

## ORCA FOOD SECURITY PROGRAM

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### Program Summary:

Scientific and stock assessment reports have determined there is a lack of large Chinook salmon available for the endangered Southern Resident Killer Whales (SRKW) in the Salish Sea during the spring and summer. Key stream-type Chinook stocks originating from the Upper and Mid Fraser River have been trending lower in abundance for approximately fifteen years and have failed to rebound as a result of DFO reducing fishing harvest alone. These stocks (Fraser Spring and Summer 5-2s) are large in body size, contain fatty oils important to the SRKWs and spawn at five years. They were traditionally abundant in the Salish Sea during the spring when SRKW were in the area too and once made up a significant part of the Orcas' diet. SRKW health and survival has decreased in correlation to Fraser stream-type Chinook decline. Increasing the enhancement of Chinook salmon in the Southern Georgia and Juan de Fuca Straits is the crucial factor to ensuring SRKW recovery and the Government of Canada MUST move quickly to establish a multi-level Southern BC Chinook enhancement strategy.

The South Vancouver Island Anglers Coalition (SVIAC) recommendation, named the Orca Food Security Program, contains three distinct areas of enhancement as follows:

1. **Setting up multiple Temporary Marine Enclosure (TME) projects** around South Vancouver Island and off the Vancouver/ Fraser River mouth waterfront. This initiative would use Nitnat, Cowichan, Squamish and Harrison River origin Chinook as brood stock, then rear the Chinook to smolt stage in government operated hatcheries. Once ready, the juvenile salmon would be out-planted for three to six weeks in TMEs each year, while maintaining Wild Salmon Policy transplantation protocols. TME use increases juvenile to adult survival rates compared to natural spawned offspring and river released hatchery fish. There should be six separate TME out-planting locations (*See map below*). A minimum target of 1,000,000 juvenile Chinook at each identified location. Using a cautious estimate (3%), the anticipated survival rate could achieve a return of 180,000 large adult Chinook three to four years after release.
2. **Ramping up Chinook production at specific DFO production hatcheries.** Capilano, Chehalis and Chilliwack Hatcheries on the Lower Fraser River are operated by DFO and all currently raising Chinook salmon. These locations predominantly rear Harrison origin fall run ocean-type Chinook and could be easily upgraded to produce necessary volumes of juvenile Chinook. Increasing annual output to 7,500,000 would improve future adult Chinook abundance.

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3. **Building a new year-round satellite hatchery on the Willow River** near Prince George. This new hatchery would serve several key enhancement functions. (i) Coded Wire Tag Indicator Stock: currently, DFO has no Coded Wire Tag indicator stock for Fraser Spring and Summer stream-type Chinook salmon. The Willow River hatchery could fill that much needed stock assessment requirement to better understand the declining wild stocks and produce 300,000 Chinook smolts with CWTs annually; (ii) Conservation enhancement: where specific Fraser 5-2 Chinook stocks are at critically low levels and require conservation and rebuilding enhancement, the Willow River hatchery could be utilized; and (iii) SARA Recovery Enhancement (gene bank): should any of the Fraser 5-2 Chinook stocks fall to abundance levels triggering a SARA listing, this hatchery could become a recovery facility for those fish.



The enhancement outlined in this summary is a temporary measure, while wild Spring and Summer Fraser stream-type Chinook naturally rebuild in abundance. By adipose fin clipping (marking) all the fish produced in the OFSP TMEs, retention fisheries for First Nations, commercial and the public could also be sustained. A more comprehensive document on this three-phased enhancement approach with estimated costs is available upon request.

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