

FROGS – HABITAT SURVEY

Background

A healthy waterway usually means that the surrounding land or catchment is in good condition. Alternatively, an unhealthy waterway indicates something is wrong in the catchment. To gain an understanding of the condition of a waterway, you can conduct habitat surveys to establish the quality of the habitat for supporting aquatic life. Habitat surveys could be repeated in the future to determine if the habitat has improved or changed since the initial one was completed.

A habitat survey involves examining the vegetation along the waterway and the condition of the banks. The condition of the vegetation in and around the waterway (referred to as the riparian zone) provides a good indication of the likely conditions of the aquatic environment. When the riparian vegetation is degraded, it provides less protection against land-use impacts and the subsequent deterioration of water quality and of conditions for aquatic plants and animals.

Aim

The aim of this session is to:

- Investigate your local waterways and determine habitat quality

Materials

- PowerPoint
- A pencil
- A Star Rating Meter (instructions provided):
 - 1 split pin
 - Glue
 - Scissors
 - Photocopy of the Star Rating Meter template
 - Thin cardboard or laminate the Star Rating Meter template
- An environmental report card:
 - Suggested materials include: pencils, coloured and plain paper

Notes for teachers

- Students learn about habitat factors by studying the information provided on the PowerPoint.
- Students design and construct an environmental report card for their local waterway. These could be submitted as a booklet, poster or a certificate.
- The following information should be included in the design:
 - Name of people conducting the assessment
 - Date of survey
 - Date of last survey
 - Length of waterway examined (in meters)
 - Name of waterway
 - Rating scores for each of the five factors:
 - Bank vegetation
 - Verge vegetation
 - Instream cover
 - Bank erosion and stability
 - Riffles, pools and bends
 - Overall waterway rating: 5star, 4star, 3star, 2star, 1star
 - A sketch of the waterway assessed.
- Select a local river, stream or wetland that has safe access.
- Students use the Star Rating Meter to determine the scores for the five factors at the site. Follow the instructions on how to use the meter.
- Record the overall rating on the environmental report card.
- Students should interpret results. Below is a list of suggested questions for students:
 - If different sites were assessed, were there differences or similarities between them?
 - Identify the habitat requirements of frogs. Is the habitat suitable?
 - Could you hear frogs at the site? What does this indicate about the quality of the site?
 - Did you see or smell any evidence of poor habitat quality?
 - What impact does poor habitat quality have on frog populations?

Estimated Duration

- Introduction: 10 mins
- Habitat assessment of local waterway: 40 mins (depending on amount of sites sampled)

Useful websites for students

Habitat surveys at the Plenty River

This site provides data on habitat surveys conducted by a primary school in Greensborough, Victoria.

http://web.apolloparkps.vic.edu.au/Content/grade_area/pegasus/WaterQuality_Website/habitat/habitat_survey1.html

Examples of habitat survey record sheets that students could adapt for their environmental report card:

- Waterwatch SA, page 8
<http://www.rivermurray.sa.gov.au/work/pdfs/River%20Habitats.pdf>
- Waterwatch SA, page 8
<http://www.cwmb.sa.gov.au/KWC/programs/Living%20Waterways%20Part%202.pdf>



Making a Star Rating Meter

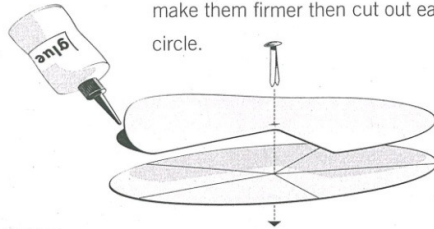
A Star Rating Meter is a tool that can be used when you are at the river site to help you conduct a habitat survey.

You will need:

- 1 split pin
- Glue
- Coloured pencils
- Scissors
- Thin cardboard
- A photocopy of the Star Rating Meter template

Step 1

Paste the two circles onto thin card to make them firmer then cut out each circle.

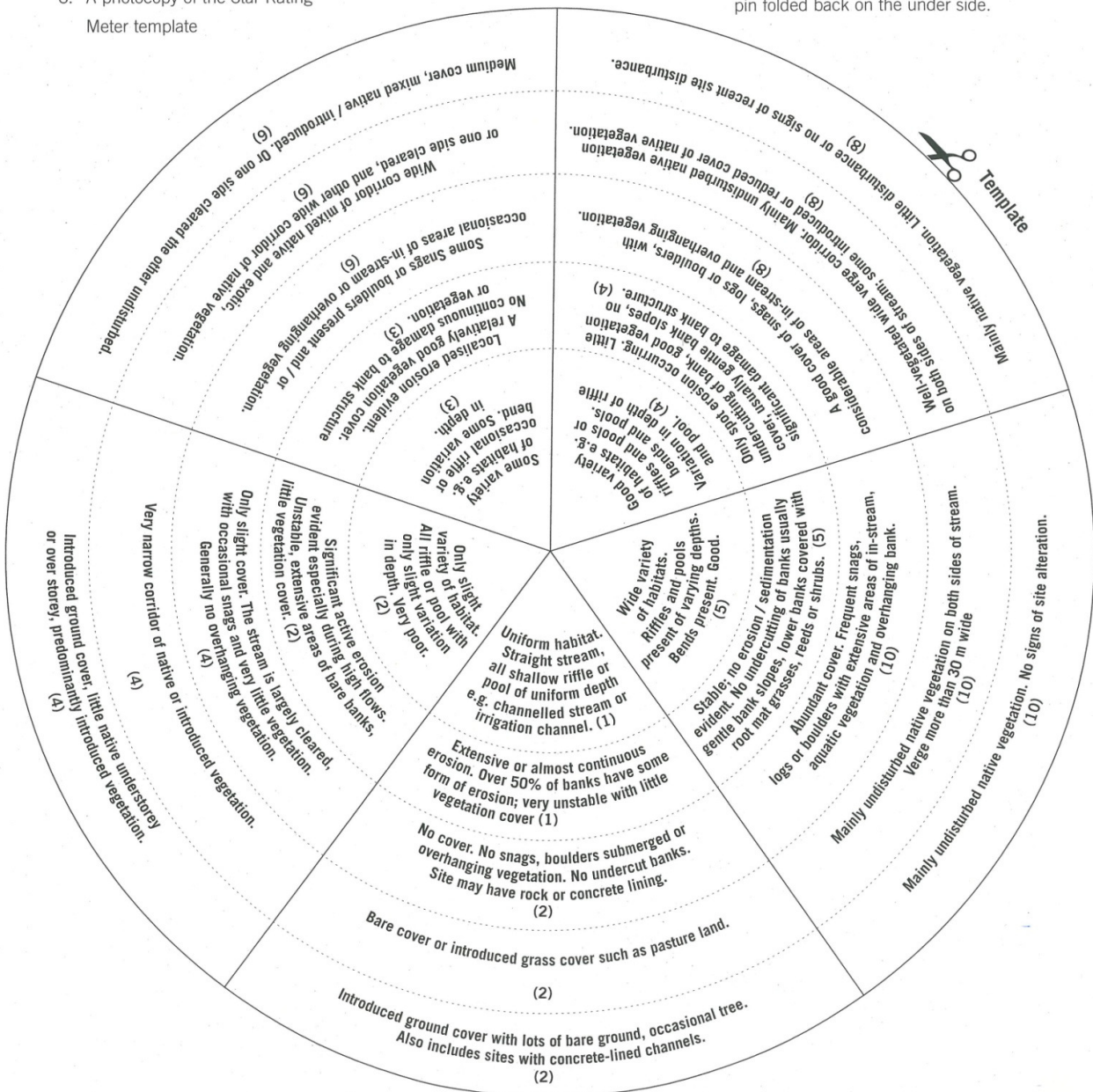


Step 2

Place the turning circle with the cut out section on top of the circle that details all the factors.

Use a sharp object such as scissors or a compass to punch a hole in the centre of the circles.

Secure the circles together with a split pin folded back on the under side.



How to use your Star Rating Meter

Start with 'bank vegetation' and turn the top circle around to find the description in the cut out section that matches most closely with the bank vegetation at your river site. Copy the score onto your report card. Continue looking at each factor including: verge vegetation, in stream cover, bank erosion and stability, pools and bends by turning the circle so

that the nearest matching description for each of these factors appears in the cut out section.

Copy the scores for each factor onto your report card.

After assessing all five factors add up the scores to find the overall star rating for this site.

Record the number of stars on your environment report card.

Interpreting your results

Assess your total stream's habitat rating score using the information on your Star Rating Meter.

