



SOUTH EAST QUEENSLAND
HEALTHY WATERWAYS
PARTNERSHIP

Integrated Water Cycle Planning

Comparing Local Government Approaches in South East Queensland

Summary of a Local Government Workshop – 1 June 2007

Version 1.1, 5 September 2007



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1. Introduction

The Need for Integration in Urban Water Planning

In recent years, the combined effects of drought and rapid population growth in South East Queensland (SEQ) have highlighted the need to manage our urban water resources in a sustainable way. A key element of improved sustainability in urban water resource management is the concept of integration. Rather than managing water supply, sewage and stormwater independently, an integrated approach looks for complementary relationships between the different urban water streams. By exploiting any identified synergies, it is often possible to achieve multiple benefits, such as reducing urban water consumption at the same time as pollutant discharges in sewage and stormwater.

To achieve the potential benefits of an integrated approach, it is necessary to adopt the principles of integrated urban water management (IUWM) in the planning stage of all urban water infrastructure. To date, most of this urban water planning has been undertaken by local government using a range of standard approaches and guidelines. However, much of the guidance currently available to local government was developed before the importance of integration was widely recognised. Hence, it has been necessary for each local government to develop its own methods of implementing an integrated approach to water cycle planning. Some councils have devoted considerable resources to this task.

Local Government Collaboration on Integrated Water Cycle Planning in SEQ

In October 2006, a group of officers from a number of SEQ councils held an Integrated Water Cycle Planning (IWCP) Forum to discuss the approach that each had taken to integrated urban water cycle planning. The notes from the forum are included in Appendix A.

A key outcome from the October 2006 forum was a recognition that:

- All local governments represented at the forum had developed their IWCP approach independently, and
- The approaches adopted by local governments each addressed different issues and at different levels of detail.

Due to the diversity of approaches and lack of a common framework, it was difficult to compare methodologies, identify common principles or share lessons learned.

An agreed outcome from the IWCP Forum was for the group to meet again to continue regional collaboration on IWCP issues. Gold Coast and Brisbane City Councils invited the South East Queensland Healthy Waterways Partnership (SEQHWP) to assist in facilitating these discussions, with funding provided by Brisbane City Council.

After reviewing the notes from the October 2006 IWCP Forum, it became apparent that some type of common framework was required to enable a more direct comparison between the work of the different councils. Through discussions with various stakeholders, SEQHWP developed a common conceptual framework upon which each local government could “map” their IWCP activities.

On 1 June 2007, SEQHWP hosted a workshop session to assist local government officers in mapping their IWCP work within the proposed framework and to facilitate discussion on the various approaches adopted. This workshop was also attended by a number of observers, including State government officers.

Changing Governance Arrangements for Urban Water in SEQ

In the weeks prior to the June 2007 workshop, the Queensland Government announced significant reforms to the governance of urban water infrastructure in SEQ. These reforms will have profound implications for integrated water cycle planning and management in SEQ. However, they were not generally anticipated by local government during the development of their IWCP approaches.

In light of these substantial shifts in the water governance regime for SEQ, the option of canceling the workshop was considered. However, the majority of local government officers indicated a preference for the workshop to proceed, providing an opportunity to learn from the work completed prior to the announcement of the revised governance arrangements. To clarify discussions at the workshop, the potential impact of the proposed State reforms was not considered, with the exception of a brief discussion session at the close of the workshop. Hence, the workshop focused only on IWCP work that had been undertaken by councils prior to about May 2007.

Purpose of This Report

The purpose of this report is to:

- Describe the adopted IWCP conceptual mapping framework, and
- To document the outcomes from the June 2007 local government workshop.

Section 2 of this report outlines the agenda for the workshop and summarises the various concepts presented in the introductory session of the workshop, including the proposed conceptual mapping framework.

Section 3 discusses the conceptual maps of local government IWCP processes, developed by council officers during the workshop.

Section 4 summarises some of the key lessons derived from the discussions at the workshop.

2. IWCP Workshop Outline

Overview

The program for the IWCP workshop included three main components:

- An introductory presentation that discussed some of the general principles and key terms of integrated water cycle planning.
- Presentation of the proposed conceptual mapping framework.
- An interactive workshop session where local government officers mapped out their IWCP activities within the conceptual mapping framework and then presented their work to the group.

The agenda for the workshop is provided in Appendix B.

Whilst the workshop was aimed at local government officers, representatives of other stakeholder groups were also invited to attend as observers. A list of participants at the workshop is provided in Appendix C.

A copy of the presentation given at the workshop by Dr David Newton (SEQHWP Technical Officer for Water Sensitive Urban Design) is provided in Appendix D.

Introduction to Integrated Water Cycle Planning

The introductory presentation briefly discussed the following issues:

- *The traditional segregated approach to the planning of urban water infrastructure and the potential benefits of holistic consideration of all urban water streams.*

For more than a century, segregation of urban water streams has been a key element of urban water planning. Whilst this approach has had enormous benefits for public health and amenity, current water resource pressures are providing an incentive to examine alternative approaches that aim to achieve synergistic social, environmental and cost benefits through simultaneous consideration of the whole urban water cycle.

- *The background to the IWCP workshop.*

Substantial work on IWCP has been undertaken by local government in SEQ. However, little guidance has been available on how this should be done. As a result, all local governments have adopted different approaches, achieving “integration” in different ways. The independence of adopted approaches was highlighted during the October 2006 IWCP Forum. Whilst the Forum provided a useful exchange of ideas, the lack of any common framework made it difficult to compare approaches between different local governments.

- *Differences in the understanding of the urban water cycle.*

Dr Newton discussed his anecdotal observation of two dominant paradigms in local government conceptualisations of the urban water cycle. The first paradigm is infrastructure-based, focusing on the potable urban water supply network. The second is catchment-based, focusing on waterways and catchments. The integrated water cycle planning undertaken by local government often seems to adopt one of these paradigms, depending on which section of council takes the lead role in development of integrated water cycle plans or strategies.

- *Exploring the differences between integrated urban water cycle “planning” and “management”.*

The terms “planning” and “management” are often used in relation to strategic-level work in urban water, without a clear understanding of what each term implies. The following definitions were presented:

- Management: *The activity of directing with a degree of skill, or working upon or trying to alter for a purpose.*
- Planning: *The development of a scheme, program or method for the accomplishment of an objective.*

Discussion focused on the concept of “management” as a more general process of influence. “Planning” is more specific, having a starting point (some objective) and an end point (a plan or program to reach that objective). Using these definitions, planning can be seen as an activity that forms part of management.

Figure 1 (a slide from the presentation delivered at the workshop) shows a simple generic conceptualisation of a management process, of which planning forms one component. As shown in Figure 2, Integrated Water Cycle Planning represents the link between targets, established through some policy development process, and implementation. It was noted that separation between these activities is not always so discrete, with the potential for substantial overlap.

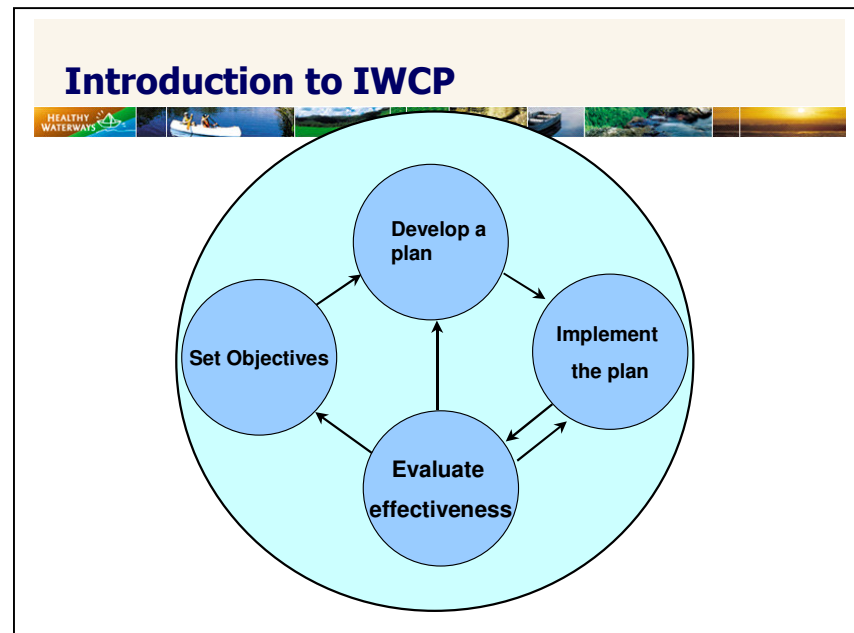


Figure 1 Generic conceptualization of a management process.

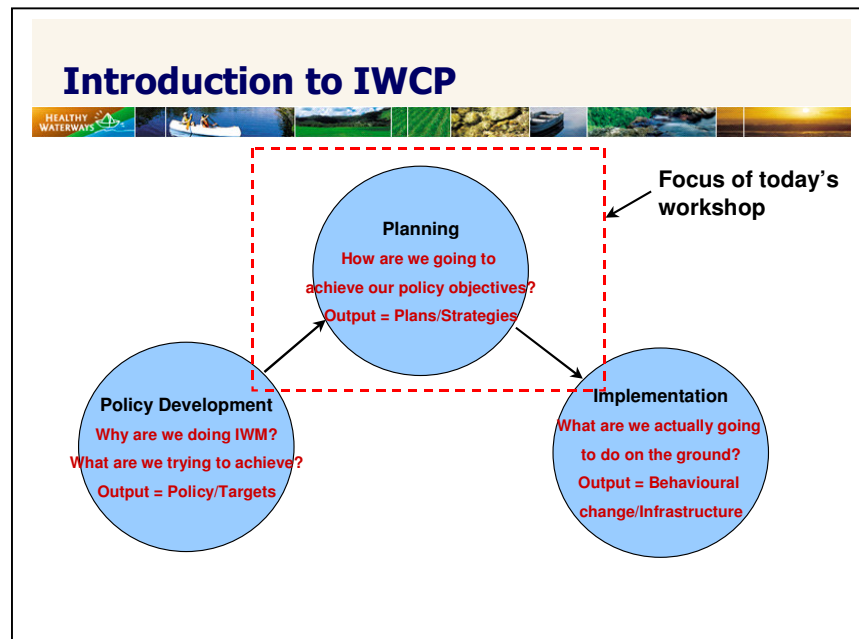


Figure 2 Planning: The link between targets and implementation.

Discussion of Urban Water Terminology

Figure 3 shows a conceptual framework that relates urban water issues to spatial scale. This framework was used to facilitate discussion on the differences between the following urban water terms:

- Integrated urban water management (IUWM),
- Water sensitive urban design (WSUD),
- Urban stormwater management (USWM), and
- Catchment management (CM).

The spatial scale at which each of these terms considers the different urban water issues is shown in Figures 3. Discussion at the workshop raised the following points:

- IUWM and WSUD address a similar range of issues, but at different spatial scales. WSUD focuses on the site scale. IUWM typically refers to the consideration of integrated urban water issues at a larger scale, although the term refers to a management approach which is essentially scale-independent. There was discussion about whether the “extent” of IUWM should be expanded to cover all of the identified issues at all scales.
- USWM primarily addresses the issue of urban stormwater quality and quantity, but can be applied at a range of spatial scales.
- CM is focused on land use and environmental issues affecting waterways.

The framework was also used to facilitate discussion on the suite of strategies and strategic-level plans currently available or under development in SEQ. Figure 4 shows the range of issues and spatial scale relevant to:

- The SEQ Regional Water Supply Strategy (SEQRWSS),
- The SEQ Healthy Waterways Strategy,

- The SEQ Natural Resource Management Plan (SEQ NRM Plan), and
- Local government planning schemes.

During discussion at the workshop it was noted that elements of local government planning schemes (such as planning scheme policies), through their role in regulating development activities, cover all of the listed urban water issues at the site scale.

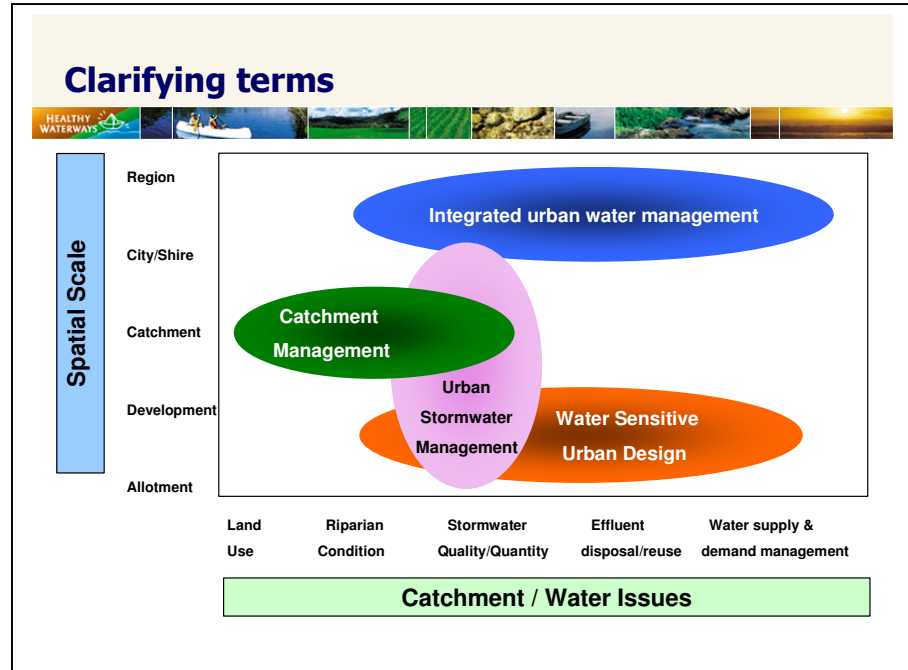


Figure 3 Comparison of urban water terms with respect to issues and spatial scale.

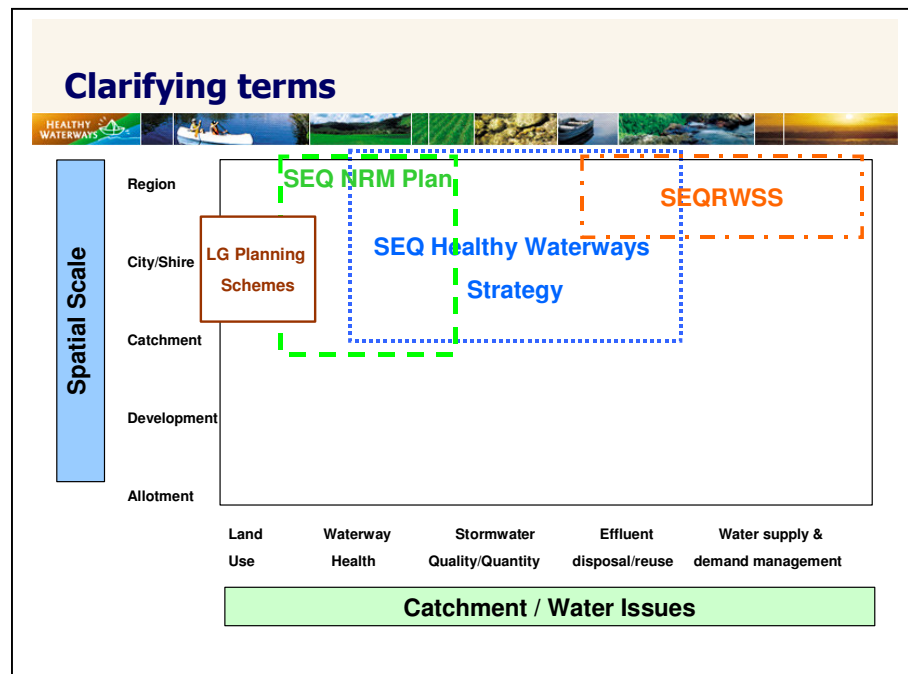


Figure 4 Water issues and spatial scale addressed by various SEQ plans and strategies.

IWCP Conceptual Mapping Framework

Figure 5 shows the proposed conceptual mapping framework for urban water planning processes in local government. The framework positions key elements of urban water planning along a continuum between policy (the driver for the planning process) and implementation (the adoption of recommendations and use of products derived from the planning process). The elements of the local government water planning process identified in the framework are:

- **Policy:** What are the rules to be followed or the targets to be achieved?
- **Governance:** Who is in charge of the process?
- **Process:** What sort of investigations does local government undertake?
- **Products:** What outputs does the process produce?
- **Implementation:** What are the planning products used for?

Figure 5 shows a simple example of the type of information that could populate the IWCP framework for one issue.

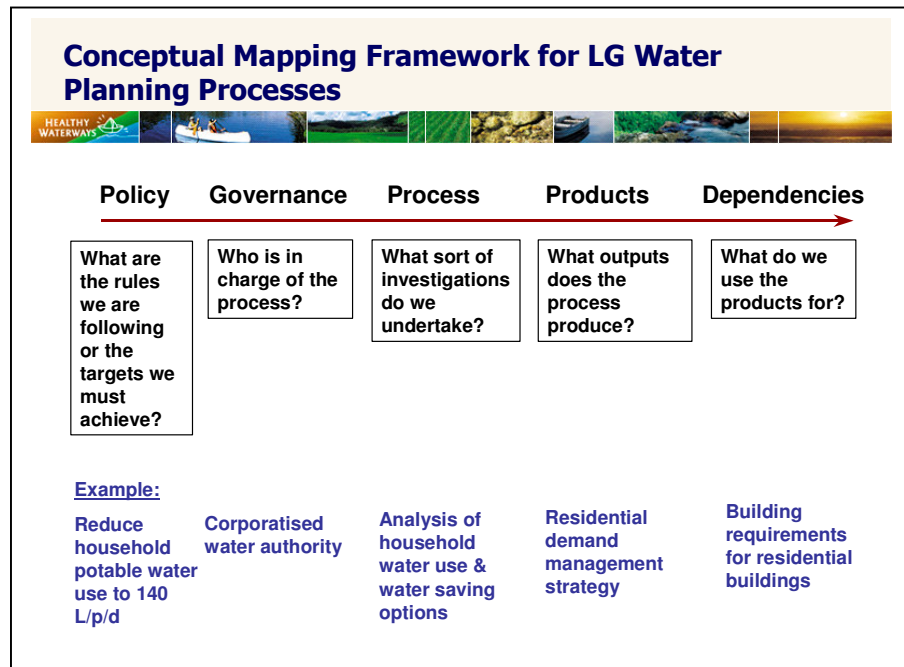


Figure 5 IWCP Conceptual Mapping Framework.

Until the last 10 years or so, local government water planning typically occurred in three “streams”:

- Water supply and sewerage,
- Flooding and drainage, and
- Waterway health.

Figure 6 maps these traditional water planning streams within the conceptual mapping framework. As shown in Figure 6, these planning streams were essentially independent from each other. Figure 7 shows hypothetical content for the water supply and sewerage planning stream, indicating policy drivers, governance, processes and products. As shown in Figure 7, the products from this planning stream often shared implementation mechanisms with other water planning streams.

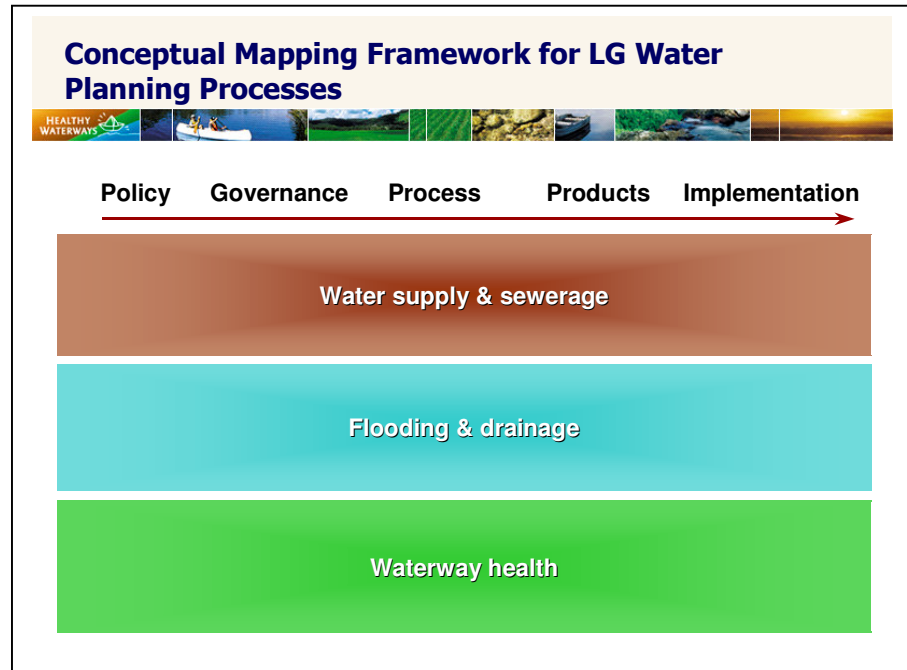


Figure 6 Traditional water planning streams.

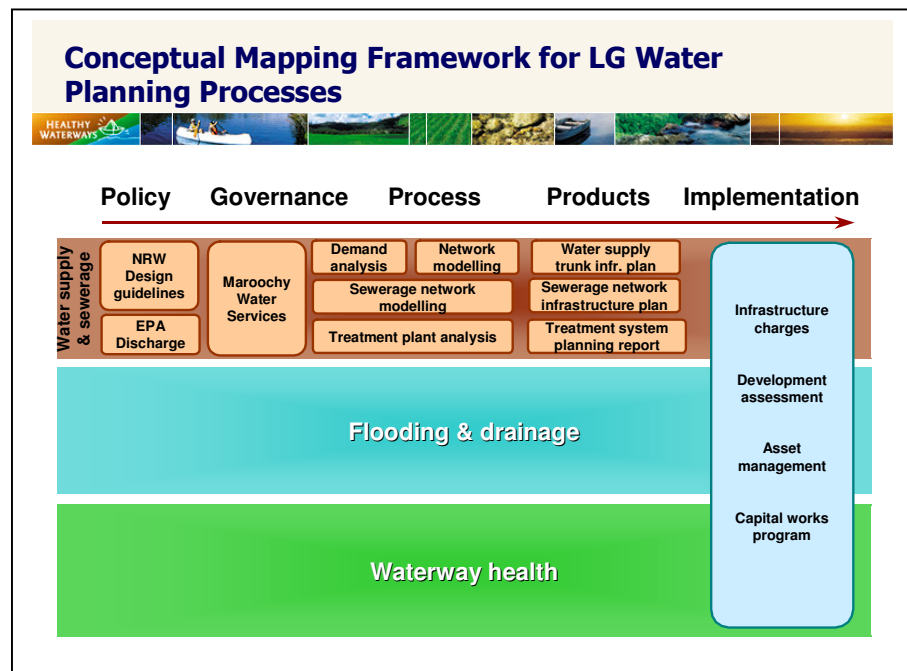


Figure 7 Example of hypothetical components of the water supply and sewerage planning stream.

Figure 8 shows hypothetical content for all three planning streams, indicating virtual independence in policy, governance, process and products.

Figures 9 to 12 show the use of the conceptual mapping framework to illustrate different kinds of integration of water planning activities. For example:

- Figure 9 shows how the development of an integrated water policy (with no changes in governance, process or products) could be represented within the framework.
- Figure 10 shows a representation of integrated policy and governance.
- Figure 11 represents integration only at the product level.
- Figure 12 represents an integrated process to derive independent products.

By providing a common platform for representing IWCP within each local government, the framework aims to facilitate comparisons between the approach of different councils.

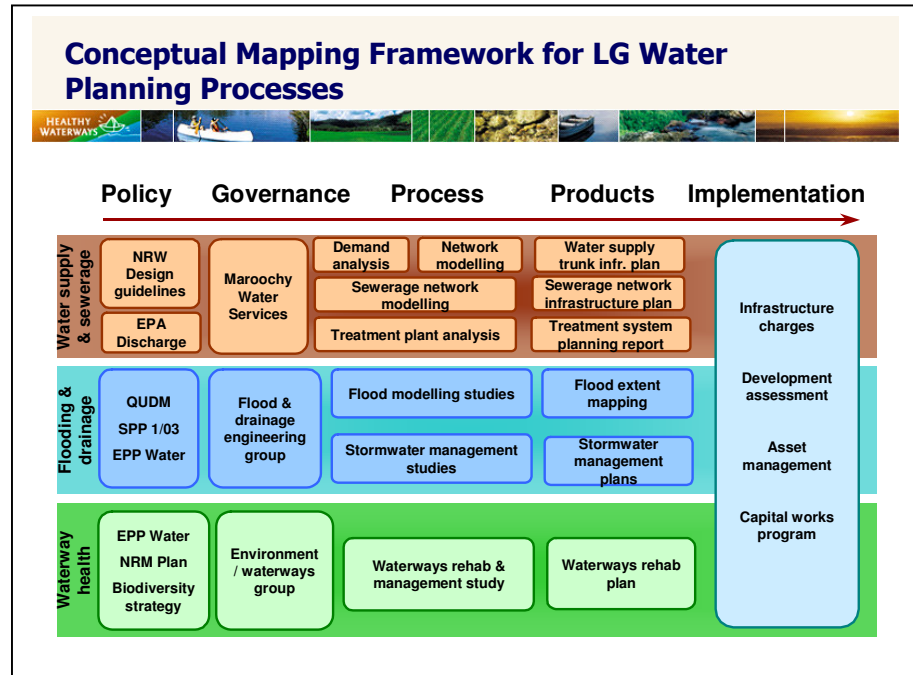


Figure 8 Example of hypothetical components of all water planning streams.

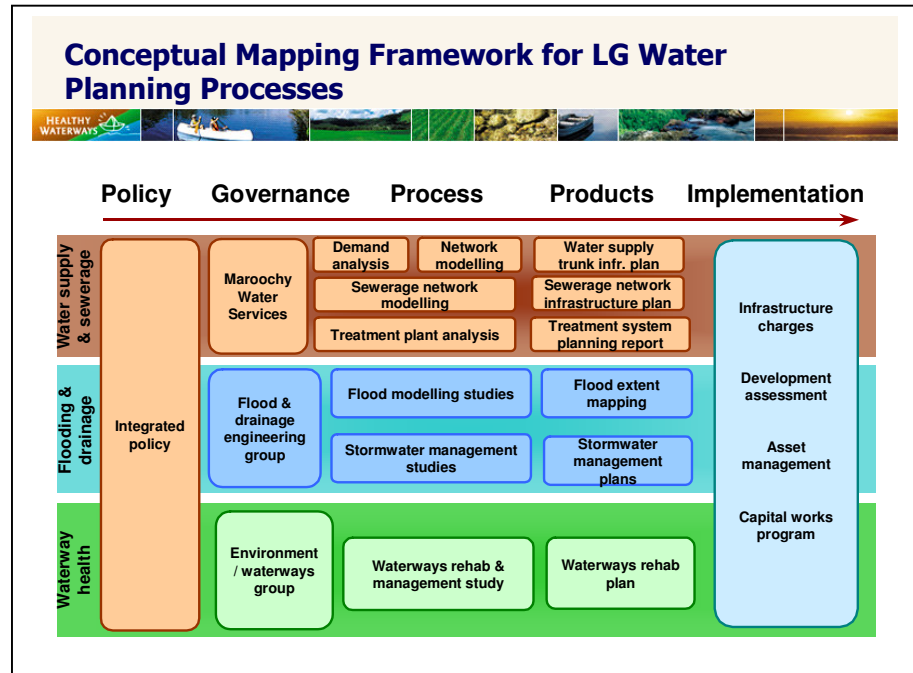


Figure 9 Conceptual representation of integrated water policy.

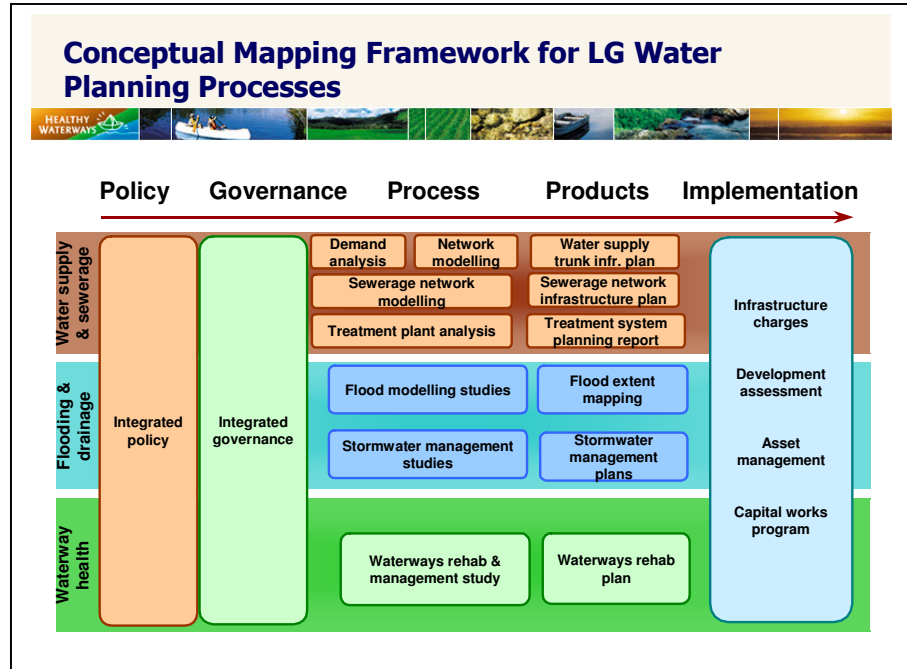


Figure 10 Conceptual representation of integrated water policy and governance.

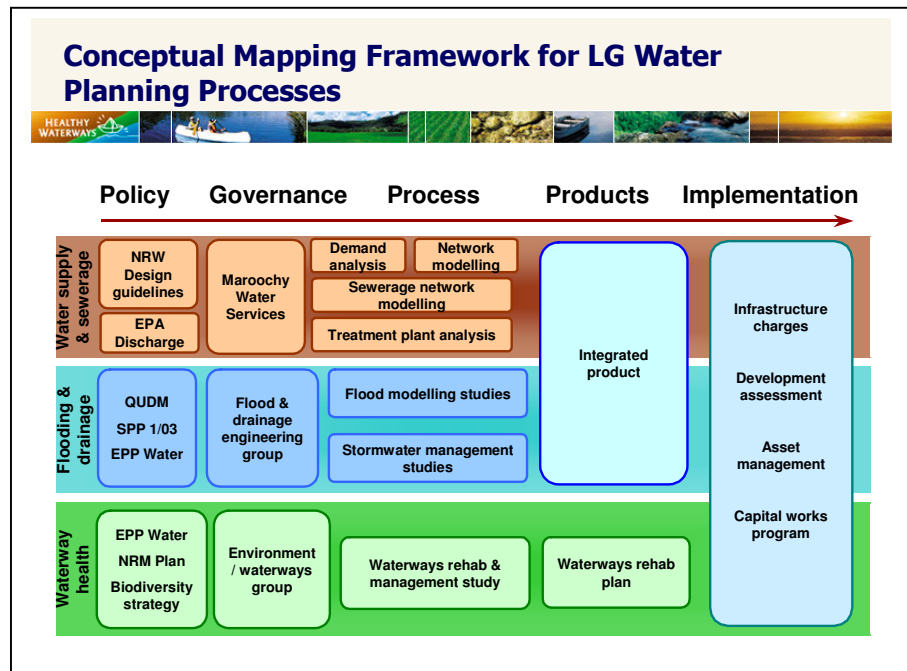


Figure 11 Conceptual representation of integrated water planning products.

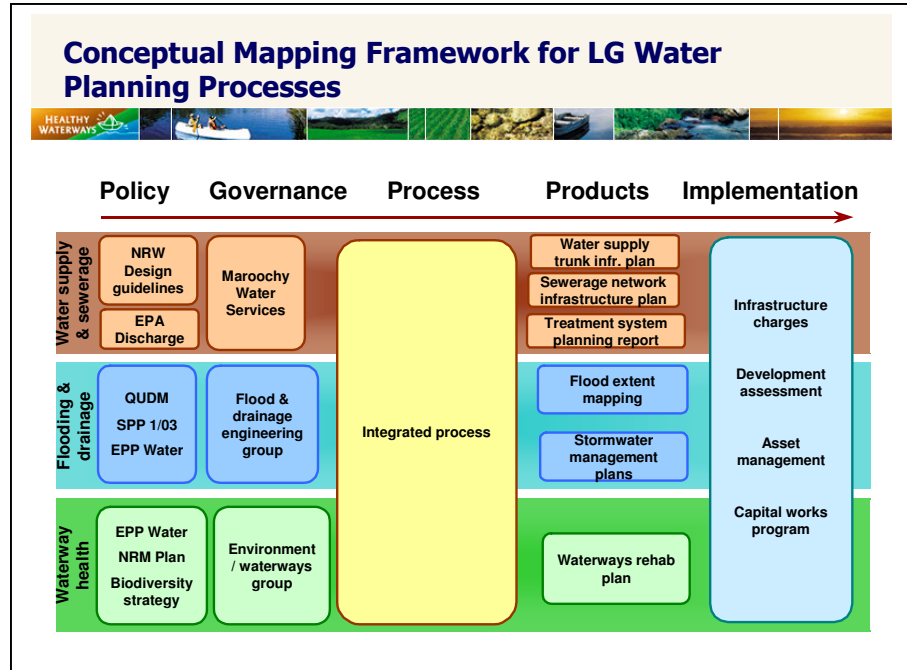


Figure 12 Conceptual representation of process-level integration in integrated water planning.

3. Conceptual Mapping of Local Government IWCP Processes

Workshop Process

Following the introductory presentation and discussion of the conceptual mapping framework, participants in the workshop split into local government groups and were asked to undertake the following tasks:

- Using the conceptual mapping framework, illustrate your local government water planning processes as they were, say, 15 years ago (intended to represent water planning processes prior to any major initiatives in integrated water management),
- Using the conceptual mapping framework, illustrate your local government water planning processes as they are at present (prior to the announcement of proposed State government reforms in water governance), and
- Present both maps to the group for discussion.

Results of Conceptual Mapping

The results of the conceptual mapping indicated that prior to integrated water management most local governments had similar water planning processes in place at that time.

Figure 13 shows the typical structure of local government water planning processes about 15 years ago (circa 1992). Common features include:

- Minimal planning for the management of water quality or waterway health,
- A single entity (typically a department of works or engineering) responsible for all water planning.
- Independent water planning processes and products.

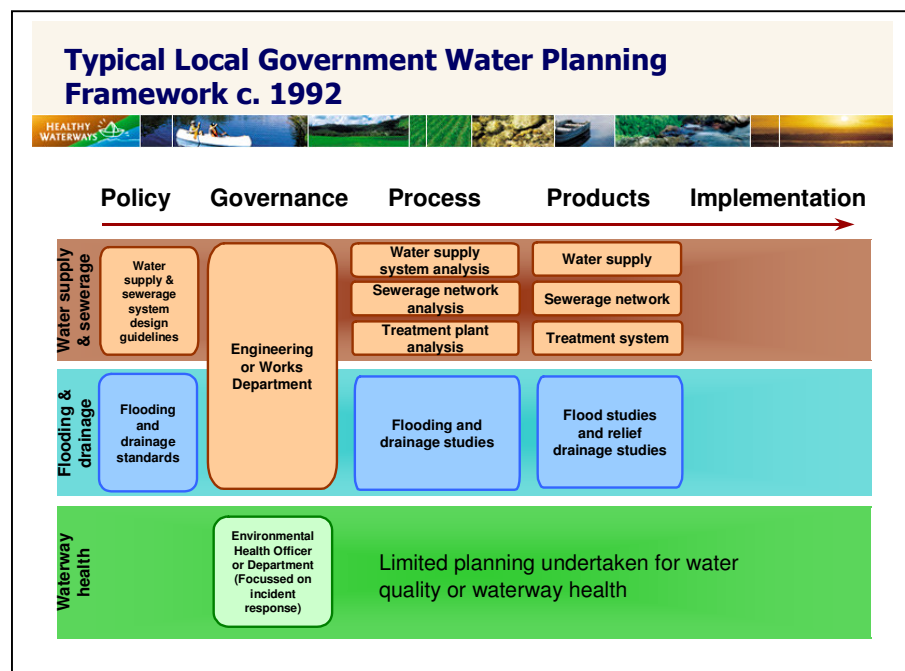


Figure 13 Typical local government water planning processes prior to integrated urban water management (circa. 1992).

Appendix E shows a representation of the following conceptual maps developed at the workshop by local government officers:

- Figure E1 - Brisbane City c. 1992,
- Figure E2 - Brisbane City c. 2007,
- Figure E3 - Logan City c. 2007,
- Figure E4 - Pine Rivers Shire c. 2007,
- Figure E5 - Redcliffe City c. 2007,
- Figure E6 – Redland Shire c. 2007.

Note that the conceptual maps shown in Appendix E are based on hard-copy material prepared by participants at the workshop. Since the presentation format and level of detail provided by the different local government groups varied considerably, it was necessary to condense or reinterpret some of the collected data to enable presentation on the proposed common framework.

Comments on the various conceptual maps are summarised below:

- All local governments represented at the workshop had taken some measures to integrate their water planning processes. However, the resources devoted to the task varied considerably between councils.
- “Integration” in water cycle planning has been approached in different ways by each of the local governments. Some have attempted to achieve multiple types of integration, whilst others have focused on integration at one level, for example, development of an integrated water management strategy.
- Statutory requirements to prepare certain planning documents provided some councils with an opportunity to undertake integrated water planning activities that may not have otherwise occurred. A number of councils used Structure Plans and Priority Infrastructure Plans as a vehicle for undertaking integrated water planning investigations and also to document the requirement for integration in subordinate planning processes.
- Only Brisbane City Council has a clearly articulated method of integration in Policy, Governance, Process and Products. This is most likely due to the substantial targeted effort that the region’s largest council has directed towards integration of its water planning processes. However, it was noted at the workshop that Brisbane City’s IWCP process was not yet fully operational. Hence, it is possible that any difficulties in implementing the proposed approach were not yet apparent.

Implications of Changes in Water Governance

At the conclusion of the workshop, participants held a brief discussion on the proposed State government changes to water governance arrangements in SEQ. Given that the proposed arrangements had only been announced about two weeks before the workshop, there was considerable uncertainty about what the proposed new arrangements would mean for urban water planning.

One of the key concerns discussed by the group was the potential difficulty of undertaking integrated water planning when management responsibility for different components of the water cycle was split across different organisations. This potentially complicates water governance arrangements, creating an institutional discontinuity that increases the risk of poor collaboration between managers of different components of the water cycle.

4. Conclusions

- The value of integrated approaches to water planning is well recognised by local government in South East Queensland (SEQ). However, due to the organisational diversity of local government and the complexity of water issues, no “best practice” approach to integrated water cycle planning has yet been identified for SEQ.
- Some local governments in SEQ have devoted substantial resources to the development and implementation of integrated water cycle planning. However, little collaboration with other local governments has occurred during this process. As a result, individual councils have each attempted to “integrate” their water planning activities in different ways. The diversity of approaches, and the difficulty of making comparisons between them, was highlighted through an Integrated Water Cycle Planning (IWCP) Forum in October 2006.
- A subsequent IWCP Workshop, hosted by the South East Queensland Healthy Waterways Partnership in June 2007, proposed a simple conceptual framework that allowed each local government to “map” their IWCP activities. This facilitated comparisons between the work of different councils.
- The conceptual mapping undertaken by local government officers at the IWCP Workshop indicated that about 15 years ago, most local governments had similar water planning processes in place. At that time there was typically minimal planning for the management of water quality or waterway health, with a single entity (usually a department of works or engineering) responsible for all water planning.
- By 2007, all local governments represented at the workshop had taken some measures to integrate their water planning processes. However, the resources devoted to the task varied considerably between councils. Some councils attempted to achieve multiple types of integration, whilst others have focused on integration at one level, for example, development of an integrated water management strategy.
- Statutory requirements to prepare certain planning documents have provided some councils with an opportunity to undertake integrated water planning activities that may not have otherwise occurred. A number of councils used Structure Plans and Priority Infrastructure Plans as a vehicle for undertaking integrated water planning investigations and also to document the requirement for integration in subordinate planning processes.
- Of the councils represented at the workshop, Brisbane City Council had the most clearly articulated methods for integration across the various urban water streams. However, it was noted at the workshop that Brisbane City’s IWCP process was not yet fully operational. Hence, it is possible that some challenges in implementing the proposed approach may emerge in the future.
- The impacts of proposed State government changes to water governance arrangements, announced only 2 weeks prior, was not considered in detail at the workshop. However, one of the key concerns discussed at the workshop was the potential difficulty of undertaking integrated water planning when management responsibility for different components of the water cycle was split across different organisations. This potentially complicates water governance arrangements, creating an institutional discontinuity that increases the risk of poor collaboration between managers of different components of the water cycle.

Appendix A – Notes from Integrated Water Cycle Planning Forum, 9 October 2006

Regional IWC Planning Forum

Monday

9 October 2006

Venue: QDPI Conference Centre, Brisbane

Facilitator: Alan Barton – Brisbane City Council

Agency	Speaker	Presentation
Brisbane City Council	<i>Barry Ball</i> Manager Water Resources	Welcome
Brisbane City Council	<i>Alan Barton</i> Principal Program Officer Water Resources	"Water for today and tomorrow - Integrated Water Cycle Planning"
Gold Coast Water	<i>Sayed Khan</i> Coordinator Planning Services Infrastructure Planning	"Gold Coast WaterFuture – IWCP & Regional Planning Contexts"
Caboolture Shire Council	<i>Graham Clements</i> Environment Officer Ecological Health & Waterway Management	"Integrated Water Planning in Caboolture"
Pine Rivers Shire Council	<i>Andrew Sloan</i> Senior Planning Engineer Pine Water	"Integrated Water Strategies – the Pine Rivers approach"
Maroochy Shire Council	<i>Damian McGarry</i> Principal Engineer, Integrated Water Management, Long Term Infrastructure Planning Branch	"Meeting the Sustainable Water Challenge"
eWater CRC	<i>Alan Barton</i>	Update
Discussion Session – REGIONAL COLLABORATION		



Attendees

Name	Organisation	Phone	Email
Barton, Alan	Brisbane City Council	3403 9054	alan.barton@brisbane.qld.gov.au
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Prenzler, Scott	Brisbane City Council	3403 4507	scott.prenzler@brisbane.qld.gov.au
Wright, Rob	Brisbane City Council	3403 5729	robert.wright@brisbane.qld.gov.au
Clements, Graham	Caboolture Shire Council	5420 0473	clementsg@caboolture.qld.gov.au
Breen, Mark	Caloundra City Council	5420 8988	m.breen@caloundra.qld.gov.au
Kenway, Steven	CSIRO	0419 979 468	steven.kenway@csiro.au
Owen, Peter	Gold Coast City Council	5581 6386	powen@goldcoast.qld.gov.au
Capati, Bill	Gold Coast Water	5582 8261	qcapati@goldcoastwater.com.au
Khan, Sayed	Gold Coast Water	5582 8757	skhan@goldcoastwater.com.au
McGarry, Damian	Maroochy Shire Council	5441 8297	mcgarryd@maroochy.qld.gov.au
McNamara, Reid	Moreton Bay Partnership (HW)	0421 708 016	reid.mcnamara@healthywaterways.org
McDonald, Natasha	Natural Resources & Water	3405 4949	natasha.mcdonald@nrm.qld.gov.au
Nardi, Peter	Natural Resources & Water	3224 2439	peter.nardi@nrm.qld.gov.au
Sommer, Luisa	Natural Resources & Water	3405 4952	luisa.sommer@nrm.qld.gov.au
Stewart, Joel	Natural Resources & Water	3896 9632	joel.stewart@nrm.qld.gov.au
Woolley, Anne	Natural resources & Water	3896 9488	anne.woolley@nrm.qld.gov.au
Herring, Allan	Pine Rivers Shire Council	3480 6568	allan.herring@pinerivers.qld.gov.au
Sloan, Andrew	Pine Water	3480 6723	andrew.sloan@pinerivers.qld.gov.au

Apologies:

- George Pegoraro (Caloundra City Council)
- Tony McAlister (WBM)
- Jeremy Wagner, Evan Thomas (Gold Coast City Council)
- Col Hester (Ipswich Water)
- Phill Hattersley, Peter Ham (WaterFuture Alliance)

Welcome

(Barry Ball – Manager, Water Resources, Brisbane City Council)

- Was please to see there was recognition of a more holistic approach to water planning across the region.
- More strategic water thinking in BCC has led to the development of “Water for today and tomorrow” (an integrated water strategy for Brisbane, 2004) which has now been translated in a water policy for Council (2006).
- Integrated water cycle planning for BCC is one mechanism for the implementation of this policy.
- Is keen to explore our collective understanding and explore regional opportunities.

(COPIES OF PRESENTATIONS BEING CIRCULATED)



"Water for today and tomorrow - Integrated Water Cycle Planning"

(Alan Barton - Principal Program Officer, Water Resources, Brisbane City Council)

Please contact Alan / Annette if you require a copy of BCC's "IWC Planning Process Report" (Lloyd Consulting).

Alan presented on the IWC Planning model currently underway in Brisbane City Council.

Water for today and tomorrow is the Council's strategy to ensure a sustainable water future for Brisbane. The strategy outlines how the city can maintain a supply of fresh water and preserve the health of our creeks, rivers and Moreton Bay.

Brisbane, and the entire South East Queensland region, face a number of water challenges in coming years, including:

- population growth means we can no longer rely on providing water supply from storage dams
- residential and industrial growth within Brisbane is placing more stress on our already impacted waterways
- better flood management strategies are needed to respond to climate change and to improve catchment management
- climate change brings altered rainfall patterns, increased possibility of prolonged dry periods and greater demands on our water supply

The water strategy will develop a way of managing the total water cycle. Total water cycle management is about recognizing that all of our water services are interrelated and linked to our waterways and catchments.

Benefits of total water cycle management include:

- more sustainable than traditional water management models
- integrates the management of all water services
- involves the community in water management decisions
- protects and improves our natural water systems
- makes best use of all the water in the system.

from - www.brisbane.qld.gov.au

Discussion:

- Spatial information
 - how to obtain confidence levels at different levels
 - technical expert moderation (as a quality assurance)
 - currently focusing on citywide and local planning scales (not lot scale)
- QWC / Water Grid
 - linkages with solutions coming from QWC
 - needs policy rigor
 - IWC Planning will help local authorities to respond to regional solutions
- will it assist relationships between internal stakeholders (eg purchasers/providers)? We have consensus across the board of stakeholders, but there was critical discussion over who was to project manage.
- staff commonalities between projects important (ie their technical involvement in both citywide and local IWC plans).
- scale a major issue – keen to see if has an impact at the development assessment level.



"Gold Coast WaterFuture – IWCP & Regional Planning Contexts"

(*Sayed Khan* - Coordinator Planning Services, Infrastructure Planning, Gold Coast Water)

Gold Coast Water is introducing the Waterfuture concept as a distinctive and easily recognizable way of identifying projects and programs that focus on the long-term sustainability of our precious water supply.

Our Waterfuture will be one of achieving the right balance between our traditional planning and innovative new ways to manage our precious resource – water. Diversity of water sources and sustainable solutions will become a way of life not just futuristic aspirations. This diversity and sustainability will ensure water supply is adequate for the needs of our growing population and our environment, while effectively managing demand for water – achieving the right balance of supply and demand as we grow as a city.

The Waterfuture concept builds on a growing awareness of the value of innovative water management and community education. Thirty years of water recycling, 10 years of the award winning WaterWise education campaign and the ongoing work of the Northern Wastewater Strategy, involving the use of recycled water, show our ongoing commitment to water sustainability. Gold Coast Water has a commitment to build on this work through partnering with the community, key State Government agencies and the water industry to showcase the Gold Coast as Australia's leading water innovator.

from - www.goldcoast.qld.gov.au/gcwater/

Discussion:

- WaterFuture initially had a water supply emphasis – evolved into integrated water cycle planning and management.
- a key driver in Gold Coast City Council Strategic Planning area – all work closely together and particular now driven by their response to the Local Growth Management Strategy (LGMS).
- "Water bucket" project – recognizing water as a finite resources, having IWCM concepts acknowledge in the planning scheme – but will it restrict development?
- equity – are the cost on the new users (via development) or spread amongst the existing users.
- is there no template for development? – but inclined to restrict possible innovation.
- there needs to be more information available to developers and consultants.



"Integrated Water Planning in Caboolture"

(Graham Clements - Environment Officer, Ecological Health & Waterway Management, Caboolture Shire Council)

Since 2000, Council has undertaken water management planning for several sub-catchments and waterways in the shire, including the waterways of Godwin Beach, Upper Caboolture River and Saltwater Creek.

In 2005, Council endorsed the *Caboolture Shire Council Shire-wide Waterways Management Strategy 2005*, to facilitate strategic and cost effective waterways and catchment management across the Shire's 32 catchments. The shire-wide management strategy will provide a comprehensive set of integrated and prioritised actions for the protection and management of the Shire's waterway corridors over the next 15 years. The information gained from this planning will assist Council's statutory and non-statutory planning and development assessment processes, and land managers (eg. developers, industry, farmers, residents and government), in relation to stormwater management, and water quality with consideration of water quantity, ecological health and recreation.

from - www.caboolture.qld.gov.au

Discussion:

- have an "Integrated Waterways Management plan" for the shire.
- there is no IWCP Champion – but they need one!
- there is no organizational push for IWCP but is emerging as a result of the LGMS.
- the development industry is also looking for guidance.
- WSUD is still very stormwater focused and needs to be promoted by Council.

"Integrated Water Strategies – The Pine Rivers Approach"

(Andrew Sloan - Senior Planning Engineer, Pine Water / Pine Rivers Shire)

"WaterWays For Life" – Andrew outlines the Integrated Water approach adopted by his Council in 2004, and the work now being driven by WaterWays Working Group.

Discussion:

- local authorities need "good" strategies in place ready to respond to regional and state issues.

"Meeting the Sustainable Water Challenge"

(Damian McGarry – Maroochy Shire Council)

In Maroochy Shire we promote the values of a water aware lifestyle. We encourage sustainable use of our limited water resources. We aim to preserve and protect our creeks and rivers and to ensure our communities are safe from flooding. Coordinating the water management of all these goals in a rapidly developing region is a major challenge.

Discussion:

- Maroochy has an integrated water management strategy – "miwater" = an 'urban water governance strategy'.
- not being endorsed by Council (yet) – actively applied as an internal guide
- coordination group (taskforce) acts as a 'clearing' house for water issues in Council.



Update on eWater

(Alan Barton – BCC)

eWater Cooperative Research Centre (CRC) builds and supports decision systems and models for total water cycle management in urban and rural catchments, integrating water quality and quantity, stream ecology and economics.

eWater CRC is a cooperative joint venture between [major private and public water businesses and research groups](#) across eastern Australia. We focus on enterprise, environment and education in Australia's water industry, and our aim is to develop, apply and commercialise [products](#) for integrated water cycle management.

from - www.ewatercrc.com.au

KEY ISSUES ARISING

- GOVERNANCE
- INFLUENCE
- TRAINING AND DEVELOPMENT
- RESEARCH
- COMMUNICATION

GOVERNANCE

- structures/processes/endorsement/obligations
- How do we influence the regional climate:
 - officer level – eg IUWM technical working group (was USIG)- currently chaired by Mike Clarke (Gold Coast CC)
 - Council – Council of Mayors, Working Groups
 - State agency responsibilities – regional Water Supply Strategy (IWCP builds on this with alternative supplies), MWS, WRP, NRM Plan.
 - Queensland Water Commission
 - Professional bodies
 - Qld Water Directorate (LGAQ)?
 - Partnerships – eg Healthy Waterways
 - SEQWater, Aquagen.

Postscript:

- SEQRWSS IWM group's task is complete – paper now with the Water Balance Group**
- Gold Coast City Council has volunteered to host an IUWM / USIG meeting (Nov 06) – as they agree it needs revamping in terms of its TOR and its membership.**

INFLUENCE

- is a broader regional model required for IWC Planning?
- there is already a regional 'integrated water taskforce (SEQRWSS) – we need to communicate with them (via BCC rep = Julie McLellan)



- QWC has a potential role in designing a guideline? or should it sit with the Moreton Bay Partnership (Healthy Waterways)?
- or is it a role for a ("new") IUWM technical working group? (BBC to work in partnership to develop an IWCP approach).
- the focus to date has been regional water supply but we need to jump on board the regional /state shift in focus.

TRAINING AND DEVELOPMENT

- tools/skills/capacity building.
- concern that government is using consultants who don't have working/on-ground experience in SEQld.
- need to influence at the subdivision/site level = guideline for the development industry (eh 'how to write an IWC plan').
- we need hard and fast targets – Council derived, broader KPIs, objectives and targets.
- planning scheme modifications – model code, PSP, guideline.
- citywide plans are critical for context-setting for development/site scale.
- capacity building in the development sector and LGAs.
- recruitment and retention of quality professionals PLUS competition with consultancies vs in-house skills and resources – how do we "get them and keep them".

RESEARCH

- how to address spatial/temporal challenges
- how do we address environmental function/flows as part of the water balance, setting of E FOs (groundwater/overland flow missing)
- need more demonstration sites – SEQld based
- we need an auditing/evaluation tool
- we need to quantify end use parameters in SEQld and therefore quantify broader benefits (EPA?)
- integrated regional community education/awareness raising required for water
- we need common terminologies – WSHD, IUWC, "integrated" (in what sense?), IWC planning vs management (is it strategic planning? or a mechanism of delivery? or both!).

COMMUNICATION

ACTIONS:

- Forum outcomes to be distributed as a report/brief for attendees to report to their Councils - done
- Governance Mud Map - BCC.
- Revised TOR and membership and potential agenda/action items for next "IUWM technical working group". (see postscript on p6.) - GCCC
- Set up an email contact group from today's attendees - done



Appendix B – Agenda, Integrated Water Cycle Planning Workshop, 1 June 2007



SOUTH EAST QUEENSLAND
HEALTHY WATERWAYS
PARTNERSHIP

Regional Integrated Water Cycle Planning Workshop

AGENDA

Date: Friday 1 June 2007, 9:00am to 2:00pm

Location: Primary Industries Conference Centre
Ground Floor, Primary Industries Building
80 Ann Street, Brisbane, Q 4001

Purpose of the Meeting:

The purpose of the workshop is to:

- improve understanding of the various IWCP approaches that have been implemented to date in SEQ,
- compare water planning processes with other local governments,
- consider the advantages and disadvantages of various approaches to integrated water management at a local government level.

A key element of the workshop will be the use of a conceptual mapping framework to illustrate each council's water planning processes and how integration across the water cycle has been or could be achieved.

Invited Participants:

Local government representatives representing the following areas of professional expertise:

- water supply / sewerage,
- flooding / urban drainage / stormwater management,
- catchment management / waterway health.



Agenda

1. 9:00-9:15 **Opening**
 - Welcome & introductions
 - Why “integrate” our water management?
 - Background to project, including learnings from previous workshop
 - Purpose of this workshop
 - Overview of agenda

2. 9:15-9:30 **Introduction to Integrated Water Cycle Planning**
 - Roles of policy, planning and implementation

3. 9:30-10:00 **Clarification of Terms**
 - Integrated Urban Water Management
 - Water Sensitive Urban Design/Development
 - Catchment Management Planning
 - Other terms

4. 10:00-10:30 **Presentation of Conceptual Mapping Framework**
 - Discussion on modifications/refinements

- 10.30-11.00 **Morning Tea**

5. 11:00-12:00 **Workshop Session**
 - Break into Local Govt Groups to map IWCP processes in each Council

6. 12:00-12:30 **Presentation of Conceptual Mapping by each Council**
 - What is working well?
 - What could be improved?
 - Key lessons

- 12.30-1.00 **Lunch**

7. 1.00-1.15 **Presentation of Conceptual Mapping by each Council (continued)**
 - What is working well?
 - What could be improved?
 - Key lessons

8. 1.15-1.45 **Discussion of Conceptual Mapping Results**
 - Summary of key lessons

9. 1.45-2.00 **Close**
 - Where to from here?





Appendix C – Attendance List, Integrated Water Cycle Planning Workshop, 1 June 2007

FIRSTNAME	LASTNAME	JOBTITLE	COMPANY
Alan	Barton	Principal - Water Cycle Planning, Water Res.	Brisbane City Council
Annette	Magee	Program Officer - Water Cycle Planning, Water Res.	Brisbane City Council
Nick	Smith	Water and sewerage planner - Brisbane Water	Brisbane City Council
Gerhard	Joubert	Manager - Infrastructure Management	Redcliffe City Council
Don	Jayasinghe	Water and Wastewater Engineer	Redcliffe City Council
David	Elliott		Redland Shire Council
Mathew	Ingerman	Planning Engineer	Redland Water and Waste
Michael	Asnicar	Environmental Planning Coordinator	Logan City Council
Ian	Johnston	Water Demand Management Coordinator	Logan City Council
Donald	Mackenzie	Principal Catchment Management Officer	Logan City Council
Joe	Lane	Research Engineer	NRW - Water Cycle Sciences
Michael	Hagen	Manager of Land Development	Noosa Shire Council
David			
Newton	Newton	SEQ Healthy Waterways Partnership	
Sarah	Walker	SEQ Healthy Waterways Partnership	
Maurice	Hee	Advisor Stormwater Management	Redland Shire Council
Mick	Holland	Advisor, Waterways Management	Redland Shire Council
Mark	Breen	Principal Policy Officer Catchment Planning	Caloundra City Council
Allan	Herring	Assets and Drainage Engineer	Pine Rivers Shire Council
Michelle	Marrion		
Steven	Kenway	Senior Research Scientist - Water and Environment	Qld Centre for Advanced Technology, CSIRO
Stephen	Fisher		Environmental Protection Agency
Emma	Hawkins		Lloyd Consulting
Trevor	Lloyd		Lloyd Consulting
Gavin	Blakey	Principal officer - Stakeholder Engagement, Water Res.	Brisbane City Council



Appendix D – Presentation to Integrated Water Cycle Planning Workshop, 1 June 2007


 Partners for
HEALTHY WATERWAYS
Because here all in the same boat



Regional Integrated Water Cycle Planning Workshop:
Comparing approaches across Local Government

1 June 2007

Facilitators: Dr David Newton & Sarah Walker
SEQ Healthy Waterways Partnership



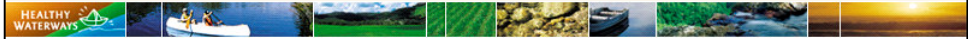
www.healthywaterways.org

Let's clarify our thinking by...



- Travelling backwards in time
- Focusing on the big (LG) picture
- Realising that we can't deal with every issue at every level
- Working constructively - no "right" & "wrong"

Background

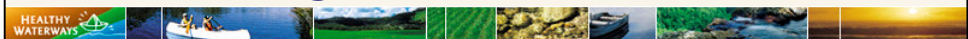


- Traditionally segregated planning for water:
 - water supply / sewerage / drainage / catchment management
- Why integrate our water management?
 - Until recently, legislative requirements were non-existent or opposed IWM
 - Global resource pressure + climate change
 - Local resource pressure



- Integrate for synergistic social, environmental, resource & cost benefits

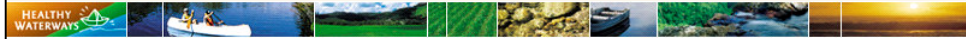
How did we get here?



- Local government has done substantial work on integrated water management.
- Regional IWC Planning Forum – October 2006.
- Several local governments shared their work on IWC planning (little collaboration in development).
- Useful sharing of ideas, but difficult to compare approaches.
- “Integrated” can mean different things.
- No common framework.



Purpose



- Gain a better understanding of your own LG approach to “integration”.
- Improve understanding of the various IWCP approaches that have been implemented to date in SEQ.
- Compare water planning processes with other local governments.
- Consider the advantages and disadvantages of various approaches to integrated water management at a local government level.

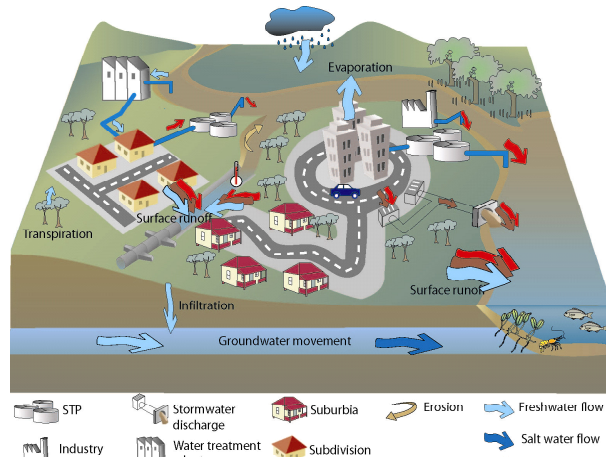
Overview of Agenda



- Introduction to Integrated Water Cycle Planning
- Clarification of terms
- Presentation of conceptual mapping framework
- Morning Tea
- Conceptual Mapping Workshop
- Lunch
- Presentation of results
- Discussion
- Where to from here?

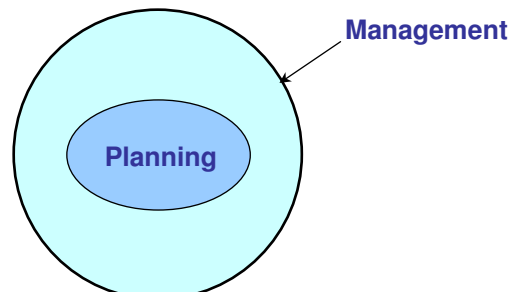
Introduction to IWCP

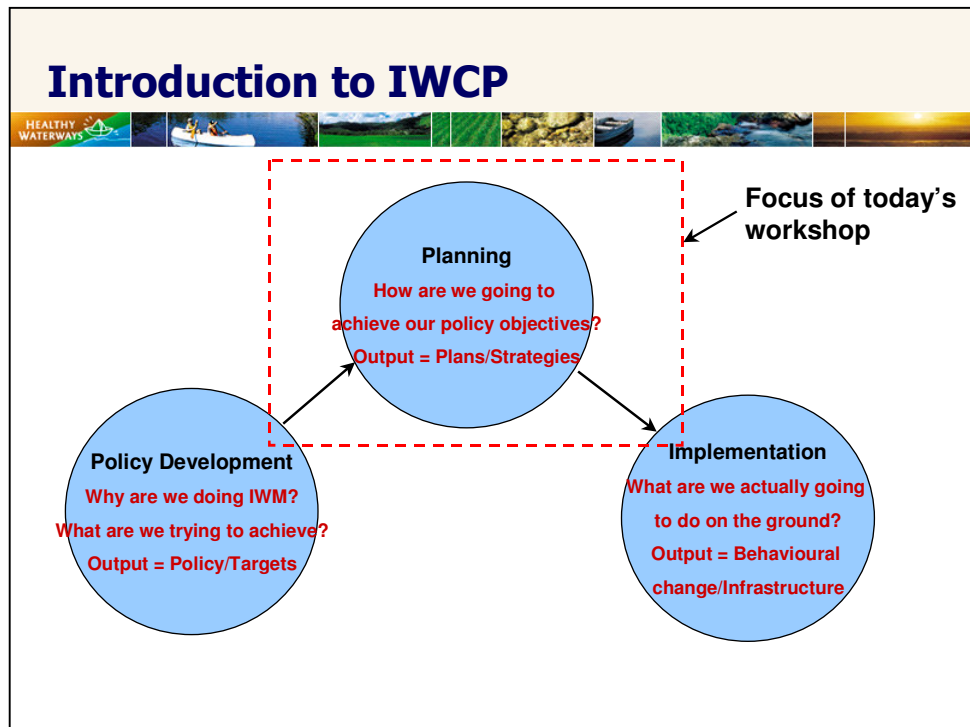
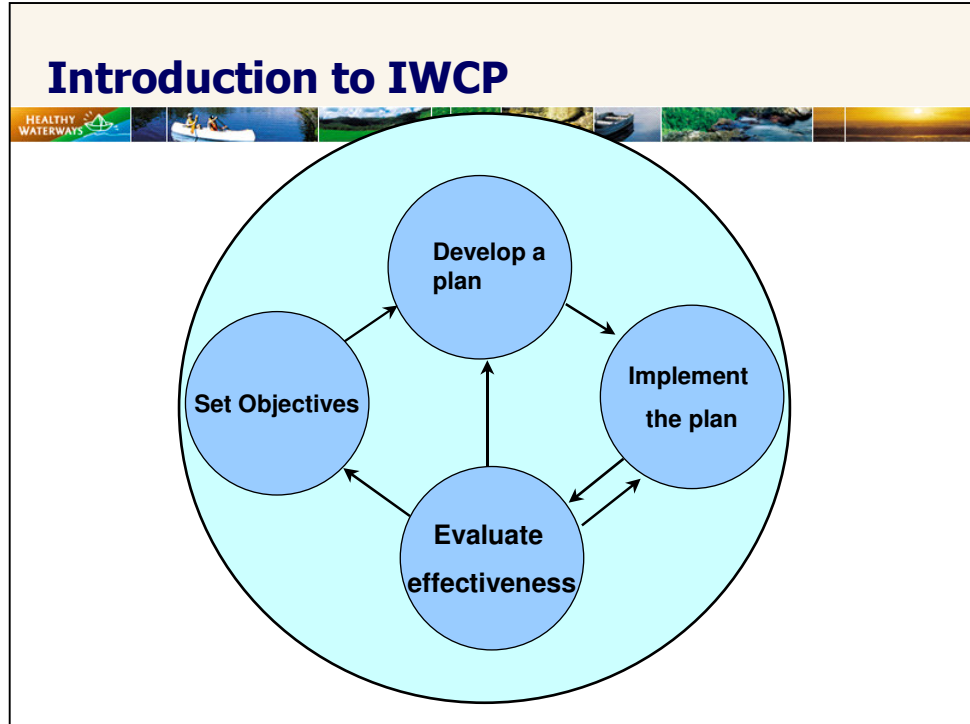
- Whose water cycle?
 - Catchment-based
 - Infrastructure-based



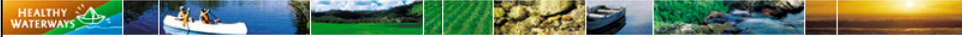
Introduction to IWCP

- Planning vs Management
- **Manage:** *To handle or direct with a degree of skill; to work upon or try to alter for a purpose .*
- **Planning:** *The development of a scheme, program, or method, worked out beforehand, for the accomplishment of an objective.*



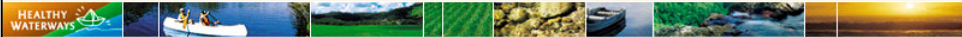


Clarifying terms



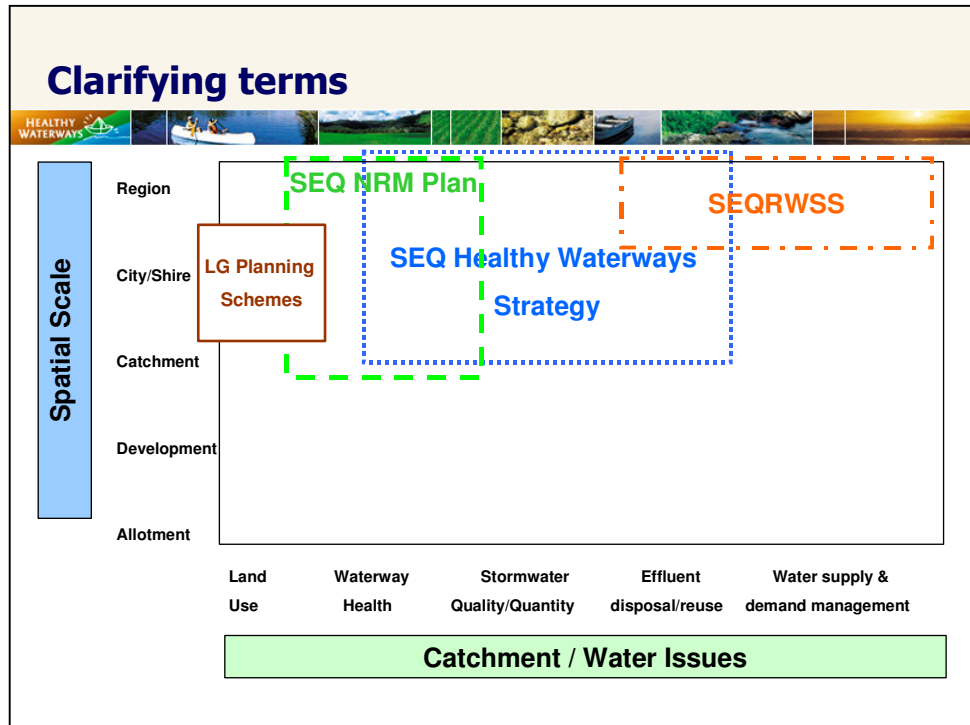
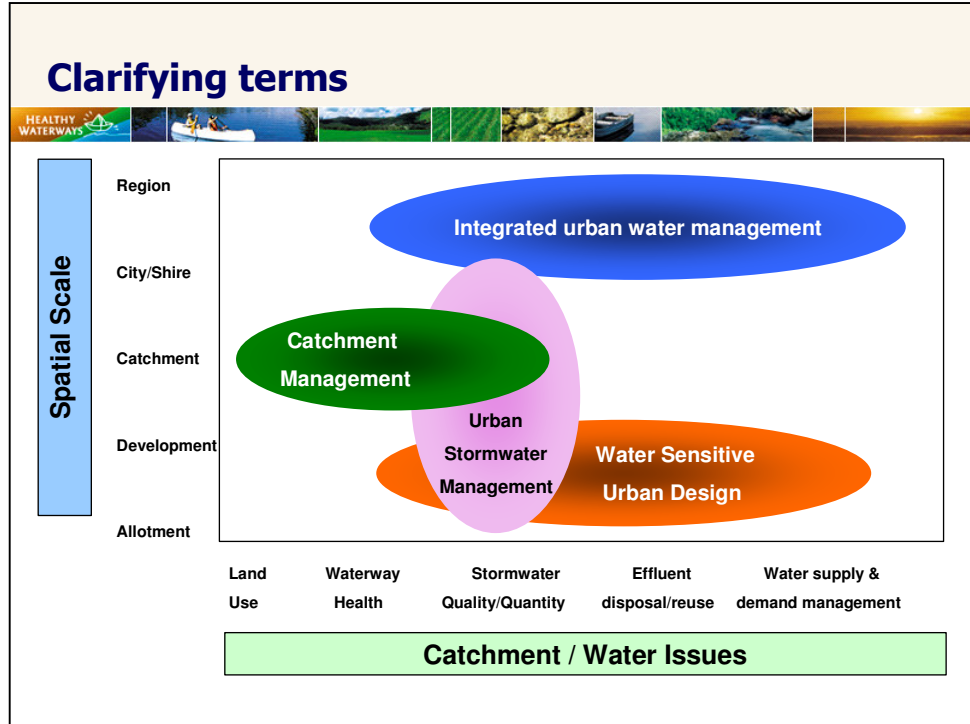
- Integrated urban water management
- Total water cycle management
- Water sensitive urban design
- Urban stormwater management
- Catchment management

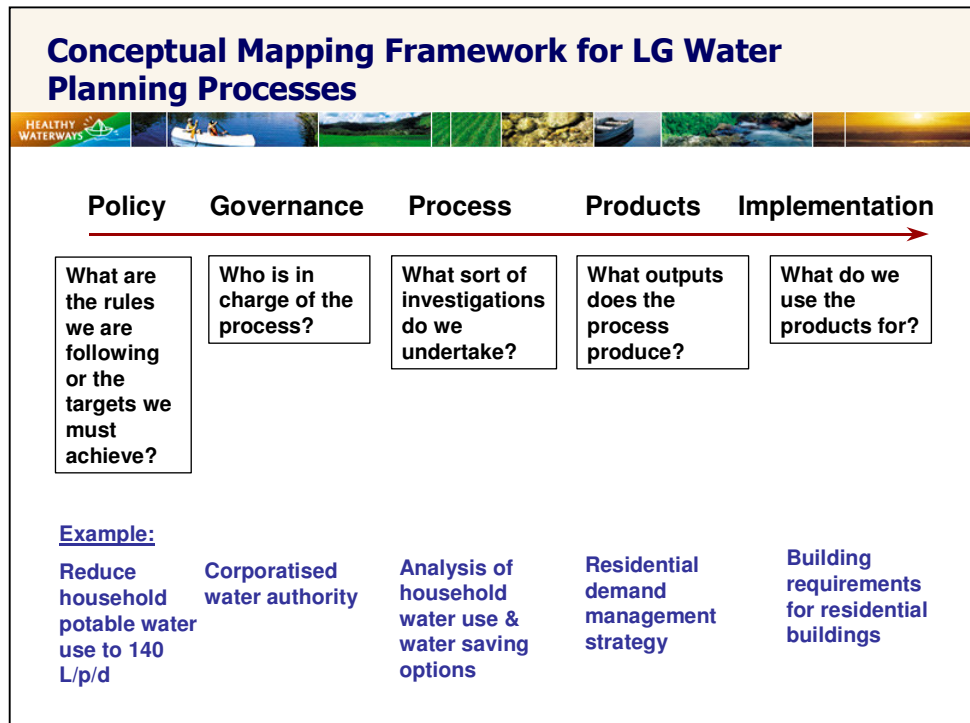
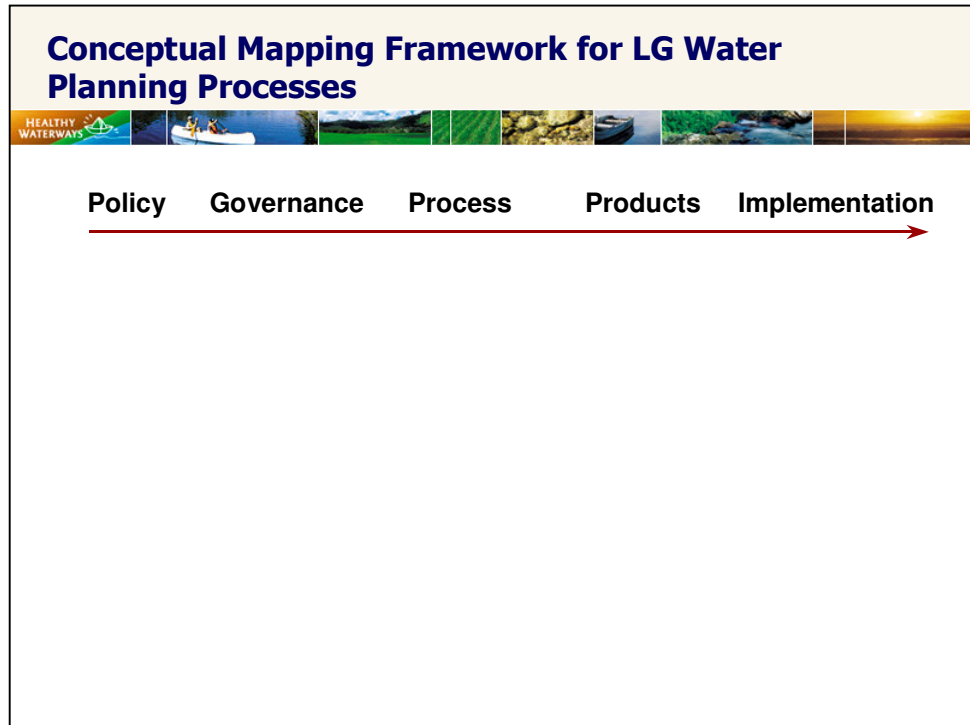
Clarifying terms

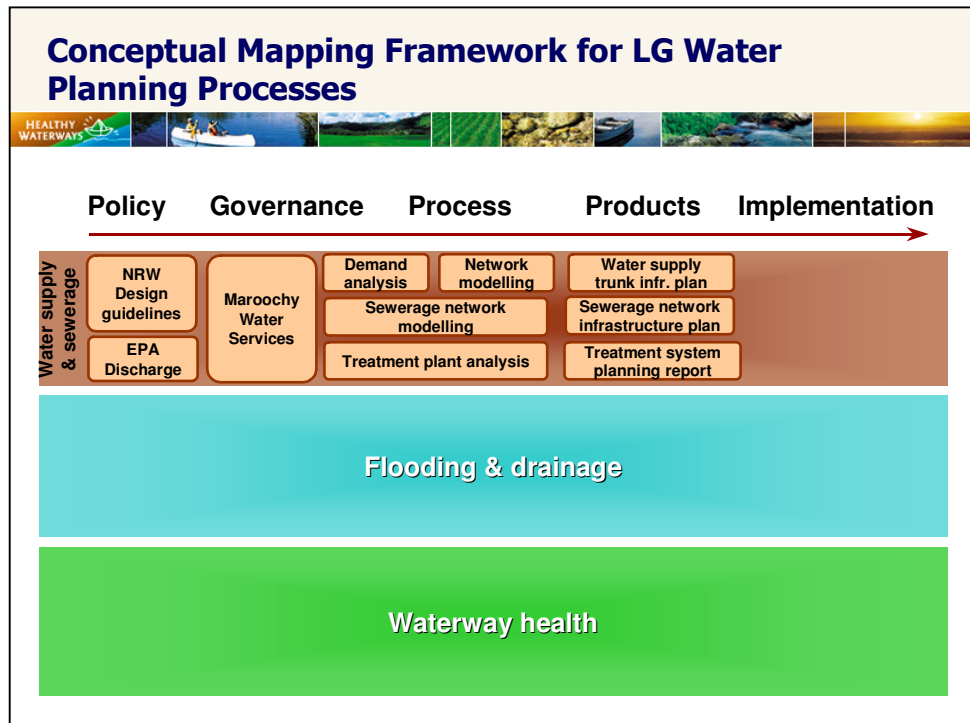
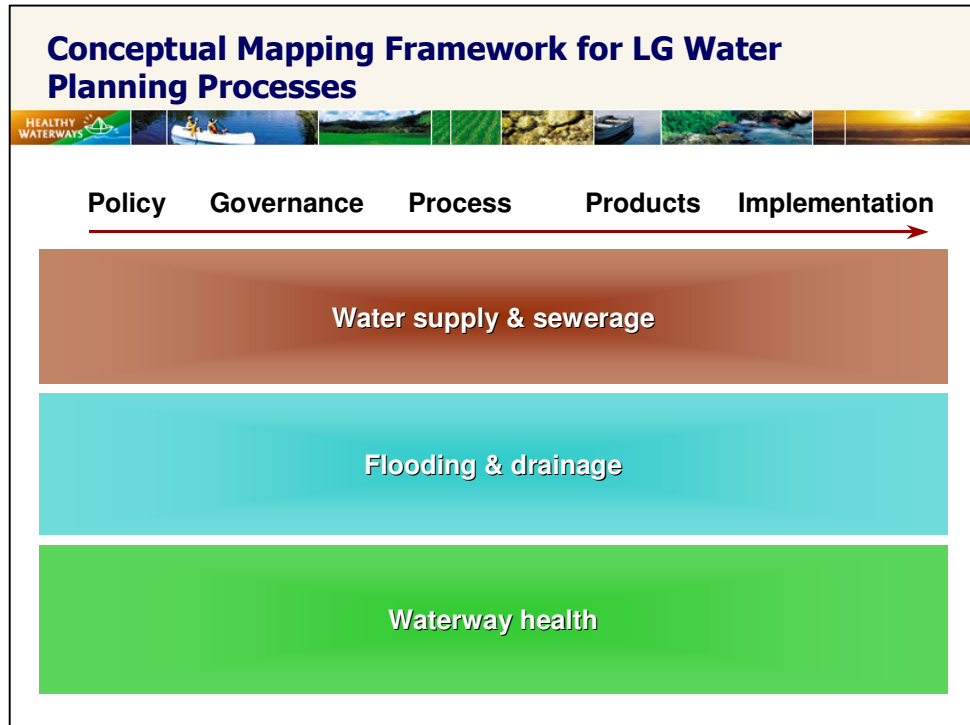


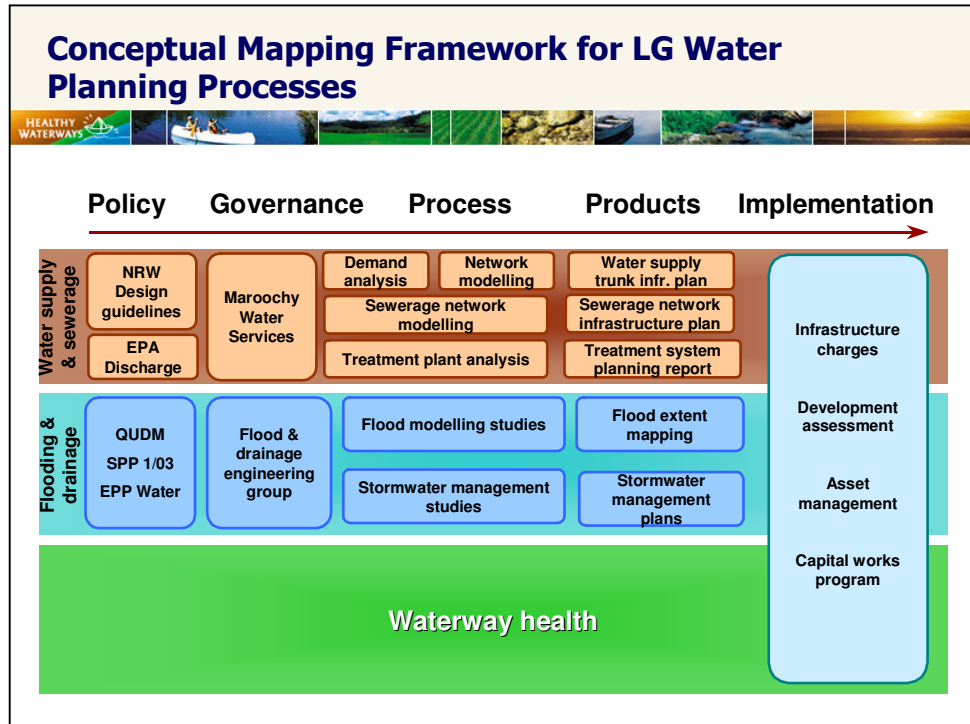
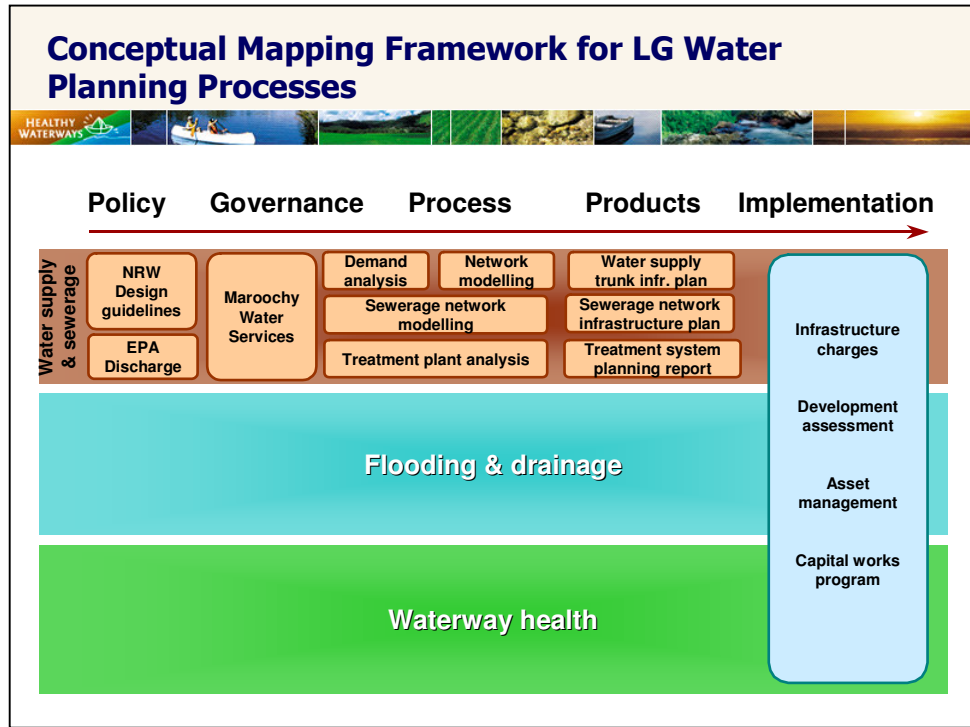
Land Use	Waterway Health	Stormwater Quality/Quantity	Effluent disposal/reuse	Water supply & demand management
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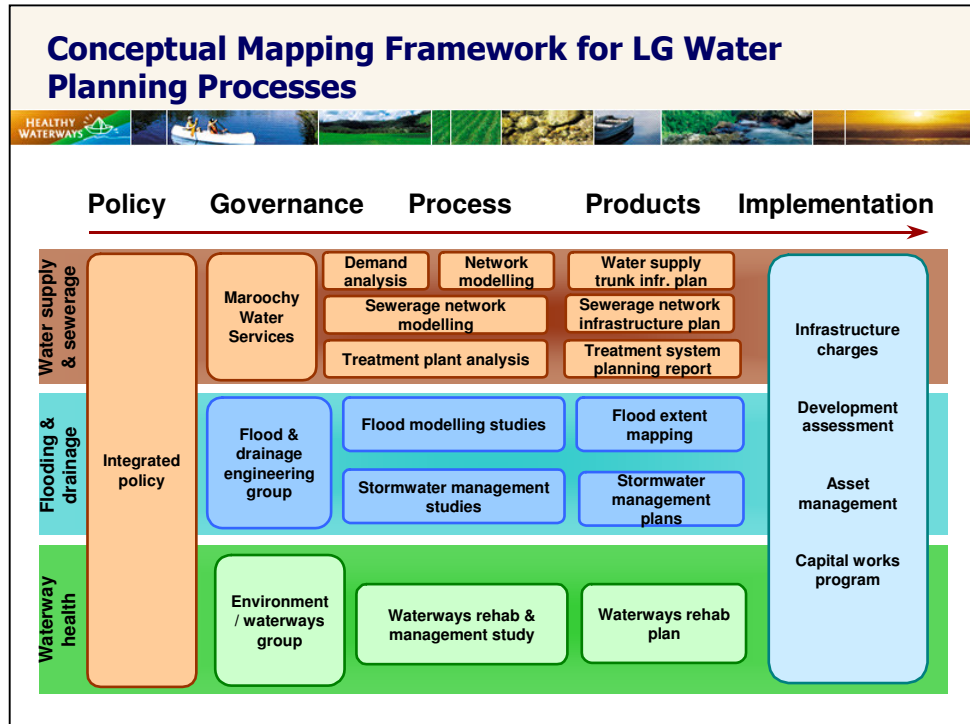
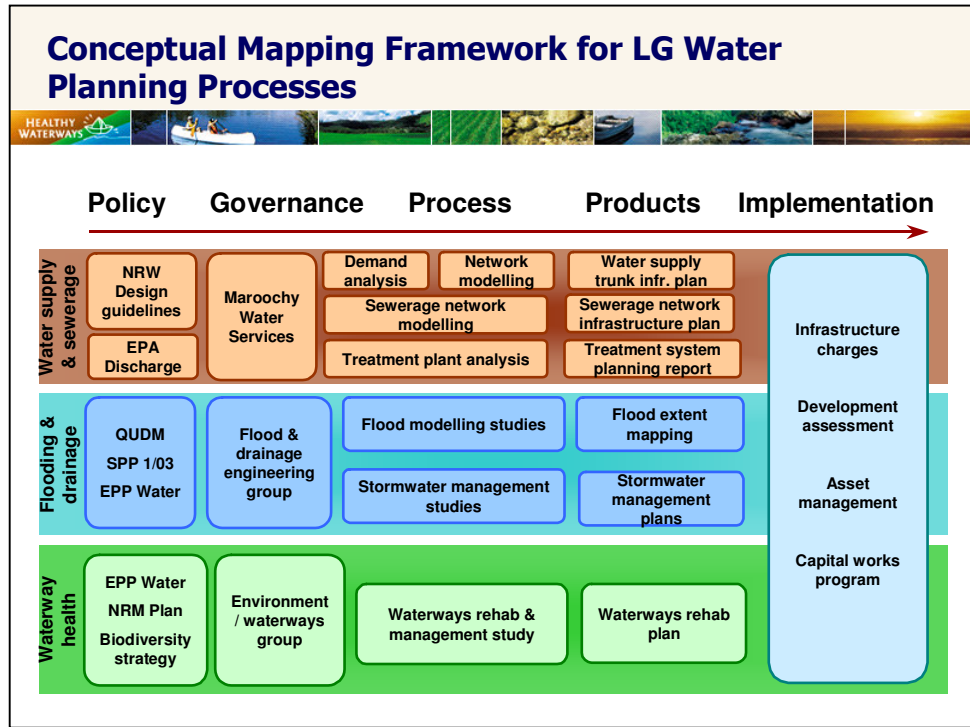
Catchment / Water Issues

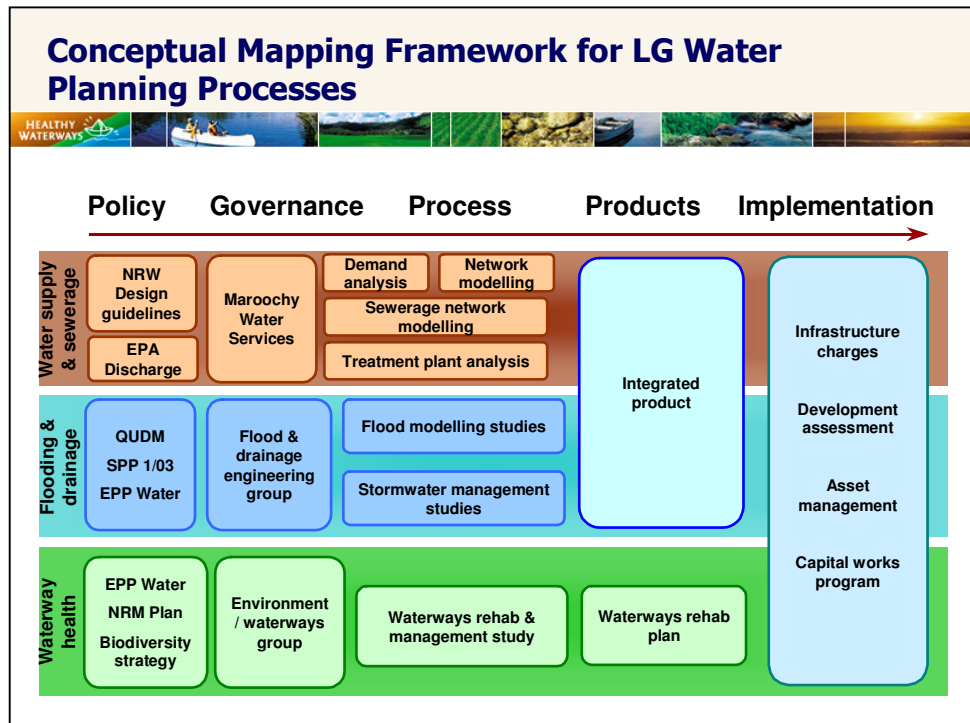
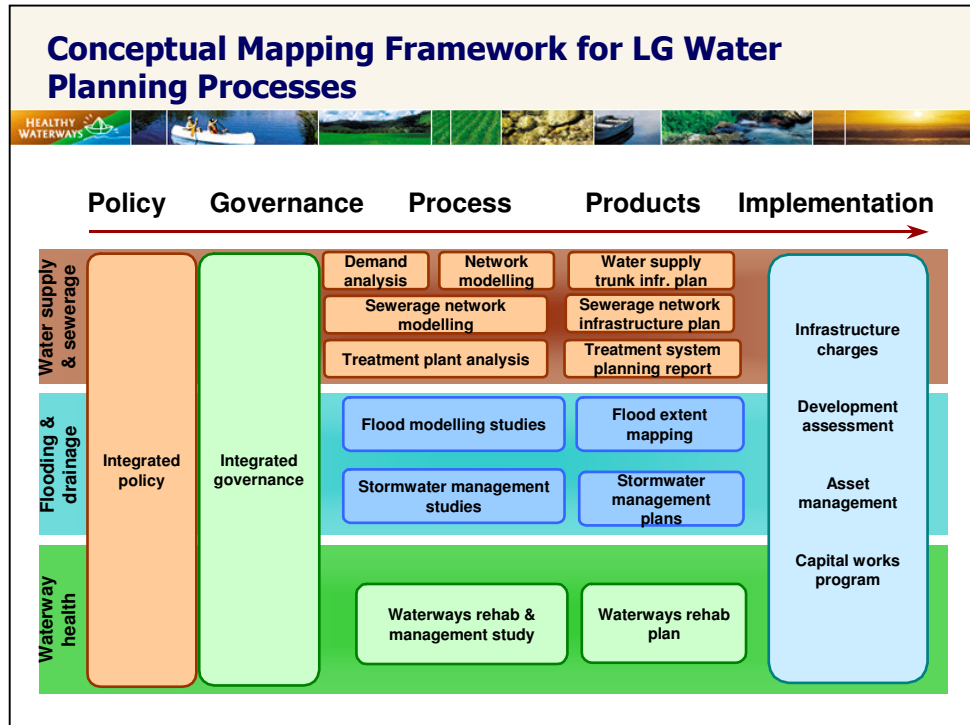


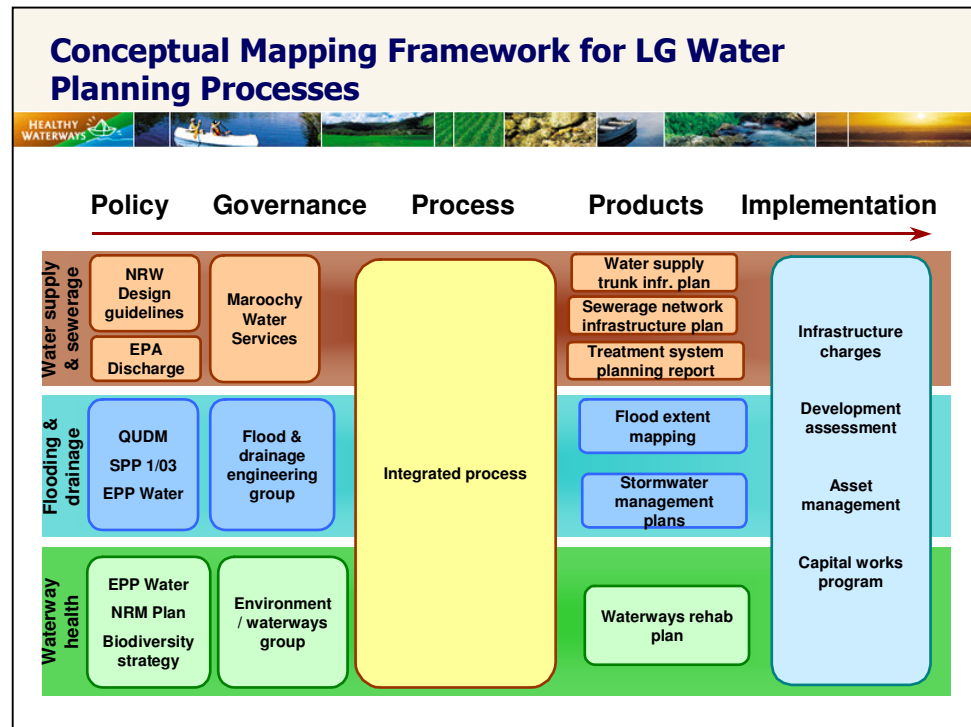












Workshop session

- In LG groups, map your water planning processes as they were, say, 15 years ago.
- Then, map your water planning processes as they were (or planned to be), say, 3 weeks ago.
- Observers can attach themselves to a LG group.
- Present your map to the group and answer 3 questions:
 - What is working well?
 - What could be improved?
 - What are the key lessons?

Appendix E – Conceptual Maps of Local Government IWCP Processes

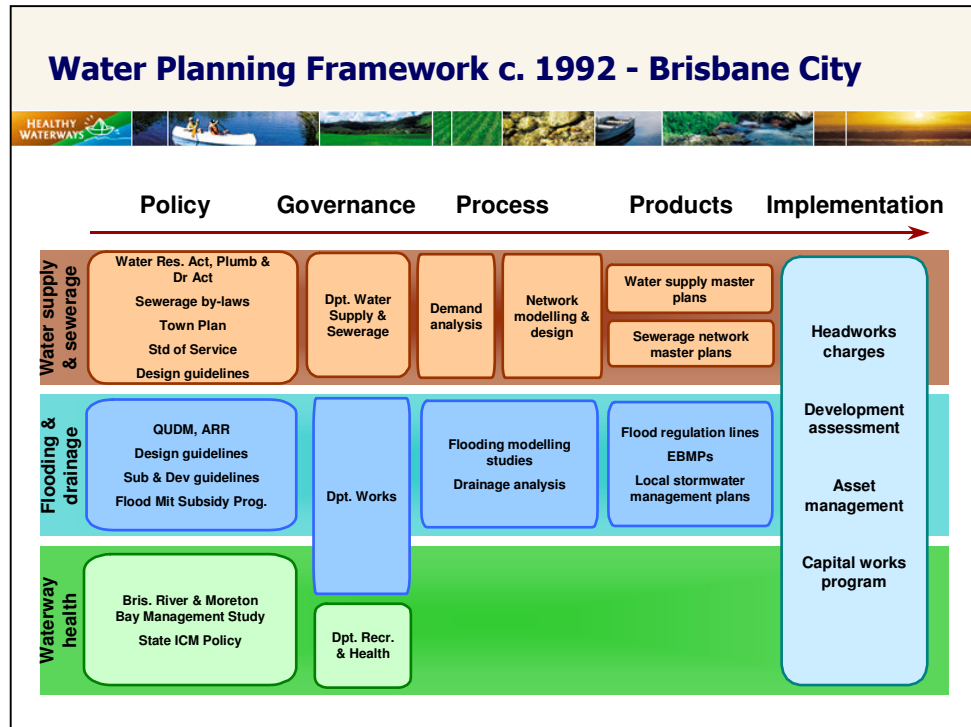


Figure E1 Water Planning Framework c. 1992, Brisbane City

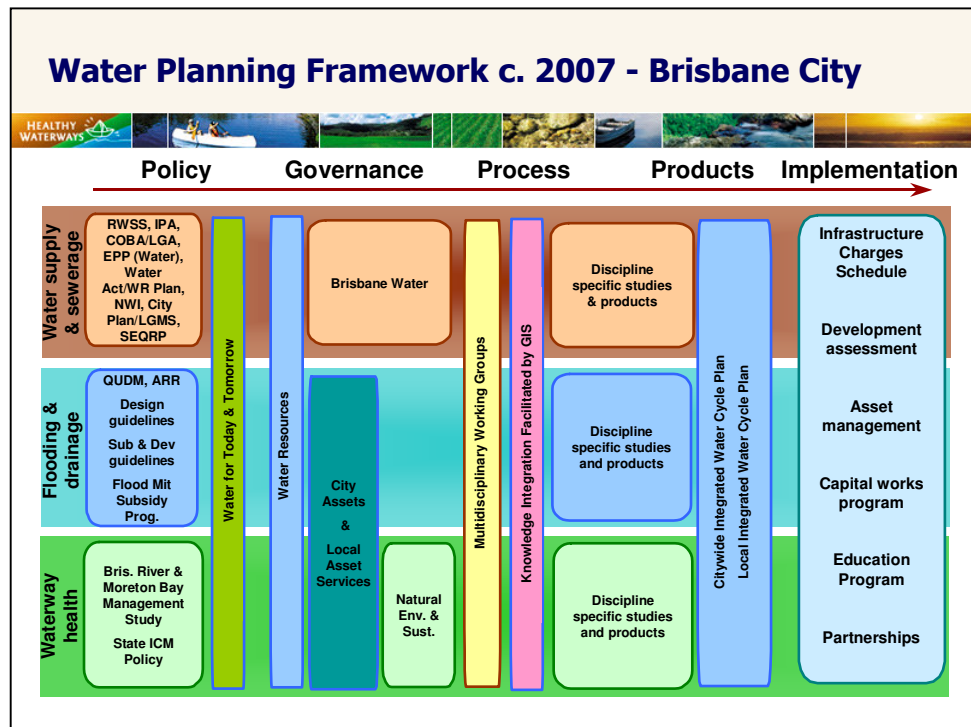


Figure E2 Water Planning Framework c. 2007, Brisbane City

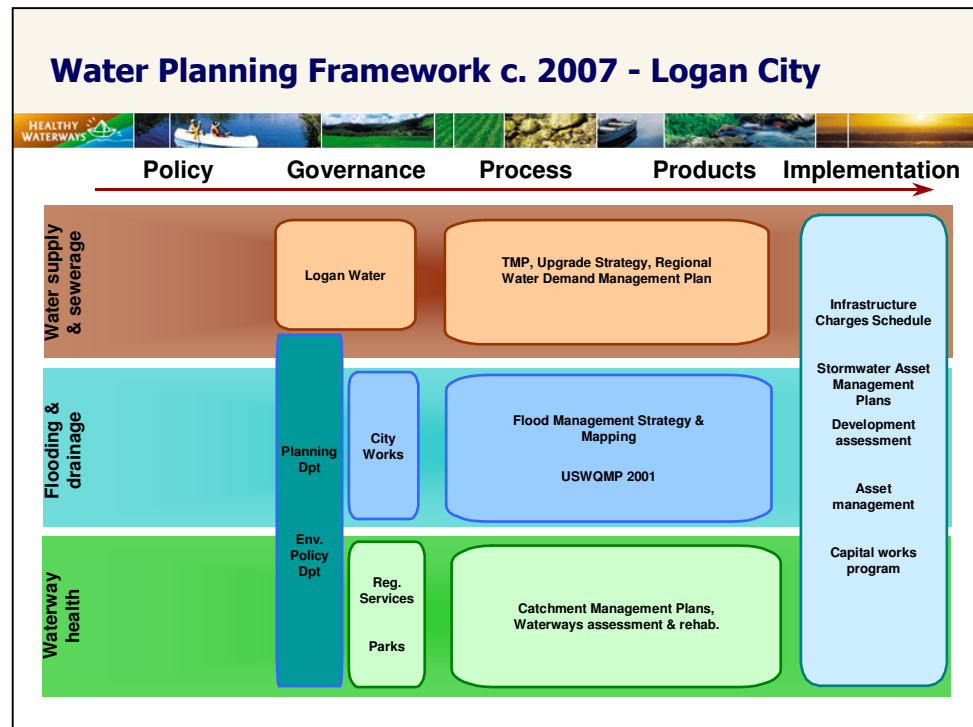


Figure E3 Water Planning Framework c. 2007, Logan City

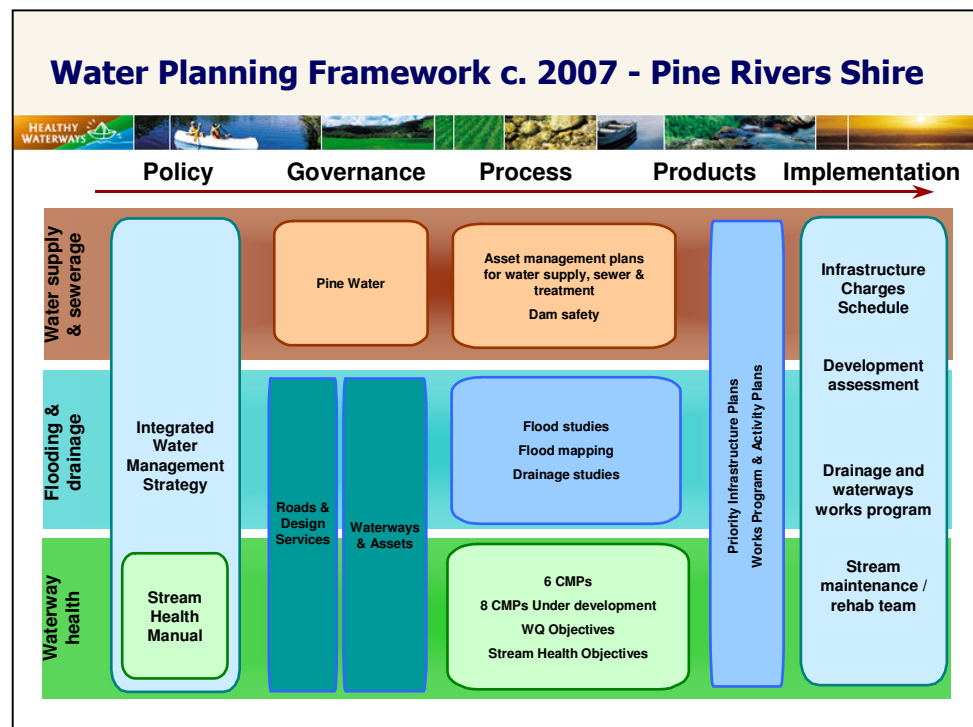


Figure E4 Water Planning Framework c. 2007, Pine Rivers Shire

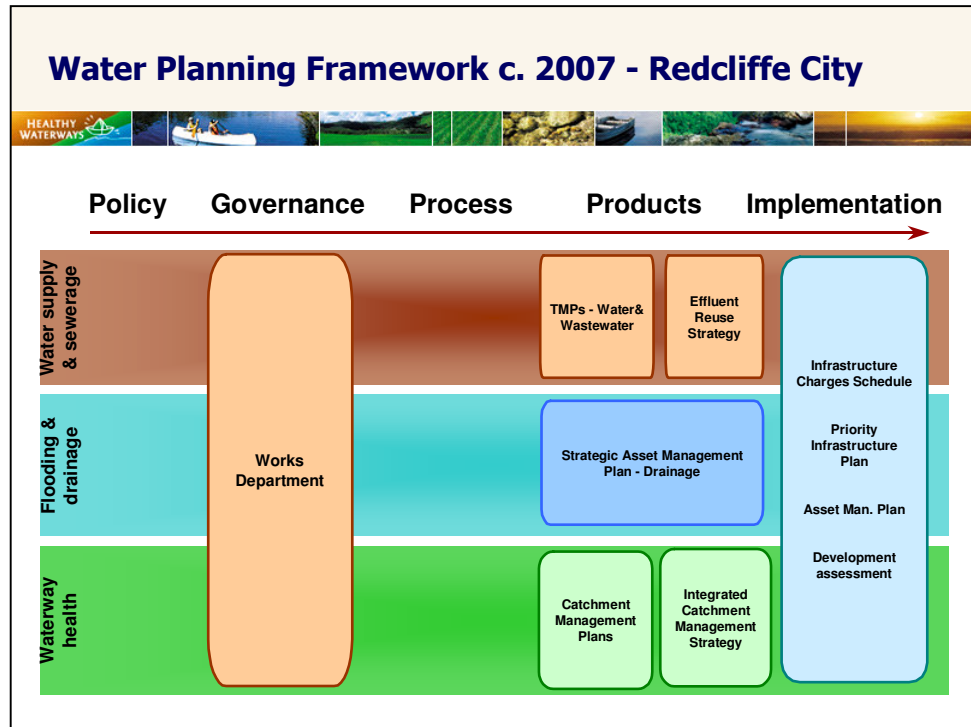


Figure E5 Water Planning Framework c. 2007, Redcliffe City

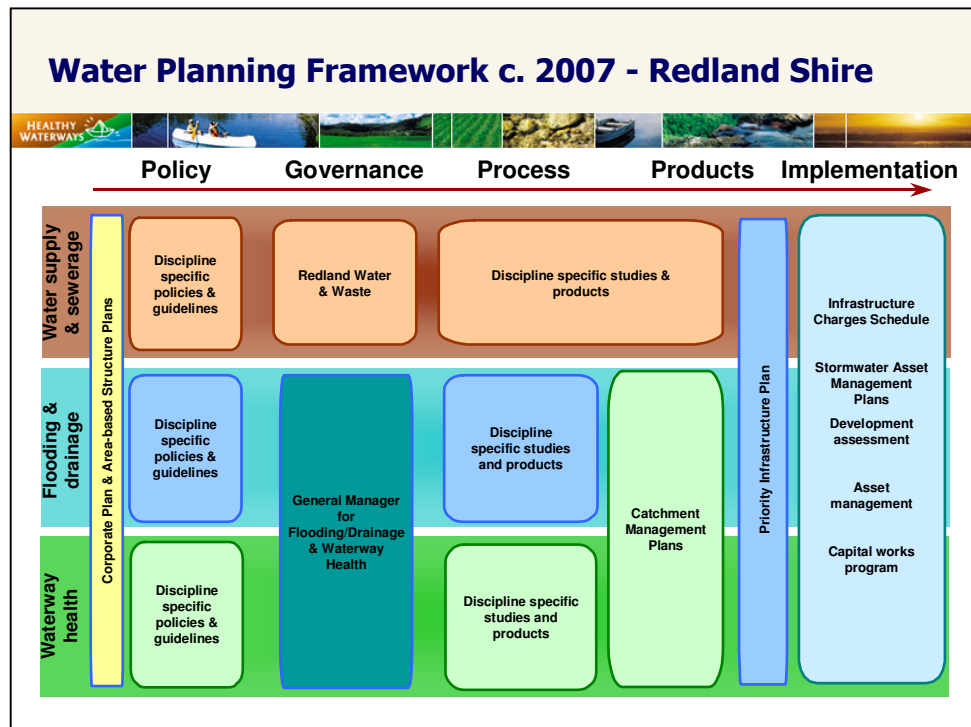


Figure E6 Water Planning Framework c. 2007, Redland Shire

