

Conservation Should Be Followed by Use

Co-op Hears About Progress of Scientific Research on Salmon, Herring, Groundfish, Tuna, Crabs

"It's no use saving if you're not going to use," declared Dr. John Hart, director of the Pacific Biological Station at Nanaimo, who was guest speaker at the annual meeting of the Prince Rupert Fishermen's Co-operative Association at the end of the week.

Interpreting the definition of conservation as "wise use," Dr. Hart told the Co-op members that his station's policy was to develop a sustained yield.

The Co-op fishermen devoted almost an entire afternoon session listening to the talk by Dr. Hart.

On invitation of the Board of Directors, he described the work of his Department to a large gathering.

Introduced by Manager K. F. Harding—himself a member of the Fisheries Board of Canada—the speaker was described as the senior biological research scientist on the Pacific coast.

Of the seven stations in Canada Nanaimo receives one quarter of all appropriations, he disclosed.

Owing to its importance to B.C. salmon investigations at present take up about half the appropriations.

Because of the vulnerability of herring at spawning time that species is next in importance.

Other tasks include that of increasing knowledge of ground fishing.

As the life cycle of salmon leads it through the salt water channels and fresh water systems, it is particularly susceptible to both fishing and study. To a certain extent this also applies to the herring.

Most important of the investigational mediums is the fish fence, Dr. Hart said. It was the fence system that detected the Babine River slide. Fences enable scientists to study and count salmon going up to spawn and the fry returning to the sea. Dr. Hart invited suggestions for better methods of doing this than by fences, as he felt that it was a cumbersome way of studying the rates and success of reproduction.

His station also attempted to figure percentages of egg development, water flows, and to plan experiments. The problem of spawning bed gravel compacted by logging tractors and other factors to where water can no longer flow between the eggs is also being tackled, along with the idea of using special mobile creek seines for counting travelling fish.

Some surprising results have been obtained. For instance tagging and counting showed that more fish went to Lakelse than to Babine. It had also shown that the proportion of West Coast spring tags returned from United States rivers has decreased from 80% to 20% during the last 20 years. This is possibly due to the dams built on the Columbia.

Dr. Hart felt that fish ladders are not the complete solution of the dam problem. Shallow

spawning grounds converted into deep lakes posed another question.

By the use of "thread-marking" small fry, much was being learned about the effect of predators which prey on the downstream migration. Another project under study is that of "correlations" in which scientists attempt to relate salmon production with such factors as meteorological conditions, water levels in winter, and water runoffs. Combined with the "key stream" program which studies selected creeks intensively, more accurate forecasting of fish runs should be possible.

Regarding the herring fishery Dr. Hart said that investigations were continuing. With the collection of catch statistics and the examination of fishermen's log book records, knowledge is increasing. This is helped too by studies of spawn mortality, migrations and sampling, to determine age and size.

An interesting result of this was the discovery that the unexpected Gasboat Pass run this season was the result of a school of herring refusing to die at the end of its normal life span.

The bottom fish offer an interesting challenge to science, said the speaker. Statistics are more important and more difficult to obtain. The growing market for these fish built up by modern package methods of merchandising makes this type of fish important.

Investigations continue on tuna. Dr. Hart explained they were hampered somewhat by not being able to obtain the prom-

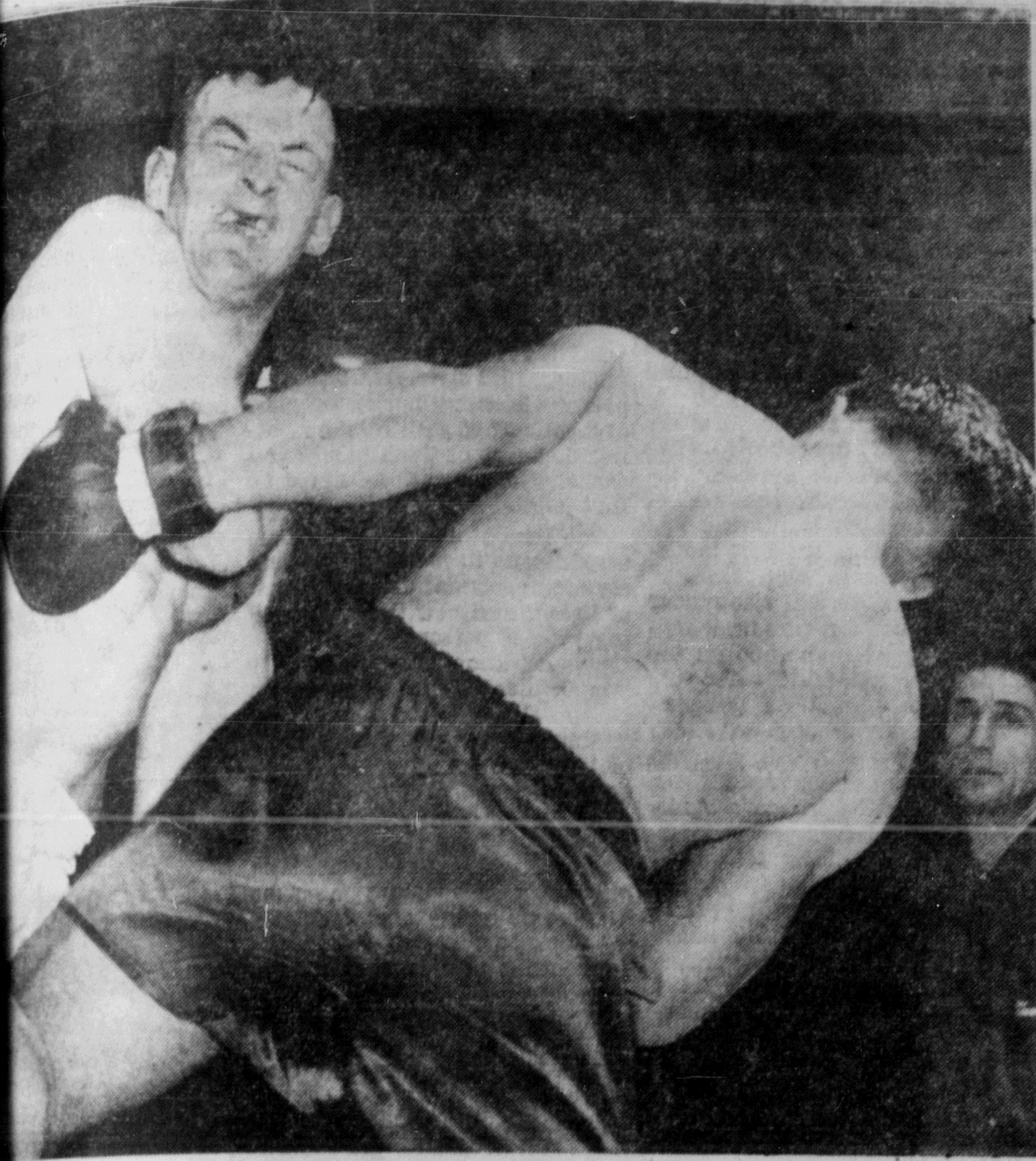
ised bathy-thermographs. The U.S. Navy had first priority on those instruments.

As crabs are increasing in importance they are still under observation, and it is now possible to make population estimates. Waters off the east coast of Graham Island contain approximately 3,000,000 crabs, north coast of the same island 1,000,000 and Naden Harbor 160,000.

As it is now known that the female crab never reaches the legal catch size limit, Dr. Hart

felt that the fishery was well protected. These shellfish will not live in captivity, thus making observation of the full life cycle and breeding activity in particular, difficult to observe. As in the case of other varieties knowledge is being accumulated slowly.

Dr. Hart's presentation in non-scientific language was appreciated by the meeting and a question period was followed by a hearty vote of thanks.



SOME GRIMACE by Andy Marshall in his toughest fight of the Golden Gloves tournament shows his distaste of Romeo Brunn's right hand. Marshall came back to put Brunn in the third round to win the light-heavy crown of B.C.

Gardening....

WILL IT COST?—Un-afraid of frost and like to make their best growth in cool weather. Sweet peas are in this group, and grass seed and nursery stock. The latter is the trade name for young vines, shrubs and trees, ready for transplanting. One can hardly plant these things too soon.

One of the easiest shortcuts both with flowers and vegetables is to use started plants as described earlier. These can go outside almost as soon as it is safe to sow seeds. If handled carefully one can have flowers and

new vegetables at least two weeks ahead of usual in this way. Another trick is to sow some seed of each packet a week or two before the normal time and then protect the young seedlings with paper caps, panes of glass or upturned flower pots until the weather really turns warm. Some people start a hill of melons, squash or such things in a berry box indoors, then plant box and all outside without disturbing roots.

gardeners in the cities are able to buy these started plants in flats from nurseries. But in the country, there is no such thing. Then again there are gardeners who, to make the most of particular varieties, grow their own plants anyway. A garden is large and a hundred of started plants are cheaper to grow than a seed. In this case, however, a hothouse is advisable. For construction of these affairs consult a government horticulturist. For starting seed in a good mixture of sand and loam.

planting outside will be handy things that are not

HEALTHY DIET
MONTREAL (CP)—Canadians should eat more fish, not only during Lent but all year round, says Civic Health Director Dr. Adelard Groulx. He noted that fish "is as nutritive as meat in general, and moreover is easier to masticate and digest."

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