

KANSAS DEPARTMENT OF WILDLIFE & PARKS- STREAM HABITAT EVALUATION (Revised 2004)

Stream Name: _____ Co.: _____ File #: D1.0402 Track #: _____
 Legal Description: _____ /4 Sec. _____ Twp. _____ S, Range. _____ E / W Date: _____
 WJD: _____ Site #: _____ Reviewed By: _____

USE BEST PROFESSIONAL JUDGEMENT TO PROVIDE THE MOST APPROPRIATE POINT VALUE FOR EACH COMPONENT ASSESSED

A. PHYSICAL HABITAT KEY (10 COMPONENTS)

1. Stream Type (circle the most appropriate category)

Perennial 9 or 10
 Intermittent w/perm pools (springs/subterranean flow) 6 or 7 or 8
 Intermittent (no permanent pools) 3 or 4 or 5
 Ephemeral 1 or 2
 SCORE: _____

2. Substrate (circle the 2 predominant types and average the score)

Boulder/Cobble (>3.0") 5
 Gravel (pea sized to tennis ball) (>0.1" but <3.0") 4
 Sand/Leaf litter 3
 Mud/Detritus/Muck 2
 Bedrock 1
 AVG. SCORE: _____

3. Number of Substrate Types

5 or more w/gravel, cobble, or boulder 5
 3 - 4 types present 3 or 4
 2 or fewer types present 1 or 2
 SCORE: _____

4. Percent Embeddedness

Light (<20%) 2
 Moderate (20 - 40%) 1
 Elevated (40 - 60%) -1
 Heavy (>60%) -2
 SCORE: _____

5. Sinuosity (channel length ÷ valley length)

Highly sinuous (at least > 1.5) 3
 Moderate (1.2 - 1.5) 2
 Low sinuosity (1.0 - 1.2) 1
 Straightened channel 0
 SCORE: _____

6. Pool-Riffle sequencing

Stable channel (pool & riffle complex every 10-14 bankfull widths) 3
 Sequencing indicates instability (< or > 10-14 bankfull widths): 0 or 1 or 2
 SCORE: _____

7. Bank Erosion (Average score for both banks)

L R Little or none 4 or 5
 L R Moderate 2 or 3
 L R Severe 0 or 1
 AVG. SCORE: _____

8. Instream Cover Types (circle all that apply and total the score)

Deep pools 1 or 2 Riffles 1 or 2
 Logs or large woody debris 1 Rootwads 1
 Backwaters or oxbows 1 Boulders 1
 Overhanging vegetation 1 Undercut banks 1
 Vegetated shallows 1 Side channel pools 1
 SCORE: _____

9. Amount of Instream Cover (% of active channel)

Extensive > 75% 5
 Abundant 50 - 75% 4
 Moderate 25 - 50% 3
 Sparse 10 - 25% 2
 Little or none 0 - 10% 1
 SCORE: _____

10. Channel Modifications (Consider the following and estimate impact)

Concrete lining, channelization, fish barriers, up/downstream impoundments, riparian clearing, floodplain restriction (dikes/levees), dredging, riprap/gabion baskets, other

No impact = 0; Slight to moderate = -1 or -2; Significant to Entire = -3 or -4 or -5

TOTAL FOR PHYSICAL HABITAT COMPONENTS (50 max) =

B. RIPARIAN/FLOODPLAIN/LAND USE KEY (4 COMPONENTS)

1. Riparian floodplain condition

Percent	% of historical floodplain available for inundation	% Covered by native vegetation
> 90	5	5
70 - 90	4	4
50 - 70	3	3
25 - 50	2	2
5 - 25	1	1
< 5 or none	0	0

SCORE: Add points for both columns and record here: _____

2. Canopy Cover (% of water shaded with the sun directly overhead)

50 - 75% 2
 25- 50% or 75 - 90% 1
 < 25% or > 90% 0
 SCORE: _____

3. Floodplain Land Uses (Provide a composite score for both banks)

		<u>Points</u>	
L	R	Ungrazed native vegetation (i.e. woodlands, native grass, wetlands)_____	+3
L	R	Good grazing practices on native woodland, wetland, or native grass_____	+2
L	R	Good grazing or haying on domestic grass pasture, cropland with excellent conservation practices_____	+1
L	R	Poor grazing practices on native or domestic pastures, cropland w/good conservation practices_____	-1
L	R	Cropland w/poor conservation practices_____	-2
L	R	Urban/industrial or no available floodplain_____	-3
L	R	Other_____	Provide score
SCORE:			

4. Watershed Land Uses (Describe the extent of land use in the upstream watershed)

A. Minimal impact land uses: Ungrazed native vegetation (i.e. woodlands, native grass, wetlands), good grazing practices, cropland w/good to excellent conservation practices.

None = 0 Sparse = + 1 Moderate = + 2 Common = + 3 Abundant = + 4 Entire = + 5

B. Significant impact land uses: Poor grazing practices, cropland w/ fair to poor conservation practices, urban/industrial/commercial/residential.

None = 0 Sparse = - 1 Moderate = - 2 Common = - 3 Abundant = - 4 Entire = - 5

SCORE (MAX: + or - 5 points):

TOTAL FOR RIPARIAN/FLOODPLAIN/LAND USE COMPONENTS (20 max) =

C. BIOLOGICAL COMPONENT KEY (5 COMPONENTS - if stream is dry & component is not applicable, do not include in final R-value)

1. Fish Community Characteristics _____check here if NOT APPLICABLE

	<u>Points</u>
Resembles native fish community in species richness and relative abundance exotic species rare to absent	7
Resembles native fish community in species richness but not relative abundance, number of individuals dominated by a few indigenous species, exotic species present in low numbers	5 or 6
Community diversity significantly lower than the potential, species may be indicative of early colonizers or species capable of bypassing fish barriers, often intermixed with low numbers of impoundment escapee fishes	3 or 4
Community dominated by exotic and/or tolerant species, sensitive species lacking	1 or 2
No fish present, but flow is adequate to support populations	0
SCORE:	

2. Benthic Invertebrates _____check here if NOT APPLICABLE

Group I taxa (stone, caddis, mayflies, hellgrammite, gilled snail, riffle beetle)	5
Group II dominant taxa (crayfish, damsel & dragonflies, various coleoptera, alderfly)	3 or 4
Group III dominant taxa (oligocheates, midge, blackfly, leech, other gastropods)	1 or 2
None present, but flow adequate to support populations	<u>0</u>
SCORE:	

Provide 0 or +1, if not applicable do not include in final score

3. Freshwater mussels (live or recently dead)	N/A	0 or +1
4. Amphibians (frogs/toads/salamanders)	N/A	0 or +1
5. Other aquatic vertebrates (i.e. aquatic or semi-aquatic mammals/reptiles/birds)	N/A	0 or +1

TOTAL FOR BIOLOGICAL COMPONENTS (15 max*) =
(*FOR COMPONENTS CONSIDERED N/A - subtract points N/A from total points possible and record in the TOTAL SCORE table below)

D. WATER QUALITY COMPONENT KEY (if stream is dry and/or component is not applicable, do not include in final R-value)

Water Quality Parameters	Frequently Limiting	Occasionally Limiting	Rarely Limiting	Not Applicable
DO/BOD	0	1 or 2	3	N/A
Nutrient enrichment	0	1 or 2	3	N/A
Pesticides	0	1 or 2	3	N/A
Turbidity	0	1 or 2	3	N/A
Temperature	0	1 or 2	3	N/A
Other				

TOTAL FOR WATER QUALITY COMPONENTS (15 max*) =
(*FOR COMPONENTS CONSIDERED N/A - subtract points N/A from total points possible and record in the TOTAL SCORE table below)

TOTAL SCORE = Physical + Riparian + Biological + Water quality

Component	Points Possible	Points Scored
Physical	50	
Riparian/Floodplain/Land Use	20	
Biological (subtract those N/A - 15 max)		
Water Quality (subtract those N/A - 15 max)		
Total =		

R-Value = (Points Scored ÷ Points Possible) X 10 =