

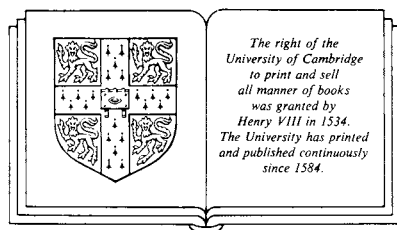
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D. H. CUSHING



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CONTENTS

| | |
|--|-----------------|
| <i>Preface</i> | <i>page</i> vii |
| <i>Units used in the text</i> | ix |
| 1 Fisheries in prehistory and in antiquity | 1 |
| 2 The preindustrial fisheries | 10 |
| 3 The cod fishery off Newfoundland 1502–1938 | 53 |
| 4 The North Sea herring fishery | 77 |
| 5 The first industrialization of fisheries | 102 |
| 6 The great whales | 132 |
| 7 The Pribilov fur seal fishery | 170 |
| 8 The Newfoundland harp seal fishery | 181 |
| 9 The origins of fisheries science | 186 |
| 10 Institutions before the Second World War | 203 |
| 11 Fisheries research 1945–65 | 213 |
| 12 Institutions between 1945 and 1965 | 224 |
| 13 The second industrialization | 234 |
| 14 Fisheries research since 1965 | 259 |
| 15 Institutions since 1977 | 277 |
| 16 The provident sea | 294 |
| <i>References</i> | 301 |
| <i>Index</i> | 322 |

PREFACE

In earlier ages conflicts between nations over fish were settled by war. In the first decades of the present century, in Europe and North America, efforts were made to resolve such conflicts with scientific evidence. The point was that it was published and presented for decision.

The present industrialized fisheries are contrasted here with earlier ones before the industrial revolution. The older fisheries for cod and herring persisted for centuries with only minor changes in catch abundance, so far as can be seen with somewhat limited evidence. They were probably secure until capture was mechanized. The industrialization of capture, with its greater efficiency, reduced the stocks of fish much more than in earlier ages. The first industrialization in the North sea and in the Alaska gyral reduced stocks and raised the problem of whether action could be taken world wide. The international fishery institutions were established in the first decades of this century and became effective in the thirties and forties. The second spread of industrialization across the world ocean reduced most of the stocks and exposed the weakness of the then international commissions to which nations had adhered voluntarily. Further, fleets of trawlers appeared off the coasts of many countries bordering the tropical and subtropical seas. The consequence was the Law of the Sea Conference, and by 1977 the power to regulate fisheries was effectively vested in the coastal state.

The history of management is described as it took place, with the scientific material as it was originally published. There exists an extensive literature on how fish stocks should be managed, but this has not been cited because only those parts which have been translated into action have been mentioned here. Further the study is really limited to the North Atlantic and the North American coast of the Pacific. Much has happened elsewhere but the history is often intermittent or very recent.

Thanks are due to Stephen Charlton, who made the line drawings. The chapters on whales and seals were read by Dr J. A. Gulland FRS; that on Fisheries Research since 1965 was read by Dr John Shepherd,

Professor Brian Rothschild and Dr M. P. Sissenwine; that on the institutions since 1977 was read by Professor Rothschild and Dr Sissenwine. I am grateful to each for their criticisms but of course the errors remain my own.

I am also grateful to Peter Jenkins of Lowestoft, who allowed me to use the picture reproduced on the cover, and to Mrs Sandi Irvine who edited the text.

198 Yarmouth Rd, Lowestoft, Suffolk
January 1987

D.H.C.

UNITS USED IN THE TEXT

For purposes of comparison and updating, most of the units from the original sources have been converted, where necessary, to metric. This has meant that some approximations have been introduced (e.g. 1 fathom \approx 2 m), but exact conversions, or in some instances a conversion factor, have been given where appropriate.

Where a legal limit is mentioned, the original defined units are used, e.g. 200 mile limit.

Apart from the usual unit conversion factors, the following should be noted:

US gallon = 3.7853 l

British gallon = 4.5460 l

US bushel = 35.2381 l

British bushel = 36.37 l

Tun = 100 kg

Barrel \approx 0.125 tonne (herring)

\approx 0.167 tonne (whales)

British (imperial) ton = US long ton = 1.016 tonnes

US short ton = 0.907 tonne

Quintal = 98.39 (\approx 100 kg)

Quintal of dry fish \approx 500 lb (227 kg) of fish from the sea (after heading, splitting and drying)

(The conversion of a quintal of dried fish to tonnes is $(500/112.20)0.984 = 0.22$. That quoted on p. 73 is 0.23.)

For shipping, the US long ton or imperial ton was used; for cargo vessels 'dead weight' is 'displacement' minus 'light weight'.