



# BACKGROUND NOTES FOR TEACHERS

## INSTRUCTIONS:

*Who Decides?* is a role play exercise originally designed to illustrate the West Australian system of environmental protection. In practice it does more than that, providing a forum to examine sustainable development and illustrating how intense debate can erupt over environmental issues. It can be used as a spring-board to discuss broader environmental issues or as a means of developing conflict resolution skills. More generally, it is a fun class activity that helps develop team work and communication skills.

## THIS PACKAGE CONTAINS:

- ◆ Background notes for teachers (and some ideas for further activities)
- ◆ One copy of “*The Proposal*” (photocopy one for each student)
- ◆ One copy of seven different role sheets (photocopy one for each student)
- ◆ Overhead projector sheets showing **Swamptown** before and after the proposal.

## SETTING THE SCENE:

The role-play is set in Swamptown, a fictitious suburb of Perth (or any other large urban area in WA). It is within relatively easy commuting distance from the city centre.

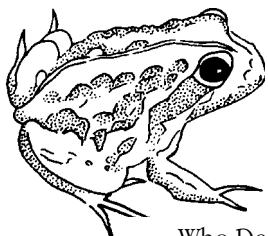
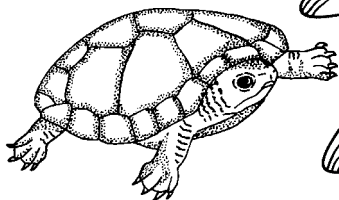
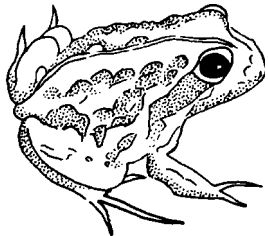
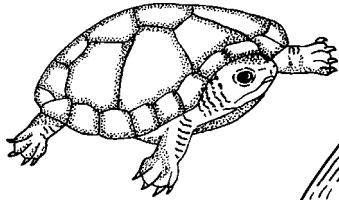
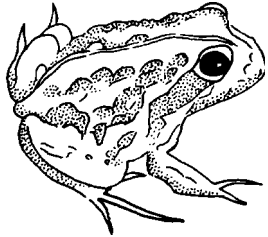
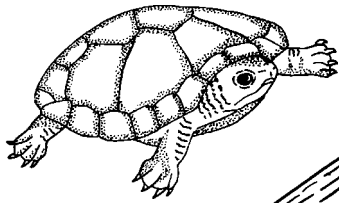
Although a lot of houses have been built in Swamptown in recent years, there is still a considerable amount of bush, which has been one of the factors attracting people to the area. A company, Houses For People Inc., owns 200 hectares of land at Swamptown. Houses For People wants to develop the land for housing, setting aside the most valuable wetland and bush as a conservation reserve.

Details of the proposal are included in the *Proposal* sheets.

The task is to debate the proposed development from a range of viewpoints. Role sheets outline the major concerns of the different groups.

## HOW TO PLAY:

1. Outline the exercise to the class.
2. Divide your class into seven groups. The greater the mix of personalities in each group, the better.
3. Hand out the *Proposal* sheets – you could copy enough for one per student. Put up the *before* overhead.
4. Read through the *Proposal* sheet as a class, pointing out the various features on the map to the class. When talking about the proposal, put up the *after* overhead. You may superimpose them by placing together the small red dots on the top right hand side of the overhead.
5. Hand out the role sheets, assigning a role to each group. Emphasise to them that it is important they argue the roles they have been assigned, rather than their own points of view.
6. Ask is anyone has any questions.
7. Give the students time to discuss the proposal and their ideas in their groups. A minimum of 15 minutes is recommended. You may wish to expand this section considerably, perhaps even breaking the exercise at this point and allowing students a few days or a week to get their ideas together. See the supporting information sheet provided in the resource pack.



8. Bring the class back to the large group. Each group now presents their case to the class. Groups may elect a representative to do this or they may wish to have each group member present different aspects of the argument. The recommended order of presentation is:

- ◆ Houses For People (Inc)
- ◆ Swamptown residents
- ◆ Swamptown Council
- ◆ Turtle Lake Preservation Society
- ◆ Department of Planning and Urban Development
- ◆ Environmental Protection Authority
- ◆ WA State Government

Each group makes its presentation to the EPA, which considers the information provided. Before the EPA presents its recommendations, give the EPA group members a few minutes to digest the information and to make any changes to their recommendations they feel necessary. The EPA then presents its recommendations to the Government, which then makes its decision based on the EPA's and the other groups' arguments and advice.

9. Questions may be asked after each group has made its presentation.
10. After the government has stated its preferred option, ask the rest of the class to vote on how well they think they did.
11. Ask the students to drop their roles and collect the sheets for future use.
12. As a class, discuss what the students thought of the role-play and issues it raised. You may wish to follow the exercise with some of the suggested activities listed below.
13. An alternative way of conducting this exercise is to select seven students, each of whom takes on the role of one of the groups. They then perform the debate in front of the class. At the end, the class comments on the exercise and the participants' performances.

## WHAT IS BEING ILLUSTRATED

In Western Australia we have a system of environmental protection that enables the public to participate, in fact public participation is an essential part of it.

In the case of a proposal that is likely to have a significant impact on the environment, the proponent (person or company who wishes to proceed with a development) is asked to provide details of the expected environmental impacts to the Environmental Protection Authority.

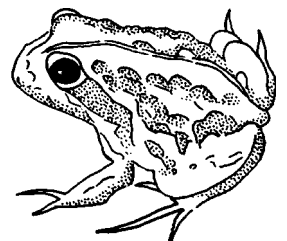
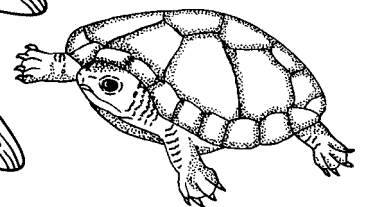
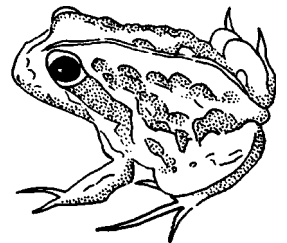
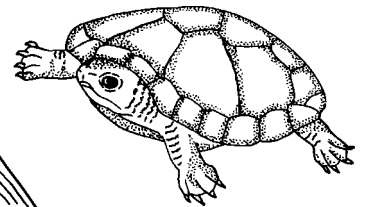
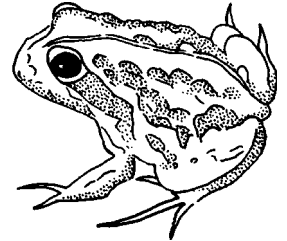
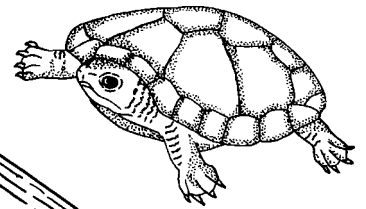
When it is satisfied with the level of information provided, the EPA releases this document to the public for a set period of time, so they can comment on it. The time it is available for public comment and the detail of documentation required depends on the significance of the likely environmental impacts.

After the public comment period, the EPA assesses the proposal, taking into account the issues raised by the public and other government departments. The EPA's report on the proposal is given to the Minister for the Environment (as the representative of the government) and released to the public. There is a 14-day appeal period during which the public may appeal to the Minister against the EPA's findings.

The Government, having considered the EPA's advice as well as a range of other issues (such as jobs) then makes a decision. It is an important distinction to realise that the EPA makes recommendations and the government decides.

More detail about this process is available from the Department of Environmental Protection, which is the government department that provides specialist advice and services to the EPA.

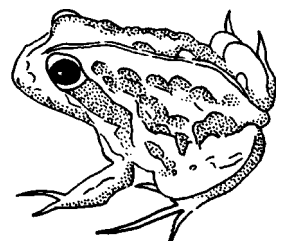
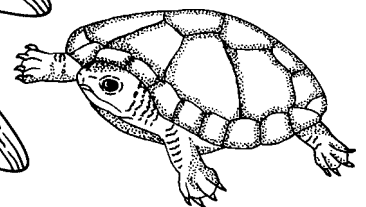
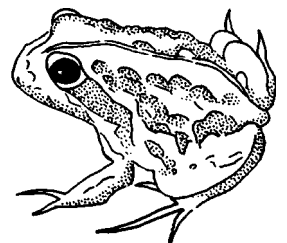
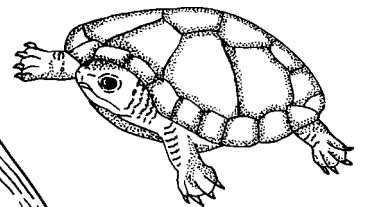
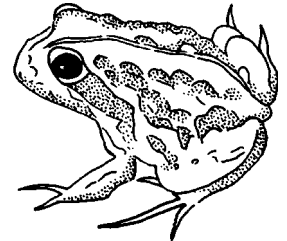
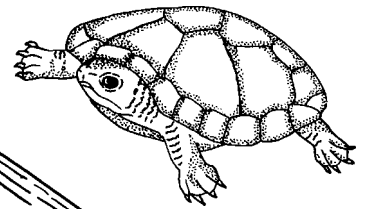
*Who Decides?*, is modelled on the process, although the situation described is purely fictitious and does not represent any one proposal that the EPA is currently assessing or has previously assessed. The *Proposal* sheets are modelled on the sort of documentation provided to the EPA by the proponent. The debate simulates the public submission process, although in reality this is usually done with written submissions.



## SOME IDEAS FOR ACTIVITIES TO FOLLOW WHO DECIDES?

*The following are suggestions only and will not be suitable for all students in all situations. They should be used as a guide only.*

- ◆ What would a sustainable house, suburb or town be like? Design a concept plan for a sustainable house, suburb or town.
- ◆ How sustainable is your school? What is an ecological footprint? Go to [http://www.epa.vic.gov.au/Eco-footprint/docs/School\\_EF\\_2.0.xls](http://www.epa.vic.gov.au/Eco-footprint/docs/School_EF_2.0.xls) to calculate your schools' ecological footprint. What can you do to improve your individual ecological footprint and the ecological footprint of your school?
- ◆ A day in the life... imagine you live a lifestyle that is completely sustainable. Write a story describing a typical day. You can include where you live, what you eat, how you travel, what you do...
- ◆ Write a story about a person from one of the groups. What do they do? Where do they live? What do they like? How old are they? What do they think of the proposal?
- ◆ Write an article for a newspaper about the public meeting. What was discussed? You may want to interview some of the people who spoke at the meeting. Draw a picture and write a headline. Make your story look like the front page of a newspaper.
- ◆ Find out about a piece of bush near your school. Who owns it? What is it used for? What sort of condition is it in? Are there many plants? Trees? Any wetlands? Weeds? Rubbish?
- ◆ The animals and plants illustrated on the various sheets are found in and near wetlands of the Swan Coastal Plain; the only place the Western swamp tortoise is found in the wild is Ellen Brook Nature Reserve, north of Perth. Ask students to research the species that was illustrated on their role-play sheet.
- ◆ The news media often carry stories of people debating environmental issues. Find some examples and answer these questions:
  - ◆ Does the person come from a particular group? If so, what sort of group?
  - ◆ Are there people in the newspaper article at all like the characters in the role-play? Which ones? In what ways are they similar and different?
  - ◆ Is their argument based on fact or emotion? Is it convincing? Is there another side to the story? If so, what is it?
  - ◆ Do you agree with them? Why?



# THE PROPOSAL

## SUSTAINABLE URBAN DEVELOPMENT

Sustainability is defined as meeting the needs of current and future generations through an integration of environmental protection, social advancement and economic prosperity.

There is a proposal to develop a new suburb in bushland on the outskirts of Perth. This examines sustainable development in practice; how can the need for affordable housing in a safe and liveable community be balanced with the need to protect the natural environment now and in the future?

## THE PROPOSED DEVELOPMENT

A company called Houses For People. Owns 200 hectares of land at Swamptown. They want to build 1200 houses, a sports ground and a shopping centre on it. They also want to set aside some of it as a nature conservation reserve.

Before they can do that, the environmental effects of the development must be studied. To do this we need to look at the environment of the land at Swamptown and to assess what effects the development would have.

There is bush on some of the land and some has been cleared. There are two wetlands in the area.

## THE LAND:

Not all bush has the same value for conservation. When it has been partially cleared or disturbed in some way, its conservation value is usually reduced. The presence of weeds also reduces conservation value. Bush that has rare plants or animals living in it has a higher conservation value than bush that doesn't have them.

The bush at Swamptown is not all the same. The bush in the southern part around Turtle Lake is in good condition. It has a mixture of trees (jarrah, redgum and banksias) and lots of shrubs and wildflowers. Kangaroos live there. In the evenings and early mornings they graze on the cleared land.

Turtle Lake is also in good condition. A lot of birds, mostly ducks and swans, live there. They feed in the shallow water and nest in the reeds around the edge of the lake. Turtle Lake has water in it throughout the year – it never dries up completely.

The bush in the northern corner of the land is not in such good condition. It has lots of weeds in it. Most of the big trees have been cut down and there are fewer shrubs and wildflowers than there are around Turtle Lake.

Paperbark Swamp is in poor condition. In summer it is only a few small pools, which usually turn green because of the algae that grow in them. The algae grow because there are too many nutrients in the water. This is the process of eutrophication.

The algae cause many problems.

Midges eat the algae. So when there are more algae, there are more midges. Sometimes there are large swarms of them.

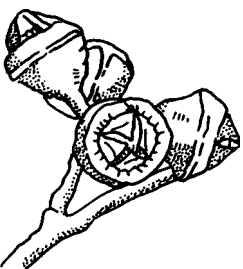
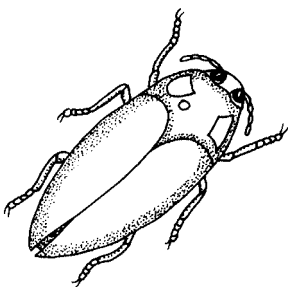
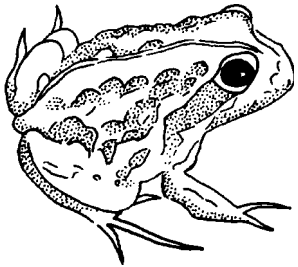
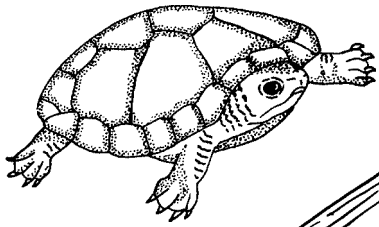
When the algae die and decompose they stink, causing problems for people who live nearby. The decomposing algae also create ideal conditions for the bacteria that causes botulism in birds. Botulism is a fatal disease (for birds).

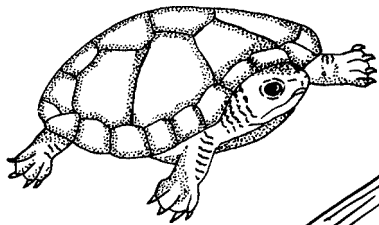
The nutrients that cause the eutrophication of Paperbark Swamp come from the surrounding houses. Eutrophication is the process where too many nutrients enter a wetland. They come from fertilisers that people put on their lawns. When it rains, stormwater run-off washes nutrients into wetlands.

The problem is made worse by clearing vegetation around wetlands. Replanting native vegetation around wetlands can help reduce the problems of eutrophication in them because the plants help absorb the nutrients.

Although Paperbark Swamp is degraded, it still has some value for conservation and recreation. Rehabilitating it may enhance these values.

Paperbark Swamp is also important in the surface drainage of the area around Swamptown.

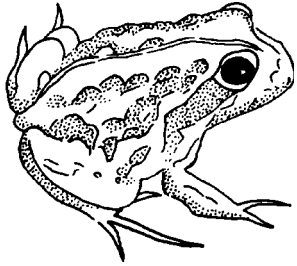




### CURRENT USE:

The cleared land is used as an illegal dumping ground. Several old burnt out car bodies and other rubbish have been dumped there, creating an eyesore.

The bush and wetlands are important to local people. Many local children play in the bush and have built several cubby-houses. Tadpoling is very popular during winter, especially in Turtle Lake. Some people go bird-watching in the bush and near the wetlands. A lot of local people go down to watch the kangaroos when they graze on the grass in the evening. People sometimes have picnics in the bush or on the cleared land, especially near Turtle Lake.



### ENVIRONMENTAL IMPACTS OF THE PROPOSAL:

**Before the houses can be built, some of the bush will need to be cleared and Paperbark Swamp will need to be filled in. These will be the major effects the proposed development will have on the environment. Look at these effects and see if you think they are acceptable. If you don't think they are acceptable you may be able to think of ways that the proposal could be changed to make it more environmentally acceptable. You may think that the development should not go ahead at all.**



#### Clearing:

Most of the bush to be cleared is in poor condition. The remainder of the houses will be built on land that has already been cleared.

#### Filling:

The proposal involves filling Paperbark Swamp. This wetland is in poor condition and has few environmental values. However, these values could be increased by rehabilitating the wetland. It is still important in the surface drainage of the area.

#### Groundwater:

Clearing the bush and building roads and houses will probably cause the water table to rise. This could affect the vegetation around Turtle Lake.

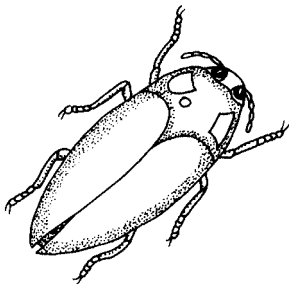
The other possible impact on the groundwater would come from pollution. When it rains, oil and their pollutants may be washed into the groundwater. One way of controlling this would be to build soak wells to contain the stormwater.



#### Cats:

Cats have caused a major decrease in the numbers of small animals and birds in the bush. At Swamptown, they kill ducklings and cygnets each breeding season.

It is likely that there will be more cats in the area after the houses are built.



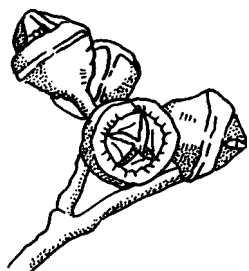
#### Conservation Reserve:

This proposal includes setting aside a conservation reserve. This will provide protection for Turtle Lake and some of the bushland. Currently this area is not protected and is not being properly managed. Houses For People Inc. will provide some funds to help manage the reserve.

### CONCLUSION:

This proposal involves clearing an area of bush and filling a wetland. It would provide housing for 3600 people. The conservation reserve, which is included as part of the proposal, would provide secure protection for an area that currently has no protection.

**Houses for People Inc. believes that the benefits of the proposal are greater than the costs and that the development should be allowed to proceed. Other people disagree and think that the development should not go ahead. What do you think?**



## BACKGROUND INFORMATION:

### Wetlands:

When Europeans first arrived in Western Australia, there were many wetlands on the Swan Coastal Plain. It is estimated that less than one third of them are still in a natural state.

They have been drained and filled for farms, houses, roads and many other uses. Many suffer from nutrient enrichment (eutrophication).

In WA some wetlands are protected by an Environmental Protection Policy. They are protected from unauthorised filling, mining and discharge of contaminants. The lakes included in this policy were selected for their conservation value and their surface area.

### Housing:

It is expected that 400,000 new houses will be needed in Perth in the next 30 years. There is not much land for housing close to the city. Opening up 'new land' will help keep housing affordable. Rapidly rising house prices make it much harder for young people to buy their first home. Also, the housing industry is a major employer in WA, and relies on new developments like this to keep people in jobs.

When land is sub-divided, at least one tenth of it must be set aside as public open space, which includes parks and ovals.

### Groundwater:

Groundwater is the water under the surface of the ground. In Perth, it sometimes comes through the surface. This is where we have wetlands.

Perth relies heavily on groundwater for its water supply. The water that comes out of taps is about 40 per cent groundwater. It is also used in private bores, mainly for watering gardens.

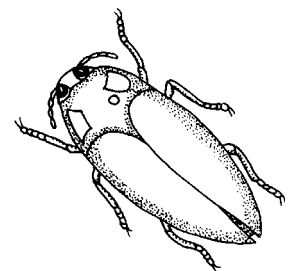
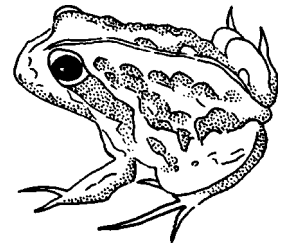
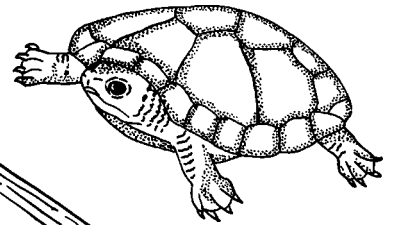
Clearing bush and building roads and houses affects the groundwater. The water table rises when the bush is cleared. Fertiliser, nutrients and other pollutants can be washed into the groundwater and wetlands when it rains.

### Other environmental issues:

**Air quality:** with a rising population Perth is in danger of suffering worse air pollution. Cars are a major cause. By locating new suburbs close to other residential areas better public transport services can be offered. Also suburbs can be designed to encourage walking and cycling rather than use cars.

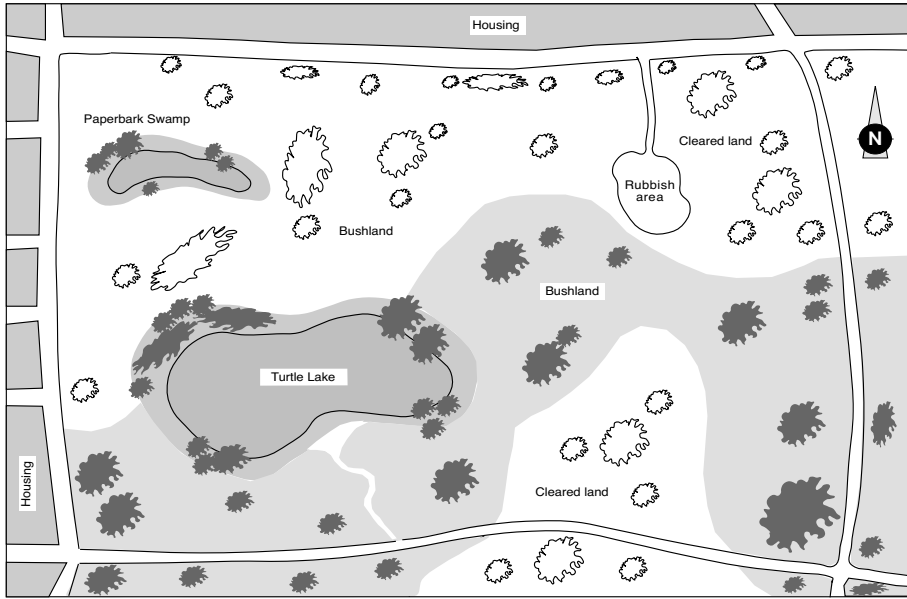
The suburb can be made more environmentally acceptable by improving energy efficiency. This could be done by orienting streets so that all houses have a north facing side to reduce heating requirements, or all houses could be required to install solar water heaters.

**Waste:** Any new development means an increase in consumption and subsequent increase in waste generated. There is limited land available in Perth for landfill so the effective management of domestic waste needs to be carefully considered. Reducing waste in the first instance through avoidance is now seen as the most favourable environmental outcome and the recovery of waste through recycling and reusing as responsible and increasingly viable alternatives. The safe disposal of waste that cannot be recovered and either recycled or reused is seen as the least favourable environmental outcome. There are many new technologies being devised for waste recovery and new markets emerging demonstrating that waste is a potential and valuable resource.

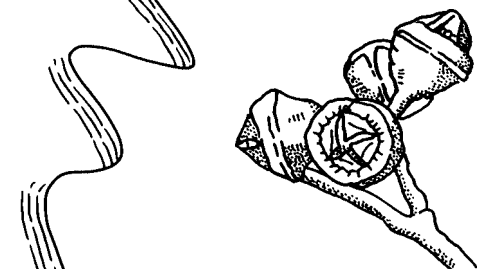
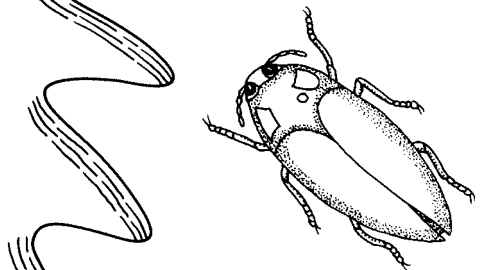
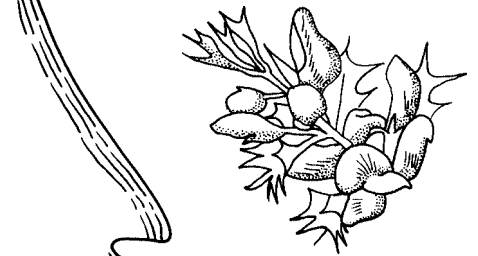
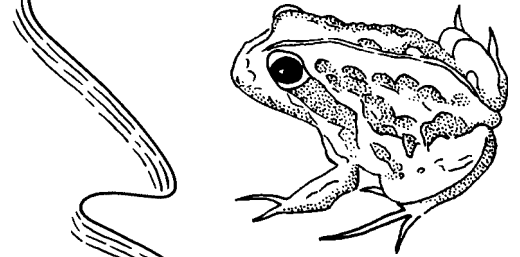
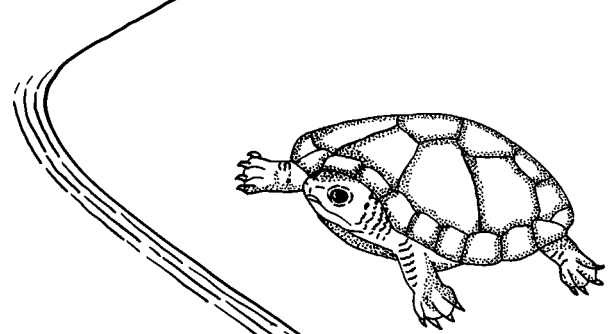
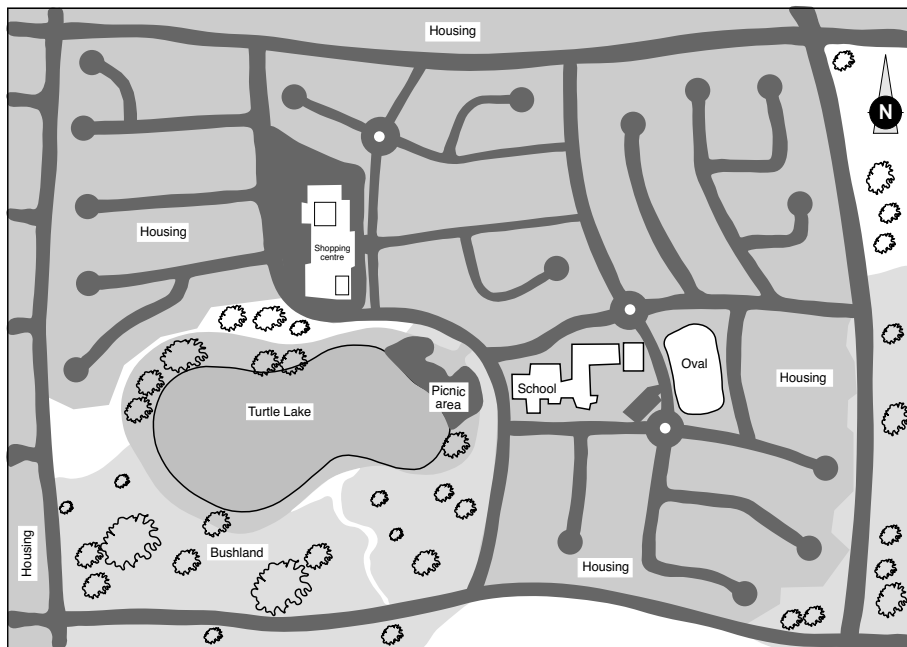


# THE SWAMPTOWN DISTRICT

## Before Development



## After Development



# TURTLE LAKE PRESERVATION SOCIETY

## YOUR ROLE:

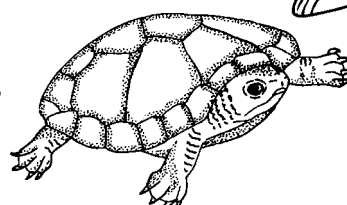
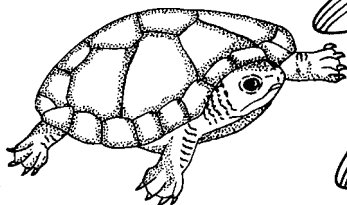
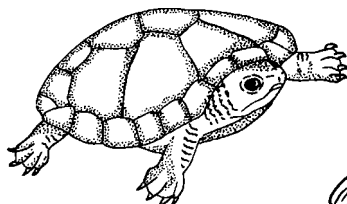
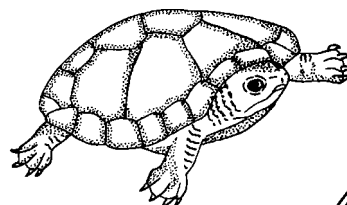
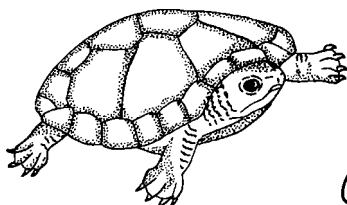
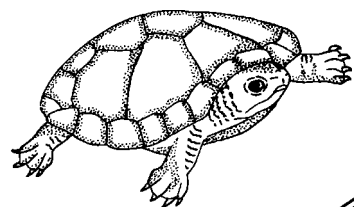
You are a conservation group and you want the bush and wetlands to be preserved. You don't want the development to go ahead. You have been trying to have this area made into a reserve for several years. You think that the wetlands and surrounding bush should be saved. You would prefer to see the area made into a reserve without the houses being built.

You are worried there will be more cats and dogs in the area.

You think the conservation reserve is a good idea, but don't want Paperbark Swamp to be filled in. Nor do you want any of the bush cleared.

## THINGS TO THINK ABOUT:

- ◆ How could the proposal be made more acceptable to you?
- ◆ What if Paperbark Swamp was not filled in?
- ◆ What if less bush was cleared?
- ◆ Is it worth putting up with some bush being cleared to get the reserve?
- ◆ The impact of litter or illegal dumping (e.g household hazardous waste) on the bush and wetlands.



# ENVIRONMENTAL PROTECTION AUTHORITY

## YOUR ROLE:

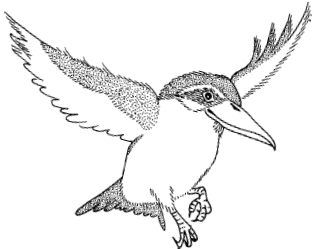
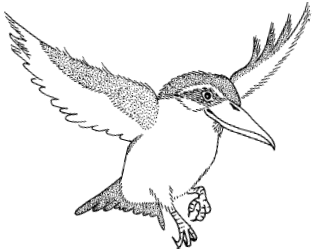
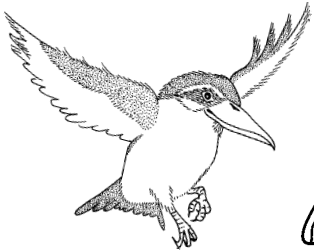
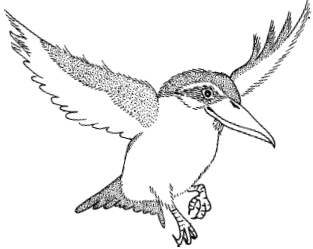
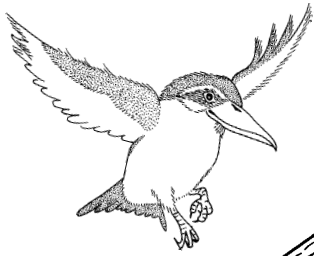
Your role is to ensure the environment is protected. You must assess the proposal and make a recommendation to the government.

You may recommend:

- ◆ that the development goes ahead as proposed (if you think the environment will not be significantly affected by the proposal);
- ◆ that the proposal be altered to take environmental concerns into account; or
- ◆ that the development does not go ahead (if you can't think of a way that will make it environmentally acceptable).

## THINGS TO THINK ABOUT:

- ◆ Do you think the reserve will protect enough of the bush?
- ◆ Do you think Paperbark Swamp should be filled in?
- ◆ Do you think any bush should be cleared? If so, how much?
- ◆ Do you think the houses will affect Turtle Lake (ie by more fertiliser run-off)? Is there something that could be done about this.



# WEST AUSTRALIAN STATE GOVERNMENT

## YOUR ROLE:

You are concerned about people having jobs and the state of the economy. However, you are also concerned about the environment. You want to please as many people, and upset as few, as possible.

It is important for you to listen carefully to people's concerns.

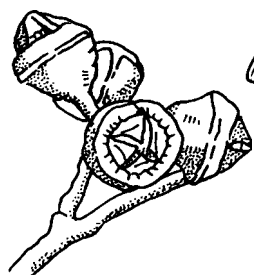
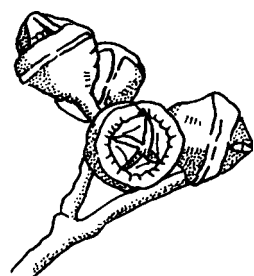
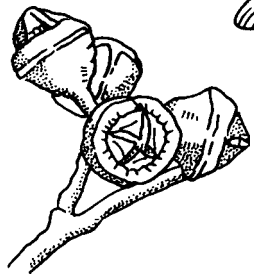
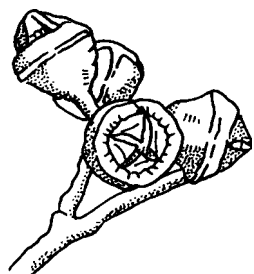
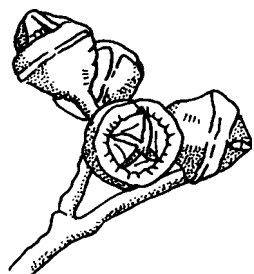
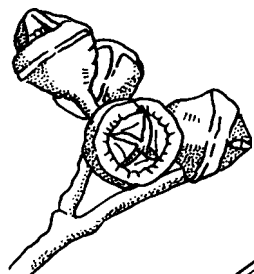
You should listen to the advice of the Environmental Protection Authority and the Department of Planning and Urban Development and to the opinions of the other groups. Your decision should be made taking these things into account.

You should remember that you have been elected to represent these people. Whether or not you get re-elected at the next election depends on what people think of the decisions you make now.

You may think some of the ideas raised by the different people are good. However they may be very expensive. It is important that you consider how much money things will cost and whether or not Houses For People (Inc.) will be willing to pay for them.

## THINGS TO THINK ABOUT:

- ◆ What do most people want? Are people's claims reasonable?
- ◆ What do you think should happen?
- ◆ Who do you think should pay for managing the reserve? Are you prepared to do it? Or do you think Houses For People Inc. should?



# SWAMPTOWN COUNCIL

## YOUR ROLE:

You represent local people and should make sure their needs are met. You also live in the area.

If the proposal goes ahead there will be more people living in the area. This will mean that you will get more money from rates, however you will also have to provide more services, such as waste management including collection, treatment and disposal.

## THINGS TO THINK ABOUT:

- ◆ Do you think the problems with midges and mosquitoes would be solved by the proposal?
- ◆ Do you think it will be good for the local community?
- ◆ Do you want the proposal to go ahead?
- ◆ How important are the bush and lakes?
- ◆ Do you think this is the best sort of housing that could be built on this land? For example, should there be some units and townhouses?



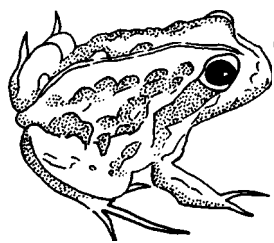
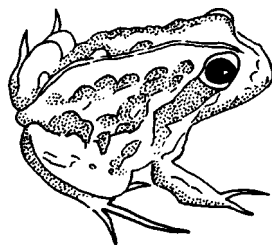
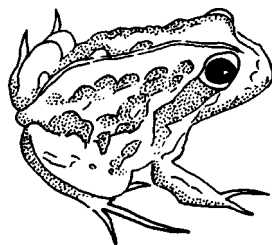
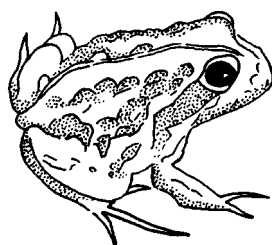
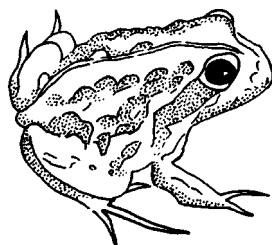
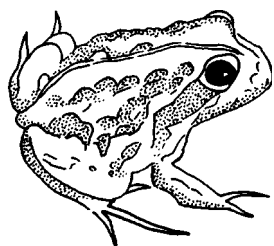
# SWAMPTOWN RESIDENTS

## YOUR ROLE:

This proposed development is right near where you live. It will change your neighbourhood. You need to think about how that will affect you and whether or not you want those changes.

## THINGS TO THINK ABOUT:

- ◆ What effect will this development have on your local community?
- ◆ Do you think there will be fewer midges and mosquitoes?
- ◆ Do you think there will be more jobs?
- ◆ Do you think your house will be worth more? Or less? Or the same?
- ◆ Do you like the idea of the bush being made into a reserve?



# HOUSES FOR PEOPLE (INC)

## YOUR ROLE:

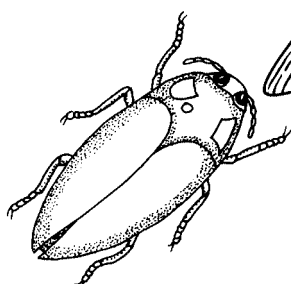
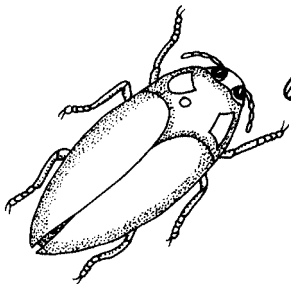
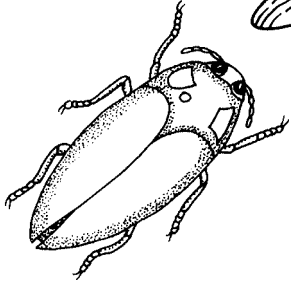
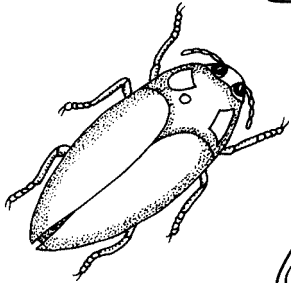
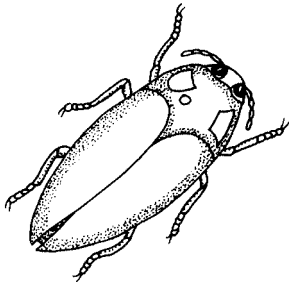
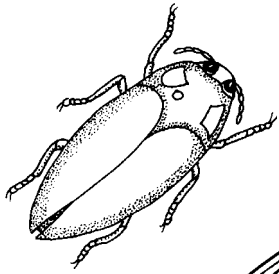
You need to try to convince everyone that this proposal should go ahead. You are going to make a lot of money if it does. The more houses you build, the more money you will make. However, you realise that you must consider the environment.

You realise you will probably have to preserve Turtle Lake and the bush surrounding it but think you should be able to go ahead with the development elsewhere.

You own this land. You bought it several years ago because you saw the opportunity to develop it. You are worried that conservationists will stop the development and that you will lose the money invested by your company.

## THINGS TO THINK ABOUT:

- ◆ If people demand it, are you prepared to change the proposal slightly to include Paperbark Swamp in the reserve?
- ◆ Are you prepared to pay to manage Turtle Lake and the reserve? For how long?
- ◆ You will provide many jobs by going ahead with this proposal.
- ◆ How will you manage construction waste?





# DEPARTMENT OF PLANNING AND URBAN DEVELOPMENT

## YOUR ROLE:

You are responsible for planning what should be done with different areas of land and for determining the best use of land. You must think about the need for housing and other land uses and decide whether or not you think this proposal is a good use of the land.

## THINGS TO THINK ABOUT:

- ◆ Is this the best use that could be made of this land?
- ◆ Can you suggest any changes that would make it better?
- ◆ Do we need this many houses?
- ◆ How important do you think it is to keep the bush?
- ◆ Do you think it is wise to fill in Paperbark Swamp and build houses there?
- ◆ Do you think this is the best sort of housing that could be built on this land? For example, should there be some units and townhouses?
- ◆ How can the suburb be designed so that other environmental issues are considered, for example, air pollution is reduced and energy is used most efficiently?