Subset of EPA National Rivers and Streams Assessment indicators utilized by the BLM for the WRSA

Process	Field measurement	Example indicator(s)/condition determinations	Field Methodology
Chemical	pH	Excessive acidification/buffering: comparison to regional reference conditions	In-situ: multi-parameter sonde
	Specific conductance	Excessive salinity loading: observed/predicted or comparison to regional reference conditions	In-situ: multi-parameter sonde
	Temperature	Excessive thermal loading: observed/predicted or comparison to regional reference conditions	In-situ: multi-parameter sonde
	Total nitrogen and phosphorous	Excessive nutrient loading: observed/predicted or comparison to regional reference conditions	Grab sample for lab analysis
Biological	Macroinvertebrate composition and density	Observed/expected and/or multi-metric index	Reach-wide sample at 11 transects
	Aerial cover class and type of riparian vegetation	Riparian vegetative structure and alteration: comparison to regional reference conditions	Ocular estimates of aerial cover and type at 11 transects
	Riparian canopy density	% shade: comparison to regional reference conditions	Left, center and right densiometer readings at 11 transects
	Large woody debris	Density or volume: comparison to regional reference conditions; RBS and substrate covariate	Reach-wide counts and measurements
Physical	Particle size distribution	% fines; substrate diversity; substrate size classes: comparison to regional reference conditions; RBS	10 particles from each of 21 transects
	Embeddedness	% silt cover: comparison to regional reference conditions	Visually assessed at 100 points for particle size
	Bankfull width and depth	Floodplain interaction (bankfull width:depth ratio, incision depth - bankfull depth): comparison to regional reference conditions; general covariate	11 transects surveyed using stick and tape

Wetted width and depth	Channel incision (bankfull width:wetted width): comparison to regional reference conditions; RBS	11 transects surveyed using stick and tape
Incision depth	Floodplain interaction (bankfull width:depth ratio, incision depth - bankfull depth): comparison to regional reference conditions	11 transects surveyed using stick and tape
Channel unit dimensions	Channel unit length, width and depth; residual pool depth: comparison to regional reference conditions; RBS	All channel units within 10 inter-transect zones
Stream bank stability/cover	Percent stable or percent banks with > 50% cover: numeric standards	Dichotomous key used for left and right bank at 11 - 21 transects
Bank angle	Average bank angle: comparison to regional reference conditions	L & R banks at each of the 11 transects
Thalweg profile	Residual pool volume, channel complexity: comparison to regional reference; RBS	10-15 thalweg depths in 10 inter-transect zones
Slope	% slope as covariate; RBS	Elevation change for 10 inter-transect zones
Fish concealment features	% fish concealment features: comparison to regional reference conditions	Aerial cover class of concealment features (macrophytes, LWD, boulders) at 21 transects
Watershed activities and disturbances observed	Degree of anthropogenic impact	Visual assessment of the entire reach