Making the most of your water

PLANNING YOUR WATER USE - FACT SHEET 2

All water licences will have condition requiring you to keep records of your water use to demonstrate compliance.

Estimating and planning are the first steps in managing your water. Through planning you are developing a system that you can use to record and review your water use. This factsheet details a few simple steps that will assist your planning.

Determine how much water you have available

A simple water budget calculates how much water you have available to take, including into winter storage, against how much you plan to use. Add up all sources of water, including licensed water allocations, any purchased water, water from catchment dams and groundwater. If you have flood take allocations, it may be best to allow for actual volumes rather than those allocated.

Table 1: Example of a Water Available Budget

Water Source & Surety[1]		Water Allocation Available (ML)	Water historically available (ML)[2]	Water used (ML)[3]
A	Winter allocation surety 5	100	100	
B	Summer allocation surety 5	150	100	
C	Purchased Water	50	50	
D	Surety 8 Flood take	300	100	
	Total	700	350	

[1] *Surety levels indicate the priority for access to water. Information is provided in this factsheet on surety levels.*

[2] *In some catchments with regular restrictions, all of the allocated water may not always be available i.e. only 80% may be available on average each year. This is because water is allocated at different percentages of reliability.*

[3] *This is calculated at the end of the season as part of the reviewing process*

Estimate how much water you need

This is the second part of a water budget where you work out how much water you will need for the season by detailing what crops you plan to grow, the number of hectares for each and an estimated water requirement. The water available should at least be equal to or greater than the water needed. For information on crop water requirements, look at the Wealth from water Factsheet.

Table 2: Example of water estimates per crop

Priority [4]	Irrigated Crop Type	Area (ha)	ML required/ha[5]	Total (ML)	Water used (ML)[6]
1	Potatoes	20	6	120	
2	Poppies	10	4	40	
3	Pasture	50	4	200	
	Total			360	

[4]*Which crop has the highest priority for water? (usually the highest value crops)*
[5]*This can be calculated using your experience or there are industry average figures available in this factsheet.*
[6]*This is calculated at the end of the season as part of the reviewing process.*

Develop an operational plan

This details how different sources of water will be used to meet the water budget. You should include the priority that crops would be watered if supply is limited.

Table 3: Example of an operational plan

Priority	Irrigated Crop Type	Water Required (ML)	Total Water Available for each source[7]			
			A	B	C	D
			100ML	150ML	50ML	300ML
1	Potatoes	120	50	50	0	20
2	Poppies	40	20	10	10	-
3	Pasture	200	30	90	40	40
Total Allocated[8]			100	150	50	60

[7]*The water that is calculated in the Example of a Water Available Budget.*
[8]*The total from each source should not be any greater than the value in the Example Water Available Budget*

An operational plan helps maximise the use of all water sources to minimise costs and risks. It should also include a contingency plan to allow for drier than expected conditions and any restrictions that may be applied.

If your Water Budget shows that water needed may exceed the water available then use the time before irrigation starts to secure additional water (Options include purchasing water, limited period transfers and watercourse authorities).

Crop Water Requirements

We all recognise that different crops use different amounts of water depending upon the season. This can make it difficult to budget your water requirements.

Many farmers through experience would have an understanding of the average water needs of their crops.

The information provided in this table is generally in a range to allow for differing climatic zones and seasonal conditions. As expected, hotter and drier areas of the state will require more irrigation water than the wetter, cooler areas. Time of planting may also be an important factor in determining crop water requirements.

The irrigation quantity is indicated in megalitres per hectare (ML/ha). One megalitre is equal to 100mm of water applied to one hectare of crop.

The following figures have been determined utilising current industry values.

Crop	**Irrigation Quantity ML/ha**	**Crop**	**Irrigation Quantity ML/ha**
Apples	4.0	Oats	1.0 - 3.0
Brassica Seed	1.0 – 3.0	Onions	3.5 - 4.0
Barley	1.0 - 3.0	Pasture - Dairy	3.5 - 7.0
Blueberries	3.0 – 3.5	Pasture - Grazing	3.0 - 5.0
Broccoli	2.0 - 2.5	Pasture - Renovation	1.0 – 2.0
Canola	1.5 - 3.0	Peas	1.0 - 3.0
Carrots	3.5 - 4.0	Poppies	1.0 - 4.5
Cauliflowers	3.5 – 4.2	Potatoes – Fresh Market	4.0 – 4.5
Cherries	3.0 - 4.0	Potatoes - Processing	4.0 - 7.0
Clover Seed	1.0 – 2.0	Potatoes – Seed	3.0 – 6.0
Grapes - Wine	0.5 – 2.5	Pyrethrum	1.0 - 2.0
Grass Seed	1.5 – 2.0	Strawberries	4.0
Lucerne	3.5 – 7.0	Wheat	0.5 - 4.0

Washdown water needs to be accounted for. Please check your allocation to see if you have enough water to meet this requirement.

Water Surety levels

There are eight sureties, with Level 1 water available at the highest surety and Level 8 at the lowest. Where water restrictions are imposed, generally allocations at a lower level of surety are restricted before those at a higher level. Allowing for reliability during planning reduces the risk of running out of water during the season.

Water Surety Levels	
Surety 1	Expected to be available at > 95% reliability • Rights for the taking of water for domestic purposes, consumption by livestock or firefighting under Part 5 of the WMA "Rights in Respect of Water" (i.e. no licence required); • Rights of councils to take water for town water supplies (allocation at this surety level is two thirds of their actual daily usage in the five years prior to 2000 multiplied by 1.05 with the remaining one third allocated as surety 5).
Surety 2	The water provision allocated to supply the needs of ecosystems dependent on the water resource.
Surety 3	Commercial licences issued for a minimum of 99 years replacing old prescriptive rights under previous Acts.
Surety 4	Rights of special licensees such as Hydro Tasmania. Special licences are granted to a body corporate for the generation of electricity or similar.
Surety 5	Rights issued for the taking of water otherwise than for the purposes described above under Surety levels 1-4. This includes rights for direct extraction, and for winter storage in dams, for use for irrigation or other commercial purposes.
Surety 6	Rights at this surety level issued for the taking of water for direct extraction for use for irrigation and other commercial purposes and for winter storage in dams.
Surety 7	Water allocations available with a lower level of reliability than a Surety 6 allocation. These allocations include water provided under catchment or site specific flow triggers and conditions.
Surety 81	Water allocations available with a lower level of reliability than a Surety 7 allocation which includes water provided under catchment specific flood triggers and thresholds.

Understand your licence

An accountability condition has been added to all licences as they have been renewed or changed. If you do not have a copy of your current licence you can apply and pay a fee for a copy by downloading a form from www.nre.tas.gov.au/water or head to the WIST to download a copy . The Know your Water Licence factsheet provides information on your licence.

For any questions regarding your licence, please contact Water.Enquiries@nre.tas.gov.au