Water Cycling In water cycling, participants pedal specially designed cycling craft on lakes, ponds, **bays**, oceans and rivers. Water-cycling craft designs range from surfboards, to **catamarans** to sleek displacement hull-type boats. Pedalling positions can be either the traditional upright bicycle-type craft or reclining (recumbent seat). In addition, some of the boats are designed for two pedallers, while others accommodate passengers or camping gear. The International Water Cycling Association promotes water cycling as a fun, safe, healthy and environmentally friendly activity.

Related internet sources

Images of Human-powered Boats: http://humanpoweredboats.com

International Human Powered Vehicle Association: http://www.ihpva.org

Open Water Cycling: http://www.openwatercycling.com

Hydrocycles: http://www.hydrocycles.com

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Water Quality The quality of water is fundamentally important for **recreation** and **tourism**, both in the way in which it influences the available activities and also the **impact** of those activities on water quality. Water quality, for instance, can affect the operation of adjacent **oceanaria**, the availability of drinking and cleaning water in hotels, the safety of eating seafood or swimming and the ability to observe underwater features. Causes of degradation of water quality are wide and include sediment washed from hotel or leisure development sites, storm water flushing fuel emissions from road or atmosphere into the sea, wastewater and sewer outfalls, boat discharges and suntan oil from swimmers.

Water quality is usually measured in relation to a baseline natural water quality of the area at that particular time (e.g. season, **tides**) and to site circumstances (e.g. weather, temperature, pH). The degradation of water quality is often divided into point and non-point source contaminants (e.g. a specific sewer outfall as opposed to the seepages of contaminant into water from adjacent land use). Factors such as the length of time water might remain within a particular **bay** or **estuary** (the residence time), which determines the cumulative impact or build-up of contaminants, and the 'flushing' of these into the open ocean are important considerations. These factors may be natural (e.g. rainfall, wind, tides and **currents**) or human (e.g. the development of **marinas**, **reclamations**, **artificial reefs**) and, consequently, the ecosystemic context is important. Indicators of water quality include turbidity (clarity), toxicity, fish or **algal** presence and behaviour and pathogen content.

Most developed countries have some requirements for assessing, monitoring and managing coastal and marine water quality (see WHO, 2003 and web sites below). Systems for setting and managing water quality usually draw on concentration levels of particular contaminants or organisms and descriptive indicators of, for instance, odour. Indigenous concepts, such as spiritual water quality value, may be involved in some situations. Trigger indicators are often identified (e.g. level of enterococcal organisms) for monitoring water quality and determining whether or not a **beach** or water body is safe for recreational use.

User activities are generally divided into three categories: (i) primary contact (e.g. swimming or **surfing**), where immersion or ingestion is probable; (ii) secondary contact (e.g. landing a fish), where occasional contact might occur; and (iii) no contact (e.g. sitting on a **glass-bottom boat** or looking at marine life through the water).

In the last decade there has been a move away from single indicators of water quality to more ecosystemic water quality assessments. At the same time, certification schemes that draw substantially on water quality are being implemented to help identify the quality of particular marine areas and recreational beaches (for example, **Blue Flag** classifications). Water classification schemes that include the setting of minimum standards of acceptable water quality need to be crafted for the local situation. These can have the unintended outcome of becoming the level to which people allow the water to be degraded, and systems that require targets for improvement of existing degraded water quality are becoming more widespread.