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POSITION PAPER ON SAKHALIN II OIL & GAS DEVELOPMENT

The Sakhalin II Project

The Sakhalin II off-shore oil and gas project threatens the environment with a proposed undersea pipeline to be trenched through the benthic feeding habitat of the Gray Whale, along with constant noise from a platform bordering the whales' feeding area, platform dredging, and the dumping of drilling wastes into the sea. Sakhalin II also proposes an 800-kilometer on-shore pipeline trenched across hundreds of wild salmon-bearing streams, and the world's largest liquefied natural gas plant that would dump over 1 million cubic meters of wastes into the fisheries-rich Gulf of Aniva. Operating in difficult climate and seismic conditions (including high earthquake activity, heavy ice pack, frequent storms and fog) Sakhalin II also presents risks of a catastrophic oil spill not unlike that of the Exxon Valdez. Sakhalin II is one of 5 initial blocks off the coast of far east Russia. Exxon is lead operator on Sakhalin I. More blocks are now being allocated. No Strategic Environmental Assessment of the offshore oil and gas activity has been conducted to assess the cumulative impacts on biodiversity or the local indigenous fishing industry. The ground was broken for the LNG plant in autumn last year; the onshore pipeline construction was due to start in December 2003; the offshore pipes are not due to be shipped from Malaysia until April 2004 – construction is scheduled for Q3 2004.

Shareholders and Finance

In 1997, the project sponsor, Sakhalin Energy Investment Company, Ltd. (SEIC) signed contracts with the U.S. Overseas Private Investment Corporation (OPIC), European Bank for Reconstruction and Development (EBRD) and the Export-Import Bank of Japan (JEXIM) for the first phase of Sakhalin II. Each institution lent $116million. Registered in the tax haven of Bermuda, SEIC's investors are led by Royal Dutch Shell (55%), and include Mitsubishi (20%) and Mitsui (25%). Shell, Mitsubishi and Mitsui now reportedly seek $5 billion in financing, including support from U.S. Export-Import Bank (Exim Bank), EBRD and the Japanese Bank for International Cooperation (JBIC; formerly JEXIM) for the second, much larger and far more destructive phase of the project. The total cost of phase 2 of the project is $10 billion.

Key Issues (more details below)

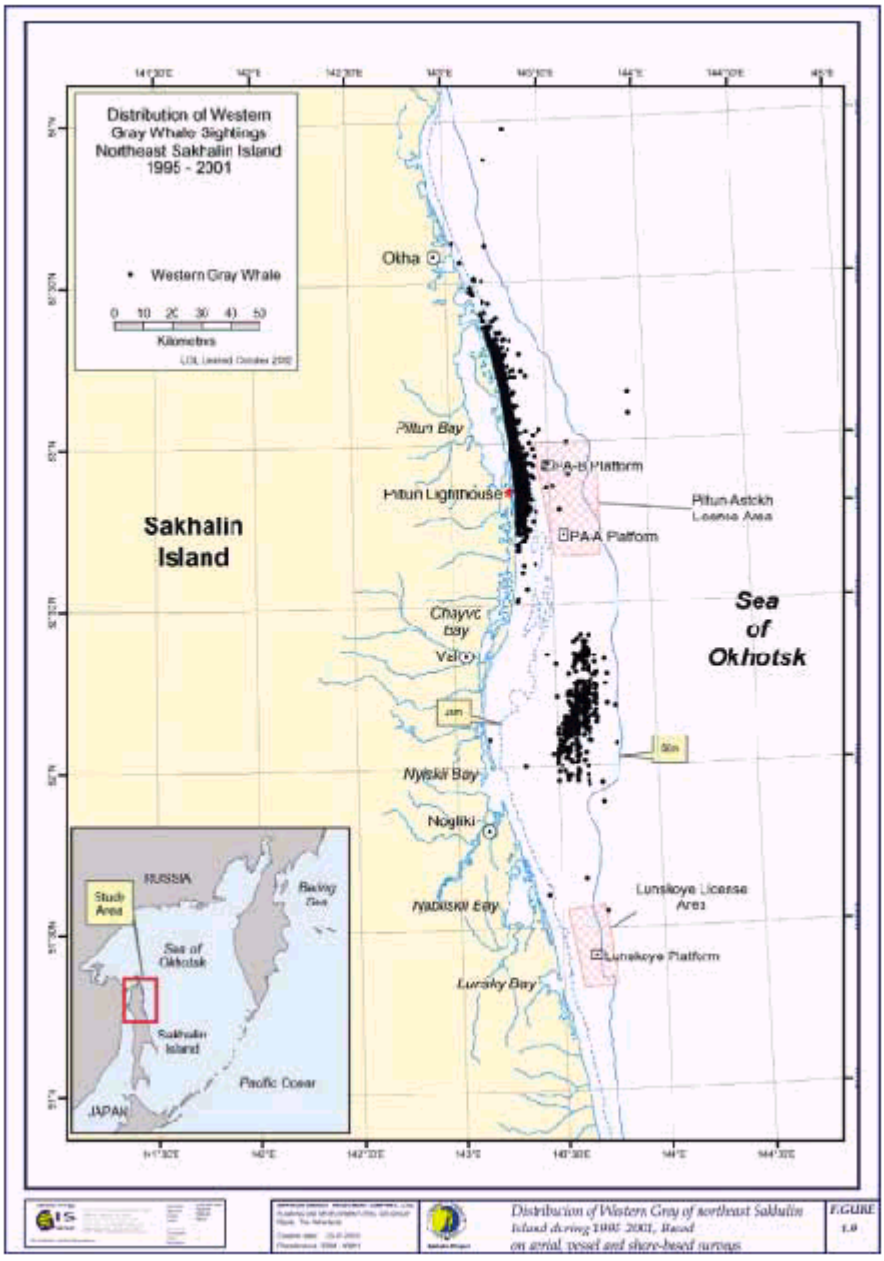
- Critically endangered population of gray whales (<100 total and <20 reproductive females remaining): Planned pipeline through feeding area. Impact of seismic surveys & noise
- Failure to provide data and methodology underlying Sakhalin Energy's conclusions
- Inadequate Habitat Conservation Plan
- Endangered salmon species on Sakhalin Island: Planned pipeline through spawning areas. High seismic activity in the area increases risks
- Fisheries of local indigenous groups affected
- Legal challenge mounted in Russia over violation of host country laws
- No Strategic Environmental Assessment of offshore oil and gas activity
- Production Sharing Agreement exempts project from national environmental law
- Failure to apply best practice to oil and gas production wastes and river crossings
- Inadequate provisions for oil spill response

Shell must reconsider the locations of the offshore platform and pipeline, the onshore river crossings and the disposal of the dredging spoil from the LNG plant. These aspects are a priority at this crucial time before the main phase of construction starts. Other aspects can be addressed at a later stage, but will also be essential to ensure endangered species are not put at risk.

Map of Gray Whale Feeding areas

The map below shows the locations of the two main gray whale feeding areas. The PA-A platform (also know as Molikpaq) already exists. Shell is proposing to run a pipeline across the northern feeding area from the PA-A platform to the shore. The same whales have been sighted at both feeding areas without even knowing the patterns of whale traffic between the two sources of food.

Figure 1.9 Western Gray Whale Sightings, Northeast Sakhalin Island, 1995-2001



Map of onshore pipeline route

Once ashore the pipeline dissects the island, running all the way to the base of the island, crossing 1000s of waterways, 24 active faults and seismic zones capable of producing earthquakes measuring 9 on the Richter scale. The pipeline would extend to the huge LNG plant at Aniva Bay, where Shell is proposing to dump 1 million m3 of dredging spoil in a prime fishery.

Figure 2.1 *Map showing Construction Spreads, Construction Camps, Pipe lay-down and Welding Yards.*

WWF and the coalition of environmental NGOs demands

Whales

WWF addresses all the general demands adopted by a coalition of 52 environmental NGOs to the Sakhalin offshore oil and gas projects. (Available at http://www.pacificenvironment.org/russia/sakhalindemands) Specifically, WWF points attention to the following demands to the Sakhalin 2 project.

1. Any anthropogenic activity that could potentially disturb gray whales, or deleteriously impact the ecosystems in which they feed or migrate, should fully protect gray whale habitat and should be mitigated to eliminate disturbance while feeding and protecting this critically endangered species. Oil companies must use the precautionary principle to prevent any potential impacts to the species.

2. Any proposed drilling platform should be installed sufficiently distant from shore and gray whale feeding habitat to mitigate all potential acoustic and other impacts. Specifically, the new proposed platform for the Piltun-Astokhskoye field for Sakhalin Energy - Shell's Sakhalin-2 Phase 2 must be moved at least 12 nautical miles from shore in order to ensure that the platform does not harm gray whale habitat.

3. All underwater pipelines should be constructed and routed outside of the gray whale feeding habitat to ensure their safety. In particular, Sakhalin Energy - Shell should change the route of its proposed pipeline from Molikpaq to shore further to the South - at least 12 nautical miles from gray whale feeding habitat - to fully avoid any disturbance to critical gray whale habitat.

4. Sakhalin Energy - Shell must immediately stop all discharges of drilling muds and cuttings, as well as all other types of waste water, from Molikpaq into the sea and must refuse to discharge any wastes from any future platform to prevent deleterious impacts to benthic communities and to prevent toxic impacts to the whales themselves.

5. Any disruption of the seabed must be avoided year-round in the feeding area of gray whales or within 12 miles of gray whale habitat.

6. Sakhalin Energy should review the issue of cumulative impacts to gray whales and to their habitat from all oil production projects on the Sakhalin shelf over the entire period of development.

7. All companies should guarantee financing for independent, peer-reviewed scientific research with complete transparency of information from all research projects.

Other

8. All pipelines for the Sakhalin-1 and Sakhalin-2 projects must be built with all necessary safety measures to protect from seismic activity and to guarantee accident free operation without ruptures in the event of a 9.0 Richter scale earthquake. To ensure this, pipelines must be built above ground on special vertical support systems to guarantee adequate flexibility without ruptures during earth movements.

9. Pipeline crossings across all spawning rivers and streams on Sakhalin Island and on the coast of Khabarovsk Region must be made with a bridge over the river, on specially designed suspension systems, to avoid damage to the streambed and water channels. Environmental organizations categorically oppose trench crossings of salmon streams and rivers.

10. A special set of mitigation measures should be developed the populations of such endangered species as Steller Sea Eagle, spotted greenshank and the fish owl.

11. Switching location of the sediments disposal, caused by the construction of the LNG plant in Korsakov away from Aniva bay to the open sea.

12. Environmental organizations believe that Sakhalin Energy - Shell and Exxon must adopt much more aggressive and effective measures in order to prevent oil spills and to be prepared for their clean up. The first priorities for such measures should be the primary recommendations from the report “Sakhalin’s Oil: Doing It Right,” (Yuzhno-Sakhalinsk, 1999) including the establishment of mandatory, safe tanker routes along all coastlines, mandatory inspections of each tanker by independent inspectors, introduction of tugboat escort of tankers in critical navigation areas, installation of a real-time, continuous tanker traffic monitoring system for the entire route in coastal waters and continuous communications between tankers and shore side dispatchers, a significant increase of the volume of oil spill response equipment stockpiled on Sakhalin Island and its placement at special bases along tanker routes and in those locations most vulnerable to oil spills (for example, at the entrances to the bays in northeastern Sakhalin) or that are considered dangerous from the point of view of potential accidents (for example, La Perouse Strait).

13. The facility for the rehabilitation of animals, exposed to the effects of oil spills should be developed in Sakhalin.

Background Information

Gray Whales Among the 25 marine mammal species living off-shore of Sakhalin Island are 11 endangered species including the world's most critically endangered gray whale, the Western Pacific Gray Whale. The Gray Whale is on the endangered species lists of the U.S. and Russia, and has been recognized as critically endangered by the International Union for the Conservation of Nature (IUCN). Recent scientific evidence suggests that less than 100 individuals, and possibly fewer than 20 reproductive females capable of bearing calves, remain.

Sakhalin II may have already damaged the marine environment with installation of its first platform, the Molikpaq. Researchers observed significant sedimentation in the whales' feeding area, possibly smothering the benthos that the whales rely upon. This may have cumulatively combined with seismic and other impacts that are believed by scientists to have contributed to the emaciation of many Western Pacific Gray Whales that has been observed by scientists in the years after Sakhalin II began exploration activities.

The condition of emaciated, or "skinny" gray whales is of great concern to scientists focusing on this species, who say the whales will need to regain fat reserves for winter migration and for lactating to their young. The birth rate of Western Pacific Gray Whale exceeds the death rate by only 1%, meaning that additional negative impacts from Sakhalin I risks pushing this species over the brink of extinction.

Regarding the threats from Sakhalin II to the Western Pacific Gray Whale, the Scientific Committee of the International Whaling Commission (IWC) notes "that it is a **matter of absolute urgency** [emphasis maintained]….to reduce various types of anthropogenic disturbances to the lowest possible level." Russian Academician and ichtyological expert M. E. Vinogradov has stated, "Without designing special measures for gray whale conservation, the continuation of the 'Sakhalin-II' project can lead to extinction of this unique population."

The most recent IWC workshop on the western gray whale was held in Korea in October 2002. Brownell notes that "cumulative impacts on whales from repeated and long-term exposure to oil and gas activities are of concern, notably with regard to displacement from preferred habitat, with consequences for foraging time and quality; this was of particular concern with regard to skinny whales." The workshop also recognised that "Sakhalin remains the only known feeding ground for this population, and that neither the migration route nor the location of the breeding/calving grounds is clear".

Flawed Whale Plan: In 1997, OPIC, EBRD and JEXIM required Sakhalin II to adopt a Habitat Conservation Plan for the Western Pacific Gray Whale under the project's first phase of development. However, instead Shell and other sponsors produced for the lenders a legally and scientifically insufficient Western Grey Whale Protection Plan, which was only approved by the lenders until December 2001, four years after project approval and two years after oil production began. Shell and other sponsors then withheld the plan from the public until March 2002. According to expert input submitted by twenty five independent NGOs, this plan lacks scientific credibility due to:

- The refusal of the project sponsor to vet the draft plan for public comment prior to its approval by OPIC, EBRD and JEXIM and the company's refusal to disclose critical comments submitted on the draft plan from cetacean experts;
- The lack of independent scientific review and public access of data and research results;
- Inaccurate representation of scientific data as a result of financial pressure by the project sponsor on scientists involved in whale research;
- The lack of information about mitigating adverse effects;
- The lack of review of potential and likely impacts to Gray Whales from the expansion of the second phase of Sakhalin-II and cumulative impacts of other oil development in the area;
- The lack of review of impacts on a proposed whale reserve in the area.

Violation of Host Country Laws: Russian NGOs have filed an environmental lawsuit against the Russian government to halt any construction or industrial development in the defined gray whale habitat area, naming Sakhalin Energy Investment Company, Ltd. as a third party

defendant. Russian law clearly prohibits harm to the habitat of Red Book (listed endangered) species. Meanwhile, the massive die-off of herring and steep decline of saffron cod population potentially linked to the project leads local citizens to continuously request information from OPIC, EBRD and JEXIM on the ongoing operations of Sakhalin II. Despite repeated promises by project sponsors for ongoing consultation and access to information, NGOs have been compelled to file a lawsuit against the Russian government and project sponsors to obtain public-interest information about this project due to the company's lack of releasing information or working cooperatively with local concerned citizens. It should also be noted that on the first phase of the Sakhalin II project, activation of financing by OPIC, EBRD and JEXIM was delayed nearly a year due to project sponsors' failure to comply with Russian environmental legislation at the time it sought Board approval from these institutions.

Dumping Wastes into the Sea: Shell and other sponsors failed to address environmental issues in a satisfactory way when they decided to dump production and drilling waste from Sakhalin II directly into the sea. Despite the fact that Russian environmental law prohibited this practice, and that superior technology to avoid this is readily available to project sponsors, this inferior practice of sea discharge was legally exempted by the project's Production Sharing Agreement, which supercedes the environmentally superior Russian law. Shell and other project sponsors have been subject to intense international criticism for this practice yet have not agreed to fully re-inject all drilling wastes.

Scoffing at Oil Spills: Meanwhile, Shell has done little to ensure its oil spill prevention and response system meets US or international standards. Independent experts from Alaska and the Shetland Islands issued a report in 1999 – called "Sakhalin's Oil: Doing It Right" -- warning that the current oil spill prevention and response measures leave the coastlines of Sakhalin and Hokkaido vulnerable to a catastrophic spill. The report recommended 78 specific measures -- including such basic recommendations as mandatory tanker routes, increased monitoring of tanker traffic, notifications to fishing vessels if a tanker is in the area, and increased spill response equipment and improved access to the shoreline where it would be deployed -- but most all of these have not been acted upon by Shell and project sponsors. As a result, Sakhalin and Hokkaido remain vulnerable to a catastrophic spill, made even more likely by increased tanker traffic foreseen under phase II of the project. As *The Wall Street Journal* article indicates, "Spill response in Canada, Norway and Britain is generally far more comprehensive," and in Alaska, following the disastrous Exxon Valdez spill, "state and U.S. officials ordered the industry to set up a massive spill-response system for Prince William Sound." Shell and other project sponsors' lack of action to increase its oil spill prevention and response measures -- despite repeated requests from the public to do so further underscores their lack of attention to environmental standards and the project's insurmountable significant adverse environmental impacts.

Increased shipping: The second phase of Sakhalin II will dramatically increase tanker traffic from Sakhalin Island to the South, where treacherous waters await in the La Perouse straits. Several shipping accidents already occur here each year. Yet, Sakhalin Energy does not accept responsibility for oil spill prevention and response for tankers in this uniquely challenging environment.

Impacts on Wild Salmon: Sakhalin II proposes 800km of pipeline down nearly the entire length of Sakhalin Island to new export facilities at the Southern end of the Island. This pipeline will cross 1100 streams, rivers and other watercourses, including many bearing ecologically and economically vital salmon and other salmonid species, including the Sakhalin taimen, listed as endangered in the Russian Federal Red Book (list of endangered species). These comprise a rich fisheries that is the traditional backbone of the local economy and an important part of the culture of the indigenous Nivkh people. Protection of these watercourses is therefore a paramount outcome of the Sakhalin II project. For purposes of determining varying levels of protection to give these watercourses, the Sakhalin II project has developed the three following classifications:

- Group I - watercourses with no salmon spawning, and insignificant importance for fishery;
- Group II - watercourses with insignificant salmon spawning, and minor importance for fishery;
- Group III - watercourses with significant salmon spawning and major importance for fishery.

While the regional fisheries authority, SakhalinRybvod, agrees with classification system, it disagrees with the classification of the streams by significance for salmon spawning. Concurrently, the Russian fisheries research institution, VNIRO, believes that 663 watercourses should have the highest category of protection. Sakhalin II project classification only includes 62 watercourses, a ten-fold smaller number. What's worse, Sakhalin II proposes Horizontal Directional Drilling (HDD) for only 8 of the 1100 water crossings, and trenching for most all other water courses. Elevated pipelines (bridging), a system proven effective on the Trans-Alaska Pipeline already 25 years ago, is the necessary method for crossing most kinds of watercourses. Trenching, and in particular, wet trenching, are regarded as the most destructive methods of stream crossings. Using this method, an open ditch is gouged across the stream or river bottom, then the pipeline is laid in the trench and covered. This can result is massive silt and sedimentation loads that can destroy downstream spawning beds and other aquatic habitat.

Meanwhile, Sakhalin II proposes in-stream crossings for most construction equipment, causing even more disturbances to the stream beds. These retrograde methods hark back to the heavy-impact industrial methods of the Soviet Union that Shell and other project sponsors claim that the Sakhalin II project will replace. These outmoded methods have long been stopped in many other places in the world where Shell and other project sponsors operate. Given the high classification the Russian government gives to most of these watercourses, and the presence of wild and endangered salmon, this indicates that the on-shore Sakhalin II pipelines will lead to significant conversion or degradation of critical natural habitats. The importance of the 1100 watercourses to the local culture and economy makes this treatment unacceptable.

The most serious impact on salmon species will be caused by a greater cloudiness of the water, and pollution of the rivers by petrochemicals and other materials. Another factor affecting the anadromous fishes will be the increased accessibility of the rivers and bays to poachers. The risk for salmon, including the goy, an endangered and listed in Russia's Red Data Book species, as well as for other fishes and waterfowl will grow considerably even with minor industrial oil spills, which can be spread by the tide currents into the bays and lagoons.

Further biodiversity value: The marine ecosystems around Sakhalin Island are among the most unique in the world. They provide home to several rare and endangered species and also to vast colonies of seabirds, shorebirds and fur seals. The list of protected birds in the area of development includes 11 species, listed in the Red Book of the ICUN (5 actually nesting), 22 species listed in the Red Book of the Russian Federation (8 actually nesting) and 39 species listed in the Red Book of the Sakhalin Region. Of the fish that are in need of protection, the goy (Sakhalin taimen) must be mentioned. This species is listed in the Red Book of the Russian Federation and spawns in the rivers of East Sakhalin. Although the list of rare birds species that are in need of protection is mentioned in the Environmental Impact Assessment presented by the Sakhalin Energy, the status of birds' populations important to the region such as white-tailed sea eagle and Steller's sea eagle, spotted greenshank and fish owl is not evaluated. The following specific measures concerning their protection are not referred to. Whether there will be an impact on the feeding areas of the spotted greenshank and the fish owl has not been evaluated at all. For the Fish owl the factor of human disturbance is the main reason for the decrease in its numbers. The second phase of the Sakhalin-2 project proposes the laying of surface pipelines over several hundred of kilometres through the fish owl habitats. Despite this Environmental Impact Assessment doesn't mention any measures taken to mitigate the industrial impact (seasonal and temporary limits on the work to be carried out etc).

The Environmental Impact Assessment presented by the Sakhalin Energy admits that one of the most serious factors causing the impact on rare birds species is the increase of accessibility to their habitats for hunters. The practice of the company "Sakhalin Energy" not to allow contracted workers to fish, hunt or collect animals will undoubtedly help to alleviate this effect. However, it is unclear how this sort of control will be implemented when work is subcontracted and how will be effective the management of such kind of activities carried out by people who are not contracted by the company whose number will inevitably increase.

It is inadmissible to carry out such a huge project within the habitat of such species needed particular protection, such as commercially important salmon species, rare anadromous fishes, the fish owl and other birds, included in the Red Book of the IUCN and the Red Book of the Russian Federation, without coming up with specific measures, directed to alleviating the impact on them.

Risk of Earthquake: The 800km of on-shore pipeline crosses seismic faults on 24 locations (by comparison, the Trans-Alaska Pipeline crosses only 3 fault lines). The Sakhalin II project operates in an area of very high earthquake activity. Following the devastating 7.6 Richter Scale Neftegorsk earthquake in 1996 (which destroyed the town), the seismicity rating for much of the pipeline route was raised from one magnitude 6-7 event every one thousand years to one magnitude 8-9 event every one thousand years. A severe earthquake could cause a failure of the Sakhalin II pipelines (as happened with the Neftegorsk earthquake), potentially creating a catastrophic oil spill that could harm or destroy terrestrial or aquatic habitats. Meanwhile, Shell is proposing an underground pipeline using technology to protect against earthquakes that has not yet been tried in such a violent earthquake region anywhere in the world. Instead, elevated pipelines with earthquake-flex design, such as is successfully used on the Trans-Alaska Pipeline, must be used here.

A review of the seismic risk assessment carried out by Shell was conducted by Richard Fineberg, an experienced seismologist who has studied the Trans-Alaskan pipeline, (which also faces significant seismic activity). His analysis of the information supplied by Sakhalin energy finds that it is not possible to conclude that Shell has adequately assessed the risks. In fact he finds that the information provided in various documents is neither consistent nor comprehensive.

World's Largest LNG Plant: At the Southern terminus of the Sakhalin II project Shell and other project sponsors propose the world's largest ever Liquid Natural Gas plant. Sakhalin Energy dumping over 1million m3 of dredging wastes during construction, and 500,000 m3 of assorted runoff wastes annually into the fisheries-rich Gulf of Aniva. The Gulf of Aniva provides 25 % of the pink salmon catch on Sakhalin Island, making its protection crucial for the health of the fishing economy and for subsistence fishing. Damping of particle suspension into the stratified waters of the Gulf, which has a limited water exchange with surrounding sea may have unpredictable consequences for the entire ecosystem, re-sedimentation and changing seabed landscapes and increase oxygen consumption in the water column. Government fisheries officials and NGOs have proposed that Sakhalin Energy dispose of these wastes at a location further out to sea that is deeper and far less biologically productive. Yet, Sakhalin Energy ignores this viable alternative.

Socioeconomic and Sociocultural Impact: Adverse socioeconomic impacts resulting from the first phase include the documented decreases in fisheries populations, including a sharp decline in saffron cod and herring stocks that are a key food source for the native Nivkh peoples. Local fishermen report that "(i)n 1999, the first year of commercial oil production, herring by the thousands washed up dead on local beaches, and local schools of saffron cod have since shrunk dramatically." Negative impacts under the second phase will likely include decline in wild salmon and other fisheries from the impacts of on-shore pipeline trenched through streams and the dumping of dredging materials in the Gulf of Aniva. These fisheries declines have particularly negative impacts on native inhabitants, which depend on fish as a basis of their economy and traditional culture. East Sakhalin alone provides ca. 40% of the total Russian Pink salmon catch, ca. 10% of the shrimp catch, and ca. 35 % of the seaweed harvest in the Russian Far East.

Sustainable development impacts to mitigate adverse socioeconomic impacts are not forthcoming. According to a report of the Auditing Chamber of the Russian Federation (February 2000), the project has had no economic benefit for the budget of Russia. According to this report, due to provisions in the Production Sharing Agreement, project sponsors will pay US$ 19 billion less in taxes over the life of the project. In addition, current and potential losses to local fisheries that potentially result from the project will have an additional negative impact. Moreover, project sponsors' promise that Sakhalin II will help gasify Sakhalin Island has been broken.

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