Condition factor (K factor)

Anglers, fish processors, traders and consumers may describe the condition, well-being and the nutritional status of the fish specimens based on visual assessment using descriptive terms such as fatty, normal, skinny or others as shown in the photos of African catfish

In 1902, Fulton developed a qualitative measure for fish condition based on the following mathematical formula which in turn is based on length and weight of described specimen for a given species: $K = 100 (W/L^3)$

W is the whole body wet weight in grams and *L* is the length in centimeters





In general, fish group with higher K is judged in a better physical condition than other fish group with a lower K

Factors influencing the K value

The “K” value for a given fish species is influenced mainly by age, sex, season, and stage of maturation.

For example, in species whereas gonads may represent a significant weight of female’s body, the K value will decrease when eggs are shed.

Also, during the parr – smolt transformation in salmonids, the K factor decreases significantly due to the rapid growth in length compared to that in weight. Hence, their body shape turns longer which is considered advantageous for their long swimming in open water to the marine environment.

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K values for trout/salmon (Examples)

K values	Comments
1.6	Excellent condition, trophy class fish
1.4	A good, well proportioned fish
1.2	A fair fish, acceptable to many anglers
1.0	A poor fish, long and thin
0.8	Extremely poor fish, resembling a barracout; big head and narrow, thin body

Source: State of Victoria, Department of Primary Industries, Australia

Conclusion

Published values of condition factor for a given species could be used as guidelines

If there is no available data on the value of K factor for a species of interest, this could be developed

Developing K factors should be based on adequate number of specimens and has to consider the influencing factors such as sex, season, maturation and others