

# WATER SAMPLING

## Objective

The idea is to collect a representative portion of the water to be tested, and to have enough sample to perform all required tests. Correct sampling procedures will ensure that the components are the same in the sample as they are in the water being tested.

## Procedure

1. Before taking the sample label the bottle/s with a waterproof pen noting the location, date and time.

## Location

2. Identify the best place to obtain a representative sample – this will usually be mid-stream or in an area that is fast flowing.
3. If you are wading into the water be sure to collect the sample upstream of where you are standing to avoid contaminating your sample from the disturbed stream bed.

## Procedure

4. Unscrew the lid and hold it in one hand. Avoid touching the inside of the lid, or bottle.
5. With the other hand, plunge the bottle neck downward beneath the water surface, and if possible to a depth of approximately 30cm.
6. Tilt the bottle neck upwards, facing upstream towards the current.
7. Rinse the bottle three times, discarding the contents downstream of you.
8. Fill the bottle again following steps 5 & 6 and fill to the top. Remove the now filled bottle from the water and tightly cap the bottle.

## Sample storage

9. Once sample/s have been taken keep them chilled, and ensure they are dropped off to be tested within 24 hours of collection.



Check out this video 'Water Quality Sampling' at:

<https://www.youtube.com/watch?v=iB7XY3wD1-E>

Contaminant	Source of contaminant	Why is it a problem	How it gets to water
<b>Nitrate-nitrite-nitrogen (NNN)</b>	<ul style="list-style-type: none"> <li>• Urine and dung from stock</li> <li>• Nitrogen fertiliser</li> <li>• Farm dairy effluent</li> <li>• Silage leachate</li> </ul>	<ul style="list-style-type: none"> <li>• Feeds nuisance plant and algae growth in waterways</li> <li>• Algae and nuisance plants affect stream life, strip oxygen from the water, block water intakes and make water unpleasant for swimming and drinking</li> </ul>	<ul style="list-style-type: none"> <li>• Moves down through soil (leaching) into groundwater and subsurface drains which feed into streams</li> <li>• Surface runoff</li> <li>• Stock in streams</li> <li>• Discharges from oxidation ponds</li> <li>• Fertiliser application</li> </ul>
<b>Ammoniacal nitrogen (NH<sub>4</sub>-N)</b>	<ul style="list-style-type: none"> <li>• Urine and dung from stock</li> <li>• Silage leachate</li> <li>• Fertiliser</li> </ul>	<ul style="list-style-type: none"> <li>• Can be toxic to fish</li> </ul>	<ul style="list-style-type: none"> <li>• Effluent coming from tile drains</li> <li>• Stock in streams</li> <li>• Fertiliser application</li> </ul>
<b>Dissolved reactive phosphorus (DRP)</b>	<ul style="list-style-type: none"> <li>• Dung from stock</li> <li>• Phosphate in fertiliser</li> <li>• Farm dairy effluent</li> <li>• Soil sediment and weathered rock</li> </ul>	<ul style="list-style-type: none"> <li>• Feeds nuisance plant and algae growth in waterways</li> <li>• Algae and nuisance plants affect stream life, strip oxygen from the water, block water intakes and make water unpleasant for swimming and drinking</li> </ul>	<ul style="list-style-type: none"> <li>• Soil and bank erosion as P binds to soil particles</li> <li>• Surface runoff</li> <li>• Discharges from oxidation ponds</li> <li>• Stock in streams</li> <li>• Subsurface drains</li> <li>• Fertiliser application</li> </ul>
<b>Escherichia coli (E. coli)</b>	<ul style="list-style-type: none"> <li>• Dung from stock</li> <li>• Farm dairy effluent</li> <li>• Other warm blooded animals</li> </ul>	<ul style="list-style-type: none"> <li>• Human health risk from swimming and drinking</li> <li>• Can affect stock health if present in stock drinking water</li> </ul>	<ul style="list-style-type: none"> <li>• Stock in streams</li> <li>• Subsurface drains</li> <li>• Discharges from oxidation ponds</li> <li>• Surface runoff</li> </ul>
<b>Turbidity</b>	<ul style="list-style-type: none"> <li>• Slips</li> <li>• Stream bank erosion</li> <li>• Tracks and races</li> <li>• Surface runoff from paddocks</li> </ul>	<ul style="list-style-type: none"> <li>• Makes water murky and affects stream life</li> <li>• Poor water clarity makes water unsuitable for swimming</li> </ul>	<ul style="list-style-type: none"> <li>• Surface runoff</li> <li>• Stream bank collapse</li> <li>• Slips</li> </ul>