



Place-Specific Benefits of Great Lakes Restoration: A Supplement to the ‘Healthy Waters’ Report

by John C. Austin, Soren Anderson, Paul N. Courant, Robert Litan¹

An analysis of projected property value increases created by the implementation of the federal-state Great Lakes Regional Collaboration (GLRC) Restoration Strategy shows estimated total benefits for the region’s metropolitan areas on the order of \$16.1 billion to \$26.5 billion. The largest benefits are likely to be reaped by residents of the most populated cities along the Great Lakes: Chicago, Cleveland, Detroit, and Milwaukee. Additional benefits will be experienced by those living outside these metropolitan areas.

Introduction

Previously, “Healthy Waters, Strong Economy: The Benefits of Restoring the Great Lakes Ecosystem,” provided a benefit-cost analysis of a major infrastructure program to improve water quality in and around the Great Lakes: the federal-state Great Lakes Regional Collaboration (GLRC) Restoration Strategy. Benefits were estimated in two ways, giving roughly equivalent answers.

Under the first approach, we summed the best available estimates of the various individual benefits the GLRC Restoration Strategy could be expected to generate—additional tourism, fishing and recreation, benefits to property owners from cleaning up “areas of concern,” reduced water operations costs for municipalities, benefits from new technology developed because of the cleanup program, and other unquantifiable benefits—and concluded that the benefits could reach as high as \$50 billion.

Our second approach was to value the benefits on an aggregated basis by estimating the increase in values of residential property that would be affected by the cleanup. As we noted in our earlier report, “[I]n principle, the aggregate estimate of the increase in expected property values should equal or at least approximate the sum of the estimated values of each of the specific environmental and health benefits associated with living near bodies of water” that have benefited from eco-system restoration.

In this supplement, we use this second “aggregate” methodology to provide ranges of the approximate economic benefits of the GLRC Restoration Strategy for each of the eight major metropolitan areas bordering on the Great Lakes.

Methodology: The Aggregate Approach to Benefit Estimation

Briefly, we calculated the aggregate benefits of the GLRC for the entire eight state region by summing the benefits estimated for coastal areas and major metropolitan areas within each of the eight states. For each affected location, we multiplied the inflation-adjusted values from the 2000 Census of owner-occupied property in the metro-

politan areas broadly, and in coastal census tracts more narrowly, by conservative estimates of the percentage increases in those values to be expected from the GLRC Restoration Strategy.²

Based on studies of other areas where similar (but smaller scale) restoration efforts had been undertaken, we used a range of 1 to 2 percent for the estimated increase in average metropolitan area property values, and 10 percent for estimated increase for property values in coastal census tracts. This methodology yielded a range of estimated benefits of \$29 billion to \$41 billion, in 2006 dollars.

The benefit estimates using the aggregate approach are conservative for several reasons. First, the percentage increases in property value used to generate the benefit estimates are conservative. Second, the benefit estimates are based solely on residential property values, and thus ignore the benefits to commercial properties, which should be significant. Third, the 2000 Census figures obviously do not take account of additional property development and construction since the year 2000. For all these reasons, therefore, the state and metro specific benefit estimates reported below are also conservative.

At the same time, however, as we noted in the initial report, there is some uncertainty about the exact amounts by which property values (as a proxy for benefits) in a given metro area would increase as a result of the GLRC restoration activities. We reflected that uncertainty by showing a range for the benefit estimates. We follow that same procedure in this supplement.

Site Specific Benefit Estimates

Table 1 in this supplement uses the figures from the “Healthy Waters” report and the foregoing property value percentage increases to generate a breakdown of estimated benefits by metro areas within the eight Great Lake states in 2007 dollars. The total benefits are calculated as the product of the range in the percentage increase in property values times the total initial value for all property in each location. Total property values, in turn, are driven significantly by population.

Table 1.
Estimated Benefits of the GLRC Initiative, By Metro Area
(Millions of 2006 dollars)

Metro	Benefits (\$millions)
Buffalo, New York	600 - 1,100
Chicago, Illinois	7,400 - 13,300
Cleveland, Ohio	2,100 - 3,700
Detroit, Michigan	3,700 - 7,000
Duluth, Minnesota	200 - 300
Erie, Pennsylvania	400 - 500
Gary, Indiana	200 - 300
Milwaukee, Wisconsin	1,500 - 2,300

As shown in Table 1, the largest benefits are likely to be reaped by residents of the most populated cities along the Great Lakes: Chicago, Cleveland, Detroit, and Milwaukee. It is important to be aware that the ranges represent averages for entire metropolitan areas, and thus include locations and people for whom the restoration projects will produce substantial benefits along with locations and residents for whom the benefits may be slight. The total benefits for these metropolitan regions are estimated to be between \$16.1 billion and \$26.5 billion. As the original report describes, additional benefits will be experienced by those living outside these metropolitan areas.

All told, then, the localized benefits are substantial, and make a strong case for why restoration of the Great Lakes and its waterways is so vital for the economic competitiveness of the region and its metropolitan areas.

Endnotes

1. The authors of this supplement also authored the full report “Healthy Waters, Strong Economy: The Benefits of Restoring the Great Lakes Ecosystem,” issued by The Brookings Institution and the Great Lakes Economic Initiative in September, 2007. For backgrounds of the authors, see that document.
2. Estimates for the value of rental residential properties were added to the figures for owner-occupied housing as well.