“Salmon on the Rough Edge of Canada and Beyond”

This series of 10-short stories has been written to honour the salmon, the beautiful rivers that they exist in and some of these memorable people who have worked tirelessly over the past decades on the task of conserving and restoring these iconic species.

The author, Matt Foy, as a biologist with the Fisheries and Oceans Canada (DFO), Salmonid Enhancement Program(SEP) for 35 years (now retired), has tried to capture small glimpses into their world and the world of salmon.

Power-Man-Power

By Matt Foy

The Stave River headwaters flow down from glaciers imbedded within a ring of 2200 meter high mountains peaks, in the southern region of the BC Garibaldi Provincial Park. Today, this one-hundred-kilometer-long river flows through two large man-made hydro-electric reservoirs before discharging into the lower Fraser River, at the community of

Ruskin. This entire watershed is located within the traditional territory of the Kwantlen First Nation, who continues to have reserve lands located along the lower river.

The Stave River has been long valued for its abundant wildlife resources, particularly salmon. Up until the beginning of the twentieth century, all species of salmon spawned in the lower Stave River. The most numerous being the chum salmon. The salmon and sea going trout had access to the gravel beds up to ten kilometers from the Fraser River confluence. Their passage blocked at that point by the impassable Stave Falls.

Salmon dip-net, spear and trap fisheries would have occurred for millennia during the annual fall salmon return. Three permanent Kwantlen villages were located adjacent to these high use fishing sites where the salmon could be smoked and dried for winter use and trade.

As Les Antone, a Kwantlen Nation Councilor recently recounted during discussions on the future of the Stave River,

> "It was salmon, above all, that made the Stave a very important river for the Kwantlen people."

Lomi-Lomi Salmon

Fort Langley 1862

In 1829, Archibald MacDonald, Chief Trader at the Hudson Bay Company Fort Langley, was developing a plan to take advantage of the late summer-fall abundance of salmon in the Fraser River. The Kwantlen have a village adjacent to Fort Langley. They traded fresh salmon to the HBC at this time of year, some of which likely was captured in the Stave River.

The amount of salmon offered for trade was often in excess of what the HBC men needed for their winter food supplies.

The Chief Trader worked on a scheme to preserve any excess salmon traded in years of abundance, to take advantage of a potentially lucrative export trade.

The technique of preservation he proposed was to pack the processed salmon in salt and seal them in wooden barrels. The wood “staves” used to make these barrels, were collected from western white pine (Pinus monticola) trees growing along the Stave River. Previously known as Work’s River by the HBC men, in honour of HBC Chief Factor John Work, who first viewed the river during early HBC reconnaissance of the lower Fraser River in 1824, it was given the name, Stave River, in recognition of its important contribution to this commercial enterprise.

HBC furs and salmon in barrels were shipped out on British ships bound for China. These sailing ships stopped along the way, in Hawaii. The Hawaiians provided fresh water and sandalwood to the visiting ships. Sandal wood was a tropical hardwood much coveted in China.

Being a generally fish-eating people, the Hawaiians were eager customers, to receive in trade for sandalwood, Fraser River salmon. Hawaiian royalty, made a fish dish, Lomi-lomi, using the west coast salmon much valued for its rich, exotic, flavors.

The British ships continued on their journey to China and traded their cargo for silk, tea and fine china. Transported back to Britain those highly sought-after goods provided the rich profits that had brought the British and the HBC to the far western coast of North America in the first place.

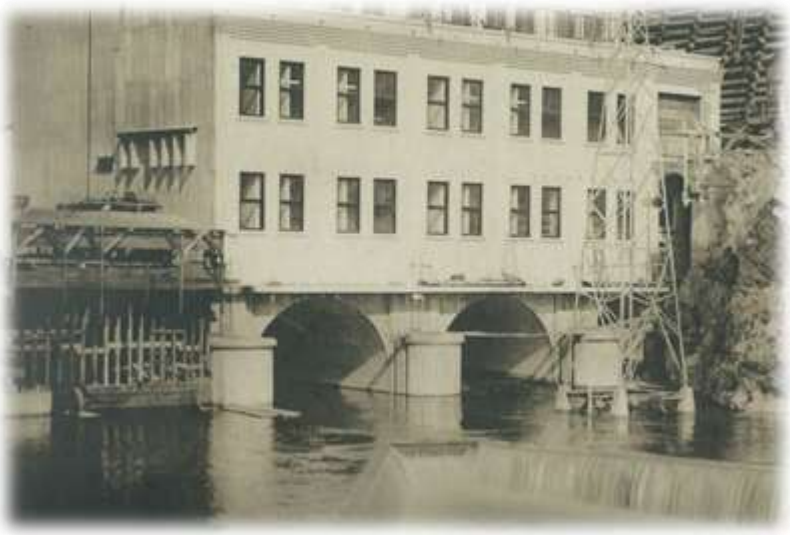
The pursuit of salmon, furs, timber and later gold would provide the impetus that led to the formation of the British colony of British Columbia, which was proclaimed at Fort Langley in 1858. A few short years later in 1871, BC joined the growing country that would become our Canada, and the rest is history.

Stave River salmon had provided sustenance to people of the lower Fraser River for generations. The wealth they created, as goods, to be traded in both local and far off markets, played their small part in the making of our nation.

These abundant runs of salmon that had provided for so many, for so long… were soon to be greatly diminished, in the name of progress.

Horse Power without Horses

Hydro-electric power was first generated by a turbine fed from Stave River flows in December 1911. The Western Canada Power Company (WCP), Stave Falls dam and power station began operation that year. The dam and power works were located at the natural upstream limit of salmon migration.



Stave Falls Power Station

By 1928 an additional power plant was constructed on the shores of Stave Lake, driven from water diverted by tunnel from the adjacent Alouette watershed.

Short term disturbance due to power house construction likely had modest impacts to salmon spawning downstream of Stave Falls. The major impact of the construction of these facilities would have been the effect on flows in the river below the Stave Falls Power plant. The un-natural fluctuation in flows would have played havoc with all species of salmon and trout that spawned or reared below the Power plant. The Alouette watershed diversion tunnel also increased the total annual flows and likely water chemistry entering the Stave River watershed, changing water flows in the lower Stave River in ways that no doubt challenged salmon downstream.

When power was needed, the river ran high. When power was not needed, the river ran low. Up, down, up, down, up, down went the river over the course of a single day. For the most abundant salmon, the chum salmon, spawning and egg incubation cycle would have been greatly disturbed in the lower river but the worst was yet to come.

BC Electric had bought out the now renamed Western Power Company of Canada in 1920. Growing power demand in the BC Lower Mainland and in northern Whatcom County was a market that needed to be served. BCE had further plans for the expansion of the hydro-electric system in the Stave River watershed.

The Ruskin Dam located just three kilometers upstream from the Fraser River confluence, was constructed over a short period beginning in December 1928 and completed in November 1930. Much of the historic spawning grounds of the Stave River salmon were now inundated under the newly created Hayward Reservoir. Of the 10.0 kilometers of main river channel accessible to salmon pre-development, after 1930, less than 1.5 kilometers remained suitable for spawning.

The Stave River watershed, with these three hydro-electric plants, was now producing over 100,000 horse power (75 megawatts of electricity).

Ruskin Dam and Hayward Lake

This was during the time in history that the “Great Depression” was spreading its gloom across the world economy. The power of continuously falling water spun the turbines and powered the electric generators, lit the factories and homes throughout the region. The economic benefits from the Stave hydro-electric system were critical in supporting jobs and families during those dark economic times.

But this electric power had come at an immeasurable cost to the wildlife of the watershed. Particularly hard hit were the salmon and all the people that had relied on them for so long. Their world had changed, forever.

Heavy

There are no actual numbers of how many chum salmon may have spawned in the lower Stave River below the falls, prior to the development of the watershed for hydro-electric power. The Kwantlen have identified the Stave River as an important historical fishery for their nation. The presence of the permanent three villages in the salmon reach of the river supports this position.

“Hey Tracy it’s Matt”, I said when she picked up the phone. Tracy Cone, Data Manager at DFO had been colleagues at the DFO Annacis Island office for many years. We both appreciated the power of old records. She was the go- to person if you ever wanted data located somewhere within the vast ocean that was DFO records.

The BC 16's were the annual DFO reports that recorded the direct observations of Fisheries Officers. The FO's in those days walked all the salmon streams each spawning season and recorded key events affecting the salmon and streams.

"Do you have any BC 16's for the Stave River going back to the early twentieth century?" I asked. "You remember my office, of course I do" she said.

What she sent described a time when salmon returning to the Stave River were dealing with multiple threats and impacts, season after season. Logging, land clearing, hydro-electric development, commercial interception fisheries both in ocean and Fraser River and in-river gravel mining, these were truly difficult years to be a chum salmon in the Stave River.

Canada Fishery Officers had been recording salmon runs to the Stave River since at least the 1920's. Fishery Officer (FO) Kennedy, in 1931, recorded the chum salmon run as being "heavy". This was the common notation used by FO Kennedy through most of the 1920's and 1930's.

By 1936, the new Fishery Officer Lockwood, indicated that the run was again "heavy". For the first time that year, Fisheries and Oceans Canada (DFO) required the FO to estimate the number of chum salmon that returned to spawn. He estimated the chum salmon run at 500-1000 spawners.

Chum salmon have a 3-5-year life cycle, but most return as four-year-old adults. By 1936, an entire generation of salmon, the parents of the run of that year, had lost access to the upriver spawning beds due to the construction of the Ruskin Dam. The impact on the 1936 run caused by the construction of the Ruskin dam in 1930 will never be known for sure.

Likewise, the impact of the unstable river flows that the salmon had to deal with since the original hydro development in 1911, will also never be known. The very small return in 1936 suggests the Stave River chum salmon were already in deep trouble by this date.

Gravel, Gillnets and Flow

From the late 1930's through until 1960, the Fisheries Officer's estimates of the chum salmon return to the watershed remained at low levels. Less than 2000 spawners returned most years. Fishery Officer Hawley, in his annual reports during the 1950's, captured the main factors contributing to the poor chum salmon run to the Stave River over this period:

- 1954- The following (groups) plan to remove gravel (spawning) from the Stave River: Provincial Department of Public Works, Stave River Sand and Gravel, Cannon Contracting Co. and Valley Concrete Corp.

- 1955- Chum runs improved probably because of the (commercial gillnet fishery) closure east of New Westminster (Fraser River downstream of Stave River) during the fall months.

- 1960- Serious scouring (gravel spawning beds) in mid-January 1961 caused loss of 40% of the spawn (salmon).

Due to a collapse of chum salmon runs due to overfishing throughout southern BC in the 1950's, restrictions had been placed at this time on both ocean and river fisheries for chum salmon.

Gravel removal from salmon streams also began to be discouraged which culminated in the 1969 *British Columbia Gravel Removal Order*, under the authority of Section 64A of the BC Fisheries Regulations. By the mid 1960's the chum salmon runs to the Stave River were showing the first signs of recovery.

Periodic flow-spills from the two hydro-electric reservoirs after the salmon spawning period in the lower Stave River, continued to create scouring flows downstream of the Ruskin Dam, damaging newly deposited salmon eggs. The Ruskin Dam also continued to be operated as a "peaking plant" which provided power to the electrical grid when it was needed. This generally meant that when the Lower Mainland began their work day, power was needed, and the river flowed high. When everyone headed off to bed and less power was needed the plant largely shut down during the night hours.

When the water flow over the spawning grounds depended on flow released from the dam's turbines, this was a problem. Salmon redds constructed during high flows of the day were often left high and dry throughout the night. This stranded both eggs and fry, leading to their ultimate demise.

The Stave River salmon had suffered under this regime since the first year of dam operation in 1911. They would continue to suffer for the next 80 years.

The Green Wave

By the end of the 1960's and the beginning of the 1970's things were beginning to look up for the Stave River chum salmon. These decades saw the first beginnings of a more

engaged public. Citizen groups demanded that natural resource managers consider both the environmental costs not just economic benefits of ongoing and proposed activities.

A decade of restrictions on the Fraser River chum salmon fishery and a cessation of gravel removal from most salmon spawning grounds were starting to pay off, in a big way.

By the mid-1970's, from 50,000-100,000 chum salmon could be now be found spawning in the lower 1.5 km of the Stave River in a typical year. The chum salmon of the Stave River had come a long way from their desperate situation in the gloomy years of the "Great Depression".

By 1977, DFO launched the Salmonid Enhancement Program (SEP) to greatly increase the catch of salmon in British Columbia and the Yukon waters. Enhanced salmon production would come from hatcheries and spawning channels, along with restoring or enhancing natural fish habitat.

Early in the SEP program the Stave River was identified as a candidate for enhancement. A location just below the Ruskin dam was seriously considered as a site for a major federal salmon hatchery. A lack of usable groundwater supply to supplement the surface water supply ended those investigations.

There was still an interest in restoring the Stave River chum salmon, as part of a larger scheme to enhance the Fraser River chum salmon fishery. As such, starting in 1982 chum salmon eggs were collected on the Stave River in an effort to strengthen the chum salmon return to the river using fish culture. Led by the SEP team of Bill Foye, Glen Dixon and Stu Barnetson, these eggs were taken to the nearby DFO Inch Creek Salmon hatchery, where they were incubated and reared to fed fry stage.

The marked hatchery fry were ultimately released back into to their natal stream. Coded –wire tagging of these hatchery reared chum fry provided critical information on the marine survival and fishery interception of the Stave River chum population. This new information helped design more effective fishery management regimes for Fraser River chum salmon and gave tools to monitor the impact of the hatchery program on Stave River chum salmon returns.

By the end of the 1980's and the beginning of the 1990's, chum salmon returns to the Stave River continued their impressive climb. A historic high count of 244,000 chum salmon spawners was made in the 1990 spawning season. The best was yet to come.

The Tower of Babel

Through all these years of up and downs and ups, stood the one constant, the Kwantlen Nation. Les Antoine and others from the Kwantlen Council continued to make their voices heard when it came to advocating for everyone to step up and make things right from mistakes of the past. These and other voices in the winds had convinced BC Hydro that it was time for them to do their part in this story of loss, recovery and rebirth.

Hugh Smith, Senior biologist with BC Hydro had gotten direction from Larry Bell the CEO of BCH at the time to get to the bottom of a problem that had come to his attention. A side channel of the Stave River used by spawning salmon was reportedly going dry at low tide and at low flow discharges from the Ruskin plant. Hugh reached out to Kevin Conlin, DFO Habitat biologist, to work together to look into the issue further. This collaboration began a two-year study that looked at that issue (which was later resolved during a river restoration project) and identified other opportunities to improve salmon spawning habitat in the lower Stave River. These early studies, critically supported by the Ruskin plant manager Drew Dunlop and BC Hydro senior managers were the first tentative steps toward the first water use and restoration plan for the Stave River.

Early in 1990 BC Hydro (BCH), the owner of the Ruskin Dam, along with the BC Ministry of Environment (MoE) and Fisheries and Oceans Canada sat down to discuss the dam operations, with a goal to review how hydro operations could be made less detrimental to the salmon and overall ecology of the lower Stave River. This was the start of the multi-agency BCH/ BC- MoE/DFO Fisheries Technical Committee (FTC) for the Stave River. BC Hydro was beginning to respond to the increasing public desire to see BC Hydro facilities operated in a manner that balanced people's needs with the needs of the environment.

Don Swoboda was the BC Hydro Senior Vice President of Electrical Operations around this time. Part of his job was to be the push behind the scenes, to get new ground-breaking BC Hydro environmental programs up and running while maintaining the integrity of the electrical supply system. Making progress on the Stave River file was important to him and also the guy at the helm of the BC Hydro ship, Larry Bell, who wanted for him to make it so.

It was felt by many "in the room" that an early success at places like the Stave River would be viewed as a significant step forward in more sustainable management of hydro impacted watersheds. From these early collaborations came the first two Stave River restoration initiatives:

The jointly funded in stream gravel contouring work that optimized use of available water through channel shaping.

The first informal operational control on the system for fisheries benefits; which managed Ruskin plant discharges to minimize the variation in flows during the salmon spawning period to limit the stranding of eggs.

Dave Wilson was a senior BC Hydro environmental biologist assigned to the Stave River discussions. He was also ex-DFO so understood the needs of salmon and other fish but also understood the hydro-electric issues. He played the critical role of the interpreter between the power engineer folk on one side of the table and the fish biologist folk on the other side. He made sure everyone was speaking the same language so each could better comprehend the others points of view. He played an important early role in solving the Stave River linguistic puzzle.

Drew Dunlop was the BC Hydro Ruskin plant manager and knew back to front how this immensely complicated machine worked. It was one thing to wish that things could get better for salmon but it was persons like Drew that knew how to get from where they were at the time to where everyone hoped they could go in the future. Drew and Dave together knew what the fish issues were and knew what might be possible in plant operation changes. They were a good team on the frontline and were charged up for action.

The BC Ministry representative was Dr. Marvin Rosenau, a highly respected fish biologist. Aside from his day job, he lived and breathed angling for salmon and trout. He also had a way with numbers, all sorts of numbers. He could recite BCH water license requirements by memory, just to keep the power engineers on the edge of their seats.

He would often quote flow records going back decades on the Stave as easy as he could recall the number of steelhead he had released last season. Marvin's middle name was passion, spelled with a capital P and with an explanation mark thrown in for good luck. He was not going to leave the table without making some progress for the Stave River fisheries resources.

Steve Macfarlane led the DFO charge during the technical committee discussions. He was a veteran fisheries biologist from the Habitat Management side of the business. He had a skin as thick as a rhinoceros with just as many battle scars. He had depth of real life experience and a memory like a steel trap. He was backed up in these discussions by Lee Dutta, a seasoned DFO fisheries engineer that had spent much of his career looking at water flows in rivers as they pertained to the needs of fish. He had Steve's back when it came to getting the numbers straight and keeping the fish wet.

Steve's negotiating skills were honed as sharp as a Bowie knife but he also had a tongue that could get honey out of a stone, which was dearly needed at times.

This is not to suggest that talking to hydro engineers was always like talking to a rock but they did seem at times to have "megawatt-itis". Sometimes they seemed not that sensitive to the needs of cold blooded creatures that liked to swim around in water.

However, in their defense, the power folk thought the fish folk at times did not fully understand that most people liked their coffee makers to work in the morning. Without electrical power, they don't work that well, that's a problem. It was an enlightening experience for everyone involved in these preliminary discussions.

It had taken many decades of struggle to get the three parties at a single table to discuss the Stave River power and fish issues. This was the opportunity to make sure

salmon had a voice at the table. It was critical that each party's position could be understood and a consensus built. Hugh, Drew, Steve, Lee, Marvin and Dave were the right men for the job, and Larry and Don's mandate made sure that's things agreed upon actually happened.

At the table, all parties were made aware of how water was released from the dam and the requirements of the hydro- electric plant and grid.

At the table, all parties were made aware how power plant operations would affect salmon and other fish that lived downstream.

At the table, all parties worked together to bring these two realities into a consensus on how dam operations could be modified to improve spawning success of salmon found downstream.

This all needed to be accomplished without unduly constraining the production of electrical power. This was not an easy or simple task; however, BC Hydro's province-wide generation facilities provided the capability to make it happen.

The green wave that had begun in the turbulent 1960's had finally washed away the constraints that had restricted these groups from working together for the past 80 years. In 1990, a process was begun that led ultimately to a provisional water flow release agreement. In following years more, formal flow agreements were signed that respected both the environmental and power supply values of the Stave River.

These first small steps would soon break into a full sprint.

A Line of Cherries

The Fisheries Technical Committee, struck in 1990-1995, was at first composed of representatives from these three agencies. Ultimately these first tentative steps led to creation of BCH Water Use Planning (WUP, 1996) and the BCH Bridge River/Coastal Compensation Program (BCRP, 1999). These two BCH programs would lead to negotiated water flow agreements being legally binding as part of the facility's water license, and contribute much needed annual funding for habitat restoration works for hydro-

electric affected rivers province wide, including the Stave River. The Stave Water Use Plan was the first BC Hydro WUP and was used as the basis for establishing the BC wide Water Use Plan

Guidelines that were developed by the joint BCH, DFO and MoE WUP Committee.

After 1996, the FTC committee was replaced by the BC Hydro Water Use Plan (WUP) technical committees. These WUP committees were composed of a broader representation of government agencies, First Nations, local citizens and other interest groups.

Water use planning (WUP) on watersheds affected by their hydro-electric facilities became a sustainable work in practice at BC Hydro at this time. The overall WUP goal was to find a better balance between competing uses of water, such as domestic water supply, fish and wildlife, recreation, heritage, flood control and electrical power needs, which are environmentally, socially and economically acceptable to British Columbians.

The committees in these years took action that improved environmental conditions in the lower Stave River, with particular, but not exclusive, focus on conditions affecting salmon.

Actions delivered by the technical committees included modifications to the Stave River dam release flows to:

Maintain a minimum flow during salmon spawning season.

Reduce the peak flows during the spawning season.

Reduce the maximum flows recorded during dam spill events.

All these actions were intended to improve the survival of salmon eggs, alevin and fry deposited and living downstream of Ruskin dam.

In addition to these changes to flows, the undauntable SEP bio-engineering team of Dave Marshall and Rheal Finnigan and their crew, engineers George Nielsen and Mike Landiak, re-contoured and graded the Stave River bed downstream of the dam. The Kwantlen Nation were only too happy to let these guys through their lands to access the river beds and gravel bars. In fact, Les Antoine and his team, they held the door open for them and pointed the way.

The lower river had been much abused for decades by large floods, starving of gravel recruitment from upstream of the dam, in-river gravel mining and just simple neglect. Kwantlen, long- time river advocates, the Stave Valley Enhancement Society, led by the insuppressible Jim Taylor, all worked hand in hand with the SEP crew, to see the Stave River returned to its former glory.

For 70 years the lower Stave River had been banged up and beaten down, but with a little imagination and TLC would soon be polished back to life and vigour. Using the big iron of D-8 Cat bulldozers and excavator hoes, prodigious quantities of gravel was

pushed, bailed, loaded and trucked to maximize the amount of spawning habitat available for salmon. Channels were cut through previously dry gravel bars, side channels re-activated with large wood debris placed and anchored to provide cover for both adult and juvenile salmon. Gravel was excavated from dry bars downstream where it had been washed over the years by high flood flows and trucked and placed in the river up closer to the base of the dam. All these actions were intended to increase the number of salmon eggs that could be safely deposited downstream of Ruskin dam.

Over the period 1990-1995, the area of spawning gravel that could be productively used by spawning salmon was more than doubled, from 84,000 square meters to 202,000 square meters. The chum salmon noticed.

Down at the casino, when you start seeing the cherries lining up on the "One Armed Bandits", it's time to get excited. A few "cherries" started to align on the Stave River which would soon have a big payoff for chum salmon.

From 1982-1997 the DFO Inch Creek hatchery provided enhanced chum salmon that contributed to strengthened spawning returns to the Stave River.

Ruskin flow releases after 1990 improved chum salmon egg survivals. Fewer eggs were being scoured out during floods or dried out in low water.

Salmon spawning habitat area doubled in lower Stave River by the mid 1990's, just through a little "Tender Loving Care".

DFO made further changes to the Johnstone Strait and Fraser River chum salmon fishery, setting more conservative harvest rates, which reduced impact on returning Stave River chum salmon.

Mother Nature smiled and good ocean conditions in late 1990's allowed for strong south coast BC chum salmon returns in the new millennium.

Jackpot!

By 2001, the return of chum salmon to the Stave River was predicted to be good. Three-year-old adults from the bumper spawn in 1998 (500,000) were predicted to bring back a very strong return in the fall of 2001. However, no one could have predicted the magnitude of the return that occurred that fall. Beginning in late September and running into late December, wave after wave of chum salmon crowded onto the gravel spawning beds of the lower Stave River.

During the peak of the run, in early November, spawning chum salmon were occupying every square meter of gravel in the river. Spaced out in their little territories they looked like "currants in a bun" stretching right across the Stave from bank to bank, abundance, abundance, oh sweet abundance.

Legions of salmon could be seen waiting their turn to spawn. Every pool was filled to bursting by their sinuous black schools. In their impatience, some mature spawners could be seen nosing up the few small streams that entered the river below the dam. Big fish were trying to go up these little spouts of water all along the shore, quite a sight.

No person could reasonably count all the chum salmon crowded into the 1.5 km spawning section of the Stave River that fall, but somebody had to. That year the official estimate of chum salmon return to the Stave River was 625,000 spawners, hard to believe, but you can check. The 2001 return was surely a number for the record book that has never been beaten since.

The Temple of Light

The Stave Falls Plant was re-developed in 1995-1999 using new more efficient and more fish friendly, Kaplan adjustable-blade turbines, a first for BC Hydro. This more than doubled its peak capacity to produce electricity using the same annual volume of flow delivered by the river, but more significantly, allow the units to be operated at high efficiency but low flow loads to facilitate the management of water levels in the salmon spawning grounds below the Ruskin Dam.

Ruskin Dam is also undergoing an upgrade in 2016, scheduled to be completed in 2017. It too will be modernized to use our precious water resources more efficiently. This much we owe to the river still buried beneath the Hayward Reservoir, waiting for the day the salmon return. We need this power now but perhaps not always and rivers are patient.

The Stave River watershed continues to produces an abundance of hydro-electric power. The Stave River also produces hundreds of thousands of spawning salmon in most seasons. It has the distinction of supporting the second largest chum salmon spawning population in the entire Fraser River watershed.

So, what is the moral of this story?

Perhaps it can be best summed up by a happening that occurred not too long after the jaw dropping, eyeball popping and just real cool run of 2001. BC Hydro was hosting some water use plan technical committee members to tour the Ruskin Dam power plant. All the invitees were still glowing from the fruits of everyone's labour, the big chum run just past.

Power folks, fish folks, government folks and Kwantlen folks were all excited to enter the forbidden crypt that was the original 1930 Ruskin powerhouse. So much had been discussed around the tables over the years that focused on the operation of the plant and how it negatively affected the salmon in the river. This was the first time we had actually been invited inside the belly of the beast to see how it worked.

Inside it was beautiful. The plant had been constructed at the end of the Art Deco period, (1920's to early 1930's) where common utilitarian buildings were being transformed to represent luxury, glamour, exuberance, and faith in social and technological progress. The Ruskin powerhouse had obviously been designed in this

tradition and constructed by skilled artisans that had molded concrete into sweeping curves and swirls, to both please the eye and lift the soul. This was a space that had been created with good not bad intentions.

Brent Wilson, BC Hydro Natural Resource Specialist was leading the tour through the Ruskin plant that day. Brent was an environmentalist down to his green underwear even though his shirt was BC Hydro blue. He was good at his job and took it very, very seriously.

He would often take BC Hydro managers and executives for a tour of the lower Stave River to see the spawning salmon. If he could, he would cajole the more ambitious to squeeze into dry suits and float down the river with him. He wanted them to experience the spiritual feeling of being lost in these swirling schools of salmon and becoming a part of that great migration.

Brent understood that this would help them do their jobs better as they made daily decisions. Dam operations, power distribution, load requirements and other electrical issues had a great effect on the river downstream, and real consequences to species such as salmon.

As we followed along on the tour listening to the plant operator as he described the various instrument panels and their various purposes, Brent pulled me aside. “Hey, look at this”, he said. He knew my interest in history and odd things.

He pointed down to knee level, back in a dark corner, by one of the power panels. “Not many people get to see her. We keep her safe, count yourself lucky” he said.

I looked where his finger indicated and there she sat. Smooth and sleek, she was about the size and shape of a large goose egg. Her skin so clear, I could see a curly shape, glowing like a little ember from last summer’s campfire, deep inside her. She emitted light with a slow, rhythmic, pulsing action that reminded me of a heartbeat. She looked up at me with her little pointed nose. I leaned down and could just make out writing on her back, EDISON.

Brent said “Never been replaced since the day the plant was made operational back in 1930. She is the old lady of Ruskin, the matriarch. She gives this plant life and a personality and a history. We protect this light bulb like she was family.” I got a sense at that moment, that some people had the same feeling about the magic of technology like I have been mesmerized by the magic of salmon. We are human and have different passions and this is okay.

We caught up with the plant operator who had just brought the group to an overlook above the main floor below. He obviously was extremely proud of the facility. The powerhouse was overwhelming, with its spinning generators from another age, sculpted ceiling and walls and glass windows lined up around the roof.

The clear panes opened up to the sky, letting the sun shine down into this temple of light and electricity. As we gazed down on the row of endlessly spinning electric generators, he mischievously proclaimed, “That’s power- man- power.”

He had a point.

But I drifted to the thought that; when human minds come together and harness the intellect and creativity of our species; we can accomplish truly wonderful things.

We can harness the power of rain and electrons to drive our modern technological civilization.

We can create art, from rock and sand and water, to form concrete temples to hydro-electric power.

We can create welcoming spawning beds for salmon as they slide into home waters from their ocean wanderings.

We can create conditions that remind us what true salmon abundance looks like.

We can dream of a future that will be more like our past.

We can strive to reclaim some of what was lost, in our haste to embrace progress too quickly.

We have the potential to do better and be better when we work together.

Now I think, that's real "Power-Man-Power".