

Neutral or Beneficial Effect on Water Quality (NorBE) Assessment Tool

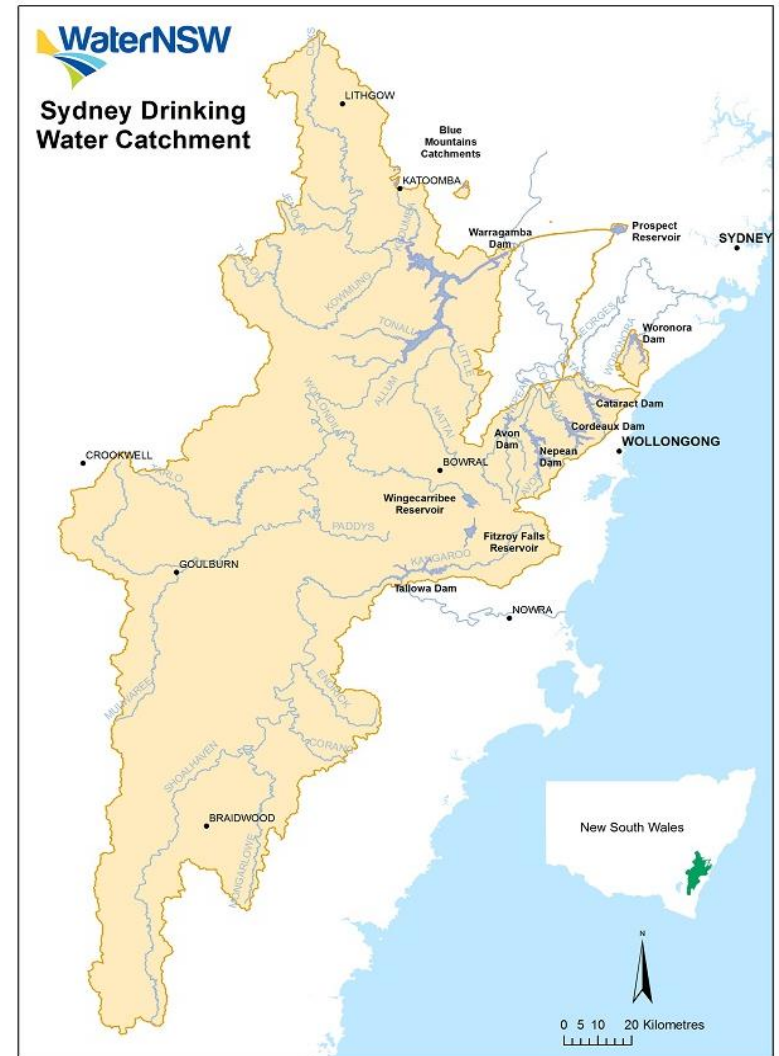
Presenter: Alison Kniha

2015 EIANZ National Conference



Background

- WaterNSW – manages bulk water supply across NSW
- Manages the Sydney drinking water catchment – supplies 4.5 million people, 16,000km², 15 local government areas
- State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 – the SEPP
- Neutral or Beneficial Effect on Water Quality – **NorBE** – mandatory use of NorBE Tool



What does NorBE mean?

A **neutral or beneficial effect on water quality (NorBE)** is considered to be satisfied if the development:

- has no identifiable potential impact on water quality; **or**
- will contain any impact on the development site and prevent it from reaching the drainage system; **or**
- will transfer any impact outside the site for treatment and disposal to the required standard.

The NorBE Tool

- Custom-built for WaterNSW
- Risk-based approach – Modules that group development

Module	Development Type
1	Sewered dwellings, small urban subdivisions (3 lots or less)
2	Unsewered dwellings, small rural subdivisions (3 lots or less)
3	Large urban subdivisions (> 3 lots)
4	Large rural subdivisions (> 3 lots)
5	All other development

- Mix of desktop and site assessment

The NorBE Tool

- Considers:
 - development site conditions
 - stormwater impacts
 - wastewater impacts.
- Includes the wastewater effluent model (WEM)
- Used by Councils and Consultants.



Using the NorBE Tool

- Tailored to users' needs and levels of authorisation.
- Searchable.
- Decision process recorded.

The screenshot displays the NorBE Assessment tool interface. The top navigation bar includes 'Assessments', 'My Details', 'Organisation', and 'Report - Assessments'. The user is logged in as 'aka | SCA Administrator'. The main content area shows a table titled 'Council In Progress (769)' with a filter set to 'wsc'. The table lists several assessments with columns for Select, DA number, Created date, Ass. Officer, Created By Person, Created By Organisation, Council, Dev class, and NorBE Outcome.

Select	DA number	Created date	Ass. Officer	Created By Person	Created By Organisation	Council	Dev class	NorBE Outcome
<input type="radio"/>	15/0519	2015-08-21	kate.wooll@wsc.nsw.gov.au	kate.wooll@wsc.nsw.gov.au	WCS	WCS	TBA	
<input type="radio"/>	15/0598	2015-08-21	Alan.Lindsay@wsc.nsw.gov.au	Alan.Lindsay@wsc.nsw.gov.au	WCS	WCS	GS	TBA
<input type="radio"/>	15/0567	2015-08-20	Alan.Lindsay@wsc.nsw.gov.au	Alan.Lindsay@wsc.nsw.gov.au	WCS	WCS	GS	TBA
<input type="radio"/>	15/0697	2015-08-20	peter.day@wsc.nsw.gov.au	peter.day@wsc.nsw.gov.au	WCS	WCS	G	TBA
<input type="radio"/>	11/0398.05	2015-08-18	Alan.Lindsay@wsc.nsw.gov.au	Alan.Lindsay@wsc.nsw.gov.au	WCS	WCS	GS	TBA

At the bottom of the table, there are buttons for 'Open', 'Copy', 'Delete', and 'New'.

The Lots Screen – GIS Interface

NorBE Assessment | aka | SCA Administrator |

General **Lots** Pre-Assess Module 1 Module 2 Module 3 Module 4 WEM Site Visit Outcome Notes Report Logout

Lots - Assessment DA: PIA/07/2015/2 Next ⇨ Close ✕

Lot: Section: Plan: Add Lot

Select	Reference
<input type="radio"/>	2//1010391

Remove

Enlarge Map

Example – Large Subdivisions

NorBE Assessment | aka | SCA Administrator |

General Lots Pre-Assess Module 1 Module 2 **Module 3** Module 4 WEM Site Visit Outcome Notes Report Logout

Module 3 - Assessment DA: PIA 2015 Module 3(1) Next → Close ✕

Development site slope: All < 20% ?

Any development site within 1% AEP flood level or flood prone land? Yes No ?

(if yes) Have appropriate management measures been proposed?

Is Rainfall Erosivity $\geq 4,000$ mm/ha/hr/year? Yes No ?

(if yes) Have appropriate management measures been proposed?

Do construction works occur where >10% of soils are dispersive? Yes No ?

(if yes) Have appropriate management measures been proposed?

> 80% of development site to be disturbed? Yes No ?

(if yes) Is there sufficient spare land to manage sediment and site run-off during construction?

More than 250m² of vegetation clearing for building envelopes/access/roads/APZs? Yes No ?


(if yes) Have appropriate measures/offsets been proposed?

Significant cut and fill for building envelopes/access/roads? Yes No ?

(if yes) Have appropriate management measures been proposed?

Building envelope/access/roads or within 40m of watercourse? Yes No ?

(if yes) Have appropriate



WEM – Effluent information

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General **Effluent** Soil Risk WEM Outcome Report Logout

Model: test Next → Close ✕

Development type (design wastewater load)

Development type	<input type="text" value="Dwellings"/>	
Development detail	<input type="text" value="3 bedrooms"/>	
Water supply type	<input type="text" value="Rainwater"/>	
Spa Bath	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Effluent volume proposed	<input type="text" value="600"/>	l/day ?
Effluent volume calculated	600	l/day
Effluent volume adopted	<input type="text" value="0"/>	l/day
Treatment system	<input type="text" value="Mound sand"/>	? ?
Continuous system use	<input checked="" type="radio"/> Yes <input type="radio"/> No	? ?

Effluent disposal

Disposal system	<input type="text" value="Mound sand"/>	
Length (across slope)	<input type="text" value="8"/>	m ?
Width (up slope)	<input type="text" value="14"/>	m
Calculated area	112	m ²

EMA Site

Vegetation for nutrient uptake	<input type="text" value="Lawn - unmanaged"/>	? ?
Lot size	<input type="text" value="18632"/>	m ² ? ?
Site subject to severe frost	<input type="radio"/> Yes <input checked="" type="radio"/> No	? ?
Annual rainfall	719	mm/year

WEM – Effluent Plume Display

NorBE Assessment | aka | SCA Administrator |

General Effluent Soil Risk **WEM Outcome** Report Logout

Model: 28 Long St GLBN Close ✕

Summary

Outcome	TBA	?
Risk profile outcome	Medium	

Site suitability

Slope	0.04222 m/m	?
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Front end design

Proposed area	72 m ²	?
Minimum area	40 m ²	
Disposal type	Absorption trench primary	

Sub-surface plume details

Any of the sub-surface plumes reaches:

Lot boundary	<input type="radio"/> Yes	<input checked="" type="radio"/> No	?
Drainage depression	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Top bank of watercourse	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Another disposal field or onsite stormwater management system	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Within 50m, and up gradient of, a licensed drinking water bore	<input type="radio"/> Yes	<input checked="" type="radio"/> No	

[Review Complete](#)

Model

Model submitted on	03 Jun 2015 16:40
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Legend :

- Selected lots
- Effluent management area
- Phosphorus
- Nitrogen
- Faecal coliforms

WEM – System Constraints

General Effluent Soil Risk **WEM Outcome** Report Logout

Model: irr 1 Close ✕

System not suitable (Lot < 2000m²)
System not suitable (Rainfall > 1.2m)

Summary	
Outcome	Not satisfied ?

Site suitability	
Slope	0.08059 m/m ?
System not suitable. Slope > 0.07 m/m (7%)	
Slope is suitable based on site inspection	<input type="checkbox"/>

Front end design	
Proposed area	625 m ² ?
Disposal type	Surface irrigation

Model	
Copy model	Copy model

Legend :

- Selected lots
- Effluent management area
- Phosphorus
- Nitrogen
- Faecal coliforms

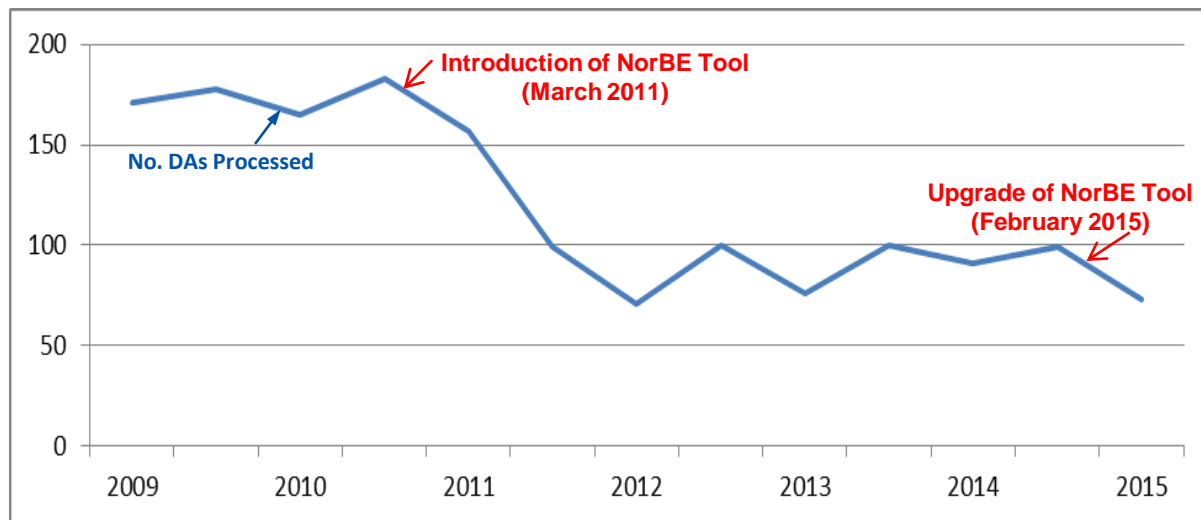
Search for a location Sea EMA ? Map Contents Basemaps

1:2,257
0 30 60m

Enlarge Map

Outcomes

- Consistency and transparency in assessment.
- Better water quality outcomes through reducing risk.
- Reducing assessment timeframes and costs.



- Transferring skills to consent authorities.
- Enhancing relationships with councils and consultants

Thank you

