

# HCMR // Rapid Ichthyo-Assessment Protocol

<b>1. Researcher:</b>		<b>2. Fisher:</b>		<b>3. Completed by:</b>	
<b>4. Sampling Site:</b>			Name	Code	<b>5. Date:</b>
<b>6. Hydrographic Basin:</b>			<b>7. Course:</b>		
<b>8. Location Description:</b>					<b>9. Reference site</b> Yes <input type="checkbox"/> Near <input type="checkbox"/> No <input type="checkbox"/> <small>estim. on site</small>
<small>(nearest village; distance from bridges, etc. ....)</small>					
<b>10. GPS Coordinates</b>		<b>11. Time:</b>		<b>12. Altitude:</b>	
		Start:	Finish:	<b>13. Slope:</b>	
<b>14. Sampling Equipment:</b>		<b>15. Sampling Effort:</b> A B C D			
equipment type: ... .. manufacturer: ... .. electricity: DC <input type="checkbox"/> , PDC <input type="checkbox"/> , other: ... .. mean Volt: ... .. , mean frequency: ... ..		comments: ... ..  <small>* if "C": sampling data will be used under provision, *if "D": sampling data will be considered incomplete, or qualitative, * regarding sampling conditions e.g. equipment efficiency, complete habitat cover, difficulties due to flow regime, deep water, turbidity that reduce fishing efficiency etc.</small>			
<b>16. Sampling strategy:</b> a) whole <input type="checkbox"/> partial whole <input type="checkbox"/> one bank <input type="checkbox"/> ambient <input type="checkbox"/> other: ... .. b) wading <input type="checkbox"/> boat <input type="checkbox"/> wading+boat <input type="checkbox"/> other: ... ..					
<b>17. Fished length (m):</b>		<b>18. Fished area (m<sup>2</sup>):</b>		<b>19. Flow regime:</b> Permanent <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>20. Site Width (m)</b>	<b>21. WIDTH (%)</b>	<b>22. DEPTH (%)</b>																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Wetted width</td><td></td></tr> <tr><td>Left bank up to water</td><td></td></tr> <tr><td>Right bank up to water</td><td></td></tr> </table> <p><small>* mean of the site, if no water then wetted width = 0</small></p>	Wetted width		Left bank up to water		Right bank up to water		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>&lt;1</td><td style="text-align: right;">%</td></tr> <tr><td>1 ≤ L &lt; 5</td><td style="text-align: right;">%</td></tr> <tr><td>5 ≤ L &lt; 10</td><td style="text-align: right;">%</td></tr> <tr><td>10 ≤ L &lt; 20</td><td style="text-align: right;">%</td></tr> <tr><td>≥ 20</td><td style="text-align: right;">%</td></tr> </table> <p><small>* in braided channels refer to the sampling area</small></p>	<1	%	1 ≤ L < 5	%	5 ≤ L < 10	%	10 ≤ L < 20	%	≥ 20	%	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td></td><td style="text-align: center;">sampling area</td><td style="text-align: center;">site area</td></tr> <tr><td>&lt;0,25</td><td style="text-align: right;">%</td><td style="text-align: right;">%</td></tr> <tr><td>0,25 ≤ P &lt; 0,5</td><td style="text-align: right;">%</td><td style="text-align: right;">%</td></tr> <tr><td>0,5 ≤ P &lt; 1</td><td style="text-align: right;">%</td><td style="text-align: right;">%</td></tr> <tr><td>≥ 1</td><td style="text-align: right;">%</td><td style="text-align: right;">%</td></tr> <tr><td>Mean:</td><td style="text-align: right;">(m)</td><td style="text-align: right;">(m)</td></tr> <tr><td>Max:</td><td style="text-align: right;">(m)</td><td style="text-align: right;">(m)</td></tr> </table>		sampling area	site area	<0,25	%	%	0,25 ≤ P < 0,5	%	%	0,5 ≤ P < 1	%	%	≥ 1	%	%	Mean:	(m)	(m)	Max:	(m)	(m)
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**23. SUBSTRATE (%)**

Rock continuous		Sand (<2mm)	
Boulder (>256mm)		Silt	
Cobble (64-256mm)		Clay	
Pebble (16-64mm)		Organic	
Gravel (2-16mm)		Artificial	

\*reference to the sampling area

**24. SHADEDNESS (%)**

\* canopy cover over sampling area

**25. WEATHER**

Sunny  Cloudy  Rainy

Other: : ... ..

\* prevailing conditions of the last few days

**26. VELOCITY (m/sec)**

< 0,1	
0,1 - 0,25	
0,25 - 0,5	
0,5 - 0,75	
0,75 - 1	
> 1	

\* estim. mean velocity

**27. PHYSICOCHEMICAL MEASUREMENTS**

Conductivity (mS/m)		T <sup>0</sup> of air (°C)	
Diss.Oxygen		T <sup>0</sup> of water (°C)	
pH		Salinity	

Turbidity: clear  slight turbid (>1m)  turbid (<1m)  very turbid

**28. HELOPHYTES**

Missing	
Isolated Rare	
Sparce	
Intermediate	
Rich	
Dominating sp.:	

**29. BOTTOM VEGETATION**

Missing	
Sparce	
Intermediate	
Rich	
Dominating:	

**30. HABITAT TYPE (%)**

Pool (deep/still)	
Glide (shallow/move)	
Run (deep/move)	
Riffle (shallow/rough)	
Rapid (steps/fast)	
Other.....	

\*reference to sampling area

**31. Important Pressures:**

**32. Fish habitat Details:**

spp number:

**32a. Habitat types sampled**

logs/large woody debris		undercut banks	
overhanging vegetation		thick root mats	
dense macrophyte beds		marshy fringes	
deep pools		isolated/backwater pools	
boulders/ cobbles		riffles	
other natural cover types: ... ..			

**32b. Efficacy of habitat sampling**

1	poor cover	
2		
3	adequate	
4		
5	excellent cover	

\* expert judgment

**33. Other Notes/ Interviews:**

(hydrology, modifications, pollution, introductions, historical fish presence, fishing methods & activities etc.)

**34. Site drawing:**

Upstream

Downstream

basic sketch: form of channel, other important habitat features (pools, riffles, deep pools, backwaters, small dams or obstacles), fishing strategy etc.