

Oak Glen Pipeline  
Release Incident

APPENDIX

G

Time-Zero and Year 1 BEHI  
Worksheets for Stream 3 and  
Reference Streams

As-Built (3/13/18) BEHI Datasheets

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>0+00-20 RB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	<b>6.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>12.00</b> (C)	<b>10.0</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	<b>0.50</b> (D)	Study Bank Height (ft) =	<b>6.00</b> (A)	$(D) / (A) =$		<b>0.08</b> (E)	<b>8.5</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	<b>30.00</b> (F)	$(F) \times (E) =$		<b>2.5</b> (G)		<b>9.1</b>				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	<b>70</b> (H)	<b>4.6</b>								
<b>Surface Protection ( I )</b>										
Surface Protection as % =	<b>45%</b> (I)	<b>4.6</b>								
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>36.8</b> </div> </div>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																							
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																		
Station: <b>0+00-50</b>					Observers: <b>#REF!</b>																		
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																	
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)														
Study Bank Height (ft) =	<b>8.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>16.00</b> (C)	<b>10.0</b>																
<b>Root Depth to Study Bank Height ( E )</b>																							
Root Depth (ft) =	<b>1.00</b> (D)	Study Bank Height (ft) =	<b>8.00</b> (A)	$(D) / (A) =$		<b>0.13</b> (E)	<b>8.1</b>																
<b>Weighted Root Density ( G )</b>																							
Root Density as % =	<b>30.00</b> (F)	$(F) \times (E) =$		<b>3.75</b> (G)		<b>9.1</b>																	
<b>Bank Angle ( H )</b>																							
Bank Angle as Degrees =	<b>45</b> (H)	<b>3.2</b>																					
<b>Surface Protection ( I )</b>																							
Surface Protection as % =	<b>90%</b> (I)	<b>1.0</b>																					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>																		
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																		
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 5px;"><b>Very Low</b></td> <td style="padding: 5px;"><b>Low</b></td> <td style="padding: 5px;"><b>Moderate</b></td> <td style="padding: 5px;"><b>High</b></td> <td style="padding: 5px;"><b>Very High</b></td> <td style="padding: 5px;"><b>Extreme</b></td> <td style="padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="padding: 5px;">5 – 9.5</td> <td style="padding: 5px;">10 – 19.5</td> <td style="padding: 5px;">20 – 29.5</td> <td style="padding: 5px;">30 – 39.5</td> <td style="padding: 5px;">40 – 45</td> <td style="padding: 5px;">46 – 50</td> <td style="padding: 5px;"><b>31.4</b></td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>31.4</b>
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>31.4</b>																	
<b>Bank Sketch</b> 																							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>0+20-100 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	<b>2.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>4.00</b> (C)	<b>10.0</b>		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	<b>0.33</b> (D)	Study Bank Height (ft) =	<b>2.00</b> (A)	$(D) / (A) =$		<b>0.17</b> (E)	<b>7.4</b>		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	<b>5.00</b> (F)	$(F) \times (E) =$		<b>0.825</b> (G)		<b>10.0</b>			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	<b>80</b> (H)	<b>5.7</b>							
<b>Surface Protection ( I )</b>									
Surface Protection as % =	<b>80%</b> (I)	<b>1.8</b>							
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>34.9</b> </div> </div>									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>0+50-150 LB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	<b>3.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>6.00</b> (C)	<b>10.0</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	<b>0.50</b> (D)	Study Bank Height (ft) =	<b>3.00</b> (A)	$(D) / (A) =$		<b>0.17</b> (E)	<b>7.2</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	<b>5.00</b> (F)	$(F) \times (E) =$		<b>0.83333</b> (G)		<b>9.9</b>				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	<b>80</b> (H)	<b>5.7</b>								
<b>Surface Protection ( I )</b>										
Surface Protection as % =	<b>85%</b> (I)	<b>1.3</b>								
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>										
<b>Adjective Rating and Total Score</b>									<b>34.1</b>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>0-110 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.17 (E)	7.3		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	25.00 (F)			$(F) \times (E) =$		4.16667 (G)	9.0		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		60 (H)						3.9	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		50% (I)						4.3	
<b>Bank Material Adjustment:</b>									
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<div style="display: flex; align-items: center; justify-content: center;"> <div style="font-size: 2em; margin-right: 10px;">➔</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff;"> <b>Bank Material Adjustment</b>  <div style="text-align: center; background-color: #e0f0ff; width: 50px; margin: 0 auto;">0</div> </div> </div>				
					<div style="display: flex; align-items: center; justify-content: center;"> <div style="font-size: 2em; margin-right: 10px;">➔</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff;"> <b>Stratification Adjustment</b>            Add 5–10 points, depending on position of unstable layers in relation to bankfull stage  <div style="text-align: center; background-color: #e0f0ff; width: 50px; margin: 0 auto;">0</div> </div> </div>				
<div style="display: flex; justify-content: space-around; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b>		34.5	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 5px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>0-25 LB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	<b>8.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>16.00</b> (C)	<b>10.0</b>				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	<b>3.00</b> (D)	Study Bank Height (ft) =	<b>8.00</b> (A)	$(D) / (A) =$		<b>0.38</b> (E)	<b>5.0</b>				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	<b>50.00</b> (F)	$(F) \times (E) =$		<b>18.75</b> (G)		<b>7.5</b>					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	<b>75</b> (H)	<b>5.4</b>									
<b>Surface Protection ( I )</b>											
Surface Protection as % =	<b>65%</b> (I)	<b>3.2</b>									
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>	
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>	
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		<b>31.1</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>0-90 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		2.50 (C)	8.5		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	1.50 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.60 (E)	3.3		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	10.00 (F)			$(F) \times (E) =$		6 (G)	8.8		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		45 (H)						3.1	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		50% (I)						4.2	
<b>Bank Material Adjustment:</b>									
<b>Bedrock</b> (Overall Very Low BEHI)									
<b>Boulders</b> (Overall Low BEHI)									
<b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)									
<b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)									
<b>Sand</b> (Add 10 points)									
<b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
					<b>Bank Material Adjustment</b>		0		
					<b>Stratification Adjustment</b>		0		
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<b>Adjective Rating and Total Score</b>									
Very Low	Low	Moderate	High	Very High	Extreme				27.9
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				
<b>Bank Sketch</b>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>0-90 RB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		3.00 (C)	<b>9.3</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.67 (E)	<b>3.1</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	40.00 (F)	$(F) \times (E) =$		26.6667 (G)		<b>6.1</b>				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	60 (H)					<b>4.0</b>				
<b>Surface Protection ( I )</b>										
Surface Protection as % =	90% (I)					<b>1.0</b>				
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>23.5</b> </div> </div>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>1+00-135 RB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		10.00 (C)	10.0				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	5.00 (A)	$(D) / (A) =$		0.10 (E)	8.4				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	10.00 (F)	$(F) \times (E) =$		1 (G)		9.3					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	85 (H)					6.4					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	80% (I)					1.9					
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%; background-color: #e0f0ff;"></div>	
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%; background-color: #e0f0ff;"></div>	
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div> <div style="text-align: center; margin-top: 10px;"> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff;">36.0</div>					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>1+150-275 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	<b>10.0</b>		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.08 (E)	<b>8.5</b>		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)			$(F) \times (E) =$		0.41667 (G)	<b>9.9</b>		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	45 (H)								<b>3.1</b>
<b>Surface Protection ( I )</b>									
Surface Protection as % =	85% (I)								<b>1.4</b>
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50         </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>32.9</b> </div> </div>									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>1+35-275 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	<b>3.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>6.00</b> (C)	<b>10.0</b>		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	<b>0.42</b> (D)	Study Bank Height (ft) =	<b>3.00</b> (A)	$(D) / (A) =$		<b>0.14</b> (E)	<b>8.1</b>		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	<b>15.00</b> (F)	$(F) \times (E) =$		<b>2.1</b> (G)		<b>9.4</b>			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	<b>45</b> (H)					<b>3.1</b>			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	<b>75%</b> (I)					<b>2.3</b>			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>				
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>				
<b>Very Low    Low    Moderate    High    Very High    Extreme</b> <div style="text-align: center;"> </div>						<b>Adjective Rating and Total Score</b>		<b>32.9</b>	
<b>5 – 9.5    10 – 19.5    20 – 29.5    30 – 39.5    40 – 45    46 – 50</b>									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>1075-1100 LB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		3.50 (C)	<b>10.0</b>				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	0.75 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$		0.21 (E)	<b>6.8</b>				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	50.00 (F)	$(F) \times (E) =$		10.7143 (G)		<b>8.5</b>					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	90 (H)					<b>8.0</b>					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	85% (I)					<b>1.4</b>					
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; text-align: center; font-weight: bold;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>					
						<b>34.7</b>					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>1100-1300 LB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	2.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		2.00 (C)	<b>8.0</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	2.00 (A)	$(D) / (A) =$		0.13 (E)	<b>8.0</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	12.00 (F)	$(F) \times (E) =$		1.5 (G)		<b>9.5</b>				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	30 (H)					<b>2.3</b>				
<b>Surface Protection ( I )</b>										
Surface Protection as % =	90% (I)					<b>1.0</b>				
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>						<b>Adjective Rating and Total Score</b>		<b>28.8</b>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>110-220 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		10.00 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	5.00 (A)	$(D) / (A) =$		0.20 (E)	7.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	20.00 (F)	$(F) \times (E) =$		4 (G)		9.0			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	60 (H)					3.9			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	60% (I)					3.5			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)						<b>Bank Material Adjustment</b>		0	
						<b>Stratification Adjustment</b>		0	
						Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0	
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>						<b>Adjective Rating and Total Score</b>		33.4	

**Bank Sketch**



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>120-220 LB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	6.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		12.00 (C)	<b>10.0</b>				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	2.50 (D)	Study Bank Height (ft) =	6.00 (A)	$(D) / (A) =$		0.42 (E)	<b>4.5</b>				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	10.00 (F)	$(F) \times (E) =$		4.16667 (G)		<b>9.2</b>					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	75 (H)					<b>5.0</b>					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	75% (I)					<b>2.4</b>					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>	
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>	
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		<b>31.1</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>1300-1410 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		2.50 (C)	8.6		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.75 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.30 (E)	6.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	25.00 (F)			$(F) \times (E) =$		7.5 (G)	8.7		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		45 (H)					3.2		
<b>Surface Protection ( I )</b>									
Surface Protection as % =		60% (I)					3.5		
<b>Bank Material Adjustment:</b>									
<b>Bedrock</b> (Overall Very Low BEHI)									
<b>Boulders</b> (Overall Low BEHI)									
<b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)									
<b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)									
<b>Sand</b> (Add 10 points)									
<b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
					<b>Bank Material Adjustment</b>				
					<b>Stratification Adjustment</b>				
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<b>Adjective Rating and Total Score</b>									
Very Low	Low	Moderate	High	Very High	Extreme				
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				
						<b>30.0</b>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>1300-1410 RB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		2.50 (C)	8.6				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	0.75 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.30 (E)	6.0				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	20.00 (F)	$(F) \times (E) =$		6 (G)		8.9					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	45 (H)					3.1					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	75% (I)					2.3					
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
<div style="display: flex; justify-content: space-between;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div> <div style="text-align: center; margin-top: 10px;"> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; padding: 5px; width: 100%;">28.9</div>					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>130-225 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		4.00 (C)	<b>10.0</b>		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.75 (E)	<b>2.8</b>		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	35.00 (F)	$(F) \times (E) =$		26.25 (G)		<b>6.1</b>			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	80 (H)	<b>5.9</b>							
<b>Surface Protection ( I )</b>									
Surface Protection as % =	50% (I)	<b>4.2</b>							
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b>		<b>0</b>		
					<b>Stratification Adjustment</b>		<b>0</b>		
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		<b>0</b>		
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="font-size: 2em; color: #add8e6;">➔</div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>29.0</b> </div> </div>									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>1410-1500 LB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		4.00 (C)	<b>10.0</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.13 (E)	<b>8.0</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	25.00 (F)	$(F) \times (E) =$		3.125 (G)		<b>9.3</b>				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	45 (H)	<b>3.2</b>								
<b>Surface Protection ( I )</b>										
Surface Protection as % =	65% (I)	<b>3.0</b>								
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>33.5</b> </div> </div>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>1410-1500 RB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		4.00 (C)	<b>10.0</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	0.75 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.19 (E)	<b>7.2</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	20.00 (F)	$(F) \times (E) =$		3.75 (G)		<b>9.3</b>				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	60 (H)	<b>4.0</b>								
<b>Surface Protection ( I )</b>										
Surface Protection as % =	75% (I)	<b>2.3</b>								
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div> <div style="text-align: center; margin-top: 10px;"> </div>						<b>Adjective Rating and Total Score</b>		32.8		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>1500-1670 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		2.50 (C)	8.6		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.75 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.30 (E)	6.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	10.00 (F)	$(F) \times (E) =$		3 (G)		9.3			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	30 (H)					2.3			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	90% (I)					1.0			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>				
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>					<b>Adjective Rating and Total Score</b>			<div style="border: 1px solid black; padding: 5px; width: 100px;">27.2</div>	
<b>Bank Sketch</b> 									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>1500-1670 RB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		2.50 (C)	8.6				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	0.75 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.30 (E)	6.0				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	10.00 (F)	$(F) \times (E) =$		3 (G)		9.3					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	30 (H)					2.3					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	80% (I)					2.0					
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; height: 30px; width: 100%; text-align: center; font-weight: bold;">28.2</div>					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																					
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																
Station: <b>1670-1700 RB</b>					Observers: <b>#REF!</b>																
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>															
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)												
Study Bank Height (ft) =	7.00 (A)	Bankfull Height (ft) =	1.50 (B)	( A ) / ( B ) =		4.67 (C)	10.0														
<b>Root Depth to Study Bank Height ( E )</b>																					
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	7.00 (A)	( D ) / ( A ) =		0.14 (E)	7.9														
<b>Weighted Root Density ( G )</b>																					
Root Density as % =	10.00 (F)			( F ) × ( E ) =		1.42857 (G)	9.6														
<b>Bank Angle ( H )</b>																					
Bank Angle as Degrees =		65 (H)				4.4															
<b>Surface Protection ( I )</b>																					
Surface Protection as % =		75% (I)				2.3															
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b>											
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage											
<b>Adjective Rating</b> and <b>Total Score</b>						<b>34.2</b>															
<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="background-color: #e0f0ff;">Very Low</td> <td style="background-color: #e0f0ff;">Low</td> <td style="background-color: #e0f0ff;">Moderate</td> <td style="background-color: #e0f0ff;">High</td> <td style="background-color: #e0f0ff;">Very High</td> <td style="background-color: #e0f0ff;">Extreme</td> </tr> <tr> <td style="background-color: #e0f0ff;">5 – 9.5</td> <td style="background-color: #e0f0ff;">10 – 19.5</td> <td style="background-color: #e0f0ff;">20 – 29.5</td> <td style="background-color: #e0f0ff;">30 – 39.5</td> <td style="background-color: #e0f0ff;">40 – 45</td> <td style="background-color: #e0f0ff;">46 – 50</td> </tr> </table> </div> <div style="width: 35%; text-align: right;"> </div> </div>										Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50
Very Low	Low	Moderate	High	Very High	Extreme																
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																
<div style="display: flex;"> <div style="flex: 1;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="flex: 1;"> </div> </div>																					

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>1670-1780 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.00 (C)	8.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	1.50 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.50 (E)	3.8		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	45.00 (F)			$(F) \times (E) =$		22.5 (G)	6.5		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		30 (H)				2.4			
<b>Surface Protection ( I )</b>									
Surface Protection as % =		65% (I)				3.0			
<b>Bank Material Adjustment:</b>									
<b>Bedrock</b> (Overall Very Low BEHI)									
<b>Boulders</b> (Overall Low BEHI)									
<b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)									
<b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)									
<b>Sand</b> (Add 10 points)									
<b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
					<b>Bank Material Adjustment</b>		<div style="border: 1px solid black; height: 20px; width: 100%;"></div>		
					<b>Stratification Adjustment</b>		<div style="border: 1px solid black; height: 20px; width: 100%;"></div>		
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="display: flex; gap: 10px;"> <div style="text-align: center;">Very Low 5 – 9.5</div> <div style="text-align: center;">Low 10 – 19.5</div> <div style="text-align: center;">Moderate 20 – 29.5</div> <div style="text-align: center;">High 30 – 39.5</div> <div style="text-align: center;">Very High 40 – 45</div> <div style="text-align: center;">Extreme 46 – 50</div> </div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <div style="border: 1px solid black; padding: 5px; display: inline-block;">23.7</div> </div> </div>									
<b>Bank Sketch</b>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																					
Station: <b>1700-1875 RB</b>					Observers: <b>#REF!</b>																					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>																	
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		1.67 (C)	6.4																			
<b>Root Depth to Study Bank Height ( E )</b>																										
Root Depth (ft) =	1.50 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.60 (E)	3.5																			
<b>Weighted Root Density ( G )</b>																										
Root Density as % =	35.00 (F)			$(F) \times (E) =$		21 (G)	6.8																			
<b>Bank Angle ( H )</b>																										
Bank Angle as Degrees =		35 (H)							2.7																	
<b>Surface Protection ( I )</b>																										
Surface Protection as % =		80% (I)							2.0																	
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>																					
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																					
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 2px 10px;"><b>Very Low</b></td> <td style="text-align: center; padding: 2px 10px;"><b>Low</b></td> <td style="text-align: center; padding: 2px 10px;"><b>Moderate</b></td> <td style="text-align: center; padding: 2px 10px;"><b>High</b></td> <td style="text-align: center; padding: 2px 10px;"><b>Very High</b></td> <td style="text-align: center; padding: 2px 10px;"><b>Extreme</b></td> <td colspan="3" style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 2px 10px;">5 – 9.5</td> <td style="text-align: center; padding: 2px 10px;">10 – 19.5</td> <td style="text-align: center; padding: 2px 10px;">20 – 29.5</td> <td style="text-align: center; padding: 2px 10px;">30 – 39.5</td> <td style="text-align: center; padding: 2px 10px;">40 – 45</td> <td style="text-align: center; padding: 2px 10px;">46 – 50</td> <td colspan="3" style="text-align: center; padding: 5px;">21.4</td> </tr> </table>									<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>			5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	21.4		
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																				
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	21.4																				
<b>Bank Sketch</b> 																										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>1780-1850 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.00 (C)	8.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.17 (E)	7.6		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.83333 (G)		9.8			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	35 (H)					2.6			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	90% (I)					1.0			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<div style="display: flex; align-items: center; justify-content: center;"> <div style="font-size: 2em; margin-right: 10px;">➔</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff;"> <b>Bank Material Adjustment</b> </div> </div>				
					<div style="display: flex; align-items: center; justify-content: center;"> <div style="font-size: 2em; margin-right: 10px;">➔</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff;"> <b>Stratification Adjustment</b>            Add 5–10 points, depending on position of unstable layers in relation to bankfull stage         </div> </div>				
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b>		<b>29.0</b>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>180-300 RB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	20.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		20.00 (C)	10.0				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	20.00 (A)	$(D) / (A) =$		0.15 (E)	8.0				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	10.00 (F)	$(F) \times (E) =$		1.5 (G)		9.9					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	75 (H)					5.3					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	60% (I)					3.5					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					0	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					0	
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					0	
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		36.7
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>1850-2025 LB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.00 (C)	8.0			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.67 (E)	3.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	60.00 (F)			$(F) \times (E) =$		40 (G)	5.0			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =		40 (H)		3.0						
<b>Surface Protection ( I )</b>										
Surface Protection as % =		80% (I)		2.0						
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<div style="font-size: 2em; color: #00a0e3;">➔</div>					<b>Bank Material Adjustment</b>
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50         </div> </div> <div style="text-align: center; margin-top: 10px;"> <div style="font-size: 2em; color: #00a0e3;">➔</div> </div>						<b>Adjective Rating and Total Score</b>		<b>21.0</b>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>1875-2025 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	6.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		4.33 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	6.50 (A)	$(D) / (A) =$		0.31 (E)	5.6		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	55.00 (F)	$(F) \times (E) =$		16.9231 (G)		8.0			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	85 (H)					6.3			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	65% (I)					3.0			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>				
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>				
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>			
						32.9			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																					
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																
Station: <b>2025-2080 LB</b>					Observers: <b>#REF!</b>																
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>															
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)												
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.67 (C)	8.7														
<b>Root Depth to Study Bank Height ( E )</b>																					
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.06 (E)	8.8														
<b>Weighted Root Density ( G )</b>																					
Root Density as % =	5.00 (F)			$(F) \times (E) =$		0.3125 (G)	9.9														
<b>Bank Angle ( H )</b>																					
Bank Angle as Degrees =		25 (H)						2.2													
<b>Surface Protection ( I )</b>																					
Surface Protection as % =		85% (I)						1.5													
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b>											
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #e0f0ff;">Very Low</td> <td style="background-color: #e0f0ff;">Low</td> <td style="background-color: #e0f0ff;">Moderate</td> <td style="background-color: #e0f0ff;">High</td> <td style="background-color: #e0f0ff;">Very High</td> <td style="background-color: #e0f0ff;">Extreme</td> </tr> <tr> <td style="background-color: #e0f0ff;">5 – 9.5</td> <td style="background-color: #e0f0ff;">10 – 19.5</td> <td style="background-color: #e0f0ff;">20 – 29.5</td> <td style="background-color: #e0f0ff;">30 – 39.5</td> <td style="background-color: #e0f0ff;">40 – 45</td> <td style="background-color: #e0f0ff;">46 – 50</td> </tr> </table>						Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>Adjective Rating and Total Score</b>		<b>31.1</b>	
Very Low	Low	Moderate	High	Very High	Extreme																
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																					



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>2025-2085 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		3.33 (C)	9.7		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	4.00 (D)	Study Bank Height (ft) =	5.00 (A)	$(D) / (A) =$		0.80 (E)	2.4		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	90.00 (F)	$(F) \times (E) =$		72 (G)		2.4			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	75 (H)					5.1			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	90% (I)					1.0			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>				
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>				
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b>		<div style="border: 1px solid black; background-color: #e0f0ff; padding: 10px; font-size: 1.2em; font-weight: bold;">20.6</div>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>2080-2200 LB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	( A ) / ( B ) =		1.67 (C)	6.3			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	2.50 (A)	( D ) / ( A ) =		0.80 (E)	2.4			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	25.00 (F)			( F ) × ( E ) =		20 (G)	7.2			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =		45 (H)				3.0				
<b>Surface Protection ( I )</b>										
Surface Protection as % =		80% (I)				2.0				
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<div style="font-size: 2em; color: #00a0e3; margin: 0;">➔</div>					<b>Bank Material Adjustment</b>  
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50         </div> </div> <div style="text-align: center; margin-top: 10px;"> <div style="font-size: 2em; color: #00a0e3;">➔</div> </div>						<b>Adjective Rating and Total Score</b>  <div style="background-color: #e0f0ff; padding: 5px; font-size: 1.2em; font-weight: bold;">20.9</div>				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>2080-2200 RB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)		
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.00 (C)	<b>8.0</b>				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.08 (E)	<b>8.6</b>				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	30.00 (F)	$(F) \times (E) =$		2.5 (G)		<b>9.5</b>					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	45 (H)					<b>3.1</b>					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	75% (I)					<b>2.3</b>					
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
<div style="display: flex; justify-content: space-between;"> <span><b>Very Low</b></span> <span><b>Low</b></span> <span><b>Moderate</b></span> <span><b>High</b></span> <span><b>Very High</b></span> <span><b>Extreme</b></span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; height: 30px; width: 100%; text-align: center; font-weight: bold;">31.5</div>					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>2200-2325 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.67 (C)	8.8		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.13 (E)	8.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	30.00 (F)	$(F) \times (E) =$		3.75 (G)		9.3			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	80 (H)					5.7			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	90% (I)					1.0			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<div style="display: flex; align-items: center; justify-content: center;"> <div style="font-size: 2em; margin-right: 10px;">➔</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff;"> <b>Bank Material Adjustment</b> </div> </div>				
					<div style="display: flex; align-items: center; justify-content: center;"> <div style="font-size: 2em; margin-right: 10px;">➔</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff;"> <b>Stratification Adjustment</b>            Add 5–10 points, depending on position of unstable layers in relation to bankfull stage         </div> </div>				
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b>		<b>32.8</b>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>2200-2325 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.00 (C)	8.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.00 (E)	10.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	0.00 (F)	$(F) \times (E) =$		0 (G)		10.0			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		15 (H)		1.6					
<b>Surface Protection ( I )</b>									
Surface Protection as % =		100% (I)		0.0					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
					<b>Stratification Adjustment</b>				
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>29.6</b> </div> </div>									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>220-300 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	<b>10.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>20.00</b> (C)	<b>10.0</b>		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	<b>6.00</b> (D)	Study Bank Height (ft) =	<b>10.00</b> (A)	$(D) / (A) =$		<b>0.60</b> (E)	<b>3.3</b>		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	<b>65.00</b> (F)	$(F) \times (E) =$		<b>39</b> (G)		<b>5.1</b>			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	<b>80</b> (H)					<b>5.9</b>			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	<b>75%</b> (I)					<b>2.4</b>			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)						<b>Bank Material Adjustment</b>		<b>0</b>	
						<b>Stratification Adjustment</b>		<b>0</b>	
						Add 5–10 points, depending on position of unstable layers in relation to bankfull stage			
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>						<b>Adjective Rating and Total Score</b>		<b>26.7</b>	

**Bank Sketch**

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>220-310 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.17 (E)	7.3		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	25.00 (F)			$(F) \times (E) =$		4.16667 (G)	9.0		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		45 (H)					3.1		
<b>Surface Protection ( I )</b>									
Surface Protection as % =		80% (I)					1.9		
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)							<b>Bank Material Adjustment</b>		0
							<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5             </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5             </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5             </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5             </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45             </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50             </div> </div>								<b>Adjective Rating and Total Score</b>  <div style="display: flex; justify-content: space-between;"> <span>31.3</span> </div>	
<b>Bank Sketch</b>									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>225-330 LB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	1.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		1.00 (C)	1.0				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	1.00 (A)	$(D) / (A) =$		1.00 (E)	0.0				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	5.00 (F)	$(F) \times (E) =$		5 (G)		9.0					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	30 (H)					2.5					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	75% (I)					2.4					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					0	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					0	
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					0	
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		14.9
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>2325-2390 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	4.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		3.00 (C)	9.3		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	4.50 (A)	$(D) / (A) =$		0.67 (E)	3.2		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	80.00 (F)			$(F) \times (E) =$		53.3333 (G)	4.2		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		75 (H)						4.8	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		75% (I)						2.3	
<b>Bank Material Adjustment:</b>									
<b>Bedrock</b> (Overall Very Low BEHI)									
<b>Boulders</b> (Overall Low BEHI)									
<b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)									
<b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)									
<b>Sand</b> (Add 10 points)									
<b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
					<b>Bank Material Adjustment</b>				
					<b>Stratification Adjustment</b>				
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<b>Adjective Rating and Total Score</b>									
Very Low	Low	Moderate	High	Very High	Extreme				
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				
						<b>23.8</b>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>2325-2450 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		1.67 (C)	6.3		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.00 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.00 (E)	10.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	0.00 (F)			$(F) \times (E) =$		0 (G)	10.0		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		15 (H)						1.5	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		100% (I)						0.0	
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="margin: 0 10px; font-size: 2em;">➔</div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>27.8</b> </div> </div>									
<b>Bank Sketch</b> 									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>2390-2525 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		1.67 (C)	6.4		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.00 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.00 (E)	10.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	0.00 (F)			$(F) \times (E) =$		0 (G)	10.0		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		30 (H)							2.5
<b>Surface Protection ( I )</b>									
Surface Protection as % =		95% (I)							0.3
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50         </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>29.2</b> </div> </div>									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>2450-2525 RB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									BEHI Score (Fig. 3-7)	
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		1.67 (C)	6.3			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	0.00 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.00 (E)	10.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	0.00 (F)			$(F) \times (E) =$		0 (G)	10.0			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =		45 (H)					3.0			
<b>Surface Protection ( I )</b>										
Surface Protection as % =		80% (I)					2.0			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%; background-color: #e0f0ff;"></div>
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%; background-color: #e0f0ff;"></div>
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; height: 30px; width: 100%; background-color: #e0f0ff; text-align: center; font-weight: bold; font-size: 1.2em;">31.3</div>				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>25-120 LB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	<b>3.00</b>	(A)	Bankfull Height (ft) =	<b>0.50</b>	(B)	$(A) / (B) =$		<b>6.00</b>	(C)	
									<b>10.0</b>	
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	<b>0.00</b>	(D)	Study Bank Height (ft) =	<b>3.00</b>	(A)	$(D) / (A) =$		<b>0.00</b>	(E)	
									<b>10.0</b>	
<b>Weighted Root Density ( G )</b>										
Root Density as % =	<b>0.00</b>	(F)	$(F) \times (E) =$		<b>0</b>	(G)			<b>10.0</b>	
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	<b>50</b>	(H)			<b>3.5</b>					
<b>Surface Protection ( I )</b>										
Surface Protection as % =	<b>90%</b>	(I)			<b>1.0</b>					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="font-size: 2em;">➔</div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>34.5</b> </div> </div>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>2525-2575 LB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.33 (C)	8.3			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	0.00 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$		0.00 (E)	10.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	0.00 (F)			$(F) \times (E) =$		0 (G)	10.0			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =		40 (H)					3.0			
<b>Surface Protection ( I )</b>										
Surface Protection as % =		100% (I)					0.0			
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b>
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>		<b>31.3</b>		
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																						
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																	
Station: <b>2525-2575 RB</b>					Observers: <b>#REF!</b>																	
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>													
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.67 (C)	<b>8.8</b>															
<b>Root Depth to Study Bank Height ( E )</b>																						
Root Depth (ft) =	0.00 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.00 (E)	<b>10.0</b>															
<b>Weighted Root Density ( G )</b>																						
Root Density as % =	0.00 (F)	$(F) \times (E) =$		0 (G)		<b>10.0</b>																
<b>Bank Angle ( H )</b>																						
Bank Angle as Degrees =		75 (H)		<b>5.0</b>																		
<b>Surface Protection ( I )</b>																						
Surface Protection as % =		75% (I)		<b>2.3</b>																		
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>																	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																	
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px;">Very Low</td> <td style="padding: 2px;">Low</td> <td style="padding: 2px;">Moderate</td> <td style="padding: 2px;">High</td> <td style="padding: 2px;">Very High</td> <td style="padding: 2px;">Extreme</td> </tr> <tr> <td style="padding: 2px;">5 – 9.5</td> <td style="padding: 2px;">10 – 19.5</td> <td style="padding: 2px;">20 – 29.5</td> <td style="padding: 2px;">30 – 39.5</td> <td style="padding: 2px;">40 – 45</td> <td style="padding: 2px;">46 – 50</td> </tr> </table>									Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; width: 100px; height: 30px; margin: 0 auto; text-align: center; line-height: 30px;"><b>36.1</b></div>	
Very Low	Low	Moderate	High	Very High	Extreme																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																						



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																					
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																
Station: <b>2575-2675 LB</b>					Observers: <b>#REF!</b>																
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>															
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)												
Study Bank Height (ft) =	2.50	(A)	Bankfull Height (ft) =	1.50	(B)	$(A) / (B) =$		1.67	(C)												
									<b>6.3</b>												
<b>Root Depth to Study Bank Height ( E )</b>																					
Root Depth (ft) =	0.00	(D)	Study Bank Height (ft) =	2.50	(A)	$(D) / (A) =$		0.00	(E)												
									<b>10.0</b>												
<b>Weighted Root Density ( G )</b>																					
Root Density as % =	0.00	(F)	$(F) \times (E) =$		0	(G)															
									<b>10.0</b>												
<b>Bank Angle ( H )</b>																					
Bank Angle as Degrees =		30	(H)																		
									<b>2.4</b>												
<b>Surface Protection ( I )</b>																					
Surface Protection as % =		90%	(I)																		
									<b>1.0</b>												
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>																
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <th style="padding: 2px;">Very Low</th> <th style="padding: 2px;">Low</th> <th style="padding: 2px;">Moderate</th> <th style="padding: 2px;">High</th> <th style="padding: 2px;">Very High</th> <th style="padding: 2px;">Extreme</th> </tr> <tr> <td style="text-align: center; padding: 2px;">5 – 9.5</td> <td style="text-align: center; padding: 2px;">10 – 19.5</td> <td style="text-align: center; padding: 2px;">20 – 29.5</td> <td style="text-align: center; padding: 2px;">30 – 39.5</td> <td style="text-align: center; padding: 2px;">40 – 45</td> <td style="text-align: center; padding: 2px;">46 – 50</td> </tr> </table> </div> <div style="font-size: 2em; color: #add8e6;">➔</div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <div style="background-color: #e0f0ff; padding: 5px; border: 1px solid black; width: 100px; text-align: center; margin: 0 auto;"><b>29.7</b></div> </div> </div>										Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50
Very Low	Low	Moderate	High	Very High	Extreme																
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																
<b>Bank Sketch</b> 																					



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>2575-2675 RB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	( A ) / ( B ) =		1.67 (C)	6.3			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	0.00 (D)	Study Bank Height (ft) =	2.50 (A)	( D ) / ( A ) =		0.00 (E)	10.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	0.00 (F)			( F ) × ( E ) =		0 (G)	10.0			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =		30 (H)				2.4				
<b>Surface Protection ( I )</b>										
Surface Protection as % =		90% (I)				1.0				
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b>
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage
<b>Adjective Rating</b> Very Low    Low    Moderate    High    Very High    Extreme						<b>Adjective Rating and Total Score</b>				
						<b>29.7</b>				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>2675-2750 RB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		3.33 (C)	9.7			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	4.50 (D)	Study Bank Height (ft) =	5.00 (A)	$(D) / (A) =$		0.90 (E)	1.9			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	95.00 (F)			$(F) \times (E) =$		85.5 (G)	1.2			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =		75 (H)		4.8						
<b>Surface Protection ( I )</b>										
Surface Protection as % =		95% (I)		0.3						
<b>Bank Material Adjustment:</b>										
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<div style="font-size: 2em; color: #00a0e3;">➔</div>					<b>Bank Material Adjustment</b>
					<div style="font-size: 2em; color: #00a0e3;">➔</div>					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div> <div style="font-size: 2em; color: #00a0e3; margin: 0 auto;">➔</div>						<b>Adjective Rating and Total Score</b>		<b>17.9</b>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>2675-2850 LB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		1.67 (C)	6.4				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	0.00 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.00 (E)	10.0				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	0.00 (F)	$(F) \times (E) =$		0 (G)		10.0					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	40 (H)					3.0					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	100% (I)					0.0					
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 20px; width: 100%; background-color: #e0f0ff;"></div>	
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 20px; width: 100%; background-color: #e0f0ff;"></div>	
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; height: 20px; width: 100%; background-color: #e0f0ff; text-align: center; font-weight: bold;">29.4</div>					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>2750-2850 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	<b>2.50</b> (A)	Bankfull Height (ft) =	<b>1.50</b> (B)	$(A) / (B) =$		<b>1.67</b> (C)	<b>6.4</b>		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	<b>0.00</b> (D)	Study Bank Height (ft) =	<b>2.50</b> (A)	$(D) / (A) =$		<b>0.00</b> (E)	<b>10.0</b>		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	<b>0.00</b> (F)	$(F) \times (E) =$		<b>0</b> (G)		<b>10.0</b>			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	<b>40</b> (H)					<b>3.0</b>			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	<b>100%</b> (I)					<b>0.0</b>			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>				
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
					<div style="border: 1px solid black; height: 30px; width: 100%;"></div>				
<b>Very Low    Low    Moderate    High    Very High    Extreme</b>						<b>Adjective Rating and</b>		<b>Total Score</b>	
<div style="display: flex; justify-content: space-between; width: 100%;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>29.4</b>			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>275-350 LB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		8.00 (C)	10.0				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.06 (E)	8.7				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	15.00 (F)	$(F) \times (E) =$		0.9375 (G)		9.9					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	70 (H)					4.5					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	75% (I)					2.4					
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
<div style="display: flex; justify-content: space-between;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>					
						35.5					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>														
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>									
Station: <b>275-350 RB</b>					Observers: <b>#REF!</b>									
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>								
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>					
Study Bank Height (ft) =	4.50 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		9.00 (C)	<b>10.0</b>							
<b>Root Depth to Study Bank Height ( E )</b>														
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	4.50 (A)	$(D) / (A) =$		0.22 (E)	<b>6.6</b>							
<b>Weighted Root Density ( G )</b>														
Root Density as % =	20.00 (F)	$(F) \times (E) =$		4.44444 (G)		<b>9.1</b>								
<b>Bank Angle ( H )</b>														
Bank Angle as Degrees =	85 (H)					<b>6.4</b>								
<b>Surface Protection ( I )</b>														
Surface Protection as % =	80% (I)					<b>1.9</b>								
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>				
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5             </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5             </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5             </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5             </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45             </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50             </div> </div>						<b>Adjective Rating and Total Score</b>		<b>34.0</b>						
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>														

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>300-420 LB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	<b>6.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>12.00</b> (C)	<b>10.0</b>				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	<b>1.50</b> (D)	Study Bank Height (ft) =	<b>6.00</b> (A)	$(D) / (A) =$		<b>0.25</b> (E)	<b>6.5</b>				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	<b>30.00</b> (F)	$(F) \times (E) =$		<b>7.5</b> (G)		<b>8.5</b>					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	<b>70</b> (H)					<b>4.8</b>					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	<b>75%</b> (I)					<b>2.4</b>					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>	
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>	
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		<b>32.2</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>300-450 RB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	1.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		1.00 (C)	1.0				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	1.00 (A)	$(D) / (A) =$		1.00 (E)	0.0				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	5.00 (F)			$(F) \times (E) =$		5 (G)	9.9				
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =		30 (H)		2.5							
<b>Surface Protection ( I )</b>											
Surface Protection as % =		90% (I)		1.0							
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					0	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					0	
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					0	
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		14.4
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>												
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>							
Station: <b>310-380 RB</b>					Observers: <b>#REF!</b>							
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>						
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>			
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		8.00 (C)	<b>10.0</b>					
<b>Root Depth to Study Bank Height ( E )</b>												
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.50 (E)	<b>3.9</b>					
<b>Weighted Root Density ( G )</b>												
Root Density as % =	55.00 (F)	$(F) \times (E) =$		27.5 (G)		<b>6.1</b>						
<b>Bank Angle ( H )</b>												
Bank Angle as Degrees =	80 (H)					<b>5.9</b>						
<b>Surface Protection ( I )</b>												
Surface Protection as % =	50% (I)					<b>4.2</b>						
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>		
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>		
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>		
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		<b>30.1</b>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>												

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>330-480 LB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	15.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		15.00 (C)	10.0			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	3.50 (D)	Study Bank Height (ft) =	15.00 (A)	$(D) / (A) =$		0.23 (E)	6.8			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	30.00 (F)	$(F) \times (E) =$		7 (G)		8.7				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	80 (H)					5.9				
<b>Surface Protection ( I )</b>										
Surface Protection as % =	40% (I)					5.0				
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b>		0			
					<b>Stratification Adjustment</b>		0			
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0			
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>									<b>Adjective Rating and Total Score</b>	36.4
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																						
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																	
Station: <b>350-500 LB</b>					Observers: <b>#REF!</b>																	
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)													
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	10.0															
<b>Root Depth to Study Bank Height ( E )</b>																						
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.08 (E)	8.5															
<b>Weighted Root Density ( G )</b>																						
Root Density as % =	5.00 (F)			$(F) \times (E) =$		0.41667 (G)	9.9															
<b>Bank Angle ( H )</b>																						
Bank Angle as Degrees =		65 (H)						4.4														
<b>Surface Protection ( I )</b>																						
Surface Protection as % =		80% (I)						1.9														
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)							<b>Bank Material Adjustment</b>		0													
							<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0													
<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Very Low</td> <td style="padding: 2px;">Low</td> <td style="padding: 2px;">Moderate</td> <td style="padding: 2px;">High</td> <td style="padding: 2px;">Very High</td> <td style="padding: 2px;">Extreme</td> </tr> <tr> <td style="padding: 2px;">5 – 9.5</td> <td style="padding: 2px;">10 – 19.5</td> <td style="padding: 2px;">20 – 29.5</td> <td style="padding: 2px;">30 – 39.5</td> <td style="padding: 2px;">40 – 45</td> <td style="padding: 2px;">46 – 50</td> </tr> </table>						Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50			<b>Adjective Rating and Total Score</b>		34.7
Very Low	Low	Moderate	High	Very High	Extreme																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																	
<b>Bank Sketch</b> 																						

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>350-500 RB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	<b>10.0</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.08 (E)	<b>8.5</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.41667 (G)		<b>9.9</b>				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	50 (H)					<b>3.4</b>				
<b>Surface Protection ( I )</b>										
Surface Protection as % =	85% (I)					<b>1.5</b>				
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="font-size: 2em; margin: 0 10px;">➔</div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>33.3</b> </div> </div>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>380-500 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	2.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		4.00 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	2.00 (A)	$(D) / (A) =$		0.25 (E)	6.3		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	10.00 (F)			$(F) \times (E) =$		2.5 (G)	9.5		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		30 (H)						2.5	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		95% (I)						0.5	
<b>Bank Material Adjustment:</b>									
Bedrock (Overall Very Low BEHI)									
Boulders (Overall Low BEHI)									
Cobble (Subtract 10 points if uniform medium to large cobble)									
Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)									
Sand (Add 10 points)									
Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
					<b>Bank Material Adjustment</b>		0		
					<b>Stratification Adjustment</b>		0		
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>		28.8	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																							
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																		
Station: <b>420-510 LB</b>					Observers: <b>#REF!</b>																		
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																	
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>														
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	10.0																
<b>Root Depth to Study Bank Height ( E )</b>																							
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.33 (E)	5.2																
<b>Weighted Root Density ( G )</b>																							
Root Density as % =	15.00 (F)	$(F) \times (E) =$		5 (G)		9.0																	
<b>Bank Angle ( H )</b>																							
Bank Angle as Degrees =	45 (H)					3.1																	
<b>Surface Protection ( I )</b>																							
Surface Protection as % =	70% (I)					2.8																	
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b>		0																
					<b>Stratification Adjustment</b>		0																
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0																
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 5px;">Very Low</td> <td style="padding: 2px 5px;">Low</td> <td style="padding: 2px 5px;">Moderate</td> <td style="padding: 2px 5px;">High</td> <td style="padding: 2px 5px;">Very High</td> <td style="padding: 2px 5px;">Extreme</td> </tr> <tr> <td style="padding: 2px 5px;">5 – 9.5</td> <td style="padding: 2px 5px;">10 – 19.5</td> <td style="padding: 2px 5px;">20 – 29.5</td> <td style="padding: 2px 5px;">30 – 39.5</td> <td style="padding: 2px 5px;">40 – 45</td> <td style="padding: 2px 5px;">46 – 50</td> </tr> </table>									Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>Adjective Rating and Total Score</b>		30.1
Very Low	Low	Moderate	High	Very High	Extreme																		
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>450-560 RB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		3.50 (C)	<b>10.0</b>				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	1.50 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$		0.43 (E)	<b>4.7</b>				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	60.00 (F)	$(F) \times (E) =$		25.7143 (G)		<b>6.5</b>					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	80 (H)	<b>5.9</b>									
<b>Surface Protection ( I )</b>											
Surface Protection as % =	60% (I)	<b>3.5</b>									
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>	
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		<b>30.6</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>480-620 LB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		5.00 (C)	10.0			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	5.00 (A)	$(D) / (A) =$		0.60 (E)	3.3			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	10.00 (F)			$(F) \times (E) =$		6 (G)	8.9			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	70 (H)						4.8			
<b>Surface Protection ( I )</b>										
Surface Protection as % =	60% (I)						3.7			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					0
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					0
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage										
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>Very Low</b>   <b>Low</b>   <b>Moderate</b>   <b>High</b>   <b>Very High</b>   <b>Extreme</b> </div> <div style="font-size: 2em;">➔</div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b> </div> </div>									30.7	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>												
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>							
Station: <b>500-575 RB</b>					Observers: <b>#REF!</b>							
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>						
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>			
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		8.00 (C)	10.0					
<b>Root Depth to Study Bank Height ( E )</b>												
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.75 (E)	2.8					
<b>Weighted Root Density ( G )</b>												
Root Density as % =	30.00 (F)	$(F) \times (E) =$		22.5 (G)		6.8						
<b>Bank Angle ( H )</b>												
Bank Angle as Degrees =	75 (H)					5.2						
<b>Surface Protection ( I )</b>												
Surface Protection as % =	70% (I)					2.8						
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b>		0					
					<b>Stratification Adjustment</b>		0					
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0					
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>									<b>Adjective Rating and Total Score</b>		27.6	

**Bank Sketch**

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>500-610 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		7.00 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$		0.14 (E)	8.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	15.00 (F)			$(F) \times (E) =$		2.14286 (G)	9.3		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		80 (H)						5.7	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		75% (I)						2.3	
<b>Bank Material Adjustment:</b>									
Bedrock (Overall Very Low BEHI)									
Boulders (Overall Low BEHI)									
Cobble (Subtract 10 points if uniform medium to large cobble)									
Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)									
Sand (Add 10 points)									
Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
					<b>Bank Material Adjustment</b>				
					<b>Stratification Adjustment</b>				
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>  <div style="background-color: #e0f0ff; padding: 5px; text-align: center; font-weight: bold;">35.3</div>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>500-650 LB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	4.50 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		9.00 (C)	<b>10.0</b>				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	4.50 (A)	$(D) / (A) =$		0.06 (E)	<b>8.9</b>				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	10.00 (F)	$(F) \times (E) =$		0.55556 (G)		<b>9.6</b>					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	80 (H)					<b>5.7</b>					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	75% (I)					<b>2.3</b>					
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
<div style="display: flex; justify-content: space-around; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; height: 30px; width: 100%; text-align: center; font-weight: bold; font-size: 1.2em;">36.5</div>					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																						
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																	
Station: <b>510-720 LB</b>					Observers: <b>#REF!</b>																	
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)													
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	10.0															
<b>Root Depth to Study Bank Height ( E )</b>																						
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.67 (E)	3.0															
<b>Weighted Root Density ( G )</b>																						
Root Density as % =	60.00 (F)			$(F) \times (E) =$		40 (G)	5.0															
<b>Bank Angle ( H )</b>																						
Bank Angle as Degrees =		70 (H)						4.8														
<b>Surface Protection ( I )</b>																						
Surface Protection as % =		70% (I)						2.8														
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)							<b>Bank Material Adjustment</b>		0													
							<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0													
<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">Very Low</td> <td style="padding: 2px 10px;">Low</td> <td style="padding: 2px 10px;">Moderate</td> <td style="padding: 2px 10px;">High</td> <td style="padding: 2px 10px;">Very High</td> <td style="padding: 2px 10px;">Extreme</td> </tr> <tr> <td style="padding: 2px 10px;">5 – 9.5</td> <td style="padding: 2px 10px;">10 – 19.5</td> <td style="padding: 2px 10px;">20 – 29.5</td> <td style="padding: 2px 10px;">30 – 39.5</td> <td style="padding: 2px 10px;">40 – 45</td> <td style="padding: 2px 10px;">46 – 50</td> </tr> </table>						Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50			<b>Adjective Rating and Total Score</b>		25.6
Very Low	Low	Moderate	High	Very High	Extreme																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																						

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>560-700 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	2.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		2.00 (C)	8.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	2.00 (A)	$(D) / (A) =$		0.25 (E)	6.5		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)			$(F) \times (E) =$		1.25 (G)	9.9		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		35 (H)						2.8	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		85% (I)						1.5	
<b>Bank Material Adjustment:</b>									
Bedrock (Overall Very Low BEHI)									
Boulders (Overall Low BEHI)									
Cobble (Subtract 10 points if uniform medium to large cobble)									
Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)									
Sand (Add 10 points)									
Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
					<b>Bank Material Adjustment</b>		0		
					<b>Stratification Adjustment</b>		0		
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>		28.7	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>640-975 RB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	<b>1.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>2.00</b> (C)	<b>7.9</b>				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	<b>0.50</b> (D)	Study Bank Height (ft) =	<b>1.00</b> (A)	$(D) / (A) =$		<b>0.50</b> (E)	<b>3.9</b>				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	<b>20.00</b> (F)	$(F) \times (E) =$		<b>10</b> (G)		<b>8.5</b>					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	<b>15</b> (H)					<b>1.8</b>					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	<b>80%</b> (I)					<b>1.9</b>					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>	
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>	
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		<b>24.0</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>610-700 RB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	4.50 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		9.00 (C)	<b>10.0</b>				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	0.75 (D)	Study Bank Height (ft) =	4.50 (A)	$(D) / (A) =$		0.17 (E)	<b>7.7</b>				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	30.00 (F)	$(F) \times (E) =$		5 (G)		<b>9.0</b>					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	80 (H)					<b>5.7</b>					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	60% (I)					<b>3.7</b>					
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)										<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
										<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>					
						<b>36.1</b>					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>620-710 LB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		3.50 (C)	10.0			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$		0.29 (E)	6.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	25.00 (F)			$(F) \times (E) =$		7.14286 (G)	8.8			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	75 (H)								5.3	
<b>Surface Protection ( I )</b>										
Surface Protection as % =	75% (I)								2.3	
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="border: 1px solid black; width: 100px; height: 100px; margin: 0 auto; background-color: #e0f0ff;"></div>		0			
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0			
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>									<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; width: 100px; height: 100px; margin: 0 auto; background-color: #e0f0ff;"></div>	32.4
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>640-975 RB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	<b>1.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>2.00</b> (C)	<b>7.9</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	<b>0.50</b> (D)	Study Bank Height (ft) =	<b>1.00</b> (A)	$(D) / (A) =$		<b>0.50</b> (E)	<b>3.9</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	<b>20.00</b> (F)	$(F) \times (E) =$		<b>10</b> (G)		<b>8.5</b>				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	<b>15</b> (H)					<b>1.8</b>				
<b>Surface Protection ( I )</b>										
Surface Protection as % =	<b>80%</b> (I)					<b>1.9</b>				
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>24.0</b> </div> </div>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>650-700 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		8.00 (C)	<b>10.0</b>		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.75 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.19 (E)	<b>7.1</b>		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.9375 (G)		<b>9.7</b>			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	70 (H)					<b>4.7</b>			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	75% (I)					<b>2.3</b>			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50         </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Adjective Rating and Total Score</b>  <b>33.8</b> </div> </div>									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>700-825 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	<b>3.00</b> (A)	Bankfull Height (ft) =	<b>1.00</b> (B)	$(A) / (B) =$		<b>3.00</b> (C)	<b>9.3</b>		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	<b>1.00</b> (D)	Study Bank Height (ft) =	<b>3.00</b> (A)	$(D) / (A) =$		<b>0.33</b> (E)	<b>5.7</b>		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	<b>15.00</b> (F)	$(F) \times (E) =$		<b>5</b> (G)		<b>9.2</b>			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	<b>75</b> (H)					<b>5.3</b>			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	<b>60%</b> (I)					<b>3.5</b>			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)						<b>Bank Material Adjustment</b>		<b>0</b>	
						<b>Stratification Adjustment</b>		<b>0</b>	
						Add 5–10 points, depending on position of unstable layers in relation to bankfull stage			
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>						<b>Adjective Rating and Total Score</b>		<b>33.0</b>	

**Bank Sketch**

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>700-875 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		10.00 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.75 (D)	Study Bank Height (ft) =	5.00 (A)	$(D) / (A) =$		0.15 (E)	7.8		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	20.00 (F)	$(F) \times (E) =$		3 (G)		9.3			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	80 (H)					5.7			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	75% (I)					2.3			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50         </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Adjective Rating and Total Score</b>  <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span></span> <span style="font-size: 1.2em; font-weight: bold;">35.1</span> </div> </div> </div>									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>700-875 RB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	<b>8.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>16.00</b> (C)	<b>10.0</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	<b>1.50</b> (D)	Study Bank Height (ft) =	<b>8.00</b> (A)	$(D) / (A) =$		<b>0.19</b> (E)	<b>8.6</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	<b>20.00</b> (F)	$(F) \times (E) =$		<b>3.75</b> (G)		<b>9.2</b>				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	<b>75</b> (H)					<b>5.0</b>				
<b>Surface Protection ( I )</b>										
Surface Protection as % =	<b>75%</b> (I)					<b>2.3</b>				
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>						<b>Adjective Rating and Total Score</b>		<b>35.1</b>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>710-825 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	1.00 (A)	Bankfull Height (ft) =	1.00 (B)	( A ) / ( B ) =		1.00 (C)	1.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	1.00 (A)	( D ) / ( A ) =		0.25 (E)	6.5		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)			( F ) × ( E ) =		1.25 (G)	9.9		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		20 (H)				2.0		2.0	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		85% (I)				1.5		1.5	
<b>Bank Material Adjustment:</b>									
<b>Bedrock</b> (Overall Very Low BEHI)									
<b>Boulders</b> (Overall Low BEHI)									
<b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)									
<b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)									
<b>Sand</b> (Add 10 points)									
<b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
					<b>Bank Material Adjustment</b>		0		
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0		
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>Very Low</b>   <b>Low</b>   <b>Moderate</b>   <b>High</b>   <b>Very High</b>   <b>Extreme</b> </div> <div style="font-size: 2em;">➡</div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b> </div> </div>									
<div style="display: flex; justify-content: space-around;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						20.9			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>720-800 LB</b>					Observers: <b>#REF!</b>					
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	<b>3.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>6.00</b> (C)	<b>10.0</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	<b>0.25</b> (D)	Study Bank Height (ft) =	<b>3.00</b> (A)	$(D) / (A) =$		<b>0.08</b> (E)	<b>8.6</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	<b>5.00</b> (F)	$(F) \times (E) =$		<b>0.41667</b> (G)		<b>9.9</b>				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	<b>45</b> (H)	<b>3.2</b>								
<b>Surface Protection ( I )</b>										
Surface Protection as % =	<b>60%</b> (I)	<b>3.8</b>								
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="text-align: center; margin-left: 20px;"> <b>Adjective Rating and Total Score</b>   <b>35.5</b> </div> </div>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>800-910 LB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	10.0				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	0.70 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.23 (E)	6.8				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	60.00 (F)	$(F) \times (E) =$		14 (G)		7.9					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	40 (H)					3.0					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	80% (I)					1.9					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					0	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					0	
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					0	
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		29.6
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location:				
Station: <b>875-950 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	6.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		12.00 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	6.00 (A)	$(D) / (A) =$		0.17 (E)	7.8		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	20.00 (F)			$(F) \times (E) =$		3.33333 (G)	9.3		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	75 (H)						5.0		
<b>Surface Protection ( I )</b>									
Surface Protection as % =	75% (I)						2.3		
<b>Bank Material Adjustment:</b>									
Bedrock (Overall Very Low BEHI)									
Boulders (Overall Low BEHI)									
Cobble (Subtract 10 points if uniform medium to large cobble)									
Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)									
Sand (Add 10 points)									
Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
					<b>Bank Material Adjustment</b>				
					<b>Stratification Adjustment</b>				
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>		34.4	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				
<b>Bank Sketch</b> 									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>875-950 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	<b>5.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>10.00</b> (C)	<b>10.0</b>		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	<b>1.00</b> (D)	Study Bank Height (ft) =	<b>5.00</b> (A)	$(D) / (A) =$		<b>0.20</b> (E)	<b>7.1</b>		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	<b>45.00</b> (F)	$(F) \times (E) =$		<b>9</b> (G)		<b>8.7</b>			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	<b>85</b> (H)					<b>6.3</b>			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	<b>75%</b> (I)					<b>2.3</b>			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50         </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="text-align: center; margin-left: 20px;"> <b>Adjective Rating and Total Score</b>  <b>34.4</b> </div> </div>									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>90-130 LB</b>					Observers: <b>#REF!</b>				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>
Study Bank Height (ft) =	<b>10.00</b> (A)	Bankfull Height (ft) =	<b>1.00</b> (B)	$(A) / (B) =$		<b>10.00</b> (C)	<b>8.5</b>		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	<b>4.00</b> (D)	Study Bank Height (ft) =	<b>10.00</b> (A)	$(D) / (A) =$		<b>0.40</b> (E)	<b>4.9</b>		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	<b>20.00</b> (F)	$(F) \times (E) =$		<b>8</b> (G)		<b>8.8</b>			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	<b>80</b> (H)					<b>5.9</b>			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	<b>65%</b> (I)					<b>3.2</b>			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)						<b>Bank Material Adjustment</b>		<b>0</b>	
						<b>Stratification Adjustment</b>		<b>0</b>	
						Add 5–10 points, depending on position of unstable layers in relation to bankfull stage			
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>Very Low</b>   <b>Low</b>   <b>Moderate</b>   <b>High</b>   <b>Very High</b>   <b>Extreme</b> </div> <div style="font-size: 2em;">➔</div> </div>									<b>Adjective Rating and Total Score</b>
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>5 – 9.5</b>   <b>10 – 19.5</b>   <b>20 – 29.5</b>   <b>30 – 39.5</b>   <b>40 – 45</b>   <b>46 – 50</b> </div> <div style="font-size: 2em;">➔</div> </div>									<b>31.3</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																								
Station: <b>90-180 RB</b>					Observers: <b>#REF!</b>																								
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																							
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)																				
Study Bank Height (ft) =	2.00 (A)	Bankfull Height (ft) =	1.00 (B)	( A ) / ( B ) =		2.00 (C)	8.0																						
<b>Root Depth to Study Bank Height ( E )</b>																													
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	2.00 (A)	( D ) / ( A ) =		0.50 (E)	3.9																						
<b>Weighted Root Density ( G )</b>																													
Root Density as % =	10.00 (F)			( F ) × ( E ) =		5 (G)	9.0																						
<b>Bank Angle ( H )</b>																													
Bank Angle as Degrees =		35 (H)					2.8																						
<b>Surface Protection ( I )</b>																													
Surface Protection as % =		75% (I)					2.4																						
<b>Bank Material Adjustment:</b>																													
<b>Bedrock</b> (Overall Very Low BEHI)																													
<b>Boulders</b> (Overall Low BEHI)																													
<b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)																													
<b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)																													
<b>Sand</b> (Add 10 points)																													
<b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																													
					<b>Bank Material Adjustment</b>		0																						
					<b>Stratification Adjustment</b>		0																						
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Very Low</td> <td style="text-align: center;">Low</td> <td style="text-align: center;">Moderate</td> <td style="text-align: center;">High</td> <td style="text-align: center;">Very High</td> <td style="text-align: center;">Extreme</td> <td colspan="2" style="text-align: center;">Adjective Rating and</td> <td colspan="2"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="2" style="text-align: center;">Total Score</td> <td colspan="2" style="text-align: center; background-color: #e0f0ff;">26.1</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and				5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	Total Score		26.1	
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and																							
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	Total Score		26.1																					
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																													

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>910-1045 LB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	<b>2.00</b> (A)	Bankfull Height (ft) =	<b>0.50</b> (B)	$(A) / (B) =$		<b>4.00</b> (C)	<b>10.0</b>				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	<b>1.50</b> (D)	Study Bank Height (ft) =	<b>2.00</b> (A)	$(D) / (A) =$		<b>0.75</b> (E)	<b>8.6</b>				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	<b>40.00</b> (F)	$(F) \times (E) =$		<b>30</b> (G)		<b>5.9</b>					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	<b>45</b> (H)					<b>3.1</b>					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	<b>80%</b> (I)					<b>1.9</b>					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>	
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>	
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		<b>29.5</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>950-1075 LB</b>					Observers: <b>#REF!</b>																				
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)																
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		3.00 (C)	9.3																		
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.17 (E)	7.3																		
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	25.00 (F)			$(F) \times (E) =$		4.16667 (G)	9.1																		
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =	30 (H)						2.3																		
<b>Surface Protection ( I )</b>																									
Surface Protection as % =	75% (I)						2.3																		
<b>Bank Material Adjustment:</b>																									
<b>Bedrock</b> (Overall Very Low BEHI)																									
<b>Boulders</b> (Overall Low BEHI)																									
<b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)																									
<b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)																									
<b>Sand</b> (Add 10 points)																									
<b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
					<b>Bank Material Adjustment</b>																				
					<b>Stratification Adjustment</b>																				
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Very Low</td> <td style="text-align: center;">Low</td> <td style="text-align: center;">Moderate</td> <td style="text-align: center;">High</td> <td style="text-align: center;">Very High</td> <td style="text-align: center;">Extreme</td> <td colspan="2" style="text-align: center;">Adjective Rating and Total Score</td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="2" style="text-align: center; background-color: #e0f0ff;">30.3</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	30.3	
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	30.3																			
<b>Bank Sketch</b>																									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>950-1300 RB</b>					Observers: <b>#REF!</b>				
Date: <b>3/1/3/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	4.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		4.50 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.75 (D)	Study Bank Height (ft) =	4.50 (A)	$(D) / (A) =$		0.17 (E)	7.3		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	10.00 (F)			$(F) \times (E) =$		1.66667 (G)	9.7		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		80 (H)						5.7	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		90% (I)						1.0	
<b>Bank Material Adjustment:</b>									
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<div style="display: flex; align-items: center; justify-content: center;"> <div style="font-size: 2em; margin-right: 10px;">➔</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff;"> <b>Bank Material Adjustment</b> </div> </div>				
					<div style="display: flex; align-items: center; justify-content: center;"> <div style="font-size: 2em; margin-right: 10px;">➔</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff;"> <b>Stratification Adjustment</b>            Add 5–10 points, depending on position of unstable layers in relation to bankfull stage         </div> </div>				
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>33.7</b>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>						
Station: <b>975-1045 RB</b>					Observers: <b>#REF!</b>						
Date: <b>3/13/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>					
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>		
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		8.00 (C)	<b>10.0</b>				
<b>Root Depth to Study Bank Height ( E )</b>											
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.50 (E)	<b>3.9</b>				
<b>Weighted Root Density ( G )</b>											
Root Density as % =	35.00 (F)	$(F) \times (E) =$		17.5 (G)		<b>7.8</b>					
<b>Bank Angle ( H )</b>											
Bank Angle as Degrees =	65 (H)					<b>4.1</b>					
<b>Surface Protection ( I )</b>											
Surface Protection as % =	50% (I)					<b>4.2</b>					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>0</b>	
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					<b>0</b>	
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>	
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>									<b>Adjective Rating and Total Score</b>		<b>30.0</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>											

Year One (12/6/18) BEHI Datasheets

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																							
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																		
Station: <b>LDB 0-25</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																		
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																	
<b>BEHI Score (Fig. 3-7)</b>																							
<b>Study Bank Height to Bankfull Height ( C )</b>																							
Study Bank Height (ft) =	8.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	16.00 (C)	<b>10.0</b>																	
<b>Root Depth to Study Bank Height ( E )</b>																							
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	8.00 (A)	$(D) / (A) =$	0.38 (E)	<b>5.0</b>																	
<b>Weighted Root Density ( G )</b>																							
Root Density as % =	30.00 (F)	$(F) \times (E) =$	11.25 (G)	<b>8.1</b>																			
<b>Bank Angle ( H )</b>																							
Bank Angle as Degrees =	80 (H)	<b>5.7</b>																					
<b>Surface Protection ( I )</b>																							
Surface Protection as % =	75% (I)	<b>2.4</b>																					
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																							
<b>Bank Material Adjustment</b>						<b>0</b>																	
<b>Stratification Adjustment</b>						<b>0</b>																	
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																							
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px;">Very Low</td> <td style="padding: 2px;">Low</td> <td style="padding: 2px;">Moderate</td> <td style="padding: 2px;">High</td> <td style="padding: 2px;">Very High</td> <td style="padding: 2px;">Extreme</td> <td style="padding: 2px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="padding: 2px;">5 – 9.5</td> <td style="padding: 2px;">10 – 19.5</td> <td style="padding: 2px;">20 – 29.5</td> <td style="padding: 2px;">30 – 39.5</td> <td style="padding: 2px;">40 – 45</td> <td style="padding: 2px;">46 – 50</td> <td style="padding: 2px;"><b>31.2</b></td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>31.2</b>
Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>31.2</b>																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																							
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																		
Station: <b>LDB 120-220</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																		
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																	
<b>BEHI Score (Fig. 3-7)</b>																							
<b>Study Bank Height to Bankfull Height ( C )</b>																							
Study Bank Height (ft) =	6.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	12.00 (C)	<b>10.0</b>																	
<b>Root Depth to Study Bank Height ( E )</b>																							
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	6.00 (A)	$(D) / (A) =$	0.33 (E)	<b>5.5</b>																	
<b>Weighted Root Density ( G )</b>																							
Root Density as % =	30.00 (F)	$(F) \times (E) =$	10 (G)	<b>8.4</b>																			
<b>Bank Angle ( H )</b>																							
Bank Angle as Degrees =	75 (H)	<b>5.2</b>																					
<b>Surface Protection ( I )</b>																							
Surface Protection as % =	80% (I)	<b>1.9</b>																					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>																		
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>0</b>																		
<b>Stratification Adjustment</b>					<b>Stratification Adjustment</b>																		
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>																		
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><b>Very Low</b></td> <td style="text-align: center; padding: 5px;"><b>Low</b></td> <td style="text-align: center; padding: 5px;"><b>Moderate</b></td> <td style="text-align: center; padding: 5px;"><b>High</b></td> <td style="text-align: center; padding: 5px;"><b>Very High</b></td> <td style="text-align: center; padding: 5px;"><b>Extreme</b></td> <td style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td style="text-align: center; padding: 5px;"><b>31.0</b></td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>31.0</b>
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>31.0</b>																	
<b>Bank Sketch</b> 																							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																														
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																																									
Station: <b>LDB 220-300</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																									
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																								
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 15%; text-align: center;">10.00 (A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 15%; text-align: center;">0.50 (B)</td> <td style="width: 20%; text-align: center;"><math>(A) / (B) =</math></td> <td style="width: 10%; text-align: center;">20.00 (C)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">10.0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 15%; text-align: center;">4.50 (D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 15%; text-align: center;">10.00 (A)</td> <td style="width: 20%; text-align: center;"><math>(D) / (A) =</math></td> <td style="width: 10%; text-align: center;">0.45 (E)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">4.2</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 15%; text-align: center;">45.00 (F)</td> <td style="width: 20%; text-align: center;"><math>(F) \times (E) =</math></td> <td style="width: 15%; text-align: center;">20.25 (G)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">6.9</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Bank Angle ( H )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 15%; text-align: center;">85 (H)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">6.8</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Surface Protection ( I )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 15%; text-align: center;">60% (I)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">3.6</td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Bank Material Adjustment:</b>  <b>Bedrock</b> (Overall Very Low BEHI)  <b>Boulders</b> (Overall Low BEHI)  <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)  <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)  <b>Sand</b> (Add 10 points)  <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)         </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <b>Bank Material Adjustment</b>  <div style="background-color: #e0f0ff; text-align: center; padding: 5px;">0</div> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <b>Stratification Adjustment</b>            Add 5–10 points, depending on position of unstable layers in relation to bankfull stage  <div style="background-color: #e0f0ff; text-align: center; padding: 5px;">0</div> </div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 12.5%;">Very Low</td> <td style="width: 12.5%;">Low</td> <td style="width: 12.5%;">Moderate</td> <td style="width: 12.5%;">High</td> <td style="width: 12.5%;">Very High</td> <td style="width: 12.5%;">Extreme</td> </tr> <tr> <td>5 – 9.5</td> <td>10 – 19.5</td> <td>20 – 29.5</td> <td>30 – 39.5</td> <td>40 – 45</td> <td>46 – 50</td> </tr> </table> <div style="text-align: center; margin: 0 10px;"> </div> <div style="text-align: right;"> <b>Adjective Rating and Total Score</b>  <div style="background-color: #e0f0ff; text-align: center; padding: 5px; width: 100px;">31.5</div> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <div style="text-align: center; font-weight: bold;">Bank Sketch</div> </div> <div style="width: 50%;"> </div> </div>										Study Bank Height (ft) =	10.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	20.00 (C)	10.0	Root Depth (ft) =	4.50 (D)	Study Bank Height (ft) =	10.00 (A)	$(D) / (A) =$	0.45 (E)	4.2	Root Density as % =	45.00 (F)	$(F) \times (E) =$	20.25 (G)	6.9	Bank Angle as Degrees =	85 (H)	6.8	Surface Protection as % =	60% (I)	3.6	Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50
Study Bank Height (ft) =	10.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	20.00 (C)	10.0																																								
Root Depth (ft) =	4.50 (D)	Study Bank Height (ft) =	10.00 (A)	$(D) / (A) =$	0.45 (E)	4.2																																								
Root Density as % =	45.00 (F)	$(F) \times (E) =$	20.25 (G)	6.9																																										
Bank Angle as Degrees =	85 (H)	6.8																																												
Surface Protection as % =	60% (I)	3.6																																												
Very Low	Low	Moderate	High	Very High	Extreme																																									
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																									
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>LDB 25-120</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																				
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
<b>BEHI Score (Fig. 3-7)</b>																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	6.00 (C)	<b>10.0</b>																			
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$	0.17 (E)	<b>7.4</b>																			
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	5.00 (F)	$(F) \times (E) =$	0.83333 (G)			<b>9.9</b>																			
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =	60 (H)				<b>3.9</b>																				
<b>Surface Protection ( I )</b>																									
Surface Protection as % =	85% (I)				<b>1.4</b>																				
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
<b>Bank Material Adjustment</b>						<b>0</b>																			
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						<b>0</b>																			
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><b>Very Low</b></td> <td style="text-align: center; padding: 5px;"><b>Low</b></td> <td style="text-align: center; padding: 5px;"><b>Moderate</b></td> <td style="text-align: center; padding: 5px;"><b>High</b></td> <td style="text-align: center; padding: 5px;"><b>Very High</b></td> <td style="text-align: center; padding: 5px;"><b>Extreme</b></td> <td colspan="2" style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td colspan="2" style="text-align: center; padding: 5px;"><b>32.6</b></td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>32.6</b>	
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>32.6</b>																			
<b>Bank Sketch</b> 																									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																					
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																
Station: <b>LDB 300-420</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>															
<b>BEHI Score (Fig. 3-7)</b>																					
<b>Study Bank Height to Bankfull Height ( C )</b>																					
Study Bank Height (ft) =	6.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	12.00 (C)	<b>10.0</b>															
<b>Root Depth to Study Bank Height ( E )</b>																					
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	6.00 (A)	$(D) / (A) =$	0.50 (E)	<b>3.9</b>															
<b>Weighted Root Density ( G )</b>																					
Root Density as % =	10.00 (F)	$(F) \times (E) =$	5 (G)	<b>8.9</b>																	
<b>Bank Angle ( H )</b>																					
Bank Angle as Degrees =	60 (H)	<b>3.8</b>																			
<b>Surface Protection ( I )</b>																					
Surface Protection as % =	75% (I)	<b>2.4</b>																			
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																					
<b>Bank Material Adjustment</b>						<b>0</b>															
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						<b>0</b>															
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px;">Very Low</td> <td style="padding: 2px;">Low</td> <td style="padding: 2px;">Moderate</td> <td style="padding: 2px;">High</td> <td style="padding: 2px;">Very High</td> <td style="padding: 2px;">Extreme</td> </tr> <tr> <td style="padding: 2px;">5 – 9.5</td> <td style="padding: 2px;">10 – 19.5</td> <td style="padding: 2px;">20 – 29.5</td> <td style="padding: 2px;">30 – 39.5</td> <td style="padding: 2px;">40 – 45</td> <td style="padding: 2px;">46 – 50</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50
Very Low	Low	Moderate	High	Very High	Extreme																
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																
<b>Adjective Rating and Total Score</b>								<b>29.0</b>													
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																					

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																							
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																																		
Station: <b>LDB 420-510</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																		
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																	
<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">BEHI Score (Fig. 3-7)</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">3.00 (A)</td> <td style="padding: 5px;">Bankfull Height (ft) =</td> <td style="text-align: center; padding: 5px;">0.50 (B)</td> <td style="padding: 5px;"><math>(A) / (B) =</math></td> <td style="text-align: center; padding: 5px;">6.00 (C)</td> <td style="width: 15%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Depth (ft) =</td> <td style="text-align: center; padding: 5px;">0.25 (D)</td> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">3.00 (A)</td> <td style="padding: 5px;"><math>(D) / (A) =</math></td> <td style="text-align: center; padding: 5px;">0.08 (E)</td> <td style="width: 15%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Density as % =</td> <td style="text-align: center; padding: 5px;">5.00 (F)</td> <td style="padding: 5px;"><math>(F) \times (E) =</math></td> <td style="text-align: center; padding: 5px;">0.41667 (G)</td> <td style="width: 15%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Bank Angle ( H )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Bank Angle as Degrees =</td> <td style="text-align: center; padding: 5px;">30 (H)</td> <td style="width: 15%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Surface Protection ( I )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Surface Protection as % =</td> <td style="text-align: center; padding: 5px;">95% (I)</td> <td style="width: 15%;"></td> </tr> </table> </div> <div style="width: 35%; text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">10.0</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">8.5</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">9.9</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">2.5</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">0.3</td> </tr> </table> </div> </div> <div style="margin-top: 10px;"> <p><b>Bank Material Adjustment:</b></p> <p><b>Bedrock</b> (Overall Very Low BEHI)</p> <p><b>Boulders</b> (Overall Low BEHI)</p> <p><b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)</p> <p><b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)</p> <p><b>Sand</b> (Add 10 points)</p> <p><b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)</p> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <div style="width: 60%; border: 1px solid black; padding: 5px;"> <p style="text-align: center; font-weight: bold;">Bank Material Adjustment</p> <p style="text-align: center; padding: 5px;">0</p> </div> <div style="width: 35%; border: 1px solid black; padding: 5px;"> <p style="text-align: center; font-weight: bold;">Stratification Adjustment</p> <p style="text-align: center; padding: 5px;">0</p> </div> </div>										Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	6.00 (C)		Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$	0.08 (E)		Root Density as % =	5.00 (F)	$(F) \times (E) =$	0.41667 (G)		Bank Angle as Degrees =	30 (H)		Surface Protection as % =	95% (I)		10.0	8.5	9.9	2.5	0.3
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	6.00 (C)																																		
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$	0.08 (E)																																		
Root Density as % =	5.00 (F)	$(F) \times (E) =$	0.41667 (G)																																				
Bank Angle as Degrees =	30 (H)																																						
Surface Protection as % =	95% (I)																																						
10.0																																							
8.5																																							
9.9																																							
2.5																																							
0.3																																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Very Low</td> <td style="padding: 5px;">Low</td> <td style="padding: 5px;">Moderate</td> <td style="padding: 5px;">High</td> <td style="padding: 5px;">Very High</td> <td style="padding: 5px;">Extreme</td> <td style="width: 20%;"></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td style="width: 20%;"></td> </tr> </table> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <div style="width: 60%;"></div> <div style="width: 35%; text-align: center;"> <p style="font-weight: bold;">Adjective Rating and Total Score</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">31.2</td> </tr> </table> </div> </div>										Very Low	Low	Moderate	High	Very High	Extreme		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50		31.2															
Very Low	Low	Moderate	High	Very High	Extreme																																		
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																																		
31.2																																							
<div style="display: flex;"> <div style="flex: 1;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="flex: 1;"> </div> </div>																																							

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Bank Erosion Hazard Index (BEHI)																																																
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																																											
Station: <b>LDB 510-720</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																											
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																										
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="margin-bottom: 10px;"> <b>Study Bank Height to Bankfull Height ( C )</b>  <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%;">3.00 (A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 10%;">0.50 (B)</td> <td style="width: 20%;">( A ) / ( B ) =</td> <td style="width: 10%;">6.00 (C)</td> <td style="width: 10%; font-size: 1.2em;">10.0</td> </tr> </table> </div> <div style="margin-bottom: 10px;"> <b>Root Depth to Study Bank Height ( E )</b>  <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 10%;">3.00 (D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%;">3.00 (A)</td> <td style="width: 20%;">( D ) / ( A ) =</td> <td style="width: 10%;">1.00 (E)</td> <td style="width: 10%; font-size: 1.2em;">0.0</td> </tr> </table> </div> <div style="margin-bottom: 10px;"> <b>Weighted Root Density ( G )</b>  <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 10%;">30.00 (F)</td> <td style="width: 20%;">( F ) x ( E ) =</td> <td style="width: 10%;">30 (G)</td> <td style="width: 10%; font-size: 1.2em;">6.0</td> </tr> </table> </div> <div style="margin-bottom: 10px;"> <b>Bank Angle ( H )</b>  <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 10%;">70 (H)</td> <td style="width: 10%; font-size: 1.2em;">4.3</td> </tr> </table> </div> <div style="margin-bottom: 10px;"> <b>Surface Protection ( I )</b>  <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 10%;">70% (I)</td> <td style="width: 10%; font-size: 1.2em;">2.8</td> </tr> </table> </div> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;"> <b>Bank Material Adjustment:</b>  <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Bedrock</b> (Overall Very Low BEHI)         </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Boulders</b> (Overall Low BEHI)         </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)         </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)         </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Sand</b> (Add 10 points)         </div> <div style="border: 1px solid black; padding: 5px;"> <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)         </div> </div> <div style="width: 50%; text-align: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; background-color: #e0f0ff;">Bank Material Adjustment</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff;">Stratification Adjustment Add 5–10 points, depending on position of unstable layers in relation to bankfull stage</div> </div> </div> <div style="margin-top: 10px;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 12.5%;">Very Low</td> <td style="width: 12.5%;">Low</td> <td style="width: 12.5%;">Moderate</td> <td style="width: 12.5%;">High</td> <td style="width: 12.5%;">Very High</td> <td style="width: 12.5%;">Extreme</td> <td style="width: 25%;"></td> </tr> <tr> <td>5 – 9.5</td> <td>10 – 19.5</td> <td>20 – 29.5</td> <td>30 – 39.5</td> <td>40 – 45</td> <td>46 – 50</td> <td style="text-align: right;"> <b>Adjective Rating and Total Score</b>  <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff; font-size: 1.2em; float: right;">23.1</div> </td> </tr> </table> </div> <div style="margin-top: 10px;"> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>Bank Sketch</b>  </div> <div style="width: 50%;"> </div> </div> </div>										Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	( A ) / ( B ) =	6.00 (C)	10.0	Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	3.00 (A)	( D ) / ( A ) =	1.00 (E)	0.0	Root Density as % =	30.00 (F)	( F ) x ( E ) =	30 (G)	6.0	Bank Angle as Degrees =	70 (H)	4.3	Surface Protection as % =	70% (I)	2.8	Very Low	Low	Moderate	High	Very High	Extreme		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; padding: 5px; background-color: #e0f0ff; font-size: 1.2em; float: right;">23.1</div>
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**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																																																													
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																																																								
Station: <b>LDB 720-800</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																																								
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																																							
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">3.00</td> <td style="width: 10%; text-align: center;">(A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 10%; text-align: center;">0.50</td> <td style="width: 10%; text-align: center;">(B)</td> <td style="width: 20%; text-align: center;">( A ) / ( B ) =</td> <td style="width: 10%; text-align: center;">6.00</td> <td style="width: 10%; text-align: center;">(C)</td> <td style="width: 10%; text-align: center;">10.0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 10%; text-align: center;">0.50</td> <td style="width: 10%; text-align: center;">(D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">3.00</td> <td style="width: 10%; text-align: center;">(A)</td> <td style="width: 20%; text-align: center;">( D ) / ( A ) =</td> <td style="width: 10%; text-align: center;">0.17</td> <td style="width: 10%; text-align: center;">(E)</td> <td style="width: 10%; text-align: center;">7.4</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 10%; text-align: center;">5.00</td> <td style="width: 10%; text-align: center;">(F)</td> <td style="width: 20%; text-align: center;">( F ) × ( E ) =</td> <td style="width: 10%; text-align: center;">0.83333</td> <td style="width: 10%; text-align: center;">(G)</td> <td style="width: 10%; text-align: center;">9.9</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Bank Angle ( H )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 10%; text-align: center;">20</td> <td style="width: 10%; text-align: center;">(H)</td> <td style="width: 10%; text-align: center;">1.9</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Surface Protection ( I )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 10%; text-align: center;">95%</td> <td style="width: 10%; text-align: center;">(I)</td> <td style="width: 10%; text-align: center;">0.3</td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Bank Material Adjustment:</b>            Bedrock (Overall Very Low BEHI)            Boulders (Overall Low BEHI)            Cobble (Subtract 10 points if uniform medium to large cobble)            Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)            Sand (Add 10 points)            Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)         </div> <div style="text-align: center; font-weight: bold;">Bank Material Adjustment</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;">0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Stratification Adjustment</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Add 5–10 points, depending on position of unstable layers in relation to bankfull stage</td> <td style="width: 10%; text-align: center;">0</td> </tr> </table> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <table border="1" style="width: 60%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; text-align: center;">Very Low</td> <td style="width: 12.5%; 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Study Bank Height (ft) =	3.00	(A)	Bankfull Height (ft) =	0.50	(B)	( A ) / ( B ) =	6.00	(C)	10.0																																																				
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**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																																								
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																																																			
Station: <b>LDB 800-910</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																																			
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																																		
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">3.00</td> <td style="width: 10%; text-align: center;">(A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 10%; text-align: center;">0.50</td> <td style="width: 10%; text-align: center;">(B)</td> <td style="width: 20%; text-align: center;">( A ) / ( B ) =</td> <td style="width: 10%; text-align: center;">6.00</td> <td style="width: 10%; text-align: center;">(C)</td> <td style="width: 10%; text-align: center;">10.0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 10%; text-align: center;">0.50</td> <td style="width: 10%; text-align: center;">(D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">3.00</td> <td style="width: 10%; text-align: center;">(A)</td> <td style="width: 20%; text-align: center;">( D ) / ( A ) =</td> <td style="width: 10%; text-align: center;">0.17</td> <td style="width: 10%; text-align: center;">(E)</td> <td style="width: 10%; text-align: center;">7.4</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 10%; text-align: center;">8.00</td> <td style="width: 10%; text-align: center;">(F)</td> <td style="width: 20%; text-align: center;">( F ) × ( E ) =</td> <td style="width: 10%; text-align: center;">1.33333</td> <td style="width: 10%; text-align: center;">(G)</td> <td style="width: 10%; text-align: center;">9.7</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Bank Angle ( H )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 10%; text-align: center;">25</td> <td style="width: 10%; text-align: center;">(H)</td> <td style="width: 10%; text-align: center;">2.2</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Surface Protection ( I )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 10%; text-align: center;">90%</td> <td style="width: 10%; text-align: center;">(I)</td> <td style="width: 10%; text-align: center;">1.0</td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Bank Material Adjustment:</b>            Bedrock (Overall Very Low BEHI)            Boulders (Overall Low BEHI)            Cobble (Subtract 10 points if uniform medium to large cobble)            Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)            Sand (Add 10 points)            Silt/Clay (Add 10 points if uniform silt; 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Study Bank Height (ft) =	3.00	(A)	Bankfull Height (ft) =	0.50	(B)	( A ) / ( B ) =	6.00	(C)	10.0																																															
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Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>LDB 910-1045</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																				
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
<b>BEHI Score (Fig. 3-7)</b>																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	2.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	4.00 (C)	<b>10.0</b>																			
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	2.00 (A)	$(D) / (A) =$	1.00 (E)	<b>0.0</b>																			
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	30.00 (F)	$(F) \times (E) =$	30 (G)	<b>5.8</b>																					
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =	60 (H)	<b>3.8</b>																							
<b>Surface Protection ( I )</b>																									
Surface Protection as % =	60% (I)	<b>3.6</b>																							
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
						<b>Bank Material Adjustment</b> <div style="border: 1px solid black; height: 30px; width: 100%;"></div>																			
						<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; height: 30px; width: 100%;"></div>																			
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><b>Very Low</b></td> <td style="text-align: center; padding: 5px;"><b>Low</b></td> <td style="text-align: center; padding: 5px;"><b>Moderate</b></td> <td style="text-align: center; padding: 5px;"><b>High</b></td> <td style="text-align: center; padding: 5px;"><b>Very High</b></td> <td style="text-align: center; padding: 5px;"><b>Extreme</b></td> <td colspan="2" style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td colspan="2" style="text-align: center; padding: 5px;"><b>23.2</b></td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>23.2</b>	
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>23.2</b>																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																																								
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																																																			
Station: <b>RDB 0-110</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																																			
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																																		
<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">BEHI Score (Fig. 3-7)</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">3.00 (A)</td> <td style="padding: 5px;">Bankfull Height (ft) =</td> <td style="text-align: center; padding: 5px;">0.50 (B)</td> <td style="padding: 5px;"><math>(A) / (B) =</math></td> <td style="text-align: center; padding: 5px;">6.00 (C)</td> <td style="width: 15%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Depth (ft) =</td> <td style="text-align: center; padding: 5px;">1.00 (D)</td> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">3.00 (A)</td> <td style="padding: 5px;"><math>(D) / (A) =</math></td> <td style="text-align: center; padding: 5px;">0.33 (E)</td> <td style="width: 15%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Density as % =</td> <td style="text-align: center; padding: 5px;">10.00 (F)</td> <td style="padding: 5px;"><math>(F) \times (E) =</math></td> <td style="text-align: center; padding: 5px;">3.33333 (G)</td> <td style="width: 15%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Bank Angle ( H )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Bank Angle as Degrees =</td> <td style="text-align: center; padding: 5px;">80 (H)</td> <td style="width: 15%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Surface Protection ( I )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Surface Protection as % =</td> <td style="text-align: center; padding: 5px;">75% (I)</td> <td style="width: 15%;"></td> </tr> </table> </div> <div style="width: 35%; text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">10.0</td> </tr> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">5.4</td> </tr> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">9.4</td> </tr> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">5.9</td> </tr> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">2.3</td> </tr> </table> </div> </div> <div style="margin-top: 10px;"> <p><b>Bank Material Adjustment:</b></p> <p><b>Bedrock</b> (Overall Very Low BEHI)</p> <p><b>Boulders</b> (Overall Low BEHI)</p> <p><b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)</p> <p><b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)</p> <p><b>Sand</b> (Add 10 points)</p> <p><b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)</p> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <div style="width: 60%;"></div> <div style="width: 35%; text-align: center;"> <p><b>Bank Material Adjustment</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">0</td> </tr> </table> <p><b>Stratification Adjustment</b></p> <p>Add 5–10 points, depending on position of unstable layers in relation to bankfull stage</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">0</td> </tr> </table> </div> </div> <div style="margin-top: 10px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Very Low</td> <td style="padding: 5px;">Low</td> <td style="padding: 5px;">Moderate</td> <td style="padding: 5px;">High</td> <td style="padding: 5px;">Very High</td> <td style="padding: 5px;">Extreme</td> <td style="width: 15%;"></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td style="width: 15%;"></td> </tr> </table> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <div style="width: 60%;"></div> <div style="width: 35%; text-align: center;"> <p><b>Adjective Rating and Total Score</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">33.0</td> </tr> </table> </div> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="width: 50%;"> </div> </div>										Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	6.00 (C)		Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$	0.33 (E)		Root Density as % =	10.00 (F)	$(F) \times (E) =$	3.33333 (G)		Bank Angle as Degrees =	80 (H)		Surface Protection as % =	75% (I)		10.0	5.4	9.4	5.9	2.3	0	0	Very Low	Low	Moderate	High	Very High	Extreme		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50		33.0
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	6.00 (C)																																																			
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$	0.33 (E)																																																			
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33.0																																																								



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>RDB 110-220</b>					Observers: <b>Neill M. &amp; Marcus F.</b>				
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>BEHI Score (Fig. 3-7)</b>									
<b>Study Bank Height to Bankfull Height ( C )</b>									
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	10.00 (C)	<b>10.0</b>			
<b>Weighted Root Density ( G )</b>									
Root Depth (ft) =	0.67 (D)	Study Bank Height (ft) =	5.00 (A)	$(D) / (A) =$	0.13 (E)	<b>8.0</b>			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =				60 (H)	<b>3.9</b>				
<b>Surface Protection ( I )</b>									
Surface Protection as % =				75% (I)	<b>2.3</b>				
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
<b>Bank Material Adjustment</b>						<b>0</b>			
<b>Stratification Adjustment</b>						<b>0</b>			
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage									
<b>Adjective Rating and Total Score</b>									
Very Low	Low	Moderate	High	Very High	Extreme	<b>34.1</b>			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p style="text-align: center; margin: 0;"><b>Bank Sketch</b></p> </div> <div style="flex: 1;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																												
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																																							
Station: <b>RDB 220-310</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																							
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																						
<div style="text-align: right; font-weight: bold; margin-bottom: 5px;">BEHI Score (Fig. 3-7)</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> <p style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">3.00</td> <td style="width: 10%;">(A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 10%; text-align: center;">0.50</td> <td style="width: 10%;">(B)</td> <td style="width: 20%; text-align: center;"><math>(A) / (B) =</math></td> <td style="width: 10%; text-align: center;">6.00</td> <td style="width: 10%;">(C)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 10%; text-align: center;">0.25</td> <td style="width: 10%;">(D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">3.00</td> <td style="width: 10%;">(A)</td> <td style="width: 20%; text-align: center;"><math>(D) / (A) =</math></td> <td style="width: 10%; text-align: center;">0.08</td> <td style="width: 10%;">(E)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 10%; text-align: center;">5.00</td> <td style="width: 10%;">(F)</td> <td style="width: 20%; text-align: center;"><math>(F) \times (E) =</math></td> <td style="width: 10%; text-align: center;">0.41667</td> <td style="width: 10%;">(G)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Bank Angle ( H )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 10%; text-align: center;">30</td> <td style="width: 10%;">(H)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Surface Protection ( I )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 10%; text-align: center;">90%</td> <td style="width: 10%;">(I)</td> </tr> </table> </div> <div style="width: 15%; text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">10.0</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">8.6</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">9.9</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">2.5</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">1.0</td></tr> </table> </div> </div>										Study Bank Height (ft) =	3.00	(A)	Bankfull Height (ft) =	0.50	(B)	$(A) / (B) =$	6.00	(C)	Root Depth (ft) =	0.25	(D)	Study Bank Height (ft) =	3.00	(A)	$(D) / (A) =$	0.08	(E)	Root Density as % =	5.00	(F)	$(F) \times (E) =$	0.41667	(G)	Bank Angle as Degrees =	30	(H)	Surface Protection as % =	90%	(I)	10.0	8.6	9.9	2.5	1.0
Study Bank Height (ft) =	3.00	(A)	Bankfull Height (ft) =	0.50	(B)	$(A) / (B) =$	6.00	(C)																																				
Root Depth (ft) =	0.25	(D)	Study Bank Height (ft) =	3.00	(A)	$(D) / (A) =$	0.08	(E)																																				
Root Density as % =	5.00	(F)	$(F) \times (E) =$	0.41667	(G)																																							
Bank Angle as Degrees =	30	(H)																																										
Surface Protection as % =	90%	(I)																																										
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<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p><b>Bank Material Adjustment:</b></p> <p><b>Bedrock</b> (Overall Very Low BEHI)</p> <p><b>Boulders</b> (Overall Low BEHI)</p> <p><b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)</p> <p><b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)</p> <p><b>Sand</b> (Add 10 points)</p> <p><b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)</p> </div> <div style="width: 35%; text-align: center;"> <p style="font-weight: bold;">Bank Material Adjustment</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">0</td></tr> </table> <p style="font-weight: bold;">Stratification Adjustment</p> <p>Add 5–10 points, depending on position of unstable layers in relation to bankfull stage</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">0</td></tr> </table> </div> </div>										0	0																																	
0																																												
0																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; text-align: center;">Very Low</td> <td style="width: 12.5%; text-align: center;">Low</td> <td style="width: 12.5%; text-align: center;">Moderate</td> <td style="width: 12.5%; text-align: center;">High</td> <td style="width: 12.5%; text-align: center;">Very High</td> <td style="width: 12.5%; text-align: center;">Extreme</td> <td style="width: 25%;"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td style="text-align: center;"> <p style="font-weight: bold;">Adjective Rating and Total Score</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">32.0</td></tr> </table> </td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<p style="font-weight: bold;">Adjective Rating and Total Score</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">32.0</td></tr> </table>	32.0																				
Very Low	Low	Moderate	High	Very High	Extreme																																							
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<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="width: 50%;"> </div> </div>																																												

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>RDB 310-380</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																				
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
<b>BEHI Score (Fig. 3-7)</b>																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	8.00 (C)	<b>10.0</b>																			
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	4.00 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$	1.00 (E)	<b>0.0</b>																			
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	50.00 (F)	$(F) \times (E) =$	50 (G)	<b>4.2</b>																					
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =	85 (H)	<b>6.7</b>																							
<b>Surface Protection ( I )</b>																									
Surface Protection as % =	30% (I)	<b>5.8</b>																							
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
<b>Bank Material Adjustment</b>						<b>0</b>																			
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						<b>0</b>																			
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;">Very Low</td> <td style="text-align: center; padding: 5px;">Low</td> <td style="text-align: center; padding: 5px;">Moderate</td> <td style="text-align: center; padding: 5px;">High</td> <td style="text-align: center; padding: 5px;">Very High</td> <td style="text-align: center; padding: 5px;">Extreme</td> <td colspan="2" style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td colspan="2" style="text-align: center; padding: 5px;"><b>26.7</b></td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>26.7</b>	
Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>26.7</b>																			
<b>Bank Sketch</b> 																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																																												
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																																																							
Station: <b>RDB 380-500</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																																							
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																																						
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">2.00</td> <td style="width: 10%; text-align: center;">(A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 10%; text-align: center;">0.50</td> <td style="width: 10%; text-align: center;">(B)</td> <td style="width: 20%; text-align: center;">( A ) / ( B ) =</td> <td style="width: 10%; text-align: center;">4.00</td> <td style="width: 10%; text-align: center;">(C)</td> <td style="width: 10%; text-align: center;">10.0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 10%; text-align: center;">0.50</td> <td style="width: 10%; text-align: center;">(D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">2.00</td> <td style="width: 10%; text-align: center;">(A)</td> <td style="width: 20%; text-align: center;">( D ) / ( A ) =</td> <td style="width: 10%; text-align: center;">0.25</td> <td style="width: 10%; text-align: center;">(E)</td> <td style="width: 10%; text-align: center;">6.5</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 10%; text-align: center;">5.00</td> <td style="width: 10%; text-align: center;">(F)</td> <td style="width: 20%;">( F ) x ( E ) =</td> <td style="width: 10%; text-align: center;">1.25</td> <td style="width: 10%; text-align: center;">(G)</td> <td style="width: 10%; text-align: center;">9.8</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Bank Angle ( H )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 10%; text-align: center;">30</td> <td style="width: 10%; text-align: center;">(H)</td> <td style="width: 10%; text-align: center;">2.4</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Surface Protection ( I )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 10%; text-align: center;">90%</td> <td style="width: 10%; text-align: center;">(I)</td> <td style="width: 10%; text-align: center;">1.0</td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Bank Material Adjustment:</b>  <b>Bedrock</b> (Overall Very Low BEHI)  <b>Boulders</b> (Overall Low BEHI)  <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)  <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)  <b>Sand</b> (Add 10 points)  <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)         </div> <div style="text-align: center; font-weight: bold;">Bank Material Adjustment</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%; text-align: center;">0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Stratification Adjustment</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">           Add 5–10 points, depending on position of unstable layers in relation to bankfull stage         </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%; text-align: center;">0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Adjective Rating and Total Score</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 12.5%; text-align: center;">Very Low</td> <td style="width: 12.5%; text-align: center;">Low</td> <td style="width: 12.5%; text-align: center;">Moderate</td> <td style="width: 12.5%; text-align: center;">High</td> <td style="width: 12.5%; text-align: center;">Very High</td> <td style="width: 12.5%; text-align: center;">Extreme</td> <td style="width: 12.5%;"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td style="text-align: center;">29.7</td> </tr> </table> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <div style="text-align: center; font-weight: bold;">Bank Sketch</div> </div> <div style="width: 45%;"> </div> </div>										Study Bank Height (ft) =	2.00	(A)	Bankfull Height (ft) =	0.50	(B)	( A ) / ( B ) =	4.00	(C)	10.0	Root Depth (ft) =	0.50	(D)	Study Bank Height (ft) =	2.00	(A)	( D ) / ( A ) =	0.25	(E)	6.5	Root Density as % =	5.00	(F)	( F ) x ( E ) =	1.25	(G)	9.8	Bank Angle as Degrees =	30	(H)	2.4	Surface Protection as % =	90%	(I)	1.0	0	0	Very Low	Low	Moderate	High	Very High	Extreme		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	29.7
Study Bank Height (ft) =	2.00	(A)	Bankfull Height (ft) =	0.50	(B)	( A ) / ( B ) =	4.00	(C)	10.0																																																			
Root Depth (ft) =	0.50	(D)	Study Bank Height (ft) =	2.00	(A)	( D ) / ( A ) =	0.25	(E)	6.5																																																			
Root Density as % =	5.00	(F)	( F ) x ( E ) =	1.25	(G)	9.8																																																						
Bank Angle as Degrees =	30	(H)	2.4																																																									
Surface Protection as % =	90%	(I)	1.0																																																									
0																																																												
0																																																												
Very Low	Low	Moderate	High	Very High	Extreme																																																							
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	29.7																																																						

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

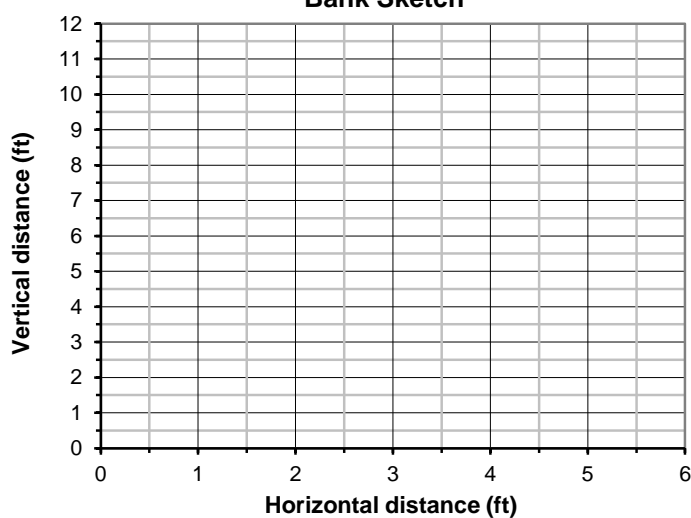
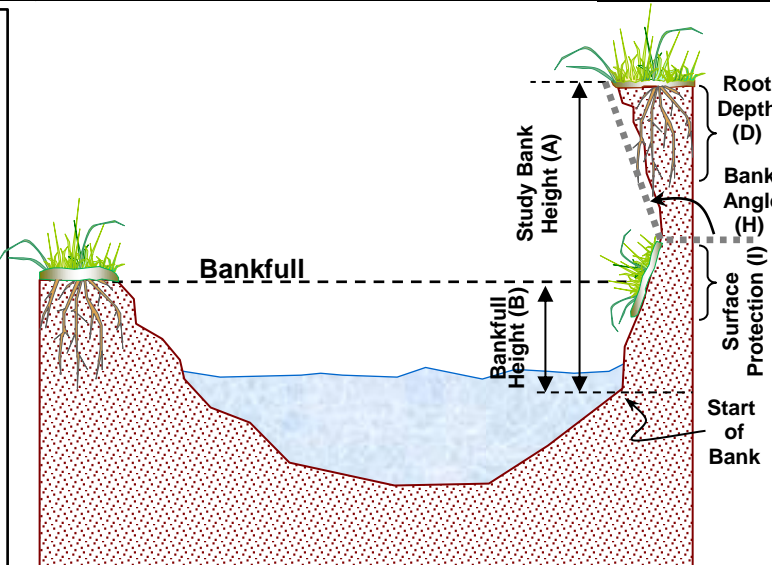
Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>RDB 500-575</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																				
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
BEHI Score (Fig. 3-7)																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		8.00 (C)	10.0																		
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	1.50 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.38 (E)	5.0																		
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	30.00 (F)	$(F) \times (E) =$		11.25 (G)		8.3																			
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =	75 (H)					5.1																			
<b>Surface Protection ( I )</b>																									
Surface Protection as % =	60% (I)					3.6																			
<b>Bank Material Adjustment:</b>																									
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
Bank Material Adjustment						0																			
Stratification Adjustment						0																			
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Very Low</td> <td style="text-align: center;">Low</td> <td style="text-align: center;">Moderate</td> <td style="text-align: center;">High</td> <td style="text-align: center;">Very High</td> <td style="text-align: center;">Extreme</td> <td colspan="2" style="text-align: center;">Adjective Rating and Total Score</td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="2" style="text-align: center; background-color: #e0f0ff;">32.0</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	32.0	
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	32.0																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																					
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																
Station: <b>RDB 575-640</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>															
<b>BEHI Score (Fig. 3-7)</b>																					
<b>Study Bank Height to Bankfull Height ( C )</b>																					
Study Bank Height (ft) =	1.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	2.00 (C)	<b>7.9</b>															
<b>Root Depth to Study Bank Height ( E )</b>																					
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	1.00 (A)	$(D) / (A) =$	1.00 (E)	<b>0.0</b>															
<b>Weighted Root Density ( G )</b>																					
Root Density as % =	5.00 (F)	$(F) \times (E) =$	5 (G)	<b>9.0</b>																	
<b>Bank Angle ( H )</b>																					
Bank Angle as Degrees =	20 (H)	<b>1.9</b>																			
<b>Surface Protection ( I )</b>																					
Surface Protection as % =	90% (I)	<b>1.0</b>																			
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																					
<b>Bank Material Adjustment</b>						<b>0</b>															
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						<b>0</b>															
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px;">Very Low</td> <td style="padding: 2px;">Low</td> <td style="padding: 2px;">Moderate</td> <td style="padding: 2px;">High</td> <td style="padding: 2px;">Very High</td> <td style="padding: 2px;">Extreme</td> </tr> <tr> <td style="padding: 2px;">5 – 9.5</td> <td style="padding: 2px;">10 – 19.5</td> <td style="padding: 2px;">20 – 29.5</td> <td style="padding: 2px;">30 – 39.5</td> <td style="padding: 2px;">40 – 45</td> <td style="padding: 2px;">46 – 50</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50
Very Low	Low	Moderate	High	Very High	Extreme																
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																
<b>Adjective Rating and Total Score</b>								<b>19.8</b>													
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																					



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																							
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																		
Station: <b>RDB 640-975</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																		
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																	
<b>BEHI Score (Fig. 3-7)</b>																							
<b>Study Bank Height to Bankfull Height ( C )</b>																							
Study Bank Height (ft) =	1.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	2.00 (C)	<b>8.0</b>																	
<b>Root Depth to Study Bank Height ( E )</b>																							
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	1.00 (A)	$(D) / (A) =$	0.50 (E)	<b>3.8</b>																	
<b>Weighted Root Density ( G )</b>																							
Root Density as % =	5.00 (F)	$(F) \times (E) =$	2.5 (G)	<b>9.3</b>																			
<b>Bank Angle ( H )</b>																							
Bank Angle as Degrees =	15 (H)	<b>1.6</b>																					
<b>Surface Protection ( I )</b>																							
Surface Protection as % =	99% (I)	<b>0.1</b>																					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>																		
Bedrock (Overall Very Low BEHI)					<div style="font-size: 2em; color: #00a0e3; margin: 0;">➔</div>																		
Boulders (Overall Low BEHI)																							
Cobble (Subtract 10 points if uniform medium to large cobble)																							
Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)																							
Sand (Add 10 points)																							
Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>0</b>																		
<b>Stratification Adjustment</b>					<b>0</b>																		
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					<b>0</b>																		
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px;">Very Low</td> <td style="padding: 2px;">Low</td> <td style="padding: 2px;">Moderate</td> <td style="padding: 2px;">High</td> <td style="padding: 2px;">Very High</td> <td style="padding: 2px;">Extreme</td> <td style="padding: 2px;">Adjective Rating and Total Score</td> </tr> <tr> <td style="padding: 2px;">5 – 9.5</td> <td style="padding: 2px;">10 – 19.5</td> <td style="padding: 2px;">20 – 29.5</td> <td style="padding: 2px;">30 – 39.5</td> <td style="padding: 2px;">40 – 45</td> <td style="padding: 2px;">46 – 50</td> <td style="padding: 2px;"><b>22.8</b></td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>22.8</b>
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>22.8</b>																	
<b>Bank Sketch</b> 																							



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																		
Stream: <b>Oak Glen Stream #2</b>					Location: <b>Cincinnati, OH</b>																													
Station: <b>RDB 975-1045</b>					Observers: <b>#REF!</b>																													
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																												
<div style="text-align: right; font-weight: bold; margin-bottom: 5px;">BEHI Score (Fig. 3-7)</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> <p style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">4.00 (A)</td> <td style="padding: 5px;">Bankfull Height (ft) =</td> <td style="text-align: center; padding: 5px;">0.50 (B)</td> <td style="padding: 5px;"><math>(A) / (B) =</math></td> <td style="text-align: center; padding: 5px;">8.00 (C)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Depth (ft) =</td> <td style="text-align: center; padding: 5px;">1.00 (D)</td> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">4.00 (A)</td> <td style="padding: 5px;"><math>(D) / (A) =</math></td> <td style="text-align: center; padding: 5px;">0.25 (E)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Density as % =</td> <td style="text-align: center; padding: 5px;">40.00 (F)</td> <td style="padding: 5px;"><math>(F) \times (E) =</math></td> <td style="text-align: center; padding: 5px;">10 (G)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Bank Angle ( H )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Bank Angle as Degrees =</td> <td style="text-align: center; padding: 5px;">45 (H)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Surface Protection ( I )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Surface Protection as % =</td> <td style="text-align: center; padding: 5px;">75% (I)</td> </tr> </table> </div> <div style="width: 15%; text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 5px;">10.0</td></tr> <tr><td style="padding: 5px;">6.5</td></tr> <tr><td style="padding: 5px;">8.4</td></tr> <tr><td style="padding: 5px;">3.2</td></tr> <tr><td style="padding: 5px;">2.2</td></tr> </table> </div> </div>										Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	8.00 (C)	Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$	0.25 (E)	Root Density as % =	40.00 (F)	$(F) \times (E) =$	10 (G)	Bank Angle as Degrees =	45 (H)	Surface Protection as % =	75% (I)	10.0	6.5	8.4	3.2	2.2
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	8.00 (C)																													
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$	0.25 (E)																													
Root Density as % =	40.00 (F)	$(F) \times (E) =$	10 (G)																															
Bank Angle as Degrees =	45 (H)																																	
Surface Protection as % =	75% (I)																																	
10.0																																		
6.5																																		
8.4																																		
3.2																																		
2.2																																		
<div style="display: flex;"> <div style="width: 60%; border: 1px solid black; padding: 5px;"> <p><b>Bank Material Adjustment:</b></p> <p><b>Bedrock</b> (Overall Very Low BEHI)</p> <p><b>Boulders</b> (Overall Low BEHI)</p> <p><b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)</p> <p><b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)</p> <p><b>Sand</b> (Add 10 points)</p> <p><b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)</p> </div> <div style="width: 40%; border: 1px solid black; padding: 5px; margin-left: 10px;"> <p style="text-align: center; font-weight: bold;">Bank Material Adjustment</p> <p style="text-align: center; font-weight: bold;">Stratification Adjustment</p> <p style="text-align: center;">Add 5–10 points, depending on position of unstable layers in relation to bankfull stage</p> </div> </div>																																		
<div style="display: flex; align-items: center;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 5px;">Very Low</td> <td style="padding: 5px;">Low</td> <td style="padding: 5px;">Moderate</td> <td style="padding: 5px;">High</td> <td style="padding: 5px;">Very High</td> <td style="padding: 5px;">Extreme</td> </tr> <tr> <td style="padding: 5px;">5 – 9.5</td> <td style="padding: 5px;">10 – 19.5</td> <td style="padding: 5px;">20 – 29.5</td> <td style="padding: 5px;">30 – 39.5</td> <td style="padding: 5px;">40 – 45</td> <td style="padding: 5px;">46 – 50</td> </tr> </table> <div style="margin: 0 10px; font-size: 2em;">➔</div> <div style="text-align: right;"> <p style="font-weight: bold;">Adjective Rating and Total Score</p> <p style="font-size: 1.5em; font-weight: bold;">30.3</p> </div> </div>										Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50													
Very Low	Low	Moderate	High	Very High	Extreme																													
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																													
<div style="display: flex;"> <div style="width: 45%; border: 1px solid black; padding: 5px;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="width: 55%; border: 1px solid black; padding: 5px;"> </div> </div>																																		

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)							
Stream: <b>Oak Glen</b>				Location: <b>Cincinnati, OH</b>			
Station: <b>LB 0-50</b>				Observers: <b>Neil M./Joe G./Marcus F.</b>			
Date: <b>12/6/18-12/7/18</b>		Stream Type: <b>#REF!</b>		Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>							<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	8.00 (A)	Bankfull Height (ft) =	0.50 (B)	( A ) / ( B ) =		16.00 (C)	10.0
<b>Root Depth to Study Bank Height ( E )</b>							
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	8.00 (A)	( D ) / ( A ) =		0.13 (E)	8.1
<b>Weighted Root Density ( G )</b>							
Root Density as % =	15.00 (F)	( F ) x ( E ) =				1.875 (G)	9.8
<b>Bank Angle ( H )</b>							
Bank Angle as Degrees =	45 (H)					3.3	
<b>Surface Protection ( I )</b>							
Surface Protection as % =	78% (I)					2.1	
<b>Bank Material Adjustment:</b>							
Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)							<b>Bank Material Adjustment</b>  <b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage
							0
							0
<b>Adjective Rating and Total Score</b>							
Very Low	Low	Moderate	High	Very High	Extreme		
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50		
							33.3
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 45%;"> </div> </div>							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>LB 1075-1100</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
BEHI Score (Fig. 3-7)																									
Study Bank Height to Bankfull Height ( C )																									
Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		3.50 (C)	10.0																		
Root Depth to Study Bank Height ( E )																									
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$		0.86 (E)	2.1																		
Weighted Root Density ( G )																									
Root Density as % =	30.00 (F)			$(F) \times (E) =$		25.7143 (G)	6.3																		
Bank Angle ( H )																									
Bank Angle as Degrees =		80 (H)		5.9																					
Surface Protection ( I )																									
Surface Protection as % =		60% (I)		3.5																					
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
							Bank Material Adjustment		0																
							Stratification Adjustment		0																
							Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Very Low</td> <td style="text-align: center;">Low</td> <td style="text-align: center;">Moderate</td> <td style="text-align: center;">High</td> <td style="text-align: center;">Very High</td> <td style="text-align: center;">Extreme</td> <td colspan="2" style="text-align: center;">Adjective Rating and Total Score</td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="2" style="text-align: center; background-color: #e0f0ff;">27.8</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	27.8	
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	27.8																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>LB 1100-1300</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
BEHI Score (Fig. 3-7)																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	2.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		2.00 (C)	7.9																		
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	2.00 (A)	$(D) / (A) =$		0.25 (E)	6.5																		
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	5.00 (F)	$(F) \times (E) =$		1.25 (G)		9.9																			
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =		20 (H)		2.0																					
<b>Surface Protection ( I )</b>																									
Surface Protection as % =		85% (I)		1.5																					
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
<b>Bank Material Adjustment</b>							0																		
<b>Stratification Adjustment</b>							0																		
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Very Low</td> <td style="padding: 5px;">Low</td> <td style="padding: 5px;">Moderate</td> <td style="padding: 5px;">High</td> <td style="padding: 5px;">Very High</td> <td style="padding: 5px;">Extreme</td> <td colspan="2" style="padding: 5px; text-align: center;">Adjective Rating and Total Score</td> </tr> <tr> <td style="padding: 5px; text-align: center;">5 – 9.5</td> <td style="padding: 5px; text-align: center;">10 – 19.5</td> <td style="padding: 5px; text-align: center;">20 – 29.5</td> <td style="padding: 5px; text-align: center;">30 – 39.5</td> <td style="padding: 5px; text-align: center;">40 – 45</td> <td style="padding: 5px; text-align: center;">46 – 50</td> <td colspan="2" style="padding: 5px; text-align: center;">27.8</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	27.8	
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	27.8																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																							
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																																		
Station: <b>LB 1300-1410</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																																		
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																	
BEHI Score (Fig. 3-7)																																							
<b>Study Bank Height to Bankfull Height ( C )</b>																																							
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	2.50 (C)	8.6																																	
<b>Root Depth to Study Bank Height ( E )</b>																																							
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$	0.20 (E)	7.0																																	
<b>Weighted Root Density ( G )</b>																																							
Root Density as % =	5.00 (F)	$(F) \times (E) =$	1 (G)			9.9																																	
<b>Bank Angle ( H )</b>																																							
Bank Angle as Degrees =	30 (H)					2.5																																	
<b>Surface Protection ( I )</b>																																							
Surface Protection as % =	85% (I)					1.5																																	
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																																							
<b>Bank Material Adjustment</b>						0																																	
<b>Stratification Adjustment</b>						0																																	
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																																							
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; text-align: center;"><b>Very Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Moderate</b></td> <td style="width: 12.5%; text-align: center;"><b>High</b></td> <td style="width: 12.5%; text-align: center;"><b>Very High</b></td> <td style="width: 12.5%; text-align: center;"><b>Extreme</b></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="4" style="text-align: center; border: 1px solid black; background-color: #e0f0ff; font-weight: bold;">Adjective Rating and Total Score</td> </tr> <tr> <td colspan="6"></td> <td colspan="4" style="text-align: center; border: 1px solid black; background-color: #e0f0ff; font-weight: bold;">29.5</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>					5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	Adjective Rating and Total Score										29.5			
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>																																		
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	Adjective Rating and Total Score																																	
						29.5																																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																																							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>LB 1410-1500</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
BEHI Score (Fig. 3-7)																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		4.00 (C)	10.0																		
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.13 (E)	8.1																		
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.625 (G)		9.9																			
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =		45 (H)		3.3																					
<b>Surface Protection ( I )</b>																									
Surface Protection as % =		60% (I)		1.9																					
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
<b>Bank Material Adjustment</b>							0																		
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0																		
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><b>Very Low</b></td> <td style="text-align: center; padding: 5px;"><b>Low</b></td> <td style="text-align: center; padding: 5px;"><b>Moderate</b></td> <td style="text-align: center; padding: 5px;"><b>High</b></td> <td style="text-align: center; padding: 5px;"><b>Very High</b></td> <td style="text-align: center; padding: 5px;"><b>Extreme</b></td> <td colspan="2" style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td colspan="2" style="text-align: center; padding: 5px;">33.2</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	33.2	
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	33.2																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>LB 1500-1670</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>					
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>								<b>BEHI Score</b> (Fig. 3-7)		
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		2.50 (C)	8.6			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.40 (E)	4.8			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	5.00 (F)	$(F) \times (E) =$		2 (G)		9.6				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =		15 (H)		1.8						
<b>Surface Protection ( I )</b>										
Surface Protection as % =		95% (I)		0.5						
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					
Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>Stratification Adjustment</b>            Add 5–10 points, depending on position of unstable layers in relation to bankfull stage         </div>					<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>0</b> </div>
<b>Very Low</b> <b>Low</b> <b>Moderate</b> <b>High</b> <b>Very High</b> <b>Extreme</b>					<b>Adjective Rating and Total Score</b>				<b>25.3</b>	
5 – 9.5   10 – 19.5   20 – 29.5   30 – 39.5   40 – 45   46 – 50										
<b>Bank Sketch</b>										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																							
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																																		
Station: <b>LB 150-275</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																																		
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																	
BEHI Score (Fig. 3-7)																																							
<b>Study Bank Height to Bankfull Height ( C )</b>																																							
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	10.0																																
<b>Root Depth to Study Bank Height ( E )</b>																																							
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.33 (E)	5.4																																
<b>Weighted Root Density ( G )</b>																																							
Root Density as % =	5.00 (F)	$(F) \times (E) =$				1.66667 (G)	9.8																																
<b>Bank Angle ( H )</b>																																							
Bank Angle as Degrees =		45 (H)		3.3																																			
<b>Surface Protection ( I )</b>																																							
Surface Protection as % =		95% (I)		0.5																																			
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																																							
<b>Bank Material Adjustment</b>							0																																
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0																																
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 12.5%;">Very Low</td> <td style="text-align: center; width: 12.5%;">Low</td> <td style="text-align: center; width: 12.5%;">Moderate</td> <td style="text-align: center; width: 12.5%;">High</td> <td style="text-align: center; width: 12.5%;">Very High</td> <td style="text-align: center; width: 12.5%;">Extreme</td> <td colspan="4"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="4" style="text-align: center;"> <b>Adjective Rating and Total Score</b> </td> </tr> <tr> <td colspan="6"></td> <td colspan="4" style="text-align: center; background-color: #e0f0ff;">29.0</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme					5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>Adjective Rating and Total Score</b>										29.0			
Very Low	Low	Moderate	High	Very High	Extreme																																		
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>Adjective Rating and Total Score</b>																																	
						29.0																																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																																							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																								
Station: <b>LB 1670-1780</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																								
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																							
BEHI Score (Fig. 3-7)																													
<b>Study Bank Height to Bankfull Height ( C )</b>																													
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$	2.00 (C)	7.9																							
<b>Root Depth to Study Bank Height ( E )</b>																													
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$	0.67 (E)	3.5																							
<b>Weighted Root Density ( G )</b>																													
Root Density as % =	5.00 (F)	$(F) \times (E) =$	3.33333 (G)			9.4																							
<b>Bank Angle ( H )</b>																													
Bank Angle as Degrees =	30 (H)				2.5																								
<b>Surface Protection ( I )</b>																													
Surface Protection as % =	85% (I)				1.5																								
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																													
						Bank Material Adjustment		0																					
						Stratification Adjustment		0																					
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						0																							
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;">Very Low</td> <td style="text-align: center; padding: 5px;">Low</td> <td style="text-align: center; padding: 5px;">Moderate</td> <td style="text-align: center; padding: 5px;">High</td> <td style="text-align: center; padding: 5px;">Very High</td> <td style="text-align: center; padding: 5px;">Extreme</td> <td colspan="2" style="text-align: center; padding: 5px;">Adjective Rating and Total Score</td> <td colspan="2" style="text-align: center; padding: 5px; border: 1px solid black;">24.8</td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td colspan="2"></td> <td colspan="2"></td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score		24.8		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score		24.8																					
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																								
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 5px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																													

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)							
Stream: <b>Oak Glen</b>				Location: <b>Cincinnati, OH</b>			
Station: <b>LB 1780-1850</b>				Observers: <b>Neil M./Joe G./Marcus F.</b>			
Date: <b>12/6/18-12/7/18</b>		Stream Type: <b>#REF!</b>		Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>							<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.50 (B)	( A ) / ( B ) =		2.00 (C)	7.9
<b>Root Depth to Study Bank Height ( E )</b>							
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	3.00 (A)	( D ) / ( A ) =		0.33 (E)	5.9
<b>Weighted Root Density ( G )</b>							
Root Density as % =	5.00 (F)	( F ) x ( E ) =				1.66667 (G)	9.8
<b>Bank Angle ( H )</b>							
Bank Angle as Degrees =	40 (H)					3.0	
<b>Surface Protection ( I )</b>							
Surface Protection as % =	95% (I)					0.5	
<b>Bank Material Adjustment:</b>							
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)							<b>Bank Material Adjustment</b>  <b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage
							0
							0
<b>Adjective Rating and Total Score</b>							
Very Low	Low	Moderate	High	Very High	Extreme		
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50		
						<b>Adjective Rating and Total Score</b>	27.1
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 45%;"> </div> </div>							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>LB 1850-2025</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>								BEHI Score (Fig. 3-7)	
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.50 (B)	( A ) / ( B ) =		2.00 (C)	7.9		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	3.00 (A)	( D ) / ( A ) =		1.00 (E)	0.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	50.00 (F)			( F ) x ( E ) =		50 (G)	4.3		
<b>Bank Angle ( H )</b>									
		Bank Angle as Degrees =	60 (H)					3.9	
<b>Surface Protection ( I )</b>									
		Surface Protection as % =	80% (I)					1.9	
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					0				
					<b>Stratification Adjustment</b>				
					0				
								<b>Adjective Rating and Total Score</b>	
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>								18.0	
<b>Bank Sketch</b> 									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>LB 2025-2080</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
BEHI Score (Fig. 3-7)																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$	2.67 (C)	8.9																			
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$	0.13 (E)	8.1																			
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	5.00 (F)	$(F) \times (E) =$				0.625 (G)	9.9																		
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =		30 (H)		2.5																					
<b>Surface Protection ( I )</b>																									
Surface Protection as % =		90% (I)		1.0																					
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
<b>Bank Material Adjustment</b>						0																			
<b>Stratification Adjustment</b>						0																			
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																									
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; text-align: center;"><b>Very Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Moderate</b></td> <td style="width: 12.5%; text-align: center;"><b>High</b></td> <td style="width: 12.5%; text-align: center;"><b>Very High</b></td> <td style="width: 12.5%; text-align: center;"><b>Extreme</b></td> <td colspan="2" style="width: 25%; text-align: center;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="2" style="text-align: center; background-color: #e0f0ff; font-weight: bold;">30.4</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	30.4	
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	30.4																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																							
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																																		
Station: <b>LB 2080-2200</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																																		
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																	
BEHI Score (Fig. 3-7)																																							
<b>Study Bank Height to Bankfull Height ( C )</b>																																							
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		1.67 (C)	6.5																																
<b>Root Depth to Study Bank Height ( E )</b>																																							
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.80 (E)	2.5																																
<b>Weighted Root Density ( G )</b>																																							
Root Density as % =	15.00 (F)			$(F) \times (E) =$		12 (G)	8.0																																
<b>Bank Angle ( H )</b>																																							
Bank Angle as Degrees =		60 (H)		3.9																																			
<b>Surface Protection ( I )</b>																																							
Surface Protection as % =		70% (I)		2.5																																			
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																																							
<b>Bank Material Adjustment</b>							0																																
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0																																
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 12.5%;">Very Low</td> <td style="text-align: center; width: 12.5%;">Low</td> <td style="text-align: center; width: 12.5%;">Moderate</td> <td style="text-align: center; width: 12.5%;">High</td> <td style="text-align: center; width: 12.5%;">Very High</td> <td style="text-align: center; width: 12.5%;">Extreme</td> <td colspan="4"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="4" style="text-align: right; padding-right: 20px;"> <b>Adjective Rating and Total Score</b> </td> </tr> <tr> <td colspan="6"></td> <td colspan="4" style="text-align: center; background-color: #e0f0ff; padding: 5px;"><b>23.4</b></td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme					5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>Adjective Rating and Total Score</b>										<b>23.4</b>			
Very Low	Low	Moderate	High	Very High	Extreme																																		
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>Adjective Rating and Total Score</b>																																	
						<b>23.4</b>																																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																																							



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																							
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																		
Station: <b>LB 2200-2325</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																		
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																	
BEHI Score (Fig. 3-7)																							
<b>Study Bank Height to Bankfull Height ( C )</b>																							
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.67 (C)	8.6																
<b>Root Depth to Study Bank Height ( E )</b>																							
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.06 (E)	8.7																
<b>Weighted Root Density ( G )</b>																							
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.3125 (G)		9.9																	
<b>Bank Angle ( H )</b>																							
Bank Angle as Degrees =		80 (H)		5.9																			
<b>Surface Protection ( I )</b>																							
Surface Protection as % =		90% (I)		1.0																			
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																							
<b>Bank Material Adjustment</b>								0															
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage								0															
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><b>Very Low</b></td> <td style="text-align: center; padding: 5px;"><b>Low</b></td> <td style="text-align: center; padding: 5px;"><b>Moderate</b></td> <td style="text-align: center; padding: 5px;"><b>High</b></td> <td style="text-align: center; padding: 5px;"><b>Very High</b></td> <td style="text-align: center; padding: 5px;"><b>Extreme</b></td> <td style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td style="text-align: center; padding: 5px; background-color: #e0f0ff;">34.1</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	34.1
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	34.1																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																							



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																								
Station: <b>LB 2325-2390</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																								
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																							
<b>BEHI Score (Fig. 3-7)</b>																													
<b>Study Bank Height to Bankfull Height ( C )</b>																													
Study Bank Height (ft) =	4.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		3.00 (C)	9.4																						
<b>Root Depth to Study Bank Height ( E )</b>																													
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	4.50 (A)	$(D) / (A) =$		0.11 (E)	8.2																						
<b>Weighted Root Density ( G )</b>																													
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.55556 (G)		9.9																							
<b>Bank Angle ( H )</b>																													
Bank Angle as Degrees =		80 (H)		5.9																									
<b>Surface Protection ( I )</b>																													
Surface Protection as % =		90% (I)		1.0																									
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																													
<b>Bank Material Adjustment</b>								0																					
<b>Stratification Adjustment</b>								0																					
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage								0																					
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;"><b>Very Low</b></td> <td style="padding: 5px; text-align: center;"><b>Low</b></td> <td style="padding: 5px; text-align: center;"><b>Moderate</b></td> <td style="padding: 5px; text-align: center;"><b>High</b></td> <td style="padding: 5px; text-align: center;"><b>Very High</b></td> <td style="padding: 5px; text-align: center;"><b>Extreme</b></td> <td colspan="4" style="padding: 5px; text-align: center;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="padding: 5px; text-align: center;">5 – 9.5</td> <td style="padding: 5px; text-align: center;">10 – 19.5</td> <td style="padding: 5px; text-align: center;">20 – 29.5</td> <td style="padding: 5px; text-align: center;">30 – 39.5</td> <td style="padding: 5px; text-align: center;">40 – 45</td> <td style="padding: 5px; text-align: center;">46 – 50</td> <td colspan="4" style="padding: 5px; text-align: center;">34.4</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>				5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	34.4			
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																							
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	34.4																							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																													

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>					
Station: <b>LB 2390-2525</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>					
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>				
<b>Study Bank Height to Bankfull Height ( C )</b>								<b>BEHI Score</b> (Fig. 3-7)		
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		1.67 (C)	6.5			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.20 (E)	7.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	5.00 (F)	$(F) \times (E) =$		1 (G)		9.9				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =		30 (H)		2.5						
<b>Surface Protection ( I )</b>										
Surface Protection as % =		95% (I)		0.5						
<b>Bank Material Adjustment:</b>										
Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b>		0			
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0			
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>								<b>Adjective Rating and Total Score</b>		<b>26.4</b>
<b>Bank Sketch</b>										

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																								
Station: <b>LB 2525-2575</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																								
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																							
<b>BEHI Score (Fig. 3-7)</b>																													
<b>Study Bank Height to Bankfull Height ( C )</b>																													
Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.33 (C)	<b>8.5</b>																						
<b>Root Depth to Study Bank Height ( E )</b>																													
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$		0.07 (E)	<b>8.7</b>																						
<b>Weighted Root Density ( G )</b>																													
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.35714 (G)		<b>9.9</b>																							
<b>Bank Angle ( H )</b>																													
Bank Angle as Degrees =		45 (H)		<b>3.3</b>																									
<b>Surface Protection ( I )</b>																													
Surface Protection as % =		87% (I)		<b>1.1</b>																									
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																													
<b>Bank Material Adjustment</b>							<b>0</b>																						
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							<b>0</b>																						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><b>Very Low</b></td> <td style="text-align: center; padding: 5px;"><b>Low</b></td> <td style="text-align: center; padding: 5px;"><b>Moderate</b></td> <td style="text-align: center; padding: 5px;"><b>High</b></td> <td style="text-align: center; padding: 5px;"><b>Very High</b></td> <td style="text-align: center; padding: 5px;"><b>Extreme</b></td> <td colspan="2" style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> <td colspan="2" style="text-align: center; padding: 5px; background-color: #e0f0ff;"><b>31.5</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td colspan="2"></td> <td colspan="2"></td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>		<b>31.5</b>		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>		<b>31.5</b>																					
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																								
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																													

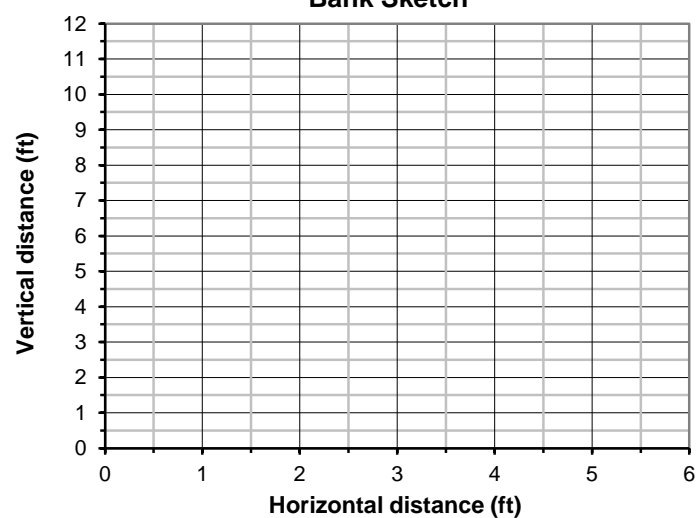
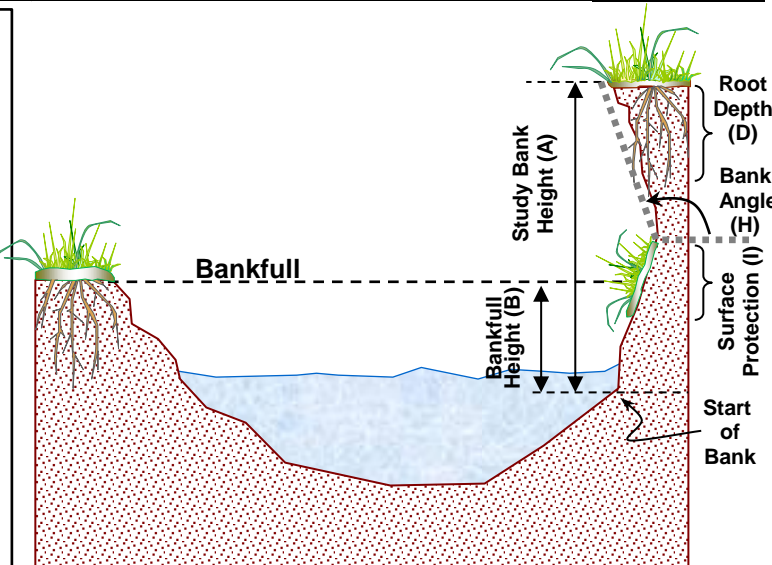
**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>LB 2575-2675</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>								<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$			1.67 (C)	6.7	
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$			0.10 (E)	8.4	
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)	$(F) \times (E) =$			0.5 (G)			9.9	
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		40 (H)						3.0	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		95% (I)						0.5	
<b>Bank Material Adjustment:</b>									
Bedrock (Overall Very Low BEHI)									
Boulders (Overall Low BEHI)									
Cobble (Subtract 10 points if uniform medium to large cobble)									
Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)									
Sand (Add 10 points)									
Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
					<b>Bank Material Adjustment</b>		0		
					<b>Stratification Adjustment</b>		0		
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<b>Adjective Rating and Total Score</b>									
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score			28.5
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				
<b>Bank Sketch</b>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>LB 2675-2850 * DID NOT SURVEY</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
<b>BEHI Score (Fig. 3-7)</b>																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	(A)	Bankfull Height (ft) =	(B)	$(A) / (B) =$		(C)	0.0																		
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	(D)	Study Bank Height (ft) =	(A)	$(D) / (A) =$		(E)	0.0																		
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	(F)	$(F) \times (E) =$		(G)	0.0																				
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =		(H)		0.0																					
<b>Surface Protection ( I )</b>																									
Surface Protection as % =		(I)		0.0																					
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
								<b>Bank Material Adjustment</b> 0																	
								<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage 0																	
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 5px;"><b>Very Low</b></td> <td style="padding: 5px;"><b>Low</b></td> <td style="padding: 5px;"><b>Moderate</b></td> <td style="padding: 5px;"><b>High</b></td> <td style="padding: 5px;"><b>Very High</b></td> <td style="padding: 5px;"><b>Extreme</b></td> <td colspan="4" rowspan="2" style="padding: 5px; text-align: left;"> <b>Adjective Rating and Total Score</b> </td> </tr> <tr> <td style="padding: 5px;">5 – 9.5</td> <td style="padding: 5px;">10 – 19.5</td> <td style="padding: 5px;">20 – 29.5</td> <td style="padding: 5px;">30 – 39.5</td> <td style="padding: 5px;">40 – 45</td> <td style="padding: 5px;">46 – 50</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>				5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																				
						<b>Adjective Rating and Total Score</b> 0.0																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>LB 275-350</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>								<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		8.00 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.13 (E)	8.1		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)			$(F) \times (E) =$		0.625 (G)	9.9		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		60 (H)						3.9	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		75% (I)						2.4	
<b>Bank Material Adjustment:</b>									
Bedrock (Overall Very Low BEHI)					<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 50px; height: 50px; background: linear-gradient(to right, transparent 49%, #ccc 49%, #ccc 51%, transparent 51%); background-size: 10px 10px; border: 1px solid #ccc; margin: 0 10px;"></div> <div style="text-align: center;"> <b>Bank Material Adjustment</b>  <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">0</div> </div> </div> <div style="margin-top: 10px;"> <b>Stratification Adjustment</b>  Add 5–10 points, depending on position of unstable layers in relation to bankfull stage  <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">0</div> </div>				
Boulders (Overall Low BEHI)									
Cobble (Subtract 10 points if uniform medium to large cobble)									
Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)									
Sand (Add 10 points)									
Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
<div style="display: flex; justify-content: space-around; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">34.3</div>			
<b>Bank Sketch</b> 									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																								
Station: <b>LB 350-500</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																								
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																							
BEHI Score (Fig. 3-7)																													
<b>Study Bank Height to Bankfull Height ( C )</b>																													
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	10.0																						
<b>Root Depth to Study Bank Height ( E )</b>																													
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.17 (E)	7.3																						
<b>Weighted Root Density ( G )</b>																													
Root Density as % =	10.00 (F)			$(F) \times (E) =$		1.66667 (G)	9.9																						
<b>Bank Angle ( H )</b>																													
		Bank Angle as Degrees =	75 (H)	5.5																									
<b>Surface Protection ( I )</b>																													
		Surface Protection as % =	80% (I)	1.9																									
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																													
<b>Bank Material Adjustment</b>							0																						
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0																						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 12.5%;">Very Low</td> <td style="text-align: center; width: 12.5%;">Low</td> <td style="text-align: center; width: 12.5%;">Moderate</td> <td style="text-align: center; width: 12.5%;">High</td> <td style="text-align: center; width: 12.5%;">Very High</td> <td style="text-align: center; width: 12.5%;">Extreme</td> <td colspan="4"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="4"></td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme					5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				
Very Low	Low	Moderate	High	Very High	Extreme																								
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																								
<b>Adjective Rating and Total Score</b>							34.6																						
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																													



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)							
Stream: <b>Oak Glen</b>				Location: <b>Cincinnati, OH</b>			
Station: <b>LB 500-650</b>				Observers: <b>Neil M./Joe G./Marcus F.</b>			
Date: <b>12/6/18-12/7/18</b>		Stream Type: <b>#REF!</b>		Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>							<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	4.50 (A)	Bankfull Height (ft) =	0.50 (B)	( A ) / ( B ) =		9.00 (C)	10.0
<b>Root Depth to Study Bank Height ( E )</b>							
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	4.50 (A)	( D ) / ( A ) =		0.22 (E)	6.8
<b>Weighted Root Density ( G )</b>							
Root Density as % =	5.00 (F)	( F ) x ( E ) =				1.11111 (G)	9.9
<b>Bank Angle ( H )</b>							
Bank Angle as Degrees =	60 (H)					3.9	
<b>Surface Protection ( I )</b>							
Surface Protection as % =	85% (I)					1.5	
<b>Bank Material Adjustment:</b>							
Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)							<b>Bank Material Adjustment</b> <div style="border: 1px solid black; padding: 5px; text-align: center;">0</div>
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							<div style="border: 1px solid black; padding: 5px; text-align: center;">0</div>
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="display: flex; gap: 10px;"> <div style="text-align: center;">Very Low 5 – 9.5</div> <div style="text-align: center;">Low 10 – 19.5</div> <div style="text-align: center;">Moderate 20 – 29.5</div> <div style="text-align: center;">High 30 – 39.5</div> <div style="text-align: center;">Very High 40 – 45</div> <div style="text-align: center;">Extreme 46 – 50</div> </div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <div style="border: 1px solid black; padding: 5px; text-align: center;">32.1</div> </div> </div>							
<div style="display: flex;"> <div style="flex: 1;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="flex: 1;"> </div> </div>							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>LB 50-150</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>								<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.17 (E)	7.5		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)	$(F) \times (E) =$				0.83333 (G)	9.9		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		45 (H)						3.3	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		70% (I)						2.6	
<b>Bank Material Adjustment:</b>									
Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b>		0		
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0		
<b>Very Low      Low      Moderate      High      Very High      Extreme</b>					<b>Adjective Rating and Total Score</b>				
5 – 9.5    10 – 19.5    20 – 29.5    30 – 39.5    40 – 45    46 – 50					<b>33.3</b>				
<b>Bank Sketch</b>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																							
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																		
Station: <b>LB 650-700</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																		
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																	
BEHI Score (Fig. 3-7)																							
<b>Study Bank Height to Bankfull Height ( C )</b>																							
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		8.00 (C)	10.0																
<b>Root Depth to Study Bank Height ( E )</b>																							
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$		0.13 (E)	8.0																
<b>Weighted Root Density ( G )</b>																							
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.625 (G)		9.9																	
<b>Bank Angle ( H )</b>																							
Bank Angle as Degrees =		45 (H)		3.3																			
<b>Surface Protection ( I )</b>																							
Surface Protection as % =		95% (I)		0.5																			
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																							
<b>Bank Material Adjustment</b>								0															
<b>Stratification Adjustment</b>								0															
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage								0															
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 5px;">Very Low</td> <td style="padding: 5px;">Low</td> <td style="padding: 5px;">Moderate</td> <td style="padding: 5px;">High</td> <td style="padding: 5px;">Very High</td> <td style="padding: 5px;">Extreme</td> <td style="padding: 5px;">Adjective Rating and Total Score</td> </tr> <tr> <td style="padding: 5px;">5 – 9.5</td> <td style="padding: 5px;">10 – 19.5</td> <td style="padding: 5px;">20 – 29.5</td> <td style="padding: 5px;">30 – 39.5</td> <td style="padding: 5px;">40 – 45</td> <td style="padding: 5px;">46 – 50</td> <td style="padding: 5px; text-align: right;">31.7</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	31.7
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	31.7																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>LB 700-875</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>								<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$			10.00 (C)	10.0	
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	5.00 (A)	$(D) / (A) =$			0.20 (E)	7.1	
<b>Weighted Root Density ( G )</b>									
Root Density as % =	10.00 (F)	$(F) \times (E) =$			2 (G)	9.5			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	80 (H)			5.9					
<b>Surface Protection ( I )</b>									
Surface Protection as % =	50% (I)			4.2					
<b>Bank Material Adjustment:</b>									
Bedrock (Overall Very Low BEHI)					<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 50px; height: 50px; background: linear-gradient(to right, transparent 49%, #ccc 49%, #ccc 51%, transparent 51%);"></div> <div style="margin: 0 10px;">→</div> </div>				
Boulders (Overall Low BEHI)									
Cobble (Subtract 10 points if uniform medium to large cobble)									
Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)									
Sand (Add 10 points)									
Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="border: 1px solid black; padding: 5px; display: inline-block;">0</div>				
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; padding: 5px; display: inline-block;">0</div>				
<div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50         </div> </div>								<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; padding: 5px; display: inline-block;">36.7</div>	
<b>Bank Sketch</b> 									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>LB 875-950</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
BEHI Score (Fig. 3-7)																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	6.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		12.00 (C)	10.0																		
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	6.00 (A)	$(D) / (A) =$		0.08 (E)	8.7																		
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	20.00 (F)	$(F) \times (E) =$		1.66667 (G)		9.8																			
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =		60 (H)		3.9																					
<b>Surface Protection ( I )</b>																									
Surface Protection as % =		60% (I)		3.5																					
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
<b>Bank Material Adjustment</b>							0																		
<b>Stratification Adjustment</b>							0																		
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0																		
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;">Very Low</td> <td style="padding: 5px; text-align: center;">Low</td> <td style="padding: 5px; text-align: center;">Moderate</td> <td style="padding: 5px; text-align: center;">High</td> <td style="padding: 5px; text-align: center;">Very High</td> <td style="padding: 5px; text-align: center;">Extreme</td> <td colspan="2" style="padding: 5px; text-align: center;">Adjective Rating and Total Score</td> </tr> <tr> <td style="padding: 5px; text-align: center;">5 – 9.5</td> <td style="padding: 5px; text-align: center;">10 – 19.5</td> <td style="padding: 5px; text-align: center;">20 – 29.5</td> <td style="padding: 5px; text-align: center;">30 – 39.5</td> <td style="padding: 5px; text-align: center;">40 – 45</td> <td style="padding: 5px; text-align: center;">46 – 50</td> <td colspan="2" style="padding: 5px; text-align: center;">35.9</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	35.9	
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	35.9																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																								
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																			
Station: <b>LB 950-1075</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																			
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																		
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)															
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		3.00 (C)	9.4																	
<b>Root Depth to Study Bank Height ( E )</b>																								
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.33 (E)	5.9																	
<b>Weighted Root Density ( G )</b>																								
Root Density as % =	25.00 (F)			$(F) \times (E) =$		8.33333 (G)	8.7																	
<b>Bank Angle ( H )</b>																								
Bank Angle as Degrees =		70 (H)						5.0																
<b>Surface Protection ( I )</b>																								
Surface Protection as % =		70% (I)						2.5																
<b>Bank Material Adjustment:</b>																								
Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)							<b>Bank Material Adjustment</b>		0															
							<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0															
<div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> <div style="margin-left: 20px;"> </div> </div>									<b>Adjective Rating and Total Score</b>		31.5													
<b>Bank Sketch</b>																								
<div style="display: flex;"> <div style="flex: 1;"> <p style="transform: rotate(-90deg);">Vertical distance (ft)</p> <table border="1" style="width: 100%; height: 150px;"> <tr><td>12</td></tr> <tr><td>11</td></tr> <tr><td>10</td></tr> <tr><td>9</td></tr> <tr><td>8</td></tr> <tr><td>7</td></tr> <tr><td>6</td></tr> <tr><td>5</td></tr> <tr><td>4</td></tr> <tr><td>3</td></tr> <tr><td>2</td></tr> <tr><td>1</td></tr> <tr><td>0</td></tr> </table> </div> <div style="flex: 1;"> <p style="text-align: center;">Horizontal distance (ft)</p> <table border="1" style="width: 100%;"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> </table> </div> </div>										12	11	10	9	8	7	6	5	4	3	2	1	0	0	1
12																								
11																								
10																								
9																								
8																								
7																								
6																								
5																								
4																								
3																								
2																								
1																								
0																								
0	1	2	3	4	5	6																		



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																																											
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																																																						
Station: <b>RB 0-20</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																																																						
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																																					
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="display: flex; justify-content: space-between; align-items: center;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td colspan="5" style="padding: 5px;"><b>Study Bank Height to Bankfull Height ( C )</b></td> </tr> <tr> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="padding: 5px;">6.00 (A)</td> <td style="padding: 5px;">Bankfull Height (ft) =</td> <td style="padding: 5px;">0.50 (B)</td> <td style="padding: 5px;"><math>(A) / (B) =</math> 12.00 (C)</td> </tr> </table> <div style="border: 1px solid black; background-color: #e0f0ff; padding: 10px; width: 100px; text-align: center; font-weight: bold;">10.0</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td colspan="5" style="padding: 5px;"><b>Root Depth to Study Bank Height ( E )</b></td> </tr> <tr> <td style="padding: 5px;">Root Depth (ft) =</td> <td style="padding: 5px;">3.00 (D)</td> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="padding: 5px;">6.00 (A)</td> <td style="padding: 5px;"><math>(D) / (A) =</math> 0.50 (E)</td> </tr> </table> <div style="border: 1px solid black; background-color: #e0f0ff; padding: 10px; width: 100px; text-align: center; font-weight: bold;">3.9</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td colspan="5" style="padding: 5px;"><b>Weighted Root Density ( G )</b></td> </tr> <tr> <td style="padding: 5px;">Root Density as % =</td> <td style="padding: 5px;">30.00 (F)</td> <td style="padding: 5px;"><math>(F) \times (E) =</math></td> <td style="padding: 5px;">15 (G)</td> <td></td> </tr> </table> <div style="border: 1px solid black; background-color: #e0f0ff; padding: 10px; width: 100px; text-align: center; font-weight: bold;">7.9</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td colspan="5" style="padding: 5px;"><b>Bank Angle ( H )</b></td> </tr> <tr> <td style="padding: 5px;">Bank Angle as Degrees =</td> <td style="padding: 5px;">85 (H)</td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; background-color: #e0f0ff; padding: 10px; width: 100px; text-align: center; font-weight: bold;">7.2</div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td colspan="5" style="padding: 5px;"><b>Surface Protection ( I )</b></td> </tr> <tr> <td style="padding: 5px;">Surface Protection as % =</td> <td style="padding: 5px;">55% (I)</td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; background-color: #e0f0ff; padding: 10px; width: 100px; text-align: center; font-weight: bold;">3.8</div> </div>										<b>Study Bank Height to Bankfull Height ( C )</b>					Study Bank Height (ft) =	6.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$ 12.00 (C)	<b>Root Depth to Study Bank Height ( E )</b>					Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	6.00 (A)	$(D) / (A) =$ 0.50 (E)	<b>Weighted Root Density ( G )</b>					Root Density as % =	30.00 (F)	$(F) \times (E) =$	15 (G)		<b>Bank Angle ( H )</b>					Bank Angle as Degrees =	85 (H)				<b>Surface Protection ( I )</b>					Surface Protection as % =	55% (I)			
<b>Study Bank Height to Bankfull Height ( C )</b>																																																											
Study Bank Height (ft) =	6.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$ 12.00 (C)																																																							
<b>Root Depth to Study Bank Height ( E )</b>																																																											
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	6.00 (A)	$(D) / (A) =$ 0.50 (E)																																																							
<b>Weighted Root Density ( G )</b>																																																											
Root Density as % =	30.00 (F)	$(F) \times (E) =$	15 (G)																																																								
<b>Bank Angle ( H )</b>																																																											
Bank Angle as Degrees =	85 (H)																																																										
<b>Surface Protection ( I )</b>																																																											
Surface Protection as % =	55% (I)																																																										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																								
Station: <b>RB 100-135</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																								
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																							
BEHI Score (Fig. 3-7)																													
<b>Study Bank Height to Bankfull Height ( C )</b>																													
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		10.00 (C)	10.0																						
<b>Root Depth to Study Bank Height ( E )</b>																													
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	5.00 (A)	$(D) / (A) =$		0.10 (E)	8.4																						
<b>Weighted Root Density ( G )</b>																													
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.5 (G)		9.9																							
<b>Bank Angle ( H )</b>																													
Bank Angle as Degrees =		75 (H)		5.5																									
<b>Surface Protection ( I )</b>																													
Surface Protection as % =		50% (I)		4.5																									
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																													
<b>Bank Material Adjustment</b>							0																						
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0																						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 12.5%;">Very Low</td> <td style="text-align: center; width: 12.5%;">Low</td> <td style="text-align: center; width: 12.5%;">Moderate</td> <td style="text-align: center; width: 12.5%;">High</td> <td style="text-align: center; width: 12.5%;">Very High</td> <td style="text-align: center; width: 12.5%;">Extreme</td> <td colspan="4" style="text-align: right; padding-right: 20px;">Adjective Rating and Total Score</td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="4" style="text-align: right; background-color: #e0f0ff;">38.3</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score				5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	38.3			
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																							
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	38.3																							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																													

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>RB 1300-1410</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>								<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		2.50 (C)	8.6		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.80 (E)	2.6		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	10.00 (F)			$(F) \times (E) =$		8 (G)	8.8		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		45 (H)						3.3	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		75% (I)						2.3	
<b>Bank Material Adjustment:</b>									
Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b>		0		
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage		0		
<b>Very Low    Low    Moderate    High    Very High    Extreme</b>					<b>Adjective Rating and Total Score</b>		<b>25.6</b>		
<b>5 – 9.5    10 – 19.5    20 – 29.5    30 – 39.5    40 – 45    46 – 50</b>									
<b>Bank Sketch</b>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>RB 135-275</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
BEHI Score (Fig. 3-7)									
Study Bank Height to Bankfull Height ( C )									
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	6.00 (C)	10.0			
Root Depth to Study Bank Height ( E )									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$	0.17 (E)	7.4			
Weighted Root Density ( G )									
Root Density as % =	5.00 (F)	$(F) \times (E) =$	0.83333 (G)			9.9			
Bank Angle ( H )									
Bank Angle as Degrees =	30 (H)				2.5				
Surface Protection ( I )									
Surface Protection as % =	97% (I)				0.3				
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
Bank Material Adjustment						0			
Stratification Adjustment						0			
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage									
<b>Adjective Rating and Total Score</b>									
Very Low	Low	Moderate	High	Very High	Extreme	30.1			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				
<b>Bank Sketch</b>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																														
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																									
Station: <b>RB 1410-1500</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																									
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																								
BEHI Score (Fig. 3-7)																														
<b>Study Bank Height to Bankfull Height ( C )</b>																														
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	4.00 (C)	10.0																								
<b>Root Depth to Study Bank Height ( E )</b>																														
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$	0.13 (E)	8.0																								
<b>Weighted Root Density ( G )</b>																														
Root Density as % =	5.00 (F)	$(F) \times (E) =$	0.625 (G)			9.9																								
<b>Bank Angle ( H )</b>																														
Bank Angle as Degrees =	30 (H)				2.5																									
<b>Surface Protection ( I )</b>																														
Surface Protection as % =	80% (I)				1.9																									
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																														
<b>Bank Material Adjustment</b>						0																								
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						0																								
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; text-align: center;"><b>Very Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Moderate</b></td> <td style="width: 12.5%; text-align: center;"><b>High</b></td> <td style="width: 12.5%; text-align: center;"><b>Very High</b></td> <td style="width: 12.5%; text-align: center;"><b>Extreme</b></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="4" style="text-align: center; border: 1px solid black; background-color: #e0f0ff; font-weight: bold;">Adjective Rating and Total Score</td> <td style="text-align: center; border: 1px solid black; background-color: #e0f0ff; font-weight: bold;">32.3</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>					5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	Adjective Rating and Total Score				32.3
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>																									
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	Adjective Rating and Total Score				32.3																				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																														

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>RB 1500-1670</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>								BEHI Score (Fig. 3-7)	
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		2.50 (C)	8.6		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.40 (E)	4.9		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)	$(F) \times (E) =$		2 (G)		9.5			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		15 (H)		1.8					
<b>Surface Protection ( I )</b>									
Surface Protection as % =		90% (I)		1.0					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					0				
					<b>Stratification Adjustment</b>				
					0				
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="font-size: 2em;">➔</div> </div>								<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">25.8</div>	
<b>Bank Sketch</b> 									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																														
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																									
Station: <b>RB 1670-1700</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																									
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																								
BEHI Score (Fig. 3-7)																														
<b>Study Bank Height to Bankfull Height ( C )</b>																														
Study Bank Height (ft) =	7.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$	4.67 (C)	10.0																								
<b>Root Depth to Study Bank Height ( E )</b>																														
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	7.00 (A)	$(D) / (A) =$	0.29 (E)	6.0																								
<b>Weighted Root Density ( G )</b>																														
Root Density as % =	10.00 (F)	$(F) \times (E) =$	2.85714 (G)			9.5																								
<b>Bank Angle ( H )</b>																														
Bank Angle as Degrees =	45 (H)				3.3																									
<b>Surface Protection ( I )</b>																														
Surface Protection as % =	90% (I)				1.0																									
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																														
<b>Bank Material Adjustment</b>						0																								
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						0																								
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; text-align: center;"><b>Very Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Moderate</b></td> <td style="width: 12.5%; text-align: center;"><b>High</b></td> <td style="width: 12.5%; text-align: center;"><b>Very High</b></td> <td style="width: 12.5%; text-align: center;"><b>Extreme</b></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> <td style="width: 12.5%;"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="4" style="text-align: center; padding: 5px;"> <b>Adjective Rating and Total Score</b> </td> <td style="text-align: center; background-color: #e0f0ff; font-weight: bold; padding: 5px;">29.8</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>					5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>Adjective Rating and Total Score</b>				29.8
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>																									
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>Adjective Rating and Total Score</b>				29.8																				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																														



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>RB 1700-1875</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
<b>BEHI Score (Fig. 3-7)</b>																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$	1.67 (C)	<b>6.9</b>																			
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$	0.40 (E)	<b>4.9</b>																			
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	10.00 (F)	$(F) \times (E) =$	4 (G)	<b>9.1</b>																					
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =	10 (H)	<b>1.5</b>																							
<b>Surface Protection ( I )</b>																									
Surface Protection as % =	70% (I)	<b>2.8</b>																							
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
<b>Bank Material Adjustment</b>						<b>0</b>																			
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						<b>0</b>																			
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><b>Very Low</b></td> <td style="text-align: center; padding: 5px;"><b>Low</b></td> <td style="text-align: center; padding: 5px;"><b>Moderate</b></td> <td style="text-align: center; padding: 5px;"><b>High</b></td> <td style="text-align: center; padding: 5px;"><b>Very High</b></td> <td style="text-align: center; padding: 5px;"><b>Extreme</b></td> <td colspan="2" style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td colspan="2" style="text-align: center; padding: 5px;"><b>25.2</b></td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>25.2</b>	
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>25.2</b>																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 5px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																								
Station: <b>RB 1875-2025</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																								
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																							
BEHI Score (Fig. 3-7)																													
<b>Study Bank Height to Bankfull Height ( C )</b>																													
Study Bank Height (ft) =	6.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		4.33 (C)	10.0																						
<b>Root Depth to Study Bank Height ( E )</b>																													
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	6.50 (A)	$(D) / (A) =$		0.46 (E)	4.1																						
<b>Weighted Root Density ( G )</b>																													
Root Density as % =	50.00 (F)		$(F) \times (E) =$		23.0769 (G)		6.2																						
<b>Bank Angle ( H )</b>																													
Bank Angle as Degrees =		80 (H)		5.9																									
<b>Surface Protection ( I )</b>																													
Surface Protection as % =		60% (I)		3.5																									
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																													
<b>Bank Material Adjustment</b>							0																						
<b>Stratification Adjustment</b>							0																						
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0																						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;">Very Low</td> <td style="padding: 5px; text-align: center;">Low</td> <td style="padding: 5px; text-align: center;">Moderate</td> <td style="padding: 5px; text-align: center;">High</td> <td style="padding: 5px; text-align: center;">Very High</td> <td style="padding: 5px; text-align: center;">Extreme</td> <td colspan="4" style="padding: 5px; text-align: center;">Adjective Rating and Total Score</td> </tr> <tr> <td style="padding: 5px; text-align: center;">5 – 9.5</td> <td style="padding: 5px; text-align: center;">10 – 19.5</td> <td style="padding: 5px; text-align: center;">20 – 29.5</td> <td style="padding: 5px; text-align: center;">30 – 39.5</td> <td style="padding: 5px; text-align: center;">40 – 45</td> <td style="padding: 5px; text-align: center;">46 – 50</td> <td colspan="4" style="padding: 5px; text-align: center;">29.7</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score				5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	29.7			
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																							
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	29.7																							
<b>Bank Sketch</b> 																													

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>RB 20-100</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
BEHI Score (Fig. 3-7)																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	2.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		4.00 (C)	10.0																		
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	2.00 (A)	$(D) / (A) =$		0.13 (E)	8.1																		
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.625 (G)		9.9																			
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =		30 (H)		2.5																					
<b>Surface Protection ( I )</b>																									
Surface Protection as % =		95% (I)		0.5																					
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
<b>Bank Material Adjustment</b>							0																		
<b>Stratification Adjustment</b>							0																		
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Very Low</td> <td style="padding: 2px;">Low</td> <td style="padding: 2px;">Moderate</td> <td style="padding: 2px;">High</td> <td style="padding: 2px;">Very High</td> <td style="padding: 2px;">Extreme</td> <td colspan="2" style="padding: 2px; text-align: center;">Adjective Rating and Total Score</td> </tr> <tr> <td style="padding: 2px; text-align: center;">5 – 9.5</td> <td style="padding: 2px; text-align: center;">10 – 19.5</td> <td style="padding: 2px; text-align: center;">20 – 29.5</td> <td style="padding: 2px; text-align: center;">30 – 39.5</td> <td style="padding: 2px; text-align: center;">40 – 45</td> <td style="padding: 2px; text-align: center;">46 – 50</td> <td colspan="2" style="padding: 2px; text-align: center;">31.0</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	31.0	
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	31.0																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																								
Station: <b>RB 2025-2085</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																								
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																							
BEHI Score (Fig. 3-7)																													
<b>Study Bank Height to Bankfull Height ( C )</b>																													
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		3.33 (C)	10.0																						
<b>Root Depth to Study Bank Height ( E )</b>																													
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	5.00 (A)	$(D) / (A) =$		0.05 (E)	9.0																						
<b>Weighted Root Density ( G )</b>																													
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.25 (G)		9.9																							
<b>Bank Angle ( H )</b>																													
Bank Angle as Degrees =		80 (H)		5.9																									
<b>Surface Protection ( I )</b>																													
Surface Protection as % =		90% (I)		1.0																									
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																													
<b>Bank Material Adjustment</b>							0																						
<b>Stratification Adjustment</b>							0																						
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0																						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;"><b>Very Low</b></td> <td style="padding: 5px; text-align: center;"><b>Low</b></td> <td style="padding: 5px; text-align: center;"><b>Moderate</b></td> <td style="padding: 5px; text-align: center;"><b>High</b></td> <td style="padding: 5px; text-align: center;"><b>Very High</b></td> <td style="padding: 5px; text-align: center;"><b>Extreme</b></td> <td colspan="4" style="padding: 5px; text-align: center;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="padding: 5px; text-align: center;">5 – 9.5</td> <td style="padding: 5px; text-align: center;">10 – 19.5</td> <td style="padding: 5px; text-align: center;">20 – 29.5</td> <td style="padding: 5px; text-align: center;">30 – 39.5</td> <td style="padding: 5px; text-align: center;">40 – 45</td> <td style="padding: 5px; text-align: center;">46 – 50</td> <td colspan="4" style="padding: 5px; text-align: center;">35.8</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>				5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	35.8			
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																							
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	35.8																							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																													

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>RB 2085-2200</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>								BEHI Score (Fig. 3-7)	
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.50 (B)	( A ) / ( B ) =		2.00 (C)	7.9		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	3.00 (A)	( D ) / ( A ) =		0.33 (E)	5.4		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)			( F ) x ( E ) =		1.66667 (G)	9.9		
<b>Bank Angle ( H )</b>									
		Bank Angle as Degrees =	45 (H)					3.3	
<b>Surface Protection ( I )</b>									
		Surface Protection as % =	80% (I)					1.9	
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					0				
					<b>Stratification Adjustment</b>				
					0				
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <p><b>Very Low    Low    Moderate    High    Very High    Extreme</b></p> <p>5 – 9.5    10 – 19.5    20 – 29.5    30 – 39.5    40 – 45    46 – 50</p> </div> <div style="font-size: 2em;">➔</div> <div style="text-align: center;"> <p><b>Adjective Rating and Total Score</b></p> <p style="font-size: 1.5em;">28.4</p> </div> </div>									
<b>Bank Sketch</b> 									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>RB 2200-2325</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>								<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.00 (C)	7.9		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.08 (E)	8.5		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)			$(F) \times (E) =$		0.41667 (G)	9.9		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		30 (H)						2.5	
<b>Surface Protection ( I )</b>									
Surface Protection as % =		95% (I)						0.2	
<b>Bank Material Adjustment:</b>									
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)								<b>Bank Material Adjustment</b> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">0</div>	
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage								<div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">0</div>	
<div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>								<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">29.0</div>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>RB 2325-2450</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
BEHI Score (Fig. 3-7)																									
Study Bank Height to Bankfull Height ( C )																									
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		1.67 (C)	6.9																		
Root Depth to Study Bank Height ( E )																									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.20 (E)	7.0																		
Weighted Root Density ( G )																									
Root Density as % =	5.00 (F)	$(F) \times (E) =$		1 (G)		9.9																			
Bank Angle ( H )																									
Bank Angle as Degrees =		30 (H)		2.5																					
Surface Protection ( I )																									
Surface Protection as % =		90% (I)		1.0																					
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
Bank Material Adjustment								0																	
Stratification Adjustment								0																	
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Very Low</td> <td style="text-align: center;">Low</td> <td style="text-align: center;">Moderate</td> <td style="text-align: center;">High</td> <td style="text-align: center;">Very High</td> <td style="text-align: center;">Extreme</td> <td colspan="2" style="text-align: center;">Adjective Rating and Total Score</td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="2" style="text-align: center; background-color: #e0f0ff;">27.3</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	27.3	
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	27.3																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																								
Station: <b>RB 2450-2525</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																								
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																							
BEHI Score (Fig. 3-7)																													
<b>Study Bank Height to Bankfull Height ( C )</b>																													
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$	1.67 (C)	6.9																							
<b>Root Depth to Study Bank Height ( E )</b>																													
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$	0.20 (E)	7.0																							
<b>Weighted Root Density ( G )</b>																													
Root Density as % =	5.00 (F)	$(F) \times (E) =$	1 (G)			9.9																							
<b>Bank Angle ( H )</b>																													
Bank Angle as Degrees =	40 (H)				3.0																								
<b>Surface Protection ( I )</b>																													
Surface Protection as % =	80% (I)				1.9																								
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																													
<b>Bank Material Adjustment</b>						0																							
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						0																							
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; text-align: center;"><b>Very Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Moderate</b></td> <td style="width: 12.5%; text-align: center;"><b>High</b></td> <td style="width: 12.5%; text-align: center;"><b>Very High</b></td> <td style="width: 12.5%; text-align: center;"><b>Extreme</b></td> <td colspan="4" style="text-align: right; padding-right: 20px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="4" style="text-align: right; background-color: #e0f0ff; font-weight: bold;">28.7</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>				5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	28.7			
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																							
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	28.7																							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																													



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																																		
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																													
Station: <b>RB 2525-2575</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																													
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																												
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 15%; text-align: center;">4.00 (A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 15%; text-align: center;">1.50 (B)</td> <td style="width: 20%; text-align: center;"><math>(A) / (B) =</math></td> <td style="width: 10%; text-align: center;">2.67 (C)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">8.7</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 15%; text-align: center;">0.25 (D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 15%; text-align: center;">4.00 (A)</td> <td style="width: 20%; text-align: center;"><math>(D) / (A) =</math></td> <td style="width: 10%; text-align: center;">0.06 (E)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">8.6</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 15%; text-align: center;">5.00 (F)</td> <td style="width: 20%; text-align: center;"><math>(F) \times (E) =</math></td> <td style="width: 15%; text-align: center;">0.3125 (G)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">9.9</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Bank Angle ( H )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 15%; text-align: center;">60 (H)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">3.9</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Surface Protection ( I )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 15%; text-align: center;">85% (I)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">1.7</td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Bank Material Adjustment:</b>            Bedrock (Overall Very Low BEHI)            Boulders (Overall Low BEHI)            Cobble (Subtract 10 points if uniform medium to large cobble)            Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)            Sand (Add 10 points)            Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)         </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 45%;"></div> <div style="width: 50%; text-align: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Bank Material Adjustment</b>  <div style="background-color: #e0f0ff; width: 100px; height: 30px; margin: 0 auto;"></div> </div> <div style="border: 1px solid black; padding: 5px;"> <b>Stratification Adjustment</b>            Add 5–10 points, depending on position of unstable layers in relation to bankfull stage  <div style="background-color: #e0f0ff; width: 100px; height: 30px; margin: 0 auto;"></div> </div> </div> </div>										Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$	2.67 (C)	8.7	Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$	0.06 (E)	8.6	Root Density as % =	5.00 (F)	$(F) \times (E) =$	0.3125 (G)	9.9	Bank Angle as Degrees =	60 (H)	3.9	Surface Protection as % =	85% (I)	1.7
Study Bank Height (ft) =	4.00 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$	2.67 (C)	8.7																												
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	4.00 (A)	$(D) / (A) =$	0.06 (E)	8.6																												
Root Density as % =	5.00 (F)	$(F) \times (E) =$	0.3125 (G)	9.9																														
Bank Angle as Degrees =	60 (H)	3.9																																
Surface Protection as % =	85% (I)	1.7																																
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; text-align: center; font-weight: bold;">Very Low</td> <td style="width: 12.5%; text-align: center; font-weight: bold;">Low</td> <td style="width: 12.5%; text-align: center; font-weight: bold;">Moderate</td> <td style="width: 12.5%; text-align: center; font-weight: bold;">High</td> <td style="width: 12.5%; text-align: center; font-weight: bold;">Very High</td> <td style="width: 12.5%; text-align: center; font-weight: bold;">Extreme</td> <td style="width: 25%;"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td style="text-align: center;"> <div style="display: flex; align-items: center;"> <div style="width: 100px; height: 20px; background: linear-gradient(to right, #e0f0ff, #e0f0ff);"></div> <div style="margin: 0 5px;">→</div> </div> </td> </tr> </table> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <div style="width: 60%;"></div> <div style="width: 35%; text-align: center;"> <b>Adjective Rating and Total Score</b>  <div style="background-color: #e0f0ff; width: 100px; height: 30px; margin: 0 auto;"></div> </div> </div>										Very Low	Low	Moderate	High	Very High	Extreme		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<div style="display: flex; align-items: center;"> <div style="width: 100px; height: 20px; background: linear-gradient(to right, #e0f0ff, #e0f0ff);"></div> <div style="margin: 0 5px;">→</div> </div>											
Very Low	Low	Moderate	High	Very High	Extreme																													
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<div style="display: flex; align-items: center;"> <div style="width: 100px; height: 20px; background: linear-gradient(to right, #e0f0ff, #e0f0ff);"></div> <div style="margin: 0 5px;">→</div> </div>																												
<div style="display: flex;"> <div style="flex: 1; border: 1px solid black; padding: 5px; margin-right: 10px;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="flex: 1;"> </div> </div>																																		

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>RB 2575-2675</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		1.67 (C)	6.9		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		0.10 (E)	8.3		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)			$(F) \times (E) =$		0.5 (G)	9.9		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		30 (H)					2.5		
<b>Surface Protection ( I )</b>									
Surface Protection as % =		95% (I)					0.5		
<b>Bank Material Adjustment:</b>									
Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									
<b>Bank Material Adjustment</b>								0	
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage								0	
<b>Adjective Rating and Total Score</b>									
Very Low	Low	Moderate	High	Very High	Extreme				
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50				
						28.1			
<b>Bank Sketch</b>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)							
Stream: <b>Oak Glen</b>				Location: <b>Cincinnati, OH</b>			
Station: <b>RB 2675-2750</b>				Observers: <b>Neil M./Joe G./Marcus F.</b>			
Date: <b>12/6/18-12/7/18</b>		Stream Type: <b>#REF!</b>		Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>							<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	1.50 (B)	( A ) / ( B ) =		3.33 (C)	9.9
<b>Root Depth to Study Bank Height ( E )</b>							
Root Depth (ft) =	0.25 (D)	Study Bank Height (ft) =	5.00 (A)	( D ) / ( A ) =		0.05 (E)	8.9
<b>Weighted Root Density ( G )</b>							
Root Density as % =	5.00 (F)	( F ) x ( E ) =				0.25 (G)	9.9
<b>Bank Angle ( H )</b>							
Bank Angle as Degrees =		85 (H)				7.0	
<b>Surface Protection ( I )</b>							
Surface Protection as % =		95% (I)				0.5	
<b>Bank Material Adjustment:</b>							
Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)							<b>Bank Material Adjustment</b> 0
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0
<b>Adjective Rating and Total Score</b>							
Very Low	Low	Moderate	High	Very High	Extreme		
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50		
						<b>Adjective Rating and Total Score</b>	36.2
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>RB 2750-2850 *DID NOT SURVEY</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)																
Study Bank Height (ft) =	(A)	Bankfull Height (ft) =	(B)	( A ) / ( B ) =		(C)	0.0																		
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	(D)	Study Bank Height (ft) =	(A)	( D ) / ( A ) =		(E)	0.0																		
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	(F)	( F ) x ( E ) =		(G)	0.0																				
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =		(H)		0.0																					
<b>Surface Protection ( I )</b>																									
Surface Protection as % =		(I)		0.0																					
<b>Bank Material Adjustment:</b>																									
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
								<b>Bank Material Adjustment</b>	0																
								<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage	0																
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 5px;"><b>Very Low</b></td> <td style="padding: 5px;"><b>Low</b></td> <td style="padding: 5px;"><b>Moderate</b></td> <td style="padding: 5px;"><b>High</b></td> <td style="padding: 5px;"><b>Very High</b></td> <td style="padding: 5px;"><b>Extreme</b></td> <td colspan="2" style="padding: 5px; text-align: left;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="padding: 5px;">5 – 9.5</td> <td style="padding: 5px;">10 – 19.5</td> <td style="padding: 5px;">20 – 29.5</td> <td style="padding: 5px;">30 – 39.5</td> <td style="padding: 5px;">40 – 45</td> <td style="padding: 5px;">46 – 50</td> <td colspan="2" style="padding: 5px; text-align: center;">0.0</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	0.0	
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	0.0																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)							
Stream: <b>Oak Glen</b>				Location: <b>Cincinnati, OH</b>			
Station: <b>RB 275-350</b>				Observers: <b>Neil M./Joe G./Marcus F.</b>			
Date: <b>12/6/18-12/7/18</b>		Stream Type: <b>#REF!</b>		Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>							<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	4.50 (A)	Bankfull Height (ft) =	0.50 (B)	( A ) / ( B ) =		9.00 (C)	10.0
<b>Root Depth to Study Bank Height ( E )</b>							
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	4.50 (A)	( D ) / ( A ) =		0.11 (E)	8.2
<b>Weighted Root Density ( G )</b>							
Root Density as % =	5.00 (F)	( F ) x ( E ) =				0.55556 (G)	9.9
<b>Bank Angle ( H )</b>							
Bank Angle as Degrees =		80 (H)					5.9
<b>Surface Protection ( I )</b>							
Surface Protection as % =		80% (I)					1.9
<b>Bank Material Adjustment:</b>							
Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)							<b>Bank Material Adjustment</b> 0
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50           </div> <div style="flex-grow: 1; text-align: center;"> </div> <div style="text-align: center; margin-left: 20px;"> <b>Adjective Rating and Total Score</b> 35.9           </div> </div>							
<div style="display: flex;"> <div style="flex: 1;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="flex: 1;"> </div> </div>							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																								
Station: <b>RB 350-500</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																								
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																							
BEHI Score (Fig. 3-7)																													
<b>Study Bank Height to Bankfull Height ( C )</b>																													
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$		6.00 (C)	10.0																						
<b>Root Depth to Study Bank Height ( E )</b>																													
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.17 (E)	7.4																						
<b>Weighted Root Density ( G )</b>																													
Root Density as % =	5.00 (F)	$(F) \times (E) =$				0.83333 (G)	9.9																						
<b>Bank Angle ( H )</b>																													
Bank Angle as Degrees =		45 (H)		3.3																									
<b>Surface Protection ( I )</b>																													
Surface Protection as % =		90% (I)		1.0																									
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																													
<b>Bank Material Adjustment</b>							0																						
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0																						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 12.5%;">Very Low</td> <td style="text-align: center; width: 12.5%;">Low</td> <td style="text-align: center; width: 12.5%;">Moderate</td> <td style="text-align: center; width: 12.5%;">High</td> <td style="text-align: center; width: 12.5%;">Very High</td> <td style="text-align: center; width: 12.5%;">Extreme</td> <td colspan="4" style="text-align: right; padding-right: 20px;">Adjective Rating and Total Score</td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="4" style="text-align: right; background-color: #e0f0ff;">31.6</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score				5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	31.6			
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																							
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	31.6																							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																													



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																								
Station: <b>RB 500-610</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																								
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																							
BEHI Score (Fig. 3-7)																													
<b>Study Bank Height to Bankfull Height ( C )</b>																													
Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	7.00 (C)	10.0																							
<b>Root Depth to Study Bank Height ( E )</b>																													
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$	0.29 (E)	5.9																							
<b>Weighted Root Density ( G )</b>																													
Root Density as % =	15.00 (F)	$(F) \times (E) =$	4.28571 (G)			9.3																							
<b>Bank Angle ( H )</b>																													
Bank Angle as Degrees =	60 (H)				3.9																								
<b>Surface Protection ( I )</b>																													
Surface Protection as % =	80% (I)				1.9																								
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																													
<b>Bank Material Adjustment</b>						0																							
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						0																							
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; text-align: center;"><b>Very Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Low</b></td> <td style="width: 12.5%; text-align: center;"><b>Moderate</b></td> <td style="width: 12.5%; text-align: center;"><b>High</b></td> <td style="width: 12.5%; text-align: center;"><b>Very High</b></td> <td style="width: 12.5%; text-align: center;"><b>Extreme</b></td> <td colspan="4" style="text-align: right; padding-right: 10px;"> <b>Adjective Rating and Total Score</b> </td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td colspan="4" style="text-align: right; border: 1px solid black; background-color: #e0f0ff; font-weight: bold;">31.0</td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>				5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	31.0			
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																							
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	31.0																							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																													



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)							
Stream: <b>Oak Glen</b>				Location: <b>Cincinnati, OH</b>			
Station: <b>RB 610-700</b>				Observers: <b>Neil M./Joe G./Marcus F.</b>			
Date: <b>12/6/18-12/7/18</b>		Stream Type: <b>#REF!</b>		Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>							<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	4.50 (A)	Bankfull Height (ft) =	0.50 (B)	( A ) / ( B ) =		9.00 (C)	10.0
<b>Root Depth to Study Bank Height ( E )</b>							
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	4.50 (A)	( D ) / ( A ) =		0.11 (E)	8.2
<b>Weighted Root Density ( G )</b>							
Root Density as % =	10.00 (F)	( F ) x ( E ) =				1.11111 (G)	9.0
<b>Bank Angle ( H )</b>							
Bank Angle as Degrees =	60 (H)					3.9	
<b>Surface Protection ( I )</b>							
Surface Protection as % =	50% (I)					4.2	
<b>Bank Material Adjustment:</b>							
Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)							<b>Bank Material Adjustment</b> 0
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage							0
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="display: flex; gap: 10px;"> <div>Very Low</div> <div>Low</div> <div>Moderate</div> <div>High</div> <div>Very High</div> <div>Extreme</div> </div> <div style="text-align: right;"> <b>Adjective Rating and Total Score</b> </div> </div>							
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="display: flex; gap: 10px;"> <div>5 – 9.5</div> <div>10 – 19.5</div> <div>20 – 29.5</div> <div>30 – 39.5</div> <div>40 – 45</div> <div>46 – 50</div> </div> <div style="text-align: right;"> <b>35.3</b> </div> </div>							
<div style="display: flex;"> <div style="flex: 1;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="flex: 1;"> </div> </div>							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																																		
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>																													
Station: <b>RB 700-875</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>																													
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																												
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 15%; text-align: center;">8.00 (A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 15%; text-align: center;">0.50 (B)</td> <td style="width: 20%; text-align: center;"><math>(A) / (B) =</math></td> <td style="width: 10%; text-align: center;">16.00 (C)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">10.0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 15%; text-align: center;">0.50 (D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 15%; text-align: center;">8.00 (A)</td> <td style="width: 20%; text-align: center;"><math>(D) / (A) =</math></td> <td style="width: 10%; text-align: center;">0.06 (E)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">8.7</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 15%; text-align: center;">10.00 (F)</td> <td style="width: 20%; text-align: center;"><math>(F) \times (E) =</math></td> <td style="width: 15%; text-align: center;">0.625 (G)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">9.9</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Bank Angle ( H )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 15%; text-align: center;">85 (H)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">6.5</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Surface Protection ( I )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 15%; text-align: center;">50% (I)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">4.2</td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Bank Material Adjustment:</b>            Bedrock (Overall Very Low BEHI)            Boulders (Overall Low BEHI)            Cobble (Subtract 10 points if uniform medium to large cobble)            Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)            Sand (Add 10 points)            Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)         </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 60%;"></div> <div style="width: 35%; text-align: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Bank Material Adjustment</b>  <div style="background-color: #e0f0ff; font-weight: bold; padding: 5px; width: 100px; margin: 0 auto;">0</div> </div> <div style="border: 1px solid black; padding: 5px;"> <b>Stratification Adjustment</b>            Add 5–10 points, depending on position of unstable layers in relation to bankfull stage  <div style="background-color: #e0f0ff; font-weight: bold; padding: 5px; width: 100px; margin: 0 auto;">0</div> </div> </div> </div>										Study Bank Height (ft) =	8.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	16.00 (C)	10.0	Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	8.00 (A)	$(D) / (A) =$	0.06 (E)	8.7	Root Density as % =	10.00 (F)	$(F) \times (E) =$	0.625 (G)	9.9	Bank Angle as Degrees =	85 (H)	6.5	Surface Protection as % =	50% (I)	4.2
Study Bank Height (ft) =	8.00 (A)	Bankfull Height (ft) =	0.50 (B)	$(A) / (B) =$	16.00 (C)	10.0																												
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	8.00 (A)	$(D) / (A) =$	0.06 (E)	8.7																												
Root Density as % =	10.00 (F)	$(F) \times (E) =$	0.625 (G)	9.9																														
Bank Angle as Degrees =	85 (H)	6.5																																
Surface Protection as % =	50% (I)	4.2																																
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; text-align: center; font-weight: bold;">Very Low</td> <td style="width: 12.5%; text-align: center; font-weight: bold;">Low</td> <td style="width: 12.5%; text-align: center; font-weight: bold;">Moderate</td> <td style="width: 12.5%; text-align: center; font-weight: bold;">High</td> <td style="width: 12.5%; text-align: center; font-weight: bold;">Very High</td> <td style="width: 12.5%; text-align: center; font-weight: bold;">Extreme</td> <td style="width: 25%;"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td style="text-align: center;"> <div style="display: flex; align-items: center;"> <div style="flex-grow: 1; border-bottom: 2px solid blue; position: relative; margin-bottom: 5px;"> <span style="position: absolute; right: -10px; top: -5px; font-size: 2em;">➔</span> </div> <div style="text-align: right; margin-right: 5px;"> <b>Adjective Rating and Total Score</b> </div> </div> <div style="background-color: #e0f0ff; font-weight: bold; padding: 5px; width: 100px; margin: 0 auto;">39.3</div> </td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<div style="display: flex; align-items: center;"> <div style="flex-grow: 1; border-bottom: 2px solid blue; position: relative; margin-bottom: 5px;"> <span style="position: absolute; right: -10px; top: -5px; font-size: 2em;">➔</span> </div> <div style="text-align: right; margin-right: 5px;"> <b>Adjective Rating and Total Score</b> </div> </div> <div style="background-color: #e0f0ff; font-weight: bold; padding: 5px; width: 100px; margin: 0 auto;">39.3</div>											
Very Low	Low	Moderate	High	Very High	Extreme																													
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<div style="display: flex; align-items: center;"> <div style="flex-grow: 1; border-bottom: 2px solid blue; position: relative; margin-bottom: 5px;"> <span style="position: absolute; right: -10px; top: -5px; font-size: 2em;">➔</span> </div> <div style="text-align: right; margin-right: 5px;"> <b>Adjective Rating and Total Score</b> </div> </div> <div style="background-color: #e0f0ff; font-weight: bold; padding: 5px; width: 100px; margin: 0 auto;">39.3</div>																												
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="width: 50%;"> </div> </div>																																		

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)													
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>								
Station: <b>RB 875-950</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>								
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>							
<b>Study Bank Height to Bankfull Height ( C )</b>								<b>BEHI Score (Fig. 3-7)</b>					
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	0.50 (B)	( A ) / ( B ) =		10.00 (C)	10.0						
<b>Root Depth to Study Bank Height ( E )</b>													
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	5.00 (A)	( D ) / ( A ) =		0.20 (E)	7.0						
<b>Weighted Root Density ( G )</b>													
Root Density as % =	50.00 (F)	( F ) x ( E ) =		10 (G)		8.4							
<b>Bank Angle ( H )</b>													
Bank Angle as Degrees =		80 (H)		5.9									
<b>Surface Protection ( I )</b>													
Surface Protection as % =		50% (I)		4.2									
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>								
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					0								
					<b>Stratification Adjustment</b>								
					0								
<b>Very Low    Low    Moderate    High    Very High    Extreme</b> <div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 100%; height: 20px; background: linear-gradient(to right, #e0f0ff, #e0f0ff, #e0f0ff, #e0f0ff, #e0f0ff, #e0f0ff);"></div> </div>								<b>Adjective Rating and Total Score</b>					
5 – 9.5		10 – 19.5		20 – 29.5		30 – 39.5		40 – 45		46 – 50		35.5	
<b>Bank Sketch</b> 													

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>RB 950-1300</b>					Observers: <b>Neil M./Joe G./Marcus F.</b>				
Date: <b>12/6/18-12/7/18</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
<b>Study Bank Height to Bankfull Height ( C )</b>								<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	4.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		4.50 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	4.50 (A)	$(D) / (A) =$		0.11 (E)	8.3		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	5.00 (F)	$(F) \times (E) =$		0.55556 (G)		9.9			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	30 (H)			$(H) =$		2.5			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	90% (I)			$(I) =$		1.0			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					0				
<b>Stratification Adjustment</b>					<b>Stratification Adjustment</b>				
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					0				
<b>Very Low</b> <b>Low</b> <b>Moderate</b> <b>High</b> <b>Very High</b> <b>Extreme</b>								<b>Adjective Rating and Total Score</b>	
5 – 9.5   10 – 19.5   20 – 29.5   30 – 39.5   40 – 45   46 – 50								31.7	
<b>Bank Sketch</b>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																							
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																		
Station: <b>LDB 0-90</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																		
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																	
<b>BEHI Score (Fig. 3-7)</b>																							
<b>Study Bank Height to Bankfull Height ( C )</b>																							
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	2.50 (C)	<b>8.6</b>																	
<b>Root Depth to Study Bank Height ( E )</b>																							
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$	0.20 (E)	<b>7.1</b>																	
<b>Weighted Root Density ( G )</b>																							
Root Density as % =	4.00 (F)	$(F) \times (E) =$	0.8 (G)	<b>9.9</b>																			
<b>Bank Angle ( H )</b>																							
Bank Angle as Degrees =	45 (H)	<b>3.1</b>																					
<b>Surface Protection ( I )</b>																							
Surface Protection as % =	80% (I)	<b>1.9</b>																					
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																							
<b>Bank Material Adjustment</b>						<b>0</b>																	
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						<b>0</b>																	
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><b>Very Low</b></td> <td style="text-align: center; padding: 5px;"><b>Low</b></td> <td style="text-align: center; padding: 5px;"><b>Moderate</b></td> <td style="text-align: center; padding: 5px;"><b>High</b></td> <td style="text-align: center; padding: 5px;"><b>Very High</b></td> <td style="text-align: center; padding: 5px;"><b>Extreme</b></td> <td style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td style="text-align: center; padding: 5px;"><b>30.6</b></td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>30.6</b>
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>30.6</b>																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>																							

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																																																			
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																																																														
Station: <b>LDB 130-225</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																																														
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																																													
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">4.00</td> <td style="width: 10%;">(A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 10%; text-align: center;">1.00</td> <td style="width: 10%;">(B)</td> <td style="width: 20%;">( A ) / ( B ) =</td> <td style="width: 10%; text-align: center;">4.00</td> <td style="width: 10%;">(C)</td> <td style="width: 10%; text-align: center;">10.0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 10%; text-align: center;">4.00</td> <td style="width: 10%;">(D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">4.00</td> <td style="width: 10%;">(A)</td> <td style="width: 20%;">( D ) / ( A ) =</td> <td style="width: 10%; text-align: center;">1.00</td> <td style="width: 10%;">(E)</td> <td style="width: 10%; text-align: center;">0.0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 10%; text-align: center;">45.00</td> <td style="width: 10%;">(F)</td> <td style="width: 20%;">( F ) x ( E ) =</td> <td style="width: 10%; text-align: center;">45</td> <td style="width: 10%;">(G)</td> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;">4.8</td> <td style="width: 10%;"></td> </tr> </table> <div style="text-align: center; font-weight: bold;">Bank Angle ( H )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 10%; text-align: center;">80</td> <td style="width: 10%;">(H)</td> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;">5.8</td> <td style="width: 10%;"></td> </tr> </table> <div style="text-align: center; font-weight: bold;">Surface Protection ( I )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 10%; text-align: center;">50%</td> <td style="width: 10%;">(I)</td> <td style="width: 20%;"></td> <td style="width: 10%; text-align: center;">4.4</td> <td style="width: 10%;"></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Bank Material Adjustment:</b>  <b>Bedrock</b> (Overall Very Low BEHI)  <b>Boulders</b> (Overall Low BEHI)  <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)  <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)  <b>Sand</b> (Add 10 points)  <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)         </div> <div style="text-align: center; font-weight: bold;">Bank Material Adjustment</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 80%;"></td> <td style="width: 20%; text-align: center;">0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Stratification Adjustment</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 80%;">Add 5–10 points, depending on position of unstable layers in relation to bankfull stage</td> <td style="width: 20%; text-align: center;">0</td> </tr> </table> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <table border="1" style="width: 60%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 12.5%;">Very Low</td> <td style="width: 12.5%;">Low</td> <td style="width: 12.5%;">Moderate</td> <td style="width: 12.5%;">High</td> <td style="width: 12.5%;">Very High</td> <td style="width: 12.5%;">Extreme</td> </tr> <tr> <td>5 – 9.5</td> <td>10 – 19.5</td> <td>20 – 29.5</td> <td>30 – 39.5</td> <td>40 – 45</td> <td>46 – 50</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Adjective Rating and Total Score</div> <table border="1" style="width: 20%; border-collapse: collapse; text-align: center;"> <tr> <td style="height: 40px; vertical-align: middle;">25.0</td> </tr> </table> </div>										Study Bank Height (ft) =	4.00	(A)	Bankfull Height (ft) =	1.00	(B)	( A ) / ( B ) =	4.00	(C)	10.0	Root Depth (ft) =	4.00	(D)	Study Bank Height (ft) =	4.00	(A)	( D ) / ( A ) =	1.00	(E)	0.0	Root Density as % =	45.00	(F)	( F ) x ( E ) =	45	(G)		4.8		Bank Angle as Degrees =	80	(H)		5.8		Surface Protection as % =	50%	(I)		4.4			0	Add 5–10 points, depending on position of unstable layers in relation to bankfull stage	0	Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	25.0
Study Bank Height (ft) =	4.00	(A)	Bankfull Height (ft) =	1.00	(B)	( A ) / ( B ) =	4.00	(C)	10.0																																																										
Root Depth (ft) =	4.00	(D)	Study Bank Height (ft) =	4.00	(A)	( D ) / ( A ) =	1.00	(E)	0.0																																																										
Root Density as % =	45.00	(F)	( F ) x ( E ) =	45	(G)		4.8																																																												
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<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="width: 50%;"> </div> </div>																																																																			



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																							
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																		
Station: <b>LDB 225-330</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																		
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																	
<b>BEHI Score (Fig. 3-7)</b>																							
<b>Study Bank Height to Bankfull Height ( C )</b>																							
Study Bank Height (ft) =	1.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	1.00 (C)	<b>1.0</b>																	
<b>Root Depth to Study Bank Height ( E )</b>																							
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	1.00 (A)	$(D) / (A) =$	0.50 (E)	<b>3.8</b>																	
<b>Weighted Root Density ( G )</b>																							
Root Density as % =	4.00 (F)	$(F) \times (E) =$	2 (G)	<b>9.8</b>																			
<b>Bank Angle ( H )</b>																							
Bank Angle as Degrees =	15 (H)	<b>1.7</b>																					
<b>Surface Protection ( I )</b>																							
Surface Protection as % =	85% (I)	<b>1.4</b>																					
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																							
<b>Bank Material Adjustment</b>						<b>0</b>																	
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						<b>0</b>																	
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;">Very Low</td> <td style="text-align: center; padding: 5px;">Low</td> <td style="text-align: center; padding: 5px;">Moderate</td> <td style="text-align: center; padding: 5px;">High</td> <td style="text-align: center; padding: 5px;">Very High</td> <td style="text-align: center; padding: 5px;">Extreme</td> <td style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td style="text-align: center; padding: 5px;"><b>17.7</b></td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>17.7</b>
Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>17.7</b>																	
<b>Bank Sketch</b> 																							



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																																		
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																													
Station: <b>LDB 330-480</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																													
Date: <b>12/76/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																												
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 15%; text-align: center;">15.00 (A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 15%; text-align: center;">1.00 (B)</td> <td style="width: 20%; text-align: center;"><math>(A) / (B) =</math></td> <td style="width: 10%; text-align: center;">15.00 (C)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">10.0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 15%; text-align: center;">6.00 (D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 15%; text-align: center;">15.00 (A)</td> <td style="width: 20%; text-align: center;"><math>(D) / (A) =</math></td> <td style="width: 10%; text-align: center;">0.40 (E)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">4.8</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 15%; text-align: center;">40.00 (F)</td> <td style="width: 20%; text-align: center;"><math>(F) \times (E) =</math></td> <td style="width: 15%; text-align: center;">16 (G)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">8.1</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Bank Angle ( H )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 15%; text-align: center;">85 (H)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">6.3</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Surface Protection ( I )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 15%; text-align: center;">50% (I)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">4.3</td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Bank Material Adjustment:</b>            Bedrock (Overall Very Low BEHI)            Boulders (Overall Low BEHI)            Cobble (Subtract 10 points if uniform medium to large cobble)            Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)            Sand (Add 10 points)            Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)         </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 45%;"></div> <div style="width: 50%; text-align: center;"> <div style="font-weight: bold;">Bank Material Adjustment</div> <div style="background-color: #e0f0ff; padding: 5px; font-size: 24px; font-weight: bold;">0</div> </div> </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 45%;"></div> <div style="width: 50%; text-align: center;"> <div style="font-weight: bold;">Stratification Adjustment</div> <div style="font-size: 10px;">Add 5–10 points, depending on position of unstable layers in relation to bankfull stage</div> <div style="background-color: #e0f0ff; padding: 5px; font-size: 24px; font-weight: bold;">0</div> </div> </div>										Study Bank Height (ft) =	15.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	15.00 (C)	10.0	Root Depth (ft) =	6.00 (D)	Study Bank Height (ft) =	15.00 (A)	$(D) / (A) =$	0.40 (E)	4.8	Root Density as % =	40.00 (F)	$(F) \times (E) =$	16 (G)	8.1	Bank Angle as Degrees =	85 (H)	6.3	Surface Protection as % =	50% (I)	4.3
Study Bank Height (ft) =	15.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	15.00 (C)	10.0																												
Root Depth (ft) =	6.00 (D)	Study Bank Height (ft) =	15.00 (A)	$(D) / (A) =$	0.40 (E)	4.8																												
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Bank Erosion Hazard Index (BEHI)																																		
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																													
Station: <b>LDB 480-620</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																													
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																												
<div style="text-align: right; font-weight: bold; margin-bottom: 5px;">BEHI Score (Fig. 3-7)</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> <p style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">5.00 (A)</td> <td style="padding: 5px;">Bankfull Height (ft) =</td> <td style="text-align: center; padding: 5px;">1.00 (B)</td> <td style="padding: 5px;"><math>(A) / (B) =</math></td> <td style="text-align: center; padding: 5px;">5.00 (C)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Depth (ft) =</td> <td style="text-align: center; padding: 5px;">4.00 (D)</td> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">5.00 (A)</td> <td style="padding: 5px;"><math>(D) / (A) =</math></td> <td style="text-align: center; padding: 5px;">0.80 (E)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Density as % =</td> <td style="text-align: center; padding: 5px;">15.00 (F)</td> <td style="padding: 5px;"><math>(F) \times (E) =</math></td> <td style="text-align: center; padding: 5px;">12 (G)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Bank Angle ( H )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Bank Angle as Degrees =</td> <td style="text-align: center; padding: 5px;">80 (H)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Surface Protection ( I )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Surface Protection as % =</td> <td style="text-align: center; padding: 5px;">80% (I)</td> </tr> </table> </div> <div style="width: 15%; text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 5px;">10.0</td></tr> <tr><td style="padding: 5px;">2.6</td></tr> <tr><td style="padding: 5px;">8.0</td></tr> <tr><td style="padding: 5px;">5.7</td></tr> <tr><td style="padding: 5px;">1.9</td></tr> </table> </div> </div>										Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	5.00 (C)	Root Depth (ft) =	4.00 (D)	Study Bank Height (ft) =	5.00 (A)	$(D) / (A) =$	0.80 (E)	Root Density as % =	15.00 (F)	$(F) \times (E) =$	12 (G)	Bank Angle as Degrees =	80 (H)	Surface Protection as % =	80% (I)	10.0	2.6	8.0	5.7	1.9
Study Bank Height (ft) =	5.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	5.00 (C)																													
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<div style="display: flex;"> <div style="width: 60%; border: 1px solid black; padding: 5px;"> <p><b>Bank Material Adjustment:</b></p> <p><b>Bedrock</b> (Overall Very Low BEHI)</p> <p><b>Boulders</b> (Overall Low BEHI)</p> <p><b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)</p> <p><b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)</p> <p><b>Sand</b> (Add 10 points)</p> <p><b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)</p> </div> <div style="width: 40%; border: 1px solid black; padding: 5px; margin-left: 10px;"> <p style="text-align: center; font-weight: bold;">Bank Material Adjustment</p> <p style="text-align: center; font-size: 24px; font-weight: bold;">0</p> <hr/> <p style="text-align: center; font-weight: bold;">Stratification Adjustment</p> <p style="text-align: center; font-size: 24px; font-weight: bold;">0</p> </div> </div>																																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;">Very Low</td> <td style="padding: 5px; text-align: center;">Low</td> <td style="padding: 5px; text-align: center;">Moderate</td> <td style="padding: 5px; text-align: center;">High</td> <td style="padding: 5px; text-align: center;">Very High</td> <td style="padding: 5px; text-align: center;">Extreme</td> <td style="padding: 5px; text-align: center;">Adjective Rating and Total Score</td> </tr> <tr> <td style="padding: 5px; text-align: center;">5 – 9.5</td> <td style="padding: 5px; text-align: center;">10 – 19.5</td> <td style="padding: 5px; text-align: center;">20 – 29.5</td> <td style="padding: 5px; text-align: center;">30 – 39.5</td> <td style="padding: 5px; text-align: center;">40 – 45</td> <td style="padding: 5px; text-align: center;">46 – 50</td> <td style="padding: 5px; text-align: center; font-size: 24px; font-weight: bold;">28.2</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	28.2											
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																												
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	28.2																												
<div style="display: flex;"> <div style="width: 45%; border: 1px solid black; padding: 5px;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="width: 55%; border: 1px solid black; padding: 5px;"> </div> </div>																																		

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																		
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																													
Station: <b>LDB 620-710</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																													
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																												
<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">BEHI Score (Fig. 3-7)</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> <p style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">3.50 (A)</td> <td style="padding: 5px;">Bankfull Height (ft) =</td> <td style="text-align: center; padding: 5px;">1.00 (B)</td> <td style="padding: 5px;"><math>(A) / (B) =</math></td> <td style="text-align: center; padding: 5px;">3.50 (C)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Depth (ft) =</td> <td style="text-align: center; padding: 5px;">1.50 (D)</td> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">3.50 (A)</td> <td style="padding: 5px;"><math>(D) / (A) =</math></td> <td style="text-align: center; padding: 5px;">0.43 (E)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Density as % =</td> <td style="text-align: center; padding: 5px;">10.00 (F)</td> <td style="padding: 5px;"><math>(F) \times (E) =</math></td> <td style="text-align: center; padding: 5px;">4.28571 (G)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Bank Angle ( H )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Bank Angle as Degrees =</td> <td style="text-align: center; padding: 5px;">85 (H)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Surface Protection ( I )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Surface Protection as % =</td> <td style="text-align: center; padding: 5px;">75% (I)</td> </tr> </table> </div> <div style="width: 15%; text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 5px;">10.0</td></tr> <tr><td style="padding: 5px;">4.2</td></tr> <tr><td style="padding: 5px;">9.1</td></tr> <tr><td style="padding: 5px;">6.3</td></tr> <tr><td style="padding: 5px;">2.3</td></tr> </table> </div> </div>										Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	3.50 (C)	Root Depth (ft) =	1.50 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$	0.43 (E)	Root Density as % =	10.00 (F)	$(F) \times (E) =$	4.28571 (G)	Bank Angle as Degrees =	85 (H)	Surface Protection as % =	75% (I)	10.0	4.2	9.1	6.3	2.3
Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	3.50 (C)																													
Root Depth (ft) =	1.50 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$	0.43 (E)																													
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6.3																																		
2.3																																		
<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p><b>Bank Material Adjustment:</b></p> <p><b>Bedrock</b> (Overall Very Low BEHI)</p> <p><b>Boulders</b> (Overall Low BEHI)</p> <p><b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)</p> <p><b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)</p> <p><b>Sand</b> (Add 10 points)</p> <p><b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)</p> </div> <div style="width: 35%; text-align: center;"> <p><b>Bank Material Adjustment</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 5px;">0</td></tr> </table> <p><b>Stratification Adjustment</b></p> <p>Add 5–10 points, depending on position of unstable layers in relation to bankfull stage</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 5px;">0</td></tr> </table> </div> </div>										0	0																							
0																																		
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Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																												
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<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="width: 50%;"> </div> </div>																																		

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																		
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																													
Station: <b>LDB 710-825</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																													
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																												
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="margin-bottom: 10px;"> <b>Study Bank Height to Bankfull Height ( C )</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%;">1.00 (A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 10%;">1.00 (B)</td> <td style="width: 20%;"><math>(A) / (B) =</math></td> <td style="width: 10%;">1.00 (C)</td> <td style="width: 10%; font-size: 1.2em;">1.0</td> </tr> </table> </div> <div> <b>Root Depth to Study Bank Height ( E )</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 10%;">0.00 (D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%;">1.00 (A)</td> <td style="width: 20%;"><math>(D) / (A) =</math></td> <td style="width: 10%;">0.00 (E)</td> <td style="width: 10%; font-size: 1.2em;">10.0</td> </tr> </table> </div> <div style="margin-bottom: 10px;"> <b>Weighted Root Density ( G )</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 10%;">0.00 (F)</td> <td style="width: 20%;"><math>(F) \times (E) =</math></td> <td style="width: 10%;">0 (G)</td> <td style="width: 10%; font-size: 1.2em;">10.0</td> </tr> </table> </div> <div style="margin-bottom: 10px;"> <b>Bank Angle ( H )</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 10%;">15 (H)</td> <td style="width: 10%; font-size: 1.2em;">1.7</td> </tr> </table> </div> <div> <b>Surface Protection ( I )</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 10%;">98% (I)</td> <td style="width: 10%; font-size: 1.2em;">0.2</td> </tr> </table> </div>										Study Bank Height (ft) =	1.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	1.00 (C)	1.0	Root Depth (ft) =	0.00 (D)	Study Bank Height (ft) =	1.00 (A)	$(D) / (A) =$	0.00 (E)	10.0	Root Density as % =	0.00 (F)	$(F) \times (E) =$	0 (G)	10.0	Bank Angle as Degrees =	15 (H)	1.7	Surface Protection as % =	98% (I)	0.2
Study Bank Height (ft) =	1.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	1.00 (C)	1.0																												
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<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">0</div>																													
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">0</div>																													
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">22.9</div>																												
<b>Bank Sketch</b> 																																		

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																		
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																													
Station: <b>LDB 90-130</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																													
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																												
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 15%; text-align: center;">10.00 (A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 15%; text-align: center;">1.00 (B)</td> <td style="width: 20%; text-align: center;"><math>(A) / (B) =</math></td> <td style="width: 10%; text-align: center;">10.00 (C)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">10.0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 15%; text-align: center;">6.00 (D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 15%; text-align: center;">10.00 (A)</td> <td style="width: 20%; text-align: center;"><math>(D) / (A) =</math></td> <td style="width: 10%; text-align: center;">0.60 (E)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">3.5</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 15%; text-align: center;">35.00 (F)</td> <td style="width: 20%; text-align: center;"><math>(F) \times (E) =</math></td> <td style="width: 15%; text-align: center;">21 (G)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">7.0</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Bank Angle ( H )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 15%; text-align: center;">85 (H)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">6.8</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Surface Protection ( I )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 15%; text-align: center;">75% (I)</td> <td style="width: 10%; text-align: center; background-color: #e0f0ff;">2.3</td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Bank Material Adjustment:</b>  <b>Bedrock</b> (Overall Very Low BEHI)  <b>Boulders</b> (Overall Low BEHI)  <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)  <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)  <b>Sand</b> (Add 10 points)  <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)         </div> <div style="text-align: right; margin-right: 50px;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;">Bank Material Adjustment</div> <div style="background-color: #e0f0ff; width: 40px; text-align: center; margin-left: 5px;">0</div> </div> <div style="text-align: right;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;">Stratification Adjustment</div> <div style="margin-left: 5px;">Add 5–10 points, depending on position of unstable layers in relation to bankfull stage</div> <div style="background-color: #e0f0ff; width: 40px; text-align: center; margin-left: 5px;">0</div> </div>										Study Bank Height (ft) =	10.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	10.00 (C)	10.0	Root Depth (ft) =	6.00 (D)	Study Bank Height (ft) =	10.00 (A)	$(D) / (A) =$	0.60 (E)	3.5	Root Density as % =	35.00 (F)	$(F) \times (E) =$	21 (G)	7.0	Bank Angle as Degrees =	85 (H)	6.8	Surface Protection as % =	75% (I)	2.3
Study Bank Height (ft) =	10.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	10.00 (C)	10.0																												
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<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50             </div> <div style="font-size: 2em; color: #00a0e3; margin: 0 10px;">➔</div> <div style="text-align: center;"> <b>Adjective Rating and Total Score</b>  <div style="background-color: #e0f0ff; width: 60px; text-align: center; padding: 5px;">29.6</div> </div> </div>																																		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="width: 50%;"> </div> </div>																																		

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>																																												
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																																							
Station: <b>RDB 0-90</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																							
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																						
<div style="text-align: right; font-weight: bold; margin-bottom: 5px;">BEHI Score (Fig. 3-7)</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> <p style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">3.00</td> <td style="width: 10%;">(A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 10%; text-align: center;">1.00</td> <td style="width: 10%;">(B)</td> <td style="width: 20%; text-align: center;"><math>(A) / (B) =</math></td> <td style="width: 10%; text-align: center;">3.00</td> <td style="width: 10%;">(C)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 10%; text-align: center;">2.00</td> <td style="width: 10%;">(D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">3.00</td> <td style="width: 10%;">(A)</td> <td style="width: 20%; text-align: center;"><math>(D) / (A) =</math></td> <td style="width: 10%; text-align: center;">0.67</td> <td style="width: 10%;">(E)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 10%; text-align: center;">5.00</td> <td style="width: 10%;">(F)</td> <td style="width: 20%; text-align: center;"><math>(F) \times (E) =</math></td> <td style="width: 10%; text-align: center;">3.33333</td> <td style="width: 10%;">(G)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Bank Angle ( H )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 10%; text-align: center;">80</td> <td style="width: 10%;">(H)</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Surface Protection ( I )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 10%; text-align: center;">70%</td> <td style="width: 10%;">(I)</td> </tr> </table> </div> <div style="width: 15%; text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">9.3</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">3.0</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">9.4</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">5.7</td></tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">2.7</td></tr> </table> </div> </div>										Study Bank Height (ft) =	3.00	(A)	Bankfull Height (ft) =	1.00	(B)	$(A) / (B) =$	3.00	(C)	Root Depth (ft) =	2.00	(D)	Study Bank Height (ft) =	3.00	(A)	$(D) / (A) =$	0.67	(E)	Root Density as % =	5.00	(F)	$(F) \times (E) =$	3.33333	(G)	Bank Angle as Degrees =	80	(H)	Surface Protection as % =	70%	(I)	9.3	3.0	9.4	5.7	2.7
Study Bank Height (ft) =	3.00	(A)	Bankfull Height (ft) =	1.00	(B)	$(A) / (B) =$	3.00	(C)																																				
Root Depth (ft) =	2.00	(D)	Study Bank Height (ft) =	3.00	(A)	$(D) / (A) =$	0.67	(E)																																				
Root Density as % =	5.00	(F)	$(F) \times (E) =$	3.33333	(G)																																							
Bank Angle as Degrees =	80	(H)																																										
Surface Protection as % =	70%	(I)																																										
9.3																																												
3.0																																												
9.4																																												
5.7																																												
2.7																																												
<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p><b>Bank Material Adjustment:</b></p> <p><b>Bedrock</b> (Overall Very Low BEHI)</p> <p><b>Boulders</b> (Overall Low BEHI)</p> <p><b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)</p> <p><b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)</p> <p><b>Sand</b> (Add 10 points)</p> <p><b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)</p> </div> <div style="width: 35%; text-align: center;"> <p style="font-weight: bold;">Bank Material Adjustment</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">0</td></tr> </table> <p style="font-weight: bold;">Stratification Adjustment</p> <p>Add 5–10 points, depending on position of unstable layers in relation to bankfull stage</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">0</td></tr> </table> </div> </div>										0	0																																	
0																																												
0																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; text-align: center;">Very Low</td> <td style="width: 12.5%; text-align: center;">Low</td> <td style="width: 12.5%; text-align: center;">Moderate</td> <td style="width: 12.5%; text-align: center;">High</td> <td style="width: 12.5%; text-align: center;">Very High</td> <td style="width: 12.5%; text-align: center;">Extreme</td> <td style="width: 25%;"></td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td></td> </tr> </table> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <div style="width: 60%;"></div> <div style="width: 35%; text-align: center;"> <p style="font-weight: bold;">Adjective Rating and Total Score</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="height: 40px; vertical-align: middle;">30.1</td></tr> </table> </div> </div>										Very Low	Low	Moderate	High	Very High	Extreme		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50		30.1																				
Very Low	Low	Moderate	High	Very High	Extreme																																							
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																																							
30.1																																												
<div style="display: flex;"> <div style="width: 45%; border: 1px solid black; padding: 5px; margin-right: 10px;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="width: 55%; text-align: center;"> </div> </div>																																												



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																							
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																		
Station: <b>RDB 180-300</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																		
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																	
BEHI Score (Fig. 3-7)																							
<b>Study Bank Height to Bankfull Height ( C )</b>																							
Study Bank Height (ft) =	20.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		20.00 (C)	10.0																
<b>Root Depth to Study Bank Height ( E )</b>																							
Root Depth (ft) =	4.00 (D)	Study Bank Height (ft) =	20.00 (A)	$(D) / (A) =$		0.20 (E)	7.1																
<b>Weighted Root Density ( G )</b>																							
Root Density as % =	20.00 (F)	$(F) \times (E) =$		4 (G)		9.0																	
<b>Bank Angle ( H )</b>																							
Bank Angle as Degrees =	85 (H)					6.4																	
<b>Surface Protection ( I )</b>																							
Surface Protection as % =	75% (I)					2.2																	
<b>Bank Material Adjustment:</b>																							
Bedrock (Overall Very Low BEHI)																							
Boulders (Overall Low BEHI)																							
Cobble (Subtract 10 points if uniform medium to large cobble)																							
Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)																							
Sand (Add 10 points)																							
Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																							
<b>Bank Material Adjustment</b>							0																
<b>Stratification Adjustment</b>							0																
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%;">Very Low</td> <td style="width: 12.5%;">Low</td> <td style="width: 12.5%;">Moderate</td> <td style="width: 12.5%;">High</td> <td style="width: 12.5%;">Very High</td> <td style="width: 12.5%;">Extreme</td> <td style="width: 25%; text-align: center;">Adjective Rating and Total Score</td> </tr> <tr> <td style="text-align: center;">5 – 9.5</td> <td style="text-align: center;">10 – 19.5</td> <td style="text-align: center;">20 – 29.5</td> <td style="text-align: center;">30 – 39.5</td> <td style="text-align: center;">40 – 45</td> <td style="text-align: center;">46 – 50</td> <td style="text-align: center;">34.7</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	34.7
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																	
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	34.7																	
<b>Bank Sketch</b> 																							



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																									
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																																				
Station: <b>RDB 300-450</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																				
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																			
<div style="text-align: right; font-weight: bold; margin-bottom: 10px;">BEHI Score (Fig. 3-7)</div> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">1.00 (A)</td> <td style="padding: 5px;">Bankfull Height (ft) =</td> <td style="text-align: center; padding: 5px;">1.00 (B)</td> <td style="padding: 5px;"><math>(A) / (B) =</math></td> <td style="text-align: center; padding: 5px;">1.00 (C)</td> <td style="width: 10%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Depth (ft) =</td> <td style="text-align: center; padding: 5px;">0.50 (D)</td> <td style="padding: 5px;">Study Bank Height (ft) =</td> <td style="text-align: center; padding: 5px;">1.00 (A)</td> <td style="padding: 5px;"><math>(D) / (A) =</math></td> <td style="text-align: center; padding: 5px;">0.50 (E)</td> <td style="width: 10%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Root Density as % =</td> <td style="text-align: center; padding: 5px;">5.00 (F)</td> <td style="padding: 5px;"><math>(F) \times (E) =</math></td> <td style="text-align: center; padding: 5px;">2.5 (G)</td> <td style="width: 10%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Bank Angle ( H )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Bank Angle as Degrees =</td> <td style="text-align: center; padding: 5px;">30 (H)</td> <td style="width: 10%;"></td> </tr> </table> <p style="text-align: center; font-weight: bold;">Surface Protection ( I )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Surface Protection as % =</td> <td style="text-align: center; padding: 5px;">93% (I)</td> <td style="width: 10%;"></td> </tr> </table> </div> <div style="width: 35%; text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">1.0</td> </tr> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">3.9</td> </tr> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">9.5</td> </tr> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">2.3</td> </tr> </table>   <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">0.8</td> </tr> </table> </div> </div> <div style="margin-top: 10px;"> <p><b>Bank Material Adjustment:</b></p> <p><b>Bedrock</b> (Overall Very Low BEHI)</p> <p><b>Boulders</b> (Overall Low BEHI)</p> <p><b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)</p> <p><b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)</p> <p><b>Sand</b> (Add 10 points)</p> <p><b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)</p> </div> <div style="margin-top: 10px;"> <p style="text-align: center; font-weight: bold;">Bank Material Adjustment</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">0</td> </tr> </table> </div> <div style="margin-top: 10px;"> <p style="text-align: center; font-weight: bold;">Stratification Adjustment</p> <p>Add 5–10 points, depending on position of unstable layers in relation to bankfull stage</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">0</td> </tr> </table> </div>										Study Bank Height (ft) =	1.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	1.00 (C)		Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	1.00 (A)	$(D) / (A) =$	0.50 (E)		Root Density as % =	5.00 (F)	$(F) \times (E) =$	2.5 (G)		Bank Angle as Degrees =	30 (H)		Surface Protection as % =	93% (I)		1.0	3.9	9.5	2.3	0.8	0	0
Study Bank Height (ft) =	1.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	1.00 (C)																																				
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	1.00 (A)	$(D) / (A) =$	0.50 (E)																																				
Root Density as % =	5.00 (F)	$(F) \times (E) =$	2.5 (G)																																						
Bank Angle as Degrees =	30 (H)																																								
Surface Protection as % =	93% (I)																																								
1.0																																									
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px; text-align: center;">Very Low</td> <td style="padding: 5px; text-align: center;">Low</td> <td style="padding: 5px; text-align: center;">Moderate</td> <td style="padding: 5px; text-align: center;">High</td> <td style="padding: 5px; text-align: center;">Very High</td> <td style="padding: 5px; text-align: center;">Extreme</td> <td style="padding: 5px; text-align: center;">Adjective Rating and Total Score</td> </tr> <tr> <td style="padding: 5px; text-align: center;">5 – 9.5</td> <td style="padding: 5px; text-align: center;">10 – 19.5</td> <td style="padding: 5px; text-align: center;">20 – 29.5</td> <td style="padding: 5px; text-align: center;">30 – 39.5</td> <td style="padding: 5px; text-align: center;">40 – 45</td> <td style="padding: 5px; text-align: center;">46 – 50</td> <td style="padding: 5px; text-align: center;">17.5</td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	17.5																		
Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score																																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	17.5																																			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; font-weight: bold;">Bank Sketch</p> </div> <div style="width: 50%;"> </div> </div>																																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>RDB 450-560</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																				
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
<b>BEHI Score (Fig. 3-7)</b>																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	3.50 (C)	<b>10.0</b>																			
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$	0.29 (E)	<b>6.0</b>																			
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	25.00 (F)	$(F) \times (E) =$	7.14286 (G)			<b>8.6</b>																			
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =	90 (H)					<b>8.0</b>																			
<b>Surface Protection ( I )</b>																									
Surface Protection as % =	60% (I)					<b>3.6</b>																			
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
<b>Bank Material Adjustment</b>						<b>0</b>																			
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						<b>0</b>																			
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><b>Very Low</b></td> <td style="text-align: center; padding: 5px;"><b>Low</b></td> <td style="text-align: center; padding: 5px;"><b>Moderate</b></td> <td style="text-align: center; padding: 5px;"><b>High</b></td> <td style="text-align: center; padding: 5px;"><b>Very High</b></td> <td style="text-align: center; padding: 5px;"><b>Extreme</b></td> <td colspan="2" style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td colspan="2" style="text-align: center; padding: 5px;"><b>36.2</b></td> </tr> </table>										<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>36.2</b>	
<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>	<b>Very High</b>	<b>Extreme</b>	<b>Adjective Rating and Total Score</b>																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>36.2</b>																			
<b>Bank Sketch</b> 																									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																																																								
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																																																			
Station: <b>RDB 560-700</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																																																			
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																																																		
<div style="text-align: right; font-weight: bold;">BEHI Score (Fig. 3-7)</div> <div style="text-align: center; font-weight: bold;">Study Bank Height to Bankfull Height ( C )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">2.00</td> <td style="width: 10%; text-align: center;">(A)</td> <td style="width: 20%;">Bankfull Height (ft) =</td> <td style="width: 10%; text-align: center;">1.00</td> <td style="width: 10%; text-align: center;">(B)</td> <td style="width: 20%; text-align: center;"><math>(A) / (B) =</math></td> <td style="width: 10%; text-align: center;">2.00</td> <td style="width: 10%; text-align: center;">(C)</td> <td style="width: 10%; text-align: center;">7.9</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Root Depth to Study Bank Height ( E )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Depth (ft) =</td> <td style="width: 10%; text-align: center;">0.50</td> <td style="width: 10%; text-align: center;">(D)</td> <td style="width: 20%;">Study Bank Height (ft) =</td> <td style="width: 10%; text-align: center;">2.00</td> <td style="width: 10%; text-align: center;">(A)</td> <td style="width: 20%; text-align: center;"><math>(D) / (A) =</math></td> <td style="width: 10%; text-align: center;">0.25</td> <td style="width: 10%; text-align: center;">(E)</td> <td style="width: 10%; text-align: center;">6.5</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Weighted Root Density ( G )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Root Density as % =</td> <td style="width: 10%; text-align: center;">4.00</td> <td style="width: 10%; text-align: center;">(F)</td> <td style="width: 20%; text-align: center;"><math>(F) \times (E) =</math></td> <td style="width: 10%; text-align: center;">1</td> <td style="width: 10%; text-align: center;">(G)</td> <td style="width: 10%; text-align: center;">9.9</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Bank Angle ( H )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Bank Angle as Degrees =</td> <td style="width: 10%; text-align: center;">30</td> <td style="width: 10%; text-align: center;">(H)</td> <td style="width: 10%; text-align: center;">2.4</td> </tr> </table> <div style="text-align: center; font-weight: bold;">Surface Protection ( I )</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <td style="width: 20%;">Surface Protection as % =</td> <td style="width: 10%; text-align: center;">99%</td> <td style="width: 10%; text-align: center;">(I)</td> <td style="width: 10%; text-align: center;">0.1</td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Bank Material Adjustment:</b>            Bedrock (Overall Very Low BEHI)            Boulders (Overall Low BEHI)            Cobble (Subtract 10 points if uniform medium to large cobble)            Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)            Sand (Add 10 points)            Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)         </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 45%;"></div> <div style="width: 50%; text-align: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Bank Material Adjustment</b>  <div style="background-color: #e0f0ff; padding: 2px; text-align: center;">0</div> </div> <div style="border: 1px solid black; padding: 5px;"> <b>Stratification Adjustment</b>            Add 5–10 points, depending on position of unstable layers in relation to bankfull stage  <div style="background-color: #e0f0ff; padding: 2px; text-align: center;">0</div> </div> </div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <table border="1" style="width: 60%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 12.5%;">Very Low</td> <td style="width: 12.5%;">Low</td> <td style="width: 12.5%;">Moderate</td> <td style="width: 12.5%;">High</td> <td style="width: 12.5%;">Very High</td> <td style="width: 12.5%;">Extreme</td> </tr> <tr> <td>5 – 9.5</td> <td>10 – 19.5</td> <td>20 – 29.5</td> <td>30 – 39.5</td> <td>40 – 45</td> <td>46 – 50</td> </tr> </table> <div style="width: 35%; text-align: center;"> <b>Adjective Rating and Total Score</b>  <div style="background-color: #e0f0ff; padding: 5px; font-size: 1.2em; font-weight: bold;">26.8</div> </div> </div> <div style="display: flex; margin-top: 10px;"> <div style="width: 45%; padding: 5px;"> <div style="text-align: center; font-weight: bold;">Bank Sketch</div> </div> <div style="width: 50%; padding: 5px;"> </div> </div>										Study Bank Height (ft) =	2.00	(A)	Bankfull Height (ft) =	1.00	(B)	$(A) / (B) =$	2.00	(C)	7.9	Root Depth (ft) =	0.50	(D)	Study Bank Height (ft) =	2.00	(A)	$(D) / (A) =$	0.25	(E)	6.5	Root Density as % =	4.00	(F)	$(F) \times (E) =$	1	(G)	9.9	Bank Angle as Degrees =	30	(H)	2.4	Surface Protection as % =	99%	(I)	0.1	Very Low	Low	Moderate	High	Very High	Extreme	5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50
Study Bank Height (ft) =	2.00	(A)	Bankfull Height (ft) =	1.00	(B)	$(A) / (B) =$	2.00	(C)	7.9																																															
Root Depth (ft) =	0.50	(D)	Study Bank Height (ft) =	2.00	(A)	$(D) / (A) =$	0.25	(E)	6.5																																															
Root Density as % =	4.00	(F)	$(F) \times (E) =$	1	(G)	9.9																																																		
Bank Angle as Degrees =	30	(H)	2.4																																																					
Surface Protection as % =	99%	(I)	0.1																																																					
Very Low	Low	Moderate	High	Very High	Extreme																																																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50																																																			

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>				
Station: <b>RDB 700-825</b>					Observers: <b>Neill M. &amp; Marcus F.</b>				
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>			
BEHI Score (Fig. 3-7)									
<b>Study Bank Height to Bankfull Height ( C )</b>									
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		3.00 (C)	9.4		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	1.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		0.33 (E)	5.3		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	25.00 (F)	$(F) \times (E) =$		8.33333 (G)		8.8			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	85 (H)	6.3							
<b>Surface Protection ( I )</b>									
Surface Protection as % =	70% (I)	2.8							
<b>Bank Material Adjustment:</b>									
Bedrock (Overall Very Low BEHI)					<div style="display: flex; align-items: center; justify-content: center;"> <div style="width: 50px; height: 50px; background: linear-gradient(to right, transparent 49%, #ccc 49%, #ccc 51%, transparent 51%);"></div> <div style="margin: 0 10px;">→</div> </div>				
Boulders (Overall Low BEHI)									
Cobble (Subtract 10 points if uniform medium to large cobble)									
Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand)									
Sand (Add 10 points)									
Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="background-color: #e0f0ff; padding: 5px; display: inline-block;">0</div>				
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage <div style="background-color: #e0f0ff; padding: 5px; display: inline-block;">0</div>				
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="display: flex; gap: 10px;"> <div style="text-align: center;">Very Low 5 – 9.5</div> <div style="text-align: center;">Low 10 – 19.5</div> <div style="text-align: center;">Moderate 20 – 29.5</div> <div style="text-align: center;">High 30 – 39.5</div> <div style="text-align: center;">Very High 40 – 45</div> <div style="text-align: center;">Extreme 46 – 50</div> </div> <div style="margin-left: 20px;"> <div style="width: 100px; height: 20px; background: linear-gradient(to right, transparent 49%, #ccc 49%, #ccc 51%, transparent 51%);"></div> </div> </div>									
<b>Adjective Rating and Total Score</b>								<b>32.6</b>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									

**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)																									
Stream: <b>Oak Glen Stream #5</b>					Location: <b>Cincinnati, OH</b>																				
Station: <b>RDB 90-180</b>					Observers: <b>Neill M. &amp; Marcus F.</b>																				
Date: <b>12/6/2018</b>			Stream Type: <b>#REF!</b>			Landscape Type: <b>#REF!</b>																			
<b>BEHI Score (Fig. 3-7)</b>																									
<b>Study Bank Height to Bankfull Height ( C )</b>																									
Study Bank Height (ft) =	2.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	2.00 (C)	<b>7.9</b>																			
<b>Root Depth to Study Bank Height ( E )</b>																									
Root Depth (ft) =	2.00 (D)	Study Bank Height (ft) =	2.00 (A)	$(D) / (A) =$	1.00 (E)	<b>0.0</b>																			
<b>Weighted Root Density ( G )</b>																									
Root Density as % =	5.00 (F)	$(F) \times (E) =$	5 (G)	<b>9.0</b>																					
<b>Bank Angle ( H )</b>																									
Bank Angle as Degrees =	60 (H)	<b>3.9</b>																							
<b>Surface Protection ( I )</b>																									
Surface Protection as % =	85% (I)	<b>1.5</b>																							
<b>Bank Material Adjustment:</b> Bedrock (Overall Very Low BEHI) Boulders (Overall Low BEHI) Cobble (Subtract 10 points if uniform medium to large cobble) Gravel or Composite Matrix (Add 5–10 points depending on percentage of bank material that is composed of sand) Sand (Add 10 points) Silt/Clay (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)																									
<b>Bank Material Adjustment</b>						<b>0</b>																			
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage						<b>0</b>																			
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;">Very Low</td> <td style="text-align: center; padding: 5px;">Low</td> <td style="text-align: center; padding: 5px;">Moderate</td> <td style="text-align: center; padding: 5px;">High</td> <td style="text-align: center; padding: 5px;">Very High</td> <td style="text-align: center; padding: 5px;">Extreme</td> <td colspan="2" style="text-align: center; padding: 5px;"><b>Adjective Rating and Total Score</b></td> </tr> <tr> <td style="text-align: center; padding: 5px;">5 – 9.5</td> <td style="text-align: center; padding: 5px;">10 – 19.5</td> <td style="text-align: center; padding: 5px;">20 – 29.5</td> <td style="text-align: center; padding: 5px;">30 – 39.5</td> <td style="text-align: center; padding: 5px;">40 – 45</td> <td style="text-align: center; padding: 5px;">46 – 50</td> <td colspan="2" style="text-align: center; padding: 5px;"><b>22.3</b></td> </tr> </table>										Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>		5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>22.3</b>	
Very Low	Low	Moderate	High	Very High	Extreme	<b>Adjective Rating and Total Score</b>																			
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	<b>22.3</b>																			
<b>Bank Sketch</b> 																									