

Yukon Queen II

Yukon Salmon Sub-Committee Submission to YESAB

Background

The Yukon Queen II is a tour boat operated by Holland America Westours Inc. between Dawson City and Eagle, Alaska. The boat connects bus tours originating from cruise ships in Skagway and Anchorage, Alaska as part of their inland Yukon/Alaska tour. Holland America has been using boats to shuttle their clients between the two communities for over 20 years and the Yukon Queen II is the second boat they have used during that time. It can carry 104 passengers and a crew of 9. The boat travels 100 miles between Dawson City and Eagle, Alaska each day, taking approximately 3.5 hours to make its downstream trip and about 5 hours to return upstream to Dawson. It has four 1000 hp jets and can reach a maximum speed of 32 knots (36.8 MPH/59.2 KMPH) when it is fully loaded. The boat operates from the middle of May to the middle of September each year – approximately 120 days.

The Yukon Queen II began operating in 1998. It is the largest and fastest boat that Holland America has used on the river. The boat is a double-hulled catamaran, which displaces a large amount of water and creates a large wake. As it is a ship registered in the United States, it was not required to undergo any environmental screening as part of its permitting process. However, as soon as operations began, local people began to notice the impact the boat was having on the river, wildlife and other river users. The wake created by the boat was causing massive erosion on the soft banks of the Yukon River. It was also interfering with fishing operations by disrupting nets and fish wheels. Some people observed that fish fry were being washed onto the shore by the boat's wake. The wake was also proving to be dangerous for canoeists and other boats on the river.

In 2000, the Dawson District Renewable Resources Council (DDRRC) began compiling information and supporting research on the impacts the Yukon Queen II was having on the river, fish, and river users. The Dawson Area Habitat Steward completed the first series of investigations on the boat in 2000/2001. His research focused primarily on the stranding of salmon fry and, over two summers, was able to substantiate that the operations of the Yukon Queen II resulted in the stranding and killing of salmon and freshwater fry.

In order to examine the issues around the operations of the Yukon Queen II and determine what the next steps should be, a stakeholder working group of government and non-government organizations was formed in 2002. Membership of this working group included: the Yukon Salmon Sub-Committee; the DDRRC; Yukon River Commercial Fisheries Association; Tr'ondek Hwech'in First Nation (THFN); Dawson City Chamber of Commerce; and, the Klondike Visitor's Association. This group conducted public consultations in Dawson and several studies examining various impacts of the boat.

In 2002, a contractor was hired to conduct a more detailed series of surveys to further substantiate the incidence of stranding fry. These surveys also found that the boat's

operations were stranding fry. Furthermore, this research estimated that a minimum of 13,000 Chinook salmon fry and 46,000 freshwater fish fry could have been destroyed by the Yukon Queen II's operations during 2002. This research concluded that the Yukon Queen II's wake was a significant threat to both Chinook salmon and other freshwater fish species in the Yukon River. The same contractor was hired the following year to conduct another study, this time looking specifically at juvenile salmon stranding by the Yukon Queen II at creek mouths between Dawson and Eagle, Alaska. Also in 2003, a detailed comparable vessel impact study examined the rules, regulations and laws that apply to the operations of the Yukon Queen II and looked at case studies of similar boats operating in other jurisdictions and mitigations that have been put into place to reduce or eliminate the impacts of these vessels.

In order to determine exactly what people in Dawson thought about the boat, a series of questionnaires and interviews were conducted with fishers, First Nations, and Dawson City businesses in 2003. The majority of the fishers and First Nations raised concerns about the impact of the boat on the river and fishing operations, while the majority of the businesses felt that they would significantly impacted if Holland America no longer traveled through Dawson.

The Yukon Queen II Working Group completed its mandate in 2004. The various stakeholders could not reach a consensus regarding the boat. Those who were concerned about the environmental impacts were still convinced that these impacts were too significant and drastic changes in the boat and its operation were required. Others felt the economic benefit of the vessel to the community was too great and any significant changes would have too much of a negative impact economically. The Working Group recommended that these outstanding concerns be addressed through further study and assessment.

A Project Management Team, comprised of the Yukon River Panel, Holland America-Westours Ltd and the Yukon Government's Departments of Tourism and the Environment, was established in 2004 to carry out this work. Their first task was to review all of the previous work done on this issue and develop proposals to refine the understanding of the environmental effects of the operation of the Yukon Queen II. Over the next three summers, detailed studies were carried out by experienced, professional scientific study teams, including Mike Miles and Associates (Victoria), Dr. Gordon Haas (Fairbanks), Access Environmental Consulting (Whitehorse) and Environmental Dynamics Inc. (Whitehorse).

The final, detailed study conducted in 2006 examined fish stranding again, as well as an examination of the various factors that affected the boat's wake. A cursory examination of impacts on shoreline birds and fishing net drop out as a result of the Yukon Queen II's wake were also included as part of this research. Overall, it was once again noted that the Yukon Queen II's wake does strand juvenile fish, but suggested several ways in which the boats operations could be mitigated. This mitigation plan is the latest approach to keeping the boat in the water while reducing the impact on fish.

After years of debate over whether or not the boat kills fish, Holland America Westours has finally acknowledged the impact the boat is having by applying for an authorization under the Canadian Fisheries Act that will allow them to kill fish and destroy fish habitat. An actual discussion about how the boat should operate, or even if it should operate, is long overdue. It is time that regulatory agencies take a careful look at this boat and determine if the risks associated with its operations are worthwhile.

The Yukon Salmon Sub-Committee Concerns

The Yukon Salmon Sub-Committee (YSC) is established under Chapter 16 of Yukon First Nation Final Agreements to act as “...*the main instrument of Salmon management in the Yukon*” (16.7.17). The YSC is designed to act in the public interest and may make recommendations to the Minister and to Yukon First Nations on all matters related to Salmon, their habitats and management.

The YSC has been following with concern the issue of Holland America’s Yukon Queen II vessel. The debate around the Yukon Queen II has been a long and divisive issue among Dawson residents and others who have taken an interest in it. Several years have gone by as different groups attempt to study the impacts of the boat on the river and its users, while the boat has continued to operate. After participating in the various public and government processes that have been carried out over the past several years and seeing no resolution to the debate, the YSC made a formal recommendation to the federal Minister of Fisheries and Oceans to take action to stop the destructive activities of the Yukon Queen II. The main concerns of the committee include the documented habitat destruction (bank erosion), the mortality of salmon as a result of the operations of the Yukon Queen II, and the impact the boat has on First Nation subsistence, commercial and recreational fisheries on the Yukon River.

As a follow-up to this recommendation, and in order to update the YSC’s understanding of how changes made by Holland America to the Yukon Queen II’s operations may have changed its impact or altered people’s perceptions, a series of interviews were conducted over the summer of 2007 by YSC staff. In total, five commercial fishers and two First Nation subsistence fishers were interviewed for this project. Their comments are included in this submission in italics. No names are attributed to the comments to protect the anonymity of the interviewees. However, the comments are useful to illustrate how, despite making several significant changes to their operations, the Yukon Queen II continues to have a major impact on the Yukon River and those people who live and work along its banks.

The following sections describe the Yukon Salmon Sub-Committee’s concerns in greater detail:

1. Killing of Salmon

Section 35.1 of the *Canadian Fisheries Act* prohibits the killing of fish by means other than fishing. There have been three detailed studies of stranding and killing

of juvenile salmon as a result of the wake of the Yukon Queen. While they have all arrived at different numbers, they all have come to the same basic conclusion: the Yukon Queen II kills salmon. Considering the amount of effort – and money – that is being put into restoring and protecting Pacific salmon stocks, the YSC feels allowing the continued killing of salmon by this boat is unacceptable.

While the YSC recognizes that the YQII has altered its operations to reduce the number of fish it kills with its wake, we are very concerned that there are too many unknowns when it comes to the actual number of fry that may be dying on the shorelines. Furthermore, the studies have only examined the stranding of fry as a result of the wake. No examination has been conducted on the number of fish killed by being sucked through the boat's jets. From the Salmon committee's perspective, this is a significant issue.

From the Yukon Salmon Sub-Committee's perspective, the risk to Yukon salmon stocks posed by the YQII are too great and the magnitude of the impacts are still unknown. However, allowing the boat to continue to operate while more studies are carried out is not an acceptable approach.

2. Habitat Destruction

The wake created by the Yukon Queen II has destroyed or significantly altered salmon habitat along the Yukon River important for spawning and migration. The operation of the Yukon Queen II has had a significant impact on the riverbanks and the structure of the river itself. Its wake has eroded the soft banks, creating steep banks where more gentle slopes once were.

"Who is responsible for the status of the river banks? Somebody must be. They don't allow miners to just rip and tear, but it seems like that's what they allow this boat to do. In some places it is just like a D-9 Cat dropped its blade and just sheared off the riverbank. It is just disturbing to me."

The wake has also washed away the silt that usually builds up between the rocks on cobble beaches. The rapid erosion of the banks, changes in sedimentation, and subsequent alterations in the river's current likely have an effect on salmon and other fish species. While this has not been studied in any great detail, historical photographs and observations from long-time river users indicate this may be having an effect on fish.

"We used to have all these eddies where we would set our nets. Now we see a big sand pile down below. It is gathering up with stones and sand and the fish come and see the sand bar and they just cut across. They don't go where our nets are anymore."

When the Yukon Queen II first began its operations, many of the concerns raised were related to the impact the wake was having on shoreline. The river users

interviewed in 2007 indicated that the majority of the erosion has already occurred and that the changes now are incremental compared to the erosion that was seen in the first few years of the Yukon Queen II's operation.

“The fact that this boat has been doing this for so long has had quite an effect. When the boat first started, it started eroding the shore back. In many places it has retreated enough that it affects it less often now. Basically, the damage has already been done.”

“The changes now in any given year are less dramatic because the worst has already happened, and I don't know if there is any way to heal the river banks while the boat is still operating. It does get progressively worse, but now just slightly.”

Another change noted by long-time river users is the disappearance of wild onions that used to grow along the river. The Yukon Salmon Sub-Committee feels this is a significant as it indicates that an entire ecosystem between the river and the high water mark has been altered. Without any detailed research into the effect these changes are having on the river overall, it is difficult to say how significant this is to the system as a whole. However, we can assume that by removing major portions of the riparian zone along this stretch of river would have some trickle down effect on both river and terrestrial ecosystems.

“The native people, like my mother, used to pick wild onions. We use it for stew or fish. Where I go and look now, there is no more. They are all washed away.”

“To people who are seeing the river for the first time, it probably looks beautiful, but for those of us who have seen the river over a long time, the change has been dramatic. There is a whole ecosystem that exists between the high water mark and the river that has dramatically changed. Now it is just chopped off. It is like a knife has sliced it off in places.”

3. Impact on Yukon Fisheries

People using the Yukon River brought many of the initial concerns raised about the operations of the Yukon Queen II forward: primarily Yukon fishers. At first, there was a strong outcry against the magnitude of the boat's wake and serious issues related to disruption of nets, destruction of boats and erosion of banks at fish camps and caches. The Yukon Salmon Sub-Committee reviewed the comments made by First Nation and Commercial fishers in the interviews conducted in 2002. The majority of these comments were strongly critical of the boat. The YSC's interviews conducted in 2007 to compare responses and see if people's perspectives of the boat had changed. While the majority of interviewees agreed that the boat had made changes in its operation that had reduced some of the most significant impacts, they still had serious concerns about the boat and the impact it had on both their fishing operations and the overall river ecosystem.

“I think they are mitigating the impact of that boat as much as they can given their schedule and the dynamics of the boat and the dynamics of the river. They are addressing the concerns that have been expressed as much as they can. I just don’t think it is enough. The design of the boat and the dynamics of this river and the other people who use it, they simply cannot do what they need to do with that particular boat and that particular schedule. They need a 30 hour day and the ability to go much slower both ways in order to address the concerns.”

“Overall, the boat still has a negative impact on our fishing operations. Some of the impacts we can mitigate for, but some are just an impediment to our business.”

“I don’t think the boat works. Period. It is not that they are not trying. It’s just an impossible challenge.”

Many of the fishers interviewed in 2007 indicated they have resigned themselves to the boat’s operations and have made major changes to the way they do business in order to keep fishing. Several of the interviewees said they had to build dock and anchor systems at their fish camps or caches in order to keep their boats off-shore so it would not get ground against rocks by the Yukon Queen II’s wake. They have also had to change the location of some of their camps or caches because of the erosion that has occurred on the banks which makes them impossible to use.

“Most of these things you can work around, but it’s an awful lot of hassle. What has changed in the last few years is that people have gotten used to all this extra hassle. You know you can’t just tie your boat up on the beach anymore. I know that if I need to come up river for a day or two to drop my fish off, I know my boat has to be up on a dock away from the beach, otherwise it is going to suffer.”

The wake of the boat still effects the net anchors, so fishers need to use bigger anchors and longer ropes, which is more work to set and still needs to be re-set after the boat passes by from time to time.

“It just burns me up to no end to go out after that boat has passed and see my net has been washed onto shore. The main thing is that I have a lot less fish than I should, but it is also a lot of work to untangle things and reset the net. It’s just time and energy. It is costing us fish.”

Fishers also still note that they need to be checking nets just prior to the boat passing by so that lightly caught fish don’t get shaken out of the net by the waves.

“The affect of that wake is huge and it shakes the hell out of a net. Sometimes you get a fish right into the net and, this is particularly true of females, and they will

get beyond the gill, but get caught on their belly. The flesh is very tender and susceptible to damage and there is no doubt that the disturbance and shaking from that wake causes the flesh to bruise. It lessens the quality of your fish.”

All those interviews raised a concern about the debris washed off the bank when the boat passes by which then floats downstream and gets tangled into their nets. Usually this is only a concern when the river is running high, and as soon as water levels begin to drop the debris stay in place. However, with the Yukon Queen II, it constantly creates a “river-rising” effect that washes the debris back into the water each time it passes by. Dealing with the debris after each passing of the boat is time consuming and an inconvenience, they said.

“The biggest problem is driftwood. When we have high water you see it going by just once and then no more. But now when we put our nets in, all that stuff that is on the shore upstream, when the big wake goes by it washes it back into the water and then it gets all in your nets”.

“Normally after the spring freshet, after the high water, the water goes down and all the trees and bushes are stranded on the banks and they just would normally just stay there. What happens now is even after the spring freshet, that boat for a long time afterward picks that stuff off the shore with its wake and throws it back into the river. It screws up your nets and screws up your fishwheel. It doesn't wreck anything, but it is a big hassle to deal with and it takes up lots of time.”

It is important to note that fewer and fewer people are choosing to fish either commercially or for subsistence reasons on the Yukon River. While none of the fishers interviewed thought that the Yukon Queen II was specifically responsible for the decline in numbers of people on the river, some felt that it might be just one more factor that plays into people's decision making about going out on the river. The Yukon Salmon Sub-Committee supports aboriginal, commercial and recreational fisheries on the Yukon River and does not want to see this important part of our Yukon culture lost.

“Fishing enables people to get out there and live on the land. Having people living on the land is getting you a long ways towards having people who are monitoring or keeping track of what is happening to the land and the environment. We wouldn't know what is happening with the Yukon Queen if there weren't people living along the Yukon River who saw these things happening and raised these concerns. Part of the value of the fishery is that it gets people to live out along the river.”

“People here mostly fish for themselves and their family. So to a fairly large extent, the identity of the community is bound up with the fish. I think that is important and I think it is probably as important as the money.”

“It is just too much work for people trying to make a living. We never made a

fortune on it, but at least we are out there for enjoyment. And now I am trying to teach our grandkids and try to put fish away for ourselves for the winter. It certainly doesn't make it easier."

4. Public Safety

The Yukon Salmon Sub-Committee is concerned about the public safety issues the Yukon Queen II can pose for other people on the river, be it recreational fishers, canoeists, or others who may use the river from time to time. The YSC acknowledges that Holland America has taken several measures to reduce the impact the boat's wake has on other vessels on the river, or those who may be taken by surprise on shore. In the past, they have asked fishers to paint their boats in bright colors so they are more visible on the river and have asked canoeists to carry radar reflectors. This allows the boat to slow down when it encounters other vessels. However, there are still cases where other boats were not seen or unsuspecting boaters have been surprised and significantly "bounced around" by the Yukon Queen II's wake. The YSC would like to see the impact the Yukon Queen II has on other vessels be considered when examining how or if it should be operating on the Yukon River.

5. Other Fish and Wildlife

While the Yukon Salmon Sub-Committee is primarily concerned about the impact the Yukon Queen II has on salmon and their habitats, we are also concerned with the impact the boat may be having on other fish and wildlife that live along or in the Yukon River. Species do not exist in isolation and are parts of interconnected ecosystems that rely on other species for their survival. Therefore, the impact the Yukon Queen II is having on other fish and wildlife may not directly affect salmon, but may be affecting the ecosystem as a whole.

While previous studies on juvenile fry stranding have focused on salmon species, these studies have also found large numbers of freshwater fish stranded by the wake of the Yukon Queen II. While these species may not have the same level of protection or conservation effort as salmon species, they are still important to the river ecosystem and are a food source for Yukon First Nations and other residents. During our interviews, two of the First Nation fishers noted that they no longer caught burbot or ling cod in their nets or fish wheels in the past few years. While this may be a coincidence, it should be noted and taken into consideration when exploring the effects the Yukon Queen II may be having on other fish populations. No organization has raised specific concerns regarding the issue of the killing of freshwater fish, but we feel it should be taken into account as part of any review of the boat's operations.

Most of the people interviewed for this report mentioned the affect the boat

appears to have had on shorebird populations. They are concerned, and it is logical to believe, that the nests of these birds are being washed away by the wake of the boat. Several people who have lived along the river or who have fished on it for many years noted that they see far fewer young birds on the river edge and, in a few cases, have actually observed dead juvenile birds in the water. Some feel these birds may have been killed by the wake. Interviewees also noted that erosion caused by the wake had destroyed the nests of bank swallows. Furthermore, they raised concerns that peregrine falcons, which primarily hunt shorebirds, may also be suffering from a lack of prey along this stretch of river. The Yukon Salmon Sub-Committee acknowledges that a perfunctory survey of shorebirds was conducted in 2006. However, this was not an in-depth survey in any way and still leaves many questions about the affect of the Yukon Queen II on bird populations unanswered.

In addition to concerns about fish and birds, three of the interviewees also raised concerns regarding the impact the boat may have on mammals along the river. In particular, there were some anecdotes shared that suggested moose may have almost drowned or been killed by the wake while crossing the river. Again, how the boat and its wake affects mammals along the Yukon River has not been studied in any detail and is a question that should be considered as part of any review.

Conclusions

The results of all the scientific studies carried out over the past five years are the same: the Yukon Queen II kills fish and destroys their habitat on the Yukon River. The Yukon Salmon Sub-Committee feels this is completely unacceptable. Section 32 of the Canada Fisheries Act prohibits the killing of fish by any means other than fishing. Section 35 of the Act prohibits the destruction of fish habitats. Therefore, the operation Yukon Queen II is in contravention of the Canada Fisheries Act.

When it began its operations, the Yukon Queen II was not subject to an environmental assessment. Its permitting falls under a treaty established in 1904 between Canada and the United States which allows vessels from each country to travel across borders without permits as long as the vessel meets the standards of its home country. The question is which should be the higher priority? Allowing the boat to continue to operate because of its economic value, or addressing the issue of killing of salmon and the destruction of their habitats?

This is a very serious issue for the Yukon Salmon Sub-Committee and for all Yukoners who use the Yukon River and its salmon resources. Something must be done. We have patiently waited for five years while hundreds of thousands of dollars were spent studying the effects of this boat. While it is undeniable that the Yukon Queen II has a positive economic role, its economic benefit is limited to one company and for a few months of the year. Taxpayers have foot the bill for all of the scientific research that clearly indicates the boat kills fish and contravenes the *Canadian Fisheries Act*.

Anecdotes and observations provided by people who live on or use the river also illustrate how the boat is having much broader effects than those just on salmon. The Yukon Salmon Sub-Committee feels these concerns should also be taken into account during any review process.

“One thing that has been consistently true since the beginning of this process is that every allegation made by people who live along the river against this boat has been proven to be true once it has been fully studied. None of the allegations has been spurious. These allegations should be taken seriously because the track record shows they are true.”

Regarding the issue of economics, it is true that the direct economic value of the boat to the operations of Holland America are high and that the community of Dawson City benefits from having the visitors who ride the boat pass through their community. However, the Yukon Salmon Sub-Committee also considers the value of a healthy Yukon River ecosystem and healthy salmon population to be equally as important – if not more important. Healthy salmon populations benefit all people living the entire length of the Yukon River system. They are also an important component of the ecosystem for the entire watershed, bringing nutrients up spawning tributaries and providing food for bears and other predators. None of this should be taken lightly. One only needs to look south to see the effects of the mis-management of salmon populations and their habitats and the amount of money and energy that is now being put into their recovery. The Yukon must not make the same mistakes with our resources.

“What is the significance of the commercial fishery to this community? What is the dollar value? If you only look at the surface, you’d say it is relatively minor. But when you are looking at the effects of the fishery in this community, I think you need to look at it over time... I think these riverbanks and this fishery, if they were preserved for future generations, they would have a huge economic benefit to the Yukon. But I am looking ahead generations. I think that is the perspective human beings need to take with the world. Not just looking at what our effects will be for the next five to 10 years, but what is it going to look like 50 years from now. You start putting the fishery and the salmon runs in that perspective, and they have huge value.”

“I don’t think we can mount a very good argument about economics using the way people think about economics in this territory. We just want to generate wealth and we want to do it quickly. There is a blind faith that even if we are causing problems we will find a way to fix them before it is too late. I don’t share that faith.”

Finally, it should also be mentioned that the main selling feature of the Yukon Queen II is it takes tourists through a part of remote wilderness that is not accessible by many people. Holland America’s website describes the trip in the following way:

Stand on the bridge of the MV Yukon Queen II, the only sightseeing vessel for cruise tour travelers, as the Captain navigates the beautiful wilderness of the third-longest river in North America. Look for moose wading in the shallows as

you enjoy a hearty prospector's lunch. Wave to rugged homesteaders as you pass their stakes. Your 102-mile journey between Eagle and Dawson City is haunted by echoes of the gold rush and blessed by magnificent scenery.
(<http://www.hollandamerica.com/dest/alaskaLand.do?feature=yukon>)

The irony, as a few of the interviewees pointed out, is that the boat itself is undermining the very features it is using to sell this trip to tourists. The boat is eroding the banks, which is changing the wild nature of the river and impacting the homesteads and traplines of people living along the river, it disrupts the operations of local fishers, and it kills wildlife. For these reasons, Holland America should also be concerned about the sustainability of this tour.

“They are selling nature, but they are destroying nature at the same time. The reason they have the tour is because it is a wild natural river that is pretty much untouched but what they are doing is fundamentally changing it.”

Suggestions

The Yukon Salmon Sub-Committee has made a formal recommendation to the Federal Minister of Fisheries that the Yukon Queen cease its operations on the Yukon River. While we hope this recommendation will be heeded, we also recognize there are some realities around the vessels operations and the economic impact simply removing the boat would have.

If the immediate removal of the boat is not an option, the Yukon Salmon Sub-Committee would like to make the following recommendations:

- 1. Establish a clear timeframe that would transition the Yukon Queen II out of operation on the Yukon River and see alternative means of transporting people between Eagle and Dawson established within the next few years.**

Rationale: The Yukon Queen II is a relatively new vessel and still has many years of use left. Holland America is a company with operations around the world and could easily use the boat in another more appropriate location. Several people have suggested the use of several smaller boats, which would be more efficient, possibly more cost effective, and could even provide greater economic benefit to Dawson residents through additional staffing or piloting requirements.

- 2. All responsible management agencies and governments work together to develop an overall navigation and utilization management plan for the Yukon River.**

Rationale: The Yukon River is an extremely important lifeline for the majority of the Yukon Territory. Along with essential ecological processes, the river is important for transportation, industrial development, tourism, recreation and subsistence use for many people. The Yukon Salmon Sub-Committee feels that the debate around the

operations of the Yukon Queen II underscores the need for a more comprehensive approach to determining how we collectively want to utilize the important resource that is the Yukon River. We also feel that without clear navigation standards and management objectives, the operations of the Yukon Queen II could set the precedent for other similar vessels, which would have a devastating impact on the Yukon River. The Yukon Salmon Sub-Committee would be a willing partner in any process to develop a management plan.

Thank you for the opportunity to provide our comments on the operations of the Yukon Queen II. We hope there is an opportunity to ensure a detailed discussion about the operations of this vessel and the impact that it has on both the immediate area between Dawson and Eagle and the additional effects potentially felt both up and downstream.