High Gradient Habitat Assessment Datasheet v3.1 — Page 1

Station Visit Information

Locale Name:		Project:		Trip:		County:	
Station ID:		Loc. Desc.:				Visit Date:	
Field Lead:		Primary Bioregion:		Secondary Bioregion:		Visit Start Time:	
Team:		Stream Perm.	Eph | Int | Per	Stream Type (HW or WA):		Visit Finish Time:	

STATION POINT VERIFICATION

K-WADE Target Point		Field GPS Location		Nav. to Target Point Within GPS Error?	Target On Correct Stream?	Field GPS Error (m)	GPS Final	K-WADE Station Update	
Lat:								Staff:	
Long:				Y | N	Y | N			Date:	

WEATHER

Scouring Rain In Last 14 Days	Y | N
Now: Circle 1	HR | SR | IS CS | CO | SSH
Past 24hr:	HR | SR | IS CS | CO | SSH

Stream Shading

Leafed Out?	Y | N
General Shading (Circle 1)	Full | Partial | None

STREAM FLOW (Circle 1)

Dry | Pooled | Low
Seasonal Normal
Above Normal | Flood

INSTREAM FEATURES

Avgerage Wetted Width (m):	
Maximum Depth (m):	
Reach Length (m):	

RIFFLE/RUN/POOL SEQ.

# of riffles in reach	
# of runs in reach	
# of pools in reach	

LOCAL WATERSHED FEATURES (Major Land Use: Check all that are present)

Surface Mining		Construction		Pasture/Grazing	
Deep Mining		Commercial		Silviculture	
Oil Wells		Industrial		Urban Runoff	
Land Disposal		Row Crops		Storm Sewers	
Residential		Forest		Permitted Outfalls	

CHANNEL ALTERATIONS- Full, Partial or Not/None

Dredging:	F | P | N	Channelization:	F | P | N

RIPARIAN VEGETATION

Dom. Veg. Type:	Herbs | Grasses Shrubs | Trees	# of Strata:	
Dom. Taxa:			

HYDRAULIC STRUCTURES (Check all that are present)

Dams:		Bridge Abutments:		Fords:		Islands:		Waterfalls:		Berms:	

FIELD METER DATA

Temp (^{O}C):		DO (mg/l):		DO %Sat:		pH (SU):		Sp. Cond (µS/cm):		Discharge CFS | Uncert.	

FIELD ACTIVITIES

Activity Completed?		Collectors	Collection Information (Check all that apply and/or enter/circle necessary information)							
Algae:			QualMHC:		Visual Form:		R4MULTI:		Other:	
Fish:			Equip:	BPEF | Seine | Barge		EF Seconds:		Seine Minutes:	
Habitat:			Habitat data other than RBP?							
Invertebrate:			1m^2 riffle + MH:		MACS 20-Jab:		Other:			
Multihabs Sampled Y/N or # Jabs	Undercuts/Roots: | Sticks/Wood: | Leaf Packs: | Water Willow: | Aufwuchs: | Supplemental: Bedrock/Hardpan: | Silt/Sand/Fine Gravel: | Rock Pick: | Emergent Veg: | Wood Sample: |									
Chemistry:			H_2SO_4 Lot #:				HNO_3 Lot #:			
Multi-Probe:			Inst. ID:				Cal. Date:			
Discharge:			Inst. ID:				Beam Check:			
Other:			Other Desc:							

SUBSTRATE CHARACTERIZATION

Substrate Category	% Riffle:		% Run:		% Pool:		Reach Total
Silt/Clay (<0.06 mm)							
Sand (0.06 – 2 mm)							
Gravel (2-64 mm)							
Cobble (64 – 256 mm)							
Boulders (>256 mm)							
Bedrock/Hardpan Clay							

Site Not Sampled (Reason) - Please Add Comments

Land Owner Denial
Too Deep/Impounded
Site Not Found
Unsafe
Dry
Other (See Comments)

Reach Location Description:		Weather Choices:	HR = Heavy Rain | SR = Steady Rain IS = Intermittent Showers | CS = Clear Sunny CO = Cloudy Overcast | SSH = Snow Sleet
Initial Data Review By:		Initial Data Review Date:	Date Entered:

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Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
1. Epifaunal Substrate/ Available Cover Score	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of new fall, but not yet prepared for colonization (may rate at high end of scale).	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
2. Embeddedness Score	Gravel, cobble, boulder, and bedrock are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space	Gravel, cobble, boulder and bedrock are 25-50% surrounded by fine sediment.	Gravel, cobble, boulder, and bedrock are 50-75% surrounded by fine sediment.	Gravel, cobble, boulder, and bedrock are more than 75% surrounded by fine sediment.
3. Velocity/ Depth Regime Score	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is < 0.3 m/s, deep is > 0.5 m.)	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/ depth regime (usually slow-deep).
4. Sediment Deposition Score	Little or no enlargement of islands or point bars and less than 5% (<20% for low-gradient streams) of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% (20-50% for low-gradient) of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% (50-80% for low-gradient) of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 50% (80% for low-gradient) of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
5. Channel Flow Status Score	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
6. Channel Alteration Score	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr.) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
7. Frequency of Riffles (or bends) Score	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
Left/Right Bank	10 9	8 7 6	5 4 3	2 1 0
8. Bank Stability LB RB	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
9. Vegetative Protection LB RB	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
10. Riparian Vegetative Zone Width LB RB	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.

Total Score:

Notes/Comments:

General Notes:

Sediment Notes: