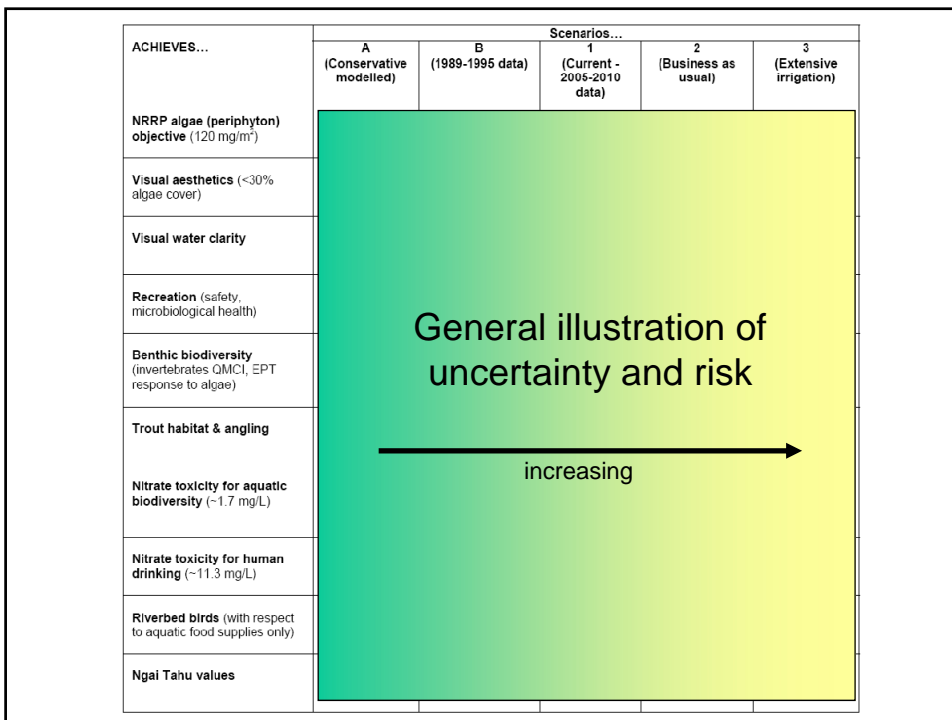


Environment Canterbury: Land Use & Water Quality Project

Hurunui Catchment Workshop 3 (27/10/2010)

Effects of scenarios on environmental values

Ned Norton (NIWA) & Dave Kelly (ECan)



Hurunui at SH1

ACHIEVES...	Scenarios...				
	A (Conservative modelled)	B (1989-1995 data)	1 (Current - 2005-2010 data)	2 (Business as usual)	3 (Extensive irrigation)
NRRP algae (periphyton) objective (120 mg/m ²)	Almost certainly	Probably	Possibly	Possibly??	Possibly???
Visual aesthetics (~20% algae cover)	Almost certainly	Probably	Possibly (partly compromised)	Possibly??	Possibly???
Visual water clarity	Almost certainly	Almost certainly	Almost certainly	Probably	Probably
Recreation (safety, microbiological health)	Almost certainly	Almost certainly	Possibly (partly compromised)	Possibly??	Possibly???
Benthic biodiversity (invertebrates QMC, EPT response to algae)	Almost certainly	Probably	Possibly (partly compromised)	Possibly??	Possibly???
Trout habitat & angling	Almost certainly	Probably	Possibly	Possibly??	Possibly???
Nitrate toxicity for aquatic biodiversity (~1.7 mg/L)	Almost certainly	Probably	Probably	Possibly??	Possibly???
Nitrate toxicity for human drinking (~11.3 mg/L)	Almost certainly	Almost certainly	Almost certainly	Probably	Probably
Riverbed birds (with respect to aquatic food supplies only)	Almost certainly	Almost certainly	Probably	Possibly??	Possibly???
Ngai Tahu values	Probably	Probably	?	??	???

Tribs. (eg. Lower Pahau @ Dalzells)

ACHIEVES...	Scenarios...				
	A (Conservative modelled)	B (1989-1995 data)	1 (Current - 2005-2010 data)	2 (Business as usual)	3 (Extensive irrigation)
NRRP algae (periphyton) objective (200 mg/m ²)	Almost certainly	Possibly	Possibly??	Possibly???	Possibly???
Visual aesthetics (~30% algae cover)	Almost certainly	Possibly	Possibly? (partly compromised)	Possibly??	Possibly???
Visual water clarity	Almost certainly	Possibly	Possibly? (partly compromised)	Possibly??	Possibly???
Recreation (safety, microbiological health)	Almost certainly	Possibly	Possibly? (partly compromised)	Possibly??	Possibly???
Benthic biodiversity (invertebrates QMC, EPT response to algae)	Almost certainly	Possibly	Risk	Risk	Risk
Trout habitat & angling	Almost certainly	Possibly	Possibly? (partly compromised)	Possibly??	Possibly???
Nitrate toxicity for aquatic biodiversity (~1.7 mg/L)	Almost certainly	Probably	Risk	Risk	Risk
Nitrate toxicity for human drinking (~11.3 mg/L)	Almost certainly	Almost certainly	Almost certainly	Probably	Probably
Riverbed birds (with respect to aquatic food supplies only)	Almost certainly	Probably	Possibly?	Possibly??	Possibly???
Ngai Tahu values	Probably	Possibly ?	?	??	???

Other sites in the catchment... generally...

- better at upstream sites (e.g. H. @ Mandamus)
- worse at small tributaries (L. Pahau is indicative)