Thermocline Encyclopedia Article

Thermocline

The following sections of this BookRags Literature Study Guide is offprint from Gale's For Students Series: Presenting Analysis, Context, and Criticism on Commonly Studied Works: Introduction, Author Biography, Plot Summary, Characters, Themes, Style, Historical Context, Critical Overview, Criticism and Critical Essays, Media Adaptations, Topics for Further Study, Compare & Contrast, What Do I Read Next?, For Further Study, and Sources.

(c)1998-2002; (c)2002 by Gale. Gale is an imprint of The Gale Group, Inc., a division of Thomson Learning, Inc. Gale and Design and Thomson Learning are trademarks used herein under license.

The following sections, if they exist, are offprint from Beacham's Encyclopedia of Popular Fiction: "Social Concerns", "Thematic Overview", "Techniques", "Literary Precedents", "Key Questions", "Related Titles", "Adaptations", "Related Web Sites". (c)1994-2005, by Walton Beacham.

The following sections, if they exist, are offprint from Beacham's Guide to Literature for Young Adults: "About the Author", "Overview", "Setting", "Literary Qualities", "Social Sensitivity", "Topics for Discussion", "Ideas for Reports and Papers". (c)1994-2005, by Walton Beacham.

All other sections in this Literature Study Guide are owned and copyrighted by BookRags, Inc.

Contents

Thermocline Encyclopedia Article.....1

Contents.....2

Thermocline.....3

Thermocline

A thermocline is a zone of rapid temperature change with depth in a body of water. It is the boundary between two layers of water that have different temperatures, in a lake, **estuary**, or an ocean. The thermocline is marked by a dramatic change in temperature, where the water temperature changes at least one Celsius degree with every meter of depth. Because of density differences associated with a change in temperature, thermoclines can prevent mixing of nutrients from deep to shallow water, and can therefore cause the surface waters of some lakes and ocean to have very low **primary productivity**, even when there is sufficient light for **phytoplankton** to grow. In other areas, the thermocline can prevent mixing of oxygen-rich surface waters with bottom waters in which oxygen has been depleted as a result of high rates of **decomposition** related to eutrophication. In temperate freshwater lakes, the thermocline is disrupted in fall when the surface waters become denser as decreasing air temperatures cool the surface of the lake. Cooler water is denser and sinks, thereby causing warmer bottom water to rise to the surface and mix nutrients throughout the water column.