Audit report of the 2021–22 annual performance statement

Department of Agriculture, Water and the Environment

Auditor-General for Australia

Australian National Audit Office

INDEPENDENT AUDITOR'S REPORT

To the Minister for Finance

Qualified Conclusion

I have undertaken a reasonable assurance engagement of the attached 2021–22 Annual Performance Statements of the Department of Agriculture, Water and the Environment ('the Entity').

In my opinion, except for the effects and possible effects of the matters described in the Bases for Qualified Conclusion section of my report, the attached 2021–22 annual performance statements of the Entity are prepared, in all material respects, in accordance with the requirements of Division 3 of Part 2-3 of the *Public, Governance, Performance and Accountability Act 2013* (the Act), including accurately presenting the Entity's performance in achieving its purposes in the reporting period.

Audit criteria

In order to assess whether the Entity's annual performance statements complied with Division 3 of Part 2-3 of the Act, including providing information about the Entity's performance in achieving its purposes, I applied the following criteria:

- whether the annual performance statements complied with Division 2 of Part 2-3 of the *Public, Governance, Performance and Accountability Rule 2014* (the Rule);
- whether the performance measures and targets in the annual performance statements are appropriate as required by Division 1 of Part 2-3 of the Rule to accurately measure the entity's performance in achieving its purposes in the reporting period; and
- whether the results reported against the performance measures in the annual performance statements and accompanying supporting analysis are accurate and complete, and supported by appropriate records.

Bases for Qualified Conclusion

Agriculture Objective

I have assessed that the information in the Agriculture Objective of the Entity's 2021–22 annual performance statements does not enable the user to form an accurate assessment of the Entity's performance to meet this objective, which is to 'assist industry to accelerate growth towards a $100 billion agricultural sector by 2030'. This is due to material misstatements or an inability to obtain sufficient appropriate audit evidence in seven out of the 10 performance measures in the Agriculture Objective as described below:

Material misstatement

- AG-09: A material misstatement exists because the reported result of 'partially achieved' is not correct as the data used by the Entity indicates that new farm capital investment has not increased, which was the target determined by the Entity for this measure.

Inability to obtain sufficient appropriate audit evidence

- AG-03: The method of self-assessing the reported result for the performance measure is not verifiable and the result is not based on 2021–22 activities.
- AG-04, AG-05, AG-06, AG-07, AG-08: The method and data sources used to calculate the reported results for the performance measures are not reliable or verifiable.

While not providing enough information by themselves to enable the user to form an accurate assessment of the Entity's performance to meet the Agriculture Objective, performance measures AG-01, AG-02 and AG-PBS-03-02 did not give rise to a basis for qualified conclusion.

Environment and Heritage Objective

EN-07-1 and EN-07-2 World and National Heritage Listed Properties

I was unable to obtain sufficient appropriate evidence that the reported results for the performance measures relating to World and National Heritage listed properties (EN-07-1 and EN-07-2) were accurate.

The qualification of these performance measures does not prevent a user from forming an accurate assessment of the Entity's performance to meet the Environment and Heritage Objective.

Biosecurity Objective

BI-04 Increased responsiveness to post-border protections

I was unable to substantiate the accuracy of reported results for the performance measure relating to the Entity's responsiveness to post-border detections (BI-04). The Entity was unable to provide sufficient appropriate evidence to demonstrate that the methodology was suitable to support the reported result that an increase in responsiveness to post-border detections had been 'partially achieved'.

The qualification of this performance measure does not prevent a user from forming an accurate assessment of the Entity's performance to meet the Biosecurity Objective.

Accountable Authority's responsibilities

As the Accountable Authority of the Entity, the Secretary is responsible under the Act for:

- the preparation and fair presentation of annual performance statements that accurately reflect the Entity's performance and comply with the Act and Rule;
- keeping records about the Entity's performance in accordance with requirements prescribed by the Act; and
- establishing such internal controls that the Accountable Authority determines is necessary to enable the preparation and presentation of the annual performance statements that are free from material misstatement, whether due to fraud or error.

Auditor-General's responsibilities

My responsibility is to conduct a reasonable assurance engagement to express an independent opinion on the Entity's annual performance statements.

I conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which include the relevant Standard on Assurance Engagements (ASAE) 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information* issued by the Auditing and Assurance Standards Board. In accordance with this standard, I plan and perform my procedures to obtain reasonable assurance about whether the performance measures and accompanying results presented in the annual performance statements of the Entity accurately reflect the Entity's performance in achieving its purpose and comply, in all material respects, with the Act and Rule.

The nature, timing and extent of audit procedures depend on my judgment, including the assessment of the risks of material misstatement, whether due to fraud or error, in the annual performance statements. In making these risk assessments, I obtain an understanding of internal control relevant to the preparation of the annual performance statements in order to design procedures that are appropriate in the circumstances.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my qualified conclusion.

Independence and quality control

I have complied with the independence and other relevant ethical requirements relating to assurance engagements, and applied Auditing Standard ASQC 1 *Quality Control for Firms that Perform Audits and Reviews of Financial Reports and Other Financial Information, Other Assurance Engagements and Related Services Engagement* in undertaking this assurance engagement.

Inherent limitations

Because of inherent limitations of an assurance engagement, it is possible that fraud, error or non-compliance may occur and not be detected. An assurance engagement is not designed to detect all instances of non-compliance of the annual performance statements with the Act and the Rule as it is not performed continuously throughout the period and the assurance procedures performed are undertaken on a test basis. The reasonable assurance conclusion expressed in this report has been formed on the above basis.

Australian National Audit Office

Grant Hehir

Auditor-General

Canberra

19 October 2022

Appendix A — Referencing for Measures in the Bases for Qualified Conclusion paragraph

In preparing the *Bases for Qualified Conclusion* I have used the following referencing system.

Purpose: In 2021–22 our purpose was enhancing Australia's agriculture, environment, heritage and water resources through regulation and partnership.			
Agriculture Objective: Assist industry to accelerate growth towards a $100 billion agricultural sector by 2030.			
Reference	*Key Activity*	*Performance Measure*	*Target*
AG-03	Regulate and support agricultural sector productivity and sustainability through policy and innovation.	Commonwealth meets its obligations under the National Drought Agreement through satisfactory delivery of all Commonwealth and shared roles and responsibilities under the Agreement.	The Commonwealth is rated at least 'good progress' in the National Drought Agreement annual report for areas it is responsible for under the agreement.
AG-04	Maintain, expand and improve agricultural export markets.	Value of potential trade achieved through new and improved market access arrangements.	Baseline established, based on a 3-year rolling target.
AG-05	Maintain, expand and improve agricultural export markets.	Value of potential exports facilitated through the prevention and/or resolution of trade disruptions.	Baseline established, based on a 3-year rolling target.
AG-06	Streamline export regulations and compliance arrangements.	Decrease in the number of point of entry failures from agricultural exports.	Establish baseline.
AG-07	Streamline export regulations and compliance arrangements.	Reduction of $21.4 million in the department's regulatory costs for agricultural exporters by 2024.	Reduction of $12.7 million in cost recovery expense in 2021-22.
AG-08	Streamline export regulations and compliance arrangements.	Reduction in costs of compliance burden for agricultural exporters.	Establish baseline.

Purpose: In 2021–22 our purpose was enhancing Australia's agriculture, environment, heritage and water resources through regulation and partnership.			
Agriculture Objective: Assist industry to accelerate growth towards a $100 billion agricultural sector by 2030.			
Reference	*Key Activity*	*Performance Measure*	*Target*
AG-09	Support Australian farmers.	Proportion of farm businesses making capital investments.	There is an increase in the % of farm businesses making new capital investments (based on a 5-year moving average).
Environment Objective: Improve stewardship and sustainable management of Australia's environment and unique heritage.			
EN-07-01	Protect and sustainably manage Australia's natural, historic and indigenous heritage places for future generations.	Percentage of World Heritage listed properties with management plans that are consistent with the principles in the EPBC Regulations.	100%.
EN-07-02	Protect and sustainably manage Australia's natural, historic and indigenous heritage places for future generations.	Percentage of National Heritage listed properties with management plans that are consistent with the principles in the EPBC Regulations.	100%.
Biosecurity Objective: Work with our partners to lower biosecurity risks to Australian agriculture, the environment and our way of life.			
BI-04	Regulate and collaborate to assure compliance with biosecurity requirements.	Increased responsiveness to post-border detections.	Incidents are managed in a timely way to decrease the risk to the environment.

Annual Report
2021–22

Part 1:

Annual performance statements

Introduction

Accountable authority statement

I, as the accountable authority for the Department of Agriculture, Water and the Environment in 2021–22, present the 2021–22 annual performance statements for the Department of Agriculture, Water and the Environment, which have been prepared for paragraph 39(1)(a) of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act).

In my opinion, these performance statements accurately present the department's performance for the year ending 30 June 2022 and comply with subsection 39(2) of the PGPA Act except for the effect of those matters described in the performance statements below.

The Australian National Audit Office (ANAO) is undertaking an audit of the 2021-22 performance statements that is yet to be finalised. I am aware that the ANAO may also form a view that the performance statements for certain measures do not meet the requirements of the PGPA Act.

The department will continue its work to improve its performance reporting, including through consideration of the feedback from the ANAO.

Andrew Metcalfe AO
Secretary of the Department of Agriculture, Water and the Environment, 2021–22
Secretary of the Department of Agriculture, Fisheries and Forestry, 2022–

16 September 2022

Our purpose, objectives and programs

In 2021–22 our purpose was enhancing Australia's agriculture, environment, heritage and water resources through regulation and partnership.

Our purpose and objectives should be read together, consistent with the PGPA Act, PGPA Rule and the Department of Finance resource management guides. Together with our values and principles, our objectives set the context and foundation for our key activities and how we delivered them. They provide a clear statement about who we were and what we did.

Five of our objectives aligned with the outcomes in the *Portfolio Budget Statements 2021–22* (PBS 2021–22). Table 1 shows the alignment of our objectives and our outcomes. Table 2 lists the programs that contributed to our PBS 2021–22 outcomes.

Table 1 Department outcomes and objectives, 2021–22

PBS 2021–22 outcome	*Corporate plan 2021–22* objective
Outcome 1 Conserve, protect and sustainably manage Australia's biodiversity, ecosystems, environment and heritage through research, information management, supporting natural resource management, establishing and managing Commonwealth protected areas, and reducing and regulating the use of pollutants and hazardous substances, and coordination of climate change adaptation strategy and climate change science activities.	**Environment and heritage** Improve stewardship and sustainable management of Australia's environment and unique heritage.
Outcome 2 Advance Australia's strategic, scientific, environmental and economic interests in the Antarctic region by protecting, administering and researching the region.	**Antarctic** Advance Australia's strategic, scientific and environmental interests in the Antarctic and the Southern Ocean.
Outcome 3 More sustainable, productive, internationally competitive and profitable Australian agricultural, food and fibre industries through policies and initiatives that promote better resource management practices, innovation, self-reliance and improved access to international markets.	**Agriculture** Assist industry to accelerate growth toward a $100 billion agricultural sector by 2030.
Outcome 4 Safeguard Australia's animal and plant health status to maintain overseas markets and protect the economy and environment from the impact of exotic pests and diseases, through risk assessment, inspection and certification, and the implementation of emergency response arrangements for Australian agricultural, food and fibre industries.	**Biosecurity** Work with our partners to lower biosecurity risks to Australian agriculture, the environment and our way of life.
Outcome 5 Improve the health of rivers and freshwater ecosystems and water use efficiency through implementing water reforms, and ensuring enhanced sustainability, efficiency and productivity in the management and use of water resources.	**Water resources** Improve the sustainable management of Australia's water resources for agriculture, the environment and communities. **a**

a The water resources objective also aligns to Outcome 1.

Table 2 Programs by PBS 2021–22 outcome

PBS 2021–22 outcome	Program
Outcome 1 Conserve, protect and sustainably manage Australia's biodiversity, ecosystems, environment and heritage through research, information management, supporting natural resource management, establishing and managing Commonwealth protected areas, and reducing and regulating the use of pollutants and hazardous substances, and coordination of climate change adaptation strategy and climate change science activities.	1.1 Sustainable management of natural resources and the environment 1.2 Environmental information and research 1.3 Commonwealth environmental water **a** 1.4 Conservation of Australia's heritage and environment 1.5 Environmental regulation 1.6 Management of hazardous wastes, substances and pollutants
Outcome 2 Advance Australia's strategic, scientific, environmental and economic interests in the Antarctic region by protecting, administering and researching the region.	2.1 Antarctica: science, policy and presence
Outcome 3 More sustainable, productive, internationally competitive and profitable Australian agricultural, food and fibre industries through policies and initiatives that promote better resource management practices, innovation, self-reliance and improved access to international markets.	3.2 Sustainable management – natural resources 3.3 Forestry industry 3.4 Fishing industry 3.5 Horticulture industry 3.6 Wool industry 3.7 Grains industry 3.8 Dairy industry 3.9 Meat and livestock industry 3.10 Agricultural resources 3.11 Drought programs 3.12 Rural programs 3.13 International market access
Outcome 4 Safeguard Australia's animal and plant health status to maintain overseas markets and protect the economy and environment from the impact of exotic pests and diseases, through risk assessment, inspection and certification, and the implementation of emergency response arrangements for Australian agricultural, food and fibre industries.	4.1 Biosecurity and export services 4.2 Plant and animal health
Outcome 5 Improve the health of rivers and freshwater ecosystems and water use efficiency through implementing water reforms, and ensuring enhanced sustainability, efficiency and productivity in the management and use of water resources.	5.1 Water reform

a This program also aligns to Outcome 5.

Our performance measures

Changes to performance measures

Our *Corporate plan 2021–22* provided performance measures for the reporting period. The Australian National Audit Office (ANAO) commenced an audit of our annual performance statements during the year, based on an assessment of our February 2022 *Portfolio Additional Estimates Statements* and *Corporate plan 2021–22*.

Based on the interim findings of the audit, we reviewed the performance measures in our corporate plan and made the following changes for the purpose of preparing the performance statements:

- replaced the strategic priorities with our performance criteria, which we renamed as key activities to align with the PGPA Act
- updated key activities, measures and targets to enable better understanding of our role and how we impact other government departments, industry and the community
- removed measures and/or targets that did not align directly to our purpose.

We did not publish an update to the corporate plan as the changes were finalised at the end of the reporting period. Table 3 indicates where there is variation from the performance measures and targets in the corporate plan.

Table 3 Variation from our *Corporate plan 2021–22*

Measure number	Measure description	Corporate plan page	Variation from corporate plan
AG-01	Greater growth in average agriculture, forestry and fishing sector productivity for the past 10 years compared to average annual market sector productivity growth over the same period.	26	yes **a**
AG-02	Equal or reduced cost of levy collection processes compared with levies disbursed.	26	no
AG-03	Commonwealth meets its obligations under the National Drought Agreement through satisfactory delivery of all Commonwealth and shared roles and responsibilities under the Agreement.	26	yes **a**
AG-04	Value of potential trade achieved through new and improved market access arrangements.	27	yes **a**
AG-05	Value of potential exports facilitated through the prevention and/or resolution of trade disruptions.	27	yes **a**
AG-06	Decrease in number of point-of-entry failures from agricultural exports.	27	yes **a**
AG-07	Reduction of $21.4 million in the department's regulatory costs for agricultural exporters by 2024.	27	no

Table 3 Variation from our *Corporate plan 2021–22* (continued)

Measure number	Measure description	Corporate plan page	Variation from corporate plan
AG-08	Reduction in costs of compliance burden for agricultural exporters.	28	no
AG-09	Proportion of farm businesses making capital investments.	28	yes **a**
EN-01	Establish a revised baseline of: • national average of habitat condition assessment scores • national average of National Connectivity Index scores.	29	yes **a**
EN-02	Reporting on Australia's responsibilities under the Ramsar Convention is informed by the states working collaboratively with the department to provide completed updates for Ramsar Information Sheets.	29	yes **b**
EN-03	Delivery of the National Soil Strategy.	30	yes **a**
EN-04	Stability or improvement in trajectory of the Threatened Species Main Index.	30	yes **a**
EN-05	Percentage of natural resource management projects that demonstrate an improvement in environmental outcomes relative to the established project baseline.	30	yes **a**
EN-06	Percentage of *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) referral, assessment and approval decisions that meet statutory time frames.	31	no
EN-07-01	Percentage of World Heritage listed properties with management plans that are consistent with the principles in the EPBC Regulations.	31	no
EN-07-02	Percentage of National Heritage listed properties with management plans that are consistent with the principles in the EPBC Regulations.	31	no
EN-08	Deliver all elements of the Oceans Leadership Package.	31	yes **a**
EN-09	Reduction in kilograms of waste per capita generated in Australia every year from 2,700 kg to 2,400 kg per person by 2030.	32	no
EN-10	The recycling rate for televisions and computers increases to 80% by 2026–27.	32	no
EN-11	Progress implementation of the National Strategy for Environmental–Economic Accounting.	32	yes **a**

Table 3 Variation from our *Corporate plan 2021–22* (continued)

Measure number	Measure description	Corporate plan page	Variation from corporate plan
EN-12	Delivery of the National Climate Resilience and Adaptation Strategy.	33	yes **b**
EN-13	Approval bilateral agreements are in place, underpinned by national environmental standards and supported by strong assurance.	32	yes **a**
BI-01-01	African swine fever: Reduction in risk of African swine fever because of biosecurity measures implemented by the department.	34	yes **a**
BI-01-02	Brown marmorated stink bug: Reduction in risk from brown marmorated stink bug because of biosecurity measures implemented by the department.	34	yes **a**
BI-01-03	Hitchhiker pests including khapra beetle: Reduction in risk from khapra beetle because of biosecurity measures implemented by the department.	34	yes **a**
BI-02	Increased public engagement with biosecurity information.	34	no
BI-03-01 BI-03-02 BI-03-03	Reduced levels of non-compliance with regulations administered by the department.	35	no
BI-04	Increased responsiveness to post border-detections.	35	no
BI-05	Biosecurity service standards are delivered.	35	no
BI-06	Number of arrangements in place with near neighbours in the Indo-Pacific region.	36	yes **a**
BI-07	Number and extent of biosecurity preparedness exercises completed.	36	no
WA-01	The Water Efficiency Labelling and Standards (WELS) scheme is improved.	37	yes **a**
WA-02	Improve national leadership of the Great Artesian Basin through delivery of approved projects in state work plans under the Improving Great Artesian Basin Drought Resilience program.	37	yes **a**
WA-03	Deliver measures agreed by Lake Eyre Basin ministers under the annual budget.	37	yes **a**
WA-04	Increase in the volume of water recovered for environmental purposes in the Murray–Darling Basin to meet Basin Plan targets.	38	yes **a**

Table 3 Variation from our *Corporate plan 2021–22* (continued)

Measure number	Measure description	Corporate plan page	Variation from corporate plan
WA-05	The application of environmental water delivers ecological benefit in accordance with priorities prescribed by the Murray–Darling Basin Plan.	38	yes **a**
WA-06	Commonwealth environmental water supports connection between the river and floodplain, and between hydrologically connected valleys in the Murray–Darling Basin, providing either maintenance or restorative services to the environment.	39	yes **a**
WA-07	Percentage of milestones under the Federation Funding Agreement – Environment relating to water reform in the Murray–Darling Basin assessed as being met.	39	yes **a**
AN-01	Increased compliance with legislation protecting Australian Antarctic Territory.	40	yes **a**
AN-02	Deliver priority Antarctic science that advances Australia's interests.	n/a	new

a The performance result for this measure provides a description of the variation from the *Corporate plan 2021–22*.
b The measure was removed from our performance framework as it did not align directly with our purpose/key activities. **EPBC** Environment Protection and Biodiversity Conservation. **n/a** not applicable.

We also reviewed the performance measures in our PBS 2021–22 based on the interim findings of the audit. The review of our performance framework highlighted that some PBS targets were covered by measures in the corporate plan. Table 4 shows how we are reporting on each PBS target.

Table 4 Reporting against the targets in our PBS 2021–22

Target number	Target description	PBS page	Location of result
AG-PBS-01	Growth in agricultural commodity exports in markets for which the department has negotiated improved market access exceeds average export growth.	45	AG-04, AG-05 **a**
AG-PBS-02	Average annual productivity growth for the past 10 years is equal to, or exceeds, average annual market sector productivity growth over the same period.	45	AG-01 **a**
AG-PBS-03-01	Levy collection processes cost no more than 1.2% of levies disbursed.	45	AG-02 **a**
AG-PBS-03-02	Inspections of levy agent records cover at least 20% of levy revenue over a 3-year rolling average.	45	AG-PBS-03-02

Table 4 Reporting against the targets in our PBS 2021–22 (continued)

Target number	Target description	PBS page	Location of result
EN-PBS-01-01	A reduction in nutrient, sediment and pesticide loads consistent with meeting targets in the Reef 2050 Water Quality Improvement Plan.	44	EN-PBS-01-01
EN-PBS-01-02	Habitat condition and connectivity within major vegetation groups improves relative to baseline.	44	EN-01 **a**
EN-PBS-02	Threatened Bird Index improves relative to 2019–20 baseline.	44	EN-04 **a**
EN-PBS-03	100% of World Heritage listed properties are managed under management plans that are consistent with the management principles in the EPBC Regulations.	44	EN-06 **a**
EN-PBS-04-01	Australian targets for Montreal Protocol.	44	EN-PBS-04-01
EN-PBS-04-02	Mixed waste plastics that are not of a single resin/ polymer type banned from export.	45	EN-PBS-04-02
EN-PBS-04-03	Whole waste tyres banned from export.	45	EN-PBS-04-03
BI-PBS-01	Performance measures are developed to assess the effectiveness of the national biosecurity system.	46	BI-01 to BI-07 **a**
BI-PBS-02	Rates of compliance with regulations administered by the department are maintained or improved.	46	BI-03-01, BI-03-02 **a**
WA-PBS-01	Number of water resource plans accredited under Commonwealth law.	46	WA-PBS-01
WA-PBS-02	Water-dependent ecosystems are protected and restored.	46	WA-05, WA-06 **a**
AN-PBS-01	Measure progress against 20 Year Action Plan.	45	AN-01, AN-02 **a**

a This PBS 2021–22 measure is covered by a measure in the *Corporate Plan 2021–22*. We will not report on it separately.

Assessment methodology

Our methodology for assessing performance includes the following:

- data from primary sources, such as ABARES reports, financial management systems, information management systems, departmental records and surveys
- documenting data source, parameters, ranges, limitations and any refinement
- analysing for context, whether we were measuring output, efficiency or effectiveness, and result against the target
- explaining the result, factors that affected the result and any action to improve performance.

Performance results

Agriculture

Objective: Assist industry to accelerate growth towards a $100 billion agricultural sector by 2030.

Key activity: Regulate and support agricultural sector productivity and sustainability through policy and innovation.

Measure AG-01

AG-01	Greater growth in average agriculture, forestry and fishing sector productivity for the past 10 years compared to average annual market sector productivity growth over the same period.
Measure type	Efficiency.
Target	≥0% difference over past 10 years.
Result	Achieved.

Analysis

Average annual productivity growth for agriculture, forestry and fisheries was 0.19% over the 10 years to 2021–22. This was higher than annual market sector productivity growth, which averaged 0.15% over the same period.

We used total factor productivity to measure productivity, calculated on a value-added basis. Agricultural productivity is susceptible to seasonal conditions. We used average total factor productivity growth at the beginning of the 10-year period to mitigate seasonal volatility.

Based on Australian Bureau of Statistics (ABS) data, we forecasted trend growth for 2021–22.

Context

We build policy settings, manage programs and work to provide a regulatory environment in which primary producers can build their productivity. We support research and development to promote innovation in agriculture and agribusiness management. We implement arrangements to increase, improve and maintain markets over the medium-to-long term. As a result, there is a lag between our activities and changes in productivity.

Productivity is also affected by seasonal conditions, global prices and supply chains, consumer demand and trading partner decisions. Further, state and territory governments are responsible for many of the regulatory settings that affect industry performance.

Methodology

We based productivity estimates on the ABS data source: *Cat. 5260.0.55.002 Estimates of Industry Multifactor Productivity*. The ABS published this data in the final quarter of the year, for the preceding financial year. Due to the time lag between measurement, publication of the productivity data and the annual report deadline, we used a forecast for the most recent year of data. The forecast assumed that productivity growth in the most recent financial year equals the long run productivity growth rate since 1995–96. For the market sector, the forecast also used quarterly labour productivity data published in the ABS national accounts.

We used the historical growth rates of market sector multifactor productivity and labour productivity to derive a forecast for the missing year of data. This performance measure required comparison of productivity over the last 10 years.

Caveats and disclosures

Raw productivity data are susceptible to the volatility of the starting point of the 10-year window. Therefore, resulting statistics can be irregular and misleading. To overcome this, we replaced the starting points with the estimates of the long-run average productivity index number (from 1995–96). We applied this treatment to the agriculture, forestry and fisheries sector and the market sector measures to ensure consistency.

Variation from corporate plan

We changed the measure type from effectiveness to an efficiency measure.

Measure AG-02

AG-02	Equal or reduced cost of levy collection processes compared with levies disbursed.
Measure type	Efficiency and regulatory.
Target	Cost ≤1.2% of levies disbursed.
Result	Achieved.

Analysis

In 2021–22 we disbursed $602.596 million at a cost of $4.028 million. The cost was 0.67% of levies disbursed. This result is a 12.24% decrease in cost from 2020–21, when we disbursed $494.556 million at a cost of $4.617 million, or 0.93% of levies disbursed.

The decrease in cost was mainly due to COVID-19, which restricted face-to-face interactions with levy agents. The decrease showed greater efficiency in our agricultural levy collection processes. This meant a higher proportion of collected levies went to activities that improve the productivity and sustainability of agricultural industries.

Context

We collect agricultural levies and provide them to rural research and development corporations and other levy recipient bodies. The funds are for research and development, marketing, residue testing, and animal and plant health. We process the levy returns, respond to queries and conduct compliance activities. These are cost-recovered from agricultural industries.

Methodology

Our information systems provide data on disbursements, levy rate, levies compliance, administration activities and costs. We combine data to attribute collection costs to respective agricultural commodities.

Caveats and disclosures

Our calculations do not consider costs to administer Commonwealth matching payments, which we fund by appropriation. Data limitations relate to:

- activities such as administration and budgeting cannot be linked to specific commodities
- there is a time lag, as levy returns are due in arrears and not always paid on time.

Measure AG-PBS-03-02

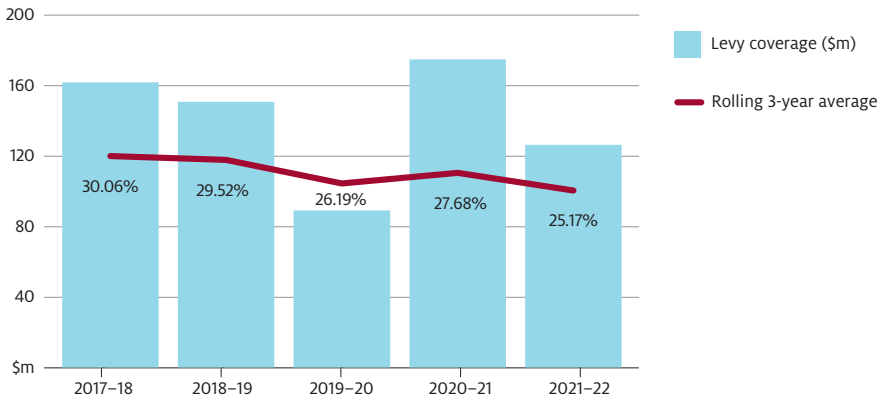
AG-PBS-03-02	The efficient collection and distribution of levies to fund rural research and development.
Target	Inspections of levy agent records cover at least 20% of levy revenue over a 3-year rolling average.
Result	Achieved.

Analysis

The agents inspected under our national compliance program collectively contributed $126.1 million. This was 20.93% of all levies and charges collected in 2021–22.

As shown in Figure 4, we achieved a rolling 3-year average of 25.17% coverage for levies and charges collected from 2019–20 to 2021–22.

Figure 4 National compliance program levy coverage over 5 years



Context

The Australian levy system is a partnership between government and industry. Industries pool physical, financial and research resources to find better production methods and increase demand for their products. We collect, administer, and disburse agricultural levies and charges on behalf of Australia's primary industries. The levies fund research and development, marketing and promotion, residue testing, and plant and animal health programs.

We deliver an annual risk-based national compliance program to:

- encourage levy payers to voluntarily comply with legislation
- assure government and industry that levy collections are materially complete and going to activities that improve the productivity and sustainability of agricultural industries.

Methodology

Our information systems provide data on targets and complete compliance activities. We match with opening period data to determine the coverage level, by annual levy revenue. We compare the result with the total annual levy/charge disbursed to levy recipient bodies to calculate the percentage coverage. We calculate a rolling 3-year average and document our findings in a levy coverage report.

Caveats and disclosures

Data limitations relate to:

- reported revenue may not represent the collected annual levy at the completion of the year
- collection agents or our department may direct amendment of returns for up to 5 years.

Variation from PBS 2021–22

We reviewed this PBS performance criteria and its targets. The performance criterion became a measure. The first target was a measure in the *Corporate Plan 2021–22* (see measure AG-02) and not reported on separately.

Measure AG-03

AG-03	Commonwealth meets its obligations under the National Drought Agreement through satisfactory delivery of all Commonwealth and shared roles and responsibilities under the Agreement.
Measure type	Output.
Target	The Commonwealth is rated at least 'good progress' in the National Drought Agreement annual report for areas it is responsible for under the agreement.
Result	Achieved.

Analysis

The *National Drought Agreement Annual Report 2020–21* rated all Commonwealth and shared responsibilities as 'good progress' or better. The 2021–22 report will be provided to agriculture ministers in December 2022.

Context

The National Drought Agreement is a joint approach by the Australian, state and territory governments to support farming businesses and communities to prepare for and respond to drought. It specifies Commonwealth responsibilities and responsibilities shared with state and territory governments.

The agreement requires delivery of annual reports to agriculture ministers. The annual report provides a self-assessment by governments against their roles and responsibilities. As secretariat for the agreement, we coordinate the annual reporting. We also deliver some – but not all – of the Commonwealth's responsibilities under the National Drought Agreement.

Methodology

The *National Drought Agreement Annual Report 2020–21* provides the assessment methodology for whole-of-Commonwealth responsibilities.

Caveats and disclosures

Full year data for the reporting period is not available until December 2022. It will be made available through the National Drought Agreement annual report for 2021–22 and will be published on our drought policy website.

Variation from corporate plan

We amended the measure description and target to better reflect the role of the department.

Key activity: Maintain, expand and improve agricultural export markets.

Measure AG-04

AG-04	Value of potential trade achieved through new and improved market access arrangements.
Measure type	Effectiveness.
Target	Baseline established, based on a 3-year rolling target.
Result	Baseline of $337,360,371 established.

Analysis

During the year we gained new or improved access to 46 agricultural, fisheries and forestry export markets. The potential value of these 46 achievements was $337,360,371.

We increased the number of new and improved market achievements from 32 in 2020–21 to 46 in 2021–22. We helped industry to expand and diversify their export markets by progressing technical market access work, deploying short-term counsellors in key overseas markets, enhancing our market intelligence capability and communication, and continuing the expanded Agricultural Trade Market Access Cooperation grants program.

Market access achievements included delivering new access for western rock lobsters to Thailand, and peaches and nectarines to Vietnam. We also negotiated improved access for chilled, vacuum-packed meat to several Middle Eastern countries through extended shelf-life regulations.

There was no baseline for this measure, as the valuation methodology was recently developed for market access achievements. We applied the valuation methodology in 2021–22. To account for seasonality in agricultural production, at least 3 years (preferably 5) of data is needed. We will use a 3-year rolling average from 2023–24 and adopt the 5-year rolling average in 2026–27.

Context

Access to international markets is essential for the profitability of Australia's export-focussed agricultural, fisheries and forestry sectors. We work with other Australian government agencies, trading partner governments, and Australian and international industry representatives to:

- negotiate and amend trade protocols to establish new and improve existing access to international markets
- anticipate and prevent disruptions to maintain market access
- work to restore market access if it is lost.

We provide Australian industry with opportunities in overseas markets. Industry is responsible for commercial decisions related to market use.

Methodology

A market access achievement is an action we take that results in access to a new international market, improved access to an existing market, prevention of disruptions to trade with an existing market, and restoration of market access.

To assess the potential value of each market access achievement, we use trade data from the ABS, UN Comtrade and the International Trade Centre. We also use estimates from industry and subject matter experts.

Caveats and disclosures

Many factors influence the value of Australia's agricultural, fisheries and forestry trade. We include factors in our estimates, but it is not possible to include every factor. Examples of factors that may not be accounted for in estimates include commercial decisions by industry related to market use, domestic and international seasonal conditions, and the impact of trade diversion.

Variation from corporate plan

We amended the target to establish a clear baseline for future measurement.

Measure AG-05

AG-05	Value of potential exports facilitated through the prevention and/or resolution of trade disruptions.
Measure type	Effectiveness.
Target	Baseline established, based on a 3-year rolling target.
Result	Baseline of $1,429,229,339 established.

Analysis

During the year we prevented potential trade disruptions, or restored previous access, through negotiation of revised import conditions to 49 agricultural, fisheries and forestry export markets. The potential value of these achievements was almost $1.43 billion.

The number of achievements resulting in markets being maintained and restored decreased from 67 in 2020–21 to 49 in 2021–22. This was largely due to work in 2020–21 to restore market access for poultry products that had been lost due to avian influenza outbreaks in 2020.

We anticipated and prevented trade disruptions to maintain Australia's access to international markets. This included negotiating new or updated health certification for meat export to Korea, China and the United Kingdom. We assisted industry with halal legislation in the Middle East.

We continued to work with trading partners to restore Australia's access to live poultry and egg markets. Australia has been free of highly pathogenic avian influenza since February 2021, and regained access to important markets in 2021–22. This included Korea, Indonesia and Malaysia.

There was no baseline for this measure, as the valuation methodology was recently developed for market access achievements. We applied the valuation methodology in 2021–22. To account for seasonality in agricultural production, at least 3 years (preferably 5) of data is needed. We will use a 3-year rolling average from 2023–24 and adopt the 5-year rolling average in 2026–27.

Context and methodology

The context and methodology of measure AG-04 also applies to this measure.

Variation from corporate plan

We amended the wording of this performance measure to clarify that it does not refer to formal dispute settlement processes through the World Trade Organization or under free trade agreements. We updated the target to establish a clear baseline for future measurement.

Key activity: Streamline export regulations and compliance arrangements.

Measure AG-06

AG-06	Decrease in number of point-of-entry failures from agricultural exports.
Measure type	Effectiveness and regulatory.
Target	Establish baseline.
Result	Baseline of 0.01% established.

Analysis

A point-of-entry failure is where an importing country refuses entry for an Australian export consignment. In these cases, the goods are generally returned to Australia or destroyed by an importing country. A point-of-entry failure indicates the goods do not comply with the importing country requirements.

This measure is a proxy measure of our regulatory effectiveness. Fewer point-of-entry failures reflects greater compliance by exporters with importing country requirements and related regulatory standards.

In 2021–22 there were 298,861 consignments and 42 point-of-entry failures (Table 5). This is a 0.01% failure rate. As this is the first year of reporting, this is the baseline for future reporting against this measure.

Table 5 Point of entry failures, 2021–22

Commodity	Certificates issued	Point of entry failures
Meat, inedible goods and pet food	119,665	33
Plant (horticulture)	34,372	1
Grain and seeds	58,636	6
Dairy, fish and eggs	74,580	2
Live animal exports	11,608	0
Total	298,861	42

Context

We regulate the export of agricultural goods and issue Australian Government export certificates under the *Export Control Act 2020* and subordinate legislation. This involves:

- agreeing export documentation with our trading partners to enable Australian exporters to access overseas markets
- working with exporters, establishment operators, other regulated entities and industry groups to regulate the export of agricultural prescribed goods
- providing advice to industry on accessing export markets
- working with the Department of Foreign Affairs and Trade, Austrade and importing governments to prevent possible point-of-entry failures
- meeting import country requirements through inspections, certification, audits and sanctions
- issuing export permits, health certificates and phytosanitary certificates based on the assessment of supporting documents.

Our work benefits agricultural producers by facilitating the export of goods and protecting access to export markets. However, importing countries retain the sovereign right to accept or reject consignments based on their rules and regulations. Point-of-entry failures can occur due to concerns about the product itself or errors in the accompanying documentation.

Methodology

Importing countries and exporters advise us of point-of-entry failures. This creates potential for under-reporting. We document each notification and provide a formal response to the importing country.

Caveats and disclosures

An additional 16 meat point-of-entry failures were known, but we did not have access to data from the importing countries for the consignments.

Variation from corporate plan

We amended the target to establish a clear baseline for future measurement.

Measure AG-07

AG-07	Reduction of $21.4 million in the department's regulatory costs for agricultural exporters by 2024.
Measure type	Effectiveness and regulatory.
Target	Reduction of $12.7 million in cost recovery expense in 2021–22.
Result	Achieved.

Analysis

We developed a target for this measure: $21.4 million reduction in compliance costs for agricultural exporters by 2023–24. The interim target was a $12.7 million reduction in 2021–22. This provides the baseline for future measurement.

During the year we reduced regulatory costs by $12 million. Of this, $9 million was from reducing the number of food safety meat assessors in 2020–21 and 2021–22.

During the year we introduced export facilitators. They reduced the time for dairy exporters to become export registered. This resulted in gains to industry of $5 million in 2021–22. We forecast further gains to industry through our reformed meat inspection processes. This will deliver $35.4 million per year to the meat industry.

Context and methodology

This measure assesses outcomes from regulatory reforms for Australian agricultural exporters. These reforms provided faster and cheaper regulatory services for farmers, while maintaining and expanding market access. The measure also demonstrated the value of our *Export Strategy*.

Measure AG-08 provides further information on context and the methodology relevant to measure AG-07.

Measure AG-08

AG-08	Reduction in costs of compliance burden for agricultural exporters.
Measure type	Efficiency and regulatory.
Target	Establish baseline.
Result	Baseline of $254,893 established.

Analysis

We reduced our compliance costs by $254,893 during the year. This is the baseline for future measurement. We forecast the future benefit from our reform activities to be an annual reduction of $3.7 million in exporter compliance costs.

Context

During the year we focused on modernising and transforming the agricultural export regulatory system. This aligned with priorities in the Busting Congestion for Agricultural Exporters package. We developed priorities, initiatives, programs and projects across agricultural commodities. These aimed to drive growth by streamlining trade and regulatory services. Our *Export Strategy* provided the framework and priorities for:

- streamlining and digitally enabling export regulatory services for farmers
- maintaining and expanding market opportunities
- using data and risk-based assurance to improve regulation
- strengthening staff capability and skills.

We coordinated with state and territory regulators and with agricultural industry. This was necessary to realise the benefits of agricultural trade reforms. However, policy changes from trading partners and macro-environmental factors (geopolitics and environmental forces) affected agricultural trade outcomes and were beyond our control.

Together measures AG-07 and AG-08 measured efficiency and effectiveness. They assessed the value of our reforms, such as digital services and use of third party or commercial assurance systems to deliver our regulatory services.

We expect the impact of trade reform and modernisation to be realised gradually. Our estimates may be an under-estimation of the real impact of our trade reform and transformation activities.

Methodology

Our *Benefit Management Strategy* provided the methodology for estimating the value of regulatory improvements. In summary, we collected the following data:

- time on task for baseline and new processes
- Australian Public Service (APS) daily rates and exporter labour costs, aligned with the Office of the Best Practice Regulation *Regulatory Burden Measurement Framework*
- direct costs for activities for baseline and new processes
- industry uptake for baseline and new processes
- number/volume of export market for baseline and new processes
- time and costs due to delayed process for baseline and new process.

Caveats and disclosures

We monitored performance quarterly, but there was a lag associated with data collection. We relied on self-reported data from a small sample. Further work may be needed to test the reliability of estimates.

Variation from corporate plan

We amended the target to establish a clear baseline for future measurement.

Key activity: Support Australian farmers.

Measure AG-09

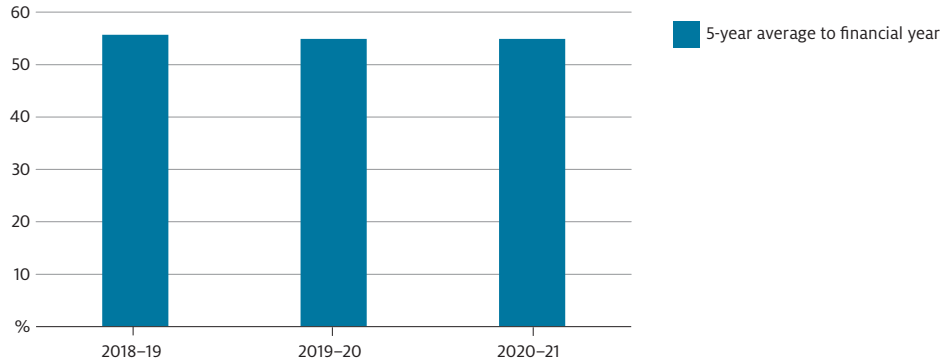
AG-09	Proportion of farm businesses making capital investments.
Measure type	Effectiveness.
Target	There is an increase in the % of farm businesses making new capital investments (based on a 5-year moving average).
Result	Partially achieved.

Analysis

An increase in farm businesses making new capital investments is a proxy for measuring stronger confidence and a direct indicator of sectoral growth.

In the 5 years to 2020–21, new capital investments were made by 55% of farm businesses. The trend has been constant since 2018–19. As such, this measure is partially achieved.

Figure 5 Trend for farm businesses making new capital investments – broadacre and dairy



During the year our investments and actions supported farmer confidence by:

- strengthening skills, knowledge and decision-making capacities – especially in risk management
- providing new practices and technologies to help respond to and recover from drought.

In future years we expect the Future Drought Fund and other farm resilience programs to increase the confidence of farmers in their ability to manage drought and other risks. This should contribute to an increase in capital investment over time. Further information is on the Future Drought Fund website.

Context

Sustained growth relies on farm businesses investing and taking advantage of new opportunities. Farmers are more likely to invest when confident about the future and their ability to manage drought and climate risks.

While capital investment is affected by income and profitability, government interventions that support resilience are likely to contribute to confidence and growth in agriculture. These interventions support uptake of new technologies and practices that:

- support drought resilience
- build capacity of farmers in strategic farm business management and business planning
- improve natural capital management.

An example intervention is the Farm Business Resilience Program under the Future Drought Fund. The program is delivered in partnership with state and territory governments. It aims to build the capacity of farmers to plan for and manage risks. The program offers subsidised learning and development opportunities, supports farm business planning tailored to participant circumstances, and provides the opportunity for professional feedback on business plans. During the year:

- 6,551 farmers took part in the program in all jurisdictions across Australia
- 4,471 learning and development activities and events were held
- 546 farm business plans were completed (new plans developed or existing plans updated)
- 942 plans were reviewed or advised on by a professional adviser.

Methodology

We sourced data for this result from ABARES surveys: the Australian Agricultural and Grazing Industries Survey, and the Australian Dairy Industry Survey. The use of average results over 5 years smoothed annual fluctuations from seasonal conditions. We assessed new capital investments over time to measure continuing confidence.

Caveats and disclosures

The results cover 63% of Australian farm businesses to 2020–21, which is the latest year for which data is available. It does not include the horticulture sector. Relevant data on the remaining farm businesses were not available. Data collections occur from July to December 2022, with results known by March 2023.

Variation from corporate plan

We amended the wording of the performance measure to clarify the role of the department. We updated the target to improve the link to the measure.

Environment and heritage

Objective: Improve stewardship and sustainable management of Australia's environment and unique heritage.

Key activity: Ecosystem diversity and function are maintained or improved.

Measure EN-01

EN-01	Establish a revised baseline of: • national average of habitat condition assessment scores • national average of National Connectivity Index scores.
Measure type	Effectiveness.
Target	Baselines for both measures established.
Result	Revised baseline set: 0.74 for the national average of habitat condition assessment scores. Revised baseline set: 0.53 for the national average of National Connectivity Index scores.

Analysis

During the year we established a revised baseline for:

- Habitat condition. The national average pixel Habitat Condition Assessment System (HCAS) score was 0.74 of the pre-1750 baseline of 1.0.
- Habitat connectivity. The national average pixel HCAS score was 0.53 of the pre-1750 baseline of 1.0.

A comparison with previous years was not possible using the current version of HCAS (version 2.1). However, in 2010–15 there were slightly positive trends across the Australian continent for both condition and connectivity. For habitat condition, HCAS reported an increase of less than 0.1 of 1%.

Context

Healthy functioning habitat is fundamental to the persistence of species and populations. Tracking change in condition and connectivity provides a full picture of habitat and ecosystem status. Therefore we no longer report on the 'national average of extent'.

When coupled with other metrics, habitat condition and connectivity scores give insight on the effectiveness of policy, programs and regulation to improve native ecosystems. Change will rarely be immediately detectable. It will be influenced by the scale of interventions; on-ground management decisions by state and territory governments, landowners and non-government organisations; natural variation; and catastrophic events such as the 2019–20 bushfires.

We administer Australian Government programs that influence changes in habitat condition and connectivity. This includes:

- assessing, listing and preparing conservation planning documents for threatened ecological communities that are matters of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- considering the potential impact of development application decisions on matters of national environmental significance
- funding programs for on-ground conservation actions
- managing Commonwealth Parks, Commonwealth land, World Heritage properties and environmental water holdings
- investing in Indigenous Protected Areas for conservation outcomes
- supporting the National Reserve System.

The establishment of robust, repeatable methods to assess ecosystem condition and connectivity change over time is a long-standing priority.

Methodology

We have national datasets on land use, land cover, native vegetation types, biogeographical regions and, more recently, vegetation condition. Over time we have improved and extended these datasets to enable reporting on ecosystems through the lens of habitat condition and connectivity.

National Vegetation Information System. Since the early 2000s we have used the National Vegetation Information System (NVIS) as a proxy for ecosystem diversity, to report on the diversity of native vegetation types across Australia. NVIS identifies and labels major vegetation groups across the continent and provides direct insight on change over time. While it helps us to estimate the change in extent of major vegetation groups since 1750, NVIS cannot directly report change on finer temporal scales or gauge the variable condition of areas occupied by a given major vegetation group.

Habitat Condition Assessment System. In 2012 the CSIRO commenced work on a novel approach to ecosystem condition assessment. They first released HCAS 2.1 data to the public in April 2022. It reported a predicted habitat condition score, from zero to one, for 100 million pixels (250 m resolution) across Australia. It used remote sensing data from 2001 to 2018. We worked with CSIRO to explore options to include more recent remote sensing input data.

National Connectivity Index. In 2022 we commissioned CSIRO to develop HCAS-derived National Connectivity Index (NCI 2.0) to report on connectivity across landscapes. The new index superseded the national connectivity dataset, which was referred to in our *Corporate Plan 2021–22*. The previous dataset used non-HCAS derived natural areas. To enable reporting using NCI 2.0, we set a revised baseline for this reporting period. We will report against this baseline in future years.

Together, HCAS and NCI enable measurement of condition and connectivity. This helped us to understand ecosystem status nationally. Condition refers to the condition of an individual pixel. Connectivity is a property that emerges from the configuration of pixels across a larger area. While we could combine these measures, separate reporting provides valuable information if trends diverge over time.

Caveats and disclosures

Data limitations relevant to this measure are:

- HCAS can only report on Australia's continental terrestrial ecosystems. It is based on the remote sensing signal of vegetated landscapes. This means small non-vegetated features, such as salt lake ecosystems, are gaps in the dataset and change over time would not be reported for these.
- HCAS and NCI are prediction models with uncertainty, which will continue to be improved. Some future changes in reporting can be expected because of method and classification changes, rather than on-ground change. We may differentiate these changes from actual on-ground change estimates by updating past years' reporting using the new methods and classifications.
- HCAS 2.1 uses remote sensing data from 2001 to 2018. We will continue to work with CSIRO on user needs and the feasibility of up-to-date reporting.

Variation from corporate plan

We amended this performance measure to better reflect the change in approach. We updated the target to establish a clear baseline for future measurement.

Measure EN-03

EN-03	Delivery of the National Soil Strategy.
Measure type	Effectiveness.
Target	Delivery of reduced-cost soil sampling and testing.
Result	Partially achieved.

Context

The National Soil Strategy sets out how Australia will value, manage and improve its soil for the next 20 years. The strategy has 3 main goals: prioritise soil health, empower soil innovation and stewards, and strengthen soil knowledge and capability.

Action on these goals will ensure soil continues to contribute to agricultural productivity, environmental sustainability and economic growth. Delivery of the strategy includes reduced-cost soil sampling and testing – the Pilot Soil Monitoring and Incentives Program. This requires the following:

- program design in consultation with key stakeholders
- approach to market for a panel of service providers to deliver reduced-cost soil sampling and testing to land managers
- testing regime for land manager eligibility to participate
- participants (land managers) to pay the service provider the difference between the total sampling cost and the amount paid by the Commonwealth.

Analysis

During the year we worked with stakeholders to design, consult and agree the program. Following a tender process, we appointed a service delivery agent to deliver the sampling and testing services. The agent:

- received more than 1,900 enquiries about land manager participation
- sent more than 1,500 application packs to land managers
- provided more than 190 completed applications to the department for approval
- negotiated agreements with 29 sampling subcontractors to deliver sampling on the ground.

Significant weather events affected stakeholders and the Lismore floods occurred in the location of the service delivery agent. These events, combined with COVID-19 and the longer than expected lead-time to on-board sampling providers, prevented the start of on-ground soil sampling. While the target was only partially complete at the end of the reporting period, the pilot is on track to meet contracted deliverables in 2022–23.

Methodology

We applied our general assessment methodology to determine the performance result.

Variation from corporate plan

We amended this performance measure to reflect the work of the department in this reporting period.

Measure EN-PBS-01-01

EN-PBS-01-01	A reduction in nutrient, sediment and pesticide loads consistent with meeting targets in the Reef 2050 Water Quality Improvement Plan.
Target	See *Reef 2050 Water Quality Improvement Plan 2017–2022*.
Result	Partially achieved.

Analysis

In April 2022 we released the *Reef Water Quality Report Card 2020*. It reported on progress towards water quality targets. Table 6 summarises progress on whole-of-catchment targets.

Table 6 Progress on whole-of-catchment targets

2025 target	Result	Achievements
Progress to the 20% particulate phosphorus target	Achieved	More than three-quarters towards target: • 17.4% total progress • 0.8% modelled average annual reduction (44 t).
Progress to the 20% particulate nitrogen target	Partially achieved	Almost three-quarters towards target: • 14.4% total progress • 1% modelled average annual reduction (110 t).
Progress to the 25% sediment target	Partially achieved	More than halfway towards target: • 15.2% total progress • 0.6% modelled average annual reduction (37 kt) • Met the 2025 water quality target in Cape York region and in the Mulgrave-Russell catchment of the Wet Tropics region in 2019.
Progress to the 60% dissolved inorganic nitrogen target	Partially achieved	Almost halfway to target: • 27.7% total progress • 2.2% modelled average annual reduction (118 t).
99% aquatic species protected target	Not achieved	No progress: • 96.7% aquatic species protected, which is <1% change from previous year • pesticide risk across most Great Barrier Reef catchments was similar to previous year • target met and maintained in the Kolan catchment of the Burnett Mary.

We made good progress in the landscape-scale changes required to improve the quality of water entering the Reef. These changes were improvements to management practice on agricultural lands, remediation of erosion features such as gullies and unstable streambanks, and protection of vital coastal ecosystems such as wetlands. Achievements of the Reef Trust projects were:

- Repeat tenders in the Wet Tropics and Burdekin regions supported cane farmers working across more than 56,000 ha of sugarcane land to reduce the application of 373,624 kg of nitrogen fertiliser to crops.
- Great Barrier Reef Gully and Streambank Joint Program prevented 40,623 t per year in fine sediment from entering the Reef.
- Project Uplift Farming Systems Initiative, led by MSF Sugar, helped sugar growers to improve soil health for farming profit and water quality outcomes. The 70 enterprises completed practice change over more than 18,000 ha.

The Reef Trust Partnership worked with the Great Barrier Reef Foundation on water quality projects. Between July 2018 and December 2021 they achieved:

- 187.7 t end-of-catchment reduction of dissolved inorganic nitrogen (target is 457 t by 30 June 2024)
- 37.2 kt end-of-catchment reduction of fine sediment (target is 463 kt by 30 June 2024)
- 229 kg end-of-catchment reduction of pesticides (target is 250 kg by 30 June 2024).

These achievements were made through:

- 504 landholders improving management of 101,816 ha of cane land to reduce nutrient and pesticide runoff
- 296 graziers improving management of 478,721 ha of grazing land to minimise sediment loss
- 6 new Reef Trust water quality projects (commenced January 2021) to support growers and graziers in preventing fine sediment and dissolved inorganic nitrogen from entering the Reef lagoon.

Context

The Australian and Queensland governments are investing $4.4 billion between 2014–15 and 2029–30 to implement the *Reef 2050 Long-Term Sustainability Plan*. Of this, $667 million is for actions in the nested *Reef 2050 Water Quality Improvement Plan 2017–2022*. Progress towards the water quality targets is a result of the combined efforts of the Reef Trust, Reef Trust Partnership and Great Barrier Reef Foundation.

The *Reef 2050 Water Quality Improvement Plan 2017–2022* specifies water quality targets for reduction of nutrients, sediment and pesticide loads. It identifies pollutant reduction targets for nutrient (dissolved inorganic nitrogen and particulate phosphorus and nitrogen) and sediment loads. The pesticide target is to protect at least 99% of aquatic species at the river mouth.

Methodology

The *Reef Water Quality Report Card 2020* describes the methodology for assessing this measure. These report cards document the annual and cumulative progress towards targets. They use data reported to the Paddock to Reef Integrated Monitoring, Modelling and Reporting Program.

Caveats and disclosures

Table 6 provides information between July 2018 and December 2021. This progress under the Reef Trust Partnership for water quality is reported cumulatively. Further information is on the Water Quality – Great Barrier Reef Foundation website.

The complexity of the program results in a time lag of 12 months from data capture to reporting.

From July 2022 report cards will be biennial and capture 2 years of data and progress towards targets.

Key activity: Species diversity, range and abundance are maintained or improved.

Measure EN-04

Measure EN-04	Stability or improvement in trajectory of the Threatened Species Main Index.
Measure type	Effectiveness.
Target	Maintained or improved trajectory (≥0).
Result	Not achieved.

Analysis

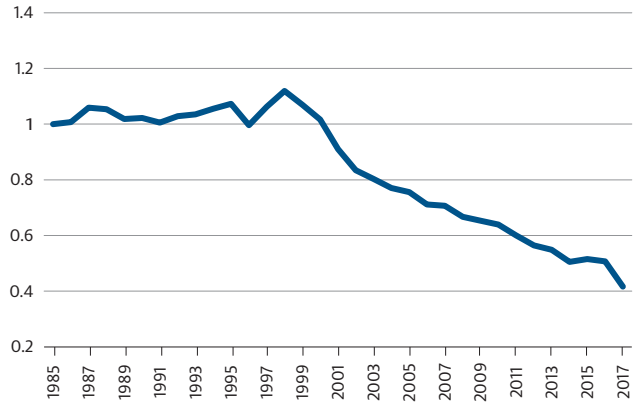
The Threatened Species Index (TSX) provides measures of change in the relative abundance of Australia's threatened species at national, state and territory scales. The TSX provides an objective view on progress to improve the trajectories of threatened species.

We worked with other agencies to support threatened species protection and recovery through implementation of the *Threatened Species Strategy Action Plan 2021–2026*.

The last update to the TSX main index was in 2020. The update used 2017 data (Figure 6). It showed the relative abundance of included threatened species was stable from 1985 through to 1998, and then underwent a steep and continuing decline through to 2017.

In 2017 the index score was 0.417 of the 1985 baseline of 1.0. The abundance of listed threatened species declined by more than half since 1998.

Figure 6 TSX main index for threatened species listed under the EPBC Act



In July 2021 the hosting of TSX transferred to the Terrestrial Ecosystem Research Network. This delayed updates to the index. We expect the next update to occur by November 2022. The index will then have annual updates, which will support annual reporting in future years.

Context

The TSX stores monitoring data and tracks trajectory change for groups of threatened species (birds, mammals and plants) over time. The TSX enables:

- importing and storing monitoring datasets into a single unified database
- processing and aggregating monitoring observations to produce time series analysis
- calculating/viewing population trends over time
- visualising population trends and statistics via a web browser.

The species included in the analysis for annual reporting was limited to threatened species under the EPBC Act. The analysis included data for 211 taxa, 174 data sources and 219,825 single surveys from 1952 to 2017.

Changes in the index can reflect factors outside of our control, such as climatic conditions, climate change, natural disasters, invasive species and disease, and development and land clearing (unregulated and regulated by state or local government).

Methodology

We used 1985 as the base year, as it was the longest time series available. We selected all taxa (currently birds, mammals, plants), all states and territories, and only listed threatened species.

Caveats and disclosures

In 2020–21 our corporate plan referred to the '5-year rolling trajectory of the Threatened Species Main index'. However, for this reporting period we used the unsmoothed main index. This supports time-focussed reporting and is consistent with reports from the TSX website.

TSX data is limited by the number and spatial distribution of high-quality data sets available. It is a composite index and hides single-species trends. Work is underway to build the functionality to derive these trends. There is also a lag between on-ground observations and entry into the index. This means reports are typically 3 years in arrears.

During the year we continued to work with the TSX team on automating data flows for better currency of information and to improve how the index incorporates programs. This work and the ongoing refinement of monitoring standards, monitoring protocols and data flows will enhance the accuracy and timeliness of reports from the index. Over time this will improve the tracking of investments in listed species.

Variation from corporate plan

We amended the wording of the performance measure to support time-focussed reporting that is consistent with reports from the TSX website.

Measure EN-05

EN-05	Percentage of natural resource management projects that demonstrate an improvement in environmental outcomes relative to the established project baseline.
Measure type	Effectiveness.
Target	Proportion of Regional Land Partnerships project services that achieved 2021–22 (4 year) targets.
Tolerances	90–100% achieved; 80–89% partially achieved; <80% not achieved.
Result	Achieved.

Analysis

Under Regional Land Partnerships, outcome reporting occurs in year 3 (2021) and year 5 (2023) of the program. Reporting on project services occurs throughout the program. Year 5 outcome reporting was not required in 2021–22. It is due in the 2022–23 annual report.

There are 54 natural resource management organisations delivering 227 projects across Australia as part of the Regional Land Partnerships program. Each project has annual targets for the delivery of agreed services. The organisations achieved 60 of the 67 (90%) project service category targets for 2021–22. As project services link to project outcomes, this shows progress to achievement of program outcomes.

Context

We provide national leadership for the delivery of natural resource management projects. This performance measure shows the impact of our work in delivering environmental outcomes by capturing projects reported through the Regional Land Partnerships program.

The Regional Land Partnerships is a $450 million natural resource management program in place from 2018 to 2023. It aims to achieve environmental benefits across 6 priority areas:

- Ramsar wetlands
- threatened species
- threatened ecological communities
- World Heritage properties
- improved land management practices
- increased resilience in agriculture systems.

Methodology

Projects under Regional Land Partnerships have short and medium-term goals. These are in project outcome statements. We measure achievement towards these goals through mid-term reports (2021) and end-of-project reports (2023). The number of projects that report success against their outcome statements is an indicator of success at the program level.

Outcome reporting is through service provider self-assessment. It is reported through our Monitoring, Evaluation, Reporting and Improvement Tool (MERIT). To support outcome reporting we provide assessment criteria and guidance to ensure consistency. We also have assurance measures to ensure reliability.

As no outcome reporting occurred in 2022, we used the percentage of categories of project service target measures that achieved their accumulated 4-year targets to demonstrate ongoing progress to achieving end-of-program outcomes. There are 67 categories. The minimum amount of each service delivered is documented in project monitoring, evaluation, reporting and improvement plans. Service providers report on service delivery through MERIT. We extracted output data from MERIT to analyse the project services.

To ensure accuracy of service delivery reporting we:

- conducted project health checks, which involved meetings with service providers to ensure projects remained on track to deliver against outcome targets
- checked services were delivered in accordance with the agreed monitoring, evaluation, reporting and improvement plans, which underpins payment of invoices
- managed our assurance framework and associated audit process to ensure services were delivered in line with contractual obligations, including desk-top audits that require evidentiary proof that invoiced services were delivered and on-site field audits.

Caveats and disclosures

The fourth quarter audit for the reporting period will be completed in October 2022.

Variation from corporate plan

The *Corporate plan 2021–22* indicated we would not report against this measure, as outcomes reporting was not required from service providers in 2022. However, for this reporting period we have chosen to report against the delivery of project services to show progress towards end-of-program outcomes.

Measure EN-06

EN-06	Percentage of *Environment Protection and Biodiversity Conservation Act 1999* referral, assessment and approval decisions that meet statutory time frames.
Measure type	Output and regulatory.
Target	100%.
Tolerances	100% achieved; 85–99% mostly achieved; 50–84% partially achieved, <50% not achieved.
Result	Mostly achieved.

Analysis

We were responsible under the EPBC Act for determining whether referred projects could proceed without causing significant impacts to matters of national environmental significance.

During the year we made 93% of key decisions (referral, assessment and approval decisions) within statutory time frames. Of the 391 key decisions due, 362 were on time and 29 were late.

On time-decisions remained within the mostly achieved category. This is a reflection of the positive impact on the timeliness of decision-making since the 2019–20 introduction of environmental law reform agenda activities. The slight decrease in timeliness compared to last year, as shown in previous annual reports, was caused by the complexity of projects and the impact of COVID-19 disruptions.

Methodology

We applied our general assessment methodology to determine the performance result.

Caveats and disclosures

We drew fourth quarter data from a new project tracking database. The transition to the new system resulted in a minor impact on data quality and accuracy. We manually reviewed 14 project decisions for accuracy, but the overall percentage of on-time decisions was not materially affected. We enhanced quality assurance and peer review processes to maintain accuracy and reliability while implementing enhancements for the new project tracking database.

Key activity: Protect and sustainably manage Australia's natural, historic and Indigenous heritage places for future generations.

Context for EN-07 measures

We implement Australia's obligations as a state party to the World Heritage Convention. We also implement the heritage provisions of the EPBC Act and the *Australian Heritage Council Act 2003*. These relate to World Heritage, National Heritage and Commonwealth Heritage, which each have different statutory requirements. We conduct heritage assessments to support the Australian Heritage Council and the Australian Government in protecting heritage places using heritage listings.

Our World Heritage properties include a component of National Heritage-listed places. Of the 119 National Heritage, 34 are also part of a World Heritage property.

Our World Heritage properties and National Heritage places are managed by the Australian, state and territory governments together with Traditional Owners, private owners and occupiers. In accordance with our statutory responsibilities, we use best endeavours to ensure that management plans are in place and consistent with the EPBC Regulations and the World Heritage and National Heritage management principles. Commonwealth agencies are required to address different statutory provisions for management plans for properties and places that they directly own or manage.

When place managers advise they are drafting or reviewing plans, we now apply a consistent approach to checking plans to support consistency with EPBC Regulations and the World Heritage and National Heritage management principles.

Methodology for EN-07 measures

We seek annual updates from World Heritage property and National Heritage place managers. This provides information to support annual reporting and 5-yearly statutory reporting on the National Heritage List and Commonwealth Heritage List. We have also undertaken stocktakes of both World Heritage and National Heritage management plans during this reporting period.

Caveats and disclosures for EN-07 measures

Self-reported information from managers has its limitations. Our ability to verify accuracy or improve response rates is limited. However, annual updates informed our understanding of the status of heritage management plans. They also encouraged place managers to seek our advice.

It can take a number of years to prepare plans, and progressing plans depends on the efforts and resources of the place managers. Efforts to improve our review and verification processes have focused on plans under review, which we encourage place managers to do regularly.

Variation from corporate plan for EN-07 measures

In our *Corporate plan 2021–22* the World Heritage and National Heritage measures were grouped together. We have separated these into 2 measures to reflect the 2 separate lists.

Measure EN-07-01

EN-07-01	Percentage of World Heritage listed properties with management plans that are consistent with the principles in the EPBC Regulations.
Measure type	Output and regulatory.
Target	100%.
Result	Partially achieved.

Analysis

Of our 20 World Heritage properties, 16 had plans consistent with World Heritage management principles or made under Commonwealth reserve provisions of the EPBC Act or under the *Great Barrier Reef Marine Park Act 1975*. This represents achievement of 80% of the 100% target.

The remaining 4 properties (Purnululu, Willandra Lakes Region, K'gari (Fraser Island) and Budj Bim Cultural Landscape) had management plans at varying stages of development or review.

These results have not changed since 2020–21 as each review of a plan can take several years. We progressed development during the year, with more than half of the plans under preparation or review. As the plans become final the proportion of consistent plans should increase. The status of plans under preparation or review was:

- Australian Convict Sites:
  - a strategic management framework is in place for the serial World Heritage property (a singular listing consisting of several discrete component areas) and was recently updated
  - reviews of plans for several component sites are underway, see measure EN-07-02, with the National Heritage plans
- Australian Fossil Mammal Sites (Riversleigh/Naracoorte): review
- Budj Bim Cultural Landscape: new plan in preparation
- Gondwana Rainforests of Australia: review
- Greater Blue Mountains Area: review
- Heard and McDonald Islands: review
- K'gari (Fraser Island): review
- Macquarie Island: review
- Purnululu National Park: review on hold pending native title
- Royal Exhibition Building and Carlton Gardens: review
- Shark Bay, Western Australia: review
- Ningaloo Coast: review
- Willandra Lakes Region: review.

Measure EN-07-02

EN-07-02	Percentage of National Heritage listed properties with management plans that are consistent with the principles in the EPBC Regulations.
Measure type	Output and regulatory.
Target	100%.
Result	Partially achieved.

Analysis

Of the 119 National Heritage places, 42% had plans that were consistent with National Heritage management principles, were made under Commonwealth reserve provisions of the EPBC Act or were made under the *Great Barrier Reef Marine Park Act 1975*. This represents achievement of an improvement from 2020–21.

During the year we conducted a stocktake of National Heritage management plans. We also sought updated information on management plans and priorities from all National Heritage place managers. At the end of the reporting period we had responses from 60 place managers.

In 2021–22 we provided advice to place managers on the development or review of management plans for the following National Heritage places:

- World Heritage nomination of the Murujuga Cultural Landscape, which is part of Dampier Archipelago (including the Burrup Peninsula)
- Dinosaur Coast component of West Kimberley
- Australian War Memorial
- High Court – National Gallery Precinct
- Old Great North Road.

Measure EN-08

EN-08	Deliver all elements of the Oceans Leadership Package.
Measure type	Output.
Target	Commence development of all elements of the Oceans Leadership Package.
Result	Partially achieved.

Analysis

We progressed the ocean economy strategy and all elements of the Oceans Leadership Package.

Sustainable ocean economy strategy
During the year we conducted preliminary scoping for the sustainable ocean economy strategy. This included consultation with senior executives from across the Australian Government to understand related work and opportunities.

Ocean accounting and restoring blue carbon ecosystems
In 2021–22 Australia endorsed the joint declaration on creation of a global coalition for blue carbon and announced the expansion of the International Partnership on Blue Carbon.

We closed the Blue Carbon Ecosystem Restoration Grants in February 2022 and announced 5 new domestic blue carbon projects. These will restore coastal ecosystems; measure biodiversity, climate and livelihood benefits; enhance regional employment opportunities in restoration work and data collection; and provide accounting tools to enable management and decision-making. The grants will support fishing and tourism operators who rely on these ecosystems to be healthy.

The Australian Government announced the first 4 projects funded by the Blue Carbon Accelerator Fund. This work is in partnership with the International Union for Conservation of Nature. The projects are in Peru, the Philippines, Madagascar and Benin.

Sustainable ocean action
We worked with leaders in marine restoration and coastal infrastructure on private sector investment. This will help with the restoration of coastal ecosystems and build resilience of coastal assets and communities. It will also enhance blue carbon and biodiversity. We progressed development of an implementation plan for the national ocean accounts, which is expected to be delivered in 2022–23.

During the year we:

- removed 160 feral cats from Christmas Island
- began a project to support the conservation of Australian handfish in Tasmania
- commenced design on grants programs and projects to support communities, government, Indigenous rangers, industry, scientists and the research community under:
  - Bycatch Mitigation Program to fund practical measures to avoid and mitigate bycatch of threatened and migratory species
  - Threatened and Migratory Marine Species Program to address threats to species such as marine turtles, cetaceans and beach-nesting birds.

Australian marine park partnership in the Indian Ocean Territories
During the year we closed the third round of the grant program. We selected 30 projects to be delivered by 24 organisations.

We launched the Ocean Discovery and Restoration Program. The program seeks philanthropic and corporate partners to deliver discovery and restoration projects that improve understanding and management of Australian Marine Parks. Over 40 prospective partners have engaged with the program since its launch.

In March 2022 the Australian Government announced establishment of Christmas Island Marine Park and the Cocos (Keeling) Islands Marine Park in the Indian Ocean Territory. These parks increase Australia's marine park coverage from 37% to 45% of our waters. We opened a grant program to:

- support local business and affected stakeholders
- implement management actions and scientific research to establish baselines.

Expanding Indigenous Protected Areas to include Sea Country
We sought applications to increase the area of Sea Country in Indigenous Protected Areas (IPA). In May 2022 ten new Sea Country IPA consultation projects were announced. The projects will support Indigenous-led consultation to create new Sea Country IPAs and to expand existing terrestrial IPAs to include areas of sea. The Sea Country IPA consultation projects cover more than 6.2 million ha of sea and 200,000 ha of land. This includes Ramsar wetlands, marine turtle nesting areas, seagrass meadows, coral and rocky reefs, and islands.

Context

The $100 million Oceans Leadership Package has 4 initiatives to build ocean health and resilience. It uses partnerships to support private sector investment in the fisheries, tourism and research sectors. It also facilitates Indigenous management of Sea Country. The 4 initiatives under the Oceans Leadership package are:

- Ocean accounting and restoring blue carbon ecosystems. This $30.6 million initiative funds practical action to restore, conserve and account for blue carbon ecosystems in Australia and overseas. This will improve and maintain the health of coastal environments, including tidal marshes, mangroves and seagrasses. It will support biodiversity, livelihood and climate outcomes.
- Australian marine park partnership in the Indian Ocean Territories. This $39.9 million initiative provides opportunities for community and Indigenous groups, marine businesses and industry bodies, research organisations, and the philanthropic sector to engage in and support marine park management. It funds the third and fourth round of the Our Marine Parks Grants program. This program empowers Australia's ocean communities and industries to take an active role in the management and protection of marine parks.
- Expanding IPAs to include Sea Country. This $11.6 million initiative creates new Sea Country IPAs and expands existing terrestrial areas to include sea areas. This provides social, cultural and environmental benefits. It also increases employment opportunities in remote communities. The grants support Indigenous-led activities that will protect Australia's unique marine and coastal biodiversity.
- Sustainable ocean action. This $18 million initiative delivers on-water and on-ground actions to protect iconic marine species; protect threatened and migratory marine species; improve the sustainability of Australian fisheries through reducing bycatch; reduce the threat of invasive species on island ecosystems; and stimulate investment in Australia's oceans and blue economy.

Methodology

We applied our general assessment methodology to determine the performance result.

Variation from corporate plan

We amended the performance measure and target to better reflect the role of the department in delivery of the whole ocean package.

Key activity: Lead and coordinate national efforts to effectively manage Australia's waste.

Measure EN-09

EN-09	Reduction in kilograms of waste per capita generated in Australia every year from 2,700 kg to 2,400 kg per person by 2030.
Measure type	Output.
Target	$7.72 million invested in product stewardship arrangements.
Result	Achieved

Analysis

Waste volume is an indicator of environmental pressures. Waste reduction is a key outcome in the *National Waste Policy Action Plan 2019*.

We report waste data in arrears every 2 years in national waste reports. The *National Waste Report 2020* provided data for 2017–19. The next national waste report will be released in late 2022 and will provide data on waste reduction per capita from 2019 to 2021.

Although there was no scheduled release of data during the year, we took action on landfill diversion, re-use and recycling of wastes. These actions will support future reductions in waste generation per capita. During the year we:

- worked with states and territories to finalise outstanding national partnership agreements for recycling infrastructure
- implemented the Recycling Modernisation Fund, including funding 48 new recycling facilities that will add 300,000 t of recycling capacity each year when complete
- exceeded our target by administering $9.77 million in grant payments under the National Product Stewardship Investment Fund, which:
  - helps industry accelerate work on product stewardship schemes
  - will see businesses divert 1.6 million t of waste from landfill.

Investment in product stewardship was higher than expected during the year as the Australian Government awarded 4 additional grants.

Consumer decisions directly affect the volume of waste generated. During the year we released a nationwide advertising campaign to encourage more Australians to recycle. A survey found that almost 70% of those who recognised the campaign took positive steps as a result. Steps included putting recyclable products in the recycling bin, sorting waste, checking labels for recycling guidance, buying products that could be recycled, or taking soft plastic wraps to collection points.

Context

We provide national leadership for the *National Waste Policy Action Plan 2019*. We coordinate work by states, territories, industry and other stakeholders to achieve the plan's outcomes. During the year we focused on increasing the availability of recycling infrastructure across Australia to reduce the volume of waste sent to landfill.

Methodology

The Recycling Modernisation Fund is delivered through the National Partnership on Recycling Infrastructure Agreement. State and territory governments are responsible for reporting on project progress, expenditure, and environmental and economic benefits. We extracted data for this measure from those reports.

Formal grant agreements provide the delivery and payment milestones for each project funded by a grant under the National Product Stewardship Investment Fund. Grant payments expected to be made in 2021-2022 were drawn from a report provided by the Australian Government's Business Grants Hub in June 2021.

Variation from corporate plan

We changed the measure type from effectiveness to an output measure.

Measure EN-10

Measure EN-10	The recycling rate for televisions and computers increases to 80% by 2026–27.
Measure type	Effectiveness and regulatory.
Target	70% of television and computer waste arising in 2021–22 recycled by June 2022.
Result	Partially achieved.

Analysis

The National Television and Computer Recycling Scheme provides free access to collection and recycling services for end-of-life television and computer products. Approved organisations deliver the services and report on the outcomes set by the Recycling and Waste Reduction (Product Stewardship—Televisions and Computers) Rules 2021.

During the first three quarters of 2021–22 recycling was at 77% of the year-to-date recycling target. Full annual figures against the scheme's recycling target will be published on the scheme's website when formal reporting for the fourth quarter has been received. Full year results will be in the 2022–23 annual report. The shortfall was largely due to COVID-19 lockdowns which reduced collections and recycling for the first half of the reporting period. The 2021–22 shortfall is carried forward, meaning additional recycling will occur in future years to make up the shortfall.

Fluctuations in the recycling rate are common within any given year. However, the scheme has achieved an average recycling rate of 99% of target each year since 2011.

Methodology

The recycling rate determines the effectiveness of the scheme in removing hazardous materials from landfill and recovering elements used in electronics manufacturing. We calculate the target by multiplying the tonnage of e-waste arising in that year by the measure target for that year, which was 70% in 2021–22.

Under co-regulatory arrangements, approved organisations provide quarterly and annual reports on achievement through our product stewardship portal. We validate the accuracy of reporting and compliance with legislative obligations. An independent auditor then audits the annual reports from approved organisations.

The steps for calculating the waste arising and co-regulatory arrangement recycling weights are in the Rules. The requirements of the Rules have been built into our product stewardship portal.

Disclosures and caveats

Full year results are due in October each year.

Measure EN-PBS-04-01

EN-PBS-04-01	Australian targets for Montreal Protocol.
Target	• 2021 HFC import limits – 7.25 million t/CO_2e. • 2021 HCFC import limits – 2.5 ODP tonnes. • 2021 Methyl bromide import limits – 28.98 t.
Result	Achieved.

Analysis

We achieved the annual targets for the Montreal Protocol on Substances that Deplete the Ozone Layer Agreement (Montreal Protocol). Reporting under the Montreal Protocol occurs on a calendar year basis, rather than financial year. Full results are in part 3 of this report, under the operation of the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989*.

Context

The Montreal Protocol is a global agreement. It requires concrete action to phase out chemicals that deplete the ozone layer and hydrofluorocarbons, which are potent greenhouse gases. Australia has legally binding obligations to phase out or phase down production and import of listed chemicals. We set annual targets in line with these obligations.

We represent Australia in Montreal Protocol negotiations. This includes variations to treaty obligations, advising government and implementing government policy to meet the obligations. We also manage the licensing and import quota system. This system is a Montreal Protocol requirement that helps us to meet annual targets.

Methodology

Licensed importers provide data on import amounts. We cross check this against information from Australian Border Force and other sources.

Measure EN-PBS-04-02

EN-PBS-04-02	Mixed waste plastics that are not of a single resin/polymer type banned from export.
Target	1 July 2021.
Result	Achieved.

Analysis

Rules giving effect to the ban of low value, low quality mixed plastic were released in 2020–21. The ban itself started on 1 July 2021. During the year we implemented the supporting licensing and declaration scheme. We received:

- 39 new applications for waste plastic exports
- 14 new licence exemption requests
- 23 new applications for licence variations.

We granted 49 licences for waste plastic exports and 15 licence variations.

Methodology

We applied our general assessment methodology to determine the performance result.

Measure EN-PBS-04-03

EN-PBS-04-03	Whole waste tyres banned from export.
Target	1 December 2021.
Result	Achieved.

Analysis

During the year we developed legislative rules to give effect to the export ban on whole baled tyres. These came into effect from 1 December 2021. During the year we implemented the supporting licensing and declaration scheme. We received:

- 46 applications for licences to export tyre waste
- 17 exemption applications
- 13 applications for licence variation.

We granted 8 exemptions, 29 new licences and 7 licence variations.

Methodology

We applied our general assessment methodology to determine the performance result.

Key activity: Progress national environmental economic accounting that helps people understand the condition of their environment and its relationship to the economy.

Measure EN-11

EN-11	Progress implementation of the National Strategy for Environmental–Economic Accounting.
Measure type	Output.
Target	• Continual improvement of the National Land Account. • At least one regional pilot account is progressed by 30 June 2022.
Result	Achieved.

Analysis

During the year we worked with partners to complete 2 national and one sub-national release of environmental–economic accounts. These were:

- National Land Account, Experimental Estimates, 2016. The Australian Bureau of Statistics (ABS) released this in June 2021, with an update in September 2021.
- National Land Cover Account, 2020. The ABS released this in June 2022. It extended the time series of land cover accounts that were first released in 2021.
- Experimental ecosystem accounts for the Gunbower–Koondrook–Perricoota Forest Icon Site. We received project outputs in November 2021 and CSIRO published the key technical reports.

Other national and sub-national accounting projects were in progress at the end of the reporting period. These included Australia's first national ocean ecosystem account and ecosystem accounts for the Murray–Darling Basin.

Context

We partner with the ABS to implement *Environmental–Economic Accounting: A Common National Approach – Strategy and Action Plan*. The Australian Government committed $22.9 million over the 5 years to June 2023 to support implementation and contribute to Australia's participation in the High Level Panel for a Sustainable Ocean Economy.

The strategy and action plan outlines how a common national approach progressively builds an integrated suite of coherent, comprehensive accounts to support decision-making. Continual improvement of accounts is key to enhancing their quality and impact. When first released, the accounts are experimental estimates. This indicates the method of development has limitations that will be addressed in future releases until the experimental label is removed.

Progress against this measure is indicated by the release or update of environmental–economic accounts. We design, pilot and implement account projects with delivery partners. The ABS provides national release. Our department or partners provide sub-national (regional) release. Our partners are:

- specialist agencies such as the Bureau of Meteorology, Geoscience Australia and ABARES
- research entities, such as CSIRO and universities
- state and territory governments
- private sector.

State of the Environment Report

We were responsible for delivery of the national state of the environment report in accordance with the EPBC Act. This required delivery of the report before the end of 2021 for tabling in parliament. We provided the *2021 State of the Environment Report* to the former minister for the environment in December 2021. This met the requirements of the Act.

Methodology

We applied our general assessment methodology to determine the performance result.

Variation from corporate plan

We amended the wording of the performance measure and target to clarify the role of the department in environmental–economic accounting.

Key activity: Reform policy and regulation to drive environmental outcomes.

Measure EN-13

EN-13	Approval bilateral agreements are in place, underpinned by national environmental standards and supported by strong assurance.
Measure type	Output.
Target	National environmental standards for matters of national environmental significance are in place.
Result	Not achieved.

Analysis

Last reporting period we introduced 2 Bills to amend the EPBC Act:

- Environment Protection and Biodiversity Conservation Amendment (Streamlining Environmental Approvals) Bill 2020. This Bill would ensure bilateral agreements with the states and territories were more effective and enduring.

- Environment Protection and Biodiversity Conservation Amendment (Standards and Assurance) Bill 2021. This Bill would establish the legislative framework for national environmental standards and an Environment Assurance Commissioner.

These Bills lapsed as they were before the Senate when parliament was prorogued in April 2022. As a result we were unable to achieve the target for this measure. Without legislation, national environmental standards could not become law and an Environment Assurance Commissioner could not be appointed.

Context

Professor Graeme Samuel AC led the 2020 independent review of the EPBC Act. The former government delivered a pathway and timeline for environmental reform. This included single-touch approvals and national environmental standards with strong assurance measures.

We worked with the states and territories to prepare approval bilateral agreements for accreditation of their processes. This would streamline environmental assessment and approvals under the EPBC Act. We developed a draft standard for matters of national environmental significance in consultation with states and territories.

We started work with the incoming government on their response to the Samuel Review. The response will include consideration of national environmental standards and the accreditation of state and territory processes.

Variation from corporate plan

We amended the targets to clarify the role of the department.

Biosecurity

Objective: Work with our partners to lower biosecurity risks to Australian agriculture, the environment and our way of life.

Key activity: Reduce the likelihood of exotic pests and diseases entering and becoming established or spreading in Australia.

Context for BI-01 measures

We have a multi-faceted approach to biosecurity risk mitigation. This includes legislative instruments, approved arrangements and point-of-entry inspections to target biosecurity risks at the Australian border. A detailed description of the Commonwealth's biosecurity system is on the Parliamentary Business submissions website (item 73).

To reduce the likelihood of exotic pests and diseases entering and becoming established or spreading in Australia, we identify biosecurity risk and assess threats based on country of origin, commodity, prevalence and behaviour of the risk as it may manifest in an imported commodity or pathway. We consider the threat in cargo, conveyance, traveller and mail pathways and we profile incoming volumes. We conduct biosecurity activities pre-border, at the border and post-border as relevant to the risk. Examples are:

- treatment pre- and post-arrival
- verification of meeting import requirements prior to arrival
- inspection to confirm presence of biosecurity risk, adherence to import conditions and/or declaration of potential risk items
- direction for treatment, export and/or destruction in response to non-compliance or identification of significant biosecurity risk.

We profile mail articles, passengers and baggage based on risk assessment and threat likelihood. We screen mail articles in gateway facilities, passenger baggage and travellers using detector dogs, X-rays, interaction and observation. Where a threat to biosecurity is identified, our biosecurity officers direct and/or manage the risk through treatment, seizure, export or destruction. Where appropriate, they question travellers and may provide a formal warning and/or infringement for non-compliance. Some cases are referred to the Australian Border Force to consider the severity of non-compliance and whether cancellation of a traveller's visa is appropriate.

Our biosecurity officers are trained, accredited and verified as competent in the performance of their functions. Their work is governed by work instructions that cover:

- assessing and screening air and sea travellers and inspecting baggage
- mail assessment and mail article assessments, screening and inspection
- detector dog screening at international mail facilities and at airports
- operating the detection scanning and X-ray units

- managing hazardous goods, accidental or illegal import of animals, goods that need an import permit, and conditionally non-prohibited goods without an import permit
- export, treatment or destruction of goods with an unacceptable level of biosecurity risk
- infringement notices, referral for enforcement and referral to Australian Border Force for visa cancellation.

We continued to make good progress on implementing the recommendations of the ANAO performance audit (Auditor-General Report No. 42 of 2020–21 *Responding to Non-Compliance with Biosecurity Requirements*). We are on track to implement all recommendations in 2022–23.

Caveats and disclosures for BI-01 measures

We use a range of measures to reduce the likelihood of exotic pests and diseases entering and becoming established or spreading in Australia. Given the diversity and nature of these measures and their cumulative impact, it is challenging to accurately quantify the extent to which specific interventions impact risk levels.

Variation from corporate plan

We reviewed this performance measure and created specific measures and targets to enable separate reporting on each priority.

The following BI-01 results describe our performance on key pathways and approved arrangements. These are a proxy for the effectiveness of our offshore and onshore biosecurity interventions.

Measure BI-01-01

BI-01-01	African swine fever: Reduction in risk of African swine fever because of biosecurity measures implemented by the department.
Measure type	Effectiveness and regulatory.
Target	Assessment of reduced risk from risk-based interventions in mail and traveller pathways, including interception rates of pork products.
Result	Partially achieved.

Analysis

In 2018 we implemented measures to reduce the likelihood of African swine fever (ASF) disease entering Australia via the international traveller and mail pathways. We continued to monitor these measures to ensure risk remains at a level consistent with Australia's Appropriate Level of Protection. Table 7 shows that ASF measures reduced the likelihood of ASF disease entering Australia. For example, we improved interception of pork products in:

- non-letter class mail from 0.002% to 0.009%
- incoming travellers from 1.19% to 1.65%.

Table 7 Effectiveness of African swine fever measures

Item	Pre-ASF measures a 2015–16 to 2017–18	Post-ASF measures 2021–22
Percentage of screened mail articles containing pork products	0.005%	0.02%
Mail articles: weight (number) pork items seized	4,834 kg (4,110)	5,078 kg (4,121)
Percentage of screened travellers detected with pork products	1.19%	1.65%
Travellers: weight (number) pork items seized	28,897 kg (34,599)	7,493 kg (8,261)

a Pre-introduction of ASF-measures; average over 3-yearly individual values.

Context

ASF fragments have been detected in seized pork products at Australian mail gateway facilities and international airports. Our risk mitigation activities, implemented in November 2018, targeted the threat of ASF. They ensured offshore traders understood and followed requirements, provided education and awareness campaigns, and increased the screening of incoming mail and travellers.

We expect interception rates to increase before they reduce over the longer term as education and awareness campaigns take effect. These campaigns have an increased focus on potential contaminated products.

Methodology

We used data from before increased ASF measures were implemented (pre-November 2018) as a baseline for comparison with post-implementation performance. This shows the effectiveness of ASF measures. Analysis of the mail and traveller datasets shows whether there were improvements in the interception of risk materials (pork products).

Caveats and disclosures

COVID-19 had significant impacts on mail and traveller volumes. The reduced volume may skew results for detections of risk goods. The change in volume was:

- reduced non-letter class volumes from 81.4 million in 2017–18 (pre-COVID-19) to 22.7 million in 2021–22
- reduced traveller numbers from 21.6 million in 2017–18 (pre-COVID-19) to 3.6 million in 2021–22.

Measure BI-01-02

BI-01-02	Brown marmorated stink bug: Reduction in risk from brown marmorated stink bug because of biosecurity measures implemented by the department.
Measure type	Effectiveness and regulatory.
Target	Assessment of reduced risk through a reduced proportion of brown marmorated stink bugs intercepted.
Result	Achieved.

Analysis

In 2021–22 there were fewer live brown marmorated stink bugs (BMSB) than in 2020–21. We had:

- 30% decrease in detections in biosecurity entry points
- 60% decrease in detections in post-biosecurity intervention points
- 45% overall decrease in live BMSB detected.

Table 8 Detections of brown marmorated stink bugs

Condition at detection point	Number of detections 2020–21 a	Number of detections 2021–22 a
Alive at biosecurity intervention point	17	12
Dead at biosecurity intervention point	187	134
Alive at post-biosecurity intervention	15	6
Dead at post-biosecurity intervention	13	6
Total detections	232	158

a For the BMSB season up to 2 June of each year.

The reduced live BMSB detections were likely due to:

- higher levels of compliance through customs brokers and importers understanding and meeting import conditions
- continued compliance by BMSB offshore treatment providers with treatment methodologies, with a reduction in suspensions from 6 in 2020–21 to one suspension in 2021–22
- possible environmental factors in countries with known populations of BMSB.

It is difficult to demonstrate environmental factors, but we had a significant decrease in post-biosecurity intervention detections and no detections in the air cargo pathway. This was despite running an inspection verification regime across air cargo from September to December 2021.

Context

BMSB continued to spread in North America and Europe, and population densities increased in many regions. The number of BMSB arriving at the border increased substantially and new trade pathways became at-risk. Rapidly changing risk created challenges in the prediction and management of BMSB.

In 2019–20 we implemented new approaches to offshore and onshore biosecurity. We required mandatory treatment of at-risk goods to manage the risk of introducing live BMSB into Australia. Goods shipped as break bulk, in flat rack or open top containers required mandatory offshore treatment. Goods shipped in 6-hard-sided containers could be treated onshore.

Methodology

This performance measure reports on the effectiveness of biosecurity measures put in place to manage BMSB risk. We sourced baseline data from our incidents database system and the biosecurity pest and disease notifications. We curated the data to ensure that every detection by a biosecurity officer was captured without duplication.

Measure BI-01-03

BI-01-03	Hitchhiker pests including khapra beetle: Reduction in risk from khapra beetle because of biosecurity measures implemented by the department.
Measure type	Effectiveness and regulatory.
Target	Assessment of reduced risk through a reduction in the number of consignments of imported goods where khapra beetle is detected.
Result	Achieved.

Analysis

The number of consignments of imported goods with detection of khapra beetle reduced from 19 in 2020–21 to 4 in 2021–22. This represents a 79% reduction. We attributed this reduction to:

- urgent actions that targeted high-risk commodities and pathways
- compliance of imported goods with these actions.

Of the 4 detections during the year, 3 were associated with other goods (non-plant products) from non-target risk countries. For this pathway, this was a reduction from 11 detections in the previous reporting period.

Context

Khapra beetle is a serious and highly invasive pest that is not present in Australia. Khapra beetle is Australia's second highest National Priority Plant Pest and the highest ranked pest for Australia's grain industry. The introduction and spread of khapra beetle in Australia would have severe economic consequences, particularly for Australia's agricultural and food production.

Australia has seen an increase in khapra beetle detections as a hitchhiker pest in imported empty sea containers, sea containers of consignments that khapra beetle previously had no association with, and from countries not known to have khapra beetle. To minimise the risk of khapra beetle entering Australia, we introduced phased urgent actions from 2020–21. These actions included:

- banning imports of high-risk plant products within unaccompanied personal effects and low value freight
- banning imports of high-risk plant products within accompanied baggage via international travellers or mail articles
- offshore treatment of sea containers packed with high-risk plant products in khapra beetle target risk countries
- offshore treatment of sea containers packed in a khapra beetle target risk country that will be unpacked in a rural khapra risk postcode of Australia
- offshore treatment of high-risk plant products exported from a khapra beetle target risk country
- revised phytosanitary certification requirements for listed other goods such as seeds, nuts, green coffee beans and seeds for sowing.

The final phase of urgent actions (sea container measures) will likely be introduced in 2022–23.

Methodology

This performance measure assesses the effectiveness of urgent actions in reducing the khapra beetle risk in imported goods.

We established the baseline measure based on 2020–21 consignments of imported goods where khapra beetle was intercepted (including empty sea containers and post-biosecurity detections). This preceded introduction of the urgent actions. The baseline supports future measurement of khapra beetle interceptions and assessment of urgent actions.

We sourced data for this measure from biosecurity pest and disease notifications, our incidents database and management systems. We curated the data to remove duplication and exclude out-of-scope detections, such as detections of dead khapra beetle in treated goods.

Key activity: Enhance awareness and understanding of biosecurity risks across business sectors and the Australian community.

Measure BI-02

BI-02	Increased public engagement with biosecurity information.
Measure type	Output.
Target	Establish baseline.
Result	Partially met.

Analysis

Protecting Australia from biosecurity and human biosecurity risks associated with the movement of people, goods, aircraft and vessels is vital to protect our $80 billion agricultural export industries, as well as our unique environment, tourism industries, health and way of life.

Online purchases from overseas and international travel create biosecurity risks for Australia. This is in terms of the goods people purchase and bring back from their travels or buy from online retailers. One example is ASF, which is potentially one of the most damaging animal diseases. It has been found in pork products imported through the mail pathway and in passenger baggage. There was an increase in hitchhiker pests, such as BMSB and khapra beetle, which may be present in the packaging of goods.

To combat emerging threats and risks, the Australian Government uses targeted biosecurity communication, messaging and education to make people aware their actions can directly and/or indirectly threaten Australia. Increasing the public's engagement with and awareness of biosecurity threats ultimately reduces the risk of a biosecurity incident occurring. Increased public engagement also informs the public of what they can personally do to help prevent the spread of pest and disease in Australia. It is for these reasons that we have a comprehensive approach to increasing the public's awareness of biosecurity issues.

During the year we worked to increase the public's engagement with biosecurity information. Our efforts highlighted our agility to pivot to address emerging biosecurity threats, noting the risks encountered may not exist next year.

Our biosecurity communication approach was underpinned by market research, which informed our understanding of stakeholders and audiences, and enabled delivery of targeted information campaigns, education and outreach programs. Our approach during the year set the baseline for future performance measurement. It supported efficiency gains for future campaigns by applying a continuous improvement philosophy informed by lessons learned. Key achievements in 2021–22 were:

- developing an internal Biosecurity Communication and Engagement Strategy to inform activities and engagement channels, such as our new webinar and podcast series

- partnering with state and territory governments and other stakeholders to deliver cohesive messaging for industry and the broader community
- providing awareness activities to support the re-opening of the Australian border and resumption of international travel, including culturally and linguistically diverse content.

Research baseline
Independent analysis of biosecurity awareness helps to inform the forward program of engagement activities. We completed one research activity with an external provider. This provided baseline information on biosecurity awareness among the Australian community. The baseline will assist us to develop targeted biosecurity education products.

Outputs baseline
Increased community awareness provides a critical layer in our biosecurity defence at the Australian border. With greater community awareness, individuals can take proactive steps to prevent pests and diseases from spreading as a result of their own decisions and activities. For example, being considered in the purchase of items from overseas that may contain biosecurity risk material or reporting unusual pests.

A member of the community reported khapra beetle found in their new refrigerator. Without biosecurity awareness and reporting from this person, there was risk of Australia's number 2 priority plant pest (and top priority plant pest for grains) spreading, with the potential to severely impact Australia's grain industry and grain exports.

A number of methods are used to inform our approach to communicating biosecurity messages to the Australian community, including the following:

- preparing reports and educational material based on non-compliance activities
- intelligence and expert advice targeting high-risk activities
- focus of the Australian Government's biosecurity communications and public engagement on raising awareness of foot and mouth disease and lumpy skin disease.

During the year we focussed on emerging biosecurity threats and risks at the Australian border, such as foot and mouth disease and lumpy skin disease. This resulted in delivery of 10 webinars, 7 podcasts and one quarterly website analysis report. These are available from our public awareness and education website, and they provide the 2021–22 baseline.

Reports baseline
We delivered 8 updates to verbal and written reports through various governance forums. This included internal reporting and reports to the National Biosecurity Communication and Engagement Network. This provides the 2021–22 baseline.

Campaigns baseline
We budgeted for 2 campaigns in 2021–22 to support departmental response activities for emerging biosecurity threats and risks at the Australian border. This provides the 2021–22 baseline. The campaigns were in accordance with the Australian Government *Guidelines on Information and Advertising campaigns by non-corporate Commonwealth entities*. The campaigns were:

- International traveller. Delivered from December 2021 to April 2022.
- Online shopping. Developed for release in May 2022 but postponed because of the Australian Government election.

Educational material baseline
The baseline for 2021–22 is progressing 2 educational packages. During the year we progressed the following:

- Junior Biosecurity Officer. We developed a children's pack which was distributed at the Canberra Airport Open Day in April 2022. We held discussions with Qantas about providing the packs to children in Qantas lounges and on international flights.
- In conjunction with the New South Wales Department of Primary Industries, we developed a scoping study and concept report for a pilot online education game.

Context

Protecting Australia from biosecurity and human biosecurity risks associated with the movement of people, goods, aircraft and vessels is vital to protect our $80 billion agricultural export industries, as well as our unique environment, tourism industries, health and way of life.

People are both the greatest threat and greatest asset to the strength and resilience of our national biosecurity system. Biosecurity is a shared responsibility. However for everyone to do their part, all Australians need to understand what biosecurity means and the role they play in protecting Australia's biosecurity status.

A multi-year communication and education strategy will be delivered to encourage participation and engagement with users and beneficiaries of the biosecurity system, and to increase community and business investment in biosecurity. This will strengthen people's awareness of biosecurity risk to Australia and their personal responsibility and will encourage greater compliance. It will include a Biosecurity Australian brand for use across multiple channels and audiences, expanding and developing targeted biosecurity education and communication programs, and further developing the biosecurity.gov.au website to ensure it becomes the key national resource for biosecurity information.

As well as a focus on raising baseline awareness, a series of targeted campaigns will be delivered under this strategy to focus on current significant biosecurity threats such as hitchhiker pests (including khapra beetle and BMSB) and highly contagious animal diseases such as ASF. These and other pests and diseases pose a particularly high risk to primary producers and, ultimately, to Australia's export status. These campaigns will be directed at key cohorts and include clear calls to action to raise awareness of the specific risks and consequences.

This strategy will build on previous campaigns and advertising activities, which have demonstrated positive effects on behaviour. Each phase will conclude with evaluation and research into the effectiveness of communication activities, including reach and impact, and to inform subsequent activities.

This measure is aligned to departmental strategic priorities as outlined in *Commonwealth Biosecurity 2030*. Biosecurity risks are increasingly complex and challenging to manage. We are seeking to enhance engagement, awareness and understanding of biosecurity risks across the Australian community and business sectors. This helps everyone to better understand their role in protecting the country from pest and disease risks. Shared responsibility will lower biosecurity risks to Australian agriculture, the environment and our way of life. It will also improve compliance across the traveller, mail and cargo pathways to provide a more connected, resilient and shared biosecurity system.

Methodology

There is some community awareness (particular within certain cohorts, such as farmers) that the spread of new diseases and pests into Australia could have wide-reaching consequences. However, there is variable understanding about the specific nature of and reasons for Australia's biosecurity measures, and how seemingly insignificant items or individual non-compliance could lead to the spread of a devastating pests and diseases. Additional efforts are required to educate target audiences about biosecurity and key prevention measures and provide clear information about the risks and potential consequences of non-compliance.

Our biosecurity communications aim to convey the following messages to the Australian public:

- A strong biosecurity system benefits all Australians.
- All of us have a role to play in protecting Australia from pests and diseases, and it is important to understand our responsibilities and the impact our actions can have.
- The government is investing in raising awareness of biosecurity to protect our agriculture industries, economy, environment and way of life.

We measured our effectiveness through research and data to establish a baseline, noting we are maturing our capacity to measure the effectiveness of our efforts of increased public engagement with biosecurity information. This analysis will be conducted sourcing information on relevant/target outcomes such as a usability review, market research, mail and cargo non-compliance activity, traveller declaration forms and public feedback.

Key activity: Regulate and collaborate to assure compliance with biosecurity requirements.

Measure BI-03-01

BI-03-01	Reduced levels of non-compliance with regulations administered by the department.
Measure type	Effectiveness and regulatory.
Target	High-value cargo non-compliance rate.
Result	Achieved.

Analysis

High-value cargo is cargo imported on a full import declaration. During the year the non-compliance rate reduced by 12.5% (Table 9). This involved:

- reduced volume of non-compliant full import declarations
- increase in the total volume of full import declarations.

Table 9 Non-compliance rate of high-value cargo imported into Australia

Item	2020–21	2021–22
Non-compliance rate of all high value cargo imported into Australia	1.6%	1.4%
Number of non-compliant full import declarations	66,490	59,153
Total number of full import declarations	4,119,761	4,202,074

Regulatory compliance is affected by the state of the economy, complexity and vulnerability of supply chains, fluctuations in volumes and natures of imported cargo, and changes in environmental factors. We attribute the reduced non-compliance rate in 2021–22 to the effectiveness of:

- our *Regulatory Practice Statement* and *Compliance Policy*
- our promotion of compliance through clear and understandable regulations and targeted education campaigns
- our approach to managing non-compliance proportionately to the risk it presents.

Methodology

We determined the non-compliance rate from:

- data from the Integrated Cargo System, which provided the volume of non-compliant high-value cargo full import declarations and total volume
- data from the Agriculture Import Management System, which categorised biosecurity direction results into compliance with import requirements and non-compliance
- data on detection of pest or disease.

Caveats and disclosures

Reporting for this target is a proxy for the non-compliance system.

The quality of available data, including from external sources, impacts the extent to which we can comprehensively assess the effectiveness of compliance arrangements.

Measure BI-03-02

BI-03-02	Reduced levels of non-compliance with regulations administered by the department.
Measure type	Effectiveness and regulatory.
Target	Approved arrangements non-compliance rate.
Result	Partially achieved

Analysis

There were approximately 3,000 approved arrangements at the end of the reporting period. In 2021–22 there was a 0.54% decrease in the total pass rate (Table 10). This small change indicated that rates of compliance with regulations were largely maintained. We attributed the slight decrease to variations in audit methodology rather than non-compliant behaviours.

Unannounced audits have a higher rate of non-compliance detection than announced audits. We increased unannounced audits from 3.3% in 2020–21 to 12.7% in 2021–22. This contributed to increases in the 'pass with non-conformities' rate and the 'failed' rate.

In 2020–21 we introduced remote audits as COVID-19 constrained on-site audits. During the reporting period we returned to on-site audits. The on-site audits identified non-compliance instances potentially not revealed via remote audits.

Table 10 Results from audit of approved arrangements

Audit results by category	2020–21 (%)	2021–22 (%)	Difference (%)
Pass	72.89	66.42	–6.47
Pass with non-conformities	23.87	29.80	5.93
Total pass	96.76	96.22	–0.54
Total fail	3.24	3.78	0.54
Pending	0	0	0

Context

We establish and maintain approved arrangements under the *Biosecurity Act 2015*. These help us manage biosecurity risks posed by goods imported into Australia. This enhances Australia's status as a trade partner of choice.

We work closely with industry stakeholders and individual biosecurity industry participants to manage the biosecurity risks posed by goods imported through approved arrangements.

Approved arrangement policy requires that biosecurity industry participants who hold approved arrangements are audited at least once per year to assess their compliance with arrangement conditions.

Methodology

During the year we audited the approved arrangements to assess compliance with the conditions. We recorded the results in our Quarantine Premises Register system. This system automated the pass/fail decision based on the number and severity of non-conformities. This is in accordance with the audit policy for approved arrangements.

To calculate the results we extracted a report from the Quarantine Premises Register system. We filtered for scheduled and probation audit types and arrangements with an approved Class. We summarised the data into categories. We repeated the reports to ensure we correctly applied the filters.

Caveats and disclosures

Reporting for this target is a proxy for the non-compliance system.

Measure BI-03-03

BI-03-03	Reduced levels of non-compliance with regulations administered by the department.
Measure type	Effectiveness and regulatory.
Target	Post-intervention non-compliance rate for international travellers.
Result	Achieved.

Context

We formulate, implement and maintain the operational policies for the management of biosecurity risks posed by goods imported into Australia on the traveller pathway. This work is of direct benefit to Australia's agricultural industries, exporters, communities and the environment through the maintenance of Australia as a trade partner of choice due to its favourable biosecurity status.

Everyone who travels to Australia is subject to assessment for biosecurity risk. This commences prior to arrival and includes the completion of an incoming passenger card. A proportion of travellers are subject to one or more interventions on arrival in Australia. Our policy provides for the approach and rates of intervention applied to arriving travellers. Endpoint surveys are undertaken as a verification of the intervention approach.

We use endpoint survey to measure post-intervention compliance in the traveller pathway. It measures the effectiveness of biosecurity screening and interventions applied at the border. We select a proportion of travellers who have already passed through border control screening and/or partial or full inspection. Our officers re-screen for the individual's compliance. This provides data to determine the approach rate of biosecurity risk material, which enables measurement of the overall effectiveness of intervention measures. The level of effectiveness drives understanding of the need for change or reform.

Analysis

The post-intervention compliance rate for 2021–22 was 97.89%. This was a slight increase of 0.57% compared to 2020–21, when the rate was 97.33%.

There is a marginal improvement in the post-intervention compliance rate. Previous measurement of this indicator shows slight variation each year, but it also shows a consistently high level of post-intervention compliance.

Methodology

The result is calculated from the traveller and mail data model, which draws from our systems (including the Mail and Passenger System) and from the Department of Home Affairs. The model automatically updates with new data every 24 hours.

Caveats and disclosures

The reporting period had an unprecedented level of change in the international traveller pathway due to the COVID-19 shutdown. The borders were closed to almost all international arrivals, with exceptions including those returning from abroad as a result of the pandemic and those meeting exemption requirements. We enforced biosecurity controls at the border, but there was an abrupt change to the risk profile of arriving travellers. This was likely to have skewed the data.

We adapted endpoint survey rates to manage reduced travellers, but the overall sample population was a portion of what it was prior to the pandemic.

Measure BI-04

BI-04	Increased responsiveness to post-border detections.
Measure type	Effectiveness and regulatory.
Target	Incidents are managed in a timely way to decrease the risk to the environment.
Result	Partially achieved.

Context

A post-border detection occurs when an emergency pest or disease is detected and is of unknown origin or moved beyond the original imported good or conveyance. The required response, notifications and time frames are in the relevant response deed. These deeds also describe consultative mechanisms and the role of jurisdictions and the National Management Group. The deeds are:

- Emergency Plant Pest Response Deed
- Emergency Animal Disease Response Agreement
- National Environmental Biosecurity Response Agreement.

This performance measure relates to our role under the response deeds. We establish the joint government–industry cost sharing arrangements for biosecurity responses. We work with states, territories and industry to agree national response strategies and share costs. We maintain arrangements under the *Biosecurity Act 2015*.

We only directly respond to detections on lands managed by the Commonwealth or in imported goods released from biosecurity control (known as a post-biosecurity detection). Our response can involve outsourcing to state or territory agencies.

The state and territory biosecurity agencies are responsible for controlling post-border response activities within their jurisdictions. This includes monitoring, surveillance and on-ground response. We did not include state or territory activities in our assessment of performance.

Analysis

We manage an average of 2,000 reports of potential post-biosecurity detections annually. About 40% require biosecurity intervention. During the year we established surge capacity for surveillance and diagnostics. This increased our responsiveness to detections.

The effectiveness of our approach was demonstrated by our response to detection of khapra beetle. On 30 July 2021 environmental DNA scanning detected khapra beetle in a consignment of mixed retail goods. We:

- implemented legislative and operational control measures to enable an appropriate level of protection and maintain Australia's favourable biosecurity status
- issued rapid directions to secure suspected contaminated goods
- established a senior response coordination group to oversee the incident within 24 hours of receiving confirmation of the detection
- coordinated the national response to support action across 6 responding jurisdictions
- transitioned control to state and territory biosecurity response agencies on 20 September 2021.

Our responsiveness to the post-biosecurity detection contributed to a reduction in the risk posed to Australia's grain industry. During the year we also engaged the Queensland Government to eradicate red imported fire ant from the Port of Brisbane (Commonwealth land). Queensland had the expertise and capacity to respond, gained from a separate program in South-East Queensland.

When an emergency pest or disease is detected in Australia, the jurisdiction's biosecurity agency must notify the relevant Australian chief officer within 24 hours of becoming aware of the potential incident. The chief officers notify the parties to the relevant response deed to establish the national consultation mechanisms. The department chairs the consultation mechanisms and the National Management Group, which is the decision-making body.

In 2021–22 there were 79 notifications to the Australian chief officers. Notifications were triaged depending on the risk the pest or disease represented and were addressed in a time frame commensurate with risk. The following paragraphs describe the actions taken under the response deeds.

Of the 53 pest detection notifications to the Australian Chief Plant Protection Officer:

- 19 required a decision under the Emergency Plant Pest Response Deed:
  - 14 were considered in out-of-session meetings
  - 5 were considered across 15 in-session meetings; 3 of these were escalated to the National Management Group for consideration
- 34 were for information as the pests were not emergency plant pests and did not require formal consideration.

Of the 13 notifications to the Australian Chief Environmental Biosecurity Officer:

- 8 were plant pest detections; one of these was a weed notification considered during in-session meetings, out-of-session meetings and by the National Management Group
- 5 detections were reported through the Consultative Committee on Introduced Marine Pest Emergencies.

Of the 13 notifications to the Australian Chief Veterinary Officer:

- 10 were diseases on the national list of notifiable animal diseases. Of these:
  - one was listed under the Emergency Animal Disease Response Arrangement and considered at 9 meetings of the Consultative Committee on Emergency Animal Disease (CCEAD) and 8 meetings of the National Management Group.
  - 9 were for information only as no national response was required.
- 3 were circulated out-of-session to the aquatic CCEAD and one aquatic CCEAD response continued from the previous financial year. The incidents were managed by or under management of the affected jurisdiction(s). One matter was referred to the Sub-Committee for Aquatic Animal Health for further advice on disease management.

Caveat

Decisions about responding to pests and diseases were made on a case-by-case basis, informed by an assessment of the risks posed. The timeliness for a response related to the risk posed, with the threats from high-risk pests and diseases generally being actioned within one business day of a confirmed notification. We are not in a position to report on the actions taken by jurisdictions to respond to pest and disease incursions.

Measure BI-05

BI-05	Biosecurity service standards are delivered.
Measure type	Effectiveness and regulatory.
Target	Service standards are met or exceeded.
Result	Partially achieved.

Analysis

We have 14 service standards for our biosecurity operations. In 2021–22 we met or exceeded targets for 7 standards. The following tables provide the results for our client contact services, import services and export services.

Table 11 Biosecurity service standards – client contact services, 2021–22

Service standard description	Measure of success	Result
Calls to our national contact number. This standard applies if you contact us through the national contact number 1800 900 090. We will answer your call within 5 minutes.	80%	64% **a**
Online general enquiries form. This standard applies to enquiries made through our contact form. We will: • immediately confirm we have received your enquiry • respond to your request within 10 business days If we cannot fully answer your query in that time we will let you know when to expect a complete response. Wherever possible, we will respond earlier. Some services have specific service standards. These include permits and grant applications.	80%	60% **a**
Bookings by phone or email. We will confirm we have received your booking request, cancellation of amendment within 1 business day.	95%	100%

a We did not meet service standards because of a surge in written and telephone contact about assessment and inspection delays. COVID-19 caused economic, trade and workforce disruption within global supply chains. There was an imbalance in global container trade, and Australia's ports and shipping were at capacity. Extreme price increases for logistics were compounded by limited space on vessels for goods. Changes in consumer spending habits increased pressure on supply chains, including border clearances.

Table 12 Biosecurity service standards – import services, 2021–22

Service standard description	Measure of success	Result
Goods inspection at an approved premises. We will provide this service within 3 business days of confirmation of your scheduled appointment. We may be delayed by significant short-term increases in trade activity. During these periods, we will contact you to find a mutually suitable time for your appointment.	95%	85% **a**
Treatments. We will provide you or your representative with treatment direction within 2 business days after an inspection. The time we take to process your goods depends on the nature of treatment or the mandatory duration of quarantine periods.	95%	95%
Non-commercial vessel inspection. If you are arriving at a port where we have a permanent staff presence, we will provide an initial inspection within 1 business day from you advising us of your arrival. There may be delays during periods of increased arrivals, such as regattas.	95%	97%

Table 12 Biosecurity service standards – import services, 2021–22 (continued)

Service standard description	Measure of success	Result
Import documents lodged via COLS. If we receive an urgent lodgement from you, we will process it within 1 business day. We will process non-urgent lodgements within 2 business days of receiving it. We may take longer to process lodgements if: • they require policy advice • you have provided incomplete or incorrect information • we need more information to continue the assessment (we will notify you if this happens).	80%	66% urgent **b** 68% non-urgent **b**
Import documents lodged by email. We will process your lodgement within 3 business day of receiving it. We may take longer to process lodgements if: • they require policy advice • you have provided incomplete or incorrect information • we need more information to continue the assessment (we will notify you if this happens).	80%	97%
Visiting our offices to clear imported or exported goods. We will attend to you within 30 minutes of you arriving at the office during business hours. There may be a delay during peak times in our larger offices. You can expect to meet with one of our officers for about 15 minutes for each standard transaction. We prioritise urgent and non-commercial client personal effects.	80%	Unable to measure **c**
Import permits through BICON. We will issue import permits within 20 business days of receiving payment and a completed application. We may take longer if: • your application needs technical assessment • you have provided incomplete or incorrect information • we need more information to continue the assessment (we will notify you if this happens) • it is a novel product or has been prepared in a novel manner.	90%	64% **d**

a The economic, trade and workforce disruption from COVID-19 challenged global supply chains. There was an imbalance in global container trade, with up to 10% of the world's containers on vessels awaiting berths. Australia's ports and shipping were at capacity. Extreme price increases for logistics were compounded by limited space on vessels for goods. Changes in consumer spending habits increased pressure on supply chains. Additionally, there was increased threat from the global spread of pests and diseases such as Japanese encephalitis, foot and mouth disease, lumpy skin disease, BMSB, khapra beetle and varroa mite. In combination, these factors affected the demand for regulatory services. **b** In addition to note a, delays were exacerbated by industry not providing documentation or goods for inspection that met importing/biosecurity requirements. The industry-driven delays were not quantified due to system limitations, but these were a major contributor to biosecurity workload. We worked to develop mechanisms to capture and report on industry-driven aspects to allow targeted engagement and subsequent improvement in service level outcomes. **c** We no longer record results for this standard because we decommissioned old technology. We temporarily ceased client-facing import document assessments but continued to provide counter services for export document assessments. This was due to strict conditions of some importing countries. **d** In addition to note a, COVID-19 disrupted shipping (air and sea). This required re-work to issue permits.

Table 13 Biosecurity service standards – export services, 2021–22

Service standard description	Measure of success	Result
Goods inspection at an export-registered establishment. An officer will inspect your goods within 3 business days of you requesting an appointment. Inspection times are based on availability. We may be able to inspect your goods earlier.	95%	99%
Goods inspection for airfreight exports. We will inspect your goods within 24 hours of you requesting an appointment. There may be delays during periods of increased trade activity.	95%	94%
Goods inspection for sea freight exports. We will inspect your goods within 3 business days of you requesting an appointment. There may be delays during periods of increased trade activity.	95%	99%
Bulk vessels for export inspection. We will inspect your vessel within 3 business days of a confirmed appointment.	95%	99%

During the year cargo volumes remained high. Volumes were more stable than in 2020–21, when total imported cargo volumes increase by 31%. The changes in cargo volumes during the year were:

- 11.4% (9.08 million) increase in total imported cargo volumes
- 24.3% (704,921) increase in self-assessed clearance screening
- 1.5% (12,184) decrease in total cargo assessed
- 0.9% (2,845) decrease in total cargo inspected
- 11.8% (25,630) decrease in phone calls to the 1800 900 090 number.

During the year we worked to improve outcomes without compromising biosecurity. We:

- released a Biosecurity Portal for industry to book, track and change requests online
- encouraged industry to use virtual label visual inspections for imported food surveillance
- set up the green lane trial of importers self-managing biosecurity risk across their supply chains
- set up a trial with the Port of Melbourne to transform how biosecurity outcomes are achieved with new car imports
- commenced a trial for a new approved arrangement authorising biosecurity industry participants to perform rural tailgate inspections on impediment-free containers
- reviewed import permit requirements for certain commodities, with the aim of simplifying import requirements in the Biosecurity Goods Determination
- engaged with other government and border agencies to simplify trade-related regulatory processes, better integrate systems and align processes
- worked on digital, automation, screening and diagnostic technologies to modernise our business practices while increasing the detection rate.

Context

Our service standards ensure we deliver services within agreed time frames. The standards describe how individuals and businesses can expect us to progress requests for information or services. The service standards also outline obligations of individuals and businesses. These help us provide information and services in a timely way. Performance results may be affected by the ability of individuals and businesses to meet their obligations.

Methodology

For this measure, we extracted data from our information systems. Reports are peer reviewed. Where the results vary from expected findings, we validate the reporting methodology and potential reasons for variation.

Key activity: Invest in partnerships, technology and innovation to advance the national biosecurity system.

Measure BI-06

Measure BI-06	Number of arrangements in place with near neighbours in the Indo-Pacific region.
Measure type	Output.
Target	Establish baseline in first year.
Result	Baseline set at 8.

Analysis

We progressed activities, dialogue and engagement with near neighbours during the year. This involved work with government and non-government organisations relevant to biosecurity and plant and animal health. The work strengthened our engagement, partnerships and leadership in the Indo-Pacific. It also reduced biosecurity risks to Australian agriculture.

The target for this reporting period was to establish a baseline number of formal arrangements with near neighbours in the Indo-Pacific region. We defined a formal arrangement as a bilateral or multilateral agreement with government agencies at any level or duration, including individual activities. We excluded arrangements with non-government organisations.

In 2021–22 the baseline was 8 arrangements. These were:

- Plant Protection Agreement for the Asia and Pacific Region, multilateral
- Memorandum of Understanding on Agricultural Cooperation, Indonesia
- Support Timor-Leste response to African swine fever through public awareness, animal health extension services, and passive surveillance program, Timor-Leste
- Animal Health Information System for Papua New Guinea, Papua New Guinea
- African swine fever response in Papua New Guinea, Papua New Guinea

- Surveillance Delivery Agreement 2022 (plant), Solomon Islands
- Surveillance Delivery Agreement 2021–22 (plant), Papua New Guinea
- Surveillance Delivery Agreement 2021–22 (plant), Timor-Leste.

Context

This performance measure aligns with the *Commonwealth Biosecurity 2030* strategic action of 'Increase partnership activities with our near neighbours to build their risk management capability and continue our engagement with key international bodies'.

Strengthening engagement, partnerships and leadership in the Indo-Pacific is important to Australia. The Pacific Step-up is a foreign policy priority. It represents the Australian Government's commitment to adopt practical means to strengthen regional cooperation and integration.

Partnerships strengthen the biosecurity systems of our Indo-Pacific neighbours, which safeguards human, animal, plant and environmental health across the region. We adopt agreements as appropriate to the program or activity and the organisations contributing to it. These could be:

- multilateral arrangements and agreements, such as those that established the Pacific Plant Protection Organisation and the Asia and Pacific Plant Protection Commission
- bilateral arrangements to enable transfer of funds, such as those used for partnering on offshore plant and animal health surveillance with Papua New Guinea, Timor-Leste and Solomon Islands
- informal arrangements which, when proven, may move to formal status.

Our 2022–23 corporate plan will adjust this performance measure to support broader assessment of our partnership and engagement work across the region. It will encompass collaborative offshore surveillance, early detection of plant pests and animal diseases, capacity-building activities, improvements to plant and animal health systems, relationships forged, meetings and workshops held with key partners, regional international engagement, and expertise sought and shared.

Methodology

To support future measurement, we have implemented a register of formal arrangements. We will document arrangements as they are formalised to enable tracking over time.

Variation from corporate plan

We reviewed this performance measure and made minor changes to the wording to clarify the measure and target.

Measure BI-07

BI-07	Number and extent of biosecurity preparedness exercises completed.
Measure type	Output.
Target	Establish baseline.
Result	Baseline set at 1.

Context

Our preparedness activities draw on quantitative and qualitative data from response-related activities, including exercises. An exercise is an objective-driven activity for testing, practising or evaluating processes or capabilities. The scale and complexity range from a scenario seminar through to an on-ground simulation of an incident. Our exercises apply the Australian Institute for Disaster Resilience framework, specifically the *Lessons Management Handbook* and the *Managing Exercises Handbook*.

Analysis

In 2021–22 we commenced a national biosecurity emergency response exercise program. It is designed to explore the role of the Commonwealth during a significant biosecurity emergency and to enhance Australia's capability to respond to current and emerging biosecurity threats.

The program focuses on the use of emergency legislative powers and the roles and responsibilities of Commonwealth agencies, particularly during an escalating and significant national emergency. The program involves 13 separate exercises. Each exercise will be evaluated to inform lessons management to support improved responsiveness. We will ensure alignment between our program and the programs, training and exercises delivered by partner organisations.

In October 2021 we delivered the final activity of Exercise Razorback. This 2-year program tested the response tools and decision-making arrangements relating to African swine fever.

During the year we commenced a multi-agency and cross-jurisdictional national exercise series. Exercise Paratus explores the role of the Commonwealth during a significant biosecurity emergency. It will enhance Australia's capability to respond to current and emerging biosecurity threats. The exercise was developed, in part, in response to the *Royal Commission into National Natural Disaster Arrangements Report*. This found there needs to be a national approach to disaster with greater cooperation and coordination across all levels of government.

Exercise Paratus has 12 discrete activities of increasing scale and complexity. It will exercise the biosecurity emergency preparedness capabilities of Commonwealth, state and territory agencies. The 2021–22 Budget provided $3.6 million over 2 years under 'Investing in Trade, Agriculture and the Environment through Supporting Australia's Biosecurity Preparedness, Response and Recovery Capability'.

In response to lumpy skin disease threat in Indonesia, Exercise Paratus delivered 2 discussion workshops with state and territory biosecurity counterparts. These analysed national preparedness and identified gaps to inform work agendas.

Outcomes from Exercise Razorback informed our updates to guidance material and technical manuals. This enhanced the national response capability for African swine fever. We will continue to use lessons from Exercise Paratus and Exercise Razorback to inform our efforts to modernise and mature biosecurity emergency management arrangements.

Methodology

We applied our general assessment methodology to determine the performance result.

Water resources

Objective: Improve the sustainable management of Australia's water resources for agriculture, the environment and communities.

Key activity: Provide sector stewardship to drive improved water development outcomes.

Measure WA-01

Measure WA-01	The Water Efficiency Labelling and Standards (WELS) scheme is improved.
Measure type	Effectiveness and regulatory.
Target	• Compliance with regulations is maintained or improved. • Stakeholder engagement is maintained or improved in the design of regulatory policies, standards and conditions.
Result	Achieved.

Analysis

The WELS scheme was established in 2005. It is a cooperative initiative involving the Australian Government, state and territory governments, and industry.

During the reporting period we achieved compliance for 73 cases (100%) relating to allegations, website assessments and store inspections (see Table 14). We also achieved compliance for 912 cases relating to e-commerce platforms (see Table 15).

The *Water Efficiency Labelling and Standards Act 2005* requires products to be registered and labelled at all points in the supply chain. We conduct compliance actions in accordance with the WELS *Compliance and Enforcement Policy*. In 2021–22 our compliance activities focused on responding to allegations of supply of non-compliant products and on monitoring internet-based sales.

We extended our collaboration with eBay to include working with Alibaba, AliExpress, Amazon and Wish. Collaborative compliance actions educated their suppliers and removed or restricted non-compliant products from offer to the Australian market. The following tables summarise WELS compliance activities.

Table 14 WELS cases – allegations, website assessments and store inspections

Item	2020–21	2021–22
Cases opened in reporting period	122 **a**	69
Cases carried over from previous period	31	46
Total cases	153	115
Cases closed because compliance was achieved	107	73
Compliance achieved through education **b** (% cases closed)	107 (100%)	73 (100%)
Directed audit notice	0	0
Remedial action notice	0	0
Enforceable undertaking	0	0
Infringement notice	0	0
Injunction	0	0
Civil litigation **c**	0	0
Criminal prosecution	0	0

a This figure corrects the figure we published in Table 5 of *Annual report 2020-21*. **b** Education includes warning letters. **c** A civil litigation case has been active since 2018–19. The Federal Court will consider whether 4 companies, including 2 under liquidation, and their sole director contravened the *Water Act 2007* by advertising products that were not registered or labelled in accordance with the WELS scheme.

Table 15 WELS compliance activities in online marketplaces

Item	2020–21	2021–22
Cases (sellers) opened in reporting period	617	955 **a**
Products removed from listings across sellers	2,148	2,787
Cases carried over from previous period	60	36
Sellers who had accounts restricted	17	40
Cases closed because compliance was achieved	641	912
Cases closed following education **b**	256	303
Cases remaining open at end of reporting period	36	79

Online marketplaces connect sellers with buyers. Sellers may supply more than one non-compliant product.
a 604 international sellers. Some marketplaces do not provide country of origin. **b** Education includes a warning, then a 3-stage escalation before account restriction. Sellers may become compliant at any stage.

In 2021–22 we developed changes for the scheme's compliance policy, standards, and product registration processes and systems (Table 16). We engaged government, industry and the public in scheme changes.

Table 16 Stakeholder engagement – regulatory policies, standards and conditions

Element	Government	Industry	Public
Compliance risk scanning to inform targeting	Public survey	Public survey	Public survey
AS/NZS 6400 Amendment: Water efficient products – Rating and labelling	Co-regulators co-developed and voted on changes	Co-developed and voted on changes	Public consultation on draft
ISO 31600: Water efficiency labelling programmes – Requirements with guidance for implementation	ISO members co-developed and voted on standard	Chaired the committee	n/a
Simplifying how product model variants are registered	Internal users	Targeted group	n/a
Exploration of improving the user interface of registration database for product registrations	Internal users	Targeted group	n/a

AS/NZS Australian/New Zealand Standards. **ISO** International Organization for Standardisation. **n/a** not applicable.

Variation from corporate plan

We reviewed this performance measure and updated the target to better reflect the role of the department.

Measure WA-02

WA-02	Improve national leadership of the Great Artesian Basin through delivery of approved projects in state work plans under the Improving Great Artesian Basin Drought Resilience program.
Measure type	Output.
Target	100% of projects in the 2021–22 work plans are delivered.
Result	Achieved.

Analysis

In 2021–22 jurisdictions had 42 projects for delivery in their approved state work plans. All projects were delivered (100%). The contribution of Commonwealth funds was:

- $2.88 million for 7 projects in New South Wales
- $2.88 million for 22 projects in Queensland
- $1.33 million for 10 projects in South Australia
- $0.73 million for 3 projects in the Northern Territory.

Collectively the jurisdictions delivered 27 infrastructure and 15 non-infrastructure projects during the year. This included capping 22 bores and installing 67 km of pipework. This provided 2,550 ML of water savings per year.

Context

The Australian Government contributed $27.6 million of matched funding to Queensland, New South Wales, South Australia and the Northern Territory for the Improving Great Artesian Basin Drought Resilience program. This 5-year program is in place from 2019 to 2024. It funds projects and activities that contribute to water security and drought resilience by increasing artesian pressure and reducing water wastage. Examples are:

- infrastructure projects such as bore capping, rehabilitation and piping works
- non-infrastructure projects such as education, communication, compliance and research.

The jurisdictions are responsible for delivering projects. We provide cross-border leadership and co-management of investment arrangements.

Methodology

For each project the relevant jurisdiction provided project eligibility self-assessments and a state work plan outlining project delivery for 2021–22. We assessed and provided approval for the plans. At the end of the financial year the jurisdictions provided annual performance reports. These included completion certificates and invoices used to verify project completion.

Variation from corporate plan

We updated the measure description and target to better reflect the role of the department.

Measure WA-03

WA-03	Deliver measures agreed by Lake Eyre Basin ministers under the annual budget.
Measure type	Output.
Target	100% of budget measures are delivered.
Result	Partially achieved.

Analysis

This measure was partially achieved. We funded all items in the 2021–22 Budget, but wet weather made many parts of the basin inaccessible. This delayed those projects requiring on-ground activities, such as the Lake Eyre Basin Rivers Assessment monitoring program.

During the year the following budget measures were achieved:

- commissioning specialist advice for development of the draft strategic plan and an options paper for future governance arrangements for basin advisory bodies, which are the Senior Officers Group, the Community Advisory Committee and the Scientific Advisory Panel
- installing 11 Aboriginal Way Map signs across the basin to show the strong connection of Aboriginal people to the basin
- commissioning a project to collate, analyse and report on Lake Eyre Basin Rivers Assessment data
- commencing work on the new Lake Eyre Basin Rivers Assessment tool and the monitoring and evaluation framework
- awarding the third Justin Costelloe scholarship to support early career research into Lake Eyre Basin knowledge development.

Context

During the year we led a multi-jurisdictional approach to the sustainable management of the Lake Eyre Basin. This included chairing the Senior Officers Group. We worked cooperatively with the Northern Territory and basin states, which have on-ground management responsibility. Together we ensured a whole-of-basin strategic approach in response to threats and opportunities.

We worked with the Senior Officers Group and basin advisory bodies to develop an annual budget for the basin. The basin ministers approved the 2021–22 basin budget. This funded development of a draft strategic plan by a contracted service provider and the advisory bodies. The budget also funded Aboriginal Way Map signs, development of an assessment tool for the Lake Eyre Basin Rivers Assessment, and development of a monitoring and evaluation framework.

The monitoring and evaluation framework will support decision-making by ensuring consistent and reliable information about the condition of the basin and whether interventions obtained desired outcomes. While significant progress was made on the framework, it needs to be consistent with the basin's strategic plan. Therefore the framework will be finalised after consultation about the strategic plan is complete and the plan is approved.

Methodology

We applied our general assessment methodology to determine the performance result.

Variation from corporate plan

We updated the measure description and target to better reflect the role of the department.

Key activity: Lead efforts to protect water-dependent ecosystems in the Murray–Darling Basin.

Measure WA-04

WA-04	Increase in the volume of water recovered for environmental purposes in the Murray–Darling Basin to meet Basin Plan targets.
Measure type	Effectiveness.
Target	• Bridging the Gap surface water recovery: +20 GL recovered. • Bridging the Gap groundwater recovery: +1.6 GL recovered. • Progress towards the recovery of 450 GL of additional water.
Result	Not achieved.

Analysis: Bridging the Gap targets

Not achieved. In 2021–22 there was no progress on surface or groundwater bridging the gap targets. This is similar to the 2020–21 result. However we made significant progress towards bridging the gap targets over the life of the Basin Plan. Our work since 2007 has resulted in:

- 98% completion of the surface water target of 2,075 GL/y, with a remaining target of 46 GL/y across 7 catchments by 30 June 2024
- 92% completion of the groundwater target of 38.5 GL/y, with a remaining target of 3.2 GL/y across 2 catchments by 30 June 2024.

During the year we consulted the Condamine–Balonne community. This identified options to achieve surface water and groundwater recovery targets for that catchment. We will use this community-led approach to progress recovery in other catchments.

Analysis: Progress towards recovery of 450 GL of additional water target

Not achieved. In 2021–22 we contracted an additional 5.5 GL/y of water through the Murrumbidgee Irrigation Automation Finalisation project. This brought the total water in contract or registered with the Commonwealth Environmental Water Holder (CEWH) to 23.9 GL/y.

An additional 0.1 GL/y of water was registered with the CEWH. This was a transfer of previously contracted water under the Water Efficiency Program. Total registered water with the CEWH was 2 GL/y.

Progress towards recovery of an additional 450 GL/y of water for the environment remains slow. The second statutory review of the Water for the Environment Special Account observed that while new arrangements under the Off-farm Efficiency Program delivered more momentum towards the target, overall progress was not sufficient to deliver the required water recovery by 30 June 2024.

Context

Much of our work in the Murray–Darling Basin relates to supporting the recovery of water for the environment. This maintains river health and helps with biodiversity and water quality. We are responsible for water recovery under the Basin Plan, but the Murray–Darling Basin states are key partners in our water recovery efforts.

Methodology

We recover water entitlements and register them with the CEWH. The Murray–Darling Basin Authority provides state recovery data from state registers. We capture and manage water recovery information in our Water Entitlements Purchasing System. We verify the data through internal and external reconciliations on a quarterly basis.

Variation from corporate plan

We updated the target to enable reporting against surface and groundwater recovery.

Measure WA-05

WA-05	The application of environmental water delivers ecological benefit in accordance with priorities prescribed by the Murray–Darling Basin Plan.
Measure type	Effectiveness.
Target	The Commonwealth Environmental Water Office is assessed as delivering ecological benefit in line with annual priorities and annual management planning.
Tolerances	• Achieved: The CEWH's water entitlement holdings were used effectively in full, with an appropriate volume carried over to the next watering year. • Partially Achieved: The CEWH's water entitlement holdings were used effectively in only a reduced area of the Basin, with an appropriate volume carried over to the next watering year. • Not Achieved: The CEWH's water entitlement holdings were unable to be used for the benefit of the environment.
Result	Achieved.

Analysis

Under the *Water Act 2007* the CEWH is responsible for managing a portfolio of water entitlements to protect and restore environmental assets in the Murray–Darling Basin.

The Murray–Darling Basin Authority publishes annual water priorities. The water priorities for 2021–22 had multi-year rolling priorities and annual guidance. The CEWH is required to have regard for these priorities when undertaking environmental watering.

In 2021–22 we delivered 1,870 GL of Commonwealth environmental water to the Murray–Darling Basin's rivers and wetlands. This is the largest volume of Commonwealth environmental water delivered in any year. Along with high natural flows, Commonwealth environmental water contributed to the achievement of all water priorities for 2021–22.

Part 3 of this report (*Water Act 2007*) describes the ecological benefit against each of the annual water priorities for 2021–22. The full technical reports of the monitoring, evaluation and research programs are on the CEWH publications website. A summary of highlights is provided below.

Flows and connectivity, native fish, waterbirds and native vegetation are the four overarching watering priorities set out by the Murray–Darling Basin Authority.

Flows and connectivity
Building on wet conditions in 2021–22, we made significant improvements to lateral and longitudinal connectivity across the Murray–Darling Basin.

In the Lower Balonne 317 GL of Commonwealth water was accounted for at St George, with 127 GL flowing past the New South Wales – Queensland border. This was the largest environmental watering action in the northern Basin to date. Combined with large natural flows it contributed to water connecting with the Lower Balonne floodplain, as well as significant inflows into Dharriwa (Narran Lakes) and the Barwon–Darling River.

Commonwealth environmental water (35 GL) and other sources of water combined to provide the first flow down the Great Darling Anabranch since 2017. This flow connected Lake Cawndilla to the Murray River, providing a migration route for native fish to disperse along.

In October 2021 environmental flows from the Goulburn valley added to natural flows in the Murray River. Water reached multiple wetlands, including Guttrum and Benwell Forests, Nyah-Vinifera, Koondrook–Perricoota and the Poon Boon Lakes. For some wetlands, it was the first time they have been observed receiving water in several years. Without the environmental flow they would likely have missed out on receiving water.

Native fish
The protection of Commonwealth environmental water added to total flows in northern valleys, including:

- Condamine–Balonne (~317 GL)
- Warrego (almost 20 GL)
- Moonie (5.6 GL)
- Border Rivers (20 GL)
- Barwon–Darling (~43 GL).

Native fish spawned and migrated across the northern valleys. Golden perch travelled more than 1,700 km from Wilcannia in the Darling River to Goondiwindi in the Lower Border Rivers. Large-scale golden perch recruitment occurred in the Condamine–Balonne.

Our on-ground monitoring, evaluation and research program (Flow-MER) highlighted the importance of flowing habitat for golden perch spawning and recruitment. If flow rates are too low, the river slows and becomes a series of pools behind each of the weirs.

Environmental water (including 18 GL of Commonwealth environmental water) combined with natural flows to maintain continuous flowing conditions in the river channel over spring and summer. Subsequent monitoring found high numbers of young-of-year golden perch in the Lower Murray, representing the first successful large-scale recruitment in a decade.

In the Edward/Kolety–Wakool and Murrumbidgee regions more than 92 GL of Commonwealth environmental water was delivered using irrigation networks to mitigate poor water quality. Irrigation networks deliver water high in oxygen. This creates refuge habitats to support the survival of native fish should natural flooding events result in low oxygen blackwater events.

Waterbirds

In 2021–22 waterbirds bred at significant sites throughout the Basin. Independent experts advised that, for the first time in 20 years, colonial waterbirds bred concurrently at the Macquarie Marshes, Gwydir Wetlands, Narran Lakes, the Lachlan valley and the lower Murrumbidgee wetlands.

Commonwealth environmental water supported waterbird breeding colonies. It maintained water levels under nests to protect eggs and chicks from feral predators. It also increased the area of available feeding habitat. Commonwealth environmental water included:

- 10.7 GL to support 25,000–30,000 nests in 9 main colonies across the Gwydir Wetlands
- 10.9 GL in the Macquarie Marshes to support 150,000 waterbird nests
- 443 GL in Gayini Nimmie-Caira to support 20,000 straw-necked and glossy ibis nests, a very large pelican colony of 9,500 nesting adults, numerous smaller-scale waterbird species breeding events, and other ecological objectives.

Native vegetation

In the Gwydir valley 13 GL of Commonwealth environmental water was delivered along the length of Mallowa Creek and Mallowa Creek Wetlands. Early monitoring results showed an improvement in vegetation condition and abundance.

In the Lachlan 2 GL of Commonwealth environmental water was delivered with other planned environmental water to maintain the extent and improve the condition of native woodlands and shrublands – blackbox and lignum. This action provided longitudinal connectivity in Merrowie Creek (including Lake Tarwong for the first time since 2016) and Merrimajeel Creek. The use of water to complement natural high flows and other environmental water sought to maintain floodplain vegetation, particularly the core reed beds of the Great Cumbung Swamp.

Water was provided in Barmah–Millewa Forest via natural events and low-level overbank spring flows from late winter to early summer. This extended the duration of inundation for the core wetlands within the forest, keeping them wet between several natural high flows. The internationally important Moira grass plains of Barmah–Millewa Forest had excellent growth when environmental water was delivered and grazing pressure was managed. Overall, the Moira grass plains were in improving condition. The extent of coverage increased through the addition of 6 new grazing exclusion fences.

Commonwealth environmental water was delivered (pumped or diverted using infrastructure) to more than 40 wetlands in the Murray valley. This aimed to benefit aquatic and fringing vegetation, including long-lived species such as river red gums and black box. It included:

- 6 GL to 32 private wetlands in the Edward–Wakool system
- 60 GL through 4 Murray Irrigation Limited escapes for fish refuge, water quality, habitat and connectivity.

Without these interventions, the wetlands would not have received water. They would have experienced significantly reduced areas and duration of inundation.

Methodology

The CEWH engages delivery partners to deliver Commonwealth environmental water. They report each year on the location and volumes of water delivered. Site managers, delivery partners and scientists monitor the impacts of environmental flows. They report observations and results throughout the year.

We collate this information and assess the extent to which Commonwealth environmental water met the annual water priorities. We report our findings in part 3 of the department's annual report and in Basin-scale evaluation reports.

Caveats and disclosures

There are varying degrees to which observed outcomes can be confidently attributed to the delivery of environmental water. Where inundation of a wetland is 100% due to Commonwealth environmental water we have high confidence in attributing an observed outcome to the CEWH intervention, particularly where this is consistent with results in previous years or established scientific understanding of flow-ecology relationships.

In many cases Commonwealth environmental water is only a portion of the total flow down a river or the volume delivered to a wetland. The extent to which we can attribute change to environmental water is subject to scientific analysis, which is completed outside of the reporting period for departmental annual reports. Formal analysis and monitoring reports are generally available 6–12 months after the reporting period.

Variation from corporate plan

We reviewed this performance measure and updated the target to better reflect the role of the department.

Measure WA-06

Measure WA-06	Commonwealth environmental water supports connection between the river and floodplain, and between hydrologically connected valleys in the Murray–Darling Basin, providing either maintenance or restorative services to the environment.
Measure type	Effectiveness.
Target	Flows maintain and/or improve ecosystem health.
Tolerances	• Achieved: Delivery of environmental water contributes to maintenance or restoration of environmental assets to the full extent possible. • Partially achieved: Delivery of environmental water contributes to maintenance or restoration of environmental assets within the majority of river valleys where possible. • Not achieved: Delivery of environmental water does not contribute to maintenance or restoration of environmental assets.
Result	Achieved.

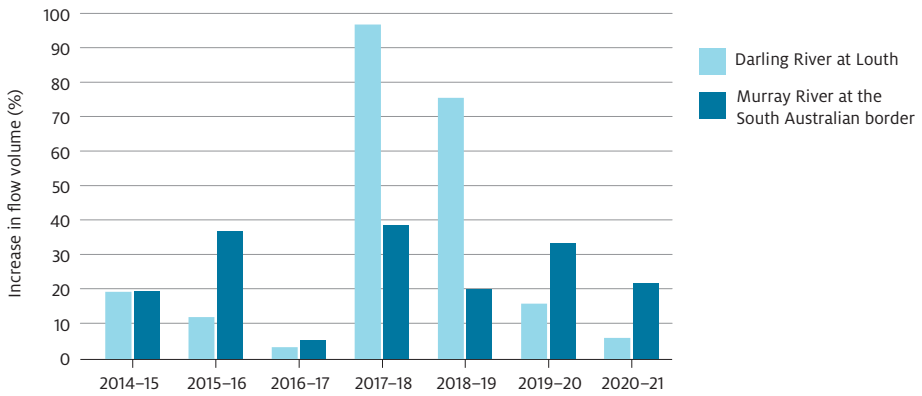
Analysis

From 2014 to 2021 we delivered 11,272 GL of Commonwealth environmental water in 821 environmental watering actions. This added to flows across 22,694 km of watercourses and inundated 300,000 ha of estuary, lakes, wetlands and floodplain.

Over this period Commonwealth water for the environment contributed to increased flows in the Murray and Darling rivers in all years (Figure 7). In drier years, such as 2017–18, it was a significant proportion of the total flow: 90% in the Darling River and 40% in the Murray River.

Figure 7 shows the increases in annual flow volumes at the end of the Darling River system at Louth and the Murray River at the South Australian border. These increases are directly attributable to Commonwealth water for the environment from 2014 to 2021.

Figure 7 Increases in annual flow volumes attributable to Commonwealth water for the environment



The contribution of Commonwealth environmental water was pronounced at the end of the river (Table 17). In dry years it accounted for 100% of the flows delivered through the barrages and into the Coorong, an internationally significant wetland.

Table 17 Contribution of Commonwealth environmental water through barrages and into the Coorong

Commonwealth environmental water	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21
Contribution (GL)	453	736	811	755	377	685	707
Contribution to barrage releases (%)	45.9	100	12.4	88.8	100	100	56.7
Total barrage release (GL)	986	736	6,558	851	377	685	1,247

By increasing flows along the Basin's rivers and into its wetlands, Commonwealth environmental water supported water-dependent ecosystems. Flow-MER showed that Commonwealth environmental water benefited native fish populations and supported critical life-history processes such as recruitment, body condition and population abundance.

Commonwealth water for the environment contributed to increased base flows and, to a lesser extent, small freshes throughout the period. Base flows were important for native fish during the extended drought conditions between 2014 and 2021. Fish responses differed among species, years and monitoring sites. Despite this variability, modelling showed that Commonwealth water for the environment contributed to juvenile survival, fish body condition and abundance of Murray cod, golden perch, Australian smelt and bony herring.

Other findings of Flow-MER were:

- 98 waterbird species from 8 major functional groups were likely to have benefited from Commonwealth environmental water delivery across the Basin.
- Environmental water successfully maintained and, in some areas, increased the abundance of southern bell frogs, which are listed as vulnerable.
- Without environmental water more than 40% of floodplain–wetland sites would have had water regimes resulting in the near absence of submerged species. They would have had considerably less diversity and cover of amphibious and damp-loving species.
- Commonwealth environmental water was responsible for an additional 3.3 million t of salt exported from the Basin. In some years it accounted for 64–100% of total salt export to the Southern Ocean.

The above information is a summary of evaluated results from the Basin-scale evaluation reports for 2020–21. The reports and data sources are on the Flow-MER webpage.

Context

We use environmental water flows as a direct lever to influence and affect change. Increasing the volume of flows over modelled baselines allows a greater percentage of the river to remain inundated for longer periods in the year, producing benefits for river and floodplain health.

Delivery of volume and area of Commonwealth environmental water is limited by water resource conditions and water resource managers (rules, constraints and risk management). Therefore the behaviour of other water holders and water resource managers influences outcomes.

In this report 'contribution' relates to the relative contribution of delivered Commonwealth environmental water to an achieved outcome. Other factors influence the success of outcomes achieved by delivery of Commonwealth environmental water. These include:

- seasonality (atmospheric and water temperature)
- biological response of biota to cues
- changes to land use, such as waterbird foraging flats becoming urbanised or otherwise disturbed
- changes to international and national policies and agreements.

The analysis of hydrological data for this measure is complex and involves multiple parties. Therefore there is a lag of 12 months between the end of the water year and publication of Basin-scale evaluation reports. Basin-scale evaluation reports provide a detailed and nuanced view of our performance across individual metrics and account for external impacts.

Methodology

Since 2009 we have invested $80 million in monitoring, evaluation and research to understand how Commonwealth environmental water is improving local environments and contributing to the longer-term environmental objectives of the Murray–Darling Basin Plan.

Flow-MER provides evaluation, research and engagement at a Basin-scale. It also provides on-ground monitoring, evaluation, research and engagement across 7 selected areas. The annual Basin-scale evaluation report assesses water use over the previous water year (2020–21 water year for this reporting period) and cumulative outcomes since the program started in 2014.

Australia's leading universities and research institutions conduct monitoring, evaluation and research activities. The CSIRO partnered with the University of Canberra to lead the Basin-scale evaluation. For the 2020–21 evaluation they collaborated with the Arthur Rylah Institute, Charles Sturt University, Deakin University, South Australian Research and Development Institute, NSW Department of Primary Industries, Australian River Restoration Centre, and Brooks Ecology & Technology.

Variation from corporate plan

We amended the measure to better reflect the role of the department.

Measure WA-07

WA-07	Percentage of milestones under the Federation Funding Agreement – Environment relating to water reform in the Murray–Darling Basin assessed as being met.
Measure type	Output.
Target	100% of relevant milestones met by June 2022.
Result	Partially achieved.

Analysis

In April 2022 the Commonwealth and the Basin states executed the Federation Funding Agreement – Environment schedule on Implementing Water Reform in the Murray–Darling Basin (2021/22 to 2023/24). The schedule supports state-based delivery of reforms under the Murray–Darling Basin Plan. The reforms build on work by the Basin states under the National Partnership Agreement to implement water reform in the Basin.

Under the schedule the Australian Government agreed to provide $20 million (GST exclusive) to Basin states in 2021–22. The schedule provides performance milestones and key performance indicators (KPIs). Each KPI has a time frame and funding.

During the year 103 of 104 KPIs were met, which achieved 99% of the milestones.

New South Wales did not achieve KPI 7(a) of the schedule, which required submission of amendments to water resource plans. We withheld payment authorisation of $300,720 for this KPI.

During the year we authorised payment under the schedule as follows (GST exclusive):

- $8,592,000 to New South Wales
- $1,863,000 to South Australia
- $6,380,000 to Victoria
- $2,287,000 to Queensland
- $878,000 to the Australian Capital Territory.

Methodology

Each Basin state reported on their progress against milestones and KPIs. The reporting cycle ended on 31 March 2022. We determined achievement of KPIs using a reasonable endeavours assessment. We consulted, as needed, the CEWH, Murray–Darling Basin Authority and the Inspector General of Water Compliance to confirm outcomes were achieved.

Variation from corporate plan

We updated the performance measure to better reflect the role of the department.

Measure WA-PBS-01

WA-PBS-01	Number of water resource plans accredited under Commonwealth law.
Target	33 of 33 water resource plans accredited.
Result	Not achieved.

Analysis

No water resource plans were accredited during the reporting period.

There are 33 water resource plans. Of these 13 are accredited, operational and published on the Federal Register of Legislation. The accredited plans are for Queensland, South Australia, Victoria and the Australian Capital Territory.

In June 2020 New South Wales submitted 20 plans to the Murray–Darling Basin Authority. These were subsequently withdrawn because of inconsistencies with the Basin Plan. New South Wales formally resubmitted one plan late in the reporting period. We were assessing that plan at the end of the reporting period.

The Murray–Darling Basin Authority signed a bilateral agreement with New South Wales to ensure key elements of the water resource plans are given effect where plans are not yet accredited.

Context

Water resource plans set out rules for how water is used at a local or catchment level. This includes limits on how much water can be taken from the system and how much water will be available for the environment. The Murray–Darling Basin Authority is responsible for assessing plans and advising whether they meet the requirements of the Basin Plan. We brief the minister on the assessments. During the year the decision to accredit or not accredit rested with the former minister for resources and water.

Antarctic

Objective: Advance Australia's strategic, scientific and environmental interests in the Antarctic and the Southern Ocean.

Key activity: The environmental standard of Australia's Antarctic Program is maintained, and the impact of Antarctic operations is minimised.

Measure AN-01

AN-01	Increased compliance with legislation protecting Australian Antarctic Territory.
Measure type	Output and regulatory.
Target	100% of Australian Antarctic Program activities conducted in Antarctica are undertaken with prior environment authorisation.
Result	Partially achieved.

Analysis

We had prior environmental authorisation for the duration of activity for 98% of new and revised Australian Antarctic Program activities. These activities occurred during 2021–22.

The partial achievement of the target is the result of a shift in responsibility for some activities. In response, we commenced work to streamline processes to:

- clarify proponents for each activity
- verify compliance with legislative obligations.

Context

We are committed to conserving the Antarctic environment and meeting Australia's Antarctic and subantarctic obligations under environmental laws. These laws require:

- prior environmental impact assessment and approvals for all activities
- conduct of activities consistent with statutory permit and authorisations.

Methodology

Our assessment framework provided criteria and standards for proposed activities. The assessment process involved:

- proponents submitting an environmental approvals application
- Australian Antarctic Division reviewing applications, assessing environmental impacts, issuing approval documents with conditions, and reporting compliance.

Our *Compliance and Enforcement Strategy 2021–23* provided the framework for assessing non-compliance with legislation. We tracked authorisations and non-compliance during the season. We validated data and assessed compliance through weekly station leader reports, environmental incident notifications, annual end-of-activity reporting, self-reporting and end-of-season debriefs. We used Antarctic Treaty System data reporting, meetings and information-sharing to support accountability and benchmarking among Antarctic Treaty parties.

Caveats and disclosures

Limited access to Antarctica limited audit and review. We depended on authorised officers, including station leaders, and proponents for information on compliance.

Variation from corporate plan

We amended the performance measure to better reflect the role of the department. We removed the 'Australian Antarctic Division and its contractors act on 100% of breaches' target from the performance framework as it did not appropriately reflect our performance.

We are considering our approach to measuring performance against the Antarctic objective. We anticipate developing both revised and additional measures to more comprehensively reflect our performance.

Key activity: Conduct world class research in Antarctica and the Southern Ocean that supports Australia's responsibilities for the region.

Measure AN-02

AN-02	Deliver priority Antarctic science that advances Australia's interests.
Measure type	Output.
Target	Publish 75 peer-reviewed journal articles per year.
Result	Achieved.

Analysis

Our Australian Antarctic Division led the Australian Government's scientific program in Antarctica. We supported the Antarctic Treaty system by providing world-class and peer-reviewed scientific research. Each peer-reviewed journal article made a significant and lasting contribution to our understanding of:

- the Antarctic continent and Southern Ocean region
- climate, weather, biological processes and sea level changes.

According to a search completed on 2 August 2022, a total of 76 Category 1 publications were published in 2021–22. This exceeds the target number.

Methodology

Researchers notified us when projects resulted in peer-reviewed journal articles. Our team documented publication in our internal Australian Antarctic Online database. This database tracks science projects from initiation to completion. They then lodged publications in our publicly accessible project database.

We conducted science project debriefs at the end of each season. As needed, we also verified the end-of-season reports and other sources of information.

Caveats and disclosures

This result may not be a complete record as there can be a lag in the lodgement of publications in the reporting database. Publications reported against this measure may include those reporting on field work completed many years previously.

Variation from corporate plan

This measure was not in our *Corporate Plan 2021–22*. We added it as a measure of how we delivered our purpose and objectives.