



## BACKGROUND

### Salmon in British Columbia

#### July 2010

Salmon are at the heart of British Columbia's culture, economy and environment. The well-being of the salmon population is a direct reflection of how we are doing as a society and as stewards of the environment.

#### History and cultural value

- The earliest salmon fossil, *Eosalmo driftwoodensis*, was found in 1977 at Driftwood Creek in Smithers, B.C. It is estimated to be 50 million years old and from the Early Cenozoic Period.
- People and salmon have maintained a complex relationship in the Pacific Northwest for at least 10,000 years.
- B.C. First Nations have a deep spiritual relationship with salmon dating back thousands of years, and many First Nations communities are founded on traditional fishing grounds.

#### Economic Value

- Recreational anglers spend over \$550 million annually on fresh and saltwater sport fishing in B.C.
- A representative year for B.C.'s commercial salmon fishing industry can translate to \$30 million in value to the harvesters as well as a post processing value of over \$100 million.
- Wildlife viewing of salmon and interdependent species is a significant part of B.C.'s tourism industry, and contributes additional money and employment to the economy.

#### Ecological Value

- Salmon have evolved over eons to be interdependent with all elements of their environment. In their keystone environmental niche, salmon declines affect forests, wildlife and the entire ecosystem.
- Wild salmon carry nutrients from the river to the sea and back again, and fertilize much of B.C.'s forest ecosystems.
- Salmon are vital in the food chain, with 137 species relying on salmon as part of their diet.
- Much like a canary in a coal mine, salmon play a key role as a biosensor. Their health is an indicator of general ecosystem health.

#### Management

- Fisheries management seeks to conserve fish stocks and their genetic diversity, fulfill First Nations' rights to food, social and ceremonial fishing, and distribute fishing opportunities to other users.
- The forecasts required by fisheries resource management are hindered by missing data and uncertainty, even without the current threats to salmon.
- Many environmental problems hurt salmon. These include Mountain Pine Beetle outbreaks, effluent discharge in rivers, and climate change impacts such as drought and changes to river flows and river temperatures.

- Salmon habitat is lost or degraded through development pressures. Some forestry, agriculture and mining industry practices can destroy salmon habitat, as can residential development that increases water demands and changes streams.
- Unproductive ocean conditions have contributed greatly to salmon declines, and the exact nature and cause of these poor conditions are unknown.

### **Salmon journey**

- In British Columbia, Pacific salmon include Sockeye, Pink, Chum, Coho and Chinook salmon, as well as Steelhead trout and Cutthroat trout.
- Most Pacific salmon are anadromous: they are born in fresh water, spend some or all of their adult lives in the saltwater oceans, return to their birth place to spawn, then die soon after spawning.
- Less than two percent of salmon hatched in redds (gravel nests built by the female) will return to spawn.
- Chinook salmon are known to travel more than 16,000 kilometres in the Pacific Ocean before they return to spawn.
- During ocean migration, salmon travel distances as great as 56 kilometres per day, using coastal currents to propel them forward.
- An estimated 10 billion salmon smolts enter the Gulf of Alaska from surrounding North American rivers each year.
- Pheromones, or chemical cues, in the water guide salmon, allowing them to find their birth streams.