

**Appendix 6.2:** Examples of procedures followed and aspects considered during the estimation of the expected fish assemblage at a site (localities 1 to 3 given as examples).

Locality 1

The width of the channel ranged between 1 and 3 meters at this site. The fish sampling reach at locality one was approximately 100 meters long. This sampling reach consisted 90% out of slow-shallow and slow-deep habitats (pools and slow runs). Very little fast shallow habitats (riffles and rapids) were generally present. These habitat features are expected to be similar to those under natural conditions. No overhanging vegetation, aquatic vegetation and rootwads were present, primarily due to the encroachment of the banks by exotic black wattle trees (blocking sunlight). Electroshocking by wading in the water was the only method applied at this site.

BIOTOPE	Pools	Glides	Runs	Rapids	Riffles
% COMPOSITION	90%	2	0	2	6

Under natural conditions, and based on the habitats available at this site, the abundances of the expected species after one sampling unit (20 minutes of electrofishing) was estimated to be the following:

Species	Number of individuals/effort	Relative abundance (%)
<i>Barbus anoplus</i> <sup>T-O-VH-PS</sup>	5	26.3
<b><i>Barbus pallidus</i></b> <sup>VH-PS</sup>	3	15.8
<i>Barbus paludinosus</i> <sup>T-VH-PS</sup>	3	15.8
<i>Clarias gariepinus</i> <sup>T-O-PS</sup>	2	10.5
<i>Tilapia sparrmanii</i> <sup>T-O-VH-PS</sup>	3	15.8
<i>Pseudocrenilabrus philander</i> <sup>T-VH-PS</sup>	3	15.8
TOTAL CPUE	19	
% indivs of tolerant spp.	84	
% of individuals as omnivores	53	

T - Tolerant species. O – Omnivorous species  
 RRR - Sensitive to degradation/loss of riffle/rapid/run habitats  
 VH - Sensitive to degradation/loss of vegetated habitats  
 PS - Sensitive to degradation/loss of pool/slow flowing habitats

Locality 2

The fish sampling reach at locality two was approximately 100 meters long. The channel width ranged between 1 and 4 meters. This sampling reach consisted predominantly (80%) out of fast shallow habitats (glides and rapids). Very little slow habitats were generally present. Overhanging vegetation occurred in approximately 50% of the reach (where there were no exotic Blackwattles). The substrate at this site consisted primarily out of boulders, creating abundant refuge areas for fish. The pool substrates were, however, covered with fine silt. Electroshocking by wading in the water was the only method applied at this site.

BIOTOPE	Pools	Glides	Runs	Rapids	Riffles
% COMPOSITION	20%	35 %	0 %	45 %	0 %

Under natural conditions, and based on the habitats available at this site, the abundances of the expected species after one sampling unit (20 minutes of electrofishing) was estimated to be the following:

Species	Number of individuals/effort	Relative abundance (%)
<i>Barbus aeneus</i> <sup>O-RRR</sup>	5	17.9
<b><i>Barbus anoplus</i></b> <sup>T-O-VH-PS</sup>	5	17.9
<i>Barbus pallidus</i> <sup>VH-PS</sup>	3	10.7
<i>Barbus paludinosus</i> <sup>T-VH-PS</sup>	3	10.7
<i>Clarias gariepinus</i> <sup>T-O-PS</sup>	2	7.1
<i>Tilapia sparrmanii</i> <sup>T-O-VH-PS</sup>	5	17.9
<i>Pseudocrenilabrus philander</i> <sup>T-VH-PS</sup>	5	17.9
TOTAL CPUE	28	
% indivs of tolerant spp.	64	
% of individuals as omnivores	54	

T - Tolerant species. O – Omnivorous species  
 RRR - Sensitive to degradation/loss of riffle/rapid/run habitats  
 VH - Sensitive to degradation/loss of vegetated habitats  
 PS - Sensitive to degradation/loss of pool/slow flowing habitats

Locality 3

The fish sampling reach at locality two was approximately 200 meters long. The channel width ranged between 1 and 4 meters. This sampling reach consisted predominantly (80%) out of fast shallow and fast deep habitats (glides and rapids). Overhanging vegetation occurred in approximately 80% of the reach. The substrate at this site consisted primarily out of cobbles and boulders. Electroshocking by wading in the water was the only method applied at this site.

BIOTOPE	Pools	Glides	Runs	Rapids	Riffles
% COMPOSITION	0%	20 %	60 %	10 %	10 %

Under natural conditions, and based on the habitats available at this site, the abundances of the expected species after one sampling unit (20 minutes of electrofishing) was estimated to be the following:

Species	Number of individuals/effort	Relative abundance (%)
<i>Barbus aeneus</i> <sup>O-RRR</sup>	3	8.8
<b><i>Barbus anoplus</i></b> <sup>T-O-VH-PS</sup>	10	29.4
<i>Barbus pallidus</i> <sup>VH-PS</sup>	5	14.7
<i>Barbus paludinosus</i> <sup>T-VH-PS</sup>	5	14.7
<i>Labeo capensis</i> <sup>RRR</sup>	2	5.9
<i>Clarias gariepinus</i> <sup>T-O-PS</sup>	3	8.8
<i>Tilapia sparrmanii</i> <sup>T-O-VH-PS</sup>	3	8.8
<i>Pseudocrenilabrus philander</i> <sup>T-VH-PS</sup>	3	8.8
TOTAL CPUE	34	
% indivs of tolerant spp.	71	
% of individuals as omnivores	56	

T - Tolerant species. O – Omnivorous species  
 RRR - Sensitive to degradation/loss of riffle/rapid/run habitats  
 VH - Sensitive to degradation/loss of vegetated habitats  
 PS - Sensitive to degradation/loss of pool/slow flowing habitats