

LOW-TECH APPROACHES FOR SALMON HABITAT RESTORATION

Knowledge Exchange Workshop – Supplementary Materials

DR. JOE WHEATON – UTAH STATE UNIVERSITY

Links from his talk:

- <https://riverscapes.net> - Community Platform (would love to get PSF in as Org)
- <https://pbr.riverscapes.net> - PBR Explorer
- <https://lowtechpbr.restoration.usu.edu> - LTPBR Training
- <https://gris.riverscapes.net> - QRIS

REID CAMP – SNAKE RIVER SALMON RECOVERY BOARD

Videos that go into more detail on the steps for completing a low-tech project:

- <https://youtu.be/4FmSWgWkXjc?si=7r79Pss5ZGDZgoy>
- <https://youtu.be/sZpe-hLqVN8?si=HPg-HTDnK0vvOM7j>

Influential Papers for fluvial geomorphology and LTPBR ([CLICK HERE TO ACCESS THE PDFS](#)):

- Brierley, G., K. Fryirs, H. Reid, and R. Williams. 2021. The dark art of interpretation in geomorphology. *Geomorphology* 390:107870.
- Buffington, J. M., and D. R. Montgomery. 2021. Geomorphic classification of rivers: An updated review. *Treatise on Geomorphology*. 2: 1-47.
- Camp, R. J., and J. M. Wheaton. 2014. Streamlining field data collection with mobile apps. *Eos, Transactions American Geophysical Union* 95(49):453–454.
- Church, M. 2002. Geomorphic thresholds in riverine landscapes. *Freshwater Biology* 47(4):541–557.
- Fryirs, K., G. J. Brierley, and W. D. Erskine. 2012. Use of ergodic reasoning to reconstruct the historical range of variability and evolutionary trajectory of rivers. *Earth Surface Processes and Landforms* 37(7):763–773.
- Glassic, H. C., R. Al-Chokhachy, J. Wheaton, W. W. Macfarlane, C. E. Jordan, B. Murphy, S. Shahverdian, S. Bennett, N. Bouwes, K. Fryirs, G. Brierley, D. Ciotti, P. Bailey, K. Bartelt, B. Belletti, S. Bizzi, J. Brasington, R. Camp, E. Fairfax, J. Gilbert, J. Jimenez, J. Maestas, T. Mandish, A. McNamara, S. Miller, B. Morizot, M. Perle, H. Piégay, H. Reid, L. V. Reynolds, W. C. Saunders, A. Shallcross, P. Skidmore, R. Smith, B. Terrier, G. Wathen, and N. Weber. 2025. Principles of Riverscape Health. *WIRES Water* 12(4):e70028.
- Kasprak, A., N. Hough-Snee, T. Beechie, N. Bouwes, G. Brierley, R. Camp, K. Fryirs, H. Imaki, M. Jensen, G. O'Brien, D. Rosgen, and J. Wheaton. 2016. The Blurred Line between Form and

Process: A Comparison of Stream Channel Classification Frameworks.
ONE 11(3):e0150293.

PLOS

- Khan, S., K. A. Fryirs, and T. J. Ralph. 2021. Geomorphic controls on the diversity and patterns of fluvial forms along longitudinal profiles. CATENA 203:105329.
- Scamardo, J., W. Munger, K. Loria, B. Nauman, J. Wang, S. Leopold, A. Heggli, N. Huntly, M. Baker, and A. Meadow. 2025. Trends in the Outcomes, Practice, and Law of Low-Tech Process-Based Restoration in Western Rangelands. Rangeland Ecology & Management 98:344–356.

BRYAN MALONEY AND ALLISON LUTES – CHELAN COUNTY & STREAMLINE ENVIRONMENTAL

Questions related to the alluvial water storage model can be directed to Allison Lutes (alutes@streamline-env.ca) and questions about low-tech projects and approaches being taken in Chelan County can be directed to Bryan Maloney (Bryan.Maloney@CO.CHELAN.WA.US).

JEN ROGERS – BC WILDLIFE FEDERATION

BCWF's 10,000 Wetlands Initiative and LTPBR: <https://bcfwatershedteam.ca/beaver-based-restoration/>

JULIE VANDERWAL – SPARROW SONG CONSULTING

<https://beaverfoodforest.com/>

Case Study, Triple Creek Project: https://ybfwrb.org/wp-content/uploads/2020/06/Triple_Creek.pdf

Virtual field guide to BDAs:

- <https://okanoganhighlands.org/restoration/triple-creek/>
- https://www.youtube.com/playlist?list=PLI730hiY77co5eWz_XqJOWmTOM7_BSAQg
- https://www.youtube.com/watch?v=i3Sz9ssCVlg&list=PLI730hiY77co5eWz_XqJOWmTOM7_BSAQg&index=12
- https://www.youtube.com/watch?v=1KmJnFWQiEY&list=PLI730hiY77co5eWz_XqJOWmTOM7_BSAQg&index=13

CHRIS HOAG – HOAG RIPARIAN & WETLAND RESTORATION

[CLICK HERE](#) TO ACCESS PDFS OF CHRIS'S MANY TECHNICAL GUIDANCE DOCUMENTS.

- <https://www.nrcs.usda.gov/plantmaterials/idpmcpussbfglpa.pdf>
- https://www.riversedgewest.org/sites/default/files/2022-06/Field_Guide_Common_Riparian_Plants_Intermtn_West.pdf



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JEN VANDERHOOF – KING COUNTY

- Beavers in King County: <https://kingcounty.gov/en/dept/dnrp/nature-recreation/environment-ecology-conservation/wildlife/beavers>
- Subscribe to The Beaver Bulletin: <https://public.govdelivery.com/accounts/WAKING/signup/41091>
- Beaver life history and ecology: <https://your.kingcounty.gov/dnrp/library/2020/kcr3130/kcr3130.pdf>
- Planning for Beavers Manual – Anticipating Beavers When Designing Restoration Projects: <https://your.kingcounty.gov/dnrp/library/2020/kcr3130/kcr3130.pdf>

JUSTIN PETERSON – NEZ PERCE INDIAN TRIBE

- Knock On Wood video: <https://youtu.be/XfaNEDfZ2fY>
- Knock on Wood NEPA and analysis documents from USFS – may be helpful for folks wanting to utilize the Condition Based Management: <https://www.fs.usda.gov/r01/nezperce-clearwater/projects/archive/61711>
- Payette National Forest - Forest Wide Programmatic Beaver Dam Analog Projects 2020-2029 NEPA and analysis documents. This was helpful in developing Knock On Wood, and provides another example of Condition Based Management, but at a Forest wide scale: <https://www.fs.usda.gov/r04/payette/projects/archive/58374>
- Press releases with details about USFS emphasis on tribal involvement and co-stewardship to address wildfire impacts while improving fish habitat:
 - <https://www.fs.usda.gov/inside-fs/delivering-mission/sustain/improving-creating-fish-habitat-co-stewardship-nez>
 - <https://www.facebook.com/NPCLwNFs/posts/fuel-break-to-fish-habitat-co-stewardship-on-the-nez-perce-clearwater-national-f/690533506448410/>

CATHERINE TARASOFF – AGROWEST CONSULTING

Contact Dr. Tarasoff directly if you have questions on her benthic barrier technique for controlling reed canarygrass: catherine@agrowest.ca

- [CLICK HERE](#) for a step-by-step resource document produced for Skeetchestn Natural Resources Corp. for the installation of benthic barriers to control reed canary grass.