



AQUACULTURE BILL
13 November 2001

Mrs PENFOLD (Flinders): The Aquaculture Bill and its regulations are an essential component of a developing industry that is expanding exponentially. This industry has the potential capacity to feed a significant proportion of the world's population. In fact, I predict that the research work that has been undertaken by South Australian businesses and SARDI will have an impact across the world. Aquaculture has come a long way in the past 30 years from its infancy when a licence had to be approved by seven departments and five ministers—it was cumbersome, frustrating and subject to long delays amounting to many years in some instances. The government has consulted widely with community and industry groups to come to the point at which we are today in considering this bill.

Farmers—and that includes farmers of seafood—are the original proponents of ecologically sustainable practices, and this point is seldom acknowledged. In the farming of flora and fauna, a business fails if it is not ecologically sustainable. However, problems occur in every sphere of life and, therefore, the setting down of rules and regulations is a necessity. The passing of this bill will also assist local government in the administration of its responsibilities. Local government, as well as fishing industry personnel, has experienced frustration in attempting to make decisions that come under its jurisdiction. Laws and regulations for the process will remove that frustration, while delivering a transparent process that hopefully all can accept.

The history of aquaculture in my electorate is exciting. Bluefin tuna is the biggest income earner—almost all of it in export dollars. Last year, 7 200 tonnes of fish brought in \$247 million, about 90 per cent of the state's total income from aquaculture production. It is also the largest creator of new jobs on Eyre Peninsula, giving new hope to many of our young people who will now be able to stay in the region. Educators—both public and private—have taken up the challenge, and new courses covering all aspects of the industry are being put in place. In January 2002, we celebrated the 11th anniversary of the start of this industry. The first experiment in the world with tuna farming took place in Port Lincoln. The first experiments were well planned but crude. They involved poling fish on to a foam mat on the deck and then transferring them in a small stretcher into tanks on the boat. The number of fish that could be brought in successfully for each 48 hour trip was about 50. Equally, the fish were small, averaging about 12 kilograms. Today the industry tows in more than 100 tonnes per trip in large pontoons. Fish sizes average around 20 kilograms. The tuna farming industry is still young. However, rapid improvements have been made over the decade by individual fishers being so innovative. Unfortunately, you can only improve by taking financial risks. This meant that the rollercoaster ride of the industry in the 1990s was little better than the situation in the 1980s. Now in 2001 the industry almost has an eerie stability about it. As Brian Jeffriess, the President of the Australian Tuna Boat Owners Association said, the future lies in continuous improvement to guarantee sustainability of both wild stock and of farming. This requires a lot of patience. Mr Jeffriess believes the next step will be to value add. Better quality water, more sites and lower stocking rates are anticipated. Then will come the processing of whole fish in Australia to loins. As Mr Jeffriess pointed out, these require risk investment. This is rightly the province of private enterprise to shoulder these risks, not government using taxpayer funds.

It is appropriate at this point to recap some of the history of the bluefin tuna industry. For those with an historical bent, the Port Lincoln Times has catalogued the fortunes of the industry over the years. The industry really began in its own right in the late 1950s, when the Haldane brothers Bill, Alan and Hugh, were lent £5 000—\$10 000—by the South Australian government under Tom Playford to complete the building of their boat Tacoma, with the proviso that the brothers moved from Port Fairy in Victoria to South Australia. Those first years were years of hardship. Bill's wife Chris, recalling those times, said that the sisters-in-law took it in turns to play social tennis during the week, because they did not have the 5¢ per person required for admission.

The late Bill Haldane was one of the first to push for control of the industry, because he felt that the pressure on the fish was affecting stocks. Australia, New Zealand and Japan equally agreed on quotas. However, this left many countries still able to take as much fish as they liked without consideration for sustainability. In 1988 to 1989 the

global catch of tuna was cut by 70 per cent as a result of a decision by the Commission for the Conservation of Southern Bluefin Tuna, consisting of Japan, Australia and New Zealand. Australia's portion of world catches fell from 14 500 tonnes to 5 265 tonnes, where it remains today.

Another tuna industry pioneer from Port Lincoln, Joe Puglisi, said that many tuna fishers around Australia were looking at going out of the industry when the Japanese and Australians came up with the idea of farming. The idea was to fatten the relatively small tuna caught off Australia to bring them up to a more marketable size, thus lifting the economic returns to fishers. It was decided that Japanese government and industry experts should come to Port Lincoln to try to grow out the southern bluefin tuna. The Japanese viewed the Australian catch as wasteful and wanted to encourage greater efficiency. Catches of 1 million fish under 4 kilograms were not unknown. Tuna can now grow to more than 100 kilograms.

The Japanese injected \$2.5 million over three years and sent over experts such as Mr T. Hamano, who has worked on the system of growing northern bluefin tuna from 200 grams fry to 8 kilogram juveniles ready for harvest. This was the system that was first used, even though the mortality rate was about 90 per cent. Bridgestone supplied a fish farm that was set up on the western side of Boston Island with Mr King Chang as farm manager. Port Lincoln out manoeuvred Esperance and Albany in Western Australia to become Australia's tuna capital. In 1991, boats brought back loads of 50 to 100 juvenile live fish under 10 kilograms caught by the poling method. In about 12 months of farming, it was apparent the wild fish were robust and placid, and would grow in a cage. Joe Puglisi, Sam Sarin, Mario Valcic, Anton Blaslov, Tony Santic and Hagen Stehr formed a company, SA Marine Farm, to farm the fish. Dinko Lukin also started farming tuna at about the same time. Mr Puglisi said that the then fisheries minister Lynn Arnold and the then state government placed a huge block in the front of the industry in the form of a moratorium on fish farming. Joe said that Lynn Arnold did not want tuna farms.

SA Marine Farm was able to acquire an existing fin fish lease in Rotten Bay from Adelaide engineering firm Kinhill. The next development that lifted the industry came from Dinko Lukin. Dinko had the idea in the 1980s to farm tuna off Western Australia but he was knocked back by the Western Australian state government, which was unwilling to give him a licence to catch pilchards. Pilchards are currently the food for caged tuna. Dinko's imagination and engineering skills came to the rescue of the infant industry once farming started off Boston Island. He designed a special pontoon that could withstand the rigours of being towed back hundreds of kilometres from the Great Australian Bight to Port Lincoln. The towing is done very slowly; in fact, one has to watch the boats for a time to be certain that they are moving.

A storm in 1996 almost bankrupted the tuna farming fraternity. The April storm stirred up the sea bottom in Boston Bay, killing 70 per cent of farm stocks. The disaster caused a rethink of strategy. Farms were moved to the outer side of Boston Island into deeper water, but the industry's confidence was badly shaken for some time. Fishers expanded in 1998 onwards until all their allocated quota was brought back to Port Lincoln to the farms. In 1999, large scale freezing of tuna again assisted the industry by allowing companies to market their fish at a time of their choosing, and to present a quality fish to the discerning Japanese market.

Today the tuna operation has grown to the point where about 250 000 fish are farmed for a return now in excess of \$250 million a year. Brian Jeffriess said two things made the success story possible: the surprising toughness and adaptability of Southern Blue Fin tuna and the bush skills and innovation shown by the tuna farmers. From being a competitive industry, tuna has become a shared industry where fishers copy each other's innovations and ideas.

Oysters are another success story. About half the state's oysters are produced at Cowell. Franklin Harbor (the bay on which the township of Cowell is situated), like Boston Bay and the waters off Coffin Bay, had a massive supply of naturally occurring oysters. These were fished out in Boston Bay and Kellidie Bay near Coffin Bay where they were dredged at the low tides using horses and carts to pull the dredges. The bags of oysters were taken by road to Port Lincoln where the bags were kept in the sea until shipment to Adelaide to market.

The oysters at Franklin Harbor died out after a massive downpour of rain in the surrounding country brought a torrent of fresh water into the bay. The farming of Pacific mud oysters has brought prosperity, employment and hope for the future. Other fish species being farmed are barramundi, salmon, yellowtail kingfish, other molluscs, yabbies and marron.

Most people think of aquaculture as a sea-based industry but our local yabbies are in such demand that supply cannot keep up. Again, Minniribbie Yabby Farm at Wangary is a pioneer in the industry. Margaret Hurrell, who pioneered the project with her late husband, sells to markets mainly in Sydney.

I am delighted to be part of a progressive government that governs for sustainability, utilisation and equitable allocation of the state's aquaculture assets, and efficient and effective regulation of the aquaculture industry. I support the bill.

AQUACULTURE 5 August 1998

Mrs PENFOLD (Flinders): I commend the committee for its comprehensive report on aquaculture, which has been an opportunity to take stock of this very important emerging industry—where it has come from, where it is currently and where it is going. It has particularly concentrated the attention of all the participants on where they perceive that improvements need to be made. Of the recommendations, some have already been implemented and, obviously, the need is just for better communication. Such appears to be the case with recommendation 23, relating to the public availability of data collected in environmental monitoring programs. All data currently collected is publicly available.

The report is of particular significance to my electorate of Flinders, which encompasses Eyre Peninsula, where the majority of the State's existing aquaculture is based and where the potential for the future is impossible to imagine. I am regularly approached by people with new ideas, the most recent involving the use of algae as a replacement fuel source. There is a great need for funding to assist in the development of the emerging industries, which must be addressed.

The Seafood Industry Development Board has identified product quality and marketing as top priorities and has initiated research proposals. Work is currently under way to identify market opportunities for aquaculture species in this State so that potential investors can be advised, and abalone, scallop, marine fin fish and mussels are being studied. In addition I have been advised that a number of client managers have been employed by the Department of Primary Industries through the farm seafood industry development initiative and part of their role is to service investor inquiries.

The other side of this coin is the purchaser, and a customer needs analysis is suggested in recommendation 31, which is an excellent idea and I understand it will be implemented. In the abalone industry alone there are large regional differences in product requirements. For example, some customers prefer black lip, some green lip, some large and some small. The possibility of supplying domestic and overseas markets with seafood, coupled with the prospect for employment in regional areas, highlights the great economic benefit that the aquaculture industry offers to the State, particularly on Eyre Peninsula. There is considerable frustration, not least in my own office, as this new and diverse industry, often with competing industry interests, struggles to take its place in the existing order as a major industry.

Offshore aquaculture development applications are currently assessed as part of a rigorous process outlined under the Development Act. Aquaculture applications undergo internal Government and external public consultation. For most marine aquaculture developments the Development Assessment Commission is the relevant authority for the purposes of the development assessment in accordance with the provisions of the Development Act 1993. For aquaculture development, the DAC has delegated this responsibility to its aquaculture committee. It has representatives from relevant Government departments, the aquaculture industry and the conservation movement. It is important for the good development of this industry that this committee not only be well qualified but be seen to be fair and above reproach in all its dealings, while proceeding as quickly as possible.

Offshore development applications are assessed in accordance with the policies of aquaculture management plans and a statewide offshore plan amendment report. The offshore application process for aquaculture is the subject of review. It is likely that the three components of the application— licence, lease and development approval—will be separated. Additionally, the actual development applications are the subject of review so that all necessary information is supplied in the initial application. The rate of application for development leases is escalating rapidly as people learn more about the potential of aquaculture to support a profitable business.

Over the past few years aquaculture management plans have been developed to facilitate the planning and development of aquaculture. Primary Industries and Resources South Australia, via its Aquaculture Unit, has become the lead Government agency for the management and development of the aquaculture industry; in addition to the Integrated Management Committee for Aquaculture, there is an industry based committee which advises the Minister for Primary Industries, Natural Resources and Regional Development on issues affecting the aquaculture industry in South Australia. The Seafood Industry Development Board advises the Minister with regard to long-term strategies for the seafood industry.

A review is under way concerning the powers of delegation and attached conditions between the Department of Environment, Heritage and Aboriginal Affairs and the Director of Fisheries, which has relevance to the Native Vegetation Act 1991. As well, the aquaculture management plans are being reviewed. These reviews will be prioritised by Government and hopefully help to expedite long outstanding approvals requiring environmental site assessment through the system.

The resources available to the Department of Fisheries for management plan reviews limits the number of reviews undertaken. The level of environmental assessment undertaken determines the cost of the management plan review. As only a finite amount of money is available to the department from Treasury, a decision must be made of the rate at which planned reviews will be undertaken.

There have not been many cases where R&D permits have been transferred to full commercial status, and while this has occurred there has been a requirement to submit a further application to the Development Application Committee. R&D licences are issued on the understanding that they are indeed just that—for research and development. The applicant takes the risk that the licence cannot or will not be converted to a commercial licence. However, any undertakings given by the Government while an industry such as the oyster industry was emerging and guidelines had not been put in place must be honoured if possible, particularly where significant investment of time and money has been committed on such undertakings.

Codes of practice are one of the methods being developed to oversee aquaculture. Codes of practice have been prepared by the freshwater crayfish, oyster and tuna industries, and these are currently in the process of being endorsed by PIRSA. I believe these codes are very important to the industry, as poor operators can quickly give a particular industry a bad name, affecting not only markets but also development and therefore jobs within their own and even within other industries.

Aquaculture workshops have been undertaken in conjunction with local government. Local government councils are consulted during preparation and review of management plans. In future more work needs to be undertaken to identify the on-land infrastructure support requirements. Onshore aquaculture is also developing, and a vast range of species can be farmed onshore. As there are a limited number of marine aquaculture sites, onshore aquaculture should be encouraged, as it is much easier to monitor.

This Government has been a strong supporter and activist in relation to new technologies, especially in the use of computers. Databases on various aspects of aquaculture have been set up, some of which can be accessed on the Internet. A major aquaculture upgrade of the fisheries and licensing management system database (FLAMS) is under way. Cabinet has determined that aquaculture leases when issued will be charged an annual rate that covers the cost of administering those leases. I hope that emerging industries would be allowed some flexibility as often practical, expensive problems have to be surmounted as a new industry finds its way. Theory should be modified in light of practical experience.

A substantial project in Port Lincoln to produce an attractive, artificial diet for tuna to replace frozen pilchards has had success in the marketplace. Japanese tuna buyers have approved the Port Lincoln farmed southern blue fin tuna fed with pellets instead of pilchards. In a taste test during a visit to Port Lincoln the buyers were unable to tell the difference between pellet and pilchard fed tuna. The pellets must replicate pilchards as much as possible in the diet to give the fish the same taste, smell, colour and fat content. They were developed by the Tuna Boat Owners Association of Australia in conjunction with the South Australian Research and Development Institute.

The committee recommends that if marine feed stocks such as pilchards are to be used for food in aquaculture projects the size and sustainability of the fishery and the impacts on other species should be first thoroughly researched and monitored to determine appropriate quotas. Stock assessment and monitoring programs are currently in place for commercially fished species. PISA and SARDI are working closely on addressing this issue. The Australian Science and Technology Council Report published in 1998 states that aquaculture has several advantages over wild fisheries. I quote from page 109 of the report as follows: Insufficient volume of catch, lack of uniformity of product and unpredictability of supply are consistently identified as major obstacles to developing the processing and marketing sectors of the wild fishing industry. Aquaculture allows producers to plan their harvest in such a way as to not only exploit the variabilities of market demands but to fit in with the processing capacity and storage and transport availability.

There is a need for the Government to support this new industry in the allocation of funding for data gathering and training, as well as for building infrastructure. It is unfortunate that it has come at a time when we are faced with the Asian economic crisis, coupled with an overwhelming State debt, for which the Opposition has

taken no responsibility and given no assistance or support to the Government for repayment options. I have therefore been very grateful for the extra staff and funding allocated to aquaculture development over the past 4½ years by the current Government. South Australia has a special advantage in marine aquaculture due to the relatively pristine nature of our waters and our long coastline. The challenge for South Australia is to encourage this industry's development while ensuring that it is ecologically sustainable and not prone to failure due to inadequate research or finance. At the same time we must balance the competing uses for marine resources such as conservation, fishing, tourism and general amenity.

AQUACULTURE **22 November 1994**

Mrs PENFOLD (Flinders): I wish to place on record my appreciation that the Minister for Primary Industries (Hon. Dale Baker) has called for a review into South Australia's fishing industry. Members of the House will be aware that the present Director of Fisheries (Mr David Hall) has been given leave from his post to undertake this most urgent review, the first review of the State's fishing industry in, I believe, 20 years. While I believe Mr Hall will find many sectors of the State's fishing industry well managed and using the State's resources in a competent and conservative manner, other sectors do not appear to have such a rosy future. I refer to the inshore waters scale fishery and, in particular, the King George whiting resource. This resource is presently poorly managed with stocks at record low levels and, I believe, near collapse.

In looking at this sector of the State's fishery, Mr Hall will find that the legitimate concerns of commercial hook fishermen are almost ignored by what appears to be a most undemocratic management regime. One claim put to me by a commercial hook fisherman is that about 30 per cent of the fishermen rule the industry. Warnings started nearly 30 years ago that the King George whiting resource was under threat. Despite some well meaning attempts, these warnings have been virtually ignored. The marine scientist Dr Keith Jones has been quoted as saying that stocks are at 4 per cent of potential. Worldwide the figure of 20 per cent of original stock level is considered to be low enough to place the fish resource at risk.

I wish to use the taxation returns from a hook fisherman based at Venus Bay to emphasise my point. They show that, for this man, primary income from fishing has declined steadily from \$13 736 in 1989 to only \$4 078 in 1993. A recent meeting of Kangaroo Island professional line fishermen held on 5 July called for a ban on net fishing for King George whiting and expressed dissatisfaction with their representation. One basis for their concerns was research showing that the size of King George whiting captured in Kangaroo Island bays had decreased from 34 centimetres in 1979 to 31.8 centimetres in 1992. The first history of the spotted whiting in South Australia was written by Trevor Dennison Scott nearly 40 years ago. At the time Mr Scott said:

Of particular concern for everyone is the overall present low level of whiting stocks. It appears that under present conditions the rate of replenishments by growth of large whiting is always lagging behind the rate at which whiting are being removed, so that catches of the larger sorts are tending downward.

Mr Scott also said that if overfishing did occur the numbers of large fish caught would decrease from year to year so that the average size of whiting caught would become progressively smaller. Many fishermen claim that there is a dubious imbalance in the Integrated Management Committee, the body set up to manage the scale fish resource. Against this background Mr David Hall has the unenviable task of virtually saving the King George whiting resource. For my part I was aware that the Farm Beach and Coffin Bay waterways were recognised nursery areas for King George whiting. For the benefit of members, scientists say that the King George whiting eggs are laid by fish exceeding 35 centimetres in length in deep water. The eggs or the larvae float on the surface of the sea and drift with the currents and wind into sheltered waterways where the tiny hatchlings find shelter to grow into adult fish.

The West Coast waters are recognised as a traditional spawning ground for King George whiting. A quick look at a map will convince even the greatest sceptic that Farm Beach is a natural trap to gather King George whiting larvae into the sheltered waterways of Coffin Bay. It has concerned me that the commercial net fishing industry was allowed into the nursery areas to take these juvenile fish at 28 to 30 centimetres long before they had a chance to breed. Claims have been made that we are the only nation left in the world that allows fishing nets into our fish nursery areas. This has led to years of conflict between commercial hook fishermen, tourist operators, recreational anglers and the net fishermen themselves. Hundreds of responsible people have called for the banning of nets to preserve stocks of King George whiting. Government Ministers responsible for fish management from both sides of this House have promised

members of the commercial hook sector, the tourism and the recreational sectors that they would take steps to limit the use of nets in our inshore waters. Yet for 20 years every attempt to limit the use of nets to protect the King George whiting resource has been overturned by a minority of fishermen. That was until the present Minister had enough courage to close Farm Beach to net fishing.

For the past 10 years the popularity of Coffin Bay as a tourist destination has declined in line with the decreasing levels of fish available for the tourists to catch. With the closure of Coffin Bay and the partial closure of Farm Beach there is a perceived view that more fish are available for the tourist to catch. The good news from the netting ban in Coffin Bay is that accommodation in Coffin Bay is already fully booked for this Christmas season. Professional hook fishermen from all sections of my electorate have written, phoned and called into my office seeking more democracy in their industry. They claim they have little or no representation in the management of their industry. They say that when the Government no longer collects the South Australian Fishing Industry Council fees as part of their fishing licence they will no longer pay these fees voluntarily. This is the explosive situation that Mr David Hall has now to deal with.

As I said earlier, some of the State's fisheries are presently well managed and are like a shining beacon on what can be achieved. Our southern blue fin tuna industry has at last turned the corner after being seriously overfished. Tough quotas were introduced and enforced to restrict the pressure on the resource. The latest hope I have is that quite soon the quota may be increased. This is particularly good news for Port Lincoln, the home of Australia's tuna fishing fleet. The prawn fishery in Spencer Gulf is also well managed. A careful watch is kept on stocks to ensure the fishery is sustainable.

Our abalone industry is also well controlled. That leaves us with the inshore fishery. Different strategies to reduce the pressure on this fishery have been looked at. We have an amalgamation scheme where, put simply, two licences have to be sold as one to allow a newcomer into the fishery. However, what fisherman will sell a licence now for between \$17 000 and \$20 000 when he paid anywhere between \$35 000 and \$40 000 in the first instance? Clearly, when my information is that 70 per cent of fishermen favoured a buyout scheme for fishing licences, the present decision to have a points amalgamation scheme will probably fail.

I believe another failing of the IMC is its support for an increase in the size limits for King George whiting. Mr Scott, in his research, showed that the 11 inch or 28 centimetre size limit was not based on any research finding and had no relevance to preserving stocks of King George whiting. He identified two means of controlling the resource. One was the introduction of quotas and the other was the introduction of a size limit of 37.5 centimetres or 15 inches. This would give each female whiting the opportunity of spawning once, but it would also mean that much of our inshore fishery would be decimated.

I firmly believe that the number of fishing licences should be halved to achieve the necessary reduction in fishing effort. It is my belief that the IMC has not taken the steps necessary to remove half the fishing effort. Given the level of dissatisfaction with the Integrated Management Committee of the inshore fishery and its inability to take steps to reduce the pressure on the King George whiting resource, it may be that the make-up of this body should rightly be questioned by Mr Hall in his review of the industry. I believe there is an imbalance in the make-up of this body.

It is my view that, if the conservation movement has an input into the way that we administer our pastoral lands, it is time for the conservation movement to be represented in our fishing industry. However, it will take courage and a considerable amount of determination by the Minister for Primary Industries, Mr Dale Baker, before a more democratic environment is forged in which all fishermen, both recreational and commercial, can share a fair return from this very valuable public resource.

Overriding all our fisheries, including the preservation of the King George whiting resource, is the threat of illegal activities. Clearly, the enforcement officers of the Fisheries Department cannot watch every area of the State's fishery. They need an increasingly aware public to assist them. It is only when the public have the utmost confidence in the management of the fish resource that they will throw their complete weight behind fully protecting that resource. I am thankful that the present Minister has shown considerable courage in taking steps so far to protect the King George whiting resource. I look forward to his taking further steps to protect our fishing resources following the review presently undertaken by Mr Hall. The importance of protecting the whiting resource cannot be overstated. In my electorate, the potential for employment in tourism, small business, recreation, and line and net fishing industries is essential to the survival of many of the small coastal towns.