



Whicher area surface water allocation plan: Evaluation statement 2009-2012

The Department of Water released the *Whicher area surface water allocation plan* in September 2009. The local community and industry supported expansion of existing proclaimed areas in 2007, responding to increasing pressure on surface water resources in the Whicher area from changing land use and a drying climate. The plan addressed security of supply for existing water users and the environment, and set the amount of surface water available for new commercial and private users.

Evaluation statements are part of the department's adaptive management approach and allow us to continually review and improve management of water resources. This statement evaluates the extent to which the objectives of the plan were met since its release in September 2009 until December 2012.

This is the first evaluation statement for the *Whicher area surface water allocation plan*. It presents an assessment of the resource condition and identifies how we will adapt our management to ensure the plan's objectives are being met.

The objectives of the plan are:

- 1 Minimise impacts of new surface water developments on existing water users.
- 2 Protect key ecological, cultural and social values so they are kept at an acceptable level of risk from the effects of surface water use.
- 3 Manage commercial use in proclaimed areas through licensing.
- 4 Provide regular statements against the management objectives outlined in this plan and update the community on the ongoing work to review this plan.
- 5 Implement effective water management through measurement, monitoring, auditing, compliance and reporting to provide transparency and accountability of water use.

1 Allocation status

1.1 Updating our understanding of water use in the Whicher plan area

When the Whicher plan was developed in 2009, water resources had only recently been proclaimed and water use had not been licensed so we did not have precise water use data. To inform the plan, the department estimated water use by identifying storage from aerial photography, and mapping land use and calculating the water demands associated with those land uses. We intended to refine our estimates of current use and improve our

licensing database to account for all surface water use and unlicensed surface water use as part of the implementing the plan (Action 19).

Since the plan's release, we have completed licensing of approximately 90% of all existing water users in the Whicher area, totalling 297 surface water licences. Thirty six remain to be licensed upon application. We have also conducted on-ground surveys and inspections of use exempt from licensing under the *Rights in Water and Irrigation Act 1914* including spring, and stock and domestic use, concentrating on high use subareas. Using this information, we carried out a review of our 2009 water use estimates in March 2012.

The revised total water use is lower (33 751 ML/yr) than the estimate presented in the plan in 2009 (39 061 ML/yr). However, the results also vary for each subarea and the revised total does not include users yet to be licensed (~10%). The total water use is now estimated to be:

- higher than the 2009 plan estimates in 24 subareas
- lower than the 2009 plan estimates in 17 subareas
- no change to the 2009 plan estimates in 11 subareas.

The changes in these water estimates are shown in Figure 1.

Water use in 2012 was much higher than estimated in 2009 in most high use resources in the plan area, especially in the Capel River West subarea.

The difference between water use estimates in 2009 and 2012 is due to better information about storage in dams and spring use gained from licensing and ground-truthing exempt use. When all existing use is licensed water use data will improve.

1.2 Water availability

The 2009 plan set allocation limits for water resources in the Whicher area. The allocation limit is an annual volume of water set aside for all consumptive uses from a water resource. The allocation limit includes components for:

- water that is available for licensing:
 - general (commercial) licensing
 - public water supply licensing
- water that is exempt from licensing (stock, domestic and spring use)
- water that is reserved for future public water supply.

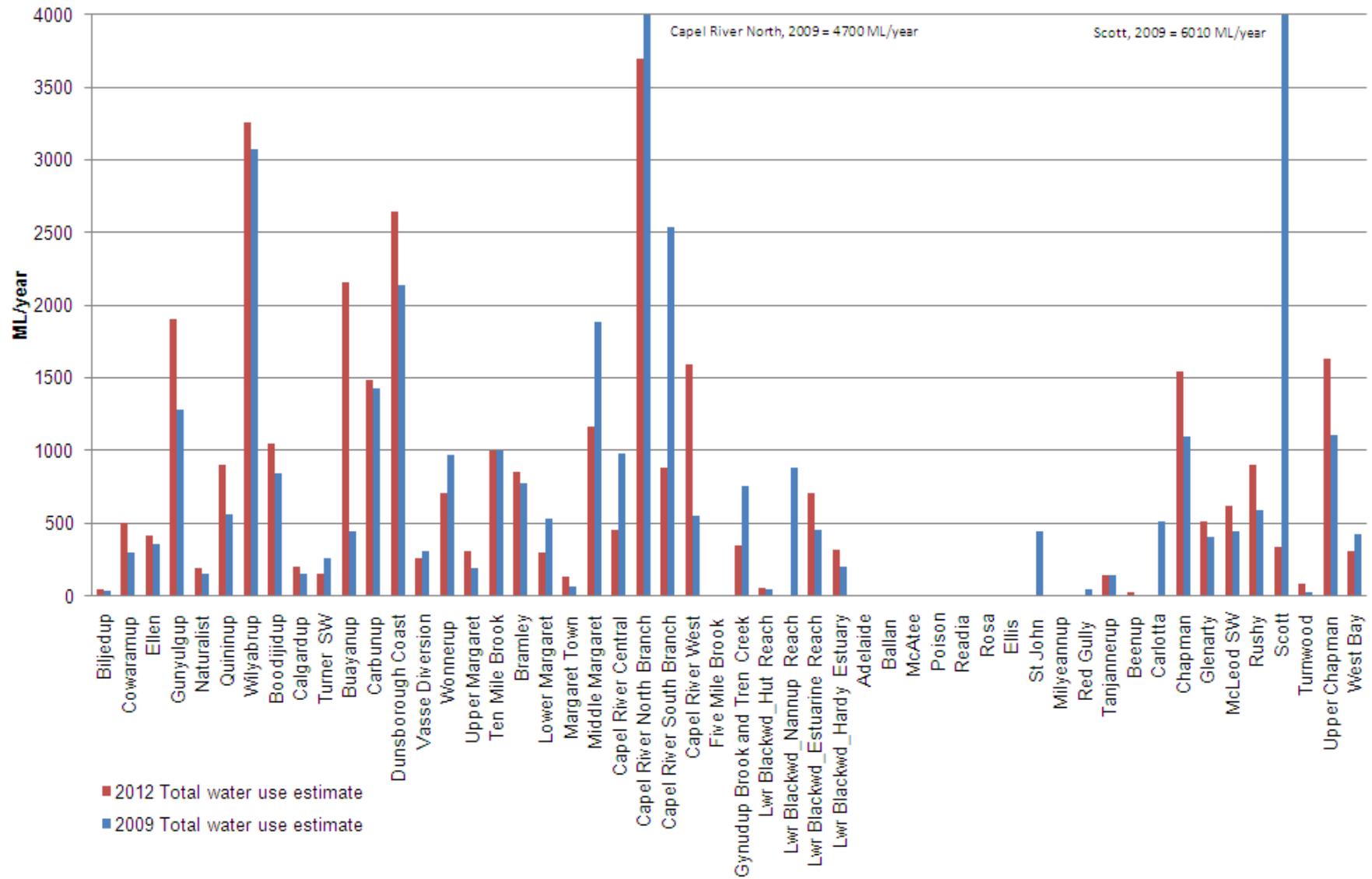


Figure 1 Estimates of total water use changes between September 2009 and March 2012 for each subarea

Generally, water availability for licensing has not changed significantly since the plan's release. Water is still available in 38 subareas, however, these are the more marginal water quality and flow areas. Anecdotal evidence suggests that while many subareas are fully-allocated, there is a significant proportion of stored, unused, water in the catchments. Water users looking for opportunities to expand in these areas need to consider trading and water efficiency measures.

For a full list of up-to-date water availability in all resources, contact the South West Regional office in Busselton or see our online water register, <www.water.wa.gov.au/ags/WaterRegister >

1.3 Changes in water availability status

We have been able to identify the availability of water for general use based on the review of water use estimates in 2012 and progression of licensing existing users. A summary of the changes in water availability status since the plan was released in 2009 is presented in Table 1.

There are 52 subareas in the plan. The water availability status in five resources has changed over the evaluation period. Water availability has increased in two resources and decreased in three; water is becoming unavailable in the Cowaramup subarea and restricted in the Rushy subarea.

It should be noted that although water availability is shown to have increased in the Dunsborough Coast and the Capel River Central, North and South branch subareas since 2009, these areas have significant volumes of existing use that remain unlicensed. It is expected that once this use is verified and licensed, that the water availability status is likely to reflect that identified in the 2009 plan, being fully- or close to fully-allocated.

The remaining 46 resources did not change status since the plan was released.

1.4 Finalising allocation limits

The process by which allocation limits were established under the plan is described in *Whicher surface water allocation limits methodology: supporting information for the Whicher surface water allocation plan* (DoW, 2009) available on the department's website. In low-use areas, allocation limits were set as estimates of the ecological sustainable level of diversion, and in high-use subareas at the estimated level of use in 2009.

Excluding the resources where no allocation limits were set in the plan (e.g. six of the resources in the Lower Blackwood Tributaries management area), eight subareas are now at, or in excess of the allocation limit in the plan based on the revised water use estimates in 2012 (Table 2).

Table 1 Whicher area water resources with changed water availability status 2009-2012 (ML/yr)

Surface water management area	Subarea	Allocation limit	Estimate of use, 2009	Availability status 2009	Estimated exempt from licensing, 2012 ¹	Public Water Supply	Total water Licensed, 2012	% allocated	Availability status 2012
Busselton Coast (Cape to Cape North)	Cowaramup	410	300	Limited water available	225		268	120%	No water available
Capel River	Capel River Central	980	980	No water available	72		382*	46%	Water available
	Capel River North Branch	4700	4700	No water available	187		3504*	78%	Limited water available
	Capel River South Branch	2730	2540	Limited water available	202	40	638*	32%	Water available
Lower Blackwood (tributaries)	Rushy	1050	590	Water available	108		789	85%	Limited water available

LEGEND

 Water available: At or below 70% of the licensable component of the allocation limit is licensed

 Limited availability: Above 70% and below 100% of the licensable component of the allocation limit is licensed

 Fully-allocated: 100% of the licensable component of the allocation limit is licensed

 Over-allocated: Over 100% of the licensable component of the allocation limit is licensed

¹ Spring and riparian use (stock and domestic)

*Note: there are still a number of existing users in these subareas who are yet to apply for a water licence. Existing users will have priority for remaining water available. Once existing use is licensed, it is expected that little to no water will be available. Applicants proposing to apply for new water in these areas should contact the department for further information on water availability.

Table 2 Resources in the plan area where use is at or above the allocation limit (excluding lower Blackwood tributaries subareas)

Subarea	Allocation limit (ML/year)	Estimated use* 2012 (ML/year)	Estimated use* as % AL 2012
Cowaramup	410	493	120%
Gunyulgup	1090	1763	153%
Quininup	550	874	159%
Wilyabrup	2480	3042	123%
Upper Margaret	170	307	180%
Ten Mile Brook	1000	1000	100%
Capel River West	490	1589	324%
Tanjannerup	140	141	101%

* Estimate of all uses includes licensed and exempt use (all entitlements, spring use and stock and domestic). Estimates of water still to be licensed are not included.

The review undertaken in 2012 determined that the allocation limits identified in the plan were appropriate. The allocation limits will remain until we have:

- finalised licensing historical use
- undertaken further investigations into the impact of the drying climate on the reliability of supply for water users and the environment.

At this time, we will reconcile the outcomes of these studies with the estimated use to assess the reliability of users under current allocation limits and determine whether further action is necessary.

1.5 Managing unlicensed and exempt use

Unlicensed (still to be licensed) and estimated exempt use make up 42% of the total water use estimate for the plan area.

Unlicensed use

Across the plan area, we have identified 1478 ML/yr of existing water use which still requires licensing. The department has licensed the majority of use in the area where applications have been received. We will be focusing our compliance on existing water users who have yet to apply for a license to make sure that all commercial use within a proclaimed area that requires a licence is actually licensed.

Exempt use

Across the total plan area, exempt spring use accounts for 10% of the total estimated water use and 27% is exempt stock and domestic use. These are significant portions of total water use.

Managing spring use and its effect on licence holders and the resource is difficult because we cannot regulate spring use on private property through licensing. In subareas where there is high estimated use and significant streamflow declines, there is a risk that increasing spring use may impact the reliability of supply to licensed water users.

The revised water use estimates have identified the scale of the issue and will assist us to prioritise how we manage and account for spring use. This issue was raised as a priority for further investigation by an industry advisory group formed during the development of this statement. We will be investigating the feasibility of regulating springs over the coming period in conjunction with our climate-related investigations.

2 Resource status

2.1 Monitoring streamflows and rainfall in Whicher

The department operates an extensive surface water monitoring network in the Whicher area that includes 11 streamflow gauging stations and 37 temporary probe sites. We also use local Bureau of Meteorology sites for rainfall measurements. As part of our evaluation, we compared streamflow and rainfall data for the period 2001–2010, with the long-term record (1975–2010) and found that:

- the mean annual rainfall recorded at rain gauges in the Whicher plan area declined between 5% and 24%
- the mean annual stream flow in the Whicher plan area declined between 25% and 46%
- the Lower Blackwood River subareas and the Margaret Town and Lower Margaret River subareas (C1 resources) showed a streamflow decline between 39% and 46%
- Carburnup River (C2 resource) and Chapman Brook (C3 resources) showed a declining trend in mean annual stream flow between 25% and 32%
- Wilyabrup Brook, Capel River West, 10 Mile Brook, Tanjannerup Creek and Cowaramup Brook (C3 and C4 resources) showed a declining trend between 23% and 35%, with the greatest decline in Wilyabrup Brook
- Upper Margaret River subarea (C4 resource) showed a 37% decline in streamflow.

The declines in streamflow are widespread across the Whicher area (and generally the greater South West), and not only in the subareas that are characterised by a high number of dams. The greatest declines in streamflow were observed in the Cape-to-Capes area corresponding with a significant decline in rainfall. For example, in 2010 the minimum annual flow in the gauged catchments between 1975 and 2010 was recorded at seven of the gauges sites. However, the decline in mean annual streamflow is greater than we would normally expect from the observed decline in rainfall over the same period.

Using the information we currently have available, it is not possible to separate the effects of a drying climate and abstraction as the cause of the declining streamflow, but it is most likely a combination of these two factors. We consider the drying climate as the dominant factor as evidenced by the reduction for all flow monitoring gauges irrespective of level of use.

We will continue to monitor flows to assess of the impact of declining streamflows on water users and the environment. Anecdotal evidence indicates that to date, water users have not been impacted by declining streamflows, because there is a high level of stored water in dams. The department has been completing ecological water requirement (EWR) studies on a number of key river systems including the Margaret, and Capel rivers and the Chapman, Wilyabrup and Cowaramup brooks. The EWR studies identify the water regime needed to maintain the ecological values of water-dependent ecosystems at a low level of risk. In the coming period, we will be using the EWR studies to identify key systems where river ecology is most at risk from declining streamflows.

3 Management status

A summary of our progress towards implementing the objectives of the plan is given in Table 3. The measure of our delivery towards the plan objectives is achieved by evaluating our:

- implementation against the performance indicators
- response to management triggers
- progress or completion of actions in the plan.

3.1 Evaluation against the objectives

We evaluated how we are managing the water resources in the plan against the results of the resource evaluation and progress against performance indicators to determine if we are meeting the objectives of the plan (Table 3).

Table 3 Whicher plan area evaluation against objectives

Objective	Performance indicator	Evaluation	Response	Status
1. Minimise impacts of new surface water developments on existing water users.	Complaints or disputes about surface water supply are not attributed to new surface water users	<p>We have received one complaint related to the impact of a new surface water user on a neighbouring groundwater user.</p> <p>We are meeting this objective while we continue to licence existing users.</p>	<p>Where water is available, licence applications from new users will continue to be assessed using the department's state-wide and local licensing policies to prevent detrimental impacts on other users. A licence will only be issued to new users if the impacts are acceptable or can be managed.</p> <p>Implement a compliance strategy to encourage licensing of the remaining 10% of existing users.</p> <p>Our ability to minimise impacts of new surface water developments that use springs on existing users is limited because we are unable to regulate spring users. We will be considering options to improve management.</p>	Met
2. Protect key ecological, cultural and social values so they are kept at an acceptable level of risk from the effects of surface water use.	Criteria established through ecological, cultural and social requirement studies that are accepted by the department are met	<p>Completed EWR reports will be incorporated into management and any adverse changes in streamflow or increased use that may affect key ecological, cultural or social values will be monitored, recorded and assessed.</p> <p>The Whicher plan area is experiencing declining streamflows. This is consistent with broader streamflow trends across the region. At this stage, we cannot determine a definitive cause of the declining trends as the cumulative impacts of use and reduced rainfall runoff are difficult to separate out.</p>	<p>We have made good progress towards achieving this performance indicator by firstly identifying ecological, social and cultural values through EWR studies and commissioning social and cultural studies. These reports are available online at www.water.wa.gov.au</p> <p>As EWR studies are finalised they will be used, along with this information, to set criteria for management and inform licensing decisions.</p>	Progressing

Objective	Performance indicator	Evaluation	Response	Status
3. Manage commercial use in proclaimed areas through licensing.	Licensed commercial use as a proportion of total use increases in proclaimed areas	<p>Proclamation and the release of the <i>Whicher area surface water allocation plan</i> enabled us to successfully licence 90% of existing users, providing security to water users over the last three years. Existing licences are secure at current entitlements. We will not be reducing licensed entitlements, even in high use subareas until monitoring evidence suggests there is a detrimental affect occurring on streamflow and environmental flows, or there are clear impacts on reliability for other users.</p>	<p>We will implement a compliance strategy to encourage licensing of the remaining 10% of existing users.</p> <p>We will review how we manage commercial use once we have finalised licensing use and undertaken further investigations into the impact of the drying climate on the reliability of supply for water users and the environment.</p>	Progressing
4. Provide regular statements against the management objectives outlined in this plan and update the community on the ongoing work to review this plan.	Evaluation statements are published every year on the internet and made available to the community. Feedback from the community indicates that they are satisfied with the information available on surface water planning in the Whicher area	<p>This evaluation statement is the first to be published since the release of the Whicher surface water allocation plan.</p> <p>The performance indicator states that we will publish evaluation statements annually. We have reviewed the need for this and believe that a more appropriate timeframe is at least every three years.</p> <p>We have and will continue to meet regularly with local water user groups such as the Scott River Water Users Group, South West Capes Water Users Group and Capel River Water Users Group during implementation of the Whicher plan.</p> <p>Independent water user groups play a key role in providing a forum for water users to engage with us on water resource management, whilst maintaining their independence. We strongly support these groups and encourage water users to participate and join their local group.</p>	<p>We will continue to evaluate the Whicher plan annually and publish a statement at least every three years. The community and industry representatives will continue to be consulted through the interim period.</p>	Ongoing

Objective	Performance indicator	Evaluation	Response	Status
5. Implement effective water management through measurement, monitoring, auditing, compliance and reporting to provide transparency and accountability of water use.	Progress against the actions in this plan is made according to the specified timeframes. Progress is included in the annual evaluation statement	<p>Our focus since the plan's release has been on high priority implementation actions including licensing of existing water use and reviewing water use estimates. We have made good progress on achieving the remaining actions and have highlighted a number of proposed actions for the coming period.</p> <p>Current water use and water trend data supports the retention of allocation limits, as set in the plan.</p>	<p>Continue implementing the actions outlined in the Whicher plan.</p> <p>Review how we manage use once we have finalised licensing existing water users and undertaken further investigations into the impact of the drying climate on the reliability of supply for water users and the environment.</p> <p>In high use catchments, we will assist landowners who wish to release unused or excess stored water for downstream use through trading and promoting water efficiency.</p> <p>We will continue to monitor streamflow, maintain reliability of storage and use for water users, and maintain the environmental flows where they do not impact on supply.</p>	Progressing

3.2 Management triggers

Management triggers set in the plan help the department to respond to changes in the status of the surface water resources in the Whicher area. Since the plan's release, all of the management triggers have been reached, generally reflecting a change in allocation status as water use has been progressively licensed, and a drying climate. The department's management response is detailed in Table 4.

Table 4 Triggers reached and our response

Trigger	Management response
Surface water use is greater than or equal to 70% of the allocation limit for an allocation unit.	<p>In March 2012, we undertook a detailed assessment of water use to better understand the amount of water taken by licensed and unregulated use. There are currently 16 resources (referred to as allocation units in the trigger) where more than 70% of the total water available is used.</p> <p>We have used this information to refine the components of the allocation limit and provide a revised status of water availability under the current allocation limits.</p>
Surface water use reaches the allocation limit for an allocation unit.	<p>There are currently 14 resources where total water use meets or exceeds the allocation limit. New licence entitlements will not be issued in these resources unless extenuating circumstances apply. We will consider strategies to manage unused entitlements in over-allocated resources should streamflow and reliabilities be proven to be detrimentally impacted in these resources.</p>
The licence assessment process for a development proposal determines that local impacts are not acceptable.	<p>In all cases to date, our licensing officers have worked with applicants to amend new development proposals to ensure that local impacts are acceptable and enable the development to proceed. If an application is likely to result in unacceptable impacts, even after negotiation, the application will be refused.</p>
A historical surface water user does not submit an application for a water licence.	<p>Approximately 90% of existing (historical) use is now licensed. There are approximately 36 existing users, predominantly in Capel River North and South Branch, Dunsborough Coast and Gonyulgup subareas who have been notified of the requirement to hold a licence but have not yet applied. The department will be undertaking a compliance project to progress licensing of the remaining existing users.</p>
Surface water flows decrease significantly due to further reductions in rainfall	<p>Our monitoring showed that there has been reductions in streamflow across most of the south west, including the Whicher area. The extent of the decline attributed to a reduction in rainfall and runoff is currently unknown.</p> <p>Anecdotal evidence suggests that the reliability of licensed water users has not been affected by the reduced streamflows. However, we will continue to monitor the situation closely and will undertake investigations into climate related impacts of a drying climate.</p>

3.3 Actions

The plan identified a large number of actions for additional work that would assist in the implementation of the plan and future planning. The following section provides a summary of the progress of those actions.

Implementation actions

The plan identified eleven actions that facilitated the implementation of the plan over time. In line with the plan's primary purpose to protect the security of existing water users, our priority has been to complete the actions relating to licensing and update our understanding of water use in the plan area. The progress of the actions for implementing the plan is provided in Table 5.

Table 5 Summary of progress towards actions for implementing the plan

Action	Status	Evaluation
1 Provide regular statements via the department's website on the plan implementation	Met	This is the first evaluation statement relating to the implementation of the plan. Regular updates have been provided to the relevant water users groups.
16 Finalise and publish ecological water requirement (EWR) studies for the Margaret and Capel rivers and the Cowaramup, Chapman and Wilyabrup brooks	Partially met	Studies for the Margaret River and Cowaramup Brook are complete and available online at www.water.wa.gov.au Studies for the Capel River, Chapman and Wilyabrup are progressing.
23 Incorporate results of ecological water requirement studies to review allocation limits	Ongoing	The department has determined it is not necessary to review allocation limits at this point. This will not compromise environmental values. EWR studies will be considered if allocation limits are reviewed in the future.
24 Where there is new information, review allocation limits for surface water resources in the Whicher area, and revise where justified, within one year of this plan's final release	Met	On the basis of the revised water use estimates in 2012 and declining streamflows, the allocation limits will be retained. We will not increase or reduce the allocation limits or licensed water entitlements until: <ul style="list-style-type: none"> the effect of abstraction on declining streamflow is assessed the extent to which license entitlements and exempt use dams are being used is assessed licensing of water use that requires a licence following proclamation is acknowledged in the Whicher area better mechanisms are in place to manage existing and new spring use.
9 Investigate the use of local by-laws and provide advice to local government authorities to better control farm dams off watercourses	Partially met	During the coming period, we will investigate the feasibility of options for regulating springs. We continue to support local government authority partners in providing advice on developments consistent with our legislative responsibilities.

Action	Status	Evaluation
20 Complete licensing of commercial surface water use in proclaimed areas according to the department's priority schedule	Met	We have licensed 90% of existing water users. We will be undertaking a compliance project to progress the licensing of the remaining existing users.
27 Develop policy for allocating water in allocation units where use is greater than 70% of the allocation limit or where additional water is released, considering alternative allocation mechanisms	Met	The department will continue licensing where water is available with the existing first-in first-served policy after a public consultation review of the policy in 2011 did not support the introduction of alternative allocation mechanisms.
19 Refine the estimate of current use and improve our licensing database to account for all surface water use and estimates of unlicensed surface water use, as part of the implementation of this plan	Met	A review of estimated total water use was completed in March 2012. See Section 1.1.
25 Prioritise updating of water use estimates and licensing according to the level of allocation (those areas that are fully allocated and approaching full allocation)	Met	A review of estimated total water use was completed in March 2012. See Section 1.1.
15 Develop a GIS-based decision support tool that identifies surface water-dependent features and their associated ecological, social and cultural values to assist ongoing management	Met	Together with the federal government, the department funded the Water for the Future program which included a study on the social and cultural water requirements of the Swan Coastal Plain. The project collated existing information on social values and their water dependency as well as conducted research to identify sites and attributes not previously captured. The information was used to create a Geographical Information System (GIS)-based management tool that we use in licensing decisions and will be used in future environmental water provision studies.
26 Improve the surface water licensing support systems, as a priority, to assist licensing officers to make surface water allocation decisions	Met and ongoing	The department continues to improve systems and provide training to licensing officers. Further training will be provided as part of the development of a regional surface water strategy from 2013.

Actions for future planning

The plan lists actions to help us meet our requirements for future allocation planning in the Whicher plan area. As this is the first plan for this area, the list of actions to support the next plan were designed to improve our ability to manage water resources as we progressively licence and regulate across the plan area.

Table 6 shows how these actions have progressed since the plan release.

Table 6 Summary of progress towards actions required for future planning

Action	Status	Evaluation
5 Review the existing surface water monitoring program and modify, where feasible, to meet surface water planning objectives	Met and ongoing	We are continuously reviewing the surface water monitoring program. We are able to rapidly respond to the need for data for licensing purposes or to assess water management objectives by using temporary monitoring sites. We currently have 48 operational permanent and temporary monitoring sites across the Whicher area.
3 Investigate the impact of different climate scenarios on surface water availability	Progressing	We have developed a model that allows us to compare projected rainfall and runoff on wet, median and dry future climate scenarios. This model will be used in future planning processes.
4 Investigate the feasibility of applying a rules based approach to surface water management as part of licensing	Progressing	In 2012, we commenced a pilot trial in the Warren-Donnelly area to investigate the practicalities associated with taking additional water in high flow years as one option of meeting additional water requirements. The trial was delayed in 2012 because of low rainfall. We will reassess the need for investigating a resource sharing approach for managing surface water when the pilot project has been completed.
6 Investigate the feasibility of applying a resource sharing approach for managing surface water		
7 Determine appropriate reliabilities for surface water entitlements		
8 Investigate the impact of dam size and density on streamflow	Progressing	We have completed the development of a planning and assessment tool that models how changing rainfall patterns and storage density of dams affect stream flows and flow dependent values (e.g. downstream users and ecological water needs). We will use the model to assess the impact of potential new dams in a catchment and in future planning.
10 Investigate and account for plantation water use as part of the water balance	Not met	Surface water hydrological investigation will be conducted for the next phase of planning to determine the impact of plantations on surface water resources in the Whicher area. This information will be used in determining the overall water balance in the plan area.
12 Quantify surface water – groundwater interactions for key river systems and consider how to manage them	Progressing	The department is currently undertaking investigations into surface water-groundwater interactions in high priority river systems including the Capel, Blackwood and Margaret rivers. These investigations are ongoing but the information is continually being utilised in understanding the relationship between groundwater users and users who pump directly from the river and informing licensing decision-making.

Action	Status	Evaluation
21	Ongoing	We are working in partnership with water service providers to ensure that future town water supply planning is aligned with demand and growth areas. Potential public water supply dam sites in the Whicher area will be considered as part of our source development planning. There are currently no plans to reserve any additional water in the Whicher area for future public water supply purposes.
22		Review water availability for the potential water supply catchments identified in Action 21, including reserving additional water for future public water supply
14	Not met	Spring use in parts of the Whicher area continues to grow. Now that the licensing of existing water users is close to completion and a number of subareas have reached the allocation limit the importance of investigating options to regulate spring use has increased. During the coming period, we will investigate the feasibility of regulating springs.
28	Not met	Develop policy for standard hydrological information to be submitted to the department with surface water licence applications
29	Met	We will review the need for a standard policy over the next planning period.
30	Met	High risk licences with conditions that require monitoring and reporting on water quality were regularly reviewed. During this evaluation period, we worked towards improving our systems and procedures to update the collection and storage of water quality data. This will facilitate future analysis and assessment. We standardised water quality monitoring licence conditions, providing consistency in data collected by licensees.
30	Met	Develop policy (rules) on the filling of dams, considering licence conditions and short-term licences
31	Ongoing	As part of helping users to manage the 2010 dry season, we issued a number of short-term licences across the region and facilitated arrangements to allow the filling of dams from neighbouring storage in order to improve water supplies to properties.
31	Ongoing	Develop policy (procedures) on how to implement rules of take in the future, including minimum flow threshold and maximum extraction rate
31	Ongoing	Rules of take may be adopted on a licence-by-licence approach based on a local impact assessment. We will review the need for a standard policy as part of future planning and the outcomes of the variable take pilot project in the Warren-Donnelly area.

Action	Status	Evaluation
32 Develop policy on resource sharing, including licensing arrangements that consider variations in annual supply of water	Ongoing	We will reassess the need for investigating a resource sharing approach (e.g. consumptive pools) for managing surface water when the variable take pilot project has been completed in the Warren-Donnelly area.
33 Develop policy on public water supply reserves for surface water, including setting aside water in reserves and accessing reserves	Met	See <i>Operational Policy 5.01 Managing water reserved for use by drinking water service providers</i> (April 2011).
34 Develop policy on how allocation and licensing decisions should consider future climate change	Ongoing	We have developed a model that allows us to compare projected rainfall and runoff on wet-, median- and dry-future climate scenarios. This model will be used in future allocation planning processes.
35 Refine policies on trading for surface water entitlements	Met	See <i>Operational policy 5.13 Water entitlement transactions for Western Australia</i> (2010).
36 Develop policy on managing and licensing dams that intersect groundwater and take surface water	Not met	We are currently undertaking investigations into the interaction of surface water and groundwater in a number of stream and river systems. The requirement for a policy in relation to dams will be considered at the conclusion of these investigations.
37 Develop policy on managing and regulating commercial plantations	Partially met	As part of the Water for the Future Project the department investigated the significance of groundwater and surface water interception by plantations to better understand the impact of the tree plantation industry. As part of this project, a strategic policy for managing water interception by plantation forestry has been developed which guides the advice that the department provides to local governments.
11 Incorporate the impacts of plantation water use into surface water allocation decisions	Ongoing	In new surface water allocation plans, we consider the impact of plantations on surface water resources when making allocation decisions. When the Whicher plan is reviewed and updated, we will conduct a surface water hydrological investigation to assess the impact of plantations in the Whicher area and use this information in water allocation decisions.
17 Identify the social and cultural values of surface water resources	Met	See <i>'The social values of South West water resources'</i> Beckwith Environmental Planning (2009) on our website at < www.water.wa.gov.au >.

Action	Status	Evaluation
18 Complete social and cultural water requirement studies for key surface water systems	Met	Together with the federal government, the department funded the Water for the Future program which included a study on the social and cultural water requirements of the Swan Coastal Plain. The project collated existing information on social values and their water dependency as well as conducted research to identify sites and attributes not previously captured. The information was used to create a GIS-based management tool that we use in licensing decisions and will be used in future environmental water provision studies.
2 Develop a program of stakeholder consultation	Met	The department has developed a community engagement process by which we engage with relevant water users groups to consult the community on water resource management pertaining to the plan. Through this process, we identified key issues of concern which are or will be addressed through the next phase of implementation and planning.
13 Consider developing integrated surface water – groundwater plans for those systems with strong interconnectivity	Ongoing	We are currently undertaking investigations into the interaction of surface water and groundwater. The outcomes will be considered in future allocation planning processes.

4 Response to this evaluation

4.1 Adapting our management

Through this evaluation, we identified management responses to improve our performance against the plan objectives. The following key response actions will be progressively initiated over the next evaluation period:

- A compliance strategy to encourage currently unlicensed users to apply for a water license.
- Measuring and estimating water use in high use catchments. This information will be used to help understand the causes of streamflow decline and assess reliability of users under current allocation limits.
- Subsequently, identify subareas where river ecology or reliability are at most risk from abstraction and review allocation limits and management arrangements.
- Use ecological water requirement studies to set management criteria.
- Investigate the value and feasibility of regulating springs.
- Continue to engage with water user groups and representatives from key industry groups on water management in the Whicher area.

In undertaking these actions, we will consult with relevant agencies when completing these responses and report on their status in the next evaluation. The management response is in addition to completing outstanding and ongoing implementation actions and our day to day licensing and regulatory activities.

4.2 Future planning

We identified through this evaluation that the *Whicher area surface water allocation plan* is suitable to be in place until the next evaluation. While the plan identified that it would be replaced in 2012 with a statutory plan, this timeframe for replacement was contingent on need and on new legislation being enacted.

In carrying out this evaluation we identified that it is necessary to complete the majority of the implementation actions listed in the plan before the plan would be replaced. This work will be progressively undertaken over the coming years. Our progress towards completing these actions will be reported on in the next evaluation statement.