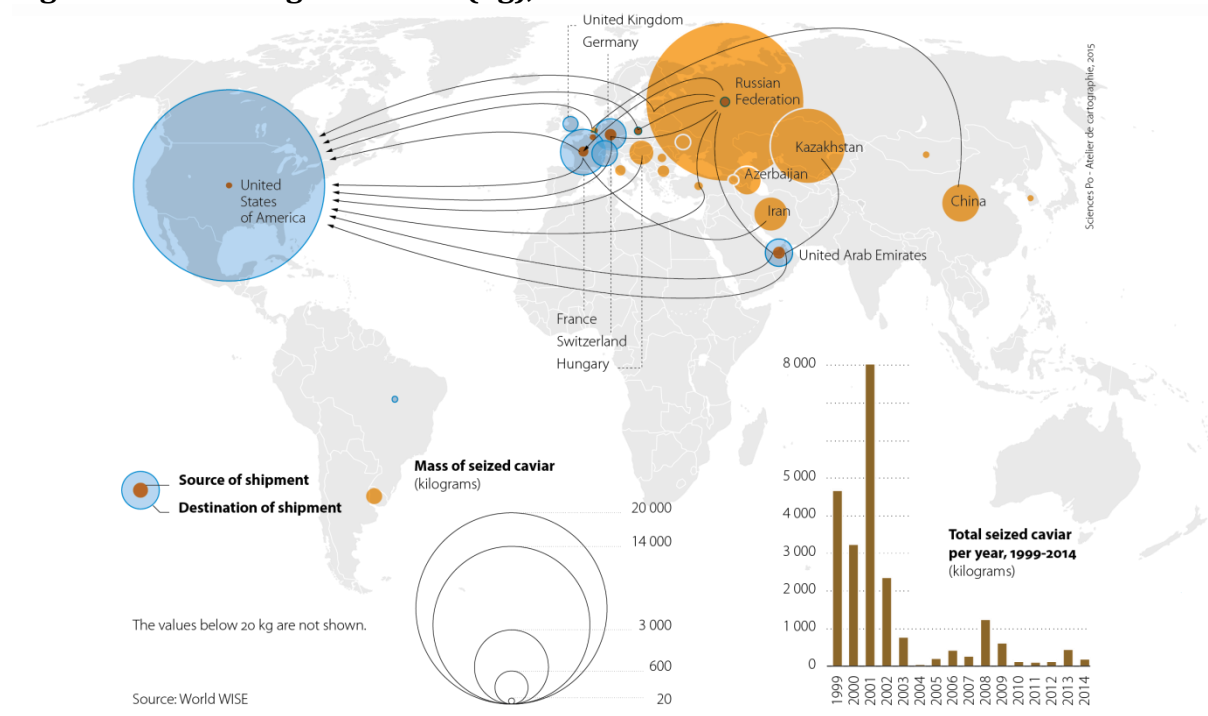


Caviar Case Study

I: Caviar (Sturgeon) World WISE data

Analysis of illegal caviar (kg) data was based on seizure records in World WISE from 1999 to 2014. Source of shipment does not necessarily indicate origin of the specimen. Destination of shipment does not necessarily indicate the final destination and could indicate a transit country.

Figure. Seized Sturgeon Caviar (kg), 1999 to 2014.



Summary tables for weight of sturgeon caviar (kg) seized, according to seizure records in World WISE, 1999 to 2014.

Table. Weight of sturgeon caviar (kg) seized with information on source of shipment or destination of shipment, 1999 to 2014.

Source of shipment summary	Weight of caviar/eggs (kg)	% of total seized
Source of shipment	20,332	86%
Unknown	3312	14%
Total seized	23,644	100%

Sources: World WISE

Destination of shipment summary	Weight of caviar/eggs (kg)	% of total seized
Destination of shipment	23,516	99%
Unknown	128	1%
Total seized	23,644	100%

Sources: World WISE

Table. The top 10 countries and territories for source and destination of shipment, weight of sturgeon caviar (kg) seized from 1999 to 2014.

Top 10 source countries and territories	Weight of caviar/eggs (kg)	% of total seized
Russian Federation	13,943	59%
Kazakhstan	3,097	13%
China <i>China</i> <i>China, Hong Kong SAR</i> <i>Taiwan Province of China</i>	801 781 20 <1	3%
Iran (Islamic Republic of)	620	3%
Azerbaijan	425	2%
Hungary	328	1%
Uruguay	145	1%
Ukraine	107	0%
United Arab Emirates	85	0%
Germany	77	0%
Other 51 countries and territories	705	3%
Unknown	3312	14%
Total	23,644	100%

Sources: World WISE

Top 10 destination countries and territories	Weight of caviar/eggs (kg)	% of total seized
United States of America	20,613	87%
France	1,160	5%
Germany	563	2%
Switzerland	371	2%
United Arab Emirates	369	2%
United Kingdom	127	1%
Turkey	55	0%
Russian Federation	47	0%
Poland	33	0%
Australia	26	0%
Other 21 countries and territories	151	1%
Unknown	128	1%
Total	23,644	100%

Sources: World WISE

Table. Weight of sturgeon caviar (kg) seized by year, 1999 to 2014.

Time series	Weight of caviar/eggs (kg)	% of total seized
1999	4,683	20%
2000	3,248	14%
2001	8,048	34%
2002	2,377	10%
2003	784	3%
2004	66	0%
2005	214	1%
2006	431	2%
2007	284	1%
2008	1,257	5%
2009	694	3%
2010	243	1%
2011	331	1%
2012	257	1%
2013	530	2%
2014	196	1%
Total	23,644	100%

Sources: World WISE

II: Caviar (Sturgeon) CITES Legal Trade Data

Summary tables for the weight of sturgeon caviar (kg) exported, according export data in the CITES Wildlife trade database, 1999 to 2013.

Table. Weight of sturgeon caviar (kg) reported in export data, by source and year 1999 to 2013.

Time series	Weight of captive-sourced caviar (kg)	Weight of wild/unknown sourced caviar (kg)	Weight of all sources of caviar (kg)
2000	1,089	279,345	280,434
2001	1,787	285,917	287,704
2002	4,432	172,718	177,150
2003	6,137	148,834	154,971
2004	17,546	103,042	120,589
2005	39,077	69,088	108,165
2006	50,167	10,611	60,778
2007	67,064	21,038	88,102
2008	49,511	14,435	63,946
2009	56,248	7,066	63,314
2010	81,548	6,619	88,167
2011	111,452	3,147	114,600
2012	177,641	2,325	179,966
2013	174,050	2,839	176,889
Total	837,750	1,127,022	1,964,773

Sources: Export data from CITES Trade Database

Table. Weight of sturgeon caviar (kg) reported in export data, with information on importing or exporting country, 1999 to 2013.

Source of shipment summary	Weight of caviar/eggs (kg)	% of total trade
Source of shipment	1,963,537	99%
Unknown	1,235	<1%
Total seized	1,964,773	100%

Sources: Export data from CITES Trade Database

Destination of shipment summary	Weight of caviar/eggs (kg)	% of total trade
Destination of shipment	1,962,751	99%
Unknown	2,022	<1%
Total seized	1,964,773	100%

Sources: Export data from CITES Trade Database

Table. Top 10 importing and exporting countries and territories trading in sturgeon caviar (kg), 1999 to 2013.

Top 10 source countries and territories	Weight of caviar/eggs (kg)	% of total trade
Iran (Islamic Republic of)	556,741	28%
China	231,415	12%
<i>China</i>	231,307	
<i>China, Hong Kong SAR</i>	1108	
Kazakhstan	208,596	11%
Italy	201,007	10%
Russian Federation	171,165	9%
France	118,098	6%
United States of America	89,875	5%
Germany	89,749	5%
Azerbaijan	83,964	4%
Uruguay	59,652	3%
Other 32 countries and territories	153,276	8%
Unknown	1,235	0%
Total	1,964,773	100%

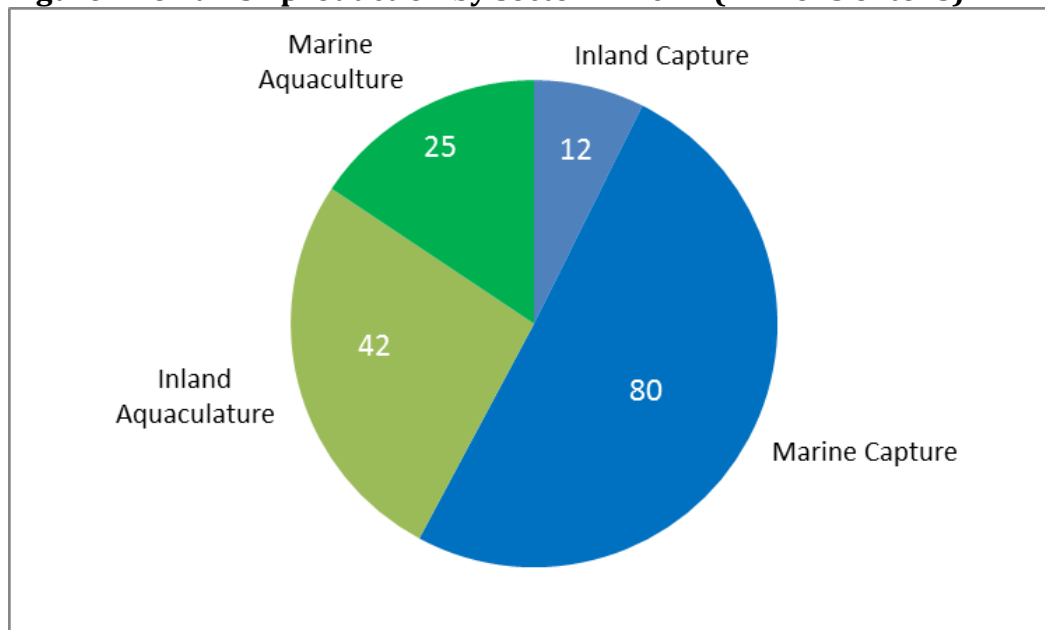
Sources: Export data from CITES Trade Database

Top 10 destination countries and territories	Weight of caviar/eggs (kg)	% of total trade
United States of America	430,794	22%
Germany	316,064	16%
France	302,192	15%
Japan	167,139	9%
Switzerland	118,437	6%
China	127,344	6%
<i>China</i>	23,380	
<i>China, Hong Kong SAR</i>	103,474	
<i>China, Macao SAR</i>	325	
<i>Taiwan Province of China</i>	164	
United Arab Emirates	98,267	5%
Belgium	66,153	3%
Australia	53,253	3%
Luxembourg	52,830	3%
Other 109 countries and territories	230,279	12%
Unknown	2,022	0%
Total	1,964,773	100%

Sources: Export data from CITES Trade Database

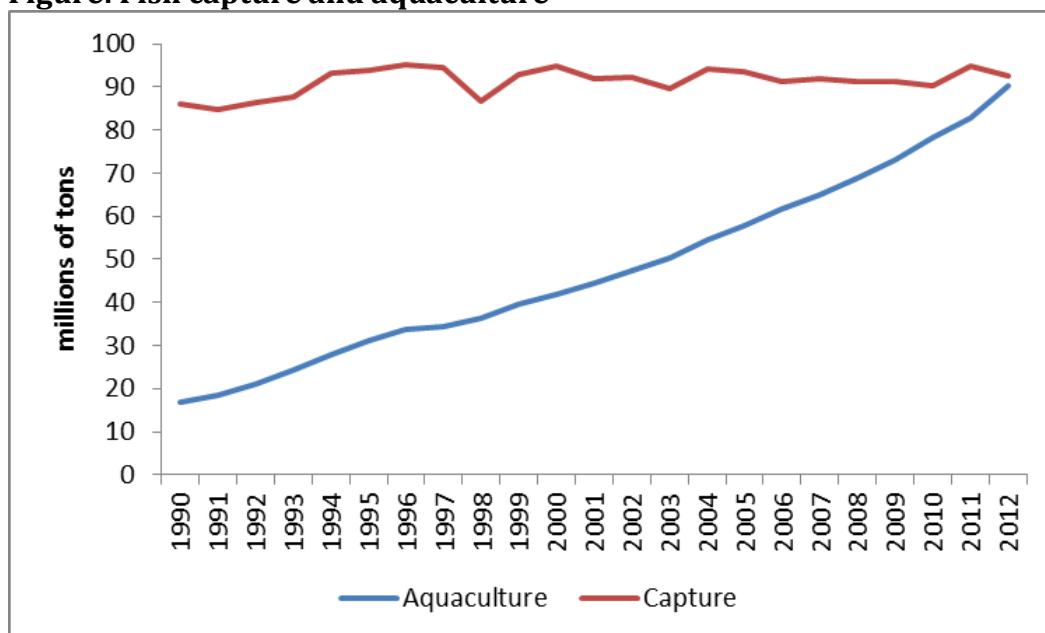
III: Draft Tables and Figures in the Sturgeon (Caviar) Chapter

Figure: World fish production by sector in 2012 (millions of tons)



Source: Elaborated from FAO data⁵

Figure: Fish capture and aquaculture

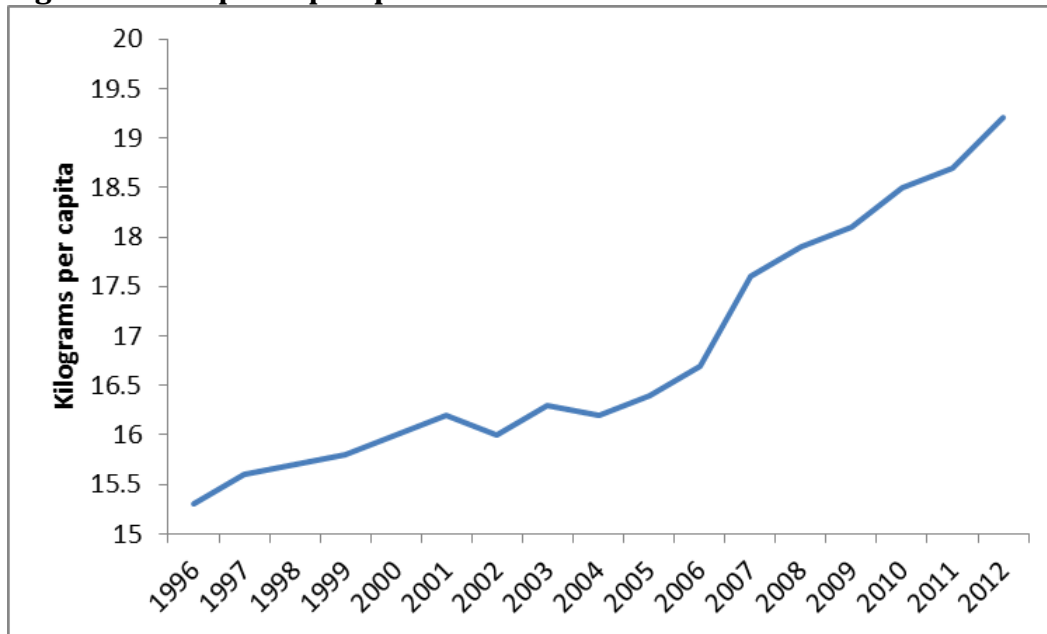


Source: Elaborated from FAO FIGIS⁶

⁵ FAO, The state of the world fisheries and aquaculture. Rome: FAO, 2012.

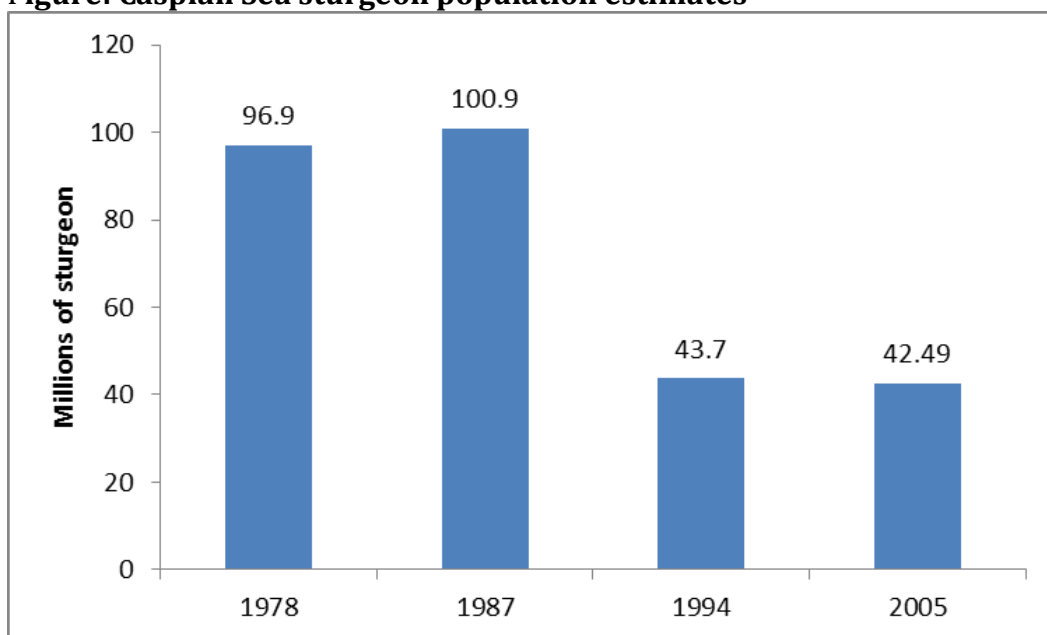
⁶ <http://www.fao.org/fishery/statistics/global-aquaculture-production/query/en>;
<http://www.fao.org/fishery/statistics/global-capture-production/query/en>

Figure: World per capita production of fish as food



Source: FAO⁷

Figure: Caspian Sea sturgeon population estimates

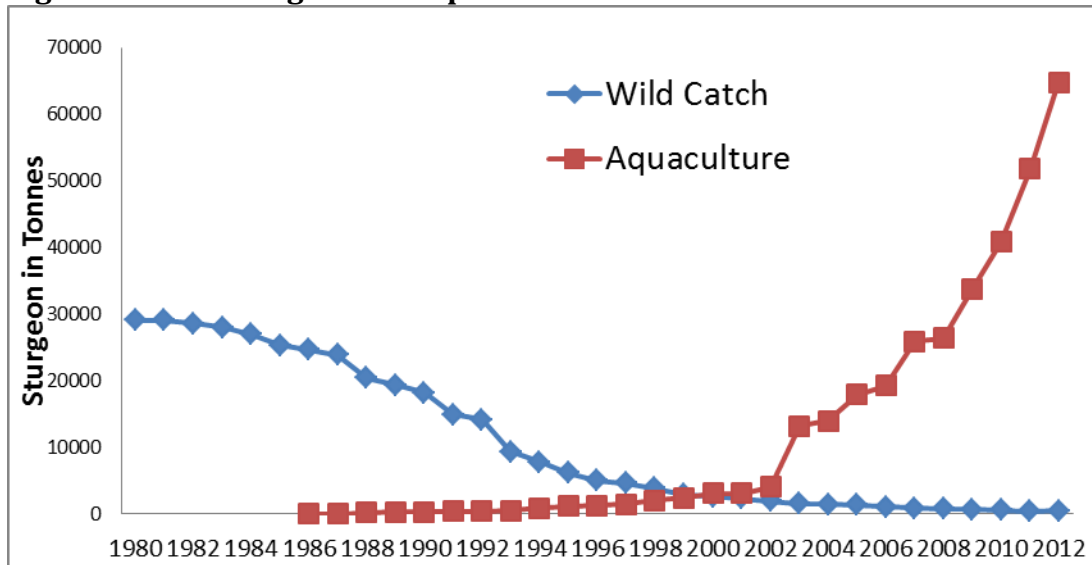


Source: Khodorevskaya, Ruban and Pavlov, 2009⁸

⁷ FAO, The state of the world fisheries and aquaculture, 2002, 2008, and 2014 editions.

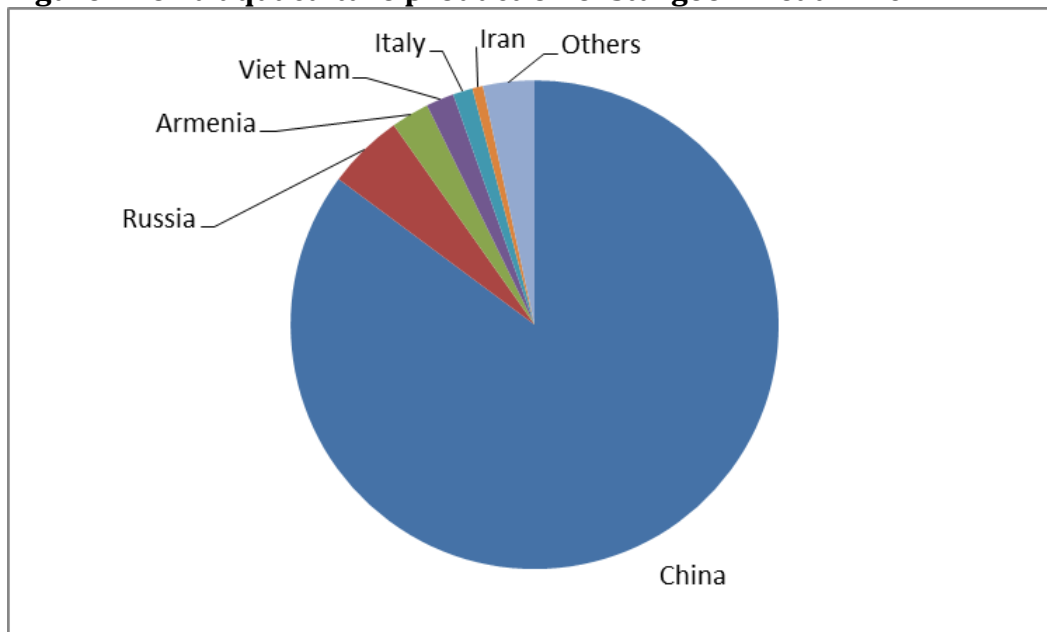
⁸ R. P. Khodorevskaya, G. I. Ruban and D. S. Pavlov, *Behaviour, Migrations, Distribution and Stocks of Sturgeons in the Volga-Caspian Basin*. Neu Wulmstorf; World Sturgeon Conservation Society Special Publication, No. 3, 2009.

Figure: Global sturgeon meat production



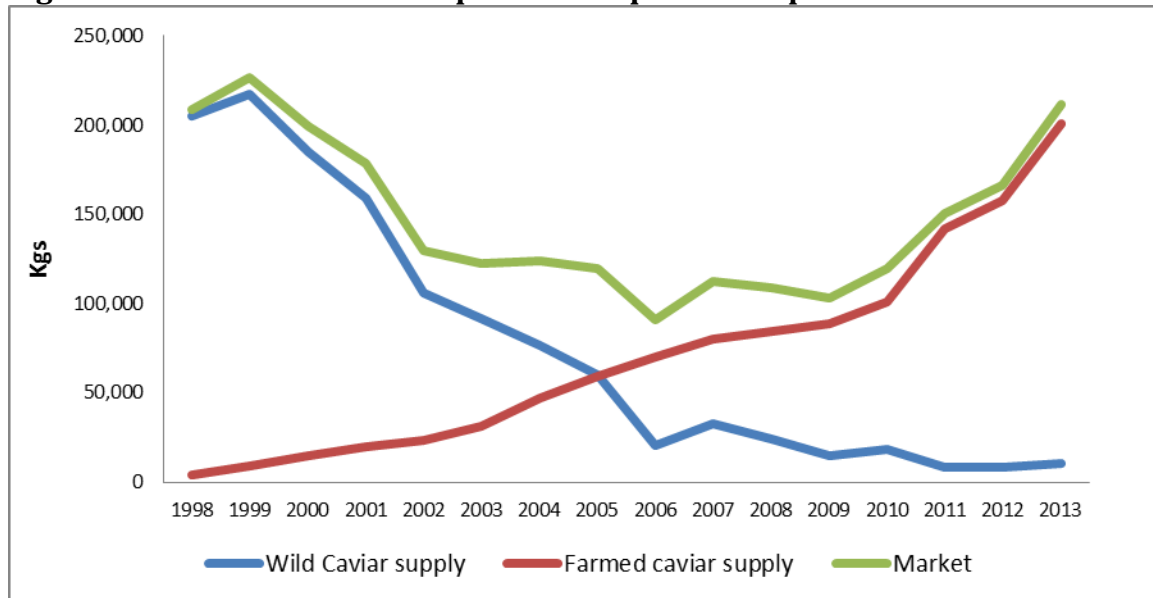
Source: Elaborated from FAO data

Figure: World aquaculture production of sturgeon meat in 2012



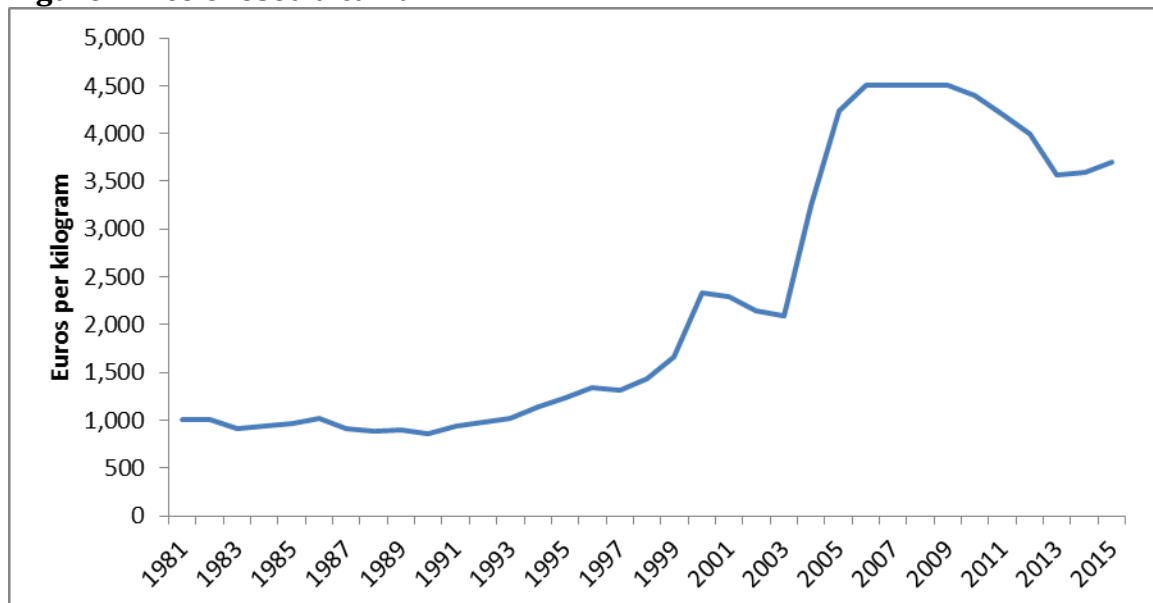
Source: Elaborated from FAO data

Figure: Caviar wild-sourced exports and aquaculture production



Source : De Meulenaer 1996, Williamson 2003, and CITES Trade database⁹

Figure: Price of osetra caviar

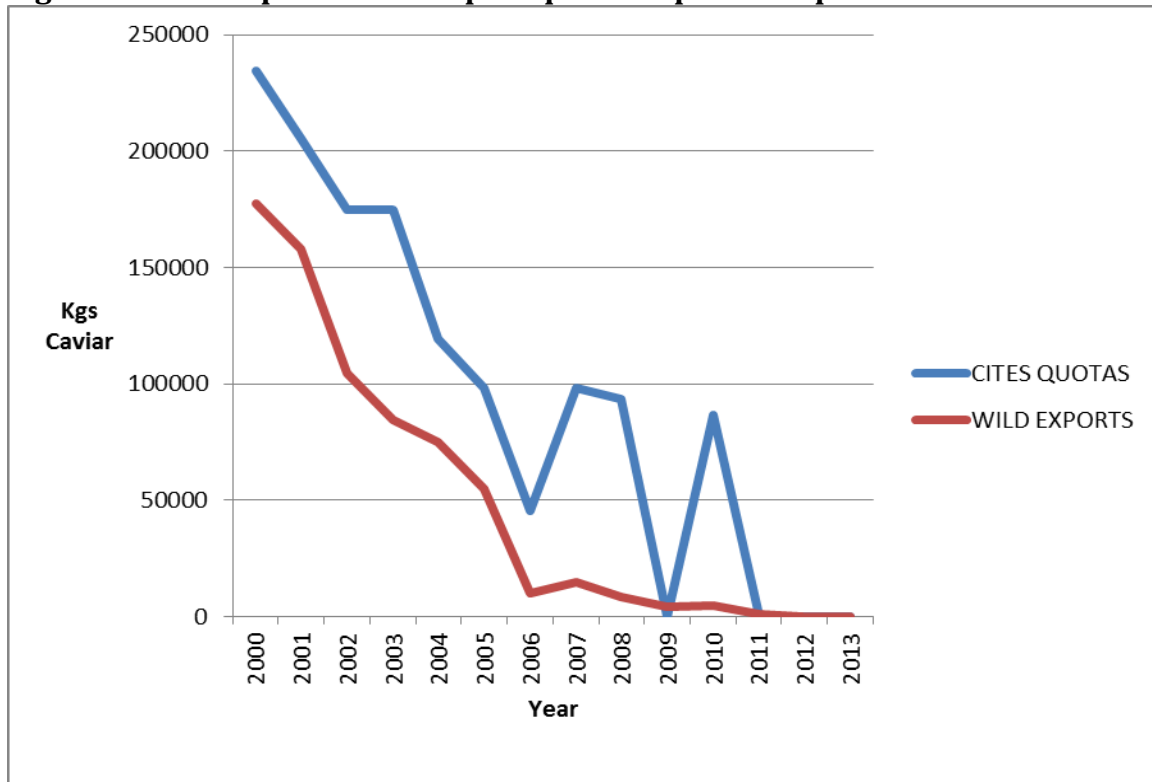


Source: Petrossian, A. 2006, and Jones, A. from private sources¹⁰

⁹ Exports represent those of Russia and Iran. See Tom De Meulenaer and Caroline Raymakers, *Sturgeons of the Caspian Sea and the international trade in caviar*. Cambridge: Traffic International, 1996. Williamson, D. F. 2003. *Caviar and Conservation: Status, Management and Trade of North American Sturgeon and Paddlefish*. TRAFFIC North America. Washington D.C.: World Wildlife Fund.

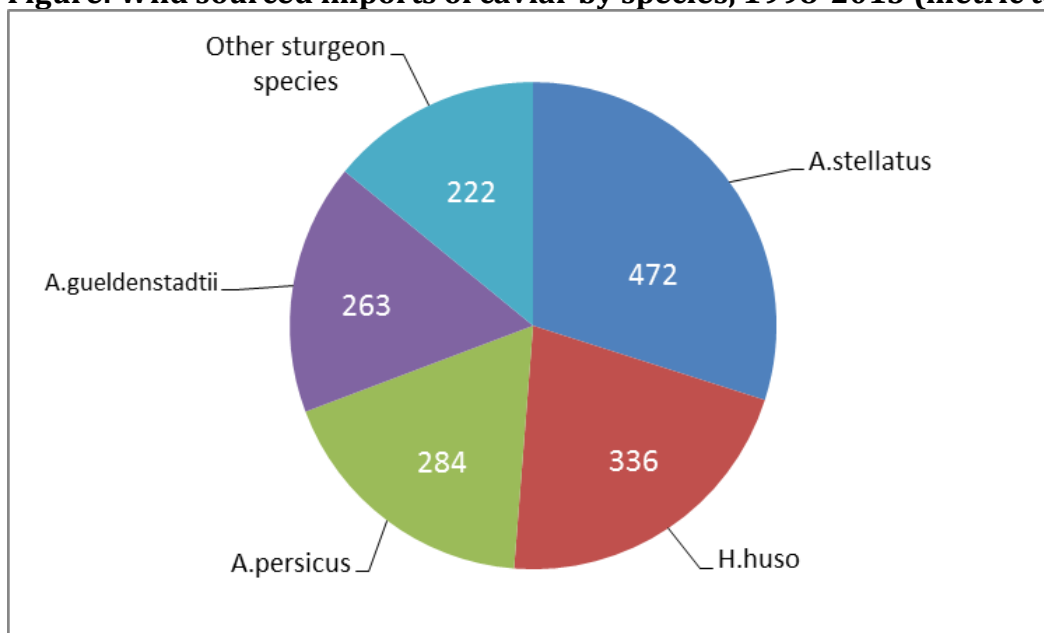
¹⁰ Armand Petrossian, *The Traders Perspective. Proceedings of the International Sturgeon Enforcement Workshop to Combat Illegal Trade in Caviar*. Prepared by TRAFFIC Europe for the European Commission, 2006. Brussels, Belgium.

Figure: CITES Caspian caviar export quotas reported exports



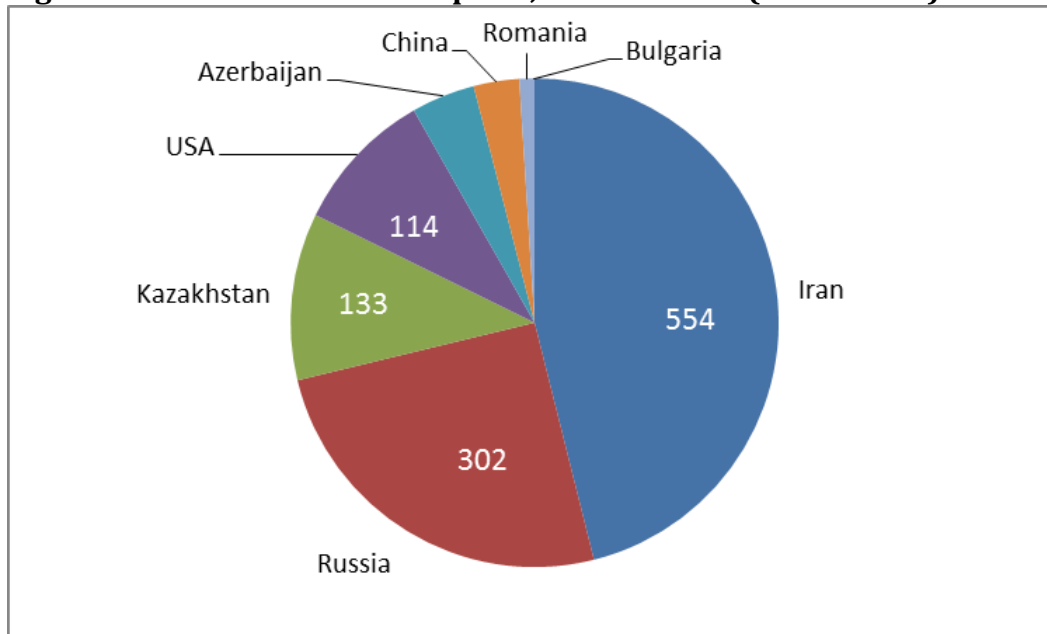
Source: CITES trade database

Figure: Wild sourced imports of caviar by species, 1998-2013 (metric tons)



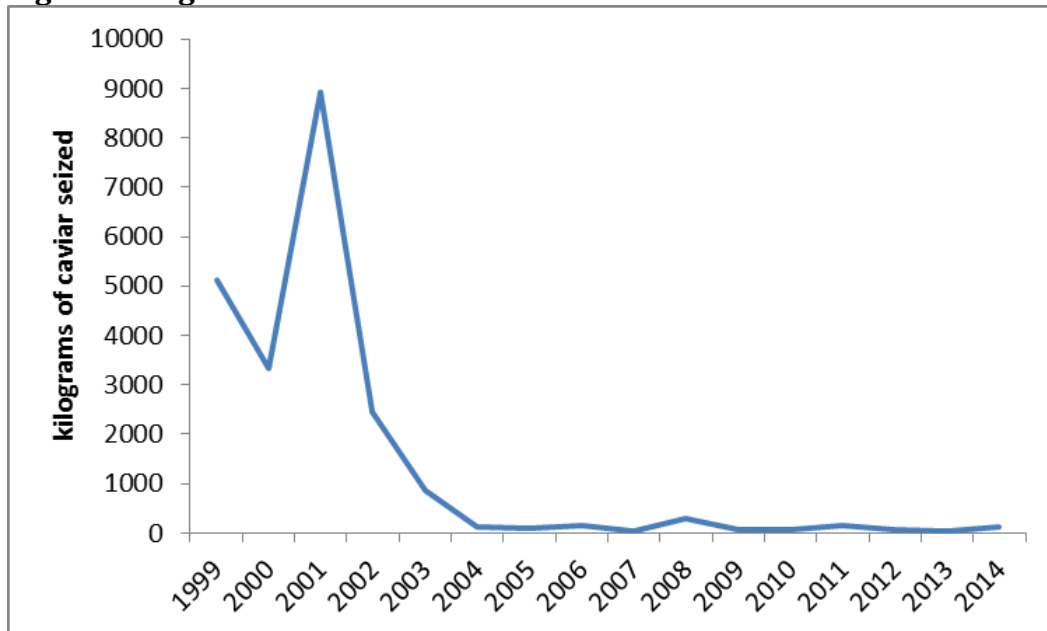
Source: CITES Trade Database

Figure: Wild sourced caviar exports, 1998 to 2013 (metric tons)



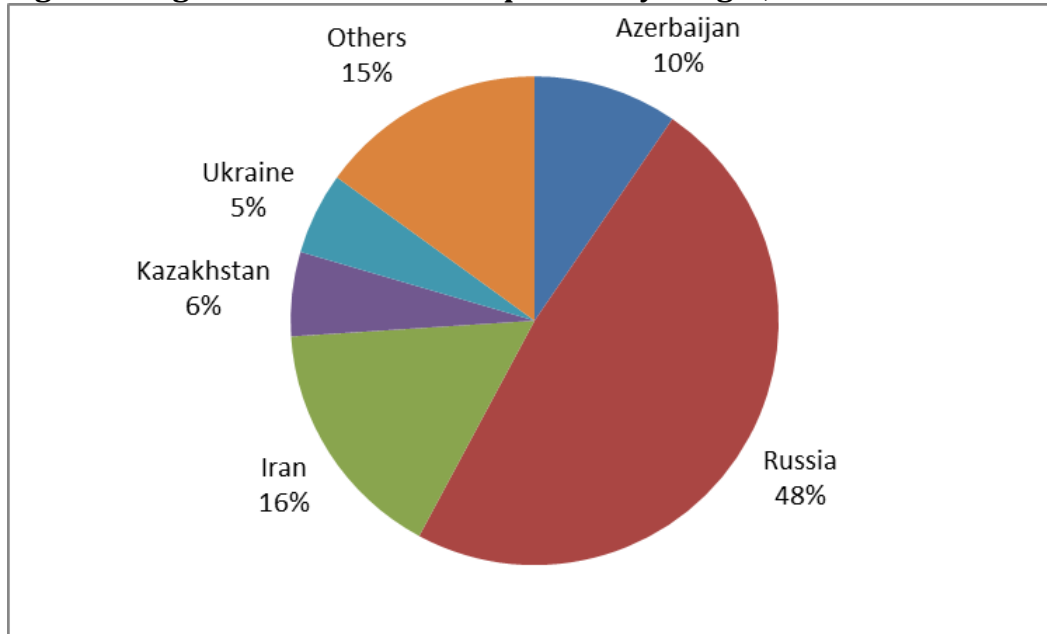
Source: CITES Trade Database

Figure: Kilograms of caviar seized in the United States



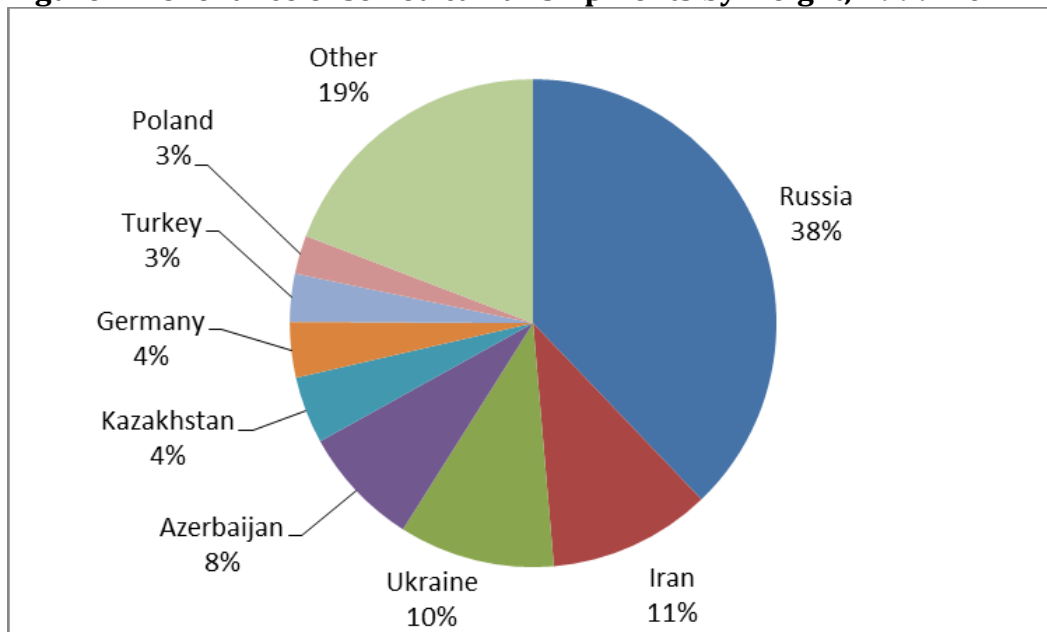
Source: US Fish and Wildlife, LEMIS data

Figure: Origin of seized caviar shipments by weight, 1999-2014



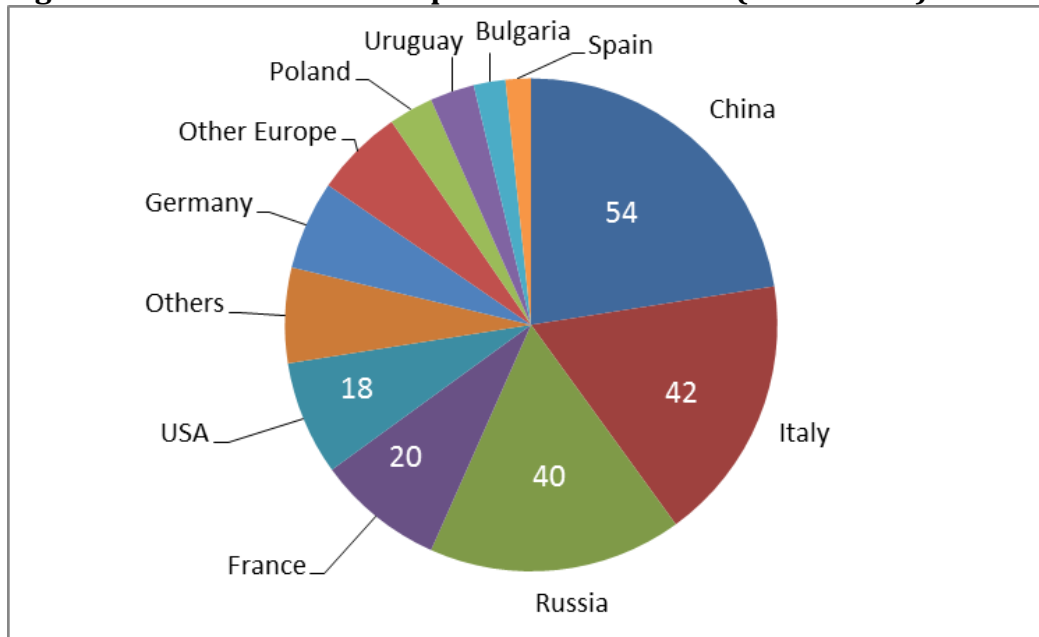
Source: World WISE

Figure: Provenance of seized caviar shipments by weight, 1999-2014



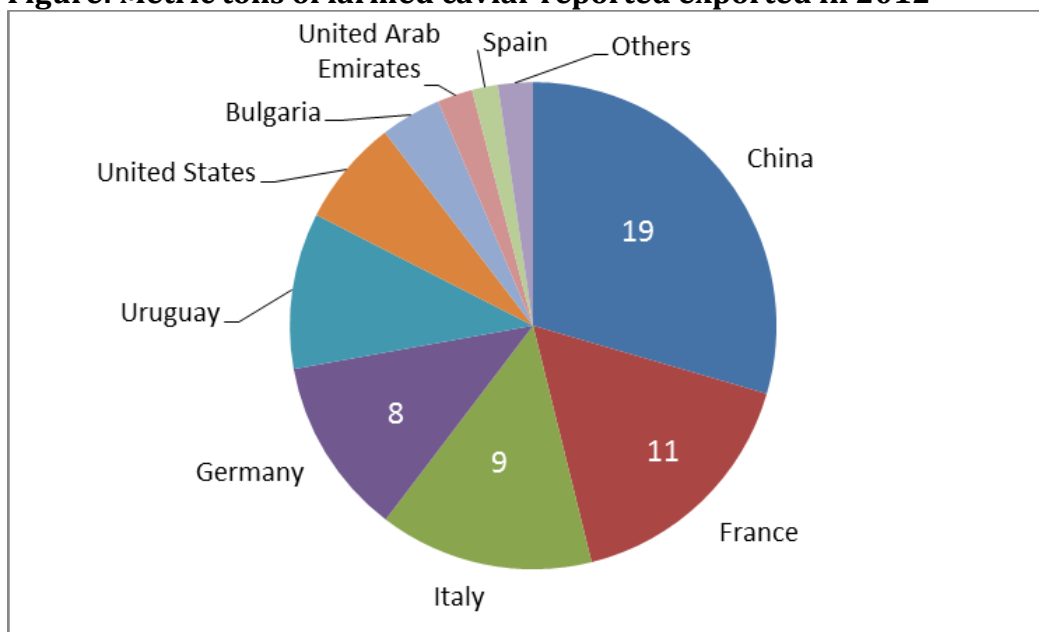
Source: World WISE

Figure: World farmed caviar production for 2014 (metric tons)



Source: Survey of caviar producers¹¹

Figure: Metric tons of farmed caviar reported exported in 2012



Source: CITES Trade Database

¹¹ Performed by Dr. Alan Jones in 2015. For a slightly different assessment, see P. Bronzi and H. Rosenthal, 'Present and future sturgeon and caviar production and marketing: A global market overview'. *Journal of Applied Ichthyology*, No 30, 2014, pp 1536-1546.