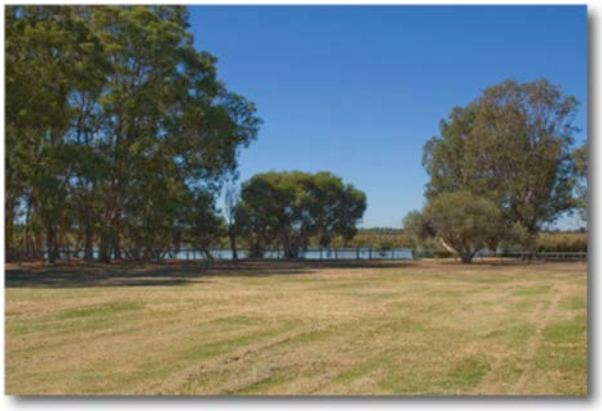
Part 1



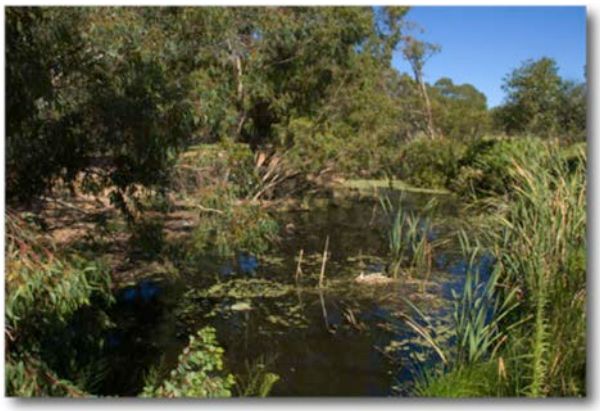
Picture yourself as an immigrant in the 1930s who moves to Perth to start a new life. In your former country you were a farmer, so you would like to start up a market garden somewhere in Perth. There is a great deal of available and affordable land on the outskirts of Perth.

The state government has two plots of land that you can afford to purchase. The first is 5 ha in size (1 hectare = 100 x 100 m = 10 000 m^2) and the other plot, which is next to it, is 6.5 ha in size but one hectare of it is wetlands. The 5 ha site is on sloped land and the 6.5 ha site is on flat land at the base of the other farms. They both cost the same amount of money to purchase, which do you purchase?

1. Organise students into pairs. 10 mins

   On your own, think about which land would be best to purchase. Record your decision on paper along with reasons for your decision.

   Compare your decision with your partner's and discuss reasons for your decisions. Try to understand why the other person made the decision that they have.



You purchase the larger plot. You proceed to clear the 5.5 ha of non-wetland land (with its huge jarrah and karri trees that are native to the area), to convert it into farming land. As you see the wetlands as unusable you proceed to fence them off to protect your domestic livestock.

It is now the middle of the depression. A business person comes to see you with an attractive offer to use this wetland. He would like to use it as a refuse dump for various wastes, mainly human waste. At this time people used outside toilets that contained a pan under the seat to collect human waste. The 'night-cart man' would come weekly to collect and dispose of this waste.

This is the first year that you have seeded your market garden, and with the purchase of the land and the cost of the seeds, money is in short supply. Do you allow the night-cart man to dump his waste in your wetland?

2. Organise students into groups of three. 10 mins

   On your own, think about whether the offer from the night-cart man is worth taking up or not. Record your decision on paper along with reasons for your decision.

   Compare your decision with the other people in your group, and discuss reasons for your decision. Try to understand why the other people made the decisions that they have.

Your farm is flourishing and you are farming more and more of your land. The wetland is starting to experience algal problems in some places, mainly around the area you leased to the night cart man, but mostly it is looking healthy.

It is now the early 1950s and you find that some of your produce is spoiled by insects. The farmer who purchased the 5 ha property, on the slope, is using a new chemical on his crops that has amazing results. His produce is so much better looking than of

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4. Organise students into groups of three. 30 mins

On your own, think about whether you should stop using the bore and find an alternative. Record your decision on paper and the reasons for your decision.

Compare your decision with other people in your group and discuss reasons for your decision. Before the next lesson prepare a poster to present your group's decision to the rest of the class.

Part 2

Groups use their posters to report their decisions from the previous lesson, to the class. Recap the story and start on part two.

You continue to use the bores and continue to observe the reduction in water in the wetlands. The plant population has diminished and the animal population has almost completely gone, except for a large population of mosquitoes.

At the edges of the wetlands you notice a salty white crust is forming. There is also a reduction in the quality of produce you are harvesting, and some leaves are starting to turn brown and 'burn'. Further examination of this suggests that the groundwater pH is starting to become acidic. This may account for limestone near the edge of your property starting to erode.

It's now the 1990s and Perth has experienced a large urban sprawl. Your plot of land, which was once on the outskirts of Perth, is now attractive as 'undeveloped land'. It's only a 10–15 minute drive from the city centre. The surrounding area, which was once rural, is now a thriving middle-city suburban housing estate.

Two developers are interested in purchasing your land. One developer is offering $10 million and plans to restore the wetlands into a 'healthy' thriving ecosystem as the centrepiece of a large housing estate. The other developer offers you $11 million dollars. Their intentions are to remove the wetland, dig large trenches to create canals for small boat access to the area, and make it a high-priced, luxury housing estate. This would involve removing the peaty soils from the wetland and filling the scar to prevent it filling with water in the winter. Who do you sell your land to?

5. Organise students into groups of three. 10 mins

On your own, think about who you should sell the land to and how the history of the way the land has been used affects your decision. Record your decision on paper and reasons for your decision.

Compare your decision with other people in your group and discuss reasons for your decision. Try to understand why other people have made the decisions they have.

You take the higher offer, on condition that you can purchase some housing blocks for yourself and your other family members. You build yourself a lovely home on the land, as do the rest of the family. Being an old farmer you have a vegetable garden in the backyard and you decide to put down a bore to water your garden. You soon notice that plants watered by groundwater from the bore start to go brown, shrivel up and die with the appearance of being burnt. You are worried by this and get the bore-water tested by the local city council.

Testing shows that groundwater from your bore has a pH of around 2 (which is very acidic), as well as very high arsenic and other heavy metal concentrations. Testing also reveals trace concentrations of DDT in the ground water found in the area. Other residents of the estate are concerned by the state of the canals that were to be a showpiece of the estate. They are filling with thick, rank, algal growth that rots and smells in hot weather and has to be cleared before small boats can move through the waterways.

You begin to reflect upon what could have caused these things.

6. Organise students into groups of three. 10 mins

On your own, think about whether it is OK to use the environment for individual or community development. Think about the kind of benefit that individuals and communities have derived from the land use. Record your decision on paper and the reasons for your decision.

Compare your decision with other people in your group and discuss reasons for your decision. Try to understand why other people have made the decisions they have.