

Watershed Attributes	Watershed Goals	Chinook Limiting Factors	Current Risk Rating	Future Risk Rating	Strategy	Salmon specific Indicators	Targets	Detailed Action
<b>Hydrology</b> <b>Biological Communities</b> <b>Physical Habitat</b>	Healthy, abundant native fish, aquatic organisms and terrestrial animals and plants	LF1 Predation of Adults by Pinnepeds	VH	VH	Provide Adequate Flow Provide adequate instream and estuary cover	# of adults or % mortality due to predation by pinnipeds in the Cowichan estuary		Establish adequate flows Determine how predation varies with flow levels Utilize a more regular release of pulse flows to move chinook Establish target flows during prime Chinook holding time and when Chinook <3000
						Abundance of pinnipeds in the lower river and estuary from late July/early August through November		Determine quantity of holding habitat Provide sufficient in-stream and in estuary cover Manage the location and quantity of log booms
						Distribution of pinnipeds in the Cowichan River Abundance and trends of the Georgia Strait seal and sea lion population		Estimate distribution and abundance of pinnipeds and determine mortality rate of Chinook by pinneped predation
		LF18: Predation of chinook eggs and alevins by fish (sculpins, trout), birds etc.	VH	VH	Provide adequate LWD cover and instream habitat complexity Provide adequate flows	Degree of predation on eggs and alevins % Egg to emergent fry survival Bears, raccoons, bird, minks, otters abundance Biostandard for LWD- 2 pieces per bankful width		Release PIT tagged fish along sequential river sections to determine where the bulk of the predation events occur CT project to examine brown trout predation

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Hydrology	Normative* flow conditions that support watershed and stream health, channel functions, and public health and safety.	LF2 Limited or Delayed Spawner Access	H	VH	Provide Adequate Flow	Magnitude and duration of flows during spawning period		
						Stream discharge during the CH migration and spawning period	0 days below 7cms	Develop a plan to release adequate maintenance flows to improve fish migration, increase summer flows to the mainstem and to improve connectivity of off channel and tributary habitat Continue collective decision making process for operation of the weir
						Rainfall records over low flow period		Develop a Monitoring and education program for Cowichan Lake residents to illustrate seasonal variations in the water surface elevation in the lake and downstream in the river proper. Develop public information materials on BMP for Water Conservation through more efficient use of water.

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Physical Habitat		<p><b>LF23:</b> Limited access or no access to existing and historical off channel habitat (Trailer park channel, Priests slough/marsh)</p>	<b>VH</b>	<b>VH</b>	Provide access to historical off channel habitat	Area of isolated or underutilized historical off channel habitat		<p>Assess the total area of rearing habitat lost in the floodplain reach of the Cowichan and Koksilah River relative to historical conditions. Identify and assess fish access to seasonal or historical off channel along the mainstem Cowichan River Rehabilitate habitat and restore flow to historically utilized off channel and side channel habitat Investigate the feasibility and value of outplanting hatchery fry into these sites to assist with naturalizing and re-establishing utilization of these areas by chinook</p>
		<p><b>LF25:</b> Loss of high quality rearing habitat and natural instream complexity</p>	<b>VH</b>	<b>VH</b>		% pool habitat, Pool frequency, Channel width per pool, LWD pieces per channel width, Bldr cover in riffles		<p>Conduct integrated flood management with 2:1 habitat complexing in the lower river as compensation Explore feasibility of removing dikes or creating set-back dikes to restore floodplain function Assess and remove channel spanning debris jams that increase risk of flooding and/or cause active erosion in lower river areas Maintain adequate LWD that is stabilized and available in low flow Implement a monitoring program</p>

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		LF31: Lack of good quality estuarine and nearshore habitat	VH	VH		Area, distribution, type and change in area of tidal and submerged wetlands (Dent et al. 2005).		Consider restoration of channel profiles and habitat complexity in the tidal channels Assess opportunities to improve transitional fish habitat in the existing protected areas address the lack of knowledge factors Investigate the opportunities for fish habitat restoration and arboreal restoration in the nearshore estuary area Support more active management of the estuary to facilitate more active protection and restoration works
	Habitat that supports healthy abundances of native species, is connected and resilient.	LF3: Loss of safe migration route through mainstem	H	VH	Maximize lower floodplain function	Availability of off-channel refuge areas in lower floodplain		Discourage development in the floodplain that restricts natural inundation Conduct integrated flood management with 2:1 habitat complexing in the lower river as compensation Explore feasibility of removing dikes or creating set-back dikes to restore floodplain function Assess and remove channel spanning debris jams that increase risk of flooding and/or cause active erosion in lower river areas Implement a monitoring program
		LF 4: Aggradation creates a migration barrier during low flow period	H	VH	Manage accumulated sediments in lower river	____ # deep holding pools/km or # pools per bankfull channel width Adequate depth for migration/access	minimize dewatering of the North Fork during the chinook migration period	Develop and implement a sediment management plan