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Monitoring results for glass eel and elver 1965-1999

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Abstract
This note provides newly collected monitoring data for glass eel and elver for 1998 and 1999 from six European countries and Canada. The data are presented in a table extending back to 1965. There was some indication of an improvement in 1999 over 1998. The recruitment during the current decade, however, has been the lowest observed.

Keywords: *Anguilla*, recruitment, monitoring, glass eel, elver

Introduction
The collection and publication of information on the quantities of glass eel and elver caught or monitored for research, restocking or commercial purposes was initiated in 1981 by the late Jorgen Dahl on behalf of the Working Party on Eel of the European Inland Fisheries Advisory Commission. Since that date, reports of the results have been presented to meetings of the Working Party and published at regular intervals. The publications are largely updates of the data gathered, but one of them, Moriarty (1990), gives details over the period 1924-1988 and a discussion on the many sources of error involved in the exercise. It was clear that, in spite of great variability both within and between stations, that a period of high catches between 1955 and 1980 had been followed by a rapid decline to the current low levels. This note provides newly collected data for 1998 and 1999 and presents it in a table extending back to 1965.

Results and discussion
Data received from ten monitoring sources in seven countries are presented in Table 1, in connection with comparable figures from 1965 onwards. Returns in 1997 showed a marginal improvement over 1996. There was some indication of an improvement in 1999 over 1998.

Although the data are of greatly varying orders of magnitude, from hundreds of tonnes in the Loire to units of kilograms in the Viskan, the general pattern appears to be uniform throughout Europe and at the single source of long-term monitoring in North America.

A simple calculation of the arithmetic means of data in 10-year periods is given in Table 2 and shows that recruitment and capture during the current decade have been the lowest observed.

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Table 1. Catches of glass eel and pigmented elver by weight, by index for Den Oever and Tiber and numbers of juvenile eel ascending Moses-Saunders Dam on St.Lawrence River.

	Viskan Sweden, kg	Bann N. Ireland, t	Eme Ireland, t	Shannon Ireland, t	Severn England, t	Den-Oever Netherlands, index	Yser Belgium, kg	Loire France, t	Tiber Italy, index	St. Lawrence Canada, n/1000
1965	–	5.7	0.9	–	–	67.0	–	134	–	–
1966	–	9.3	1.4	–	–	15.8	–	253	–	–
1967	–	2.8	0.3	–	–	24.6	–	258	–	–
1968	–	3.8	1.5	–	–	16.8	–	712	–	–
1969	–	6.1	0.6	–	–	14.3	–	225	–	–
1970	–	6.0	0.6	–	–	31.9	–	453	–	–
1971	–	6.2	0.5	–	–	14.6	–	330	–	–
1972	–	4.3	–	–	–	25.6	–	311	–	–
1973	–	3.8	–	–	–	19.5	356.0	292	–	–
1974	–	8.8	0.8	–	–	21.7	946.0	563	–	–
1975	–	6.9	0.4	–	–	28.4	264.0	495	11.0	936
1976	–	4.4	0.4	–	–	22.5	618.0	770	6.7	659
1977	–	9.7	0.1	1.0	–	49.9	450.0	654	5.9	997
1978	533.0	7.5	0.3	1.3	40.1	33.1	388.0	523	3.6	795
1979	505.0	3.1	0.5	6.7	32.8	44.3	675.0	608	8.4	864
1980	72.2	3.7	1.3	4.5	–	22.8	358.0	502	8.2	800
1981	513.0	4.5	2.8	2.1	30.4	19.1	74.0	284	4.0	737
1982	380.0	5.7	4.5	3.1	6.2	12.1	138.0	266	4.0	1016
1983	308.0	0.4	0.7	0.6	29.0	7.9	10.0	276	4.0	1294
1984	21.0	2.3	1.1	0.5	18.6	11.0	6.0	168	1.8	647
1985	200.0	0.8	0.4	1.1	15.5	13.6	13.0	159	2.5	935
1986	151.0	2.7	0.7	0.9	17.7	14.1	26.0	137	0.2	231
1987	146.0	2.5	2.3	1.6	23.1	5.7	33.0	93	7.4	465
1988	92.0	3.9	3.0	0.1	13.5	3.4	48.0	138	10.5	213
1989	32.0	2.3	1.8	0.1	16.0	2.4	30.0	61	5.5	259
1990	42.0	3.4	2.4	0.5	7.8	2.9	200.0	76	4.4	122
1991	1.0	1.0	0.5	0.1	17.7	0.9	13.0	30	0.8	40
1992	70.0	1.4	1.4	0.1	20.9	2.3	19.0	32	0.6	12
1993	43.4	2.3	1.7	0.1	22.3	2.3	12.0	80	0.5	8
1994	76.1	1.8	4.4	0.3	–	4.4	17.0	95	0.5	162
1995	5.5	2.1	2.1	0.4	25.7	6.4	–	127	0.3	35
1996	1.0	4.0	0.6	0.5	16.9	7.2	–	73	0.1	na
1997	7.6	2.2	1.0	2.0	18.3	11.6	9.8	90.1	0.1	6
1998	5.0	0.5	0.7	0.1	18.3	2.1	8.4	61.0	0.1	3
1999	1.8	0.5	1.0	0.1	–	3.3	76.2	80.0	0.1	–

Table 2. Means of data given in Table 1.

	Viskan Sweden, kg	Bann N. Ireland, t	Eme Ireland, t	Shannon Ireland, t	Severn England, t	Den-Oever Netherlands, index	Yser Belgium, kg	Loire France, t	Tiber Italy, index	St. Lawrence Canada, n/1000
1970-79	519.0	6.1	0.5	3.0	36.5	29.2	531.5	499.9	7.1	850.2
1980-89	191.5	2.9	1.9	1.5	18.9	11.2	73.6	208.4	4.8	659.7
1990-99	25.3	1.9	1.6	0.4	18.5	4.3	39.9	74.4	0.8	48.5

References

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