

# Appendix F

## Channel Condition Scoring Matrix and Channel Condition Data

Content:

- Channel Condition Scoring Matrix
- Data Point Location Map
- Channel Condition Data Tables

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Appendix F: Haines Branch Channel Condition Data

Appendix F: Channel Condition Scoring Matrix (Adapted from Johnson et al 1999)							
	Stability Indicator	Good (1)	Fair (2)	Poor (3)	Score (S)	Weight (W)	Rating S*W=(R)
1	Bank soil texture and coherence per Uniform Soil Classification using the visual-manual procedures (ASTM D 2488-00)	Cohesive materials, clay (CL), silty clay (CL-ML), massive limestone, continuous concrete, clay loam (ML-CL), silty clay loam (ML-CL), thinly bed limestone	Sandy clay (SC), sandy loam (SM), fractured thinly bedded limestone	Non-cohesive materials, shale in bank, (SM), (SP), (SW), (GC), (GM), (GP), (GW)	score = 1 to 3. Assign in field	0.6	R=S*W
2	Average bank slope angle as measured where obvious breaks in slope create a top of bank and toe of slope	Slopes $\leq$ 2H:1V on one or occasionally both banks	Slopes from 2H:1V to 1.7H:1V common on one or both banks	Slopes steeper than to 1.7H:1V on one or both banks	score = 1 to 3. Assign in field	0.6	R=S*W
3	Average bank height as measured from the lowest point in the channel cross section to the top of bank	Less than 6 feet	Greater than 6 and less than 12 feet	Greater than 12 feet	score = 1 to 3. Assign in field	0.8	R=S*W
4	Vegetative bank protection	Wide to medium band ( $\geq$ the width of the riparian buffer) of woody vegetation with 70-90% plant density and cover. Majority are hardwood, deciduous trees with well-developed understory layer, minimal root exposure	Narrow band (>20 feet up to the buffer width) of woody vegetation, poor species diversity, 50-70% plant density, most vegetation on top of bank and not extending onto bank slope, some trees leaning over bank, root exposure common	Thin or no band (20 feet or less) of woody vegetation, poor health, monoculture, many trees leaning over bank, extensive root exposure, turf grass to edge of bank	score = 1 to 3. Assign in field	0.8	R=S*W
5	Bank cutting	Little to some evident along channel bends and at prominent constrictions, some raw banks up to 4 foot	Significant and frequent. Cut banks 4 feet high. Root mat overhangs common.	Almost continuous cut banks, some over 4 feet high. Undercut trees with sod-rootmat overhangs common. Bank failures frequent	score = 1 to 3. Assign in field	0.4	R=S*W
6	Mass wasting (wedge or slide slope failure)	Little to some evidence of slight or infrequent mass wasting, past events healed over with vegetation. Channel width relatively uniform with only slight scalloping	Evidence of frequent and significant mass wasting events. Indications that higher flows aggravated undercutting and bank wasting. Channel width irregular with bank scalloping evident	Frequent and extensive mass wasting evident. Tension cracks, massive undercutting and bank slumping are considerable. Highly irregular channel width.	score = 1 to 3. Assign in field	0.8	R=S*W
7	Bar development	Bar width is less than $\frac{1}{4}$ of the channel width at low flow, well-consolidated, vegetated and composed of coarse bed material to slight recent growth of bar as indicated by absence of vegetation on part of bar	Bar widths $\frac{1}{4}$ to $\frac{1}{2}$ of channel width at low flow with freshly deposited sand to small cobbles with sparse vegetation	Bar widths greater than $\frac{1}{2}$ the channel width at low flow. Bars are composed of extensive deposits of finer bed material with little vegetation	score = 1 to 3. Assign in field	0.6	R=S*W
8	Debris jam potential	Slight – small amounts of debris in channel. Small jams could form	Moderate – noticeable debris of all sizes present	Significant – moderate to heavy accumulations of debris apparent	score = 1 to 3. Assign in field	0.2	R=S*W
9	Obstructions, flow deflectors and sediment traps	Negligible to few or small obstructions present causing secondary currents and minor bank and bottom erosion but no major influence on meander bend	Moderately frequent and occasionally unstable obstructions, noticeable erosion of channel. Considerable sediment accumulation behind obstructions	Frequent and unstable causing continual shift of sediment and flow	score = 1 to 3. Assign in field	0.2	R=S*W
10	Channel bed material consolidation and armoring	Massive competent to thinly bed limestone, continuous concrete, hard clay, moderately consolidated with some overlapping. Assorted sizes of particles, tightly packed and overlapped, possibly imbricated. Small % of particles < 4mm	Shale in bed, soft silty clay, little consolidation of particles, no apparent overlap, moderate % of particles < 4mm	Silt, weathered, thinly bedded, fractured shale, high slaking potential, very poorly consolidated, high % of material < 4mm	score = 1 to 3. Assign in field	0.8	R=S*W
11	Percentage of channel cross section constriction	< 25% of average cross section area	26-50% of average cross section area	> 50% of average cross section area	score = 1 to 3. Assign in field	0.8	R=S*W
12	Sediment movement	Little to no loose sediment	Scour and/or deposition, some loose sediment	Near continuous scour and/or deposition and/or loose sediment	score = 1 to 3. Assign in field	0.8	R=S*W
13	Sinuosity (ratio of the channel length to valley length) channel length = longitudinal profile survey length	$1.2 \leq$ Sinuosity $\leq$ 1.4	$1.1 <$ Sinuosity $<$ 1.2	Sinuosity < 1.1 or > 1.4	score = 1 to 3. Assign in office	0.8	R=S*W

Total Channel Condition Score =  $R_{total} = \text{Sum R}$

CHANNEL CONDITION SCORE MEANING:

GOOD - Score of 8 to 10.9

FAIR - Score of 11 to 16.9

POOR - Score of 17 or greater



Appendix F: Haines Branch Channel Condition Data

<b>Channel Condition Point</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
<b>Field Observation and Field Data Input</b>	Bank Soil Texture	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Average Bank Slope	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3
	Average Bank Height	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Vegetative Bank Protection	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3
	Bank Cutting	3	3	3	3	2	3	3	3	3	3	2	3	3	2	3
	Mass Wasting	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3
	Bar Development	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3
	Debris Jam Potential	2	1	1	2	1	2	2	2	2	2	2	1	2	3	1
	Channel Obstructions	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Channel Bed Material	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3
	Channel Constriction	1	1	1	1	1	1	1	1	1	1	1	1	1	3	2
	Sediment Movement	2	2	2	2	2	2	2	2	2	3	3	2	2	2	3
	Channel Sinuosity	3	3	3	3	3	3	3	3	3	1	1	1	3	3	3
	Dominant Process	Widening, Platform Adjustment	Widening, Platform Adjustment	Widening, Platform Adjustment	Widening, Platform Adjustment	Platform Adjustment	Widening, Platform Adjustment	Widening, Platform Adjustment	Widening, Platform Adjustment	Widening, Platform Adjustment	Widening	Widening	Incision, Widening	Incision, Widening	Incision, Widening	Incision, Widening
<b>Weighted Scores and Results</b>	Bank Soil Texture (Weighted)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Average Bank Slope (Weighted)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.2	1.8
	Average Bank Height (Weighted)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Vegetative Bank Protection (Weighted)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4	2.4	2.4
	Bank Cutting (Weighted)	1.2	1.2	1.2	1.2	0.8	1.2	1.2	1.2	1.2	1.2	0.8	1.2	1.2	0.8	1.2
	Mass Wasting (Weighted)	2.4	2.4	2.4	2.4	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Bar Development (Weighted)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.6	1.8
	Debris Jam Potential (Weighted)	0.4	0.2	0.2	0.4	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.4	0.6	0.2
	Channel Obstructions (Weighted)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Channel Bed Material (Weighted)	2.4	2.4	2.4	2.4	2.4	2.4	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Channel Constriction (Weighted)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	2.4	1.6
	Sediment Movement (Weighted)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4	1.6	1.6	1.6	2.4
	Channel Sinuosity (Weighted)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	0.8	0.8	0.8	2.4	2.4	2.4
	Weighted Channel Condition Score	19.6	19.4	19.4	19.6	18.2	19.6	18.8	19.6	18.8	19.6	18.4	20.2	20.4	20.8	21.8
Channel Condition	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	

Appendix F: Haines Branch Channel Condition Data

Channel Condition Point		16	17	18	19	20	21	22	23	24	25	26	27	28	29	
Field Observation and Field Data Input	Bank Soil Texture	1	1.0	1.0	1.0	1.0	1	1	1	1	1	1	1	1	1	
	Average Bank Slope	3	3.0	3.0	3.0	2.0	3	3	3	3	3	2	3	2	2	
	Average Bank Height	3	3.0	3.0	3.0	3.0	3	3	3	3	3	3	3	2	2	
	Vegetative Bank Protection	3	3.0	3.0	2.0	2.0	2	2	2	2	2	2	3	3	3	
	Bank Cutting	2	2.0	2.0	3.0	2.0	3	3	3	3	2	2	2	2	2	
	Mass Wasting	3	3.0	3.0	3.0	2.0	3	3	3	3	3	2	2	2	2	
	Bar Development	3	3.0	3.0	2.0	2.0	2	3	3	3	3	2	2	2	1	2
	Debris Jam Potential	1	1.0	1.0	1.0	1.0	1	1	2	2	2	2	1	1	1	1
	Channel Obstructions	1	1.0	1.0	1.0	1.0	1	1	1	1	1	1	1	1	1	1
	Channel Bed Material	3	3.0	3.0	3.0	3.0	2	3	3	3	3	3	3	3	3	2
	Channel Constriction	2	2.0	2.0	1.0	1.0	1	1	1	1	1	1	1	1	1	1
	Sediment Movement	3	3.0	3.0	3.0	3.0	2	2	2	2	2	2	3	2	2	2
	Channel Sinuosity	3	1.0	1.0	2.0	2.0	2	2	2	2	2	2	2	2	2	2
Dominant Process	Incision, Widening	Widening	Widening	Incision, Widening, Platform Adjustment	Widening	Incision, Widening	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision	
Weighted Scores and Results	Bank Soil Texture (Weighted)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
	Average Bank Slope (Weighted)	1.8	1.8	1.8	1.8	1.2	1.8	1.8	1.8	1.8	1.8	1.2	1.8	1.2	1.2	
	Average Bank Height (Weighted)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6	
	Vegetative Bank Protection (Weighted)	2.4	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4	2.4	
	Bank Cutting (Weighted)	0.8	0.8	0.8	1.2	0.8	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8	0.8	
	Mass Wasting (Weighted)	2.4	2.4	2.4	2.4	1.6	2.4	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6	
	Bar Development (Weighted)	1.8	1.8	1.8	1.2	1.2	1.2	1.8	1.8	1.8	1.8	1.2	1.2	0.6	1.2	
	Debris Jam Potential (Weighted)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.2	0.2	0.2	0.2
	Channel Obstructions (Weighted)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Channel Bed Material (Weighted)	2.4	2.4	2.4	2.4	2.4	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	
	Channel Constriction (Weighted)	1.6	1.6	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Sediment Movement (Weighted)	2.4	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6	1.6	2.4	1.6	1.6	1.6	
	Channel Sinuosity (Weighted)	2.4	0.8	0.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	
	Weighted Channel Condition Score	21.4	19.8	19.8	18.8	17.0	17.2	18.6	18.8	18.8	18.8	18.4	17	17.6	15.6	15.4
Channel Condition	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Fair	Fair	

Appendix F: Haines Branch Channel Condition Data

Channel Condition Point		30	31	32	33	34	35	36	37	38	39	40	41	42	43
Field Observation and Field Data Input	Bank Soil Texture	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Average Bank Slope	2	3	2	3	3	3	3	3	2	2	2	2	3	1
	Average Bank Height	2	2	3	3	3	3	3	3	3	3	3	3	2	1
	Vegetative Bank Protection	3	3	3	2	2	2	2	2	2	2	3	3	2	3
	Bank Cutting	2	2	2	3	3	3	3	3	3	2	2	2	3	1
	Mass Wasting	2	2	3	3	3	3	3	3	3	2	3	3	3	1
	Bar Development	2	2	3	3	3	3	1	1	1	1	3	3	3	3
	Debris Jam Potential	1	1	1	2	2	2	2	1	1	1	2	1	3	1
	Channel Obstructions	1	1	1	1	1	1	1	1	1	1	1	1	2	1
	Channel Bed Material	2	3	3	3	3	3	3	3	3	3	3	3	3	3
	Channel Constriction	1	1	2	1	1	1	1	1	1	1	2	2	2	1
	Sediment Movement	2	3	3	3	3	3	3	3	3	3	3	3	2	2
	Channel Sinuosity	2	2	1	1	1	1	1	1	1	1	1	1	2	1
Dominant Process	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Widening, Platform Adjustment	Widening	Widening, Platform Adjustment	Incision, Widening, Platform Adjustment	Incision, Widening, Platform Adjustment	Widening	Widening	Incision, Widening	Widening	Widening	Incision, Platform Adjustment	Dynamic equilibrium	
Weighted Scores and Results	Bank Soil Texture (Weighted)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Average Bank Slope (Weighted)	1.2	1.8	1.2	1.8	1.8	1.8	1.8	1.8	1.2	1.2	1.2	1.2	1.8	0.6
	Average Bank Height (Weighted)	1.6	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	0.8
	Vegetative Bank Protection (Weighted)	2.4	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4	1.6	2.4
	Bank Cutting (Weighted)	0.8	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	1.2	0.4
	Mass Wasting (Weighted)	1.6	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	2.4	2.4	2.4	0.8
	Bar Development (Weighted)	1.2	1.2	1.8	1.8	1.8	1.8	0.6	0.6	0.6	0.6	1.8	1.8	1.8	1.8
	Debris Jam Potential (Weighted)	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.2	0.6	0.2
	Channel Obstructions (Weighted)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2
	Channel Bed Material (Weighted)	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Channel Constriction (Weighted)	0.8	0.8	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	1.6	1.6	0.8
	Sediment Movement (Weighted)	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6
	Channel Sinuosity (Weighted)	1.6	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	0.8
	Weighted Channel Condition Score	15.4	17.6	19.2	18.8	18.8	18.8	17.6	17.4	16.8	15.6	19.4	19.2	19.2	13.4
Channel Condition	Fair	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Fair	Fair	Poor	Poor	Poor	Fair	

Appendix F: Haines Branch Channel Condition Data

Channel Condition Point		44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Field Observation and Field Data Input	Bank Soil Texture	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Average Bank Slope	2	2	3	3	3	3	2	3	2	3	2	1	2	2	2	2	3
	Average Bank Height	1	1	1	2	2	2	1	2	1	2	2	1	2	1	1	1	2
	Vegetative Bank Protection	3	3	3	3	3	3	3	3	3	3	3	2	2	3	3	3	2
	Bank Cutting	3	3	3	3	3	3	2	3	3	3	3	1	3	2	3	3	3
	Mass Wasting	2	2	3	3	3	3	1	3	2	2	3	1	3	3	1	1	3
	Bar Development	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3
	Debris Jam Potential	3	3	3	3	3	3	2	3	3	3	1	1	3	3	2	2	3
	Channel Obstructions	3	3	3	3	3	3	1	3	3	3	1	1	2	2	2	2	2
	Channel Bed Material	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Channel Constriction	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1
	Sediment Movement	2	2	2	2	2	2	2	2	2	2	3	1	2	2	3	3	2
	Channel Sinuosity	1	1	1	1	2	2	2	1	1	2	1	1	1	1	3	3	2
Dominant Process	Incision	Incision	Incision	Incision	Incision	Incision	Incision	Incision	Incision, Platform Adjustment	Incision	Incision	Incision	Dynamic Equilibrium, Incision	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision	Incision	Incision, Platform Adjustment
Weighted Scores and Results	Bank Soil Texture (Weighted)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Average Bank Slope (Weighted)	1.2	1.2	1.8	1.8	1.8	1.8	1.2	1.8	1.2	1.8	1.2	0.6	1.2	1.2	1.2	1.2	1.8
	Average Bank Height (Weighted)	0.8	0.8	0.8	1.6	1.6	1.6	0.8	1.6	0.8	1.6	1.6	0.8	1.6	0.8	0.8	0.8	1.6
	Vegetative Bank Protection (Weighted)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6	2.4	2.4	2.4	1.6
	Bank Cutting (Weighted)	1.2	1.2	1.2	1.2	1.2	1.2	0.8	1.2	1.2	1.2	1.2	0.4	1.2	0.8	1.2	1.2	1.2
	Mass Wasting (Weighted)	1.6	1.6	2.4	2.4	2.4	2.4	0.8	2.4	1.6	1.6	2.4	0.8	2.4	2.4	0.8	0.8	2.4
	Bar Development (Weighted)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.6	1.8	1.8	1.8	1.8	1.8
	Debris Jam Potential (Weighted)	0.6	0.6	0.6	0.6	0.6	0.6	0.4	0.6	0.6	0.6	0.2	0.2	0.6	0.6	0.4	0.4	0.6
	Channel Obstructions (Weighted)	0.6	0.6	0.6	0.6	0.6	0.6	0.2	0.6	0.6	0.6	0.2	0.2	0.4	0.4	0.4	0.4	0.4
	Channel Bed Material (Weighted)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Channel Constriction (Weighted)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	1.6	1.6	1.6	0.8
	Sediment Movement (Weighted)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	0.8	1.6	1.6	2.4	2.4	1.6
	Channel Sinuosity (Weighted)	0.8	0.8	0.8	0.8	1.6	1.6	1.6	0.8	0.8	1.6	0.8	0.8	0.8	0.8	2.4	2.4	1.6
Weighted Channel Condition Score	16.4	16.4	17.8	18.6	19.4	19.4	15.4	18.6	16.4	18.6	18	10.6	17.8	17.4	18.4	18.4	18.4	
Channel Condition	Fair	Fair	Poor	Poor	Poor	Poor	Fair	Poor	Fair	Poor	Poor	Good	Poor	Poor	Poor	Poor	Poor	



Appendix F: Haines Branch Channel Condition Data

<b>Channel Condition Point</b>		<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>	<b>65</b>	<b>66</b>	<b>67</b>	<b>68</b>	<b>69</b>	<b>70</b>	<b>71</b>	<b>72</b>	<b>73</b>	<b>74</b>
<b>Field Observation and Field Data Input</b>	Bank Soil Texture	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Average Bank Slope	3	2	2	2	3	2	2	2	3	2	3	3	3	3
	Average Bank Height	2	1	1	1	1	1	1	2	1	3	3	3	3	3
	Vegetative Bank Protection	3	2	3	2	2	3	2	2	3	2	2	2	2	2
	Bank Cutting	3	2	1	2	3	2	3	3	3	3	3	3	3	3
	Mass Wasting	3	2	1	2	3	2	3	3	3	3	3	3	3	3
	Bar Development	3	3	3	2	3	3	2	2	3	3	3	3	3	3
	Debris Jam Potential	1	3	2	3	2	3	3	3	1	3	2	3	3	2
	Channel Obstructions	1	1	2	2	2	2	2	3	1	2	2	2	2	2
	Channel Bed Material	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Channel Constriction	2	1	1	2	2	2	2	2	1	2	2	2	2	2
	Sediment Movement	3	3	2	2	3	3	2	2	2	2	3	3	2	3
	Channel Sinuosity	3	3	1	1	1	1	1	1	1	1	2	3	3	3
Dominant Process	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision	Incision	Incision	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Platform Adjustment	Incision, Platform Adjustment
<b>Weighted Scores and Results</b>	Bank Soil Texture (Weighted)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Average Bank Slope (Weighted)	1.8	1.2	1.2	1.2	1.8	1.2	1.2	1.2	1.8	1.2	1.8	1.8	1.8	1.8
	Average Bank Height (Weighted)	1.6	0.8	0.8	0.8	0.8	0.8	0.8	1.6	0.8	2.4	2.4	2.4	2.4	2.4
	Vegetative Bank Protection (Weighted)	2.4	1.6	2.4	1.6	1.6	2.4	1.6	1.6	2.4	1.6	1.6	1.6	1.6	1.6
	Bank Cutting (Weighted)	1.2	0.8	0.4	0.8	1.2	0.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Mass Wasting (Weighted)	2.4	1.6	0.8	1.6	2.4	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Bar Development (Weighted)	1.8	1.8	1.8	1.2	1.8	1.8	1.2	1.2	1.8	1.8	1.8	1.8	1.8	1.8
	Debris Jam Potential (Weighted)	0.2	0.6	0.4	0.6	0.4	0.6	0.6	0.6	0.2	0.6	0.4	0.6	0.6	0.4
	Channel Obstructions (Weighted)	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.6	0.2	0.4	0.4	0.4	0.4	0.4
	Channel Bed Material (Weighted)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Channel Constriction (Weighted)	1.6	0.8	0.8	1.6	1.6	1.6	1.6	1.6	0.8	1.6	1.6	1.6	1.6	1.6
	Sediment Movement (Weighted)	2.4	2.4	1.6	1.6	2.4	2.4	1.6	1.6	1.6	1.6	2.4	2.4	1.6	2.4
	Channel Sinuosity (Weighted)	2.4	2.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	2.4	2.4	2.4	0.8
	Weighted Channel Condition Score	21	17.2	14.4	15.2	18.2	17.4	16.4	17.4	17	19.4	21.4	21.6	20.8	19.8
Channel Condition	Poor	Poor	Fair	Fair	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor

Appendix F: Haines Branch Channel Condition Data

Channel Condition Point		75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93
Field Observation and Field Data Input	Bank Soil Texture	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Average Bank Slope	3	2	3	3	2	3	2	2	2	2	3	2	3	2	3	2	3	2	2
	Average Bank Height	2	1	2	1	2	2	2	2	1	3	2	1	1	1	2	3	3	2	2
	Vegetative Bank Protection	3	3	2	2	2	3	2	3	2	3	3	2	2	3	3	2	2	2	2
	Bank Cutting	3	1	3	2	2	3	2	2	2	3	3	1	3	3	3	3	3	3	2
	Mass Wasting	3	1	3	2	3	3	2	2	2	3	3	1	2	2	2	3	3	3	3
	Bar Development	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3
	Debris Jam Potential	3	2	2	2	2	3	3	2	3	1	2	2	2	1	3	2	3	3	2
	Channel Obstructions	2	1	2	3	2	2	2	2	1	1	1	2	1	1	3	1	3	2	1
	Channel Bed Material	3	3	3	3	3	2	3	3	3	3	3	2	3	3	3	3	3	3	3
	Channel Constriction	1	2	2	2	2	2	2	1	1	2	2	1	1	1	1	1	2	2	1
	Sediment Movement	3	3	3	3	3	2	2	2	2	3	3	2	2	2	2	2	3	3	3
	Channel Sinuosity	1	1	1	1	1	1	2	2	2	3	3	1	2	3	2	2	2	1	1
Dominant Process	Incision	Incision	Incision	Incision	Incision	Incision	Incision	Incision	Incision	Incision	Incision, Platform Adjustment	Incision	Incision	Incision, Platform Adjustment	Incision	Incision, Platform Adjustment	Incision	Incision	Incision	
Weighted Scores and Results	Bank Soil Texture (Weighted)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	
	Average Bank Slope (Weighted)	1.8	1.2	1.8	1.8	1.2	1.8	1.2	1.2	1.2	1.2	1.8	1.2	1.8	1.2	1.8	1.2	1.8	1.2	
	Average Bank Height (Weighted)	1.6	0.8	1.6	0.8	1.6	1.6	1.6	1.6	0.8	2.4	1.6	0.8	0.8	0.8	1.6	2.4	2.4	1.6	
	Vegetative Bank Protection (Weighted)	2.4	2.4	1.6	1.6	1.6	2.4	1.6	2.4	1.6	2.4	2.4	1.6	1.6	2.4	2.4	1.6	1.6	1.6	
	Bank Cutting (Weighted)	1.2	0.4	1.2	0.8	0.8	1.2	0.8	0.8	0.8	1.2	1.2	0.4	1.2	1.2	1.2	1.2	1.2	1.2	
	Mass Wasting (Weighted)	2.4	0.8	2.4	1.6	2.4	2.4	1.6	1.6	1.6	2.4	2.4	0.8	1.6	1.6	1.6	2.4	2.4	2.4	
	Bar Development (Weighted)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	
	Debris Jam Potential (Weighted)	0.6	0.4	0.4	0.4	0.4	0.6	0.6	0.4	0.6	0.2	0.4	0.4	0.4	0.2	0.6	0.4	0.6	0.6	
	Channel Obstructions (Weighted)	0.4	0.2	0.4	0.6	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.2	0.2	0.6	0.2	0.6	0.4	
	Channel Bed Material (Weighted)	2.4	2.4	2.4	2.4	2.4	1.6	2.4	2.4	2.4	2.4	2.4	1.6	2.4	2.4	2.4	2.4	2.4	2.4	
	Channel Constriction (Weighted)	0.8	1.6	1.6	1.6	1.6	1.6	1.6	0.8	0.8	1.6	1.6	0.8	0.8	0.8	0.8	0.8	1.6	1.6	
	Sediment Movement (Weighted)	2.4	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6	2.4	2.4	1.6	1.6	1.6	1.6	1.6	2.4	2.4	
	Channel Sinuosity (Weighted)	0.8	0.8	0.8	0.8	0.8	0.8	1.6	1.6	1.6	2.4	2.4	0.8	1.6	2.4	1.6	1.6	1.6	0.8	
	Weighted Channel Condition Score	19.2	15.8	19	17.2	18	18.4	17.4	16.6	15.6	21.2	21.2	12.8	16.4	17.2	18.6	18.2	21	18.6	
Channel Condition	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Poor	Poor	Poor	Poor	Poor		

Appendix F: Haines Branch Channel Condition Data

Channel Condition Point		94	95	96	97	98	99	100	101	102	103	104	105	106
Field Observation and Field Data Input	Bank Soil Texture	1	1	1	1	1	1	1	1	1	1	1	1	1
	Average Bank Slope	2	2	3	1	1	1	2	3	3	2	3	3	3
	Average Bank Height	1	2	2	1	1	1	1	2	1	1	3	2	2
	Vegetative Bank Protection	2	2	2	2	3	3	3	3	3	3	3	3	3
	Bank Cutting	2	2	3	1	1	3	3	3	3	3	3	3	3
	Mass Wasting	3	3	3	1	1	2	3	3	3	3	3	3	3
	Bar Development	3	3	3	3	3	3	3	3	3	3	3	3	3
	Debris Jam Potential	2	3	1	3	1	1	1	2	3	3	3	3	3
	Channel Obstructions	1	1	1	2	1	1	1	1	2	2	2	2	2
	Channel Bed Material	3	3	3	2	3	3	3	3	3	3	3	3	3
	Channel Constriction	1	1	2	1	1	1	1	1	1	2	1	1	1
	Sediment Movement	2	2	3	2	1	3	3	3	3	3	3	3	3
	Channel Sinuosity	1	1	1	1	1	1	1	1	1	2	2	1	1
Dominant Process	Incision, Platform Adjustment	Incision	Incision	Dynamic Equilibrium, Incision	Dynamic Equilibrium	Incision	Incision	Incision, Platform Adjustment	Incision	Incision	Incision	Incision	Incision	Incision
Weighted Scores and Results	Bank Soil Texture (Weighted)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Average Bank Slope (Weighted)	1.2	1.2	1.8	0.6	0.6	0.6	1.2	1.8	1.8	1.2	1.8	1.8	1.8
	Average Bank Height (Weighted)	0.8	1.6	1.6	0.8	0.8	0.8	0.8	1.6	0.8	0.8	2.4	1.6	1.6
	Vegetative Bank Protection (Weighted)	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Bank Cutting (Weighted)	0.8	0.8	1.2	0.4	0.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Mass Wasting (Weighted)	2.4	2.4	2.4	0.8	0.8	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Bar Development (Weighted)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	Debris Jam Potential (Weighted)	0.4	0.6	0.2	0.6	0.2	0.2	0.2	0.4	0.6	0.6	0.6	0.6	0.6
	Channel Obstructions (Weighted)	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4
	Channel Bed Material (Weighted)	2.4	2.4	2.4	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Channel Constriction (Weighted)	0.8	0.8	1.6	0.8	0.8	0.8	0.8	0.8	0.8	1.6	0.8	0.8	0.8
	Sediment Movement (Weighted)	1.6	1.6	2.4	1.6	0.8	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
	Channel Sinuosity (Weighted)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	1.6	0.8	0.8
	Weighted Channel Condition Score	15.4	16.4	18.6	12.4	12.6	15.8	17.2	18.8	18.4	19.4	20.8	19.2	19.2
Channel Condition	Fair	Fair	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor

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