

# Identifying and methods of measuring oysters for quality

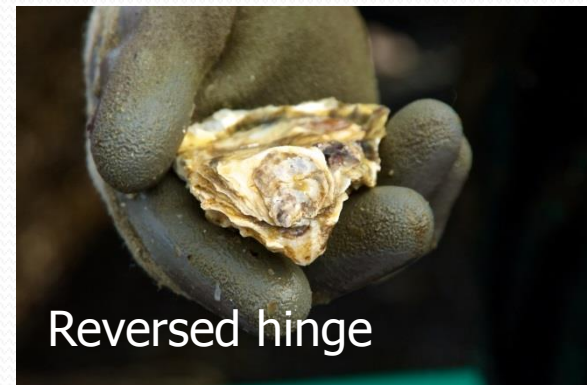
Raymond RaLonde  
Aquaculture Specialist  
Alaska Sea Grant Marine Advisory Program

To

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# General methods to measure quality

- Size (Shellfish length)
  - Extra small: 1.5 – 2.0 inches
  - Small: 2.0 – 3.0 inches
  - Mediums: 3.0 – 4.0 inches
  - Large above 3.0
- General appearance
  - Shell depth, hinge condition
  - Shell hardness, fouling
- Hand feel



# Enormous variability in quality

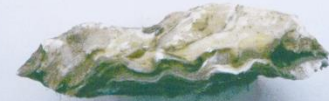
Deep cup



Ugly



Flat



Thin edges



Misshapen



Rabbit ear



Full



Skinny



# General Quality of oysters

- Size
  - Medium, small, extra small are often subjective
- Shell with deep cup
  - Meat quantity variable
  - Husbandry practice have great influence
  - Longer shelf life etc.
- Thin shell
  - Fragments
  - Thin edges
- General shape of the oyster can be good or bad (uglies)
- Moisture content (dry or moist)
- Other features (saltiness, sweet, clean to the palate)
- All these measurement are based on personal opinion
- Is there a better method?



Skinny



Full

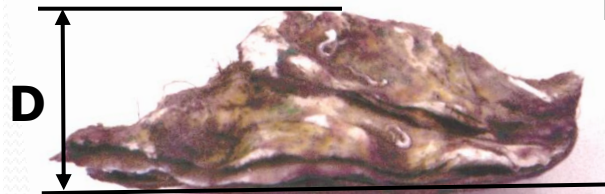
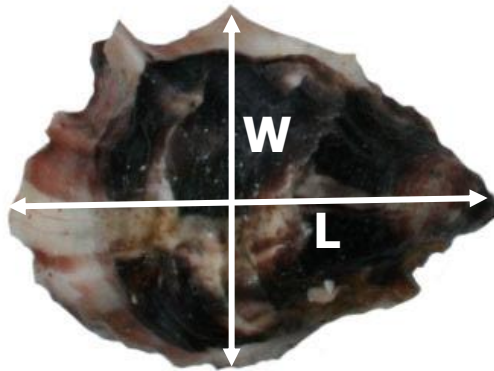
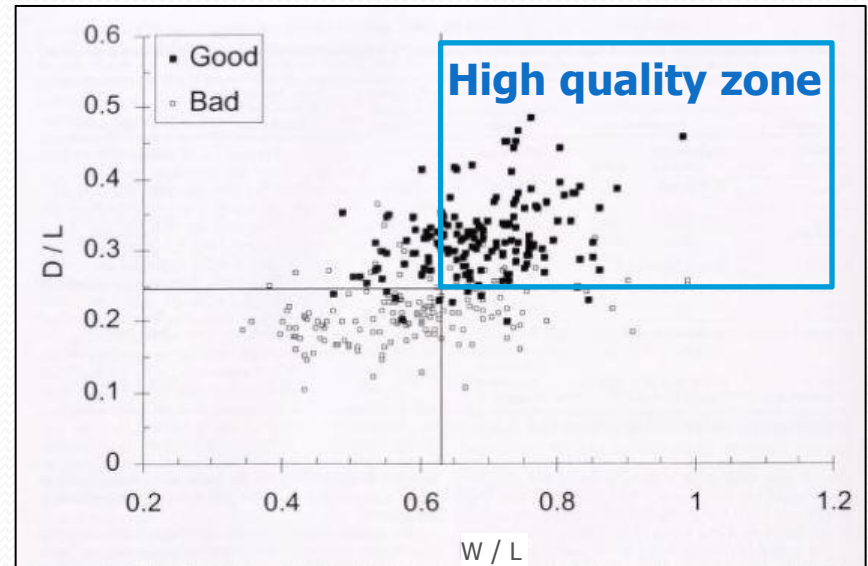
# An index of quality is better

## What is an index?

- A factor (normally a number) that is mathematically derived by including more than one measurement on a shellfish such as:
  - Length and whole weight, Whole weight and shell depth etc.
- The index is just a number that represents a condition.
  - For example: Plumpness, general health condition, shell shape, meat content
- The index accurately and consistently represents the condition of the oyster.
- The computed index is used for **comparison** of quality between two different shellfish or batches of shellfish, like different seasons, locations, and farming practices.
- Easy to take the oyster measurements and to perform the index calculation.
- Remove personal bias in determining quality, particularly where price is important to the shellfish farmer.

# Shell shape as an index of quality

- The shell index is a numerical calculation by using the measurements of shell length, width, and depth
  - Shell shape index is computed use these two formulas
    - Shell width  $\div$  shell length
    - Shell depth  $\div$  shell length



## High Quality Measurement

$\frac{\text{Shell depth (D)}}{\text{Shell length (L)}}$  } Greater than 0.25

$\frac{\text{Shell width (W)}}{\text{Shell length (L)}}$  } Greater than 0.63

# Shell shape comparison Alaska and Washington

- Width ÷ Length
  - Greater than 0.63
  - Good for Alaska
- Depth ÷ Length
  - Greater than 0.25
  - Washington and Alaska are similar

Location		AK	WA	
Width ÷ Length		0.73	0.58	0.78
		(0.03)	(0.03)	(0.05)
Depth ÷ Length		0.27	0.30	0.30
		(0.02)	(0.02)	(0.02)

Note: Standard deviation of the mean (SD)