



Tackling WSUD Implementation Together

A Collaborative Approach For Success

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Presentation Overview



- Brimbank's WSUD Background
- WSUD Problems/Barriers
- Clearwater's changing focus
- A new training approach
- Brimbank Case Study – Wetland Maintenance
- Outcomes
- Conclusions

Brimbank's WSUD Background



- WSUD at Brimbank has been slow to implement
 - 'Cairnlea' Exemplar Residential Development 2001-2011
 - Nature-strip Swales and Wetlands



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 - 'Failed' car park raingardens left in disrepair
- WSUD training by individual staff since mid 2000's
- Relationships missing from different areas of council
- Melbourne Water funded WSUD Champion started Dec 2011

WSUD Problems/Barriers



- Previous failures held up as examples not to pursue WSUD at Brimbank
 - No allowance for failure
- Individual staff didn't use WSUD training when back at 'the office'
 - Existing work pressures – too busy
 - Inert internal processes – for change and risk taking
 - Examples: MUSIC and Raingarden Essentials
- No 'buy-in' from staff who didn't attend training
 - Business as usual

WSUD Problems/Barriers



- No focus to use training on actual WSUD projects
 - 70:20:10 Training Rule (Centre for Creative Leadership)
 - Lack of council standards
- WSUD Champion's Capacity Building Role
 - Provided a WSUD focus for Brimbank as an Organisation
 - Training
 - Standards
 - Design Projects In-house
 - Still an important role for individual training
 - However 'something' was still missing
- Clearwater had the Solution!

About Clearwater – Overview



- Victorian capacity building program for the water industry
- **Enabling the transition to water sensitive cities**
- Not for profit organisation, currently hosted and funded by Melbourne Water
- 12 year history - established in 2002 by EPA Vic, MAV and SIA Vic.



Capacity Building



Knowledge Brokering



Strategic Networks

About Clearwater – Our changing focus



Stormwater

**Whole-of-water
Cycle
Management**

SW focused
audience

**Include water
authorities,
developers etc.**

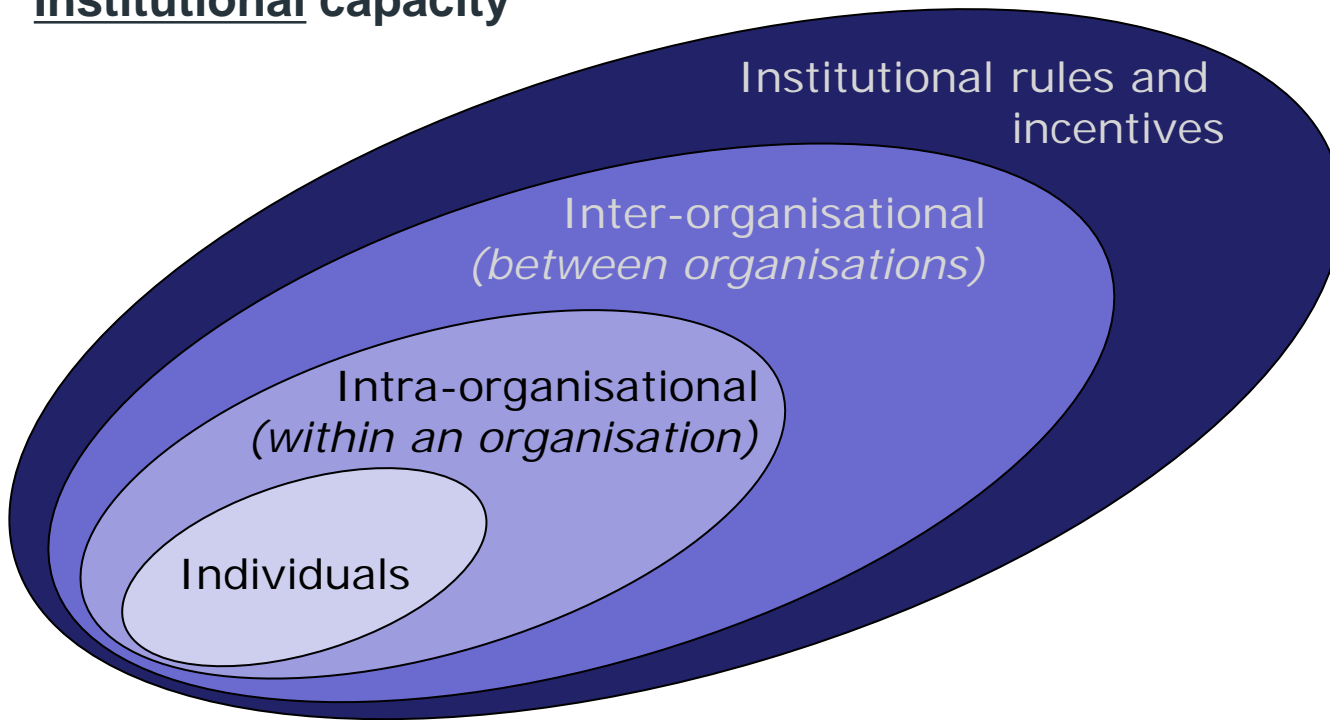
Individual
capacity

**Organisational
capacity**

Capacity building and Clearwater's role



Institutional capacity

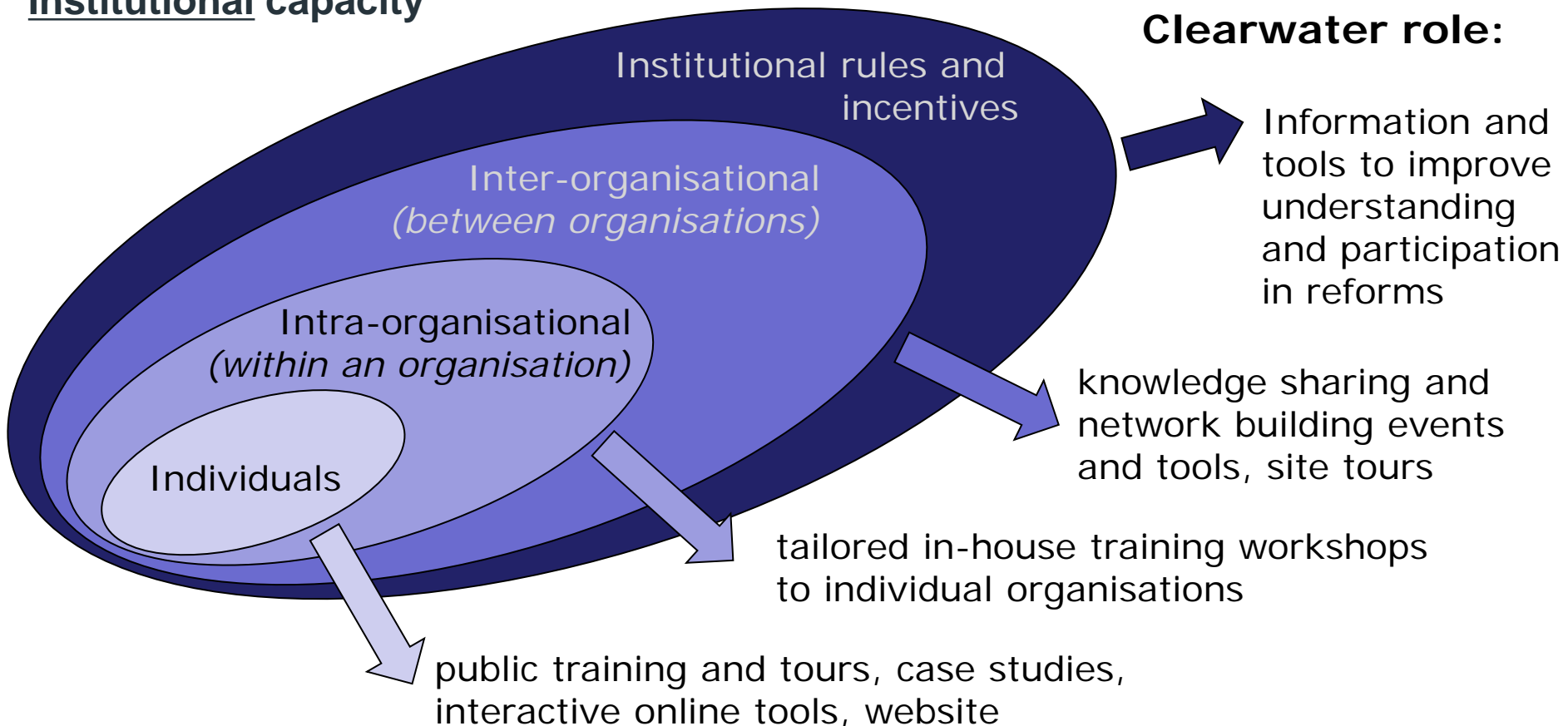


Capacity building and Clearwater's role



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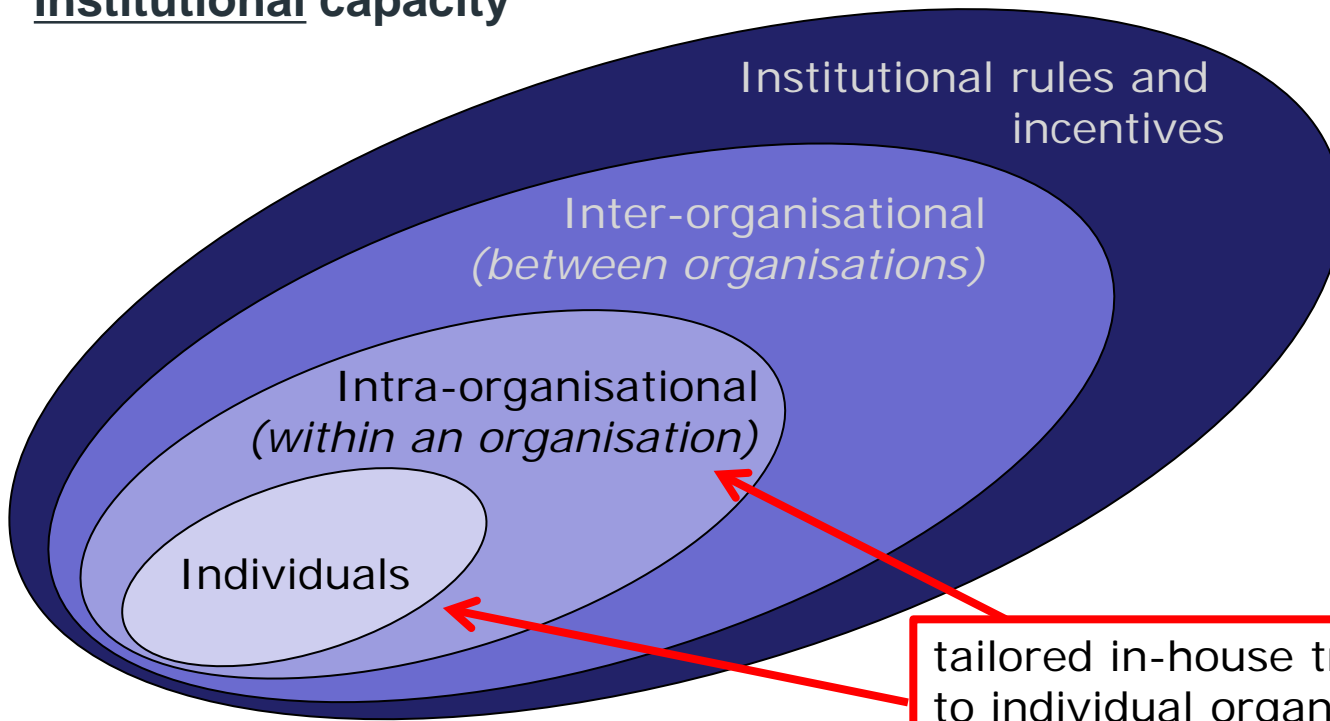
Clearwater role:



Capacity building and Clearwater's role



Institutional capacity



- based on an existing training module (e.g. maintenance of WSUD assets) - but tailored to the needs of an organisation
- delivered in-house,
- involving a lot of different players from within the organisation

tailored in-house training workshops to individual organisations

'In-house' training – aims and agenda



Aims

Breaking silos (improved relationships and collaboration)

Improved staff culture (achieve buy-in)

Build knowledge base across organisation (policy, tools, technol.)


Improve skills

Better clarity around roles and responsibilities + improved processes

Typical session agenda



- Bring together staff from across organisations (icebreaker)



- Introduction & aim of session by senior rep. from organisation



- Theory



- Practice/hands-on session



- Facilitate action planning (start planning ahead)

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TAILORED TRAINING

Brimbank Case Study - Wetland Maintenance



Brimbank's Needs

- Wetlands turning 10 years old with little or no maintenance
- Tackle Brimbank's Wetland Maintenance
- Majority of Brimbank staff don't know how wetlands work

Aims

- On-site training to assess wetland maintenance requirements
- Develop a wetlands maintenance checklist and link to Brimbank's Asset Information System (CONFIRM)
- Automate system using netbooks or tablets

Brimbank Case Study - Wetland Maintenance



Building Brimbank's solution in partnership with Clearwater:

- Attendees: Operations, Engineering, Environment, Urban Design, Planning and Asset Services
- Council presentations – WSUD in Brimbank & Asset Services
- Choice of wetland
- site visit with key players – Clearwater, Drainage & Parks Maintenance, Asset Services & pre-meeting for Overview of training course and Promote the course internally and confirm date
- Organisation for day – catering, setup, transport

Clearwater's Solution

Today's Session



8.45	Welcome and introductions
9.00	A bit of context...the big picture!
9.10	Understanding constructed wetlands <ul style="list-style-type: none">➤ Basic function, principles & key components
9:35	What's happening in Brimbank?
9:40	Wetland maintenance fundamentals
10:15	MORNING TEA
10:30	Inspection & maintenance tools
10:50	On-site maintenance demonstration
12:30	LUNCH
1:15	Council's Asset Management System
1:30	Discussion, questions and next steps
1:50	Wrap up and evaluation
2:00	End of formalities



Source: J Comley

Brimbank Case Study - Wetland Maintenance



Brimbank's Solution



The classroom training sessions were held in the morning at the Operations Centre.

Our Land Conservation Coordinator opened the training and our Infrastructure Coordinator gave the *What's happening in Brimbank* session.

Brimbank Case Study - Wetland Maintenance



Brimbank's Solution



The onsite training was held at Glenbrook Waters.

An opportunity to:

- identify the different parts of the wetland,
- assess the wetland using the maintenance checklist, and
- make recommendations for any maintenance works required

Brimbank Case Study - Wetland Maintenance



Brimbank's Solution



We visited a second wetland to see its outlet structure: an orifice plate controlling the flow of water from the wetland

Brimbank Case Study - Wetland Maintenance



Brimbank's Solution



Staff from our Asset Services Section presented on our Asset Information System – CONFIRM.

They demonstrated how the maintenance staff would use the checklist on a netbook linked directly to CONFIRM.

Wetland Maintenance Checklist



Item (where present)	What to check	Inspected?	Maintenance undertaken/comments	Further action required
SEDIMENT BASIN				
Gross Pollutant Trap (GPT)	No litter/debris accumulated within GPT			
	Operational, no structural damage			
Inflow point	No blockage (e.g. litter/debris/sediment/vegetation) restricting flows			
	No erosion, damage or settlement that presents a risk to public safety or structural integrity, or that is likely to significantly worsen if not addressed			
Wetland inlet structure (to macrophyte zone)	No blockage (e.g. litter/debris/sediment/vegetation) restricting flows – includes grates, pits, pipes and orifice plates or weir			
	No erosion, damage or settlement that presents a risk to public safety or structural integrity, or that is likely to significantly worsen if not addressed			
High-flow bypass weir, channel and downstream outfall	No obstruction to potential flows			
	No erosion, damage or settlement that presents a risk to public safety or structural integrity, or that is likely to significantly worsen if not addressed (includes woody weeds which may damage levies/weirs over time)			
	No litter present			
	No declared weeds present (or they are controlled) and non-declared weeds less than 10% of area			
Batter slopes	No erosion, damage or settlement that presents a risk to public safety or structural integrity, or that is likely to significantly worsen if not addressed			
	No depressions or mounds >100mm or isolated pools of water that could provide mosquito habitat			
	No litter present			
	Healthy vegetation of average height >500mm above normal water level, with good cover (>80%) and minimal bare patches, no evidence of pests/disease			
	No declared weeds present (or they are controlled) and non-declared weeds less than 10% of total vegetation cover			
	No public safety risks (including water access points)			
Open water	Record sediment depth – arrange removal if sediment accumulation is more than 2/3 of sediment pond volume or less than 500mm below water surface			
	No floating litter present			
	No declared weeds present (or they are controlled), non-declared weeds/algae less than 10% of total surface area			
	No offensive/unusual odours, colours or substances present			

Example from the Wetland Maintenance Checklist :
Sediment Basin

This section shows the items that needs routine assessment in the sediment basin

Brimbank Case Study

- Asset Register



Feature

Record 1 of 1

Site: Clarian Street Reserve P3124

Asset Id: WS000051 Asset Number: 401,051.00

Start Date: 06/03/2014 02:15:56 PM Live

Feature Type: WS-Wetland WSWL

Location: Within Clarian Street Reserve

Attributes	Additional	Geography	Valuation
G-Area (m2)	2,809.82 Square Metres		
G-Depth (m)	1.50 Metres		
G-Volume (m3)	4,214.73 Cubic Metres		
WS-Base	Vegetation/Dirt/Gravel		
WS-Construction Type	Macrophyte Zone/Inlet Pond		
G-Ownership/Controllership	Brimbank City Council		
G-Responsible Authority	Brimbank City Council		
PC-Potentially Contaminated	Not Applicable		

Close Save Restore Delete Action

- Copy Feature...
- End Date Feature...
- Split Feature...
- Merge Features...
- Add to Inspection...
- End Date Inventory...
- Reverse Inventory...

CONFIRM asset register: Glenbrook Waters Wetland.

We can link data like plans, photos and the wetland maintenance checklist

Brimbank Case Study

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Close
Save
Restore
Delete
Action
Other

Conditions...
Connectivity...
Cost Codes...
Hierarchy...
History...
Jobs...
Links...
Regimes...

We are also able to look up the history of inspections for the wetland and raise maintenance jobs that come from the routine inspection cycles

In-house training - Outcomes



Building the knowledge base across council

- Knowledge of Wetlands & how they work
- Available checklist tools and people to assist

Building staff skills

- Demystifying how to maintain WSUD assets like Wetlands on-ground, using existing and proposed tools

Strengthening council's capacity to implement WSUD

- Improved relationships and collaboration across engineering, operations and asset services
- Better clarity around roles and responsibilities
- Improved staff culture towards wetlands and WSUD in general
- Improved processes for managing our Wetland assets

Improving policies and standards for WSUD set by council

- Budget Bid 2014/2015 for 2 man WSUD & Wetlands Maintenance crew

Conclusions



- Staff feel empowered to start undertaking these maintenance tasks
- Stronger relationships across council
- WSUD Champion's role for building organisational capacity can be leveraged with Clearwater's help
- Brimbank and Clearwater's collaborative approach to In-house training has been an important aspect of successful WSUD Implementation at Brimbank



Source: R Cadman

Brimbank Case Study - Wetland Maintenance



**Brimbank Staff De-silting our first Sedimentation Ponds at
Proximity Wetlands, Brooklyn 3 March 2014**



Source: R Cadman