

# Photographic Sciences Corporation

**23 WEST MAIN STREET  
WEBSTER, N.Y. 14580  
(716) 872-4503**

**CIHM/ICMH  
Microfiche  
Series.**

**CIHM/ICMH  
Collection de  
microfiches.**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

**© 1981**

# Technical and Bibliographic Notes/Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- ☐ Coloured covers/  
Couverture de couleur
- ☐ Covers damaged/  
Couverture endommagée
- ☐ Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée
- ☐ Cover title missing/  
Le titre de couverture manque
- ☐ Coloured maps/  
Cartes géographiques en couleur
- ☐ Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)
- ☐ Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur
- ☒ Bound with other material/  
Relié avec d'autres documents
- ☐ Tight binding may cause shadows or distortion  
along interior margin/  
La reliure serrée peut causer de l'ombre ou de la  
distortion le long de la marge intérieure
- ☐ Blank leaves added during restoration may  
appear within the text. Whenever possible, these  
have been omitted from filming/  
Il se peut que certaines pages blanches ajoutées  
lors d'une restauration apparaissent dans le texte,  
mais, lorsque cela était possible, ces pages n'ont  
pas été filmées.
- ☐ Additional comments:/  
Commentaires supplémentaires:

- ☐ Coloured pages/  
Pages de couleur
- ☐ Pages damaged/  
Pages endommagées
- ☐ Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées
- ☐ Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées
- ☐ Pages detached/  
Pages détachées
- ☐ Showthrough/  
Transparence
- ☒ Quality of print varies/  
Qualité inégale de l'impression
- ☐ Includes supplementary material/  
Comprend du matériel supplémentaire
- ☐ Only edition available/  
Seule édition disponible
- ☐ Pages wholly or partially obscured by errata  
slips, tissues, etc., have been refilmed to  
ensure the best possible image/  
Les pages totalement ou partiellement  
obscurcies par un feuillet d'errata, une pelure,  
etc., ont été filmées à nouveau de façon à  
obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below/  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

The copy filmed here has been reproduced thanks to the generosity of:

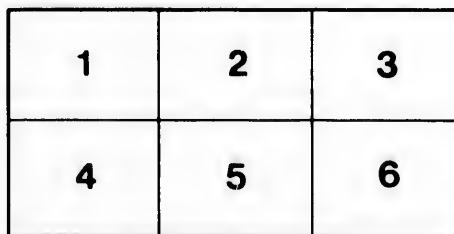
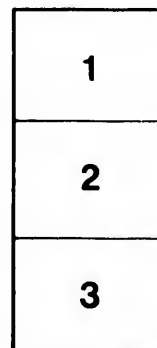
Vancouver Public Library

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol ➡ (meaning "CONTINUED"), or the symbol ▼ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

Vancouver Public Library

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole ➡ signifie "A SUIVRE", le symbole ▼ signifie "FIN".

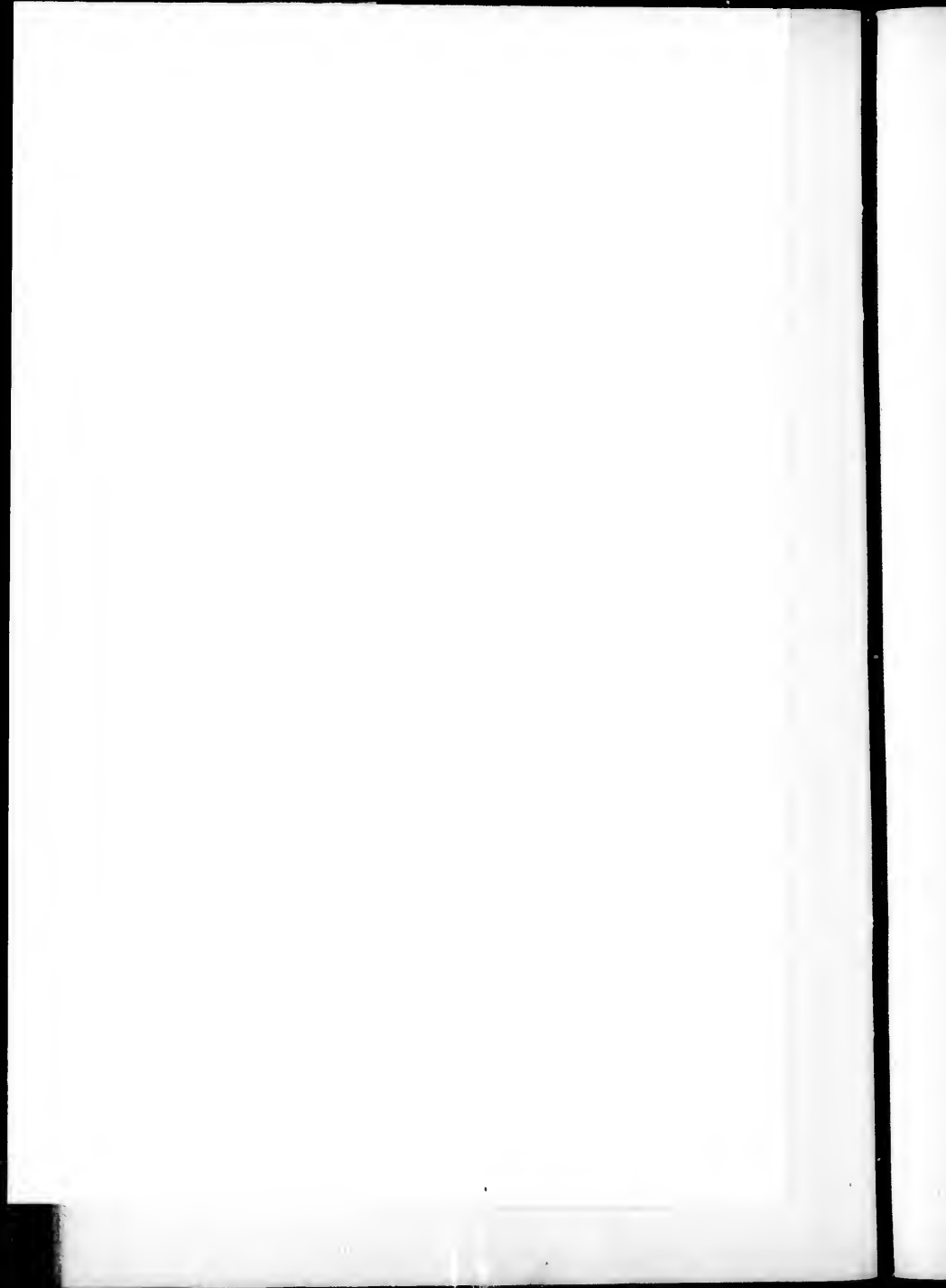
Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

tails  
du  
modifier  
une  
image

rrata  
co

pelure,  
n à

32X



## THE OBJECT OF A CLOSE TIME FOR FISH.

BY PROFESSOR EDWARD E. PRINCE, COMMISSIONER OF FISHERIES, OTTAWA.

The question is often asked "what is the object of a close time for fish?" and the answer is by no means so simple or easy as is generally imagined. The object of a close time varies greatly according to circumstances, and the criticism often urged against legal enactments which specify certain seasons or periods as times during which the taking of particular species of fish is prohibited, are frequently misdirected and mistaken. Thus it is often said of some fishery regulation, embodying a close time, that it does not cover the whole period of spawning and that many fish are found, before and after the limits of the period, in a ripe or spawning condition. The critics in such case base their remarks upon the supposition that a close time of necessity aims to cover the period during which the fish spawn—the fish that is to say contemplated by the regulation. But such is not at all the sole object of a close time or close season. Again, it is said that in some cases the period of prohibition antedates or precedes the spawning time, while in other cases it protects the fish after spawning. In other words the close time is too early, or it is too late.

Fishery authorities in framing regulations defining close times for various kinds of fishes often have had very different aims in view. Indeed, at least a dozen wholly diverse objects have been aimed at in existing laws upon this subject in the Dominion, and a comparison of the laws in other countries defining close times would increase the number to over a score. It is rarely, however, that a close season is enforced so unjustifiable and futile as that which was passed by a local legislature in the United States, according to whose enactment no whitefish could be captured in Lake Erie during the month of June by any fisherman in that State. The main reason for this law, which it was proposed to rigorously enforce, being that no fisherman could ever catch any lake whitefish in paying quantities at that time of the year. Further reasons were that the weather being hot the few fish, that might be taken, would not keep in good condition for the market, and the fishermen lost money because their nets became foul and rotted away during the height of summer. In the State referred to there was no protective close time in November when the whitefish could be captured crowded together on the spawning grounds in immense schools. The sole object of a close season for whitefish in that case was to meet the desire of the fishing firms and the fishermen for a prohibition to be enforced during a part of the year when they would not feel it. Some years ago a large number of lobster fishermen in the Maritime Provinces urged that a close season for lobsters be enforced all along the coast at the end of June, because they had to go to cod, haddock, and mackerel fishing, and could not go on any longer with lobster trapping. They desired that no other fishermen should be permitted to fish for lobsters, when another more important fishery demanded their own attention. From such views, on the matter of a prohibited period for fishing operations, the protection of the fish is left entirely out of account.

There can be no doubt that the main object of close seasons in the majority of cases, has been the preservation from destruction of the breeding fish at the most momentous period, viz: when just about to deposit or incubate their eggs. If this object can be accomplished it is the most effective measure possible for the perpetuation of the fish supply. The destruction of the breeding fish, at the very time they are engaged in spawning, is the surest step to the extermination of the future supply. Yet this destruction has in past times been almost universal and those engaged in fishing for a living, those to whom a continued supply is of chief importance, are often the most impatient of restrictive laws, and frequently

complain that the law stops them just when the fish are running or schooling in easily accessible areas, and when therefore the greatest hauls can be made.

The fishery officer is not unfrequently taunted with this remark 'if you kill a female fish six months before spawning, you just destroy as many eggs as if you killed her six days or six hours before depositing her eggs, nay in the act of depositing her eggs.' It does not demand much intelligence to see that this is wholly untrue. An artist painting a picture experiences a far greater loss if his painted canvas be destroyed after he has expended many months labour upon it and when just about finished, than he would if his canvas were destroyed after he had merely put a few touches upon it, on the first day of his work. Out of a thousand fish in June, it may be that not more than 200 survive until November to spawn, hence a spawning fish in November, in such a case, is of the value of five fish in June, from the fishery protection point of view. The value and importance of a breeding fish is vastly increased with the approach of the breeding season. Thus there is necessity for protecting the parent fish of valuable species, with the utmost strictness, at spawning time. As there is always some slight variation in the spawning operation in different individuals, a close season rarely attempts to cover all possible spawning specimens. The lake whitefish which is one of the most regular and rapid spawning fish varies a little in different years, but on the whole the month of November covers the main period in most provinces of the Dominion. This year in the Detroit River the season was at least two weeks later than usual, and in the North-west Territories some whitefish have been found containing ripe spawn in October, and again others in December. The so-called lake-herring or lesser whitefish, usually regarded as spawning in November, has been found carrying ripe eggs in June, a specimen four or five years ago being sent to me from Lake Erie by Mr. Edward Harris, of Port Dover. It is usually most desirable to protect every spawning fish possible, of valuable kinds; but in other cases as in the great lake trout or salmon-trout of the lakes there is much to be said in favour of the present season, viz: November, in Canada. Their main spawning period is late in October, and as the law stands great numbers of ripe spawning fish are taken annually although this year they were later than usual. The great lake trout is a strong, predacious and in some respects, undesirable fish, making war upon whitefish and all other kinds. It does not require the same amount of legal protection as a defenceless weak species, like the toothless whitefish, hence it suffices for the 'fresh-water shark', as the great lake trout has been called, to be partially protected only, so that they may not exterminate equally valuable kinds and over-run the waters. The present close season for the great lake trout is perhaps too short, but it has sufficed in Lake Huron and Georgian Bay at any rate to ensure the maintenance of a fair supply of these fish. It is plain that predacious species call for less protection than more harmless and defenceless species. A similar observation may be applied to the speckled-trout or brook-trout. It spawns over a very long period from November until April, but a close time of six months or more could only be justified on the ground that the species requires the preservation of every spawning specimen, a contention for which convincing evidence would not be easy to adduce.

The conclusion was reached by the Tweed Salmon Commission in 1896 that the supply of salmon can be kept up, if a sufficient proportion of each run of fish is enabled to reach the rivers and ascend to the spawning grounds.

This is the great argument in favour of a weekly close season on salmon rivers; but there is no doubt on some of the great rivers of Canada, as on the Fraser River or Skeena River, that the fish which have passed the lower fishing grounds during Sunday are overtaken on Monday morning by fishermen who hurry to the highest limit up the river allowed by law, and capture the fish after the first few miles of their ascent. This may be so on the Restigouche and other eastern rivers where the nets, some miles up the river, take the fish on Monday which have passed the lower nets in the estuary during the Sunday close time. An annual close time is necessary not only to supplement the partially ineffective weekly close time; but to render illegal the capture and handling of spawning fish by poachers.

In all civilized countries, possessing salmon rivers, a rigidly defined close time covering as far as possible the spawning season, has been enforced and with good

## SESSIONAL PAPER No. 11a

effect. Fish taken illegally during the 30, 40 or 60 hours weekly close time may be legally possessed and sold, on Monday or Tuesday, if the illegal capture be not detected. But it is difficult to keep illegal salmon during a long annual close time, without risk of detection, and if discovered, their condition proves them to be unseasonable and illegal fish. Moreover an annual close season may be enacted (like the ten days close time in September in British Columbia) for several subsidiary reasons as for instance to prevent the capture of very late incoming salmon, like the last stragglers (discoloured, soft and disgusting in appearance) of the Blue-back or, Sockeye run, and to cover simultaneously one of the earliest runs of Cohoe Salmon both of them very desirable objects, the one on economic and health considerations, the other on protective grounds, thus the canning of salmon in bad condition, and the perpetuation of an early run of a valuable species are accomplished by this ten days interregnum. Fishery regulations *per se* have no direct connection with health or sanitary regulations, yet the purposes of the latter regulations are often indirectly aided and accomplished by the former. Fish in an unseasonable, emaciated and degenerate condition cannot be good food. The Pacific Salmon which have mounted many hundreds of miles, are ill-conditioned, semi-putrid and wholly unfit to be eaten, yet they would be largely consumed, and many factories would not hesitate to can them, did not the law (by close time regulations) prevent it. In remote districts, Indians and white men too, are said to use them for food and outbreaks of disease may be often traced to this cause.

Oyster regulations have had a similar object largely in view, and have prohibited the taking and sale of 'sick' or spatting oysters as much on grounds of health, rightly or wrongly, as for protection purposes.

Close seasons as a rule cover periods when fish may not only be taken more numerously (as they are then schooling) but more easily (as the females are more heavy with spawn); but they are also intended to protect the weakly emaciated spent fish after spawning, as well as the vigorous 'full' fish before spawning. It is well known that shad on descending from their breeding grounds up river, are little more than skin and bone, yet worthless and emaciated though they are, the fishermen strain every nerve to capture them. A Shad close time should cover the descending fish as well as protect the ascending schools. The same reason may be urged for a long close season for salmon. It prevents the capture of black skin salmon and unsightly kelts. It no doubt enables the young fish, the smolts, to descend to the sea undisturbed. There is every reason to prevent a river or lake from being disturbed all through the year by fishing operations, and the fish harassed and driven about by long lines of nets.

The Canadian regulations for salmon, etc., have worked untold benefit in preventing the continuous disturbance of the fishing grounds from January to December. Had it been permitted, the fish would no doubt forsake such waters, never to return. Special close times, covering several years in some cases, have been devised to restore depleted fisheries. Thus in 1892 a close time for three years for striped sea bass was enforced in New Brunswick. The beneficial result was most marked, and the fish which had been almost exterminated increased—more rapidly than either the authorities or the fishermen could have reasonably anticipated. All fisheries are not so readily restored, and a long period of prohibition in the St. John River, in New Brunswick, appears to have been ineffectual to restore the depleted and destroyed sturgeon fishery there. The same difficulty in restoration, by a lengthy close time, has been observed in lobster fisheries, when these have been once depleted.

It has been possible, in the case of some fisheries, to so arrange the annual close time, that the fish about to spawn are protected from capture before the actual spawning period. The smelt, for instance, do not spawn as a rule for some weeks after the present close time begins, but as the netting season draws to its end a vast number of smelts are found to be swollen with eggs that are rapidly approaching the ripe stage. It is no doubt due to this antedated close time that the smelt still abound in vast schools at the mouth of the Miramichi, the Richibucto, the Restigouche and other rivers, although as many as 4,000 or 5,000 tons have been captured during the short netting season of a few weeks. A close season to achieve fully its object should, if possible, protect the first as well as the last spawners. It



should do this in order to keep up the early runs, which in most marketable fish are by far the most valuable. It should also prevent the last spawners from being captured, as the late fish are always in a poor, flabby and unseasonable condition for food. The capture of early runs has in the case of salmon rivers had the effect of wholly destroying them and of rendering such rivers late. Late rivers imply a large proportion of degenerate, unsightly and undesirable fish. Prohibitions again have been enacted to prevent the disturbance of one kind of fish by fishing operations carried on for other kinds of fish. Thus nets for whitefish, pickerel or dore, and for coarse fish such as catfish, pike and suckers were prohibited in the Bay of Quinte for many years, not to protect the fish just mentioned, but on other accounts. Thus in summer such nets would take spawning bass, or, at any rate, would disturb them while spawning, and later would interfere with the bass anglers who desired these fine black bass grounds to be free from nets at the time. The fishermen themselves were not strongly averse to this summer net prohibition for three reasons—(a) they were employed by the anglers as boatmen and in other ways; (b) their nets readily rotted and became useless if used in hot weather; (c) catfish and other coarse kinds are soft and in poor condition in summer and fall, whereas in the cold winter months they are most valuable and in prime condition for market.

Very various, indeed, are the grounds for enacting close seasons and the reasons for enforcing them, but the ultimate object is the promotion and improvement of the fish supply, and conferring thereby substantial benefit on the fishermen and the public.

It is from the fishermen and from the public, therefore, that the authorities ought to look for every aid in the laudable task of fish protection. That such aid is not always to be relied upon is a matter of common knowledge. Indeed, it is too often the case that the parties likely to derive most benefit permanently from a brief protective prohibition do not realise that such benefit must inevitably accrue to them.

The published views of a well known Ohio fisherman may be given as an example. He said:—'Regarding this matter of a close season I have certainly some convictions. The difficulty along our part of the line of Lake Erie, which we have to encounter, is that the time that you can take these fishes best for the market is in the month of November, and in no other month to speak of can you take any whitefish in the head of Lake Erie. It is true that the head of Lake Erie is the natural spawning ground probably for the whitefish, but if you do not take them in the fall with pound-nets and other appliances in the head of Lake Erie, they must then take them with gill-nets. Now there is no use of making a close season to shut out this fishing article of food. You take the fishing of Ohio, and you take the month of November out of the fishing month, and you might just as well hang up your nets entirely on the American side, that is, on the headwaters. The month of November is the only time that it is possible to catch the fish, that is fish for commerce.'

A prominent member of a fishing firm in Michigan said: 'I think a close season to commence the first of September and end the first of January, would be what we ought to have. I think the State ought to take the money that is expended in hatching fish, and pay the fishermen to stop fishing during the close season; that is, pay the fishermen for their time while they are lying still in the fall, during the fall fishing season.'

Such an expression of opinion is proof of the unwillingness of the fishing community to realise the purpose and meaning of close seasons for fish. Public opinion does not appear to have reached the necessary state of enlightenment. The California Fishery Commissioners when they reported regarding salmon protection on the depleted Sacramento River in 1882, said:—

'The Commission has much satisfaction in being able to report that there now appears to exist a more harmonious feeling upon the necessity of preserving the fish in our rivers. During the year last past, from all the information we have, there has been exhibited, on the part of the conductors of the canning business, a fair and earnest desire to enforce the close season, and a commendable realization of the importance of preserving the fish from wasteful destruction, and allowing

## SESSIONAL PAPER No. 11a

them to reach their breeding-grounds in sufficient numbers. But still there has been a great deal of surreptitious violation of the laws by itinerant fishermen, whose depredations can only be prevented by the people in the immediate neighborhood by assisting in enforcing the law; for it may here, we think, be pertinently remarked, that the 'American citizen,' whilst exhibiting the highest order of natural ability for the making of laws, seems to almost entirely overlook the fact that it is also his privilege and duty, individually, to aid in the enforcement of them.'

This lack of support on the part of the public in the enforcement of just and necessary fishery laws is not confined to the United States; but the view, at one time prevalent, that the product of the waters is common property which any one may secure how, when, and where he likes, is slowly giving way to one more enlightened and having more regard to the public interest.

