



ARCTIC FIELD PROGRAM NEWS

PROMOTING SCIENCE AND STEWARDSHIP IN BERING, BEAUFORT, CHUKCHI AND OKHOTSK SEAS

Good News for Bristol Bay

On December 16, 2014 President Obama used his executive authority to remove Bristol Bay from future offshore oil development. And for good reason: Bristol Bay, known for the world's largest Sockeye salmon runs, is one of the most productive marine ecosystems on the planet. In 2014, more than 40 million wild Sockeye salmon returned to Bristol Bay's rivers to complete their epic lifecycle. Their return fed teeny invertebrates, bald eagles, giant brown bears, and scores of coastal communities. The bay itself is a super-powered natural engine for commercial fisheries that provides the US with healthy seafood and more than 12,000 jobs a year, all the while providing irreplaceable habitat to some amazing wildlife species.

This important conservation victory required persistence. For nearly a decade our WWF team has worked in close collaboration with many communities, native leaders, commercial fishermen, and other conservation groups to remove the threats posed by offshore oil and gas drilling to the region's economy and environment. Our Fishbasket Coalition provided the Administration with compelling evidence as well as powerful local, statewide, and nation support for permanent protection. The President's action should settle the matter for once and for all.

President Obama's Memorandum cites section 12a of the Outer Continental Shelf Lands Act (OCSLA), which gives the president authority to withdraw offshore areas from potential oil and gas leasing indefinitely. Specifically that language states: "Under the authority granted to me in section 12-A of the Outer Continental Shelf Lands Act, 43-USC, 1341-A, this

withdrawal prevents consideration of this area for any oil or gas leasing for purposes of exploration, development or production."

This is not the first use of this Executive Action. President Eisenhower was the first to exercise the authority in 1960, withdrawing an area now included in the Florida Keys National Marine Sanctuary. While this action could have been reversed by subsequent Administrations, it has remained in place for more than 60 years. An OCSLA 12a withdrawal was used to eliminate the potential for offshore development off portions of the California coast in the aftermath of the 1969 Santa Barbara oil spill. This too, has also stood the test of time.

The President's recent action brings a measure of certainty to the families, communities, and commercial fishing sectors which depend on Bristol Bay's clean water and natural bounty for survival. In the future, we'll continue to tell the world about this national treasure while we work toward additional lasting protections – from its headwaters to the mouth of the Bay. ▼

2015

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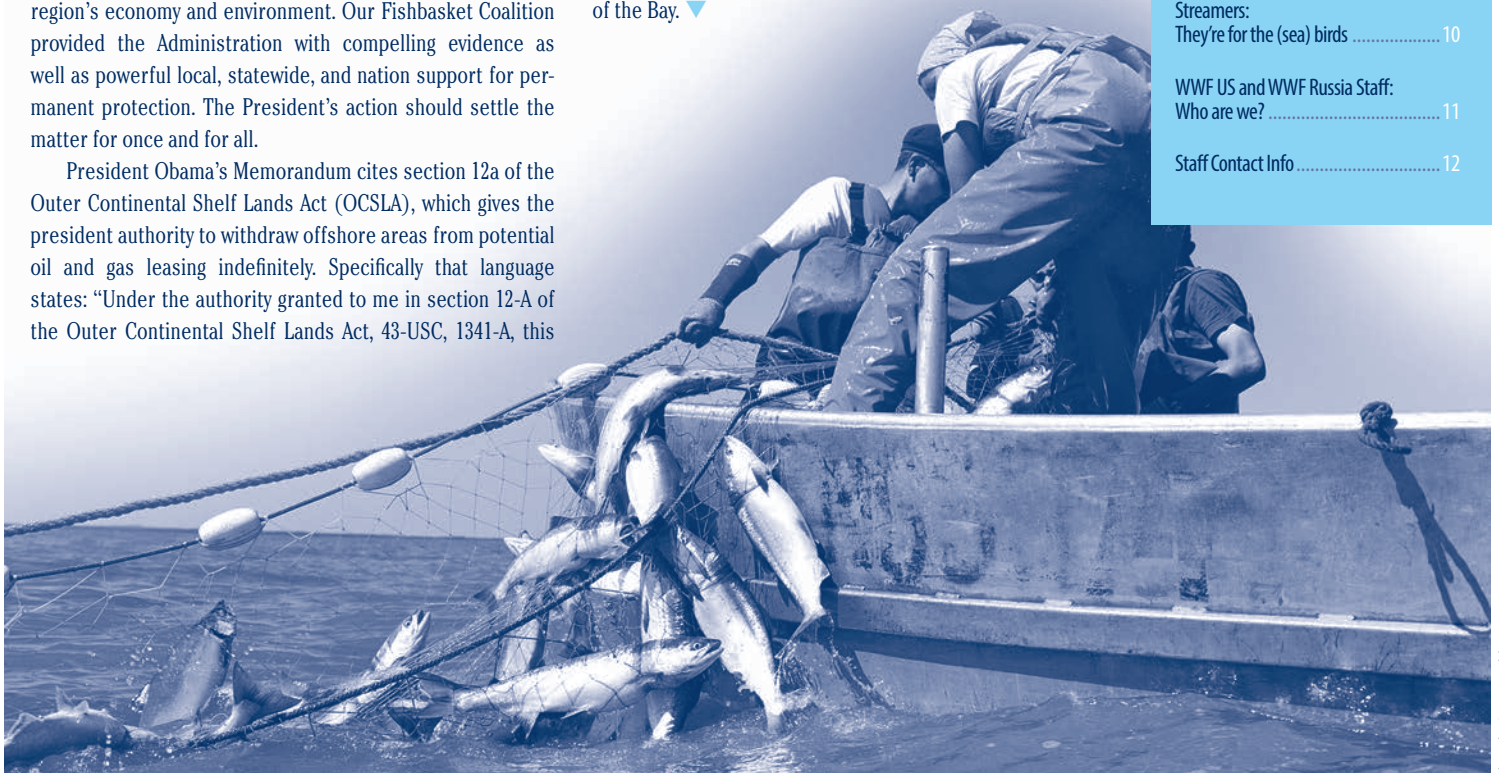


Photo by Corey Arnold

Arctic in the Global Spotlight

BY: MARGARET WILLIAMS, WWF US ARCTIC FIELD PROGRAM

The year 2015 promises to be a big year for the Arctic. Recent reports on acute climate change impacts in the region, the lengthening open-water seasons in the Arctic Ocean, and increasing discussions of the links between the Arctic and national security are fueling a heightened awareness of new challenges and opportunities in the Arctic. One area of focus for WWF is the US chairmanship of the Arctic Council. Created in 1996, the Arctic Council is the leading intergovernmental forum promoting cooperation, coordination and interaction among the Arctic states, Arctic Indigenous communities and other Arctic inhabitants on common Arctic issues, particularly sustainable development and environmental protection. Taking the helm as Chair of the Arctic Council in April of 2015, the US will be responsible for collaborating with, and leading Council members on a host of issues. In October of 2014, the US announced an ambitious agenda for its chairmanship, planning to deliver results in the areas of climate change, ocean stewardship, and improving living conditions for Arctic residents.

Since its establishment, the Arctic Council has been largely an information-sharing forum and a structure through which standing working groups produce comprehensive studies synthesizing data from all of the Arctic countries. Several seminal reports have come out of the Arctic Council, such as the 2005 Arctic Climate Impact Assessment, known as ACIA. ACIA was the first international report solely devoted to describing known and anticipated changes on Arctic ecosystems and people as a result of climate change in the high latitudes. Several years later, the 2009 Arctic Marine Shipping Assessment (AMSA) outlined the major environmental issues associated with increasing ship traffic in the Arctic Ocean. The authors of AMSA went a step further than analysis, providing a set of recommendations for Arctic nations to prepare and plan for shipping and to protect the marine environment from potential accidents.

In WWF's view, a key ingredient to the future success of the Arctic Council will be member nations' commitment to implementation of Arctic Council recommendations at the national level. AMSA stands out in this regard. Because many stakeholders were involved in crafting the recommendations in AMSA, many follow-up meetings maintained momentum and resulted in substantive progress,

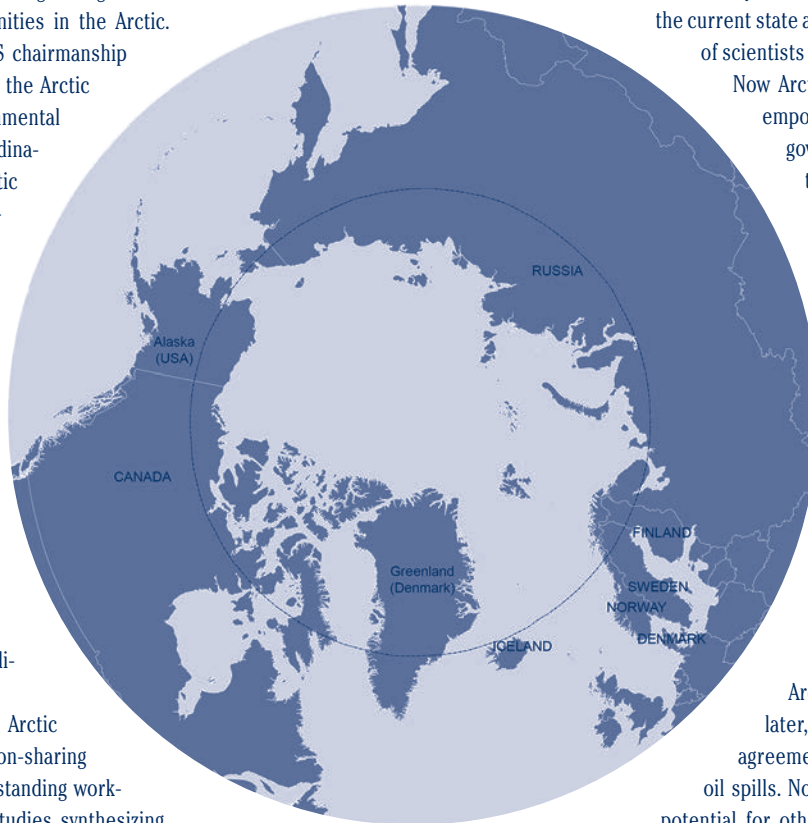
including building the foundation for greater preparation, precaution, and awareness with respect to maritime shipping. Another big achievement – delivered during the Swedish chairmanship of the Arctic Council -- was the 2013

Arctic Biodiversity Assessment, a comprehensive analysis of the current state and trends of biodiversity. Hundreds of scientists contributed to this enormous study. Now Arctic nations must work together to empower and mandate that their relevant governmental bodies are enacting the thoughtful recommendations in the Assessment.

As climate change impacts continue to dramatically alter ecological and human systems in the Polar Regions, leaders of Arctic nations and Non-arctic States alike are recognizing the need to collaborate amongst themselves to plan for a changing ocean. In 2011, Arctic nations signed an international agreement on cooperation in search and rescue, the first agreement ever to be negotiated under the Arctic Council's umbrella. Two years later, member countries signed another agreement, on cooperation in responding to oil spills. Now there are discussions about the potential for other binding agreements among the Arctic states, including an agreement on short-lived climate

forcers. WWF views this development toward policy making within the Arctic Council's domain as a positive and needed step. The eight nations of the Arctic Council are some of the world's wealthiest countries, leaders in technology, and contain assets that can be tapped to produce model projects in renewable energy and sustainable development. They also have the capacity to take on larger transformative projects, such as creating a network of marine protected areas.

For this reason WWF sees the coming U.S. chairmanship of the Arctic Council as a huge opportunity to chart a course for the Arctic, to achieve balanced, sustainable development, while investing equally in conservation. As chair of the only circumpolar Arctic forum, the US has an unprecedented opportunity and responsibility to chart a course for the region in the 21st century. WWF teams around the Arctic are inspired by the US agenda, and will work to support efforts to engage the US public and relevant agencies in implementing climate-smart actions that are so critical now to preserve the integrity of the Arctic. ▼



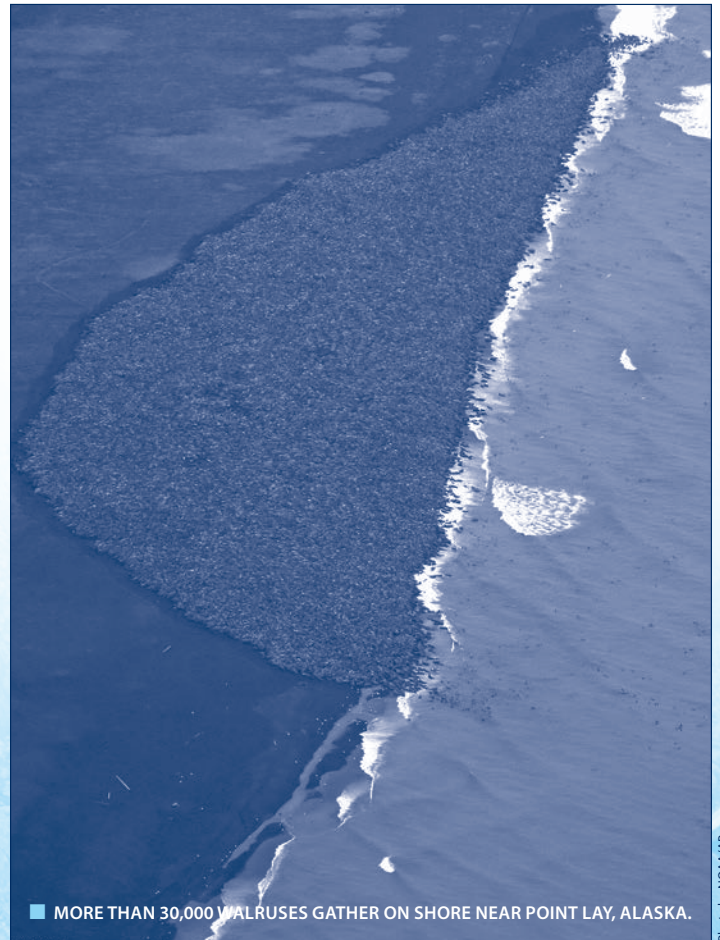
Emerging Walrus Management Issues on the Chukchi Sea Coast

BY: JOEL GARLICH-MILLER, BIOLOGIST, US FISH & WILDLIFE SERVICE

Over the past decade, the number of walrus using haulouts along the Chukchi Sea coast has increased dramatically, and the season of use seems to increase with each coming year. Up until a few years ago, the formation of coastal haulouts along the Chukchi Sea coast was primarily a Russian phenomenon; however, we are starting to see a similar pattern develop in Alaska. The most pressing conservation concern associated with large densely packed coastal haulouts is the potential for injuries and mortalities associated with stampedes caused by disturbance events. Young animals are particularly vulnerable to trampling injuries and mortality.

Minimizing disturbances at coastal walrus haulouts along the Arctic coast of Alaska has become an important management issue in recent years. The US Fish and Wildlife Service and Eskimo Walrus Commission have been working to raise awareness of the emerging haulout areas and the potential impacts of disturbances. We have also developed flight advisories and guidelines for local air carriers and pilots, and worked with the Federal Aviation Administration (FAA) to establish temporary flight restrictions over large haulout areas.

Some of the most important and effective efforts to minimize disturbance related mortalities at coastal haulouts in Alaska have occurred at the local level. A large coastal haulout, composed primarily of females and calves, has formed near the community of Point Lay in recent years. The community of Point Lay has taken an active and effective stewardship role of the haulout area and has worked hard to minimize human activities that could result in disturbance events at the haulout. They have worked with air carriers to change flight routes into the community and make sure that visitors keep a respectful distance from the haulout. Their efforts appear to be working – disturbance related mortalities at the Point Lay haulout have been remarkably low over the past five seasons. ▼



■ MORE THAN 30,000 WALRUSES GATHER ON SHORE NEAR POINT LAY, ALASKA.

Photo by NOAA/AP



Photo by Staffan Widstrand

Letter from the Director



Dear friends and colleagues,

Gray whales travel here from Mexico's Baja Peninsula. Bowhead whales leave their Bering Sea wintering areas to swim north through the Bering Strait, cruising the Arctic in a counter-clockwise pattern to follow their food. A tiny shorebird, the Bar-Tailed Godwit, flies 16,000 roundtrip from New Zealand to nest in the Arctic. Coastal communities around the Arctic Ocean harvest fish, seals, walrus and whales as part of their close connection to the bounty of the sea. This is the Arctic: a place of abundance, boundary, and cultures that are deeply connected to the sea and land.

But the Arctic is changing, and the changes are coming fast. In 2014 Arctic residents continued to experience the impacts of human activities – excessive greenhouse gas emissions – that have developed far beyond the Arctic. We don't have to look far for other signs of change: disappearing summer sea ice across the region, rapid shoreline erosion in Barrow, over 30,000 walrus taking refuge on land near Alaska's Point

Lay, unannounced visits of large cruise ships in Vankarem, Chukotka, and others. These are just some of the stories reaching the world, although people and wildlife in the region are feeling the change on a daily basis.

Despite the discouraging news, 2014 gave us many reasons for optimism. In October, over 400,000 people from around the world marched in the streets of NY in advance of the United Nations Climate Summit. Their presence sent a loud and clear message to our leaders that climate change impacts everyone, and that everyone must take action. Also in October, the United States State Department announced its priority themes for its chairmanship of the Arctic Council beginning in 2015, with climate change as one of three important topics. And throughout the year, from Vaigatch Island in the Russian Arctic to the village of Arviat in the Canadian Arctic, local communities continued to demonstrate their resilience and ingenuity when it comes to dealing with the impacts of climate change.

WWF, too, is rising to meet the challenges of climate change in the Bering, Beaufort and Chukchi Sea ecoregion. Our Russian, Canadian and US staff members are collaborating more closely than ever before across political boundaries to ensure that decision makers recognize the trans-boundary nature of this part of the world. Working together from our respective countries we have supported community-based science efforts, produced science-based oil spill analyses to be used as a tool in prevention and planning, convened experts from the US and Russian sides of the Bering Strait to discuss potential measures to ensure safe shipping, and pooled expertise to improve salmon management in the waters surrounding the Kamchatka Peninsula.

At this time of growing tensions between the West and Russia, collaboration between NGOs in the Arctic is more important than ever. NGOs fill a unique niche in the diplomatic arena, catalyzing connections and discussions among key stakeholders on important topics which governments cannot address directly. WWF is committed to such collaboration in Arctic conservation for the long term, and we welcome you to support us in this mission! ▼

Sincerely,

*Margaret Williams
Director, WWF US Arctic Field Program*

All of the articles in this newsletter were written by Arctic Field Program staff in Russia and Alaska, unless otherwise noted.

WWF Catalyzes US – Russia Cooperation in the Bering Strait

BY: ELENA AGARKOVA, WWF US ARCTIC FIELD PROGRAM



Photo by Elisabeth Kruger

PAINTING BY SUE STEINACHER

Each spring, even before the winter sea ice recedes, the Bering Strait becomes a very busy waterway. At this time, one of the planet's most amazing marine mammal migrations begins, as 12,000 bowhead whales swim from the central Bering Sea to reach the food-packed Chukchi and Beaufort seas north of the Bering Strait. Navigating below the ice with their sophisticated communication systems, the bowhead whales hug Alaska's coast, heading east to forage in Alaska's waters, and then moving across the invisible maritime border into Canada. In the fall the bowheads complete their impressive journey by swimming to Russia, where they feed off the coast of Russia's Chukotka Peninsula before heading south again.

Later in the spring, thousands of gray whales, too, will traverse the Bering Strait, having started their 10,000-mile "commute" from Mexico's Baja Peninsula a few months earlier. Beluga whales, ringed seals, bearded seals, and walrus will also fill the strait to reach summer feeding grounds, the productive and shallow waters of the Chukchi Sea. Steep cliffs and rocky slopes of the Diomed Islands, Saint Matthew, Hall and Saint Lawrence Islands and on the coast will be invaded by a total of 12 million seabirds - Crested and Least Auklets, Black-Legged Kittiwakes, Thick-Billed Murres, Pelagic Cormorants and other species— that will build nests and fledge their young on the rich waters of the strait.

Communities on both sides of the Bering Strait on St. Lawrence and Little Diomed will be busy hunting and fishing and in some cases whaling, as generations of Yupik, Siberian Yupik, and Inupiaq people have always done to support their families.

Few places the Arctic are as abundant in marine wildlife and productivity as the Bering Strait. And as industrial activity expands in the Arctic, so does the risk of accidents that could impact this wildlife, such as shipwrecks and oil spills. In the Bering Strait, traffic is expected to significantly increase in the coming decades as "destinational" shipping (local traffic delivering goods and fuel along the coast) grows and many more vessels travel from Europe to Asia along Russia's Northern Sea Route. In ecologically and culturally important ecosystems such as the Bering Strait, a single shipping accident could have severe and long-lasting consequences for people and wildlife.

Despite the many changes occurring across the Arctic, WWF believes that precautionary planning will go a long way in protecting the resources of the Bering Strait. Pairing traditional knowledge of Bering Strait residents with science and technology can help us identify the most sensitive ecological areas and track vessel movements. Supporting community leadership and requiring high standards from industry will also be needed. Because the Strait is shared by U.S. and Russia, both countries need to work together as responsible stewards of this special region.

Catalyzing cooperation across maritime boundaries is a hallmark of WWF's Arctic program. In February of this year WWF hosted a US-Russia workshop in Washington, DC, convening experts from the US Coast Guard, the National Oceanic Atmospheric Administration (NOAA), the Russian State Marine Pollution Control, Salvage and Rescue agency, and scientists and NGOs from both countries.

As this newsletter is going to press in November, seven representatives from Russian governmental agencies, NGOs, scientific institutions, and Bering Strait communities, are meeting with Alaskan counterparts to identify trans-boundary actions we can take to prevent shipping accidents and oil spills in the Bering Strait. As part of the workshop, WWF Russia staff, along with Dr. Valentin Zhouravel of the Risk Informatics Center in Moscow, Russia, is presenting the results of newly completed oil spill modeling scenarios for the western Bering Strait.

Although official relations between the US and Russian governments are considerably chilly, much can still be done to ensure communication and collaboration in the Bering Strait region. Tapping the knowledge, experience and creativity of the workshop participants, WWF will develop recommendations on specific measures to improve shipwreck and oil spill prevention and response. In the near term, WWF will present these recommendations at two events in December: the Arctic Biodiversity Congress in Trondheim, Norway and at the Arctic Council's working group on Emergency Prevention, Preparedness and Response in Seattle. In the coming year, implementing strong prevention and protective measures for the Bering Strait, a "marine mammal superhighway," will be a top WWF priority. ▼

Double Trouble for the Arctic Ocean: Climate Change and Offshore Oil Development

BY: MARGARET WILLIAMS, WWF US ARCTIC FIELD PROGRAM

When the Intergovernmental Panel on Climate Change, the world's premier body of experts on climate science, issued its fifth report 18 months ago, it included the strongest statements the panel had ever made on the state of the planet. "Continued emissions of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood for severe, pervasive and irreversible impacts for people and ecosystems," said one of the headlines in the IPCC's Summary for Policy Makers. As rates of consumption of petroleum productions around the world are growing at a steady pace, the Arctic, its people and wildlife are bearing the brunt of the impacts. One of the most evident impacts is the rapidly disappearing summer sea ice and associated consequences for wildlife.

WWF understands that to address the root cause of climate change, world leaders in government and industry must make serious commitments to reduce global carbon pollution from sources the world over. At the same time, additional actions are necessary to reduce immediate stressors on Arctic ecosystems.

For this reason, WWF opposes current efforts to develop offshore oil deposits in the Beaufort and Chukchi seas. Around the Arctic, dozens of accidents have already demonstrated the tremendous risks inherent in drilling in a region whose weather is frequently severe; where darkness and frigid temperatures reign for half of the year; and where abundant and productive marine life is vulnerable to pollution. Simply the transport of drilling equipment can be risky in stormy northern waters, as we saw when Shell Oil attempted to move its drilling rig through the Gulf of Alaska in January, 2013. The findings of the US National Academy of Science's 2014 report, *Responding to Oil Spills in the US Arctic Marine Environment*, reaffirmed WWF's long-held conclusion that the technology to clean up oil spilled in the Arctic waters simply does not exist.

Despite these huge gaps in adequate containment techniques, Russia, Canada and the United States continue to offer areas of the continental shelf to oil and gas companies. In Russia, WWF is especially concerned about Rosneft's move to explore the region east and north of Wrangel Island, a UNESCO World Heritage site known for its high density of polar bear maternity dens, nesting population of Emperor and Snow Geese, and Pacific walrus. WWF is also opposing Gazprom exploration plans on Russia's western Kamchatka shelf, a most important fisheries area. Additional actions in Russia include promoting



Photo by © naturepicco | Martha Holmes | WWF

■ BOWHEAD WHALE (BALAENA MYSTICETUS) JUST UNDER ARCTIC ICE

measures to improve government and corporate policies and practices. One of our recommendations in Russia is for the government to require complete environmental impact assessments and for the private sector to support a compensation fund that would be available to address damages caused by oil spills, and to finance oiled wildlife rescue programs. In Canada, WWF is opposing a move by the government to loosen the requirement that offshore oil operations must have a second relief rig on site, a rule put in place after the Deepwater Horizon disaster in 2011. In the US, WWF is working to protect Arctic waters from oil and gas exploration activities and to exclude special areas from future leasing.

Unlike at any previous time in history, decisions being made around the world today will have fundamental and dramatic impacts on the Arctic, and the health and diversity of life in the Arctic. WWF world-wide is urging a science-based, wildlife and community-sensitive, approach that respects and addresses climate change, the near-total lack of existing technology to safely develop the oil and gas resources of the Arctic, and especially strong protection of known special areas from the impacts of expanding development in the Arctic. ▼

■ Thanks to the National Academy of Science, WWF has received permission to translate the report *Responding to Oil Spills in the US Arctic Marine Environment*, into Russian. WWF will then distribute this report among key management agencies, scientific institutes, and decision-makers throughout Russia.

PROGRESS TO PREVENT PEBBLE MINE

BY: DAVID APLIN, WWF US ARCTIC FIELD PROGRAM

"I think we're going to win!" That's what Bristol Bay Yupik elder Bobby Andrew told WWF's President Carter Roberts back in August, 2011 as the Region and the nation rallied to stop development of what could become North America's largest open pit copper and gold mine at the headwaters of Bristol Bay's two most important salmon producing rivers. Back then, a positive outcome was anything but a sure thing. But Bobby appears to have anticipated the power of a remarkable coalition of Native groups, commercial and sport fishing interests, and a handful of conservation organizations in derailing the massive project.

Since then the tide has changed. In 2012, at the request of Bristol Bay Native tribes, the Environmental Protection Agency launched a comprehensive Watershed Assessment to calculate the mine's potential impacts to wildlife, fish and the communities who depend on clean water and intact fisheries for their survival. The study's finding detailed miles of salmon stream and wildlife habitat that would be lost through development of the mine and outlined the devastating consequences that could result from a major mine failure. WWF and our conservation partners generated nearly a million comments in support of the EPA's findings and encouraged the agency to invoke provisions of the Clean Water Act to pre-emptively prohibit or restrict development of the mine. Earlier this year, EPA Administrator Gina McCarthy directed her staff to do just that and in July the EPA announced a draft determination which severely restricts the footprint of any mine developed at the site. If adopted, these restrictions will render the development of the mine's low grade ore essentially impossible with current technology.

This spring, the EPA initiated the Clean Water Act 404c process which resulted in a July 2014 draft decision to dramatically limit the footprint and mine waste production of any Pebble Mine proposal submitted for permitting. Experts agree that these restrictions will make development of the low-grade Pebble deposit economically unfeasible. WWF continues to press for decisive action by the EPA to formally adopt the draft 404c decision restricting the development of the Pebble Mine. Our communications and social media team has initiated a campaign to generate 80,000 petition signatures in support of the EPA finding and our government relations



Photo by Scott Dickerson / WWF-US

■ BRISTOL BAY RESIDENTS HAVE A DEEP CONNECTION TO THIS PLACE AND ITS IMPORTANCE TO THEIR WAY OF LIFE

team continues direct outreach to the Obama Administration in support of decisive action. A final decision is anticipated this year.

Although the Pebble Limited Partnership has launched a lawsuit to strike down the EPA's authority to pre-emptively restrict the mine, there are many reasons to celebrate the turn of events which looks to have stopped the Pebble Mine for the near term. But the fight is not over. Permanent protection for the headwaters of the Kvijak and Nushagak river systems and the entire Bristol Bay watershed will ultimately require the re-designation of the region from a mining district to an area dedicated to the protection of fisheries, wildlife and subsistence activities for local communities. WWF is in this fight for the long haul. ▼



■ SKIFFS ON THE SHORE OF LAKE ALEKNAGIK NEAR DILLINGHAM, ALASKA

Collecting Polar Bear DNA

BY: ELISABETH KRUGER, WWF US ARCTIC FIELD PROGRAM

A polar bear steps toward an opening in the ice on the Chukchi Sea, nose in the air and eyes peeled for a nice, fat seal. He stands by the water for some minutes, surveying the frozen seascape. The bear catches a scent from the east and weaves through pressure ridges and sheets of ice in the direction of his potential meal. As the bear walks away, a trail of enormous prints remains in his wake. But prints are not all that he has left behind. Just like people, polar bears shed skin cells on a regular basis. Polar bears don't wear shoes, so some of these cells stay behind each time the bear steps into the snow.

WWF recently partnered with a group of French scientists from the DNA specialist firm SPYGEN to see if it is possible to extract DNA from the cells left behind in the paw prints of polar bears. In 2014, the team of scientists successfully isolated polar bear DNA from a track left in the snow. This is the first time DNA has been extracted from a track left by a polar bear. In addition to finding the bear's DNA in the track, the team also found genetic material from a seal and a gull. The WWF scientists who collected the sample later confirmed that the bear had indeed recently been seen eating a seal and that there was a gull flying overhead. The whole story was captured in one footprint.

Now, WWF has collaborated with scientists and polar bear patrols at the North Slope Borough Department of Wildlife Management and research biologists at the US Fish and Wildlife Service to collect additional samples from polar bears in Alaska. These samples will be analyzed by the DNA specialists at SPYGEN to determine if this method can be effective for identifying individual bears from their footprints.

If successful, this technique will provide a valuable new tool in polar bear research, management, and conservation. This non-invasive and relatively inexpensive technique will provide research access to a broad range of polar bears in the Bering, Chukchi, and Beaufort Seas.

As a science-based conservation organization, WWF is very excited about the potential for new information about Alaska's polar bear populations. The DNA information gathered from polar bear tracks in the Bering, Chukchi, and Beaufort Seas will add tremendously to the current research conducted by the US Geological Survey and the US Fish and Wildlife Service. This information is critical for determining appropriate conservation measures, ensuring sustainable access to a culturally valuable resource, and providing the basis for successful adaptive management of polar bears.

This research is a truly collaborative effort, and we thank our partners for their support and collaboration! Special thanks to: North Slope Borough Department of Wildlife Management, Alaska Nanuq Commission, US Fish and Wildlife Service, US Geological Survey, and SPYGEN. ▼



Photo by Alex de Vries

■ POLAR BEAR SKIN CELLS LEFT IN FOOT PRINTS ARE BEING GATHERED FOR DNA TESTING THAT COULD LEAD TO IDENTIFICATION OF INDIVIDUAL BEARS



Photo by Nathab

The Business of Illegal Salmon Roe

BY: HEATHER BRANDON, WWF US ARCTIC FIELD PROGRAM

I had my fingers crossed for good luck as we barreled down a gravelled road at 100 kilometers per hour in Kamchatka, Russia. We were headed for Bystrinski Nature Park, a protected area in central Kamchatka, and one of the six sites that comprises Kamchatka Volcanoes World Heritage Site. It wasn't just the high speed of our minivan that had me worried, but at our destination – a world class salmon river – there would be hungry brown bears and maybe also profit-hungry poachers. In theory, I wanted to see both with my own eyes, but in truth, I was afraid they might be the last thing I ever saw.

Upon entering Bystrinski Nature Park, the high road hugged a narrow rocky canyon carved by the Bystrinski River. Salmon have annually returned to that fast-flowing river for thousands of years to spawn yet another generation of salmon, to feed the bears, nourish the trees, and provide for the people, too.

Sadly, some people are taking too much salmon; actually salmon eggs, to be precise. Accessing remote parts of the Bystrinski Nature Park by helicopter, poachers block off the river and slit open the bellies of female salmon to remove the eggs. It's illegal, true, but also shamefully wasteful, for these salmon will not produce the next generation. They will only rot on the banks of the river while the roe is salted in barrels, helicoptered out, and delivered to a market far from Kamchatka.

We heard a similar story when we visited a community on the Bolshaya River, south of Petropavlovsk-Kamchatsky, Kamchatka's largest population center. But at this location, WWF and a local salmon harvesting company have banded together and hired four young inspectors to patrol the river and protect the salmon. The Bolshaya River is accessible by road and by boat, opening it up to poaching on a grand scale. We did see evidence of poachers: hundreds of slit salmon carcasses, with the roe removed, floating just beneath the water and piled high on the banks. Despite this evidence, the WWF anti-poaching patrols are becoming more and more effective in protecting the Bolshaya River and its salmon: the number of poaching violations is down, and citizen reporting is up.

I didn't see a poacher or a brown bear on the river, and it turns out my fear of encountering either one face to muzzle did not materialize. Instead, I was inspired by what I saw – mostly intact salmon habitat, community and business engagement in resource protection, and small successful steps towards the larger goal of shutting down salmon roe poaching. The Bolshaya and Bystrinski Rivers, and the salmon that navigate those waters, are inspiring indeed! ▼

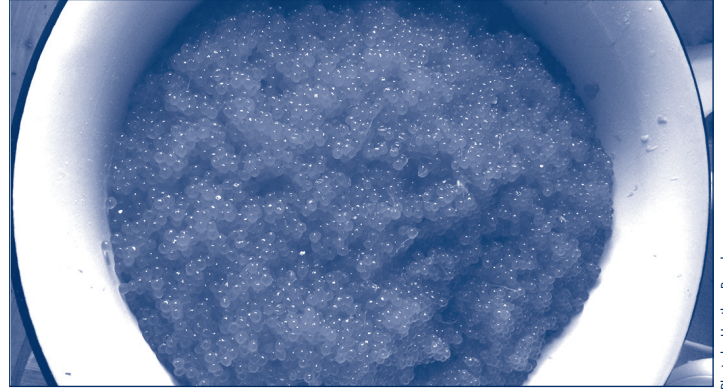


Photo by Heather Brandon

■ SALMON ROE (EGGS) IS A DELICACY IN RUSSIA AND JAPAN



Photo by Yuri Kislyak

■ WWF'S RIVER RANGERS POSE FOR A PHOTO ON THE BANKS OF THE BOLSHAYA RIVER, WHERE THEY PATROL DURING THE SUMMER MONTHS OF ILLEGAL SALMON HARVESTING ACTIVITY



Photo by Yuri Kislyak

■ THE BYSTRINSKI RIVER FLOWS THROUGH A NARROW CANYON OF LAVA ROCK



Photo by Sergey Rafanov

■ SALMON CARCASSES STRIPPED OF ROE ARE LEFT ON THE BANKS OF THE KAMCHATKA RIVER BY POACHERS.

Streamers: They're for the (sea)birds

BY YURI KISLYAK, WWF-RUSSIA, KAMCHATKA OFFICE

Recently, a Russian fishing captain described the way he uses streamers on his longline vessel to an audience of scientists, journalists and leaders of fishing companies. Streamers help to keep birds away from his bait, and prevent birds from ensnarement. The captain is passionate about the topic and enjoys telling about the practical aspects of streamer deployment.

Unfortunately, there are few experienced fishermen in the Bering Sea and the Sea of Okhotsk who can train others on streamer use. That's why, in 2014, WWF considered it necessary to host training workshops for over 70 captains and crewmen of longliners in Kamchatka and Vladivostok; the two largest fishing ports in the Russian Far East. WWF teamed up with the newly formed Longline Fishery Association to provide workshops on streamer deployment.

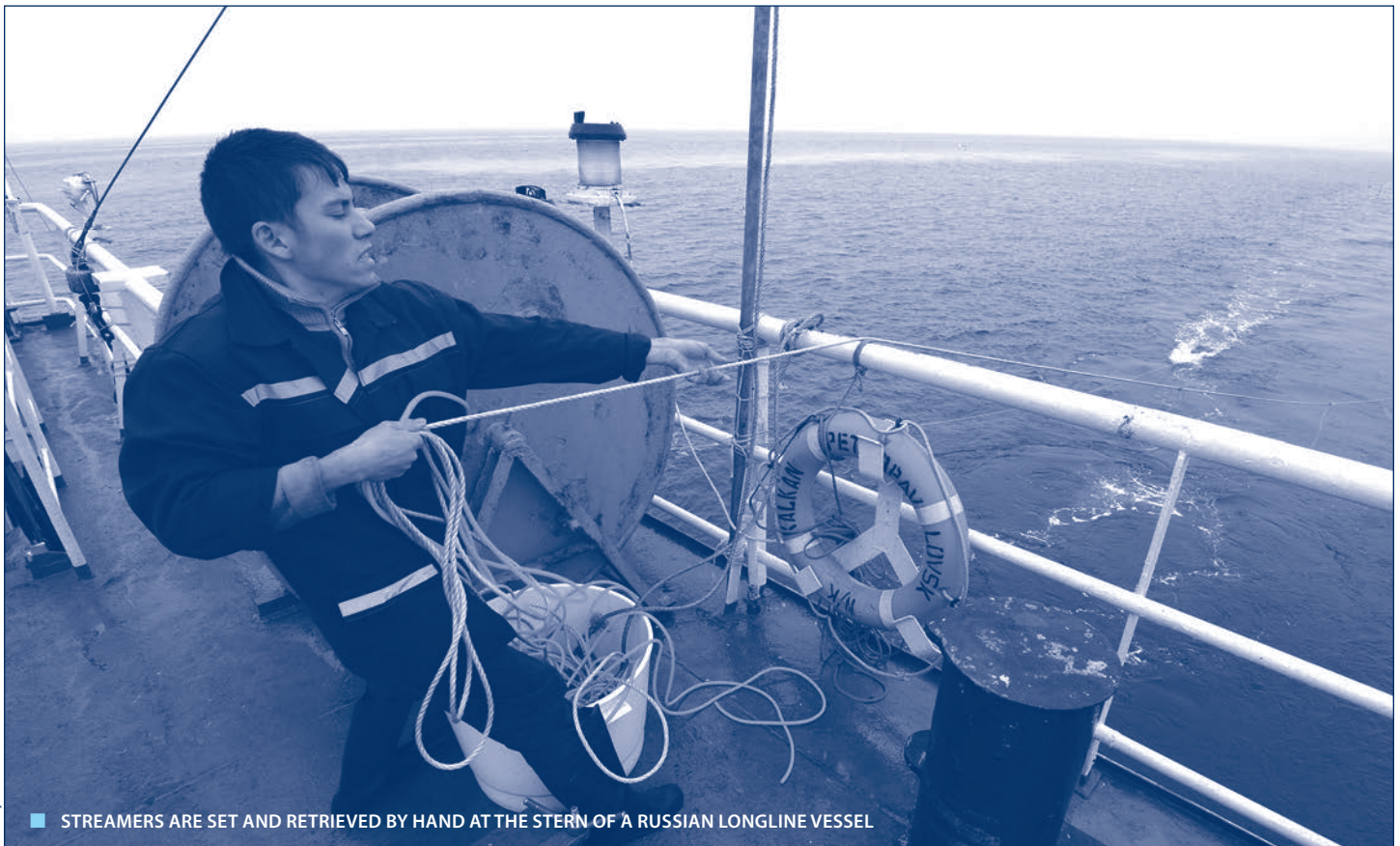
The idea is simple: fluttering above the longlines, streamers scare birds away. Every year, hundreds of thousands of seabirds are killed by longline fishing gear worldwide. These heavy-duty fishing lines dangle multiple baited hooks that, as they're lowered into the ocean, attract and ensnare hungry seabirds, pulling them under to drown. As a result fishing companies lose bait, lose time, and lose money.

A streamer line is just a rope with bright-colored plastic tubes (streamers) on it. Fishing vessels can have one or two streamer lines at the same time, and coupled lines give, of course, the most impressive result: up to a 92% reduction of seabird-by-catch. Using a single streamer line reduces number of fulmars and sea-gull attacks by up to 50%.

The idea of streamer lines, first introduced several years ago by WWF, left fishermen leery; the process of streamer line deployment is time consuming and difficult. A crewmember could be helping with the fishing gear, rather than the streamer gear. But a decisive argument in favor of using streamers was an economic one.

To convince the fishermen to adopt streamers, we studied the operations of Russia's largest longline fishing company and discovered they were losing almost \$800,000 a year in lost bait and lost fish catch as a result of diving—and hooked—birds. When the fishing company saw that the fluttering lines could protect their income and seabirds, they were eager to give them a try. WWF provided initial supplies and training, and the practice became part of that company's corporate culture.

And the practice of utilizing streamers has spread to other fishing operations; WWF has observed other longline fishing vessels in the western Bering Sea using streamers on their own volition. In summer 2013, independent observers reported seeing short-tailed albatross in numbers far higher than in 2008, the last year that WWF researchers were deployed to monitor seabird by-catch. In July 2008, on average two Short-tailed Albatrosses were seen each day. In 2013, the July and August daily average was 13, with 33 as the high. Today half the Kamchatka-based longline vessels use streamers, and this is concurrent with the increase in recorded albatross numbers. Streamers have proven to be a workable solution for both fishermen and wildlife. ▼



WWF Arctic Field Program:

From Washington to Anchorage, Kamchatka to Moscow, Oslo to Ottawa, the WWF Arctic team is spread far and wide. We have a talented and dedicated team of conservationists, and introduce you to our "core team" of the WWF Arctic Field staff based in Kamchatka and Alaska.



Margaret Williams is the Managing Director of the WWF US Arctic Field Program, has a special interest in Russian conservation. Before joining WWF in 1997, she was a consultant to the World Bank on biodiversity projects in Russia and Central Asia. She participates on several advisory boards related to Arctic and marine science and is a lifetime member of the Council on Foreign Relations.



David Aplin is the Director of Education and Outreach for WWF's Arctic Field Program. He employs his communication skills and sense of humor to coordinate community outreach activities throughout the region. Dave has spent much of his seven years with WWF working with conservation partners to permanently protect Bristol Bay from offshore oil and gas development and mining. Aplin brings three decades of environmental education, interpretation, and communication experience to the team. Dave Aplin holds a BS in history and an MS in resource management from the University of Wisconsin.



Heather Brandon is the Senior Fisheries Officer for WWF's Arctic Field Program, where she works to diminish threats to fish, crab, marine mammals and seabirds across the Bering Sea in both Alaska and Russia. In addition to species conservation, Heather works to protect special places, end illegal fishing, promote sourcing of sustainable seafood, and stop wasteful fishing methods. Heather has more than a decade of experience in fisheries and natural resource management. She earned her BS in biology from the University of Oregon, and her Master's degree in marine Affairs from University of Washington.



Stephanie Lee is the Office Manager for the WWF US Arctic Field Program. She is originally from Alaska and brings that perspective with her to the job. She spent 13 years working in the insurance industry before switching her career path and joining our efforts to support arctic conservation needs. Stephanie has extensive administrative work experience as well as great communication and organization skills.



Brandi Worden is the Program Coordinator for the WWF US Arctic Field Program, where she helps to monitor program activities and their budgets. She joined WWF in 2008 and has a professional interest in how technology can be used in advocacy to advance conservation efforts. She holds a bachelor's degree in French from Michigan State University and considers herself to be a professional Googler.



Elisabeth Kruger is WWF's Arctic and Bering Sea Program Officer for the WWF US Arctic Field Program. She helps coordinate activities in the Russian Far east and Alaska, particularly in areas concerning polar bear, walrus, and fisheries management. Prior to joining WWF, Elisabeth spent four years living and working in Siberia, near Lake Baikal, where she was active in the local conservation movement. She is a graduate of Grinnell College, where she received a bachelor's degree in Russian studies.



Elena Agarkova is an advisor on Arctic shipping as part of the WWF US Arctic Field Program team. She works closely with US and Russia staff, as well as WWF's many partners, to promote safe shipping practices in Arctic. Elena is an attorney who has worked on numerous international environmental programs concerning sustainable development and mining issues in Siberia and Mongolia. Born in Moscow, Elena recently spent two years on Lake Baikal researching management of natural resources. Elena is also currently studying part-time at New York University for a master's of law degree in environmental law.



John Morrison is the Director of Conservation Planning and Measures at WWF-US, and assists WWF's Bering, Beaufort and Chukchi Seas planning efforts. While John's educational background and early career focused on Geology and Hydrologic Engineering a passion for natural history led to his becoming a conservation biologist. John has led marine, terrestrial, and freshwater, spatial and strategic conservation planning efforts with WWF on all continents since 1999.



Sybille Klendendorf has a PhD in Wildlife Science with an emphasis on bear ecology and management. Her career with WWF started in 2002 leading the tiger conservation program, then continued as the Managing Director for the Species and TRAFFIC programs from 2007-2014. This program focused on integrating efforts of species and trade aspects in priority ecoregions. She now serves as a species expert for the WWF network and closely focuses on human – wildlife conflict issues for the US Arctic Field Program. Sybille's areas of expertise include large mammal conservation, and wildlife management.



Sergey Rafanov joined WWF Russia in November 2010 as head of the Kamchatka-Bering Sea Ecoregion office, a critical part of WWF's work in the Bering Sea and the Arctic. He leads a team of five in conserving the ecosystems of the Kamchatka region. Originally from Western Russia, he first came to Kamchatka as a volunteer on an ecological expedition. Sergey also serves as a liaison for grassroots NGOs, local communities, environmental activists, and youth to ensure broad support for WWF's activities.



Denis Semenov is a marine officer in WWF's Kamchatka office. He has years of experience in logistics, and international trade of fish products, which he is now applying to WWF's projects in fisheries, particularly in tracking the chain of custody of Kamchatka salmon products. Denis is also an experienced diver and accomplished underwater photographer.



Sergey Korostelev was born in Yelizovo in Kamchatka. He specialized in ichthyologist fish breeding for his undergraduate degree, He completed a master's degree in ichthyology and worked in Kamchatka Fisheries and Oceanography Research Institute for several years. He earned a doctorate in biological sciences in 2006. Sergey is the author of more than 100 scientific works.



Aleksey Knizhnikov had been an integral part of the WWF Russia team since 2006. He is WWF Russia's extractive industry environmental policy officer based in Moscow. He coordinates the development of strategy and action plans to improve the environmental performance of the extractive industry in Russia. Aleksey has 15 years of experience working on solutions and conflict resolution between environmental NGOs, the extractive industry and the energy sector in Russia.



Alexander Moiseev has been with WWF Russia as an expert on economic issues of environmental problems since 2009. Since 2011 he has served as the Project Coordinator for the Marine Program. In 2010 Alexander fundraised for WWF Russia's implementation of EBM principles in Russian fisheries. In 2011 he prepared WWF's project on developing ecologically responsible marine aquaculture in Russia, in 2013 – project on sturgeons conservation and another – on creation eco-sensitive seafood market in Russia. He currently coordinates projects on following issues: Bering Strait and Arctic maritime shipping, seafood market transformation, sturgeon conservation.



Mikhail Stishov WWF Russia Arctic biodiversity Coordinator, originally joined Wrangel Island State Nature Reserve staff as a laboratory assistant, then spent many years studying polar bears and serving as a wildlife biologist, until he became the reserve Deputy Director. Since returning from Wrangel Island to Moscow in 2000, Mikhail worked for UNDP and UNEP projects. He joined WWF in 2010 to work on protected areas and wildlife biodiversity conservation issues.



Konstantin Zgurovsky is the WWF Russia marine program coordinator, based in Moscow. Konstantin is actively engaged in sustainable fisheries policies, combating illegal fishing, and assisting field programs in the Barents and Bering Seas. He is a member of WWF's international SmartFishing Initiative and works to engage Russian fisherman and industry as well as government and scientists in WWF's conservation strategy. Before joining WWF in 1999, Konstantin worked as a fishery scientist for 18 years and briefly worked for a private sector fisheries company.



Yuri Kislyak is WWF's communications officer in Kamchatka office. He has joined WWF just this year and helps to keep journalists and the public informed of the main WWF Kamchatka region activities. He has 5-year experience of working as a journalist for state TV and radio broadcasting station. Yuri prefers to spend time outdoors filming, tracking and taking pictures of the wilds."



Natalya Nikolaeva is an Office Manager in the WWF Russia's Kamchatka office. She is an indispensable member of the team. Since 2012 she's been overseeing project budgets, planning expenditures and dealing with various reports. Natalya is also responsible for keeping the office communications flowing and proper equipment organized. Natasha has serious experience in finance and has been working for many years as a chief accountant prior to joining the WWF team."



ARCTIC FIELD PROGRAM NEWS

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