



RHS Application Guidelines

River Habitat Survey (RHS) is a method developed in the UK to characterise and assess, in broad simple terms, the physical character of freshwater streams and small rivers. It is carried out along a 500m length of river. Observations on channel features and modifications are made at 10 equally spaced spot-checks, together with an overall “sweep-up” summary for the whole site. Other information such as valley form and land-use in the river corridor is also collected. For more information, please visit the RHS website at www.riverhabitatsurvey.org.

The RHS Mobile application allows you to record survey data in the field, save surveys, email surveys, and upload to the RHS database. The app is currently available to download for Android from the RHS website.

Installing the RHS Mobile Android App

The RHS Mobile Android application can be downloaded at the following address: [Click here to download the RHS Mobile app.](#)

To install the application on a mobile device:

1. Download the RHS_Mobile.apk file and save it on a shared drive which can be accessed from an Android tablet or smart phone.
2. On the Android device, navigate to the RHS_Mobile.apk file, and open it. This will start the application installation process. A series of warning messages may appear depending on the security settings.

Start a new survey

1. Open the RHS app on a smartphone or mobile device.
2. Select ‘New Survey’ & type the name of the river that will be surveyed. Click ‘Continue’ in the top right hand corner.
3. Complete the ‘Site Health & Safety’ information similar to a paper form. Click the lines to type information, and select the circles to choose options for each section.

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Welcome to Mobile RHS

NEW SURVEY

Version 1.0
 The River Restoration Centre
<http://www.therrc.co.uk>
 University of Trás-os-Montes and Alto Douro
<https://www.utad.pt/en>
 River Habitat Survey website
<http://www.riverhabitatsurvey.org>

New Survey **CONTINUE**

River Name

Site Reference

Site Health and Safety **CONTINUE**

Weather Conditions:

Flow Conditions:

Access and Parking:
(entry & exit)

Low Risk Moderate Risk High Risk

Conditions:
comment on ground stability, footing, exposure/
remoteness

Survey Generic Information

After completing the Site Health and Safety Information page, section 1 will appear, to complete information for the first page of the RHS form.

1. Use the letter tabs along the top of the screen to navigate between sections A, B, C & D. These sections are lettered the same as the RHS paper form.
2. Complete each section including information on valley form, channel features such as riffles and pools, and artificial features such as weirs.



Information recorded is saved when exiting the RHS application. Surveys can be continued at any time when the RHS application is opened again.

RIVER HABITAT SURVEY 2003 Version Page 1 of 4

A FIELD SURVEY DETAILS

Site Number: Is the site part of a river or an artificial channel? River Artificial

Site Reference: Are adverse conditions affecting survey? No Yes

Spot-check 1 coord: If yes, state:

Spot-check 6 coord: Is bed of river visible? barely or not partially entirely

End of site coord: Is health and safety assessment form attached? Yes No

Reach Reference: Number of photographs taken:

River name: Photo references:

Date: / /20 Time: Photo surveyed from: left bank right bank channel

Surveyor name: When options shown with 'shadow boxes', tick one box only

Accredited Surveyor code: **LEFT** banks determined by facing **downstream** **RIGHT**

B PREDOMINANT VALLEY FORM (within the horizon limits) (tick one box only)

shallow vee concave/bowl

deep vee asymmetrical valley

gorge U-shape valley

no obvious valley sides

Distinct flat valley bottom? No Yes Natural terraces? No Yes

C NUMBER OF RIFFLES, POOLS AND POINT BARS (enter total number in boxes)

Riffle(s) Unvegetated point bar(s)

Pool(s) Vegetated point bar(s)

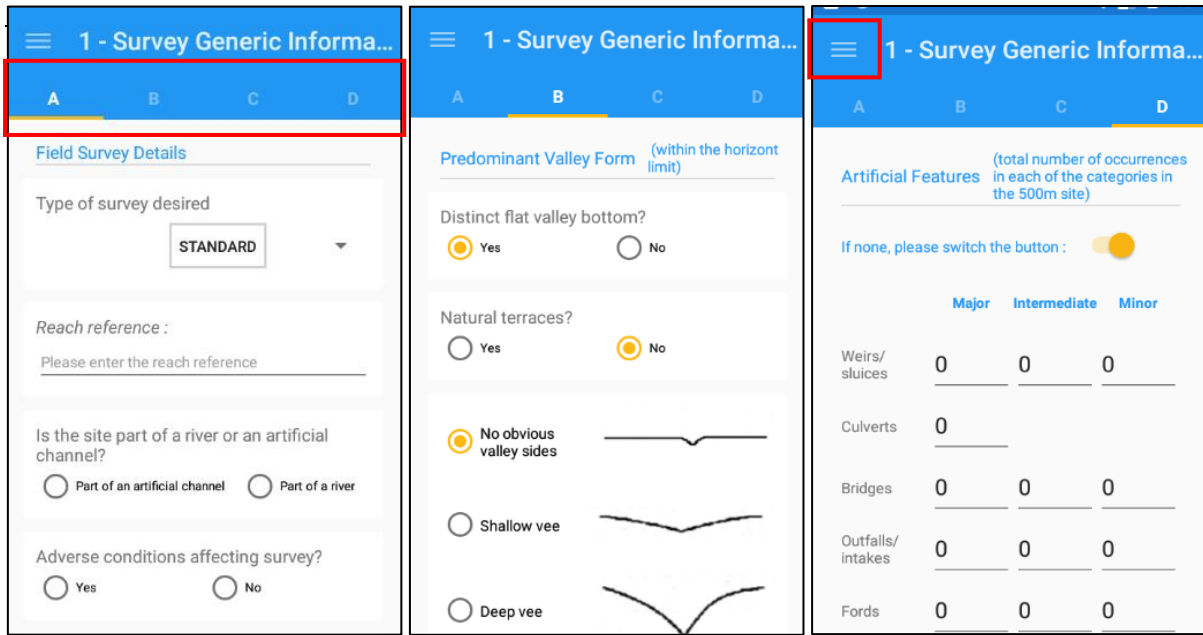
D ARTIFICIAL FEATURES (indicate total number of occurrences of each category within the 50m site)

if none tick	Major			Intermediate			Minor					
	Walls/dikes	Canals	Bridges	Other	Walls/dikes	Canals	Bridges	Other	Walls/dikes	Canals	Bridges	Other
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Is channel obviously realigned? No Yes, <33% of site >33% of site

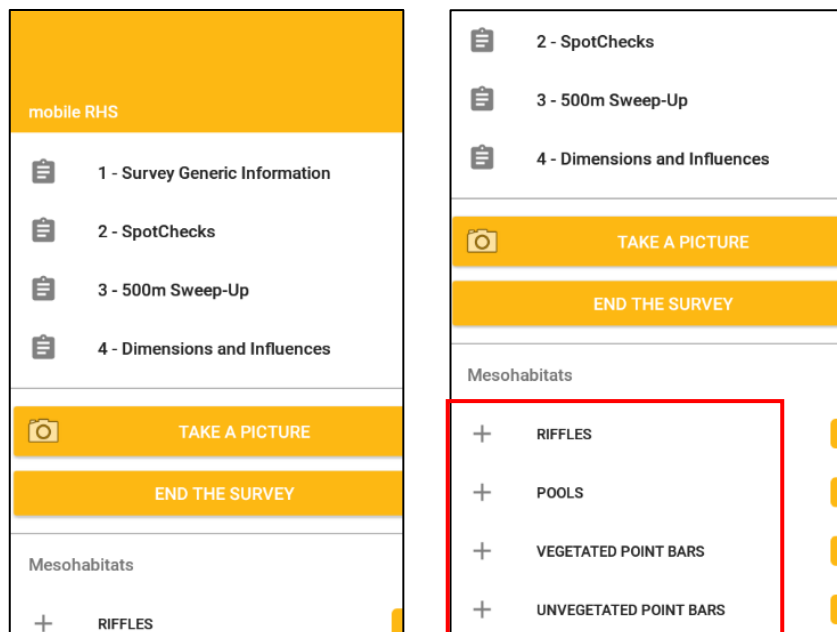
Is channel obviously over-deepened? No Yes, <33% of site >33% of site

Is water impounded by weir/dam? No Yes, <33% of site >33% of site



Riffles, pools and point bars can be recorded during a walk along the bank or during a sweep up. The tally of features can be updated in the menu, rather than having to navigate back to this tab each time a feature is identified.

1. Use the three lines in the top left hand corner to view the menu.
2. At the bottom, there is a list of 'RIFFLES', 'POOLS', 'VEGETATED POINT BARS' and 'UNVEGETATED POINT BARS'. Use the + symbol on the left hand side to add a feature each time one is seen in the field.
3. To decrease or change the number of recorded features, use the menu to navigate to the 'Survey Generic Information' page to correct the count.



Spot checks

1. When section 1 is completed, use the menu to navigate to section 2. This is where spot check information is recorded.
2. Complete sections E, F & G which record information on bank modifications and channel features, landuse and vegetation.
3. In section E, click 'SET COORDINATES' to add the GPS grid reference of the current position for spot check 1, 6 and 11.
4. Click the number '1' in the middle of the screen at the top, to move onto another spot check.
5. Use '11. OVERALL' to record overall channel substrate and vegetation.

CHANNEL VEGETATION TYPES (to be assessed over a 10m wide transect)										
None (✓) or Not Visible (NV)										
Liverworts/mosses/lichens										
Emergent broad-leaved herbs										
Emergent reeds/sedges/rushes/grasses/horsetails										
Floating-leaved (rooted)										
Free-floating										
Amphibious										
Submerged broad-leaved										
Submerged linear-leaved										
Submerged fine-leaved										
Filamentous algae										

Use end column for overall assessment over 500m, including types not occurring in spot checks (use ✓/E or NV)

Sweep up

1. Use the menu to navigate to section '3 – 500m Sweep-Up'.
2. Complete sections H, I, J & K which record information on landuse, bank profiles and channel features across the whole of the 500m survey stretch.

RIVER HABITAT SURVEY : 500m SWEEP-UP									
LAND USE WITHIN 50m OF BANKTOP					EXTENT OF CHANNEL AND BANK FEATURES				
	L	R		L	R		L	R	
Broadleaf/mixed woodland (semi-natural) (BL)						Natural open water (OW)			
Broadleaf/mixed plantation (BP)						Road/urban/grassland/pasture (BP)			
Coniferous woodland (semi-natural) (CW)						Improved/semi-improved grassland (IG)			
Coniferous plantation (CP)						Tall herb/rank vegetation (TH)			
Scrub & shrubs (SH)						Rock, scree or sand dunes (RD)			
Orchard (OR)						Suburban/urban development (SU)			
Wetland (e.g. bog, marsh, fens) (WS)						Tiled land (TL)			
Moorland/heath (MH)						Irrigated land (IL)			
Artificial open water (AW)						Parkland or gardens (PG)			
						Not visible (NV)			

EXTENT OF TREES AND ASSOCIATED FEATURES										
TREES (tick one box per bank)					ASSOCIATED FEATURES (tick one box per feature)					
	Left	Right		None	Present	E (>33%)		None	Present	E (>33%)
None	<input type="checkbox"/>	<input type="checkbox"/>		Shading of channel	<input type="checkbox"/>	<input type="checkbox"/>		Exposed bedrock	<input type="checkbox"/>	<input type="checkbox"/>
Isolated/scattered	<input type="checkbox"/>	<input type="checkbox"/>		*Overhanging banks	<input type="checkbox"/>	<input type="checkbox"/>		Exposed boulders	<input type="checkbox"/>	<input type="checkbox"/>
Regularly spaced, single	<input type="checkbox"/>	<input type="checkbox"/>		*Exposed bankside roots	<input type="checkbox"/>	<input type="checkbox"/>		Vegetated bedrock/boulders	<input type="checkbox"/>	<input type="checkbox"/>
Occasional clumps	<input type="checkbox"/>	<input type="checkbox"/>		*Underwater tree roots	<input type="checkbox"/>	<input type="checkbox"/>		Unvegetated mid-channel bars(s)	<input type="checkbox"/>	<input type="checkbox"/>
Semi-continuous	<input type="checkbox"/>	<input type="checkbox"/>		Fallen trees	<input type="checkbox"/>	<input type="checkbox"/>		Vegetated mid-channel bars(s)	<input type="checkbox"/>	<input type="checkbox"/>
Continuous	<input type="checkbox"/>	<input type="checkbox"/>		Large woody debris	<input type="checkbox"/>	<input type="checkbox"/>		Manicured(s)	<input type="checkbox"/>	<input type="checkbox"/>
								Unvegetated side bars(s)	<input type="checkbox"/>	<input type="checkbox"/>
								Vegetated side bars(s)	<input type="checkbox"/>	<input type="checkbox"/>
								Unvegetated point bars(s)	<input type="checkbox"/>	<input type="checkbox"/>
								Vegetated point bars(s)	<input type="checkbox"/>	<input type="checkbox"/>
								*Discrete unvegetated silt deposits(s)	<input type="checkbox"/>	<input type="checkbox"/>
								*Discrete unvegetated gravel deposits(s)	<input type="checkbox"/>	<input type="checkbox"/>

☰ 3 - 500m Sweep-Up

H I J K

Land Use within 50m of Banktop

Left Bank

Broadleaf / mixed woodland (semi-natural)

E(>33%) Present None

Broadleaf / mixed plantation

E(>33%) Present None

Coniferous woodland (semi-natural)

E(>33%) Present None

Coniferous plantation

E(>33%) Present None

Orchard

☰ 3 - 500m Sweep-Up

H I J K

Natural / Unmodified

Left Bank

Vertical / Under cut

E(>33%) Present None

Vertical with toe

E(>33%) Present None

Steep (>45 deg)

E(>33%) Present None

Gentle

E(>33%) Present None

Compo site

E(>33%) Present None

Natural berm

E(>33%) Present None

☰ 3 - 500m Sweep-Up

H I J K

Extent of Trees and Associated Features (sweep-up)

(*record even if <1%)

Trees

Left Bank **Right Bank**

RS - regularly spaced/single

OC - occasional clumps

SC - semi-continuous

CO - continuous

*Overhanging

E(>33%)



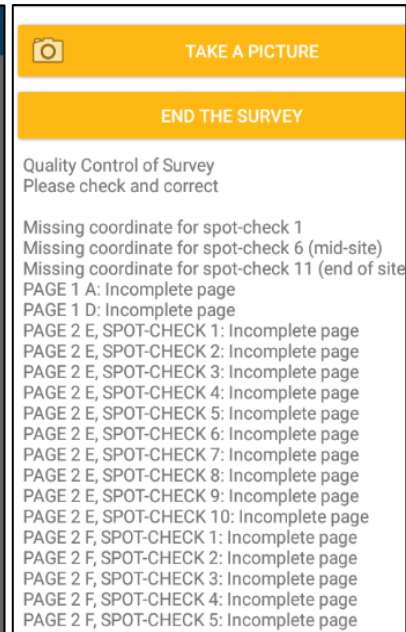
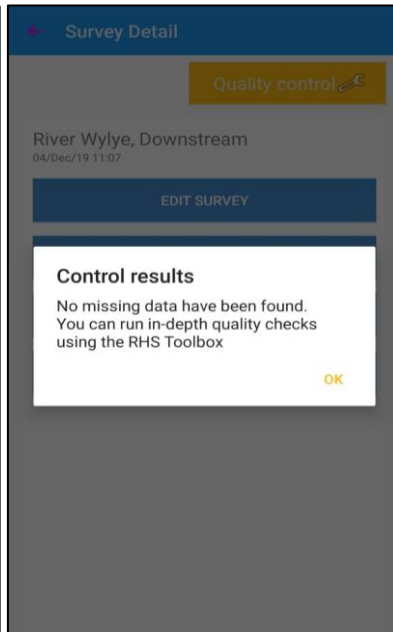
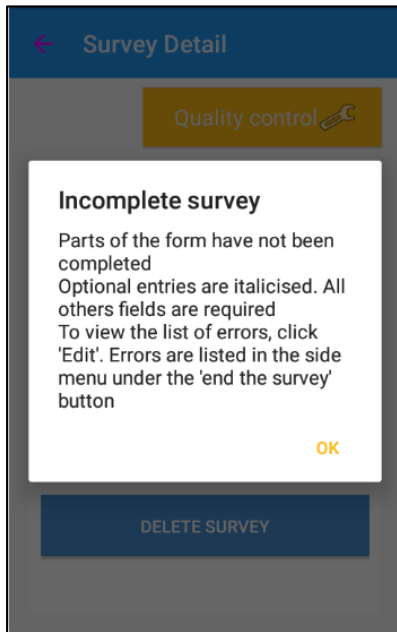
Dimensions and Influences

1. Use the menu to navigate to section '4 – Dimensions and Influences'.
2. Complete sections L, M, N, O, P & S which records information on channel dimensions, features of interest, non-native species, and overall characteristics.
3. In section P, use the drop down menus to select options for 'Major Impacts', 'Evidence of recent management' and 'Animals'.
4. Select the option from the drop down and then click 'ADD/REMOVE' to add or remove this selection.

Quality control

Similar to the RHS database, the survey needs to be quality checked to ensure all the fields are complete and the spot check and sweep up records are consistent.

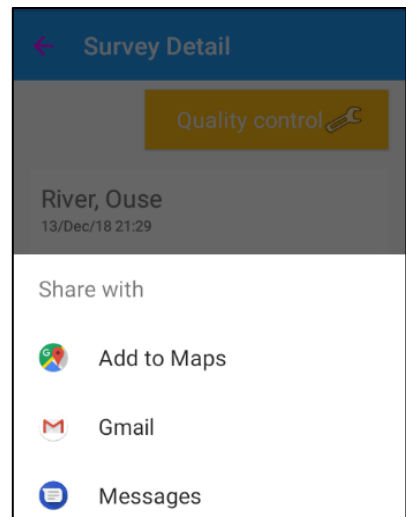
1. Open the menu & click 'END THE SURVEY'.
2. Click 'Quality control' in the top right corner.
3. A dialogue box will appear stating either 'Incomplete survey' or 'Control results'. If the survey is incomplete, click 'OK' and 'Edit Survey' to return to the survey. In the menu, all the outstanding records will be listed.



Exporting a survey

When a survey is complete, it can be exported to the RHS Toolbox.

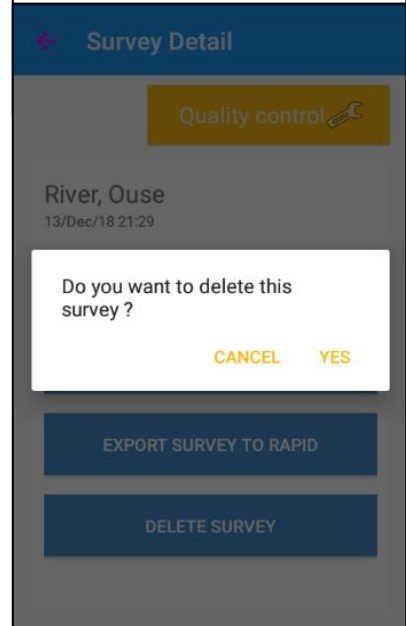
1. Open the menu and click 'END THE SURVEY'.
2. Select 'EXPORT SURVEY TO RHS TOOLBOX'.
3. A dialogue box will appear providing options of how to export, for example sharing to a drive, using a link or email.



Deleting a survey

If a survey is no longer needed or records do not need to be kept on file, they can be deleted. This can be done at any time during a survey.

1. Open the menu and click 'END THE SURVEY'.
2. Select 'DELETE SURVEY'.
3. A dialogue box will appear asking for confirmation to delete the survey.



Add photos

1. In the menu, click 'TAKE A PICTURE'.
2. Click 'OK' at the top of the screen, or click 'Retry' to retake the photo.
3. As long as GPS is enabled on the mobile device, the photo will be geotagged.
4. Photos will be exported with the survey. For example if exporting using email, photos will be attached to the email.

Return to survey & continue editing

The RHS application can be closed and reopen at any stage, to continue editing a survey.

1. On the homepage, click the + symbol on the bottom right hand corner.
2. Click 'List Surveys' and a list of previously started surveys will appear.
3. Select the survey to be edited.
4. Click 'Edit Survey' to continue editing, or select another option from the list.

