



## **Ecosystems: living communities**

*Managing or meddling?*

### **Mike Gillman:**

Ecosystems capture energy and recycle nutrients. They are delicately balanced and complex. Living systems that are easily affected by external influences, they can be affected by human activity, but they can also be managed and operated as a kind of service provider.

### **Actor:**

"Hello – Busy Bees Pollination Section. Oh yes, totally yeah. We cover all types of flower."

### **Mike Gillman**

It's estimated as much as one third of the human food supply depends on pollinators.

### **Actor:**

"Definitely, definitely. We do an awful lot of work with lavender already actually."

### **Mike Gillman:**

The insects that do the pollinating can be natural but they can also be artificially introduced into an ecosystem to help increase productivity.

It's not really run by the Busy Bee Corporation but it is big business. In the US alone in 2000 it was estimated to be worth 14.6 billion US dollars.

But there are costs: maintaining the hives, transporting the bees and there is also the problem that the artificial honeybee may not be effective on all crops. We may have to look at the wild bees. One approach is to try and manage wild bees to make them more efficient pollinators. But another idea is to use the wild bees to influence the behaviour of the honeybees. We already know that meddling with an ecosystem can have side effects but sometimes these effects can work out for the best.

### **Vince Gauci:**

"You get all sorts of interactions between different species and sometimes you get unintended consequences of that so it's not necessarily a negative. You can get positive interactions. Now for an example with wild bees interacting with honeybees it's actually been found that the net affect of that is actually more pollination. Overall a good thing in terms of what the ecosystem can provide us."

### **Mike Gillman:**

Pollination is just one example of how we can manage ecosystems for our benefit. But as our man at the Busy Bee Corporation will tell you it's not the only service that ecosystems can provide.

### **Actor:**

"Indeed. We don't just do flowers. We also could do you woodlands too. Oh yes – that's why they call us 'the bees knees'. Huh – yeah!"

### **Mike Gillman:**

In some areas the careful management of woodland can make a significant contribution to a local economy without destroying the ecosystem that's providing the wood. Coppicing is a good example. Yes the trees are cut back and yes coppiced woods are man made but there is a balance between harvest and maintenance so their basic ecosystem remains intact.

### **Vince Gauci:**

“Ecosystems can be managed and make them sustainable and economically viable entities. There is active management of the wood to harvest on an annual basis part of the woody growth. The sustainable harvesting of the forest is actually to it's overall benefit. And it's this sort of management of an ecosystem that can actually be a nice model for managing other types of ecosystem.”

**Mike Gillman:**

So ecosystems can be manipulated to our economic advantage but the key is careful management because we don't always know what the ecological consequences of our actions will be.

Ecosystems are complex and so is our relationship with them. They provide us with food, water and help protect our built environment. Yet our activities have destroyed and altered many, allowing just a few to flourish. A better understanding of how ecosystems function will allow us to manage and sustain them for the future.