**ES473 Environmental Geology – Spring 2018 Perspectives on River Restoration**

**ASSIGNED REFERENCE AND READING LIST**

**Instructions:** Visit the ES473 class web page and download the MS-Word digital version of this assignment sheet, found at the following URL:

<http://www.wou.edu/las/physci/taylor/g407/Poster_Subtopics_April24_2018_River_Restoration_Assigned_Papers.docx>

Use CTRL + CLICK to follow hyperlink URL to your assigned readings. Download digital copies of your assigned readings / references as PDF files, for use in building your poster content, including concepts, figures, maps and tables (as needed)

**TOPIC AND ASSIGNED READINGS / REFERENCES**  **NAMES / ASSIGNED TOPICS**

(1) Introduction

(A) What is Watershed Assessment / River Restoration?

(B) What is River Restoration? \_\_Walter\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(C) Goals and Objectives

(D) Census / State of River Restoration in Pacific Northwest

[WA Dept. Forestry, 2004, Introduction to River Restoration](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Chap1_Restoration_Introdduction.pdf)

[Wohl et al., 2005, River Restoration (Introduction / Overview)](http://www.wou.edu/las/physci/taylor/g407/restoration/wohl_etal_2005_restoration.pdf)

[Katz et al., 2007, Pacific Northwest River Restoration Overview](http://www.wou.edu/las/physci/taylor/g407/restoration/Katz_etal_2007_PNW_restoration_review.pdf)

(2) Physical Channel Structure and Morphology

(A) woody debris and bed composition \_\_\_Cassie\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Hough and Snee, 2014, Large Woody Debris and Landscape Disturbance](http://www.wou.edu/las/physci/taylor/g407/restoration/Hough_Snee_etal_2014_LWD_disturbance.pdf)

[Kondolf, 2000, Geomorphic Considerations for Salmonid Habitat Restoration](http://www.wou.edu/las/physci/taylor/g407/restoration/kondolf_2000guidelines_salmonid.pdf)

[Washington Dept. Forestry, 2004, Spawning Gravel Maintenance](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Spawning_Gravel_Maintenance_Techniques.pdf)

[Coquille River Channel Enhancement Project 2005](http://www.wou.edu/las/physci/taylor/g407/restoration/Coquille%20River%20Instream%20Enhancement%20Project_2005.pdf)

(B) channel form and morphology "the meander" \_\_\_Jared\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Buffington et al., 2003, Channel Processes in the Pacific Northwest](http://www.wou.edu/las/physci/taylor/g407/restoration/Buffington_%20etal_2003_channel_processes_PNW.pdf)

[Kondolf, 2006, River Restoration and Meander Channel Patterns](http://www.wou.edu/las/physci/taylor/g407/restoration/Kondolf_2006_river_restoration_Meanders_issue.pdf)

[Pedersen et al., 2014, River Restoration, Meandering and Effectiveness](http://www.wou.edu/las/physci/taylor/g407/restoration/Pedersen_%20etal_2014_meandering_issue.pdf)

[Timber Ridge Watershed Enhancement Project 2006](http://www.wou.edu/las/physci/taylor/g407/restoration/Timber%20Ridge%20Ranch%20Watershed%20Enhancement%20Project_2006_.pdf)

(C) channel incision \_\_\_Lance\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[MacWilliams et al., 2010, Channel Incision Case Study (California)](http://www.wou.edu/las/physci/taylor/g407/restoration/MacWilliams_etal_2010_channel_incision_California.pdf)

[Washington Dept. Forestry, 2004, Side Channel Restoration Techniques](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Side_Channel_Restoration_Techniques.pdf)

[Washington Dept. Forestry, 2004, Channel Bank Protection](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Bank_Protection.pdf)

[Kelly Creek Restoration Final Report 2004](http://www.wou.edu/las/physci/taylor/g407/restoration/Kelly%20Creek%20Confluence%20Restoration%20Final%20Report_2004_.pdf)

(3) Hydraulics and Sediment

(A) Streamflow, discharge \_\_\_Aaron\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Washington Dept. Forestry, 2004, Appendix: Hydrology Overview](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Appendix_Hydrology_Overview.pdf)

[Washington Dept. Forestry, 2004, Appendix: River Hydraulics Overview](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Appendix_Hydraulics_Overview.pdf)

[Posner, 2011, River Restoration, Hydraulics and Uncertainty](http://www.wou.edu/las/physci/taylor/g407/restoration/Posner_2011_dissertation_restoration_hydraulics_uncertainty.pdf)

[Gendaszek, 2012, Flow Regulation and River Restoration, Cedar Creek, Washington](http://www.wou.edu/las/physci/taylor/g407/restoration/Gendaszek_2012_flow_regulation_cedar_ck_washington.pdf)

(B) Floodplain connection / side channels \_\_\_Maddie\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Washington Dept. Forestry, 2004, Stream Processes and Habitat](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Chap2_Stream_Processes_Habitat.pdf)

[Branco et al., 2014, Barrier Removal and Channel Connectivity](http://www.wou.edu/las/physci/taylor/g407/restoration/Branco_etal_2014_Barrier_Removal_Connectivity.pdf)

[Washington Dept. Forestry, 2004, Side Channel Restoration Techniques](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Side_Channel_Restoration_Techniques.pdf)

[Anderson Creek Restoration 2005](http://www.wou.edu/las/physci/taylor/g407/restoration/Restoring%20Anderson%20Creek_2005.pdf)

(C) Sediment transport / gravel \_\_\_Austin\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Harvye and Clifford, 2010, River Sedimentation and Hydraulics](http://www.wou.edu/las/physci/taylor/g407/restoration/Harvey_Clifford_2010_sediment_hydraulics.pdf)

[May and Lisle, 2012, Channel Form, Debris Flow and Salmonid Distribution in Pacific Northwest](http://www.wou.edu/las/physci/taylor/g407/restoration/May_Lisle_2012_channel_form_debris_flow_salmon_PNW.pdf)

[Washington Dept. Forestry, 2004, Appendix: Principles of Sediment Transport](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Appendix_Sediment_Transport_Overview.pdf)

[Sutter Creek Restoration](http://www.wou.edu/las/physci/taylor/g407/restoration/Sutter%20Creek.pdf)

(4) Water Quality and Fish Habitat Assessment

(A) temperature \_\_Sophie\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Isaak et al., 2010, Climate Effects on Stream Temperature](http://www.wou.edu/las/physci/taylor/g407/restoration/Isaak_etal_2010_ClimateEffects_river_temperature.pdf)

[OWEB (1999) Watershed Assessment Manual - Water Quality](http://www.wou.edu/las/physci/taylor/g407/restoration/12_water-quality_print.pdf)

[Beschta et al, 1987, Stream Temperature and Salmonid Habitat](file:///X:\las\physci\taylor\g407\restoration\beschta_etal_1987_stream_temp_habitat.pdf)

[Upper Deschutes Water Quality 2006](http://www.wou.edu/las/physci/taylor/g407/restoration/Upper%20Deschutes%20WSC%20Water%20Quality%20Monitoring%20ProgramSummary%20of%20Activities_2006_.pdf)

(B) nutrients \_\_Nicole\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Washington Dept. Forestry, 2004, Nutrient Supplementation Techniques](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Nutrient_Supplementation_Techniques.pdf)

[Derx et al., 2014, Stream Bank Restoration and Organic Carbon Filtering](http://www.wou.edu/las/physci/taylor/g407/restoration/Derx_etal_2014_bank_restoration_organic_carbon.pdf)

[OWEB (1999) Watershed Assessment Manual - Water Quality](http://www.wou.edu/las/physci/taylor/g407/restoration/12_water-quality_print.pdf)

[Strobel et al., 2009, Salmon Carcass Placement in the Pacific Northwest](file:///X:\las\physci\taylor\g407\restoration\Strobel_etal_2009_salmon_carcass_placement_nutrients_PNW.pdf)

(C) turbidity \_\_Adam\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[OWEB (1999) Watershed Assessment Manual - Water Quality](http://www.wou.edu/las/physci/taylor/g407/restoration/12_water-quality_print.pdf)

[Washington Dept. Forestry, 2004, Sediment Detention Basins](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Sediment_Detention_Basins.pdf)

[Oregon DEQ Review, Turbidity Effects on Water Quality and Habitat, Technical Report](file:///X:\las\physci\taylor\g407\restoration\OR_DEQ_2014_TurbidityTechRev.pdf)

[Long Tom Watershed Water Quality 2007](http://www.wou.edu/las/physci/taylor/g407/restoration/Stream%20Health%20and%20Water%20Quality%20in%20the%20Long%20Tom%20Watershed_2007_.pdf)

(5) Engineered Restoration Strategies I - Fish Passage and Riparian Habitat

(A) Roads / Culverts \_\_Tunya\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[O'Hanley, 2011, Barrier Removal Overview](http://www.wou.edu/las/physci/taylor/g407/restoration/OHanley_2011_barrier_removal_overview.pdf)

[Washington Dept. Forestry, 2004, Fish Passage Techniques](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Fish_Passage_Techniques.pdf)

[South Coast Fish Passage Project Summary 2009](http://www.wou.edu/las/physci/taylor/g407/restoration/fish_passage_projects_summary_2009_South_Coast_Rogue.pdf)

(B) Dams \_\_Nick\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Burke et al, 2008, Dam Operation-Flow Regulation and River Restoration](http://www.wou.edu/las/physci/taylor/g407/restoration/Burke_etal_2008_Dam_Operation_streamflow_restoration.pdf)

[Maloney et al., 2008, Dam Breach and Fish Assemblages](http://www.wou.edu/las/physci/taylor/g407/restoration/Maloney_etal_2008_dam_breach_FishAssemblages.pdf)

[Gangloff, 2013, Small Dam Removal and Ecological Trade Offs](http://www.wou.edu/las/physci/taylor/g407/restoration/Gangloff_2013_SmallDamRemoval_ecologic_tradeoffs.pdf)

[Brownsville Dam Removal (Draft)](http://www.wou.edu/las/physci/taylor/g407/restoration/Brownsville_Dam_Removal_Report_DRAFT.pdf)

(C) Riparian Restoration \_\_Peggy\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Native Plants, Channel Tree Cover / Shading, Beaver Reintroduction)

[Bennet et al., 2008, Riparian Woody Vegetation](http://www.wou.edu/las/physci/taylor/g407/restoration/Bennet_etal_2008_riparian_woody_vegetation.pdf)

[Richardson et al., 2010, Riparian Zone Habitat](http://www.wou.edu/las/physci/taylor/g407/restoration/Richardson_etal_2010_riparian_zone_habitat.pdf)

[Stewart et al., 2003, Riparian Forest Restoration Overview](http://www.wou.edu/las/physci/taylor/g407/restoration/Stewart_etal_2003_Riparian_forest_restoration.pdf)

[Sandy River Riparian Habitat Restoration 2006](http://www.wou.edu/las/physci/taylor/g407/restoration/Sandy%20River%20Riparian%20Habitat%20Protection%20Project%20Report_2006_.pdf)

(6) Engineered Restoration Strategies II - Channel Form and Composition

(A) LWD – Wood Placement \_\_Ethan\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Roni et al., 2014, Wood Placement Perspectives](http://www.wou.edu/las/physci/taylor/g407/restoration/Roni_etal_2014_wood_placement_perspectives.pdf)

[Mellina and Hinch, 2009, Large Woody Debris and Habitat Modification](http://www.wou.edu/las/physci/taylor/g407/restoration/Mellina_Hinch_2009_LWD_habitat_modification.pdf)

[Crabb Creek-Green River Large Wood Placement Project 2007](http://www.wou.edu/las/physci/taylor/g407/restoration/Crabb%20Creek%20-%20Green%20River%20Large%20Wood%20Treatment_2007.pdf)

(B) Gravel Retention / Placement \_\_Mandy\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Washington Dept. Forestry, 2004, Spawning Gravel Maintenance](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Spawning_Gravel_Maintenance_Techniques.pdf)

[Washington Dept. Forestry, 2004, Sediment Detention Basins](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Sediment_Detention_Basins.pdf)

[East Fork Road Inventory and Sedimentation Analysis 2003](http://www.wou.edu/las/physci/taylor/g407/restoration/East%20Fork%20Private%20Road%20Inventory%20and%20Sediment%20Analysis_2003.pdf)

(C) Channel Form Modification \_\_Makani\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Washington Dept. Forestry, 2004, Channel Modification Techniques](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Channel_Modification_Techniques.pdf)

[Branco et al., 2014, Barrier Removal and Channel Connectivity](http://www.wou.edu/las/physci/taylor/g407/restoration/Branco_etal_2014_Barrier_Removal_Connectivity.pdf)

[Washington Dept. Forestry, 2004, Side Channel Restoration Techniques](http://www.wou.edu/las/physci/taylor/g407/restoration/WA_Dept_Forestory_2004_Side_Channel_Restoration_Techniques.pdf)

[Coquille River Channel Enhancement Project 2005](http://www.wou.edu/las/physci/taylor/g407/restoration/Coquille%20River%20Instream%20Enhancement%20Project_2005.pdf)