



AUSRIVAS

TRAINING & ACCREDITATION

Preparation for Field Work &
Collecting Site Information





Sampling sites

Site selection & study design is outside the scope of this course, except to say that:

Why you are sampling?

What is the question to be answered?

Will AUSRI VAS provide the answer?





Procedures recommended by **ANZECC guidelines** for the successful employment of a biological monitoring/assessment program follow a series of management decisions:

- 1) Determine the level of protection desired (stakeholders to define) & management goals
- 2) Identify environmental concerns
- 3) Identify biological assessment objectives for protection
- 4) Select appropriate indicators & protocols to apply
- 5) Select the appropriate experimental design to apply to the indicator
- 6) Determine a level of acceptable impact & statistical sensitivity to detect impacts
- 7) Assess results from of the monitoring program with feedback to managers



Biological assessment objectives for different management situations where ANZECC guidelines can recommend rapid bioassessment methods (such as, AUSRI VAS)

Assessment objective	Application	Essential or desired attributes
Broad-scale assessment of ecosystem health (catchment, regional or larger scale)	Water quality on a catchment and regional basis(e.g., SoE reports, catchment management indicators)	Comparative measures of biological community composition, e.g., multivariate; Measure rapidly and cheaply, rapid turnaround of results; Have diagnostic value.
Early detection of acute and chronic changes	Water quality on a regional basis in response to specific pressure	As above
Assessment of biodiversity (for biodiversity/ conservation status where rapid assessment methods have been shown to correlate well with biodiversity)	Water quality at sites on a regional basis	Surrogate measures for ecosystem biodiversity where relationship established (usually community/multivariate); Have a diagnostic value

ANZECC guidelines:

Water quality issues where rapid assessment methods, such as AUSRI VAS, can address the changes to biotic assemblage



- 1) Metals & other toxicants
- 2) Suspended solids in water column
- 3) Sedimentation of the river bed
- 4) Salinity
- 5) Nutrient inputs
- 6) General effluent (non-specific)
- 7) Broad-scale assessment of ecosystem 'health' (non-specific degradation)





Habitats Sampled



NT Sand-bed



QLD Pool



ACT Riffle



NT Edge



ACT Edge



Preparing for the field trip

- Wash water sample bottles
- Calibrate 'hydrolab' (or similar measuring device used to measure water quality variables)
- Charge batteries e.g., 'hydrolab' battery
- Gather & check sampling equipment (should have a full equipment checklist)
- Organize transport





General Safety

Know the safety guidelines & requirements of the particular organisation you work for

- Inform someone where you are going & when you expect to return
- Take someone with you - Never go sampling alone
- Include a first-aid kit
- Take care when moving in & around water
- EPI RB - for remote locations



Don't forget the sunscreen





Data collection

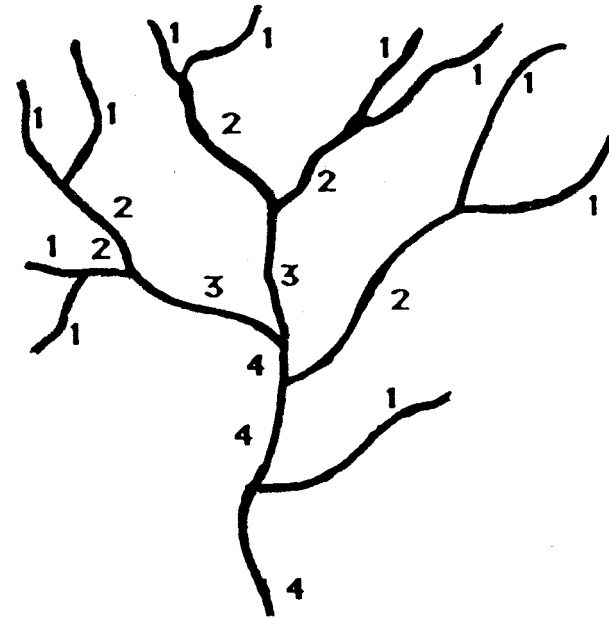
- ✦ Site information: record location & catchment scale characteristics, which are largely derived from 1:100,000 maps, plus site access details & photographs
- ✦ Field sampling: record the physical, chemical & habitat characteristics measured at a site
- ✦ It is essential that all the variables on the data sheets are recorded because missing data may prevent site assessment





Site information

- River:
- Location code format:
Drainage division|Basin|2|Site No.
- Location:
- Catchment:
- Stream Order:

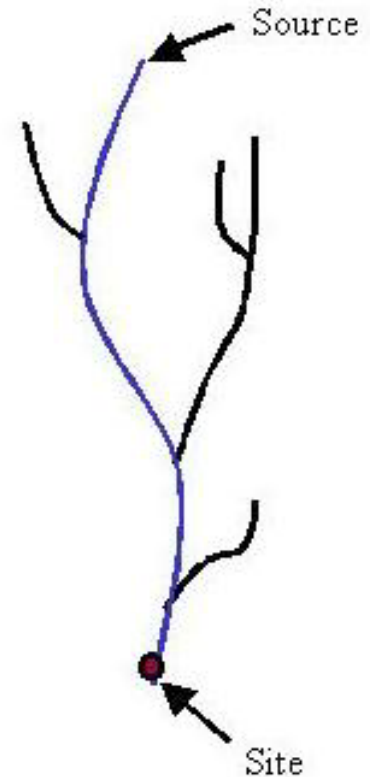


Stream Order



Site information cont.

- Distance From Source:
- Catchment area upstream:
- Altitude:
- Record map details:
- Latitude & Longitude:
- Directions
- Sketch reach & access route
- Permission required?





Gillatotong Ck, Braidwood NSW