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## 5.21 Karst Impacts

No substantive changes have been made to this section since the publication of the Draft Environmental Impact Statement (DEIS).

### 5.21.1 Introduction

Karst ecosystems are an important and unique feature of southern Indiana. The term karst refers to “landscapes characterized by caves, sinkholes, underground streams, and other features formed by the slow dissolving, rather than the mechanical eroding of bedrock.”<sup>1</sup> Karst features form as water dissolves and flows through bedrock via subsurface passageways. Acidic water dissolves the mineral calcite, which is found in Indiana limestones and dolomites. These rocks, particularly limestone, are associated with karst terrain.

Water resources are especially important in karst areas. Very little water purification occurs in karst areas because the water flows directly through cracks and fissures in rocks rather than percolating slowly through soil as in other types of terrain. Therefore, water quality is an important concern in karst areas. Karst areas are also important because they provide habitat for a number of rare, threatened, and endangered species. Many species of bats, including the federally endangered Indiana bat (*Myotis sodalis*), use caves which form in karst areas.

### 5.21.2 Methodology

I-69 Section 6 is not located within a karst region. Field reconnaissance conducted in 2015 and 2016 revealed no karst features present within the I-69 Section 6 corridor. A Karst Memorandum of Understanding (MOU) was signed by INDOT, the Indiana Department of Natural Resources, the Indiana Department of Environmental Management, and the U.S. Fish and Wildlife Service on October 13, 1993. The MOU provides guidelines for construction of transportation projects in karst regions in Indiana. If any karst features are identified within I-69 Section 6 during future studies or construction, the provisions of the Karst MOU will be implemented.

### 5.21.3 Analysis

There are no known karst features within or connected to I-69 Section 6; therefore, there will be no karst impacts associated with the project in I-69 Section 6.

### 5.21.4 Mitigation

Since there are no karst impacts associated with I-69 Section 6, no karst impact mitigation is offered.

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<sup>1</sup> American Geological Institute. “Living With Karst: A Fragile Foundation”. *AGI Environmental Awareness, Series 4*, pp. 64. 2001



### **5.21.5 Summary**

Field reconnaissance conducted in 2015 and 2016 revealed no karst features present within the I-69 Section 6 corridor. Since there are no known karst features, there would be no karst impacts or mitigation associated with the project in I-69 Section 6.