

ANNUAL MEETING - JUNE 1966Inventory of Age Validation Studies on ICNAF SpeciesI. Canadian (Nfld.) Studies1. Cod

Fleming, A. M. 1960. Age, growth and sexual maturity of cod (*Gadus morhua* L.) in the Newfoundland area, 1947-50. J. Fish. Res. Bd. Can. 17(6): 775-807.

Appearance of otolith edge. Incomplete monthly data for a number of localities in Subareas 2 and 3 and Division 4R. Mainly commercial sizes.

Fleming, A. M. MS.1960-63.

1960. Baby cod survey, east coast of Newfoundland, 1959.

1961. Baby cod survey, eastern Newfoundland, 1960.

1962. Baby cod survey, eastern Newfoundland, 1961.

1963. Baby cod survey, 1962.

Fish. Res. Bd. Can., Ann. Repts. St. John's Biol. Stn. (mimeo): 1959-60, Appendix 11, pp. 46-50; 1960-61, Appendix 2, pp. 4-9; 1961-62, Appendix 1, pp. 1-4; 1962-63, Appendix 5, pp. 20-22.

Length distributions of pre-commercial sizes showing modes at 0+ and 1 year old.

May, A. W. 1965. The validity of otolith ages of southern Grand Bank cod. Int. Comm. NW Atl. Fish., Res. Bull. 2: 19-24.

Petersen's method and progression of dominant year-classes during the period 1950-1962. Research vessel data. All sizes and ages.

May, A. W. MS.1966. Otolith age validation in Labrador cod. Int. Comm. NW Atl. Fish., Annual Meeting, 1966, Res. Doc. 66-22.

Appearance of otolith edge, Division 2J, April to November. Mainly research vessel data. Length distributions of pre-commercial sizes.

Williamson, G. R. MS 1965. Age, growth, sexual maturity and mortality of cod on the Grand Bank of Newfoundland and St. Pierre Bank during 1946-62. London University, Ph.D. thesis, 140 pp.

Contains material on appearance of otolith edge in Divisions 3L, 3N, 3O and 3Ps. Research vessel data. Nearly complete annual coverage.

Haddock

Hodder, V. M. 1966. Trends in the haddock fishery of Subarea 3. Int. Comm. NW Atl. Fish., Res. Bull. 3 (in press).

Modes in length distributions and progression of dominant year-classes. Research vessel data. Divisions 3N and 3O.

Flounders

Pitt, T. K. MS in preparation. Age and growth of American plaice from Newfoundland and Grand Bank areas.

Appearance of otolith edge and progression of dominant year-classes. Research vessel data.

Kennedy, V. S. MS 1964. Aspects of the biology of the winter flounder, *Pseudopleuronectes americanus* (Walbaum), in Long Pond, Conception Bay, Newfoundland. Memorial Univ. of Nfld., M.Sc. thesis, 113 pp.

Appearance of otolith edge in monthly samples throughout year.

### Redfish

Sandeman, E. J. 1957. Redfish grow slowly. Fish. Res Bd Can, Prog Rept Atl Coast Stations, No 67, pp 26-28

Relation of scale and otolith ages to modes in length distributions of small fish  
Division 3P. Research vessel data

Sandeman, E. J. 1961 A contribution to the problem of the age determination and growth-rate in Sebastes Int Comm NW Atl Fish, Spec Publ No.3, pp 276-284

Petersen's method used to support evidence of slow growth from scale and otolith ages. Division 3Ps Research vessel data Extension of the previous (1957) work

### Capelin

Templeman, W 1948 The life history of the capelin (*Mallotus villosus* O F. Muller) in Newfoundland waters Nfld. Dept Natural Resources, Bull Nfld Govt Lab, No. 17 (Research). 151 pp

Descriptions and comparisons of scales and otoliths, Subareas 2 and 3

Pitt, T K. 1958 Age and growth of the capelin, *Mallotus villosus* (Muller) from Newfoundland and Grand Bank areas J Fish Res Bd. Canada 15(3): 295-311

Time of year and fish size at formation of scales Size distributions by season and age-group Subarea 3

## II. Canadian (Mainland) Studies

### 1. Cod

Kohler, A. C 1964 Variations in the growth of Atlantic cod J Fish Res Bd Canada, 21(1). Ageing, seasonal edge deposition, length distributions of young cod and interpretation of central rings and false checks, Div. 4T

### Cusk

Oldham, W. MS 1966 (Ecological studies of the cusk?) M.A. thesis, University of Western Ontario Seasonal edge deposition information, otoliths, Div 4X

### Haddock

Kohler, A. C. 1958 The validity of otolith age determination for haddock (*Melanogrammus aeglefinus* L ) from the Lockeport, N S area J Fish Res Bd Canada 15(6). Edge formation, year-class and growth of tagged fish, Div 4X

Kohler, A. C. and J R Clark, 1958. Haddock scaleotolith comparisons J Fish Res Bd Canada, 15(6). Studies on Subareas 4 and 5 haddock

### American Plaice

Powles P. M. 1965 Life-history and ecology of American plaice (*Hippoglossoides platessoides* F ) in the Magdalen Shallows J Fish Res Bd Canada, 22(2) Otolith validity for adults from tagging studies, Div 4T

Powles, P. M. 1966 Validity of ageing American plaice from otoliths ICNAF Research Bulletin No. 3. Length modes of young fish with otolith photographs, Div. 4T

### Winter Flounder

Huntsman, A. G 1918 The growth of the scales in fishes. Trans Roy. Canad Inst, 12. Curvilinear relationship of scale to body length with origin at 2 cm

### Witch Flounder

Powles, P M 1966 Preliminary age and growth studies of greysole (*Glyptocephalus cynoglossus* L.) from otoliths (In preparation for ICNAF Research Bulletin) Seasonal edge appearance, length distributions and back-calculated lengths for ages I to V, Div 4W

Yellowtail Flounder

Scott, D M 1954 A comparative study of the yellowtail flounder from three Atlantic fishing areas J Fish Res Bd Canada 11(3). Seasonal edge formation data and consistent year-class annulus type, Div 4W

III United States Studies

Haddock

Clark, J R. 1958. Consistency of scale reading ICNAF Special Publication No 1 191-192

Jensen, A. C. and J R. Clark 1958 Time of formation of scale annuli ICNAF Special Publication No 1 193-197

Jensen, A. C. and J P Wise. 1962 Determining age of young haddock from their scales Bull U S Fish and Wildlife Serv. 61: 440-449

Kohler, A C , W. Templeman, J R. Clark, and A C Jensen 1958 Haddock Scale-otolith comparisons ICNAF Special Publication No 1 199

Wise, J. P. 1957. Growth rate of Browns Bank haddock Research Report No 50, U S Fish and Wildlife Service.

Whiting

Schaefer, R. H. 1960 Growth and feeding habits of the whiting or silver hake in the New York Bight New York Fish and Game Jour 7(2): 85-98  
(Just ages - not validated)

Redfish

Kelly, G. F. and R. S Wolf. 1958 Age and growth of redfish, *Sebastes marinus*, in the Gulf of Maine ICNAF Special Pub No 1 (Abstract) 215.

Kelly, G. F. and R. S Wolf. 1959 Age and growth of the redfish (*Sebastes marinus*) in the Gulf of Maine U S Fish Bull 60, 156: 1-31

Kelly, G. F. and R. S. Wolf 1961 Age and growth of redfish (*Sebastes marinus*), in the Gulf of Maine ICNAF Special Pub No 3 (Abstract) 262.

Kelly, G. F. and A. M. Barker 1961 Observations on the behaviour, growth, and migration of redfish at Eastport, Maine ICNAF Special Pub No 3. 263-275

Perlmutter, R and G M. Clarke 1949 Age and growth of immature rosefish (*Sebastes marinus*) in the Gulf of Maine and off Western Nova Scotia U S Fish and Wildlife Service Fishery Bull Vol 51, 45: 207-228

Yellowtail

Royce, W., R. Duller, and E. Premetz. 1959 Decline of the yellowtail flounder (*Limanda ferruginea*) off New England Bull U S Fish and Wildlife Serv 59(146): 169-266.