Australian Government

Inspector-General of Water Compliance

An inquiry into the measurement of non-urban water take in the Murray–Darling Basin

Call for Submissions

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1. Introduction

The Inspector–General of Water Compliance (the **Inspector–General**), established in 2021 under Part 9A of the *Water Act 2007* (Cth) (the **Water Act**), is an independent statutory officer whose functions include monitoring and oversight of:

- how Commonwealth agencies perform their functions and exercise powers under the Water Act, *Basin Plan 2012* (Cth) (the **Basin Plan**) and water resource plans,[1]
- how Basin State agencies perform their obligations in managing Murray–Darling Basin (the **Basin**) water resources under the Water Act, Basin Plan and water resource plans,[2] and
- the implementation by Commonwealth and Basin State agencies of specific agreements relating to the management of water resources in the Basin.[3]

The Inspector–General plays a vital role in promoting public confidence in the sustainable management of the Basin, one of Australia's most critical natural resources.

Pursuant to the Water Act, the Inspector–General has a range of powers, including the power to conduct inquiries under Part 10AB.

The Inspector–General has decided to conduct an inquiry into the measurement of non-urban water take in the Murray–Darling Basin.

Under the Water Act and the Basin Plan, non-urban water take is subject to measurement, recording and reporting requirements administered principally by Basin State agencies through accredited water resource plans.

Accurate measurement of non-urban water take is fundamental to the integrity of the Basin's SDL framework. Accurate, timely and reliable measurement of non-urban water take underpins confidence in water accounting, compliance assessments, and Basin water management more broadly. Existing assurance mechanisms rely heavily on jurisdiction-reported information and do not provide the level of independent verification needed to assess Basin-wide measurement arrangements.

Terms of Reference for the inquiry, made under section 239AB of the Water Act, are at **Attachment A**.

This document invites submissions from interested individuals and organisations to assist the Inspector–General's inquiry into the measurement of non-urban water take in the Murray–Darling Basin.

Key Dates

Call for Submissions	16 September 2026
Due Date for Submissions	28 October 2026
Final Report	Late 2027

1 *Water Act 2007* (Cth) s 215C(1)(a)

2 *Water Act 2007* (Cth) s 215C(1)(b)

3 *Water Act 2007* (Cth) s 215C(1)(c)

2. Non-Urban Water Take Measurement

Non-urban water take in the Basin is measured, recorded, and reported by Basin State agencies within a framework of intergovernmental agreements, Commonwealth legislation, and jurisdictional policy.

A national framework for measurement takes shape

The 2004 Intergovernmental Agreement on a National Water Initiative (the **NWI**),[4] was signed by the Commonwealth and all states and territories and established a national framework for water reform. Among its broader commitments, the NWI included measures directed at improving water data collection, developing national metering standards, and expanding public reporting of water use.

In 2009, all Australian governments committed to the National Framework for Non-Urban Water Metering, under which new meters were to comply with the Australian Standard for water meters (AS4747) by July 2020.[5] By 2014-15, states and territories had advised the Australian Government that the Framework was no longer necessary and adopted a variety of jurisdictional approaches in its place.[6]

The Water Act provides the framework for Basin water management, under which the Basin Plan was made. Water resource plans (**WRP**s) are one of the key instruments for implementing the Basin Plan, setting out how much water can be taken from the system at a local scale and requiring that state water management rules meet Basin Plan objectives. WRPs must be accredited by the Commonwealth Water Minister, and the Water Act and Basin Plan establish evaluation, reporting, water take measurement, and compliance requirements. Out of 33 WRPs in the Basin, 29 are accredited. Four New South Wales plans remain outstanding: Gwydir, Gwydir Alluvium, Namoi and Namoi Alluvium.

The ABC Four Corners '*Pumped*' broadcast in July 2017,[7] and the compliance reviews that followed prompted the Murray–Darling Basin Ministerial Council to agree to the Murray–Darling Basin Compliance Compact (the **Compact**) in June 2018.[8] The Compact committed Basin jurisdictions to a series of measurement uplifts by June 2025, including AS4747 compliance for all new and replacement meters, metering of all take under water entitlements, and progression towards automated reporting of water take. An independent review of the Compact in 2021 found improvement in measurement arrangements but noted persistent inconsistencies between jurisdictions, particularly in metering thresholds, and that annual Compact reporting had focused on activity-based commitments rather than the effectiveness of reforms.[9] The Compact remains the principal intergovernmental instrument governing Basin measurement and compliance arrangements today.

4 Intergovernmental Agreement on a National Water Initiative, June 2004.

5 DAWE, Best practice guidelines for minimum metering thresholds, Australian Government, June 2019.

6 MDBA, The Murray–Darling Basin Water Compliance Review, Australian Government, November 2017.

7 ABC Four Corners, 'Pumped', 24 July 2017.

8 Murray–Darling Basin Compliance Compact, June 2018.

9 Basin governments, Compliance Compact Review: Review by Parties for the Murray–Darling Basin Compliance Compact, May 2021.

Persistent gaps drive further reform (2019-2022)

A series of independent reviews between 2019 and 2022 identified persistent weaknesses in non-urban water measurement. In June 2019, an independent panel's SDL Water Accounting Framework Review found that measurement, reporting and assurance needed to advance to improve confidence in the SDL framework.[10]

Basin state governments introduced a series of policy and regulatory reforms to improve non-urban water measurement over the same period. In April 2021, the Australian Government released Meteorological Assurance Framework 2 (MAF2),[11] a nationally consistent framework for regulating non-urban water meters. In July 2021, the Commonwealth, New South Wales and Queensland Governments executed a funding agreement for the 'Northern Murray–Darling Basin Metering Program' aimed at strengthening metering and telemetry capability.[12]

In 2022, the Inspector–General of Water Compliance commissioned Mr Des Pearson AO to conduct an independent review into compliance and enforcement across the Murray–Darling Basin.[13] Mr Pearson's report identified different jurisdictional metering settings and reported the proportion of entitlement volume metered in each Basin State. The Inspector–General's own report on compliance and enforcement, published later in 2022, drew on that work and highlighted differences in metering coverage and regulatory approaches, as well as significant volumes of water remaining unmeasured across Basin jurisdictions.[14]

Progress and remaining challenges (2023-2026)

Implementation and assessment continued through 2023 and 2024. The Murray–Darling Basin Authority (the **MDBA**) identified improved metering and measurement as a priority in its Sustainable Diversion Limit Accounting Improvement Strategy.[15] In May 2024, the Commonwealth, New South Wales, Queensland, Victoria and South Australia Governments executed a further funding agreement for the 'Murray–Darling Basin Telemetry Uplift Program' to increase the coverage of metering telemetry across the Basin.[16]

In May 2024, the Productivity Commission published its 'National Water Reform 2024: Inquiry report' which found that AS4747 compliant meter rollout was 'many years behind schedule' and that 'Governments' lack of practical implementation planning for this meter rollout is eroding trust by water users in water regulators and in other metered users'.[17]

By 2025, all Basin jurisdictions had established or updated non-urban metering policies aligned with national requirements. The MDBA's 2025 Basin Plan Evaluation reported that measurement gaps remained and that significant reliance on extrapolation continued where data was limited.[18] Annual reporting and Metering Report Cards published by the Inspector–General of Water Compliance showed continued progress in metering reform, alongside variation in implementation across jurisdictions.[19]

10 MDBA, Final Report of the Independent Panel's Review of the Sustainable Diversion Limit (SDL) Water Accounting Framework, Australian Government, June 2019.

11 DAWE, Meteorological Assurance Framework 2, April 2021.

12 Northern Murray–Darling Basin Metering Program, Federation Funding Agreement - Environment, July 2021.

13 Des Pearson AO, Compliance and enforcement across the Murray–Darling Basin, report prepared for the IGWC, Australian Government, June 2022.

14 IGWC, Compliance and enforcement across the Murray–Darling Basin, Australian Government, August 2022.

15 MDBA, Sustainable diversion limit accounting improvement strategy 2023, Australian Government, March 2023.

16 Murray–Darling Basin Telemetry Uplift Program, Federation Funding Agreement - Environment, March 2024.

17 Productivity Commission, National Water Reform 2024: Inquiry report, Report no. 105, Australian Government, 28 May 2024.

18 MDBA, 2025 Basin Plan Evaluation Report, Australian Government, July 2025.

19 IGWC, Metering Report Cards, 2020-2023.

MAF2 was updated in 2026 to strengthen national guidance for non-urban metering and telemetry systems. [20]

The Inspector–General's Compliance Compact Stocktake Report published in August 2026 also found that while metering coverage and accuracy had improved since 2018, progress remained uneven and gaps persisted in visibility, reporting and comparability. [21]

3. Call for Submissions

Having regard to the Terms of Reference at **Attachment A**, the Inspector–General is calling for submissions from interested individuals and organisations.

When making your submission, you do not need to address each of the questions below.

Submissions may focus on the issues you consider most significant and may raise other issues relevant to the Terms of Reference. Please include supporting evidence where possible, such as examples, case studies, data or documents.

Submissions must be provided in written form as outlined in **Attachment B**, which also covers publication, confidentiality, privacy, and copyright arrangements.

Theme 1: Coverage and methodology

This theme examines the extent to which metering, estimation and modelling are used to determine non-urban water take across the Basin, and whether current approaches produce reliable, consistent and transparent measurement data, and the outcomes from Commonwealth funding to improvements in metering coverage across the Basin.

1. What are the most significant gaps in metering coverage across the Basin?
2. What factors have supported or hindered the expansion of metering coverage and the installation or upgrading of meters in your area or jurisdiction?
3. What risks do current approaches to the estimation and modelling of non-urban water take pose to the accuracy, reliability or timeliness of water take information?
4. How could the transparency and reliability of estimated or modelled water take figures be improved?
5. What outcomes have Commonwealth-funded programs delivered in improving non-urban water metering across the Basin?

Theme 2: Accuracy and reliability

This theme examines whether meters used to measure non-urban water take meet applicable accuracy standards and produce reliable results in practice.

6. What are the most significant gaps in metering accuracy and reliability across the Basin?
7. What has been your experience with meters meeting required accuracy and validation standards?
8. Are current arrangements for meter validation, maintenance and assurance sufficient to support confidence in measured water take?

20 DCCEEW, Meteorological Assurance Framework 2: 2026, Australian Government, December 2025.

21 IGWC, Murray–Darling Basin Compliance Compact Stocktake Report, Australian Government, August 2026.

Theme 3: Timeliness and transparency

This theme examines the extent to which non-urban water take is measured and transmitted in a timely manner, and the transparency of the policies, rules and arrangements governing measurement.

9. What are the most significant gaps in the installation, coverage or use of telemetry?
10. Where telemetry is not available, what alternatives are used to collect and transmit water take data?
11. Are roles, responsibilities and accountability arrangements for non-urban water measurement clear and transparent in your area or jurisdiction?
12. Do current governance and assurance mechanisms support confidence in the reliability of measurement data used for water accounting, compliance and reporting purposes?

Reform Opportunities

13. What changes to non-urban water measurement arrangements would most improve coverage, methodology, accuracy, reliability, timeliness or transparency, and what implementation challenges should be considered?

Attachment A: Terms of Reference

1. I, the Honourable Troy Grant, Inspector–General of Water Compliance (**Inspector–General**), have, on my own initiative, pursuant to section 239AA of the *Water Act 2007* (Cth) (the **Water Act**) and for the purpose of performing the functions referred to in paragraphs 215C(1)(a) to (c) of the Water Act, decided to conduct an inquiry into the measurement of nonurban water take in the Murray–Darling Basin (the **Basin**).

2. In performing the functions referred to in paragraphs 215C(1)(a) to (c) of the Water Act, my inquiry will examine the performance of functions and exercise of powers by Commonwealth agencies, the performance of obligations by Basin State agencies, and the implementation of relevant commitments by both, under Part 2 of the Water Act, the Basin Plan 2012 (Cth) (the **Basin Plan**), and the Murray–Darling Basin Compliance Compact (the **Compliance Compact**) entered into in June 2018. My inquiry will also examine implementation by Basin State agencies of commitments under the Intergovernmental Agreement on a National Water Initiative entered into in June 2004 (the **NWI**), to the extent that it relates to Basin water resources.

Background

3. Accurate measurement of water take is fundamental to the effective operation of the Murray–Darling Basin sustainable diversion limit (**SDL**) framework established under the Water Act and the Basin Plan. SDLs define the maximum longterm average quantities of surface water and groundwater that may be taken for consumptive use, with Basin States responsible for determining, recording and accounting for water take under accredited water resource plans (**WRPs**). As WRPs allow water take to be measured directly, estimated, or derived through modelling, the integrity of measurement is critical to SDL accounting, compliance assessment and overall confidence in Basin water management.

4. Chapter 6 of the Basin Plan sets the longterm average sustainable diversion limits for each SDL resource unit and the method by which compliance with those limits is assessed. The reliability of this accounting depends on the integrity of the underlying water take data, which is addressed under Chapter 10. Chapter 10 establishes obligations relating to water resource plans, including how water take is to be measured and recorded under accredited plans.

5. The Murray–Darling Basin Compliance Compact, entered into in June 2018 by the Commonwealth and Basin State governments, is for the purposes of paragraph 215C(1)(c) of the Water Act, an agreement referred to in subsection 215C(3) of the Water Act. The Compliance Compact includes commitments by Basin governments to commence metering of all take under water entitlements, with provision for clearly articulated and published exemptions; require new and replacement meters to comply with the relevant Australian standard for nonurban water meters; roll out telemetry for the automated reporting of water take; publish metering policies and implementation plans, and report annually on implementation progress.

6. The NWI, entered into in June 2004, is for the purposes of paragraph 215C(1)(c) of the Water Act an agreement referred to in subsection 215C(3) of the Water Act, to the extent that it relates to Basin water resources. The NWI establishes the national framework for nonurban water metering, water resource accounting and data collection standards, including commitments to develop national meter specifications and meter standards, to benchmark and consolidate water accounting systems, to improve data collection coordination, and to develop national guidelines for open reporting on metered water use.

The Australian Government has signed the National Water Agreement (**NWA**). No State or Territory has yet signed, and the NWA has therefore not commenced in any jurisdiction. The NWI accordingly continues to apply to the Commonwealth and to Basin States that are signatories to it and reaches agencies of the Commonwealth and of the Basin States under s215C(1)(c).

7. As State and Territory governments accede to the NWA over time, the NWI will cease to apply in those jurisdictions. The 202324 NWA is not an agreement referred to in subsection 215C(3) of the Water Act.

8. The rationale for an independent, systemwide assessment of measurement arrangements is also supported by:

    a. The Inspector–General's 2026 'Murray–Darling Basin Compliance Compact Stocktake Report' found that metering reforms have not been delivered on time nor as intended across the Basin, with significant variation in both metering coverage and telemetry implementation between jurisdictions, and inconsistent approaches to the definition and treatment of highrisk take. Beyond coverage and accuracy, the Stocktake identified that further attention is required to modelling and estimation practices, accounting and reconciliation, and the transparency of the policies and arrangements governing water take measurement across the Basin.

    b. The Productivity Commission's 2024 National Water Reform inquiry similarly found that most jurisdictions are not on track to meet their commitments to meter all water entitlements and ensure new and replacement meters meet the relevant Australian standard, with the Commission recommending jurisdictions accelerate their metering rollouts and improve annual reporting on metering compliance.

    c. The Inspector–General's Metering Report Cards, which publish information provided by Basin State jurisdictions about progress in metering implementation. While these report cards demonstrate progress, they rely on jurisdictionreported information without independent verification.

Terms of Reference

9. Pursuant to section 239AB of the Water Act, I determine that the terms of reference for this inquiry are to inquire into, and to make findings and recommendations in relation to the measurement of nonurban water take, including measurement of environmental water use, in the Murray–Darling Basin, including:

    a. the performance of functions and exercise of powers by agencies of the Commonwealth, and the performance of obligations by agencies of the Basin States, in relation to the measurement, recording and reporting of nonurban water take under the Water Act, Basin Plan and accredited Basin State water resource plans, and

    b. the implementation by agencies of the Commonwealth and the Basin States of commitments under the Compliance Compact, and by Basin State agencies of commitments under the NWI (to the extent that it relates to Basin water resources), relating to the measurement, accuracy, timeliness and transparency of water take.

10. The inquiry will examine these matters across three interconnected themes: coverage and methodology, accuracy and reliability, and timeliness and transparency. The inquiry is concerned solely with water take measurement arrangements. It will not examine SDL accounting or compliance practices, except where the adequacy of measurement directly bears on those processes.

a. Coverage and methodology

The inquiry will assess the extent to which metering, estimation and modelling are used to determine non-urban water take across the Basin, and whether current approaches produce accurate, reliable and consistent measurement data. This includes:

i. current rates of metering coverage across the Basin, progress against Basin State metering commitments, material gaps in coverage, the extent of unmeasured take, and barriers to improvement

ii. the elements of non-urban water take, specifically focussed on actual take, that are determined through modelling or estimation rather than direct measurement; the governance (including processes and practices in relation to approval, ongoing verification and change management) arrangements applying to the use of those models; and the transparency and comparability of modelling methods and outputs across the Basin

iii. the extent and outcomes from the contribution of Commonwealth funding to improvements in metering and modelling across the Basin.

b. Accuracy and reliability

The inquiry will assess whether meters used to measure non-urban water take meet applicable accuracy standards and produce reliable results in practice. This includes:

i. consistency with the relevant Australian standard for non-urban water meters, including how compliance is demonstrated through validation, certification and maintenance records

ii. the availability of suitably qualified personnel to undertake meter installation, maintenance and validation work

iii. risks arising from meter performance, validation, maintenance, asset condition and telemetry performance

iv. risks to the integrity of meter and telemetry data

c. Timeliness and transparency

The inquiry will assess the extent to which non-urban water take is measured and transmitted in a timely manner, and the transparency of the data, policies, rules and arrangements governing measurement. This includes:

i. the coverage of telemetry across the Basin, the telemetry requirements set out in Basin State metering and measurement frameworks, and the methods used to collect and record meter data where telemetry is not in place

ii. progress in telemetry implementation across the Basin and against Basin State telemetry commitments, including the outcomes achieved for the timeliness and completeness of water take data

iii. the transparency and accessibility of Basin State metering policies, rules and implementation arrangements including to water users, regulators and the public.

Exclusions

11. To avoid duplication, this inquiry will not examine in detail the licensing or measurement of floodplain harvesting or overland flow take. The Inspector–General conducted an audit of the management of overland flow harvesting in the Lower Balonne, and a further audit of floodplain harvesting measurement arrangements in New South Wales is planned for 2026-27. Floodplain harvesting and overland flow measurement will continue to be subject to the Inspector–General's oversight through these and other mechanisms.

12. In examining modelling and estimation, the inquiry will not re-perform, independently validate, or provide assurance over hydrological models.

Legislative Powers

13. In accordance with subsection 239AB(2) of the Water Act, the legislative powers of the Commonwealth that support the exercise by me of the powers in subsections 239AC(2) and 239AD(2) of the Water Act in relation to this inquiry are:

    a. the power of the Parliament to make laws with respect to trade and commerce with other countries, and among the States (within the meaning of subsection 51(i) of the Constitution)

    b. the power of the Parliament to make laws with respect to postal, telegraphic, telephonic, and other like services (within the meaning of paragraph 51(v) of the Constitution)

    c. the power of the Parliament to make laws with respect to census and statistics (within the meaning of paragraph 51(xi) of the Constitution)

    d. the power of the Parliament to make laws with respect to weights and measures (within the meaning of paragraph 51(xv) of the Constitution)

    e. the power of the Parliament to make laws with respect to foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth (within the meaning of subsection 51(xx) of the Constitution)

    f. the power of the Parliament to make laws with respect to external affairs (within the meaning of subsection 51(xxix) of the Constitution), as it relates to giving effect to Australia's obligations under relevant international agreements (as defined in subsection 4(1) of the Water Act)

    g. the executive power read together with the express incidental power (section 61 and paragraph 51(xxxix) of the Constitution)

    h. the power of the Parliament to make laws with respect to matters in respect of which the Constitution makes provision until the Parliament otherwise provides (within the meaning of subsection 51(xxxvi) of the Constitution), together with section 96 of the Constitution (financial assistance to States)

    i. the power of the Parliament to make laws for the government of any territory to which section 122 of the Constitution applies.

Attachment B: How to make a Submission

Submissions must be made in writing using the online portal on the Inspector–General's inquiry website, located at: **inquiry.igwc.gov.au**

The opportunity to make a submission closes on **28 October 2026**. It will not be possible to lodge a submission to the online portal after this date.

Publishing Submissions

The Inspector–General intends to publish submissions received. Any submissions received by the Inspector–General may be published at the discretion of the Inspector–General, except:

- where an individual has requested that they remain anonymous for the purposes of section 215UD of the Water Act, any information that could be used to identify the individual, and
- where a submitter has identified information in its submission (or attachments) which it contends is confidential information, parts which contain confidential information.

Without limitation, the Inspector–General may not publish material which is offensive, potentially defamatory, or clearly out of scope.

Confidential Information

Pursuant to section 215U of the Water Act, the Inspector–General must take reasonable measures to protect from unauthorised use and/or disclosure information that is confidential information and that is given to the Inspector–General in, or in connection with, the performance of the Inspector–General's functions or the exercise of the Inspector–General's powers.

Confidential Information to which section 215U applies may be used and disclosed by the Inspector–General in accordance with Division 5 of Part 9A of the Water Act.

If it is necessary for a submitter to include information that the submitter contends is confidential information as part of its submission:

- the submitter should clearly identify the information by including it in a separate section of the submissions labelled 'confidential information'
- outline a basis upon which it contends the information to be confidential.

Privacy

The Inspector–General will collect the personal information of submitters at the time that a submission is lodged. Your personal information is protected by law, including the *Privacy Act 1988* (Cth) (Privacy Act) and the Australian Privacy Principles, and is being collected by the Inspector–General for the purposes of the conduct of the Inquiry and any other function of the Inspector–General under the Water Act.

Please do not include in your submissions any personal information about another person which is sensitive information (such as another person's race, ethnicity or political opinions).

At the time of lodging a submission, a submitter will be provided with a collection notice and submitters will be required to acknowledge that they have read and understood the collection notice and agree to the collection and handling of any personal information in the manner set out in the collection notice.

Copyright

Copyright in submissions sent to the Inspector–General resides with the submitter. By lodging a submission, the submitter grants the Inspector–General an irrevocable and non-exclusive licence to reproduce and copy the submissions for the purposes of the Inquiry and for any other function of the Inspector–General under the Water Act.

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