



Schools Property Planning Competition 2021

Field Day Workbook

Elm Park

Wednesday 19th May 2021

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More information

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Acknowledgments

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing May 2021. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of Local Land Services or the user's independent adviser.



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Timetable for 2021

Date	Event
Friday 23th April 2021	Closing date for school registrations to attend the field day. Resources will be available online by the 23 th April
Wednesday 19th May 2021	Field Day: 'Elm Park' 228 Black Lane, Dangarsleigh NSW 2350
25th – 28th May 2021, 30th May – 2nd June 2021, 9th – 11th June 2021.	Tutorials available in schools around the region, book in early to avoid missing out.
Friday 25th June 2021	The two best entries per school due for marking. Post to: Property Planning Competition Entries, Northern Tablelands Local Land Services, 142 High Street, Tenterfield NSW 2372 or Email to: johnelle.stevens@lls.nsw.gov.au
August 2021 details to be advised	Awards Ceremony: AgQuip Gunnedah 134 Black Jack Rd, Gunnedah NSW 2380

The Schools Property Planning Competition is designed to give students an opportunity to study a local rural property in detail. The students are required to prepare a plan that provides for long term profitability as well as sustaining the natural resources of the area. The exercise draws together a number of land management themes and gives students the chance to apply their skills and knowledge to a real-life situation. The field day on Wednesday 19th May 2021 will provide an opportunity for students to participate in a range of activities and to engage with relevant government and industry experts.

Field Day Agenda

The field day will be held at “Elm Park’ Dangarsleigh on Wednesday 19th May 2021. Workstations include:

Soils and pastures, livestock, pest animals, aboriginal cultural heritage, environment and animal health.

Each work station activity runs for 30 minutes and includes 5 minutes to move between work stations. Movement between work stations will need to be done quickly to avoid missing information in the activities.

Time	Description
8:30-9:00	Buses Arrive and Schools register at Registration Desk
9:00	Overview of the field day and housekeeping Welcome/Acknowledgement to Country
9:10	Welcome to Elm Park and property overview
9:50	Whole Group Photo
10:00	Morning tea on the way to workstations
10:15	10:15-12:35
	All Schools: 35 Minute rotation through workstations. During this time students will complete four workstations (30 minutes at each station with 5 minutes to move between stations). Students will rotate to each station within their School groups.
12:35 - 1:10pm	Lunch Break
1:10	1:10-2:55
	All Schools: 35 Minute rotation through workstations. During this time students will complete three workstations each (30 minutes at each station with 5 minutes to move between stations). Students will rotate to each station within their School groups.
2:55	Wrap up of day and Q&A
3:00	Day Concludes

Aims for the field day

At the end of today you should have:

- Become familiar with the host property
- Learnt from instructors about, soil, agricultural production, pastures, livestock, biosecurity, water, biodiversity and some agricultural technologies
- Gathered information to assist you to develop your property plan.

You should use the information from today to determine how best to manage this property and include this in your property plan and report.

The Property Planning Process

- Develop your vision, values and set goals
- Assess your current situation
- Plan actions to take you from where you are to where you want to be
- Monitor
- Review and Replan.

Note: Elm Park will require all participants in the property planning field day to wear clean clothes and footwear and to disinfect their shoes on arrival at the site.

Biosecurity at Elm Park

To comply with NSW Biosecurity Act 2015, all visitors are required to wear clean clothes and footwear and to wash their boots on arrival and before departure, making certain that treads on the soles are cleaned of dirt and faeces.

Since hands may become contaminated with disease-causing organisms (pathogens), visitors are advised to thoroughly wash their hands with soap and water before handling food and eating.

To the best of our knowledge visitors will not be exposed to high concentrations of zoonotic pathogens – those that affect both people and animals – however, the risks should be discussed with a medical advisor since appropriate precautions such as vaccinations may be thought necessary in some cases.

'Elm Park' Workstations

Soils and Pastures

Soil is probably the most important natural resource to any land manager as it is the foundation upon which plant and animal production depends. It is important to know the type and condition of the soils present on the property so you can decide the most suitable land-use.

We are going to describe the soil through observation and interpretation of soil tests. This will help you to get an understanding of the soil health, constraints and how to manage them. You should use this information together with other information such as land capability class and your own observation of the surrounding landscape.

There may seem like a lot of information in this section so to help keep it simple: Concentrate on looking for any problems that will affect how you may manage this farm.

Test	Result	Interpretation/Additional Information
Depth of:	A Horizon: cm	-A horizon: the topsoil
	B Horizon: cm	-B horizon: the subsoil
	C Horizon: cm	-C Horizon: Parent soil material/ weathered rock
Soil colour: What is the soil colour?	A Horizon Colour: B Horizon Colour: C Horizon Colour:	Dark colours: near surface indicates high organic matter (OM) therefore more fertile. Reds & oranges: good drainage and low leaching. Generally fertile. Dull yellow & mottles: Seasonal water logging. Pale colours and whites: Low OM & poor fertility. Water logging.
For the following tests the focus will be on the topsoil though it is important to consider the properties of the subsoil when making management decisions.		
Texture - ribbon test What is the soil texture class?	Texture class:	The texture of a soil is an estimate of the proportions of sand, silt and clay particles it contains. For example: medium clay or sandy loam. Generally, the more clay the soil has the more fertile it is. Texture influences structure, water infiltration, water holding capacity and ease of tillage.

Soil Structure		
Can soil aggregates be identified?	Yes / No	Soil structure describes how the basic soil materials (sand, silt and clay) are arranged into soil aggregates and the pore spaces between them. Poor soil structure reduces water infiltration and root growth and therefore affects plant growth.
Is there any evidence of compaction?	Yes/No	

1. These are the characteristics of the soils here. Can you see any variation in soil type across the property?

2. What would be the limitations and opportunities for land use on the soil types across this property?

ACTIVITY 1. Pasture composition

Overview: Pasture team members will undertake a practical exercise in the paddock. Regardless of the farming enterprises employed from paddock to paddock, knowing what is happening in the paddock is very important to the landscape health which is the main driver for pasture and livestock production.

1. List 5 practices landholders can do to manage pastures:

- a) _____
- b) _____
- c) _____
- d) _____
- e) _____

This pasture is composed of a range of different plant species. Some plant species can be difficult to identify in their vegetative growth stage. Plants in the reproductive stage (flowering or seed head) make positive identification much easier. Today (autumn) it will be the summer growing species in the reproductive growth stage while winter species will be in the vegetative stage (perennials) or about to germinate/seedling stage (annuals). With the help of your instructor and materials provided, identify each of the marked points into a group such as an exotic (introduced) grass, naturalised grass, native grass, legume or weed. Describe each of the plants and why you put them in each category.

Point	1	2	3	4	5	6
Group						

2. Which plant would you expect to dominate the pasture at this time of year (autumn)?

3. Is it summer dominant or winter dominant? Is it mostly annual or perennial?

4. Why is it important to know the difference between native and introduced pastures?

5. List two roles that legumes play in the paddock:

a)

b)

6. Besides quantity, the quality of a pasture is also very important. Why is quality important?

7. What are the indicators of a good pasture? What could be improved?

8. Looking at this pasture are there any improvements that can be made?

9. What strategies might we use to manage pasture when there is a drought? What are the risks and benefits of each strategy?

ACTIVITY 2. Ground Cover Assessment

1. Name some benefits of maintaining high levels of pasture and ground cover.

Assess the ground cover of the pasture by performing 4 random quadrat assessments.

Quadrat	Ground cover (%)
1	
2	
3	
4	
Average	

2. It is recommended that a minimum of 80 - 100% groundcover is achieved for most or all of the time to prevent degradation such as erosion. How desirable do you think the current level of ground cover is?

Livestock

Overview: The livestock team will provide a practical session in the cattle yards looking at fat scoring cattle, market opportunities and cattle flight zones.

Questions:

1. What is the range on the fat score scale?
a) _____
2. What is the ideal fat score at joining for:
Cows? _____
Bulls? _____
3. What are the two main areas to assess fat score?
a) _____
b) _____
4. Name two markets are available for a 350kg Angus heifer to enter?
a) _____
b) _____
c) _____
5. What is the idea joining weight for a first calf Angus heifer?
a) _____
6. List three benefits of loss stress stock handling
a) _____
b) _____
c) _____
7. What are three ways to minimize stock stress levels

Pest Animals

1. Name priority pest species in the Northern Tablelands:

- a) _____
- b) _____
- c) _____
- d) _____

2. Name some 'alert species' that we don't currently have in the Northern Tablelands but could become a threat if introduced:

- a) _____
- b) _____
- c) _____

Pest animal impacts at Elm Park

Australian private and public landowners and managers spend considerable time and money addressing the impacts of pest animals. For example, it has been estimated that negative impacts of pest animals in Australia valued at \$797 million per year.

3. What negative impacts would pest animals have on agricultural production at Bald Blair?

Types of control:

Cooperative and broad scale group 1080 baiting programs are the best control methods to reduce high populations of declared pest animals.

4. List control methods that could be used to control the priority pest species you have listed above;

1080 bait types can be:

- For **Fox** 100g pieces of boneless red meat, turkey or chicken wings, fowl heads, offal (tongue, kidney, and liver), bird eggs, manufactured baits (de-fox and fox-off).
- For **Wild dogs** 250g pieces of boneless red meat, manufactured baits (Doggone or De-K9), offal (tongue, kidney and liver).
- Mound baiting or bait stations are another option as you can monitor the number of bait takes and what has taken them.
- For **Rabbits** baits can be 1080 or Pindone applied to chopped carrots, manufactured pellets and oats.
- For **Feral pigs** 1080 applied to grain, pellets or you can use manufactured pigout baits.

Follow up control:

Follow up control is an essential component of baiting programs. When undertaking programs for rabbits and pigs primary control such as baiting should aim to knockdown 70% of the population. This should then be followed by control techniques which are ongoing to limit population recovery.

5. List some follow up control techniques you could do after a baiting program?

Monitoring your property

Monitoring is important and can be done with sand pads across travel ways and or with camera traps. Being vigilant on your property will keep you informed on the type of pest animals you may have on your property.

6. How do you know if you have pest animals on your property?

Baiting requirements

1080 poison is a restricted chemical product and its use is regulated by a Pest Control Order (PCO). Poisons are closely scrutinised with monthly audits by authorised control officers (ACO), 3 monthly audits by supervisors and annual audits by an independent person. Any users of 1080, PAPP or Pindone chemicals are required to have had training and passed chemical users Accreditation Certificate. They must use the chemical according to the PCO.

7. What is the name of the document that regulates the use of 1080, PAPP or Pindone Chemicals?

8. What does the landholder have to do when undertaking a baiting program?



Aboriginal Cultural Heritage

No	Question	Answer	Right / Wrong
1	What do the letters ACH mean?		
2	What is an artefact?		
3	Name the two types of modified trees, prepared by Aboriginal people?	Type A: Type B:	
4	Modified trees were used for?		
	Type A:		
	Type B:		
5	What is an Aboriginal Place?		

6	Why do you think that it is important to preserve Aboriginal cultural items on country?		
7	Are Aboriginal sites and objects protected by law in NSW?		
8	The AHIMS database is administered by; A: Local Land Services (LLS) B: Department of Primary Industries (DPI) C: Office of Environment and Heritage (OEH) D: Department of Industry (D of I)		
9	Can Aboriginal people take your land if artefacts are found on it?		
10	If I located an item of Aboriginal Cultural heritage on a property, I would; A: Remove the item and store it in a shed on the property. B: Report the find 'find' to my local Shire Council. C: Report the find 'find' to my LALC. D: Report the find 'find' to the NSW Farmers Federation.		



Environment

BIODIVERSITY Bushland Health Check

The only way we have of knowing whether our actions improve habitat is by doing habitat assessments and monitoring changes. Below is a quick & easy check that helps you determine how healthy the vegetation is.

<i>Answer each question with a tick in the Yes or No column</i>	Yes	No
Part 1 – Trees and shrubs		
1. <i>Trees are mainly healthy with little or no signs of dieback</i>		
2. <i>Native grassland and/or bushes are present in the understory (i.e. under the trees)</i>		
3. <i>Young trees are present</i>		
4. <i>Old/dead trees with hollows are present</i>		
Part 2 – Grasses and ground cover		
5. <i>There are more than 10 different types of native grasses and herbs present</i>		
6. <i>Between the grass tussocks the ground is covered with a litter of dry grass, bark, leaves, and twigs</i>		
7. <i>Logs, rocks and fallen timber have been left on the ground</i>		
Part 3 – Weeds, pests and grazing regimes		
8. <i>There are few weeds (non-native species) present in this season</i>		
9. <i>There are no signs of feral animals like rabbits, foxes and cats</i>		
10. <i>The bushland is never or only rarely grazed by stock</i>		
Part 4 – Landscape setting		
11. <i>The patch of bushland is connected along the riparian zone</i>		
12. <i>The area is connected to other areas of native vegetation by one or more bush corridors e.g. roadside or creek vegetation</i>		
<i>Add up the ticks in the yes column to see how this patch of bushland is rated</i>		
TOTAL		

RATINGS: 8-12 HEALTHY, 6-8 FAIR, 0-5 POOR

1. What benefits does biodiversity give to production and environmental outcomes?

2. What is more important for biodiversity?

- Protecting existing remnant vegetation
- Revegetating

3. How do you **protect** remnant vegetation to improve on-farm biodiversity?

4. What are the pros and cons of revegetating vs regenerating?

	Revegetating	Regenerating
Pros		
Cons		

Existing remnants can be too small to sustain wildlife populations and ecosystem services for agriculture. Revegetation, with plants native to your local area, can be used to enlarge/connect remnants.

To find the best locations for biodiversity on a farm ask yourself the following questions

1. Where are areas of current high value vegetation for biodiversity?

2. How could you best connect them?

3. What are the areas that need the benefits of biodiversity?

4. On a farm-scale, how could biodiversity on your study property be maintained or improved?

WATER Quality Test:

Follow the directions on the instruction sheets provided to fill in the following table for water collected from the creek.

Test	Result	Meaning
Turbidity		
Electrical Conductivity		
pH		
Temperature		

1. What are some other parameters you may test?

2. Why is water quality important? *(for livestock, humans and the environment)*

3. What are the threats to water quality and how would you address these?

These questions are designed to get you thinking about your property plan.

4. Look at the property map and identify the watering points throughout the property. What type of watering system is used?

5. From looking at the infrastructure map, are all of the waterways fenced off from stock?

Yes

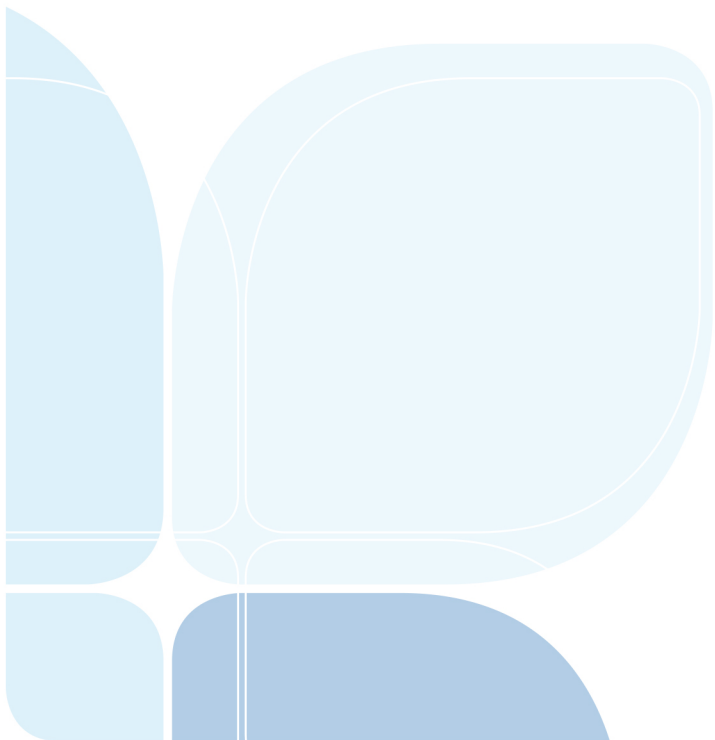
No

6. What improvements can you suggest to the watering system?

7. What difference would these improvements make to water quality?

8. Are there any other improvements that you can suggest to improve water quality overall?

Be sure to describe the current watering system and include any recommendations on improvements to water quality in your Property Plan.



Animal Health

Have a discussion with your workstation leader about on-farm biosecurity.

Overview presentation on biosecurity

List 3 priority areas for farm biosecurity for Bald Blair.

1. _____

2. _____

3. _____

Identify 3 biosecurity hazards at Bald Blair. What risks do they pose?

a. Hazard:

Risks posed?

b. Hazard:

Risks posed?

c. Hazard:

Risks posed?

List 2 benefits of implementing biosecurity practices at Bald Blair

1.

2.

Livestock Diseases; Vaccinating against Clostridial disease

Have a discussion with your workstation leaders about livestock vaccination and the importance of hygiene.

Please answer the following questions;

1. Name 3 diseases for cattle which could be a problem on Bald Blair:

2.

3.

4.

2. Identify the major ways of excluding the disease from the property or minimising the risk:

- a)

- b)

- c)

Please give three examples of best practice behaviour when administering vaccines to livestock.

Students will be provided with an Ultravac 7 in 1 vaccine box and will answer the following questions:

4. What diseases does this protect against?

5. What is the dose?

6. How is it administered?

7. What is the withholding period / ESI for the vaccine?

8. What is the recommended vaccination protocol for Cattle?

9. How should this vaccine be stored? How long once opened can it be stored?

