

Riverine Habitat Audit Procedure -- SHEET 8 Bed and Bar Condition

Recorder

Date (dd/mm/yy) / /

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Basin Sub-section Site Tributary Name

SIZE CODE

Record the total % of bed surface along the reach protruding out of the water at the water mark and forming a bar. Identify its type, the features of the bed & gravel if present, the overall stability of the bed and the controls and factors affecting the stability of the bed.

1 BAR TYPE

Bars Absent


Point 

Alternate / side Irregular 

Mid-channel Island 

Encroaching Vegetation 

Around Obstructions 

Channel bar plain 

Low flow Meander infilled channel 

High Flow deposits 

2 BAR SIZE

% of bed surface forming a bar

Dominant particle size diameter mm

3 Bed Gravel Features

Dominant particle size diameter mm
Note: Only applies for gravel i.e. diameter > 2 mm

4 Gravel surface

Gravel covered by algae / silt 1

Gravel - 'clean' 2

5 Bed Compaction

Tightly packed, armoured array of sizes tightly packed overlapping hard to dislodge 1

Packed, but not armoured array of sizes tightly packed overlapping can be dislodged 2

Moderate Compaction array of sizes some packing little overlapping can be dislodged 3

Low Compaction poor grading & structure little overlap can be dislodged easily 4

Low Compaction loose array no packing or structure no overlap easily moved 5

Angularity

Very Angular 1

Angular 2

Sub Angular 3

Rounded 4

Well Rounded 5

Shape

Sphere 1
short = interm
interm = long

Disc 2
short < interm
interm = long

Blade 3
short << interm
interm < long

Rod 4
short << interm
interm = long

6 Factors Affecting Stability

Sand & Gravel extraction

Bed deepening

Bank Erosion

Channelisation

Cut-off of supply of alluvial materials

Mining

Agriculture or grazing

Rubbish, junk

Others

7 Controls Stabilising the Bed

Bridge Ford or Culvert

Rock Outcrops

Fallen Trees

Bed stabilising structures

Rubble bricks, concrete

Other junk, cars metal etc.

Other

PASSAGE FOR FISH AND OTHER ORGANISMS

1. Score the general passage for the prevailing conditions (now) and for the stage equivalent to the water mark.

2. For Obstructions give type, height above water mark and stage when by-passed or over-topped.

| Now | Water Mark | High dam well, or waterfall | WM | 1/3 | 2/3 | bank full | flood | extreme flood | Never |
|----------------------------|----------------------------|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | <input type="checkbox"/> m | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| <input type="checkbox"/> 2 | <input type="checkbox"/> 2 | Cascade rapid or log jam <input type="checkbox"/> m | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| <input type="checkbox"/> 3 | <input type="checkbox"/> 3 | Low well, pipe culvert, ford, bridge <input type="checkbox"/> m | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| <input type="checkbox"/> 4 | <input type="checkbox"/> 4 | Single log branch pile, rock <input type="checkbox"/> m | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| <input type="checkbox"/> 5 | <input type="checkbox"/> 5 | Low feature easily by-passed <input type="checkbox"/> m | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| <input type="checkbox"/> 6 | <input type="checkbox"/> 6 | None <input type="checkbox"/> m | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| <input type="checkbox"/> 7 | <input type="checkbox"/> 7 | Other <input type="checkbox"/> m | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |

8 Overall Bed Stability Rating

Unstable / Eroding ← Stable → Unstable / Aggrading

| Severe Erosion | Moderate Erosion | Bed Stable | Mod. Aggradation | Severe Aggrad. |
|--------------------------|---------------------------------|----------------------------------|--------------------------------------|--|
| Bed scoured of sand | Little alluvium | Bed consolidated algae covered | Mod. build-up at obstructions & bars | Flat bed, channel blocked & wide but shallow. Bars large, covering most of bed |
| Signs of deepening | Signs of deepening Eroded banks | Bed & bar material the same size | Bed flat and uniform | Bed wide & shallow |
| Bare eroded banks | Bed deep & narrow | Alluvium balanced | Some minor over-bank siltation | bank bed loose, unconsolidated |
| Erosion heads | Steep bed | Banks stable | | |
| Erosion causes Steep bed | Unconsolidated | | | |