Now we're going to put all this together in a complete cause-and-effect example, and what you see now is an example of cause and effect, and in this case I have taken three resources and done a cause and effect for a potential impact from a project... cultural resource, wildlife resource and water resources.

You can see we've identified for each one what the potential impact is, how we're going to measure that impact using an indicator, the data needs to do that, and the methodology.

For example, cultural resources, physical disturbance to the site by our proposed project as a potential impact. We're going to measure that by using an indicator of the number of sites that will be inside the disturbance footprint. The data needs are a survey of those sites that are under the service footprint. And the methodology is a pedestrian survey. That's a simple example of a cause and effect.

Secondly, we've done wildlife. We have loss of habitat and noise disturbances as indicators -- I mean, excuse me -- as impacts. And then the indicators for each one of those, acres of habitat disturbed for loss of habitat and acres of habitat within a particular noise buffer as the indicator for noise disturbance. The data needs, we need to map available habitat to overlay the disturbance footprint on, and we also need information on noise thresholds for wildlife and noise attenuation so we can figure out how big that noise buffer might be. Methodology, GIS or habitat survey plus GIS noise overlay. So there's an example of that.

Now, for water resources, in this case we determined the impact would be sedimentation impacts to water quality. We decided the impact indicator to measure that would be tons of sediment delivered to the water body, and in order to determine that, the data needs are we need soil erodibility and mapping, slope in the area where

there's disturbance, vegetation cover, and disturbance acreage. We would -- methodology would be to input that data into our revised universal soil loss equation model and come up with tons of sediment delivered to the water body.

Now, if you look at the water resources one, this is an impact indicator methodology that assumes that you have a lot of good really good information and good description of your project. Say, for a programmatic EIS analysis, such as a planning document, this would be pretty much impossible to use this kind of indicator and you might use an indicator for water quality of acres of potential disturbance to soils with high erodibility within a certain distance of a water body because that's much easier to measure and it also is something that gives you a relative risk to water -- of sedimentation to water body between alternatives.

So that's something to consider. You can't get too enthusiastic about your indicators being quantitative if you don't have the data to support those.