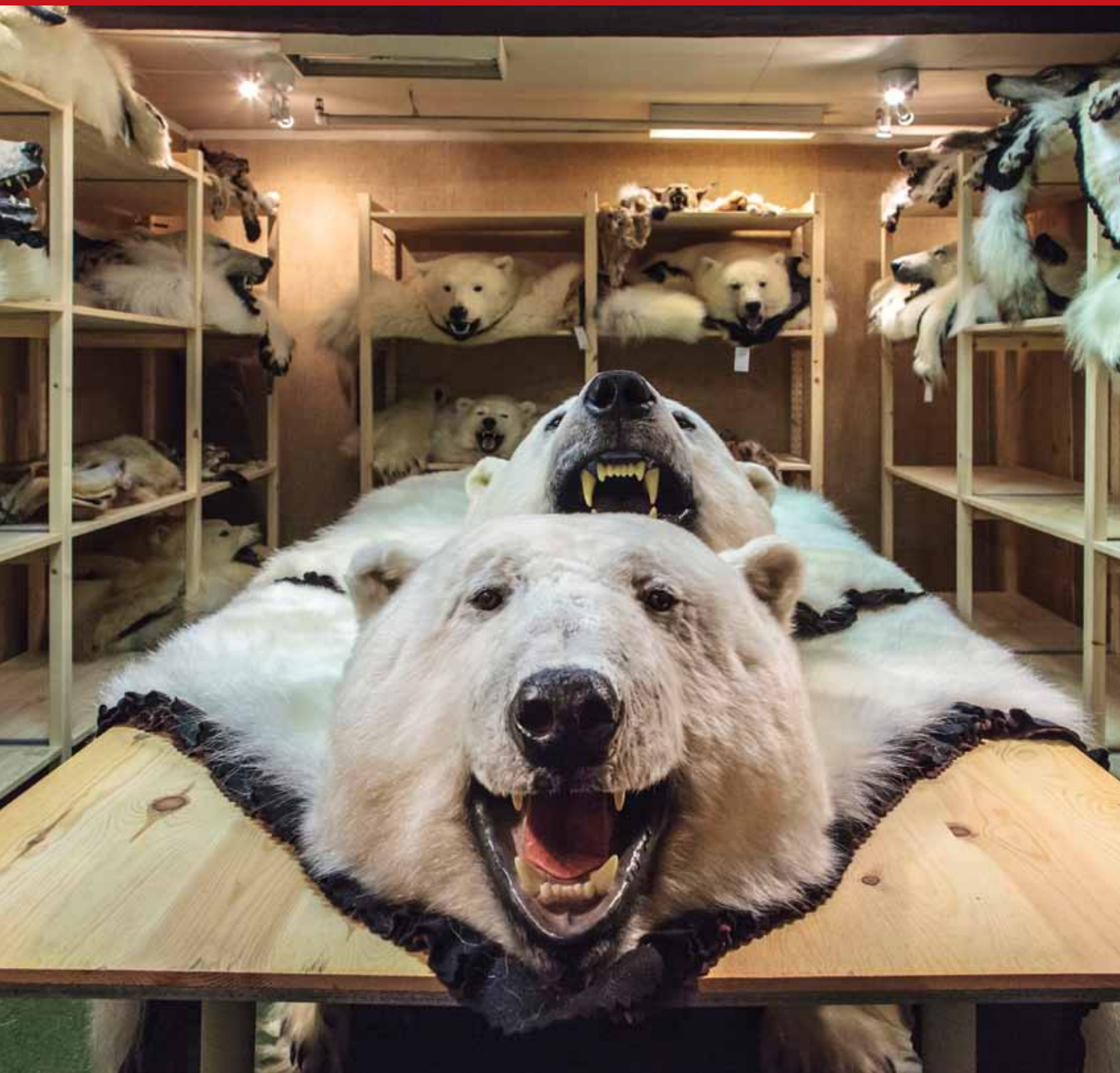
NRDC ISSUE PAPER

NOVEMBER 2012
IP:12-11-A

New Facts and Additional Information Supporting the CoP16 Polar Bear Proposal Submitted by the United States of America



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On October 4, 2012, the United States, supported by the Russian Federation, submitted a proposal to transfer the polar bear, Ursus maritimus, from Appendix II to Appendix I of the Convention in accordance with Article II and Resolution Conf. 9.24 (Rev. CoP15) on the basis that the polar bear is affected by trade and shows a marked decline in the population size in the wild, which has been inferred or projected on the basis of a decrease in area of habitat and a decrease in quality of habitat.

Pursuant to the Convention, "Appendix I shall include all species threatened with extinction which are or may be affected by trade." CITES Article II, paragraph 1. CITES Resolution Conf. 9.24 (Rev. CoP15) provides the criteria and definitions to be used to determine if a species is "threatened with extinction" and if it is or may be "affected by trade."

This document outlines additional and new scientific and trade information supporting the US and Russian assessment that polar bears are or may be "affected by trade" and are "threatened with extinction."

POLAR BEARS ARE AFFECTED BY TRADE

Relevant to polar bears, Resolution Conf. 9.24 (Rev. CoP15) states that a species is or may be affected by trade if 1) it is known to be in trade and 2) that trade has or may have a detrimental impact on the status of the species. The information below supports a finding that polar bears are affected by trade.

With respect to the first factor, there is no dispute that polar bears are traded internationally. According to the CITES trade database, between 2001 and 2010, 32,350 polar bear specimens (polar bears dead or alive, and their parts and derivatives) were traded internationally for all purposes (Table 1). The most commonly-traded items were scientific specimens (10,454), skins (4,327), hair (3,069), skin pieces (3,080), and teeth (2,852). Other polar bear parts in international trade include claws (2,990), skulls (1,460), carvings (1,367), bones (756), bodies (318), and live bears (179). Of these, 7,776 specimens were traded internationally for commercial purposes (Table 2) and 3,024 polar bear specimens were traded internationally as hunting trophies (Table 3).

With respect to the second factor, the evidence shows that overharvest continues to affect polar bear populations, that international demand for polar bear skins has increased, and that harvest of polar bears has increased in correlation with this rising demand.

Overharvest affects polar bear populations: In January 2012, Canadian polar bear scientist Andrew Derocher stated, "It's easy to lose sight of the other threats to polar bears when global warming keeps reminding us how badly we need to act. Climate change is the main threat to polar bears in the coming decades. Over-harvesting, shipping, development, and pollution, however, all impact polar bears and will be important in years to come as they interact with a warming climate" (Derocher 2012). In fact, until recent recognition of climate impacts on polar bear, scientists considered overharvesting to be the major threat to the species (Vongraven 2009; Peacock et al. 2011). Thus, while the primary scientific concern for the long-term conservation of the species has now shifted to the effects of climate change (Strirling and Derocher 1993; Wiig et al. 1995; Derocher et al. 2004; Stirling and Parkinson 2006; Peacock et al. 2011), overharvesting is the most important threat after sea ice loss in determining whether polar bears will survive (Amstrup et al. 2008) and Peacock et al. (2011) contend that overharvesting remains the most significant near-term threat to polar bear survival in parts of the Arctic.

Today, legal hunting of polar bears solely for the purpose of international trade and sport occurs only in Canada (Peacock et al. 2011). Each year, approximately 600 polar bears are hunted in Canada (Peacock et al. 2011). This level of harvest has negatively affected some polar bear populations. For example, in 2005, scientists estimated that 88 bears could

be sustainably harvested from the Baffin Bay population, which Canada shares with Greenland. However, the Canadian Territory of Nunavut instead increased the quota from 65 to 105 bears. Thereafter, scientists determined that the Baffin Bay polar bear population was declining. Greenland responded by reducing harvest but Nunavut did not. In response, the European Union banned importation of Baffin Bay polar bear trophies and other parts. After five years of unsustainable harvests, and just prior to CITES CoP15 in March 2010, where a proposal to list the species on CITES Appendix I was to be considered, the Canadian federal government banned export of polar bear parts from Baffin Bay. Only then did Nunavut reduce its harvest quota to pre-2005 levels but the Canadian federal ban on exports from this population remains in place. See Peacock et al. (2011).

Further, in October 2011, the Canadian Territory of Nunavut increased its annual harvest quota for the western Hudson Bay population from 8 to 21 bears. In a letter to the Nunavut Wildlife Management Board regarding the proposed quota increase, the IUCN's Polar Bear Specialist Group (PBSG) stated that it "strongly opposes" the proposed increase because "even the present TAH [total allowable harvest] is not sustainable so an increase only makes the resulting overharvest even less sustainable" (Vongraven 2011). The PBSG concluded that "this proposed increase is not sustainable and thus should be rejected." Id.

The federal government of Canada, through Environment Canada, also opposed the proposed increase, explaining that the rate Nunavut chose as the "maximum sustainable harvest" (4.5 percent of the population) is a rate intended for "healthy polar bear populations, and should not be applied to any population that is showing evidence of declines in population size," like the western Hudson Bay population (Poter 2011). The agency concluded that "even a single-year increase in harvest could have a considerable negative impact on the population as a whole" (Poter 2011). Nunavut approved the proposed quota increase despite these objections (Nunavut 2011) and eventually exceeded its already-too-high 2011 quota by 3 bears (Arreak 2012).

In 2012, Nunavut again proposed to increase its harvest quota for the western Hudson Bay polar bear population to 24 bears for the 2012-2013 hunting season. This proposal was again strongly opposed by the PBSG (Vongraven 2012). The PBSG reiterated its concerns from 2011 that even a harvest quota of 8 polar bears from this population was unsustainable, given scientists' "continued concern about the survival and reproduction" of the population.

In addition to concerns raised by polar bear specialists regarding Canada's management of polar bear hunting, Canada has also failed to fully incorporate global warming impacts into its conservation decisions. As noted by Peacock et al. (2011), "Canada has not adopted conservation measures for polar bears in anticipation of continued sea-ice loss." Further, when Canada's Committee on the Status of Wildlife in Canada (COSEWIC) assessed polar bears in 2008 to evaluate the species for potential listing under Canada's species protection statute, it "did not incorporate the impact of climate change on polar bear persistence" Peacock et al.

(2011). Canada ultimately designated the polar bear only as a "species of special concern," a status that provides no substantive protections (Canada Gazette 2011). Such actions have "weakened international confidence in Canada's polar bear management." Id.

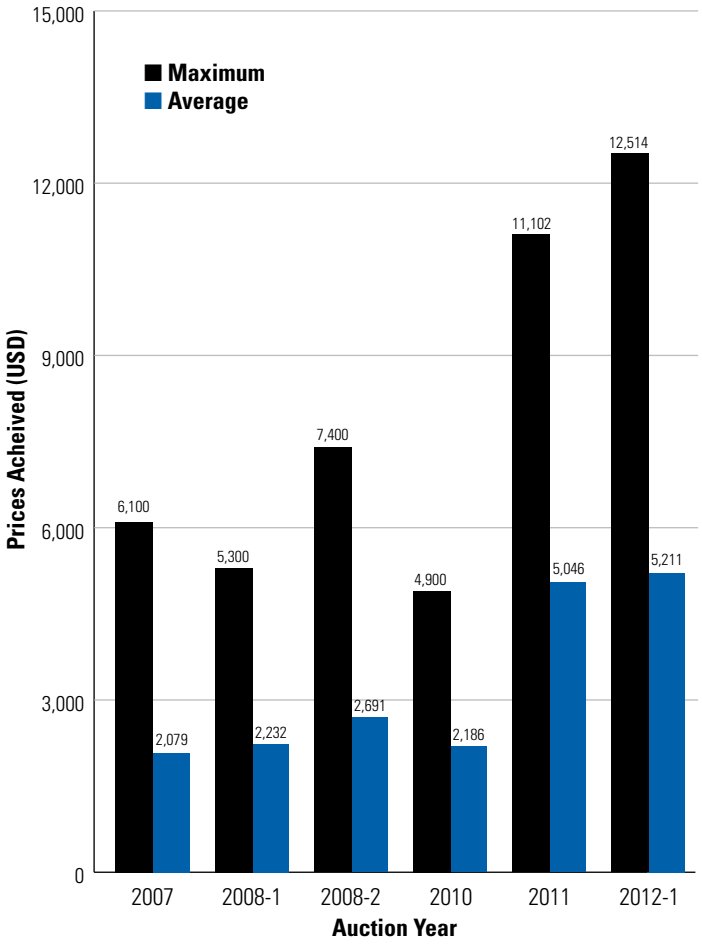
The Demand for Polar Bear Skins Has Increased: Since 2009, the market demand for polar bear skins has strengthened significantly. For example, polar bear hides sold at Fur Harvesters Auction Inc. in Canada in 2012 for more than double the prices obtained in 2007 (Figure 1).

Maximum hide prices increased from USD 6,100 in 2007 to USD 12,514 in 2012. Average hide prices increased from USD 2,079 in 2007 to USD 5,211 in 2012. The number of polar bear hides offered at auctions in Canada tripled between 2007 and 2012. In 2007, 40 hides were offered whereas in 2012, 150 hides were offered (Figure 2).

Harvest has Increased in Correlation with Demand: Hunting pressure on polar bears is increasing in conjunction with increasing demand for polar bear skins and increasing prices. For example, in addition to the unsustainable quota increases noted above, in April 2011, it was reported that hunters in Quebec killed 12 times the usual number of polar bears they harvest in southern Hudson Bay during the winter (CBC News 2011a). It was originally reported that hunters in the area, which did not have a polar bear hunting quota, normally kill four polar bears per year but killed at least 47 and possibly more than 60 during the 2010-2011 hunting season (CBC News 2011a). Later it was reported that the actual number killed was 70 (Macleans 2012), which is more than 17 times the usual number killed.

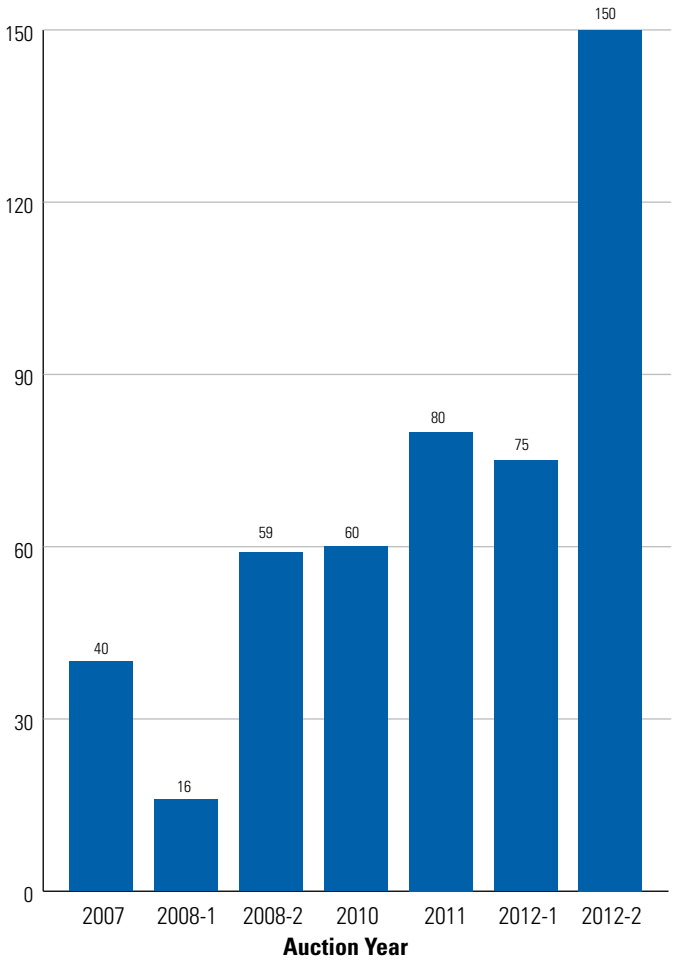
Eventually, the three jurisdictions that share the southern Hudson Bay population agreed to a joint hunting quota of 60 bears per year, a level many polar bear scientists believe is unsustainable (Marine Mammal Commission 2012).

Figure 1: Prices Achieved at Auction (USD)



Source: Polar bear hide prices (USD) achieved at Fur Harvesters Auction, Inc., Canada, 2007-2012. Note that there were two auctions that offered polar bear hides in 2008 and none in 2009. Sources: Fur Harvesters Auction Inc. 2012; CBC News 2011b; Nunatsiaq News 2012; Macleans 2012.

Figure 2: Polar Bear Hides Offered at Auction



Source: Number of polar bear hides offered at auction in Canada, 2007-2012. Note that there were two auctions that offered polar bear hides in 2008 and none in 2009. Sources: Fur Harvesters Auction Inc. 2012; CBC News 2011b; Nunatsiaq News 2012; Macleans 2012.

POLAR BEARS ARE THREATENED WITH EXTINCTION

Relevant to polar bears, Resolution Conf. 9.24 (Rev. CoP15) states that a species is considered threatened with extinction if it characterized by, or likely to be characterized by, a marked decline in population size in the wild which has been inferred or projected on the basis of a decrease in area of habitat or a decrease in quality of habitat. The information below supports a finding that polar bears are threatened with extinction.

The evidence shows that the majority of studied polar bear populations are declining and that polar bear populations are expected to suffer severe declines in the future as a result of a decreases in both area of habitat and quality of habitat.

The Majority of Studied Polar Bear Populations Are Declining: Polar bears live in 19 populations with a total population estimated at 20,000-25,000 (Stirling and Derocher 2012) (Table 4). The IUCN/SSC Polar Bear Specialist Group (PBSG) has determined 8 of these populations to be currently likely in decline. Moreover, an additional seven populations are too "data deficient" to determine current population trends (Table 4). Of these, some may also be in decline. Further, data used to estimate the sizes of several populations are either non-existent or dated (Stirling and Derocher 2012). For example, for three of the data deficient populations, the current population size is "unknown," while for two others, Laptev Sea (Russia) and Viscount Melville Sound (Canada), a population survey has not been conducted for more than 16 years (Table 4). Thus, the size of the total species population is actually uncertain (Stirling and Derocher 2012).

Of those populations with enough information available to determine trends, a clear majority (66 percent) are in decline. Only three populations are thought to be stable, none of which have been studied within the past six years, and only one small population is thought to be increasing, based on a twelve year old study (Table 4).

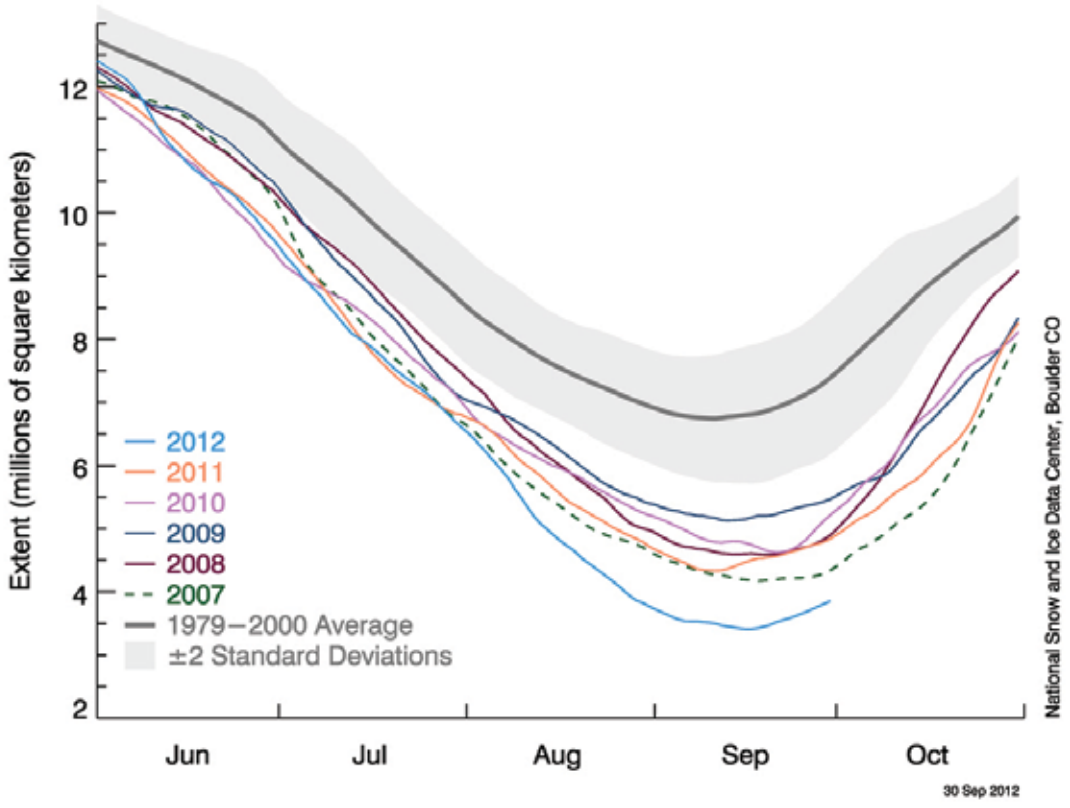
Polar Bear Populations Are Expected to Suffer Severe Declines in the Future: Polar bears are dependent on Arctic sea ice to gain access to their prey, mainly ringed seals. Arctic sea ice is therefore habitat essential to polar bear survival (Durner et al. 2009; Peacock et al. 2011; Stirling and Derocher 2012).

Since 2009, scientists have demonstrated through observation that there is a direct correlation between decreased sea ice extent and declining polar bear body condition, size, and survival. Rode et al. (2010) found for polar bears in the southern Beaufort Sea that "[t]he size and condition of most sex/age classes exhibited positive relationships with the annual availability of preferred sea ice habitats" and "the decline over time in the availability of sea ice corresponded with declining trends in most measures of bear size and condition." Looking at the southern Beaufort Sea population, Regehr et al. (2010) concluded that "[d]eclines in polar bear survival during the period 2002-2005 were associated with longer ice-free periods over the continental shelf". Rode et al. (2012) examined trends in body condition metrics over the past three decades in two populations, Baffin Bay and Davis Strait. Despite differences in harvest rate, population density, sea ice concentration, and prey base, polar bears in both populations exhibited positive relationships between body condition and summertime sea ice cover during the recent period of sea ice decline (Rode et al. 2012).

Since 2009, scientists also have documented a significant relationship between time and sea ice breakup date in the spring and summer; they found that the mean day of ice breakup in western Hudson Bay was three weeks earlier in 2007 compared to 1979 (Stirling and Derocher 2012). Earlier ice breakup means an increase in the length of the ice-free season (Stirling and Derocher 2012). Earlier ice breakup and lengthened ice-free seasons have also has been observed in Foxe Basin and southern Hudson Bay, both in Canada (Stirling and Derocher 2012). Observed decadal changes from 1985 through 1995 and 1996 through 2006 showed pronounced losses of polar bear habitat during the spring and summer in the southern Beaufort, Chukchi, Barents, and East Greenland Seas (Durner et al. 2009).

In western Hudson Bay, scientists found statistically significant relationships between earlier sea ice break up and decline in mean body condition of polar bears on shore during the ice-free period; decline in mean weights of suspected pregnant female bears before maternity denning; and decline in survival of juvenile, subadult, and older adult polar bears (Stirling and Derocher 2012). In southern Hudson Bay, the body condition of polar bears of all ages and sexes declined significantly between the mid-1980s and the early 2000s due to earlier sea ice breakup that occurred there (as much as 9.5 days earlier per decade over the past 3 decades) (Stirling and Derocher 2012).

Figure 3: Arctic Sea Ice Extent (Area of ocean with at least 15 percent sea ice)



Source: National Snow and Ice Data Center.

In the southern Beaufort Sea, earlier ice breakup has resulted in changes in habitat use and nutritional stress, as well as reduced adult female and cub survival, and reduced reproductive rates (Stirling and Derocher 2012). Molnár et al. (2011) modeled climate change effects on polar bear litter size. The modeling found that spring ice breakup occurring one month earlier could significantly decrease litter size and the number of females who successfully reproduce. Spring ice breakup occurring two months earlier could lead to catastrophic (i.e., 100 percent) reproductive failure in polar bears.

Scientific papers published in recent years also demonstrate through observation a direct correlation between reduced sea ice and decreased polar bear recruitment and population size. In western Hudson Bay, earlier ice breakup has resulted in decreased survival of sub-adult and older bears (Stirling et al. 1999), and this has resulted in a decline in population numbers (Regehr et al. 2007). Harvesting may have accelerated the decline (Stirling and Derocher 2012). In the southern Beaufort Sea, decreased sea ice has resulted in decreased body condition (Rode et al. 2010) and survival (Regehr et al. 2010).

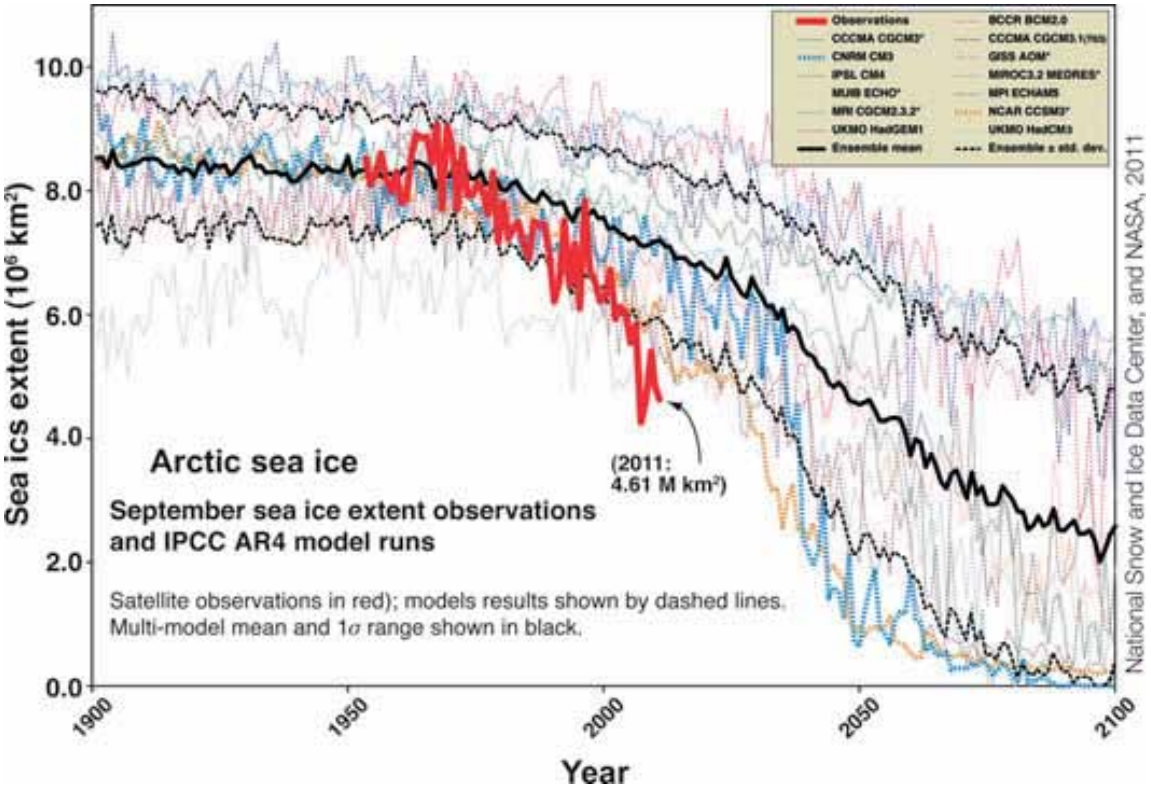
Additionally, papers published between 2009 and the present demonstrate through observation that sea ice has decreased and continues to decrease substantially in both quantity and quality. Arctic sea ice extent (a two-dimensional measurement of area) has decreased in all seasons, especially in the late summer as measured in September when the sea ice extent reaches its minimum for the year (Figure 3).

On August 27, 2012, the United States' National Snow and Ice Data Center (NSIDC) announced that Arctic sea ice extent reached the lowest level ever recorded, breaking the previous record set in 2007 (NSIDC 2012a). Sea ice extent continued to decline over the next weeks, reaching the lowest extent of the year on September 16, 2012 (NSIDC 2012b). This minimum is 18 percent below the previous record minimum extent in 2007 and 49 percent below the 1979 to 2000 average (NSIDC 2012b). The difference between the 2012 minimum extent and the 1979-2000 minimum extent was 3.29 million square kilometers (1.27 million square miles), representing a loss of sea ice coverage larger than the country of India (NSIDC 2012b).

In fact, Arctic sea ice extent is decreasing more rapidly than predicted by global climate change models. A graph of the projections of twelve global climate change models and satellite observations of the extent of Arctic sea ice in September over time shows that the loss of sea ice extent was greater than that predicted by these models (Stirling and Derocher 2012) (Figure 4).

According to modeling conducted by the United States Geological Survey, this decline in sea ice is expected to lead to the extirpation of approximately two-thirds of the world's polar bear populations within the next 45 years, or three generations (Amstrup et al. 2008; Stirling and Derocher 2012).

Figure 4: September Arctic sea ice extent observations and model runs



Source: Stirling and Derocher (2012).

CONCLUSION:

Polar bears meet the criteria for listing under Appendix I. Polar bears are traded internationally and overharvest—helping supply this trade—continues to affect polar bear populations. Hide prices are at record levels and hunting pressure on polar bear populations has increased. Hunting quotas for some populations have been set above sustainable levels, as determined by relevant scientific bodies, as well as the Polar Bear Specialist Group (PBSG).

Polar bears are also declining in the wild. The PBSG has concluded that, for populations with reliable demographic data, 66 percent are in decline. Polar bear habitat—the Arctic sea ice—has already declined to record lows and is expected to experience dramatic further declines in the future. On the basis of observed and projected habitat loss, scientists estimate that two-thirds of the world's polar bears will be extirpated within 45 years.

The polar bear is therefore a species that is affected by commercial trade, has declined in the wild, and is characterized by future declines, leading to widespread extirpation, projected on the basis of a decrease in area and quality of habitat.

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Table 1: Export of polar bear items for all purposes											
Item	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**Total**
bodies	42	35	29	28	33	34	37	27	25	28	318
bones	54	38	43	59	61	42	113	317	27	2	756
carvings	59	126	123	283	337	289	39	24	9	78	1367
claws	170	479	393	757	572	381	157	49	22	10	2990
derivatives	0	0	0	0	0	2	12	0	0	321	335
garments	0	2	0	1	26	2	7	2	0	0	40
hair	201	3	6	12	0	314	606	385	985	557	3069
hair products	2	14	4	6	4	0	1	0	2	0	33
leather products	0	1	0	1	2	1	2	2	0	3	12
live	50	36	6	20	28	6	9	14	2	8	179
meat (kg)	0	0	0	2	40	0	0	0	0	0	42
plates	4	3	17	1	8	2	2	2	0	0	39
skeletons	0	2	0	0	0	4	0	0	0	0	6
skin pieces	10	533	493	315	375	214	888	8	203	41	3080
skins	253	292	339	407	405	594	784	622	360	271	4327
skulls	128	126	131	160	143	135	389	118	99	31	1460
specimens	335	338	296	598	1584	2217	1208	1280	640	1958	10454
teeth	418	432	508	341	55	23	73	814	19	169	2852
trophies	83	98	86	138	92	108	144	57	66	20	892
unspecified	15	6	19	58	0	1	0	0	0	0	99
Total	1824	2564	2493	3187	3765	4369	4471	3721	2459	3497	32350

Source: CITES Trade Database, searched 18 October 2012, gross exports, all purposes, items subtotaled.

Table 2: Export of polar bear items for commercial purposes											
Item	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**Total**
bodies	1	3	1	6	2	10	8	10	16	18	75
bones	1	4	1	5	11	6	12	0	0	0	40
carvings	0	30	1	120	3	1	10	2	0	0	167
claws	4	140	35	377	96	33	137	18	0	1	841
derivatives	0	0	0	0	0	0	0	0	0	0	320
garments	0	1	0	1	25	0	0	0	0	0	27
hair products	0	0	0	4	0	0	0	0	0	0	4
leather products	0	0	0	1	0	0	0	2	0	0	3
live	0	0	2	0	0	1	0	0	0	0	3
plates	0	0	15	0	7	2	2	2	0	0	28
skin pieces	1	488	477	307	360	200	851	0	168	10	2862
skins	150	159	178	168	185	409	577	471	209	179	2685
skulls	25	7	18	10	11	15	4	9	4	9	112
specimens	23	10	0	0	0	1	410	5	4	10	463
teeth	0	1	0	6	0	0	0	0	0	0	7
trophies	0	12	10	23	8	18	4	8	32	2	117
unspecified	0	0	0	21	0	1	0	0	0	0	22
Total	205	855	738	1049	708	697	2015	527	433	549	7776
trophies	83	98	86	138	92	108	144	57	66	20	892
unspecified	15	6	19	58	0	1	0	0	0	0	99
Total	1824	2564	2493	3187	3765	4369	4471	3721	2459	3497	32350

Source: CITES Trade Database, searched 18 October 2012, gross exports, all purposes, items subtotaled.

Table 3: Export of polar bear items for hunting trophy purposes

Item	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
bodies	36	28	24	19	27	21	23	13	6	0	197
bones	27	27	29	51	36	36	89	317	23	1	636
claws	0	0	0	10	0	0	4	0	0	0	14
plates	0	0	1	1	0	0	0	0	0	0	2
skin pieces	0	0	0	0	0	0	0	0	0	1	1
skins	42	66	48	111	78	83	182	65	60	0	735
skulls	64	71	56	109	87	91	144	77	49	1	749
specimens	12	0	1	0	0	0	0	0	0	0	13
teeth	1	0	0	0	0	0	0	0	0	0	1
trophies	74	69	66	100	75	82	128	43	21	18	676
Total	256	261	225	401	303	313	570	515	159	21	3024
skins	150	159	178	168	185	409	577	471	209	179	2685
skulls	25	7	18	10	11	15	4	9	4	9	112
specimens	23	10	0	0	0	1	410	5	4	10	463
teeth	0	1	0	6	0	0	0	0	0	0	7
trophies	0	12	10	23	8	18	4	8	32	2	117
unspecified	0	0	0	21	0	1	0	0	0	0	22
Total	205	855	738	1049	708	697	2015	527	433	549	7776

Source: CITES Trade Database, searched 18 October 2012, gross exports, all purposes, items subtotaled.

Table 4: Polar bear population status

Population	Range State	Aerial survey/ Mark-recapture analysis		Additional/ Alternative Analysis (Simulation: based on simulation; TEK: based on traditional ecological knowledge)				Historical annual removals (5 yr mean)	Potential maximum annual removals	Status	Current trend	Estimated risk of future decline
		Number (year of estimate)	±2 SE or 95% CI	Number (year of estimate)	±2 SE or min-max range	Simulation	TEK					
Arctic Basin	All	Unknown						N/A	0	Data deficient	Data deficient	Data deficient
Baffin Bay	Canada Greenland	2074 (1997)	1544-2604	1546 (2004)	690-2402	X		212	176	Data deficient	Declining	Very high
Barents Sea	Norway Russia	2650 (2004)	1900-3600					1	0	Data deficient	Data deficient	Data deficient
Chukchi Sea	USA Russia	Unknown						37 - plus unknown but substantial in Russia (100-200)	No quotas	Reduced	Declining	Data deficient
Davis Strait	Canada Greenland	2142 (2007)	1811-2534					60	66	Not reduced	Declining	Very high
East Greenland	Greenland	Unknown						58	54	Data deficient	Data deficient	Data deficient
Foxe Basin	Canada	2197 (1994)	1677-2717	2300 (2004)	1780-2820	X	X	101	108	Data deficient	Data deficient	Data deficient

Table 4: Polar bear population status

Population	Range State	Aerial survey/ Mark-recapture analysis		Additional/ Alternative Analysis (Simulation: based on simulation; TEK: based on traditional ecological knowledge)				Historical annual removals (5 yr mean)	Potential maximum annual removals	Status	Current trend	Estimated risk of future decline
		Number (year of estimate)	±2 SE or 95% CI	Number (year of estimate)	±2 SE or min-max range	Simulation	TEK					
Gulf of Boothia	Canada	1592 (2000)	870-2314					60	74	Not reduced	Stable	Very low
Kane Basin	Canada Greenland	164 (1998)	94-234					11	15	Reduced	Declining	Very high
Kara Sea	Russia	Unknown						N/A	0	Data deficient	Data deficient	Data deficient
Lancaster Sound	Canada	2541 (1998)	1759-3323					83	85	Data deficient	Declining	Higher
Laptev Sea	Russia	800-1200 (1993)						N/A	0	Data deficient	Data deficient	Data deficient
M'Clintock Channel	Canada	284 (2000)	166-402					2	3	Reduced	Increasing	Very low
Northern Beaufort Sea	Canada	1202 (2006)	686-1718					29	65	Not reduced	Stable	Data deficient
Norwegian Bay	Canada	190 (1998)	102-278					4	4	Data deficient	Declining	Very high
Southern Beaufort Sea	Canada USA	1526 (2006)	1210-1842					44	80	Reduced	Declining	Moderate
Southern Hudson Bay	Canada	900-1000 (2005)	396-950 (ON) 70-100 (James Bay)					35	61	Not reduced	Stable	Very high
Viscount Melville Sound	Canada	161 (1992)	121-201	215 (1996)	99-331	X		5	7	Data deficient	Data deficient	Data deficient
Western Hudson Bay	Canada	935 (2004)	791-1079					44	16	Reduced	Declining	Very high

Source: Adapted from IUCN SSC Polar Bear Specialist Group (2010) at http://pbsg.npolar.no/en/status/status-table.html (viewed on 5 June 2012).