

Dale Snow

Notes on Oyster Aquaculture

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Oyster production has declined markedly during the last 20 years. An attached graph shows the production of Pacific oysters in thousands of gallons. This oyster was introduced in the early 1940's and since has become the principle commercial oyster in the Pacific Northwest. Oregon's production, while only a little less than 10% of Washington's, shows a similar decline. Information from the authorities in Washington and Oregon, and the growers in Oregon, indicates that the market is not the cause of the decline. There has always been a demand for their product.

During this same time period seed imports from Japan show the same general trend. The second graph illustrates seed imports to the State of Washington. Some of this seed was trans-shipped to Oregon. The decline in seed imports is apparently due to many factors. Japan's expanding economy has resulted in increased oyster culture, hence utilization of their own seed. France entered the market and is successfully competing with the United States for the Japanese seed. Oregon oystermen who usually buy from Japan say that their seed orders were reduced from 30 to 100% during the last three years.

Oyster seed hatcheries are being developed, especially in Washington which now has five. The techniques used in these hatcheries were developed by a combination of molluskan researchers including those at the Marine Science Center in Newport. It is not known if they are a financial success; if so, I would suspect them to be marginal. I would assume they are being built to ensure a seed supply for the owner.

The oystergrowers in Oregon were asked about their potential for increased production, factors limiting production, and general remarks. They would like to increase production by a low of 100% to a high of a ten-fold increase. Limiting factors are seed, capital and environmental factors (silt and fresh water), according to the oystergrowers. They think a good reliable seed supply would give needed stability to the oyster growing industry.

Oyster research at the Marine Science Center has been focused primarily on hatchery seed production. Larval nutrition is the limiting factor at present. We think some current improvements will help the situation. All aspects are or will be evaluated so we can know the status of hatchery seed production.

Oyster breeding is proceeding on schedule. Heritability estimates have been established and we are now on a breeding program to demonstrate the theoretical gains. The attributes that we can breed include size (length, width, height), shell shape, body weight, shell weight, larval size, and others.

The project to determine the beneficial use of heated salt water and oysters should produce some water flow-oyster relationships at various temperatures. We hope also to have some data on supplemental feeding along with the cropping of wild plankton. (See Bob Malouf's recent report to the Power Companies.)

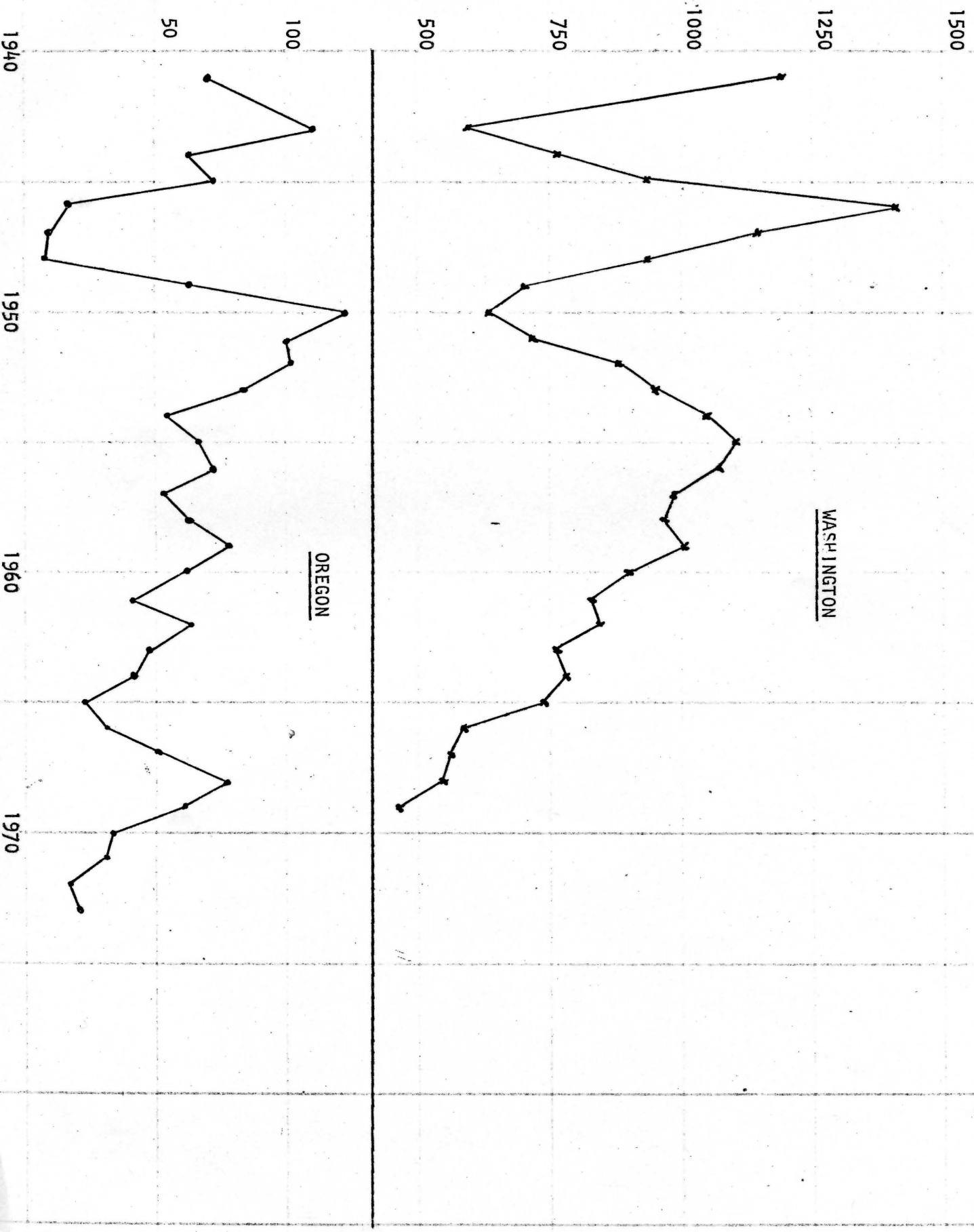
The Economists and Agricultural Engineers are involved in the oyster hatchery project. The economists are now looking to find the future market for oysters as well as to determine the price oystermen can afford to pay for seed. The

Engineers are looking into variations in the physical aspect of the oyster hatchery. Next fiscal year the Economists and Engineers will participate in evaluation of the seed hatchery.

I believe that molluskan hatcheries have a future in Oregon and the Pacific Northwest aquaculture. I also believe that the existing culture methods must change to accommodate the higher intensity culture necessary for economically successful aquaculture. When hatcheries provide a reliable seed source, the culture practices will develop to accommodate the new aquaculture.

OYSTER PRODUCTION

THOUSANDS OF GALLONS



State of Washington, Oyster Seed Imports

CASES OF SEED - THOUSANDS

70
60
50
40
30
20
10

'45

'50

'55

'60

'65

'70

