

# Depuration of shellfish

Bivalve shellfish species (oysters, mussels and clams) feed by filtering large volumes of water. If the shellfish are living in water which contains microbiological or chemical contaminants, or natural toxins, they will concentrate this material in their gut. As people normally eat shellfish raw, and without removing the gut, they are likely to become ill if product is harvested from contaminated areas.

To protect the consumer, the NSW Food Authority limits when and where shellfish can be collected for commercial harvest. The legal requirements for commercial shellfish species—including the food safety requirements for depurating shellfish—are set out in Food Regulation 2010, which the Authority administers.

## The depuration process

Depuration can be used to treat shellfish with low levels of contamination. It involves placing the harvested shellfish into tanks of high quality water so they will purge any contaminants stored in their gut.

Commercial depuration operations must be licensed by the Authority, and the conditions for licence approval are strict. This is because the depuration process must be done correctly to ensure that shellfish harvested from 'Restricted' waters are safe to eat.

The Authority will assess that:

- the shellfish to be depurated come from a classified harvest area which meets the microbiological limits for a 'Restricted' area. This will ensure that the shellfish are not excessively contaminated and can safely cleanse in a depuration plant.
- the depuration plant and water treatment facilities are well designed and engineered, with fully treated water always flowing through and around the tank, ensuring that the shellfish always have clean water to filter.
- the shellfish are depurated for at least 36 hours.
- the shellfish are placed in the tank without hindering their feeding and general wellbeing. Shellfish must actively feed to depurate themselves of contamination.

The operator of the depuration facilities must be adequately trained in the operation of the equipment and care of shellfish. The operator must be able to recognise any problems that might affect the integrity of the final product.

Water quality is the critical factor in successful depuration, so regular samples must be taken to verify the quality of the water throughout the process (see Table 1 on following of page).

## Records must be kept

Adequate records must be kept by the plant operator on the maintenance of the plant, water quality systems and shellfish depuration lots. These records must be available for audit and can be used to quickly trace back if there are any food safety issues.

The Product Record (PR) book, available from the Authority, is recognised by the auditing team as an adequate record. The full set of conditions for operation of a depuration plant are in the *NSW Shellfish Industry Manual* available at: [www.foodauthority.nsw.gov.au/\\_Documents/industry\\_pdf/NSW\\_Shellfish\\_Industry\\_Manual.pdf](http://www.foodauthority.nsw.gov.au/_Documents/industry_pdf/NSW_Shellfish_Industry_Manual.pdf)

## More information

Please contact the Authority if you have any queries about your licensing requirements.

- refer to the *NSW Shellfish Industry Manual* and accompanying guidelines
- visit the NSW Food Authority's website at [www.foodauthority.nsw.gov.au](http://www.foodauthority.nsw.gov.au)
- phone the helpline on 1300 552 406

## Note

This information is a general summary and cannot cover all situations. Food businesses are required to comply with all of the provisions of the Food Standards Code and the *Food Act 2003* (NSW).

Table 1: Analysis of water used for wet storage and depuration

What to test	Product	Indicator	Standard	Frequency
Water	Water sourced outside a classified harvest area	Faecal coliforms	Not exceeding 70 cfu/100mL	Monthly
Water	Water disinfected prior to depuration	Salinity	Greater than 18 parts per thousand	Prior to commencement of each depuration cycle
Water	Water disinfected prior to depuration	Temperature	Greater than 14°C	Prior to commencement of each depuration cycle
Water (sample to be taken from spray bar)	Water disinfected prior to depuration	Faecal coliforms	Not detected in 100mL	May be required by the Authority (eg as a follow up to a failed test of depurated shellfish)
Water	Water disinfected prior to depuration	Turbidity	Not exceeding 20 nephelometric turbidity units (NTUs)	May be required by the Authority under specific circumstances