

Annual coastal migration of juvenile Chinook salmon: static stock-specific patterns in a highly dynamic ocean

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Supplement. Detailed allocations to regional and sub-regional stocks in mixed-stock analysis

Table S1. *Oncorhynchus tshawytscha*. Unweighted mean (SE) estimated stock composition (%) by region and season averaged between 1998–2008, for 15 regional and 40 sub-regional stocks of juvenile Chinook salmon. Stocks were allocated according to Beacham et al. (2006 a,b). Briefly, ten 20 000-iteration Markov chain Monte Carlos were run using an uninformative prior with a value of 0.90 for a randomly picked population (Pella & Masuda 2001). Estimated stock compositions were considered to have converged when the shrink factor was <1.2 for the 10 chains (Pella & Masuda 2001). The posterior distributions from the last 1000 iterations for all chains were combined to estimate mean stock composition and SE. Run-timings: Spring (Sp), Summer,(Su), Fall (F). Regions: E/WCVI = east/west coast Vancouver Island; CC: central British Columbia (BC); SEAK: southeast Alaska, QSI: Queen Charlotte Islands. Annual stock compositions are available on request

Regional stock	Sub-regional stock	WCVI			CC			SEAK		
		Jun–Jul n = 735	Oct–Nov n = 1977	Feb–Mar n = 1237	Jun–Jul n = 262	Oct–Nov n = 516	Feb–Mar n = 47	Jun–Jul n = 30	Oct–Nov n = 952	Feb–Mar n = 518
California	Klamath/Trinity	0.0 (0.01)	0.1 (0.01)	0.44 (0.01)	0.01 (0.04)	0.0 (0.01)	0.0 (0.13)	0.0 (0.26)	0.0 (0.01)	0.0 (0.01)
	Central Valley, Sp	0.03 (0.02)	0.01 (0.0)	0.0 (0.0)	0.01 (0.05)	0.0 (0.01)	0.0 (0.11)	0.0 (0.28)	0.0 (0.01)	0.0 (0.01)
	Central Valley, F	0.29 (0.04)	0.02 (0.01)	0.28 (0.01)	0.03 (0.07)	0.0 (0.02)	0.0 (0.23)	0.0 (0.39)	0.0 (0.02)	0.0 (0.01)
	Coastal California	0.0 (0.01)	0.0 (0.0)	0.0 (0.0)	0.0 (0.02)	0.0 (0.01)	0.0 (0.09)	0.0 (0.11)	0.0 (0.01)	0.0 (0.0)

Regional stock	Sub-regional stock	WCVI			CC			SEAK		
		Jun-Jul n = 735	Oct-Nov n = 1977	Feb-Mar n = 1237	Jun-Jul n = 262	Oct-Nov n = 516	Feb-Mar n = 47	Jun-Jul n = 30	Oct-Nov n = 952	Feb-Mar n = 518
Oregon	South Oregon coast	0.73 (0.06)	0.13 (0.01)	0.42 (0.01)	0.17 (0.08)	0.02 (0.02)	0.01 (0.19)	0.0 (0.32)	0.0 (0.02)	0.0 (0.01)
	North & Central Oregon	0.39 (0.05)	0.18 (0.01)	1.75 (0.03)	0.06 (0.07)	0.0 (0.02)	1.48 (0.37)	4.25 (0.83)	0.02 (0.02)	0.0 (0.01)
Columbia R	Low Columbia	0.27 (0.02)	0.01 (0.0)	0.05 (0.01)	0.12 (0.06)	0.01 (0.01)	2.72 (0.56)	0.19 (0.35)	0.0 (0.01)	0.0 (0.01)
	Mid Columbia, Sp	4.62 (0.15)	0.25 (0.02)	0.44 (0.01)	8.52 (0.42)	1.06 (0.06)	0.05 (0.21)	4.02 (1.04)	0.67 (0.06)	0.01 (0.01)
	Up Columbia, Sp	18.8 (0.25)	0.42 (0.02)	0.0 (0.0)	22.08 (0.54)	0.13 (0.03)	0.0 (0.14)	24.58 (0.69)	3.88 (0.11)	0.0 (0.01)
	Up Columbia, Su/F	16.25 (0.18)	1.9 (0.03)	2.65 (0.04)	3.38 (0.17)	0.58 (0.04)	0.29 (0.27)	0.0 (0.29)	0.4 (0.03)	0.16 (0.01)
	Snake, Sp/Su	34.68 (0.34)	0.7 (0.03)	0.03 (0.01)	36.19 (0.76)	0.6 (0.06)	0.27 (0.39)	18.15 (1.54)	4.32 (0.12)	0.01 (0.02)
	Snake, F	3.09 (0.09)	0.46 (0.02)	0.47 (0.02)	0.92 (0.08)	0.12 (0.02)	0.44 (0.25)	0.0 (0.11)	0.16 (0.02)	0.0 (0.0)
	Upper Willamette	4.69 (0.09)	0.1 (0.01)	1.23 (0.02)	9.17 (0.31)	0.12 (0.02)	0.0 (0.13)	45.9 (2.29)	0.13 (0.02)	0.21 (0.01)
	Washington	Coastal Washington	0.04 (0.02)	0.4 (0.01)	3.0 (0.04)	3.77 (0.18)	0.12 (0.03)	0.01 (0.15)	0.0 (0.27)	0.34 (0.03)
	Juan de Fuca	0.04 (0.01)	0.02 (0.0)	0.13 (0.01)	0.0 (0.03)	0.04 (0.02)	0.0 (0.08)	0.04 (0.2)	0.0 (0.01)	0.0 (0.0)
Puget Sound	Puget Sound	0.44 (0.04)	0.5 (0.02)	9.98 (0.07)	0.66 (0.14)	0.46 (0.05)	0.43 (0.4)	0.02 (0.42)	0.01 (0.02)	0.0 (0.01)
Fraser R	Lower Fraser, Sp	0.17 (0.02)	0.06 (0.01)	0.01 (0.0)	5.02 (0.21)	0.11 (0.02)	0.0 (0.14)	0.0 (0.26)	0.1 (0.01)	0.17 (0.01)
	Lower Fraser, Su	0.01 (0.01)	0.0 (0.0)	0.24 (0.0)	0.0 (0.03)	0.0 (0.01)	0.0 (0.08)	0.0 (0.11)	0.0 (0.0)	0.0 (0.0)
	Lower Fraser, F	0.02 (0.02)	0.08 (0.01)	0.87 (0.02)	0.01 (0.04)	0.02 (0.02)	0.07 (0.19)	0.0 (0.22)	0.0 (0.01)	0.01 (0.01)
	Mid-Upper Fraser	0.46 (0.06)	0.37 (0.02)	0.96 (0.02)	2.7 (0.2)	1.44 (0.08)	1.35 (0.68)	0.0 (0.56)	0.01 (0.02)	0.32 (0.03)
	Upper Fraser	0.11 (0.04)	0.87 (0.02)	0.39 (0.02)	0.84 (0.16)	0.17 (0.05)	0.08 (0.4)	0.0 (0.62)	0.01 (0.03)	0.04 (0.02)
	Lower Thompson	0.68 (0.05)	0.01 (0.01)	0.0 (0.0)	0.14 (0.08)	0.44 (0.04)	0.0 (0.23)	0.0 (0.39)	0.0 (0.01)	0.03 (0.01)

Regional stock	Sub-regional stock	WCVI			CC			SEAK		
		Jun-Jul n = 735	Oct-Nov n = 1977	Feb-Mar n = 1237	Jun-Jul n = 262	Oct-Nov n = 516	Feb-Mar n = 47	Jun-Jul n = 30	Oct-Nov n = 952	Feb-Mar n = 518
	South Thompson	0.74 (0.06)	0.86 (0.02)	7.18 (0.06)	0.17 (0.1)	0.11 (0.04)	1.96 (0.61)	0.02 (0.44)	0.0 (0.02)	0.0 (0.01)
	North Thompson	0.28 (0.05)	1.57 (0.03)	0.74 (0.02)	0.06 (0.07)	0.1 (0.04)	0.05 (0.2)	0.0 (0.36)	0.0 (0.01)	0.03 (0.01)
ECVI	ECVI	0.35 (0.06)	0.16 (0.01)	1.67 (0.03)	1.47 (0.19)	0.16 (0.04)	1.3 (0.45)	0.04 (0.5)	0.01 (0.02)	0.0 (0.01)
WCVI	WCVI	11.77 (0.11)	90.14 (0.07)	65.45 (0.11)	0.4 (0.13)	2.52 (0.09)	7.39 (0.66)	0.0 (0.57)	0.02 (0.02)	0.81 (0.03)
South BC Mainland	South BC Mainland	0.1 (0.03)	0.12 (0.01)	0.08 (0.01)	0.05 (0.07)	3.5 (0.09)	3.26 (0.71)	0.04 (0.42)	0.09 (0.02)	0.05 (0.02)
North BC Mainland	North BC Mainland	0.3 (0.05)	0.15 (0.02)	1.46 (0.03)	3.29 (0.16)	65.67 (0.4)	34.89 (2.16)	2.37 (0.89)	5.01 (0.11)	5.57 (0.15)
Nass R	Nass	0.15 (0.04)	0.05 (0.01)	0.04 (0.01)	0.19 (0.1)	10.49 (0.24)	5.47 (0.78)	0.0 (0.45)	1.6 (0.08)	1.37 (0.1)
Skeena R	Skeena Lower	0.09 (0.03)	0.02 (0.01)	0.01 (0.0)	0.14 (0.09)	3.49 (0.11)	1.42 (0.63)	0.17 (0.42)	0.18 (0.03)	1.14 (0.07)
	Skeena Mid	0.09 (0.03)	0.09 (0.01)	0.03 (0.01)	0.08 (0.07)	1.7 (0.12)	1.46 (0.75)	0.01 (0.22)	0.81 (0.05)	0.88 (0.08)
	Skeena Upper	0.02 (0.02)	0.11 (0.01)	0.01 (0.0)	0.06 (0.05)	3.85 (0.13)	3.18 (0.73)	0.01 (0.27)	0.61 (0.06)	0.28 (0.04)
	Skeena Babine	0.01 (0.01)	0.01 (0.0)	0.0 (0.0)	0.01 (0.02)	0.01 (0.01)	0.27 (0.29)	0.0 (0.13)	0.03 (0.01)	0.0 (0.01)
	Skeena Bulkley	0.0 (0.01)	0.01 (0.0)	0.0 (0.0)	0.01 (0.02)	0.04 (0.02)	14.26 (1.06)	0.0 (0.15)	0.02 (0.01)	0.01 (0.01)
QCI	QCI	0.0 (0.01)	0.0 (0.0)	0.0 (0.0)	0.0 (0.03)	0.68 (0.03)	9.81 (0.93)	0.0 (0.15)	0.0 (0.01)	0.0 (0.0)
Trans-boundary R	Alek	0.01 (0.02)	0.0 (0.0)	0.0 (0.0)	0.02 (0.04)	0.0 (0.01)	0.01 (0.16)	0.04 (0.21)	0.0 (0.01)	0.0 (0.01)
	Stikine	0.02 (0.02)	0.08 (0.01)	0.02 (0.0)	0.12 (0.08)	0.75 (0.1)	0.4 (0.39)	0.16 (0.4)	57.33 (0.27)	77.87 (0.38)

Regional stock	Sub-regional stock	WCVI			CC			SEAK		
		Jun-Jul n = 735	Oct-Nov n = 1977	Feb-Mar n = 1237	Jun-Jul n = 262	Oct-Nov n = 516	Feb-Mar n = 47	Jun-Jul n = 30	Oct-Nov n = 952	Feb-Mar n = 518
	Taku	0.01 (0.02)	0.01 (0.01)	0.0 (0.0)	0.03 (0.06)	0.09 (0.04)	0.35 (0.34)	0.0 (0.31)	9.0 (0.15)	3.88 (0.19)
	Unuk River	0.01 (0.01)	0.01 (0.0)	0.0 (0.0)	0.02 (0.03)	1.4 (0.05)	7.23 (0.52)	0.01 (0.07)	13.67 (0.18)	6.26 (0.21)
SEAK	Alaska	0.25 (0.03)	0.04 (0.01)	0.0 (0.0)	0.09 (0.08)	0.01 (0.02)	0.1 (0.23)	0.0 (0.33)	1.58 (0.04)	0.86 (0.05)