

P.E. Island Trout Fishery Problems Are Discussed

Development of the Prince Edward Island trout fishery, involving the closing of certain controlled ponds to fishing until July 1st, is discussed in a comprehensive report prepared by Dr. M. W. Smith, Fisheries Research Board of Canada, St. Andrews, N.B., which was released for publication this week by the Department of Industry and Natural Resources.

Following is the full text of the report:

The waters of Prince Edward Island support good populations of brook trout. This species is indigenous to the area. The rainbow trout has been introduced, and is establishing itself in an increasing number of streams.

TROUT ARE ANADROMOUS

Both the native brook and the introduced rainbow trout run from Island streams into salt water. The movements of the trout between fresh and salt water present problems in production and utilization of the fish. Certain generalizations with respect to the anadromous behavior of the brook trout can be made. The major movements between fresh and salt water occur in spring and early summer (April-June) and again in the fall and early winter (October-January). Within these seasonal periods, time of movements and numbers of trout involved vary from year to year. Temperature of water in the streams and estuarial waters, change in levels of water in the streams, size, age and maturity of the fish are factors affecting the movements. Trout may move simultaneously into and out of streams. In majority, trout first run from the streams when in their third year of age. Their stay in salt water varies greatly with the individual, from a few days to several months. In general, the trout are moving to larger living quarters with increase in size, and into waters of preferred temperature. There is no evidence that the trout that run to salt water are a separate "race."

BROOK TROUT SHORT-LIVED

Data on the age composition of Island brook trout populations show that the majority of the fish are short-lived. Trout over four years of age comprise less than five per cent of the trout that are of suitable angling size. Natural rather than angling mortalities largely determine this situation. Best use of the trout will be realized with as effective cropping as possible when the fish attain a satisfactory size to the majority of anglers.

LEVELS OF PRODUCTION

The general angling success in Prince Edward Island streams is indicated by a high trout-carrying capacity for the waters. Data on yields of trout to anglers and estimates of standing crops corroborate this view. During recent years anglers have taken an average of 1,750 trout (1.5 per hour) annually from the Ellerslie Brook system (5 miles long). A 23-acre pond has yielded (1943-1954) an average per year of 3,660 trout to the anglers (37 lbs. per acre). Standing crops of trout in several ponds (as assessed by draining) have been found to vary considerably, but have been at the high level of 50 to 120 pounds per acre. For comparison, the yield of trout to anglers from eight less productive Charlottetown lakes, New Brunswick, was found to be in average 0.6 lbs. per acre.

Studies of survival and growth with increasing densities of stock suggest that trout production is potentially higher than at present generally realized. Analyses of food supplies and their consumption far from being fully utilized.

CONDITIONING FACTORS

1. Character of drainage. The soils of Prince Edward Island are predominantly sandy and clayey loams. Because of the nature of the soils and their development in depth, springs and spring seeps are widespread. These result in a good flow of cool water in most streams throughout the summer. The cool aquatic climate in the streams satisfies the temperature preferences of the trout at that season. Spring drainage provides favourable condition for successful spawning.

2. Fertility of the waters. The drainage waters are well mineralized. A good part of the Island is intensively farmed. Fertilization of the soils enhances the supply of plant nutrients (nitrogen, phosphates, potassium) in the drainage waters. There results a good growth of aquatic plants and trout foods (immature insects, snails, etc.) in the streams and ponds.

3. Restricted fish fauna in the freshwaters. Because it is an island and because of the character of the streams, the fish fauna of Island streams is restricted to a few species. Almost entirely the stream fish fauna consists of brook trout (dominant), young Atlantic salmon (subdominant) and the introduced rainbow trout (increasing numbers). Interspecific competition and predation are thus almost entirely limited to that between these three salmonoid species. In ponds formed on streams, eels, sticklebacks and killifish may become common and occasionally abundant. In the estuaries the trout of course associated with a greater number of fish species.

majority of the sea-run trout on their return to the streams move through such areas, unless barred by obstructions, into the more covered and less accessible upstream stretches of the streams before they can be taken by anglers. Natural mortalities there account for large numbers of these fish and they are thus lost to the angler.

It is to be emphasized, however, that the same cover that deters angling does much to condition the high trout-producing capacities of the streams. Cover should be viewed as a favorable rather than an unfavorable factor in the management of the Island trout fishery, and should not be purposely altered in any extensive way. Rather it would appear more practical to hold the sea-run trout at accessible points to make them more obtainable by the anglers.

2. Plant growths. The fertility of Prince Edward Island waters that makes basically for good trout production is not an unmixed blessing. Filamentous algae ("scum") and rooted aquatic vegetation often grow profusely in ponds formed on streams. By mid-summer these plant growths virtually prevent angling in some ponds by fouling of the fishing hooks.

3. Siltation. Much silt is washed into Island streams from farms. When slackened flow permits, siltation of stream bottoms creates unfavourable conditions for trout. Lower reaches of streams and head of estuaries are often heavily silted. Local heavy siltation may also arise by drainage from roadside ditches, particularly following new road construction.

4. Predation. Brook trout are cannibals. Predation may occur between brook trout, rainbow trout and salmon parr in the streams. The great blue heron, kingfisher and mink are serious predators of trout. With decline in trapping of mink for fur, their numbers have become larger.

Conditions limiting utilization of trout by anglers.

1. Poor accessibility of streams to anglers. Trees, alders and other shrubbery make it impossible for the fly-fishermen and difficult, if not also impossible, for the bait fishermen to angle trout from long reaches of most Prince Edward Island streams. Sea-run trout, which constitute a good proportion of the trout of suitable angling size, are most accessible to anglers at the heads of estuaries and along the more open sections of streams. However, the

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BASILIO IN HOSPITAL
Carmelo Basilio, who lost his left arm in a boxing match, relaxes in hospital as he talks with Dr. Richard Chamberlain several days for treatment and observation of a massive hemorrhage around his left eye.

Curling Today At Montague

7 P. M.
East Ice: I. G. Phillips, D. Nicholson, D. Nicholson, E. Duvar, Bud Ings vs. D. MacGowan, E. Clay, A. A. Fraser, M. Poole.

West Ice: R. R. Beck, B. MacGowan, F. Vuozzo, H. Coffin vs. C. S. Stewart, E. Cudmore, R. Knox, A. H. Lacey.

9 P. M.
East Ice: Dr. P. MacIntyre, H. Clair, D. Coffin, R. MacLean vs. C. Nicholson, B. Smith, A. Robertson, M. Jamieson.

West Ice: D. Wannamaker, A. MacGregor, P. Sinclair, K. Hughes vs. J. E. Cudmore, V. MacDonald, D. Acorn, B. Clair.

MARCH OF SCIENCE

Tranquillizing Pills Impair Driving Skill

By JACK KOHLER
SEATTLE (AP)—When you're taking one for the road, don't make it tranquillizing pills, two University of Washington researchers advise. The effects, they say, can be just as dangerous as operating an automobile while drunk.

Dr. Ted A. Loomis and Dr. T. C. West report a standard tablet of chlorpromazine (Thorazine) has the same effect on coordination and reaction as four shots of whiskey.

Dr. Loomis is a professor of pharmacology at the university and Dr. West an assistant professor. They recently completed a study on the comparative sedative effects of a barbiturate and three widely used tranquillizers.

The study, says Loomis, arose from a previous investigation into the effect of alcohol and drivers.

BUILT APPARATUS
Loomis and co-workers designed and constructed an apparatus with controls similar to those of a standard car—steering wheel, foot brake and accelerator pedals.

The steering mechanism operated a model auto as it passed over a transparent nylon belt which, on its surface, had an inch-wide strip simulating a road bed. This belt would move beneath the car, its speed controlled by pressure on the accelerator pedal. A photo-electric cell emitting a direct beam of light from beneath the car accurately recorded the number of times the car was "off the road."

Miniature traffic signal lights were mounted in front of the driver, who complied according to the signal—released the accelerator when the light was yellow; applied the brake on red and started moving again on green.

The driver's reaction to these signals also was measured. The number of times "off the road" and the reaction to the signals then were used in the final calculations.

For the study, Loomis selected eight volunteer graduate students. They were trained on the apparatus until all were able to operate it with a minimum of errors and until their individual driving ability was known.

Then they were given the drugs, with an interval of one week between each test. One test also was made while the subjects were under "the influence" of harmless cornstarch pills.

"Our study showed that chlorpromazine reduces the driving ability by about one-fourth," said Loomis. He said the impairment was less, but still significant, from a commonly prescribed tranquilizer meprobamate (equanil or miltown).

Loomis said he used the barbiturate secobarbital in the study because it is a standard drug known to produce function impairment. The study showed that a standard dose of secobarbital resulted in impairment equal to that caused by amounts of alcohol considered as intoxicating, he said.

The doctor said only phenaglycodol (ultran) did not produce a significantly different effect from that produced by the cornstarch pill.

"Our study indicates there should be a restriction on usage of tranquillizers by persons who find themselves in situations where decreased co-ordination could be dangerous," Loomis said. "This includes driving any vehicle, piloting an aircraft or operating many types of machinery."

CURLING DRAW

The following is the draw for Tuesday night at the Charlottetown Club:

7:00 P. M.
Ice 1: Game 28, Seagram. Section "B".

Ice 2: C. MacDonald, H. Peters, F. Cannon, H. MacLean, vs. J. S. MacDonald, H. MacInnes, B. MacGregor, I. Trainor.

Ice 3: V. P. Play-off: G. Bennett, J. Gorrill, R. Carr, Roy Vessey, vs. L. Blakenev, D. Matheson, L. Walton, R. Ketch.

Ice 4: R. Parker, vs. winner (Wood vs. Turner).

8:30 P. M. (OLD SPAIN)
Ice 1: Open.
Ice 2: Old Spain.
Ice 3: Old Spain.
Ice 4: Open.

CONTRASTING CLIMATE

The mountains of Korea are bleak and cold in winter; the southern lowlands hot and humid in summer.

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So say "happy Easter" with these superb quality chocolates. Choose from Canada's largest selection... gaily packaged for Easter.

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Eisenhower Orders Robot Scouts Sent To Moon

By ELTON C.F. FAY
WASHINGTON (AP)—The United States is going to send robot scouts to take a close look at the moon.

Orders for the "lunar probes" by unmanned space vehicles were issued Thursday by President Eisenhower and Defence Secretary Neil McElroy.

The decision followed by one day the publication of an official introduction to Outer Space. This was an outline by Eisenhower's science advisory committee of the reasons for space exploration and its possibilities and problems.

In this first step to begin translating into actuality some of the possibilities mentioned in the summary, the government:

Authorized the air force and army to proceed with programs for launching four and perhaps five unmanned vehicles to explore "in the vicinity of the moon," a distance of about 239,000 miles from earth. The navy is directed to begin preparing equipment for

the vehicles, which will send back an account of what is on the moon—probably including the still-unknown far side.

Told the army to launch two and possibly three more Explorer satellites.

Provided an "initial allocation" of about \$8,000,000 to start work on the over-all program.

Neither the White House nor defence department would speculate on when the first moon shot would be made. However, some important parts of the equipment needed already exist.

The official announcement said the army will use modified Jupiter-C rockets and the air force "a Thor-Vanguard system with a third stage to be developed."

There is this basic requirement for a flight to the moon: A speed of 25,000 miles an hour must be achieved to escape the pull of earth's gravity. Satellites

require 18,000 miles an hour to provide centrifugal force sufficient to balance out gravity in circling the earth.

MAY HIT MOON
The Jupiter-C rocket used for the army's Explorer satellite launchings develops an initial thrust of only about 83,000 pounds from the engine designed for the 200-mile range redstone ballistic missile. It seemed probable that it would have to be modified to provide for firing a comparatively heavy vehicle toward the moon.

While the project was described officially as designed to determine capability of exploring space "in the vicinity" of the moon, a spokesman said it is possible that one of the vehicles might land on the moon. He left the impression this would be accidental.

Plastic Tubing Promises New Era In The Sugar Bush

LENNOXVILLE, Que. (CP)—A web of plastic tubing threatens to draw off most of the color from the snow sugar maple bush—and out the laborer.

The tubing, strung direct from trees to boiling pots, is being installed this year by farmer Gordon Herring in this maple syrup-rich district of the Eastern Townships.

Farmers familiar with the system say it cuts labor costs 50 per cent, boosts sap production in quality and quantity, increases cleanliness, reduces spilling and provides a way of tapping maple sugar trees in rough terrain.

Replace the old wood-fired boiling-off stove with an oil stove and there isn't a great deal left of the sugar-making process.

Plastic had already made its entry into the industry, replacing buckets and cans in the form of bags along over the sap spouts.

Now, some companies are producing kits of the tubes. Pressure of rising sap is sufficient to force it along a network of tubes directly from the tree to the boiling pot. Gravity helps.

On a big operation individual taps, hammered into the tree trunk, drain quarter-inch lines, which in turn are coupled to branch lines and in turn to one-inch mains which carry the pure sap to the sugar house. At full production the mains may be carrying the flow of 750 to 1,000 trees.

This Week's Skating Program

MONDAY
Skate—4 to 5:30
Skate—8-10

TUESDAY
P.E.I. Hospital Skate
Reece Band—3 to 10

WEDNESDAY
Pre-School Skate 1:30 to 3
Skate 4 to 5:30
Juvenile Hockey 8:00 p.m.—Adm. 50c and 25c.

THURSDAY
Skate 8 to 10

SATURDAY
Skating 2:30 to 4:15
Physical Fitness
Minor Hockey

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