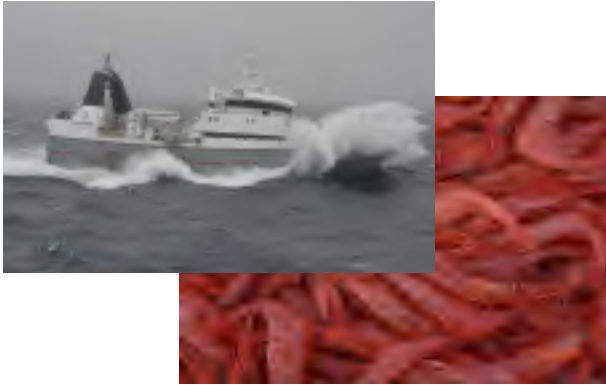


M/Tr Polar Nanok / Greenland



The Coldwater Shrimp Industry



United States Department of Agriculture
Trade Adjustment Assistance Program
Southeast Alaska Shrimp

Greg Fisk, **SeaFisk** Consulting & Management LLC for
Alaska Sea Grant Marine Advisory Program



Coldwater Shrimp Industry what we' ll look at...

Overview of the world shrimp industry...How coldwater species relate to the larger shrimp industry...Alaska's place

Evolving market forces, product forms and outlooks

Alaska shrimpers' direct competitors in the marketplace – Atlantic trawl, B.C. prawns, Washington, Oregon & California, Russian Far East, even Argentine red shrimp

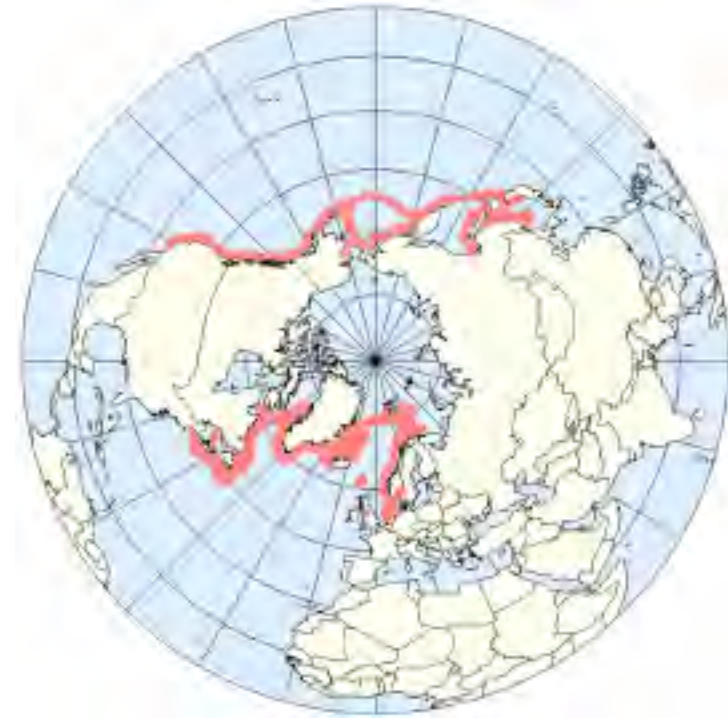
“To succeed you need to know your competition and understand the needs and expectations of the market.”

What are coldwater shrimp?

Northern latitude shrimp

Family *Pandalidae* – we are concerned with two genera, *Pandalus* & *Pandalopsis*

Most common species is *Pandalus borealis*, which is circumpolar in distribution



Commercial Alaska Species

Spot prawn (*Pandalus platyceros*)

Sidestripe shrimp (*Pandalopsis dispar*)

Coonstripe shrimp (*Pandalus hypsinotus*)

Pink shrimp (*Pandalus borealis*)

Humpy shrimp (*Pandalus goniurus*)



Photo by Paul Anderson, NOAA, AFSC

What are coldwater shrimp?

Common Shrimp (*Crangon crangon*) are also a “coldwater” species

- caught in the North Sea of Europe
- own, distinct market niche
- similar species are present in Alaska, but have never been commercially exploited here.



Krabbencutter – Westbourne models
Double rigged beam trawl shrimper

Distinct from warm water species

Most warm water species are Penaeids. You commonly know them as

Black tiger prawns (*Penaeus monodon*)



Pacific white shrimp (*P. vannamei*)



Gulf of Mexico White, Pink or Brown Shrimp
(*Litopenaeus setiferus*, *Farfantapenaeus duoarum*, & *F. aztecus*) *Brown shrimp pictured*



But there are dozens of commercial species worldwide

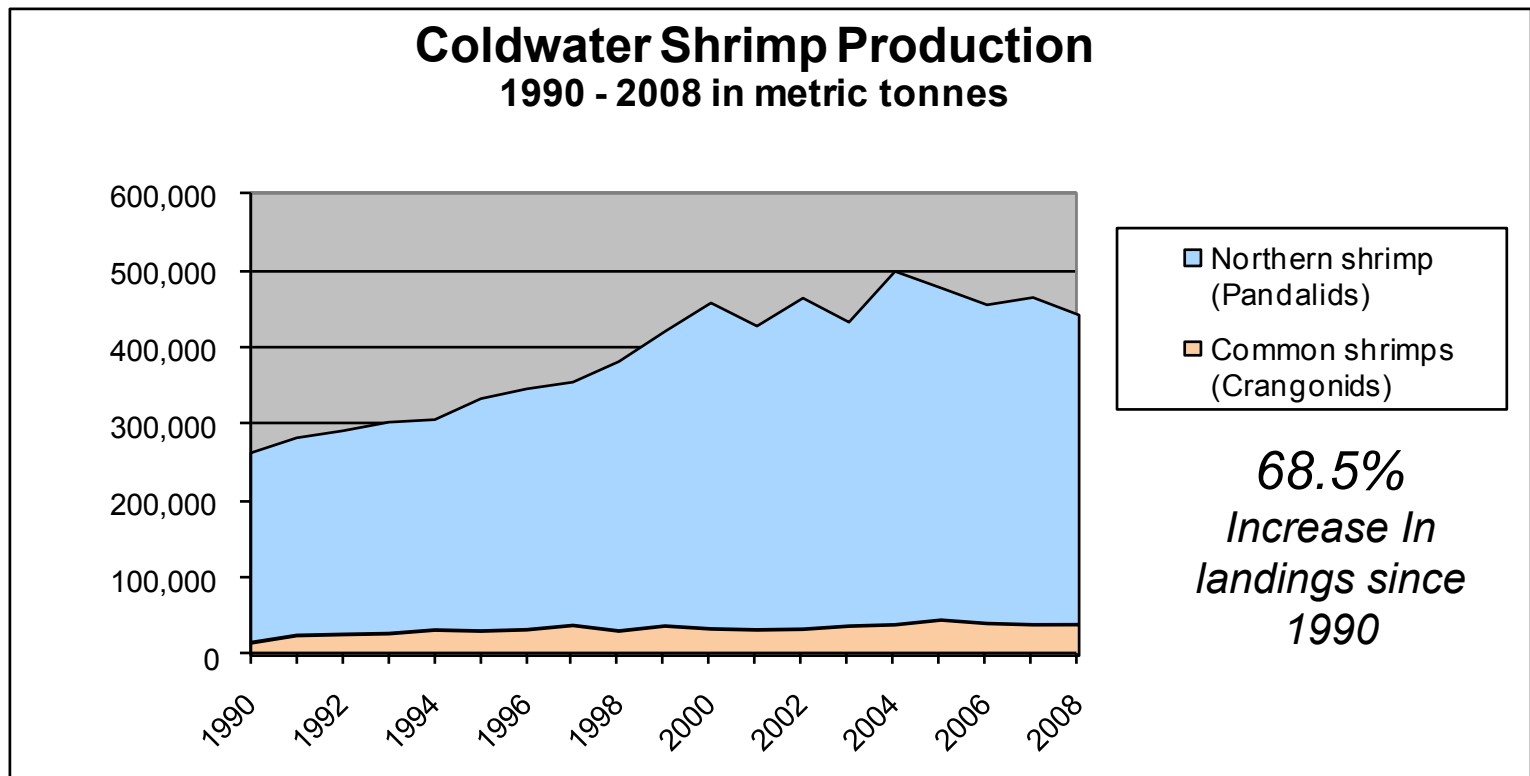
So...Why all the Latin?

The problem is that there are lots and lots of overlapping common names for shrimp in English...not to mention many, many other languages.

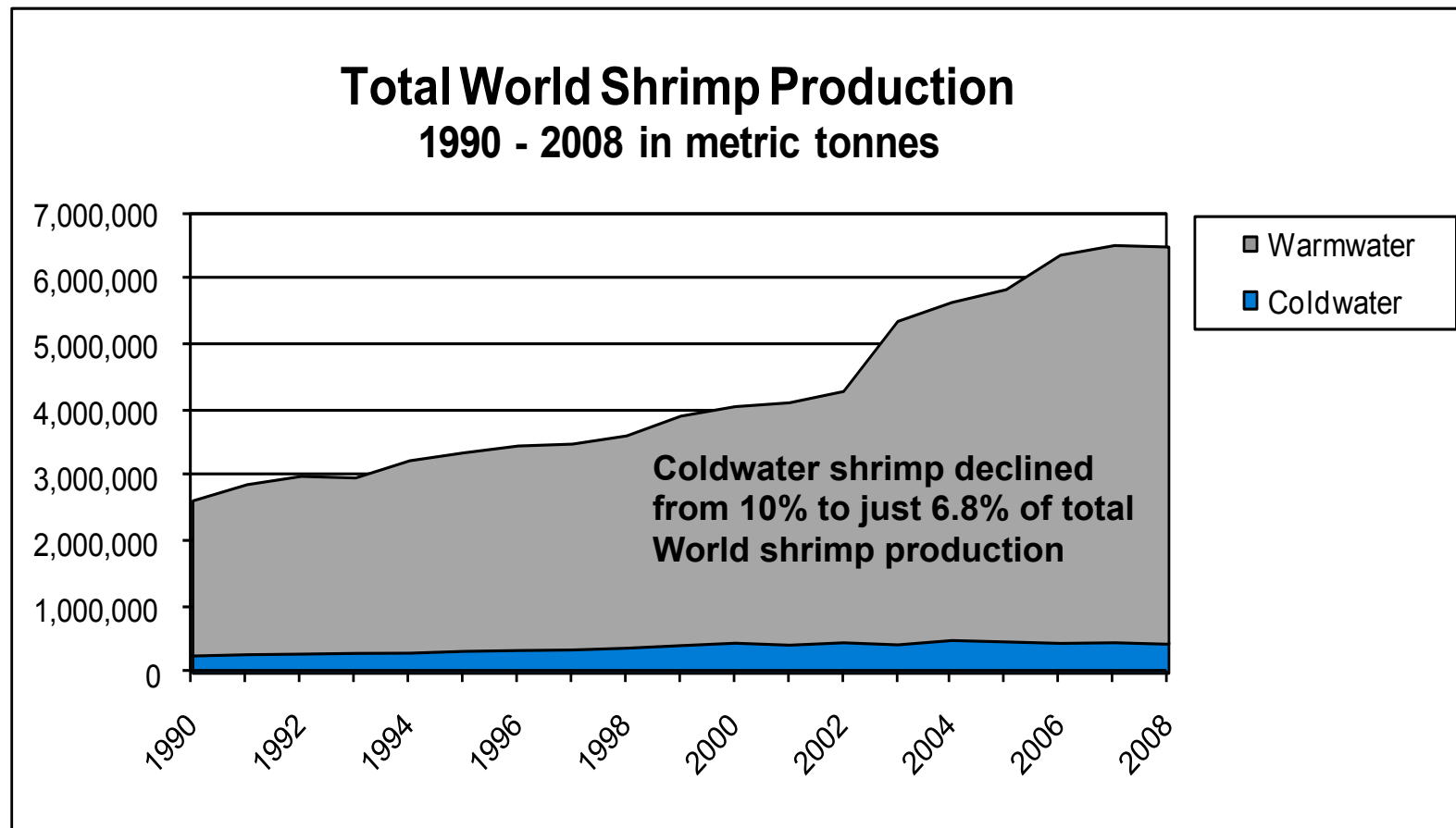
Latin or scientific names are often the only truly accurate way of defining the critters we are talking about.

Back to coldwater shrimp

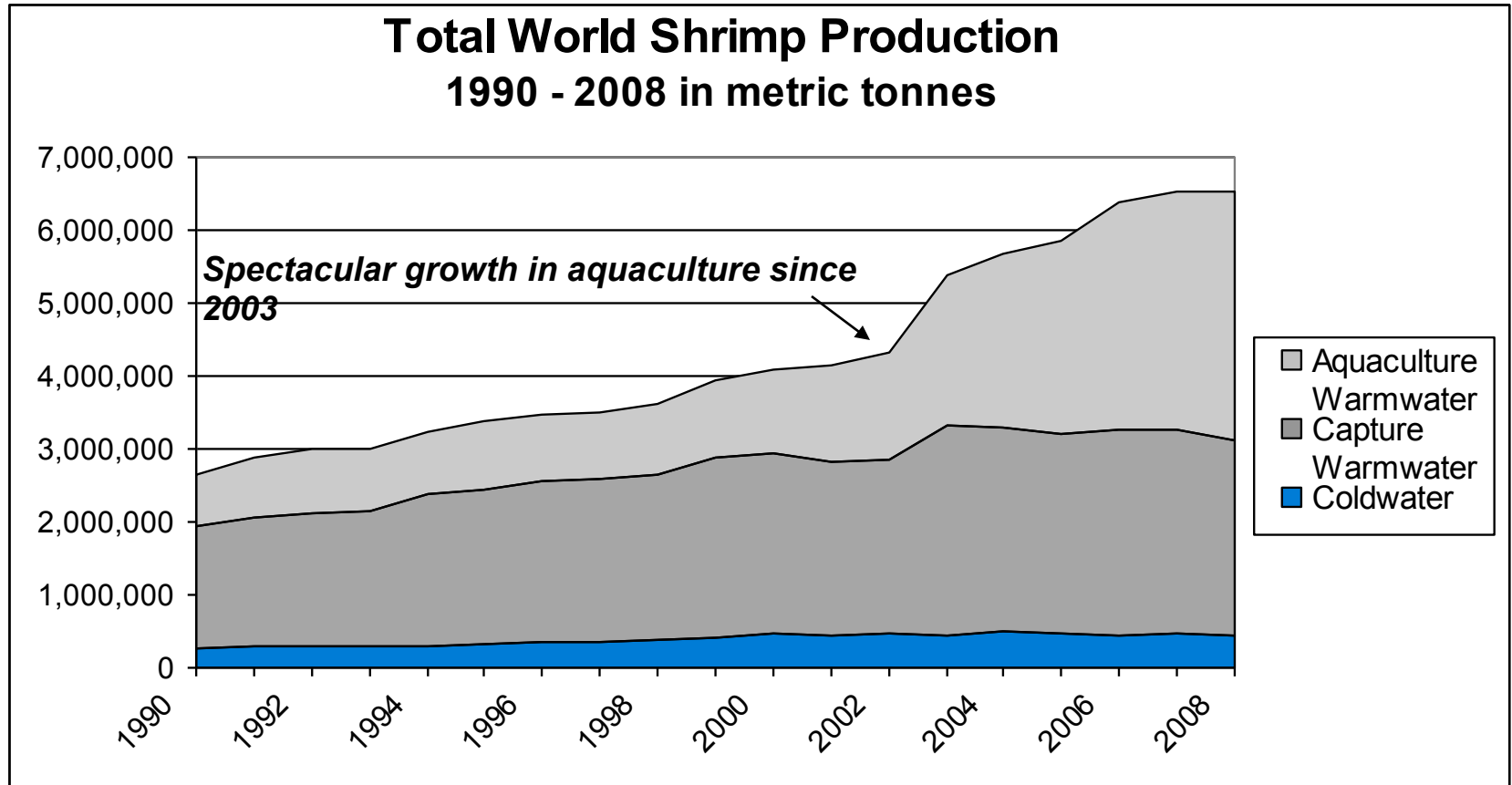
Worldwide, it has been a growing fishery



But not measured against total shrimp production



Biggest gains in farmed



How big is the shrimp industry?

6.5 million tons !! 143 billion pounds !!!!

Numbers almost too big to really comprehend

- 6 ½ times the entire Alaska pollock industry
- 12 to 15 times the size of the Alaska salmon industry
- 3 times as big as the entire Alaska seafood industry

Shrimp represent 4.6% of all seafood produced by weight

Much more as % of value...

United Nations, Food & Agriculture Organization (2008)
estimated total value of the world seafood trade at...

\$192.3 billion USD

Shrimp represented about 13.3% of that value, or

\$25.5 billion USD

FAO Yearbook of Fisheries Statistics Summary Tables, Appendix II

Coldwater shrimp fishery

Inshore Sector

Inshore boats deliver mainly fresh shrimp to shoreside peeling plants – usually in competitive fisheries

Scandinavia, Greenland, Atlantic Canada, Gulf of Maine fisheries for *P. borealis* / California, Oregon, Washington & BC for *P. jordani*

Alaska was a huge producer before the 1977 ocean regime shift



Coldwater shrimp fishery

Offshore sector

Factory trawlers fish remote areas, process onboard – most operate on established vessel quotas

Major players – Canada, Greenland, Norway, Denmark, Iceland, Faroe Islands, Russia



M/Tr Akamalik / Greenland



M/Tr Northern Eagle / Canada



Latest look in factory trawler design
Havyard Shipyard for Remoey Havfiske
Norway

Coldwater product forms

Three basic product forms

Cooked & peeled (CP) – “cocktail” shrimp

Whole cooked – generally IQF at sea

Raw frozen – sushi grade shrimp

Cooked & peeled coldwater prawns



Newfound Resources Ltd.

Most common product form – North America & Europe

Lowest value to fishermen - \$.35 Oregon / \$.45 Canada

Shoreside processing- recovery rate 25% to 30% / grades range from 70/90 to 500+ pieces / lb

Wholesale price \$2.80 to \$4.75 / lb - up 15% in 2010

Processor margins approx. \$.35 - \$.90 / lb now – barely breakeven for the last 10+ years

Whole cooked coldwater prawns

Traditionally a European market

China & Russia now very important

Cooked & IQF frozen at sea / 5 kg (11 lb) carton

Gradings 90/120, 120/150 & 150/180 per kg (40 to 80 per lb)

Good value for producers - particularly with recent price / demand surge in newer markets

Royal Greenland A/S



Raw frozen ama-ebi



yokohamasushi.com

Japanese market & the growing world sushi market

Factory trawler production - 1 kg (2.2 lb) box FAS (frozen at sea)

Grades: 40/60, 50/70, 60/80, 70/90 & 90/120 per kg (23-55 / lb)

Highest value for producers / particularly with weak \$\$ dollar

This is the commodity product form at the base of Alaska's market for Japan-grade spot prawns

Outlook for Coldwater

General improvement in prices in 2010...Canadian factory trawlers saw 15% - 20% improvement

North Atlantic production seems to have peaked

Economic upturn following the global recession being led by developing economies - Market interest in China and Russia is strong

Japanese demand remains weak, but prices improved

World per capita seafood consumption at all time high of 17 kg (37.4 lbs)

Price Improvement

Canadian colleague – “After years of being in the doldrums the (cold water shrimp) market has suddenly come to life.” (2010) “...could not be a better time to revive the Alaska fishery.”

World shortage of shrimp caused by failures in shrimp farming, due to diseases and effect of hurricanes

Cold water is benefiting...and cold water shrimp quotas are going down, creating a shortage for C+P shrimp.

North Atlantic production seems to have peaked

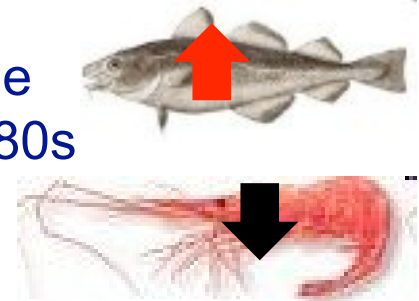
2004	2005	2006	2007	2008
447,423	418,339	401,731	409,384	383,649

After two decades of continuous increase the *Pandalus borealis* fishery peaked out at near 450,000 tonnes in 2004.

Catches have dropped since, going well below 400,000 tonnes by 2008 and have continued down

A Canadian source advises “... after the Northern Shrimp Advisory Meeting (March, 2011) quotas in the south (Newfoundland) are going down big time...”

Beginning to see a reverseal of the cold water regime shift that decimated Canada cod stocks in the late '80s



Trend to watch

China & Russia Whole-cooked

Very strong demand for smaller sizes of whole cooked - Pink shrimp of 80-90 whole pieces / lb are fetching \$.90 to \$1.10 per pound

Now looking for larger sizes that formerly went to Europe. Shrimp of 55-70 pieces / lb can bring up to \$1.50 / lb

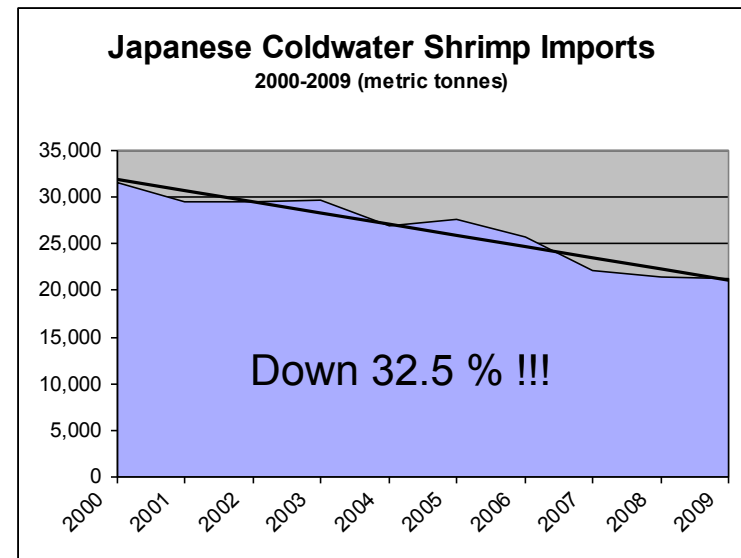
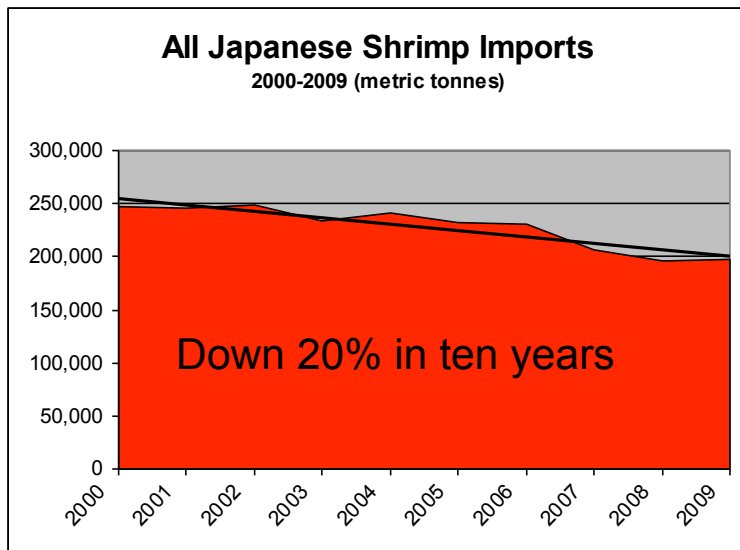
Prices are up sharply (about 20%) since September 2010

With food commodities generally higher, and shrimp production down, look for this demand to continue

Trend to watch

Lower Japanese Demand

We've all heard about changing Japanese tastes. Here's the graphic evidence for shrimp consumption...



Trend to watch

Aquaculture problems in China

2009 and 2010 were disastrous for Chinese shrimp aquaculture

Major disease problems particularly with *P. vannamei*



White spot disease - high and rapid mass mortality, mainly in farmed prawns, can occur at any stage of the grow-out period



Hurricanes devastated many farms

How fast will their shrimp farming industry recover?

Trend to watch

Currency exchange rates



bankonyourself.com

US Dollar has declined significantly against the major shrimp trade currencies

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
JPY / USD	107.8	121.5	125.2	115.9	108.1	110.1	116.3	117.8	103.4	93.6	87.8
DKK / USD	8.1	8.3	7.9	6.6	6.0	6.0	5.9	5.4	5.1	5.4	5.6
CNY/USD	8.3	8.3	8.3	8.3	8.3	8.2	8.0	7.6	6.9	6.8	6.7

Down 30% against the Japanese Yen / 33% against the Danish kroner / even 20% against the Chinese renminbi

US currency weakness is great for exporters...and potentially for your prices

Trend to watch

Argentine red shrimp???

Argentine reds (*Pleoticus muelleri*) were touted as a major factor in the decline of spot prawn prices in Japan in the 2004-2005 period.

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Argentine red Production	37,150	78,843	51,412	52,896	27,127	7,510	44,405	47,416	47,406
Japanese Imports	3,503	4,742	8,833	3,674	2,364	619	3,366	1,894	2,597

But analysis shows that both total production & Japanese imports dropped sharply in those years

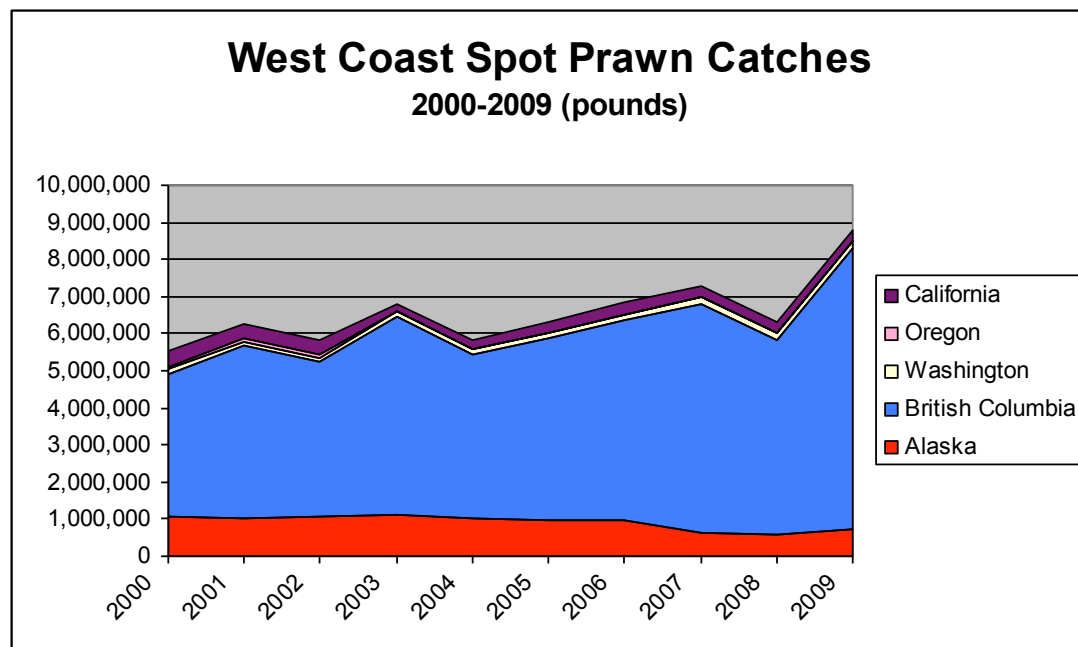
The real problem was some very poor quality Alaska product that hurt Alaska's reputation

Let's Look at our West Coast Competition

Our West Coast Competitors

Spot Prawns

Growth has been in B.C. - though 2010 final results there look to be lower at about 4.4 million lbs.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Alaska	1,061,037	1,026,800	1,065,075	1,127,295	1,015,907	948,062	947,946	640,592	587,321	704,628
British Columbia	3,854,540	4,638,758	4,155,359	5,310,960	4,417,573	4,911,050	5,398,154	6,176,826	5,235,576	7,596,807
Washington	116,842	125,674	135,538	154,380	157,204	167,154	168,034	173,860	178,980	181,256
Oregon	75,240	73,772	79,553	17,986	2,096	1,392	5,955	6,196	5,282	6,036
California	447,124	396,937	393,396	167,575	223,628	269,821	321,316	260,298	287,139	282,896



British Columbia



Typically nearly 80% of coastwide catch

May - June fishery / 2009 record year @ 7.6 million lbs

2010 estimated at 4.4 million lbs – 10 yr avg = 5.2 million lbs

70% of catch typically from Gulf & Georgia Strait

“25 years ago prawns were an afterthought...now they’re a premier fishery in British Columbia” - DFO Manager

British Columbia

252 licenses / about 230 active boats

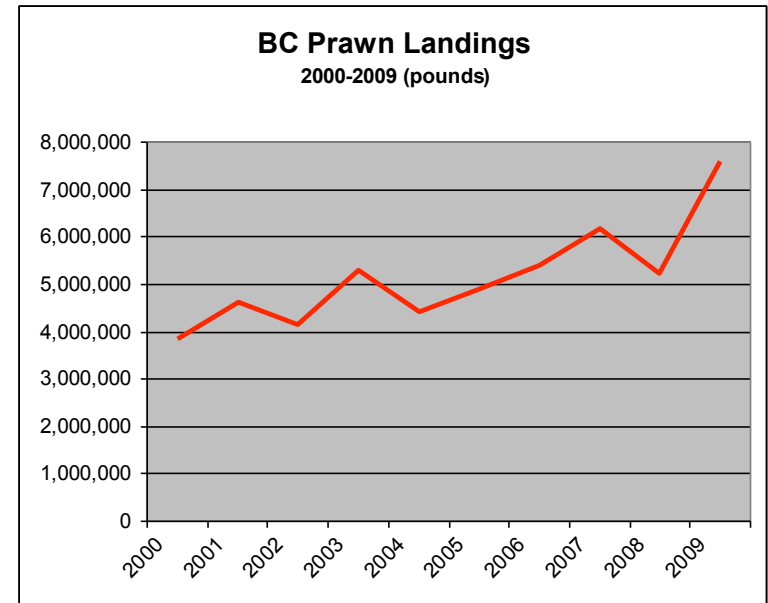
Approx. 90% freeze onboard – most for Japanese market

Others doing Vancouver live market

Avg. landings 22,000+ lbs / boat – Avg. earnings around \$180,000

Permit values \$500,000 and up (\$13 - \$20,000 / foot of boat length)

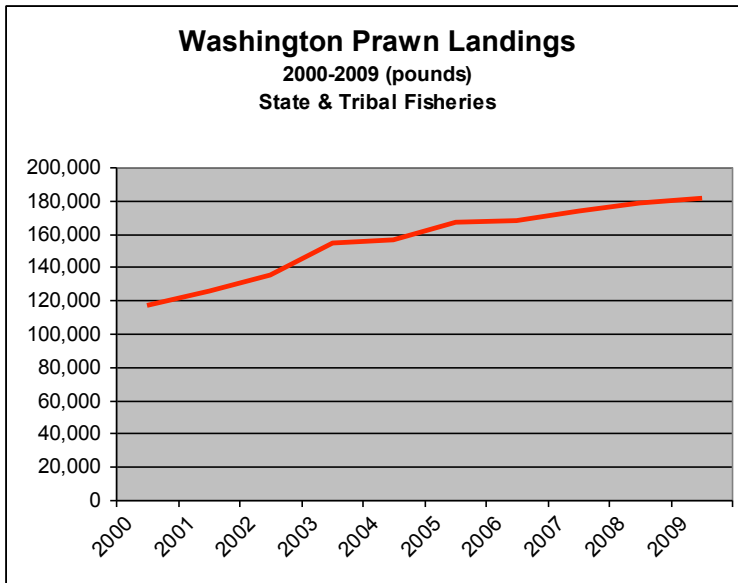
Fleet pays for management - about \$600,000 annually – or about \$2,400 per license



Washington

60% taken by recreational fishery

18 commercial pot fishery
licenses caught 96,000 lbs in
2010 – avg. 5,333 lbs / license

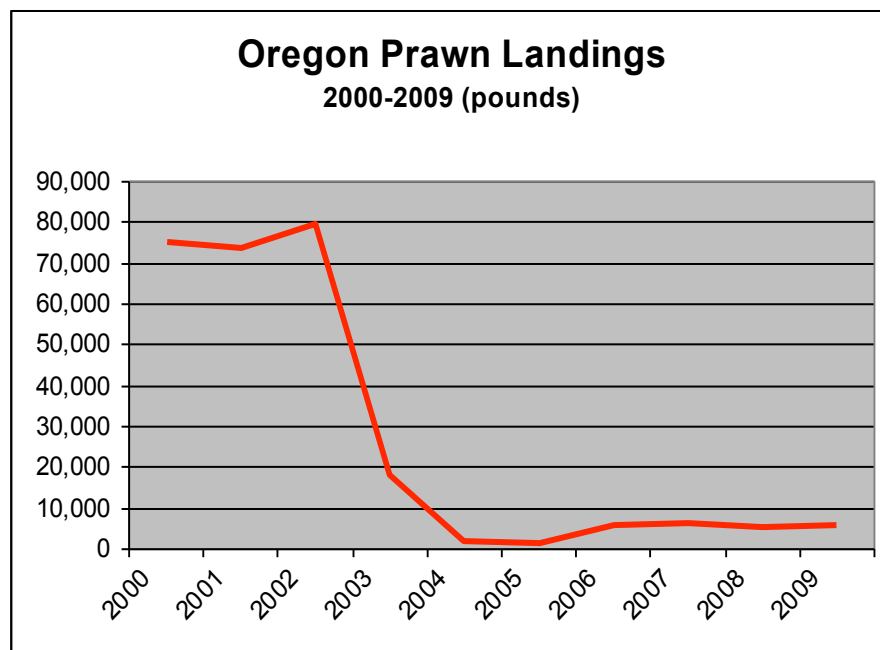


Management by count of females at end of season, with projection to the next year / Quotas gradually moving up as experience builds / Total commercial & tribal catch now pushing 200,000 lbs level / Much of the catch goes to high value live markets - \$10.00+ / lb

Oregon

Smallest of the prawn fisheries coastwide

As few as 3 to 6 active fishermen now



Trawling for spots banned in 2004 – landings plummeted

Modest catch thought to be local or live marketed

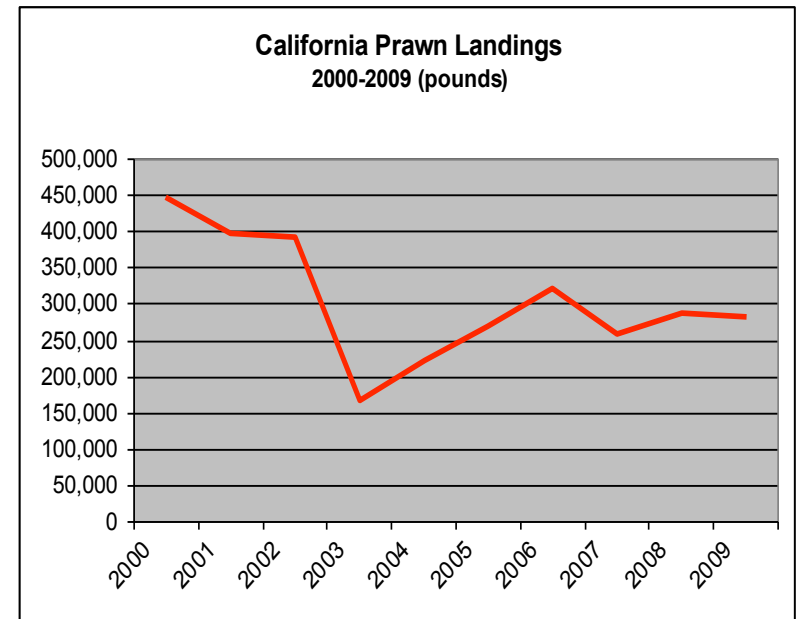
California

29 permits (12 non-transferable)

20 vessels fished in 2010 landing
242,000 lbs.

ex-vessel = \$2.6 million or
\$10.75 / lb - avg. earnings =
\$130,000

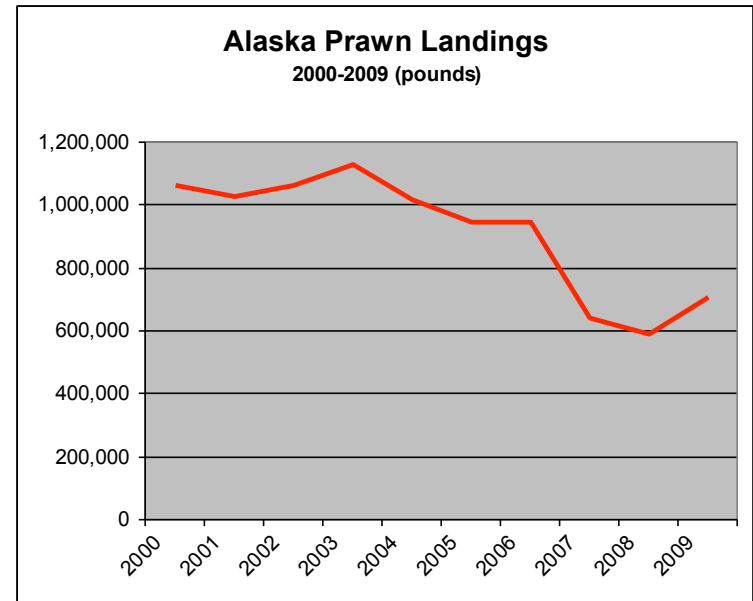
But, actual live delivered price est. @ \$13.00 - \$15.00 / lb
(\$3.15 – 3.63 million overall value) Principally Asian
markets in Los Angeles and San Francisco / About 70% of
catch is south of Pt. Arguello (near Santa Barbara) /
Trawling banned in 2003 and landings dropped as result



Alaska

Fishermen frustrated by catch declines through past decade

Number of participants down by 1/3 – 164 to 108



“...some signs of the resource taking a turn for the better.”
- ADF&G Management

Lack of specific budget for prawn fishery management & general budget constraints rules out intensive in-season management options for now.

Opportunities???

Freeze onboard if you aren't already: Some freezers went back to fresh tails when “Japanese market tanked in 2004 / 2005. But “Japan prawn” prices are back up, and FAS tails are also a good option

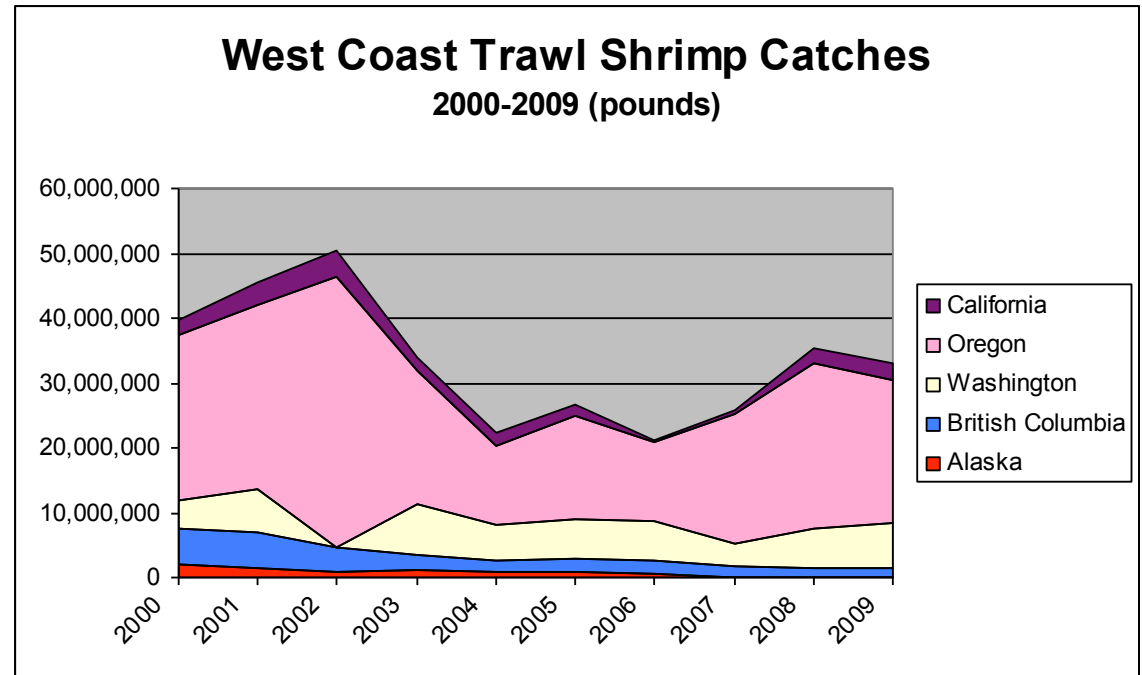
Look at Lower '48 Markets: “The Japanese price has improved somewhat, but the big interest is in North America now.” - Chris Forer, Exec. Dir. Pacific Prawn Fishermens Assoc.

Push for intensive in-season management, coupled with permit reductions: Long-term this offers the biggest economic pay-off of anything you can do.

Our West Coast Competitors

Trawl Shrimp

Overall decline in the face of huge Atlantic pink shrimp production



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Alaska	1,893,815	1,413,264	903,897	1,096,253	740,387	986,451	621,047	133,869	38,412	51,544
British Columbia	5,666,795	5,539,953	3,857,402	2,336,062	1,868,552	1,853,164	1,924,010	1,659,594	1,344,107	1,340,555
Washington	4,352,098	6,590,344	1,048,210	7,893,802	5,380,287	6,265,055	6,182,641	3,345,240	6,267,994	7,010,586
Oregon	25,462,479	28,482,140	41,583,524	20,545,976	12,206,890	15,783,664	12,195,455	20,124,919	25,520,136	22,153,348
California	2,459,095	3,509,326	4,116,213	2,147,198	2,187,520	1,693,913	139,901	628,027	2,084,404	2,609,170

Alaska

Not really much in common with other West Coast Trawl Fisheries...different gear, different species mix

Alaska needs to develop a value maximization management model

Significant component of larger sidestripe prawns is something no other trawl fishery has

Opportunities???

Catcher Processor Model: Some fishermen will make the transition to processing onboard / direct marketing

Reviving Shoreside Peeling: Still an important option
- recent developments in Petersburg bode well for getting it going again

Vessel Quotas: Could promote value maximizing strategies, and an immediate boost to permit values