

Coastal Zone Technical Working Group, “Incorporating Impact Assessment for Low Water Conditions on the Great Lakes”

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The Peer Review Report (page 76) stated that the hedonic pricing method (HPM) will likely not work to estimate shoreline damages over the range of extreme events. This comment assumed that climate change scenarios would be investigated. The HPM method analyzes property value changes relative to lake level events that have occurred historically. The consideration of climate change would consider lake level scenarios that would be outside of this historical range. This would make it difficult to apply the HPM method.

It appears from the Summary report that the perspective of the studies will be to investigate the implications of low water events that have been experienced. In this case, the methods investigated in the report (except benefit transfer) are all suitable candidates as economic models to address the implications of low water on shoreline property and activities. The Summary Report recommends the use of the HPM in a number of test sites. The HPM model does have merit and potential for this application, and the overall working group report provides useful background information for the development of an HPM model.

The principal comment on the use of HPM relates to the discussion on pages 157 through 163. The test model estimated in the “Simplified HPM Approach” (page 157 and 158) section found no significant impact of water level and the unemployment rate on sales price of property. This is likely due to a limited time series data set long enough to capture these effects.

On pages 161 and 162, the discussion of the “Time Series Analysis Method” concluded that there is not a strong relationship between home prices and lake levels from 2001 to 2010. An average price trend masks the mix of the types of home sold during each period. This is exactly what the HPM model does, as it incorporates the effects of a changing mix of housing types and characteristics.

Also the effect of changing economic conditions should be included in a time series HPM model. The time series model that was estimated did not take changing economic conditions into account in explaining the housing sales price trend. The unemployment rate as suggested in the model of pages 157 and 158 would be suitable for this purpose, and perhaps the 30 year mortgage rate might also be important in affecting sales price over time. The recommendation is to recalibrate the model on pages 157 and 158 on a time series basis, including lake level, the unemployment rate, and the 30 year mortgage rate. Some investigation should be made to ensure that the 30 year mortgage rate is appropriate for recreation property.

In reviewing the Baird Low Water Theme Report, it appears that there are two general types of low water impacts on shoreline property. Regions with shallow inshore bathymetry will experience negative effects for property values as for example boat docks become inoperable and mud flats appear. Regions with steep near shore conditions can result in wider beaches and positive effects for shoreline property. The study sites chosen (page 156) appear to embrace both conditions. The Saginaw Bay and Canadian (Windsor) sites would appear to be candidates for the first group, and the Holland and Saginaw Bay sites for the second group. The hypothesis would be that lake levels would result in a negative impact on property values for the first group, and a positive impact for the second group.

It is also recommended that a Contingent Value (CV) study be undertaken at all sites as a check and balance to the HPM model results. CV study has the theoretical advantage that the method is able to estimate consumer's surplus, the value of housing services above market price, and the method is able to capture the impacts experienced by people who do not own shoreline property. It is proposed that photographs of "normal" and episodes of low water events be used in interviews with respondents to assess willingness to pay to achieve normal conditions for first group sites, and willingness to accept compensation to achieve normal conditions for second group sites.

The specific comments below are focused upon the content of the overall working group report.

#### Page 6

Concur with the report conclusions and conclusions for Appendix H that benefit transfer would not provide reliable estimates for shoreline impacts for the Great Lakes. It is unlikely that the match between existing studies and the wide variety of shoreline conditions on the Great Lakes would be a good one. If benefit transfer was considered, there would be large costs associated with studying shoreline conditions both at the existing study sites and potential Great Lakes sites contemplated for benefit transfer.

#### Page 9

The scope of work outlined in points (1) to (4) should be modified to developing a time-series oriented HPM model as outlined above.

#### Page 51, Application of the Hedonic Price Method

Other neighborhood characteristics that could affect the selling price of home include socio-economic status of the neighborhood such as income level and occupational profile.

#### Page 54, Issues and Limitations (Hedonic Price Method)

"the housing market may be affected by outside influences, like taxes, interest rates, or other factors." The HPM model specification could test for the influence of taxes and interest rates

directly. Other outside influences should be determined through research on the community development from say local newspapers and contacting real estate agents about any unique issues affecting the property market during the period of investigation.

#### Page 59, Issues and Limitations of the Travel Cost Method (TCM)

The TCM cannot be used for issues where travel is not directly involved. The TCM is useful at sites at which daily or weekly visitation is involved, such as open access beaches or shoreline parks. It cannot be used for owner occupied shoreline property. The TCM could work for nonresidents who occupy shoreline homes on a rental/seasonal basis. The TCM method also does not capture the full consumer's surplus of a trip to a site. Travel and trip costs are a minimum value of the recreational experience.

#### Page 65, advantages of the Contingent Valuation (CV) Method

The CV Method measures consumer's surplus associated with use value. The HPM and TCM do not capture consumer's surplus.

#### Page 110

“Given the vast geography and range of shoreline conditions (e.g. geology, near shore slope, and wave exposure) it is possible that the impacts of low water on property values will vary throughout the system.” Concur. The results of the HPM studies at four sites may be able to be indicative of damages in other regions only after careful consideration of similarity of site characteristics, and as well community characteristics and economic conditions.

#### Page 111

“..further studies should focus on a wide range of shore types and land uses throughout the study area.” Following the comment for page 110, if an assessment of the range of shore types is completed, this would provide guidance to future HPM studies to address unique circumstances not captured at the initial four sites.

#### Page 119 and 120 – Real Estate Professionals Survey

These two pages provide very useful guidance in developing variables to quantify the feature behind the value of shoreline property, in the calibration of an HPM. For example, a home on a cliff is less valued than one on beach, and the quality of view. These will provide clues and starting points for variable selection at the four study sites.