COURSE CODE:	FIS316
COURSE TITLE:	Marine and Brackishwater Economic Resources
NUMBER OF UNITS:	2 Units
COURSE DURATION:	Two hours per week

COURSE DETAILS:

Course Coordinator: Prof. Yemi Akegbejo-Samsons

Email: samsons56@yahoo.co.uk

Office Location: Room D210, COLERM

Other Lecturers: Dr. D.O. Odulate

COURSE CONTENT:

Study of major marine and brackish water fin and shell fish species in relation to their development for culture, food and industrial uses. Methods of harvesting e.g. electro-fishing.

COURSE REQUIREMENTS:

This is a compulsory course for all students in Department of Aquaculture & Fisheries Management. In view of this, students are expected to participate in all the course activities and have minimum of 75% attendance to be eligible to write the final examination.

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READING LIST:

LECTURE NOTES

1. Study of major marine and brackish water fin and shell fish species in relation to their development for culture, food and industrial uses.

2. Methods of harvesting e.g. electro-fishing.

This course is taught by Prof Yemi Akegbejo-Samsons and Dr D O Odulate. The venue for the interaction with students is on the ground floor of the College of Environmental Resources Management. Topic 1 Marine and Brackish water environments What is Brackish Water Brackish water is water which contains more sea salts than freshwater but less than the open sea.

Moreover, brackish water environments are also fluctuating environments. The salinity is variable depending on the tide, the amount of freshwater entering from rivers or as rain, and the rate of evaporation. As a result many brackish water fishes are tolerant of changes in salinity, and in fact many positively benefit from similar periodic changes in aquaria.

Brackish water is water that has more salinity than fresh water, but not as much as seawater. It may result from mixing of seawater with fresh water, as in estuaries, or it may occur in brackish fossil aquifers. The word comes from the Middle Dutch root "brak," meaning "salty". Certain human activities can produce brackish water, in particular certain civil engineering projects such as dikes and the flooding of coastal marshland to produce brackish water pools for freshwater prawn farming. Brackish water is also the primary

waste product of the salinity gradient power process. Because brackish water is hostile to the growth of most terrestrial plant species, without appropriate management it is damaging to the environment Brackish water normally naturally occurs in estuaries, deltas of rivers, lagoons and backwaters, which everywhere in the world are under tidal regime. In such habitats the salinity of the water fluctuates widely between negligible to 35 ppt, depending on the phase of the tide and volume of fresh water discharged through the river into the sea.

Technically, brackish water contains between 0.5 and 30 grams of salt per litre—more often expressed as 0.5 to 30 parts per thousand (ppt or ‰). Thus, brackish covers a range of salinity regimes and is not considered a precisely defined condition. It is characteristic of many brackish surface waters that their salinity can vary considerably over space and/or time. The capacity of the residents of an estuary to tolerate a wide range of salinity that prevails there is by virtue of a dynamic physiological process of osmoregulation in which the gills, the kidneys, the skin and the buccal cavity lining play significant roles.

Water salinity based on dissolved salts in parts per thousand (ppt)

Fresh water	**Brackish water**	**Saline water**	**Brine**
<0.5	**0.5–30**	**30–50**	**>50**