



## WATER SENSITIVE URBAN DESIGN ADOPTION STRATEGY FOR THE BOTANY BAY CATCHMENT

May 2008



With Support From



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# 1. INTRODUCTION

The Botany Bay Coastal Catchment Initiative (BBCCI) is a majority federal government funded initiative being project managed and partly funded by the Sydney Metropolitan Catchment Management Authority (CMA). The initiative has been designed to protect and improve water quality in Botany Bay and connected surface waters. Water Sensitive Urban Design (WSUD) has been identified within the BBCCI project as important to meeting water quality objectives established for the catchment. A component of the BBCCI is to support councils within the Botany Bay catchment to adopt WSUD and hopefully include this in their planning processes. Ideally the project should show that at least six of the twenty five councils within the Botany Bay catchment have or are including WSUD in their planning processes.

This project is seeking to develop a WSUD adoption strategy for councils within the BBC. The WSUD adoption strategy will identify actions important to the uptake and inclusion of WSUD into planning provisions. The actions identified will be prioritised to ensure speedy adoption of WSUD. The needs of councils will be identified through a series of interviews and the results of a previous activity of the BBCCI where barriers and opportunities to WSUD adoption in Councils were identified.

By identifying actions for WSUD adoption, the Adoption Strategy indirectly aims to assess the current level of understanding of WSUD within the catchment. The BBCCI scope of work requirement that six councils within the catchment should currently have or be including WSUD into their planning provisions will be used to benchmark the success of work done to date on the BBCCI.

The aims of the project are:

- To provide a brief strategy for supporting councils in the Botany Bay catchment with the inclusion of WSUD into their planning processes.
- To demonstrate the number of councils in the Botany Bay catchment that have or are in the process of including WSUD into their planning processes.
- To provide a “gap analysis” or way to prioritise the type of support to give the various councils depending on their level of “maturity”.

This report describes the key actions to WSUD adoption in the Botany Bay Catchment.

## 2. THE BOTANY BAY CATCHMENT

The Botany Bay Catchment (BBC) consists of the Georges River, the Cooks River Catchments and some areas that drain directly to the Bay, as shown in Figure 1. The local government areas within the catchment (either in full or in part) are summarised in Table 1.

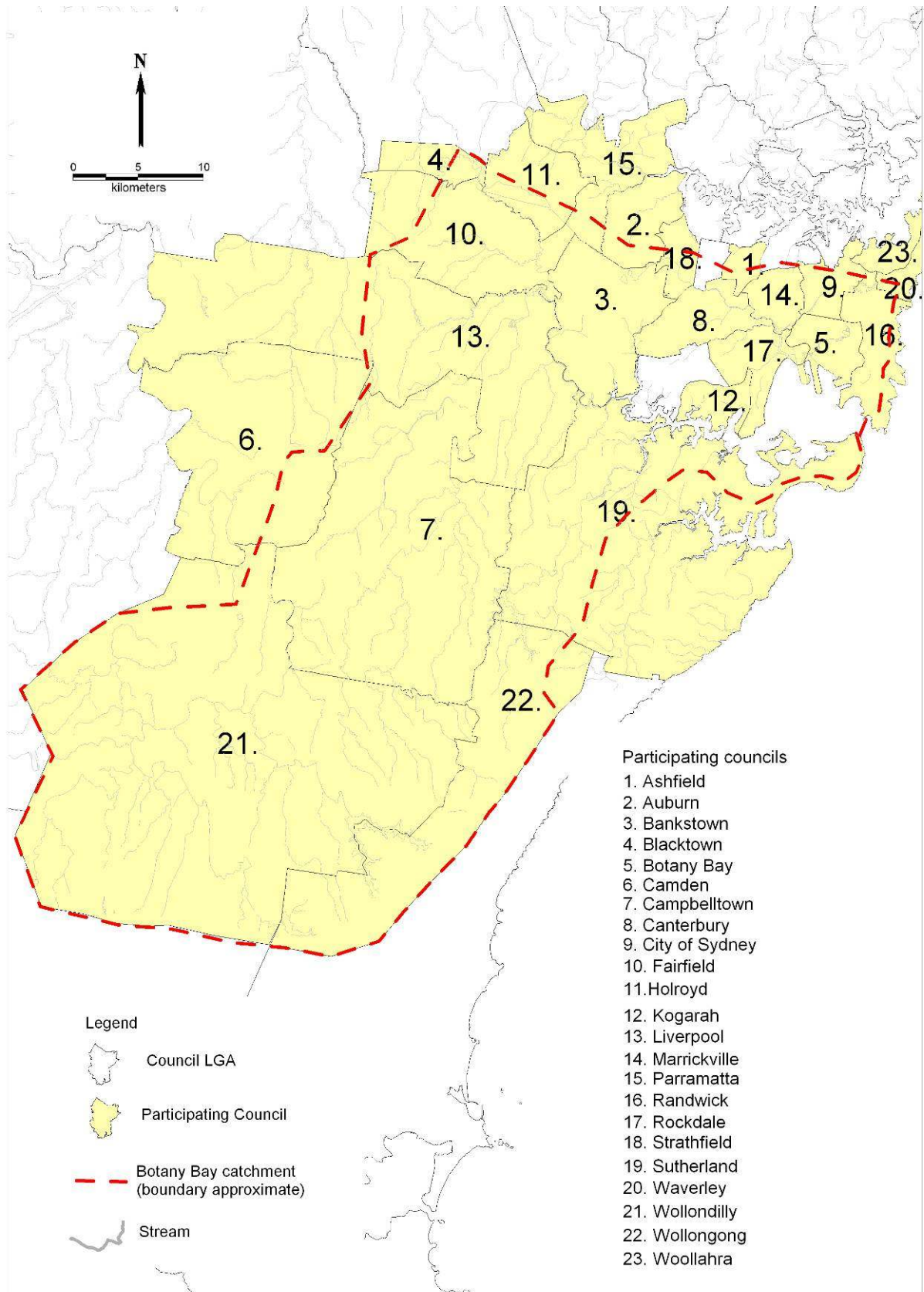
### 2.1 METHODOLOGY

A series of telephone interviews were conducted with the council's within the BBC (Table 1). Each interview consisted of the following eight questions:

1. Does your Council have WSUD principles written into their Local Environmental Plan (LEP)?
2. Would your Council include WSUD principles into any forthcoming revisions of the LEP?
3. Do you have or are you preparing a WSUD Development Control Plan (DCP), or a DCP that includes WSUD provisions?
4. Does Council provide any support information to developers on how to implement WSUD in the Local Government Area (LGA)? This can include external documentation, such as the WSUD Technical Guidelines for Western Sydney.
5. If no, does Council provide any other type of assistance to help developers realise the intent of the WSUD DCP provisions?
6. Are there any WSUD sites or demonstration projects within the LGA?
7. Does your Council currently have a Stormwater Service Charge (SSC)? If no, would Council consider introducing a SSC in the future?
8. In your opinion, what would be the most important action an organisation could do for the Council to help support the inclusion of WSUD into your planning schemes (for example, a standard DCP template for Councils to adopt, training on WSUD assessment, etc)?

**Table 1: Councils interviewed for WSUD Adoption Strategy**

Council	Total LGA area (hectares)	Proportion of LGA in Botany Bay Catchment (hectares)	Percentage of total proportion of LGA in Botany Bay Catchment
Ashfield	829	56	0.1%
Auburn	3,243	93	0.1%
Bankstown	7,680	6,660	6.0%
Blacktown	23,993	887	0.8%
Botany Bay	2,208	2,156	1.9%
Burwood	715	221	0.2%
Camden	20,129	37	0.0%
Campbelltown	31,218	27,340	24.5%
Canterbury	3,356	3,296	2.9%
City of Sydney	1,781	1,281	1.1%
Fairfield	10,164	7,545	6.8%
Holroyd	4,024	1,339	1.2%
Hurstville	2,282	2,264	2.0%
Kogarah	1,555	1,544	1.4%
Liverpool	30,535	16,000	14.3%
Marrickville	1,653	1,230	1.1%
Parramatta	6,098	6	0.0%
Randwick	3,643	3,620	3.2%
Rockdale	2,813	2,740	2.5%
Strathfield	1,387	735	0.7%
Sutherland	33,444	17,047	15.3%
Waverley	917	184	0.2%
Wollondilly	255,745	7,488	6.7%
Wollongong	68,403	8,003	7.2%
Woollahra	1,242	2	0.0%



**Figure 1: Councils within the Botany Bay Catchment**

### **3. LOCAL GOVERNMENT PLANNING TOOLS**

WSUD integrates water quality and flow objectives and urban development. At a local council level, water quality protection and improvement is administered through a Local Environmental Plan. Development within an local government area (LGA) is governed through the Development Control Plan(s). Provided below is a brief description of the importance of each planning tool in enforcing WSUD objectives.

#### **3.1 LOCAL ENVIRONMENTAL PLAN**

A Local Environmental Plan (LEP) is a tool defined under the Environmental Planning and Assessment (EP&A) Act (1979) to:

- protect, improve and utilise the environment,
- control development and ensure land is reserved for public use and low-cost housing,
- protect or preserve trees, native vegetation and endangered ecological communities and
- control advertising.

A LEP sits below a State Environmental Planning Policy (SEPP) and Regional Environmental Plan (REP). In the case of inconsistencies between environmental plans, the plan from the larger jurisdiction takes precedence.

On 31 March 2006, the NSW Government gazetted the standard instrument for preparing new local environmental plans (LEPs). All local councils in NSW must revise their current LEPs to be consistent with the standard instrument. The completion dates for the revised LEPs vary between councils. Some councils have already submitted a draft revised LEP to the Department of Planning for review. The latest completion date is 2011.

The standard instrument does not address stormwater and water quality objectives. However, there is an opportunity to include a clause within the standard instrument that will allow a blanket statement on WSUD principles to be adopted within the BBC and NSW. Such a clause is being investigated as part of a separate BBCCI project, which will help ensure a consistent approach to WSUD is adopted.

#### **3.2 DEVELOPMENT CONTROL PLAN**

A development control plan (DCP) is prepared by a local council to ensure development meets the objectives of the council's LEP. It is important that the provisions in a DCP are consistent with the LEP provisions, as the LEP takes precedence.

Typically a DCP will articulate stormwater management objectives. Historically stormwater management considered flooding only. WSUD moves beyond flooding in assessing the total urban water cycle, namely water conservation, stormwater quality and waterway stability. DCPs have already been amended to incorporate WSUD to various extents.

A DCP is written under the instruction of the Environmental Planning and Assessment (EP&A) Act (1979). In 2005, the EP&A Act was amended. One objective of the amendment was to simplify the local planning documents and hence reduce confusion and contradiction between DCPs and between DCPs and LEPs. In particular, the amendment to the EP&A Act requires (as stated in section 74C(2)) that only one DCP per planning authority can apply to the same land. DCPs gazetted after the 30<sup>th</sup> September 2005 must be area based and no other DCP must apply to that land.

The amendment to update and consolidate DCPs also provides an opportunity to consolidate WSUD DCP provisions, such that the requirements for WSUD are consistent across LGAs.

## 4. DISCUSSION OF RESULTS

The interviews with councils were conducted from the 28th March to the 18th April 2008. The results are summarised in Table 2. A discussion of the results falling out of each question is given in the following sections.

**Table 2: Councils interviewed for WSUD Adoption Strategy**

Question	Yes	No	Level of WSUD Adoption (%)
Q.1 Does your council have WSUD principles written into their Local Environmental Plan (LEP)?	3	22	12%
Q.2 Would the Council include WSUD principles into any forthcoming revisions of the LEP?	16	9	64%
Q.3 Do you have or are you preparing a WSUD Development Control Plan (DCP), or a DCP that includes WSUD provisions? <sup>1</sup>	9	16	36%
Q.4 Does council provide any support information to developers on how to implement WSUD in the Local Government Area (LGA)? This can include external documentation, such as the WSUD Technical Guidelines for Western Sydney.	12	13	48%
Q.5 If no, does Council provide any other type of assistance to help developers realise the intent of the WSUD DCP provisions? <sup>1</sup>	3	22	12%
Q.6 Are there any WSUD sites or demonstration projects within the LGA?	16	9	64%
Q.7 Does your Council currently have a Stormwater Service Charge (SSC)? If no, would Council consider introducing a SSC in the future?	16	9	64%
Q.8 In your opinion, what would be the most important action an organisation could do for the Council to help support the inclusion of WSUD into your planning schemes (for example, a standard DCP template for Councils to adopt, training on WSUD assessment, etc)?	-	-	-

### 4.1 LOCAL ENVIRONMENTAL PLAN

Only one of the twenty five councils within the Botany Bay Catchment has specific WSUD principles written into their current LEP. A few councils have broad water quality objectives, or reference other water quality policies.

The Department of Planning requires all councils to develop a single integrated LEP by 2011, with the submission date varying between councils. Most council's, when asked, stated that they would encourage the inclusion of WSUD principles into future revisions of the LEP. It is suggested that in some cases this affirmative response was a result of respondents feeling that they should include WSUD into the LEP given the question had been asked, rather than truly believing in the merits of WSUD principles in a LEP. Only a few councils were clear on how they would include either WSUD principles or broad water quality objectives into their LEP.

In general, the responses from council demonstrated a need for guidance in including WSUD or broad water quality objectives into a LEP, and also identifying the need to have a legislated "hook clause" to enforce the provisions of their DCP. Some councils clearly stated that they were waiting on a WSUD LEP template, outlining the principles to be included.

### 4.2 DEVELOPMENT CONTROL PLAN

The level of WSUD adoption in DCPs within the BBC is demonstrated in Figure 2. Nine councils (36%) stated that WSUD provisions existed in their current DCP(s), while seven councils (28%) indicated that current drafts or future revisions of their DCP(s) would include WSUD provisions.

<sup>1</sup> A "no" response has been given for councils to which this question does not apply

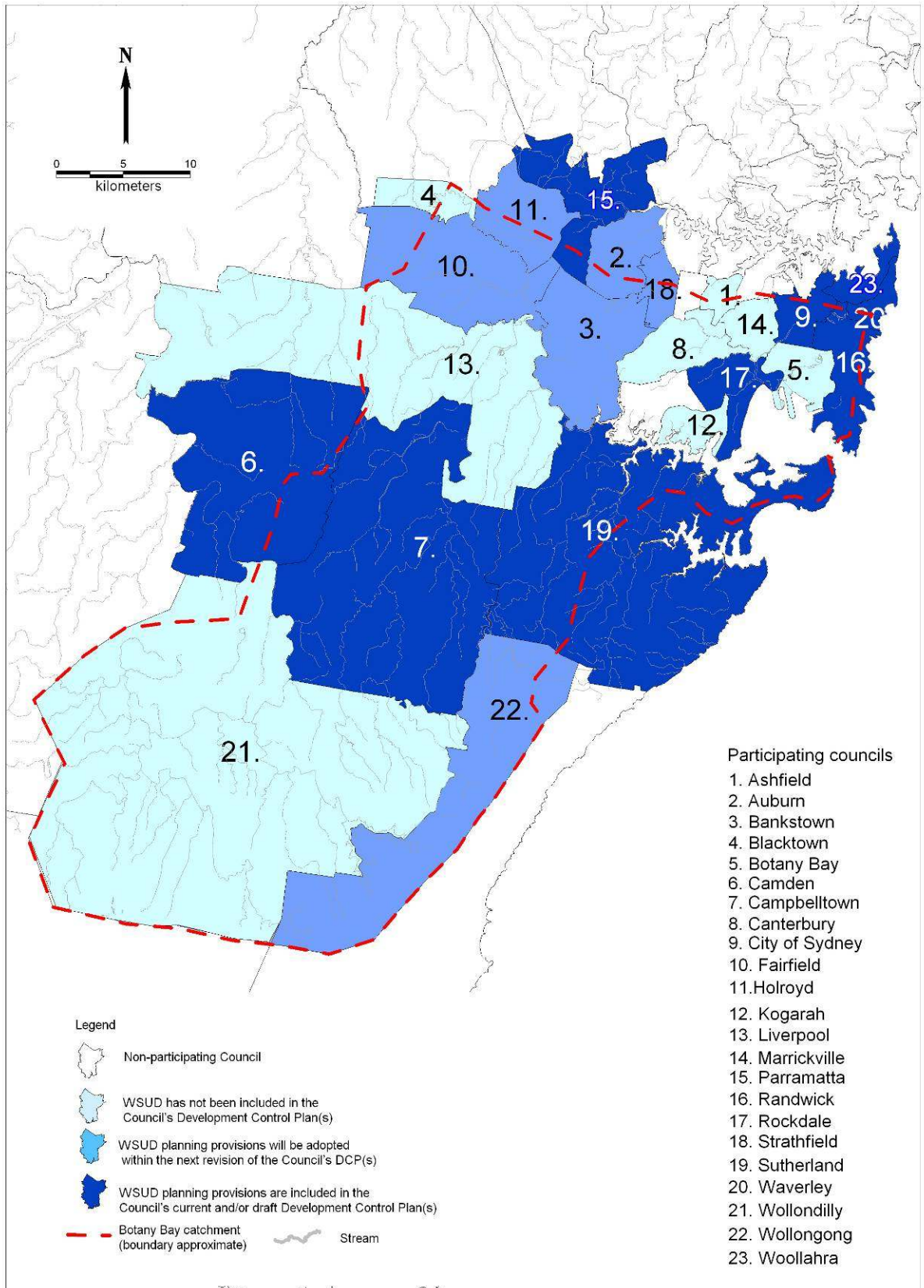
Seven councils did not consider WSUD in their DCP and believed that it would not be adopted in future revisions of their planning instruments.

The nine councils with DCP WSUD provisions meets the contract requirements of the BBCCI project, which states that the Catchment should have at least 6 councils within the Botany Bay catchment that have or are including WSUD in their planning processes.

Where a council indicated that WSUD provisions were already incorporated into the DCP, a review of the DCP was completed. The review highlighted inconsistent adoption of WSUD by council into their DCP(s). At an elementary level, the DCP would state that WSUD was the preferred approach to meeting water cycle management objectives, but would not articulate how WSUD would meet those objectives. WSUD objectives where stated are qualitative and quantitative. The qualitative objectives tend to be prescriptive, recommending specific treatment elements. Quantitative objectives are given only for stormwater treatment. The objectives are generally inline with best practice targets for total nitrogen (TN) load reductions, but are low compared to total phosphorus (TP) and total suspended solids (TSS). There is also the misconception that WSUD deals with water conservation, only. For example, two DCPs prescribe only the use of rainwater tanks, which is now superseded by the BASIX scheme. Waterway stability targets are not addressed in any of the DCPs reviewed. A summary of the WSUD provisions stipulated in council DCPs is given in Table 3.

Councils wanting to adopt WSUD DCP provisions were looking for external guidance. A standard DCP template was stated by most as crucial, especially in convincing planners of the merits of WSUD. It was generally feared that WSUD provisions would be rejected by the respective planning departments due to it being new, and not readily included into their current DCP template. Adopting WSUD DCP provisions may also be delayed due to the pressure on councils to update and consolidate their LEP(s).

Most council officers that stated WSUD DCP provisions would not be adopted gave no reason for their response. Surprisingly, some of these councils indicated that they had or would actively encourage the inclusion of WSUD principles into their revised LEP. In these scenarios, there will be a disconnect between broad environmental objectives for the LGA and the developments that are proposed. Only one council stated that it would not encourage WSUD in a DCP due to the associated maintenance costs.



**Figure 2: Status of WSUD provisions for councils within the Botany Bay Catchment**

**Table 3: Review of Councils DCP WSUD Provisions**

Council	WSUD DCP Provisions
Camden Council	WSUD is recommended in Part E Chapter 1 “Residential Subdivisions” for meeting site drainage requirements. The provisions for WSUD are prescriptive and are given in terms of conveyance and discharge controls. For example, subsurface wetlands are stated as the preferred type of water quality control pond. However, the DCP does not state the level of treatment required from such a device.
Campbelltown City Council	WSUD is stated in the DCP (Sustainable City) as the preferred approach to managing water quality issues related to urban development. The DCP does not give WSUD objectives. Instead the DCP requires WSUD strategies comply with best practice objectives set by the relevant government body (for example, DECC for stormwater treatment objectives).
Council of the City of Sydney	The City of Sydney has recently released a Draft Sustainability DCP. The DCP identifies appropriate stormwater quality load based targets, as well as targets for water conservation in buildings not covered by BASIX. The Draft DCP also identifies flow management targets to control flooding which may be inappropriate, however, EDAW has made representation to Council about this issue.
Parramatta City Council	The Town Centre DCP provides WSUD provisions in Section 10.5: Water Management. The section identifies WSUD as the preferred method of ensuring development and land use is compatible with water quality, stormwater management, flooding and water conservation, which encompass the three tiers of total water management. The Councils requirements for WSUD strategies are broad and do not include targets such as treatment load reductions. The information provided focuses on water conservation. No advice is given for treating stormwater or demonstrating waterway health.
Randwick City Council	The WSUD provisions were not obvious in the Council’s DCPs. Only BASIX was referenced, which is a state government requirement (SEPP BASIX).
Rockdale City Council	WSUD provisions are given for potable water conservation and stormwater quality. Provisions for waterway stability are given implicitly through the Councils requirement for onsite detention and/or stormwater trenches. The requirement for onsite stormwater detention is not correlated to a storm event (for example half the 2yr ARI storm event as per draft DECC reports). Water treatment objectives are given for coarse and fine sediment, nutrients (TP and TN), litter and hydrocarbons. The objectives are slightly lower than best practice objectives. The DCP contains design advice for rainwater tanks, non-potable water reuse systems and infiltration systems (for example, infiltration trenches).
Sutherland Shire Council	WSUD provisions are stated under “Ecological Sustainable Development”. In terms of stormwater treatment, objectives are divided into existing and new development. For new development, pollutant load reductions are 80%, 40% and 40% for TSS, TP, and TN, respectively, which are slightly below current best practice. Development is required to reduce post development peak flows to the permissible site discharge (PSD). The PSD is not defined (for example, in terms of ARI storm events). All developments are required to install water tanks, and maximise the use of harvested water.
Waverley Council	The DCP, amended in 2006 does not reference WSUD. The DCP covers only rainwater tanks and infiltration systems. Stormwater management is considered in the Council Integrated Stormwater Management Plan.
Woollahra Municipal Council	Qualitative objectives for WSUD are given in the draft stormwater drainage management DCP. WSUD provisions concentrate on rainwater tanks. The DCP states sediment control measures are adequate in protecting stormwater quality, which does not consider the nutrient loading of stormwater.

#### 4.3 DEVELOPMENT CONTROL PLAN – SUPPORTING INFORMATION

The information provided by council as to how to meet the requirements of the WSUD provisions within the DCP are varied. Most councils refer to external documentation either in the DCP, verbally during the development application process or via the council website. The external documents referenced include:

- Managing Urban Stormwater: Treatment Techniques (EPA, 1997)
- WSUD Technical Guidelines for Western Sydney (UPRCT, 2004)
- [www.wsud.org](http://www.wsud.org)
- WSUD Engineering Procedures: Stormwater (Melbourne Water, 2003)
- Australian Runoff Quality (ARQ) (Engineers Australia, 2006)

Council specific information for WSUD was primarily written into the DCP. The advice included indicative sketches of some WSUD treatment elements, and basic design advice. Only two councils had produced (or were in the process of developing) WSUD fact sheets for developers.

Three councils stated that no support information was provided to Developers on achieving WSUD DCP provisions. In one case, advice is provided verbally through the Development Application Process. For this approach to be successful, DA meetings have to be regular and attended by the right people within council. Individual council staff must also have a good understanding of WSUD and how their particular requirements affect other department requirements. One council had the opposite philosophy, leaving interpreting the WSUD DCP provisions to the Developer. The remaining council had not thought of providing assistance to developers to supplement the WSUD provisions given in the revised DCP.

#### **4.4 WSUD DEMONSTRATION PROJECTS**

The majority of councils were able to name WSUD demonstration projects in their local government area (LGA) albeit only at Development Application stage and not as yet built. The level of detail given regarding the demonstration projects was varied. Some councils solely named WSUD elements, and could not provide specific project names or locations. However, some councils identified the location of demonstration projects and whether they had been successful. This disparity does not necessarily infer the former councils have less understanding of WSUD in their LGA. The interviewees may have comparatively less experience with WSUD or may not be directly involved in WSUD projects (for example, a Planner or maternity leave replacement).

The high number of WSUD demonstration projects in the BBC is encouraging. It demonstrates that there is support for WSUD from within the councils. Furthermore, some councils stated that they would continue to incorporate WSUD in council projects as a way of encouraging local developers to adopt WSUD into their developments.

#### **4.5 STORMWATER SERVICE CHARGE**

The majority of councils interviewed stated they had a stormwater service charge (SSC), or an environmental levy of which a certain proportion was assigned to stormwater improvement projects and/or maintenance. Most of the remaining councils interviewed stated that a SSC had been approved and was to be adopted in the next financial year, or was being discussed by the council. There were only three councils that indicated that their respective councils would not adopt a SSC. In one situation the council rejected a recent request to impose a SSC, as they believed it was politically unfavourable to ask for additional money from residents. In the other cases no reason was given for not adopting a SSC.

#### **4.6 ADDITIONAL TOOLS AND RESOURCES**

The tools identified by council as important in the adoption of WSUD are summarised in Figure 3. The most important tools were highlighted as:

1. Training specific to the needs of council (for example, WSUD and planning, assessment of WSUD strategies, and design of WSUD elements);
2. Guidelines and fact sheets on WSUD; and
3. Regional directives for WSUD planning.

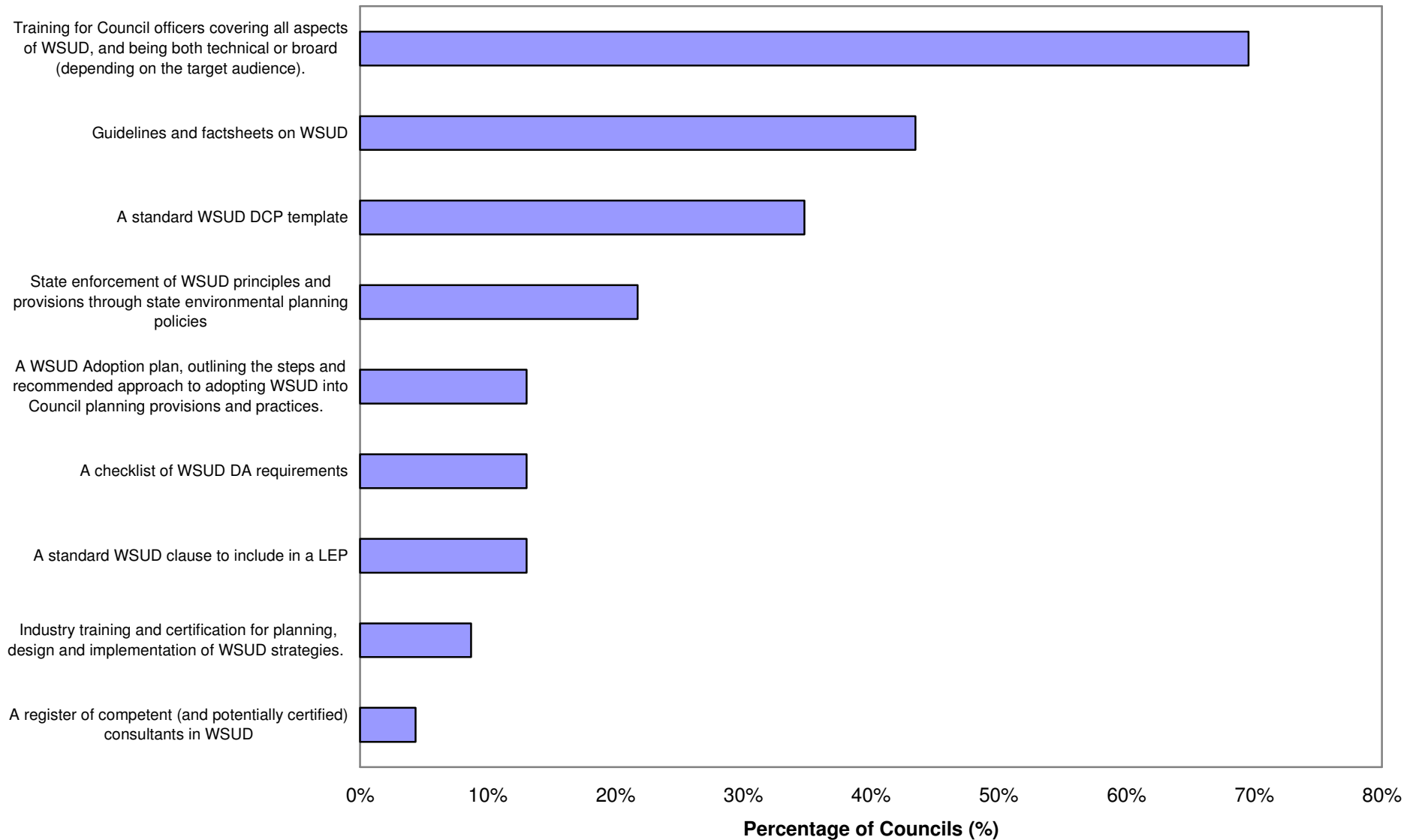
A common response from the interviews was the need to educate and “convince” planners of the merits of WSUD. Councils believed planner enthusiasm for WSUD would be improved through mandatory workshops and training sessions aimed specifically at planners, as well as through WSUD fact sheets. The fact sheets should include the normal plethora of material (that is, on design, maintenance requirements and costs, and assessment) but should also include a brief assessment of WSUD against traditional stormwater management.

Councils are looking for state or regional consistency in WSUD. Standard WSUD provisions that could be readily included into council planning tools would help breakdown the conception that WSUD is too hard in terms of planning regulations. Some council officers proposed that WSUD requirements should be included in state policy. For example, one council suggested that the BASIX SEPP be expanded to incorporate stormwater quality targets. This was also seen as an incentive for Developers to adopt WSUD provisions in their designs.

Regional guidelines were identified as necessary for WSUD adoption in council LGAs. Regional guidelines exist, namely the WSUD Technical Guidelines for Western Sydney (UPRCT, 2004) and the Department of Environment and Climate Change (DECC) draft Managing Urban Stormwater (2007)

series. The council officers that identified a need for regional guidelines did not provide comment to the adequacy of the current regional documents. However, those same councils do not currently require WSUD in new developments and so may not be aware of regional (and interstate) WSUD reference material available.

The capacity of consultants to properly design and implement a WSUD strategy was identified as weak. Consultants were submitting DAs that are considered by the relevant council to be unsatisfactory in achieving the objectives of WSUD. It was also felt that consultants didn't understand how WSUD could be integrated into a typical development. Education pamphlets and training for Consultants as well as WSUD demonstration projects were seen as key to raising the profile of WSUD in the private sector and improving the WSUD strategies submitted to council.



**Figure 3: A Comparison of the Councils requiring various WSUD Adoption Tools**

## 5. WSUD CAPACITY NEEDS OF COUNCILS IN THE BBC

A previous project entitled *Barriers and Opportunities to WSUD Adoption* undertaken for the Botany Bay Coastal Catchments Initiative (BBCCI, 2007) identified a series of barriers and opportunities to WSUD within the BBC. Thirteen key strategies were identified and prioritised to support further WSUD practice in the BBC. Each strategy was given a priority level, one being the most important strategy. The ranking was completed by a representative group of council officers within the BBC. Table 4 summarises the strategy proposed and the priority under the column “Barriers Project”.

**Table 4: Prioritised list of Strategies for further action (BBCCI, 2007)**

Theme	Strategy	Previous Barriers Project	This Project
Planning	Development of a WSUD DCP and supporting provisions/guidelines for Councils to facilitate the consistent implementation of WSUD in new developments throughout the catchment	1	3
	Defining consistent WSUD Principles for insertion into each council's LEP template.	2	7
	State enforcement of WSUD principles and provisions through state environmental planning policies		4
	A WSUD Adoption plan, outlining the steps and recommended approach to adopting WSUD into Council planning provisions and practices.		5
	A checklist of WSUD DA requirements		6
	Political lobby – the use of the Botany Bay council mayors or SSROC/WSROC to establish a consistent regulatory approach for WSUD	11	
Skills and Awareness	Training for Council officers covering all aspects of WSUD, and being either technical or broad (depending on the target audience).		1
	Industry training and certification for planning, design and implementation of WSUD strategies.		8
	Guidelines and factsheets on WSUD		2
	Disseminating tangible data on the operation and maintenance of WSUD elements. This would be prepared in consultation with council staff to ensure consistency with current council O&M practices.	5	
	Disseminating tangible data on cost-benefits of WSUD. This would be prepared in to consultation with council staff to ensure consistency with council accounting practices.	6	
	A register of competent (and potentially certified) consultants in WSUD		9
Senior Awareness	Securing Councillor awareness and commitment to WSUD. This could include Councillor awareness-raising through existing forums (e.g. floodplain management conferences)	3	
	Securing executive awareness and commitment to WSUD with targeted programs.	4	
Capacity	Endorsement of an independent capacity self-assessment tool by the “BBCCI” and “WSUD in the Sydney Region” programs to determine the specific WSUD needs of each council. The results of this assessment could be addressed through council programs under the Stormwater Management Service Charge.	7	
	Moral and resource support from the program for council officers that are pushing the WSUD agenda within their Council	8	
	Continued inter-local capacity-building with the WSUD in the Sydney Region project and its ‘Sustainable Water Challenge’	9	
	‘Conversants’ – ½-day workshops shared between councils to address questions and issues that councils have in the undertaking of WSUD	10	
Funding	The promotion of common adoption of the Stormwater Management Service Charge throughout the catchment.	12	
Programs	Promoting the concept of ‘flying squads’ (Fairfield City Council) that specifically target the motivated construction and O&M staff within council and provide workplace incentives for innovations such as WSUD.	13	

Table 4 also includes the outcomes of the interviews undertaken in this project as to the additional tools and resources requested by councils. The key overlap between these two pieces of research was that standard principles and provisions for council planning instruments are the first step to improving WSUD adoption in the BBC. This is followed by WSUD capacity building to initially raise awareness and commitment to WSUD and secondly to educate council on the various components of WSUD. The elements of the strategy are comparable to those discussed in Section 4.6, though the order of importance is different with education and training being given greater importance. This difference is arbitrary: planning provisions cannot be fully realised without understanding how to implement and assess the requirements set. Both are required and should ultimately be implemented in tandem.

Table 4 makes a further division between the strategies to further WSUD adoption into the themes planning, skills and awareness, senior awareness, capacity, funding and programs. It is noted that the majority of the responses from both projects relates to the first three themes, namely, planning, skills and awareness, and senior awareness. While this is partly expected due to the nature of this project relating to planning questions, it is interesting to note that councils are requesting not simply DCP and LEP provisions but further supporting information outlining the steps and approach to integrating WSUD into planning, as well as supporting guidelines and training for planning staff. This can be directly related to the assessment of councils DCPs (Table 3) that shows that upon closer inspection while a council may say that they have WSUD provisions in their DCP they are not normally related to best practice targets established by state and national guidance documents and there is a lack of consistency between the provisions. There is also limited guidance from councils about the implementation of those provisions, and ability for councils to assess development applications proposing WSUD.

Overall it is suggested that advice to councils on LEP and DCP provisions should not be seen in isolation but councils be given support on the adoption of WSUD provisions through a roadmap of the development process and where information is needed, as well as supporting WSUD guidelines. Similar guidelines have been produced for Blacktown, Ryde and Wyong Councils however they are absent from State level guidance provided by the Department of Environment and Climate Change through their *Managing Urban Stormwater* documents, and the Catchment Management Authority.

## 6. CONCLUSION

Interviews were conducted with twenty five councils within the Botany Bay Catchment. The interviews identified that nine of the councils have included WSUD planning provisions, and an additional seven councils have stated that they would encourage WSUD provisions to be included in future revisions of their DCP. The BBCCI scope of work requirement that six councils within the catchment should currently have or be including WSUD into their planning provisions has hence been satisfied. However, work is still required to achieve catchment wide adoption of WSUD into planning provisions and to ensure that provisions are consistent between councils. The questions and responses are shown in Table 5.

**Table 5: Councils interviewed for WSUD Adoption Strategy**

Question	Yes	No	Level of WSUD Adoption (%)
Q.1 Does your council have WSUD principles written into their Local Environmental Plan (LEP)?	3	22	12%
Q.2 Would the Council include WSUD principles into any forthcoming revisions of the LEP?	16	9	64%
Q.3 Do you have or are you preparing a WSUD Development Control Plan (DCP), or a DCP that includes WSUD provisions? <sup>1</sup>	9	16	36%
Q.4 Does council provide any support information to developers on how to implement WSUD in the Local Government Area (LGA)? This can include external documentation, such as the WSUD Technical Guidelines for Western Sydney.	12	13	48%
Q.5 If no, does Council provide any other type of assistance to help developers realise the intent of the WSUD DCP provisions? <sup>ii</sup>	3	22	12%
Q.6 Are there any WSUD sites or demonstration projects within the LGA?	16	9	64%
Q.7 Does your Council currently have a Stormwater Service Charge (SSC)? If no, would Council consider introducing a SSC in the future?	16	9	64%
Q.8 In your opinion, what would be the most important action an organisation could do for the Council to help support the inclusion of WSUD into your planning schemes (for example, a standard DCP template for Councils to adopt, training on WSUD assessment, etc)?	-	-	-

To assist in further adoption and consistency of WSUD planning tools, the interviews identified three broad tools:

1. Training specific to the needs of council (for example, WSUD and planning, assessment of WSUD strategies, and design of WSUD elements);
2. Guidelines and fact sheets on WSUD; and
3. Regional directives for WSUD planning.

The tools were a response to the same needs identified in a previous study by the BBCCI on the barriers and opportunities to WSUD adoption within the catchment. The results from the interviews give confidence to the strategies identified in the adoption and barriers report, which can be used with confidence to develop an appropriate WSUD Adoption Strategy for the BBC.

<sup>ii</sup> A “no” response has been given for councils to which this question does not apply

## REFERENCES

Department of Planning (NSW) (2005), *Requirements for development control plans with the latest planning reforms*, available online at [www.planning.nsw.gov.au/planningsystem/pdf/circulars/ps05\\_010\\_dcps.rtf](http://www.planning.nsw.gov.au/planningsystem/pdf/circulars/ps05_010_dcps.rtf)

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