

INTRODUCTION TO THE YEAR 2003 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 178 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 2003, twelve new companies registered; two de-registered.

The survey shows that 103 companies (58%) produced shellfish for sale, both for the table and for on-growing. The remaining 75 continued in operation, but had no sales during 2003. The number of active companies continued to decrease from a peak of 229 in 1990, to 178 at the end of 2003. These companies farmed 302 active sites, of which 141 (47%), placed shellfish on the market.

Shellfish production by company and site is presented in the report.

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PRODUCTION

The survey indicates that the shellfish species cultivated in Scottish waters in 2003 were:

Common mussel:	<i>Mytilus edulis</i>
Pacific oyster:	<i>Crassostrea gigas</i>
Native oyster:	<i>Ostrea edulis</i>
Scallop:	<i>Pecten maximus</i>
Queen:	<i>Chlamys opercularis</i>

Total production was dominated by mussels (3,632 tonnes) and Pacific oysters (3.5 million shells, 279 tonnes). Small volumes of queens (45 tonnes), scallops (22 tonnes) and native oysters (13 tonnes) were also produced. The 2003 production data for each species by region are given in Table 1.

TABLE 1 : Scottish shellfish production survey 2003. Regional production.

Region	Companies	Pacific oysters		Native oysters		Mussels		Queens		Scallops	
		(000s)		(000s)		(tonnes)		(000s)		(000s)	
		Table	On-growing	Table	On-growing	Table	On-growing	Table	On-growing	Table	On-growing
Highland	55	490	1,300	0	0	336	0	62	0	70	86
Orkney	10	23	0	1	0	0	0	0	0	0	0
Shetland	40	1	0	0	0	1,552	18	61	0	5	0
Strathclyde	54	2,974	1,340	160	0	1,388	0	1,001	2,000	105	0
Western Isles	19	0	0	0	0	356	0	0	0	0	0
Scotland	178	3,488	2,640	161	0	3,632	18	1,124	2,000	180	86
Weight (tonnes)		279		13		3,632		45		22	

NB: This report only lists those regions from which annual survey returns were received.

Conversion to weight used the following assumptions: individual oysters averaged 80g; individual scallops averaged 120 g; 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. The increase in production of queens bucked the downward trend experienced since 1998. Production of both scallops and native oysters decreased and scale of production remained low.

Mussel production increased by 12%, as markets were developed, and prices remained high. The greatest increase in regional production was in Shetland, by 25% to 1,552 tonnes. Strathclyde produced 1,388 tonnes which, combined with the amount for Shetland accounted for 81% of the Scottish total. Pacific oyster production increased by 12%, whilst markets were maintained and demand remained high. Over 85% of Pacific oysters were produced in the Strathclyde region, where the scale of production amongst larger companies decreased. Queen production increased by over 100% through annual variation in natural settlement. Native oyster production decreased by 16%. This accounts for a small percentage of total oyster production, targeting a niche market. Production of farmed scallops decreased by almost 50%, and production was again affected by environmental influences causing area closures which prevented sales for human consumption.

Nine Several Orders have been granted for scallop fisheries, eight for commercial companies and one for research and development (Figure 2). Reports from industry indicated a strong market for scallops and queens throughout the year.

FIGURE 1 : Table production by species 1994 - 2003.

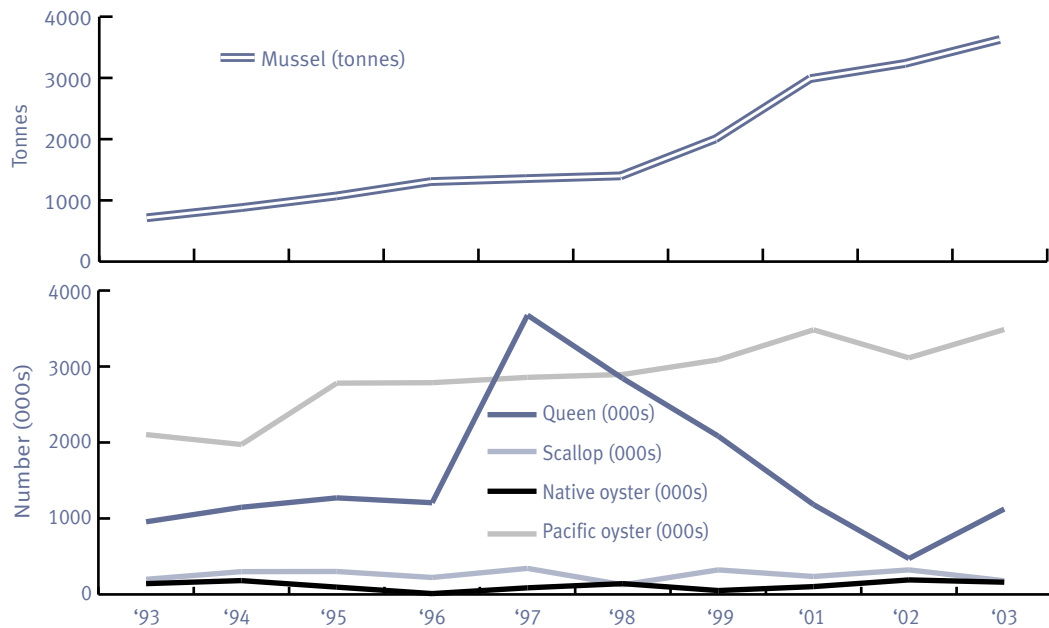


TABLE 2 : Trends in production data for the table and on-growing 1994-2003.

For the table	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	% increase 02-03
Pacific oyster (000s)	2,104	1,973	2,781	2,787	2,857	2,895	3,088	3,483	3,114	3,488	12
Native oyster (000s)	142	182	96	11	87	142	51	103	191	161	-16
Scallop (000s)	199	300	302	223	343	127	323	236	323	180	-44
Queen (000s)	956	1,147	1,271	1,207	3,676	2,842	2,084	1,182	472	1,124	138
Mussel (tonnes)	716	882	1,072	1,307	1,355	1,400	2,003	2,988	3,236	3,632	12

For on-growing	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Pacific oyster (000s)	1,313	2,165	3,580	1,264	750	502	1,315	881	1,578	2,640
Native oyster (000s)	33	112	23	55	154	1	3	0	0	0
Scallop (000s)	198	896	822	647	49	86	9	485	147	86
Queen (000s)	746	3,415	2,657	3,050	0	13	0	700	1,320	2,000
Mussel (tonnes)	12	<1	30	0	3	0	33	4	38	18

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:	£2.90 – 3.66 million	Pacific oyster:	£0.53 – 0.87 million
Native oyster:	£0.06 million	Scallop:	£0.09 – 0.10 million
Queen:	£0.06 million		

The total value at first sale for all species was in the region of £5 million.

SITES AND COMPANIES

The number of companies registered as active has decreased by 3% since 2002 (Table 3), and the number of active sites has increased by 5% 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 forty-one sites were shown to have produced shellfish for sale, an increase of 4% since 2002.

TABLE 3 : Registered and active companies 1994-2003.

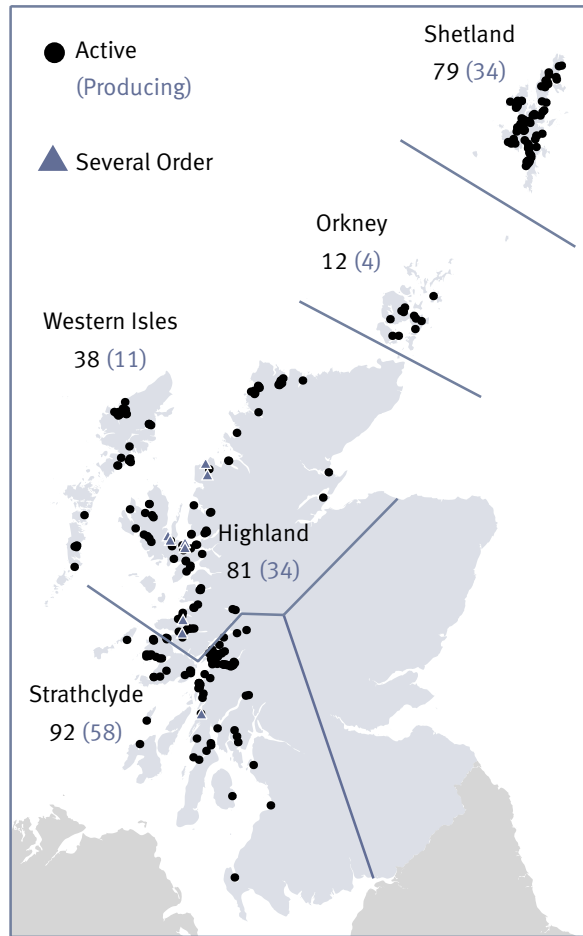
		Number of Companies									
		1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Registered		348	353	360	366	377	386	407	423	437	448
Active		196	190	187	170	171	151	176	173	183	178

TABLE 4 : Active and producing farm sites by region 2003.

	Region					Total
	Highland	Orkney	Shetland	Strathclyde	Western Isles	
<i>Sites</i>						
Active	81	12	79	92	38	302
Producing	34	4	34	58	11	141

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 2003.



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 2003.

a) Production for the table

	Region					Total
	Highland	Orkney	Shetland	Strathclyde	Western Isles	
Pacific oyster	9	1	1	23	0	34
Native oyster	0	1	0	1	0	2
Scallop	4	0	1	3	0	8
Queen	2	0	1	2	0	5
Mussel	11	0	21	15	7	54
Total	26	2	24	44	7	103

b) Production for on-growing to other producers

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

c) No production but actively on-growing

	Region					Total
	Highland	Orkney	Shetland	Strathclyde	Western Isles	
Pacific oyster	8	3	5	7	1	24
Native oyster	3	2	1	3	0	9
Scallop	7	5	1	5	2	20
Queen	6	1	0	2	1	10
Mussel	14	3	13	8	8	46
Total	38	14	20	25	12	109

Note: 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 increased from nine to 13 since 2002. Those 13 companies produced 66% of the total mussel production in Scotland. The number of companies producing Pacific oysters did not alter significantly in 2003, although their scale of production has increased by 12% since 2002. The eleven companies producing over 100,000 Pacific oysters produced 89% of the Scottish total.

TABLE 6: Company production by species 2003.

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)	17	1	2	0	0	0	1	1	0	1	11	34
Native oyster (000s)	1	0	0	0	0	0	0	0	0	0	1	2
Scallop (000s)	3	2	1	0	1	0	0	0	0	2	0	9
Queen (000s)	2	0	0	0	0	1	1	0	0	0	1	5
Mussel (tonnes)	14	6	1	6	3	2	3	2	2	1	13	53
												103

EMPLOYMENT

The industry employed 146 full-time and 218 part-time workers during 2003, an overall increase of 5% 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 2003.

Region	Companies	Staff		
		Full-time	Part-time	Casual
Highland	55	30	37	17
Orkney	10	7	2	4
Shetland	40	29	49	13
Strathclyde	54	70	40	32
Western Isles	19	10	16	8
All Scotland	178	146	144	74

HEALTH INFLUENCES ON THE INDUSTRY

Approved Zone status for the notifiable diseases *Bonamia* and *Marteilia* was maintained in 2003 (in accordance with EC Directive 91/67) after testing confirmed the absence of these diseases in Scottish waters. Samples were taken from eight 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

THE 2003 SURVEY HAS SHOWN:

- Mussels and Pacific oysters are the main species produced in terms of value and tonnage, both species continued an upward trend in increased production;
- A substantial increase in the production of queens, bucking a downward trend experienced since 1998, whilst scale of production remained low;
- A substantial decrease in the production of scallops, whilst scale of production remained low;
- 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;
- That employment increased by 5%;
- Environmental influences affected scallop sales during the year;
- That Approved Zone status for the 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 2003;
- That 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