Code 1

Take only what you need

Fishy activities ...Junior Fishing Codes

Code 1 Take only what you need Year Level 3 / 4

You can make a difference!

Specific Learning Outcomes

By completing this code a Junior Fisher learns to:

- catch fish only for immediate needs
- recognise that all fish are part of a food chain
- always release or let go undersized, unwanted, or inedible aquatic animals into the water
- return unwanted fish to the water with wet hands to avoid damage to the protective coating on fish scales
- gently hold fish in the water, until it has recovered sufficiently to swim away
- practise catch and release to help maintain fish stocks
- be aware of areas where fishing is prohibited or restricted

These activities and skills support the following NSW Board of Studies Stage 2 syllabus outcomes:

HSIE	Science & Technology	PDHPE	English
ENS2.5 ENS2.6	LTS2.3	COS2.1 DMS2.1	TS2.2

View the background information from the *Get Hooked DVD.*

Background notes

How many fish is enough?

The general rule you may like to promote is enough fish for yourself and your immediate needs for the day you are fishing. When considering the bag limits for particular fish you are targeting, you may decide to take fewer fish than the bag limit so there will be plenty of fish for the future.

Removing excessive numbers of mature fish over time may drastically affect the fish's ability to breed, thereby depleting fish stocks for all future fishers.

Take only what you need to eat, and release the rest. Be sure to take your camera when you go fishing so you can take pictures and show your friends. Pictures also make good reminders of how much fun you had!

Fish food chains

Removing excessive numbers of fish for food or bait, may have impacts further along the food chain, or on other fish who prey upon the fish species you are removing from the water. Thus, the food chain may be altered.

Translocation

Be careful not to transport fish, water or weeds from one waterway to another, as it presents risks including:

- altering the natural environment
- adversley affecting native species
- establishment of pest populations
- spread of diseases

Harvesting of bait

NSW Marine Park Sanctuary Zones allow for the total protection of marine animals and plants. Also in Intertidal Protected Areas the collection of invertebrates (seashore animals like worms and limpets) is not allowed. This is to ensure that the species will continue to thrive and breed within the habitat, with minimal disturbance by direct human actions.

To limit the spread of pests and diseases, live fish cannot be used as bait.

Frogs, eggs, trout or salmon, live birds and live mammals cannot be used as bait.

Always refer to the regulations on the collection and use of baits from the most recent edition of the relevant NSW Saltwater and Freshwater Fishing Guides.

Alternative Baits

There are many alternatives to live bait that you may like to try. These include pilchards, squid, worms, corn, bread, dough and fish guts.

How we can help our fish

Take only what you need for yourself and your family.

- Closed Seasons: Usually a period during which you must not take or attempt to take a particular species. Often coincides with the breeding season of a particular species.
- Bag Limits: The maximum number of fish or invertebrates per person per day (Refer to the NSW Recreational Saltwater and Freshwater Fishing Guides for more information).
- Legal Length: The minimum legal length of a fish or invertebrate. A fish or invertebrate that does not reach this minimum length must immediately be returned to the water. Some species have maximum length restrictions to protect larger breeding females. (Refer to the NSW Recreational Saltwater and Freshwater Fishing Guides for more information).

Please Note: Bag and length limits are legal requirements which must be followed.

* If you get a chance, view the following web site to play a great interactive food web game. http://www.gould.edu.au/foodwebs/marine.htm

Fishy activities

Activity will be motivated by the following oral tale.

'The old fisherman'

Introduce concepts of 'take only what you need', coupled with the concept of if you take more, then the food chain may become unbalanced, with the following basic introductory oral tale:

Props:

- Old craypot
- Fishing rods leaning against the pot
- An old hat on the storyteller's knee

When I was a young boy/girl, I used to know of an old fisherman who used to come by to warm his bones by the fire on cold windy nights. He used to like to tell tales of the old days. One day he told me a tale I've never forgotten.

We used to just call him, the 'Captain'. One night I asked him why I hardly ever caught any fish by the river/ocean now.

"Well," the Captain said rubbing his chin thoughtfully, "That's a funny thing you've noticed. It seems that they're just not here nowadays".

"What do you mean?" I asked. "Where have they all gone?"

"Well, when I started fishing as a lad, there were quite a number of smaller boats catching 'couta' (or any fish that is in decline in your region due to overfishing). In those days, they were plentiful, fifty dozen an hour (or 600 fish) for a man was considered poor fishing."

"Now, we often didn't take only what we needed, because we thought there was so many of them, it just didn't matter."

"Then we noticed a strange thing…after a couple of years there wasn't that many 'snapper' any more and some of the other fish had started to disappear as well," he said sadly.

"Were they the fish that ate the 'snapper'?" I asked. "Maybe." He replied. "Maybe because the 'couta' didn't get a chance to give birth to enough little ones, we were taking everything out of the water, the 'snapper' just didn't get a chance to breed and maybe the other fish had to go elsewhere to find enough 'snapper' to eat."

"Now things are different, we only take what we need, to give them a chance to breed, so then there are lots of fish."

"Do you reckon, we're doing the right thing nowadays?" he asked me.

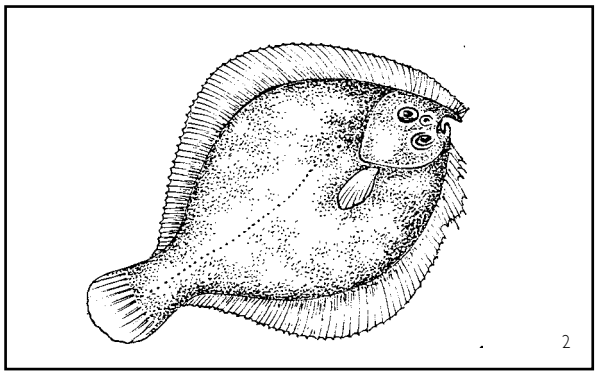
Discuss

Note: Specific Oral Tales based on tales of fishermen: ***Craft and Craftsmen of Australian Fishing 1870-1970****. An illustrated Oral History.*

'Feeding frenzy' role-play game[1]

Props:

- Kitchen utensils, e.g: tongs/chopsticks/spoons fork (mouth-parts)
- Small paper cups (stomachs)
- Marine beads (food items)
- 3 minute sand timer
- Blue floor mat



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This is a hands-on activity designed to help the students understand the concepts that if too many of one species of animal is removed from the water, whether they be a fish, bird or invertebrate, then an inbalance in the food chain may occur.

Role of students: In small rotating groups, select five volunteers to play the role of a different intertidal or freshwater organism, depending on where the school is located.

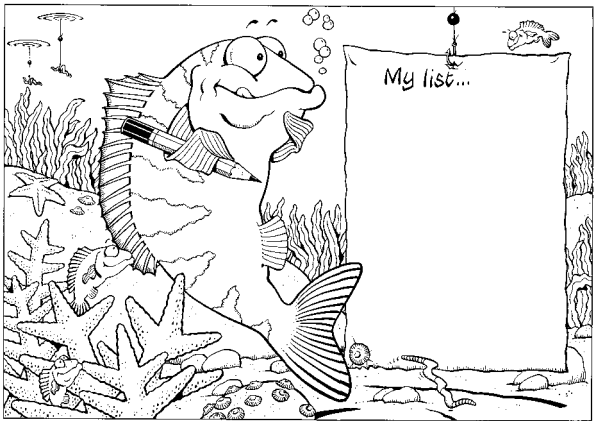
As part of taking up the role of the animal they are portraying, they will be allocated specific 'mouthparts' . The more effective the mouthpart, the more effective the feeding strategy will be.

The remaining students will be allocated a card to be pinned on their jumper or t-shirt indicating they are the same species as one of the fish fighting for survival. For example, six of the students in the audience may be a school of sand whiting, while another six may be a school of bream. They will be barracking for their nominated fish to collect the most food.

Activity - Feeding frenzy trial 1

- For each trial, 5 students will try to collect 30 food particles in 3 minutes.
- They will use whatever tool they are provided with to catch their food and keep it in their stomach (a small cup).
- The rest of the school fish (students) observe feeding strategies at this point and cheer them along.
- At the end of this period tabulate results on the Wilbur the Wise Fish whiteboard.

Results: Outline to the students the following Feeding frenzy trial 1:



If you have collected all ***30 food items***, you have done very well and will continue living a normal life.

If you have collected between ***20 –28 food items***, you will be tired and you may begin to lose weight. You will have to work hard to find food or you may become sick.

If you collect ***less than 20 particles***, you will become very weak and feel unwell. You will be unable to find food and may die.

If you are really efficient and collect ***more than 30 food items***, then you will grow, improve in condition and will have plenty of energy to reproduce.

[1] Source: Adapted from *Life in the Ocean, Feeding Frenzy Protocol.* (Source: Unknown) .

[2] Source: Graphic from p.53 A.B.Sea. *A Cross Curriculum Marine Studies Guide* for Prep – Year 12

'How many is enough?'

(Bag limits concept)

Props: As per page 9

Activity - Feeding frenzy trial 2

- Select another 5 volunteers from the school of fish audience.
- Repeat session as per page 9, however this time introduce 2 volunteer fishers, who will attempt to catch as many fish as possible within the 3 minute time period.
- They will catch the fish by randomly drawing student names from an empty tackle box passed around the rest of the audience. If a student's name is called who is currently a fish, then they have been 'caught'.

Suggested discussion points

- Brainstorm what would occur in reality if fishers caught these fish.
- Would this simply mean there was more food for the rest of the school of the same species?
- Would it impact on their ability to breed or avoid predation (e.g. many fish swim in schools for safety reasons)
- Discuss students' ideas following 'Feeding Frenzy' game about the role 'Catch Limits' can play upon maintaining adequate fish populations.
- Brainstorm student's views on a fair rule for a day's bag limit. (Perhaps, a good rule of thumb is enough fish to feed you and your family).

*Note: Ensure that students are aware that many fishers believe it is important to have a fair catch limit. We now have **legal regulations** regarding some fish and other aquatic species.*
(refer to NSW Recreational Fishing Guide)

Some fish gather in large groups to breed. This can make them easy to catch. To give them protection, there are closed seasons, where a fish species may not be caught at all, during a period of time, such as 3 months.

Evaluation activity:

'Wilbur the Wise Fish'.

Props:

- Wilbur the Wise Fish whiteboard (see Appendix 8 for Wilbur template)
- Whiteboard markers

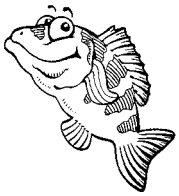
Using "Wilbur the Wise Fish " whiteboard, students come up to the board and list why you should not take home every fish you catch. eg too small, unsuitable to eat, have more than I need.

List also the effects of taking everything you catch home with you.

Examples:

- no fish for me next time
- no fish left for my friends
- not enough fish left to breed and replace the ones taken
- damage to food chain

Suggested follow-up class activities for teachers



'Fun with food webs'

Props:

- Ball of string or elastic
- "Fun with food webs" picture cards (see Appendix 6).

Explore the concept that an imbalance in the environment will affect all creatures.

Activity

- Briefly discuss the role of each creature depicted on the cards.
- Place picture cards on each student and arrange group so that they form a circle.
- Inform students that they now represent whatever is depicted on their name tag.
- Each living organism is dependent on a number of things. Glance around the group and get a mental picture in your mind, what you think is necessary for your existence. eg A Murray cod may decide they need good water flow, snags to hide in or lay their eggs, smaller fish to feed upon, water plants for oxygen, etc.
- Start with any student and encourage them to wrap the ball of twine or elastic around their index finger and then throw it to an animal, plant or resource (non-living thing) that they think they will require; or are required by in the case of a non-living thing, to survive in the water.
- If the ball is passed from a large fish, to a smaller fish, to a plant, you have a food chain.
- If the ball is passed through numerous animals, plants and resources, such as a shark to a penguin to an adult pilchard, etc and becomes increasingly complex, you have a food web.
- Now introduce an imbalance in the food chain or web.

Possible scenarios could include:

1. A trawler comes along and dredges the bottom of the bay, removing everything in its path. Who is affected?
2. Groups of fishers take more of one fish than they need for bait. Who is affected?
3. A fisher doesn't throw back a fish that is unwanted to humans (e.g. puffer fish), but is enjoyed by seals. Who is affected?
4. A fisher takes more than he/she needs of a fish that has no bag limit. Who is affected?

- As each scenario is enacted the student who is affected first pulls on the string/elastic. The next organism down the chain or web should feel the pull and realise they too may become affected by someone or something upsetting the natural balance by taking more than they need.

Would the removal of one thing have more effect than another?

'The diary of Paula the Parrot fish'

Research the lifecycle and needs for life of a particular aquatic organism (e.g. whiting, flounder, platypus, crab, oyster etc)

- Write and illustrate a diary on the life cycle of an aquatic organism of your choice.
- Show the appearance of changes that occur physically.
- Record a day in the fish's life as they go either exploring for food, or hiding from a predator, meeting a mate, etc.
- Detail where in the river, lake, bay, sea they like to live (e.g near snags, under boulders, etc).
- Fictionally depict their potential reaction to an unusual event that happens in their lives, such as a fish they feed upon becoming depleted due to overfishing.
- What happens to your fish next? (e.g. do they move to a new location in search of food, do they prey upon a different food source instead, etc?)