A DNA-based wetland assessment and monitoring tool

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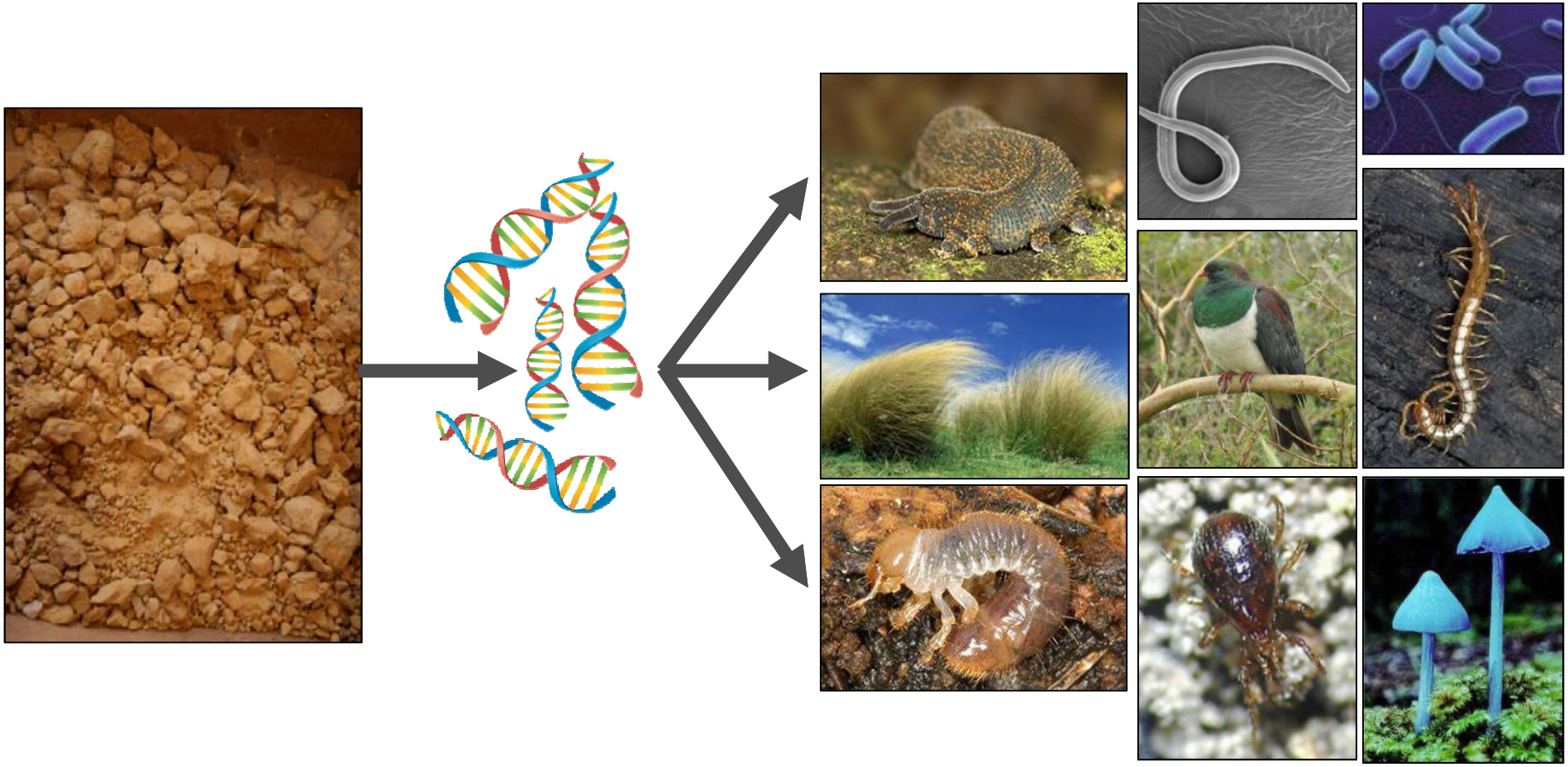
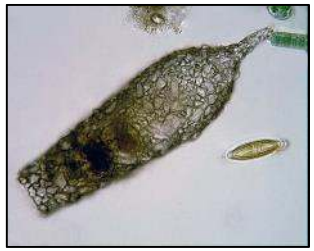
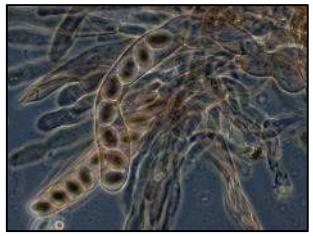
Manaaki Whenua
Landcare Research

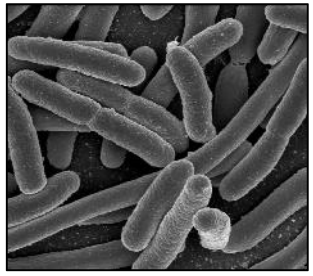
Environmental DNA (eDNA)

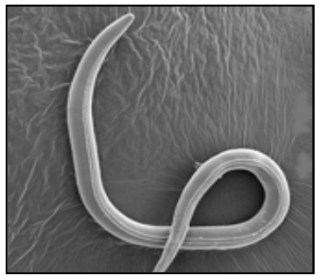


eDNA in wetlands

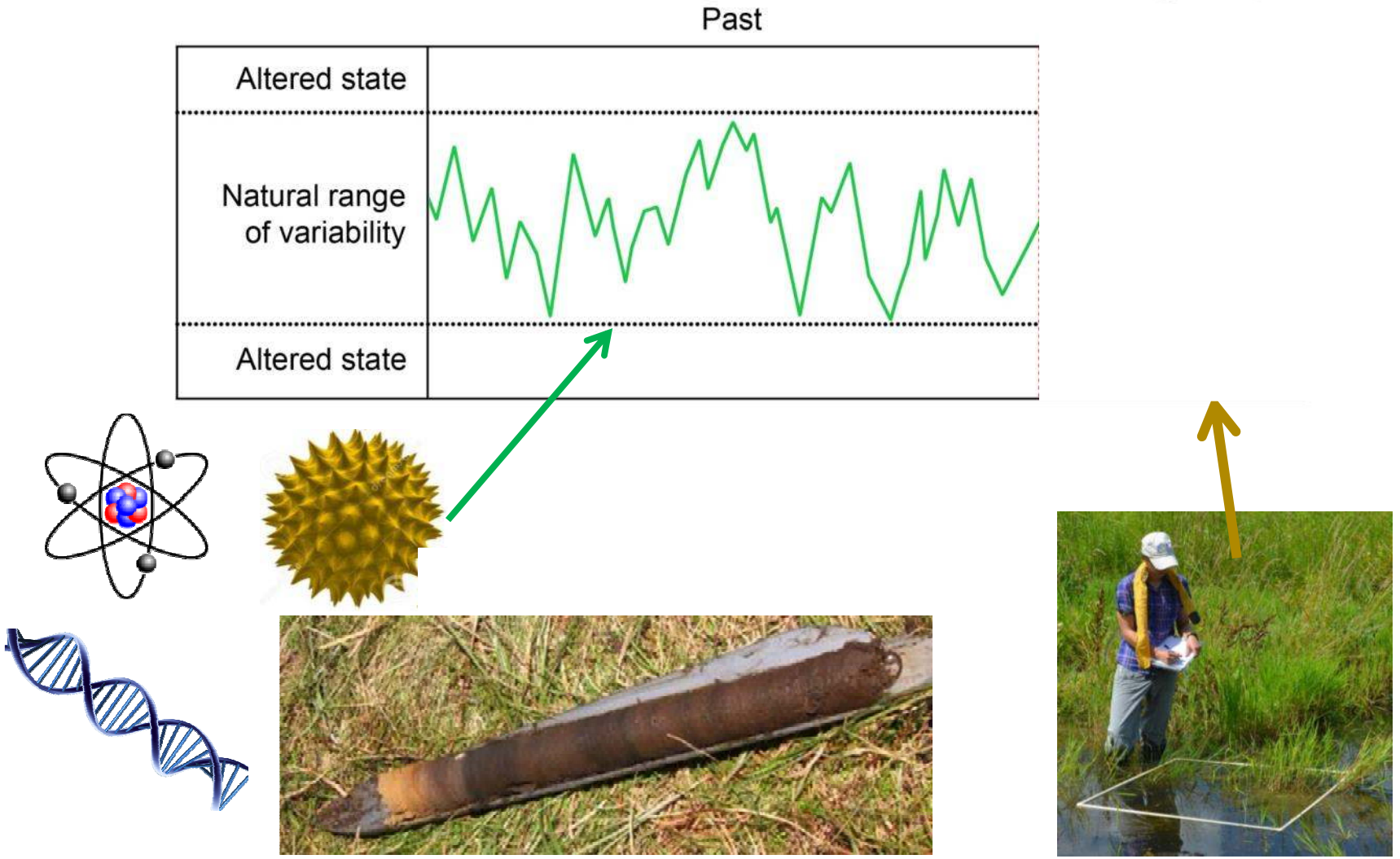








Ancient eDNA in wetlands


Past
Altered state
Natural range of variability
Altered state

Wetland Assessment and Monitoring Tool (WAAM)

http://ltel.landcareresearch.co.nz/research/conservation-palaeoecology/waam

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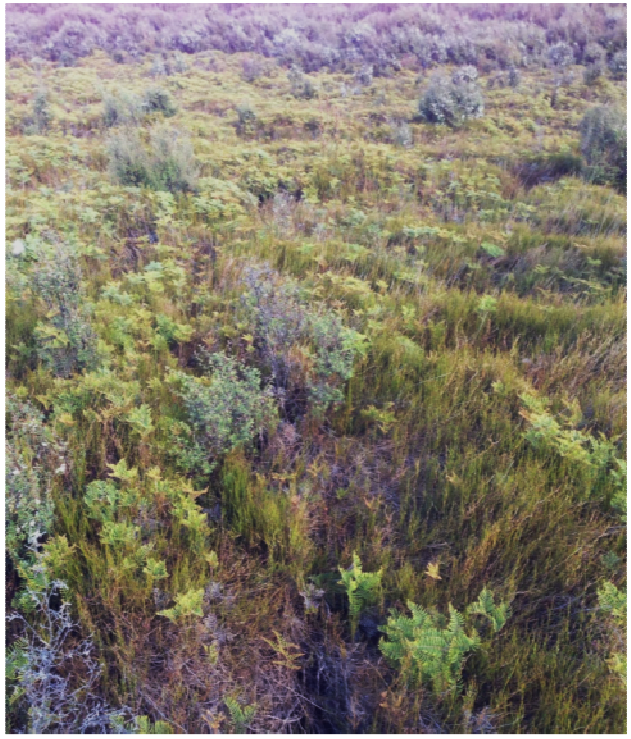
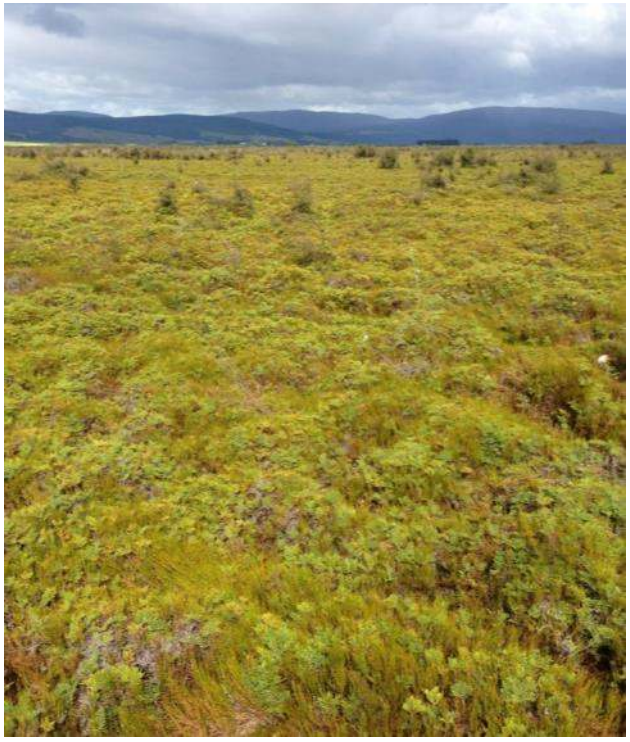
Wetland condition gradient

Awarua
WCI = 21.67



Bayswater
WCI = 19.05

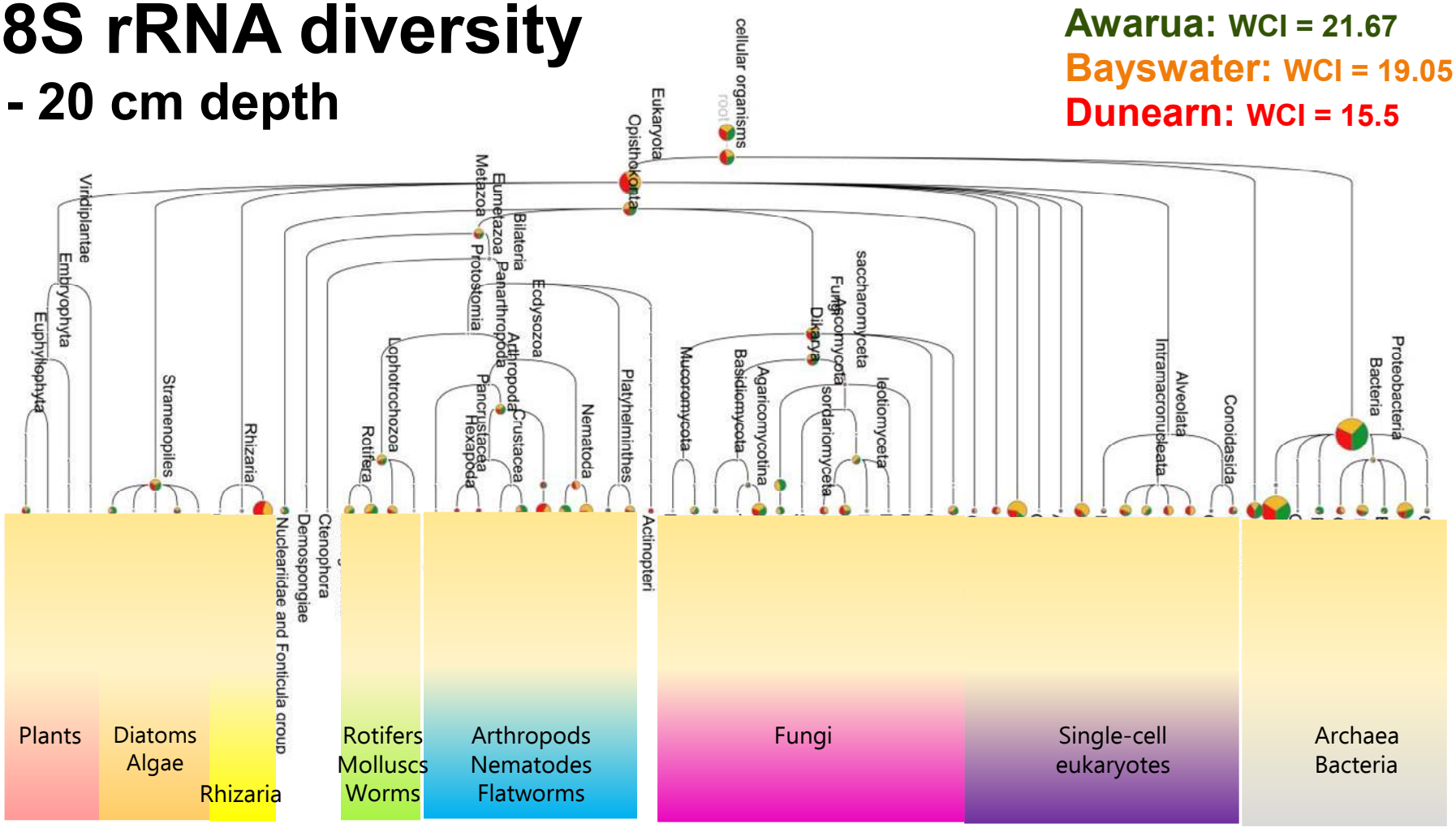


Dunearn
WCI = 15.5

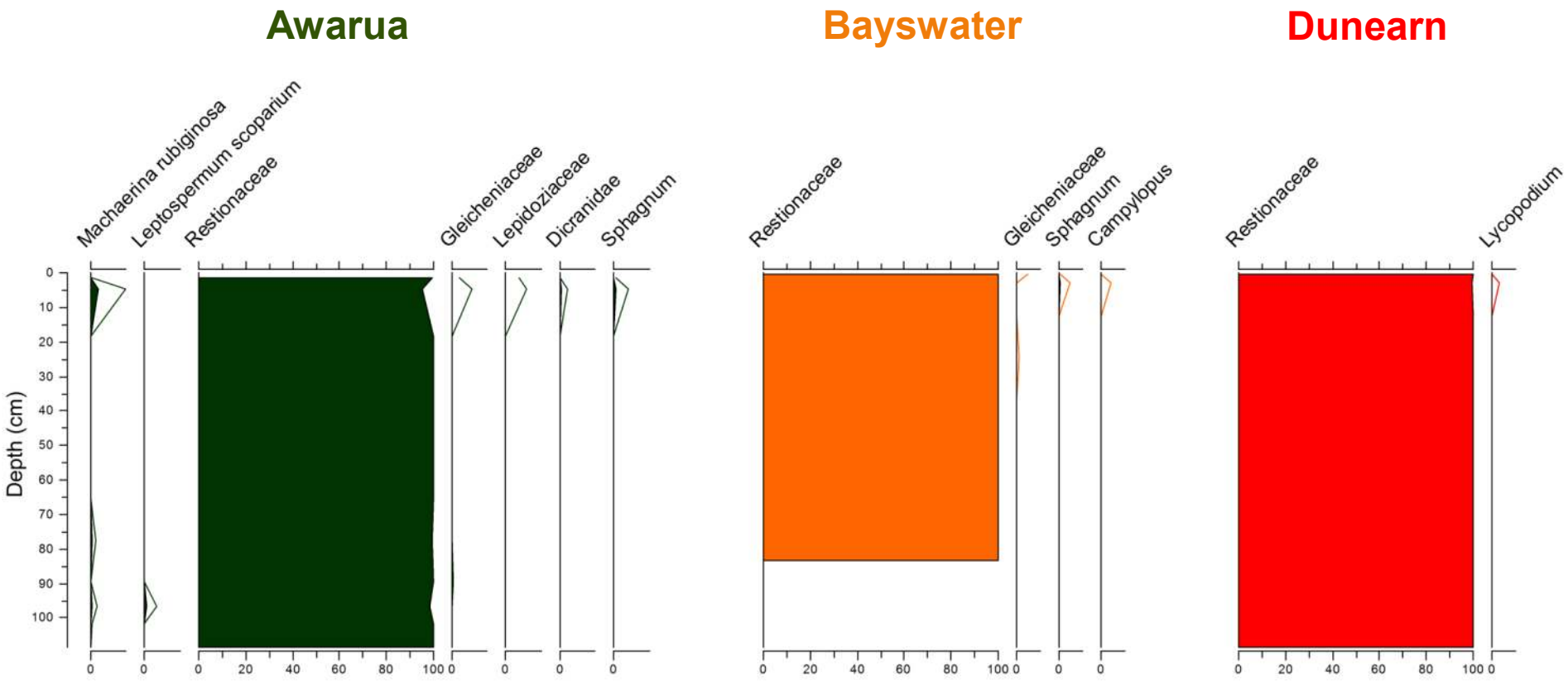
18S rRNA diversity

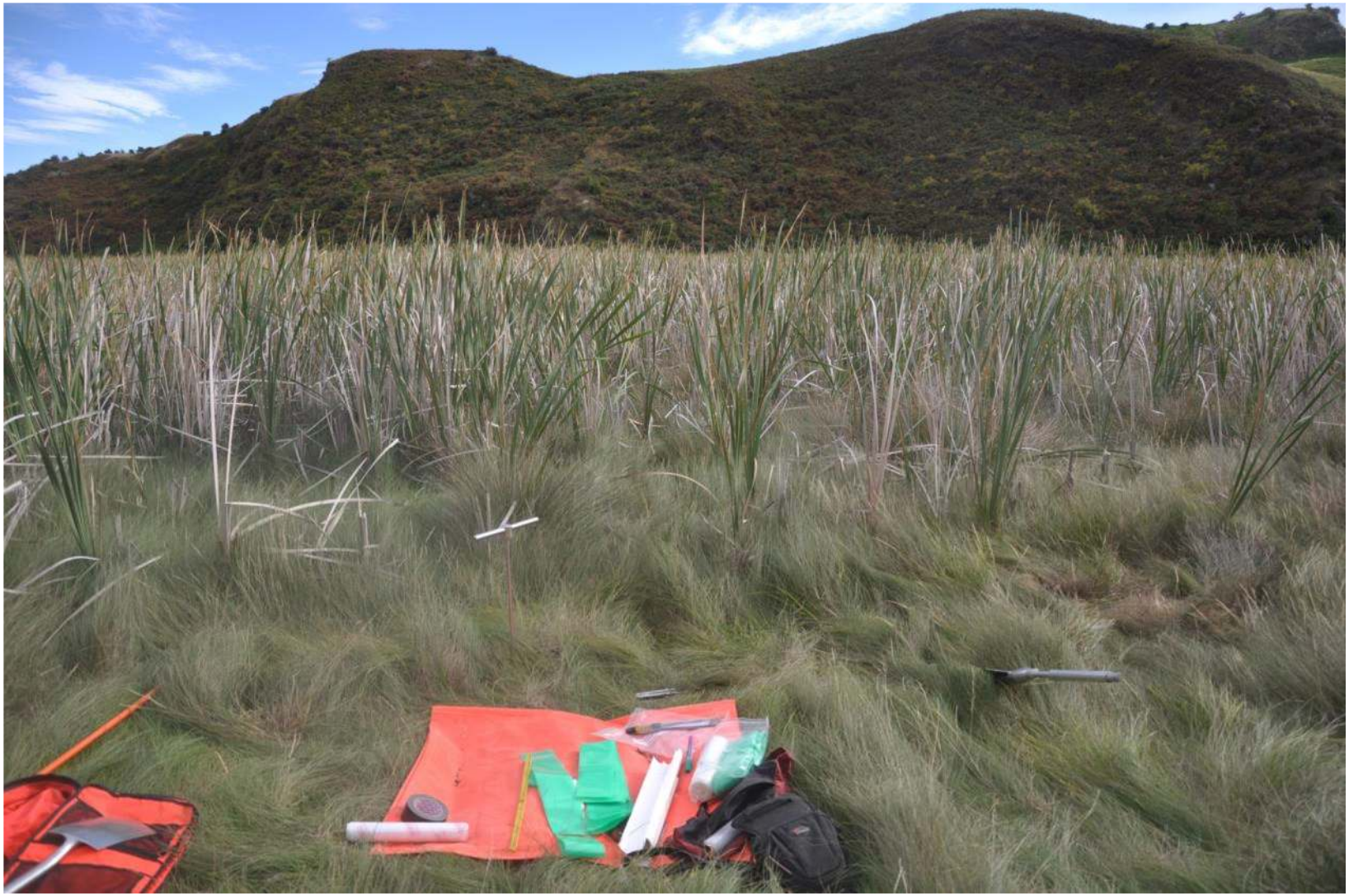
0 - 20 cm depth

Awarua: WCI = 21.67
Bayswater: WCI = 19.05
Dunearn: WCI = 15.5

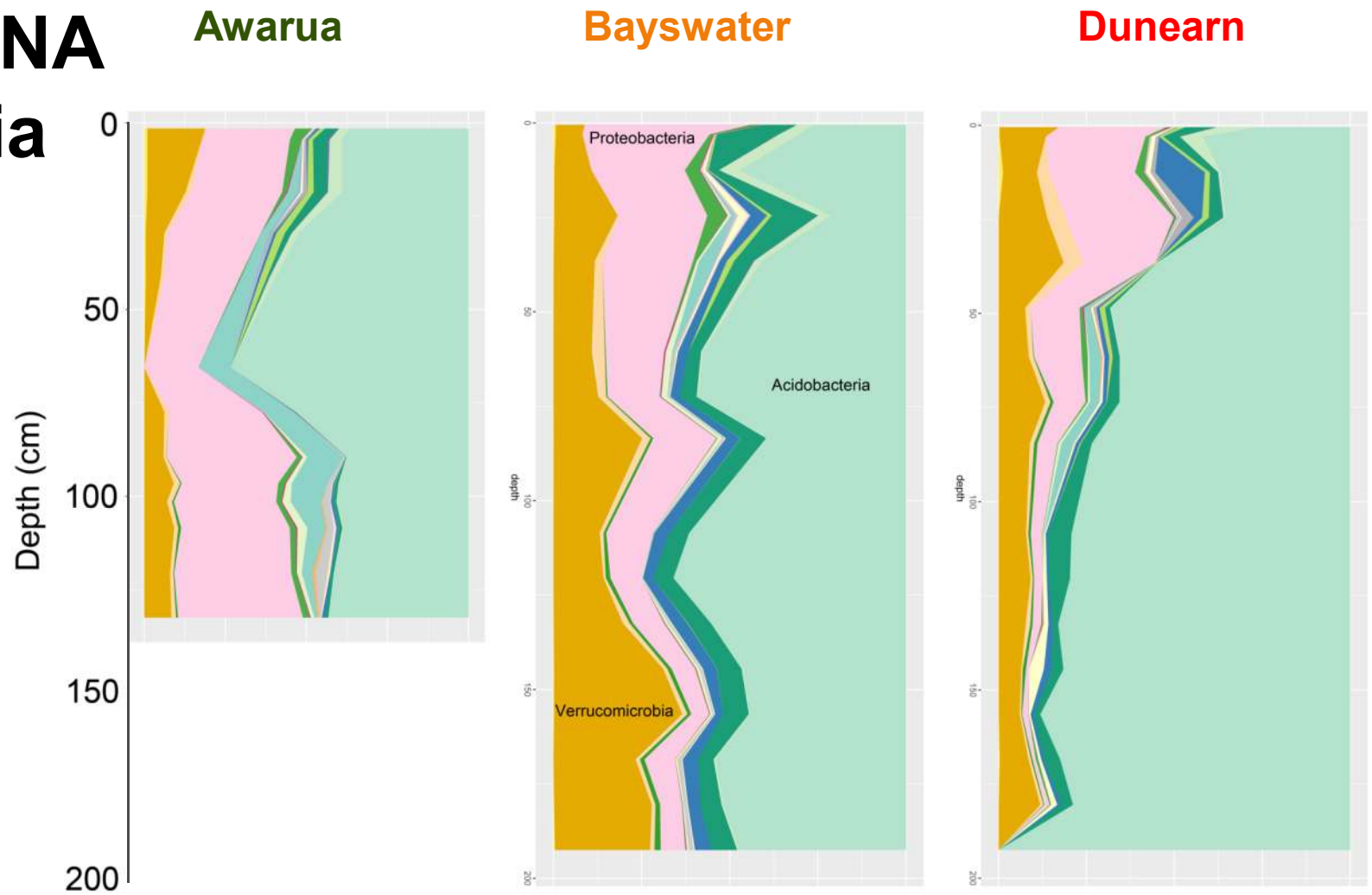


Plant DNA


Awarua
Bayswater
Dunearn
Machaerina rubiginosa
Leptospermum scoparium
Restionaceae
Gleicheniaceae
Lepidoziaceae
Dicranidae
Sphagnum
Restionaceae
Gleicheniaceae
Sphagnum
Campylopus
Restionaceae
Lycopodium
Depth (cm)
0
10
20
30
40
50
60
70
80
90
100
0
20
40
60
80
100
Percentage of DNA reads



16S rRNA bacteria



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