



N.T. WATERWATCH EDUCATION KIT

Part 6
Waterwatch
and Legislation

NT WATERWATCH EDUCATION KIT

PART 6: WATERWATCH AND LEGISLATION



A program of the Natural Heritage Trust



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Helping Communities Helping Australia
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PART 6: Waterwatch and Legislation

Introduction

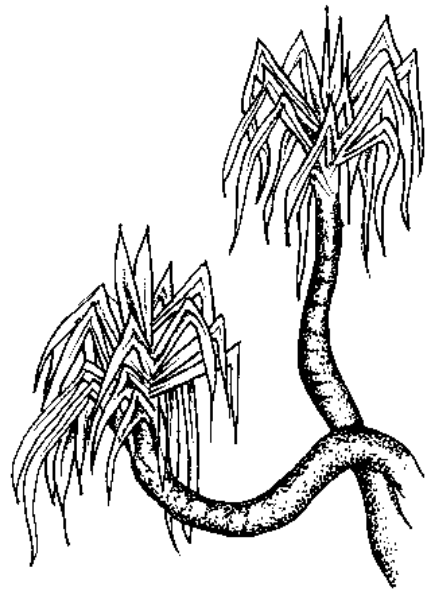
The management and protection of the Northern Territory's water resources are controlled under the *Water Act 2001*. The *Water Act* legislates the extent to which both ground and surface water can be used and for what purpose.

Waste discharge to natural waters is prohibited unless licensed under the Act. Waste discharge licences are available in areas where Beneficial Uses have been declared. Beneficial Use categories are Agricultural, Cultural, Aquaculture, Public Water Supply, Environment, Riparian and Manufacturing Industry (<http://www.lpe.nt.gov.au/advis/water/facts/>).

Additional policy-based protection exists for waterways and wetlands within Australia, including Commonwealth law, such as the *Environmental Protection and Biodiversity Conservation Act 1999* and international conventions such as Ramsar.

Rationale

By gaining an understanding of the legislative protection which has been put into place to protect water quality in the NT, it becomes possible to protect this valuable resource for present and future generations.



How and why does legislation provide protection for wetlands?

Wetlands are ecologically, economically and socially important for the following reasons (The Wetlands Policy of the Commonwealth Government of Australia 1997):

- biodiversity conservation;
- nursery and breeding grounds, especially for fish and waterbirds;
- improved water quality;
- biological productivity;
- aesthetic, cultural and heritage values;
- recreation;
- nutrient cycling;
- flood mitigation through water storage and retention;
- water storage;
- ground water recharge;
- scientific research;
- education;
- foreshore protection from wave action and erosion;
- soil and water conservation; and
- grazing, forestry and cropping.

A growing understanding of wetland values and functions is gradually leading to increased protection through legislative mechanisms.

Northern Territory Legislation

All Northern Territory legislation can be accessed in full through the Northern Territory Government: <http://www.nt.gov.au/lant/hansard/hansard.shtml>

Water Act 2001

The Northern Territory *Water Act 2001* covers all aspects of sustainable water resource management, including investigation, use, control, protection, and allocation. The following dot points outline specific examples of how the *Water Act* strives to achieve sustainable management practices across the Territory.

- Landholders have the right, without need of a licence, to take groundwater and surface water on their land for domestic purposes, stock watering and for a domestic garden no larger than 0.5 hectare.
- A permit is required to construct any bore in a Water Control District.



- Bores pumping over 15 litres per second require an extraction licence no matter where located in the Northern Territory. Bores of lesser pumping capacity do not require an extraction licence unless they are located within Water Control Districts at Alice Springs, Ti Tree, Tennant Creek, Katherine and Gove.
- Any interference with a waterway or obstruction of flow requires a permit. This includes damming of creeks, pumping from springs, creeks and rivers. Rural dams of less than 3 metres height and less than 5 square kilometres catchment do not need a permit.
- Water extraction licences are needed to take water from any waterway for uses other than stock and domestic purposes.
- Water Control Districts can be declared in areas where there is a need for closer management to avoid stressing of groundwater reserves, river flows or wetlands. Districts have been declared in the Darwin Rural Area, Gove Peninsula, and the Katherine, Tennant Creek, Ti Tree and Alice Springs regions.
- Community derived Beneficial Uses and associated water quality objectives declared under the Act, provide the basis for waste discharge licences and water quality planning.
- Water Allocation Plans will be progressively declared for Water Control Districts so as to limit water extraction to sustainable levels. The plans will allocate water resource shares to the types of Beneficial Uses which have been declared in the district. As well as meeting the needs for drinking water supplies, irrigation, aquaculture, industry and recreation as required. There will always be a share given to the environment to maintain water dependent ecosystems.
- Unless specifically authorised, discharging waste to waterways and groundwater is prohibited. The Controller may grant waste discharge licences which allow controlled discharge of wastes to waterways.
- There are strict controls covering underground disposal of waste, changes in the use of a bore and artificial recharging of aquifers. Specific licensing may apply but only where justification is given.

Beneficial Uses

To work out an effective way to meet the challenges associated with continued growth and development we need to agree on exactly what we want to use ground and surface water for. Beneficial Uses are particular values or uses of the environment which contribute to public or private benefit, welfare, safety or health. Beneficial Uses have now been declared for the following regions:

- Mt Bunday Creek
- Ryan Creek
- Copperfield Creek & Tributaries
- Hudson Creek & Tributaries
- Edith Creek & Tributaries
- Howley Creek & Tributaries
- Darwin Harbour & Marine Reaches of Rivers And Creeks Draining Into Harbour
- Katherine River
- Coomalie Creek Catchment & Tributaries
- Groote Eyland Area



- Fog Bay Area
- Gove Area
- McArthur River Area
- Shoal Bay – Vernon Island Area
- Crater Lake
- McKinlay River
- Darwin & Blackmore Rivers Catchment Areas
- Katherine River & Tributaries
- Katherine Region – Groundwaters
- Rapid Creek – Freshwater Reaches
- Elizabeth & Howard Rivers Region – All Waterways Including Tributaries
- Elizabeth & Howard Rivers Region - Groundwater
- McArthur River Catchment Area
- Mary River
- Ti Tree Surface and Groundwaters
- Ilparpa Swamp Surface Water

Beneficial Use Categories

1. **Agricultural** - to provide irrigation water for primary production including related research;
2. **Cultural** – to provide water to meet aesthetic, recreational and cultural needs;
3. **Aquaculture** – to provide water for commercial production of aquatic animals including related research;
4. **Public Water Supply** – to provide source water for drinking purposes delivered through community water supply systems;
5. **Environment** – to provide water to maintain the health of aquatic ecosystems;
6. **Riparian** – public rights and ownership rights to take water for domestic and/or stock purposes;
7. **Manufacturing Industry** – to provide water for secondary industry including related research.

The beneficial declaration process involves all stakeholders within the relevant catchment.

Water Advisory Committees

The *Water Act 2001* also enables the establishment of water advisory committees for the Territory or part of the Territory or for a particular purpose.

The committee should then function to advise the Controller of Water Resources on the effectiveness of water allocation in relation to maximising economic and social benefits within ecological restraints and to carry out other functions deemed necessary by the Controller.



Northern Territory Waterwatch Steering Committee

The Northern Territory Waterwatch Steering Committee was formed under the *Water Act* in 1997. The specific function of the Committee is to direct the strategic expansion of the Waterwatch Program through Territory-wide plans and provide advice to Regional and State Assessment Panels.

The NT Waterwatch Steering Committee is currently comprised of seven members which represent the following organisations:

- Local Government Association of the NT,
- Greening Australia,
- The Department of Infrastructure, Planning and Environment,
- The Department of Employment, Education and Training,
- The Environment Centre NT,
- The Northern Land Council, and
- The Central Land Council.

Soil Conservation and Land Utilisation Act 2001

The purpose of this act is to make provision for the prevention of soil erosion and for the conservation and reclamation of soil. Soil erosion is a major cause of increased turbidity in waterways. Turbidity decreases water quality and ecosystem function (LWRRDC 1999).

Pastoral Land Act 2001

This act aims to provide a way in which pastoral land can be used sustainably for pastoral purposes. Ideally sustainability will be achieved through minimisation of degradation, monitoring of the land's condition, creation of rights to access of water and Indigenous rights to use the land (LWRRDC 1999).

Planning Act 2002

This act deals with land use and planning. 'Development' is defined as such to include clearing. The clearing of riparian land may, under the Act, require a permit (LWRRDC 1999).

Environmental Assessment Act 1994

The *NT Environmental Assessment Act 1994* enables environmental matters relating to development proposals to be examined fully as part of the decision making process. In this capacity, the Environment and Heritage Division of the Department of Infrastructure, Planning and Environment provides advice to government on the adequacy of environmental safeguards proposed by developers and any additional safeguards considered necessary to mitigate environmental effects (<http://www.lpe.nt.gov.au/enviro/EIAinNT.htm>).



Waste Management and Pollution Control Act 2002

The objectives of the *Waste Management and Pollution Control Act 2002* are to protect and where practicable restore and enhance the quality of the Territory environment; to encourage ecologically sustainable development; and to facilitate the implementation of National Environment Protection Measures established by the National Environment Protection Council

(<http://www.lpe.nt.gov.au/enviro/LEGISLAT/Legislat.htm>).



See Activities 1 and 2 (p11-14)

Commonwealth Government

Council of Australian Governments (COAG) Water Reform

The Council of Australian Governments (COAG) comprises of the Prime Minister, the State/Territory Premiers or Chief Ministers and the President of the Local Government Association of Australia

(<http://www.ea.gov.au/water/wetlands/publications/policy.html#HDRn12>).

“The Council of Australian Governments (COAG) Water Reform Framework was developed in 1994 to address the need for coordinated action to stop the widespread degradation of Australia's freshwater resources. The framework recognises the importance of a consistent approach to water reform throughout Australia and also allows each state and territory the flexibility to adopt an individual approach to implementation that suits the specific circumstances within each jurisdiction. The full framework is to be implemented by 2005.” The key elements of the framework are (http://www.dotars.gov.au/regional/publications/time_running_out/water.htm):

- all water **pricing** is to be based on the principles of full cost recovery and transparency of cross-subsidies;
- any future **new investment** in irrigation schemes, **or extensions** to existing schemes, are to be undertaken only after appraisal indicates it is economically viable and ecologically sustainable;
- state and territory governments, through relevant agencies, are to implement **comprehensive systems of water allocations or entitlements**, which are to be backed by the separation of water property rights from land and include clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality;
- the **formal determination** of water allocations or entitlements, including allocations for the environment as a legitimate user of water;
- **trading**, including cross border sales, of water allocations and entitlements within the social or physical and ecological constraints of catchments;



- an **integrated catchment management** approach to water resource management be adopted;
- the **separation**, as far as possible, of **resource management and regulatory roles** of government from water service provision;
- **greater responsibility at the local level** for the management of water resources;
- greater **public education** about water use and consultation in the implementation of water reforms; and
- appropriate **research** into water use efficiency technologies and related areas.

The Northern Territory satisfies all requirements for COAG Water Reform through the Water Act (described previously).



See Activity 3 (p15)

National Water Quality Management Strategy (NWQMS)

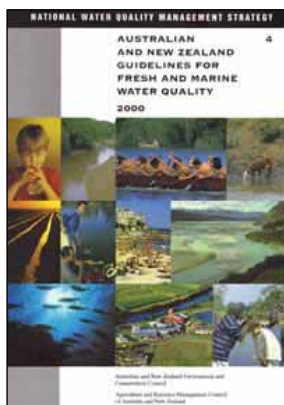
The National Water Quality Management Strategy (NWQMS) was introduced by the Commonwealth, State and Territory Governments in 1992 as a response to growing community concern about the condition of the nation's water bodies and the need to manage them in an environmentally sustainable way (for further details see <http://www.affa.gov.au>). In 1994 the NWQMS was included in the Council of Australian Governments (COAG) Water Reform Framework (<http://www.ea.gov.au/water/quality/nwqms/index.html>).



See Activity 4 (p16-17)



Australian and New Zealand Environment and Conservation Council ANZECC



The Australian and New Zealand Environment and Conservation Council (ANZECC) consists of the Commonwealth, State/Territory and New Zealand Ministers responsible for environment and conservation.

The Council has finalised the **Australian and New Zealand Guidelines for Fresh and Marine Water Quality** (<http://www.mfe.govt.nz/issues/water/ANZECC/about.html>). The primary objective of these guidelines is:

"To provide an authoritative guide for setting water quality objectives required to sustain current, or likely future, environmental values [uses] for natural and semi-natural water resources in Australia and New Zealand."

Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) is the main Commonwealth environmental law (<http://www.ea.gov.au/epbc/>).

The EPBC Act regulates the assessment and approval of:

- activities which have a significant impact on 'matters of national environmental significance',
- activities by Commonwealth government agencies anywhere in the world, and
- activities by any person on Commonwealth land.

The Act also protects biodiversity generally by creating and regulating protected areas, such as World Heritage properties and national parks, and through the listing and management of threatened species and ecological communities.

The EPBCA protects biodiversity by:

- identifying and monitoring biodiversity, and by the preparation of bio-regional plans;
- listing nationally threatened species and ecological communities, migratory species and marine species for national protection;
- the preparation of national recovery plans and wildlife conservation plans for listed species;
- the identification of, and preparation of threat abatement plans for, key threatening processes;
- regulating access to biological resources on Commonwealth areas;



- allowing for voluntary conservation agreements which may cover environmentally significant private land, including indigenous land; and
- the creation and management of 'protected areas', which include Commonwealth reserves (national parks, marine sanctuaries), World Heritage properties, Ramsar wetlands, Conservation zones, and Biosphere reserves.

The Wetlands Policy of the Commonwealth Government of Australia

The Wetlands Policy of the Commonwealth Government of Australia has six strategies to provide for the conservation, repair and wise use of wetlands (<http://www.ea.gov.au/water/wetlands/publications/policy.html>):

1. Managing wetlands on Commonwealth lands and waters, including Kakadu and Uluru National Parks in the NT.
2. Implementing Commonwealth policies and legislation and delivering Commonwealth programs.
3. Involving the Australian people in wetlands management.
4. Working in partnership with State/Territory and local Governments.
5. Ensuring a sound scientific basis for policy and management.
6. International actions.

International Wetland Protection: Ramsar

The following information is taken from the Ramsar Convention on Wetlands Internet site <http://www.ramsar.org/index.html#top>.

The Convention on Wetlands, signed in Ramsar, Iran, in 1971, is an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. There are presently 133 Contracting Parties to the Convention, with 1198 wetland sites, totalling 103.4 million hectares, designated for inclusion in the Ramsar List of Wetlands of International Importance. The Convention's mission is:

"the conservation and wise use of wetlands by national action and international cooperation as a means to achieving sustainable development throughout the world".

The Basic Concepts

For the purpose of the treaty, "wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters".

- Wetlands have fundamental ecological functions, as regulators of water regimes and as habitats supporting a rich biodiversity.
- Wetlands constitute a resource of great economic, cultural, scientific and recreational value that must be maintained.



- Progressive encroachment on, and loss of, wetlands constitute serious and sometimes irreparable environmental damage that must be avoided.
- Wetlands should be restored and rehabilitated, whenever possible.
- Wetlands should be conserved by ensuring their wise use. Wise use is defined as *"sustainable utilisation for the benefit of mankind in a way compatible with the maintenance of the natural properties of the ecosystem"* – sustainable utilisation is understood as *"human use of a wetland so that it may yield the greatest continuous benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations"*. 'Wise use' may also require strict protection.

Australia

Australia has many wetlands which have been recognised under the Ramsar Convention. The number of nominated wetlands is subject to change. The Internet site http://www.ramsar.org/lib_dir_2_5.htm will give up-to-date information.

The Northern Territory has three Ramsar listed sites:

- Cobourg Peninsula [view map](#)
- Kakadu National Park (stage 1) (including the extension of boundaries of stage 1 to incorporate wetland components of Kakadu National Park stage 3) [view map](#)
- Kakadu National Park (stage 2) [view map](#)

World Wetlands Day

The 2nd of February each year is World Wetlands Day (WWD). It marks the date of the signing of the Convention on Wetlands on 2 February 1971, in the Iranian city of Ramsar. World Wetlands Day was celebrated for the first time in 1997.

Each year, government agencies, non-governmental organisations, and groups of citizens at all levels of the community have taken advantage of the opportunity to undertake actions aimed at raising public awareness of wetland values and benefits in general and the Ramsar Convention in particular.

From 1997 to 2001, the Convention's web site has posted reports from more than 60 countries of WWD activities of all sizes and shapes including: lectures and seminars, nature walks, children's art contests, sampan races, and community clean-up days, radio and television interviews and letters to newspapers, the launch of new wetland policies, new Ramsar sites, and new programs at the national level.



See Activities 5 and 6 (p18-20)



Regional Water Resource and Catchment Management

B3-B5

Activity 1

Curriculum Links:

SOSE Social Systems and Structures / Civics, Governance and Social Justice Soc 3.3, Soc 4.3, Soc 5.3

SOSE Environments / Environmental Awareness and Care Env 3.2, Env 4.2, Env 5.2

Focus Question:

- What is being done to manage water resources?

Aims:

1. To increase student awareness of land and water management strategies and programs which affect their local area.

Main Ideas:

- Managing water requires appropriate management of the other natural resources including vegetation.
- Extracting or regulating water usage also needs to be considered in terms of broad scale management.

Need/Consider:

Attached indigenous land management case study and Internet access.

Analysis:

After reading the case study identify the land and water management challenges which were addressed.

Discuss other impacts that poor land management may have on water quality.

Look up the Aboriginal Landcare Education Program (ALEP) on the web.

http://www.nt.greeningaustralia.org.au/current_work/alep.html

Consider the NT legislation listed in the resource section of this booklet. Why is each of these acts important in terms of water quality?

NB: information in *Part 4: Uses of Catchments* of this kit will provide useful information.

Consider why it is important to address land and water management issues at national, state, regional and local levels.

Extension:

Management for the future:

To examine ways to minimise the negative impact of human activity on the ecosystem, students could:

- Visualise and describe or draw a fabulous future for a river ecosystem.
- List action strategies within an agreed time frame that will ensure this future.
- Create a concept map that summarises the site's ecosystem components and human impacts.



Student Sheet 6.1

Indigenous Land Management Case Study: Yugal Mangi

The community of Ngukurr was established as a mission in 1908 by the Church Missionary Society. The mission brought 6 language groups together and now a population of approximately 900 people live in the community. The language groups are Alawa, Ritharrngu, Ngalkagan Nunggubuyu, Ngandi and Marra while Kriol (Aboriginal English) is commonly spoken throughout the region.

The Traditional Owners of the Ngukurr homelands have been managing their country for a very long time, and are working hard to preserve and continue this tradition, however the movement from bush to community greatly influenced the way people managed the country.

Traditional Owners still maintain strong links to the lands. They continue to hunt, gather and undertake ceremonial activities on their country. The community now operates under the name of Yugal Mangi which refers to 'all people' in the region of these language groups.

An important aspect of the land management project is the trips to important sites such as Pudawul (quiet snake) to 'check country' and pass stories and knowledge onto younger members of the clan. The senior owners teach the kids the importance of these sites and their role in ceremony. Dust suppression, weed control, fire management and management of feral animals are all current management issues which are being addressed by Yugal Mangi people.

Alice Ashley [believes] "this place should be looked after better to keep this water clean one this one dreaming he bin talk about lighting fire la this nelicat and pudawul place. The damage caused by buffalo to these sites is observed, Roy and others realise that something needs to be done with the buffalo to control or stop the damage. Buffalo bin boggy boggy la this nelicat, he bin go la scrub en come back this afternoon he need to be looked after better." Numbers of buffalo in southeast Arnhem Land are high, and ever increasing. The traditional owners are moving towards managing these and other feral animals, but need support from the Government for this to occur.

The water source at Costello also needs to be looked after by not burning the riverbanks late and fencing off the area from stock damage. Senior traditional owner Sambo Bara Bara has been self sufficient in undertaking guyarrda (fire management) activities. Clarry Rogers mentioned that Sambo and others at Costello have not required much support for guyarrda apart from patch burning along the Numbulwar road. An effort is to be made to involve some of the school kids to the area for the kids to work with Sambo on managing his country. Sambo believes that his country has been managed well through fire and is passing this knowledge onto others by burning the surrounding sandstone plateau. Gudtha is done to encourage game and plant habitats. "Old time, when people used to walk everywhere and hunt plains kangaroo (Gadijambul) to burn grass gotta grow up and then hunt langa plain country gotta gudjiyula (stone spear) Also in the recent past to burn grass gotta bullocky fat one, and get em gotta gudjiyula." states Sambo.

Costello is situated near a waterhole that requires protection from stock. Sambo says "he's lookin after the Guyin (fish) and Bukartta (long-neck turtle) by fencin dij-one country. Pidjey (sand-ridge goanna) is also managed through the use of fire in the sandstone country. Gulinja (Vitex glabrata) go through guyarrda in dry season and makem ready for Christmas time tucker gotta lukiyu. This mob plants bin come from guyarrda la that country Yarrkguna (*Acacia mimula*), Ballarrda (*Acacia holosericea*), Gulgul (*Melaleuca nervosa*), Dhumamu (*Petalostigma pubescens*) they bin come from me burn burn la this country."





Esau Thompson, a traditional owner, recently visited his country at 'Washaway creek'. for the first time in 12 years. The lack of visits according to Esau was due to a lack of transport and funding available from the Council, as well as very limited access during the dry season, as much of the country is under water most of the year. The washaway area was lit by the owners in July and a fire burnt slowly towards Bulman.

Plate 1 Camp at Washaway Creek

The land management group and ALEP staff discovered a satellite outbreak of the invasive weed *Mimosa pigra* (giant sensitive plant) in 1997 on the Edirri floodplains during a hunting trip. People are worried about the area for hunting as it's a hunting place for Dalmarang (long-neck turtles), ngujija (fish), luluma (magpie geese) and other sought after food as well as a special place for Gudarrgu (Brolga).



Plate 2 Hand pulling weeds rather than using herbicides protects floodplain vegetation

Traditional owner Roslyn Munar, has been directing the rangers and weeds officers in Katherine to survey and reduce further outbreaks. An initial area of 15 hectares was found, in September 1997. Another 15 hectares was later surveyed and sprayed. Hand pulling scattered plants of *Mimosa* after ground surveys in vehicles and on quads during the early wet season has proved successful so far for the rangers.

There are other workshops that the Indigenous Land Management Facilitator will facilitate to develop landowner capacity to manage country. Robin Knox from the Caring for Country Unit (Northern Land Council) will be working with the Women on furthering their concerns for Cane Toads, as it has impacted upon food sources. She aims to develop awareness programs for cane toads. This will most likely be in the form of developing signage for transporting goods and materials from infested areas to non-infested areas. Emphasis is placed on boat ramps for transporting animals to remote islands where the cane toads have not yet established.

The information above is adapted from the report: Looking After the Yugal Mangi Homelands March 2000 Joe Morrison NT ILMF program, PWCNT.



Territory Wide land and Water Management

B3-B5

Activity 2

Curriculum Links:

SOSE Social Systems and Structures / Civics, Governance and Social Justice Soc 3.3, Soc 4.3, Soc 5.3

SOSE Environments / Environmental Awareness and Care Env 3.2, Env 4.2, Env 5.2


Focus Question:

 **What is being done to manage water resources?**

Aim:

To become aware of national Water care programs and how they interact with NT Government legislation and policy.

Main Ideas:

 National programs are often implemented at the Territory wide scale such as the:

AusRivas
<http://ausrivas.canberra.edu.au/>;

Waterwatch
<http://www.waterwatch.org.au/>;

Ramsar Wetlands
<http://www.ramsar.org/>;

National Pollution Inventory
<http://www.npi.gov.au/>;

Landcare
<http://www.lpe.nt.gov.au/care/landcare/default.htm>;

Coastcare
<http://www.ea.gov.au/coasts/coastcare/>

Bushcare
<http://www.ea.gov.au/land/bushcare/index.html>.



These are required to complement NT programs and policies where possible and may be supported by Territory legislation.

Need:

Internet access.

Consider:

Discuss the main idea and provide tips on Internet use/sites as per the highly recommended resources list provided in this Kit.

Students then undertake their own research.

Analysis:

Students choose a program to investigate and to identify how the program interacts with other programs and Territory legislation and policy.

Students write an essay/report on their chosen program and present it to the rest of the class.

Reflection:

Most of these programs have a Bilateral Territory and Federal Government Agreement and administration arrangement to support them.

What might happen if the National and Territory Government's disagree on how to manage water resources?



COAG Water Reform

B3-B5

Activity 3

Curriculum Links:

SOSE Environments / Environmental Awareness and Care Env 3.2, Env 4.2, Env 5.2

Focus Question:

- What is being done to manage water resources?

Aim:

To gain an insight into the Council of Australian Governments (COAG) Water Reform Program and the scope for community participation in its implementation

Main Ideas:

- Nationally an agreement has been accepted by all states and Territories called the COAG Water Reform.
- The reform sets minimum standards that should be met in water resource management including community participation in decision making and implementation of strategies.

Need:

Access to the Internet:

<http://www.abc.net.au/4corners/water/plaintimeline.htm>

<http://www.ncc.gov.au/sector.asp?sectorID=8>

<http://www.disr.gov.au/science/pmsec/14meet/inwater/>

Consider:

Introduce the background to the introduction of the COAG Water Reform then ask students to research the information in order to answer the questions below.

Analysis:

Invite a guest speaker to discuss environmental flows and water reform in the NT.

Discuss what the COAG Water Reform is.

What are 7 environmental water issues that the water reform framework will address?

Investigate what water reforms the NT Government has successfully implemented in order to have received some of the National Competition Council's \$16 billion dollars?

Extension:

Create some extension materials for the general public informing them of the COAG Water Reform – this may be done in association with the creation of a general public information web site or the COAG Water Reform activities in the NT.

Reflection:

Why is it important to obtain whole of government support for this type of initiative (hint: National Competition Council).



NWQMS Investigation in the NT

B5

Activity 4

Curriculum Links:

SOSE Social Systems and Structures / Civics, Governance and Social Justice Soc 4.3

SOSE Environments / Environmental Awareness and Care Env 3.2, Env 4.2, Env 5.2

Focus Question:

- **How is the National Water Quality Management Strategy implemented in the NT?**

Aim:

Students will gain an insight into the role of Government in the management of water quality in the NT and how this relates to the National Water Quality Management Strategy (NWQMS).

Main Idea:

- The NWQMS was introduced by the Commonwealth, State and Territory Governments in 1992 as a response to growing community concern about the condition of the nation's water bodies and the need to manage them in an environmentally sustainable way.

Need:

Access to the Internet.

Consider:

Explore the following web sites:

National:

<http://www.ea.gov.au/water/quality/nwqms/index.html>

In particular looking at the Implementation Guidelines 1998 (there is also a CD ROM version of this available).

Also see:

<http://www.ea.gov.au/water/quality/nwqms/index.html>,

http://www.affa.gov.au/docs/operating_environment/armcanz/home.html,

<http://www.lpe.nt.gov.au/advis/water/facts/wateract.htm>,

<http://www.lpe.nt.gov.au/advis/water/maryriver.htm>

Analysis:

See Student Sheet: National Water Quality Management Strategy

Extension:

What are some Traditional Owner laws that exist (or did exist) in your region that protect water quality?

Reflection:

How well do you think the current legislative system protects waters in your region? If the traditional laws are still being practised how effective are they on a day to day basis?



Student Sheet 6.2

National Water Quality Management Strategy

How is the NWQMS implemented in the Northern Territory? For example:

- What role does the *Water Act 2001* play?
- What is the 'Beneficial Use Process'?
- Who is responsible for protection of water quality and water allocation?
- What licences are required to discharge into waterways or extract water from either groundwater or surface waters?
- What processes are in place to provide feedback to the community about the health of the NT water resources and the aquatic habitats that depend on these water resources?
- What processes are in place to encourage communication between the Commonwealth and Territory Governments?
- What reporting processes are in place for the NT government to report to the Commonwealth Government?
- How does water quality monitoring tie into this reporting process, e.g. State of the Environment reports, Government audits?
- What resources are supplied for the above to occur and where do these resources come from?



National Programs : Ramsar Agreements

B3-B5

Activity 5

Curriculum Links:

SOSE Social Systems and Structures / Civics, Governance and Social Justice Soc 4.3, Soc 5.3

SOSE Environments / Environmental Awareness and Care Env 3.2, Env 4.2, Env 5.2

Focus Question:

- **What management actions have been put in place to protect and maintain catchment health and water resources?**

Aim:

To determine how and why wetland areas are protected by legislation.

Main Ideas:

- Throughout the world, wetlands are under threat. In Iran in 1971, a number of countries came together to tackle the problem.
- The countries made a List of Wetlands of International Importance and signed an agreement to protect them – namely the Ramsar Convention.
- In Australia 53 wetlands have been recognised as being among the world's most special places.
- In the NT they are: Coburg Peninsula and Kakadu stage I and II.

Need:

Access to the Internet.

Consider:

Consider the different types of wetland areas in Australia. Information can be found at the following sites:

<http://www.ea.gov.au/water/wetlands/ramsar/index.html>

<http://www.environment.gov.au/ramsar/>

Analysis:

List the different types of wetland areas and indicate on a map where they are found in Australia.

How effective is the Ramsar program in protecting the listed wetlands from conflicting land use?

Reflection:

How are programs such as Ramsar actually adopted by land users?

See the web site:

www.cwmb.sa.gov.au/kwc/interactive/wetland/index.htm



Water Use and Availability

B3-B5

Activity 6

Curriculum Links:

SOSE Social Systems and Structures / Civics
Governance and Social Justice Soc 4.3, Soc 5.3

SOSE Environments / Environmental Awareness
and Care Env 3.2, Env 4.2, Env 5.2

Focus Question:

- **How do we use water in the catchment?**

Aim:

To gain an insight into the demands on water resources.

To better understand the need to manage natural resources, such as water, sustainably.

Main Ideas:

- There is a continual escalation in demand for finite water resources. As demand increases water quality and availability are being negatively impacted.
- In Australia, there are examples of water use beyond sustainable extraction limits. Management strategies are now required to rectify the situation.
- In the NT there is the opportunity to learn from the examples of water use and management interstate.

Need:

Access to the Internet, the brochure: Water in a Dry Land (available as part of this Education Kit or from the Land and Water Resources Research and Development Corporation).

Consider

Global Perspective

www.water-2001.de/outcome/BonnRecommendations/BonnRecommendations.pdf

What are some of the estimated costs of supply of good water quality by the year 2015?

This document talks about “stopping the unsustainable exploitation of water resources”. Discuss any personal views of unsustainable exploitation in Australia. Examples may include:

- water supply without passing on the costs of the maintenance of the water supply to the users;
- lack of grey water recycling where it is feasible;
- use of water unnecessarily in domestic situations; and
- water use with disregard to equity across human populations and environmental needs.

National Perspective

Discuss the following definitions as a class:

Surface water sustainable flow regimes: the volume and pattern of water diversions from a river that include social, economic and environmental needs.

Groundwater sustainable yield: the volume of water extracted over a specific time frame that should not be exceeded to protect the higher social, environmental and economic uses associated with the aquifer.

Using ‘Water in a Dry Land’ brochure:

Study the graphs inside the front cover that compare Australia’s water availability and Australia’s water usage to other continents.



What do these tell us about Australia's use of water? Do you think Australia is using water sustainably?

Study the map of Australia inside the front cover. How does the Top End of the NT compare to the Murray Darling region in terms of percent of water run off committed to use?

What are two key factors that have placed pressure on Australia's water resources?

Looking at the 'time ruler' that goes across the brochure, discuss how the NT could continue to go down the same track OR how it could choose to modify the trend and learn from previous mistakes.

What are two key national actions that are aiming to prevent further decline of Australia's water resources? (Council of Australian Government's Water Reform and the National Water Quality Management Strategy).

NT and Regional Perspective:

Research what organisations in the NT are involved in the management and protection of the NT's water resources?

What has stopped the NT's water resources from being as regulated, or 'developed', to the same extent that Australia's southern water resources have?

Extension

Ask the students to investigate where the water - used in their region - comes from.

Research and interpret a time series of aerial photos for a particular river system to look at how land use in the river's catchment has changed over time. These may also show natural changes from seasonal effects on vegetation and river processes.

Interview local residents or traditional owners about changes in the region's land use over time. What do the residents

believe these land use changes have had on the waterway/wetland health?

How might the NT learn from the problems now being experienced interstate?

Debate what might be some actions that can be put into place that might prevent the same thing happening in the NT?

Reflection:

How does the lifestyle you lead contribute to the use of the NT's water resources and how could you reduce your families water use?



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