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.


An increase in lobster landings is attributed to the protection of short lobsters. Species: Homarus americanus.

Key words: behavior, biology.


Standard test methods for yarns and fibers.

Key words: materials testing.


The lost gill net problem in the Icelandic cod fishery is briefly reviewed.

Key words: ghost fishing.


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.


Escape gap regulations of Western Australia. Species: Panulirus longipes cygnus.

Key words: pot selectivity.


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.


A Norwegian-made plastic lobster and crab pot is briefly described.

Key words: pot design.

Ronald Joel Smolowitz is with the Northeast Fisheries Center, National Marine Fisheries Service, NOAA, Woods Hole, MA 02543.
Lost for 2 years, a plastic trap had traveled over 2 miles, and was still fishable.
Key words: pot design.

Canadian research notes 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.

Describes a cylindrical wire pot used in the Irish lobster fishery.
Key words: pot design.

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.


Four-article series lists British pot manufacturers and describes each pot. Many illustrations.
Key words: pot design.

A Scottish fisherman’s report on using a Kavel hexagonal top entrance pot.
Key words: fishing methods.

A brief introduction to marine borers, their classification, description, life history, and distribution.
Key words: materials testing.

The entire field of marine borer biology and control is covered.


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Fish. Rev., 23(9):1-11. (Also words: materials testing.
Janudry, and was slight fishery-lobster pots, Fish. News (Lond.) No.
Note 011 Queen (spider) of adult lobsters were made in test and... L., of make and R. Kenk. 1963. Manne ideal 1971 a. Reducing chafe on plas­

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.

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.

Four-part article evaluates such factors influencing lobster landings as length of fishing time, catch-per-unit-of-gear, seawater temperature, land 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.

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 a discussion of past, present, and future management schemes. Species: *Homarus americanus*. Key word: management.


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.


Emmel, V. E. 1905. The regeneration of lost parts in the lobster. Comm. Inland Fish. R.1., 35th Annu. Rep., p. 81-117. This paper, the first 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.

Field, G. W. 1906. The relation of regeneration to the molting process in the lobster. Comm. Inland Fish. R.1., 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.


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. Commmer., 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.


reduce escapement. Octopus predation was observed. Species: Cancer magister.

Key words: ghost fishing, behavior.


High, W. L., and L. 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, selectivity, behavior.


Himmelfarb, D. 1957. The technology of cordage fibres and rope. Textile Book Publ., Ipswich, Eng., 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.


Key words: pot design, fishing methods.


Key words: pot design, fishing methods, ghost fishing.


Lobsters are reported more aggressive at 10°C than at 5°C. Observations on housing conditions vs aggression are discussed. Species: Homarus americanus.

Key word: behavior.


Key words: fishing methods.

Isaacson, P. A. 1963. Modifications of Chesapeake Bay commercial crab pot. Comm. 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.


Key words: fishing methods, pot design, ghost fishing, behavior.


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 indicates that throwback ratios of illegal to legal lobsters can be reduced by proper lath spacing. Escape vents of 13⁄4 are recommended for the lobster fishery where the minimum legal length is 81 mm. Species: Homarus americanus.

Key words: pot selectivity, size regulation.


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, Palinuris vulgaris.

Key words: pot design, fishing methods.


A total of 1,303 references are given. Species: Homarus americanus, Homarus vulgaris, Homarus gammarus.

Key word: bibliography.


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.


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,
differences in methods, Spec.: Species in words: ghost fishing, materials testing. 1976. North moulting, testing of catch per unit effort data to promote conservation purposes. Species: Homarus americanus. Key words: ghost fishing, materials testing. 1976. North moulting, testing of catch per unit effort data to promote conservation purposes. Species: Homarus americanus. Key words: ghost fishing, materials testing.


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.


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 exoskeletons and mortality rates of tagged versus unbaited crabs were also tested. Species: Paralithodes camtschatica. Key words: ghost fishing, materials testing.


A review of otter trawl exploration cruises of the Delaware in 1955-56. Gear and acas surveyed are covered as well as catch rates of lobsters. Species: Homarus americanus. Key words: fishing methods, pot selectivity.


Munro, J. L. 1974. Aspects of the population dynamics of the western rock lobster, Panulirus cygnus George. II. Seasonal changes in 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 premoist 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.

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


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.


The cruise was concerned with evaluating equipment used to gather biological information and samples as well as evaluating resources available. Results include a compression 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.


Contains statistical data on the American lobster fishery, by state (landings, value, and gear).

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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.


3,217 references listed alphabetically with a subject index.

Key word: bibliography.


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, 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.


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.


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.


Key words: fishing methods, pot design, behavior, ecology.


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.


Part XXI of this volume contains an historical background of the lobster fishery, the gear in use, and the regulations.


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.


This report contains data on comparison fishing crab pots with and without escape gaps. Crab biology and processing are...
The spiny lobster. 

Rivers, J. B. 1966. Gear and technique of 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 pot 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.


icate 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.


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.


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.


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.


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.


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.


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. Serum protein values, hemocyte numbers, and muscle weights were determined for 216 lobsters immediately after death. Starved animals showed no obvious signs of stress, lessened activity, or increased cannibalism. Species: Homarus americanus.

Key word: biology.


The mean time to death in lobsters infected with gaffkemia is lower at higher temperatures. Species: Homarus americanus.

Key word: biology.


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.


Key words: fishing methods, pot design, behavior.


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.


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


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.


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.


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 words: behavior.


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.


A condensed summary of corrosion information, including scientific data and industrial experience, with emphasis on quantitative information.

Key words: materials testing.


An introduction to the underlying science of corrosion and to the fundamentals of corrosion engineering.

Key words: materials testing.


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.


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.


This book is an encyclopedia of information about fishing 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 spacing on 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, biology, size regulation.

Comparison of catches between pots with 5" fishing rings, 1/4" lath spacing, and pots with 4" rings and 3/4" 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.

A circular produced for fishermen advocating the use of 1 1/4" 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.

Circular advocates the use of 1 1/4" lath spaces when the legal minimum size is 3 3/4" carapace length. Contains experimental data on escapement of shorts. Species: Homarus americanus.

Key words: size regulation, pot selectivity.

A circular similar to G-4 (Wilder, 1945), advocating a 1 1/4" lath spacing for pots used to catch lobsters 7" overall length and greater. Has experimental data indicating 1 1/4" lath spacing allows 80 percent of the shorts to escape. Species: Homarus americanus.

Key words: size regulation, pot selectivity.

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.

Standard wooden pots were comparison fished 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.

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.

A review and discussion of Canadian regulations covering fishery seasons, size limits, trap lath spacing, and hatcheries. Species: Homarus americanus.

Key words: size regulation, biology, pot selectivity.

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

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

Key words: size regulation, pot selectivity.

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 nova hollandiae.

Key words: size regulation, pot selectivity.

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

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

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.