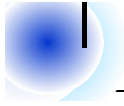




**PRIMARY INDUSTRIES
AND RESOURCES SA**

**South Australian
Shellfish Quality
Assurance Program**

Monitoring the Environment



SASQAP: A Cooperative Approach

The South Australian Shellfish Quality Assurance Program (SASQAP) was established as a joint initiative between Primary Industries and Resources SA (PIRSA) and the shellfish industries of South Australia in 1994.

The main aim of SASQAP has not changed over time and remains:

“to provide public health protection for consumers of South Australian shellfish and thus allow the development of a sustainable shellfish industry across the state.”

SASQAP is managed from Port Lincoln SA, where it operates a NATA Accredited laboratory performing all microbiological testing. Phytoplankton enumeration on water samples is also performed at the laboratory but other analytical services (biotoxin & chemical testing) are provided by other agencies on a fee for service basis.

It currently has three full time staff and a part-time administration and laboratory support person.

The program is jointly funded by Primary Industries and Resources SA (PIRSA) and the shellfish industries of SA.

Background

Product quality and safety are the two most important attributes consumers look for in seafood, and consumers of South Australian

shellfish expect to be protected against shellfish associated illnesses.

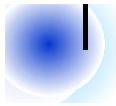
Bivalve molluscs like oysters, mussels, cockles and scallops are filter feeders that have the ability to concentrate bacteria, viruses, toxins, heavy metals, chemicals and other deleterious substances in their digestive tract and on to the surface of their gills from the surrounding seawater.

Although South Australian shellfish are grown in pristine oceanic waters and have a reputation for premium quality, shellfish are often consumed raw and in this form, may be vectors of microbes or toxins.



SASQAP therefore, provides consumer protection and ensures development of domestic and overseas markets. As a result it is a key component in the success of the shellfish industries in SA.

The major thrust of the Program is a “clean seas” approach where the growing waters are monitored and classified thus ensuring that shellfish product does not come into contact with any deleterious substances. If adverse conditions are likely to occur in any growing area, SASQAP acts to close these areas as a precautionary measure before any product has been contaminated. This serves to ensure only safe product reaches markets.



Classification Of Growing Areas

It is a requirement that only farmed shellfish originating from classified growing areas are sold for human consumption.



There are currently 22 classified shellfish harvesting areas in South Australia, the majority of them are on the West Coast, but there are also some off-shore areas; Yorke Peninsula and at Kangaroo Island.

There are four classifications used throughout Australia:

- Approved
- Conditionally Approved
- Conditionally Restricted
- Restricted

Currently (2001) South Australia has 19 Approved, and 3 Conditionally Approved Shellfish Harvesting Areas. There are no Conditionally Restricted or Restricted areas classified in South Australia

Classification of a growing area takes approximately two years to complete and involves a comprehensive sanitary survey and a statistical analysis of all microbiological results.

For an area to be classified as Approved it must meet the following criteria:

- A sanitary survey finds that the growing

area is not subject to contamination from human or animal faecal matter at levels, that in the judgement of the State Shellfish Control Authority presents an actual or potential public health hazard and pathogenic organisms, poisonous or deleterious substances or marine biotoxins exceeding the standards described in the Operations Manual. And

- The bacteriological water quality of every sampling station in the growing area must not exceed a geometric mean of 14 faecal coliforms per 100mL and the estimated 90th percentile must not exceed 21 faecal coliforms per 100mL .

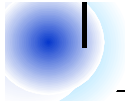
A Comprehensive Sanitary Survey Report for each growing area is completed and held at the SASQAP laboratory in Port Lincoln. The sanitary surveys and the entire operation of the Program are audited by AQIS annually for compliance.

Each sanitary survey is reviewed annually for accuracy and relevance and the classification may be changed appropriately.

Monitoring

Once an area is classified it continues to be monitored under the ASQAP protocol for all potential pollutants. The classification is subject to an Annual Review.





Phytoplankton monitoring for toxic algae occurs fortnightly in the summer months and monthly at other times. Elevated levels of toxic phytoplankton result in biotoxin testing of shellfish. This also occurs routinely in some areas.

Microbiological monitoring for Approved areas occurs a minimum of six times per year and often is scheduled following adverse environment conditions such as rainfall when impact is more likely to occur.

Conditionally Approved areas must receive a minimum of twelve sampling events per year. Factors that make an area conditional must be both intermittent and predictable.

A management plan is written for Conditionally Approved areas that details what the conditions are.

Future Directions

The shellfish industries in South Australia continue to grow at a rate exceeding 15%. This strong growth is matched by the production of safe quality product and the expansion into export markets.

SASQAP seeks to support this growth by continuing to provide a monitoring service that exceeds the national guidelines; a monitoring program that has international accreditation; and a program that continues to adapt to industries' changing needs.

SASQAP is cooperating with Flinders University under a FRDC funded project to find environmental indicators that predict the presence of

enteric viruses in seawater and shellfish.

SASQAP is also attempting to perform risk assessment studies on natural marine pathogens that are not predicted by the routine monitoring program and that may have public health or market access implications.

It is also seeking to improve sampling strategies for optimising phytoplankton monitoring thus improving the power of the predictability of this work and is cooperating with the National Research Centre for Environmental Toxicology on toxicology studies for Pectenotoxin – 2 - a DSP class of biotoxin found throughout Australia.

SASQAP Enquiries

Mr Ken Lee

Project Manager, SASQAP

PIRSA Aquaculture Group

Lincoln Marine Science Centre

PO Box 2023

PORT LINCOLN 5606

Telephone: (08) 8683 2533

Fax: (08) 8683 2560

Mobile: 0429 809980

Email: lee.ken@saugov.sa.gov.au