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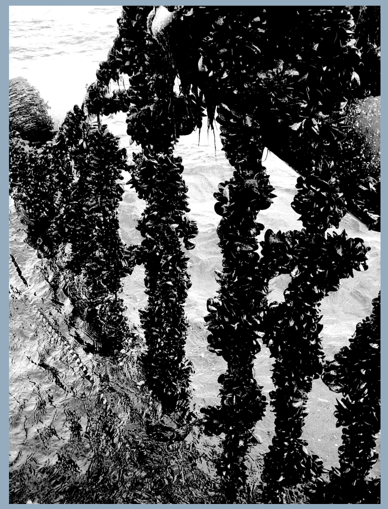
Fisheries Research Services

Scottish Shellfish Farm Production Survey 2004



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INTRODUCTION TO THE YEAR 2004 SURVEY

This report is based on the returns of an annual survey questionnaire sent to all registered Scottish shellfish farming companies. The cooperation of the shellfish farming industry is gratefully acknowledged.

Movement and production forms were sent to 175 companies registered as active before the survey. All returns were received. One 'wild' mussel fishery registered as a shellfish farm has been excluded from this report. During 2004, 15 new companies registered; ten de-registered.

The survey shows that 110 companies (63%) produced shellfish for sale, both for the table and for on-growing. The remaining 65 continued in operation, but had no sales during 2004. The number of active companies continued to decrease from a peak of 229 in 1990, to 175 at the end of 2004. These companies farmed 309 active sites, of which 152 (49%) placed shellfish on the market. Shellfish production by company and site is presented in the report.

DJ Pendrey
DI Fraser

March 2005

PRODUCTION

The survey indicates that the shellfish species cultivated in Scottish waters in 2004 were:

Common mussel:	*Mytilus edulis*
Pacific oyster:	*Crassostrea gigas*
Native oyster:	*Ostrea edulis*
Scallop:	*Pecten maximus*
Queen:	*Chlamys opercularis*

Total production was dominated by mussels (4,223 tonnes) and Pacific oysters (3.6 million shells, 287 tonnes). Small volumes of queens (45 tonnes), scallops (10 tonnes) and native oysters (8 tonnes) were also produced. The 2004 production data for each species by region are given in Table 1.

TABLE 1 : Scottish shellfish production survey 2004. Regional production.

Region	Companies	Pacific oysters (000s)		Native oysters (000s)		Mussels (tonnes)		Queens (000s)		Scallops (000s)	
		Table	On-growing	Table	On-growing	Table	On-growing	Table	On-growing	Table	On-growing
Highland	44	736	981	3	0	398	0	54	0	56	70
Orkney	11	20	0	0	0	1	0	0	400	0	0
Shetland	43	2	0	0	0	2,188	6	63	0	0	10
Strathclyde	59	2,828	1,529	102	0	1,193	15	1,001	2,000	29	0
Western Isles	18	0	0	0	0	443	40	0	0	0	0
Scotland	175	3,586	2,510	105	0	4,223	61	1,118	2,400	85	80
Weight (tonnes)		287		8		4,223		45		10	

NB: This report only lists those regions from which questionnaires were received.
Conversion to weight used the following assumptions: individual oysters averaged 80g; individual scallops averaged 120g; individual queens averaged 40g.
Table = Sales directly for human consumption; On-growing = Sales to other companies for on-growing.

Trends in production for the whole of Scotland are given in Table 2 for table and on-growing, and for table production in Figure 1.

There continued to be an upward trend in the production of mussels and Pacific oysters. There was little change in the production of queens and the scale of production remained low. Production of both scallops and native oysters decreased and scale of production remained low.

Mussel production increased by 16%, as markets were developed and prices remained high. The greatest increase in regional production was in Shetland, by 41% to 2,188 tonnes. Strathclyde produced 1,193 tonnes which, combined with the amount for Shetland accounted for 80% of the Scottish total. Pacific oyster production increased by 3%, whilst markets were maintained and demand remained high. Almost 79% of Pacific oysters were produced in the Strathclyde region, where the scale of production amongst larger companies decreased. Queen production decreased by less than 1% through annual variation in natural settlement. Native oyster production decreased by 35%. This accounts for a small percentage of total oyster production, targeting a niche market. Production of farmed scallops decreased by almost 53%, and production was again affected by environmental influences causing area closures which prevented sales for human consumption.

Ten Several Orders have been granted for scallop fisheries, nine for commercial companies and one for research and development (Figure 2). Eight were in Highland region, one in Strathclyde and one in Shetland. The size of the Orders ranged from less than 10 hectares (ha) to as much as 150 ha. The total area covered was over 450 ha. Reports from industry indicated a strong market for scallops and queens throughout the year.

FIGURE 1 : Table production by species 1995-2004.

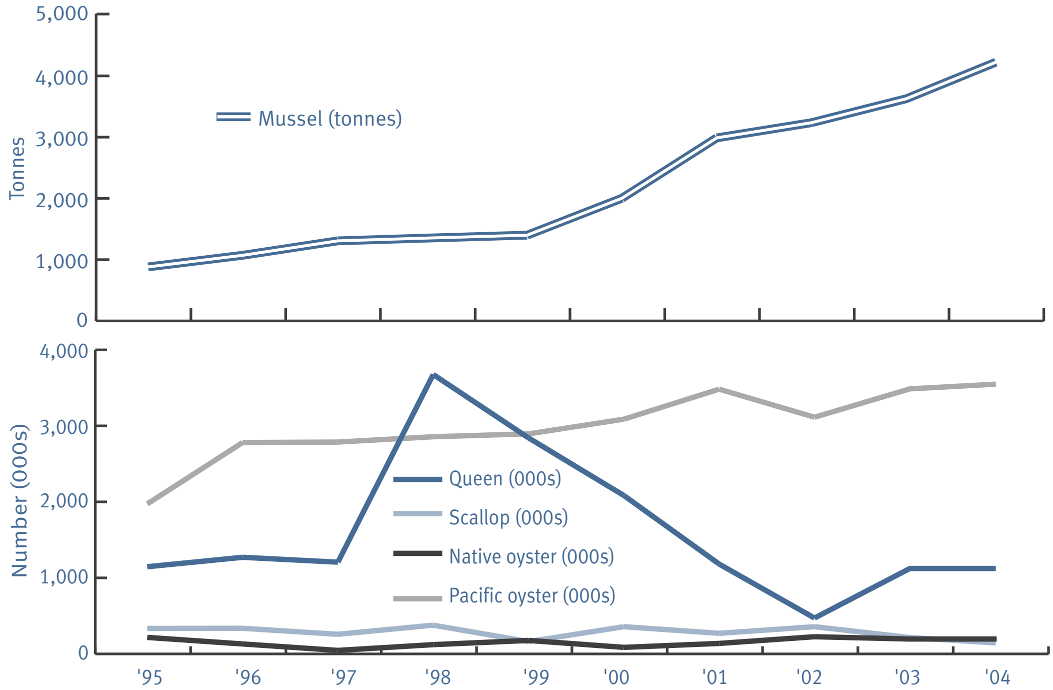


TABLE 2 : Trends in production data for the table and on-growing 1995-2004.

For the table	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	% increase 03-04
Pacific oyster (000s)	1,973	2,781	2,787	2,857	2,895	3,088	3,483	3,114	3,488	3,586	3
Native oyster (000s)	182	96	11	87	142	51	103	191	161	105	-35
Scallop (000s)	300	302	223	343	127	323	236	323	180	85	-53
Queen (000s)	1,147	1,271	1,207	3,676	2,842	2,084	1,182	472	1,124	1,118	0
Mussel (tonnes)	882	1,072	1,307	1,355	1,400	2,003	2,988	3,236	3,632	4,223	16

For on-growing	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Pacific oyster (000s)	2,165	3,580	1,264	750	502	1,315	881	1,578	2,640	2,510
Native oyster (000s)	112	23	55	154	1	3	0	0	0	0
Scallop (000s)	896	822	647	49	86	9	485	147	86	80
Queen (000s)	3,415	2,657	3,050	0	13	0	700	1,320	2,000	2,400
Mussel (tonnes)	‹1	30	0	3	0	33	4	38	18	61

Prices of farmed shellfish fluctuated throughout the year, however, the value at first sale of the species cultivated was estimated. The price of Pacific oysters varied between 15 and 25 pence per shell; native oysters, 35 pence per shell; scallops and queens 50-60 and five pence per shell respectively; and mussels between £800-£1,300 per tonne. The approximate value of the table trade based on these prices and the production figures given in Table 1 is:

Mussel:	£3.38 – 5.50 million	Pacific oyster:	£0.54 – 0.90 million
Native oyster:	£0.04 million	Scallop:	£0.04 – 0.05 million
Queen:	£0.06 million		

The total value at first sale for all species was in the region of £6 million.

SITES AND COMPANIES

The number of companies registered as active has decreased by 2% since 2003 (Table 3), and the number of active sites has increased by 2% over the same period (Table 4). This trend reflects the development of new sites, particularly for mussel production. Many unproductive sites held stock not yet ready for market, others were fallow, and some were positioned in remote areas where the cost-effective production and marketing of shellfish proved difficult.

Historically, production data have been collected by company. However, since 2002, data have been collected by both company and site, enabling us to provide more accurate site information. One hundred and fifty-two sites were shown to have produced shellfish for sale, an increase of 8% since 2003.

TABLE 3 : Registered and active companies 1995-2004.

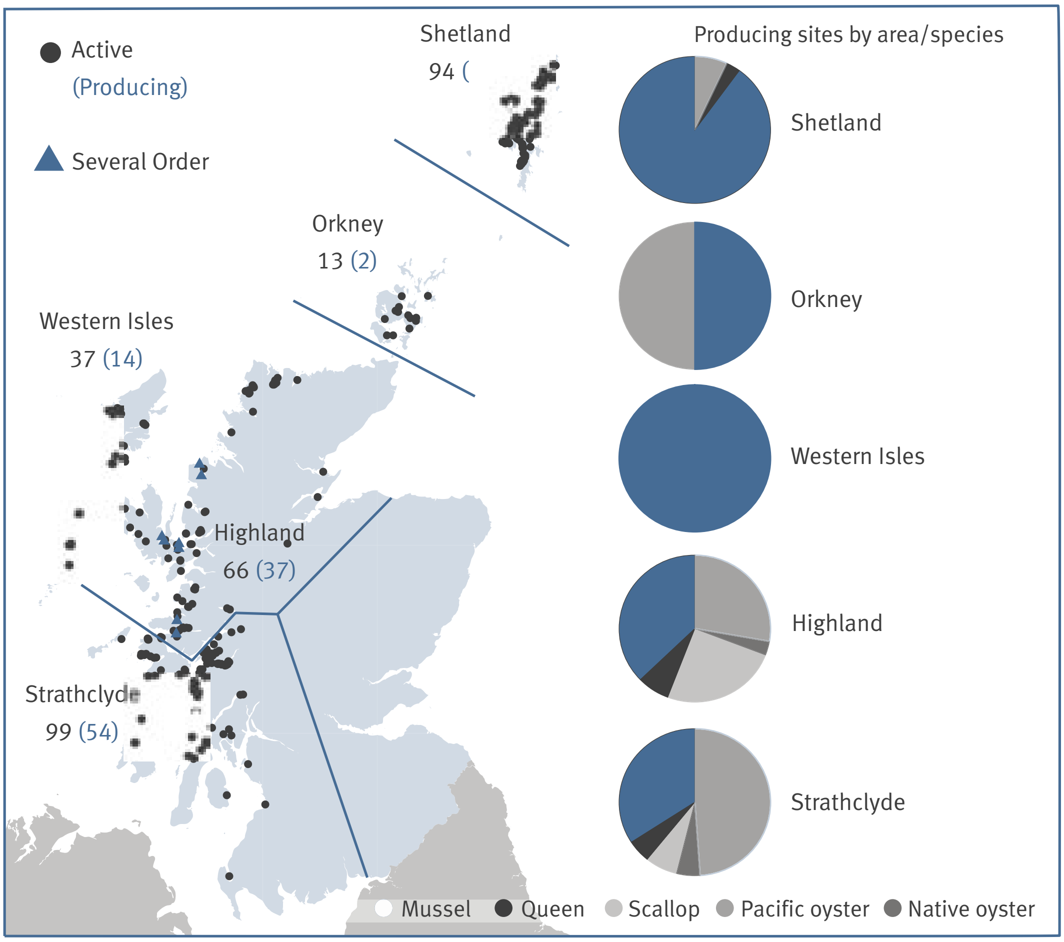
	Number of Companies									
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Registered	353	360	366	377	386	407	423	437	448	466
Active	190	187	170	171	151	176	173	183	178	175

TABLE 4 : Active and producing farm sites by region 2004.

	Region					
	Highland	Orkney	Shetland	Strathclyde	Western Isles	Total
Sites						
Active	66	13	94	99	37	309
Producing	37	2	45	54	14	152

Active = growing and placing on the market; Producing = placing on the market for the table and on-growing

FIGURE 2 : A map of Scotland showing the regional distribution of shellfish production sites 2004 and producing sites by area/species.



The number of active companies and the regional distribution of active and producing farm sites are shown in Tables 3 and 4, and in Figure 2. Table 5 shows the number of companies by region and by species: a) in production, b) in on-growing and c) showing no production. Many companies cultivate more than one species on site; a practice made possible by similar cultivation techniques. For example, scallops are grown together with queens, Pacific oysters with native oysters, and mussels with Pacific oysters.

TABLE 5 : Number of companies by region and by species 2004.

a) Production for the table

	Region					
	Highland	Orkney	Shetland	Strathclyde	Western Isles	Total
Pacific oyster	8	1	2	20	0	31
Native oyster	1	0	0	2	0	3
Scallop	7	0	0	3	0	10
Queen	2	0	1	2	0	5
Mussel	11	1	26	14	9	61
Total	29	2	29	41	9	110

b) Production for on-growing to other producers

	Region					
	Highland	Orkney	Shetland	Strathclyde	Western Isles	Total
Pacific oyster	2	0	0	6	0	8
Native oyster	0	0	0	0	0	0
Scallop	2	0	1	0	0	3
Queen	0	1	0	1	0	2
Mussel	0	0	1	1	1	3
Total	4	1	2	8	1	16

c) No production but actively on-growing

	Region					
	Highland	Orkney	Shetland	Strathclyde	Western Isles	Total
Pacific oyster	4	4	5	16	1	30
Native oyster	2	3	1	2	0	8
Scallop	5	6	3	4	2	20
Queen	3	2	0	1	1	7
Mussel	21	5	10	8	5	49
Total	35	20	19	31	9	114

NB: a company may produce more than one species

Company production levels by species are shown in Table 6. The number of companies producing more than 100 tonnes of mussels has decreased from 13 to 11 since 2003. Those eleven companies produced 60% of the total mussel production in Scotland. However, the number of companies producing mussels has increased by 15% since 2003. The number of companies producing Pacific oysters did not alter significantly in 2004, although their scale of production has increased by 4% since 2003. The 13 companies producing over 100,000 shells produced 95% of the Scottish total.

TABLE 6: Company production by species 2004.

Species	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	>100	Total
Pacific oyster (000s)	15	2	0	0	0	0	0	0	1	0	13	31
Native oyster (000s)	2	0	0	0	0	0	0	0	0	0	1	3
Scallop (000s)	7	3	0	0	0	0	0	0	0	0	0	10
Queen (000s)	1	1	0	1	0	0	1	0	0	0	1	5
Mussel (tonnes)	13	8	6	7	5	1	3	1	5	1	11	61
												110

EMPLOYMENT

The industry employed 149 full-time and 253 part-time and casual workers during 2004, an overall increase of 10% on the previous year. This reflects the on-going trend in the development of new sites and businesses particularly for mussel production. The regional breakdown of employment is given in Table 7.

TABLE 7: Regional employment 2004.

		Staff		
Region	Companies	Full-time	Part-time	Casual
Highland	44	24	45	12
Orkney	11	6	4	8
Shetland	43	39	58	19
Strathclyde	59	70	50	30
Western Isles	18	10	13	14
All Scotland	175	149	170	83

HEALTH INFLUENCES ON THE INDUSTRY

Approved Zone status for the notifiable diseases Bonamia and Marteilia was maintained in 2004 (in accordance with EC Directive 91/67) after testing confirmed the absence of these diseases in Scottish waters. Samples were taken from seven sites holding native oysters, a species known to be susceptible to these shellfish diseases. Approved Zone status continued to protect the health of both wild and farmed native oyster stocks in Scottish waters.

EC Council Directive 95/70 maintains that minimum Community measures for the control of certain diseases affecting bivalve molluscs are in place. A third of all shellfish sites are visited annually by the Fisheries Research Services (FRS) Fish Health Inspectorate in accordance with the requirements of the Directive. On these visits facilities, stock health, movement records and registration details are checked. It is the responsibility of farmers to inform FRS of any abnormal or unexplained shellfish mortality on their sites.

Mortalities were reported to be the result of predation by eider ducks, crabs, starfish and oyster catchers. Losses were also reported due to storm damage, warm weather and mechanical grading. Tubeworm infestation caused marketing difficulties for one company.

SUMMARY

- Mussels and Pacific oysters are the main species produced in terms of value and tonnage, both species continued an upward trend in production;
- There has been little change in the production of queens and scale of production remained low;
- There has been a substantial decrease in the production of scallops, whilst scale of production remained low;
- There has been a decrease in the production of native oysters, whilst scale of production remained low;
- There was little change in the number of active and producing companies;
- Employment increased by 10%;
- Environmental influences affected scallop sales during the year;
- Approved Zone status for the shellfish diseases Bonamia and Marteilia was maintained during the year;
- For shellfish health purposes, at least a third of all shellfish sites were inspected by FRS Fish Health Inspectorate during 2004;
- The industry continued to be dominated by small producers, although there was a continued trend toward large companies contributing significantly to the annual production of all species.

The market for all species was buoyant and prices remained stable throughout the year. It is predicted that annual production of all species will continue to increase steadily.

GLOSSARY

Active	Farms in a production growing cycle which may contain stock or be fallow
Inactive	Farms not in a production cycle, without stock and not to be used by the company again
Several Order	An area of the seabed severed from the public right to fish, in order to conserve or enhance named shellfish stocks