

# Consultation Summary

Draft Georgina Wiso Water Allocation Plan 2023–2031

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Acronyms	Full form
ARG	Aboriginal Reference Group
CLA	Cambrian Limestone Aquifer
CLC	Central Land Council
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEPWS	Department Environment, Parks and Water Security (department)
ESY	Estimated Sustainable Yield
GBA	Geological and Bioregional Assessment
GDEs	Groundwater Dependent Ecosystems
GISERA	Gas Industry Social and Environmental Research Alliance
GL	Gigalitres
HFI	Hydraulic Fracturing Inquiry
mbgl	Meters Below Ground Level
ML	Megalitres
NT	Northern Territory
NTG	Northern Territory Government
SREBA	Strategic Regional Environment and Baseline Assessment
TDS	Total Dissolved Solids

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## Acknowledgement of Country

The Northern Territory Government respectfully and proudly acknowledges the Northern Territory's Aboriginal people and their rich cultures. We pay respect to Elders past and present. We acknowledge Aboriginal peoples as the Traditional Owners and custodians of the lands and waters that we rely on for our livelihoods. We recognise the intrinsic connection of Traditional Owners to Country and value their ongoing contribution to managing the lands and waters. We support the need for genuine and lasting partnerships with Traditional Owners to better understand cultural connections, and we will work to establish lasting partnerships to manage water together, now and into the future.

# 1. Introduction

Water allocation planning and plans are an important component of water resource management, particularly in areas where there is competition for the resource and significant water use is expected, or is already occurring. Water allocation plans provide for water to be apportioned to different uses, with primacy given to environmental and cultural uses. In the Northern Territory, these plans also provide for trade and an Aboriginal Water Reserve.

This report provides a summary of the feedback received during public consultation on the draft Georgina Wiso Water Allocation Plan 2022–2030 and associated documents and outlines how this feedback has been considered in the final Georgina Wiso Water Allocation Plan 2023–2031 (the plan).

The plan applies to an area of approximately 155,000 km<sup>2</sup>, extending about 600 km from north to south, and 500 km east to west within the Daly Roper Beetaloo Water Control District (district). The groundwater resource managed through the plan is the Cambrian Limestone Aquifer (CLA). The CLA is an extensive regional aquifer that is relatively accessible, high yielding and good quality. The resource is separated into two management zones that correlate to the geological basins - the Georgina Basin Management Zone and Wiso Basin Management Zone. Within the Beetaloo Sub-basin, which partly overlaps the northerly part of the plan area, gas bearing geological layers occur at considerable depths beneath the CLA.

This is the first water allocation plan for the area and will remain in effect for eight years from date of declaration by the Minister for Environment, Climate Change and Water Security by gazette notice.

While all plans attract debate about appropriate levels of water allocation, the Georgina Wiso Water Allocation Plan 2022–2030 generated more interest than previous plans developed in the Northern Territory for two main reasons. Firstly, because development of the plan was not advised by a water advisory committee and secondly that the development of the plan was explicitly in response to a recommendation of the Scientific Inquiry into Hydraulic Fracturing in the NT (the inquiry).

While a committee did not advise the plan, the plan was informed by comprehensive and detailed water assessments, baseline studies of health, and environmental values of the region. Within the plan area there is currently no competition for the resource and limited interaction between the CLA and environmental values. It should be noted in comparison to not having a plan, declaring a plan for a water resource gives more protection and assures that water licence decisions consider the extensive scientific knowledge provided by the plan. The plan also commits to multiple forms of engagement with Aboriginal people (which have commenced) to support and monitor its implementation over the next 8 years.

The genesis of this plan is the inquiry and the potential for onshore gas development in the region, which has made it the focus of campaigns and advocacy against this type of development. A water allocation plan does not prioritise or facilitate one type of economic activity over another. The plan recognises the likely development scenarios in the plan area including for onshore gas, but is still cautious in its allocation to petroleum activities, which is limited to 10,000 ML/year.

There are a range of mechanisms to protection water resource and environmental assets in the plan area as part of the regulatory regime for on shore gas established in the [Petroleum Act 1984](#), the [Petroleum Regulations 2020](#) and the [Water Act 1992](#) (the Act). These include, but are not limited to, prohibition on surface water take for gas activities, reserved blocks where gas activities cannot occur, set back distances between gas wells and water bores, water monitoring requirements, restrictions on wastewater disposal, land access agreements between proponents, traditional owners and other landowners, and specific water licence conditions and monitoring requirements. The plan compliments but does not repeat these additional protections and requirements.

## 1.1. The Water Act

The [Water Act 1992](#) (the Act) sets out the statutory requirements of water allocation plans. The Act requires the Minister for Environment, Climate Change and Water Security (Minister) to ensure:

- water is allocated within the estimated sustainable yield (ESY) to beneficial uses, including an allocation to the environment and an Aboriginal Water Reserve
- the total water use for all beneficial uses is less than the sum of allocations to each beneficial use
- the right to take water under a licence is able to be traded.

To meet the requirements of the Act, water allocation plans comprise three core documents:

- water allocation plan – is the statutory document required to be gazetted, which describes the estimated sustainable yield for the water resources of the plan area
- background report – collates the data and knowledge regarding the plan area at the time it is made
- implementation actions – outlines the continuous program for the assessment of water resources including investigating, collecting, collating and analysing water resource information.

As part of the regulatory framework, the Controller of Water Resources (the Controller) is responsible for granting surface water and groundwater extraction licences. The Department of Environment, Parks and Water Security (the department) is responsible for the implementation of the Act.

## 1.2. Public consultation process

The plan was released for public consultation on 11 November 2022. The plan was published on the Northern Territory Government's 'Have Your Say' website, with submissions sought by 16 December 2022, and extensions granted to this date on request.

The department received a total of 178 responses to the draft plan. These were made up of 23 survey responses, 50 templated campaign responses and 105 unique written submissions. The written submissions included detailed feedback from the following organisations and individuals:

- Northern Land Council
- Central Land Council
- Nurrdalindi Aboriginal Land Trust Corporation
- Environment Centre of the Northern Territory
- Arid Lands Environment Centre
- Protect Big Rivers
- Central Australia Frack Free Alliance
- Lock the Gate
- NT Parents for Climate Change
- Katherine Town Council
- Roper Gulf Regional Council
- Centrefarm
- Individuals including the Member for Mulka and the solicitor on behalf of Tanumbrini Station
- Professor Sue Jackson on behalf of eighteen Australian academic water experts and
- Professor Matthew Currell and Doctor Christopher Ndehedehe.

To support public consultation, meetings were held with key stakeholders to provide an overview of information and activities in the draft plan area. This included the Beetaloo Regional Reference Group, NT Farmers Water Reference Group, Pastoral Land Board, Department of Infrastructure Tourism and Trade, CSIRO, Northern Land Council and NT Cattleman's Association.

### 1.3. Feedback and response

The feedback received during the public consultation process has been reviewed and collated. Common themes across the feedback included:

- supporting decision making with robust science
- ensuring effective and meaningful consultation and engagement, particularly with the Traditional Owners, CLC and the Committee.
- allocating a sustainable amount of water
- protecting the environment
- protecting sacred sites and cultural heritage.

In response to the feedback, revisions and enhancements have been incorporated into each of the water plan documents, which are summarised as:

- **Water Allocation Plan**

The input from public consultation resulted in the estimated sustainable yield (ESY) being reduced to 210,000 ML per year, aligned to the projected water requirements for the region.

- **Implementation Actions**

Input from public consultation resulted in strengthening the implementation actions to provide additional information on the risks. Risk assessment and adaptive management chapters were added to more specifically define risks related to the objectives of water sharing. Further information on the frequency and purpose of the water monitoring program in the region have also been added. The department recognises the need to work with Aboriginal people to define cultural protections and has prioritised this activity within the implementation actions.

- **Background Report**

The background report has been significantly enhanced to present a comprehensive understanding of the resource informed by the extensive land, water and biodiversity investigations undertaken in the region through the Beetaloo Strategic Regional Environment and Baseline Assessment (SREBA). The extent of the groundwater resource is well understood and modelled groundwater trends align with groundwater monitoring to provide confidence in the DR2 groundwater model's ability to predict the impact of extraction.

The department thanks all those who provided submissions through the consultation process, which has contributed to improvements to the first water allocation plan for the Georgina Wiso Basin.

## 2. Your feedback

The feedback received during the public consultation is summarised below. The department has responded to the feedback and advised how the feedback will be addressed in the plan.

### 2.1. Scientific merit

Many submissions raised concerns about the scientific merit of the plan. The concerns were that the plan was not based on the most up-to-date scientific and socio-economic assessment since the findings of the SREBA had not been incorporated or water studies were not published with the draft plan. Submissions offered a variety of scientific and technical opinions, and commented on inconsistencies between previous studies and research conducted in the region, emphasising recent reports that advised against describing aquifers in terms of their total storage when evaluating sustainable yields or safe extraction rates. Submissions also requested ongoing enhancements in tracking resource condition and assessment of the plan once the most recent scientific data, intelligence, and observation data is accessible.

Submissions questioned why the draft plan only considered the Cambrian Limestone Aquifer (CLA). It was suggested that the draft plan should take into account every accessible source of water within the plan area and that the Georgina and Wiso Basins are not related hydro-geologically. It was also argued that the water monitoring data that informed the draft plan could be inadequate for the size of the resource. It was suggested there were several deficiencies in understanding the aquifer dynamics and the cultural and environmental values in that region, particularly the western part of the Wiso water management zone (Top Springs).

Some submissions also stated that the draft plan did not give sufficient attention to groundwater quality and potential risks, like saline water and effects of irrigation. Diverse climate projections and a dependence on research from 2009 were also raised. Submissions from the Katherine region also expressed worries that intense water development could worsen the current challenges being faced in the area, such as increasing temperatures, loss of wildlife and water scarcity.

#### 2.1.1. Addressing feedback

- In April 2023, reports and data from the [Strategic Regional Environment and Baseline Assessment](#) (SREBA) were released, showing that the Beetaloo region is now one of the most comprehensively researched areas in the Territory in terms of land, water, and biodiversity. The SREBA was a set of studies to gather baseline data and fill information gaps for the region, including water research which is summarised in the [Water Quality and Quantity Studies Summary Report](#). In addition, the department has also published individual technical reports for the plan's two water management zones (the [Georgina Basin](#) and [Wiso Basin](#)). Altogether, the technical reports deliver the most recent scientific knowledge of the resource, enlarging upon and, in certain cases, revising past work undertaken in the region.
- It is accepted that not publishing these technical reports ahead of the public release of the draft plan resulted in many queries and worries associated with the level of scientific understanding of the water resources. Nevertheless, the research conducted in the plan area was available to the department and informed the development of the draft Plan.
- Over the last five years, a very substantial body of relevant research has been carried out by the department, CSIRO, GeoScience Australia, the Bureau of Meteorology and more recently as part of the SREBA program, which has been used to inform the technical reports and the plan. These studies included the installation of new monitoring bores and the expansion of the groundwater monitoring program, pump tests, gamma logging programs, seismic investigations, water quality sampling, dye tracer studies, strata analyses and regional evapotranspiration studies.

The results of these studies have allowed for:

- three-dimensional mapping of the regional aquifer
  - the identification of recharge zones and processes
  - a clearer understanding of the properties of the aquifer, including inter-connectivity and flow pathways, and the development of the natural water balance.
- The plan focuses on the CLA since it provides the most accessible, extensive and highest quality water source in the area, making it the most appropriate for development. There are other water sources in the plan area aside from the CLA, however these are largely small local fractured rock aquifers with limited yield or deeper aquifers with poorer quality which are less economically feasible for development. As seen elsewhere in the Territory, localised fractured rock aquifers are generally used for stock purposes where use is limited, risk to the resource is low and management of extraction via a water licence is not required under the Act.
  - Salinity levels of the resource can vary greatly, evidenced by the results from 723 bores at various depths in the regional aquifer. These results demonstrate that the water can range from being very fresh to moderately saline, depending on the origin of the groundwater and the effect of recharge. A thorough understanding of the salinity levels will be applied to evaluate water extraction applications, which will determine the particular risks and management needed for the quality of the water from the extraction site and how it is being used. At a regional level, ongoing monitoring of the water quality at selected key sites is identified as an essential action in order to detect any changes over time.
  - The background report and technical reports both discuss the importance of climate variability and have summarised the potential impacts of climate change on the diffuse water recharge rates in the plan area. Climate predictions vary, although most models predict an increase in recharge within the plan area. While not an outcome of climate change, the plan adopts a cautious approach in using the lowest estimated recharge rate estimates provided by a range of numerical models that have been applied in the plan area.
  - The plan is only set for eight years and it allows the review of the plan in four years. This ensures that management of the resource is contemporary and informed by latest updates to climate models and resource condition, observed responses to extraction, model enhancements, further resource assessments and outcomes from implementation actions.

After considering the feedback received the department has delayed declaring the plan until after the release of the SREBA reports and relevant technical documents. The background report has incorporated essential components from the technical reports, including further details about groundwater storage volume, depth to groundwater mapping, groundwater dependent ecosystems (GDEs) including stygofauna, groundwater quality, groundwater flow paths, location and source of springs in the plan area, and quantification of groundwater contribution from the Georgina and Wiso Basins to groundwater discharge to the Roper and Flora Rivers.

## 2.2. Allocating too much water

Many submissions commented that the Estimated Sustainable Yield (ESY) was too high. Submissions stated that the ESY volume was too high compared to the present and predicted growth in the area. Submissions described the proposed ESY volume as 'vast', 'mining the resource' and asked for greater evidence that the ESY is sustainable. Some remarks noted the lack of scenario modelling of alternate ESY volumes to measure impacts and guide the selection of the ESY, particularly the effects on connected water resources. One submitter endorsed the proposed ESY as satisfactory for the science and size of the resource, noting that this needs to be reviewed regularly to make sure the plan is up to date with new information.



Submissions also suggested that the ESY should not be based on model estimates as these are highly uncertain due to the sporadic nature of the rainfall in the region and results are inconsistent with previous studies. These submissions questioned using average recharge values as there was a rare rainfall event in 1974 that leads to an overestimate of annual recharge during the 1970 to 2020 period.

Some submissions suggested that more modelling of the proposed ESY be done to determine the effect of water extraction in the plan area, and were worried licence decisions were being made before the model is recalibrated in 2024. One contributor proposed a precautionary approach that would commence with allocating a small part of the modelled ESY and gradually increasing this over a period of time (for example 20 years), utilising the mid-term review of the plan to adjust allocations.

There were some questions regarding the predicted future water consumption in the background report. Further evidence was sought to support the draft plan's claim that there is 56,000 hectares of arable land suitable for irrigation development as well as the allocations to the petroleum activity, which are greater than prior estimates. Submitters also asked if development predictions were feasible in view of the present low degree of development in the area. Additionally, they questioned whether calculations for rural stock and domestic water requirements reflect the rate of expansion of pastoral production in the region.

### 2.2.1. Addressing feedback

- The department acknowledges public concerns that the ESY is high compared to the present and predicted growth in the area, while considering that it is appropriate given the magnitude of the water resource. As a result of public feedback, the department has reduced the ESY from 262,560 ML per year to 210,000 ML per year to align with the projected water use requirements in the area.
- In arid regions like Georgina Wiso it is necessary to use aquifer storage to balance a continuous demand for water with infrequent recharge events. Relying on actual stored water is a more precautionary approach as it does not rely on highly variable recharge or uncertainties about the effects of climate change.
- The CLA is the largest groundwater resource in the Territory. While the ESY for the plan area represents a sizeable volume, it is proportional to the enormous storage volume of 740,000,000 ML and the considerable land area, 155,000 km<sup>2</sup> which is nearly 12 per cent of the Northern Territory. Relative to other arid zone water allocation plans in the Territory, the Georgina Wiso plan has the second lowest ESY on a volume per land area basis.
- Fully utilising the ESY of 210,000 ML every year for 100 years would mean that in the worst case scenario, if no recharge were to occur during the 100 year period, 97% of the stored volume remains in the system. Conversely if recharge rates continue as they have historically, with recharge exceeding the ESY, the groundwater storage volume will continue to increase.
- While improving understanding of recharge mechanisms and recalibrating the DR2 model have been identified as implementation actions in the plan any revisions to recharge rates will have negligible impact given that annual recharge represents less than 0.09% of groundwater storage.
- When determining the ESY for a water resource it is not only the volume of water which is important but also the location of extraction. Because resource hydrogeological characteristics are not constant across the plan area, the impact of removing a given volume of water from one location may be significantly different in another. This impact is assessed by modelling the proposed extraction volume at the stated location and assessing the impact on both the surrounding area and other groundwater users, and then making licencing decisions based on the predicted results.
- Historical data shows that, while there have been limited significant recharge events since 1974, overall the amount of stored water has been increasing since that time. A bore with the longest

records show the groundwater levels have gone up by almost 5m since 1999 while levels in another bore have increased by 4.2m since 1993. To support this, plots demonstrating the increase of stored water over time have been added to the background report.

- The ESY has been developed using the department's coupled groundwater-surface water model (DR2) that combines knowledge of hydrology, relevant regional groundwater studies, observed groundwater levels and gauged river flows. This is more comprehensive and likely to be more accurate than previous modelling techniques used in the region, especially for recharge estimates that were developed for the entire CLA extent and which depend on regional or national datasets that have not been adjusted to align with actual water levels in the plan area.
- The department will maintain regular surveillance of groundwater levels and other ongoing activities to manage the resource, which are identified in the implementation actions, and will inform the regular calibration of the model to new data.
- A key objective of water sharing is to make water available for people and development, therefore water use projections were important to consider. The plan includes consideration for a range of beneficial uses and their likely water demand:
  - stock and domestic – is currently the largest water user (although exempt from licencing), with the long history of the pastoral industry as a major land user in the plan area
  - petroleum activity – reflects more up to date estimates from KPMG forecasts in 2018, reflecting recent exploration results. It is noted that the petroleum industry's share of the ESY is less than four percent and half the allocation for current stock and domestic use
  - mining activity – some mining exploration is occurring in the area and there is an appropriate allocation to facilitate future mining development
  - agricultural – receives the largest water allocation as an industry with significant development potential in the region, supported by soil and land suitability assessments for irrigated agriculture in the [Dunmarra Area](#) and [Northern Barkly Region](#).

After considering the public feedback, the department has decreased the ESY to 210,000 ML per year to reflect projected water use requirements. It has also incorporated the outcome of the modelled projections for the determination of the ESY in the background report. These projections demonstrate the relative impact that each extraction scenario has on the overall increase in groundwater storage from 1970 to 2022 for a number of locations within each management zone. Further detail was also provided to highlight that the impact of extraction for each scenario on discharge from the CLA to the Roper River and Flora River was almost imperceptible.

## 2.3. Insufficient consultation

Many submissions criticised the department for failing to properly consult through a water advisory committee, or with Traditional Owners and community groups, when creating the plan. Submitting parties were disappointed that the planning process did not provide the opportunity for community input and were further critical of the lack of communication with those who will be most impacted by the plan.

It was claimed the consultation process violated the National Water Initiative (NWI) guidelines, with Aboriginal land councils arguing that Traditional Owners should be allowed to give informed consent, not just be consulted. Moreover, more effort should be made to explain the complex details of the draft plan in a way that Aboriginal people can understand and provide informed input.

Several submissions noted that the development of an Aboriginal reference group is necessary and that, if it is done correctly, the group could be involved in supervising the implementation of the plan on a long-term basis.

Several submission argued that the draft proposal disregards the requirements of Aboriginal people regarding water access and control (including the cultural, spiritual, and customary aims and methods; honouring traditional knowledge; and taking into account the likelihood of Native Title entitlements).

Many submitters were displeased with the timing of the draft plan - it was released close to the end of the year and had a limited four-week consultation period, making it hard for people to respond due to competing commitments. Land councils were also dissatisfied with the time available to respond to the Georgina Wiso Aboriginal Water Reserve consultation report, requesting additional time to provide advice on the eligible land in the plan area.

### 2.3.1. Addressing feedback

- While the department acknowledges there was limited community participation in the development of the draft plan, the plan was informed by comprehensive and detailed water assessments, baseline studies of health, and environmental values of the region. When compared to not having a plan, the plan provides more protection and ensures that water licence decisions take into account the extensive scientific knowledge supporting the plan.
- Current water use in the plan area is very limited and mostly for livestock and domestic requirements. Unlike other plans in the Northern Territory, the draft plan has been prepared before any major licensed use has taken place and provides a transparent and informed basis for future decisions regarding water licensing.
- During the implementation of the plan, advice and feedback will be sought and incorporated into the review of the plan which is due within five years of the plan being declared, or earlier if the actual volume of water taken under water licences exceeds provisions in the plan.
- The implementation actions identify the formation of an Aboriginal reference group (ARG) to provide input regarding the implementation of the plan and its mid-term review. This will provide the mechanism for Aboriginal stakeholders to contribute their views and perspectives as development occurs in the region across the next eight years.
- The draft plan was made available to the public in order to receive opinions and comments before it was declared. Consulting widely with different groups of people helps ensure that their various perspectives are incorporated into the plan before it is finalised.

## 2.4. Protecting environmental values

Submissions expressed that the plan should indicate how much water could be taken from an aquifer without endangering the environment it supports. However, the draft plan does not show which environmental values could be affected or how they will be kept safe. The draft plan only suggests that these studies should be done once the plan is declared and licenses begin to be issued.

Consistent comments were that the draft plan does not take into consideration the connected environmental values outside of the plan's boundary, and did not demonstrate that the plan will guard ecological values. Submitters also disagreed with the view that there will be minimum effects on the groundwater flow to the Tindall Limestone Aquifer because they said that this was not properly supported or understood.

Some submissions argued that the draft plan fails to show it will not cause severe or lasting damage to the Flora River, Roper River and Elsey Creek and that this is not in line with the Northern Territory *Environment Protection Act 2019*. A number of submissions note the lack of evaluation of the effects on groundwater level and spring flows and claim potential for extraction to cause water to move in the wrong direction. The plan should also contain rules for when environmental impacts caused by water allocation need to be assessed, or when impacts become unacceptable and trigger protective action.

Some submissions stated that the plan's assertion that no evapotranspiration occurs from the CLA, and the lack of groundwater dependent ecosystems (GDEs) and groundwater discharge in the plan area, are likely due to an absence of research rather than a lack of these features. Submissions mentioned that specialists believe that the long-standing presence and use of waterholes in the southern Georgina Basin even during dry spells is a clear sign of reliance on groundwater. The water needs for stygofauna and potential effects of groundwater removal must be taken into account, with consideration of the role stygofauna plays in upholding groundwater quality.

### 2.4.1. Addressing feedback

- The Beetaloo sub-Basin portion of the plan area has now been comprehensively studied, in terms of water, land and biodiversity assets, and the SREBA water investigations included the full extent of the CLA within the plan area. The Beetaloo [Strategic Regional Environmental and Baseline Assessment](#) reports provide a high level of confidence in the relationship between water and environmental values in the region.
- Ecological values associated with wetland systems in the Barkly Tableland, most notably their importance for waterbirds, have been extensively documented and the major wetlands are recognised as [Sites of Conservation Significance](#).
- It is important to recognise that most water-dependent ecosystems within the plan area have no, or very limited, interdependency with the Cambrian Limestone Aquifer, which is the only water resource that the plan manages. While it is important that the environmental values of these systems are protected, this will mostly occur through other mechanisms.
- The plan protect environmental values that are linked to the CLA. Ecological values are primarily related to springs, discharge zones and GDEs in areas where the depth of CLA water is shallow. Additional depth to groundwater mapping undertaken as part of the SREBA studies have been incorporated into the background report, which verifies that the groundwater associated with the plan area is predominantly too deep to be accessed by GDEs.
- The SREBA studies provide further insight into springs within and adjacent to the plan area. Groundwater discharge from a number of springs on the northeast boundary of the Georgina Basin, within an area collectively known as Hot Springs Valley, has been verified by chemical analyses as not being sourced from the CLA. Springs to the west of the Wiso Plan are likely sourced from shallow groundwater in the CLA water, however discharge is ephemeral and very low flow, and this is believed not to be part of the main Flora River flowpath.
- The SREBA reports for both terrestrial and aquatic ecosystems confirm that the Flora and Roper River discharge area, located down gradient of the Georgina and Wiso Basins, have very high environmental values. The department is conscious of the value of safeguarding and managing these values, which will primarily be achieved through the Mataranka Tindall and Flora water allocation plans.
- Examinations conducted by CSIRO as a part of the GBA and GISERA programs, in addition to the more recent SREBA studies, confirm that the groundwater discharged to the Flora and Roper Rivers mostly originates from recharge into the CLA within a radius of around 100 km from the point of discharge. While water flow from the Georgina Basin to the Roper River does occur, it contributes a small fraction (<5%) of the total discharge, with even lower values for the contribution from the Wiso Basin to the Flora River discharge (<2%).
- Five different scenarios were modelled to evaluate the potential influence of extraction on groundwater levels within the plan area and the water flow to the Roper and Flora River. These have subsequently been included in the background study. All the scenarios were simulated from 1970 to 2022, and showed that the reduction in flow to the Roper and Flora Rivers over the modelling period was almost indiscernible.

- The SREBA stygofauna study indicates that the frequency and species diversity of stygofauna in the CLA within plan area is low in comparison to the shallow groundwater of the Tindall Limestone. The levels of groundwater extraction permitted in the plan are high unlikely to significantly impact stygofauna communities within the plan area.
- The risk to groundwater quantity and quality in the CLA from onshore gas activities, notably hydraulic fracturing, have been extensively examined by the inquiry, [GBA Program](#), and the [SREBA](#). These risks were assessed to be low, and can be effectively mitigated by the rigorous regulatory regime established for the onshore gas industry. There are also stringent requirements for monitoring groundwater levels and quality in the vicinity of gas wells.

## 2.5. Protecting cultural values

Submissions expressed that the plan fails to give sufficient consideration to Indigenous cultural values and their water needs. They highlighted that it is the responsibility of the department and license holders to identify and assess Aboriginal cultural values when the final plan is declared, rather than allowing them to take the lead as proposed. Another suggested that the plan should be composed of distinct aims for cultural values and acknowledge traditional Aboriginal knowledge sources and that the plan should have processes that identify cultural values before water licences are granted, and that the land council and the Traditional owners should be part of the cultural value assessments.

A submission proposed that the cultural values section of the background report should mention that the Northern Territory has already undergone a decrease in its traditional ecological and cultural knowledge due to industrialisation, and that this is likely to go on at a swift rate in the upcoming years.

Additionally, submissions noted that the implementation actions section of the report does not appear to include any surveillance of the effects of taking water on Indigenous culture or traditions.

### 2.5.1. Addressing feedback

- The plan recognises the importance of identifying cultural values associated with water and measures to safeguard these in a culturally appropriate way. Improved understanding of cultural values and monitoring of cultural sites throughout the life of the plan will ensure that safeguards appropriate to the Traditional Owners and custodians, and the environmental values of the district, are implemented.
- The plan permits the extraction of only a tiny proportion of the stored volume in the CLA as a precautionary approach to safeguarding environmental and cultural water values. Moving forward, the Aboriginal reference group will be engaged to provide advice on the implementation of the plan and its mid-term assessment.
- Even though this approach is dissimilar to other plans, there is enough time to carry out this work within the eight years of the plan with minimal risk to the resource and associated values given the spatial extent of the regional aquifer, the rate of increasing storage relative to the ESY and the fact that the current level of usage is very low.
- In the meantime, significant water licence decisions will consider licence conditions that require proponents to work with Traditional Owners to ensure cultural assets are appropriately protected.
- It is acknowledged that cultural values are not currently reflected adequately in the plan. The work to define cultural sites that need to be protected has not yet been completed, however once these sites are defined there remain mechanisms for their protection through policy and guidance considered in licence decision-making processes and through the review of the plan.

- Work has also started on changing the way the information is presented and results of this are contained in some of the first productions created in language to assist Aboriginal people to understand how we manage water under existing legislation ([available here](#)).

## 2.6. Structure and content

Submissions were critical of the lack of detail in the plan documents, compared to the information included in previous water allocation plans in the Territory. The main concerns dealt with the management regulations mentioned in the plan, such as the absence of explicit directions regarding the application of licence conditions and staging, the management of cumulative depletion from extraction, and the dangers of contamination to the resource.

Additionally, it was proposed that the water management zones should be broken down further to include allocations for surface water resources, as well as implementation of rules to prevent water extraction by a small number of license holders and intensive farmland use, such as cotton farming. Some submissions proposed the plan should also include contingency measures for potential changes in climate, groundwater levels, contamination, or development pressure, while preserving the plan boundary flows and identifying triggers. Water trades should be publicly advertised, should not allow water to be traded to the beneficial use of petroleum activity and should restrict trade in areas close to high value GDEs.

Some submissions claimed the draft plan breaches National Water Initiative (NWI) guidelines in relation to water planning, risking significant environmental and Indigenous water values. This related to consulting with stakeholders and incorporating 'indigenous social, spiritual and customary objectives and strategies for achieving these objectives'

### 2.6.1. Addressing feedback

- The plan has been structured to be consistent with the regulatory requirements of a water allocation plan as required by the Act. The Act requires that:
  - estimated sustainable yield is determined
  - water within estimated sustainable yield is allocated to beneficial uses and cannot be exceeded
  - eligible land is designated for the allocation to the Aboriginal water reserve
  - water granted under a licence granted is able to be traded.
- Part of the improvement process to the plan documents (and all future water allocation plans) is to not restate things that are said in policy or guidelines, as over time there is the potential for contradiction, which accounts for much of the removal of detail compared to previous plan documents.
- The content and process for water allocation planning are consistent with the NWI guidelines. The department engaged a consultant to review the NTG's implementation of the NWI in relation to water planning, who concluded that NTG's water planning processes are consistent with the provisions of the NWI and subsequent guideline documents.
- The plan would be inconsistent with the NWI if the suggestion of excluding certain crops was incorporated. It is up to applicants to identify the purpose of their water use, and the plan does not allow for the exclusion of certain types of crops or activities.
- The plan puts a ceiling of 10,000 ML/year on water use for petroleum-related activities; in other words, once that amount has been fully allocated, no trading to provide additional water for petroleum activities will be permitted. The [trading licensed water entitlements policy](#) outlines the procedures and processes for trading, with details of trades visible on the [Water Trade Register](#).



- Information on the process of obtaining and assessing a water extraction licence can be found in the [water extraction licence applications policy](#). This policy outlines how cumulative effects are taken into account and how staged licence conditions are set, with details of implementation defined in the [staged water extraction licence guidelines](#). All water extraction licences are publically available via the [Water Extraction Licence Register](#) or the [Water Licensing Portal](#).
- Outside of the water regulatory framework, the management of contamination risks associated with any beneficial use is also addressed through industry-specific regulation and management plans. Petroleum activities are managed and regulated under the [Petroleum Regulations 2020](#) in accordance with the [Code of Practice for Onshore Petroleum Activities in the Northern Territory](#).
- The water management areas specified in the plan align with major physical features that have an effect on groundwater movement. Surface water is important for ecological and environmental reasons, but in Arid Zones surface water is available infrequently for short periods and it is not a dependable source of water for human consumption, so no allocations are made for this purpose.

After considering the feedback received the department has accelerated the completion of the NWI review to ensure that water planning in the Territory is fit for purpose. The department has added significant details on risk and adaptive management strategies in the implementation actions to more comprehensively address the water resource risks in the plan documents.

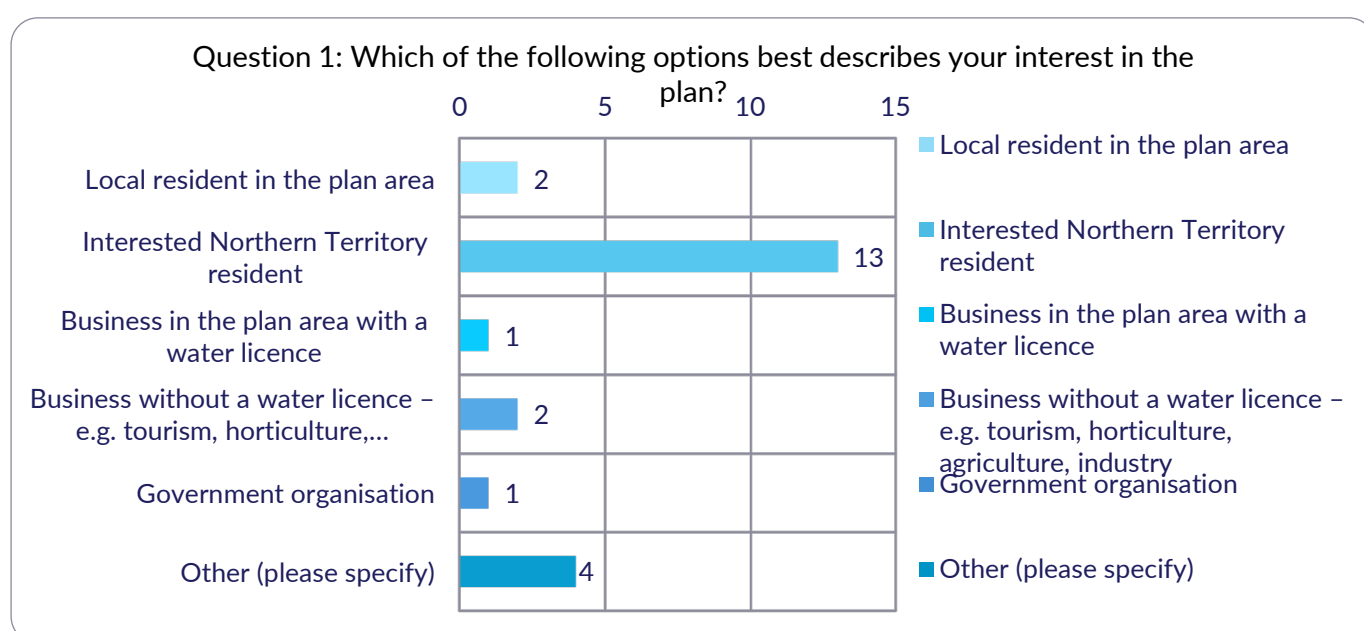
The consultation process further highlighted the gap between community expectations of water management and the legislative responsibilities of the Act. As described in the [Territory Water Plan](#), the NTG will develop new legislation to replace the Act and provide a regulatory regime that supports sustainable development through contemporary water resource management.

### 3. Have Your Say Survey

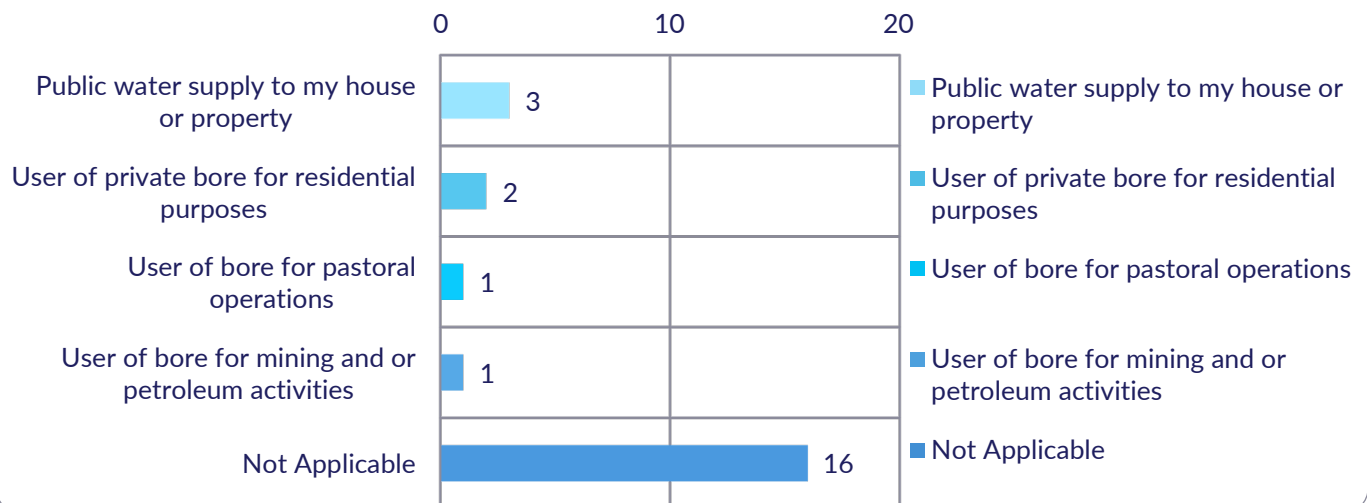
An overview of the 23 survey responses is provided below. Responses to the survey were also incorporated into the summaries of feedback themes above.

#### 3.1. Demographic responses

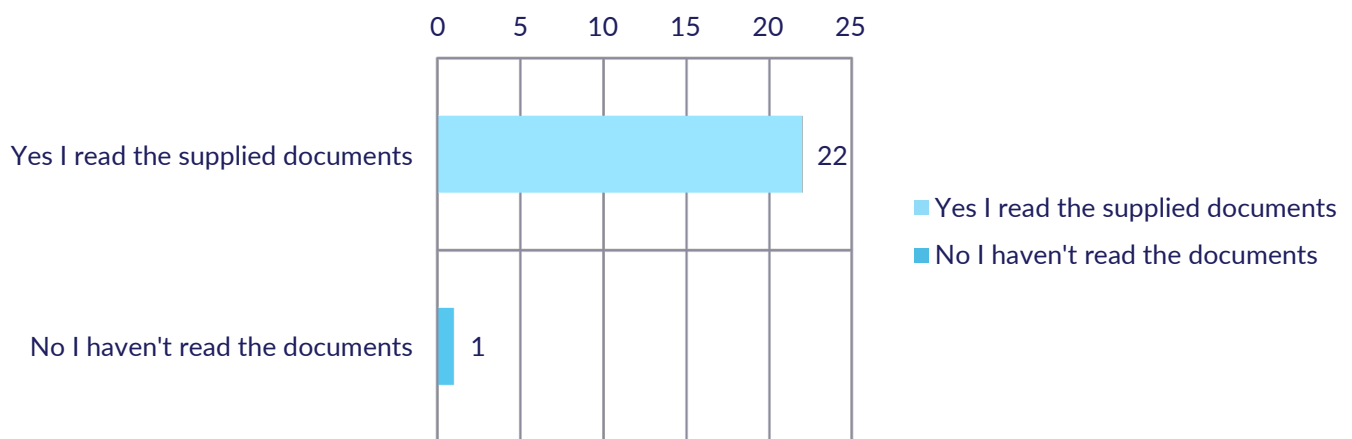
The Have Your Say survey received 23 responses. Response to the survey questions are provided in the following:



Question 2: Which of the following best describes how you access water in the plan area?



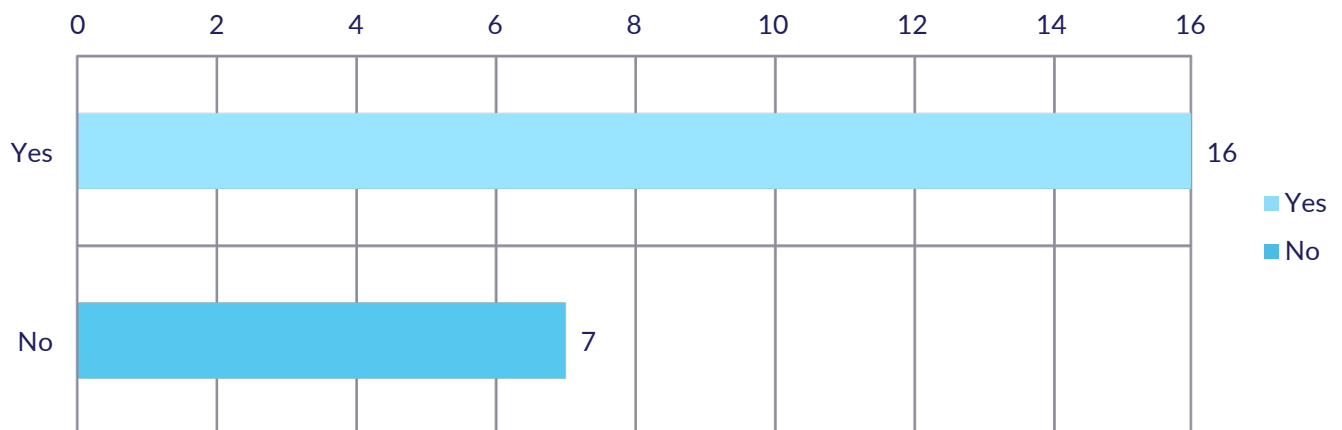
Question 3: I can confirm that I have read the background report, water allocation plan and implementation actions



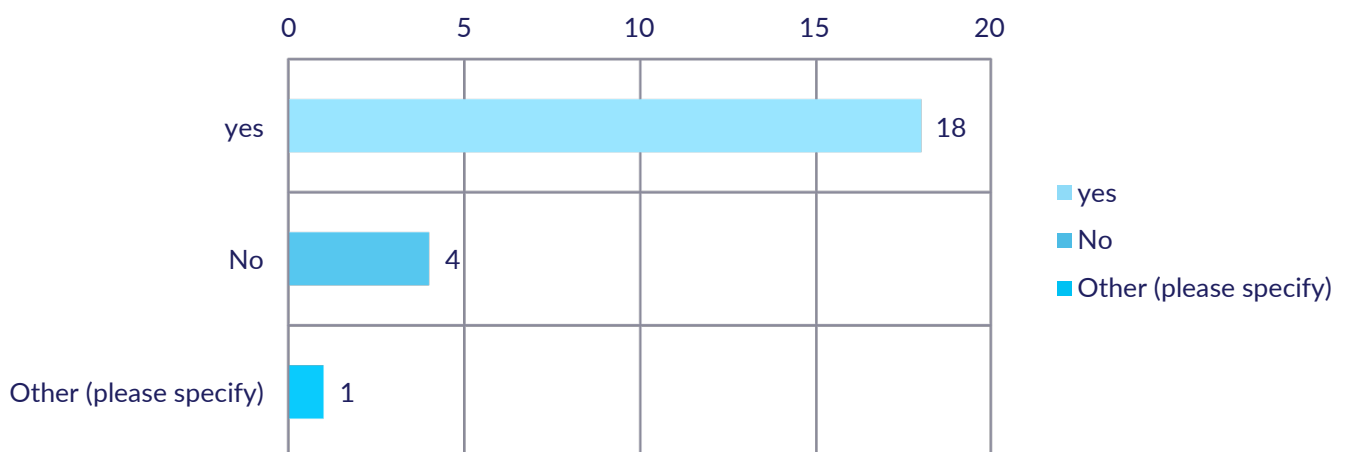


## 3.2. Feedback about the plan

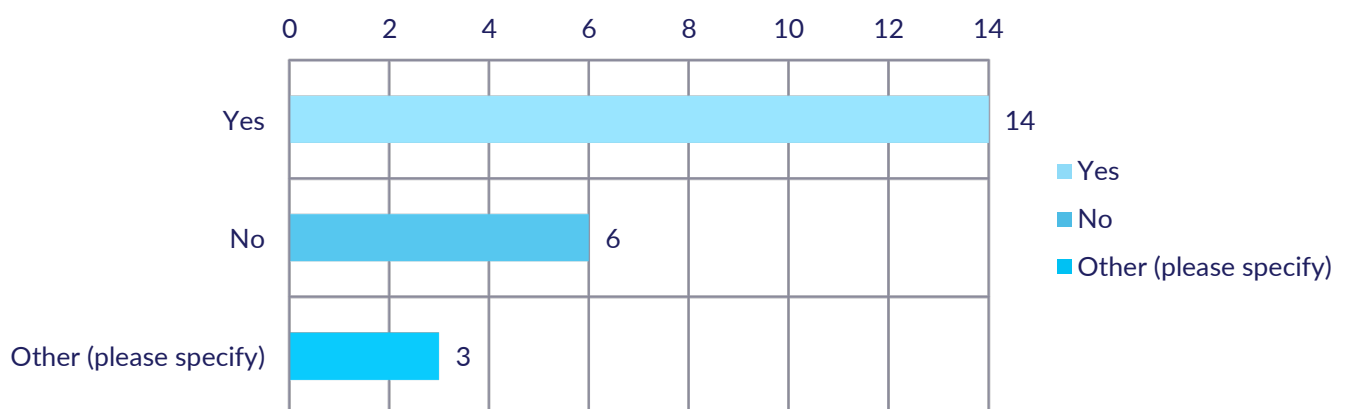
Question 4: Do you find the background report informative?



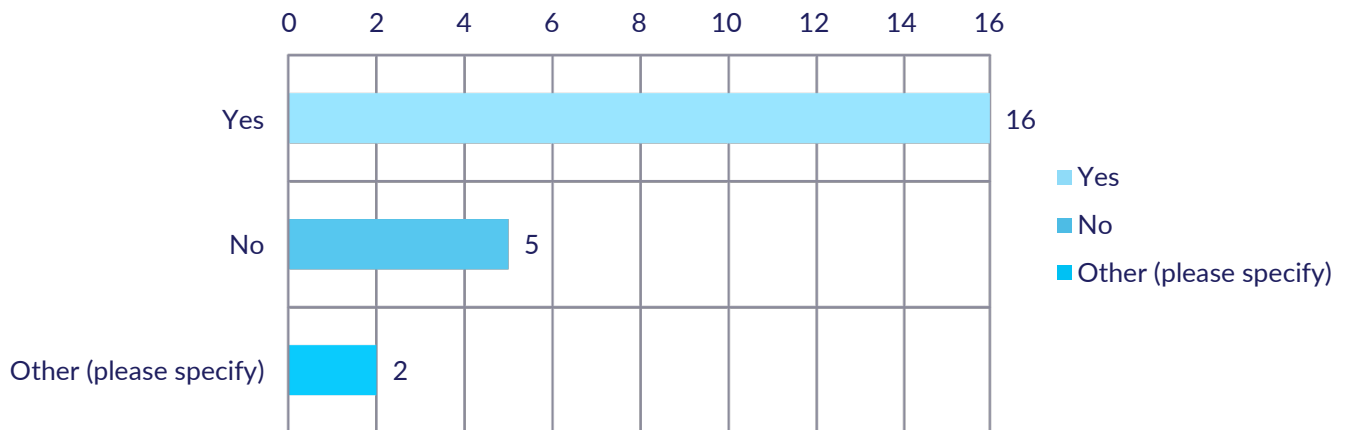
Question 5: Did you find the background report easy to understand?



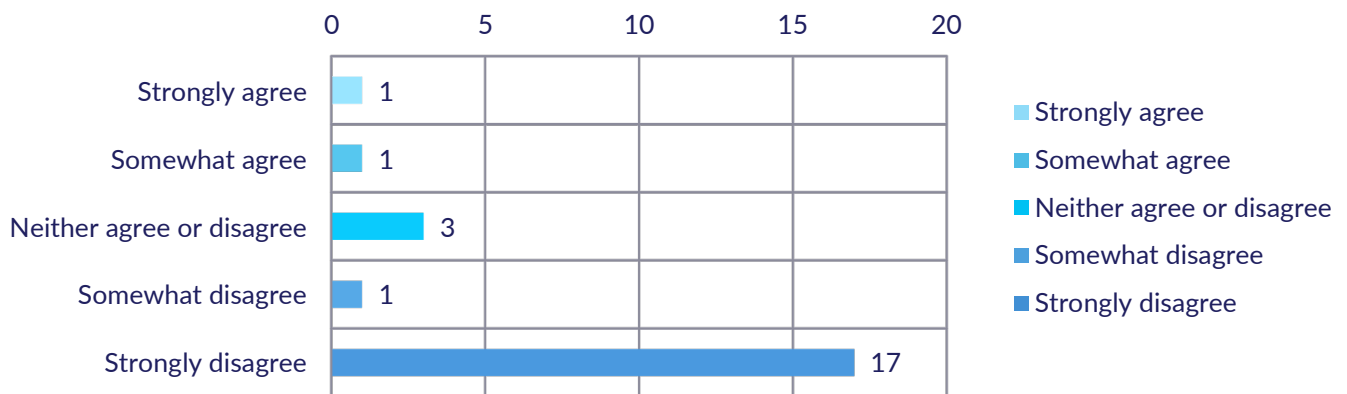
Question 6: Do you find the water allocation plan informative?



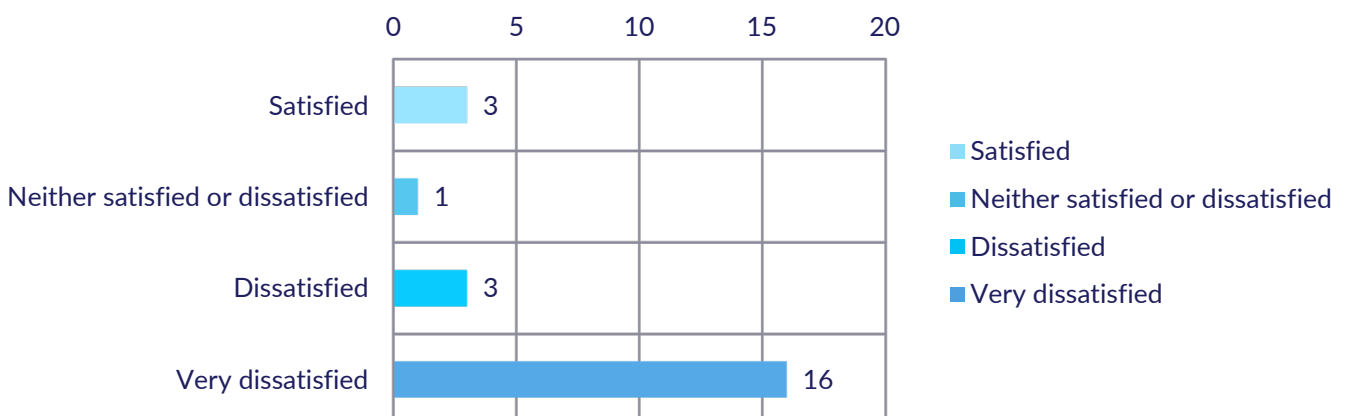
Question 7: Do you find the water allocation plan easy to understand?



Question 8: How much do you agree with the following statement? The water allocation plan's sharing of water is consistent with how I would expect the resource to be managed



Question 9: How satisfied are you with the estimated sustainable yields and allocations to beneficial uses?



Question 10: How much do you agree with the following statement? The implementation actions outlined are consistent with how I would expect the resource to be managed

