Agenda Item D.1.b Supplemental FSC Presentation 1 (Lindley) March 2019

Update on Fisheries Science Centers Activities: Salmon

Steve Lindley SWFSC 7 March 2019





Using hierarchical models to estimate stock-specific and seasonal variation in ocean distribution, survivorship, and aggregate abundance of fall run Chinook salmon

Andrew Olaf Shelton, William H. Satterthwaite, Eric J. Ward, Blake E. Feist, and Brian Burke

Can. J. Fish. Aquat. Sci. 76: 95–108 (2019) dx.doi.org/10.1139/cjfas-2017-0204

Different ports access different mixes of populations, with more diverse mixes in the north





a) Winter-Spring SWVI SGEO PUSO WAC UPCOL MCOL COL NOR COR SOR NCA SFB NSEAK-SSEAK MONT PUSO SGEO SWVI IVWN SFB MEN NCA SOR COR NOR COL WAC CBC NBC b) Summer SWV -0.40 SGEO PUSO -0.32 WAC UPCO Origin -0.24 MCOL COL -0.16 NOR COR -0.08 SOR NCA -0.00 SFB NSEAK-SSEAK. WAC PUSO SGEO SWVI NWN MONT MEN SOR NOR CBC NBC SFB NCA COR COL c) Fall SWVI SGEO PUSO WAC UPCOL MCOL COL NOR COR SOR NCA SFB SSEAK-NSEAK-PUSO SGEO INMN MONT SFB MEN WAC SWVI NBC NCA SOR COR NOR COL CBC Ocean region

Different populations have different distributions that shift seasonally

Survival of southern populations trended down



Troll Effort (Boat Days)



Received: 13 October 2017 Accepted: 17 January 2018

DOI: 10.1111/faf.12272

ORIGINAL ARTICLE

WILEY FISH and FISHERIES

Demographic changes in Chinook salmon across the Northeast Pacific Ocean

Jan Ohlberger¹ | Eric J Ward² | Daniel E Schindler¹ | Bert Lewis³





DOI: 10.1111/fog.12415



ORIGINAL ARTICLE

WILEY FISHERIES

Spatial variability in ocean-mediated growth potential is linked to Chinook salmon survival

Mark Henderson¹ | Jerome Fiechter² | David D. Huff³ | Brian K. Wells⁴





Decoupling outmigration from marine survival indicates outsized influence of streamflow on cohort success for California's Chinook salmon populations

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In press, Can J Fish Aquat Sci, http://www.nrcresearchpress.com/doi/abs/10.1139/cjfas-2018-0140 Smolt-to-adult return rates are correlated with freshwater survival rates



Smolt-to-adult return rate depends strongly on flow, but not on ocean measures







Flow-mediated effects on travel time, routing, and survival of juvenile Chinook salmon in a spatially complex, tidally forced river delta

Russell W. Perry, Adam C. Pope, Jason G. Romine, Patricia L. Brandes, Jon R. Burau, Aaron R. Blake, Arnold J. Ammann, and Cyril J. Michel



Can. J. Fish. Aquat. Sci. 75: 1886–1901 (2018) dx.doi.org/10.1139/cjfas-2017-0310 Increasing flow reduces travel time and increases survival in riverine and transitional reaches



DOI: 10.1002/ece3.3663

ORIGINAL RESEARCH

WILEY Ecology and Evolution

Conservation planning for freshwater-marine carryover effects on Chinook salmon survival



Changes in adult Chinook salmon (Oncorhynchus tshawytscha) survival within the lower Columbia River amid increasing pinniped abundance

In press, Can J Fish Aquat Sci http://www.nrcresearchpress.com/doi/abs/10.1139/cjfas-2018-0290

AMW Rub, NA Som, MJ Henderson, BP Sandford, DM Van Doornik, DJ Teel, MJ Tennis, OP Langness, BK van der Leeuw, and DD Huff



A California sea lion in the East Basin Marina, Astoria, Oregon. Samuel James for *Harper's Magazine* © The artist







Fishery collapse, recovery, and the cryptic decline of wild salmon on a major California river

Malte Willmes, James A. Hobbs, Anna M. Sturrock, Zachary Bess, Levi S. Lewis, Justin J.G. Glessner, Rachel C. Johnson, Ryon Kurth, and Jason Kindopp



Can. J. Fish. Aquat. Sci. 75: 1836–1848 (2018) dx.doi.org/10.1139/cjfas-2017-0273 Wild-origin fish in the Feather River have not recovered much since the 2007-09 collapse





Balancing Survival, Straying, and Stability: 77 Years of Salmon Hatchery Releases in the California Central Valley

Journal:	Fisheries
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Keywords:	Chinook salmon, hatchery management, California Central Valley, portfolio effect, straying, Early Life History, resilience







Canadian Journal of Fisheries and Aquatic Sciences

Estimating the benefits of widespread floodplain reconnection for Columbia River

Chinook salmon

Morgan H. Bond¹, Tyler G. Nodine^{1,†}, Tim J. Beechie² and Richard W. Zabel²





RESEARCH ARTICLE

Large river habitat complexity and productivity of Puget Sound Chinook salmon

Jason E. Hall¹*, Correigh M. Greene¹, Oleksandr Stefankiv², Joseph H. Anderson³, Britta Timpane-Padgham², Timothy J. Beechie¹, George R. Pess¹





