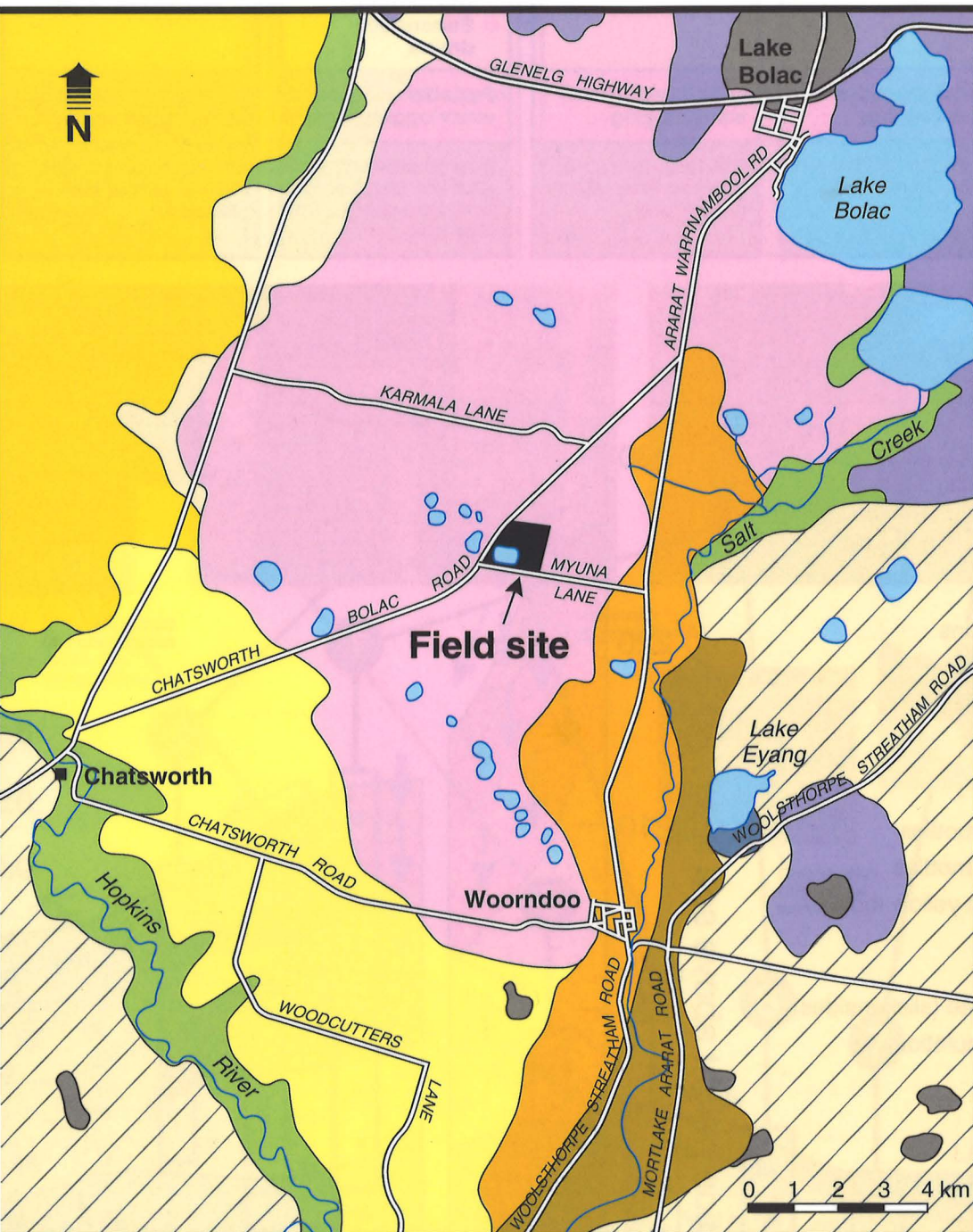
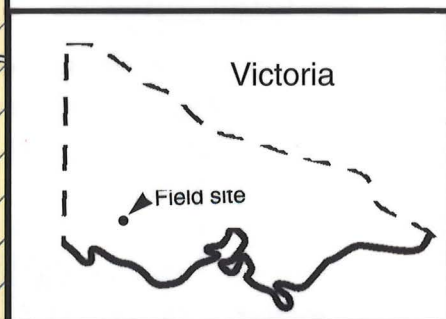


# A field sheet to identify and manage waterlogged and saline catchments in south-west Victoria\*

Jim Cox, Rob Fitzpatrick, Lee-anne Mintern, John Bourne and Glenn Whipp



- A method developed using soil landform units in the Woorndoo Land Protection Group Area.
- From field assessment of your soils and landscape, match them with the soil sequence in the centre section of this field sheet.
- Not all soil types will occur, so check the table on the back of this sheet for the most likely sequence in your area.
- Identify and implement appropriate management options (see Cox et al. 1999\*).



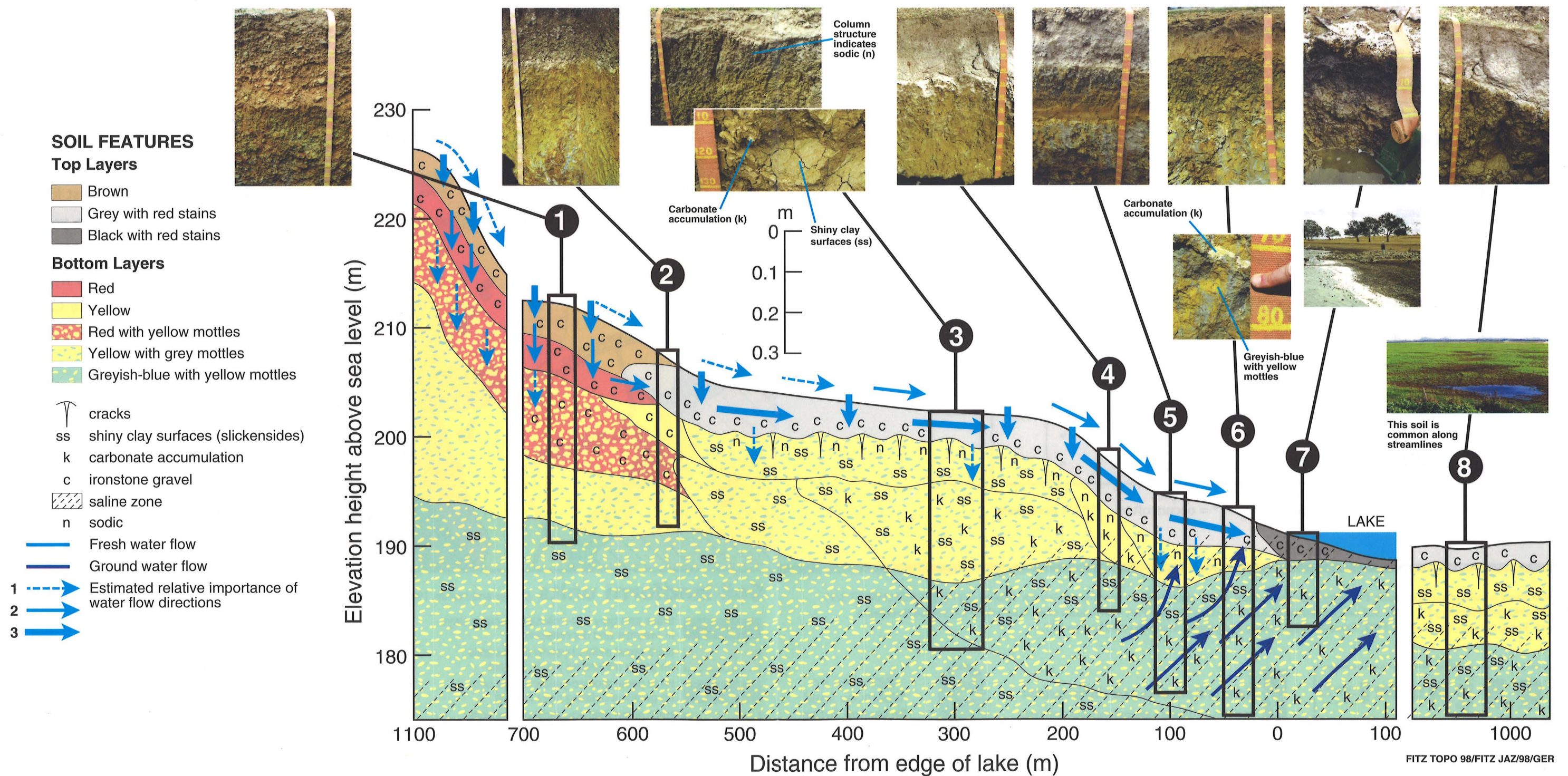
## Soil landform units (Maher and Martin, 1987\*\*)

	Black and grey self-mulching cracking clays in swamps and depressions		Hard pedal mottled-yellow duplex soils on gently undulating plains (basalt)
	Hard pedal mottled-yellow duplex soils on gently undulating plains (basalt)		Hard pedal mottled-yellow and red duplex soils on gently undulating rises (sedimentary)
	Hard pedal mottled-yellow duplex soils on gently undulating rises (basalt)		Hard pedal mottled-yellow duplex soils on undulating low hills (sedimentary)
	Hard pedal mottled-yellow duplex soils on gently undulating rises (sedimentary)		Hard pedal black duplex soils on level plains (basalt)
	Hard pedal mottled-yellow duplex soils on gently undulating hills (sedimentary)		Black self-mulching cracking clays on rolling lunettes
	Black self-mulching cracking clays on alluvial plains		



# Sequence of soils found at the field site

SOIL TYPE No.	1	2	3	4	5	6	7	8
<b>SUMMARY OF MAJOR MANAGEMENT OPTIONS</b>	<ul style="list-style-type: none"> <li>Perennial pasture</li> <li>Cropping</li> <li>Agroforestry</li> <li>Add lime if required</li> </ul>	<ul style="list-style-type: none"> <li>Perennial pasture</li> <li>Cropping</li> <li>Agroforestry</li> <li>Add lime if required</li> </ul>	<ul style="list-style-type: none"> <li>Perennial pastures tolerant to waterlogging</li> <li>Cropping</li> <li>Agroforestry</li> <li>Add gypsum if required</li> <li>Remove stock in wet periods</li> <li>Subsurface drains</li> </ul>	<ul style="list-style-type: none"> <li>Perennial pastures tolerant to waterlogging</li> <li>Add gypsum if required</li> <li>Agroforestry</li> <li>Remove stock in wet periods</li> <li>Interceptor drain</li> </ul>	<ul style="list-style-type: none"> <li>Fence off</li> <li>Plant salt tolerant grasses</li> <li>Exclude stock throughout winter</li> <li>Salt tolerant trees</li> <li>Consider subsurface drains</li> </ul>	<ul style="list-style-type: none"> <li>Fence off</li> <li>Plant salt tolerant grasses</li> <li>Exclude stock throughout winter</li> <li>Salt tolerant trees</li> </ul>	<ul style="list-style-type: none"> <li>Fence off</li> <li>Plant salt tolerant grasses</li> <li>Exclude stock throughout winter</li> <li>Stabilise bare eroded areas with salt tolerant trees, shrubs and native grasses</li> <li>Add lime to areas that are strongly sulfidic to prevent acid conditions</li> <li>Do not drain strongly sulfidic areas</li> </ul>	<ul style="list-style-type: none"> <li>Perennial pasture tolerant to salinity and waterlogging</li> <li>Plant moderately salt tolerant crops</li> <li>Agroforestry</li> <li>Remove stock in wet periods</li> </ul>
<b>SOIL &amp; WATER PROBLEMS</b>	Very Infrequent waterlogging	Infrequent waterlogging	Periodic waterlogging	Strongly waterlogged and sodic	Strongly waterlogged saline and sodic	Strongly waterlogged and saline	Strongly waterlogged and saline sulfidic	Strongly waterlogged, saline and or eroded
<b>SOIL DESCRIPTION</b>	Well drained gravelly red soil	Moderately drained gravelly yellow soil	Poorly drained gravelly and sodic cracking clay soil	Poorly drained and yellow sodic subsoil	Poorly drained grey saline and sodic soil	Very poorly drained grey saline soil	Very poorly drained black saline sulfidic soil	Very poorly drained sodic and saline soil











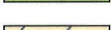
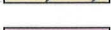
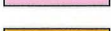

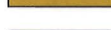


Woorndoo field site



## Sequence of soils in different landform units

(see centre sheet for soil type numbers)

Soil Type	1	2	3	4	5	6	7	8
Landform unit								
	*	**	*	*	*			
	*	**	*	*	*	*		**
	*	**	*	*	*	*	*	
	***	**	*	*	*	*	*	*
		***		*	*	*	***	
		*	**	*	*	*		*
		***		*	*		***	
			*	*	**	**	*	***
			***	*	*	*		*
		**	*	***	*	*		
		**	**	**	*	*		

\* = occurs occasionally    \*\* = occurs often    \*\*\* = dominant

- \* This field sheet is part of the handbook 'Managing waterlogged and saline catchments in south-west Victoria' Cox et al. (1999) CRCSLM/CTT/3/99
- \*\* **Maher, J.M. and Martin J.J.** (1987). Soil and landforms of south-western Victoria Part I. Inventory of soils and their associated landscapes. Research Report Series No 40 April 1987. Victorian Department of Agriculture and Rural Affairs pp 227.



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