

Biodiversity

Our food supply depends on it



Discussion activity

Visit

http://www.fao.org/wfd/2004/index_en.asp
select Issues Leaflet 2004 (pdf).

This article is an excellent launching point for a discussion on how farming can promote biodiversity. Use the questions below to stimulate discussion. Students might first work in small groups on allocated sections of the article, then have a class discussion.

Victorian Essential Learning Standards Domains and (Levels):

Science (4,5,6)
Humanities – Geography (4,5)

Victorian Certificate of Education:

Biology (Units 2&4)
Environmental Science (Units 1&3)
Outdoor and Environmental Studies (Unit 4)
Agricultural and Horticultural Studies (Unit 4)

Duration: 50 minutes plus depending on the depth of discussion.

1. What is biodiversity? How is biodiversity linked to feeding the world?
2. Why must each hectare of farming land feed more people in the future?
3. What is the main cause of the extinction of wild species?
4. Name the plants and animals that are commonly farmed for food in Australia. Why are these species so important?
5. What genetic characteristics in crops and animals are important to farmers in developing countries?
6. Why do farmers have such a big influence on biodiversity? Describe techniques that farmers use to help maintain biodiversity (p. 2) and some examples of restoring and supporting ecosystems. (p. 4).
7. Describe the range of "essential services" that occur in an intact environment.
8. Why is it important for plant and animal populations to be exposed to changing conditions and competition on farms and in nature? Give examples of changing conditions.
9. How was the Irish Potato Famine partially due to lack of biodiversity? How can we prevent this from happening again?
10. Describe the purposes of the International Treaty on Plant Genetic Resources for Food and Agriculture. Who will benefit from this treaty?
11. What do consumers want from traditional foods? How does demand for traditional foods help farmers? Name some examples of Australian bush foods or "bush tucker".
12. What does the Global Crop Diversity Trust do?
13. Would maintaining biodiversity be more or less important to a farmer who lived in a country that didn't produce enough food for its people compared to an Australian farmer?

Extension

Visit www.tranquileye.com/clock/

- Write down both the number of people in the world and the number of hectares of arable land (land capable of growing crops).
- Wait one minute and write down the new numbers and calculate the difference.

- Why are these changes taking place and what do they mean for inhabitants of Earth?
- What would cause the numbers to go in the other direction?

Research and Report

Students investigate a topic (see examples below) or an issue arising from the class discussion then make a presentation to the class, explaining their findings and how it helps restore and support biodiversity on farms.

- Improved agricultural techniques - in Australia and / or in a developing country,
- Gene and seed banks.

Resources

- **United Nations Food and Agriculture Organisation**
www.fao.org Select a title from "Newsroom" to access "Focus on the issues" or fact sheets such as: Water and Food Security. Select "Agriculture" or "Country Information" from the left-hand side to explore statistics from around the world.
- **World Food Program**
Select countries from a world map to see their percentage of under nourished population. Useful for interactive whiteboard class discussions.
www.wfp.org/country_brief/hunger_map/map/hungermap_popup/map_popup.html
- **Living Systems Resource Kit**
is available online at www.dse.vic.gov.au Select Conservation & Environment, then select Living Systems. Fact sheets include Benefits of Biodiversity - Contribution of Native Fauna to Pest Control and Biodiversity and Future Opportunities for Farm Incomes.
- **DPI website**
www.dpi.vic.gov.au Select Agriculture & Food for relevant themes eg, select Soil & Water for links to topics such as Irrigation, Fertilisers, Erosion and Salinity; select Science, Research & Development for information about scientific research supporting farming.
- **Ecosystem Services** www.ecosystemsproject.org/index.htm The interactions among and between species define ecosystems which in turn provide many services from which humans benefit. However if we allow natural assets to decline, so do the benefits. If we look after and maintain our natural assets, we will benefit from greater returns. This site provides case studies on improving land management practices
- **LandLearn Resources CD**
includes the following resource booklets: Bushfoods & Biodiversity, Planning for Sustainable Land Use and Biodiversity in Bushland, Community & Agricultural Landscapes. Each booklet contains resources for teachers and learning activities for students.
- **On Borrowed Time Kit**
consists of two 50-minute videos and a guide that show farms benefiting from adopting sustainable agricultural practices. Available for loan from LandLearn.
- **LandLearn Newsletters**
Term 1 and Term 2 2004 editions contain resources lists relevant to this theme. Both are available on this website: [view past newsletters](#)