

# Green Scene: Salmon in our Streams

*by Elaine Golds*

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This is the season of the salmon. Just as spring brings forth a welcoming re-birth of plant life, autumn on the BC coast is the iconic season for salmon as our streams fill with adult spawners working their way back to the places where they emerged as alevins from the gravel several seasons ago. Typically, it is the influx of fresh water from recent rains into the mouths of our streams that provides the signal for these adult salmon, holding in estuaries or larger rivers, to move upstream in search of the place of their birth. With our recent dry weather, many salmon may be still holding downstream awaiting some rain to bring them in.

Small urban streams typically provide good rearing habitat for both chum and coho salmon. Chum spend only a short time in fresh water streams. By mid-spring, the small fry will swim downstream and seek out the more biologically-rich water of estuaries where food is more abundant. From there, they will move out to the ocean and not return for four years. Thus, their life cycle allows them to take advantage of small ephemeral streams that fill with water during the winter season but tend to dry out during the droughty months of summer.

**Chris Hamming, one of the regular volunteers at the Hoy Creek Salmon Come Home event, offers popular explanations on the life cycle of salmon.**  
*Niall Williams photo.*



Because coho spend their entire first year in fresh water streams, they require streams with year-round water flow. Coho return after only 18 months in the ocean and, as adults, are smaller than chum. Occasionally, young coho males, called jacks, mature early and return after only a single summer in the ocean.

The impressively-sized adults we see in streams this time of year are truly the magnificent survivors. They represent the cream of the crop, the 1% or less of their siblings that have successfully found their way home. Their brothers and sisters will have perished during long journeys following currents in the eastern Pacific Ocean. Along the way, these salmon become part of the food chain in the ocean and, as such, help to sustain a vast web of other creatures including the magnificent killer whales found in the Strait of Georgia.

While people have always been in awe of the remarkable instincts of salmon to return to the river of their birth, it is only recently that scientists have successfully provided some explanation for this impressive homing ability. While some have speculated that salmon were able to detect scent signals of their birth stream in the ocean, because such signals would be so hugely diluted, this theory always seemed questionable. Others have postulated that animals with strong homing instincts are able to somehow detect the magnetic field of the earth.

Recently, biologists discovered that trout have specialized cells in their snout which contain iron-rich crystals; these cells have the ability to rotate when influenced by a magnetic field. While such specialized cells account for only 1 in every 10,000 cells in the olfactory tissue of trout, this is considered to be sufficient to allow fish to sense their location using the geomagnetic field of the planet. Further research suggests that juvenile salmon become imprinted with a magnetic map of their home stream and use this map like a global positioning signal to find their way home when it is time to spawn. As they approach their birthplace, chemical signals such as scent probably allow them to pinpoint their natal stream.

Once salmon successfully return to their home stream, they must find suitable places to spawn. For this, they require clean gravel of a suitable size and depth in locations where fast flows ensure a good supply of oxygen for their eggs. For many of our smaller urban streams, where successive winter flows have pushed gravel downstream over several years, suitable spawning sites are often in short supply. Now that salmon are ready to spawn in local streams, people should ensure their dogs are kept out of streams because spawners could be disturbed and their eggs damaged over the next few months.

This coming weekend on Sunday, October 20 from 11am-3pm, the Hoy Creek Salmon Come Home event in Coquitlam offers a great opportunity to view spawning salmon, listen to presentations on their remarkable life cycle and visit the displays of various stewardship groups. The Hoy Creek Salmon Hatchery can be reached by a trail from the corner of Town Centre Blvd and Princess Crescent. This annual event provides an occasion to enjoy a local stream at one of its most impressive times.