2376

Elder Film Productions Ltd.

MANAGING DIRECTOR: JOHN C. ELDER, F.R.G.S., F.E.I.S.

Telephone: DOUglas 9236
(night) BEArsden 3121

DIRECTORS:—
J. C. ELDER
J. F. DUNLOP
T. C. GIBSON
I. R. ELDER

PRODUCERS OF EDUCATIONAL, DOCUMENTARY, PUBLICITY AND GENERAL INTEREST FILMS
DISTRIBUTORS OF FILM EQUIPMENT

231 St. Vincent St.
~~118 BLYTHSWOOD STREET~~
GLASGOW, C.2

Your Ref.
Our Ref.

5th. November, 1953.

F.J. Partington, Esq.,
News Editor,
British Paramount News,
School Rd., London.

1. L Elder
2. Salmon

Dear Mr. Partington,

I enclose a hand out on the question of the salmon. I think there is a good story here on the ways of controlling and handling the salmon, culminating in the stripping.

Incidentally there is another interesting development in the same area connected with the building of the dams - the use of blast furnace slag in the cement which results in a concrete more resistant to the acid peaty waters. Some of this might be shown with the introductory general shots of the hydro-electric working which is causing the problem with the salmon - a problem vitally important to the salmon fishing in Loch Ness, the rivers to the sea and the whole coast of the Moray Firth - all areas of commercial salmon fishing dependant on the salmon breeding in these upper areas now being distributed by the hydro-electric work.

I enclose pamphlet giving additional information. As I have fixed with you for this coverage I have not passed it to Movietone.

Phoned Elder, 6/11/53
OK Salmon
He shoots Hatchery on 12/11/53

Yours sincerely,
for Elder Film Productions Ltd.
John C. Elder.

Hecks and Traps

Glen Garry

Since after ascending the Garry Falls many salmon proceed practically straight through Loch Garry into Loch Poulary and on into Loch Quoich, they had to be detained until they are "ripe" at the beginning of November. To do so a mechanical heck 295 feet long and 14 feet high of iron bars spaced 1⅝ inches apart, has been constructed. It is erected at the upper end of Loch Poulary so that during the summer and autumn the fish might be free to rest and roam in that loch with ample room and free from risk of disease and predators.

The plan of the heck is in the form of a rather flat "V" pointing upstream so that ascending fish will naturally swim into the trap at the apex. During the summer the trap is closed; it only comes into operation when the fish have to be caught to be stripped.

To assist in removing fish from the trap, a "false floor" of bars can be raised by a windlass and the whole of the fish in the trap brought to the surface of the water.

An electric fish stop, evolved by Mr. N.G. Lethlean of the electrical staff of the Hydro Board, was erected about a quarter of a mile downstream of the mechanical heck to prevent the fish from crowding up to the heck on every rise of water during the summer and to test the electric fish stop on a full scale. This electric stop achieved its purpose perfectly all through the summer and until the beginning of October, when a very heavy flood put it partially out of action for a day. The electric current was finally switched off in the middle of October to allow fish to reach the immediate vicinity of the trap.

Glen Moriston

The fish stop and trap in Glen Moriston, situated a short distance below Ceannacroc old bridge, takes a different form from the Poulary heck.

A loch for the fish is not available so they are held in a large pool and are stopped by a vertical concrete dam, about 12 feet high, over which they cannot swim or jump under any water conditions. The trap is at one side of the dam and, when fish are wanted, the main water flow is directed through it.

Stripping the Fish

As the fish are taken from the trap their stage of development is ascertained and those that are fully ripe are removed in landing nets to a shed immediately adjoining the trap. Here the eggs are extruded by pressure from each female into a basin/...

basin, some milt from a male is extruded over them, they are gently stirred and left without water for about 10 minutes until the process of fertilising each egg is completed. They are then washed and placed in cans for transport by motor vehicles to the hatchery.

Each female contains from 500 to 600 eggs for each pound of her gross weight, and each male has enough milt to fertilise the eggs of two or three females.

At this season the fish are quite unlike the silvery salmon which left the sea between 6 and 12 months earlier, since when, without food, they have been living on the fat contained in their bodies.

Most of the males in all rivers die shortly after spawning, but most females survive again to reach the sea, although less than 10 per cent recuperate there sufficiently to return again to fresh water.

Invergarry Hatchery

The design of the hatchery is probably the most modern in the world and has many unique features.

The complete building will hold between seven and eight million eggs.

Hitherto in hatcheries the troughs in which the eggs are incubated, and through which the water runs, have been in only one layer or deck. In the first half of the Invergarry hatchery, built last year, they are in two decks, one above the other: as a result of this experience the second half of the hatchery completed this autumn has the troughs in three decks. In both cases the upper layers are reached from a small transportable platform and the lower layers are illuminated for inspection by electric lights attached to the underside of the upper troughs.

In the earliest hatcheries, and in some still in use in Ireland, the eggs were placed on gravel in the troughs, but the later practice was to place them on grilles of glass rods held in wooden frames: the rods broke easily and the frames were difficult to keep clean. For Invergarry a plastic grille in a single unit has been designed and made: it is strong and can be kept scrupulously clean.

The concrete troughs - 360 of them - made in pairs and painted internally with bitumen, hold eight grilles and each grille carries 13,000 eggs. A special diffuser spreads the water evenly and gently through the troughs, and before the eggs are hatched the grilles are placed in perforated metal trays - two grilles to a tray - to prevent the little fish (called alevins) from bunching together at one end of the trough and to facilitate their transfer from the troughs to the tanks used in distributing them.

The/...

The incubation period varies directly with the water temperature: at 45°F. it is approximately 90 days and at 34°F. approximately 160 days. For about 36 hours after the eggs are fertilised they can be moved without harm, but after that they must be kept absolutely still until they are "eyed"; that is until the black eye spots of the developing embryo are visible inside the egg.

After hatching the alevins exist for about four weeks on the contents of the yoke sac attached to the underside of their bodies. Just before this source of nourishment is finished, the fry will be transported in tanks on lorries and distributed into suitable waters in the glens from which the eggs were obtained.

2.11.53.