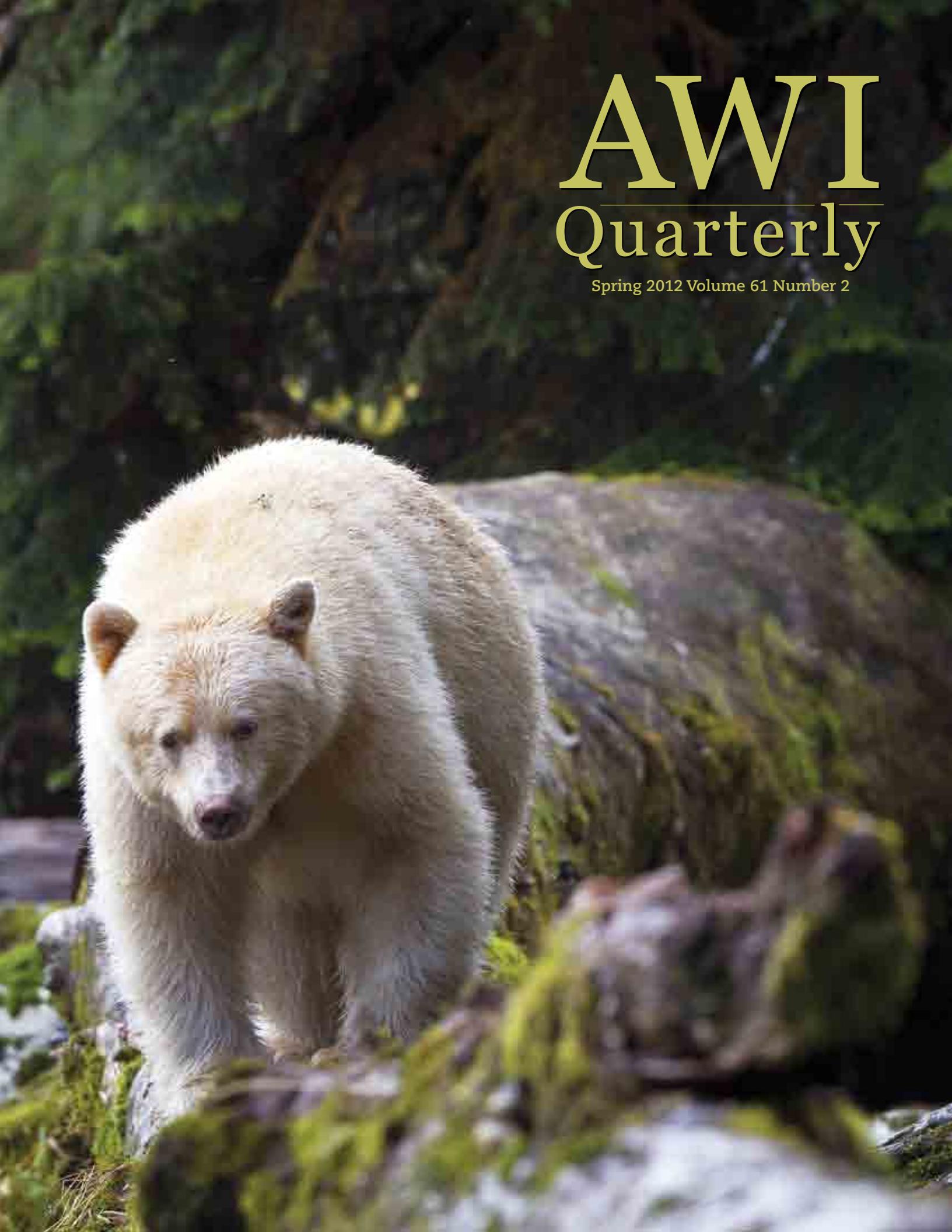


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# Tar Sands Pipelines & Oil Tankers Threaten North American Wildlife

By Chris Genovali & Paul C. Paquet

*Like some three-headed monster* from a classic Japanese horror movie, a trio of proposed pipeline projects would stream what has become known as “the world’s dirtiest oil” out of northeastern Alberta’s infamous Athabasca tar sands—posing a major threat to North American wildlife, marine and terrestrial. The Keystone XL, Northern Gateway, and Trans Mountain pipelines would operate as a troika of habitat destruction and direct killing of wildlife. The combined adverse implications of these proposed Canadian pipeline and tar sands developments are titanic. And it is essential to remember that what happens at both ends of these pipelines would have grave consequences for wildlife.

In addition to the staggering regional impact of hastening tar sands development, these pipeline projects would introduce the threat of chronic and catastrophic oil spills in terrestrial and marine environments that host rare, endangered, vulnerable, and ecologically valuable species and ecosystems. Potential environmental impacts include damaged wetlands, contamination of shallow groundwater and nearby surface water, and loss or impoverishment of sensitive plant and animal species.

Most people view these disturbances through the myopic lens of how these undertakings would harm or benefit people. Rarely considered, however, is that environmentally destructive human activities deprive wild animals of their life requisites by destroying or impoverishing their surroundings, causing suffering

A grizzly bear takes a seat in the shallows as wisps of fog drift through the evergreens. Like many Great Bear Rainforest denizens, bears find sustenance along the shoreline.

of individuals through displacement, stress, starvation, and diminished security. Indeed, the notion that the welfare of wild animals should be taken into consideration has escaped most people—including some animal welfarists and conservationists. More troubling is that for many, suffering of wildlife is justified if humankind benefits or profits. Focusing on the past, present and future impacts to wolves and whales as examples, our intent here is to make people acutely aware of the pending threats to the welfare of wild animals that are the innocent victims of avaricious industrial “progress,” and why we should care.

To determine if these projects are in the public and national interests and should be allowed to proceed, governments are right now assessing the economic, social, and environmental impacts of the proposed pipeline developments. These are the supposed “three pillars of sustainable development,” but absent among the pillars is any serious consideration for the welfare of wild animals affected by the construction, presence, operation, and maintenance of the pipelines, or by the shipping of oil by supertankers. By using the faulty three legs of the stool as a model for sustainable development and decision-making, governments perpetuate the myth that animal welfare is something apart from the environment, humanity’s economy, and our social well-being. Humanity is once again placed outside the environment and the welfare of other species is completely ignored.

To appreciate the enormity of the proposed projects and their implications requires a brief background on the nature and status of the proposals, as well as an understanding of how wildlife and the environments that support them might be affected.

In early 2009, Trans Canada Corporation filed an application with the Canadian Government’s National Energy Board (NEB) for approval of the Canadian section of the proposed Keystone XL pipeline extension. Because the pipeline crosses the U.S./Canadian border, a concurrent but independent review by the U.S. Environmental Protection Agency (EPA) was also initiated. The pipeline extension is designed to transport synthetic crude oil and diluted bitumen from Canada’s tar sands to multiple destinations in the United States, including refineries in Illinois, the Cushing oil distribution hub in Oklahoma, and proposed connections to refineries along the Gulf Coast of Texas. The oil sent through the pipeline to the Gulf Coast would be processed and exported to foreign countries in Europe and Asia. The pipeline addition would extend over 1,700 miles and carry up to 830,000 barrels per day.



Brad Hill

A dark-coated mother bear nuzzles her ghostly white cub. Though black bears both, a recessive gene carried by the mother has given her youngster the distinctive look of the spirit bear—unique to this region.

On May 27, 2010, Enbridge Inc. submitted a project application with the NEB for its Northern Gateway Project. A Joint Review Panel established by the Canadian Environmental Assessment Agency and the NEB is assessing the eight-volume regulatory application. The proposed project includes twin pipelines traversing 728 miles over the rugged Rocky and Coast mountain ranges, connecting a tar sands refinery hub near Edmonton, Alberta, and a marine terminal at Kitimat, British Columbia, where annually some 225 supertankers would navigate the oft-perilous waters of the north Pacific coast (also known as the Great Bear Rainforest). One of the pipelines would carry synthetic tar sands crude and diluted bitumen to the coast for export to energy-hungry Asian and American markets. The other would import highly toxic natural gas condensate from Asia and the Mideast.

The American energy company Kinder Morgan Energy Partners is now operating a 710-mile long Trans Mountain pipeline from Edmonton, Alberta, to terminals and refineries in central British Columbia, the Vancouver area, and the Puget Sound region in Washington. The company wants to triple the amount of crude oil being shipped from Vancouver’s Burrard Inlet through Georgia Strait, the Fraser Estuary, Gulf Islands, Haro Strait, San Juan Islands, and Juan de Fuca Strait. To accomplish this, Kinder Morgan proposed pipeline expansions that would deliver 700,000 barrels of tar sands oil per day to Burrard Inlet by 2016, which would translate into some 229 tankers traversing the region known as the Salish Sea.



Eric Sambor



*Killer whales have no trouble navigating BC's convoluted coastal waterways. Tankers may not fare so well. A major oil spill would be catastrophic.*

## *whales*

The damage and deprivation to marine and terrestrial wildlife from catastrophic oil spills have already been extensive. For example, the effects of the Exxon Valdez disaster 23 years ago on wildlife populations in Alaska's Prince William Sound have been widespread and long lasting. Although the Exxon Valdez oil spill is indelible in our minds as one of the most environmentally destructive in history, it ranks only as the 53rd largest in history. Notably, its disproportionate impact relates to the ecological wealth of the west coast marine environment that was affected.

Although no oiled carcasses were recovered, two different populations of killer whales, both in Prince William Sound at the time of the spill, experienced dramatic declines. The fish-eating AB resident pod of killer whales lost 14 of 36 members following the spill. A second population, the AT1 mammal-eating transients, was seen surfacing in the oil near the Exxon Valdez. Since then, the group has not successfully reproduced. Most likely, this unique killer whale population will go extinct.

Every stage of the looming "energy corridor" schemes poses a threat to cetacean populations on the Pacific coast, through prospective spills to underwater noise to the ship strikes associated with the transport of oil and condensate. Humpback whale recovery could be put in jeopardy with the approval of Northern Gateway; humpbacks can often be found bubble-net feeding at the entrance of the

proposed Douglas Channel tanker route. British Columbia's threatened population of northern resident killer whales, and the slowly increasing population of endangered fin whales, would also be put directly in harm's way if Northern Gateway proceeds. It is noteworthy that coastal large carnivores, such as grizzlies, wolves and spirit bears, which function much like marine mammals in their reliance on ocean based food sources, would be at risk as well.

Whales to the south will also be put at risk if the Trans Mountain expansion moves ahead. One example of this risk is the overlay of the tanker route onto large sections of the critical habitat for the endangered southern resident killer whales that reside in the transnational waters of British Columbia and Washington. This population faces ongoing multiple threats, including declining salmon stocks, physical and acoustic disturbance, and toxic contamination.

The southern residents are a small population hindered by previous loss of individuals that make them vulnerable to chance circumstances. Dropping birth rates, increasing death rates, and random events like disease, food shortages or oil spills can be irreversible.

Increased tanker activity could also potentially affect a geographically distinct cross-border population of grey whales termed the Eastern North Pacific Southern Group, which are currently listed under Canada's Species at Risk Act.

## *wolves*

In northeastern Alberta, woodland caribou are teetering on the edge of extinction because multiple human disturbances—most pressingly, the tar sands development—have transformed their boreal habitat into a landscape that can no longer provide the food, cover and security they need to survive. The relentless destruction of the forest has conspired to deprive caribou of their life requisites while exposing them to levels of predation they did not evolve with and are incapable of adapting to. Consequently, caribou in and near the tar sands are on a long-term slide to extinction; not because of what wolves and other predators are doing but because of what humans have already done to destroy the caribou's livelihood.

However, egged on by a rapacious oil industry and ever-increasing global demands for fossil fuels, the Canadian government is scapegoating wolves for the decline of boreal caribou by encouraging a caribou recovery strategy centered on killing thousands of wolves. Of course, professing to protect endangered caribou while killing thousands of wolves as the exploitation of the tar sands continues to expand is foolishness, but it matters little to policymakers and industry that the recovery plan is not commensurate with the threats to the species' survival. What does matter to them is that oil production and the export of oil via pipelines remains unaffected, which might not be the case if the needs of non-human animals were considered.

Unmistakably, the government's conduct is a morally and scientifically bankrupt attempt to protect Alberta's industrial sacred cow: the tar sands. In essence, Canada's proposed strategy to "recover" dwindling populations of woodland caribou in the industrial tar sands favors the slaughter of wolves over any consequential protection, enhancement, or expansion of caribou habitat. Essentially, wolves and caribou have become casualties of rampant and unbridled tar sands and pipeline developments. Politicians have decided that industrial activities have primacy over the conservation needs of endangered caribou (and frankly, all things living).

Clearly, the caribou recovery strategy is not based on ecological principles, available science, or any recognizable environmental ethic. Rather, it represents an ideology on the part of advocates for industrial exploitation of our environment, which subsumes all other principles to economic growth, always at the expense of ecological integrity. Accordingly, the human economy grows at the competitive exclusion of non-human species. The real cost of Alberta's tar sands development, which includes the potential transport of oil by the Keystone XL, Northern Gateway, and Trans Mountain pipelines is being borne by wolves, caribou, and other wild species. In doing so, it blatantly contradicts the lesson Aldo Leopold taught us so well: the basis of sound conservation is not merely pragmatic; it is also ethical.

*Three pack members make their presence known. When human development pushed woodland caribou to the brink, wolves shouldered the blame.*



## conclusion

Tar sands cheerleaders try hard to convince Canadians that we can become an "energy superpower" while maintaining our country's environment. They are, of course, wrong. Thousands of wolves and our dwindling "wolves of the sea" (killer whales) will be just some of the causalities along the way. Politicians and industry will find more opportunity to feign empathy as Canadians also bid farewell to populations of birds, amphibians, whales, and other mammals that will be lost as collateral damage from tar sands and pipeline developments. How much of North America's irreplaceable natural legacy will we allow to be sacrificed at the altar of oil?

Why is there so little concern about the pain, fear, suffering, and even death that wildlife will endure if the Keystone XL, Northern Gateway, and Trans Mountain pipelines projects are approved? The simple answer is that we place a higher priority on economic growth than on environmental health and the welfare of other species.

Human-caused environmental degradation and the associated suffering of animals should be of concern for everyone, including conservationists and animal welfarists. As a species, we must garner the political will to exercise self-control, while acting with humility and compassion. 

Chris Genovali is executive director of Raincoast Conservation Foundation ([www.raincoast.org](http://www.raincoast.org)), a Canadian non-profit organization using research to protect the lands, waters and wildlife of coastal British Columbia. Paul C. Paquet is Raincoast's senior scientist.

A grizzly ventures down to the water in search of a meal. Brown and black bears alike depend on the diminishing salmon runs.



Larry Travis

Photo courtesy of David Ausband

## FENCE MADE OF SCENTS MAY HELP WOLVES STEER CLEAR

By David Ausband & Mike Mitchell

By the 1930s, gray wolves (*Canis lupus*) had been extirpated in the Rocky Mountains. Natural recolonization from Canada into Montana, as well as reintroductions to Idaho and Yellowstone National Park brought back the wolves—but also the conflicts with livestock producers.

Generally, in the Rockies, wolves that prey on domestic livestock are killed by government agencies or private landowners. While these actions typically stop depredations in the short-term, wolf packs generally reestablish within one year and livestock predation often continues. Most tools currently available for nonlethal control of wolves are short-lived in their effectiveness, as well, or require constant human presence.

Wolves, like most canids worldwide, use scent-marking (deposits of urine, scat, and scratches at conspicuous locations) to establish territories on the landscape and avoid intraspecific conflict. We hypothesized that human-deployed scent-marks consisting of scat and urine (i.e., "biofence") could be used to manipulate wolf pack movements in Idaho.

We tested the effectiveness of biofencing within three wolf pack territories near Garden Valley, Idaho from June to late August, 2010 and 2011. Each year, we deployed approximately 65 km of biofence, consisting of a primary line of feces and urine and an offset secondary line of additional feces and urine running parallel to the primary line. Overall, we used 440 scats and 11.4 liters of urine collected in winter 2009/2010, and 505 scats and 12.0 liters of urine collected in winter 2010/2011, from wolves other than those in the resident packs.

### RESULTS

Location data of satellite collared wolves in 2010 showed little to no trespass of the biofence, even though the excluded areas were used by the packs in previous summers.

Two of the packs either did not trespass or trespassed less than expected given historic home range data during 2010 and 2011. The data suggested that these wolves approached the biofence, and even walked along it, but then returned in a direction toward the center of their territory rather than trespass the biofence.

In addition, sign surveys at predicted rendezvous sites in areas excluded by our biofence yielded little to no recent wolf use of those areas. We deployed a biofence between a resident wolf pack's rendezvous site and a nearby active sheep grazing allotment totaling 2,400 animals. This pack had killed sheep every year since 2006, as well as one guard dog in 2006; they were not implicated in any depredations in the summer of 2010, even though their rendezvous site was in close proximity to the sheep.

In 2011, wolves in two of the packs demonstrated little to no trespass of the biofence. Wolves in the third pack, however, particularly the alpha female, showed little aversion to trespassing the biofence.

Our results suggest the biofence is effective for manipulating the movements of most, but not all wolves. Additional studies will look at the potential for total exclusion via more frequent refreshing, an adequate buffer distance (2-3 km) from the area to be excluded, and the use of automated howling devices. 

David Ausband and Mike Mitchell of the Montana Wildlife Cooperative Research Unit were recipients of a Christine Stevens Wildlife Award to study the effectiveness of "biofencing"—natural scent barriers—to keep wolves away from livestock and out of harm's way.

On snowy ground in Glacier National Park, the crew collected wolf scat to use in the biofence study the following summer.

