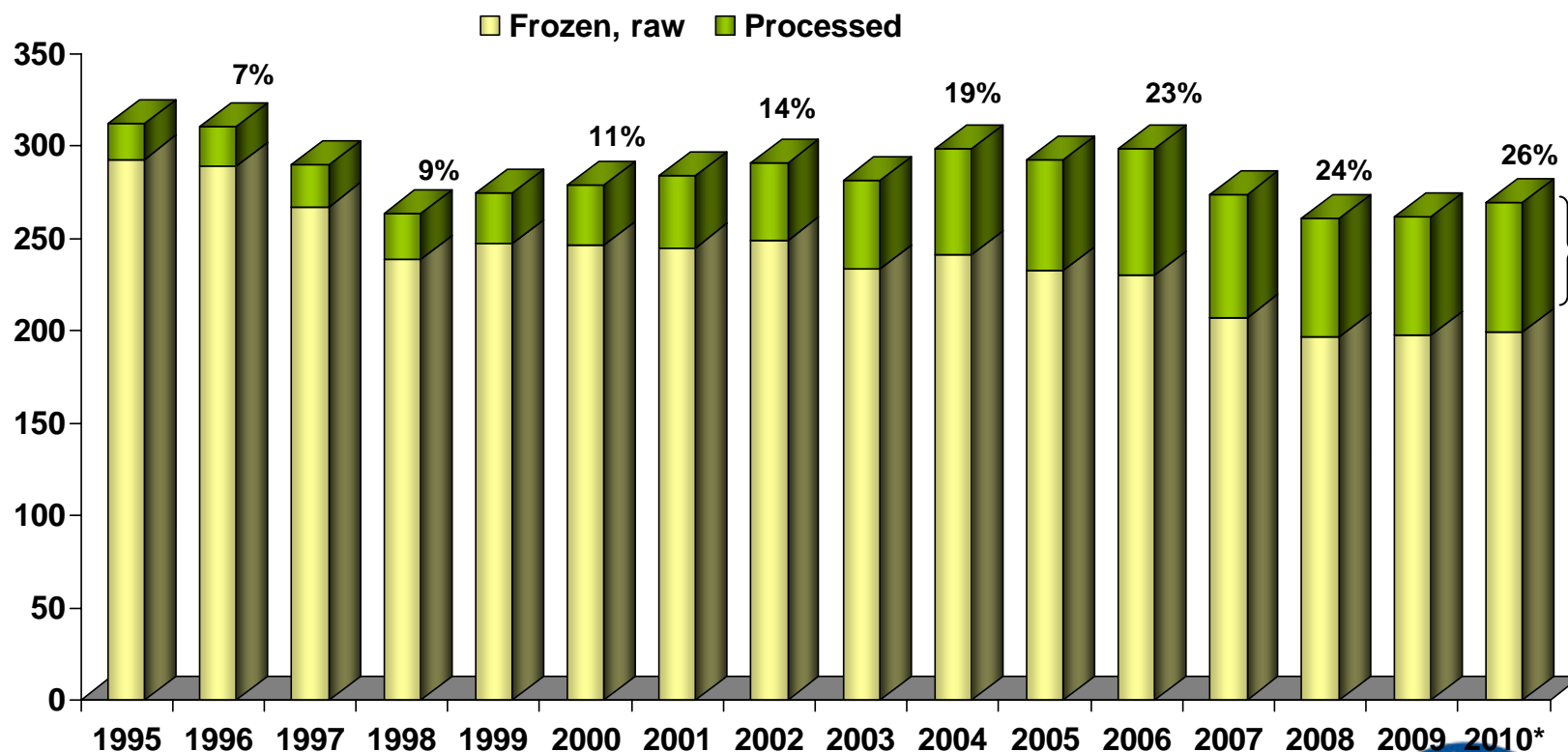
Source: Japan Customs (2010).

* Estimate.



Composition of Japanese Shrimp Imports by Product Type

Thousand MT



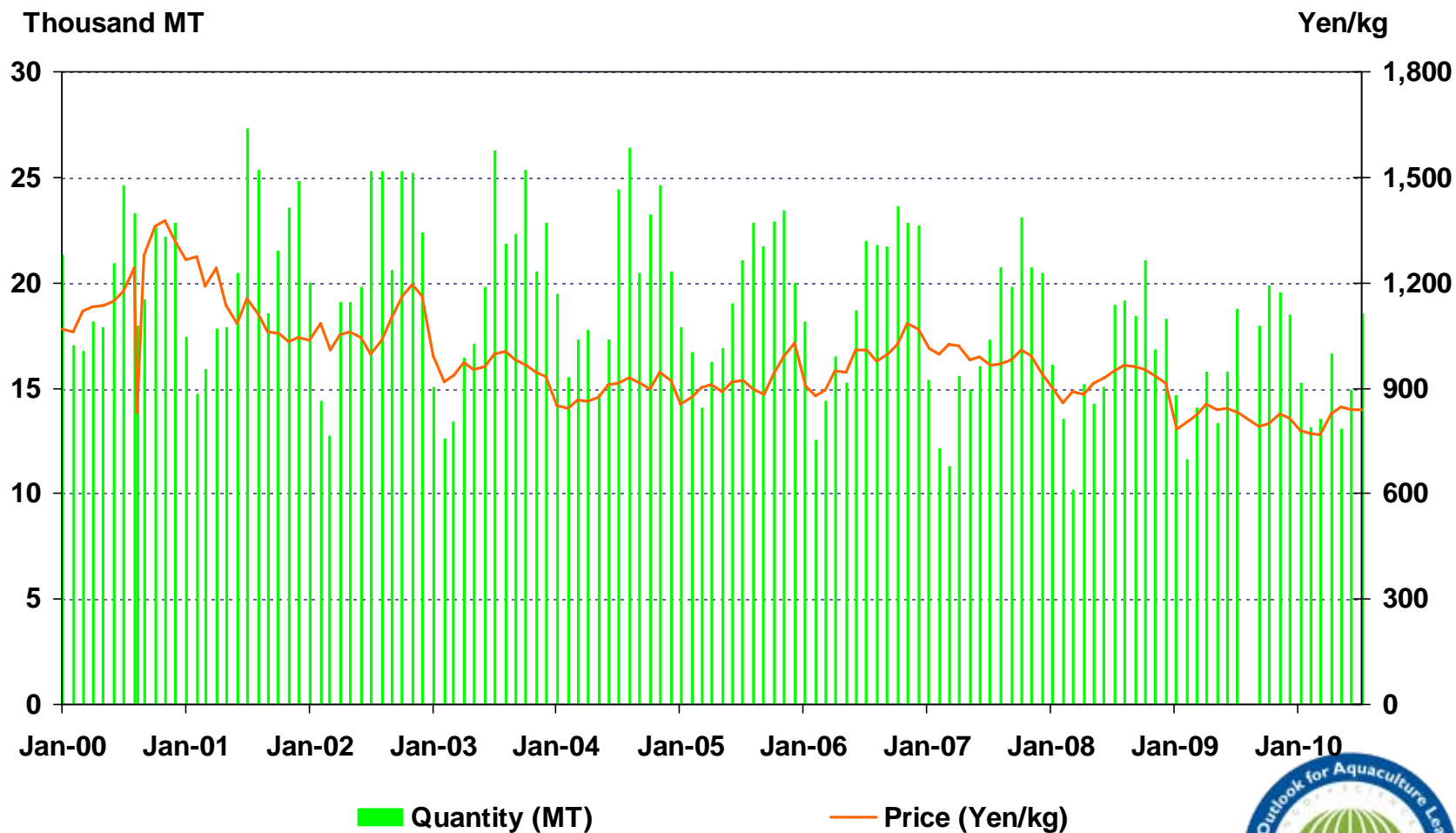
Source: Japan Customs (2010).

* Estimate.

Percentages indicate the share of processed products in the Japanese market.



Trends in Japanese Imports of Frozen Shrimp

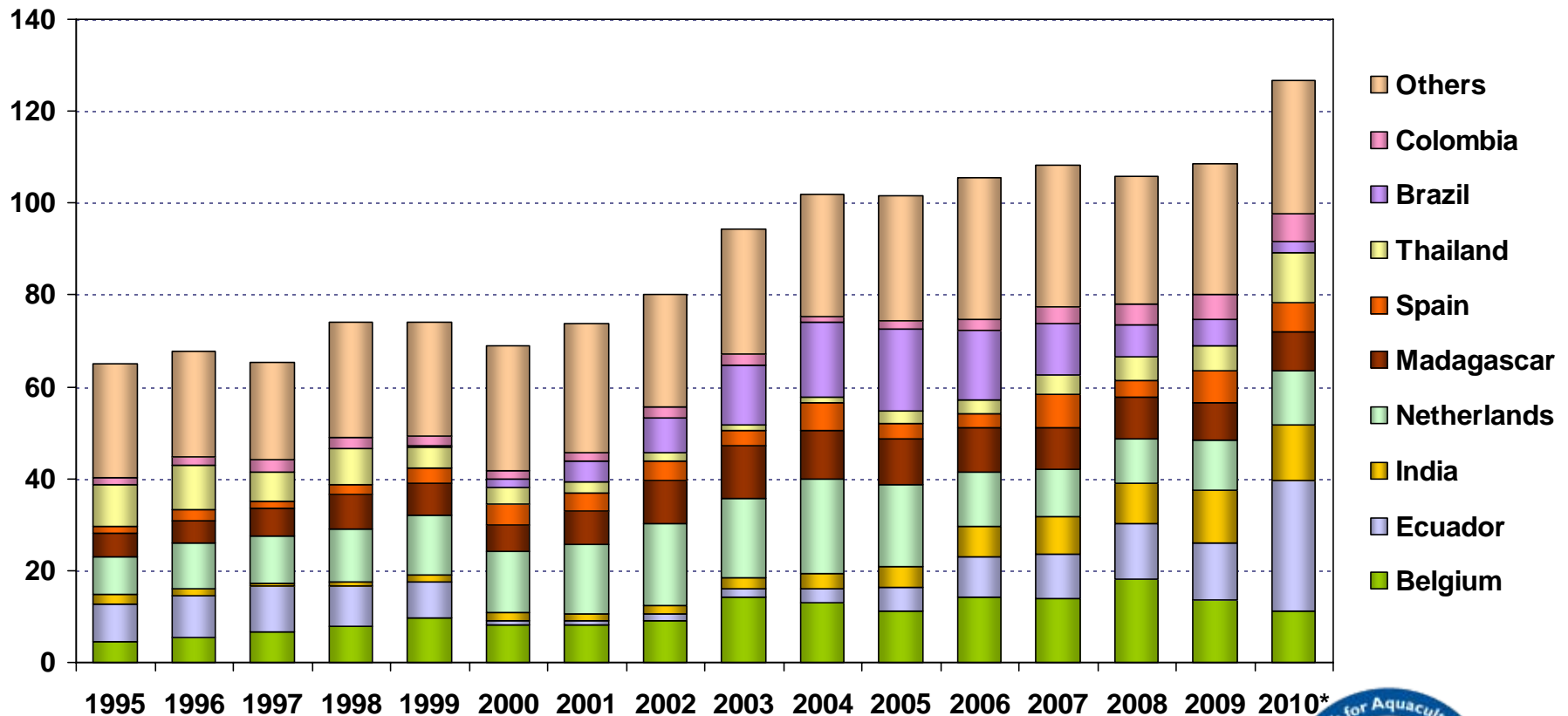


Sources: BANR, Japan Customs.



Composition of French Shrimp Imports by Exporting Country

Thousand MT



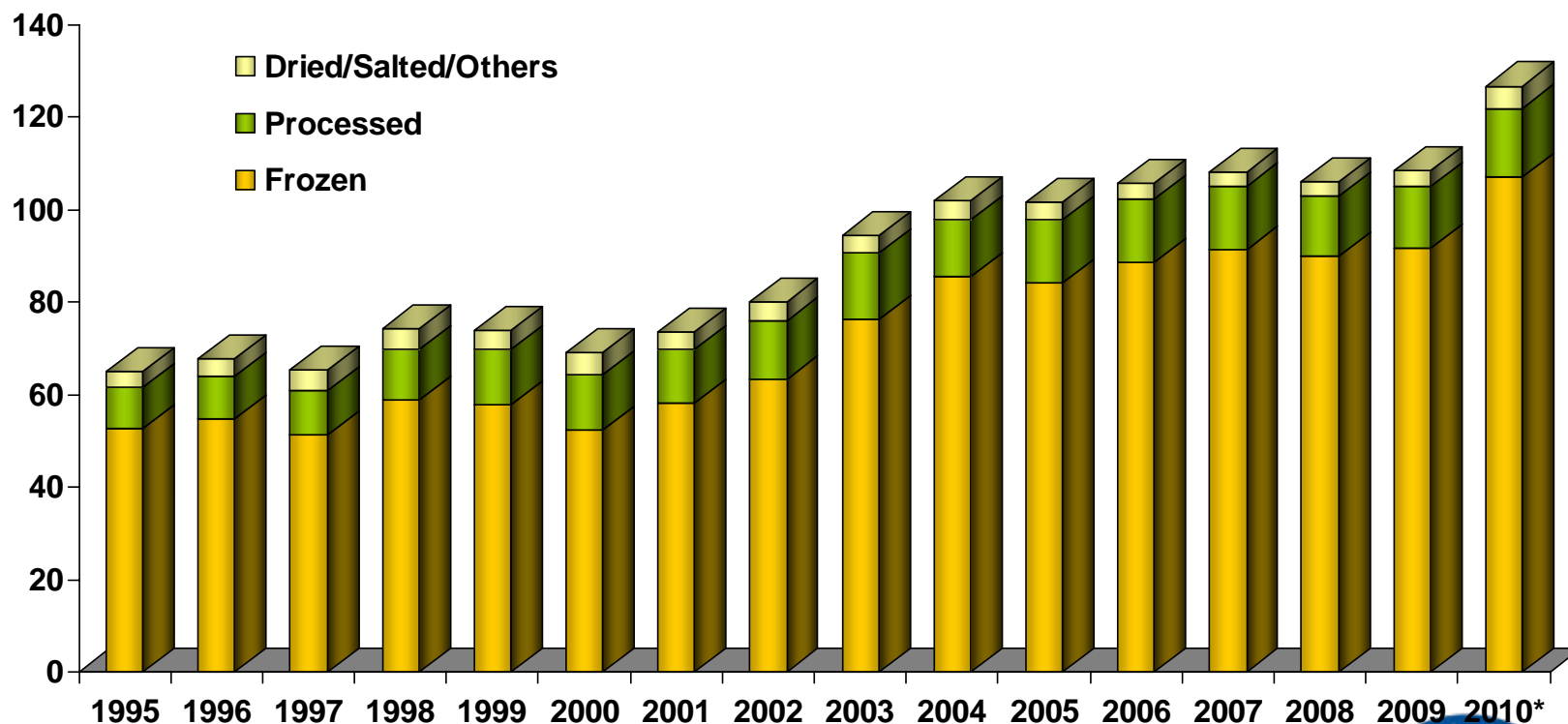
Source: EUROSTAT (2010).

* Estimate.



Composition of French Shrimp Imports by Product Form

Thousand MT



Source: EUROSTAT (2010).

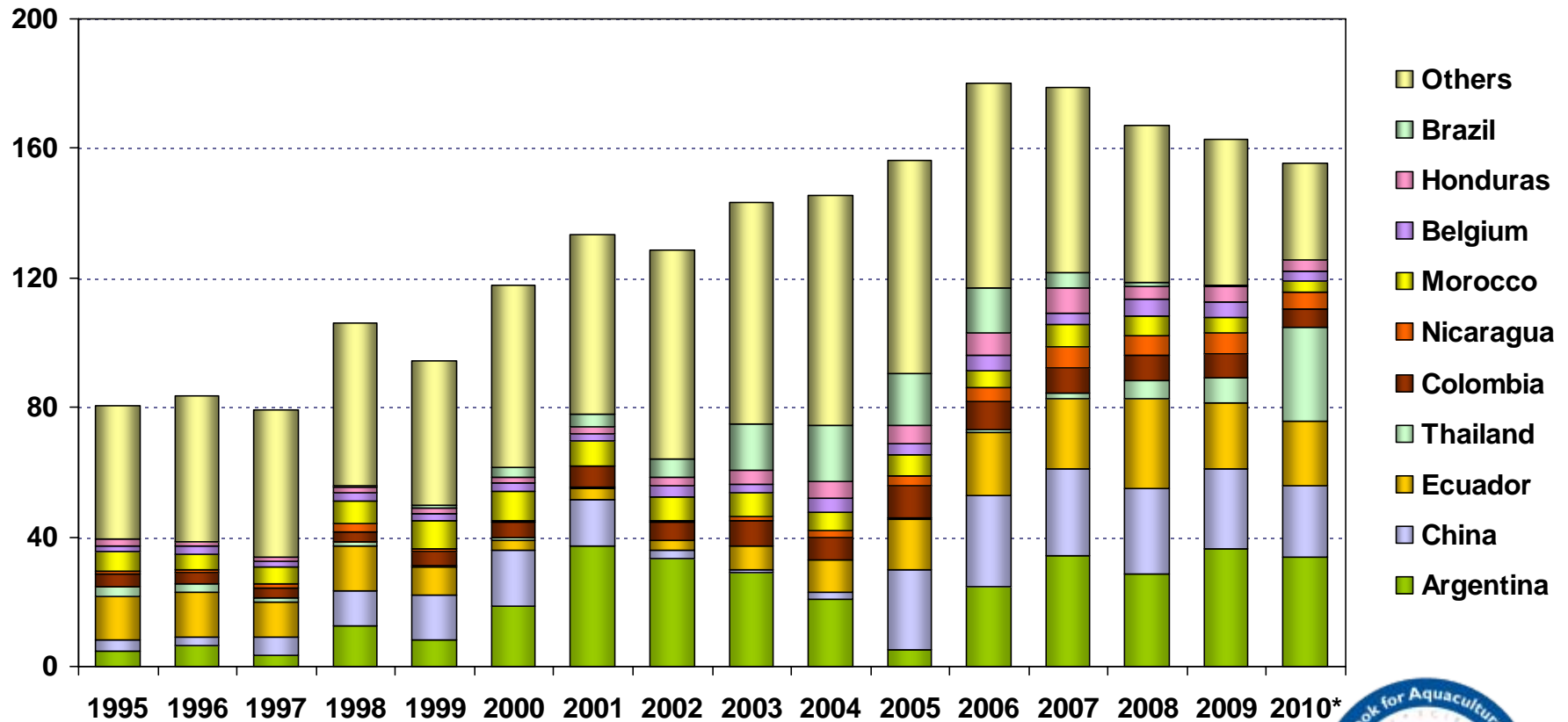
* Estimate.

Processed products represent 12%
of the French import market.



Composition of Spanish Shrimp Imports by Exporting Country

Thousand MT

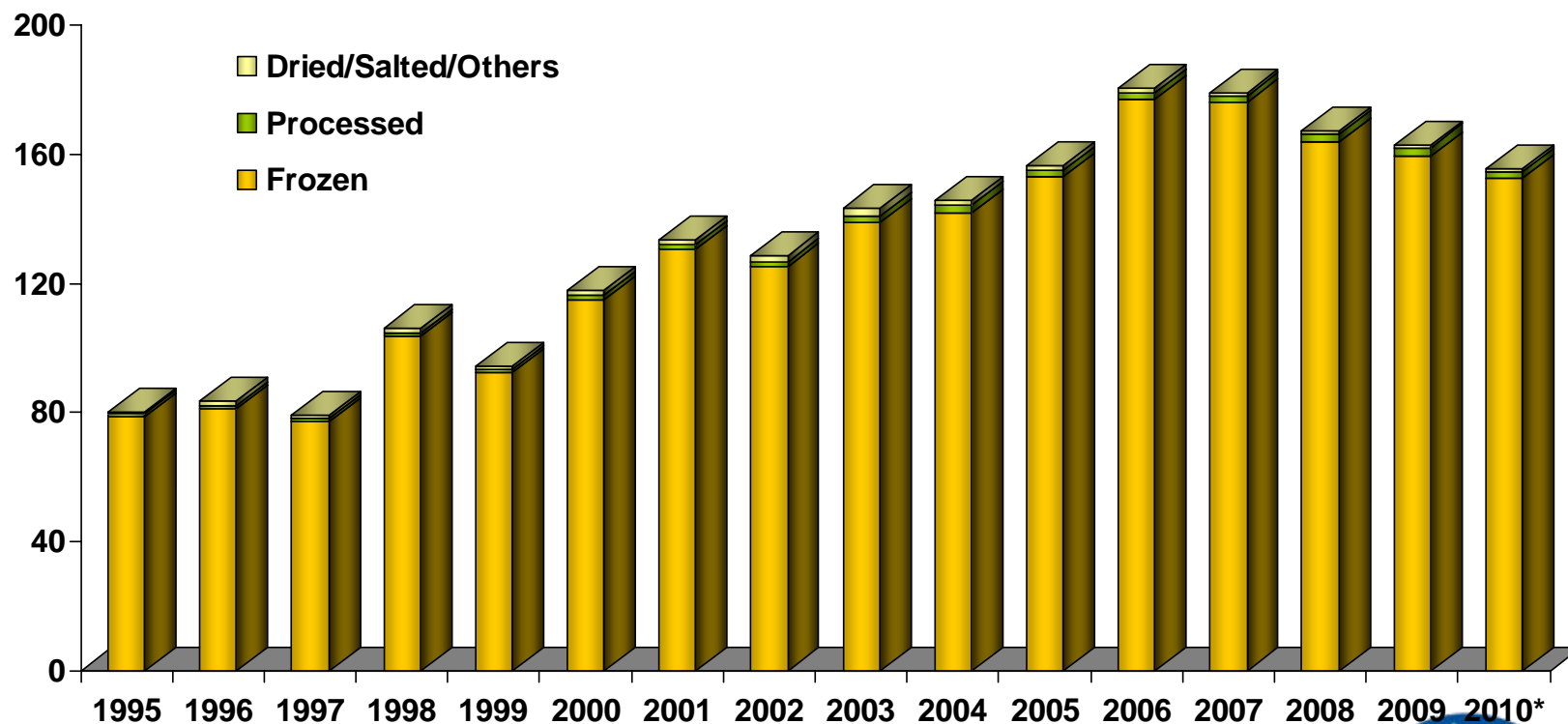


Source: EUROSTAT (2010).

* Estimate.

Composition of Spanish Shrimp Imports by Product Form

Thousand MT



Source: EUROSTAT (2010).

* Estimate.



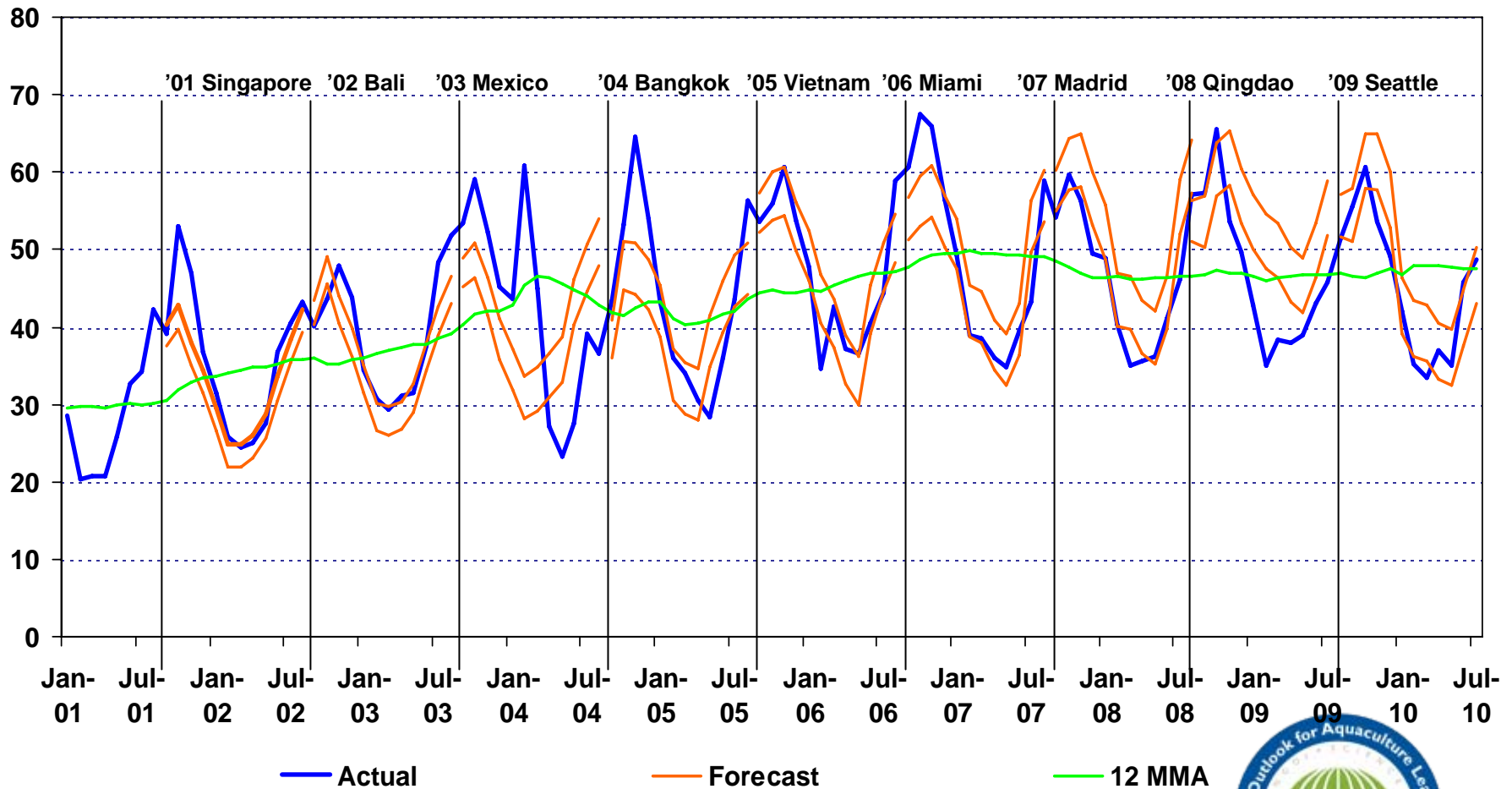
Price Flexibilities

% Change in Price Given a 1% Change in:

Market (All Product Forms)	Import Quantity	Income
USA	-1.1%	1.2%
Japan	-1.1%	0.9%
France	-0.9%	1.2%

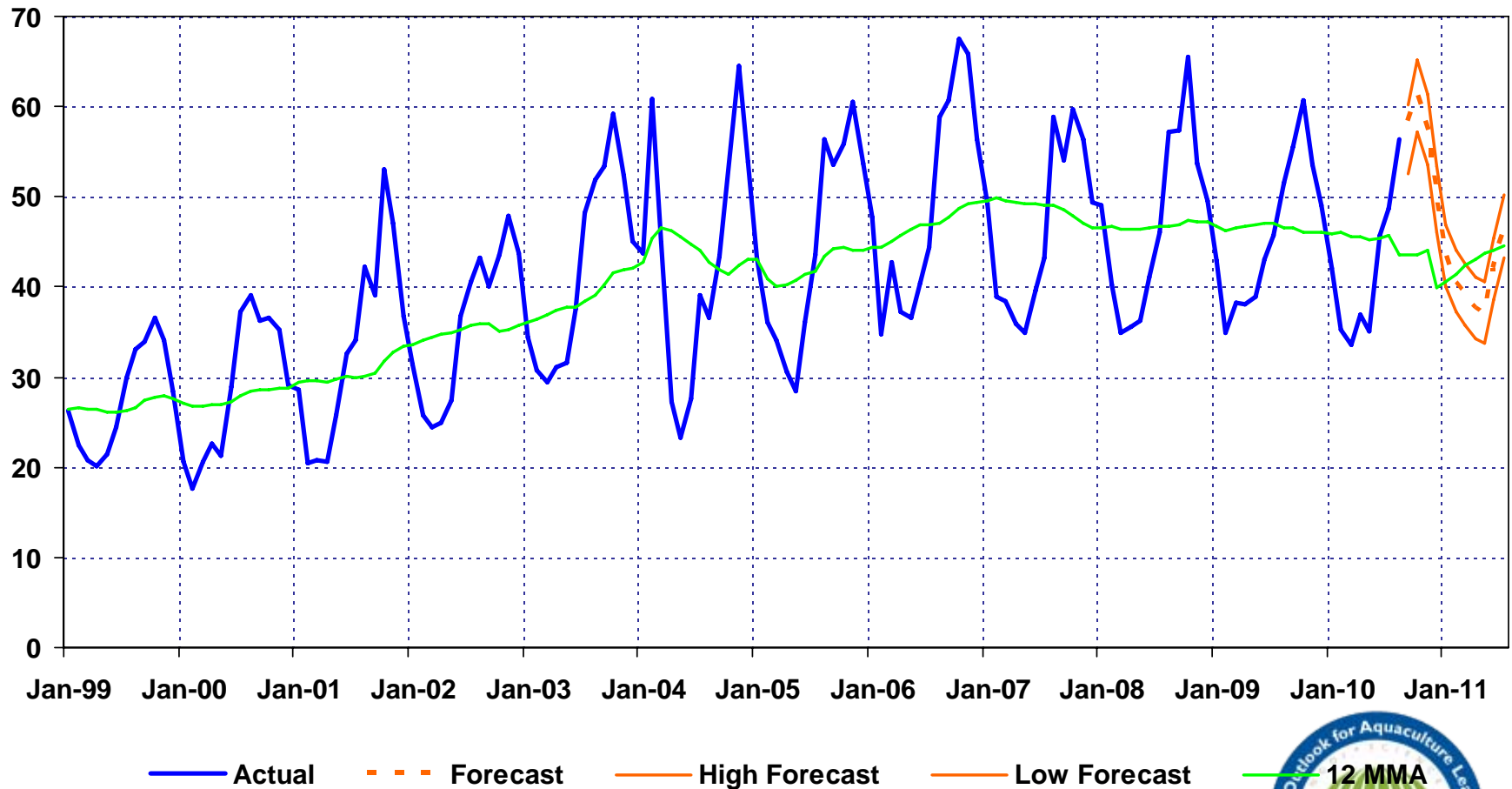
US Shrimp Import Forecasts – All Product Forms (2001-2010) vs. Actual

Thousand MT

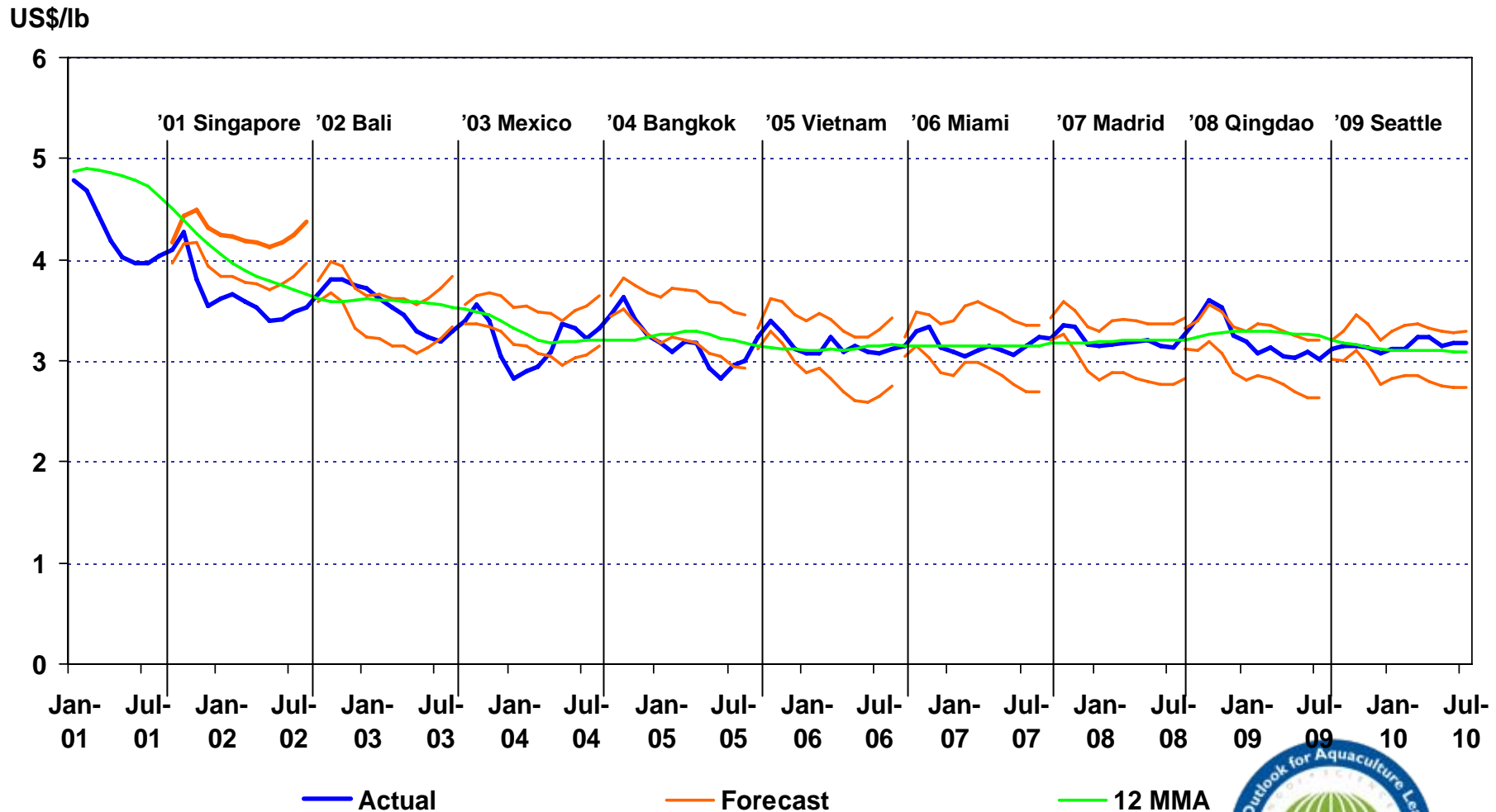


US Shrimp Import Forecast – All Product Forms

Thousand MT



US Shrimp Price Forecast – All Product Forms (Aug 2001-2010) vs. Actual



US Shrimp Price Forecast – All Product Forms

