Riverine Habitat Audit Procedure - SHEET 14 *Waterway Classification / Natural Channel Design*

Date (dd/mm/yy) ☐☐/☐☐/☐☐ Recorder _____

Basin ☐☐☐ Sub-section ☐☐☐☐ Site ☐☐☐☐ Tributary Name _____

NON SURVEY

Total Catchment Area Upstream (Sq. km) ☐☐☐☐☐☐
Length perennial streams (km) ☐☐☐☐☐☐
Basin Length (km) ☐☐☐☐☐☐
Subsection Catchment Area Upstream (Sq. km) ☐☐☐☐☐☐
Total Catchment Area Upstream (Sq. km) ☐☐☐☐☐☐

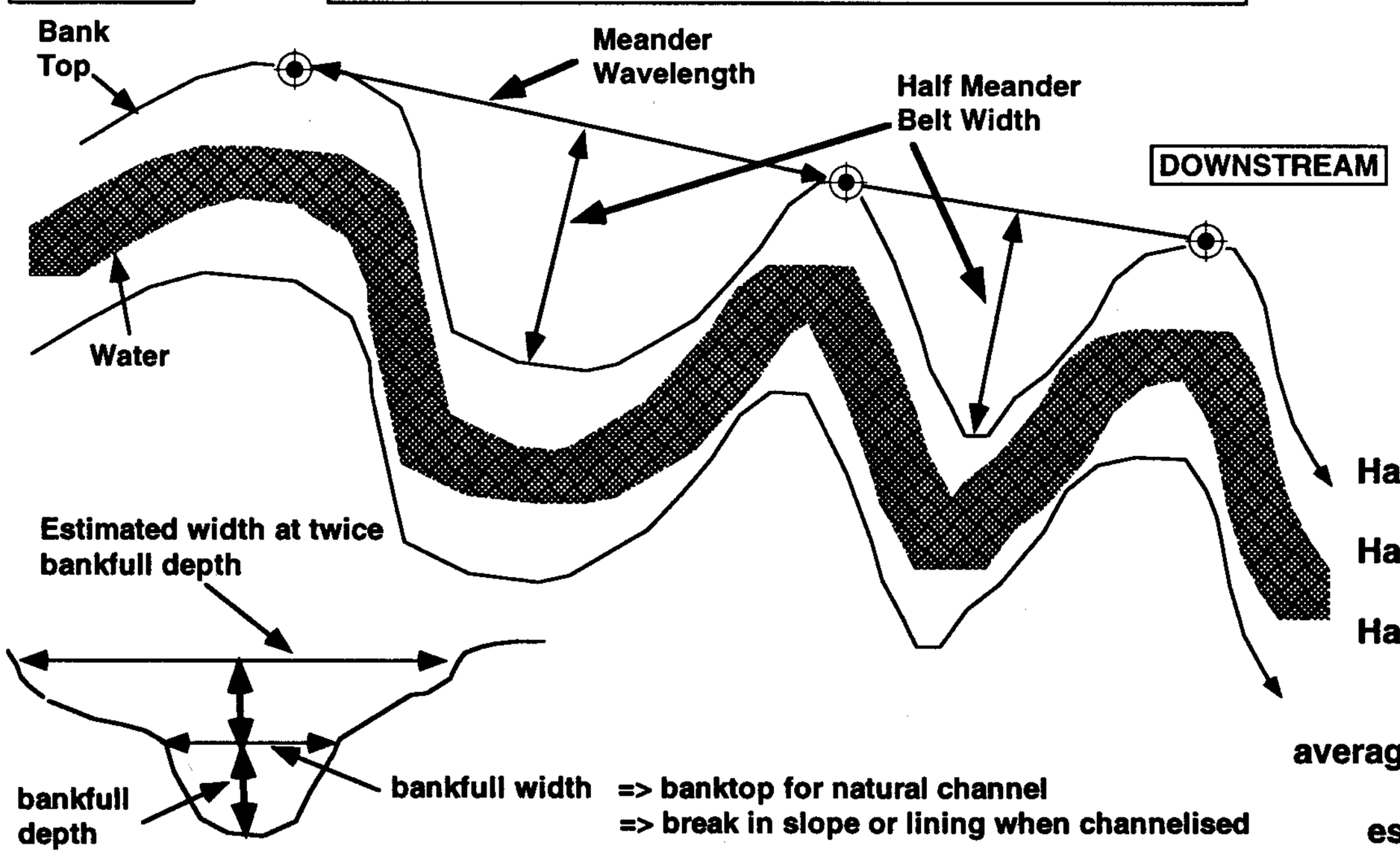
	Historic	Current	Year 2011	Projected for Max Urbanisation
Q1 year	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐
Q2	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐
Q100	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐
Maximum flood	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐
Q design base flow	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐
Q design bank full	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐
Q design flood	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐
Estimated Max Vel.	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐

From Map - most detailed poosible

☐☐☐☐☐☐ sinuosity (20 channel widths or 2 meander wavelengths)
☐☐☐☐☐☐ local gradient
☐☐☐☐☐☐ average section gradient (degrees)
☐☐☐☐☐☐ average hillslope angle,(degrees), of 3 within 300m
☐☐☐☐☐☐ valley width
☐☐☐☐☐☐ embeddedness (measure width at 2 times bankfull depth)
☐☐☐☐☐☐ stream substrate roughness
☐☐☐☐☐☐ imperviousness - within section
☐☐☐☐☐☐ imperviousness - within sub-catchment
☐☐☐☐☐☐ imperviousness - total catchment area upstream
☐☐☐☐☐☐ riffle pool spacing (historical)
☐☐☐☐☐☐ riffle pool spacing (current)

☐☐☐☐☐☐ orientation aspect
☐☐☐☐☐☐ meander wavelength (historical)
☐☐☐☐☐☐ meander wavelength (current)
☐☐☐☐☐☐ meander belt width (historical)
☐☐☐☐☐☐ meander belt with (current)
☐☐☐☐☐☐ bed roughness
☐☐☐☐☐☐ bank roughness
☐☐☐☐☐☐ floodplain roughness
☐☐☐☐☐☐ stream order -non accumulative
☐☐☐☐☐☐ stream order -accumulative
☐☐☐☐☐☐ bankfull width
☐☐☐☐☐☐ valley slope

UPSTREAM **SURVEY - Note: combine with the cross-section measurements** **DOWNSTREAM**



Methods:

Measure meander wavelength for at least two wavelengths, and the half meander belt widths for the meanders (banktop or watermark).

Using an inclinometer measure the stream gradient at the water level (preferred), water mark or banktop by siting to your partner's head. The measurement should be made looking upstream over a distance of 2 meander wavelength or 20 times the bankfull width.

	degrees
gradient @ water surface	☐☐☐
gradient @ water mark	☐☐☐
gradient @ banktop	☐☐☐

	metres
Meander wavelength reading 1	☐☐☐☐
Half meander belt width reading 1	☐☐☐☐
Meander wavelength reading 2	☐☐☐☐
Half meander belt width reading 2	☐☐☐☐
Meander wavelength reading 3	☐☐☐☐
Half meander belt width reading 3	☐☐☐☐

av. dist. between start of pools	☐☐☐☐
average channel depth below banktop	☐☐☐☐
est. width at banktop height	☐☐☐☐
est. width at twice banktop height	☐☐☐☐

Suitability for natural design

	Adequate available buffer	Buffer public land or open space	Links to good habitat upstream	Biota potential
poor	☐	☐	☐	☐
moderate	☐	☐	☐	☐
good	☐	☐	☐	☐
very good	☐	☐	☐	☐