

Travel Journal of a Fraser River Sockeye

Note to Teachers:

Linda Bermbach, past Education Coordinator for Fisheries and Oceans Canada, originally wrote "Diary of a Sockeye" for the Upstream Racers board game. I have modified and expanded her work to arrive at this "Travel Journal". This journal has been written for classroom teachers and/or it could become a school-wide listening activity as it is read over the p.a. system. The migration route could be followed on a large hallway or classroom map, or students could individually follow on their own desk map. Dates can be changed to match the school calendar or fieldtrip date. I hope you find this journal informative and useful.

- Joanne Nicklas, Salmonid Resource Teacher, Kamloops/Thompson S. D.

Many of you may be going to the Adams River soon to see the spawning sockeye salmon. Salmon begin their life in freshwater streams, rivers and lakes like the Adams River. The spawning sockeye salmon you will see, started their life in the Adams River four years ago. In the fall, eggs are fertilized and deposited in the gravel. These eggs develop over winter and hatch in the spring. The sockeye fry then swim into the Shuswap Lake, where they live for a full year. The following spring, the smolts leave for the ocean and live there for two and a half years. After this time, they swim approximately 500 km, to return to spawn and die in the same stream they were hatched in.

For the next three weeks, we are going to share the communication that has occurred with a sockeye salmon that is on its way home to Adams River. Top scientists who work for Fisheries and Oceans Canada, have developed an ultra-sonic radio communication device that translates "salmon language" into English. These scientists have agreed to share their findings with us at _____ Elementary School via high-powered satellite systems. The scientists will be following a salmon's amazing journey back home and will report to us daily.

At the mouth of the Fraser River near Vancouver, contact was recently established with our "tagged" Sockeye salmon that we will be communicating with.

Travel Journal of a Fraser River Sockeye Salmon

September 13 (Georgia Strait)

I'm not sure what made me decide to swim towards fresh water, but some genetic signal from within tells a fish that it is time to begin the journey home. I've spent the last two and a half years swimming in the Pacific Ocean eating smaller fish, squid, and zooplankton (tiny shrimp-like animals). I swim with a whole school of friends, and we tend to look out for one another. I'm really hoping that I can forget about my ocean threats – killer whales, seals, commercial fishing fleets, sports fishers, etc. It seems my life is spent either finding food, or dodging predators or other limiting factors that want to use me as food.

I'm about 60 cm long and weigh about 3 kg. For a sockeye, I'm about average size. I've been milling around, or hanging out in the Georgia Strait for the past week. We just have to wait until it feels right to start our journey home.

September 14 (at the mouth of the Fraser River – Greater Vancouver)

...Getting a bit anxious to begin my upstream journey to Adams River. I figure it will take about 18 – 21 days to reach "home". On a good day, I'll average about 37 km. of swimming. I've got about 500 km to put behind me before I can truly rest! My appetite has completely gone – I'm not at all interested in food. I'm going to rely on my body fat and protein to fuel my final drive toward my home stream. We've been hanging around the mouth of the Fraser River for over a week now. Can't wait to get started...

A "school" pal of mine just filled me in on some basics. Said it was a "Good News/Bad News" type of thing.

#1. We are in the Fraser River.

#2. We are not eating for the rest of this trip.

#3. We'll make it to the spawning grounds if we can get past predators, fishers, dams, polluted water, waterfalls, diseases, and any other hazards that Mother Nature wants to put in our way.

#4. We will be swimming about 37 km per day. If we don't use up too much energy getting past obstacles, etc., we will be able to spawn and then we will all DIE.

So what's the BAD news? Just kidding.... Life ahead looks kinda bleak. I wonder why I feel this strong urge to go home when the journey is so risky??

September 15 (Fraser River Estuary – Delta, B.C.)

Guess I'm not the only one who wants to get this show on the road. Several schools of other sockeye have already headed out. Of course, those of us who are heading for the Adams River are the last to leave. The sockeye that call the Bowron, Stuart and Quesnel Lakes home, left in June or July. They have farther to go and they travel at slower speeds.

When I was living in the Pacific Ocean, I met other species of salmon. There were a few pink salmon getting ready to head off to Tranquille River up by Kamloops, and I also met a school of coho that said they would be travelling on almost the same route as me – except they would be leaving a month or two later. They were going to be taking a left or north turn when they got to Riverside Park in Kamloops – and head up the North Thompson River towards Barriere; their destination being Louis Creek. So, all five species of Pacific Salmon (sockeye, pink, coho, chinook and chum) hatch in fresh water and then spend part of their life in salt water; the Pacific Ocean. They call us salmon anadromous. Anadromous means we start our life in fresh water, then migrate downstream to the ocean where there is salt water, and then return to fresh water to complete our life cycle. Gotta go now and discuss more of this trip with my school pals - while I try to conserve all my energy!

I'm spending my time just milling around... This water is certainly less salty than the ocean water. I was told the Fraser River estuary would be like this. The estuary is marshy in parts and is sometimes called a wetland. These waters are home to 80 other species of fish – many of which I've never seen before. I've learned this estuary is also a very important area for birds. About 500,000 water birds use the estuary each year! But I still must watch out for seals, otters and many other natural predators of salmon that live here. The estuary is an exciting, but dangerous place for other migrating salmon and me. Why just this morning I was swimming along with a couple of friends when an otter swiped one of them up for lunch. We're all trying to be very careful now; we've made it this far and there's no turning back.

September 16 (Fraser River Estuary. Delta, B.C.)

More milling... Boy, there's lots of us salmon in this estuary. In fact, there are thousands of other sockeye beginning their long trek. Around thirty million of us sockeye will start our journey up the Fraser River this year. As we move upstream, we will spread into the many tributaries of the Fraser River to find home. Tributaries such as the Lillooet River, the Chilko River, the Horsefly River and the Stuart River are smaller rivers that join the Fraser. Some of us will make it to our home streams, but unfortunately, some of us will die or be caught along the way home

Oh ya, I've changed colors!!! I don't know when it happened – it must have started some time before we entered the river mouth. But, I've been so busy adjusting to this new freshwater world that I didn't notice. My friends and I all changed from our regular silvery color to purplish, and now we are turning a lovely shade of red! Some salmon's heads have started to turn green too and I must say – it looks quite dashing!

Well; seems like my milling-around days are over. We're off. Wow! I thought we were supposed to be making a freshwater migration. This water still tastes a little bitter. Like a mix between salt and fresh. I think it's called brackish water. Lots to see though and if I were "into" eating, I'd be pigging out at this huge smorgasbord. The Fraser River estuary is the busiest place I've ever seen. Birds, boats, barges, booms, barfishing and that's just the "B" words. Wastes, wood, wildlife... People, people, people. No more time for this alphabet soup game. Gotta fly!! (Wish I could, fly, that is. It might not be so dangerous.)

September 17 (near Fort Langley)

As we leave the coast and head up the Fraser River, I've noticed that the water is no longer salty. Along this stretch, the river is wide and slow-moving. I've also noticed that there sure are a lot of people that live, work and play along the banks of this huge Fraser River. I've been told close to 2 million people live in the Fraser River Basin, and many of these people work in industries such as fisheries, forestry, tourism, farming and mining. That's a little scary as some of this human activity isn't good for us salmon. Sewage, farmer's pesticides, log booms, and industrial wastes can all pollute the river. Some of the sockeye that I was "milling or pooling" with have already disappeared – I fear they have died because of the poor water conditions they've had to swim through.

Some of my school buddies have not been feeling too well and a few have said to go on without them. I've observed some dead sockeye on the shores of the Fraser, and word is; there are going to be a lot more as we travel upstream. The sad thing is that my buddies and I have managed to survive all our life - as eggs, eyed eggs, and alevin in our home stream of Adams River, as fry in the Shuswap Lake, and then living in the ocean for almost three years as adults. Now when we are on our way home and at the end of our life cycle, we get sick and die – JUST NOT FAIR!!.

September 20 (Chilliwack)

Man, is this trip just going to be one close call after another?? I just missed a dip net this afternoon. I was thinking it was a much more scenic trip when I swam close to shore, but after that near miss by the net, forget that theory. Right now I'm more into surviving and dodging nets than enjoying the scenery!

Once I left the salt water, I really didn't think there would be any more human predators, but now I know I have to continue to be aware of nets. Fisheries and Oceans personnel and the local First Nations bands negotiate how many fish the First Nations people are allowed to take for food, social and ceremonial use. I mean it's nice to think that we'll be put to good use if we get caught, but I'd rather try to complete my life cycle the natural way!

And I must tell you about the Fraser River water that I swam through. It tasted and smelled really different, and very disgusting! I was swimming by some beautiful farm land and I was able to see very clearly a farmer working on his tractor. Behind the tractor he was pulling a sprayer – a machine that sprays chemicals or fertilizer onto the land to make the soil grow better crops. Some of this spray was draining into the river and I felt very nauseous after swimming through it. Some of the smaller fish and I actually felt quite sick, and the large sturgeons that live in the river are becoming weaker and weaker. That's probably why sturgeon in the Fraser River have recently been put on the endangered list by SARA (Species At Risk Act). As I swam past this area, some of my buddies were getting caught in a net and were going to be used for food. Imagine eating a fish that has chemicals in it! Maybe that farmer with the sprayer will be eating one of those unfortunate salmon for supper.....

September 21 (Hope, B.C.)

...Still recovering from that close encounter with a fishing net and the pesticides.... Sadly and unfortunately, many of my friends are not around to form a Sockeye Survivors Support Group. It's taken me almost 24 hours to get back up to cruising speed. So, I'm swimming, and swimming, and swimming.... As I was saying, we swim all day long ...UP-stream. (Well, we do stop and rest once in awhile.) It's hard work but it's worth it. My friends and I are not looking quite as fat and flashy as we did when we met at the estuary to begin our journey. We haven't eaten since we left the salt water – but I'm not feeling hungry at all. There are some good looking insects that would be great for munching on, but I'm more interested in getting to where I'm going than I am in eating. Our once beautiful silver coloring is fast changing to a reddish colored body, and our heads are looking a little greenish. Sorry, gotta' go and keep up to the rest of my "school" pals. Talk to you tomorrow!

September 22 (North of Hope, B.C)

Holy smoked salmon! I don't want to sound like a whiner and a complainer, but this is hard work. I seem to be constantly struggling. Struggling to breathe. Struggling to swim. Struggling against the current. This river flows so fast that it could fill three Olympic sized swimming pools in one second! And we have to swim UP stream. The Fraser River is also mighty muddy. On its way from the Rockies to Vancouver it picks up 17 million tonnes of sediment. (That's fine "dirt" to you rookies.) It is good to be out of the farm land area though. The land is so busy that it makes the water taste bad...farms, people, animals and factories, fertilizers, pesticides, herbicides... it adds up to a lot of water pollution.

We're struggling against the odds. (Let's see. We narrowly make it past all the bad stuff along the way. We get to the spawning grounds. We're supposed to lay our eggs, or in my case, as a male, fertilize the eggs. Then we die and get eaten by the very animals that we had to sneak past along the way.)

Makes perfect sense to me – NOT!

September 23 (beginning of Fraser Canyon – Near Yale)

Did I mention that I've totally changed color? Oh ya, I did, but now my colors are quite pronounced. Green head. Red body. (I feel like a Christmas tree.) My jaw is hooked and I'm pretty fierce looking in a

rugged, handsome, and sensitive sort of way. I also have these incredibly sharp teeth. But if I'm not eating, I wonder what they're for? Mother Nature is so remarkable. Everything fits. She gives us just the right amount of energy to last 4 years. When we needed to eat insects there were plants or insects around. When we needed to eat shrimp there were plenty of shrimp. When we needed to blend in we were camouflaged. Now I guess we need to stand out (red and green) so we can find that special someone. And we'll probably need our sharp teeth so we can keep other males away from our chosen mate!

September 24 (Hell's Gate)

Hell's Gate is quite the place! The first recorded history of Hell's Gate is found in the explorer Simon Fraser's journal in 1808. He described this narrow passage as an "awesome gorge". The towering rock walls of the Fraser plunge toward each other forcing the water through a passage little more than 30 metres wide! From a salmon's perspective, it certainly is an awesome gorge!

For a little history: in 1913 the Canadian National Railway worked its way through the Rockies and the treacherous Fraser Canyon. While blasting for the passage of the railway, a rock slide was triggered which partially blocked the Fraser River at Hell's Gate. Of course, there was a dramatic drop in the salmon run after this incident! Thirty years later, scientists and construction workers were busy repairing man's damage. Today, Hell's Gate fishways, built by a joint Canadian – United States Commission, has proven successful because my "school" pals and "I" can return to the watershed streams upriver of Hell's Gate. What makes Hell's Gate so neat are the man-made fish ladders here. I'm sure happy they were built for us, as I'd never be able to make the high jumps without them. There are four ladders on one side of the river and three on the other. I picked the ladder that had the most water in it. If you've never seen a fish ladder, they are just that – a ladder with a little pool of water for us at each step. We just keep jumping and jumping and jumping and pretty soon we've climbed the ladder and we're ready to swim on again. Well, I thought Hell's Gate was just as awesome as Simon Fraser did.

September 28 (Boston Bar)

What a view! What a spectacle! What a harrowing experience

Maybe I'll bring the kids here on our summer migration. Whoops – almost forgot! My kids will get to visit the famous Hell's Gate, - but it won't be with me and they'll be travelling in the opposite direction - as they head to the Pacific Ocean as smolts.

A little later on this fall, my cousins, the coho, from the Interior of BC will be travelling through here. Poor things...their low returning numbers are a concern. Those coho are almost on the endangered list. Seems the reason there's not too many Interior coho left is because of forestry, agriculture, lack of water, urban and rural development in riparian waterways, and just plain old development along the water. This all adds up to habitat that's in rough shape for those coho.

It seems so long ago that I made this trip. It was downstream and I had my whole life ahead of me. Whoops, again; no time to get sentimental. Onwards and upwards.... Stiff upper caudal fin and all that.

September 29 (mouth of the Thompson River near Lytton, B.C.)

Well, today is the day I say good-bye to some of my school buddies that are staying in the Fraser and heading north to find their tributary. I sure hope their home stream has enough water in it so my buds aren't held or blocked from entering it. I heard this is more common all the time with climate change happening. For us salmon, climate change means hotter weather and less water for us to survive in! Anyway, we all said our farewells and wished each other luck in getting back to our home stream.

Well, I've swam about 240 km now. Lytton is where I leave the Fraser and turn into the Thompson River. I just seemed to know which way to swim when I made a major right turn this afternoon and left the Fraser River. It's almost like I can smell my way home. The water of the Thompson River also tastes familiar; even though it's been two and a half years since I swam down this river on my way to the ocean when I was a smolt. I'm on the home stretch now! However, most of my pals continued on up the Fraser. Guess their home is further north than mine and it wasn't their turn to leave the Fraser yet. Now it's all starting to come back to me more clearly.

First we travel up the good old Fraser. Then we turn into the good old Thompson, which will lead into the good old South Thompson which will lead into the good old Lower Adams River. It's probably changed a lot in four years, but it's still like coming home to me.

Along the shore here I've noticed a lot of poles that are drying racks. You don't want to know what's drying on the racks right now – but I did put myself in high gear when I realized what meat it was! Man, there were lots of those racks too – just like the old clothes racks that the pioneers used to dry their clothes on. Too bad we're a food source for so many different living things! I've been told to not swim too close to shore here – sticks with gaffs on them appear out of nowhere and then we're a specimen for the drying rack!

September 30 (Ashcroft)

My body is continuing to go through many changes and I'm not feeling as lively as I was in the Pacific Ocean. I think I still have enough energy to get me home, but if I run into too many more obstacles, my body will be too tired to spawn. Guess I'm feeling a little down today!

October 1 (Savona)

I've decided to rest as it's the end of the day and I've found a spot where I can enjoy the beautiful scenery. The hills are all fairly brown; an indication of a hot, dry summer, but the little town I am beside is very pretty. I can see the school from my refuge and those Savona kids are sure lucky to have the nice playground that they have, along with the spectacular view of the water. I hear they raise coho in their school aquarium. What a great way to learn all about us salmon!

October 4 (Kamloops)

Wow, what a nice rest I had - swimming at a more leisurely pace through Kamloops Lake. Kamloops Lake has some very deep spots and I enjoyed resting in the cooler water. I noticed some new developments since I was through here last. There's a swanky new marina on the south side of the lake between Savona and Kamloops, and I could make out some new buildings around it.

However, as I got closer to Kamloops, I swam through something that made my nostrils flare. There was some water entering the river from a huge pipe with a grate or large screen over the end. The water tasted a little bit like chlorine, but there was an oily taste to it too. I also detected some type of cleaner or soap. I know these big pipes are Storm Drains. Whenever water and other substances go down those rectangular grates on the streets, it all

empties into the river. I guess someone was emptying their pool, and the water went down a storm drain on their street. Too bad not everybody knows that what goes down these storm drains, goes right to the river for us to swim in! Parking lots have storm drains too, and as well as oil that has leaked from cars, antifreeze sometimes drips in them and that is a real killer for us. We often call what comes out of these pipes non-point source pollution because you can't always tell what the pollution is or where it came from. Way back by Chilliwack, I saw some kids painting a yellow fish beside one of these drains. That was sure nice to see, as those kids were trying to tell the public that these drains don't lead to the local sewage treatment plant to get the impurities cleaned out of the water. Anyway, I swam in high gear to get out of that awful tasting water. I'm not feeling the greatest as it is, and I don't want to get sicker from the polluted water.

October 5 (near Pritchard)

Guess I spoke too soon about folks not caring about what happens to the water. I just passed a whole bunch of people planting something. Trees, I think. Looks like they're trying to help stabilize the riverbanks. Those tree roots will really help hold the soil so it doesn't erode into the river in heavy rains, and we fish love those trees as they provide shade which helps to keep the water cool. Even the trees that fall into the river can be good for us. There's usually lots of insects and other decomposers at work, and if I had an appetite, that would be good news.

And now that I think about it, there were school kids working on a creek when I swam past Hope. They were doing some kind of Streamkeeper activities – measuring the temperature, pH, dissolved oxygen and turbidity of the water, and examining and identifying the little insects that kept me alive when I was a smolt. Learning about insects that live in the water can tell you a lot about the health of the river, as some insects are pollution intolerant. In other words, they can't live in polluted water. So, if you find insects such as stonefly, caddisfly, mayfly, water penny, or dobsonfly, it probably means it's a healthy river for us fish! Those insects wouldn't live in polluted water.

And oh, I almost forgot about those signs I passed asking farmers not to let cattle graze along the river near Ashcroft. Come to think of it, some of the water coming from storm drain outlets on the east side of Kamloops seems to be cleaner than it was 4 years ago.

Maybe people are beginning to do more than talk about cleaning up the past. Maybe they are turning that talk into action. Hey, maybe my kids will have a better chance of survival after all.

October 6 (close to Chase)

I thought for a moment I was going to meet my match this morning. I was resting in a back eddie close to the shoreline when a four-legged creature waded into the water to get a drink! It sure made the water turbid and I could hardly see well enough to know how to get out of that resting pool. It was talking to another friend on the shoreline and when it opened its mouth a loud “moo” sound came out. I didn’t appreciate it silting up the water, but then it had the nerve to lift up its tail – that’s when I said, “enough is enough” and I departed as quickly as possible. You can probably guess what cows do when they lift their tails! Oh well, just goes to show you us fish have more work to do in educating people about the land along the river – which is called the riparian area – being just as important to look after as the water itself.

October 7 (Chase, BC)

My swimming crowd has certainly thinned out and yours truly was almost one of the thinned out. The biggest bear this “almost-on-a-dinner-plate” sockeye has ever seen took a near fatal swipe at me. I spent the rest of the day recovering from Bear-itis and thinking about my journey thus far. I just can’t decide which of my adventures has been the scariest! While resting and working up the courage to keep on swimmin’, I thought I was going to be able to report having survived an earthquake. Actually it was a train, but the vibrations were so strong, I was shaking and quaking in the resting pool. The vibrations brought down some silt, so I decided to move on once the train went by.

October 8 (Shuswap Lake)

I’m getting pretty excited...I know I’m almost at my destination. The good ol’ Little Shuswap Lake hasn’t changed that much, except there’s a new species of fish here that I haven’t met before and the water has a stronger sewage taste. Even though I’m not looking my best, I’m curious to find out who this new species is. Another of my sockeye buddies went through the introductions yesterday, and let’s just say our new species are not the ones you want living in your lake, ...especially when they have a reputation of eating almost everything, including our eggs and our off-spring!! Yup, these fish are called perch, and they’re an invasive species because they are not

native to the Shuswap Lake watershed. A little perch egg sac the size of your thumb can produce up to 4 000 youngins' and if something isn't done to control these perch, us sockeye may be headed towards extinction in this watershed!

October 12 (Mouth of Adams River)

What can I say? It's the mouth of the Adams River. It's home. It's just as I remember it. My sense of smell brought me back. I am tired and battered, but yet very excited and happy. I'm also a little unsure of my future, as I still have to swim up the river to my spawning grounds. Guess I'm feeling a little bit like Harry Potter when he departed from Platform 9 and 3/4. So far, fungus has not started to grow on my body. I am pretty healthy considering the journey!

I understand we have to hold for awhile; like when we were milling around at the mouth of the Fraser before we head upstream. I guess it's nature's way of making sure we have the best chance to begin a new stage. While I'm "holding" I just may try and pick a mate to "hold" for later.

October 13 (Adams River Spawning Grounds – Roderick Haig-Brown Conservation Area)

Well, onward and upward for the last part of my journey. I'm sure glad there are a lot of trees growing in the riparian area here at the park. There are some trails along the river so people can get close to us. If you walk on these trails, please be careful that loose rocks and soil don't roll into the river. Guess you should also be careful that you don't roll in too! My gills are still pretty clogged up from the silt in the water when I had the cow and the train encounter. When my gills are clogged, I get less and less oxygen from the water, and I find myself gasping at times. Too bad they don't make puffers for fish!

Early this morning, (and I'm not a morning sockeye), I thought I was being fished by a new method. A seine net captured me and I was put into this contraption where two hands grabbed me; gently grabbed me, mind you. Two humans measured me, put a couple of tags just below my dorsal fin, and recorded that I was a male. Pretty classy eh? I feel pretty special as only about 1 out of every 100 of us gets tagged. One of the tags has a number on it and the other is blank. Two tags are applied to ensure that

we're not incorrectly counted as untagged in the event that one of our tags falls off. Then I was released just as gently.

Tagging salmon is one of the techniques used to estimate the total number of sockeye salmon that arrive back to natal streams to spawn. I guess you could call me a statistic now. Once we reach the end of our life cycle and we die, people from the Department of Fisheries and Oceans will count us and then they will know approximately how many of us made it from the ocean to spawn.

In most river systems, we sockeye salmon are very lucky if 2 of the approximately 4000 eggs survive to the last part of our 4-year life cycle. However, this year, there's a few more million of us than earlier anticipated. My home - the Adams River, is the most productive sockeye salmon producing area in the whole world.

...Think I'll compose a wee verse in honour of the Adams:

*Sockeye are red
The water is blue
In the fall we spawners
Come home to you!*

October 14 (Spawning Grounds)

I've never seen so many people in my life. I really feel that my privacy is being invaded. After all, we salmon don't do the mating thing until the very end of our lives. Our kids are born orphans. I ask you; doesn't it seem kinda unfair?

The most exciting news is I've found a mate! I think I remember us meeting in the ocean. I'm glad we have these great-looking bright red and green colors as it makes it easier to find that special someone. In the river now, we all seem to move slowly except for when we are protecting our redd or our mates – then we move fast and we can be quite vicious. We're not fighting rapids or predators any more; we are fighting each other – for mates and for space to build our redd. My mate and I have been scouting out the river to find the best spot. We want someplace where the river won't dry up or freeze our future generation, but the gravel can't be too fine either or it will suffocate the eggs. Finding gravel and cobble the size of loonies is great to work with, but we can easily move rocks the size of your fists.

Now, you're probably wondering how the eggs get fertilized! Most kids are interested in this part! Because it's external fertilization, it's really quite easy to explain. Once we've found that perfect spot in the river, my mate swims on her side and uses her caudal or tail fin to dig a redd from 12 to 50 centimetres deep. A portion of the 4000 eggs that my mate has are deposited, and then I swim over them and squirt some milt on them. The milt is washed downstream quickly, so I have to be accurate! Voila! Our eggs are fertilized and within 24 hours, cells will start to develop in our eggs. My mate then again uses her caudal fin and covers the eggs up with gravel. We repeat this process up to five times. Covering the eggs with gravel is really important to us. Covering them keeps the eggs safe from egg-hungry predators, and it also keeps the eggs in darkness. If sunlight reaches the eggs, they die. The gravel also has to be not too sandy so the eggs can get oxygen at all times. I sure hope the eggs in our redd don't get moved or bumped. If the redd gets walked on, or moved at all, the eggs all stop developing and die. Sometimes salmon dig up one another's eggs while spawning in an overcrowded area and many eggs die of shock or are carried away by the current. And of course, let's hope the water stays clean and cold in order for our offspring to hatch.

Now that spawning is complete, my mate and I are both guarding our redds so that other spawners don't dig them up.

Once we die, we hope our fertilized eggs will continue to develop. The eggs will spend the winter in the river under the gravel, and the embryos will grow inside the egg as they are given nourishment from the yolk sacs.

Even though I'm exhausted now, I sometimes do wish I were more like my cousins – the steelhead or the cutthroat trout. They are anadromous, just like us, but they sometimes return to salt water and then spawn again one or more years later. Then there's the Atlantic salmon! Those salmon come in from the Atlantic Ocean to spawn in fresh water – and then they turn around and go out to the salt water again. Sometimes they do this three or four times before they really are ready to call it quits and die! Us poor Pacific Salmon are given no second chances in life!

October 15 (Adams River Spawning Grounds)

Well, it has been an absolutely amazing journey and I'm glad I've had you along – it felt great to know that somebody was following my progress and cared whether I made it or not. All of the challenges have been worth it. I

really feel that my mate and I will die within a day or two, but it's a natural part of our life cycle, and now we have four thousand beautiful developing youngins' to show for all of our hard work. It's also natural that other critters eat parts of our bodies after we die. The rest of our carcass will decay, so don't be too upset if you see some decomposing salmon on the shores of the river. Hey, on the bright side, our decomposing carcass gives food or nutrients to the river and the living things within it. It's these nutrients that will help feed our fry that hatch from our eggs next spring. But who needs the details? You can read about it in the papers or maybe an expert will talk about it when you visit the site or on a T.V. talk show.

So, I must go and stay with my mate. I'll leave you with the same words of wisdom that my elders left me with: STAY IN SCHOOLS. If you come to visit, don't forget to give me a wave. If I've got the energy, I'll be sure to give you a flip of my caudal fin and you'll know I've waved back!