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## **Remotely Evaluating the Condition of Vegetative Best Management Practices**

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### Abstract:

We identified six hurdles to a systematic evaluation of BMPs. These are: access to BMPs, travel time to and from BMPs, time required for BMP inspection, seasonal/weather constraints, lack of consistent evaluation criteria between evaluators, and the skill and experience of the analyst determining BMP condition.

To overcome these limitations, we developed a method to remotely evaluate vegetative BMPs based on the visual interpretation of high resolution digital orthophotographs. This tool does not require a site visit, therefore making BMP access and travel time unnecessary. Inspection with this tool takes approximately 15 minutes, which is less than the 30-60 minutes typically required in the field. Because it uses aerial images the assessment can be done year round, and at the convenience of the analyst. We developed this tool in cooperation with the Indiana Department of Environmental Management, the Natural Resource Conservation Service, the Indiana Association of Soil and Water Conservation Districts, plus several chapters of Pheasants forever in order to identify universal criteria of vegetative BMP condition. The remote evaluation of BMPs does depend upon the skill and experience of the analyst, as well as access to high resolution imagery. But it enables a small number of individuals to evaluate a large number of BMPs in a relatively short period. We believe that the remote evaluation of vegetative BMPs will help improve both the performance of these practices and the cost-effectiveness of NPS programs.

### Impact Statement:

Determining the condition of Best Management Practices (BMP) over time is essential to assess and improve the effectiveness of Nonpoint Source (NPS) programs. Understanding why BMPs succeed or fail could lead to improved outreach and extension. Identifying practices in poor condition would facilitate greater assistance to these landowners. These are just a few of the potential benefits. Despite this, most programs do not regularly inspect BMPs.

Category: Agricultural BMPs

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