

# Bank and bed stability record sheet—Method 2

Date (dd/mm/yy )  
/ /  Monitor(s) \_\_\_\_\_  
 Site code \_\_\_\_\_ Tributary name \_\_\_\_\_

**1. Sketch** the entire reach length (aerial view) showing the locations of any instability types (erosion, slumping and aggradation—see below for definitions). Include in your sketch the flow direction, a north arrow and any additional prominent features of the site.

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### Types of instability

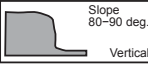
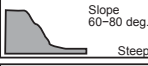
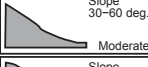
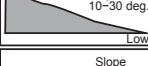
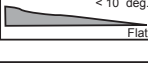
**Erosion:** The direct removal of sediment from the stream banks or bed by flowing water.

**Slumping:** When sections of the bank collapse into the stream as a consequence of stream bank erosion.

**Aggradation:** The build-up of bank or bed material through the deposition of sediments by water.

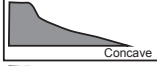

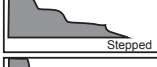

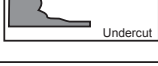
### 2. Bank slope

Assess the slopes of the left and right banks. Select the box that best illustrates the dominant slope type present for each bank at your site and mark it.

Left bank		Right bank
<input type="checkbox"/>		<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>

### 3. Bank shape

Assess the shape of both the left and right banks. Select the box that best illustrates the dominant shape present for each bank at your site and mark it.

Left bank		Right bank
<input type="checkbox"/>		<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>

**4. Bank instability types**

In the boxes provided, rate the intensities of all bank instability types that are present at your site using the 0 to 5 rating scale. Assess the left and right banks independently. If an instability type is not present, write a 0 in the box. When both banks have been assessed, identify the instability type with the highest average score (across both banks) and record it as the dominant bank process.

Left bank	Instability type	Right bank	Average rating
	Aggrading		
	Eroding		
	Slumping		
	Bare of vegetation		
Dominant bank process			
	Bank stable		

**The 0 to 5 rating scale**  
 5 = major, dominant; (81–100%)  
 4 = common, abundant; (61–80%)  
 3 = regular, frequent; (41–60%)  
 2 = little, occasional; (21–40%)  
 1 = only just present, rare; (1–20%)  
 0 = absent; (0%)

*Note: The average rating for 'bank stable' is the bank stability rating*

**5. Bank instability locations**

Assessing the left and right banks independently, mark in the boxes below the locations along the bank where erosion and aggradation are present.

Left bank		Instability locations	Right bank	
Erosion	Aggradation		Erosion	Aggradation
		At bends		
		At flood plain		
		At obstacles		
		At seepage and run-off points		
		Irregular		
		All along		

**6. Bank stability controls**

Mark all the boxes that correspond to the presence of any human-induced controls positively affecting the stability of the banks at the site. If an unlisted control is identified, mark the 'Other' box and describe the control in the space provided.

Trees and other plants		Fenced human access		Breakwater	
Fence structures		Logs strapped to bank		Rock wall or layer	
Fenced watering points		Concrete wall		Other	

**7. Bank stability factors**

Mark all the boxes that correspond to the presence of any human-induced factors negatively affecting the stability of the banks at the site. If an unlisted factor is identified, mark the 'Other' box and describe the factor in the space provided.

Stream flow and waves		Stock		Clearing of vegetation	
Seepage		Vehicle tracks		Gravel or sand extraction	
Run-off		Vermin and feral animals		Mining	
Flood plain scours		Ford, culvert, road bridge, weir		Other	

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**8. Bed instability types**

In the boxes provided, rate the intensities of aggradation and erosion in the stream bed using the 0 to 5 rating scale. Assess the aggradation both above (bars) and below (sedimentation) the water level. If a listed instability type is not present, leave the box blank. Identify the instability type with the highest rating score and record it as the dominant bed process.

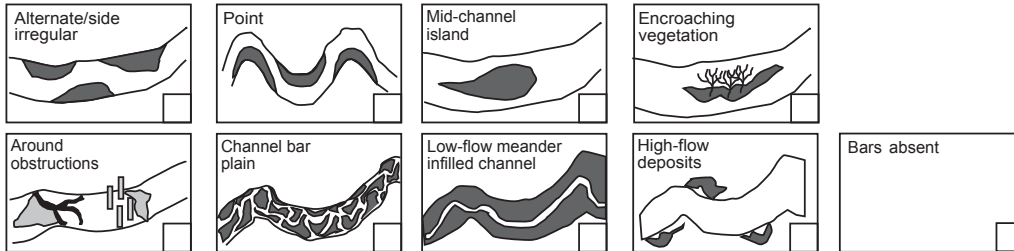
Instability types		Rating
Aggrading	Bar area	
	Sedimentation area	
Eroding		
Dominant bed process:		
Bed stable		

The 0 to 5 rating scale
5 = major, dominant; (81–100%)
4 = common, abundant; (61–80%)
3 = regular, frequent; (41–60%)
2 = little, occasional; (21–40%)
1 = only just present, rare; (1–20%)
0 = absent; (0%)

Note: The value for 'bed stable' is the bed stability rating.

**9. Bed instability locations**

Note the locations of any bars (depositions of sediment above the water level) on the stream bed and mark the boxes that correspond best to their locations.



**10. Bed stability controls**

Mark all the boxes that correspond to the presence of any human-induced controls positively affecting the bed stability at the site. If an unlisted control is identified, mark the 'Other' box and describe the control in the space provided.

Trees and other plants	<input type="checkbox"/>	Fenced human access	<input type="checkbox"/>	Breakwater	<input type="checkbox"/>
Fence structures	<input type="checkbox"/>	Logs added to stream bed	<input type="checkbox"/>	Rock wall or layer	<input type="checkbox"/>
Fenced watering points	<input type="checkbox"/>	Concrete wall	<input type="checkbox"/>	Other	<input type="checkbox"/>

**11. Bed stability factors**

Mark all the boxes that correspond to the presence of any human-induced factors negatively affecting the stability of the stream at the site. If an unlisted factor is identified, mark the 'Other' box and describe the factor in the space provided.

Stream flow and waves	<input type="checkbox"/>	Stock	<input type="checkbox"/>	Clearing of vegetation	<input type="checkbox"/>
Seepage	<input type="checkbox"/>	Vehicle tracks	<input type="checkbox"/>	Gravel or sand extraction	<input type="checkbox"/>
Run-off	<input type="checkbox"/>	Vermin and feral animals	<input type="checkbox"/>	Mining	<input type="checkbox"/>
Flood plain scours	<input type="checkbox"/>	Ford, culvert, road bridge, weir	<input type="checkbox"/>	Other	<input type="checkbox"/>

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**12. Bank and bed stability scores**

These two scores indicate the overall stability of the banks and bed at the site. Calculate them using the equation below. The resulting condition score is out of 100%. Occasionally, these equations will produce scores above 100 or below 1; in these cases, the final score must be rounded up to 1 or down to 100.

$\text{Stability score} = [(20 \times \text{stability rating}) - 10] + 2.5 \times (\text{no. controls} - \text{no. factors})$
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The dominant bank process and the bank stability rating are found in step 4, the number of bank controls in step 6, and the number of bank factors in step 7.

**Bank stability score** =  $[(20 \times \boxed{\phantom{00}}) - 10] + 2.5 \times (\boxed{\phantom{00}} - \boxed{\phantom{00}})$   
 =  $\boxed{\phantom{000}}$

**Process:** .....

The dominant bed process and the bed stability rating are found in step 8, the number of bank controls in step 10, and the number of bank factors in step 11.

**Bed stability score** =  $[(20 \times \boxed{\phantom{00}}) - 10] + 2.5 \times (\boxed{\phantom{00}} - \boxed{\phantom{00}})$   
 =  $\boxed{\phantom{000}}$

**Process:** .....

<p><b>Additional information</b></p> <p><i>Information collected in <b>steps 2, 3</b> (page 1), <b>5</b> (page 2) and <b>9</b> (page 3) is not used to calculate the bank and bed stability scores. However, the information is useful for interpreting these scores, and for identifying patterns of change in bank and bed forms over time that can affect stability.</i></p> <p><i>If you plan to keep a separate record sheet (e.g. spreadsheet) of your bank and bed stability scores you may find it useful to keep a record of the bank slope, shape and bed instability locations in the same place.</i></p>
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