



Australian National  
Botanic Gardens

AUSTRALIAN NATIONAL BOTANIC GARDENS

# Education Strategy

July 2020 – June 2025



Australian Government  
Parks Australia





# Contents

## **Introduction .....4**

The Australian National Botanic Gardens – who we are .....	4
Our Vision.....	4
Our Mission .....	4
Our Goals .....	5

## **Education Strategy .....6**

Overview.....	7
Education Values .....	7
Education Goals .....	7
Education Approaches .....	8
Australian Curriculum and Early Years Framework .....	10
Situation Analysis .....	11
Stakeholders .....	13
Audience .....	13
Framework for Planning .....	14

## **Measuring success.....15**





# Introduction

## The Australian National Botanic Gardens – who we are

The Australian National Botanic Gardens (ANBG) was officially opened on 20 October 1970 by Prime Minister John Gorton. Our garden is the first botanic garden and research institution to specialise in native flora. In 2020, we celebrate 50 years of contributing to, and increasing the knowledge, appreciation and enjoyment of Australia's unique plant heritage and landscapes.

The ANBG is a Commonwealth Reserve under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), managed by the Director of National Parks. We are also listed on the Commonwealth Heritage List.

The Gardens is Australia's only national institution to focus solely on Australian plants and related flora, and our collection's knowledge base and research is of both national and international significance.

Our scientifically based collection of living and herbarium specimens of Australian and related plants support a diversity of scientific and horticultural research. We maintain significant records on Australia's plants in cultural and natural heritage, and we encourage and support the cultivation, use and conservation of Australian plants.

Over the last 50 years, we have led the way in growing Australian native plants and initiating research to introduce many native plants into horticulture. Several species in our living collection are endangered in their natural habitats and we are increasingly involved in their conservation through cultivation and propagation trials and the collection of seeds for preservation in the National Seed Bank.

### Our Vision

Australians value, conserve and appreciate our rich plant heritage.

### Our Mission

To inspire, inform and connect people to the Australian flora.

## Our Goals

The *ANBG Management Plan 2012–2022* is structured around five key result areas and nine goals. The *Education Strategy and Implementation Plan 2020–2025* is informed by the *ANBG Management Plan 2012–2022* and will also contribute to the development of the next ANBG management plan.

The main two goals relating to education and learning within the ANBG Management Plan are listed below.

### Goal 3: Create an inspirational place for enjoyment and learning.

Outcomes:

- Interpretation and experiences that connect people with plants and inspires learning and understanding of the value of Australia's unique flora.
- Events and activities hosted at the ANBG are enjoyed by a wide variety of people.
- Collaborations with tourism agencies and interests raise the ANBG's profile.
- New developments improve the accessibility of the ANBG site and encourage greater exploration of the living collection.

#### Performance indicators

- Overall visitor satisfaction with the ANBG, expressed through visitor surveys, is 90 per cent or higher.
- Visitor impacts on the values of the botanic garden are minimised, particularly during planned events.

### Goal 4: Engage communities in valuing and conserving Australia's natural and cultural heritage.

Outcome:

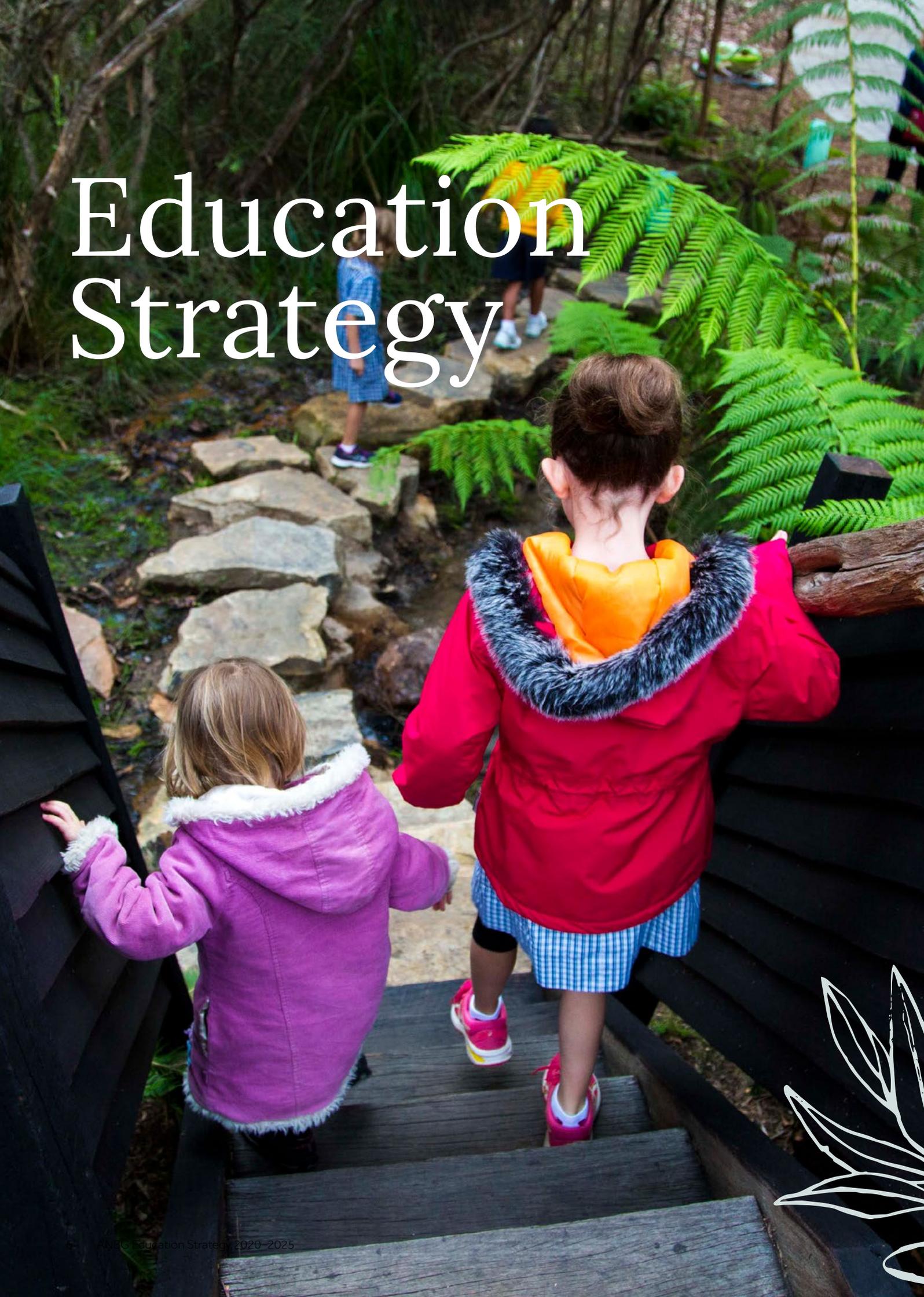
- Productive relationships with diverse communities increase understanding of and active involvement in the valuing and conservation of Australian plants.

#### Performance indicators

- Overall on-site and online visitor satisfaction with the ANBG experience, expressed through visitor surveys, is 90 per cent or higher.
- There is an increase in the number of visitors to the Australian Capital Territory that indicate through visitor surveys that they visited or intend to visit the ANBG.
- Surveys of teachers/groups leaders (on-site and online) reveal a satisfaction of 90 per cent or higher with services.
- Post-visit evaluation of activities shows that key themes have been communicated to the majority of participants.
- There is an increase in the range and quality of interpretive tools used to engage with people of all ages and backgrounds.



# Education Strategy



## Overview

This Education Strategy has been developed to support our vision and mission, with a specific focus on the education and learning goals outlined in the *Australian National Botanic Gardens Management Plan 2012-2022*:

**Goal 3 – Create an inspirational place for enjoyment and learning**

**Goal 4 – Engage communities in valuing and conserving Australia’s natural and cultural heritage**

This Strategy provides direction for education programs and prioritises the investment of current resources to deliver quality educational outcomes to our national audience. The Strategy aims over the next five years to:

- Diversify and expand our educational products and services,
- Position ourselves as leaders in native plant education in Australia,
- Inspire and engage learners through multiple education opportunities,
- Strengthen our use of new learning technologies and opportunities, and
- Expand our reach to engage with learning audiences across Australia.

## Education Values

The ANBG provides a valued educational role for students from primary to tertiary level from across the nation, including horticultural and taxonomic training. The living collection of Australian native plants, and the related conservation and research conducted at the ANBG are at the core of education at the Gardens.

Education in botanic gardens plays an essential role in the conservation of plants and their habitats. Connection and community are a fundamental ethos of education at the ANBG including consideration of different cultural and community values.

## Education Goals

This Education Strategy defines five (5) goals:

### GOAL 1 – LEADERSHIP

To be leaders in environmental education so that we have a critical role in shaping the way societies and individuals' value, perceive and care for our environment – in particular, Australian flora.

### GOAL 2 – INSPIRE AND ENGAGE

To build our audience and inspire, empower and engage learners through multiple education opportunities that enable independent as well as class-based learning, designed to educate about Australian flora.

### GOAL 3 – CONNECTEDNESS AND COMMUNITY

Support positive wellbeing and connectedness to Australian plants as a fundamental ethos of environmental education.

### GOAL 4 – EDUCATION PRODUCTS

Develop education products to foster science, technology, engineering and mathematics (STEM) learning. To provide exemplary education programs and interpretations that promotes understanding of Australian plants and their role in the ecosystem.

### GOAL 5 – DEVELOPING CAPABILITY

Develop the capabilities of our education personnel to support the implementation of environmental education products and services in line with our education philosophies.

## Education Approaches

Education best practice allows individuals to question, set goals and decide on their own values and practices. Providing a high-quality learning environment will create interest, motivate learners, command attention, and encourage inquiry-based learning that fosters creativity and curiosity.

The educational approaches we adopt are:

### Storytelling and the power of the narrative

Storytelling is a powerful pedagogical tool. The teacher engages the audience and enhances the learning environment by introducing information in ways that students will engage with and will remember. They communicate their message in a way that piques interest, motivates and connects people with content.

Our plants and our collections have stories to tell that need to be shared and in doing so, we involve our learners as they identify with the characters and the situations encountered. We encourage empathy and shared understanding through this methodology.

## Enquiry-based learning

Enquiry-based learning is an active learning approach based on activating curiosity rather than focussing on information delivery. It starts by posing questions, problems or scenarios which are facilitated by the teacher. Enquiry-based learning supports the development of problem solving and critical thinking skills, skills that are important in science education.

Three levels of enquiry were developed by Joseph Schwab, an educator who proposed that science could be a flexible and multi-directional enquiry driven process of thinking and learning. They are as follows:

- Students are provided with questions, methods and materials and are challenged to discover relationships between variables.
- Students are provided with a question, however, the method for research is up to the students to develop.
- Phenomena are proposed but students must develop their own questions and method for research to discover relationships among variables





## Experiential/tactile learning experiences

We learn best through experiences. Education programs that encourage learners to taste, smell, see, hear and feel, actively engage students in the material and enhance the learning experience. Experiential learning moves beyond the classroom and provides opportunities to participate and reflect. The theory was proposed by psychologist David Kolb in the 1970's and his work was influenced by the work of other theorists including John Dewey, Kurt Lewin, and Jean Piaget.

In the context of plant education, use of the senses reinforces the learning. Students will remember how a flower smelled and the smell of the rainforest. They will remember the feel of the bark of a tree, or the texture of a leaf. They will remember what they saw under a microscope. Taste can be used in the Gardens where plants are used for food.

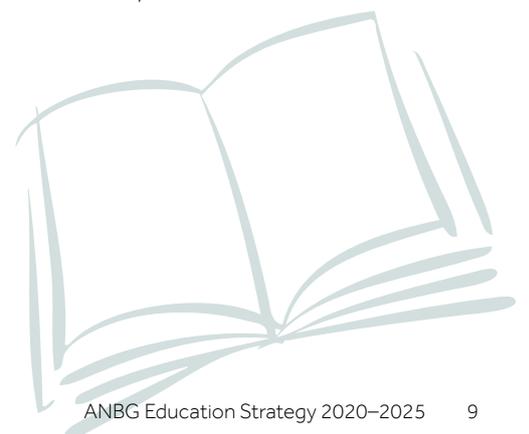
## Flow learning techniques

The 'flow learning' technique developed by Joseph Cornell, Founder & President of Sharing Nature Worldwide. Cornell defined a simple framework that allows educators to structure nature awareness classes for best effect.

Flow Learning's four stages flow naturally from one to the next. Each stage contains nature activities that incorporate play and are joyful, intellectually stimulating, and highly engaging.

The flow learning sequence is as follows:

- *Stage One: Awaken Enthusiasm*
- *Stage Two: Focus Attention*
- *Stage Three: Offer Direct Experience*
- *Stage Four: Share Inspiration*



## Australian Curriculum and Early Years Framework

The Australian Curriculum sets the expectations for what all young Australians should be taught, and provides schools, teachers, parents, students, and the community with a clear understanding of what students should learn. The Curriculum outlines the knowledge, understanding and skills that are to be taught and learned. It also establishes achievement standards that describe the quality of learning (the depth of understanding, extent of knowledge and sophistication of skill) expected of students.

The Australian Curriculum encompasses:

- The **Foundation to Year 10 Australian Curriculum**
- The **Senior Secondary Curriculum**



A curriculum and audience review conducted as part of the Strategy development identified that the key audience for ANBG is Foundation to Year 10 and that the following curriculum areas are the priority areas for education product development at the ANBG.

### **Foundation to Year 10 Australian Curriculum**

Of the **eight key learning areas**, those most relevant to ANBG are:

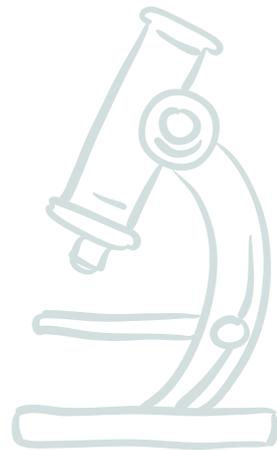
1. Science
2. Humanities and Social Sciences

Of the **seven general capabilities**, those most relevant to ANBG are:

1. Critical and creative thinking
2. Personal and social capability
3. Intercultural understanding
4. Ethical understanding

Of the **three cross-curriculum priorities**, those most relevant to ANBG are:

1. Sustainability
2. Aboriginal and Torres Strait Islander Histories and Cultures



### **Senior Secondary Curriculum**

Of the **fifteen subjects**, most relevant to ANBG is:

1. Science

### **Early Years Framework – Belonging, Being and Becoming**

The Early Years Framework describes the principles, practices and outcomes that support and enhance young children's learning from birth to five years of age, as well as their transition to school.

Of the five learning outcomes, those more relevant to ANBG are:

1. Outcome 2: Children are connected with and contribute to their world
2. Outcome 3: Children have a strong sense of wellbeing



## Situation Analysis

The ANBG is the largest living collection of native Australian flora with over 6000 species on display and provides unique opportunities for immersive, onsite education experiences. The Gardens are organised into various thematic sections, where plants are grouped by shared taxonomy, ecological and geographic plantings or aesthetic groupings. The organisation of plants and gardens enables a student or visitor to undertake a journey through the Australian landscape from the Rainforest Gully featuring rainforests from Tasmania through to Northern Queensland to the Red Centre Garden which immerses you into the landscape of the Northern Territory. The Gardens currently offer several self-guided trails including the Aboriginal Plant Use Trail, offering an appreciation of one of the oldest living cultures in the world and their ability to identify and locate edible and useful plants.

There are over 500,000 visitors to the Gardens annually, with families being the largest demographic. Engaging and inspiring children and their parents during their visit is an important factor and a target market for future development of informal learning experiences. There is a schedule of public programs to help facilitate child and adult learning and education at the Gardens. Some of these are ticketed events that are usually performed by external companies or organisations.

## Upcoming Projects

2020 marks the 50th Anniversary of the public opening of the Gardens and is a year for many project developments across the ANBG – both commencement and completion:

- **The Ian Potter National Conservatory** – A new national attraction showcasing tropical Australian native flora from the far north and islands, including rare and threatened species.
- **The Purpose-Built National Seed Bank** – A modern development to house a large and ever-increasing collection of Australian native seed used for conservation and research.
- **Megafauna – once there were giants!** – This unique trail will provide an educational outdoor experience for adults and children with life-like sculptures set among the wonders of native plants. The immersive experience will spark the imagination of visitors while being educational and entertaining.
- **Capital Works Projects** – There are also major capital works projects within the Master Plan which are being costed and subsequently funding will be sought during the next 5 to 10 years as follows:
  - A horticulture centre
  - Construction of an event amphitheatre
  - Demolition of the Ellis Rowan Building
  - Construction of a new café and function room
  - Construction of a new visitor centre and entry bridge
  - Refurbishment of the old visitor centre and offices





## ANBG Education Program

The ANBG has a well-established education program that has been running for over 30 years. There are currently 14 school programs offered to preschool to secondary students and three programs for adult audiences. Facilitated education programs are charged at a partial cost recovery.

In 2019, 15,934 students visited the ANBG for a learning experience, 67% of these students visited for an ANBG staff facilitated program and 33% of students visited for a teacher-guided program only. Half the students were from Canberra region schools and half from interstate schools visiting as part of an excursion to Canberra. Most local students were in early to middle years of primary school, whilst most interstate students were in upper years of primary school. Over the last five years onsite visitation has increased by 16%. Significantly the number of students participating in a facilitated program has increased from 59% in 2014 to 67% in 2019.

Canberra has a strong interstate school tourism market with approximately 170,000 visiting students per year. There is a potential to grow interstate visitation to the ANBG. Currently there is a strong uptake of ANBG night facilitated education programs by interstate school visitors. Teachers of interstate schools are seeking educational and structured activities for students during the evening and mornings, when many other institutions are closed. The interstate school market is strongly driven by year 6 civics education and schools can apply for a Parliament and Civics Education Rebate (PACER scheme)

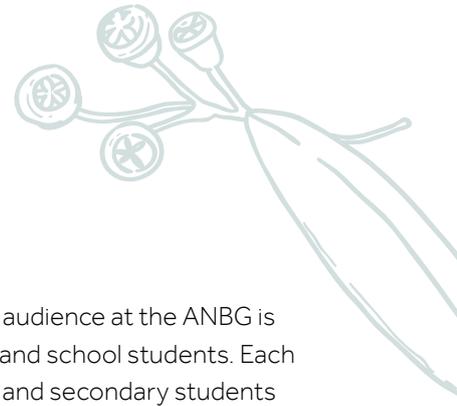
when they visit a cultural institution for a civics related program. It should be noted that ANBG is not part of the PACER rebate and is unlikely to be included in the future.

## Collaboration and Innovation

Canberra's cultural institutions provide a range of high quality experiences for school audiences. Mulligans flat, the Arboretum and Tidbinbilla offer environmental programs and have modern, revitalised learning spaces. Questacon has marketing, digital and technology expertise and resources. These like-minded science and environmental organisations provide opportunities for the ANBG to collaborate with for program growth and further audience reach.

Collaboration between institutions is one of the key recommendations from the Parliamentary Committee Inquiry into Canberra's national institutions. The report *Telling Australia's story - and why it's important: Report on the inquiry into Canberra's national institutions* tabled in 2019 contains twenty recommendations that provide direction setting for the national institutions, including the ANBG, and are considered as part of the Education Strategy.

To remain at the forefront of science and environmental education, the ANBG must identify and implement a suite of educational products for our audiences, invest in development and maintenance, upgrade our facilities and invest in the ongoing training and development of our employees and volunteers.



## Audience

Currently the key education audience at the ANBG is local and interstate schools and school students. Each year around 14,000 primary and secondary students visit the site for education experiences.

This strategy expands our target audiences to include:

- Outreach to primary and secondary teachers and students across Australia
- Teachers via teacher training and engagement programs
- Vocational colleges and universities with a focus on environmental education, conservation and plant science
- Early childhood and early learning centres
- Families

Additional target audiences not considered in this current strategy but identified for potential development in future years include:

- Youth clubs and associations
- Corporate sponsors – businesses, education departments (Commonwealth and State/Territory), charitable trusts, non-governmental organisations
- Home gardeners
- Tourists
- Community and social groups

## Stakeholders

The following stakeholders who may be affected by or influence the Education Strategy are:

- ANBG staff
- The Friends of the ANBG
- National Capital Education Tourism Project (NCETP)
- Science-based national attractions – CSIRO, Questacon, the National Museum of Australia, the National Arboretum and the National Zoo & Aquarium
- Schools and target audiences
- Visitors to the ANBG (currently attracting over 500,000 per year)
- Tour operators and coach companies





## Framework for Planning

The ANBG Visitor Experience Team holds a set of planning principles that help us define and provide powerful and impactful learning experiences for each of our audiences. The application of each of the principles to new products, services or projects will be considered in the planning and approval stages.

An Education Business Case template has been developed to test proposed projects against the goals of the Education Strategic Plan. Within the Education Business Case template, projects are also tested against the Visitor Experience planning framework:

- **Attract** – How does the project bring new audiences or repeat visitation?
- **Engage** – How does the project spark audience interest? What tools are used to engage?
- **Educate** – What are the learning outcomes for the project?
- **Inspire** – What do we want our audience to feel? How will we achieve that?
- **Act** – What do we want our audience to do after the program? What behaviour change may occur?
- **Evaluate** – What are the performance measures and what tools will we use to measure success?





# Measuring Success

The ANBG is committed to ensuring quality of our educational products and service delivery, and to using quality management techniques as a tool for ensuring best practice.

Evaluation tools will measure how well we are reaching our target audiences and how effective our education programs are. A multifaceted approach to review and evaluation will be used that includes both quantitative and qualitative analysis including:

- Written evaluation by teachers and educators during visit
- Post visit evaluation by teachers and educators. What did we do well? What can we improve?
- Feedback sheets from visitors and students
- Phone interviews with educators
- Performance management of Rangers
- Data collection against key indicators
- Anecdotal feedback

The Education Strategy Implementation Plan will be reviewed on an annual basis and the actions adjusted based on evaluation, feedback and market changes.



