

Question 1 (page 19)

JULIE MORGAN: Yes. Thanks for your question. Those two projects are the M6 extension stage one, which had 92 credits which have now been retired, and Sydney Metro Sydney International Speedway, which had five credits which have now been retired. The other two projects are the Western Harbour Tunnel, which has two species credits, and Sydney Metro Western Sydney Airport, which has 1,100 ecosystem credits and 1,300 species credits. Both those projects are in the process of acquitting their obligations prior to project impacts, which is when they must be retired.

The Hon. PENNY SHARPE: What is the time frame on that?

JULIE MORGAN: It is prior to project—

The Hon. PENNY SHARPE: When do you expect the impact to start?

JULIE MORGAN: The impact starts usually when construction starts or where there is impact to that particular species.

The Hon. PENNY SHARPE: Can you give us an idea about what that time frame is?

JULIE MORGAN: I do not have the details around that. I believe the Western Harbour Tunnel credits will be retired imminently. The Sydney Metro project I believe has—I am sorry, I cannot. I would have to take that on notice and come back to you and see what we can find.

Biodiversity credits for the Sydney Metro Western Sydney Airport are being retired in a staged manner, consistent with the staged delivery of the project. Prior to commencing clearing of native vegetation, the number of credits required for each stage is confirmed and these credits are retired.

Credits associated with the first key stage of the project, which includes the station box excavation and tunnelling, will be retired prior to vegetation clearing commencing in June 2022. This includes about 170 ecosystem credits and 100 species credits.

To date, 30 species and ecosystem credits have been retired, or are in the process of being retired, ahead of the commencement of on-airport project impacts.

Outside the airport site, one ecosystem credit has been retired to enable the advanced and early works stage to commence.

It is anticipated that all other required offset credits will be retired in advance of staged project impacts by the end of 2023.

Question 2 (Page 19 - 20)

The Hon. PENNY SHARPE: Thank you very much. I think is one for you, Mr Fleming. My understanding is that the BCT's charge system is in draft form. Is that correct? Can you give us an update on where that is up to, please?

ATTICUS FLEMING: Yes. Ms Dumazel might add some additional detail, but the BCT has circulated a draft proposal seeking comment. I think they are in the process of still meeting with some key stakeholders, formulating a proposal that would be [audio malfunction]—

The Hon. PENNY SHARPE: [Disorder]

The CHAIR: Excuse me, Mr Fleming, I am just going to interrupt. Sorry, Penny, I am just going to interrupt. Your sound just cut out for a little bit there, which is going to make it extremely difficult for Hansard. Can you move closer to your computer and maybe just repeat the last thing you said, your last sentence, if you can?

ATTICUS FLEMING: Yes. I think what may have been missing was the statement that the BCT were in the final stages of consulting with that office, and there would then be a proposal that would be considered by Government. But Ms Dumazel can provide [audio malfunction]—

The CHAIR: Thank you. Mr Fleming, you are going to have to speak quite slowly, I think, and closer to your microphone so we catch every word. Ms Dumazel, are you wanting to—

MICHELLE DUMAZEL: No, there is nothing further to add on that one. The BCT—

The CHAIR: Sorry, Ms Sharpe. Go for it.

The Hon. PENNY SHARPE: You do not have a time frame. This was supposed to be in place, I thought, by now. We are in a second round of consultation on the draft. I am not criticising extra consultation. I am trying to understand the time frame for this to be put in place.

MICHELLE DUMAZEL: Yes. I understand the BCT is just working through the final details of that and just going through making sure that they are taking on board the feedback from the stakeholders and getting the charge system right. I do not have an exact time for that, but they are working through the detail as quickly as possible.

The Hon. PENNY SHARPE: You are not able to take on notice a time frame in terms of when you expect that to be completed?

MICHELLE DUMAZEL: I am happy to take that on notice.

The Minister for Environment and Heritage is considering advice on the proposed Biodiversity Conservation Fund Charge System and will make a decision in due course.

Question 3 (Page 20)

The Hon. PENNY SHARPE: Thank you for that; that is very helpful. Do you have the number of staff that are participants in the program, whether they are owning land, trading credits and those kinds of things?

MICHELLE DUMAZEL: Yes. For the biodiversity conservation and science directorate, there are two staff and we are working through that process with them.

The Hon. PENNY SHARPE: Right. My understanding from the last time we talked about this was that they were going to have to make a choice of divesting or moving and that they cannot be active participants. Is that correct?

MICHELLE DUMAZEL: That is correct. And our protocols on our website as well, and that details there is a 12-month period to divest.

The Hon. PENNY SHARPE: Thank you. And that is two active staff. Are you able to tell us how many staff in total over the period of time since the program has been in place have been participants?

MICHELLE DUMAZEL: There have been four.

The Hon. PENNY SHARPE: You might have to take it on notice.

MICHELLE DUMAZEL: Yes, there have been four staff. But I will take it on notice.

The Hon. PENNY SHARPE: Across the entire—

MICHELLE DUMAZEL: I will take it on notice, but my understanding is that there are four staff.

The Hon. PENNY SHARPE: Is that just within the cluster? For example, National Parks and Wildlife staff are captured by that?

MICHELLE DUMAZEL: I would have to take that on notice.

The answer provided on page 9 of the Department of Planning and Environment's (DPE) *Answers to Questions on Notice from the Inquiry into the integrity of the NSW biodiversity offsets scheme - 10 December 2021*, refers to four known staff within the DPE - Environment and Heritage Group (formerly Environment, Energy and Science Group and the Office of Environment and Heritage) who have participated in the Biodiversity Offsets Scheme (and the former BioBanking Scheme) through a Biodiversity Stewardship Agreement while employed in the referenced groups. There are currently two staff members employed in the Environment and Heritage Group who hold a Biodiversity Stewardship Agreement. These interests are being actively divested in accordance with the Department's *Conflict of interests requirements relating to the NSW Biodiversity Offsets Scheme* protocol, available at www.dpie.nsw.gov.au/_data/assets/pdf_file/0006/484989/Conflict-of-interests-requirements-relating-to-the-NSW-Biodiversity-Offset-Scheme.pdf. The Department does not have any knowledge of staff members in the broader Department of Planning and Environment participating in the Biodiversity Offsets Scheme through a Biodiversity Stewardship Agreement. The protocol applies to all departmental staff.

Question 4 (Page 23)

The CHAIR: The latest Biodiversity Outlook Report was done, when did you say?

MICHELLE DUMAZEL: I would have to take that on notice.

The CHAIR: Was it some time ago? In 2017 or something?

MICHELLE DUMAZEL: No. I would have to take that on notice.

The CHAIR: Thank you.

MICHELLE DUMAZEL: Mr Fleming?

ATTICUS FLEMING: Chair, I cannot give you an exact date, but it was released post the 2019-20 fires. If I remember, there was a bit of extra work done to try to take into account the impact of those fires.

The CHAIR: I have a copy of it in front of me, and all the data seems to be up to 2017. But I note that you have referred to that both in your response today, Ms Dumazel, as well in the questions on notice in terms of how we are tracking. But looking at this in terms of data up to 2017, it would appear that this is potentially five years old. Would that be right, Mr Fleming, for most of the data in this outlook report?

ATTICUS FLEMING: I would have to take it on notice. It may very well be that the extra information to take out the fires was to supplement data that was a little older, so you may be correct. We will give you an answer on notice, if that is okay.

The CHAIR: Going back to the answers that were given in response after our hearing last year and the questions on notice provided by the Government, they do link to a question that I asked about the cumulative impacts of multiple developments on threatened species. Part of the response that the Government provided was indeed linking to this assessment report. This is the assessment report for the Biodiversity Indicator Program. I will let you know that it does say that this was published in June 2021. But, again, when you go through and look at the various indicators, it does suggest in everything that I have read in it that it is just up until 2017. Is there another outlook report that is due out soon?

MICHELLE DUMAZEL: I am not sure of the date that it is due, but there is an obligation to provide a regular outlook report. I would have to take that on notice on when the next report is due to come out.

The NSW Biodiversity Outlook Report, Results from the Biodiversity Indicator Program: First assessment (the NSW Biodiversity Outlook Report) was published in May 2020.

The NSW Biodiversity Outlook Report provided the first results from the Biodiversity Indicator Program which was established when the *Biodiversity Conservation Act 2016* (the Act) commenced in 2017. The Act and related Regulation require the establishment of a biodiversity indicator program to collect, monitor and assess information on biodiversity (section 14.3) and for the results of the program to be published in a NSW Biodiversity Outlook Report from time to time (Clause 14.2, Biodiversity Conservation Regulation 2017). The peer reviewed method for the Biodiversity Indicator Program was developed by the former Office of Environment and Heritage in collaboration with the CSIRO, the Australian Museum and Macquarie University and published in *Measuring Biodiversity and Ecological Integrity in NSW: Method for the Biodiversity Indicator Program*.

The first NSW Biodiversity Outlook Report provides a baseline for the status of biodiversity in New South Wales after European settlement and up to the commencement of the Act in 2017. The baseline will be used for assessing future changes in biodiversity.

Three of the indicators developed for the first NSW Biodiversity Outlook Report were recalculated after the 2019-20 bushfires, including ecological condition, ecological carrying capacity and persistence of ecosystems. See *Reporting on biodiversity indicators* (page 14-16) in the Fire and the Environment 2019-20 report available at www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Parks-reserves-and-protected-areas/Fire/fire-and-the-environment-2019-20-summary-200108.pdf

Since publishing the first NSW Biodiversity Outlook Report, two new report cards were released in 2021:

- The new 'Community Appreciation of Biodiversity' indicator shows the level of community understanding of, and support for, biodiversity conservation. It is available at www.environment.nsw.gov.au/research-and-publications/publications-search/report-card-community-appreciation-of-biodiversity.
- The new 'Invasive Species' indicator presents the results for invasive species (e.g. pests, weeds, disease), which monitors the exposure of native biodiversity and ecosystems to invasive species pressures as well as the impacts of these pressures. It is available at www.environment.nsw.gov.au/research-and-publications/publications-search/report-card-invasive-species.

The first NSW Biodiversity Outlook Report used the best available information at the time of analysis to provide the baseline assessment. Report cards for the 10 indicators contained in the first NSW Biodiversity Outlook Report are currently being updated with new data and analyses. In addition, new report cards for three additional indicators are in development. These new indicators show areas managed for conservation in perpetuity, areas managed for conservation under formal or informal agreements and the spatial resilience of NSW ecosystems under climate change. Report cards will be progressively published as they become available in 2022/2023. To maintain scientific rigour, all report cards are being reviewed by a minimum of three subject matter experts in line with the Biodiversity Conservation Regulation 2017.

Question 5 (Page 23)

The CHAIR: Does the report go into individual species in terms of the Biodiversity Indicator Program? When you look at this report, it is extremely broad. It highlights a few case studies of species, but I am just wondering in terms of the science behind it, does it go into individual threatened species?

MICHELLE DUMAZEL: I would have to take that on notice.

The CHAIR: Mr Fleming, you are not aware?

ATTICUS FLEMING: I think it is better for us to take on notice a detailed response for you. I would only add to comment that I think that report is intended to provide a statewide analysis and, as a result, is pitched at a relatively high level. But it is drawing data from many sources, and that would include data on individual species. That is my expectation, but we will confirm it.

The method underpinning the NSW Biodiversity Outlook Report was designed to present trends in biodiversity and ecological integrity at state and bio-regional scales. It uses sophisticated modelling integrated with direct field measures where possible to make best use of existing data and satellite imagery. This is the most cost-effective way to deliver a statewide program. Species-level case studies were reported in the first NSW Biodiversity Outlook Report. These case studies were selected to complement the statewide reporting.

Information relating to individual species is shown in the 'Expected Survival' indicator. This indicator reports how many species listed as vulnerable, endangered, critically endangered or extinct are expected to survive in the next 100 years. Results for individual listed species are grouped and presented as biological groups (birds, frogs, invertebrates, mammals, plants and reptiles).

Question 6 (Page 23 - 24)

The CHAIR: It is frustrating because it was a question that I asked in the last hearing. The question was that there is no way within the scheme to measure cumulative impacts of multiple developments on threatened species. This was a question that the Government took on notice—Ms Dumazel, you took it on notice. You have responded to that question on notice with this document, which does not seem to highlight anything in relation to individual threatened species. I am asking it again and you are about to take it on notice again. Is that seriously what is happening, that you cannot tell me whether there is any mechanism for the Government to be able to assess the cumulative impacts of developments on threatened species under the Biodiversity Offsets Scheme?

MICHELLE DUMAZEL: The outlook report looks at cumulative impacts across the State, so not just with development. The question—

The CHAIR: How does it do that?

MICHELLE DUMAZEL: I would have to take that on notice, because that is my colleague—it is a different part of the directorate that looks after that report. As Mr Fleming was saying, there is more detail. That is a high-level report but there is more detail that sits underneath that. But the questions you are asking specifically relating to threatened species, I would prefer to take that on notice so I am giving you the best—we can ask that part of the organisation to provide that information.

The CHAIR: Okay. Again just going through some of the responses to the questions on notice taken last time, does the Biodiversity Assessment Method take into account cumulative impact?

MICHELLE DUMAZEL: It considers the state of biodiversity now, like, in terms of the recent information, it gets fed into the—

The CHAIR: From BioNet?

MICHELLE DUMAZEL: Yes, into the assessment method, so that then when a proponent is preparing a report and how it will calculate how many species credits might be required, it is taking into account the existing information that we have got. I do not have the details with me now about how that process occurs. I do not have that information in front of me, but I know that they regularly feed the information in so that we have got the most up-to-date information that is available

The cumulative impacts to individual species from development is considered through two key mechanisms under the Biodiversity Offsets Scheme:

- 1) The consent authority's determination of development applications having regard to the Biodiversity Development Assessment Report (BDAR), including consideration of serious and irreversible impacts
- 2) The incorporation of the most up to date species information into BioNet, which underpins the Biodiversity Assessment Method (BAM).

The impacts of development on individual species are assessed through the BAM and detailed in the BDAR as part of the development application process. The consent authority must consider the BDAR in determining an application and can consider the broader context of the proposed development, including cumulative impacts to biodiversity from nearby developments. The consent authority is best placed to consider the proposed development in the context of broader planning and development activities. The Biodiversity Offsets Scheme does not require the proponent of individual developments to include a biodiversity impact assessment of nearby proposals. Approved impacts to species are publicly recorded in the consent conditions for

projects. The Department's *Cumulative Impact Assessment Guidelines for State Significant Projects* provides guidance on how to consider cumulative impacts for State significant projects. An updated link to these guidelines is available at www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/Policy-and-legislation/SSPT-Guidelines/GD1259-RAF-Assessing-Cumulative-Impacts-Guide-final.pdf.

The consent authority must also consider if an action will have a serious and irreversible impact on biodiversity values. The principles for determining a serious and irreversible impact at clause 6.7 of the Regulation include consideration of the decline of a species, small population size and limited geographical distribution. In considering these principles the consent authority would consider the impact to the species from nearby development or clearing. A guideline to support consent authorities in determining serious and irreversible impacts is available at www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf.

The data that underpins the BAM are sourced from BioNet - a repository for biodiversity data products managed by the Department of Planning and Environment. BioNet is publicly available and updated regularly under established protocols to ensure the integrity of the data. This allows new information about a species to be incorporated into the assessment of impacts to that species. For example, BioNet is updated if the Threatened Species Scientific Committee determines to list or change the threat status of a species. The Department then adjusts the settings in the BAM to better manage the risk. This may include increasing the biodiversity risk weighting (this influences the credit obligation generated when a threatened species is impacted), adding the entity to the list considered at risk of a serious and irreversible impact or amending the data supplied by government for the assessment of serious and irreversible impacts. Further information about how the Biodiversity Assessment Method considers cumulative impacts was provided on page 14 of the Department of Planning and Environment's *Answers to Questions on Notice from the Inquiry into the integrity of the NSW biodiversity offsets scheme – 10 December 2021*.

The cumulative impacts to individual species overall in NSW are reported through the Biodiversity Outlook Report. Information relating to individual species is shown in the 'Expected Survival' indicator. This indicator reports how many species listed as vulnerable, endangered, critically endangered or extinct are expected to survive in the next 100 years. Results for individual listed species are grouped and presented as biological groups (birds, frogs, invertebrates, mammals, plants and reptiles). The Biodiversity Outlook Report draws on BioNet data.

The Department of Planning and Environment would welcome the Committee's recommendations on how to improve consideration of cumulative impacts.

Question 7 (Page 25)

The CHAIR: Thank you. Again, I am just trying to get a sense of how much land clearing, how much loss of biodiversity the Biodiversity Offsets Scheme is facilitating overall—how much loss of threatened species the Biodiversity Offsets Scheme is facilitating and how much it is actually saving. In your submission you say—there is a section there that says—biodiversity outcomes are being secured and delivered. I am looking at the evidence and I am just not sure that is the case. You suggest that—and it is great—the Biodiversity Conservation Trust, biodiversity stewardship sites, protecting over 27,480 hectares of land. That is great. But you provided a table in your answers to questions on notice, which says, "Table 1. Development and clearing activities - finalised biodiversity assessments (25 August 2017 to 19 January 2022)". For example, in that there were 206 major projects which have generated 694,632 species credits. And then in the stewardship agreement applications, finalised biodiversity assessments in terms of total species credits over the same time, in the agreement it is 176,923. That is a difference of potentially roughly 500,000 species credits.

Firstly, a specific question around that: Why haven't those 500,000 species credits for the major projects been put into biodiversity stewardship agreements yet? Do we know why? Why is there such a gap, and what does that mean for biodiversity outcomes?

MICHELLE DUMAZEL: I do not have those figures in front of me, so I would like to take that—

The CHAIR: Do you have a vague idea?

MICHELLE DUMAZEL: I would like to take that on notice.

The CHAIR: It is a lot.

MICHELLE DUMAZEL: What I wanted to say, though, was that the scheme itself has a principle of no net loss. That is the principle of the scheme, and then you have the decisions that are made around individual major projects. But I will take that on notice, about the specific numbers. I recall those numbers in the submission, but I would like to take that question on notice.

Inferences about credit supply and demand based on data provided on pages 1 and 2 of *Answers to Questions on Notice from the Inquiry into the Integrity of the NSW Biodiversity Offsets Scheme - 10 December 2021* should be made with caution. The data provided referred to the number of finalised biodiversity assessments. For development or clearing applications, credit demand is likely to be overestimated because some development or clearing applications may not proceed, may not be approved by the relevant consent authority or may be modified before final approval is granted. For credit supply from offset sites, the related application for a Biodiversity Stewardship Agreement may not progress or be approved.

In addition, the data does not include biodiversity credits created under the previous Biobanking Scheme, many of which remain available for trading. Biobanking Assessment Method (BBAM) credits can be used to meet a credit obligation under the Biodiversity Offsets Scheme provided a statement of reasonable equivalence has been completed to express those BBAM credits in Biodiversity Offsets Scheme credit numbers and classes. As at 9 May 2022, there are a total of 1,052,904 Biobanking credits that have not been retired, including 144,408 ecosystem credits and 908,496 species credits. The number of BBAM credits genuinely available for acquitting Biodiversity Offsets Scheme credit obligations would depend on several considerations including:

- Outcomes of the reasonable equivalence process, which usually results in a reduction in the total number of ecosystem credits. For species credits, however, results are more variable.

- Whether the BBAM credits meet the like-for-like requirements to acquit an obligation.
- Whether the BBAM credit is committed to be retired against an existing BioBanking or Biodiversity Offsets Scheme credit obligation. The data includes BBAM credits that have been sold but not yet retired.

The Department of Planning and Environment acknowledges there is a gap between the supply and demand for some biodiversity credit types. It takes time to identify potential sources of credits and negotiate Biodiversity Stewardship Agreements with landholders.

Work is underway to increase credit supply including demand identification, work with major projects, communicating opportunities for landholders, an improved and streamlined landholder experience, investigating supply options on public land and improved access to information.

Question 8 (Page 26)

The Hon. MARK PEARSON: If a landholder wants to participate in this and offer up some of their land for offsets for other developers, what is the process? Does your department do an assessment of the property for that?

MICHELLE DUMAZEL: A landholder who wants to develop a biodiversity stewardship agreement on their site would work with the BCT.

The Hon. MARK PEARSON: And how much does it cost them to have that assessment done by the BCT?

MICHELLE DUMAZEL: That would be a question I would have to take on notice for the BCT.

The Hon. MARK PEARSON: I am raising that because it was an issue raised earlier, that sometimes the cost can be rather prohibitive and therefore not attractive for this contribution for providing biodiversity offsets. It was argued that maybe there would be more participation if that cost was actually absorbed in the payment of the credits to the landholder. Has that been considered at all?

MICHELLE DUMAZEL: I would have to take that on notice. I would say that the BCT does have a loan facility, as well, for landholders who would be wanting to enter into a biodiversity stewardship agreement. Certainly, one of the things that we are really looking at is how do we increase supply and what are the barriers for landholders to participate in the scheme, to be able to set up a biodiversity stewardship agreement. We are working quite closely with the BCT on that, and I know the BCT have got their loan facility. But I will take that on notice.

Information on the process of entering a Biodiversity Stewardship Agreement (BSA) is available at www.bct.nsw.gov.au/info/biodiversity-stewardship-agreement-bsa-information.

The financial considerations involved in establishing a BSA, such as costs and fees, are outlined in the NSW Biodiversity Conservation Trust's (BCT) *BSA Landholder Guide* available at www.bct.nsw.gov.au/bsa-landholder-guide#3_financial_considerations_before_applying_for_a_bsa_2456. Biodiversity assessment costs vary depending on the size, location and surveying requirements of the site. The cost of the biodiversity assessment would be determined by the Accredited Assessor engaged by the landholder to apply the Biodiversity Assessment Method to the site and prepare the Biodiversity Stewardship Site Assessment Report. The fees charged in the Biodiversity Offsets Scheme, such as application fees to establish a BSA, are listed at www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/resources-tools-and-systems/scheme-fees.

The *BSA Landholder Guide* notes that landholders may consider recovering establishment costs by factoring them into the price of the biodiversity credits created under the agreement. It is also common for developers to enter pre-purchase agreements with landholders which fund BSA establishment costs and then deduct these costs from the sale price of the biodiversity credits.

Entering a BSA is a significant decision and the NSW Government is implementing a range of improvements to make it easier for landholders to participate. As noted in the NSW Government submission to the Inquiry, the BCT has introduced a financial assistance scheme that provides financial assistance to cover upfront establishment costs where the BCT is seeking to purchase the credits being generated. The Department of Planning and Environment is also considering what extra support may help landholders get the legal, financial and business advice they need to set up a successful offset site. See pages 13 and 14 of the submission available at www.parliament.nsw.gov.au/lcdocs/submissions/76448/0097%20NSW%20Government.pdf.

Question 9 (Page 26)

The Hon. MARK PEARSON: Just one last question. Considering courts are actually now taking this into consideration in terms of impacts on the environment—but they are now taking into account climate change and the impacts on climate change—in the assessment of what would be the impact on species, rather than the actual in-situ impact on the land that is going to be developed, has it been considered to factor in what will be the potential impact on climate change by the clearing or industry that is going to be built there? Is that taken into account—the potential impact on climate change by the development, and the impact of that climate change on species?

MICHELLE DUMAZEL: I would have to take that question on notice. I do know that the Biodiversity Assessment Method does take into account changes in terms of what might happen in terms of the trends, in terms of temperature and so on. But I would like to take that on notice to make sure that I provide the best answer.

Following the implementation of industry-specific Secretary Environmental Assessment Requirements (SEARs) in 2021, the Department can now issue either industry-specific SEARs or project-specific SEARs depending on the development type.

Project-specific SEARs will require the Environment Impact Statement to assess the expected greenhouse emissions, as well as assessing the reasonable and feasible measures to minimise greenhouse gas emissions and details of all proposed mitigation, management, and monitoring measures. The specific assessment and reporting requirements can vary based on the developments expected impacts, although all proposals are required to identify how ecologically sustainable development (ESD) principles (as defined in section 193 of the Environmental Planning and Assessment Regulation 2021) are incorporated in the design and ongoing operation of the development.

Industry-specific SEARs require an ESD Report to accompany an EIS as part of the assessment process. As part of the ESD Report projects are required to:

- Identify how ESD principles are incorporated in the design and ongoing operation of the development.
- Demonstrate how the development will meet or exceed the relevant industry recognised building sustainability and environmental performance standard.
- Demonstrate how the development minimises greenhouse gas emissions (reflecting the Government's goal of net zero emissions by 2050) and consumption of energy, water (including water sensitive urban design) and material resources.

Within section 193 of the Environmental Planning and Assessment Regulation 2021 the following principles are defined:

- the precautionary principle,
- inter-generational equity,
- conservation of biological diversity and ecological integrity, and
- improved valuation, pricing, and incentive mechanisms.

These principles apply to all proposals, but each principle will require a different assessment and evaluation based on a project's expected impacts. Each development type will have its own relevant industry performance standards to meet, including in relation to greenhouse gas emissions. All proposals will be required to demonstrate how greenhouse gases will be minimised, as well as the alternative approaches to minimisation that have been considered.

How the greenhouse gases associated with a proposal during its lifecycle, including construction and decommissioning (if relevant), will be minimised is dependent on the proposal's expected impacts, site location and development type.

During assessment the Department will review the proposed approach to minimising greenhouse gases, which can include offsetting associated emissions, and consider whether any further minimisation is feasible and/or warranted. The Department will consider the relevant policy settings when assessing greenhouse gas emissions, in particular the overriding NSW Climate Change Policy Framework with the objective of achieving net zero emissions by 2050, and the associated Net Zero Plan setting interim emission targets by 2030.

When finalising the determination, the Department will draft appropriate conditions with regards to relevant environmental impacts, based on the development type and anticipated impact. These conditions can include the monitoring of greenhouse gas emissions, as well as conditioning mitigation measures that will be required to reduce any associated greenhouse gas emissions, whether during construction or operation.

Conserving existing vegetation can support the resilience of threatened species to the impacts of climate change. The Biodiversity Offsets Scheme and Biodiversity Assessment Method are designed around an avoid, minimise and offset hierarchy. Core requirements of the application of the method are to demonstrate that a proposal avoids and minimises impacts to biodiversity before offsetting can be considered. The consent authority must be satisfied that a proponent has thoroughly applied this hierarchy before they approve the proposal. Such considerations have been the subject of recent Land and Environment Court decisions.

Additionally, the method explicitly requires assessment of impacts to movement corridors for threatened entities via 'prescribed impacts'. Retaining existing vegetation in-situ that also connects threatened entities (species and communities) is key to building resilience to climate change.

Question 10 (Page 28 - 29)

The Hon. PENNY SHARPE: I have a couple of last questions. This is really about some of things we heard this morning. We had landholders who are involved in the scheme. They have a significant number of concerns. One of the primary concerns is the perceived or otherwise different treatment of private landholders versus government when they are doing their own infrastructure projects. Basically, they are making the allegation that the large asset, transport-like projects and others are essentially depressing the cost of credits within the scheme. Can someone respond whether (a) that is an issue, and (b) if it is not, explain why that is not an issue? There were fairly strong allegations this morning and in the submissions in relation to this.

MICHELLE DUMAZEL: I have not done the detailed analysis on the difference in terms of the costs that proponents are paying for the scheme, so I might need to take that one on notice.

The Hon. PENNY SHARPE: Well, perhaps—sorry, Ms Dumazel, it is hard when I am not in the room. How would you explain the difference in terms of the cost of credits that government agencies are getting versus private landowners?

ATTICUS FLEMING: Can I ask what the evidence was, Ms Sharpe? I do not think any of us heard the evidence this morning.

The Hon. PENNY SHARPE: Yes, sorry, it is a bit difficult. I am trying to go to what they said. They did not give very clear, specific examples. Essentially they are saying that public sector developers are treated favourably, to the detriment of the free-market operation of the scheme. Obviously, they are some of the biggest players. The projects that Ms Morgan talked about are large projects in difficult brownfield sites, all of those things. But, essentially, they believe that the way the system operates means that it is favourable to government in relation to its influence over the price of credits rather than if it was just an open market scheme. I do not know whether that is true or not. I am just trying to test that with you, who I think would know more about it.

MICHELLE DUMAZEL: From my perspective, we certainly have a lot of work to do to make the market operate better and to help all participants participate in the best way possible. I think a lot of that goes down to the skill of the accredited assessors that a smaller scale proponent would use, or any proponent would use, and the advice that they are getting on their development. I would need to go away and have a think about that, but I do not have any information that would suggest that. I think it is more that, obviously, there are different players and there would be organisations who would use different accredited assessors to support them in their projects. Our job is to support all participants to access the scheme and to get the best possible outcomes that we can and to reduce the cost for all proponents.

The Department of Planning and Environment would be prepared to provide a further response if a specific example or evidence of the situation referenced were provided.

Government agencies participating in the Biodiversity Offsets Scheme operate in accordance with the NSW Government's long-standing competitive neutrality policy. These principles seek to ensure that government does not enjoy competitive advantages over private sector competitors by virtue of public sector ownership.

The Department maintains public registers that record the price that credits are sold at. The Department is aware that this recorded price does not always reflect a true market value. For example, the trade may occur between a related party where only the Total Fund Deposit amount is paid and does not include a profit component, or the buyer has contributed to establishment costs and is paying a lower amount per credit to recoup these costs.



Department of Planning and Environment

The Department has also previously acknowledged concerns with the Biodiversity Offsets Payment Calculator leading to poor market dynamics. The proposed Biodiversity Conservation Fund Charge System is intended to address these concerns.

Question 11 (Page 29)

The Hon. PENNY SHARPE: Great, thank you. That is actually very useful. Thank you for that. I have two more questions. Your submission talks about there being about 400 accredited assessors. It was suggested sometime this morning that there are only 300 accredited assessors. That is quite a big difference. Someone might be able to tell me what is right?

MICHELLE DUMAZEL: I do not know the exact number as at today. I can take that on notice. But my understanding is it is close to 400 accredited assessors.

The Hon. PENNY SHARPE: Okay. Obviously, it is incredibly important. One of the big issues is about the time and the cost that it takes, particularly for smaller landholders who are looking to do conservation on their land. The assessment issue is big—we have a bit of a debate about whether there are too many, too few and is it too expensive. So, yes, if you could give me the number that would be great.

MICHELLE DUMAZEL: Yes

There are 369 accredited assessors on the public register as at 19 May 2022. The public register is available at customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor.

Question 12 (Page 29)

The Hon. PENNY SHARPE: This is my last question. It is broadly about monitoring in the long term. There are two types of allegations. One is that commercial operators are land banking for a long time, they build up biodiversity credits, sell to developers and it goes to the BCT. Essentially, they take the money and run. The second allegation is about the need for longer term monitoring to ensure that people are not able to do that. **How do we know that the biodiversity outcomes that are promised are being delivered?**

MICHELLE DUMAZEL: With the biodiversity stewardship agreements, if you have got one of those agreements and you have got a site, then you need to provide an annual report on how you are going against the biodiversity gains that are expected. Certainly, the BCT could provide more information. The BCT has quite a rigorous regime around that reporting. So each year a landholder needs to put forward a report on what they are doing so that—

The Hon. PENNY SHARPE: Just to be clear, that report goes through to the BCT and it is the BCT's responsibility to analyse that? I am sure I will get another opportunity to talk to Mr Elton and others about this. People put in a report. What happens with the report? Is there actual on-the-ground monitoring of this?

MICHELLE DUMAZEL: That is a question for the BCT. I do know they have a rigorous program around their reporting and their—in terms of that. But I will have to take that on notice for the BCT. That is how the monitoring occurs, because once the site is set up—the site is set up in perpetuity and then you have the annual reporting.

The NSW Biodiversity Conservation Trust (BCT) utilises a risk-based approach to compliance for Biodiversity Stewardship Agreement (BSA) sites, including both desktop and annual on-site monitoring. Landholders are required to submit annual reports documenting compliance with the management plan and actions that form part of their BSA. Annual reports are subject to review by the BCT and prioritisation of any compliance action. The BCT has a number of statutory compliance mechanisms available to it to assist in dealing with instances of non-compliance.

More information on the BCT's approach to monitoring and compliance for BSA sites is set out in the *Compliance Policy for Private Land Conservation Agreements under Part 5 of the NSW Biodiversity Conservation Act 2016*, available at www.bct.nsw.gov.au/sites/default/files/2019-08/Biodiversity%20Conservation%20Trust%20Compliance%20Policy.pdf.

Further information on compliance requirements for BSAs is set out in the BCT's *Biodiversity Stewardship Agreement Landholder Guide*, available at www.bct.nsw.gov.au/bsa-landholder-guide#7_compliance_with_your_bsa_2456.

The BCT's Ecological Monitoring Module is the overarching program guiding biodiversity monitoring on all private land conservation agreement sites, including BSAs. Biodiversity outcome monitoring has been a requirement for inclusion in all BSA management plans since 1 March 2021 and is built on requirements established under the previous Biobanking Scheme. Detailed guidance on the BCT's approach to biodiversity monitoring is available at:

- *BCT Ecological Monitoring Module*: www.bct.nsw.gov.au/sites/default/files/2021-02/BCT%20Ecological%20Monitoring%20Module_VersionForPublication_Feb%202021.pdf
- *BCT Ecological Monitoring Module – Operational Manual*: www.bct.nsw.gov.au/sites/default/files/2022-02/EMM%20Operational%20Manual%20-%20Feb%202022.pdf

Question 13 (Page 30)

The CHAIR: I want to go back to the BioNet that underpins the biodiversity assessment methodology. It states here in a response to the questions on notice that we provided at some of the last hearings, which I referred to earlier, there is a part where you have said how BioNet is updated and when there is evidence to suggest an entity is under increased pressure, the department adjusts settings in the biodiversity assessment methodology to better manage this increased risk. Is it BioNet that suggests that species, for example, are under increased pressure? How is that determined? Do you know?

MICHELLE DUMAZEL: BioNet is where all the data gets fed in. Say, for example, we have accountable officers for threatened species and so they are constantly updating the data in BioNet, so there are different sources of information that will then feed into that and then the assessment method will use that.

The CHAIR: Okay. So the fire and environment report that was produced by the department after the fires, to which we referred earlier, the surveyed impact on multiple threatened species, that has been fed, as you understand it, into BioNet?

MICHELLE DUMAZEL: That is my understanding. But I am happy to take that on notice because I am not sure of the mechanics of it because it is a different part of the group.

The CHAIR: That would be useful. Will you also take on notice in terms of the questions I asked earlier in relation to the total species credits of major projects that have not made their way into biodiversity stewardship agreements, which is potentially roughly 500,000 there of major projects. Would you take that on notice?

MICHELLE DUMAZEL: I will take it on notice and we will work through it.

BioNet is the repository for biodiversity data products managed by the Department of Planning and Environment. BioNet houses datasets used to implement the Biodiversity Assessment Method from observational records of threatened species in BioNet Atlas, from information on plant community types in the BioNet Vegetation Classification database, through to the species-specific information in the Threatened Biodiversity Data Collection. Basic access to BioNet is available online but registered users can access additional functionality. Anyone can apply to become a registered user.

Data and information in BioNet relevant to the Biodiversity Offsets Scheme are subject to defined maintenance regimes with quality assurance and control measures that involve subject matter experts. Together these measures ensure updates and changes to information are based on best available science. For example, when the Threatened Species Scientific Committee makes a determination about a species, this data is captured in BioNet. Additionally, the subject matter expert for a threatened species could consider outputs from programs such as Saving our Species, recent technical reports (e.g. NSW Fire and Environment 2019-20 Summary report) and peer-reviewed published literature when reviewing the species profile in BioNet.

Question 14 (Page 30)

The CHAIR: Is there a central database, if you like, of how many species have been triggered under the serious and irreversible impact and have been cleared or where projects have gone ahead? Is there any kind of central database where we can get any indication of just how much has been destroyed?

DAVID GAINSFORD: Obviously on a project-by-project basis all of the information is documented in our assessment reports. What I can say is that doing some research into this topic is that this is a very rare thing for serious and irreversible impacts to come up on major projects. I am not aware of circumstances of where— but I am happy to take it on notice—we have effectively overridden a concern that has been raised about serious and irreversible impacts.

The Department currently has no current central database recording projects that are likely to have serious and irreversible impacts (SAILs) following the approval of an application.

Following an internal audit two projects have been identified as having been approved where SAILs were likely to occur following the approval of the application.

These two projects were:

- Snowy 2.0 - Main Works – SSI-9687
- Rye Park Wind Farm - SSD-6693 (following Mod-1)

Snowy 2.0 - Main Works – SSI-9687

- Three species recorded within the Main Works study area were identified as candidate species for SAIL, as per section 6.5 of the *Biodiversity Conservation Act 2016*.
- The identified species were:
 - Smoky Mouse – impact to 84.29 hectares habitat
 - Mauve Burr Daisy – impact to 8.7 hectares habitat
 - Clover Glycine – impact to 05.7 hectares habitat
- Through the assessment process the Department required Snowy Hydro to make changes to the design of the project to address agency concerns. This included changes to reduce the overall disturbance area of the Main Works.
- With these changes, the Department was satisfied that Snowy Hydro had designed the project to minimise its impacts on Kosciuszko National Park (KNP), as much as possible.
- As part of the approval the Department imposed specific conditions to minimise impacts on threatened species overall and specifically on these species, as well as specific measures to minimise potential fauna strike in sensitive habitat areas.
- The proposed conditions of approval and offset approach were developed in consultation with the National Parks and Wildlife Service (NPWS) and the Environment and Heritage Group (EHG).
- NPWS and EHG were supportive of the reduced disturbance area and worked with the Department to develop detailed requirements for minimising biodiversity impacts, rehabilitation criteria and a final offset strategy that was acceptable to NPWS.
- The Department also engaged technical expert, Alex Cockerill of WSP, to provide an independent expert review of the Biodiversity Offsets Strategy. The review found the approach presented in the Biodiversity Offsets Strategy reasonably quantified the proposed offset against the credit liability but the review identified several shortfalls in the proposed timeframes, areas, and rates of application for specific management actions and a lack of appropriately funded administration. The Department and WSP, in consultation with EHG and NPWS, costed the management measures and actions required to provide a net improvement in the biodiversity values of KNP at \$73.8 million.

- As part of the conditions of approval it was agreed that Snowy Hydro would pay the NPWS up to the agreed value of \$73.8 million (on top of the \$8.49 million already paid for the exploratory works) to carry out actions to significantly improve catchment health, strengthen ecosystems, protect threatened species and communities, deliver long-term strategic conservation benefits for the KNP, undertake specific measures for Smoky Mouse (regional surveys, captive breeding programs, habitat improvement works and post fire recovery monitoring) and include broader weed and pest management actions to benefit other impacted species.

Rye Park Wind Farm - SSD-6693 (following Mod-1)

- During the assessment of the Rye Park Wind Farm Modification 1 one species recorded within the Main Works study area was identified as a candidate species for SAIL, as per section 6.5 of the *Biodiversity Conservation Act 2016*.
- The identified species was:
 - Golden Sun Moth – impact to 85.22 hectares habitat
- The species was not identified as a candidate during the determination of the original State Significant Development application.
- Different methodologies were used to define the Golden Sun Moth habitat for the original application and the modification. The modification application used a more detailed method, and this contributed to the increase in expected impact.
- The Department considered there were opportunities for the applicant to significantly reduce impacts to Golden Sun Moth habitat and noted that there were financial incentives to do so. Furthermore, the Department included changes to the conditions of approval to add a restriction on Golden Sun Moth habitat clearing (i.e. 85.22 hectares).
- With these changes, the Department considered the proposed modification would not significantly increase impacts to the Golden Sun Moth beyond what was approved as part of the original application.

Question 15 (Page 32)

The CHAIR: Can you enlighten us in any way about how exactly the Government is looking at ways in which to offset increasingly degraded rivers as a result of new dam projects?

INGRID EMERY: I would probably have to take that on notice, Ms Faehrmann.

There is no precedent for assessing the terrestrial biodiversity impacts using the Biodiversity Assessment Methodology (BAM) from changed hydrology arising from the operation of the dams. Water Infrastructure NSW is working closely with Environment and Heritage Group to develop a methodology based on the BAM to determine the impacts of the new dam projects on downstream waterways, floodplains and wetlands. Once the impacts of the projects on downstream areas are determined and mitigation measures applied, the project would seek to offset the residual impacts in accordance with the NSW Biodiversity Offsets Scheme.