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EEL RESEARCH IN 1968

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Fyke nets for the capture of eels have been in use in some parts of the country since 1961. These are 'summer' type nets, laid on the bottom in lakes and river estuaries and having, when set, a maximum height of about 60 cm (2 ft.). Experiments with these nets were made in a number of lakes from July to September. Five students were employed to operate the nets and examine the eels. Each student was supplied with a set of eight nets (sixteen traps with eight leaders, arranged in a line) and the nets were fished daily except at weekends or in rough weather. The traps were 1.84 m (6 ft.) long with an opening diameter of 40 cm (16 ins.), the leaders were 4.7 m (18 ft.) long and the mesh size at the cod end was 1 cm (0.4 ins.).

The areas chosen were Lough Corrib (mainly in the vicinity of the Docros peninsula), Loughs Inchiquin and George, near Corofin, Co. Clare, Loughs Ecnish and Tullyguide, near Killeshandra and Town Lake, Dromore Lake and Dromloona Lake, near Cootehill, Co. Cavan, the latter three by kind permission of Brigadier Dorman O'Gowan. In all cases the lengths of the eels were measured and the stomachs and otoliths of as many as possible were collected. The Lough Corrib eels were also weighed, their weights were used subsequently to calculate the weights of the eels from the other lakes. Examination of the stomach contents and otoliths of the eels has not yet been completed. The indications are that the majority of the eels feed on invertebrates while a small proportion feed on fish. Loughs Corrib and George in the areas fished offer poor feeding while Inchiquin and the County Cavan lakes are rich.

The results from the measurements of the eels are given in Fig. 1 and Table 1.

Table 1. Eel catch and fishing effort. (In the last column the figures show the percentage by weight of eels longer than 40 cm).

	Number of eels	Weight of eels (grams)	Number of days fishing	Number per net per day	Weight per net per day	Percentage of eels longer than 40 cm (16 ins.)
Corrib	185	28,550	44	0.5	61	76.5
George	77	8,536	30	0.3	17	47.5
Inchiquin	284	51,968	30	1.1	154	70.9
Cootehill	285	74,901	35	1.0	262	97.7
Killeshandra	213	53,611	30	0.9	206	92.3

The length distributions from the various waters are shown in Fig. 1. Eels leave the areas either on reaching sexual maturity or as a result of fishing mortality. As far as is known Inchiquin and Lough George have not been fished actively but Lough Corrib and the Cavan Lakes are subject to long-lining. Apparently the eels in poor water reach maturity at substantially smaller sizes than do those in the rich area. Eels of less than 31 cm (12 ins.) are seldom evident in the catches from the rich waters. As the net selects for girth rather than for length it appears that eels in the rich waters tend to be more slender than the others. This may be the result of rapid growth due to the better feeding: age determinations from the otoliths should throw some light on this matter. Another possible explanation is that the heads of the poorly fed eels may be large in proportion to the body length.

It is clear that Lough George and the northern part of Lough Corrib have poor stocks of eels and it is unlikely that fyke netting would be a commercial proposition. The Cootehill and Killeshandra lakes (on the Erne system) and Inchiquin have very much better stocks. Table 2 shows the value of the eels caught per 30 days fishing in each lake. The price paid to the fisherman is reckoned at 3/- per pound and it is assumed that eels of less than 40 cm. in length are rejected. The cost of a set of eight nets is of the order of £60.

Table 2. Weight and value of eels.

Lake	Weight of eels per set of nets per 30 days (lb.)	Value
Corrib	32	£ 4 - 16 - 0
George	8	£ 1 - 4 - 0
Inchinquin	81	£12 - 3 - 0
Cootehill	137	£20 - 11 - 0
Killeshandra	108	£16 - 4 - 0

The mean daily catch of eels for each set of nets, depending on whether the nets were lifted daily or at longer intervals, is shown in Table 3.

Table 3. Number of eels caught per day.

Lake	1 day	2 day	3 day	4 day
Corrib	3.4	3.1	7.0	2.1
George	2.2	4.0	2.8	1.8
Inchinquin	10.9		6.5	
Cootehill	15.9		6.6	
Killeshandra	11.3		3.3	

The figures in Table 3 are based on rather meagre data (not more than four '3-day' sets in any of the districts). They suggest that in the regions where stocks are poor it may be an advantage to fish at two or three day intervals. In the richer districts the best catches were made by daily fishing. Possibly where many eels are trapped together in the cod-end they make greater efforts to escape.

The season for fishing with summer fykes lasts roughly from May to October inclusive while the lake water is relatively warm. In the richer areas the cost of a set of nets might be paid for in half the fishing season, while the nets if nylon with steel hoops, should last for two or three years or more. The lifting, emptying and setting of the nets does not take more than half an hour.

Other species of fish caught include trout, char, perch, pike, tench, and stickleback. Stickleback are the only ones caught in substantial numbers and it is quite clear that the fyke nets will not cause any material damage to other fisheries. Apart from a boat the only additional equipment needed is a floating wooden box in which to keep the eels alive for marketing. Fyke-netting in the richer waters could, therefore, yield a small return to a lakeside resident, who was already the owner of a boat.

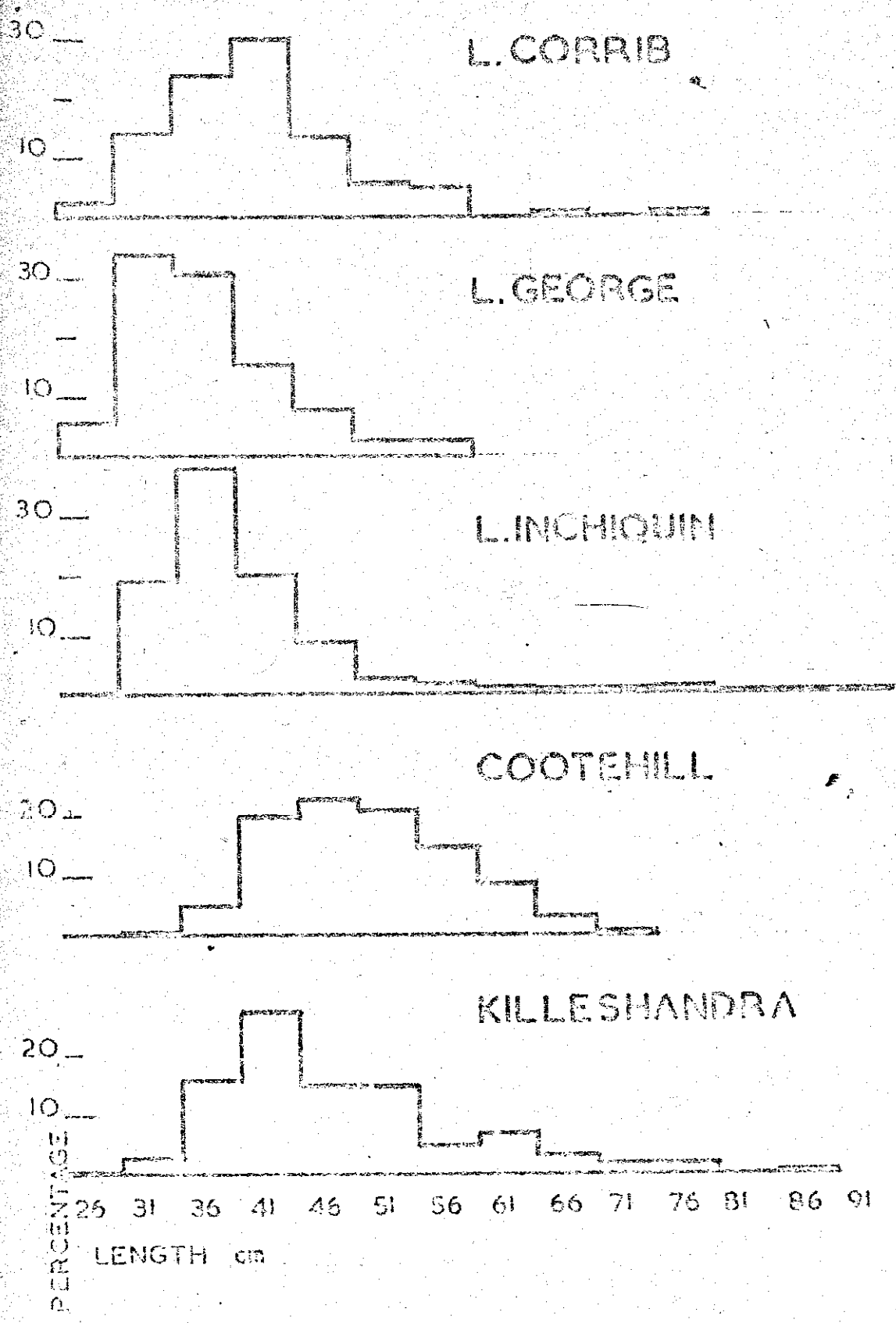


Figure 1 Length distribution