

## Fact Sheet #4

# Indiana Statewide 2005 Color Orthophotography

## Issues and Expectations of Using 2005 Orthos with Existing GIS Data

### What is Data Swim?

Well, it has nothing to do with water. If you have existing GIS data, you may find that your line and point maps (vectors) no longer line up on the right place on the photo. Why? What's going on here?

When a vector or point dataset is originally created by digitizing over existing photography or another source, it will be as accurate as the original source data. The accuracy of original source data varies dramatically among different communities in Indiana. The 2005 orthophotography is highly accurate, therefore less accurate vector data might not line up correctly on the photos. Even where high accuracy source data do exist, some minor variations should be expected from year to year (see Figure B). This is referred to as "data swim," or the effect of the vectors swimming from photo to photo.

In another example, data that were collected using high accuracy techniques - like GPS, map or survey grade - may be more accurate than previously available source data. If your point data was corrected or moved to line up on less accurate photos, once you start using the 2005 orthophotos the points might not show up in the right place.



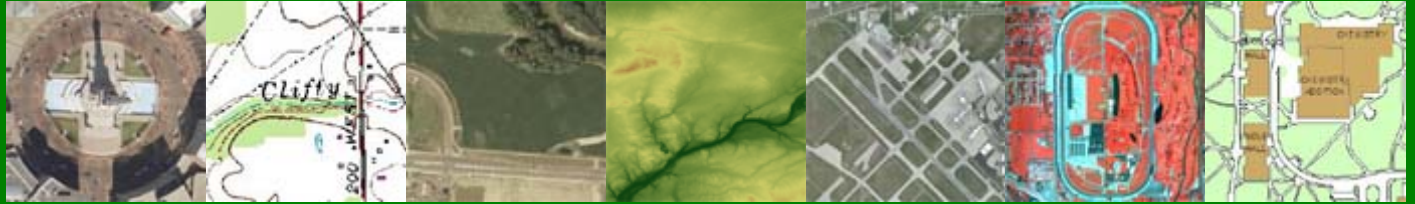
*Figure B. Minor swim is evident in vector data created from a high accuracy source and overlaid with newer high accuracy orthophotography. This minor variation is normal and should be anticipated and acceptable for most uses of the data.*

The 2005 orthos are **highly** accurate - users can be very confident in their reported accuracies.

### What does this mean for my local GIS?

If I move my vector maps to align to the new photos won't I just have the same problem next time?

Not really. Here's why: The acquisition method used for the 2005 orthos also collected a highly accurate elevation model at the same time the pictures were taken. Elevation models are used to correct distortions (or "orthorectify") the aerial photography. This elevation data is part of the deliveries to all counties as part of the



project. Future orthophotography projects, whether done as a statewide project or by a local community, can be tied to this high accuracy elevation model and result in ortho updates that closely match the 2005 ortho accuracy. The result will be minimum data swim in future years. In this way, the 2005 Statewide Orthophotography Project will provide benefits for years to come.

Note that vector data of known high accuracy (like good GPS data) should not necessarily be moved to fit a lower accuracy orthophotography base!



### **When will the orthos be available?**

Data from the 2005 Orthophotography Project will be delivered to all counties by March 30, 2006. Each county will receive datasets as they are completed and accepted by the State. For a detailed list of completed counties, visit [www.igic.org](http://www.igic.org).