



Seaweek 1991

Fish for the Future

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Understanding the theme

Talk to old timers and they will almost invariably tell you that there are not as many fish as there used to be. They will tell you of the huge catches they used to take in 'the good old days'.

As our population increases, there will be more commercial and amateur fishers and greater demand on unpolluted seafood for our tables.

Also as populations increase, so will the level of land based pollution reaching our oceans. Human expansion will place growing pressure on our coastal zone and encroach further on the vital estuarine and coastal wetland fishers nurseries. It is easy to see that unless proper measures are introduced to protect and manage these fish stocks, there will be problems in the future.

This theme aims to increase awareness to fishing stocks and raises the following issues:

- Health and protection of fish breeding grounds and habitats
- Marine protected areas and protected species
- Regulations. Examples include: bag and bait limits, licencing, legal lengths, closed seasons
- Aquaculture and mariculture
- By-catch
- Fishing methods and equipment
- Pollution, habitat destruction and land management issues
- Ballast water and other international fishery concerns



Illustration source: Peggy O'Donnell

Exploring the theme - event ideas

Oceanographer for the day - Experiments on a field trip and back in the lab.

What

A hands on marine education programme for senior high school students.

Where

Aboard the Sea World boat and using equipment from the Wet Paper Lab at the Gold Coast and then back at school.

How

With co-operation and sponsorship from Wet Paper, Sea World and the Gold Coast City Council a marine education programme for secondary school students was organised. It introduced practical methods for the examination of estuarine, waste, storm and oceanic water.

On a boat trip plankton samples were collected and examined. The turbidity and temperature of the sea water were also tested. Further samples were taken back to school to be analysed. These were tested for six of the nine testing protocols recognised world wide as indicators of pollution. In a later class, discussion and class activities were developed on water pollution, water conservation and the WaterWise concepts.



Photo courtesy Sea World and Wet Paper

Oceanographer for the Day

Why

This programme combined a fun, practical field trip with classroom activities. First hand experience is a very effective method of working with students on issues of water quality and catchment care. Not only did the students and teachers carry out the experiments but they also learnt techniques and methods of testing that can be used in the future, for testing other situations or environments

Extending the theme - classroom activities

Activity 1: What is a fish?

There are lots of animals living in the sea, are they all fish?

- Have a brainstorm session to come up with a list of words describing fish.
- Make a list of animals that live in the sea. How many have back bones, swim with fins and breathe with gills? Which ones are fish?

Activity 2: Fish Inside and Out

Lets investigate fish!

- Write down all the words which describe how you feel when you: touch fish; smell fish; look at fish; taste fish or catch fish.
- Find out the names of the different fish parts and their functions. If you can get a dead fish, open it up and look at the internal organs. Try to determine the name and function for each part.

Activity 3: Sensible Sharks

Many people believe that sharks should be removed from the ocean.

- Survey your classmates, families and community's attitudes towards sharks, dolphins, whales, eels, crabs, seaweed etc. How do they view them? Do they think they are important? Do they see them as friends or enemies? Are they good to eat? Graph your results.
- Are sharks fish? How are sharks different from other fish?
- What types of sharks are found around your area, where do they live, what do they eat and how far do they travel?
- Are shark populations threatened? Why? Are sharks an important part of the ocean food webs and ecosystems?

Activity 4: Fish Rights

Humans have rights. Do fish have rights? What are the needs of fish? Are they able to live a long, safe and healthy life? Does it matter?

- Divide the class into two groups, one supports Fish have rights and must be helped the other group says — Fish don't matter. Make a list of points and issues which your group can use to support their idea.
- Choose three speakers each and have a debate. Decorate the debating stage with posters and displays to reinforce your points and issues.

Activity 5: Fish Farming

Can you fish farm? What type of information would you need to know?

- What is fish farming called?
- What type of marine species are farmed in the Australian waters. What water conditions are necessary for successful farms (temperature, degree of exposure, currents, tidal range etc)?
- What type and size of cages (pens) are used to hold the animals? How many per cage?
- Do you need a licence to set up a farm?
- Are the fish fed? What and where does the fish food come from?
- What are the harvest methods, how are they sold and what is the revenue per fish?
- List some concerns about fish farming?
- Choose a marine species that you would like to farm. Try to design your own fish farm.

A lot of these ideas were developed by Sally Carson and Noelene Smith