

## Annotated Bibliography on Lobster Trapping and Related Subjects

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**ABSTRACT**—This bibliography contains 159 entries that have useful information for those studying lobster trapping. The subjects covered include behavior, general biology, catch statistics, ecology, fishing methods, ghost fishing, management, materials testing, trap design, and selectivity. The brief reviews following each entry are not full abstracts but only serve as a guide to what the reference contains of interest to the trap researcher. The key words serve the same purpose.

- Adams, W. C. 1918. Report of the Commission of Fish and Game of Massachusetts for 1918. Public Doc. 25:247-250.  
An increase in lobster landings is attributed to the protection of short lobsters. Species: *Homarus americanus*.  
Key words: behavior, biology.
- American Society for Testing and Materials. 1968. 1968 book of ASTM standards, part 24, textile materials—yarns, fabrics, and general methods. Am. Soc. Test. Mater., Phila., 728 p.  
Standard test methods for yarns and fibers.  
Key words: materials testing.
- Anonymous. 1959. "Ghost" nets present a novel problem. World Fish. 8(12):21.  
The lost gill net problem in the Icelandic cod fishery is briefly reviewed.  
Key words: ghost fishing.
- . 1960. "Ghost" nets that fish years after they are lost. Commer. Fish. Rev. 22(7):46.  
One-page article calls attention to the problems of ghost nets fishing for long periods of time after being lost. Bottom-set cod gill nets around Iceland that were recovered after months or years of being lost contained numerous fish skeletons and live fish.  
Key words: ghost fishing.
- . 1961. Fishing methods and gear-gillnets-set. "Ghost" nets retrieved. World Fish. Abstr. 12(1):1.  
A short tech note about the recovery of lost gill nets by Iceland's RV *Aegir*. An Icelandic regulation which requires rigging the nets with degradable floatstraps is discussed.  
Key words: ghost fishing.
- . 1970. Rock lobster escape gap report. Southeastern Fisheries Committee, Rock Lobster Research Group, First Meeting, Hobart, Tasmania, 4 p.  
Tasmanian research on sublegal escape vents is summarized. Recommended escape vent size is 2¼" H × 12" W. Species: *Jasus novae hollandiae*.  
Key words: size regulation, pot selectivity.
- Atema, J., and D. G. Engstrom. 1971. Sex pheromone in the lobster, *Homarus americanus*. Nature 232:261-263.  
Chemical communication (pheromones) is important in reproductive behavior and may be important in other social communications. Species: *Homarus americanus*.  
Key word: behavior.
- Atwood, W. G., and A. A. Johnson. 1924. Marine structures: Their deterioration and preservation. Natl. Res. Council., Wash., D.C., 534 p.  
Results of studies by the Committee on Marine Piling Investigations of the National Research Council, including reports of test boards in the major harbors of the U.S.  
Key words: materials testing.
- Bain, J., Jr. 1967. Investigations into the effectiveness of escape gaps in crayfish traps. N.Z. Mar. Dep., Fish. Tech. Rep. 17, Wellington, 20 p.  
Trawl strings were set with pots with and without escape gaps. The catch was measured and length frequency histograms were drawn. In one test area the escape gap pots caught significantly fewer shorts without decreasing the legal catch. In another, the entire catch was less in the escape gap pots. Species: *Jasus edwardsii*.  
Key words: pot selectivity.
- Bennett, D. B. 1974. The effects of pot immersion time on catches of crabs, *Cancer pagurus* L., and lobsters, *Homarus gammarus* (L.). J. Cons. Int. Explor. Mer 35:332-336.  
Daily records of crab and lobster catches off Devon, England, were examined for catch per unit effort in relation to soak time. Lobster CPUE decreased after short periods of soak time but sometimes increased after 4 or more days' soak time. Factors that affect CPUE are listed. Species: *Cancer pagurus*, *Homarus gammarus*.  
Key words: catch statistics.
- Bickerson, A. W. 1973. Batten pot escape gaps. West. Aust. Dep. Fish Fauna, Fish. Ind. News Serv. 6(1):13.  
Escape gap regulations of Western Australia. Species: *Panulirus longipes cygnus*.
- Bowen, B. K. 1961. The Shark Bay fishery on snapper (*Chrysophrys unicolor*). Fish. Dep., West. Aust., Rep. I, 15 p.  
Snapper fishery information plus some aspects of pot selectivity and "ghost" fishing. Points for and against the use of pots are discussed. Species: *Chrysophrys unicolor*.  
Key words: pot selectivity, catch statistics, "ghost" fishing.
- . 1963. Effectiveness of escape-gaps in crayfish pots. Fish. Dep., West. Aust., Rep. 2, 13 p.  
Twenty-five cray pots with different size escape gaps were fished. Carapace length and depth were measured on 1,416 crayfish and length frequencies were tabulated. Correlations were made between carapace depth, escape gap size, and theoretical and actual retention rates of crayfish in the trap selection range. Species: *Panulirus longipes cygnus*.  
Key words: pot selectivity, behavior.
- . 1965. Escape gap cray pots. Aust. Fish. Newsl. 24(10):26-27.  
A summary of Western Australian experiments (1963-1965) on escape vents. Species: *Panulirus longipes cygnus*. See also: Bowen, B. K. 1963.  
Key words: size regulation, pot selectivity.
- Burgess, J. 1969a. Plastic lobster pot. Fish. News (Lond.) No. 2915, 18 April, 6.  
A Norwegian-made plastic lobster and crab pot is briefly described.  
Key words: pot design.

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- \_\_\_\_\_. 1969b. Ploythene bars make durable lobster pots. *Fish. News (Lond.)* No. 2932, 15 August, 6.  
Lost for 2 years, a plastic trap had traveled over 2 miles, and was still fishable  
Key words: pot design.
- \_\_\_\_\_. 1969c. Crab trap v with anchor. *Fish. News (Lond.)* No. 2932, 15 August, 6.  
Canadian research note on Queen (spider) crab traps indicates that vibrations transmitted by the mooring rope to the trap discouraged crabs from entering. A trap was designed that anchors itself securely to the bottom. Work was done on entrance design.  
Key words: pot design.
- \_\_\_\_\_. 1970. Irish fisherman's ideal lobster pot. *Fish. News. (Lond.)* No. 2982, 7 August, 6.  
Describes a cylindrical wire pot used in the Irish lobster fishery.  
Key words: pot design.
- \_\_\_\_\_. 1971a. Reducing chafe on plastic lobster pots. *Fish. News (Lond.)* No. 3004, 15 January, 6.  
Discusses the problem of chafing on the bottom of plastic lobster pots.  
Key words: pot design.
- \_\_\_\_\_. 1971b. "Traditional" lobster pots can be made of plastic. *Fish. News (Lond.)* No. 3100, 5 March, 4-5.
- \_\_\_\_\_. 1971c. Shellfish traps. *Fish. News (Lond.)* No. 3035, 20 August, 9-10.
- \_\_\_\_\_. 1971d. Shellfish traps. *Fish. News (Lond.)* No. 3036, 27 August, 9-10.
- \_\_\_\_\_. 1971e. Shellfish traps: a note on what we missed. *Fish. News (Lond.)* No. 3042, 8 October, 6.  
Four-article series lists British pot manufacturers and describes each pot. Many illustrations.  
Key words: pot design.
- \_\_\_\_\_. 1971f. Out on the grounds with a French pot. *Fish. News (Lond.)* No. 3049, 26 November, 6.  
A Scottish fisherman's report on using a Kavel hexagonal top entrance pot.  
Key words: fishing methods.
- Castagna, M. 1973. Shipworms and other marine borers. *Mar. Fish. Rev.* 35(8):7-12.  
A brief introduction to marine borers, their classification, description, life history, and distribution.  
Key words: materials testing.
- Clapp, W. F., and R. Kenk. 1963. Marine borers---an annotated bibliography. *Off. Nav. Res., Dep. Navy, Wash., D.C.*, 1,136 p.  
The entire field of marine borer biology and control is covered.  
Key words: materials testing.
- Cobb, J. N. 1899. The lobster fishery of Maine. *Bull. U.S. Fish Comm.* 19:241-265.  
A complete report on the status of the Maine lobster fishery as of 1898. Included are a review of the natural history of the lobster, history of the fishery, fishing gear design, fishing methods, marketing, abundance, artificial propagation, and regulations. Species: *Homarus americanus*.  
Key words: pot design, fishing methods.
- Cobb, S. J. 1971. The shelter related behavior of the lobster, *Homarus americanus*. *Ecology* 52:108-115.  
The relationship between the lobster and the dimensions and properties of its shelter is reported. Opening dimensions and proportions, overall size, "back door" opening, and light intensity were studied with respect to lobster size groups. Shelter excavation is examined. Species: *Homarus americanus*.  
Key words: behavior, ecology.
- Cobb, S. J. 1976. The American lobster: The biology of *Homarus americanus*. *Univ. R.I., Mar. Tech. Rep.* 49, 32 p.  
An updated review with information on biology, ecology, behavior, the fishery, and aquaculture. (181 references). Species: *Homarus americanus*.  
Key words: biology, bibliography.
- Collins, J. W. 1904. Report of a convention held in Boston, 1903, to secure better protection of the lobster. *Mass. Comm. Inland Fish. Game. Rep.* 1903, 51 p.  
Transcript of a convention that discussed whether or not the lobster fishery was in trouble, and if it was, what should be done. The consensus was that the fishery was in a decline due to the increase in fishing effort brought about by improved technology, and the lack of protection of egg-bearing and short lobsters. Discusses regulatory protection of the fishery. Species: *Homarus americanus*.  
Key words: size regulation, catch statistics.
- Cope, C. E. 1959. Spiny lobster gear and fishing methods. *U.S. Dep. Inter., Bur. Commer. Fish., Fish. Leafl.* 487, 17 p.  
Current and former gear and methods of the Florida spiny lobster fishery are described and illustrated. Wood and wire pots, ice cans, drums, and hand-held gear are detailed. Gear costs (1959) and selected references are given. Species: *Panulirus argus*.  
Key words: fishing methods, pot design.
- DeWolf, A. G. 1974. The lobster fishery of the maritime provinces: economic effects of regulations. *Fish. Res. Board Can., Bull.* 187, 59 p.  
A description of the Canadian lobster fishery, a review of the aspects of lobster biology that affect regulations, a history of Canadian lobster fishery regulations, and a detailed discussion of the economic effects of these regulations. Species: *Homarus americanus*.  
Key words: size regulation, catch statistics.
- Dexter, S. C. 1972. Handbook of oceanographic engineering materials, volume I. Metals and alloys. *Woods Hole Oceanogr. Inst., Tech. Memo.* WHOI-4-72, 89 p.  
A guide for ocean engineers and designers in the selection of materials for use in the marine environment. Includes mechanical, physical, and chemical properties, corrosion resistance, fabricability, availability, and cost.  
Key words: materials testing.
- Doliber, E. 1973. Lobstering inshore and offshore. *Assoc. Press, N.Y.*, 108 p.  
New England's inshore and offshore lobster fishery is surveyed. A brief history of lobster fishing, a detailed discussion of inshore and offshore methods, and the author's view of the future prospects and problems are included. Species: *Homarus americanus*.  
Key words: pot design, fishing methods.
- Douglis, M. B. 1946. Some evidences of a dominance-subordinate relationship among lobster, *Homarus americanus*. (*Abstr.*) *In Anat. Rec.* 96:553.  
Observations on encounters and the establishment of hierarchies among small groups of adult lobsters were made in test tanks. After initial encounters there was little fighting. Strong males dominated females except in a case where a male was crippled. Species: *Homarus americanus*.  
Key word: behavior.
- Dow, R. L. 1961. Some factors influencing Maine lobster landings, parts I-IV. *Commcr. Fish. Rev.*, 23(9):1-11. (Also *U.S. Fish. Wildl. Serv. Sep.* 627, 11 p.)  
Four-part article evaluates such factors influencing lobster landings as length of fishing time, catch-per-unit-of-gear, seawater temperature, landed value, and number of pots being fished. Efficiencies of daily and set-over fishing vary with time of year and population size-distribution changes. Species: *Homarus americanus*.  
Key words: catch statistics, fishing methods.
- Dow, R. L., F. W. Bell, and D. M. Harri-man. 1975. Bioeconomic relationships for the Maine lobster fishery with consideration of alternative management schemes. *U.S. Dep. Commer., NOAA Tech. Rep. NMFS SSRF* 683, 44 p.  
An extensive review of the Maine lobster fishery and the factors that affect it. In-

- cludes information on life history, growth, mortality, population dynamics, and economic relationships. (Suggests that ghost fishing may be of major significance.) A bioeconomic model of the fishery is presented as is a discussion of past, present, and future management schemes. Species: *Homarus americanus*.  
Key word: management.
- Dunham, P. J. 1972. Some effects of group housing upon the aggressive behavior of the lobster *Homarus americanus*. J. Fish. Res. Board Can. 29:598-601.  
Lobsters held 36 days in a group housing tank were less aggressive than lobsters held in individual tanks. There were qualitative differences between the two groups in the aggressive behavior displayed. Species: *Homarus americanus*.  
Key word: behavior.
- Edwards, E. 1974. Traps used in the British crab and lobster fishery. Fish. News (Lond.) No. 3157, 11 January, 6-7.  
Brief discussion of the history and reasons for evolution of British trapping gear. Illustrated.  
Key words: pot design.
- Emmel, V. E. 1905. The regeneration of lost parts in the lobster. Comm. Inland Fish. R.I., 35th Annu. Rep., p. 81-117.  
This preliminary report on a series of experiments on lobsters to determine the powers of regeneration. From 7 to 25 percent of freshly taken lobsters are missing one or both claws. Species: *Homarus americanus*.  
Key word: biology.
- \_\_\_\_\_. 1906. The relation of regeneration to the molting process in the lobster. Comm. Inland Fish. R.I., 36 Annu. Rep., p. 258-313.  
Further experiments on the effects of regeneration on the molting process. Regeneration retards molting and increases the length of the period between molts. This effect varies depending on the time the regenerative process is introduced into the molting period. By retarding both the frequency of molting and the increase in size, regeneration retards the rate of growth in the lobster, sometimes by as much as 25 percent. Species: *Homarus americanus*.  
Key word: biology.
- Ennis, G. P. 1974. Observations on the lobster fishery in Newfoundland. Fish. Res. Board Can., Biol. Stn., St. John's, Tech. Rep. 479, 21 p.  
The status, trends, and the calculated effects of increasing minimum legal size on the fishery are discussed. Species: *Homarus americanus*.  
Key words: catch statistics, size regulation.
- Everett, J. T. 1972. Inshore lobster fishing. U.S. Dep. Commer., NOAA, Natl. Mar. Fish. Serv., Fish. Facts-4, 26 p.  
Trap design, construction, and buoying methods are presented, along with information on boats, bait, fishing methods, costs, and regulations. This is a revision of Firth's (1944) work on lobster trap design. Species: *Homarus americanus*.  
Key words: pot design, fishing methods.
- Field, G. W. 1906. The lobster fisheries and the causes of their decline. Comm. Fish. Game, Boston, Mass., 40th Annu. Rep., 46 p. Abstr.  
The commercial decline of the lobster and its causes is discussed with emphasis on existing and proposed legislation for lobster preservation. Species: *Homarus americanus*.  
Key words: size regulation, catch statistics.
- \_\_\_\_\_. 1911. The lobster fishery: A special report including suggestions for uniform laws made to the legislature of Massachusetts by the Commissioners on Fisheries and Game. Boston, 59 p.  
Lobster life history is outlined and the fishery status, particularly its decline, causes of decline, and possible solutions, is discussed. The taking and selling of short lobsters is identified as a major factor in the decline. Lath spacing regulations are discussed but not included in a proposed draft of uniform laws. Species: *Homarus americanus*.  
Key words: size regulation, catch statistics.
- Firth, F. E. 1944. Construction and operation of lobster fishing gear. U.S. Dep. Inter., Bur. Commer. Fish., Fish. Leaf. 64, 14 p.  
History, construction, and operation of the hoop-net, the half-round pot, and the rectangular lobster pot are covered as are funnels, buoys, bait, and fishing methods. Species: *Homarus americanus*.  
Key words: pot design, fishery methods.
- Fisheries Agency of Japan. 1958. Illustration of Japanese fishing boat and fishing gear. [In Engl. and Jpn.] Jpn. Assoc. Agric. For., Tokyo, 208 p.  
Japanese fishery boats and gear are described and illustrated. Topic headings for each piece of gear include construction, operation, fishing season, species, and fishing grounds. A variety of pots and shelter type traps are presented.  
Key words: pot design, fishing methods.
- Forsyth, W. S. 1960. Lobster and crab fishing. 2nd ed. Adam and Charles Black, Lond., 103 p.  
Detailed construction methods for netted creels and willow pots along with information on methods of setting and hauling. Species: *Homarus vulgaris*, *Nephrops norvegicus*, *Palinurus vulgaris*, and *Cancer pagurus*.  
Key words: pot design, fishing methods.
- Gibson, F. A. 1967. Irish investigation on the lobster (*Homarus vulgaris* Edw.). Irish Fish. Invest., Ser. B (Mar.), No. 1. Dep. Agric. Fish., p. 13-45.  
Annual growth rate, maturity, pathology, and mortality of the lobster, as well as tagging and marking, relationship of size of catch to gear used, and the catch per unit effort, is given. A brief history of Irish lobster fishing is included. Species: *Homarus vulgaris*.  
Key words: catch statistics, pot selectivity, fishing methods.
- Gibson, F. A., and M. L. Hefferman. 1967. Lobster gear efficiency trials 1966. Dep. Agric. Fish., Leaf. 1, 6 p.  
American parlor pots, French creels, Scottish creels, and Kilmore Quay pots were fished in several locations off Ireland with different boats and various experimental procedures. Catch per unit effort was recorded along with size and sex data. The American parlor pot caught and retained more lobsters (but fewer sub-legals) than all other traps tested. Species: *Homarus vulgaris*, *Palinurus vulgaris*.  
Key words: pot selectivity, catch statistics.
- Hancock, D. A. 1974. Attraction and avoidance in marine invertebrates—their possible role in developing an artificial bait. J. Cons. Int. Explor. Mer 35:328-331.  
Chemical attraction and avoidance reactions in marine invertebrates are discussed in regard to baiting traps. Part relates to the reduction of rock lobster, *Panulirus cygnus* George, catches when dead lobsters are left in the traps. Species: *Panulirus cygnus*.  
Key word: behavior.
- Harris, D. B. 1972. Corrosion controlled release. Woods Hole Oceanogr. Inst., Tech. Rep. WHOI-72-72, 6 p. Unpubl. manuscr.  
A low-cost corrosion release device for recovering fish traps using a magnesium-steel galvanic couple is developed.  
Key words: materials testing.
- Herrick, F. H. 1911. Natural history of the American lobster. Bull. U.S. Bur. Fish. 9:149-408.  
Extensive coverage of the American lobster, its preservation, and literature. Species: *Homarus americanus*.  
Key words: bibliography, ecology, fishing methods, size regulation.
- High, W. L. 1976. Escape of Dungeness crabs from pots. Mar. Fish. Rev. 38(4):19-23.  
Given an opening of sufficient size, Dungeness crabs (*Cancer magister*) will escape from lost traps. Entrance-triggers

- reduce escapement. Octopus predation was observed. Species: *Cancer magister*. Key words: ghost fishing, behavior.
- High, W. L., and A. J. Beardsley. 1971. Observation of fish behavior in relation to fish pots. In J. W. Miller, J. G. VanDerwalker, and R. A. Waller (editors), *Tek-tite 2: Scientists-in-the-Sea*, p. VI-4-VI-14. U.S. Dep. Inter., Wash., D.C.
- Habitat-based scientists studied three trap designs and the reef fish behavior in and around these traps. Territorial defense, social behavior, and predator-prey relationships were observed. Key words: pot design, pot selectivity, behavior.
- High, W. L., and I. E. Ellis. 1973. Underwater observations of fish behavior in traps. *Helgolander wiss. Meeresunters.* 24:341-347.
- Diver-scientists noted effects of tunnel design, pot location, bait, set over time, and extended trap leads were observed in three experiments on fish behavior in relation to traps. Key words: pot design, pot selectivity, behavior.
- High, W. L., and N. B. Parks. 1973. Timed closing device for fish trap studies. U.S. Dep. Commer., NOAA, Nat. Mar. Fish. Serv., Seattle, 8 p. Unpubl. manuscr.
- Use of commercially available corrosive links for closing fish trap heads to control fishing time during experiments is described. Key words: materials testing.
- Himmelfarb, D. 1957. The technology of cordage fibres and rope. *Textile Book Publ.*, Ipswich, Engl., 370 p.
- Fiber characteristics, processing, and the making and finishing of rope is discussed, as are rope properties, protection, and use. Key words: materials testing.
- Hipkins, F. W. 1972. Dungeness crab pots. U.S. Dep. Commer., NOAA, Natl. Mar. Fish. Serv., Fish. Facts-3, 13 p.
- Materials and construction methods of Dungeness crab pots are discussed. Pot equipment, fishing techniques, and regulations are also mentioned. Species: *Cancer magister*. Key words: pot design, fishing methods.
- Hipkins, F. W., and A. J. Beardsley. 1970. Development of a pot system for harvesting black cod (*Anoplopoma fimbria*). U.S. Dep. Commer., NOAA, Natl. Mar. Fish. Serv., Seattle, 31 p. Prog. Rep.
- Many aspects of fishing gear and techniques used in the development of the experimental pot system are described. Pros and cons of pots including the possibility of ghost fishing are discussed. Species: *Anoplopoma fimbria*. Key words: pot design, fishing methods, ghost fishing.
- Hoffman, R. S., P. J. Dunham, and P. V. Kelly. 1975. Effects of water temperature and housing conditions upon the aggressive behavior of the lobster, *Homarus americanus*. *J. Fish. Res. Board Can.* 32:713-717.
- Lobsters are reported more aggressive at 10°C than at 5°C. Observations on housing conditions VS aggressiveness are discussed. Species: *Homarus americanus*. Key word: behavior.
- Hughes, J. T. 1963. Report on the investigation and study of the deep sea lobster fishery. Mass. House Rep. 3190, December 1962, 13 p. Boston.
- This Massachusetts offshore lobster otter trawl fishery survey includes the history of the fishery, a description of the vessels and gear, and the methods used. Species: *Homarus americanus*. Key words: fishing methods.
- Isaacson, P. A. 1963. Modifications of Chesapeake Bay commercial crab pot. *Commer. Fish. Rev.* 25(1):12-16.
- This crab pot efficiency study found that placing the entrance heads lower increased catch. One-way gates were effective. Species: *Callinectes sapidus*. Key words: pot design, behavior.
- Jaeger, S. 1972. Potfishing and artificial baits symposium proceedings. Wash. Sea Grant Advis. Prog., WSG-AS-72-2, Univ. Wash., Seattle, 32 p.
- Baiting and pot design in the west coast crab and fish pot fisheries. The possibility of ghost fishing was discussed. Species: *Paralithodes camtschatica*. Key words: fishing methods, pot design, ghost fishing, behavior.
- Kanciruk, P. and W. F. Herrnkind (editors). 1976. An indexed bibliography of the spiny lobsters, family *Palinuridae*. Fla. Sea Grant Rep. 8. FLSGP-L-76-001. Fla. State Univ., Gainesville, 101 p.
- 1,111 references are indexed by author, key words, subject, and species. Key word: bibliography.
- Krouse, J. S. 1976. Incidence of cull lobsters, *Homarus americanus*, in commercial and research catches off the Maine coast. *Fish. Bull.*, U.S. 74:719-724.
- Catch data from 1968-1974 indicate 65 percent of commercially harvested lobsters have lost at least one claw, while 21 percent of the natural population have missing and/or regenerating claws. A relationship is suggested between fishing intensity and the incidence of culls. The loss of value of catch due to culls is quantified. Sublegal escape vents are recommended. Species: *Homarus americanus*. Key words: catch statistics, pot selectivity.
- Krouse, J. S., and J. C. Thomas. 1975. Effects of trap selectivity and some population parameters on size composition of the American lobster, *Homarus americanus*, catch along the Maine coast. *Fish. Bull.*, U.S. 73:862-871.
- Information collected aboard Maine commercial lobster boats indicate that throwback ratios of illegal to legal lobsters can be reduced by proper lath spacing. Escape vents of 1 3/4" are recommended for the lobster fishery where the minimum legal length is 81 mm. Species: *Homarus americanus*. Key words: pot selectivity, size regulation.
- Leakey, R. D. 1965. Folding traps built to be escape proof. *Natl. Fisherman*, October, p. 13.
- A general discussion of basic principles used in the design of Cornish pots and Scottish creels. The discussion covers construction materials, baiting, and escape proofing of traps. Species: *Homarus vulgaris*, *Palinurus vulgaris*. Key words: pot design, fishing methods.
- Lewis, R. D. 1970. A bibliography of the lobsters, genus *Homarus*. U.S. Dep. Inter., U.S. Fish Wildl. Serv., SSRF 591, 47 p.
- A total of 1,303 references are given. Species: *Homarus americanus*, *Homarus vulgaris*, *Homarus gammarus*. Key word: bibliography.
- Lund, W. A., L. L. Stewart, and C. J. Rathbun. 1973. Investigation on the lobster. *Comm. Fish. Res. Dev. Act. Final Rep.* 3-130-R, 189 p.
- Extensive report on research performed in the Long Island Sound area covering population structure, ecology, lobster pot distributions, and attempts to locate juvenile lobster concentrations. Included are detailed descriptions of lobster habitats and field measurements of lobster burrow dimensions. A large amount of tagging data and resultant movement information is presented. Species: *Homarus americanus*. Key word: ecology.
- McKay, R. J., and R. Worthington. 1936. Corrosion resistance of metals and alloys. *Reinhold Publ. Corp.*, N.Y., 492 p.
- Summarizes information on corrosion processes and rates. Discusses corrosion principles and treats each important metal and some alloys in detail. Key words: materials testing.
- McLeese, D. W. 1956. Effects of temperature, salinity and oxygen on the survival of the American lobster. *J. Fish. Res. Board Can.* 13:247-272.
- A large number of lobsters were tested under a variety of conditions. Lethal limits were established for temperature,

- salinity, and oxygen, and found not to change by size differences (16-34 cm), areas caught, or by starvation up to 57 days. Species: *Homarus americanus*.  
Key word: biology.
- . 1972. Initial experiments on growth of the American lobster in captivity. Fish. Res. Board Can., Biol. Stn., St. Andrews, Tech. Rep. 320, 22 p. Investigates the economic feasibility of growing spring-caught lobsters through a moult (resulting in legal size) in captivity. Results indicate that "better methods are required to eliminate mortality and mutilations, to produce maximum weight increments following a moult, to promote early moulting, and to maintain maximum moulting frequency." Reference is made to cannibalism (p. 5) and claw loss (p. 9) in captivity. Species: *Homarus americanus*.  
Key word: behavior.
- McLeese, D. W., and D. G. Wilder. 1958. The activity and catchability of the lobster (*Homarus americanus*) in relation to temperature. J. Fish. Res. Board Can., 15:1345-1354.  
Laboratory experiments were conducted to determine the activity (walking rate) of lobsters acclimated to various temperatures. In addition, experimental fishing data was analyzed and an index of catchability was shown to be linearly related to temperature. The relationship of catchability, temperature, and activity permits the use of catch per unit effort data to estimate lobster populations. Species: *Homarus americanus*.  
Key words: catch statistics, behavior, pot selectivity.
- McMynn, R. G. 1951. The crab fishery off Graham Island, British Columbia, to 1948. Fish. Res. Board Can., Bull. 91, 21 p.  
A synopsis of the crab fishery, as stated above, which describes the traps used and contains some comments on mortality, cannibalism, and predation related to the traps. Species: *Cancer magister*.  
Key words: fishing methods, pot selectivity.
- McRae, E. D. 1960. Lobster explorations on continental shelf and slope off northeast coast of the United States. Commer. Fish. Rev. 22(9):1-7. (Also Sep. 598.) A review of otter trawl exploration cruises of the *Delaware* in 1955-56. Gear and areas surveyed are covered as well as catch rates of lobsters. Species: *Homarus americanus*.  
Key words: fishing methods, catch statistics.
- Menzies, R. J. and R. Turner. 1957. The distribution and importance of marine wood borers in the United States. In Symposium on wood for marine use and its protection from marine organisms. Am. Soc. Test. Mater., Spec. Tech. Publ. 200, p. 3-21.  
Review of 10 major categories of known marine borers and the materials they attack, their use of the material for food, their means of dispersal and to which environments they are adapted.  
Key words: materials testing.
- Meyer, R. 1973. A study concerning the problem of derelict pots in the king crab, *Paralithodes camtschatica*, fishery. Unpubl. manuscript, Kodiak Laboratory, Natl. Mar. Fish. Serv., NOAA, Kodiak, Alaska.  
This study measured the ability of unbaited pots to retain and capture crabs, and tested the deterioration rate of several pot hanging materials. Deterioration rates of crab ectoskeletons and mortality rates of tagged versus untagged crabs were also tested. Species: *Paralithodes camtschatica*.  
Key words: ghost fishing, materials testing.
- Meyers, J. J., C. H. Holm, and R. F. McAllister (editors). 1969. Handbook of ocean and underwater engineering. McGraw-Hill, N.Y., 1,094 p.  
A general handbook covering all aspects of the ocean environment and ocean engineering, including corrosion and marine borers.  
Key words: materials testing.
- Miller, R. J. 1975. Density of the commercial spider crab, *Chionoecetes opilio*, and calibration of the effective area fished per trap using bottom photography. J. Fish. Res. Board Can. 32:761-768.  
This paper discusses some aspects of catchability along with its main theme. Species: *Chionoecetes opilio*.  
Key words: pot selectivity.
- . 1976. North American crab fisheries: Regulations and their rationales. Fish. Bull., U.S. 74:623-633.  
A review of the regulations in six crab fisheries of North America. Ghost fishing and escape vent regulations are mentioned.  
Key word: management.
- Moody, J. A. 1965. Pilot studies in Saco Bay, Maine, on chemical bait, phototropism, and escape of the American lobster. Bio-Dynamics, Inc., Cambridge, Mass., 16 p.  
Covers three studies involving the use of trimethylamine as a chemical bait, blue lights as a lure, and escapement of lobsters from conventional pots. Results indicate that trimethylene seems to be a lobster attractor whereas bright or foreign objects do not. Lobsters more readily escape unbaited pots than baited ones.  
Species: *Homarus americanus*.  
Key words: pot design, fishing methods, behavior.
- Morgan, G. R. 1973. Effectiveness of rock lobster sorters. West. Aust. Dep. Fish. Fauna. Fish. Ind. News Serv. 6(2):35-36.  
A short report about an on-deck sorter that was tested as a means to facilitate more rapid sorting and separation of undersize lobsters for both fishing and conservation purposes. Species: *Panulirus longipes cygnus*.  
Key words: size regulation, fishing methods.
- . 1974. Aspects of the population dynamics of the western rock lobster, *Panulirus cygnus* George. II. Seasonal changes in the catchability coefficient. Aust. J. Mar. Freshwater Res. 25(2):249-259.  
Catchability coefficients were calculated using measurements of catch, effort, population density, and area of reef. The catchability varied significantly and was positively correlated with water temperature and salinity and negatively correlated with premoult condition. It was found that the presence of rock lobster remains in the pot appears to lower catchability. Species: *Panulirus cygnus*.  
Key words: catch statistics, pot selectivity.
- Morgulis, S. 1916. The influence of fasting on lobsters. Trans. Am. Fish. Soc. 45:188-201.  
Lobsters starved for 56 days showed no outward signs of emaciation and the greatest weight loss was 2.89 percent. The lobsters absorbed water making up for the weight loss of organic and mineral matter; without this extra water the average weight loss would have exceeded 34 percent. Species: *Homarus americanus*.  
Key word: biology.
- Munro, J. L. 1973. Large volume stackable fish traps for offshore fishing. Gulf Caribb. Fish. Inst., Proc. 25:121-128.  
An evaluation of two types of stackable traps. Hexagonal traps (stackable) outfished stackable S-traps but both types were about 25 percent less efficient than traditional traps.  
Key words: pot design.
- . 1974. The mode of operation of Antillean fish traps and the relationships between ingress, escapement, catch, and soak. J. Cons. Int. Explor. Mer 35:337-350.  
An analysis of ingress and escapement rates versus soak time, pot type, and bait condition, of Antillean fish pots. A simple theoretical model of the mode of operation of fish pots is presented.

- Key words: pot selectivity, catch statistics, behavior, pot designs.
- Munro, J. L., P. H. Reeson, and V. C. Gaut. 1971. Dynamic factors affecting the performance of the Antillean fish trap. *Gulf Carribb. Fish. Inst., Proc.* 23:184-194.
- Extensive diver observations of the catch rates of Antillean fish pots. Comparisons are made on the composition of the catch, effects of lunar periodicity, catch per day soaked, conspecific attraction, effect of bait, and the fate of lost pots.
- Key words: pot selectivity, behavior, ghost fishing.
- National Marine Fisheries Service. 1971. Exploratory fishing and gear research base. Shellfish resource assessment. Cruise Rep., R/V *Delaware II* 70-8. U.S. Dep. Commer., NOAA, Natl. Mar. Fish. Serv., Woods Hole, Mass., 10 p.
- The cruise was concerned with evaluating equipment used to gather biological information and samples as well as evaluating resources available. Results include a comparison of fishing effort by location, based on the different types of pots used, and also depth ranges by location of the various crustacea caught. Species: *Homarus americanus*, *Geryon quinquedens*, *Cancer borealis*.
- Key words: fishing methods, pot design, catch statistics.
- \_\_\_\_\_. 1972. Fishery statistics of the United States 1969. U.S. Dep. Commer., NOAA, Natl. Mar. Fish. Serv., Stat. Dig. 63, 474 p.
- Contains statistical data on the American lobster fishery, by state (landings, value, and gear).
- Key words: catch statistics.
- \_\_\_\_\_. 1973. Fishery statistics of the United States 1970. U.S. Dep. Commer., NOAA, Natl. Mar. Fish. Serv., Stat. Dig. 64, 489 p.
- Contains statistical data on the American lobster fishery, by state (landings, value, and gear).
- Key words: catch statistics.
- \_\_\_\_\_. 1974. Fishery statistics of the United States 1971. U.S. Dep. Commer., NOAA, Natl. Mar. Fish. Serv., Stat. Dig. 65, 424 p.
- Contains statistical data on the American lobster fishery, by state (landings, value, and gear).
- Key words: catch statistics.
- \_\_\_\_\_. 1975. Fishery statistics of the United States 1972. U.S. Dep. Commer., NOAA, Natl. Mar. Fish. Serv., Stat. Dig. 66, 517 p.
- Contains statistical data on the American lobster fishery, by state (landings, value, and gear).
- Key words: catch statistics.
- \_\_\_\_\_. 1976. Fishery statistics of the United States 1973. U.S. Dep. Commer., NOAA, Natl. Mar. Fish. Serv., Stat. Dig. 67, 458 p.
- Contains statistical data on the American lobster fishery, by state (landings, value, and gear).
- Key words: catch statistics.
- New England Marine Resources Information Program. 1972. Forget the mice! It's a better lobster trap that's needed. NEMRIP Inf. 34, Univ. R.I., p. 1-2.
- Brief discussion of offshore trap design covering NMFS experiments with metal traps.
- Key words: pot design.
- Nowak, W. S. W. 1972. The lobster (Homaridae) and the lobster fisheries: an interdisciplinary bibliography. Tech. Rep. 6, Mar. Sci. Res. Lab. Mem. Univ. Newfoundland, 313 p.
- 3,217 references listed alphabetically with a subject index.
- Key word: bibliography.
- Nye, W., Jr. 1887. A reasoning lobster. Bull. U.S. Fish Comm. for 1886. 6:186.
- A short note about a lobster apparently using reason to avoid capture while stealing bait from a snare-type trap. Species: *Homarus americanus*.
- Key word: behavior.
- O'Farrell, R. C. 1966. Lobsters, crabs, and crawfish. Fish. News (Books) Ltd., Lond., 120 p.
- O'Farrell, a British inshore fisherman, discusses all aspects of lobstering, drawing upon existing scientific knowledge and practical experience. Species: *Homarus vulgaris*.
- Key words: pot design, behavior, fishing methods.
- Peterson, S. B., and J. M. Friedman. 1977. The Massachusetts lobster fishery: Model legislation and management plans. Woods Hole Oceanogr. Inst. Tech. Rep. 77-5, 81 p. Unpubl. manuscr.
- Presents four possible management plans and five statutes for imposing the plans. Trap tags and gear limits are among the suggestions. The results of a questionnaire completed by Massachusetts lobstermen are discussed. Species: *Homarus americanus*.
- Key word: management.
- Pontecorvo, G. 1962. Regulation in the North American lobster fishery. FAO Fish. Rep. 5:239-297.
- Discusses the biology and geography of the fishery as well as a history of present-day regulations. The author calls for more biological and economic research. Species: *Homarus americanus*.
- Key words: size regulation.
- Prudden, T. M. 1962. About lobsters. Bond Wheelwright Co., Freeport, Maine, 170 p.
- A practical book that discusses lobsters and the lobster fishery of the New England inshore waters. Coverage includes lobster ecology, biology, fishing methods, holding and transport, and marketing. Species: *Homarus americanus*.
- Key words: fishing methods, pot design, behavior, ecology.
- Rabin, H. 1965. Studies on gaffkemia, a bacterial disease of the American lobster, *Homarus americanus* Milne-Edwards. J. Invertebr. Pathol. 7:391-397.
- Contains a study of the local distribution of *Gaffkya homari* in the Woods Hole, Massachusetts, area. Thirty-two percent of a sample from the Marine Biological Laboratory's supply of recently caught lobsters were found infected. There were no obvious external signs of the disease. Species: *Homarus americanus*.
- Key word: biology.
- Rathbun, R. 1887. The crab, lobster, crayfish, rock lobster, shrimp, and prawn fisheries. In George Brown Goode (editor), The fisheries and fishery industries of the United States. Sec. V, Vol. II, p. 627-810. Gov. Print. Off., Wash., D.C.
- Part XXI of this volume contains an historical background of the lobster fishery, the gear in use, and the regulations.
- Ritchie, L. D. 1966. Crayfish pot escapement gap survey, November 1965-January 1966. N.Z. Mar. Dep., Fish. Tech. Rep. 14, Wellington, 24 p.
- Experiments were conducted at four different locations along the New Zealand coast using various types of pots with and without escape vents. The report discusses the practicability of escape gaps, effect of variation of escape gap size, conditions affecting the escape of small crayfish, and the effect of escape gaps on catch-length frequencies. Results indicate that escape gaps are effective and that their effectiveness depends on the total escape gap area, the amount of bait used and the time required for consumption, the pot set time, and the size composition of the fished population. Species: *Jasus edwardsii*.
- Key words: pot selectivity, catch statistics, size regulation.
- \_\_\_\_\_. 1970. Southern spider crab (*Jacquinotia edwardsii* Jacquinot 1853) survey—Auckland Islands and Campbell Island. N.Z. Mar. Dep., Fish. Tech. Rep. 52, Wellington, 111 p.
- This report contains data on comparison fishing crab pots with and without escape gaps. Crab biology and processing are

also discussed. Species: *Jacquiniotia edwardsii*.

Key words: catch statistics, pot selectivity.

\_\_\_\_\_. 1972. Octopus predation on pot-caught rock lobster—Hokianga area, N.Z., Sept.-Oct. 1970. N.Z. Mar. Dep., Fish. Tech. Rep. 81, Wellington, 40 p. Data were collected to determine the effect of escape gaps on octopus predation of lobsters in pots. These data also include the effect of fishing period, size of pot, and location fished. The relationship of these variables, the loss of revenues to the fishermen, and control measures are reviewed. Losses are estimated at \$30 per boat per day. Escape gap pots were visited by fewer octopuses, caught more legal lobsters, and did not retain as many octopuses as non-escape pots. This last point is of negative value since one way to deal with the predation problem is to develop an incidental octopus fishery. One solution presented is to relocate the escape gap higher up the sides of the pot, thus retaining more octopuses for sale. Species: *Jasus edwardsii*.

Key words: pot selectivity, catch statistics, pot design, behavior.

Rivers, J. B. 1966. Gear and technique of the sea bass trap fishery in the Carolinas. Commer. Fish. Rev. 28(4):15-20. (Also Sep. 761.)

Baited pots are used by fishermen in the Carolinas to commercially produce black sea bass. The methods used are dissimilar to those used in New Jersey. One of the major differences is that in New Jersey pots are fished unbaited while in the Carolinas the sea bass are attracted to the pots for food rather than shelter. Species: *Centropristis striata*.

Key words: pot design, fishing method.

Robinson, L. A. (editor). 1977. Fisheries of the United States, 1976. U.S. Dep. Commer., NOAA, Natl. Mar. Fish. Serv. Curr. Fish. Stat. 7200, 96 p.

Contains statistical data on lobster landings, supply, value, and volume, as well as import statistics.

Key words: catch statistics.

Rutherford, J. B., D. G. Wilder, and H. C. Frick. 1967. An economic appraisal of the Canadian lobster fishery. Fish. Res. Board Can., Bull. 157, 126 p.

Contains some discussion on the merits and demerits of size limits and gear regulations as management tools. Other sections review the history of the Canadian lobster fishery, effort and output, lobster biology, fishing methods, and economic theory and management of the lobster fishery. Species: *Homarus americanus*.

Key words: size regulation, fishing methods, catch statistics.

Scarrett, D. J. 1965. Predation on lobsters (*Homarus americanus*) by *Anonyx* sp. (Crustacea, Amphipoda). J. Fish. Res. Board Can. 22:1103-1104.

A short report on observations of live lobsters being consumed by amphipods. It seems that healthy lobsters can resist attack by amphipods except where movement is restricted as in lobster crates. Species: *Homarus americanus*.

Key word: biology.

\_\_\_\_\_. 1973. Claw loss and other wounds in commercially caught lobsters (*Homarus americanus*). J. Fish. Res. Board Can. 30:1370-1373.

Pot-caught lobsters were found to have an incidence of claw loss ranging from 5 to 19 percent though no specific causes were identified. Rough handling, moving fishing gear, ice in shallow waters, and behavioral interactions are thought to be contributing factors. Incidence of other wounds ranged between 1 and 11 percent in the lobsters sampled. Species: *Homarus americanus*.

Key words: catch statistics, fishing methods, behavior.

Schroder, W. C. 1959. The lobster, *Homarus americanus*, and the red crab, *Geryon quinquedens*, in the offshore waters of the western north Atlantic. Deep-Sea Res. 5:266-282.

Describes the development of the offshore otter trawl fishery for lobsters in detail giving many catch statistics. A limited amount of similar data are presented on the red crab. Commercial fishing log-book data are included in an appendix. Species: *Homarus americanus*, *Geryon quinquedens*.

Key words: catch statistics, fishing methods.

Scrivener, J. C. E. 1971. Agonistic behaviour of the American lobster, *Homarus americanus* (Milne-Edwards). Fish. Res. Board Can., Tech. Rep. 235, 128 p.

An extensive study of agonistic behavior patterns in lobsters. An ethogram of agonistic behaviors and a scheme of behavioral sequence pathways are presented. Species: *Homarus americanus*.

Key word: behavior.

Seaman, W., Jr., and D. Y. Aska (editors). 1974. Research and information needs of the Florida spiny lobster fishery. Proceedings of a conference held March 12, 1974, Miami. Mar. Adv. Program, Univ. Fla., Gainesville, SUSF-SG-74-201, 64 p.

Contains 11 papers on the spiny lobsters, covering biology, ecology, fishing methods, catch statistics, and economics data. An appendix on Florida's lobster management program includes a regulation aimed at preventing ghost fishing (p. 58). Species: *Panulirus argus*.

Key words: fishing methods, ghost fishing.

Sheehy, D. J. 1976. Utilization of artificial shelters by the American lobster (*Homarus americanus*). J. Fish. Res. Board Can. 33:1615-1622.

Two types of artificial shelters were fabricated of concrete and placed near Point Judith, Rhode Island, in areas devoid of natural shelter. It was found that spacing and orientation had significant effects on occupancy. Lobster abundance on the shelter sites equaled or exceeded those reported for good natural grounds. Species: *Homarus americanus*.

Key word: behavior.

Sheldon, W. W., and R. L. Dow. 1975. Trap contributions to losses in the American lobster fishery. Fish. Bull., U.S. 73:449-451.

A note on studies to evaluate ghost traps in Maine waters from July 1971 to June 1973. Authors conclude that approximately one-third of lobster in or entering unbuoyed traps will be lost to the fishery from cannibalism or retention. Species: *Homarus americanus*.

Key words: ghost fishing.

Skud, B. E., and H. C. Perkins. 1969. Size composition, sex ratio, and size at maturity of offshore northern lobsters. U.S. Dep. Inter., Bur. Commer. Fish., Spec. Sci. Rep. Fish. 598, 10 p.

Data for the report were obtained from samples taken from five submarine canyons, selected for reasons of commercial importance and geographic separation, between 1965 and 1967. Data were tabulated by canyon area according to size and sex. Conclusions were drawn pertaining to size and size distribution with respect to depth, sex ratio, number of egg bearing lobsters, moulting season, and female maturity. Mention was made of the increasing role of offshore trawl fishing for lobster. Species: *Homarus americanus*.

Key words: catch statistics, fishing methods, biology.

Smith, F. G. W. 1958. The spiny lobster industry of Florida. Fla. Board Conserv., Educ. Ser. 11, 36 p.

This report defines and discusses the spiny lobster and its life history. Emphasis is placed on fishing techniques, legal requirements, and the value of the spiny lobster industry. Species: *Panulirus argus*.

Key words: biology, fishing methods.

Smith, G. F. M. 1944. The catchability of lobsters. J. Fish. Res. Board Can. 6:291-301.

The returns from tagging over 6,000 lobsters were analyzed mathematically for information on lobster catchability in the commercial pot fishery. Results indi-

- cate that the difference in catchability between large and small lobsters is greatest when the mean length is small and the population density is high. Large lobsters are more catchable than small ones. Catchability is affected by moulting, pot type, and the amount of fishing effort applied. Some conclusions can be made in estimating population sizes using the techniques of the author. Species: *Homarus americanus*.  
Key words: catch statistics, size regulation, pot selectivity.
- Spurling, T. S. 1968. How to build a successful wire lobster trap. Natl. Fisherman, March, 48:11-B.  
An article by a fisherman on how to build one type of all-wire inshore trap. He reports that his traps can go four years without repair and are more resistant to storm damage than wood traps. He also states that sea urchins eat out the nylon heading on traps. Species: *Homarus americanus*.  
Key words: pot design.
- Spurr, E. 1972. Lobster research project: Final report of 3-105-R, July 1969-June 1971. Fish. Div., N.H. Fish Game Dep., 22 p. Unpubl. rep.  
This project was divided into five jobs, one of which was comparison fishing of lobster pots. The other jobs include the collection of effort, hydrographic, and tagging data. Experiments suggest that parlor head design is an important factor in pot efficiency. Wire covered traps moved less than wood-lath covered traps. Species: *Homarus americanus*.  
Key words: pot design, catch statistics.
- Stasko, A. B. 1975. Modified lobster traps for catching crabs and keeping lobsters out. J. Fish. Res. Board Can. 32:2515-2520.  
Laboratory and field experiments were conducted to develop a trap for capturing crabs, *Cancer irroratus*, and excluding lobsters, *Homarus americanus*. Different size and shaped entrances and escape holes were tested. A long rectangular opening, 44.5 mm wide, allowed most crabs to enter yet prevented passage of most legal-size lobsters. Round openings were more effective than square ones to allow escape of lobsters and retention of commercial-size crabs. Species: *Cancer irroratus*, *Homarus americanus*.  
Key words: pot design, pot selectivity.
- Stein, L., S. Jacobson, and J. Atema. 1975. Behavior of lobsters (*Homarus americanus*) in a semi-natural environment at ambient temperatures and under thermal stress. Woods Hole Oceanogr. Inst. Tech. Rep. 75-48, 49 p. Unpubl. manuscript.  
Two 10-foot diameter aquaria were established as semi-natural habitats for a number of lobsters and other animals. Observations were made on shelter selection, feeding, activity, and social behavior. It was found that aggression was most frequent during feeding; cohabitation between males and females occurred for several days following mating; and the frequency of aggressive behavior in the temperature range 22-28°C was similar to levels at ambient temperatures. There were very few aggressive interactions between lobsters. Species: *Homarus americanus*.  
Key word: behavior.
- Stewart, J. E. 1975. Gaffkemia, the fatal infection of lobsters (genus *Homarus*) caused by *Aerococcus viridans* (var.) *homari*: A review. Mar. Fish. Rev. 37(5-6):20-24.  
A review of gaffkemia, mentioning the effects of temperature and salinity on rate of death. Twenty-four references listed. Species: *Homarus americanus*.  
Key word: biology.
- Stewart, J. E., J. W. Cornick, D. I. Spears, and D. W. McLeese. 1966. Incidence of *Gaffkemia homari* in natural lobster (*Homarus americanus*) populations of the Atlantic region of Canada. J. Fish. Res. Board Can. 23:1325-1330.  
Hemolymph samples from 2,035 lobsters demonstrated that *G. homari* is widespread in the Canadian Atlantic area. Incidence levels vary with area and possibly time. Species: *Homarus americanus*.  
Key word: biology.
- Stewart, J. E., J. W. Cornick, D. M. Foley, M. F. Li, and C. M. Bishop. 1967. Muscle weight relationship to serum proteins, hemocytes, and hepatopancreas in the lobster, *Homarus americanus*. J. Fish. Res. Board Can. 24:2339-2354.  
Serum protein values, hemocyte numbers, and muscle weights were determined for 216 lobsters immediately after capture and 230 lobsters held captive under several dietary and environmental conditions. Diet was found to be more important than temperature in changing muscle and serum protein values. Mortality rate was the same for both fed and starved lobsters held for 140 days. Starved animals showed no obvious signs of stress, lessened activity, or increased cannibalism. Species: *Homarus americanus*.  
Key word: biology.
- Stewart, J. E., J. W. Cornick, and B. M. Zwicker. 1969. Influence of temperature on gaffkemia, a bacterial disease of lobster, *Homarus americanus*. J. Fish. Res. Board Can. 26:2503-2510.  
The mean time to death in lobsters infected with gaffkemia is lower at higher temperatures. Species: *Homarus americanus*.  
Key word: biology.
- Stewart, J. E., G. W. Horner, and B. Arie. 1972. Effects of temperature, food, and starvation on several physiological parameters of the lobster *Homarus americanus*. J. Fish. Res. Board Can. 29:439-442.  
Data are presented on the effects of temperature and starvation on a number of physiological parameters. Species: *Homarus americanus*.  
Key word: biology.
- Stewart, J. E., and H. J. Squires. 1968. Adverse conditions as inhibitors of ecolysis in the lobster *Homarus americanus*. J. Fish. Res. Board Can. 25:1763-1774.  
Lobsters were tested under several conditions to note the effect on moulting incidence. A reduction in moulting was achieved by enforcing a high degree of association between lobsters. Darkness and starvation under highly restrictive conditions inhibited moulting the most of all conditions tested. Species: *Homarus americanus*.  
Key words: biology, behavior.
- Stewart, R. 1971. A living from lobsters. Fish. News (Books) Ltd., Lond., 67 p.  
This book, written by a British lobsterman, discusses aspects of lobstering including creel design, lobster behavior, fishing strategy, and boat selection. Species: *Homarus vulgaris*.  
Key words: fishing methods, pot design, behavior.
- Struhsaker, P., and D. C. Aasted. 1974. Deepwater shrimp trapping in the Hawaiian Islands. Mar. Fish. Rev. 36(10):24-30.  
Discusses exploratory trap fishing for *Penaeus marginatus*, *Heterocarpus ensifer*, and *H. laevigatus*. A variety of trap types were tried with variations in baiting and head design. The authors note a problem with cannibalism among *H. ensifer*; the highest rates occurring with long set-overs or in traps where the bait was gone. Species: *Penaeus marginatus*, *Heterocarpus ensifer*, *H. laevigatus*.  
Key words: pot design, pot selectivity.
- Templeman, W. 1939. Investigations into the life history of the lobster (*Homarus americanus*) on the west coast of Newfoundland, 1938. Newfoundland Dep. Nat. Resour., Fish. Bull. 7, 52 p.  
Covers aspects of the life history of the Newfoundland lobster such as average sizes, sex ratios, moulting, pot selectivity, egg laying and hatching, and larval distributions. Pot selectivity experiments were also carried out. Species: *Homarus americanus*.



- Key words: catch statistics, biology, pot selectivity.
- \_\_\_\_\_. 1958. Lath-spacing in lobster traps. Fish. Res. Board Can., Prog. Rep. Atl. Coast Stn. 69:22-28.  
A review of Canadian experiments concerned with lath-spacing and the Canadian laws that evolved from them. Species: *Homarus americanus*.  
Key words: size regulation, pot selectivity.
- Thomas, H. J. 1953. The efficiency of fishing methods employed in the capture of lobster and crabs. J. Cons. Int. Explor. Mer 18:333-350.  
Comparison fishing was performed using four types of creels, one standard and three modified. Additional comparison was made between creels and scoop nets. Comparison fishing showed that fewer crabs were caught in the single-eyed creel and that more lobsters and crabs were caught in the finer-mesh creel. Scoop nets proved less size-selective than creels. The significance of the results in the estimation of population statistics is discussed. Species: *Homarus vulgaris*, *Cancer pagurus*.  
Key words: pot design, pot selectivity, catch statistics.
- \_\_\_\_\_. 1954. The efficiency of the Cornish pot and the Scottish creel in the capture of lobsters and crabs. J. Cons. Int. Explor. Mer 20:87-91.  
Twenty-four Cornish pots were fished against the same number of Scottish creels. Results show that under specified fishing conditions the difference in catching power between the two types of pots was negligible. There was no significance in number or size of lobsters caught even when the Cornish pots used three times as much bait as the Scottish creels. Species: *Homarus vulgaris*, *Cancer pagurus*.  
Key words: pot design, catch statistics.
- \_\_\_\_\_. 1959. A comparison of some methods used in lobster and crab fishing. Scott. Fish. Bull. 12:3-8.  
Discusses different types of pots with respect to size, shape, construction materials, and the effects of variables such as eye construction, escape preventers, bait, and areas being fished. Suggestions are provided for improving the fishing capability of pots. Species: *Homarus vulgaris*, *Cancer pagurus*.  
Key words: pot design, fishing methods.
- Thomas, J. C. 1973. An analysis of the commercial lobster (*Homarus americanus*) fishery along the coast of Maine, August 1966 Through December 1970. U.S. Dep. Commer., NOAA Tech. Rep. NMFS SSRF-667, 57 p.  
Life history information as well as catch and effort data are evaluated to determine the optimum minimum legal size for maximum sustainable yield for the State of Maine. Recommendations include raising the minimum size of lobsters to 89 mm (carapace length) and eliminating Maine's maximum size regulations. The author feels pot limitations will not effectively diminish fishing effort but that lath-spacing may be a means to increase overall yields. Species: *Homarus americanus*.  
Key words: catch statistics, pot selectivity, biology, size regulation.
- Todd, J. H., D. Engstrom, S. Jacobson, and W. O. McLarney. 1972. An introduction to environmental ethology: A preliminary comparison of sublethal thermal and oil stresses on the social behavior of lobsters and fishes from a freshwater and marine ecosystem. Woods Hole Oceanogr. Inst. Tech. Rep. 72-42, 104 p. Unpubl. manuscript.  
Contains a discussion of stress related to animal behavior and environment. The section on lobsters is an overview of pilot experiments on the influences of temperature and kerosene on feeding, social behavior, and organization. Species: *Homarus americanus*.  
Key word: behavior.
- Tuthill, A. H., and C. M. Schillmoller. 1966. Guidelines for selection of marine materials. Int. Nickel Co., N.Y., 37 p.  
A review of the performance of carbon steel in marine service and the major corrosion factors to be taken into consideration when using more durable materials. Key words: materials testing.
- Uhlig, H. H. (editor). 1948. The corrosion handbook. John Wiley and Sons, N.Y., 1,188 p.  
A condensed summary of corrosion information, including scientific data and industrial experience, with emphasis on quantitative information. Key words: materials testing.
- Uhlig, H. H. 1963. Corrosion and corrosion control. John Wiley and Sons, N.Y., 371 p.  
An introduction to the underlying science of corrosion and to the fundamentals of corrosion engineering. Key words: materials testing.
- U.S. Fish and Wildlife Service. 1968a. Exploratory fishing and gear research base. Lobster explorations on the continental slope and shelf with pot (trap) fishing gear. Cruise Rep., M/V *Delaware* 68-3. U.S. Dep. Inter., Bur. Commer. Fish. Gloucester, Mass., 8 p.  
First report of a series of cruises scheduled to investigate pot fishing for lobsters on the continental shelf and slope. Report includes gear and gear handling, as well as fishing results. Species: *Homarus americanus*, *Geryon quinquedens*, *Cancer borealis*.  
Key words: fishing methods, pot design, catch statistics.
- U.S. Fish and Wildlife Service. 1968b. Exploratory fishing and gear research base. Lobster explorations with pot (trap) gear. Cruise Rep., M/V *Delaware* 68-5. U.S. Dep. Inter., Bur. Commer. Fish., Gloucester, Mass., 7 p.  
This was the second cruise by the M/V *Delaware* to investigate offshore pot fishing. Attention was given to the retrieval of the equipment lost on the first cruise. Exploratory fishing was also tried in the shoal waters of the Gulf of Maine and Georges Bank. Species: *Homarus americanus*, *Geryon quinquedens*, *Cancer borealis*.  
Key words: fishing methods, catch statistics, ghost fishing.
- University of Rhode Island. 1972. Marine economics data: 80-foot Point Judith lobster vessel (wood VS wire pots). Mar. Memo. 14, URI Mar. Advis. Serv., Narragansett, 2 p.  
A cost comparison between using wood and wire pots on an offshore lobster vessel. Species: *Homarus americanus*.  
Key words: fishing methods, pot design.
- Van Dorb, W. G. 1950. An automatic marine time release device. Scripps Inst. Oceanogr., Oceanogr. Rep. 22, 5 p.  
Discusses timing device for release of bottom-anchored equipment using a magnesium link. Key words: materials testing.
- Van Engel, W. A. 1962. The blue crab and its fishery in Chesapeake Bay. Part 2—types of gear for hard crab fishing. Commer. Fish. Rev. 24(9):1-10.  
Presents the history and development of the blue crab gear used in the Chesapeake Bay area. Contains a good section on the pot's development. The author states there is greater than 100 percent annual pot losses in the fishery. Life expectancy of a pot worked daily is about 16 weeks due to wear and corrosion. Twenty-one references cited. Species: *Callinectes sapidus*.  
Key words: pot design.
- Von Brandt, A. 1964. Fish catching methods of the world. Fish. News Ltd., Lond., 191 p.  
This book is an encyclopedia of information about fish catching techniques and equipment from the oldest and most primitive to the modern. A variety of traps and pots are illustrated. There is a brief discussion of ghost fishing of gill nets on page 168.  
Key words: pot design, ghost fishing.
- Wilder, D. G. 1944. The effect of lath spac-

ing and the size of fishing ring on the catch of lobster traps. Fish. Res. Board Can., Prog. Rep. Atl. Coast Stn. 34:22-24.

Comparison of catches between pots with 5" fishing rings, 1¼" lath spacing, and pots with 4" rings and ¾" spacing. Wider space pots have greater increases in catch where the average size of lobsters caught is large. Where the average size is small the percentage reduction in captured shorts is greatest. Wide lath pots caught favor crabs. Species: *Homarus americanus*.

Key words: pot selectivity, catch statistics.

\_\_\_\_\_. 1945. Wider lath spaces protect short lobsters. Fish. Res. Board Can., Atl. Biol. Stn., Circ. 4, 1 p.

A circular produced for fishermen advocating the use of 1¼" lath spacing where the minimum size regulation is set at 7" overall. Advantages of this spacing include catching less shorts and more legal-sized lobsters, less crabs, and having a lighter pot that needs less ballast. Species: *Homarus americanus*.

Key words: size regulation, pot selectivity.

\_\_\_\_\_. 1948. The protection of short lobsters in the market lobster areas. Fish. Res. Board Can., Gen. Ser. Circ. 11, 1 p. Circular advocates the use of 1½" lath spaces when the legal minimum size is 3½" carapace length. Contains experimental data on escapement of shorts. Species: *Homarus americanus*.

Key words: size regulation, pot selectivity.

\_\_\_\_\_. 1949. Protect short lobsters by widening lath spaces. Fish. Res. Board Can., Gen. Ser. Circ. 14, 1 p.

A circular similar to G-4 (Wilder, 1945), advocating 1¼" lath spacing for pots used to catch lobsters 7" overall length and greater. Has experimental data indicating 1¼" lath spacing allows 60 percent of the shorts to escape. Species: *Homarus americanus*.

Key words: size regulation, pot selectivity.

\_\_\_\_\_. 1954. The lobster fishery of the southern Gulf of St. Lawrence. Fish. Res. Board Can., Atl. Biol. Stn., Gen. Ser. Circ. 24, 16 p.

The paper contains a review of the life history of the lobster with special emphasis on the southern Gulf of St. Lawrence stocks. Regulations pertaining to closed seasons, berried lobsters, size limits, and lath spacing are discussed. A biological analysis is conducted on how a change in a regulation might affect the fishery. Species: *Homarus americanus*. Key words: size regulation, biology, pot selectivity.

\_\_\_\_\_. 1956. Experiments to improve lobster traps. Fish. Res. Board Can., Biol. Stn., St. Andrews, New Brunswick. Unpubl. manuscript.

Standard wooden pots were compared against nine types of pots constructed of steel, aluminum, and cotton mesh. Three types were made almost entirely of aluminum; one of these was made of galvanized sheet iron, and one of plastic. Large variations in catches between the different experiments. Variables include type of pot, season of year, size of openings, and how pot lands on bottom. Steel traps showed higher resistance to damage during storms. Species: *Homarus americanus*. Key words: pot design.

\_\_\_\_\_. 1962. Lobster conservation in Canada. Special meeting on crustacea, No. 10. Int. Counc. Explor. Sea, 9 p.

The report covers the history and effects of fishing seasons, size limits, protection of egg-bearing females, lath spacing regulations, and hatcheries on the Canadian lobster resource. Available data indicates that lobster landings (by weight) have not been significantly affected by regulations defining fishing seasons, outlawing egg-bearing lobster sales, and specifying minimum sizes. Wilder believes environmental factors are more important in determining the sustained yield but that the regulations have important economic and sociological effects. Species: *Homarus americanus*. Key word: management.

\_\_\_\_\_. 1967. Lobster conservation in Canada. Fish. Res. Board Can., Stud. No. 1039. In 1966 Studies (Part II):237-245.

A review and discussion of Canadian regulations covering fishery seasons, size

limits, trap lath spacing, and hatcheries. Species: *Homarus americanus*. Key word: management.

Wilder, D. G., and U. J. Walsh. 1968. TBTO—A safe, effective treatment for lobster traps. Fish. Res. Board Can., Gen. Ser. Circ. 53, p. 22.

A short note indicating that traps treated with TBTO successfully resist attack by wood borers, *Teredo navalis*. Key words: materials testing.

Winstanley, R. H. 1970. Escape gap commercial crayfishing trials. Prof. Fisherman's Assoc. Tasmania (magazine), April, p. 118.

Short article gives details of a comparison fishing experiment between pots fitted with escape vents of different sizes and pots without vents. Species: *Jasus novae hollandiae*.

Key words: size regulation, pot selectivity.

\_\_\_\_\_. 1971. Southern rock lobster carapace length-depth relationship. Fish. Div., Dep. Agric., Hobart, Tasmania, 3 p.

Report of a study made of the relationship between carapace length and depth of the southern rock lobster with reference to escape gap research. Species: *Jasus novae hollandiae*.

Key words: size regulation, pot selectivity.

\_\_\_\_\_. 1973. Tasmanian rock lobster fishery—past and future. Aust. Fish. 32(7):15-20.

A review of the history and development of the fishery, discussing possible implications of different management schemes, including escape vents. Species: *Jasus novae hollandiae*.

Key words: catch statistics, biology, fishing methods, size regulation.

Wolf, R. S., and G. R. Chislett. 1974. Trap fishing explorations for snapper and related species in the Caribbean and adjacent waters. Mar. Fish. Rev. 36(9):49-61.

A report on trap fishing explorations that contains information on factors affecting fish trap catch rates such as pot size, mesh size, baiting, and soak period.

Key words: fishing methods, pot design.

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