

## Assessing the Ecological and Human Health Status of Baltimore's Inner Harbor

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Baltimore's Inner Harbor and its watershed is a highly urbanized area in the mid-Atlantic region of the United States. The city of Baltimore was founded in the 1700s, with the population spreading out into adjacent lands over the last three centuries and continuing to expand into suburban and exurban areas today. The Gwynns Falls drains to the Middle Branch and the Jones Falls drains to the Inner Harbor. Both streams originate in the outer suburbs and in the urban parts of these watersheds, the majority of the streams have been channelized or enclosed in storm drains.

This study assessed water quality and biotic parameters as ecological health indicators of Baltimore's Inner Harbor and its watershed. Bacteria and trash were assessed as human health indicators. Assessment of each indicator is based on methodologies validated through peer-reviewed scientific articles and years-long development of indicators for assessing the health of Chesapeake Bay via the Chesapeake Bay Program. Each indicator is compared against a threshold value and scored on a 0-100% scale, which is a gradient from Very Poor to Good health.

The study found most water quality indicators to be either poor or very poor in the Inner Harbor. Additionally, the bacteria and trash levels in the Inner Harbor were rated as poor. The watershed health was better than the Inner Harbor receiving waters, with water quality indicators and bacteria scoring from good to poor. Lack of spatial and temporal coverage of basic water quality data in the Inner Harbor was a major hindrance to accurately assessing its ecological health. Future plans to remedy these problems, such as expansion of citizen science monitoring, will be discussed.

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