

National Oceanographic Library – Archive

Commander A.L. Lawford, RN (retd.) Collection

Archive Location	Archive A – Individual Collections
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Cmdr. Lawford, RN (retd.) of the Royal Naval Scientific Service was attached to the National Institute of Oceanography from 1950 to 1971. His work focused on the changes in speed and direction between the sea surface and geostrophic winds. One of the main objects of the work, extended by Cmdr. Lawford, was to obtain data that could be used to study the mutual relationships between water movements; and the relationship between flow, wind differences, currents and wind drift. He worked closely with Dr J.N. Carruthers, and colleagues from other research institutions.

He managed the Programme of routine measurements of water movements from Light Vessels in the seas around the United Kingdom. Formally organised by Dr. Carruthers, from the Oceanographic Branch of the Hydrographic Department, Admiralty, this Programme became the responsibility of the National Institute of Oceanography with the appointment of Dr Carruthers to the post of Assistant Director. This was part of an International Project which included countries surrounding the North Sea. The data gathered was likely to be increasingly useful in fisheries research. A study was made on the influence of water currents, wind and water movement on brood strength and fluctuations in different areas and times in the North Sea.

Cmdr. Lawford also worked with Dr Carruthers on Operation Postcard (otherwise known as the “NE Atlantic Drift Envelope Experiment”) in 1954, details of which are in the preamble to the contents in box 5.

Item	Box
Research into fish stocks in the North Sea 1950-51 (dated 1950-51, unless otherwise stated)	
Folder – Cod – Correspondence and data. Correspondence from RS Wimpenny (MAFF, Lowestoft) to AL Lawford regarding cod distribution in the North Sea. Paper – <i>Prediction of North Sea cod fisheries.</i>	1
Folder – Haddock, marked (“Nature”) – correspondence and data – AL Lawford,; JN Carruthers (Admiralty, Hydrographic Dept); BB Parrish (Scottish Marine Laboratory, Aberdeen); Lt. VFC Veley (HMS Loch Fyne, Chatham).	1
Folder – Haddock (Copenhagen) – Correspondence and data - AL Lawford; CE Lucas (Scottish Marine Laboratory, Aberdeen); LA Walford (US Dept Interior, Fish and Wildlife Service) Lt. VFC Veley (HMS Loch Fyne, Chatham).	1
Folder – Haddock (S.H.D. Reports) – Spawning /haddock dispersal - Correspondence and data - BB Parrish, CE Lucas (Scottish Marine Laboratory, Aberdeen); JN Carruthers (Hydrographic Department, Admiralty); and copy of paper by JN Carruthers & Lt. Veley <i>Fluctuations in year-class strength of the North Sea Haddock in Association with certain physical conditioning, with a suggested method of predicting stock recruitment</i> Draft of paper – <i>The Association of haddock brood strength with wind in the northern North Sea.</i> Substance of Report to Dr CE Lucas (Scottish Marine Laboratory, Aberdeen)	1

<p>Folder – Hake - Correspondence and data. Draft of paper by Lt VFC Veley: <i>Fishery hydrography brood strength fluctuations in the hake with a suggested method of prediction</i>, for inclusion in <i>Annales Biologiques, 1950</i>. With a commentary from H Blequard (ICES) about plates for the paper.</p>	1
<p>Folder – Herring – Correspondence and data. (1953) KM Rea (Scottish Marine Biological Association); AC Simpson (MAFF, Lowestoft); Lt. VFC Veley (Admiralty); AL Lawford. Draft of paper by Lt VFC Veley: <i>Preliminary investigation into the association between herring broods and wind conditions</i>.</p>	1
<p>Folder – Plaice (German Bight) – Correspondence and data – Letter from A.Buckmann (Max Planck Institute, Wilhelmshaven) to JN Carruthers.</p>	1
<p>Folder – Plaice (Lowestoft) – Correspondence and data – AC Simpson (MAFF) to Lt VFC Veley (Admiralty) and JN Carruthers</p>	1
<p>Folder – Sprat – Correspondence and data – JN Carruthers (Admiralty); CE Lucas (Scottish Marine Laboratory); Lt VFC Veley (Admiralty). Copy of paper Lt VFC Veley: <i>Fishery hydrography year-class fluctuations on the sprat</i>, paper presented at the 1951 Reunion of ICES since World War II.</p>	1
<p>Folder – Kieler Meeresforschungen paper (and comments) – correspondence Paper – JN Carruthers, Cmdr AL Lawford and Lt VFC Veley: <i>Fishery Hydrography, brood strength, fluctuations in various North Sea Fish; with suggested methods of prediction</i>. published in, <i>Kieler Meeresforschungen, V.8(1), 1951</i>. Draft copy and Reprint copies, with comments from, W.Templeton (Fisheries Research Board, Canada); CE Lucas (Scottish Marine Laboratory); M Graham (MAFF Fisheries, Lowestoft); Prof G.Wust (Institut fur Meereskunde Deuniversitat Kiel</p>	1
<p>Wind effects on tides, currents, wind on high water and low water (1955-57) Folder – Letters and data from Lt VFC Veley to Cmdr AL Lawford and Capt Westwater about Veley meeting with Carruthers and Lawford at NIO to discuss wind effects etc. Some letters in A4 Envelope on eddies in wind, direction of tides at Royal Sovereign Light Vessel. Folder – Royal Sovereign Light Vessel –Letters and data to Cmdr AL Lawford from Lt.VFC Veley; and NJ Williams (Trinity House Depot) Letter/data (1951-1952)</p>	2
<p>Folder – Light Vessels – data - water movements 1951-1953 <i>Galloper</i>– Daily <i>Smith’s Knoll</i> – Daily <i>S2</i> - Daily <i>Varne</i> - Daily (Preliminary) <i>Varne</i> – Daily <i>Varne</i> – Yearly/Monthly 1950/51-1952/53 Variation of water/wind travel. Percentage increase of wind effect with wind strength Envelope – Work on monthly results – Light vessels- Dowsing; Galloper; Goeree; North Carr; S2; Smith’s Knoll; Terschellingbank; Texel; Varne; Varne - Lunations (Lunar influence on water movements)</p>	2

INSTRUMENTATION	
Folder – Crossbow float - Papers, Correspondence, Drawings – Manufacture. (with JN Carruthers) 1950-52	3
Folder – Cricklewood, Water Sampler – Correspondence, data, drawings (Ca. 1950-52)	3
Folder – Bottom sampler for Divers – Correspondence, drawings, data, 1952, 1965 NB: One letter signed <i>Cmdr RH Wainwright</i> , HMS Annet dated 8/8/1952 to Directorate of Torpedo, Anti-submarine and Mine-Warfare Dept, HMS Flatholm – Trial of Bottom Sampler, Type B. Copy to JN Carruthers. Stamped SECRET <u>CLOSED</u>	3
Folder – Water samplers – Royal Naval Scientific Service Journal. Article - Draft and correspondence and published paper, AL Lawford and JN Carruthers et al. In, <i>Royal Naval Scientific Service Journal</i> , 6(2), pp.42-47, 1951: JN Carruthers, HG Stubbings and <i>Cmdr A.L. Lawford RN (Rtd)</i> – Simple water samplers for use in shallow Waters. Journal marked “restricted” <u>CLOSED</u>	3
Folder – Carruthers/Harwell water sampler. – Correspondence, data – (Correspondence held by AL Lawton) Photographs of sampler. (Dr Carruthers requesting permission, and given by the Atomic Energy Research Establishment, Harwell to publish his photograph of classified material)	3
Folder – Paper for publication on water sampling devices – correspondence and copy of paper: <i>JN Carruthers, HG Stubbings and Cmdr AL Lawford RN Rtd: Water sampling in estuarine waters; some simple devices for use in ports and havens surveys, Dock and Harbour Authority, V.31 (362), pp.253-261.</i> (Lawford’s copy)	3
Folder – Port of Bristol Authority (held by Lawford). – correspondence – Letters from Comdr R Walker, RNR regarding the loan of a Silt Sampler. (1950-51)	3
Length of day – fluctuations in the length of day- sea level fluctuations – lunation	
Folder – Length of Day – correspondence with Cambridge University, Dept of Geodesy and Geophysics and Univ Bruxelles, Institut d’Astronomie, 1951	4
Folder – Length of Day (“Nature” letter) - Correspondence and charts with data (Discussion) – Correspondence Lt VFC Veley; JN Carruthers; Cmdr AL Lawford RN Rtd., and H Spencer Jones, Astronomer Royal (Royal Greenwich Observatory).	4
Folder – Length of Day (Original analysis etc.) – correspondence and data – includes a reprint of, <i>Variations in the length of the day</i> , a geophysical discussion held, at the Royal Astronomical Society’s rooms, 24 November 1950.	4

<p>Operation Postcard 1954 (otherwise known as the NE Atlantic Drift Envelope Experiment)</p>	
<p>Operation Postcard 1954, otherwise known as the Northeast Atlantic Drift Envelope Experiment.</p> <p>Oil pollution investigation of the NE Atlantic, North Sea and English Channel Principal Scientists; Cmdr.AL Lawford RN (Rtd), and Dr JN Carruthers.</p> <p>This operation was carried out by the National Institute of Oceanography on behalf of the Ministry of Transport and Civil Aviation, it was part of international action which was then about to be taken to prevent or minimise the pollution of the sea by oil. This was done to discover the areas from which oil, jettisoned by tankers, drifted onto the coasts of Europe, and to know the different speeds which the oil travelled. Thousands of plastic coated envelopes were dropped into the sea by Avro Shackleton and Sunderland aircraft of the Royal Air Force, Coastal Command, while on training flights. Successful drops were made on 5-7 May, 31 August-1 September, and 15-17 December 1954. The theory was that the envelopes would drift with the wind and currents, and land on the shores of Europe, and British Isles, thus finding out the possible speed and drift of oil. Finders of cards were asked to state when and where they were found, and return the business reply cards to the National Institute of Oceanography. A reward of 2/6d was paid for every card returned. Cards were returned from Denmark, Faroe Islands, France, Iceland, Ireland, The Netherlands, Norway, Portugal, Spain, Sweden, and the coasts around the British Isles. Some cards were at sea for many years before reaching landfall.</p>	5
<p>Drift Envelopes - Quantity of wrapped returned drift envelopes, some cards in envelopes</p>	5
<p>Folder – Operation Postcard – notes and analysis by Cmdr AL Lawford RN (Rtd) and Dr JN Carruthers.</p>	5
<p>Folder – Operation Postcard – copies of 2 papers by Cmdr. AL Lawford RN (Rtd), the first describes the operation and map showing the distribution of drift cards landed and found, and second, a letter to the editor of <i>New Scientist</i>. <i>Weather</i>, 11, 1956, 155-61, <i>The effect of wind upon the surface drift in the NE Atlantic and the North Sea</i>. <i>New Scientist</i>, (No.375), Letter to the Editor – <i>The stamp of character</i>. Details the amount of cards returned and from what countries, including remarks about some finders in placing postage stamps on business reply cards.</p>	5
<p>MacKay, James A: <i>The Drift Envelope Experiment</i>, Gibbons Stamp Monthly, June 1964, pp.164-167. Whole issue held.</p>	5
<p>Herdman, Henry FP: <i>Operation Post Card</i>, Reprinted from, <i>The Trident</i>, V.16, No.180, Pages 196-197, April 1954</p>	5
<p>Lawford, AL: <i>The Drift Card Experiment in the North-East Atlantic Ocean, 1954</i>, National Institute of Oceanography, Internal Report, No. A19, September 1962.</p> <p>Inserts:</p> <ul style="list-style-type: none"> • Lawford, AL: <i>Postscript to Operation Post Card</i> . Reprinted from, <i>Trident</i> , V.18, No.208, Pages 350-351, September 1956 • Sample Drift Card No.9930, found by Mr.C.G.Leece, Castletown, Isle of Man, with envelope, postmarked 28 January 1974. With two handwritten notes, by NIO staff <p>(Transferred from NOL Stock Report No. N99/A/A19, only copy)</p>	5