

Potential reference sites are selected that possess a limited, though ill-defined range of physical, chemical, and biological characteristics.		
<b>Multimetric</b>	<b>Multivariate</b>	
Invertebrate and habitat data are collected at reference and test sites.	Invertebrate and habitat data are collected at reference sites.	
Potential reference sites are grouped based first on their physical and chemical attributes; final classification considers within-group similarity of species composition and derived metrics.	Sites are grouped based on species composition using clustering methods.	
Metrics are tested for their suitability in differentiating test-sites from the most similar reference group.	A discriminant function model (DFM) of natural physical and chemical factors is developed using site groups derived from the species classification.	
A multimetric is derived by combining the metrics that maximize the difference between test sites and the reference group. This is a highly iterative process.	Invertebrate and habitat data are collected at test-sites.	
Multimetric values are partitioned into impairment categories. In practice, many methods and criteria are used for this process.	<b>BEAST</b>	<b>RIVPACS/ AusRivAS</b>
The value of the multimetric for a subsequent test-site is calculated and compared to categories established in the previous step.	A test-site is assigned to a reference-group based on the DFM.	Using a test-site's physical condition, the DFM is used to determine its probability of membership to each reference group.
Impairment level is assigned.	A test-site is compared to its reference group in taxa ordination space using probability ellipses constructed around the reference group.	The probability of a taxon expected at a test-site is based on the above probabilities and each taxon's probability in the reference group.
	The further the test-site is outside of the probability ellipses, the greater the impairment.	The taxa observed are compared to the taxa expected (O/E) at the test-site.
		Impairment is based on partitioning the 0 to 1.0 relationship of O/E (1.0 equals no impairment).

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