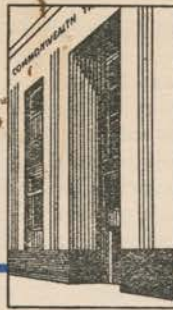


MARCH
15,
1935

VOL. 2
NO. 7



COMMONWEALTH, INC.

BUSINESS SURVEY

OF THE PORTLAND AREA

COPYRIGHT 1935, COMMONWEALTH, INC.

DAVID ECCLES, EDITOR

THE COMMONWEALTH INDEX

	February	Month Ago	Year Ago
†Business Activity.....	65.05	67.16	68.27
Lumber Production.....	53.43	59.70	55.89
Bank Debits.....	74.87	74.40	68.55
Outbound Harbor Tonnage.....	77.33	87.64	122.44
Electric Power Production.....	109.43	115.76	106.61
Construction.....	24.98*	19.56**	15.39

*Preliminary **Final

PORTLAND BUSINESS

Local February statistics are likely to lead one into utter mental confusion. They illustrate no clear-cut trend, suggest local business has hit dead center for the moment. The air has a tension of expectancy as though some important if unpredictable development might be in the offing. This might be a fundamental change in recovery policy or it might not.

As one weighs evidence he must admit February is no vitally important month locally. It is an in-between-month when there is little agricultural marketing, when shipping approaches low for the year. Local industries are not yet in full swing. Therefore, a better view may be possible within a few weeks.

Lumber production expanded 5.29% but because this was less than seasonal gain, the Commonwealth lumber index dropped from 59.70 to 53.43. Electric power production was off 14%, shipping 8%, both more than seasonal losses. While textile production dropped 1.98% wool men reported a satisfactorily active market, thought the shorter month responsible for the dip.

Possibly most surprising thing about February was the extremely disappointing level of retail trade. It is impossible to give comparative figures due to lack of adequate source data, but statements of frank merchants indicate retail volumes were off substantially. No one could explain

the dip except to say it was altogether unexpected. Uncertainty about the relief program could have been involved.

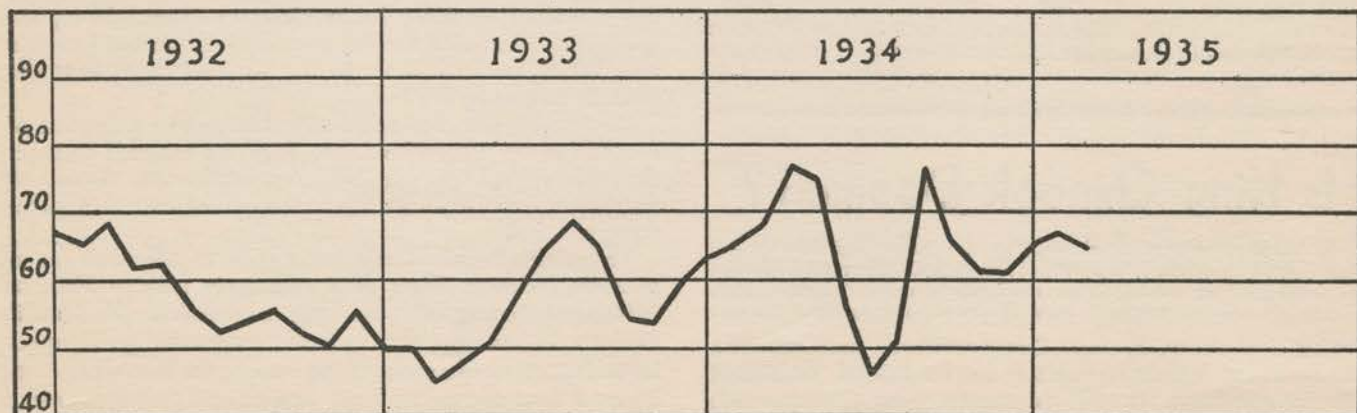
On the other hand, new automobile registrations bounced up 77%, were 140% ahead of last February. This combination of circumstances is utterly inexplicable. One businessman told *Business Survey* he suspected people would buy automobiles though their trousers had patches.

Generally, local returns reflect conditions prevailing elsewhere in that consumer goods industries are active while heavy industry still lags.

Hoped for improvement in construction and consequent demand for lumber simply has not materialized. Whether it be eastern weather or something else, effect here is the same. While firmness has lately characterized pine prices, the fir industry's price structure is completely demoralized. March reports to date offer no greater encouragement of life in lumber markets.

There is a ray of hope in the building outlook, however. Real estate markets have showed greater stability recently. Deeds recorded are up, realtors report somewhat greater activity. As yet this has not been accompanied by substantially more building. The 40% gain last month was due to one \$150,000 dock, a project which accounted for 58% of new building recorded. Improvement in public

† BUSINESS ACTIVITY



buying power and firmer rents still seem to be necessary requisites.

Wide divergence of experience between consumption and capital goods industries recalls that 3 times in 2 years has business showed signs of life. Each time consumption goods industries reached capacity production; each time capital goods failed to respond. Capital goods failed to take up its share of employment load and upturn petered out dismally.

This experience gives rise to the thought that perhaps pump-priming must always prove ineffectual. For a hundred years America was expanding its frontier, building cities, transportation, industries. This necessitated an industrial machine tuned to capital goods production. Imports of consumption goods always have been relatively heavy.

New geographic frontiers no longer exist, the country is fairly well built. Therefore, goes the reasoning, is there longer need for so large a capital goods machine? Will steel or lumber production ever reach capacity? Is there not need for a shift of emphasis from capital goods production to consumption goods? There will be new industries, new developments, replacement of obsolete capital goods. But can that be as important as previously?

If such reasoning is sound, it would follow that spending alone is no cure but rather a vicious circle. A more fundamental adjustment and realignment of employment would have to proceed recovery in this case. *Business Survey* would be interested in readers' reactions.

	—February compared with—	
	Month Ago	Year Ago
PRODUCTION		
Lumber Production.....	+ 5.29	— 4.39
Electric Power Production.....	—14.83	+ 2.64
Wool Consumption.....	— 1.98	+ 7.35
Livestock Slaughter.....	—17.72	+ 5.04
Flour Production.....	—15.15	+ 16.46
DISTRIBUTION		
Incoming Harbor Tonnage.....	—12.52	— 2.86
Outbound Harbor Tonnage.....	— 8.15	— 36.84
Water Lumber Shipments.....	— 0.87	+ 32.19
Water Wheat Shipments.....	—11.19	— 99.26
Terminal Wheat Receipts.....	+ 4.71	— 75.88
Livestock Receipts.....	—16.61	+ 15.44
New Automobile Registrations.....	+77.51	+140.21
REAL ESTATE		
Building Permits.....	+40.92	+ 94.64
Deeds.....	+ 1.51	+ 27.91
Mortgages:		
Number.....	— 9.50	— 23.07
Dollars.....	+36.36	— 11.24
BANKING		
Bank Debits.....	— 7.99	+ 9.21
Bank Deposits:		
Time.....	+ 0.26	— 7.10
Net Demand.....	+ 1.46	+ 32.85
Loans, total.....	+ 2.50	— 6.18

Is King Chinook Doomed?

Assistance in preparation of this study by U. S. Army Engineers, Oregon State Fish Commission, U. S. Bureau of Fisheries, Dr. Lawrence E. Griffen via the *Oregon Voter* and Mr. I. N. Stensland is gratefully acknowledged. Conclusions are not necessarily those of any of these sources.—EDITOR.

Last September, *Business Survey* reviewed the Columbia river salmon industry, pointed out its foibles, estimated its potentialities. It will be remembered that possible

adverse effects of Bonneville dam were but briefly mentioned. No detailed study of this subject was possible then since construction had scarcely begun, fisheries experts had not yet had opportunity to analyze the problem fully. Inasmuch as Bonneville fishway plans are now virtually complete, further consideration can be given them.

Problem of fishways at Bonneville is complicated, difference of opinion concerning them vast. This follows naturally the fact that fishways of such magnitude have never before been attempted. Remember, the Columbia produces more fish than any other river in the world. Ten thousand fish pass Bonneville every hour at the height of the run. Naturally, then, a huge dam across the river at tidewater may have serious implications so far as the future of those fish is concerned.

Magnitude of the job resulted in engineers' utter inability to estimate probable cost of fishways when appropriations were first made. Yet PWA was anxious to begin operations, requiring, therefore, immediate estimates when a year of research would have been none too ample.

Army engineers could do no more than double cost of Rock Island fishways on the Yakima and include this sum—\$800,000. It never was thought this would be adequate. PWA, however, took it seriously, presumed the matter closed. Only after prolonged wrangling was Senator McNary able to wire last month that \$2,500,000 was available. Fisheries experts had hoped for \$4,200,000. At stake, they argued, was a major industry.

Soon further complications became apparent. Since it all was experimental, since results of any type of fishway are extremely hypothetical difference of opinion arose between official bodies trying to solve the problem. Difference of opinion results not from selfishness or faulty thinking but rather from lack of concrete information or precedence. Every fishway presents different problems. World's largest fishways present colossal problems.

Matter of fact, tireless efforts and resourcefulness displayed by engineers and fisheries experts in seeking solutions is magnificent. Oregonians may rest assured the problem is in competent hands. Question is: are they facing a riddle to which there is no answer?

Present plans, which are changed in detail almost constantly as new discoveries are made, call for use of conventional fish-ladders, especially adapted to peculiarities of the location, and 1 set of fish-locks, latest evolution in transporting fish over barriers. A fish-ladder is planned for each shore, 2 for Bradford island. On the Oregon shore is a set of fish-locks, a fingerling by-pass.

Fish-locks, criticized by some authorities as being too experimental, are similar to ship-locks. Within the lock is a cage 20 by 30 feet in area. Periodically the gate closes, the lock fills with water and the cage rises with it to the upper level. In case fish are recalcitrant about leaving the cage, it can be raised further until they are forced to swim out. When one lock is at the top its companion is at the bottom receiving fish.

Obviously, fish cannot be expected to find this lock or enter it of their own volition. They are induced to enter through appeal to their inherent inclination to follow flowing water. This involves what is known as a gathering channel.

The gathering channel's purpose is to offset, so far as possible, adverse effect of a relatively narrow lock or ladder entrance against the huge dam surface. Without it fish would have little chance of ever reaching the upper level. It consists of a series of gates along the face of the dam, about 1 foot above the river surface and through which

W. I. Stensland
Jo
1921
P. H. K.

flows water. This creates a rapids over a considerable part of the river.

It is calculated that fish, attracted instinctively by the water, will leap over the fall. Current within the channel leads easily to lock or ladder. Gathering channels may be used with either equipment.

Gathering channels, locks and ladders are extremely ingenious devices and a view of working models in operation is highly convincing. One is likely, at first glance, to dismiss concern for King Chinook's future. This, however, is precisely the wrong frame of mind since fisheries experts can do no more than hope this equipment will prove successful. Furthermore, operating difficulties are far from solved.

First place, as mentioned previously, King Chinook instinctively seeks large volumes of cold, rushing water. He almost never swims with current, goes into still water only to rest after a tough battle. He can swim successfully against water flowing not more than 10 feet per second.

While the power dam gathering channel will have available 2 thousand second feet of water, turbine outlets will pour forth 60 thousand second feet. Therefore, it is feared fish will be attracted to turbine outlets beneath the gathering channel. Strength of this argument is confirmed by observations at Oregon City where fish show a tendency to concentrate beneath the power house, ignoring the fish-ladder further upstream. Only when turbines are shut off and flow at the falls increased are fish induced away. This can be done at intervals since it is not a commercial power plant which must run continually.

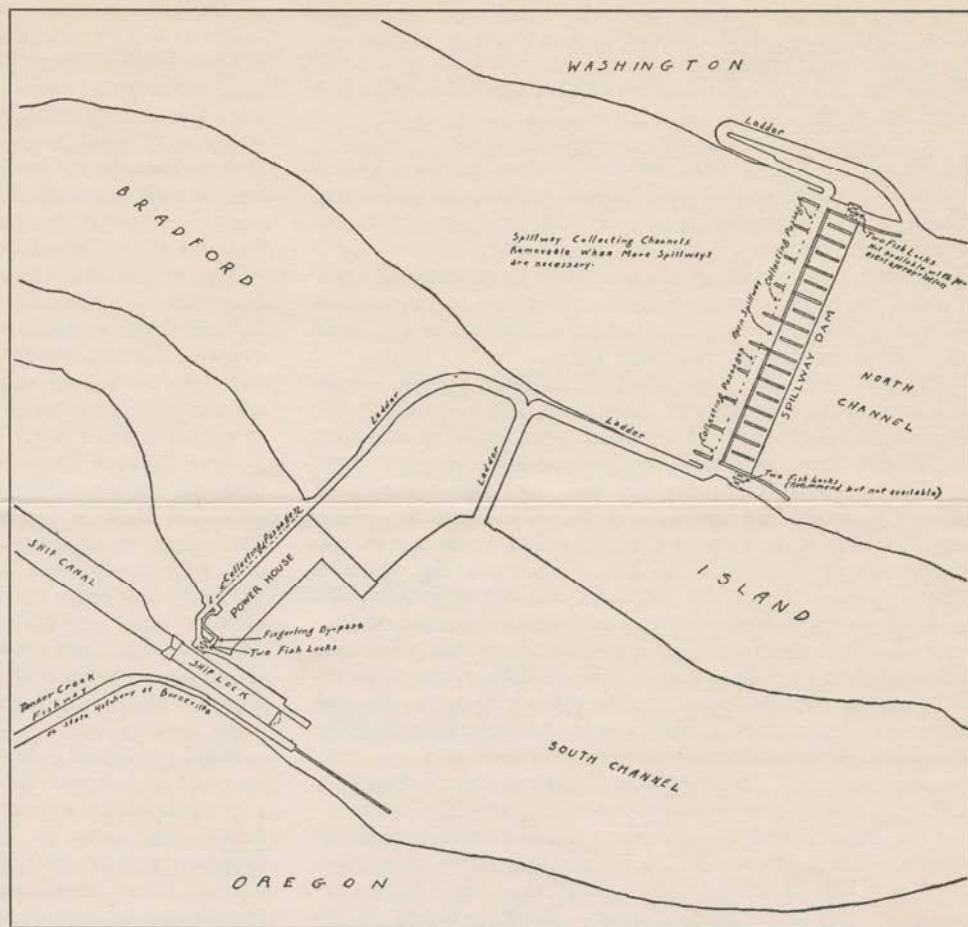
Conceivably fish will battle turbine outlets until exhausted and thus never reach their spawning gravel. Some authorities are not ready to admit this, however, point to the fact that salmon frequently slide down a falls for the fun of leaping it again. They think it probable that if King Chinook does fight turbine outlets first, he will find the gathering channel when he tires of battle.

Certainly, the salmon's reaction cannot be predicted with any degree of certainty. Nor does extreme divergence between the 2 volumes of water ease fisheries experts' peace of mind. Efficiency of the channels will determine outcome in very large measure, in any case.

Problem of a gathering system for the spillway dam is more complicated than that at the power dam. Ladder entrances at each spillway shore juncture are but 40 feet wide while a huge cataract tumbles over the 1,000 foot spillway dam. Ladder entrances are virtually lost and, compared with the dam, offer a puny trickle of water.

In all likelihood, then, King Chinook would ignore the ladders under these circumstances, head into the spillway current. Should he do this, he is almost sure to

TENTATIVE BONNEVILLE FISHWAYS



be caught in the mad swirl, be dashed to bits on the concrete base of the tailrace. Problem is to make it difficult for him to get to the tailrace, easy to find ladder entrances. Authorities are attempting this in 2 ways.

Fisheries people recommend that walls be extended into the tailrace between every 2 spillways. Number of spillways used simultaneously would be limited to smallest number capable of carrying the flow. Below spillways not in use would be a gathering channel, details of which have not yet been perfected. It would have to be in removable sections, to be lengthened or shortened as conditions warrant.

Experiments with working models indicate the walls between spillways create tremendous currents at their outer edges. Fewer the spillways open, greater the current. In any case, fish could not swim against it, would therefore be forced into gentler currents and thus into gathering channels. Greater the proportion of area devoted to gathering channels, greater the chance of fish finding those channels.

Anyone might justifiably feel there is little danger and again it must be pointed out that fisheries experts can only hope it will work in this manner. They have worked out the most efficient methods of protection, taking into consideration all the meager information of fish habits. They hope fervently for success but are frankly apprehensive.

To begin with, they asked for \$4,200,000, finally got \$3,200,000. This means that vital parts of fishway plans must be eliminated, refinements of entire plant are utterly

impossible. Instead of 4 sets of locks, 1 is available. Gathering systems which would adjust themselves automatically to river conditions must give way to cruder hand operated devices. What is worse, it is impossible to know what features to eliminate, what to retain. So little is known about fishways of this size, most effective features might be cast off unwittingly.

It is clear, then, that the unique nature and magnitude of Bonneville fishways, coupled with the fact King Chinook's reaction is largely unpredictable, casts a long shadow over commercial fisheries. Many devices planned for Bonneville never have been used before or never have been used on so extensive a scale. They were designed after careful study but, in the final analysis, no guarantee can be made. Furthermore, their failure would not be apparent until it is too late to take other steps.

Since so much is experimental fisheries people would like to see every possible device for fish protection included at Bonneville. This means more locks in addition to ladders now planned. Locks are the most modern, most plausible equipment, depend less on uncertainties of King Chinook's whims. Complete and automatic gathering systems should be included, other refinements too numerous or technical to list. Unfortunately, such a course would require the entire \$4,200,000 appropriation.

Some concern has been voiced concerning fate of seaward bound fingerlings. Careful study, however, indicates this problem is well in hand. They will be diverted so far as possible into ladders or a fingerling by-pass. Should they go through the turbines it is unlikely they will be damaged. Turbines are especially designed to allow easy passage even for large fish such as steelhead. Smallest opening through which they must pass is 4 by 7 feet.

One further problem presents itself and deserves detailed consideration because it has had little discussion thus far. This concerns fate of fish after they have successfully navigated the fishways. *Business Survey* is indebted to Mr. I. N. Stensland, whose experience covers 40 years from the Columbia to the Yukon, for an opinion on this subject. Mr. Stensland is more concerned by possible changes in the Columbia's physical characteristics than by uncertainties of fishways. He thinks changes in the river may have tremendous bearing on salmon's ability to spawn.

To follow his reasoning one must understand that a salmon returns instinctively to its birthplace to spawn. It does not feed in fresh water but lives on oil and fat of its own body. Distance it has to go, time it takes to get there, difficulties it has to surmount all determine amount of natural oil and energy it possesses. Because Chinook spawns farthest from the ocean, he is the biggest, finest salmon, richest in natural oil.

Mr. Stensland has investigated streams in Alaska, B. C., Oregon where something has changed physical characteristics violently. Thousands of fish, dead along banks, were examined and none had spawned. Furthermore, they still contained oil and normally a salmon has spent its oil when it spawns.

He thinks this was caused by the delicate time schedule having been upset. The slow moving lake created by dam or landslide is not the river the salmon is familiar with. Perhaps the fish has been unable to find its spawning

gravel. Mr. Stensland thinks it even more likely that it has not gone through the proper cycle at the proper time, in the proper place, hence has not spawned. This, obviously, would soon destroy the run.

Even fisheries experts know little about salmon habits and instincts, consequently disagree frequently. Other authorities, admitting the Stensland theory may be sound, point out evidence tending to show salmon spawn when they are ready no matter where they are, provided they find suitable gravel. Nor can it be proved conclusively whether salmon are guided by a river's physical characteristics or by blind instinct for the correct goal.

There is need for more laboratory and research work if such questions ever are to be solved. In any case, immediate advisability of intensive artificial propagation is clearly evident. Uncertainties of effect of new conditions above the dam on future salmon runs is tremendous and it is certain development of other rivers has been detrimental more often than not.

After careful examination of evidence *Business Survey* concludes it is possible to meet the challenge. It is possible provided lack of funds does not cripple effectiveness of machinery so ingeniously planned and coordinated. Success will depend too on increasing fisheries research and hatchery facilities on order that possible adverse effects of new river conditions be offset before it is too late. Furthermore, this must be done immediately. Peculiar thing about salmon is that their problems must be anticipated. If they fail to spawn 1 year, it is not apparent until 6 years later.

Final question: is King Chinook sufficiently valuable to warrant additional appropriations necessary to put such a program into operation? There are highly intelligent people who deny it. They contend wild life of any kind eventually must give way to civilization. They point to the fact that Columbia river packers are increasingly under the thumb of high-handed fishermen who think only of today's price of fish, must pay high cannery wages. Alaska buys cheap, sells cheap.

On the other hand, it can be shown that the Columbia has a vastly superior product. It can be sold at high prices as a luxury if it is sold properly. Some packers tell *Business Survey* they are beginning to hope for greater cooperation and stabilization in the industry. If this is true outlook is hopeful since experience has shown effects of civilization can be combatted successfully.

Value to Oregon can best be measured in dollars. The 1934 pack had a wholesale value of \$3,462,919 even though it was a poor year. It has been as high as \$7 million in recent years. Total value of commercial fisheries, including fish not canned, must have been close to \$9 million even last year.

It is impossible to know what Columbia river salmon is worth each year as a sportsman's fish or as an advertisement for Oregon. As a lure for sports loving tourists King Chinook's value must be tremendous. In any case, one authority estimated the annual value of Columbia river salmon as being between \$25 million and \$30 million.

Cost of the most elaborate fishways possible is offset every year by payments to fishermen on the lower river. In comparison to total value fishways cost shrinks to inconsequence.

COMMONWEALTH, INC.

415 S. W. SIXTH AVENUE PORTLAND, OREGON

Rental and Managing Agents for Business
Properties, Apartments, and Residences.
Investment Securities, Mortgage Loans,
Title Insurance, Abstracts