The Fraser River Estuary: A global biodiversity hotspot

The Fraser River Estuary is among the most productive and biologically diverse estuaries in North America.[1,2,3] A crossroads for birds on three continents, it boasts the highest concentrations of migratory birds in Canada – with up to 1.4 million birds using it at peak season.[4,5] Its ecological connections extend tens of thousands of kilometers across the Pacific Ocean through movements of migratory birds, mammals, salmon and other fish.[6]

600,000

The number of Western Sandpipers supported by Roberts Bank on a typical migration.[7] Roughly half of the world's population migrates through Roberts Bank each year.[8]

Recognized around the world

- **A global priority**: international accreditations including a Global Key Biodiversity Area, Ramsar Convention on Wetlands, and the Western Hemisphere Shorebird Reserve's highest recognition, emphasize its importance.[9]
- **Globally significant bird populations**: The Estuary supports significant gatherings of birds, including Western Sandpipers, Dunlin, Brant and Trumpeter Swans.[10]

A refuge in every season

- The Fraser River Estuary provides year-round feeding, and refuge for migrating birds, overwintering birds, returning adult salmon and rearing juvenile salmon.[11,12,13,14]
- **A diversity of feeding habitats**: Dowitchers probe marshes for marine worms. Yellowlegs hunt small fish. Dunlins and Black-bellied Plovers search sandflats for worms.[15]
- **Habitat connectivity**: The estuary contains Critical Habitat for the endangered Southern Resident killer whales [16] and supports salmon returning to hundreds of natal streams and lakes in the Fraser River watershed.

Mudflats with crucial nutrients fuel migration

- **Microscopic algae support a food web**: Biofilm, the thin layer of diatoms, bacteria and other tiny organisms, fuels migrating shorebirds on the Pacific flyway.[17,18]
- **Energy-rich biofilm**: Western Sandpipers use specialized tongues to slurp up the biofilm, rich with fatty acids, from the mud's surface.[19]
- **A delicate balance of seasonal conditions** produces the estuary's biofilm. It peaks in the spring, coinciding with the migratory stopovers of hundreds of thousands of Western Sandpipers.[20]

Connected habitats for young salmon

- **Habitat en route to the sea and back**: Marshes, eelgrass beds and sandflats in the estuary all support young salmon.[21]
- **Eelgrass supports fish diversity**: 37 fish species have been found in eelgrass, compared with 19 in marshes and 22 on sandflats.[22]
- A reconnected estuary: Raincoast's newly built jetty breaches are restoring pathways between the Fraser River and the outer estuary, with monitoring confirming all species of young salmon use them.[23]

Where the Fraser River meets the sea, an extraordinary web of life converges. This estuary is irreplaceable.

FACT SHEETS AND CITATIONS
DOI: 10.70766/3.12621

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