

ESCI Field Camp

Research project ideas: appropriate for Grande Ronde River

Butterfly survey -- inventory, distributions

Butterfly distributions: local (plants) vs. landscape determinants

-- special interest in "special status species"

-- Taylor's checkerspot (*E.editha taylori*)

-- Fender's blue (*Plebejus icarioides fenderi*)

-- Oregon silverspot (*Speyeria zerene hippolyta*)

Butterfly distributions/abundances: native vs. invasive plants (e.g., cheatgrass cover)

Riverbirds (waterfowl, eagles, Osprey, Kingfisher, GB Heron, Dipper, Killdeer, Sp. Sandpiper)

-- distributions, abundances, habitat selection

-- relative to land use or reaches with and without Wild and Scenic River designation

-- calculate Resource Selection Function (RSF) for each species

-- for details, see: <https://qubeshub.org/publications/2238/1>

Woodpecker Surveys

-- spp abundances and distributions

-- inventory; locations (GPS UTM, NAD 83)

-- habitat characteristics (e.g., snag density, forest cover, slope aspect, land use)

esp. Lewis Woodpecker (largely riparian; abundant along Grande Ronde; often fly across river)

Beaver habitat selection and distribution

-- vs. willow density

-- vs. reach characteristics

-- vs. land ownership and use or Wild & Scenic River designation

Ungulate browse

-- measure/compare browse intensity on riparian willows

-- cf Brookshire ENJ et al. 2002. *Oecologia* 132:559-566. (Grande Ronde tributary)

Cumulative effects of wild ungulate and livestock herbivory on riparian willows.

-- "protected" vs. unprotected sites: islands vs. river banks

-- areas grazed by wild ungulates vs. livestock vs. both

-- cf Matney et al. 2005. *Rangeland Ecology & Management* 58:652-655.

Use of felled junipers to protect streamside willows from browsing.

-- browse intensity on willows protected by LWD vs. not

Riparian structure and dynamics

-- evaluate floodplains relative to "floodplain large-wood cycle hypothesis"

(c.f., Collins et al. 2012. *Geomorphology* 139-140:450-470. doi:[10.1016/j.geomorph.2011.11.011](https://doi.org/10.1016/j.geomorph.2011.11.011))

-- compare LWD distribution and effects vs. reach, land use, Wild & Scenic designation

Large Woody Debris (LWD) distribution, abundance, and size

-- geomorphic effects on floodplain structure

-- effects on riparian habitat structure and distribution

-- effects on wildlife habitat use

Salmonid spawning habitat assessment (difficult during spring high flow season?)

-- provide baseline to inform LSRD removal proposals

-- compare with spawner count data

Additional project ideas, from UC Davis Ecogeomorphology course; see URL below

<https://watershed.ucdavis.edu/education/classes/ecogeomorphology-grande-ronde-river>