Field Form

This is one of four hard copy field forms for the national framework for community-based monitoring (CBM) of stream health. **Use this form for water quality, stream flow and periphyton (algae) cover indicators.**

All fields with an asterisk (*) need to be completed for the data to then be entered onto the following ArcGIS Survey123 electronic field form: **CBM (Streams) – A.** The electronic form will complete all necessary calculations.

Stream site visit information

Group name*:

Site name*:

Site visit date*:

Site arrival time*:

Observer*:

Second observer(s):

General conditions

Weather*:
- ☐ Clear
- ☐ Partly Cloudy
- ☐ Overcast
- ☐ Drizzle
- ☐ Rain

Wind*:
- ☐ Calm
- ☐ Light
- ☐ Moderate
- ☐ Strong

Rain in last 24 hours*?
- ☐ Yes
- ☐ No
- ☐ Unsure

Stream conditions

Stream water level*:
- ☐ High
- ☐ Normal (or base flow)
- ☐ Low

Does the water smell?*
- ☐ Yes
- ☐ No

Stream water appearance*:
- ☐ Clear and colourless
- ☐ Slightly murky
- ☐ Turbid
- ☐ Humic-stained
- ☐ Other *(describe below)*

_____

Tick any of the following that you see*:
- ☐ Stock on banks/in water
- ☐ Wildfowl in water
- ☐ Local bank erosion
- ☐ Surface scums/oil
- ☐ Rubbish on banks/in water
- ☐ Periphyton (algae) – some
- ☐ Periphyton (algae) – a lot
- ☐ Macrophytes (aquatic plants) – some
- ☐ Macrophytes (aquatic plants) – a lot
- ☐ Fish

Comments on any observations:

Photograph(s) of waterway – notes:

Field measurements

Which of the following are you measuring today?*
- ☐ Visual water clarity
- ☐ Water temperature
- ☐ Electrical conductivity
- ☐ Dissolved oxygen
- ☐ pH
- ☐ Turbidity
- ☐ Water velocity
- ☐ Stream flow
- ☐ Periphyton
- ☐ *Microcoleus* (toxic algae)
- ☐ Fine deposited sediment

Visual water clarity

Measurement method*
- ☐ Clarity tube
- ☐ Black disc

Additional information for black disk

Light conditions method*
- ☐ Sun
- ☐ Shade
- ☐ Mixed

Disc size used*
- ☐ 20 mm (where clarity is <0.5 m)
- ☐ 60 mm (0.5 – 1.5 m)
- ☐ 200 mm (>1.5 m

Record measurements to 2 decimal places

First measurement set*

Disappearance distance _____m Reappearance distance _____m

Second measurement set (recommended)
- ☐ Not made *(if selected, go to next indicator measurement)*
- ☐ Made by same observer
- ☐ Made by different observer

Disappearance distance _____m Reappearance distance _____m

Third measurement set (optional)
- ☐ Not made *(if selected, go to next indicator measurement)*
- ☐ Made by same observer as measurement set 1
- ☐ Made by same observer as measurement set 2
- ☐ Made by different observer

Disappearance distance _____m Reappearance distance _____m

Water temperature

Measurement device*:
- ☐ Analogue thermometer
- ☐ Digital thermometer
- ☐ Field meter _____meter make and model*

Measurement*: _____˚C *(for digital thermometers/meters, round and record to 1 decimal place)*

Electrical conductivity

Your meter should be set to read conductivity at a temperature of 25˚C

Meter make and model*:
- ☐ As stated Monitoring and Quality Plan
- ☐ Other *(details)* _____

Date conductivity sensor last validated or calibrated*:
- ☐ Today
- ☐ Yesterday
- ☐ Within the last month
- ☐ Other *(estimate time period)* _____
- ☐ Unknown

Was validation/calibration successful?*
- ☐ Yes
- ☐ No
- ☐ Unsure

Measurement*: _____
- ☐ µS/cm
- ☐ Other *(details)* _____

Water velocity

Measurement method*
- ☐ Float method (surface velocity) (A)
- ☐ Current meter (B)

Length of measurement reach* _____ m
(aim for between 5-50 m)

Which option best describes the measurement reach?*
- ☐ Straight, free of obstacles and uniform in width and depth (e.g., concrete channel)
- ☐ Relatively straight, free of obstacles and uniform in width and depth
- ☐ Relatively straight but some variation in width and depth and/or unavoidable obstacle
- ☐ Other *(describe)*_____

(A) Float-based measurements

Float object*
- ☐ Orange
- ☐ Other *(specify):* _____

Timing method*
- ☐ Digital stopwatch/timer *(if selected, go to next indicator measurement)*
- ☐ Other *(e.g., analogue watch, estimating by counting)* _____

How are the measurements being made?*
- ☐ One person is managing both the float and measuring its travel time
- ☐ One person is managing both the float and a different person is measuring its travel time
- ☐ One person is managing both the float and 2 different people are combining to measuring its travel time

Travel time 1* _____s **Travel time 2*** _____s **Travel time 3*** _____s

Water flow

Water depth measurement method*
Select one method below

☐ Ruler/ruled rod

Measure the vertical depth in metres (m) from the top of the water to the streambed at up to 10 equally spaced points across a cross section of stream (only one or a few measurements are needed if the depth is uniform across the stream/channel).

Depth 1* _____m Depth 2 _____m
Depth 3 _____m Depth 4 _____m
Depth 5 _____m Depth 6 _____m
Depth 7 _____m Depth 8 _____m
Depth 9 _____m Depth 10 _____m

☐ Established stream level recorder (staff gauge)

Gauge reading* _____ (m)

☐ Estimating (e.g., by eye)

Stream depth estimate* _____ (m)

Stream wetted width
Measurement method*
- ☐ Measuring tape (recommended)
- ☐ Visual estimate

Width of stream under water* _____ m

Water sample collection

Sample collection method*
- ☐ Wading
- ☐ Grab pole
- ☐ Buckey (e.g., lowered from a bridge)
- ☐ Other

_____

How will the water samples be tested?*
- ☐ Self-testing using test kits
- ☐ Laboratory testing
- ☐ Combination of self-testing and laboratory testing

What self-tests will you be doing?*
- ☐ Nitrate-nitrogen
- ☐ Ammoniacal nitrogen
- ☐ Dissolved reactive phosphorus
- ☐ *E. coli*

Self-testing

Not applicable if water samples are being sent to the lab for testing.

Nitrate-nitrogen

Test kit name*
- ☐ AquaSpex Microtest Nitrate-N
  - ☐ 0.05 – 0.8 mg/L
  - ☐ 0 – 4.5 mg/L
- ☐ Other *(specify details)*

_____

Testing location*
- ☐ Stream-side/field
- ☐ At home/inside – to be tested*
  - ☐ Today
  - ☐ Tomorrow

Sample pre-treatment*
- ☐ Unfiltered ☐ Filtered

Sample dilution performed*
- ☐ Yes (sample volume used*: _____ mL)
- ☐ No

Sample test colour is:
- ☐ Within measurement range
- ☐ Outside the upper measurement range

Measurement value 1* _____ mg/L *(select the closest measurement value or, if the measurement is between two values, enter the midpoint of the two values)*

Second measurement (recommended)
- ☐ Not made *(if selected, go to next indicator measurement)*
- ☐ Made by same observer
- ☐ Made by different observer

Measurement value 2 _____ mg/L

Dissolved reactive phosphorus

Test kit name*
- ☐ Hanna HI-713 Phosphate Pocket Checker
  Range:* 0 – 2.5 mg/L Other _____mg/L
- ☐ AquaSpex Microtest Phosphate-P MB + (HS)
  Range:* 0 – 0.4 mg/L Other _____mg/L
- ☐ Other *(specify details)*

_____

Testing location*
- ☐ Stream-side/field
- ☐ At home/inside – to be tested*
  - ☐ Today
  - ☐ Tomorrow

Sample pre-treatment*
- ☐ Unfiltered ☐ Filtered

Sample dilution performed*
- ☐ Yes (sample volume used*: _____mL)
- ☐ No

Sample test colour is:
- ☐ Within measurement range
- ☐ Outside the upper measurement range

Measurement value 1* _____ mg/L *(select the closest measurement value or, if the measurement is between two values, enter the midpoint of the two values)*

Second measurement (recommended)
- ☐ Not made *(if selected, go to next indicator measurement)*
- ☐ Made by same observer
- ☐ Made by different observer

Measurement value 2 _____ mg/L

E. coli

Test kit name*
- ☐ 3M™ Petrifilm™ *E. coli* count plates (NIWA SHMAK) – *go to Box A*
- ☐ Aquagenx® CBT EC-TC MPN kit – *go to Box B*

Sample container type*
- ☐ Lab provided sterile container
- ☐ Pre-sterilised container
- ☐ Other container

Box A: Petrifilm™ plate-based method

Water sample testing date*
- ☐ On day of sample collection *(recommended)*
- ☐ Day after sample collection
- ☐ More than one day after sample collection

Test method(s) used
- ☐ Direct plate
- ☐ Filtering
- ☐ Both direct plate and filtering

DIRECT PLATE METHOD

Number of direct plates prepared*
- ☐ 1 plate
- ☐ 2 plates

Plate 1 colony count* _____ OR ☐ Too numerous to count (TNTC)

Plate 2 colony count* _____ OR ☐ Too numerous to count (TNTC)

FILTERING METHOD

Plate 1 sample volume used* _____ **Plate 1 colony count*** _____

☐ Too numerous to count (TNTC)

Plate 2 sample volume used* _____ **Plate 2 colony count*** _____

☐ Too numerous to count (TNTC)

Which plate option best meets the test requirements*
- ☐ Plate 1
- ☐ Plate 2
- ☐ Average of Plate 1 and Plate 2

Box B: Aquagenx® CBT EC-TC MPN kit

Water sample testing date*
- ☐ On day of sample collection *(recommended)*
- ☐ Day after sample collection
- ☐ More than one day after sample collection

Sample volume tested (mL)*
- ☐ 100 mL (full sample volume)
- ☐ 10 mL (10-fold sample dilution)

Sample incubation details*
- ☐ 35-44.5°C for 20-24 hr (*recommended)*
- ☐ 30-35°C for 20-30 hr
- ☐ 25-30°C for 40-48 hr
- ☐ Other _____

Sample incubation time*_____ hr

Sample incubation temperature*_____ °C

Sample incubation details*

Tick the compartments that tested positive for the presence of E. coli – indicated by a blue/green colour.

☐ Compartment 1 (10 mL) ☐ Compartment 2 (30 mL) ☐ Compartment 3 (56 mL) ☐ Compartment 4 (3 mL) ☐ Compartment 5 (1 mL)

Periphyton

How are you estimating stream bed periphyton cover?*

- ☐ Bankside visual assessment – *go to Box A*
- ☐ Instream stone method – *go to Box B*
- ☐ Instream visual assessment (10 observations, 4 cover categories) – *go to Box C*
- ☐ Instream visual assessment (detailed) – *go to Box D*

Box A: Bankside visual assessment

Can you see some/all of the streambed?*

- ☐ No – high flows/too turbid *(end of periphyton survey)*
- ☐ Yes – *complete rest of this box*

Stream reach length*

Approximate length of stream reach being assessed? _____ m

Periphyton cover estimate (%)*

From the bank, estimate the percentage cover of each of the three periphyton types below across the visible portion of the streambed. Base your assessment on the average cover across the survey reach.

Bare rock and/or thin films	☐ None/little (<10%)	☐ 10-60%	☐ >60%	
Mat-forming algae	☐ None/little (<10%)	☐ 10-60%	☐ >60%	
Filament-forming algae	☐ None/little (<10%)	☐ 10-30%	☐ 30-80%	☐ >80%

Shade available at survey area (%)*
(e.g., percentage of sky visible through canopy)*

- ☐ Unshaded
- ☐ Light shade (<30%)
- ☐ Moderate shade (30-80%)
- ☐ Heavy shade (>80%)

Stream width surveyed (%)*

- ☐ <10% (edge margin)
- ☐ 10-30%
- ☐ 30-60%
- ☐ 60-90%
- ☐ 100% (full width)

Are there *Microcoleus* (toxic cyanobacteria) mats exposed at or near the stream edge?

- ☐ Yes/Likely
- ☐ No
- ☐ Unsure

Box B: Instream stone method

Can you enter the stream to do your assessment?*

- ☐ No – high flows/too turbid *(end of periphyton survey)*
- ☐ Yes – *complete rest of this box AND the three GREY SHADED parts of Box A above*

Periphyton cover estimate (%)*

Working from downstream to upstream, randomly collect 10 stones of >4 cm in width and estimate the cover of each category below to the nearest 10%. If cover is <5% but not 0, enter 0 but you may wish to record this as a comment.

Category	Stone 1	Stone 2	Stone 3	Stone 4	Stone 5	Stone 6	Stone 7	Stone 8	Stone 9	Stone 10
Bare stone/thin film (%)										
Mat-forming algae mats (%) (excl. *Microcoleus)*										
Filamentous algae (%) (excl. Didymo & *Microcoleus*)										
Microcoleus (%)										
Didymo (%)										
Moss/other (%)										

Periphyton *continued…*

Box C: Instream visual assessment - 10 observations, 4 cover categories

Can you enter the stream to do your assessment?*

☐ No – high flows/too turbid/unsafe *(end of periphyton survey)*
☐ Yes – *complete rest of this box*

Approximate length of stream reach being assessed?* _____ m

What equipment are you using to estimate cover?*

☐ Bathyscope/underwater viewer
☐ Black disc viewer
☐ Metal ring/quadrat on streambed
☐ Naked eye only

How will your 10 observations be made?*

Where possible, at two locations along your stream reach make 5 observations at equal distances across the stream to a maximum depth of 0.6 m. If the stream is very small (e.g., less than 2 m wide), estimate points along a zig-zag path. If the stream/river deepens quickly, estimate points along multiple short cross sections to make 10 observations.

☐ 2 cross sections of 5 observations – *go to Box C1*
☐ Zig zag observations across full width of stream – *go to Box C2*
☐ Multiple cross sections near true left bank – *go to Box C2*
☐ Multiple cross sections near true right bank – *go to Box C2*

Box C1: Periphyton cover estimate (%) – 2 cross sections of 5 observations

Working from downstream to upstream, estimate the cover of each category below to the nearest 5% at 5 points along 2 cross sections. If cover is <5% but not 0, enter 5.

What stream bank are you starting each cross section of observations from?*

☐ True left bank
☐ True right bank

CROSS SECTION 1	Observation 1	Observation 2	Observation 3	Observation 4	Observation 5
No algae (bare substrate) %					
Thin films (%)					
Mats (%)					
Filaments (%)					
Other – moss, aquatic plants, etc (%)					
Total cover (should add to 100%)					

CROSS SECTION 2	Observation 1	Observation 2	Observation 3	Observation 4	Observation 5
No algae (bare substrate) %					
Thin films (%)					
Mats (%)					
Filaments (%)					
Other – moss, aquatic plants, etc (%)					
Total cover (100%)					

Periphyton *continued…*

Box C1: *continued*

Shade available at survey area (%)*
(e.g., percentage of sky visible through canopy)*
- ☐ Unshaded
- ☐ Light shade (<30%)
- ☐ Moderate shade 30-80%)
- ☐ Heavy shade (>80%)

Stream width surveyed (%)*
- ☐ <10% (edge margin)
- ☐ 10-30%
- ☐ 30-60%
- ☐ 60-90%
- ☐ 100% (full width)

Are there *Microcoleus* (toxic cyanobacteria) mats exposed at or near the stream edge?*
- ☐ Yes/Likely
- ☐ No
- ☐ Unsure

Box C2: Periphyton cover estimate (%) – zig zag or more than 2 cross sections

Working from downstream to upstream, estimate the cover of each category below to the nearest 5% at 10 points in the stream. If cover is <5% but not 0, enter 5.

What stream bank are you starting each cross section of observations from?*
- ☐ True left bank
- ☐ True right bank

	Obs. 1	Obs. 2	Obs. 3	Obs. 4	Obs. 5	Obs. 6	Obs. 7	Obs. 8	Obs. 9	Obs. 10
No algae (bare substrate) %										
Thin films (%)										
Mats (%)										
Filaments (%)										
Other – moss, aquatic plants, etc (%)										
Total cover (should add to 100%)										

Shade available at survey area (%)*
(e.g., percentage of sky visible through canopy)*
- ☐ Unshaded
- ☐ Light shade (<30%)
- ☐ Moderate shade (30-80%)
- ☐ Heavy shade (>80%)

Stream width surveyed (%)*
- ☐ <10% (edge margin)
- ☐ 10-30%
- ☐ 30-60%
- ☐ 60-90%
- ☐ 100% (full width)

Are there *Microcoleus* (toxic cyanobacteria) mats exposed at or near the stream edge?*
- ☐ Yes/Likely
- ☐ No
- ☐ Unsure

Periphyton *continued…*

Box D: Instream visual assessment – detailed

Can you enter the stream to do your assessment?*
- ☐ No – high flows/too turbid/unsafe *(end of periphyton survey)*
- ☐ Yes – *complete rest of this box*

Approximate length of stream reach being assessed?* _____ m

What equipment are you using to estimate cover?*
- ☐ Bathyscope/underwater viewer
- ☐ Black disc viewer
- ☐ Metal ring/quadrat on streambed
- ☐ Naked eye only

How will your 20 observations be made?*
Where possible, make 10 observations along 2 cross sections, or 5 observations along 4 cross sections, at equal distances across the stream to a maximum depth of 0.6 m. If the stream is very small (e.g., less than 2 m wide), estimate periphyton cover at 10 observation points along a zig-zag path. If you are limited to within 2 m of the river edge before the water deepens, estimate cover at 10 points along this margin to make 10 observations.
- ☐ 2 cross sections of 10 observations – *complete grey shaded section below and Box D1*
- ☐ 4 cross sections of 5 observations – *complete grey shaded section below and Box D2*
- ☐ Zig zag of 10 observations across full width of stream – *complete grey shaded section below and Box D3*
- ☐ 10 observations along the true right bank – *complete grey shaded section below and Box D3*
- ☐ 10 observations along the true right bank – *complete grey shaded section below and Box D3*

Shade available at survey area (%)*
(e.g., percentage of sky visible through canopy)*
- ☐ Unshaded
- ☐ Light shade (<30%)
- ☐ Moderate shade (30-80%)
- ☐ Heavy shade (>80%)

Stream width surveyed (%)*
- ☐ <10% (edge margin)
- ☐ 10-30%
- ☐ 30-60%
- ☐ 60-90%
- ☐ 100% (full width)

Are there *Microcoleus* (toxic cyanobacteria) mats exposed at or near the stream edge?*
- ○ Yes/Likely – continue to cyanobacteria section below
- ○ No – this part of the survey ends
- ○ Unsure

Enter any comments you wish to record about periphyton cover

Periphyton *continued…*

Box D1: Periphyton cover estimate (%) – 2 cross sections of 10 observations

Working from downstream to upstream, estimate the cover of each category below to the nearest 5% at 10 points along 2 cross sections. If cover is <5% but not 0, enter 5.

What stream bank are you starting each cross section of observations from?

- ☐ True left bank
- ☐ True right bank

CROSS SECTION 1	Obs. 1	Obs. 2	Obs. 3	Obs. 4	Obs. 5	Obs. 6	Obs. 7	Obs. 8	Obs. 9	Obs. 10
No algae / bare substrate (%)										
Thin films (%)										
Sludge (%)										
Cyanobacteria mats (%)										
Didymo mats (%)										
Other mats (%)										
Green filaments (%)										
Other filaments (%)										
Other – moss, aquatic plants, etc (%)										
Total cover (should add to 100%)										

CROSS SECTION 2	Obs. 11	Obs. 12	Obs. 13	Obs. 14	Obs. 15	Obs. 16	Obs. 17	Obs. 18	Obs. 19	Obs. 20
No algae / bare substrate (%)										
Thin films (%)										
Sludge (%)										
Cyanobacteria mats (%)										
Didymo mats (%)										
Other mats (%)										
Green filaments (%)										
Other filaments (%)										
Other – moss, aquatic plants, etc (%)										
No algae / bare substrate (%)										

Periphyton *continued…*

Box D2: Periphyton cover estimate (%) – 4 cross sections of 5 observations

Working from downstream to upstream, estimate the cover of each category below to the nearest 5% at 5 points along 4 cross sections. If cover is <5% but not 0, enter 5.

What stream bank are you starting each cross section of observations from?

- ☐ True left bank
- ☐ True right bank

	CROSS SECTION 1					**CROSS SECTION 2**				
	Obs. 1	Obs. 2	Obs. 3	Obs. 4	Obs. 5	Obs. 6	Obs. 7	Obs. 8	Obs. 9	Obs. 10
No algae / bare substrate (%)										
Thin films (%)										
Sludge (%)										
Cyanobacteria mats (%)										
Didymo mats (%)										
Other mats (%)										
Green filaments (%)										
Other filaments (%)										
Other – moss, aquatic plants, etc (%)										
Total cover (should add to 100%)										
	CROSS SECTION 3					**CROSS SECTION 4**				
	Obs. 11	Obs. 12	Obs. 13	Obs. 14	Obs. 15	Obs. 16	Obs. 17	Obs. 18	Obs. 19	Obs. 20
No algae / bare substrate (%)										
Thin films (%)										
Sludge (%)										
Cyanobacteria mats (%)										
Didymo mats (%)										
Other mats (%)										
Green filaments (%)										
Other filaments (%)										
Other – moss, aquatic plants, etc (%)										
Total cover (should add to 100%)										

Periphyton *continued…*

Box D3: Periphyton cover estimate (%) – zig zag or 10 near-bank observations

Working from downstream to upstream, estimate the cover of each category below to the nearest 5% at 10 points. If cover is <5% but not 0, enter 0 but you may wish to note in the comments that there was some cover.

What stream bank are you starting each cross section of observations from?

- ☐ True left bank
- ☐ True right bank

	Obs. 1	Obs. 2	Obs. 3	Obs. 4	Obs. 5	Obs. 6	Obs. 7	Obs. 8	Obs. 9	Obs. 10
No algae (bare substrate) %										
Thin films %										
Sludge (%)										
Cyanobacteria mats %										
Didymo mats (%)										
Other mats (%)										
Green filaments (%)										
Other filaments (%)										
Other (moss, aquatic plants, etc.) %										
Total cover (should add to 100%)										

Cyanobacteria *(Microcoleus)* toxic algae

How are you estimating *Microcoleus* cover?*

☐ Bankside visual assessment – *go to Box A* ☐ Instream visual assessment – *go to Box B*

Box A: Bankside cyanobacteria *(Microcoleus)* cover assessment

Can you see some/all of the streambed?*

☐ No – high flows/too turbid *(end of Microcoleus survey)*
☐ Yes – *complete rest of Box A*

Microcoleus* cover estimate (%)
From the bank, estimate the percentage cover of Microcoleus across the visible portion of the streambed. Base your assessment on the average cover across the

☐ 0% cover (none visible to the eye)
☐ <20% cover
☐ 20-50% cover
☐ >50% cover

Stream reach length*
Approximate length of stream reach being assessed? _____ m

Are there *Microcoleus* (toxic cyanobacteria) mats exposed at or near the stream edge?

☐ Yes ☐ No ☐ Unsure

Shade available at survey area (%)*
(e.g., percentage of sky visible through canopy)*
☐ Unshaded
☐ Light shade (<30%)
☐ Moderate shade (30-80%)
☐ Heavy shade (>80%)

Stream width surveyed (%)*
☐ <10% (edge margin)
☐ 10-30%
☐ 30-60%
☐ 60-90%
☐ 100% (full width)

Enter any comments you wish to record about *Microcoleus* cover

Box B: Instream cyanobacteria *(Microcoleus)* cover assessment

Can you enter the stream to do your assessment?*

☐ No – high flows/too turbid/unsafe *(end of Microcoleus survey)*
☐ Yes – *complete rest of this box AND the GREY SHADED parts of Box A above*

How will your 10 observations be made?*
Where possible, make the observations across two transects of 5 observations at equal distances across the stream to a maximum depth of 0.6 m. If the stream is very small (e.g., less than 2 m wide), estimate points along a zig-zag path. If the stream deepens quickly, estimate points along multiple short transects to make 10 observations.

☐ 2 transects of 5 observations
☐ Zig zag observations across full width of stream
☐ Multiple transects near one bank

What equipment are you using to estimate cover?*

☐ Bathyscope/underwater viewer
☐ Black disc viewer
☐ Metal ring/quadrat on streambed
☐ Naked eye only

Stream reach length*
Approximate length of stream reach being assessed? _____ m

Microcoleus cover* estimate (%)
Working from downstream to upstream, estimate the cover of Microcoleus to the nearest 10% at 10 locations. If cover is <5% but not 0, enter 0 but you may wish to note that there was some cover in the comments box.

Obs. 1	Obs. 2	Obs. 3	Obs. 4	Obs. 5	Obs. 6	Obs. 7	Obs. 8	Obs. 9	Obs. 10
%	%	%	%	%	%	%	%	%	%

Deposited fine sediment

How are you estimating streambed sediment cover?*

☐ Bankside visual assessment – *go to Box A* ☐ Instream visual assessment – *go to Box B*

Box A: Bankside visual assessment cover

From what stream bank are you assessing sediment cover?*

☐ True left bank
☐ True right bank

Can you see some/all of the streambed?*

☐ No – high flows/too turbid *(end of sediment cover survey)*
☐ Yes – *complete rest of Box A*

What stream habitat types are you assessing?*

☐ Run habitat only – *complete Box A1*
☐ All riffles, runs and pools present in the survey reach
– *complete Box A2 AND the grey shaded parts of Box A1*

Stream reach length*

Approximate length of stream reach being assessed? _____ m

Box A1: Run habitat

Fine sediment cover estimate in run habitat (%)*

From the bank, estimate the percentage of fine sediment (< 2 mm in size) covering run habitat. Base your assessment on the average cover present in visible run habitat across the length of the survey reach (e.g., 20-50 m). Estimate to nearest 10%.

Approximately what amount of the survey reach is run habitat (%)?*

☐ <25%
☐ 25-50%
☐ 50-75%
☐ >75%
☐ 100% (i.e., no riffle or pool habitat present)

Stream width surveyed (%)*

☐ <10% (edge margin)
☐ 10-30%
☐ 30-60%
☐ 60-90%
☐ 100% (full width margin)

Enter any comments you wish to record about fine sediment cover

Box A2: All habitats

Fine sediment cover estimate in all habitats (%)*

From the bank, estimate the average percentage of fine sediment (< 2 mm in size) covering the visible portion of each habitat type across the length of the survey reach (e.g., 20-50 m). Estimate to the nearest 5% cover (0, 5, 10, etc.)

Habitat Type	Riffle	Run	Pool	*Total*
Habitat length (m)				
Sediment cover (%)				

Deposited fine sediment *continued…*

Box B: Instream visual cover assessment

This assessment is made in wadable "run" areas (e.g., up to 0.6 m deep provided the current is not too swift).

Can you enter the stream to do your assessment?*
- ☐ No – high flows/too turbid/unsafe *(end of sediment cover survey)*
- ☐ Yes – *complete rest of Box B*

Stream reach length*

Approximate length of stream reach being assessed? _____ m

Approximately what amount of the survey reach is run habitat (%)?*
- ☐ <25%
- ☐ 25-50%
- ☐ 50-75%
- ☐ >75%
- ☐ 100% (i.e., no riffle or pool habitat present)

What equipment are you using to estimate cover?*
- ☐ Bathyscope/underwater viewer
- ☐ Black disc viewer
- ☐ Metal ring/quadrat on streambed
- ☐ Naked eye only

How will your 20 observations be made?*

Where possible, set 5 cross sections with 4 observations at equal distances across the stream (to a maximum depth of 0.6 m). If the stream is very small (e.g., less than 2 m wide), estimate points along a zig-zag path. If the stream deepens quickly, estimate points along multiple short transects to make at least 10 observations.
- ☐ 5 cross sections of 4 observations – *complete grey shaded section below and Box B1*
- ☐ 2 cross sections of 10 observations – *complete grey shaded section below and Box B2*
- ☐ Zig zag observations across full width of stream – *complete grey shaded section below and Box B3*
- ☐ Multiple cross sections along the true left bank – *complete grey shaded section below and Box B3*
- ☐ Multiple cross sections along the true right bank – *complete grey shaded section below and Box B3*

Stream width surveyed (%)*
- ☐ <10% (edge margin)
- ☐ 10-30%
- ☐ 30-60%
- ☐ 60-90%
- ☐ 100% (full width margin)

Enter any comments you wish to record about fine sediment cover

Deposited fine sediment *continued…*

Box B1: 5 cross sections of 4 observations

Fine sediment cover estimate (%)*

Working from downstream to upstream, estimate the cover of fine sediment (<2 mm in size) in increments of 1, 5, 10, 15, 20… 100% at 5 points along 4 cross sections.

What stream bank are you starting each cross section of observations from?*

☐ True left bank ☐ True right bank

	Cross section 1	Cross section 2	Cross section 3	Cross section 4
Observation 1 (%)				
Observation 2 (%)				
Observation 3 (%)				
Observation 4 (%)				
Observation 5 (%)				

Box B2: 2 cross sections of 10 observations

Fine sediment cover estimate (%)*

Working from downstream to upstream, estimate the cover of fine sediment (<2 mm in size) in increments of 1, 5, 10, 15, 20… 100% at 10 points along 2 cross sections.

What stream bank are you starting each cross section of observations from?*

☐ True left bank ☐ True right bank

	Cross section 1	Cross section 2
Observation 1 (%)		
Observation 2 (%)		
Observation 3 (%)		
Observation 4 (%)		
Observation 5 (%)		
Observation 6 (%)		
Observation 7 (%)		
Observation 8 (%)		
Observation 9 (%)		
Observation 10 (%)		

Box B3: 2 cross sections of 10 observations

Fine sediment cover estimate (%)*

Working from downstream to upstream, estimate the cover of fine sediment (<2 mm in size) in increments of 1, 5, 10, 15, 20… 100% at 10 points in the stream.

What stream bank are you starting each cross section of observations from?*

☐ True left bank ☐ True right bank

	Cross section 1	Cross section 2
Observation 1 (%)		
Observation 2 (%)		
Observation 3 (%)		
Observation 4 (%)		
Observation 5 (%)		
Observation 6 (%)		
Observation 7 (%)		
Observation 8 (%)		
Observation 9 (%)		
Observation 10 (%)		