

Compliance with regulations - determination of floodplain harvesting access licences in the Macquarie and Barwon-Darling

An overview of compliance with Water Management (General) Regulation 2018 requirements for replacement floodplain harvesting access licences in the Macquarie and Barwon-Darling valleys.

Section 57A of the *Water Management Act 2000* (the Act) allows provisions relating to replacement floodplain harvesting access licences to be made in the *Water Management (General) Regulation 2018* (the Regulation). Replacement floodplain harvesting access licences were determined in accordance with Part 2A of the Regulation for all water sources in the Macquarie and Barwon-Darling valleys.

Part 2A of the Regulation establishes the eligibility criteria for licences, the category of licence an eligible landholder will receive and the process that must be followed to determine the share component for each eligible landholder and category of licence.

Part 2A of the Regulation commenced on 1 July 2022 and was subsequently disallowed by the NSW Legislative Council on 21 September 2022. Part 2A of the Regulation commenced again on 3 February 2023 and remains in-force at the time of this publication.

Under section 57A (1) of the Act there are 2 categories of replacement floodplain harvesting access licences:

1. Floodplain harvesting (regulated river) access licences
2. Floodplain harvesting (unregulated river) access licences.

Under Part 2A of the Regulation, there are 2 key methods for determining share components for those licences:

1. Through the use of three valley-specific models for eligible landholders with licences associated with a regulated river water source or the Barwon-Darling Unregulated River Water Source as detailed in clause 23C.
2. Through a repeat of the volumetric conversion process used to convert licences from the *Water Act 1912* to the Act for eligible landholders associated with an unregulated river water source, excluding the Barwon-Darling Unregulated River Water Source as detailed in clauses 23D or 23E.

The department followed robust procedures to ensure that licences were determined in accordance with the Regulation.

On 15 September 2022, final determinations of licence eligibility and share components were made for the Macquarie Bogan Unregulated River Water Sources.

On 9 February 2023, final determinations of licence eligibility and share components were made for the Macquarie and Cudgegong Regulated Rivers Water Source.

Table 1. How the department complied with requirements under the Regulation for determining replacement floodplain harvesting licences

Requirement of the Regulation	How the requirement has been met
<p>Clause 23B Eligibility for replacement floodplain harvesting access licences</p> <ol style="list-style-type: none"> 1. The Minister is to determine if a landholder is eligible for a replacement floodplain harvesting access licence. 2. A landholder is eligible if the Minister is satisfied that, on 3 July 2008, a water supply work capable of floodplain harvesting – <ol style="list-style-type: none"> (a) was fully constructed on the landholder’s land and a relevant approval was in force that specified the work or a related or connected work, or (b) was fully constructed on the landholder’s land without a relevant approval and an approval under the Water Act 1912, Part 8 was not required to construct the work, or (c) was fully or partially constructed, or proposed to be constructed, on the landholder’s land and an application for a relevant approval that specified the work was made but not determined. 3. In this clause – <p>related or connected work means a work related or connected to the water supply work specified in the relevant approval that is –</p> <ol style="list-style-type: none"> (a) constructed on the land specified in the approval, and (b) located within the footprint of the work specified in the approval. <p>relevant approval means –</p> <ol style="list-style-type: none"> (a) an approval under the Act, Chapter 3, Part 3, or (b) a licence or permit within the meaning of the Water Act 1912, Part 2, or Part 8 as in 	<p>In determining whether a landholder was eligible for a replacement floodplain harvesting access licence, the department assessed water supply works capable of floodplain harvesting against the eligibility criteria in clause 23B (2) of the Regulation. The status of construction of relevant works and the status of any approvals, on 3 July 2008, are relevant to all eligibility criteria in clause 23B (2) and were verified by the department through a rigorous process including:</p> <ol style="list-style-type: none"> 1. Registrations of interest (ROI) by landholders in the process to licence floodplain harvesting, which included submission of relevant information relating to works located on the landholder’s property that may meet the eligibility criteria. 2. Desktop assessment of evidence submitted as part of the ROI, departmental records, aerial photos and satellite imagery to further assess eligibility. Where relevant, this included verifying on a property scale whether the work(s) were capable of floodplain harvesting on 3 July 2008, the status of their construction and of any relevant approval. 3. Site inspection to confirm eligibility information provided in the ROI and obtained from the desktop assessment. 4. Consultation during site inspections, and if the Department formed a preliminary view the landholder was ineligible, written notice provided to the landholder and 28-days to make a submission. This provided landholders with an opportunity to provide further information about eligibility, in accordance with clause 23B (4) of the Regulations. 5. Review of preliminary determinations, where applicable, by the <u>Healthy Floodplains Review Committee</u>.

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<p>force immediately before the repeal of that Part.</p>	<p>6. A final audit of all eligible water supply works against 23B (2) of the Regulation to ensure accuracy.</p> <p>Additional information</p> <p>In the Macquarie valley, the ROI process began in November 2013 and 117 ROIs were received:</p> <ul style="list-style-type: none"> • 109 related to the Regulated River water source. • 5 related to the Unregulated River water sources • 3 were not related to the Macquarie Valley <p>There were 99 site inspections undertaken in 2015 with some inspections covering 2 or more properties.</p> <p>Of these, 73 properties were determined to have eligible water supply works which meant the landholder was eligible for a replacement floodplain harvesting access licence.</p> <p>In the Barwon-Darling valley, the ROI process began in November 2013 and 44 ROIs were received.</p> <p>There were 27 desktop assessments and 40 site inspections, undertaken in 2015</p> <p>Of these, 30 properties were determined to have eligible water supply works which meant the landholder was eligible for a replacement floodplain harvesting access licence.</p>
<p>3. In determining whether or not a landholder is eligible, the Minister must consider relevant information provided by the landholder in relation to the water supply work.</p>	<p>All information provided by landholders relevant to the assessment of eligible water supply works was considered by the department, including information provided by the landholder during registration of interests (ROIs), site inspection and in any submissions.</p>
<p>4. The Minister may determine that a landholder is not eligible only if –</p> <p>(a) the landholder is given, whether under this clause or otherwise, written notice and 28 days in which to make submissions about the proposed determination of eligibility, and</p>	<p>Following the ROI, desktop assessment and site inspection, where the department was of the view the landholder was not eligible, landholders were advised in writing and given 28 days to make a submission.</p> <p>All relevant information received as part of the submission process was considered by the department and the landholder notified in writing of the department’s view regarding eligibility after considering the information provided in the</p>

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<p>(b) the Minister has considered submissions received from the landholder within the 28 days</p>	<p>submission. Where a landholder disagreed with the department’s view regarding eligibility and/or provided additional information, a review was undertaken by the <u>Healthy Floodplains Review Committee</u> (the Committee).</p> <p>The Committee was established to analyse issues raised by landholders in respect of the preliminary determinations, ensure they received procedural fairness and provide advice and recommendations to the Director, Healthy Floodplains Project, DPE-Water regarding resolution of issues raised by landholders.</p> <p>The terms of reference of the committee and minutes of meetings are published <u>here</u>.</p> <p>Landholders were notified of the recommendations of the Committee and given a final opportunity to provide any further evidence for consideration.</p> <p>The department provided written notification to the landholder of the outcome of that process, after consideration of the Committee advice and any additional evidence.</p> <p>Submissions received through this process were considered in making a final determination as to eligibility.</p> <p>Additional information</p> <p>Macquarie valley</p> <ul style="list-style-type: none"> • Affected landholders notified in 2015, further information was received by the department within the 28-day day submission period for 2 properties. This information was considered in making a final determination but did not alter the department’s view of ineligibility. • One landholder was notified in August 2022, no information was received by the department within the 28-day submission period. <p>Barwon-Darling valley</p> <ul style="list-style-type: none"> • Affected landholders notified in 2015/16; no further information was received by the department within the 28-day submission period. • A further landholder was notified in 2018 and subsequently made a submission to the Healthy Floodplains Review Committee. The committee

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	<p>reviewed the submission and recommended to the department that the original ineligibility decision should be overturned. This information was considered in the final determination that the landholder is eligible.</p> <ul style="list-style-type: none"> • Three landholders were notified in 2022. Two of the landholders made submissions to the review committee and the committee rejected both submissions. The information provided was considered in making a final determination but did not alter the department’s view of ineligibility
<p>5. If the Minister determines that a landholder is eligible for a replacement floodplain harvesting access licence under this clause, the Minister must determine the share component of the licence in accordance with Division 2.</p>	<p>For all licences determined as eligible under clause 23B, share components were determined under clauses 23C, 23D or 23E as appropriate.</p> <ul style="list-style-type: none"> • Under clause 23C for eligible properties associated with a regulated river or the Barwon-Darling Unregulated River Water Source. • Under clause 23D for eligible properties associated with an unregulated river, excluding the Barwon-Darling Unregulated River Water Source. • Under clause 23E for eligible properties associated with existing aquifer access licences. <p>In accordance with the eligibility criteria, landholders with eligible water supply works are eligible for a replacement floodplain harvesting access licence. All eligible water supply works located on eligible properties associated with a regulated river or the Barwon-Darling Unregulated River Water Source were incorporated into valley-specific models.</p>
<p>Division 2 Determination of share component</p> <p>Clause 23C Licences based on existing regulated and unregulated river access licences</p> <p>1. The Minister must determine the share component of a replacement floodplain harvesting access licence by using the 3 models referred to in Division 3 that apply to the regulated river water source or the Barwon-Darling water source, as the case requires.</p>	<p>Applies to eligible properties associated with a regulated river water source or the Barwon Darling Unregulated River water source. The 3 models referred to are the:</p> <ol style="list-style-type: none"> 1. Current conditions model, 2. Eligible water supply works scenario model, 3. Plan limit compliance scenario model. <p>The current conditions model was developed using the best available information on most recent known levels of irrigation infrastructure and entitlements in</p>

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	<p>the water source and existing management arrangements under the relevant water sharing plan.</p> <p>The eligible water supply works scenario model was developed using the eligible water supply works identified in 23B (2) together with the entitlements in the water source and management arrangements under the relevant water sharing plan as at 3 July 2008.</p> <p>The plan limit compliance scenario model assumes current conditions with eligible licences for floodplain harvesting in place. It was developed using the proposed water sharing plan provisions for replacement floodplain harvesting licences in the water source, including those that relate to sections 21 (a) and (c) of the Act and the existing bulk access regime, as specified in the relevant water sharing plan. The clause in the Regulation which describes the plan limit compliance scenario model was slightly changed, when Part 2A re-commenced in February 2023. However, no changes were made to the model itself. The changes to the clause ensured that the clause more accurately reflects the model.</p> <p>Additional information</p> <p>The models were completed for the Macquarie regulated river and Barwon-Darling unregulated river water sources in 2022.</p> <p>Published information on these models is provided in 2 reports for each water source as detailed in clause 23G (2) below.</p>
<p>2. In determining the share component of a replacement floodplain harvesting access licence for a landholder eligible under subclause (1)(b), the Minister must deduct the share component of the unregulated river access licence from the proposed share component of the replacement floodplain harvesting access licence.</p> <p>3. Despite subclause (3), the Minister —</p> <p>(a) is not required to deduct the share component of the unregulated river access licence if satisfied that there were no water</p>	<p>Clause 23C (4) allows for flexibility in the deduction under clause 23C (3). In effect the Regulation provides that the deduction under 23(C) (3):</p> <ul style="list-style-type: none"> • does not need to occur if there were no water supply works used in connection with the unregulated river access licence, or • may be proportional to the amount of water actually taken under the unregulated river access licence if this is less than the share component. <p>Additional information</p>

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<p>supply works used in connection with the unregulated river access licence, and</p> <p>(b) may deduct a proportion of the share component of the unregulated river access licence that corresponds with the amount by which the volume of water taken under the unregulated river access licence is less than the maximum volume specified for the licence.</p>	<p>Macquarie and Cudgegong Regulated River Water Source</p> <p>Application of subclause (4) (a) was not required.</p> <p>Under subclause (4) (b), a deduction was made for one property.</p>
<p>Clause 23D Licences based on existing unregulated river access licences.</p> <p>1. The Minister must determine the share component of a replacement floodplain harvesting access licence for the eligible landholder by –</p> <p>(a) deducting the authorised area from the maximum crop area in the relevant year, and</p> <p>(b) multiplying the result by the crop conversion rate for the crop grown in the relevant year, and</p> <p>(c) deducting the metered groundwater usage in megalitres for the relevant year under the bore licences, if any, where 1 megalitre is taken to be 1 unit of a share component.</p>	<p>Clause 23D applies to eligible landholders if, at any time between 1 July 1993 and 30 June 1999, an entitlement (with or without a bore licence), was in force in relation to the land on which the associated eligible water supply works are located and the entitlement was subsequently converted to an unregulated river access licence.</p> <p>Under this clause, the share component is determined using the following process:</p> <ul style="list-style-type: none"> • Obtaining the authorised area used in the original volumetric conversion process, using information from the Volumetric Conversion database and Water Licensing System (the authorised area is the area that was authorised to be irrigated under the entitlement) • Determining the maximum crop area in any year between 1993-1999 using information from the Volumetric Conversion database and associated files developed during the volumetric conversion process. • Determining the crop conversion rate for the crop grown, as detailed in appendix 2 to the Volumetric Conversion – the next stage booklet. • Determining any metered groundwater usage during the relevant year using the Water Resource Accounting database and bore usage records from the groundwater structural adjustment program. <p>Under this clause, the share component is then calculated using the following equation:</p> $((\text{maximum crop area} - \text{authorised area}) \times \text{crop conversion rate}) - \text{groundwater usage}$ <p>Additional information</p>

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	<p>Macquarie Bogan Unregulated River Water Sources</p> <ul style="list-style-type: none"> • 2 eligible landholders • both no longer eligible as share component was zero (see clause 23L below). <p><u>Volumetric Conversion – the next stage booklet</u></p>
<p>Clause 23E Licences related to existing aquifer access licences</p> <p>1. The Minister must determine the share component of a replacement floodplain harvesting access licence by –</p> <p>(a) multiplying the maximum crop area for the relevant year by the crop conversion rate for cotton, and</p> <p>(b) deducting the existing share component.</p>	<p>Clause 23E applies to eligible landholders if, at any time between 1 July 1993 and 30 June 1999, a bore licence (without an unregulated river access licence) was in force in relation to the land on which the associated eligible water supply works are located and the bore licence was subsequently converted to an aquifer access licence.</p> <p>Under this clause, the share component is determined using the following process:</p> <ul style="list-style-type: none"> • Determining the maximum crop area in any year between 1993-1999 using remote sensing data or Irrigator Behaviour Questionnaire data where remote sensing could not be used. • Determining the crop conversion rate for cotton based on the climatic zone, as detailed in appendix 2 to the <i>Volumetric Conversion – the next stage booklet</i>. • Determining any metered groundwater usage during the relevant year using the Water Resource Accounting database and bore usage records from the groundwater structural adjustment program. <p>Once this information is collated, the share component is calculated using the following equation:</p> <p>(maximum crop area x cotton conversion rate) – groundwater usage</p> <p>Additional information</p> <p>Macquarie Bogan Unregulated River water sources</p> <p>Clause 23E did not apply to any eligible landholders.</p>

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<p>Clause 23F Final determination of share components</p> <p>1. The Minister may determine the share component for a replacement floodplain harvesting access licence for an eligible landholder only if –</p> <p>(a) the landholder is given, whether under this clause or otherwise, written notice and 28 days in which to make submissions about the proposed share component, and</p> <p>(b) the Minister has considered submissions received from the landholder within the 28 days.</p>	<p>Under clause 23F of the Regulation, the Minister (or his delegate) must give each eligible landholder written notification of the proposed share component for the replacement floodplain harvesting licence and 28 days to make submissions in relation to the proposed share component. Share components can only be finalised after the Minister (or his delegate) has considered the submissions received during the 28 days.</p> <p>Additional information</p> <p>Written notice of proposed share components was provided to eligible landholders and submissions received, as detailed below.</p> <ul style="list-style-type: none"> • Macquarie Bogan Unregulated River water sources on 26 August 2020 to 2 eligible landholders with a proposed share component of zero for each (no submissions received). • Macquarie and Cudgegong Regulated Rivers water source on 17 June 2022 to 67 eligible landholders in relation to 73 eligible properties, with some landholders owning 2 or more properties (21 submissions received). • Macquarie and Cudgegong Regulated Rivers water source on 8 September 2022 to 5 eligible landholders, repeating the submission period due to a change in the proposed share component (3 submissions received). • Barwon-Darling Unregulated River water source on 20 October 2022 to 27 eligible landholders in relation to 30 eligible properties, with some landholders owning 2 or more properties (no submissions received)
<p>Division 3 Models for determination of share components</p> <p>Clause 23G Models for determination of share components</p> <p>1. The Minister must adopt the following models for a water source for the purposes of determining the share component of a replacement floodplain harvesting access licence under clause 23C for the water source –</p>	<p>All current river system models produced by the department were developed in the Integrated Quantity and Quality Model or eWater Source platforms. The department improved these models to represent properties determined to be eligible for a replacement floodplain harvesting access licence (for regulated rivers and Barwon-Darling unregulated river) with their associated infrastructure and access to overland flow. Each model represents the components of floodplain harvesting (rainfall runoff</p>

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<ul style="list-style-type: none"> (a) the current conditions model (b) the eligible water supply works scenario model (c) the plan limit compliance scenario model. 	<p>and overbank flow harvesting) using the best available data.</p> <p>This includes significant investments in technology to build accuracy and confidence.</p> <p>Along with using the best current available technology and data, models were peer reviewed to ensure they provided a robust platform for determining share components.</p> <p>Additional information</p> <p>Information on an independent peer review for the Macquarie River valley regulated river system reports was published on the department’s website in March 2021.</p> <p>Information on an independent peer review for the Barwon-Darling valley river system reports was published on the department’s website in May 2022.</p>
<p>2. The Minister must publish on the Department’s website the following information in relation to the models –</p> <ul style="list-style-type: none"> (a) a description of the model (b) the objectives for the model (c) the matters that the model represents (d) the data that the model relies upon. 	<p>This information is published in 2 reports for each valley.</p> <p>1. Building the river system model for the Valley (Model build report)</p> <p>Provides evidence and assessments to demonstrate that the model for the valley is fit for purpose.</p> <p>2. Floodplain harvesting entitlements for the Valley: Model scenarios (Model scenario report)</p> <p>Describes how the model for the Valley was used to estimate the baseline diversion limit, and to subsequently estimate individual floodplain harvesting entitlements.</p> <p>These reports provide a detailed explanation of the three models referred to in clause 23G (1).</p> <p>Additional information</p> <p>The reports for the Macquarie valley regulated river system were published on the department’s website in March 2021 and a revised copy published in September 2022.</p> <p>The reports for the Barwon-Darling valley were published on the department’s website in May 2022.</p> <p>These reports can be found here:</p>

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	<ul style="list-style-type: none"> • Macquarie valley model build report • Macquarie valley model scenario report • Barwon-Darling valley model build report • Barwon-Darling valley model scenario report <p>The requirements under paragraphs (a) to (d) are satisfied in the following sections in these reports:</p> <p>(a) section 2 (model build report) and section 3 (model scenario report)</p> <p>(b) Table 1 in section 2.1 of report 1.</p> <p>(c) Table 2 in section 2.1 of report 1</p> <p>(d) Table 5 in section 2.4 report 1 and tables 5 and 6 in section 3.2 of report 2.</p>
<p>Division 4 Miscellaneous</p> <p>Clause 23K Issue of replacement floodplain harvesting access licences</p> <p>1. A replacement floodplain harvesting access licence takes effect, and the eligible landholder is taken to hold the licence, only after the Minister gives written notice to the landholder of –</p> <p>(a) the category of the replacement floodplain harvesting access licence, and</p> <p>(b) the final share component of the licence determined in accordance with Division 2.</p>	<p>There are 2 categories of replacement floodplain harvesting access licences:</p> <ul style="list-style-type: none"> • floodplain harvesting (regulated river) access licences; and • floodplain harvesting (unregulated river) access licences. <p>A floodplain harvesting (regulated river) access licence applies where, on 3 July 2008, a regulated river access licence was in force in relation to land on which the associated eligible water supply works are located.</p> <p>For eligible landholders that do not meet these criteria, the licence category is a floodplain harvesting (unregulated river) access licence.</p> <p>Additional information</p> <p>Written notice of the category and final share component of the licence was provided to landholders in the Macquarie and Barwon-Darling Valleys on 10 February 2023 and 17 February 2023, respectively, for:</p> <ul style="list-style-type: none"> • Macquarie and Cudgegong Regulated Rivers Water Source: 67 floodplain harvesting (regulated river) access licences totalling 48,911 unit shares.

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	<ul style="list-style-type: none"> • Barwon-Darling Unregulated River Water Source: 27 floodplain harvesting (unregulated river) access licences totalling 51,322 unit shares. <p>While these landholders have been notified, water cannot be taken under these licences until an associated water allocation account is established and credited, and the specific rules relating to the licence are commenced in the relevant water sharing plan.</p>
<p>Clause 23L Circumstances in which replacement floodplain harvesting access licences are not issued</p> <p>Despite any other provision of this Part, a landholder is not eligible for a replacement floodplain harvesting access licence and does not hold a licence if—</p> <p>(a) the final share component for the licence is determined to be zero or less, or</p> <p>(b) the Minister, by notice published on the Department’s website, declares that the process under this Part for issuing replacement floodplain harvesting access licences for which the landholder may have been eligible is completed in relation to the relevant floodplain.</p>	<p>In accordance with clause 23L of the Regulation, if the share component is determined to be zero or less, the landholder is no longer eligible for a replacement floodplain harvesting access licence.</p> <p>Additional information</p> <p>Clause 23L (a) was applicable to two landholders in the Macquarie Bogan Unregulated River Water Source. The final share component was determined to be zero. Therefore, they are no longer eligible for a replacement floodplain harvesting access licence.</p> <p>Declarations under clause 23L (b) of the Regulation will be made and published as the licensing process for each valley is completed. No declarations have been published at the time of this publication.</p>