

An underwater photograph showing two divers in black wetsuits and blue masks swimming in clear, turquoise water. In the foreground, a large, patterned shark is swimming towards the camera. The background shows a rocky seabed with brown seaweed. The text is overlaid on the upper part of the image in green and blue banners.

Understanding more  
about **marine parks in**  
**South Australian waters**

An Educational Resource  
for Years 7 to 10

## Acknowledgements

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Dr Shelley Paull from National Parks and Wildlife Service South Australia and colleagues from Parks Australia assisted in the development of this resource.

The curriculum-linked resource is designed to support teachers in schools implement teaching and learning programs about marine parks in South Australian waters.

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All links to websites were accessed in April 2020. As content on the websites used in this resource book is updated or moved, hyperlinks may not always function.

Cover image: Carl Charter

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## Contents

<b>Introduction</b>	<b>1</b>
<b>How to use this resource book</b>	<b>2</b>
<b>A suggested learning methodology</b>	<b>3</b>
<b>Curriculum Connections</b>	<b>4</b>
<b>Marine Parks 101</b>	<b>11</b>
<b>A suggested learning sequence</b>	<b>17</b>
<b>Appendix</b>	<b>31</b>
<b>References</b>	<b>32</b>
<b>Student Project Files</b>	<b>37</b>
The Project File	38
Resource 1.1 Your Design Brief	39
Resource 1.2 Define	41
Resource 1.2.1 Write a definition	42
Resource 1.2.2 Getting to know South Australia's marine parks	43
Resource 1.2.3 South Australia's marine park zones	44
Resource 1.2.4 Our connections to places	45
Resource 1.3 Discover	47
Resource 1.3.1 Other people's connections	49
Resource 1.3.2 People's interconnections with places, national parks, and marine parks	51
Resource 1.3.3 Concept maps	54
Resource 1.3.4 Fisheries connections	55
Resource 1.4 Tourism connections	56
Resource 1.4.1 SA Tourism Awards	57
Resource 1.4.2 South East Marine Parks	58
Resource 1.5 A Compass Rose	60
Resource 1.6 Futures Timeline	61
Resource 1.7 Ecological footprints, best environmental practices, and responsible tourism	62
Resource 1.8 Multiple uses of marine parks	64
Resource 1.9 Visitor guides and tourism brochures	65
Resource 1.10 Dream	67
Resource 1.11 Design	68
Resource 1.12 Deliver	70
Resource 1.13 Debrief	71
Resource 1.14 Re-Design	72

# Introduction

The ocean is inextricably linked to our land and atmosphere through complex processes that support life. The ocean also supports rich biodiversity.

Amazingly, the ocean produces half the oxygen we breathe, so no matter where on earth you live, you are connected to the ocean and rely on it to survive. As an island nation, surrounded by the third largest marine jurisdiction in the world, this connection is very real for many Australians. This marine environment supports incredible habitats and species, drives our climate and weather, provides jobs, food and resources, and offers us a special way of life. We have a responsibility to protect it and every Australian can play their part.

This resource book aims to support teachers in secondary schools engage students in learning about marine parks in South Australian waters. It will cover their purpose, their values, where they are, the different types (State and Commonwealth), and how they are managed.

## Aim

In schools, there is scope for teachers to integrate this resource book into their existing classroom programs. The resource book provides schools with opportunities to:

- develop understandings about the role of marine parks in addressing complex real-world scenarios.
- develop understandings about the importance of attaining sustainability for marine parks.
- discover ideas and solutions to take action to tackle sustainability challenges as individuals, as a community and as the future decision-makers who need and use marine parks.
- discover and envision a range of creative solutions to real-world problems.
- design research projects with the goal of reflecting on appropriate local actions to ensure marine parks are managed appropriately to support marine conservation goals as well as the sustainable use of marine resources.
- design the steps required to create sustainable solutions for the problems.
- dream and consider the many possible solutions to deal with sustainability challenges.
- deliver and debrief solutions.
- practise and reinforce the sustainability messages delivered in the Australian Curriculum Learning Areas, General Capabilities and Cross Curriculum Priorities.

# How to use this resource book

This resource book provides learning experiences to support your school's involvement in marine parks in South Australian waters.

Teachers can use the following learning experiences to plan, stimulate, support, and inspire their learning about these important areas.

This resource book includes ideas to support students' involvement in investigating, exploring, experimenting, designing, creating, and communicating their understandings about marine parks in South Australian waters. It will cover marine park types, current uses (socio-economic values), locations, biodiversity, cultural connections, heritage values, and management approaches.

## Curriculum focus

This learning resource has a variety of student activities that link to the Australian Curriculum in Geography, Technologies, Science and Work Studies. It also has many opportunities to integrate the Sustainability Cross Curriculum Priorities (CCP) and General Capabilities.

Students research marine parks around South Australia's coastline, their multiple uses and their diverse habitats and species which have ecological, cultural and economic importance. They investigate how people, through their choices and actions, connect to places in marine parks, and how these connections help to make and change places and their environments.

This unit examines marine parks interconnections and their effects on the plants and animals. It also looks at the role marine park tourism plays in benefiting the economy and connecting people with the marine environment and teaching them about its importance. Students will first connect to their local marine parks and then look further afield to consider other marine parks around South Australia. They can choose to focus their project on a State or Commonwealth marine park.

Students can choose between two directions for their project. The first option is to design a visitor guide with detailed information about a marine park, its current uses, ecological and economic values, and management arrangements. The guide will also reference attractions in and around the marine park, highlight people's interconnections with it and provide examples of how to use the marine park responsibly (e.g., fishing, visiting, experiencing, or exploring). The second option is to design an ecotourism idea for their chosen marine park. This will involve researching current ecotourism ventures that already operate in the marine park, regionally around South Australia or further afield if necessary. Students will provide an overview of marine park values that they think are potentially marketable. This may potentially involve market research, for example, surveying people about what new ecotourism experiences they would like to see or identifying which values people find most interesting. They will then design their own ecotourism venture (or a brochure for it), ensuring it is safe, sustainable, and consistent with the marine park management rules that it occurs within.

# A suggested learning methodology

The Project Based Learning (PBL) learning sequences used in some of the learning activities in this book are underpinned by the work of Lee Watanabe-Crockett.

It uses the Solution Fluency methodology through six phases: Define, Discover, Dream, Design, Deliver and Debrief. The phases of the model are based on the [21st Century Fluencies](#) created by Crockett et al (2011).

The Essential Fluencies are outlined extensively in the book *Mindful Assessment* (Crockett, L. & Churches, A. (2016) *Mindful Assessment (Solution Tree)*). See also '[Solution Fluency](#)' on the Global Digital Citizen Foundation website, and the Solution Fluency video [Solution Fluency](#) on YouTube (3:13 min). For reference, the fluencies are:

- **Define:** The 'Define' phase begins with lessons that intellectually engage students with a challenge, problem, question, and task. This phase captures their interest, provides an opportunity for them to express what they know about the topic, share understandings being developed, and helps them to make connections between what they know and the new ideas.
- **Discover:** The 'Discover' phase includes activities in which students can explore, investigate, research, read, discuss, gather, organise, and compare knowledge and data. They grapple with the challenge, problem, question, or phenomenon and describe it in their own words. This phase provides a context and enables students to acquire a common set of experiences they can use to help each other make sense of the new knowledge or understandings.
- **Dream:** The 'Dream' phase enables students to imagine and develop possible solutions and explanations for the challenge, problem, question, and task they have experienced. The significant aspect of this phase is that the students' explanations follow substantive conversations and higher-order thinking experiences.
- **Design:** The 'Design' phase provides opportunities for students to apply what they have learned to new situations, to map production processes and so develop a deeper understanding of the challenge, problem, question, or phenomenon. It is important for students to extend explanations and understandings, using and integrating different modes, such as diagrammatic images, written language, and media.
- **Deliver:** The 'Deliver' phase has two stages—production and publication or presentation. In the production phase, the task comes to life—this is the doing aspect. At the end of this phase, the student task should be completed. Next, they present or publish their work sample to an audience.
- **Debrief:** The 'Debrief' phase provides an opportunity for students to revisit, review, and reflect on their own learning and new understanding and skills. This is also when students provide evidence for changes to their understanding, beliefs, and skills.

Source: '[Solution Fluency](#)', *Global Digital Citizen Foundation website*.

# Curriculum Connections

## Content Descriptions

### Geography (Year 7)

#### Geographical Knowledge and Understanding

Economic, cultural, spiritual and aesthetic value of water for people, including Aboriginal and Torres Strait Islander Peoples and peoples of the Asia region ACHGK041

#### Geography Inquiry and Skills

Develop geographically significant questions and plan an inquiry, using appropriate geographical methodologies and concepts ACHGS047

Evaluate sources for their reliability and usefulness and select, collect and record relevant geographical data and information, using ethical protocols, from appropriate primary and secondary sources ACHGS048

Apply geographical concepts to draw conclusions based on the analysis of the data and information collected ACHGS052

Present findings, arguments and ideas in a range of communication forms selected to suit a particular audience and purpose, using geographical terminology and digital technologies as appropriate ACHGS053

Reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic and social considerations, and predict the expected outcomes of their proposal ACHGS054

### Geography (Year 8)

#### Geographical Knowledge and Understanding

Human causes and effects of landscape degradation ACHGK051

#### Geography Inquiry and Skills

Develop geographically significant questions and plan an inquiry using appropriate geographical methodologies and concepts ACHGS055

Evaluate sources for their reliability and usefulness and select, collect and record relevant geographical data and information, using ethical protocols, from appropriate primary and secondary sources ACHGS056

Apply geographical concepts to draw conclusions based on the analysis of data and information collected ACHGS060

Present findings, arguments and ideas in a range of communication forms selected to suit a particular audience and purpose, using geographical terminology and digital technologies as appropriate ACHGS061

Reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic and social considerations, and predict the expected outcomes of their proposal ACHGS062

## Geography (Year 9)

### Geographical Knowledge and Understanding

The perceptions people have of place, and how these influence their connections to different places ACHGK065

The way transportation and information and communication technologies are used to connect people to services, information and people in other places ACHGK066

The ways that places and people are interconnected with other places through trade in goods and services, at all scales ACHGK067

The effects of people's travel, recreational, cultural or leisure choices on places, and the implications for the future of these places ACHGK069

### Geography Inquiry and Skills

Develop geographically significant questions and plan an inquiry that identifies and applies appropriate geographical methodologies and concepts ACHGS063

Evaluate sources for their reliability, bias and usefulness and select, collect, record and organise relevant geographical data and information, using ethical protocols, from a range of appropriate primary and secondary sources ACHGS064

Present findings, arguments and explanations in a range of appropriate communication forms, selected for their effectiveness and to suit audience and purpose; using relevant geographical terminology, and digital technologies as appropriate ACHGS070

Reflect on and evaluate findings of an inquiry to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic, political and social considerations; and explain the predicted outcomes and consequences of their proposal ACHGS071

## Geography (Year 10)

### Geography Inquiry and Skills

Develop geographically significant questions and plan an inquiry that identifies and applies appropriate geographical methodologies and concepts ACHGS072

Evaluate sources for their reliability, bias and usefulness and select, collect, record and organise relevant geographical data and information, using ethical protocols, from a range of appropriate primary and secondary sources ACHGS073

Present findings, arguments and explanations in a range of appropriate communication forms, selected for their effectiveness and to suit audience and purpose; using relevant geographical terminology, and digital technologies as appropriate ACHGS079

Reflect on and evaluate findings of an inquiry to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic, political and social considerations; and explain the predicted outcomes and consequences of their proposal ACHGS080

## Technologies (Years 7 & 8)

### Design and Technologies Knowledge and Understanding

Investigate the ways in which products, services and environments evolve locally, regionally, and globally and how competing factors including social, ethical, and sustainability considerations are prioritised in the development of technologies and designed solutions for preferred futures ACTDEK029

### Design and Technologies Processes and Production Skills

Critique needs or opportunities for designing and investigate, analyse and select from a range of materials, components, tools, equipment and processes to develop design ideas ACTDEP035

Generate, develop, test and communicate design ideas, plans and processes for various audiences using appropriate technical terms and technologies including graphical representation techniques ACTDEP036

Select and justify choices of materials, components, tools, equipment and techniques to effectively and safely make designed solutions ACTDEP037

Independently develop criteria for success to evaluate design ideas, processes and solutions and their sustainability ACTDEP038

Use project management processes when working individually and collaboratively to coordinate production of designed solutions ACTDEP039

## Technologies (Years 9 & 10)

### Design and Technologies Knowledge and Understanding

Investigate and make judgements, within a range of technologies specialisations, on how technologies can be combined to create designed solutions ACTDEK047

### Design and Technologies Processes and Production Skills

Investigate and make judgments, within a range of technologies specialisations, on how technologies can be combined to create designed solutions ACTDEP047

Develop, modify and communicate design ideas by applying design thinking, creativity, innovation and enterprise skills of increasing sophistication ACTDEP049

Work flexibly to effectively and safely test, select, justify and use appropriate technologies and processes to make designed solutions ACTDEP050

Evaluate design ideas, processes and solutions against comprehensive criteria for success recognising the need for sustainability ACTDEP051

Develop project plans using digital technologies to plan and manage projects individually and collaboratively taking into consideration time, cost, risk and production processes ACTDEP052



## Science (Years 7 & 8)

### Science as a Human Endeavour—Use and influence of science

Solutions to contemporary issues that are found using science and technology may impact other areas of society and may involve ethical considerations ACSHE120 ACSHE135

People use science understanding and skills in their occupations, and these have influenced the development of practices in areas of human activity ACSHE121 ACSHE136

### Science as a Human Endeavour—Nature and use of science

Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures ACSHE223

## Science (Year 9)

### Biological Understandings

Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems ACSSU176

### Science as a Human Endeavour - Nature and development of science

Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries ACSHE158

### Science as a Human Endeavour – Use and influence of science

People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities ACSHE160

## Science (Year 10)

### Science as a Human Endeavour - Nature and development of science

Advances in scientific understanding often rely on technological advances and advances are often linked to scientific discoveries ACSHE192

### Science as a Human Endeavour – Use and influence of science

People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities ACSHE194

## Work Studies (Year 9)

### Entrepreneurial behaviours

Identify types of entrepreneurial behaviours and their opportunities for application to 21<sup>st</sup> century work and enterprise ACWSCLO10

Explain how the application of entrepreneurial behaviours can address a range of work and community challenges and provide benefits personally and to the community ACWSCLO11

Practise the skills and attributes underpinning entrepreneurial behaviours ACWSCLO12

### The nature of work

Describe the nature of work in Australia and the implications for current and future work opportunities ACWSCL015

### Work skills

Investigate the wide range of occupations, and the skills and personal qualities required in these fields ACWSCL006

## Work Studies (Year 10)

### Entrepreneurial behaviours

Assess the benefits of developing an 'entrepreneurial mindset' and its relevance to 21<sup>st</sup> century work and enterprise ACWSCLO29

Complete an action project utilising entrepreneurial behaviours to address an identified challenge or opportunity ACWSCLO31

### The nature of work

Describe the nature of work in Australia and the implications for current and future work opportunities ACWSCLO15

Analyse emerging approaches to work and the implications these have for workers to be flexible, proactive and responsive ACWSCLO34

### Work skills

Explain the range of skills and attributes necessary to work effectively in the 21<sup>st</sup> century ACWSCLO25

## General Capabilities

Critical and creative thinking, Literacy, Numeracy, ICT Capability, Personal and Social Capability

## Cross Curriculum Priorities

### Aboriginal and Torres Strait Islander Histories and Cultures

OI.2: Aboriginal and Torres Strait Islander communities maintain a special connection to and responsibility for Country/Place.

OI.3: Aboriginal and Torres Strait Islander Peoples have holistic belief systems and are spiritually connected to the land, sea, sky and waterways.

OI.5: Aboriginal and Torres Strait Islander Peoples' ways of life are uniquely expressed through ways of being, knowing, thinking and doing.

OI.6: Aboriginal and Torres Strait Islander Peoples live in Australia as first peoples of Country or Place and demonstrate resilience in responding to historic and contemporary impacts of colonisation.

## Sustainability

OI.2: All life forms, including human life, are connected through ecosystems on which they depend for their wellbeing and survival.

OI.3: Sustainable patterns of living rely on the interdependence of healthy social, economic and ecological systems.

OI.4: World views that recognise the dependence of living things on healthy ecosystems, and value diversity and social justice are essential for achieving sustainability.

OI.5: World views are formed by experiences at personal, local, national and global levels, and are linked to individual and community actions for sustainability.

OI.6: The sustainability of ecological, social and economic systems is achieved through informed individual and community action that values local and global equity and fairness across generations into the future.

OI.7: Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments.

OI.8: Designing action for sustainability requires an evaluation of past practices, the assessment of scientific and technological developments, and balanced judgments based on projected future economic, social and environmental impacts. Source: ([ACARA](#), 2015)

## Learning Goals

Learners will:

- Understand how people, through their choices and actions, are connected to places like marine parks in a wide variety of ways, and how these connections help to make and change places and their environments.
- Understand the concept of interconnections and how their lives and the lives of people in their community are linked with the lives of living things in other places like marine parks, often in relationships that are interdependent.
- Understand the processes that affect the marine parks and the resulting changes that can occur.
- Understand the biodiversity values of marine parks in South Australia waters.
- Understand the human and economic uses and values of marine parks in South Australian waters.
- Understand the management arrangements of marine parks in South Australian waters.
- Understand the need for sustainable management practices and take actions to ensure adherence to best environmental practices.
- Understand that marine parks in South Australian waters are used for multiple purposes.
- Understand the interconnections between commercial and recreational fishing, their economic value, and the effects of these practices in marine parks.
- Understand the interconnections between people's travel and recreational choices and their effects on places like marine parks.
- Understand the effects people's choices can have on places like marine parks, now and in the future.
- Understand how people's choices are likely to affect the future of places like marine parks.

## Learning Intention

Explain to the students that their task is to research Commonwealth and State marine parks in and around South Australia, and learn about how they are designed to conserve biodiversity, while allowing for ecologically sustainable uses, such as fisheries, tourism, coastal development, shipping, and other marine industries.

They investigate how people, through their interconnections with place, connect to marine parks and how these connections effect change. They investigate the effects of people's use and choices on marine parks and their implications for the future.

They will choose a tourism focused design project – develop a visitor guide or new ecotourism opportunity – for a marine park of their choice.

Giant Australian cuttlefish

In memory of Ethan London

## Background notes for learners: Marine Parks in South Australia waters

Marine parks are internationally recognised as an important way to help us conserve marine biodiversity and support the sustainable use of marine resources like fish, tourism potential and oil and gas. Marine parks often work alongside other management efforts to keep our marine environment healthy, including limiting the number of fish that can be caught and restricting the use of harmful chemicals. The United Nations encourage countries all around the world to look after their marine environment (**Sustainable Development Goal 14**). One of the key indicators (**Sustainable Development Goal Target 14.5**) is the establishment of marine parks. In Australia, 37% of our marine environment is currently protected within a marine park: we are doing a good job meeting this global target.

In South Australia, there are 26 Marine Parks. Nineteen of these occur in coastal waters and are managed by the **National Parks and Wildlife Service South Australia** and the remaining seven occur in offshore waters and are managed by **Parks Australia**, a Commonwealth government agency.



# Marine Parks 101

## How do marine parks work?

A marine park is an area of our marine environment where rules apply to limit human activities. Marine parks can be established to protect fragile habitats like corals or seagrass or sensitive life events like birth or migration – they are often parts of our marine environment we know more about – but not always. Marine parks also protect representative examples of “ordinary” habitats found in an area, as in the design process, habitats are usually a surrogate for biodiversity. Marine parks also protect areas of seafloor that are unmapped, or we do not know very much about yet (the precautionary principle). These kind of marine park plays an important role in supporting overall marine health and resilience.

## Are marine parks just for nature?

No! Marine parks are for humans and nature. Most marine parks are zoned – different rules apply in the different zones – and this is how managers make sure marine parks balance different needs and provide benefits for all. Refer to zoning infographic in the Appendix.

## Why are there different marine parks?

The responsibility for looking after Australia’s marine environment is shared between the Commonwealth and the individual States and Northern Territory. The latter are responsible for coastal waters, defined as 0 – 3 nautical miles from shore. The Commonwealth look after waters from 3 nautical miles out to the edge of our Exclusive Economic Zone (200 nautical miles). There are a few places around Australia where these figures differ slightly. The Commonwealth is also responsible for the waters surrounding our [seven offshore territories](#).

A nautical mile (M) is a unit of distance equal to 1852 metres.

This means that marine parks can be established by either the Commonwealth, the Northern Territory, or the States. In South Australian waters, there is a mix of State and Commonwealth Marine Parks. An important design principle for marine parks is that, where possible, they should complement existing management measures. In South Australia, the newer Commonwealth Marine Parks were positioned so that boundaries and zones align across State and Commonwealth waters, extending protection for habitats, species and the processes that connect them.

## What is in a name?

There are lots of different names for marine parks – which means it can get confusing quickly! Often, people refer to marine parks in slightly different ways to distinguish their purpose, their rules or who manages them. It isn’t necessary to be across all the terms but is useful to be aware that even in South Australia, some marine park zones are called different things but have the same purpose (Sanctuary Zones (core conservation zones) in State Marine Parks are the same as National Park Zones in Commonwealth Marine Parks)). This article provides an interesting [overview](#).

## South Australia’s State Marine Parks

State and Territory governments in Australia have established many marine parks. Some are natural extensions of their National Parks or nature reserves, whilst others are discrete sites. These marine parks protect a range of habitats including wetlands, inshore reefs, seagrass beds and all of the marine species that depend on them.

The South Australian Government manages a network of 19 marine parks in its State managed waters. These marine parks cover 44% of these waters, with 6% protected within Sanctuary Zones. They span from the Victorian border to the Western Australian border and include coastal and offshore waters, gulfs and offshore islands. They are designed to represent the vast range of habitats and ecosystems within South Australia’s eight marine [bioregions](#) (as scale models of these bioregions).

South Australia’s waters are rich and unique and are part of the [Great Southern Reef](#). They are in a temperate marine zone and support a range of habitats and species of biological importance, whilst also allowing for sustainable uses such as fisheries, tourism, shipping and other marine industries.

[South Australia’s fisheries](#) range from large-scale industrial-sized fisheries, such as prawn, shark and lobster fisheries, to small-scale community-based fisheries such as those which operate within the Marine Scalefish and Lakes and Coorong fisheries. These fisheries support commercial, recreational and Indigenous traditional fishing activities which contribute to the social and economic well-being of the State and many regional coastal communities.

Did you know that marine parks in the Great Australian Bight were established to protect breeding populations of southern right whales? It has both State and Commonwealth managed marine parks. The [Far West Coast Marine Park](#) is managed by the State Government and the adjacent [Great Australian Bight Marine Park](#) is managed by the Commonwealth Government.

Discover the remarkable range of species State marine parks protect on the [Plants and animals page](#) or by visiting the [life in our bioregions page](#).

You can find out more about the science behind State marine parks on the understanding the effectiveness of [marine parks page](#) or the [scientific reports page](#).

You can find out about what's protected in individual State marine parks on [Enviro Data SA](#).

You can find out more about South Australia's marine environment by visiting [The Rockpool](#), the [Great Southern Reef](#), the [Good Living Blog](#), [Experiencing Marine Sanctuaries](#) and virtual tours of [EP Marine Parks](#) and [NRM Education](#).

### South Australia's Commonwealth marine parks

The seven Commonwealth marine parks – also called Australian Marine Parks – off South Australia protect a total of 139,595 km<sup>2</sup>. That is a lot of ocean! Together these marine parks protect an incredible range of habitats, plants, and animals.

In some areas of the parks, water depths are quite shallow (~15 metres). Here, where conditions are warmer, lighter, and more protected, coral, and rocky reefs and seagrass beds thrive. The residents of these habitats are quite familiar – you will find Australian sea lions, octopus, flathead, rock lobster and weedy sea dragons. These areas are used by a wide range of people including recreational fishers and tourism operators.

As you move further offshore, the seafloor slopes away and conditions become more hostile for humans – but biodiversity still flourishes. The seafloor can be broadly characterised in three zones: the continental shelf, continental slope and the abyssal plain. Examples of all three zones are found in Australian Marine Parks, with some areas 6000 metres below the ocean surface. Depth strongly influences the types of animals you find living on the seafloor, as does substrate and gradient. Substrates can be categorised into many different types but they're broadly hard or soft – the soft areas are made up of sands and muds and can look quite sparse at first glance but provide a great home for many burrowing animals like worms, molluscs and brittle stars.

The hard areas provide a great surface for a range of habitat-building species like corals and sponges which in turn provide food and shelter for other plants and animals. Seafloor gradient is influenced by features like hills, valleys, canyons, or the continental slope. Some of these features are immense, like the Murray Canyon in [Murray Marine Park](#) which is bigger than the Grand Canyon. These features influence the movement of surrounding water, creating localised currents that benefit filter feeders; they are often associated with higher benthic (animals that live in association with the seafloor) diversity. Did you know? These offshore marine parks are an important feeding ground for Australian sea lions who dive to depths of 80 metres to eat benthic species like perch, rays, and cuttlefish.

If a seafloor feature is large enough, they also influence water movements further away, creating eddies and upwellings. These oceanographic habitats aggregate nutrients in the water column, fuel hotspots of phytoplankton and zooplankton, the bottom of the ocean food web. Free-swimming animals of all shapes and sizes flock to these hotspots to feed, from schools of anchovies and mackerel, to tunas and white sharks. Seabirds like albatross and petrels will travel hundreds of kilometres to feed in these locations and scientists also believe that they influence the migration routes of species like whales.

Fewer humans venture to the farthest reaches of these marine parks but they do support economically important commercial fisheries and the oil and gas sector. Did you know? The Great Australian Bight supports Australia's most valuable fishery, the [Southern Bluefin Tuna Fishery](#).

- Australian Marine Parks website – [parksaustralia.gov.au/marine](https://parksaustralia.gov.au/marine)
- Australian Marine Parks are managed in networks – take a look at the [South-west Marine Parks Network](#) and [South-east Marine Parks Network](#). Encourage students to identify the seven Australian Marine Parks that occur along the South Australian coastline and research each one.
- Australian Marine Parks protect natural values – use the [Australian Marine Parks Science Atlas](#) to explore these in more detail. Using the interactive map, select the park of your choice and select the 'natural values' tab at the top. Encourage students to identify at least one biologically important area, bioregion and key ecological feature that occurs in an Australian Marine Park off South Australia.
- Look at the species that live within the marine parks using Atlas of Living Australia – the [interactive map](#). Turn on the marine

parks layer, using the menu to the left. Double click on the park of your choice to see a list of species that have been recorded to occur there. Encourage students to search for records of species like Australian sea lion, flesh-footed shearwater, shy albatross, laternfish and sperm whale.

- Look at habitats or habitat characteristics within Australian Marine Parks using the interactive mapping site [Seamap](#). The menu to your left contains different layers of information under 5 key groups – go to Management Region Layers and select Aus Marine Parks (2018) – click on the eye icon to see the information.

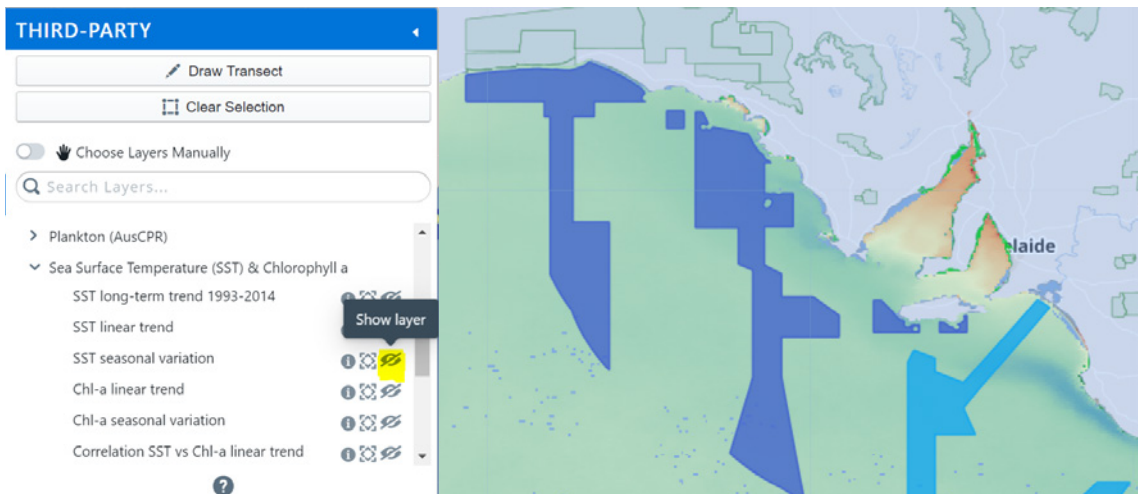
### TOP TIP!

Use the zoom function to highlight waters off South Australia. Encourage students to toggle through the layers, turning data on and off to explore what we know about the marine environment.

Alternatively, explore the following features and discussion points to help students understand important aspects of the offshore marine environment:

- > **Sea surface temperature (SST)** is a habitat characteristic of the pelagic environment. Sustained areas of low SST can indicate upwellings or meso-scale eddies which drive enhanced productivity. Show the [Third-party layer tab – SST seasonal variation layer](#) (see image below). Red/orange areas indicate higher SST (warmer waters) and blue areas indicate lower SST (colder waters). Can you spot South Australia’s most famous seasonal pelagic feature, the Bonny Upwelling on the map? What do you notice about the waters in the gulfs or areas like Streaky Bay or Smoky Bay?

- > **Bioregions** are areas of the seafloor with broadly similar characteristics and communities. They were defined to help Australia select marine park areas that included all our marine habitats and species. Show the [Management Regions Layer Tab – IMCRA](#). How many [bioregions](#) are present in South Australia’s offshore waters and how many are represented within an Australian Marine Park?
- > **Bathymetry** or depth is significant habitat characteristic that influences what species are found in an area. Show the [Bathymetry Layers Tab – 50m Resolution Bathymetry Grid](#). Ask the students to think about species that like to live at 15 m depth vs 150 m depth – what differences are there be that might affect the ability to live there... light, pressure, temperature.
- > Seafloor features influence benthic and pelagic marine communities. Review Australian Marine Park’s Key Ecological Features [here](#) and see if you can see where these features occur using the [Third-party Layers Tab – Regional – Aus Hillshaded Bathymetry layer](#). Encourage students to name three key ecological features that occur in Australian Marine Parks around South Australia?
- > Consider economic activities within Australian Marine Parks including shipping, oil and gas, and commercial fishing (you can view these in Seamap). You can also read:
  - 2017 government report [‘The Economic contribution of South Australia’s marine industries’](#)
  - Generic [infographics](#) – tourism and ocean wealth



## Managing marine parks

Managing marine parks is challenging. It depends of lots of different people working together to contribute their knowledge and skills.

Science plays an important role in both creating marine parks and looking after them. Scientists have spent years studying South Australia's unique marine environment which means we know a lot about the animals, plants, and habitats here, especially if they occur close to shore or have an important commercial or community value. Less is known about the habitats and species that live in deeper water: exploring the midnight zone pushes the very limits of our technical ability and is expensive.

In the marine environment, scientists use a range of methodologies to learn about an area (this [cool infographic](#) provides a good overview). Typically, researchers will start by looking at the habitat. This is because the presence or absence of certain habitat characteristics give us lots of clues about the kinds of animals and plants that are likely to live there or where to focus your research efforts. In shallow water, you can create habitat maps using high-resolution photography and satellite imagery or in deeper water, we use remote cameras to capture images and equipment that send out sound waves to "see" seafloor features.

### TOP TIP!

Interactive mapping tools are a great way to explore marine parks and interrogate available scientific data. Explore State marine parks using [Naturemaps](#) (switch layers on and off to see different features) and Commonwealth marine parks using the [Science Atlas](#) or these [maps](#). You can also view outer marine park boundaries and management zones using these tools.

You can find out about South Australia's coastal marine habitats [here](#).

In addition to helping us discover new things about the marine environment, scientists also monitor the things we already know. Regular surveys can include counting the number and type of species observed in specific areas (called reference sites). This type of data helps us understand how our marine environment is changing over time and if we're making the right management decisions.

Not all knowledge is new! Aboriginal people, South Australia's traditional owners, have collected knowledge about coastal lands and the marine environment for thousands of years and passed it from generation to generation through stories. Over the last 20,000 years, sea levels have risen inundating land they once used. The ancient coastline (visualise it [here](#)), which now lies between 90 and 120 meters below the ocean's surface, indicates where the land once met the sea. This means that traditional owners have strong cultural connections to many areas within marine parks and have a central role to play in their management. Each group also have their own traditional language and connection to their own Country. You can find out the traditional owners of your local land and sea by using this [map](#). Use [this book](#) about the language of the Barngarla people to learn some traditional Barngarla language and then search for the language of your local First Nations people.

Sharing what we know about marine parks is another important part of management. It is important that marine park users understand the rules or know where to access them. Information about the marine parks in South Australian waters are broadcast in a range of ways including through websites, apps, social media, handouts, and signs. For others, education and engagement helps build an



appreciation for our marine environment, the role of marine parks and an understanding of the direct and indirect benefits they provide us all. Tour operators that operate in marine parks such as [Experiencing Marine Sanctuaries](#) play a pivotal role in this education. Sharing fantastic photographs and interesting facts and figures is a great way to achieve this. With technological advances, you do not have to visit a marine park to enjoy it or take care of it.

Education makes a big difference to the way people use marine parks – most of us want to do the right thing – but there are still people that do not know the rules or choose not to obey them. In these instances, it is important that marine park staff are on (or above) the water to make sure everyone is following the rules. In South Australia, State and Commonwealth agencies work together to deliver this compliance program. This compliance work is a key part of ensuring threats are removed, which will give the protection the best chance of positively influencing the animals and plants in these zones. If we do not remove the threats from a zone (by ensuring people are doing the right thing), then when we carry out the monitoring, we may not get the results we expect. An effective compliance program complements the monitoring program and ensures the marine parks are managed effectively.

### The essential question:

What are the best ways to ensure that our use of marine parks has a positive effect on the environment, economy, and local communities?

### Scenario:

Imagine the best ways to ensure that the marine parks around South Australia remain part of happy, healthy communities, a stable economy and sustainable environment.

Did you know that marine parks in South Australia's waters help protect marine habitats and species and cultural features while supporting the sustainable use of marine resources?

South Australia is home to some of the world's most amazing marine plants and animals. It boasts colourful marine sponge gardens, the iconic leafy sea dragon, the giant Australian cuttlefish, and marine mammals such as the Australian sea lion, southern right whales and common bottlenose dolphin. In fact, Australia's southern waters are home to 7,500 marine species, 85 per cent of which are endemic which means they are not found anywhere else in the world. The [Great Southern Reef](#) is thought to be more biodiverse than the Great Barrier Reef.

Twenty-six marine parks help protect South Australia's marine environment. Nineteen of these occur in coastal waters and are managed by the [National Parks and Wildlife Service South Australia](#) and the remaining seven occur in offshore waters and are managed by [Parks Australia](#), a Commonwealth government agency.

Each marine park is zoned – zoning allows a range of different activities to be undertaken across a marine park, helping managers ensure that the needs of all marine users are balanced. Sanctuary (in State waters) or National Park (in Commonwealth waters). Zones place many restrictions on users and provide a very high level of protection while other zones, including Habitat Protection and Special Purpose Zones, restrict targeted activities. All zones contribute to the protection of marine plants and animals, helping to build health and resilience of marine habitats and reducing the impacts of direct threats during key times such as feeding, breeding and resting areas for marine animals.

South Australia's marine parks are places we love to share; however, we need to bring awareness to people's interconnections with places and responsible ways of using, fishing, visiting, experiencing, and exploring them. That's where you come in.

As part of a Design Team, design a visitor's guide with detailed information about a marine park of your choice (this could be a Commonwealth or State marine park) in South Australian waters. This guide will also feature information about the traditional owners, current uses, values and management arrangements. The guide will also reference attractions in and around the marine park, highlight people's interconnections with it and provide examples of how to use the marine park responsibly (e.g., fishing, visiting, experiencing, or exploring). Alternatively, students can design an ecotourism idea for their chosen marine park. This will involve researching current ecotourism ventures that already operate in the marine park, regionally around South Australia or further afield if necessary. Students will provide an overview of marine park values that they think are potentially marketable. This may potentially involve market research, for example, surveying people about what new ecotourism experiences they would like to see or identifying which values people find most interesting. They will then design their own ecotourism venture (or a brochure for it), ensuring it is safe, sustainable, and consistent with the marine park management rules that it occurs within.

Research your local marine park and then other marine parks in your region. Explore how coastal marine parks are connected to offshore marine parks. Create something to teach visitors about the marine park and how they can enjoy it responsibly. This can be in the form of a visitor guide or new ecotourism idea.

Your visitor guide or ecotourism brochure will need to include the following information for your chosen marine park:

- An Acknowledgement of Country which recognises its traditional owners. You can find a general acknowledgement and the preferred wording for each First Nations group [here](#). Explore opportunities to highlight the traditional owner's connections

to sea country, traditional uses and words for places, animals, and plants.

- Its current uses.
- Its social, economic, cultural and ecological values.
- Relevant details of how it is managed (including zones, rules and relevant licensing requirements).
- A map of your chosen marine park. [Naturemaps](#) or [Science Atlas](#) are great tools for this.
- If relevant, a guide to what your chosen marine park offers to see and explore – this may include important biodiversity features (e.g., reefs, aggregations of cuttlefish, migrating whales), important cultural connections (i.e., stories of traditional owners) or man-made attractions (each feature must be described with details about what can be seen, experienced and explored).
- Tips to ensure readers understand how to use the marine park responsibly.

Put your design mojo to work. Research visitor guides of all types and create something to show others how special your region is and what we can do to make things better for ourselves and the marine park.

High, low and no tech options are available.

**High Tech:** You can design and produce your visitor guide or ecotourism brochure digitally using narrated tours in Google Earth, a virtual tour using [RoundMe](#), a collection of You Tube travel videos, GIS, apps or software to create original graphics.

**Low Tech:** You can design and produce your visitor guide or ecotourism brochure using a standard computer, graphics and editing software.

**No Tech:** You can design and produce your visitor guide or ecotourism brochure using art materials, poster board and handwritten information, maps, and drawings.

What kind of researcher and project designer will you be?

# A suggested learning sequence:

## Step 1: Define

**Objective:** Have students illustrate their understanding of the challenges set out in the scenario by providing an oral definition of the task.

Share the essential question with the class and talk about the tasks that need to be addressed. See **Resource 1.1** in the Student Project Files.

Present the scenario, assign teams if appropriate, and ask learners to define the tasks they have been set. See **Resource 1.2** in the Student Project Files.

### Prior knowledge investigation

Ask students to create a 'Knows and Needs to Know' list identifying what the team knows and needs to know to undertake the tasks set.

Undertake a prior knowledge activity. Provide students with time to respond to each of the following questions:

- Where are the Commonwealth and State marine parks in South Australian waters?
- How large are they?
- What zones do they include?
- Who are their traditional owners, local language, and traditional uses?
- Why are the marine parks important?
- What ecosystems do they protect – think about the habitats, plants, animals, and physical processes that make up those ecosystems. What resources do they provide?
- How do people use the marine parks?
- List the different specific groups of people that use the marine parks and the socio-economic benefits that they derive?
- What are the benefits that come from using marine parks?
- What are the negative impacts each group could have on the marine parks?
- Why other impacts are putting pressure on marine parks?

## Marine Parks

Explain to the class about marine parks and their role in protecting marine biodiversity and supporting sustainable use of marine resources. Note that they also help protect cultural and heritage values.

Explain that marine parks protect a range of habitats – some marine species have an affinity for one habitat and will stay in the same spot or small region all their lives while other marine species use many different habitats during their life history, some of which are geographically far apart.

Briefly describe range of pressures on the marine environment, highlighting that some are direct pressures and others are indirect.

Common marine threats include climate change, marine pollution, ship strikes, fishing, human disturbance, resource use, coastal development and invasive species.

Bring those pieces of information together to consider how marine parks work – (a) can protect species or habitats against the impact of a direct pressure in a specific location for a targeted benefit (to that species or habitat), (b) can protect individual species over the course of their lifetime by protecting against the impact of direct pressures across multiple locations that bring population benefits, or (c) provide general ecosystem benefits (health and resilience) by reducing specific impacts of direct pressures so that they are better able to overcome indirect pressures. In most cases, a marine park will work at all three levels.

Describe the ways marine parks can support commercial and recreational fisheries – (a) complement fisheries management measures through their ecosystem health and resilience benefits, (b) protect critical life behaviours (i.e., nursery habitats or spawning aggregations) or habitats (i.e., seagrass meadows) which may bring population benefits or (c) protect a proportion of the breeding populations of adult fish that may result in improved reproduction that leads to population benefits. Students can read a South Australian example for rock lobster in Cape Du Couedic Sanctuary Zone in the [Western Kangaroo Island Marine Park](#) at this [link](#). This comes from [South Australia's Marine Parks 5 Year Status Report 2012-2017](#).

Explain that South Australian waters are protected by two types of marine parks, Commonwealth and State. Explain how they differ: those managed by the South Australian Government which occur in near-shore waters (out to 3 nautical miles) and Australian Marine Parks which are managed by the Commonwealth government and occur between 3 and 200 nautical miles from shore. Note: A nautical mile (M) is a unit of distance equal to 1852 metres.

Briefly describe the uses of marine parks in South Australian waters – i.e., commercial, and recreational fisheries, tourism, shipping, oil and gas. These bring direct and indirect benefits for us but can have impacts (see pressures above). Are there other benefits we gain from a healthy marine environment (i.e., air we breathe, climate regulation) or impacts (i.e., climate change). These are all the ways our lives relate to the marine environment.

Discuss how the marine environment is connected – a localised action can have far ranging impacts (i.e., oil spill). Marine ecosystems often operate across regulatory or political boundaries – How are the State and Commonwealth marine parks in South Australian waters connected? (e.g., migratory species, currents, larval connectivity, species range, different behaviours in different locations). How are they distinct? What are the management challenges this connectivity presents? Watch this [video](#) about Australian sea lions for an example of an animal that needs a breeding colony on land but forages, sometimes for long distances, at sea and utilises both State and Commonwealth marine parks throughout its life.

Ask students to research, find and record a definition of a multiple use marine park in their Student Project Files. See **Resource 1.2.1** in the Student Project Files.

Challenge students to locate and name the 26 marine parks in South Australian waters. Have them record the seven that are managed by the Commonwealth government and the 19 managed by the South Australian Government in their Student Project Files. See **Resource 1.2.2** in the Student Project Files.

Ask students to research and record the different zones within these marine parks, understand that the zones are named differently between the Commonwealth and State marine parks, identify what activities can be undertaken in each zone of the marine parks and match those that are similar in their Student Project Files. See **Resource 1.2.3** in the Student Project Files.

### Responsible digital citizenship

Talk with students about responsible digital citizenship in online environments. Work with students to have them understand that during this unit they will be using a range of websites and gathering a range of opinions so students will need to check their sources are reliable and reference appropriately. Similarly, discuss the use of free and open sources for images and videos, and software, and the need to seek permission or appropriately credit media that others have produced.

Remind students that there are high-tech, low-tech and no-tech options that they can consider when designing and creating their user guides or ecotourism brochures.

### Our connections to places

Talk about the students connections to places. For example, 'I am connected to Italy because it's my mum's birthplace'.

Ask students to construct tables showing the connections they have with places. See **Resource 1.2.4**.

For example:

Places connected to	Type of connection
Adelaide	My Dad lives there
Italy	Is my dream holiday destination
Queensland	I love eating bananas and they grow there
Korea	My mobile phone was assembled there

Ask students to think about what they know about people's connections with marine parks in South Australia or places close by. For example, residents of Kangaroo Island may be connected to their local marine parks through their jobs, their favourite hobby or a pride in where they live. Meanwhile a visitor to Port Lincoln may be there to enjoy a shark cage dive or go game fishing as part of their annual holiday. What do these connections comprise, is this connection direct or indirect, will it have a positive or negative impact on the marine park (or surrounding marine environment) and how may these impacts affect the future of marine parks. Individually, students should make a list of sentences or phrases that describe what they know about the topics suggested in the earlier activity. Ask students to share these with a partner.

After sharing students' ideas make a list of sentences and phrases as a whole class.

Categorise these connections into groups.

### **Prerequisite for progression:**

Ask students to articulate their understanding of the task/challenge through oral conversation and if appropriate, a written (scribed) statement.

Note: The Prerequisite for Progression are the checkpoints that occur at the end of each stage of the learning sequence. This is the time when formative feedback is given to the students about what they have accomplished in that stage. It describes what the students must complete before they move onto the next phase of the unit. (*Crockett, et, al, 2011*).

## **Step 2: Discover**

**Objective:** Have students research, read, view, listen to, discuss, gather, organise ideas and information about people's connections to marine parks in South Australia's waters, in order to re-imagine how visitor guides or ecotourism enterprise brochures might be designed and bring awareness to the responsible ways of fishing, visiting, experiencing and exploring marine parks in South Australia's waters.

### **My connections to marine parks**

In groups, ask students to describe their connections to marine parks around South Australia or nearby places. For example, 'I grew up in Port Lincoln and my family has run a fishing business for three generations.'

Invite students to think about places in their local area and people's connections to them.

### **Connections to sea country**

Talk about traditional owner groups in South Australia and their connections and caring responsibilities for sea country. Explain the extent of sea country across the region's marine parks and the role of sea level rise in altering those relationships. Discuss the close relationship between Aboriginal peoples and their land/seas and how the relationship to the natural world carries responsibilities for its survival and continuity. Focus on the obligations Aboriginal peoples have to protect and preserve life forms that are part of it. For example, sources of water have to be looked after and cared for as a matter of health and survival; rock holes are covered with rocks or branches to protect them; only the food that is needed is taken from the environment so that on future visits stocks of plants and animals are still plentiful.

Learn why a [Connection to Country](#) is so important for Aboriginal people. Think of your own connections to the environment. Ask yourself how these connections make you feel and why?

Using this YouTube [video](#) (6:02 mins) and its images, stories and other [linked resources](#), explore the places Aboriginal peoples of South Australia are connected to. Ask questions like:

- What is this place like?
- What do people do here?
- What is happening in this place?



Go further and watch this YouTube [video](#) (3:53 mins) to learn how to build meaningful relationships with Aboriginal communities.

Build on these questions and invite students to consider and answer the questions below in **Resource 1.3** in the Student Project Files:

- Do you have a favourite place in nature? How does it make you feel and why? This is your connection to nature.
- What do we know about the past and our Aboriginal Australian's connections to sea country in South Australia?
- Why is connection to Country so important for Aboriginal people?
- How has the past influenced present connections with marine parks around South Australia?
- How would you find out more information about Aboriginal people's connections to the land and sea from primary and secondary sources?
- How would you collect the ideas and voices about ways the Aboriginal people are connected with the land and seas?
- Who are the people or stakeholders that they might need to consult to find out more about how Aboriginal people were connected to the land and sea?
- How can they develop texts, particularly narratives and descriptions, which incorporate these understandings?
- How they might share and communicate their research findings?
- How might they discover how Australian Aboriginal and Torres Strait Islander peoples in and around South Australia's marine parks remain connected to their culture?



### My community's connections to marine parks

As a class, explore people's interconnections with marine parks around South Australia or nearby places using the concept diagrams in **Resource 1.3.1** in the Student Project Files.

Ask students to explore the interconnections and use [Smart Art](#) to draw a concept diagram that captures them. Encourage them to include connections between marine parks (or nearby places) and:

- local community residents
- tourists
- traditional owners
- the academic community including marine scientists, social researchers and historians

Go further and investigate people's interconnections with places near State marine parks around South Australia's coastline. For example, what connections do you think the local community might have with the [Adelaide Dolphin Sanctuary](#), Port Wakefield or the Coorong. Think about Kangaroo Island and consider the connections locals might have with marine species like Australian sea lions, dolphins and southern right whales or perhaps leafy sea dragons at [Encounter Marine Park](#). Now think about the connections to nearby places like Port Lincoln (a busy seaport), Whyalla (a rich iron ore district), Ceduna, Wallaroo, Warooka, or St. Kilda.

Now consider how these connections extend to the offshore marine environment or Commonwealth marine parks – think about the possible socio-economic connections (e.g., industry and recreation) or the biological (e.g., currents, species using different areas at different life stages).

As a class, map these interconnections using a web or concept [map](#). Then, ask students to use Smart Art and create concept diagrams showing people's connections to these places using **Resource 1.3.2** in the Student Project Files.

Talk about the concept of 'interconnections' and the way that in Geography it can show us that our lives, and the lives of people in our community are linked with the lives of people around the world, often in relationships that are interdependent. Using the phrase 'We do not live in isolation' ask students to [mind map](#) their interconnections with people in the community and people around the world. Use **Resource 1.3.3** in the Student Project Files.

Ask students to review, edit and then share their mind maps and display them for future reference.



## Fisheries connections

Talk about how South Australia's marine environment supports important commercial and recreational fisheries. What associated businesses support the fishing industry (processing plants, wholesalers, fishmongers, tackle shops, charter fishing businesses, restaurants and accommodation venues)?

Use the [Fishfiles](#) to discover what species are caught in South Australian waters. Encourage students to think about how these species are caught.

Investigate which commercial fisheries operate in [State](#) and [Commonwealth](#) waters off South Australia - who supplies for domestic consumption and what is exported?

Discuss why it is important to ensure fish are caught sustainably. Talk about the word 'sustainability' and as a class consider the differences between 'environmental sustainability', 'economic sustainability', 'social sustainability' and 'political sustainability'.

Ask the class about what sustainable fishing practices are used in the commercial fisheries sector. Talk about ecosystem based fisheries management, fishing licences and permits, area closures (including closed seasons, closed areas, or marine parks), quotas, environmental impact assessments, vessel monitoring systems (so fisheries managers can track where vessels are) and how fishing equipment is modified or used in different ways to reduce bycatch. As a class, build understanding by sharing concept maps and ideas.

Now consider how the seafood industry shares their sustainability story or proves their environmental credentials with consumers:

- look at the South Australian Sardine Fishery and consider why it gets the [Marine Stewardship Council](#) certification.
- read more information about sustainable seafood using [Goodfish: The Australian Sustainable Seafood Guide](#).

Ask the class to consider how these schemes impact the marine environment. Does this knowledge help you make better choices? Ask students to develop a concept map describing what they know about sustainable seafood.

View a [video](#) about the Spencer Gulf Prawn Fishery in South Australia that helps explain the goals of fishermen, how their work is informed by science and how their technologies and methods of fishing are based on involvement in regular surveys & monitoring of the fishery. Highlight their commitment to ecosystem-based fishing management and fishing within quotas.

Pause and consider how the health of the marine environment supports sustainable fisheries. Consider how the marine environment is linked – for example, the health of the Spencer Gulf Prawn Fishery depends on healthy saltmarsh and mudflat ecosystems. Watch this [video](#) which explains the importance of these habitats as a nursery ground and how protecting these habitats in marine parks can benefit industry.

Introduce the term aquaculture and talk about its importance to [South Australia's economy](#) - talk about the types of species that are farmed in South Australian waters e.g. southern blue fin tuna, Pacific oysters and abalone and discuss the various methods used to farm them. This includes sea cages (tuna, abalone), racks (oysters) and long line cultures (mussels). Discuss the important role of research and development in improving aquaculture operations (in terms of food safety, yield, environmental sustainability). Watch a short [video](#) about careers in the [Australian Southern Bluefin Tuna Aquaculture Industry](#) in Port Lincoln. For more in depth information watch this longer [video](#).

Ask students to discuss their experiences recreationally fishing – where did they go and what did they catch? What rules did they have to abide by and why?

Download the [South Australian Recreational Fishing App](#) to learn more about experiences across South Australia or read the [State Recreational Fishery Management Plan](#).

Explore the economic and social benefits derived from recreational fishing [here](#). Talk about sustainability in the context of recreational fishing and consider some of the rules that recreational fishers must abide by to support marine environmental management. These rules include size, bag, boat and possession limits, gear restrictions, temporal and spatial closures, and permits. Look at how to use marine parks responsibly to recreationally fish [here](#) and [here](#).

Ask students to use their Student Project Files and to create a wordcloud with a program such as [Wordle](#) or [Worditout](#), summarising what is known about types of fisheries. See **Resource 1.3.4**.



## The connections between land and sea

Land and oceans are connected through catchments. Discuss the term catchment and look at this [infographic](#) (from the Great Barrier Reef) which illustrates how our activities on land can impact our oceans.

Talk about environmental management. What does it mean? Brainstorm a list of terms that might be associated with the idea of environmental management. Consider land management, water management, pest management, energy management, catchment management and waste management in fisheries and aquaculture contexts.

## Tourism connections

The tourism industry provides important economic and social benefits, such as employing thousands of people (directly and indirectly), providing education and recreation experiences and preserving local values.

Watch this [short film](#) about why tourism is important for South Australia.

Introduce students to the [statistics](#) about international and interstate visitors to South Australia in 2019. Discuss the possible effects of such visitor numbers on the environment, including the marine environment and marine parks.

Talk about how in the tourism and hospitality industry it is important to fully understand how and why a place is changing, and in Geography we examine its interconnections with the effects of people's travel, recreational, cultural or leisure choices on places, and the implications for the future of these places.

Discuss the idea of sustainable tourism, what is it and how can it be achieved. [This link](#) gives some ideas.

In groups, ask students to make a list of reasons why they think tourists might want to visit South Australia's marine environment? Consider what experiences a coastal environment might offer versus an offshore environment e.g. would you see different species or could you do different activities? Do you think visitors value a marine park experience more? Why? Do you think clients would be willing to pay more for a "sustainable" experience?

Once lists have been made, ask students to number the reasons in order of importance, from most important to least important.

Invite students to research six marine tourism operators in South Australia. What activities do they offer and how are they connected to their place of operation? For example, [Experiencing Marine Sanctuaries \(EMS\)](#) is connected to State marine parks, the [Great Southern Reef](#) and

waters in and around Adelaide and Whyalla. At these locations they provide snorkelling and underwater experiences, and host classes. See **Resource 1.4** in the Student Project Files.

Look at the award winning [Great White Shark Cage Diving Industry](#) which operates out of Port Lincoln in the [Neptune Islands Group Marine Park](#). Over 10,000 national and international tourists visit Port Lincoln every year just to do the tour, bringing them to an area they may not otherwise visit. The [industry directly brings in around \\$8 million dollars to the local economy](#) and has created over 70 jobs. It provides further indirect economic benefits to the whole region. A scientific study showed that 83% of people that did the tour would not have visited Port Lincoln if it wasn't for shark cage diving. Whilst the Great White Sharks are seen at the Neptune Islands, they are a migratory species and migrate through a number of State and Commonwealth marine parks. You can find out more about the industry by watching this [short film](#).

As a class, co-construct an example of the interconnections of the [Neptune Islands Group Marine Park](#) and other State and Commonwealth Marine Parks that great white sharks visit. [This paper](#) will give you great insight. Research the [Western Eyre Marine Park](#) and find out the interconnections that people have with this marine park. How is it used and by who? How could it be used in the future?

Invite students to research winners in the [South Australian Tourism Awards](#) and investigate the interconnections the winners have with their locality, people in their community and overseas. Might their locality provide marine experiences? Might they rely on locals to supply goods and services associated with visiting and experiencing marine parks? Might they rely on regional growers to provide perishables, food, and beverages for events that occur within marine parks? Might they rely on overseas visitors and their purchases to be viable in their business? Might they need Internet services from national providers? See **Resource 1.4.1** in the Student Project Files.

Now consider the "attractions" in marine parks. These areas might not currently support tourism ventures but offer experiences that students will have identified as valuable or marketable.

Whyalla's internationally renowned [Cuttlefest](#) festival (established in 2018) is an example of how an aggregation of giant Australian cuttlefish in [Upper Spencer Gulf Marine Park](#) has become a valuable, bucket list activity and boosted Whyalla's economy.

Read about the [Lower South East Marine Park](#) near Mount Gambier where visitors from

regional Australia and overseas can experience reef systems and giant kelp forests. This marine park is an important feeding and resting ground for migratory and resident shorebirds which may be of interest to nature watchers or bird enthusiasts. It is also an important spot for pygmy blue whales that visit the marine park to feed. Research what plants and animals can be found in this marine park and record them in **Resource 1.4.2** in the Student Project Files.

Read about the [Upper South East Marine Park](#). This marine park protects important seagrass beds and is home to the Bonney Upwelling. Research what marine habitats can be found in this marine park and record them in **Resource 1.4.2** in the Student Project Files.

Think about how these marine parks are connected to the offshore [Nelson Marine Park](#) and [Murray Marine Park](#). Consider what species might use both marine parks (hint some might be migratory, others might have an oceanic larval stage and a benthic adult stage), physical processes like currents that drive nutrient flows or cultural values (for example Aboriginal songlines). Research your ideas and record information in **Resource 1.4.2** in the Student Project Files.

### TOP TIP!

There may not be area specific information about these linkages so encourage students research this topic from other regions around Australia and further afield.

Talk with students about how all ideas, approaches, methods, processes and actions, or lack of them, carry a range of implications. Some can affect places/environment, people/society, economies, and policies.

Ask students to reflect on the information they discovered about the Upper and Lower South East, Nelson and Murray Marine Parks and consider what new tourism opportunities there might be. Consider the following questions:

- Who are the people involved?
- What interconnections in terms of opportunities and challenges (environmental, economic, social/cultural, and political) exist?

- How might these opportunities and challenges effect the future of both marine parks and their animal and plants that live within them?

Use the 'Compass Rose' in **Resource 1.5** in the Student Project Files. Label the directions:

- **N**atural environment/ecological questions
- **S**ocial and cultural questions
- **E**conomic questions
- **W**ho decides? Who benefits? i.e. political questions

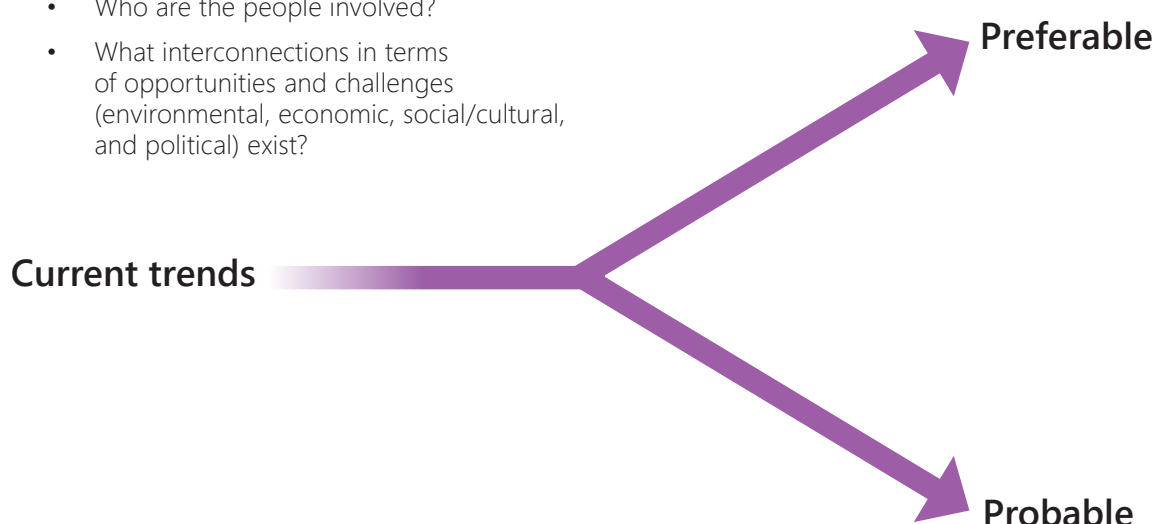
Using the compass, ask students in groups to identify any environmental, social, economic and political effects of people's travel, recreational, cultural or leisure choices on places like the Upper and Lower South East, Nelson and Murray Marine Parks. Identify possible future implications for both marine parks and their surrounding areas.

Research information about visitor numbers to Robe and use the same approach to identify and analyse the possible effects of people's travel and recreational choices on the town. What are some of the future implications of these effects for Robe?

Introduce a [flow chart](#) and ask students to sequence the possible effects of people's travel and recreational choices on the town.

Consider how these sequences of effects may be relevant for other areas in South Australia - talk about the future for tourism attractions in and around marine parks or those operating in nearby communities.

Introduce the idea of a 'futures timeline'. Timelines can be used to explore future possibilities - that are the result of changes.



## Explore the concept of 'probable' and 'preferred' futures.

Talk about 'probable' futures as the future we think is *likely* to happen. One way to do this is to look at current trends. For example, Adelaide's exhibitions and festivals are bringing in thousands of tourists and visitors to South Australia each year. This will probably inject thousands of dollars into the economy; however, it will also generate more waste to landfill, more energy use, more water uses and more greenhouse gas emissions from aviation, boats and cars.

By contrast introduce, 'preferable' futures, those that we would most like to come about. Preferable futures reflect our deepest values, wishes and priorities. For example, read the guidelines the City of Adelaide has put in place to ensure that events run in its green places are run sustainably. Watch the case study videos on this [website](#) and learn how the City of Adelaide is trying to reduce the ecological footprint of festivals and its visitors.

Using a futures timeline, ask students to map some of the effects of people's travel and leisure choices on a place that interests them. Ask them to describe the probable and preferable future. See **Resource 1.6** in the Student Project Files.

As a class, discuss and record ideas about the term 'ecological footprint' and 'best environmental practices' and think about what they mean in the context of [sustainable tourism](#). Use **Resource 1.7** in the Student Project Files to collect and record ideas.

Consider a key environmental consideration for the tourism industry waste. Mind map the possible impacts of waste in the context of a marine tourism business and opportunities to mitigate these impacts. What can individuals do to make a difference, for example, they can review an operator's waste practices before booking, avoid taking waste on tours or make sure they take their rubbish home. Think about how you could communicate these ideas in a visitor guide to encourage responsible use.

Consider a fishing tour. Brainstorm a range of environmental practices that a charter fishing operator might follow and how these might be included in their advertising or tips for clients. For example:

- Avoid taking plastics to sea – remove all plastic packaging and wrapping on shore before you set off and make sure it's recycled.
- Never throw plastic overboard as it can harm marine life.

- Use biodegradable fishing equipment and bait bags.
- Make sure your bait is locally sourced to reduce the biosecurity risk.
- Follow relevant fishing rules.
- Encourage catch and release of species – and follow best practice guidelines to maximise chance of survival.
- Correct disposal of black and grey water.

Research definitions of 'sustainable tourism' and draft ideas to incorporate into the one page promotion of best environmental practices relevant to an activity in your chosen marine park for the visitor guide or your new ecotourism idea. Use **Resource 1.7** in the Student Project Files to collect and record ideas.

## Multiple use connections

Review the list of marine park user groups in South Australia. Source information to complete the table below and identify pressures affecting the marine parks. Use **Resource 1.8** in the Student Project Files to collect and record ideas.

## The scientific and educational value of marine parks

Explain that many marine parks have been dedicated to conserve areas of the ocean so that we understand how the marine park works, what lives there and what relationships exist between its plants, animals, and habitats. Remind students about the different zoning within the marine parks and what they aim to achieve.

Read the Management Plans and Baseline Reports for a chosen marine park for more information.

- [State Marine Park Management Plans](#)
- [State Marine Park Baseline and Predicted Changes Reports](#)
- [South-west Marine Parks Network Management Plan 2018](#)
- [South-east Commonwealth Marine Reserves Network Management Plan 2013 - 2023](#)

Discuss how it is important to carry out scientific studies to monitor changes in these areas, and how once the results of this research have been carefully considered can marine park officers plan how to best manage the parks so that all natural elements have the best chance of surviving. This is called evidence-based decision making and Adaptive Management. Read the [Status Report \(2012- 2017\) for South Australia's Marine Parks](#) for more information.

### The contribution marine parks make to biodiversity, the economy and our society

Talk with students about biodiversity being the variety of species, populations, habitats, and ecosystems.

Encourage them to find out about the biodiversity within the marine parks in South Australia. Similarly discuss South Australia's economy and explore how marine parks contributes to it. Find out about how the marine parks are of value to South Australia's society and to traditions and cultural values.

### Cost Benefit Analysis

Undertake a cost-benefit analysis to identify all the costs and benefits the marine parks make to our society, environment, or economy. If the benefits exceed the costs, the cost-benefit analysis is said to indicate an overall gain to society, or vice versa.

Choose an issue related to the marine parks in South Australia and complete a cost-benefit analysis on it.

You can find examples of the impacts of marine parks in the [South Australia's Marine Parks Status Report 2012-2017](#).

Present your findings to the class for discussion.

Use the following Compass Rose to assist with this creative thinking activity.

### NATURAL

These are questions about the natural and built environment and their relationship to each other - the land, sea and living things.

### POLITICAL

These are questions about power, who makes choices and decides what is to happen; who benefits and loses as a result of these decisions and at what cost?

### ECONOMIC

These are questions about money, trading, aid, ownership, buying and selling.



### SOCIAL

These are questions about people, their relationships, their traditions, culture and the way they live. They include questions about how gender, race, disability, class and age affect social relationships.

## Visitor guides

Introduce students to a range of visitor guides both in hardcopy and online. Talk about the use of narrated tours on Google Earth, use of photography, videos, maps and the language of tourist brochures and information guides. Examine how language is used to advertise and educate. Examine the images and the stories they tell. Talk about and analyse how writers and organisations 'sell' visiting by creating excitement, by using persuasive language in describing the hospitality offered and the luxury to be enjoyed.

Encourage students to express opinions about the text types and images found in visitor guides and brochures.

Challenge students to think about how their own experiences influence the way in which they read and interpret visitor brochures.

Use **Resource 1.9** in the Student Project Files to delve deeper into the language of visitor brochures and information guides.

Remind students that their visitor guide needs to include advertisements for tourism operators in the region. Brainstorm the possibilities in the region. For example: tour operators, visitor information centres, attractions, cultural and heritage sites, and any small tourism business.

If this does not exist, such as for an offshore marine park, discuss new opportunities that may be applicable (for example whale watching via boat or airplane).

Talk with students about careers in these tourism sectors and their broader supply chains in more detail. Ask students to view a [video](#) on YouTube (3:34 min) about careers in a tourism service, namely a holiday park and discover the range of careers available.

Go further and ask students to discover the diverse opportunities available in ecotourism and hospitality.

As a class talk about the many career opportunities in any part of the supply chain related to the production or supply of an ecotourism service. Create career profiles and display them in the school.

Ask students to share what their research has told them and what they still must accomplish within the task.

## Prerequisite for progression:

Students have worked as a class, individually and in teams and collected research on people's connections to places, South Australia's marine parks, interconnections between people, places and environments, in order to re-imagine how visitor guides or ecotourism enterprise brochures might be designed and bring awareness to the responsible ways of visiting, exploring and experiencing places.

Websites, videos, images, and stories are used to contextualise understanding. Students will share their ideas with peers, the teacher and family.

### Step 3: Dream

**Objective:** Ask students to imagine how they are going to design a visitor guide or ecotourism enterprise brochure to bring awareness the responsible ways of fishing, visiting, experiencing and exploring South Australia's Marine Parks.

Ask students to think about their audience and what part of the customer experience the brochure is for (beginning - gathering information, middle - experience, end - reflection).

Ask design teams to create a vision for their visitor guide or new ecotourism enterprise brochure that they are imagining. See **Resource 1.8** in the Student Project Files.

Ask teams to use all the knowledge they have gathered to visualise a creative and appropriate solution for a designed visitors guide or ecotourism brochure or venture for their marine park and surrounding region, to highlight people's interconnections with the area. Remind them to include tips on how to use the marine park responsibly when fishing, visiting, experiencing, or exploring. Ask students to visualise what the solution will appear like.

Ask students to consider the many possible ways that they can design their idea. Talk about the use of research, working sketches, models, drawings, maps, videos, experimentation, or photographic samples.

Ask students to develop all possible solutions by brainstorming ideas.

Ask students to imagine the steps involved in designing the product that they are re-imagining.

Challenge students to think about the materials, tools, and equipment they will need to design their individual work samples. Will they use digital or non-digital equipment and tools?

#### Progressions for Learning:

The class have brainstormed ideas to begin designing their visitor guide or ecotourism enterprise brochure for their marine park, its region and community, and identify ways to bring awareness to people's interconnections with places like marine parks, and the responsible ways of fishing, visiting, experiencing and exploring South Australia's marine parks. They have also answered the questions posed in the dream phase.

### Step 4: Design

**Objective:** Ask students to explain, prepare and action how they are going to design a visitor guide or ecotourism enterprise brochure for a marine park, its region and community, and bring awareness to people's interconnections with places and the responsible ways of fishing, visiting, experiencing and exploring South Australia's marine parks.

Ask students to explain, prepare and action how they are going to re-imagine and document their design ideas for visitors and tourists. See **Resource 1.9** in the Student Project Files.

Discuss that for the brochure to be most effective, it is important to work out who the brochure is intended for (the audience) and to design the brochure for a certain part of the customer journey (beginning - research, middle - experience, end - reflection).

Talk about how the students might use a model, prototype, blog, display folder, digital presentation, or a combination of these to show evidence of their design and production process.

Ask students to draft the steps involved in making their chosen design.

Talk about the importance of a clear design and layout that makes it easy for an audience to understand and interpret the information given.

Discuss the importance of highlighting people's interconnections with the marine park or surrounding region and including tips for responsible use when fishing, visiting, experiencing, or exploring.

Talk about the importance of sourcing graphics, photos, and information correctly. For example, has permission been sought and received, have image been credited correctly or information sources cited?

Review rules on personal safety, group safety, and classroom and furniture safety with the students. Ask students to establish a workstation and to gather the materials and tools they require. Talk about storing their design safely and keeping a record of the processes they use to create it.

Remind students to record the steps involved in making their chosen digital or non-digital design.

Talk with students about how they might share and present their designs to an audience?

Ask students to explain how they plan to finalise and create their designs with another peer in the class and seek feedback on their ideas.

### **Progressions for Learning:**

Students can document in oral or written/digital forms how this project is to occur. The understanding is demonstrated by the students explaining their thinking to a peer in the class.

## **Step 5: Deliver**

**Objective:** Have students deliver their design of a visitor guide or ecotourism enterprise brochure, and bring awareness to people's interconnections with marine parks, and the responsible ways of fishing, visiting, experiencing and exploring marine parks in South Australian waters.

This phase has two stages – production and publication. In the production stage, the project comes to life – this is the doing phase. At the end of this phase, the publication/presentation of the visitor guide or ecotourism brochure or venture that the design team is re-imagining should be completed. Similarly, the design of the people's interconnections with marine parks and the responsible ways of fishing, visiting, experiencing and exploring marine parks in South Australian waters should also be completed.

Ask students to design and create their individual design samples required in this learning package. See **Resource 1.10** in the Student Project Files.

In the publish phase, students get to showcase all their thinking and planning. This is the time when students present their designs to each other or an audience and it is a good time for peer or self-assessment.

Ask students to share their designs with others.

### **Progression for learning:**

Each Design Team has solutions for either a ecotourism enterprise venture or brochure or visitor guide about marine parks in their region and community, and has identified ways to bring awareness to people's interconnections with marine parks, and the responsible ways of fishing, visiting, experiencing and exploring South Australia's marine parks

## Step 6: Debrief

**Objective:** Assess the finished brochures or visitors guides. Do they highlight connections between the selected marine park (or new business idea) and the natural environment, traditional owners, local communities, and existing businesses? Do they educate readers on ways to reduce their impact on the marine park during their visit?

Ask students to share what they've discovered about their local marine parks through this project. Encourage students to reflect on their initial understanding of how we're connected to the marine environment and marine parks, and ask them if they've discovered new connections. What are they and has this new knowledge made them think marine parks are more or less important?

Ask students to evaluate their designs and write about whether it:

- matches the definition of the task
- uses a clear layout and design
- was feasible, and
- were ideas and information used from external sources appropriately referenced.

Ask students to write about the quality of their planning, their finished design and whether they enjoyed the task.

Invite students to reflect on the learning by completing a self-assessment activity. Ask questions like:

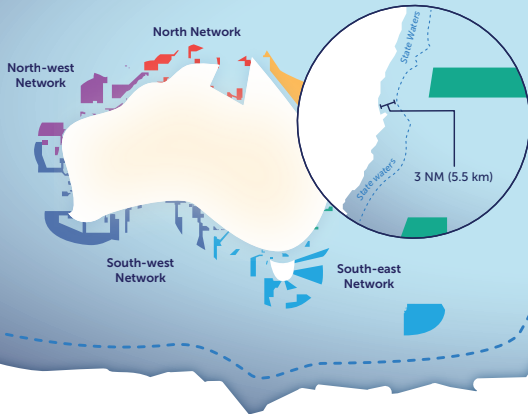
- How has my/our attitude and behaviour changed as a result of my learning?
- How well did I/we contribute to any team learning activities?
- How can I/we apply what I/we have learned to another topic? See **Resource 1.11** in the Student Project Files.





# Australian Marine Parks protect our offshore marine environment

The Australian Government manages waters between 3 and 200 nautical miles offshore.



Managing our marine parks is a balancing act.



Zoning shows where different activities are permitted.



### Green zones

Green zones protect important locations like breeding and feeding areas. Here you can watch wildlife, snorkel, dive and do research.



### Yellow zones

Yellow zones protect sea floor habitats like reefs and seamounts. Watch wildlife, snorkel, dive, do research and fish, but don't disturb the seafloor.



### Blue zones

Blue zones allow other sustainable activities like fishing. Here, and in yellow zones, Australian fishers can provide us with the seafood we love.



Australian Marine Parks cover 2.8 million km<sup>2</sup>. That's an area the size of Queensland, NSW and Victoria combined!

## Australian Marine Parks



protect habitats and species



support sustainable marine industries



are amazing places to enjoy

Marine parks achieve the best conservation and sustainable use outcomes when park users, Traditional Owners and local communities are engaged and supportive. We work alongside our stakeholders to deliver all aspects of management so that they're places we can all enjoy and benefit from.

# Australian Marine Parks

Visit [parksaustralia.gov.au/marine](http://parksaustralia.gov.au/marine) to learn more



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Student

# Project Files



Image: Carl Charter

## The Project File

- > Your Project File is a vital communication tool for your project.
- > It should document your project's development.
- > Start by recording your understanding of the design brief through to the final evaluation of your designed solution.
- > Use concept maps, word clouds, annotated concept sketches, photographs, flow charts, labelled drawings, and information to communicate your ideas.



# Your Design Brief

### The essential question:

What are the best ways to ensure that our use of marine parks has a positive effect on the environment, economy, and local communities?

### Scenario:

Imagine the best ways to ensure that the marine parks of South Australia remain part of a happy, healthy community, a stable economy and sustainable environment.

Did you know that marine parks in South Australian waters help protect and conserve marine biological diversity and habitats, natural and cultural features and allow for ecologically sustainable development?

Some of the marine life is found nowhere else on earth. South Australia boasts iconic species such as the southern right whale, bottlenose dolphin, leafy sea dragon, blue devil fish, great white shark, Australian pelican, little penguin, Australian sea lion and giant cuttlefish. With over 7,500 species, of which up to 85% is found nowhere else, Southern Australian waters, or the [Great Southern Reef](#) has greater biodiversity than the Great Barrier Reef.

South Australia's marine environment is fortunate to have network of 26 marine parks. Nineteen of these occur in coastal waters and are managed by the [National Parks and Wildlife Service South Australia](#) and the remaining seven occur in offshore waters and are managed by [Parks Australia](#), a Commonwealth government agency.

Marine parks are zoned which helps them deliver conservation and sustainable use benefits. Sanctuary Zones (State) or National Park Zones (Commonwealth) offer very high levels of protection, while other zones include Habitat Protection, Special Purpose or General Use. All zones can help contribute to the protection of vital feeding, breeding and resting area for marine life.

South Australia's marine parks are places we love to share; however, we need to bring awareness to people's interconnections with places and responsible ways of using, fishing, visiting, experiencing and exploring South Australia's marine parks. That's where you come in.

As part of a Design Team, design an exclusive visitor guide or new tourism venture with detailed information about the Commonwealth and State marine parks in South Australia, their traditional owners, current uses, distribution of resources, biodiversity, and management arrangements. The Guide will also include attractions in and around places like marine parks and bring awareness to people's interconnections with them and the responsible ways of fishing, visiting, experiencing and exploring South Australia's marine parks.

Research your local marine park and then the other marine parks in your region. Explore how the coastal marine parks connect to the offshore marine parks. Create something to show visitors about what the area has and the responsible ways to enjoy what's on offer. This can be in the form of a visitor guide or a new ecotourism idea which can be displayed as a brochure promoting the idea.

Your visitor guide needs to include:

- > Detailed information about the Commonwealth and State marine parks in South Australian waters.
- > An acknowledgement of Country and the traditional owners of the marine park. You can find a general acknowledgement and the preferred wording for each First Nations group [here](#).
- > Current uses of Commonwealth and State marine parks in South Australian waters.
- > Social, economic, and ecological values in the Commonwealth and State marine parks in South Australian waters.
- > Aboriginal people's connections to sea country and traditional uses and words for places, animals, and plants.
- > Management of the Commonwealth and State marine parks in South Australian waters.
- > A map of your chosen region highlighting the marine park and places to visit in and around it. [Naturemaps](#) or [Science Atlas](#) are great tools for this.
- > A guide to places in and around your chosen marine park to see and explore (each place must be described with details about what can be seen, experienced and explored).

Alternatively, you can choose a single, new ecotourism venture or design a brochure for this business which includes a one page promotion of the best environmental practices to be mindful of when visiting your chosen marine park.

Put your design mojo to work, research visitor guides and ecotourism ventures of all types and create something to show others how special your region is and what we can do to make things better for ourselves and the region's marine park.

High, low and no tech options are available.

**High Tech:** You can design and produce your visitor guide or ecotourism venture brochure digitally using narrated tours in Google Earth, a virtual tour using [RoundMe](#), a collection of You Tube travel videos, GIS, apps or software to create original graphics.

**Low Tech:** You can design and produce your visitor guide or ecotourism venture brochure using a standard computer, graphics and editing software.

**No Tech:** You can design and produce your visitor guide or ecotourism venture brochure using art materials, poster board and handwritten information, maps, and drawings.

What kind of researcher and project designer will you be?

## Resource 1.2

# Define

- > What is your challenge?
- > Read your design brief carefully.
- > Write a definition of the tasks and challenges you need to undertake.

A series of 20 horizontal dotted lines for writing.

**Resource 1.2.1**

# Write a definition

Record a definition of a multiple use marine park in the space below.

A series of 20 horizontal dotted lines for writing a definition.

## Resource 1.2.2

# Getting to know South Australia's marine parks

Research and record in the space below the names and locations of the 26 marine parks in South Australian waters. Identify those which are managed by the South Australian Government (19 in total) and those managed by the Commonwealth Government (7 in total).

Marine park name	Location – Coastal (C) or Offshore (O)	South Australian	Commonwealth

**Resource 1.2.3**

# South Australia's marine park zones

Research and record below the different zones within these marine parks. The zones in the Commonwealth Marine Parks are named differently to the State Marine Parks, but they effectively do the same things. Identify and record what activities can and can't be undertaken in each zone of these marine parks.

Think about the different activities that are allowed in each zone – and how a mix of zones allows a marine park to ensure all uses and the needs of all users can be met.

Add a tick or a cross next to each of these activities for each zone to show they are allowed or aren't allowed – recreational fishing, commercial fishing, mining, tourism, aquaculture, scientific research, surfing, diving/snorkelling. Can you match the zones that are similar between Commonwealth and State marine parks? Hint: Sanctuary Zones in State marine parks are the same as National Park Zones in Commonwealth marine parks.

Activities	Marine park zone											
	Sanctuary zone											
recreational fishing	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗
commercial fishing	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗
mining	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗
tourism	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗
aquaculture	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗
scientific research	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗
surfing	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗
diving/snorkelling	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗

**Resource 1.2.4**

# Our connections to places

Use the table below as a model, then construct your table showing the connections you have with a range of places.

For example:

Places connected to	Type of connection
Adelaide	My Dad lives there
Italy	Is my dream holiday destination
Queensland	I love eating bananas and they grow there
Korea	My mobile phone was assembled there

My table:

Places connected to	Type of connection

Think about what you know about other people's connections with places in and around marine parks in South Australian waters, what the experience comprises, whether there are responsible ways of using, experiencing, and exploring the marine parks, and why it might be important for the future of marine parks.

Write a list of sentences or phrases in the space below, that describe what you know about the topics suggested in the paragraph above.

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Now, create groups of sentences and phrases about what you know about people's connections with places like marine parks, and the effects of people's uses and choices on places like marine parks.

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# Discover

## Connections to sea country

Answer the questions below.

- > Do you have a favourite place in nature?  
How does it make you feel and why?  
This is your connection to nature.

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- > What do we know about the past and Aboriginal people's connections to places in and around marine parks in South Australian waters.?

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- > Why is this connection to Country so important for Aboriginal people?

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- > How has the past influenced their present connections with places in and around South Australia's marine parks?

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- > How might you find additional relevant historical and present day information about Aboriginal people's connections to the land and sea from primary and secondary sources?

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> How might you collect the ideas and voices about ways that Aboriginal people connected with the land and sea?

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> Who are the people or stakeholders that you might need to consult to find out more about how Aboriginal people were historically connected to the land and sea?

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> How can you develop texts, particularly narratives and descriptions, which incorporate these understandings?

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> How might you share and communicate your research findings?

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> How might you discover how Aboriginal people in and around marine parks in South Australian waters remain connected to their traditional lands and culture?

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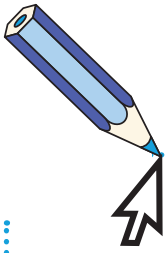
## Other people's connections

Using the diagram below, explore people's interconnections with places in and around marine parks in South Australian waters.



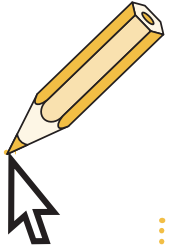
Think deeper about interconnections, and use [Smart Art](#) to draw a concept diagram in the space provided below that explains:

- > the possible connections that a community member might have to places in and around marine parks in South Australian waters
- > the interconnections that tourists might have with this place
- > the interconnections that traditional owners could have with this place
- > the interconnections that historians might have with this place.

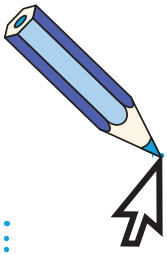


## People's interconnections with places, national parks, and marine parks

Investigate people's interconnections with places like Port Lincoln, Ceduna, Wallaroo, Port Wakefield, Warooka, or St. Kilda, and use [Smart Art](#) and create concept diagrams showing people's connections to these places.



Delve deeper and consider people's connection with the Eyre Peninsula. Research people's connections with the Eyre Peninsula and use [Smart Art](#) to create a concept diagram that explains people's connections to places like Whyalla, the area's rich iron ore district (and home of [Cuttlefest](#)), or Port Lincoln a busy seaport (and home to the [Shark Cage Diving industry](#)).



Consider places like the [Adelaide Dolphin Sanctuary](#) near Port Adelaide or the [Encounter Marine Park](#) on South Australia's southern coast. Research people's connections to its parks, unique Kangaroo Island, beaches, and the Coorong that have plenty of opportunities for people to enjoy the diverse marine life including leafy sea dragons, Australian sea lions, dolphins and southern right whales. Look further offshore, to the [Commonwealth marine parks](#) and identify how people utilise these marine parks. Use [Smart Art](#) to create a concept diagram that explains some of these connections.

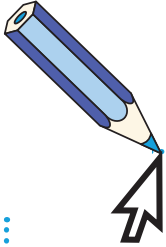


### Resource 1.3.3

## Concept maps

In Geography, interconnections can show us that our lives, and the lives of people in our community are linked with the lives of people around the world, often in relationships that are interdependent.

Using the phrase '*We do not live in isolation*' [mind map](#) your interconnections with people in the community and people around the world.





## Resource 1.3.4

# Fisheries connections

Create a wordcloud with a program such as [Wordle](#) or [Worditout](#) summarising what you know about types of fisheries.



## Resource 1.4

# Tourism connections

Research how at least six tourism operators in South Australia are connected to the place their tourism offering is located in.

For example: [Experiencing Marine Sanctuaries \(EMS\)](#) in South Australia is connected to the marine parks, the [Great Southern Reef](#), and waters in and around Adelaide and Whyalla that are locations for its snorkelling and underwater experiences and classes.

Find six or more tourism operators in South Australia. Record their names and URL links in the space below, then research and record information about their connections to places. Record this information.

Name	URL	Connections

## Resource 1.4.1

# SA Tourism Awards

Research winners in the [South Australian Tourism Awards](#) and investigate the interconnections the winners have with their locality, people in their community and overseas in the space below.

Might their locality provide marine experiences? Might they rely on locals to supply goods and services associated with visiting and experiencing marine parks? Might they rely on regional growers to provide perishables, food, and beverages for events that are organised in marine parks? Might they rely on overseas visitors and their purchases to be viable in their business? Might they need Internet services from national providers?

## Resource 1.4.2

# South East Marine Parks

Read about the four marine parks found in waters of the South East of South Australia. Namely the [Lower South East](#), [Upper South East](#), [Nelson](#) and [Murray](#) Marine Parks, where visitors from regional Australia and overseas can experience reef systems and giant kelp forests. Imagine the feeding and resting ground for migratory and resident shorebirds that live and transit through these marine parks.

Visualise the plants and animals that all reside in these marine park's waters and record information in the space below about these marine parks and what migratory species live and transit through these marine parks.

### LOWER SOUTH EAST MARINE PARK

### UPPER SOUTH EAST MARINE PARK

### NELSON MARINE PARK

### MURRAY MARINE PARK

Research and reflect on tourism opportunities and challenges within these marine parks and answer the following questions:

> Who are the people involved?

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> What interconnections in terms of opportunities and challenges (environmental, economic, social/cultural, and political) exist?

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> How might these opportunities and challenges effect the future of these marine parks and their animal and plants that live within them?

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# A Compass Rose

Use the compass rose to identify any environmental, social, economic and political effects of people's travel, recreational, cultural or leisure choices on places like the Lower and Upper South East, Nelson and Murray Marine Parks traditionally visited by tourists, and identify the implications for the future of both marine parks and their surrounding areas.

## Robe, South Australia

Research information about visitor numbers to the tourist attraction *Robe*, and use the compass rose framework to identify and analyse the possible effects of people's travel and recreational choices on the township's site and the future implications of these effects for Robe.

Collate your ideas around the four compass points north, south, east, and west.

**NATURAL**

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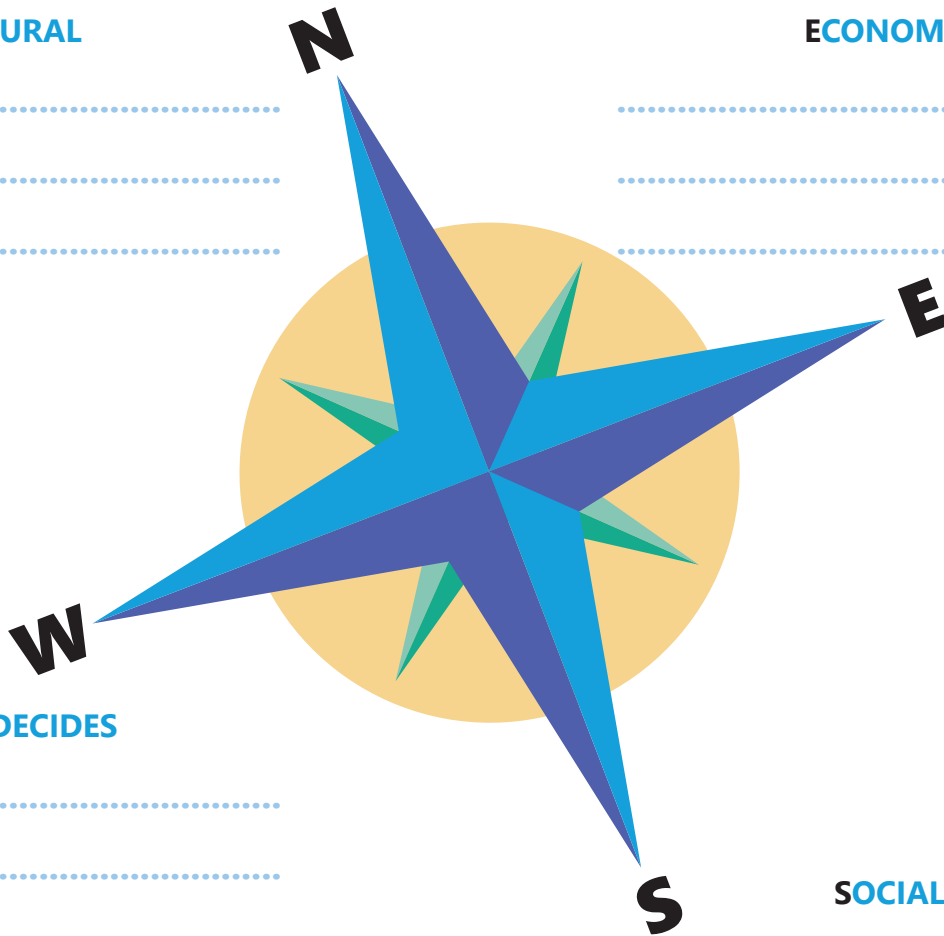
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**ECONOMIC**

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**WHO DECIDES**

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**SOCIAL**

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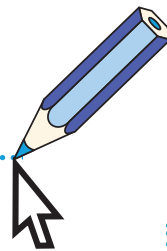
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## Resource 1.6

# Futures Timeline

Draw your own futures timeline in the space below.

Then, map some of the effects of people's travel and leisure choices on a place that interests you and describe the possible and preferable implications for the future of the place.



**Resource 1.7**

# *Ecological footprints, best environmental practices, and responsible tourism*

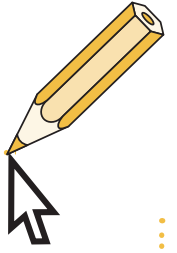
Brainstorm and record your ideas about ecological footprints, best environmental practices, and sustainable tourism in the space provided below.

A series of 20 horizontal dotted lines for brainstorming and recording ideas.



## Waste

Consider a key environmental consideration for the tourism industry, waste. Mind map the possible impacts of waste in the context of a marine tourism business and ways to mitigate these impacts. What can individuals do to make a difference? Think about how these ideas might be communicated in a visitor guide to encourage responsible use.



Research definitions of 'sustainable tourism' and draft ideas to incorporate into the one page promotion of best environmental practices that is required in your visitor guide. Use the space below to draft your ideas.

A series of ten horizontal dotted blue lines providing space for drafting ideas.

## Resource 1.8

# Multiple uses of marine parks

Humans use the marine parks around South Australia in many different ways and derive many direct and indirect benefits. The table below presents some of the key user groups.

Think about each group and consider how you think they're using marine parks (location, season), what impacts they may be having, and how you think marine park managers address these impacts. Record your findings in the table below.

User Group	Area Affected	Nature of effects	Time of year	Spatial distribution	Degree of impact	Management measures
Scientists	Small	Collecting animals and plants, use of chemicals and interaction with animals	All year	All areas and habitats	Usually slight but could be large if working with endangered animals.	
Commercial Fishers						
Recreational Fishers						
Recreational users (divers, snorkelers, kayakers, swimmers, surfers, education groups etc) – locals not tourists						
Tourism operators						
Aboriginal Groups						
Shipping & Energy						

**Resource 1.9**

# Visitor guides and tourism brochures

There are a range of visitor guides and tourism brochures available both in hardcopy and online.

Check out the narrated tours on Google Earth, and explore their use of photography, videos, maps and the language of tourist brochures and information guides.

Examine how language is used to advertise and inform in visitor brochures and information guides. Examine the images and the language they create.

Analyse how writers and organisations 'sell' visiting by creating excitement, by using persuasive language in describing the hospitality offered and the luxury to be enjoyed.

Use the space below to write about the text types, language and images found in visitor guides and tourism brochures.

A series of horizontal blue dotted lines providing space for writing.

### Advertisements

Your visitor guide or tourism brochure need to include advertisements.

Brainstorm and record the possibilities in your region in the space below. For example: tour operators, visitor information centres, natural attractions, cultural and heritage sites, and any small tourism business.

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### Reflect

Using the space provided below, share what your research has told you and what you still must accomplish within the task.

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## Resource 1.10

# Dream

- > What does the visitor guide or tourism brochure look like in your mind?
- > Visualise a creative and appropriate design solution.



## Resource 1.11

# Design

Prepare a project plan and outline what needs to be done, who is responsible, when things will be done and write it down as a suggested order of the work.

What do I need to do?	How will I gather the information? How will I create my designs?	When will I do this?	How can my products and processes be improved?	Other notes and ideas

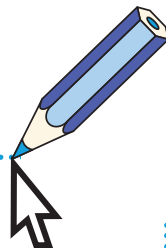
## Draw your solutions.

Illustrate the steps involved in designing your visitor guide or tourism brochure.



A large rectangular area defined by a yellow dotted border with rounded corners, intended for drawing solutions.

Illustrate your design ideas here.

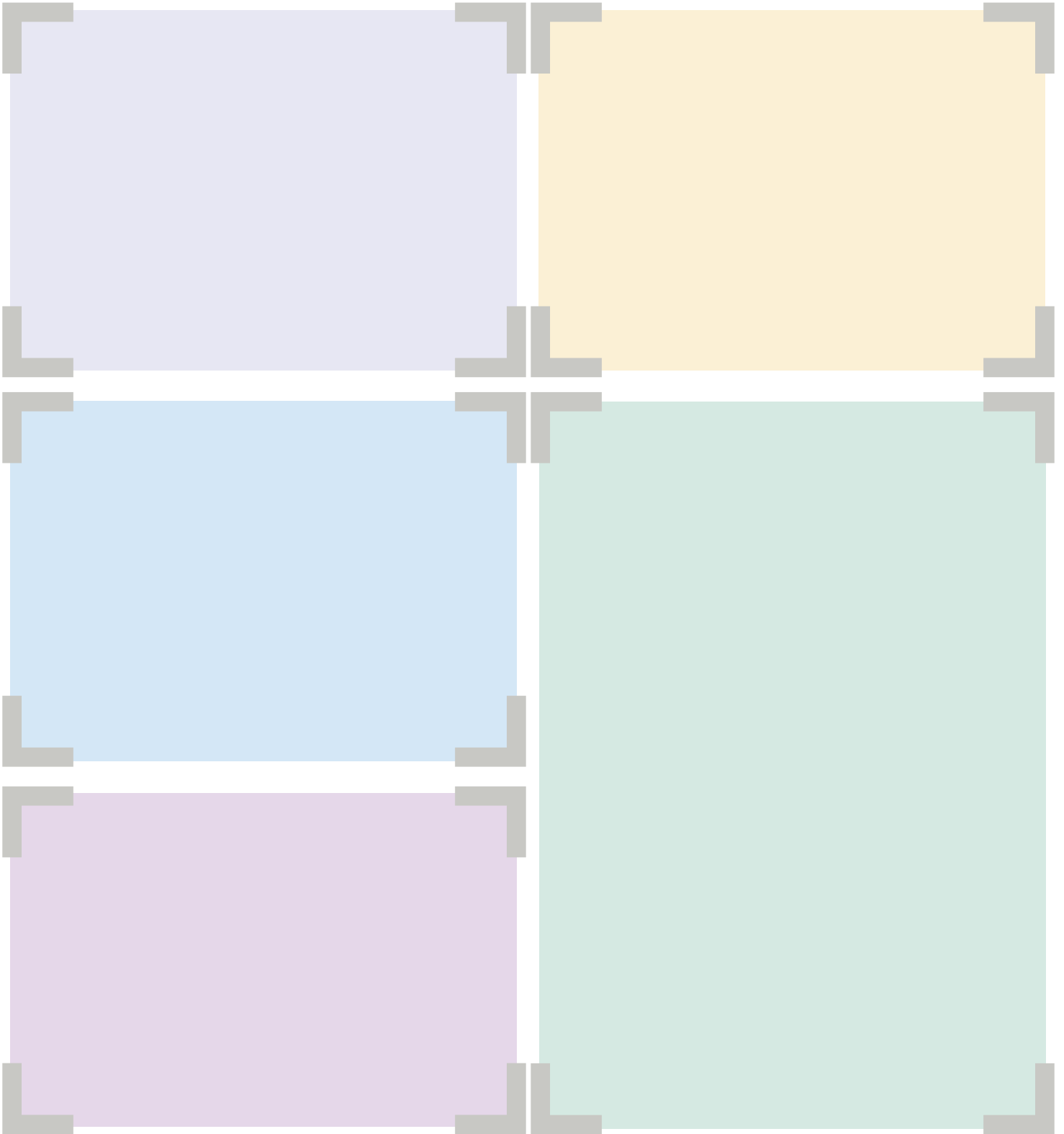


A large rectangular area defined by a blue dotted border with rounded corners, intended for illustrating design ideas.

**Resource 1.12**

# Deliver

Use this space to present photos of your finished brochure or visitors guide.





# Debrief

Were you successful? Why or why not?

A series of 20 horizontal dotted lines for writing.

**Resource 1.14**

# Re-Design

How would you improve your designs?

A series of 20 horizontal dotted lines for writing.



