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## **The View from Mugga-Mugga - Teacher support document**

### **Landscape study – the view from your school**

*The View from Mugga-Mugga* slideshow begins with the photograph of Evelyn Curley standing beside her car in c.1926. The sequence of images following are of the same view, taken periodically, throughout an 87 year period and concluding in 2014.

A landscape changes over time, for example; seasonal changes in natural systems reflect fluctuations including temperature, cyclical increase and decrease in vegetation, and daily weather patterns. Amidst those natural environment changes, occur changes to built the environment resulting from human decision-making, for example; buildings are constructed and modified, infrastructure such as roads and fences are established or developed, and skylines steadily accommodate more houses or towers for city buildings. Decisions about infrastructure and urban development can also positively or adversely affect the natural environment; gardens can help biodiversity and ecological stability, poorly designed drainage systems through and around development can cause flooding or erosion.

Before viewing the entire slideshow, students could examine the view from your school grounds into the surrounding area. Look across the street – how might that view be different compared to what it looked like 100 years ago? What has influenced those changes? Will it continue to change? Why? Are there any records of the area dating back approximately 100 years ago? If not, is there someone in the community who can recall what the view was like more than 50 years ago?

### **Landscape image study – the view from Mugga-Mugga**

Access the online slideshow *The View from Mugga-Mugga* – the sequence of 21 images is an historical record of one view throughout an 87 year period c. 1926 – 2014. The images were all captured from within a semi-rural landscape, and the vantage is looking in a northerly direction across a city towards low hills in the distance. This record of a landscape over nearly 100 years allows us to study changes that have occurred in both the natural and built environments.



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Starting with the first black-and-white image, notice the foreground, middle and background features in the landscape in the mid-1920s. The landscape type is a rural farm, the name of the farm is Mugga-Mugga, and the lady standing by the car is Miss Evelyn Curley (b.1902 – d.1985). Notice the lack of vegetation immediately surrounding the car (foreground). What combination of climatic conditions and land management decisions by both the family and local community could have influenced the lack of vegetation? One online record of weather in Canberra around the time the photograph was taken can be found via the [Green Cross Australia](#) project.

Notice the house in the centre-left of the image (middle ground) – that building is still there today, so keep an eye out for it as the slideshow proceeds.

The site where Canberra stands today was declared the location for the nation's capital city in 1913. Parliament House opened in 1927, and the establishment of the city, both by way of buildings and human populations gathered pace from that time. The design of the city was greatly influenced by the City Beautiful and Garden City movements of the nineteenth and early twentieth centuries, which balanced greenbelts proportionate to areas of residences, industry and agriculture. Boulevards radiating from city centres as well as green spaces and public parks were designed to partner with large residential blocks allowing for people to be self-sufficient both in leisure pursuits and domestic-scale food production. This style of city contrasted to the relatively unplanned, often cramped and disease-ridden cities preceding the era. For further insight to the type of residency afforded some of the earliest inhabitants of the Federal capital, and very modern style of city, see [Calthorpes' House](#). Modern infrastructure, notably road and rail, were an integral part of such cities' transport network, and the c.1926 image of Evelyn Curley standing proudly by her car is testament to this coming to fruition. An understanding of the Garden City design as employed by Walter Burley Griffin, the architect who won the design competition for the city of Canberra, will be useful when considering the student project outlined below. Information about Burley Griffin's winning design can be found online at the [National Archives of Australia](#).



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The three photographs after the image of Evelyn and her car were taken c.1995, when the property neighbouring Mugga-Mugga established an olive grove. As you view the slideshow, notice how the grove matures as it continues to be maintained.

As the slideshow proceeds, the growth of trees throughout the city is an obvious change to the once open grassland plain. The hills in the distance (background) are sometimes visible, and at other times shrouded in cloud, rain or obscured by fog. Cloud formations vary from image to image, and a plane can be seen coming in to land at Canberra airport.

Beginning with the fifth image in the slideshow, the sequence records chronologically the changing landscape in more recent years. Starting in October 2010, photographs were taken monthly until October 2014, and the slideshow of 21 images is compiled from a total of 48 images taken during that period. This strategy of taking photographs of the same view at regular intervals is used in landscape monitoring so that a visual record of changes over time can serve to assist decision making about resource use. The purpose of documenting this view was to record seasonal change, activity in the paddock, and changes in the nearby landscape. Similar documentation is being undertaken in another part of Mugga-Mugga where the effects of timed grazing using the horses is being monitored, and that record will be used to inform future teaching resources.

Play the slideshow once and then assign sections of the images to groups of students in the class. For example; divide the class into three groups so that one group focuses their attention on the foreground, or lower third of each image, another group focuses their attention on the middle ground, or centre third of each image, and the remaining students focus their attention on the background, or top third of each image. Review discussion pointers below either before or after playing the slideshow as many times as the students require, after which each group of students could report their observations.

#### **Time of day**

- The photographs are taken looking in a north-easterly direction, so note the angle of shadows in some images that indicates the late afternoon or early morning, etc.

#### **Seasonal variation**

- Notice the variation in weather conditions – sometimes the distant hills are shrouded in cloud or hidden by fog, sometimes rain showers are occurring. Note the changing colours of tree leaves leading into Autumn, and through to Spring.
- Notice the effect of seasonal change, either winter frost or summer heat, on the paddock grasses.
- Can you see the effect of grazing caused by the management of horses across the seasons?



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- Can you identify which photograph was taken in the early morning winter sunlight when the grass was dew-covered?

#### **Built structures and technology**

- Compare the first image of Evelyn standing near her car with any of the images taken beginning in 2010. What living things now dominate the background of the recent photographs that were not there in the mid-1920s?
- Can you spot the Qantas aeroplane? Are there vapour trails in the sky?
- What building work is first recorded in January 2013 – scroll back through the sequence to identify in which month this building work starts.

#### **Activity in the paddock**

- Towards the end of the sequence earthworks can be seen in the foreground – this was a result of a telecommunications cable being laid within the heritage site. As the sequence continues, notice how quickly plants revegetate the disturbed ground.
- Note the horses passing through the paddock; what are some reasons why the owner of the horses would put rugs on them?
- Notice the appearance and disappearance of horse manure in the foreground. What natural processes assist the breakdown of manure? What benefit does manure have for grassland? What would it mean for the health of the horses and the grasses if it didn't break down?
- How many photographs have birds in them? Can you identify what kind of birds they are?



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## Student Project: Thinking geographically, thinking Mugga-Mugga

### Rationale

The following project suggestion is informed by the [Australian Curriculum: Geography](#), and it is an extension that can build from the study of the slideshow as outlined above. The project has been designed to support students in Years 9, for example when looking at the unit of study 'Geographies of Interconnections', and Year 10, for example when looking at the units of study 'Environmental change and management', as well as 'Geographies of human wellbeing'. As outlined by the Rationale for the Geography curriculum, this project can assist students to '*develop a holistic understanding of the world. This requires deep knowledge and understanding of why the world is the way it is and the interconnections between people, places and environments over place and time.*'

### Proposition

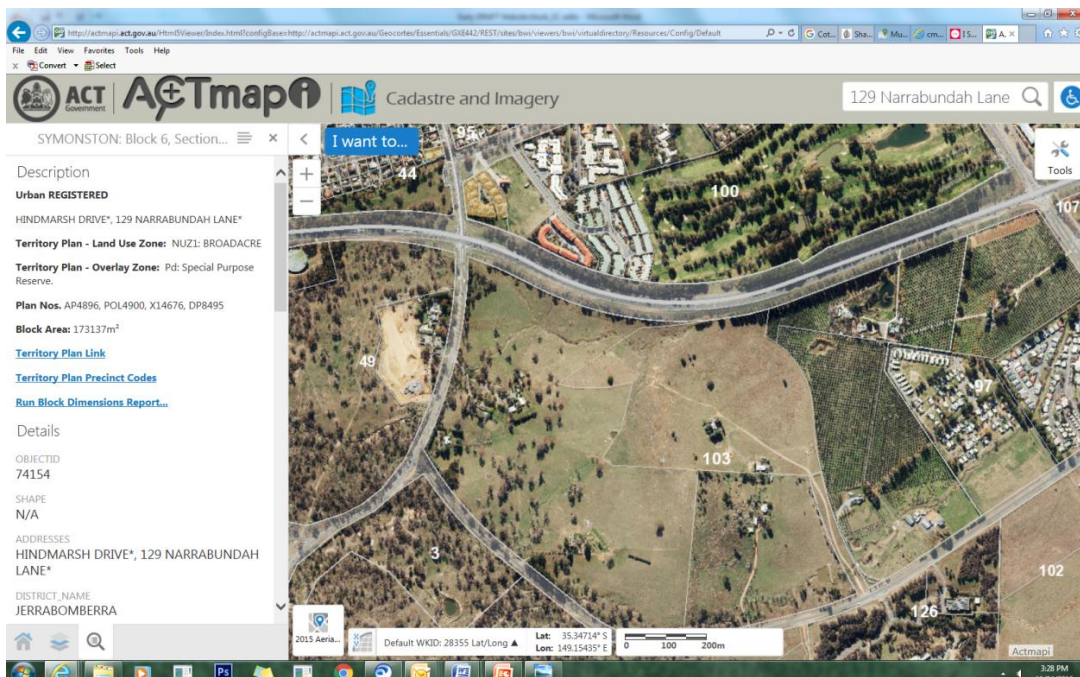
The ACT Government has a budget shortfall as well as a housing shortage. The government proposes to repurpose the publically owned 17 hectares of grassland paddocks surrounding Mugga-Mugga cottage for low-density urban housing.

### Historical background

For information about the history of Mugga-Mugga and the Curley family, see [this online resource](#).

### Interpret and analyse

Students can become familiar with the location of Mugga-Mugga in the landscape and surrounding land-use by searching online for relevant resources, for example in [ACTmap\*i\*](#);





**Conclude and propose a solution**

After viewing the slideshow and carrying out research about Mugga-Mugga and the local area, each group should reflect on, and evaluate their findings to propose collective action in response to the proposition stated above. Each group’s solution should show evidence of taking account of environmental, economic and social considerations, and explain the predicted outcomes and consequences of their solution.

**Thinking Geographically – student project support**

Information below can assist students to observe, question, interpret and analyse the proposition to retain the heritage site, or to develop Mugga-Mugga for residential living.

The pros and cons are aligned to ‘triple bottom line’ considerations regarding some of the possible environment, social and economic benefits and repercussions for each decision.

Links to various online resources are provided to assist students to observe, question, reflect upon and communicate their conclusion about issues concerning human interconnections and environmental change management.

<b>Triple bottom line consideration: Environmental</b>			
<b>Retain Mugga-Mugga as a heritage site</b>		<b>Develop Mugga-Mugga for urban residential</b>	
<b>Pros</b>	<b>Cons</b>	<b>Pros</b>	<b>Cons</b>
Forms part of the natural, interconnected corridor between the nearby, comparatively highly managed golf course, olive grove, semi-rural farms and nearby nature reserves and Mt Mugga-Mugga.	Management of the grassland deteriorates due to combined overgrazing by agisted horses and other animals including rabbits and kangaroos.	There are other nature reserves nearby by, including Mt Mugga-Mugga and <a href="#">Callum Brae</a> , that serve to maintain similar ecologies that would therefore allow for urban development of Mugga-Mugga.	Urban development would interrupt the existing natural corridor.
Surveys have assessed the site as part of the remnant grassland ecology, of which <a href="#">less than 5% remains in the ACT</a> since European settlement began.		Urban in-fill could reduce worker commutes from areas further away from the city centre, reducing the reliance on cars.	Urban development could negatively impact the neighbouring olive grove enterprise as a result of increased weeds and polluted water run-off.
			Weeds from urban areas encroach upon neighbouring nature reserves and there are intensive costs associated with weed management. See this <a href="#">map</a> for how ACT Parks and Conservation Service combat this problem.



<b>Triple bottom line consideration: Social</b>			
<b>Retain Mugga-Mugga as a heritage site</b>		<b>Develop Mugga-Mugga for urban residential</b>	
<b>Pros</b>	<b>Cons</b>	<b>Pros</b>	<b>Cons</b>
<p>The site holds social significance for community groups invested in both heritage and environmental issues. For a summary of the social significance of the historic site, see the <a href="#">Conservation Management Plan</a>, pp 65-75.</p> <p>The site and its location in a semi-rural setting provides physical health and wellbeing as a result of visitors to the site experiencing the outdoors.</p> <p>The suburb is currently attractive for its highly valued semi-rural outlook, as evidenced by this <a href="#">real estate advertisement</a> for a property in the nearby long-stay caravan park community.</p>	<p>Accessibility due to both limited museum opening hours, as well as onsite access restrictions due to rough terrain, steps and narrow doorways and corridors.</p>	<p>If the heritage cottage and buildings immediately adjacent were maintained as a museum, whilst the paddock areas were developed, then the historical story could be retained and an increased population in the area could result in the profile of Mugga-Mugga's history being raised.</p>	<p>Development would compromise the lifestyle of existing neighbours that reside in a suburb with a semi-rural outlook.</p> <p>Development at Mugga-Mugga could have a flow-on effect of threatening similar development in the ACT, for example surrounding existing heritage sites, (as has been the case already for Tuggeranong Homestead), for example Lanyon Homestead.</p>



<b>Triple bottom line consideration: Economic</b>			
<b>Retain Mugga-Mugga as a heritage site</b>		<b>Develop Mugga-Mugga for urban residential</b>	
<b>Pros</b>	<b>Cons</b>	<b>Pros</b>	<b>Cons</b>
<p>The heritage site employs ACT Government workers, and allows Tertiary students to study heritage environment management in preparation to be employed in the museum sector.</p>	<p>Ongoing financial cost of maintaining the heritage site.</p>	<p>Income from the sale of the developed site could be invested in heritage conservation of remaining parts of the site, or for other heritage sites in the ACT.</p>	<p>Potential impacts on tourism as local government would risk compromising the city's reputation as a place that celebrates and values history.</p> <p>Development could trigger calls for financial compensation for owners of neighbouring properties.</p>





### **Student Project: Geography Curriculum**

The project outlined above can be used to address curriculum outcomes for students in Years 9 and 10, including but not exclusive to the following;

#### **Year 9 Geography**

##### **Geographical Knowledge and Understanding**

- The perceptions people have of place, and how these influence their connections to different places ([ACHGK065](#))
- The effects of people's travel, recreational, cultural or leisure choices on places, and the implications for the future of these places ([ACHGK069](#))

##### **Geographical Inquiry and Skills**

- Develop geographically significant questions and plan an inquiry that identifies and applies appropriate geographical methodologies and concepts ([ACHGS063](#))

##### **Collecting, recording, evaluating and representing**

- 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](#))

##### **Interpreting, analysing and concluding**

- Apply geographical concepts to synthesise information from various sources and draw conclusions based on the analysis of data and information, taking into account alternative points of view ([ACHGS068](#))

##### **Communicating**

- 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](#))

##### **Reflecting and responding**

- 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](#))



## **Year 10 Geography**

### **Geographical Knowledge and Understanding**

- Human-induced environmental changes that challenge [sustainability \(ACHGK070\)](#)
- Environmental world views of people and their implications for environmental management [\(ACHGK071\)](#)
- The application of environmental economic and social criteria in evaluating management responses to the change [\(ACHGK075\)](#)
- Reasons for, and consequences of, [spatial variations](#) in [human wellbeing](#) in Australia at the local [scale \(ACHGK080\)](#)

### **Geographical Inquiry and Skills**

#### **Collecting, recording, evaluating and representing**

- 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 \(ACHGS073\)](#)

#### **Interpreting, analysing and concluding**

- Interpret and analyse multi-variable [data](#) and other geographical information using qualitative and [quantitative methods](#), and digital and [spatial technologies](#) as appropriate, to make generalisations and inferences, propose explanations for patterns, trends, relationships and anomalies, and predict outcomes [\(ACHGS076\)](#)
- Apply geographical concepts to synthesise information from various sources and draw conclusions based on the analysis of [data](#) and information, taking into account alternative points of view [\(ACHGS077\)](#)

#### **Communicating**

- 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 [\(ACHGS079\)](#)

#### **Reflecting and responding**

- 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 [\(ACHGS080\)](#)