

Chronological list of ornithological oil-pollution incidents.

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(General statements taken from current notes in 'Bird Notes and News' (subsequently 'Bird Notes' and then 'Birds'), and later Reports of the British Section, International Council for Bird Preservation; in Europe, and from 'Bird Lore' (subsequently 'Audubon Magazine', then 'Audubon') in North America, unless otherwise stated. The effects of oil pollution on birds have also been reviewed recently by Battelle-Northwest (1967), Bourne (1968) and Clark and Kennedy (1968), who provide full references).

- 1754 Ships first noted polluting the Caspian Sea with oil.
- 1907 Thomas W. Lawson wrecked on the Scillies in December with loss of bird life. (Mothersole, 1910).
- 1915 Birds first killed by oil pollution off Washington. (Jewett et al., 1953).
- 1917 Oiled Guillemots *Uria aalge* and other birds become common off California and Scotland (Houldson, 1952; wild, 1925).
- 1919 494 Lesser Scaup *Aythya affinis* and other wildfowl killed in Narragansett Bay, Rhode Island, eastern U.S.A. (Lincoln 1930).
- 1921 Records of oiled birds become general in U.S.A. (Lane et al., 1925), with further loss of 900 wildfowl in Narragansett Bay (Lincoln, 1930, 1936); many auks and other species killed in Holland in January and December (Verway 1922; Brouwer, 1953); and the Royal Society for the Protection of Birds made the first general appeal for evidence of pollution in Britain.
- 1922 Severe pollution in Holland in January, in Lancashire in March and April, in Kent and Sussex in April and May and again in December. First British prevention legislation passed.
- 1923 Large mortality at Monomoy near Boston, U.S.A. in December (Lincoln, 1930).
- 1924 Further severe mortality at Dungeness, Kent, in February and March. Several thousand wildfowl killed at Puget Sound Washington. Prevention legislation passed in U.S.A.
- 1925 Pollution off Suffolk in November, and severe off Cornwall in the winter.
- 1927 Pollution severe in East Norfolk in December, and again at Dungeness.
- 1928 Thousands of Scoter and other wildfowl killed when the Robert E. Lee was wrecked off Massachusetts in the spring (Lincoln, 1936). Severe pollution in Holland in January-February (Brouwer, 1953); on the Chesil Bank, Dorset in March, in Aberdeenshire in May, in Norfolk in June, in the Isle of Wight in July.
- 1929 Thousands of Scoter and other birds killed in Luce Bay, Wigtonshire in the spring, when oil was thick along the coast for miles, and it was noticed that oil-smeared eggs failed to hatch. Pollution noticed in the Cheshire Dee, in Cornwall in November and December, and again at Dungeness.

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- 1930 Pollution in Norfolk in January, in Cornwall in March, in Yorkshire (where the Gannets Sula Bassana at the new Bempton colony were affected) in March and April. Especially severe mortality in New England (where it is now chronic) after the wreck of the Edward Luckenback off Rhode Island on 10 January (Hadley, 1930a and b; May, 1930).
- 1931 Pollution in Yorkshire in April and Kent and Sussex in November.
- 1932 Severe mortality among the breeding birds on Flamborough Head, Yorkshire, in May and June, when there was also pollution in Southampton Water. Pollution at Dungeness in January and April, in Merioneth in September, also in N. Carolina and New Jersey, U.S.A.
- 1933 Severe pollution from Kent to the Isle of Wight and also in Cornwall and Pembroke in February, and in South Devon in March, where the Guillemot colony had declined from 765 to 320 birds in three years. Pollution in Southampton Water April-June, also at Martha's Vineyard, New England. In the ten years since the passage of preventive legislation there had been 21 prosecutions for pollution at the Port of London.
- 1935 Further mortality at Dungeness in January, and thousands of birds killed in North Wales, mainly Guillemots and Gulls. On Puffin Island off Anglesey the Guillemot colony had declined from a thousand to sixty pairs, the gulls to a quarter, and the Cormorants Phalacrocorax carbo had nearly been wiped out since 1921. There was a further loss of thousands of birds off Antrim and Down during attempts to salvage a wrecked Anchor-Donaldson liner in August. Large losses reported Sweden, Canada, U.S.A.
- 1936 1,400 birds washed up along 21km of the south Kent coast in the year August 1935 - August 1936, including 500 in April 1936 (Adam, 1936). More killed when the Bandar Shahpur was wrecked on the Smalls rocks off S.W. Wales on 24 September, and in Holland in October-November (Brouwer 1953), in Cornwall in late November. Pollution also reported from Denmark, New England, and at Cleveland, Ohio, on the Great Lakes of North America (Lincoln, 1936).
- 1937 Severe pollution around the mouth of San Francisco harbour, California, when the Frank Buck was involved in a collision on 6 March; mortality estimated at 6,600 Guillemots with many Western Grebes Aechmophorus occidentalis and White-Winged Scoter Melanitta deglandi (Aldrich, 1938; Moffit and Orr, 1938). More pollution in Kent and Sussex in December.
- 1938 Pollution around the Isle of Wight in February and again in May - June, in Suffolk at the end of the year.
- 1940 Pollution in Suffolk and Massachusetts in February.
- 1941 'Blow-out' of an off-shore oil well caused anxiety in Texas.
- 1942 Very severe oiling along the east coast of North America from North Carolina to Nova Scotia following the entry of U.S.A. in World War II. 5,000 out of 20,000 wildfowl wintering off Monomoy, Massachusetts, estimated to have been killed in one incident in late February (Peterson, 1942; Ripley, 1942; Lewis, 1942).
- 1945 Many auks washed up in Devon in February.
- 1946 Pollution severe in Holland in February (Brouwer, 1953).

- 1948 Winter quarters of the Whooping Crane Grus americana in Louisiana, U.S.A. threatened by oil drilling; threat averted by lateral drilling. 10,000 out of 50,000 wildfowl wintering in an area of the Detroit River warmed by effluent killed by pollution early in the year (Miller and Whitlock, 1948; Hunt and Ewing, 1953).
- 1949 Many wildfowl killed in Finland (Lemmetyinen, 1966).
- 1950 Pollution in January and February in Holland (Brouwer, 1953).
- 1951 Another disaster in Finland, and many birds killed at the mouth of the Elbe, north Germany, and off eastern England in the spring.
- 1952 The wreck of the Fort Mercer and Pendleton off Chatham, Massachusetts, in a gale on 18 February resulted in a mass mortality of Eiders Somateria mollissima wintering nearby. The following winter the total had declined from 500,000 to 150,000 (Burnett and Snyder, 1954). Over 30,000 wildfowl, mainly Long-tailed Duck Clangula hyemalis killed off Gotland in the Baltic in March (Lemmetyinen, 1966), and Jackass Penguins Spheniscus demersus and some Gannets were killed off the Cape of Good Hope in August (Rand, 1952). R.S.P.B. estimated the annual loss in British waters at 50,000 to 250,000 birds.
- 1953 Over 10,000 wildfowl killed in the west Baltic. The Coordinating Advisory Committee arranged a conference to discuss the situation in London.
- 1954 Pollution in Cornwall in February and March. Another 10,000 wildfowl killed off Gotland. Further pollution in Kent later, and in the Irish Sea involving Cumberland, Lancashire and North Wales in October. In May an inter-governmental conference in London agreed on a convention to limit the discharge of oil over much wider areas offshore.
- 1955 Very severe pollution followed the wreck of the Gerd Maersk off the mouth of the Elbe in January; mortality in north Germany for the year estimated at 275,000 birds, largely Common Scoter Melanitta nigra. Pollution of the eggs reduced the breeding success of Sandwich Terns Thalasseus sandvicensis and other birds along the coast subsequently (Rittinghaus, 1956). Another 10,000 birds, largely Long-tailed Ducks, killed off the Rland Islands at this time. Pollution also reported in the Irish Sea in October, and Puffins Fratercula arctica noticed dead at Gibraltar.
- 1956 Vast mortality when the Seagate went ashore off California on 6 September. Over 2,000 White-winged Scoter and 900 Guillemots went ashore on four miles of coast alone (Richardson, 1956).
- 1957 Some 40,000 wildfowl, mainly Long-tailed Duck, killed east of Gotland in January (Lemmetyinen, 1966).
- 1958 Severe pollution along the north coast of the English Channel from Sussex to Dorset in January, with 25 lorryloads of material removed from Bournemouth beach alone. Puffins now severely reduced and other auks declining on Pembroke Islands off South Wales (Lockley, 1958).
- 1959 Many wildfowl killed on the cwer Weser in Germany (Slominski, 1959), 4,000 birds killed off Nantucket Island, New England (Hawkes, 1961). Situation reviewed at second International conference on oil pollution at Copenhagen.

- 1960 Worst recorded kill off Newfoundland, eastern Canada another 10,000 birds killed in the Detroit river on the Great Lakes in April (Hunt and Cowan, 1963); various pollutions in the North Sea, 22,000 wildfowl, mainly scoter, killed in the Danish archipelago (Lemmetyinen, 1966).
- 1961 A local oil-spill wiped out the diving birds in Poole Harbour, Southern England, in January (Ranwell and Hewett, 1964); there was severe pollution in Long Island Sound, eastern U.S.A. in February (Hawkes, 1961), and 1,200 ducks were killed on the lower Detroit River during the spring (Hunt, 1961).
- 1962 Tens of thousands of Long-tailed Ducks killed off Gotland in the Baltic. Amendments to the International Convention banning oil discharge over wider areas including the whole Baltic and North Sea accepted.
- 1963 Severe pollution off Cornwall, January - March, with an estimated loss of 1,000 birds in the south and 8,500 in the north, and also in Lincolnshire. The world population of the Greater Snow Goose Anser coerulescens hyperboreus threatened by pollution of the marsh below Quebec, Canada, where they feed on migration in December (Eagles, 1964). The number of wildfowl wintering at sea off S.E. England were by now becoming noticeably reduced (Atkinson-Willes, 1963).
- 1964 Oil dumped off the great seabird colony on the Dry Tortugas, Florida, on January 7 was covered with dredging before the Sooty Terns Sterna fuscata returned in March; none the less 2.7% were later found to be polluted, ten times the normal average (Clarke et al., 1964).
- 1965 Kittiwakes Rissa tridactyla were wrecked in Nigata Prefecture, Japan, in late March, where an increasing number of these and Streaked Shearwaters Calonectris leucomelas had been found oiled along the shore in recent years (Kazawa, 1968). Pollution of Lyttleton Harbour, New Zealand, on 17 July affected many species but especially White-flipped Penguins Eudyptula albosignata and Spotted Shags Phalacrocorax punctatus, some oiled birds occurring up to thirty miles away (Norris, 1965).
- 1966 Pollution involved in excess of 1,700 birds on the N.E. coast of England in January, including northern races of auks (Parrack, 1967), and over 2,500 birds (and probably at least 5,000) in Cornwall (Bourne, 1966). Another 5,000 or more, largely gulls, were also killed when the Seestern polluted the Medway Estuary, Kent, on 18 September (Buck and Harrison, 1967; Harrison, 1967). Long-tailed Duck in the Baltic were now reduced to a tenth of their pre-war numbers (Lemmetyinen, 1966).
- 1967 The north coast of the English Channel from Kent to Dorset was polluted when the Saale was damaged off Beachy Head and towed, leaking, to Southampton in January, with pollution of the estuaries (Phillips, 1967). Over a thousand birds were also killed in Lancashire in March, when the Torrey Canyon also polluted much of Cornwall and Brittany, causing an absolute minimum of 10,000 deaths, nearly all auks (Gill et al., 1967; Bourne et al., 1967).
- 1968 A leak from the cracked hull of the Tank Duchess in the Tay Estuary, S.E. Scotland, on 29 February killed some 2,000 birds, mainly Eiders, with some Common Scoter, which may have included some 7% of the entire British Eider population (Greenwood and Keddle, 1968). The loss of the

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World Glory off eastern South Africa in mid-June also caused local damage.

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