

Integrating Risk Assessment into Environmental Policy for Waterways

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Freshwater Sciences

EPA Victoria



- Risk-based approach of National Water Quality Guidelines incorporated into State Environment Protection Policy (Waters of Victoria) 2003 (SEPP (WoV))
- EPA providing Implementation support:
 - Natural Resource management
 - Wastewater discharges to waterways

SEPP (WoV) environmental quality objectives



Ecosystem

Issues

Risk

Rivers and streams

- Biological
- Water quality
- Toxicants
- Primary recreation

- Non-attainment of objectives triggers a potential risk to the ecosystem and risk-based investigation
- Approach provides increased transparency and better deals with the complexity and variability of aquatic ecosystems

- Development of guidelines for risk assessment of aquatic ecosystems in ambient waters
www.epa.vic.gov.au/publications - EPA publication 961
- Conducting ERA case studies with NRMs
- General support/advice to NRMs

Wimmera Ecological Risk Assessment

- Management environmental flows relatively new
- CMA receive an annual environmental flow allocation under a bulk entitlement agreement

- Issue:

How can the WCMA deliver the annual environmental flow allocations to get the most beneficial environmental outcomes?

- Collaboration with WCMA & Uni of Melbourne

Wimmera Ecological Risk Assessment

- Stakeholder involvement – workshops, meetings and ongoing discussions
- Targeted 4 yr sampling program, extensive analysis and expert elicitation
- Development of bayesian network
 - Key risks to ecosystem health
 - Test effectiveness of different flow regimes in improving water quality, habitat and macroinvertebrate health, under both drought and non-drought conditions



Wimmera Ecological Risk Assessment

WCCMA found the outcomes very useful

- Assist decision-making on how to deliver env flow allocations
- Provide sound scientific basis for negotiating env flow entitlements
- Better communication to the community on river health expectations in their area

www.epa.vic.gov.au/publications - EPA publication 1252

www.sci.monash.edu.au/wsc/sresearch/managecontam - report 4



Loddon Ecological Risk Assessment

- Collaboration with Water Studies Centre, Monash University, NCCMA, GMW
- Health of Lower Loddon River and farmland ecological values
- Extensive stakeholder consultation
- Development bayesian networks based on available information and data



VicWater Trust funded ERAs for CMAs



- DSE VicWater Trust funding \$750K 2008-10 for CMAs to conduct ERAs on water quality issues
- VIC EPA providing technical support to the program
 - Resource manual to assist in decision-making and using available technical guidelines
 - Training workshops
 - Advice and support when conducting ERAs
(eg attendance planning meetings, workshops, adhoc)

New approaches to wastewater discharge licensing



Traditional Licensing

*site based
focused end of pipe
prescriptive approach*



Corporate Licensing

*systems based
integrated
outcome focused
(incl risk assessment)*

Aims:

- EPA delivers smarter outcome focused regulation
- Clients reduce their environmental/life cycle impacts
- Clients improve their environmental social & economic performance

Risk assessment of wastewater discharges to waterways

- Draft Guidelines developed for Risk assessment of wastewater discharges to waterways
www.epa.vic.gov.au/publications - EPA publication 1209
- Currently conducting pilot applications with 3 Water Authorities (GVWater, NEWater, Barwon Water)
- Finalise Guidelines early 2009, include pilot applications as case studies

