

We're going to start talking about our second part, our module of impact analysis, and that's the actual impact analysis you're going to do based on the cause-and-effect analysis that you already have done, which was the planning part. This is more the implementation of the analysis.

First off, some background, just a reminder, that environmental impacts in a NEPA document, you're required to look at three basic categories of environmental impacts. One is direct effects, which are impacts that occur right here, right now, temporally and spatially immediate; indirect effects, which are those removed in time and/or space; and cumulative effects, which are impacts of other actions that are not related to your action but still impact the same resource. So remember that you're required to look at all three of these environmental impacts.

Now, some basic principles on good environmental impact analysis. First and foremost, before I get into this slide, you need to remember that typically NEPA courts will defer to agencies with jurisdictional responsibility in terms of their impacts analysis, but that still doesn't take away the responsibility to meet the criteria of what's called the Hard-Look Doctrine, and as I stated in the previous module, Hard-Look Doctrine refers to using scientifically defensible data that is applied consistently in an interdisciplinary fashion.

So, with that in mind, impact analysis principles... first and foremost, your affected environment section, environmental consequences section need to match each other in scope and detail. That's something we talked about earlier with the cause-and-effect analysis, and so we need to make sure and carry that through as we put in the details in our analysis. Secondly, you need to remember to use those indicators we talked about as the quantifiable currency to not only assess your impacts

but also to use that as the currency for describing for affected environment.

Next, you need to not be afraid to make reasonable assumptions for the purpose of analysis. Pretty much all good scientific analysis depends on some level of assumptions. You just need to make sure you have a good rationale to support those assumptions and your methodology, but you need to not be afraid of making those assumptions if you need to to make your analysis work. But make sure you document your assumptions in your affected environment, environmental consequences sections so that the reader is also aware of those.

Now, impact analyses need to include these following key elements, and I put these as a bulleted list because basically it should be a checklist of every environmental analysis you do. Do I have each one of these? First and foremost, you want to summarize what proposed action element is going to cause your impact. As you can see, we have an example here of a very simple one. This alternative would close 2500 acres of the Field Office to OHV use. So that provides the summary of what element of the proposed action is going to cause the impact.

Next, you generally are going to want to have a qualitative description of that impact. In other words, you're showing the linkages of why closing land to OHV use may impact a resource. So in this case, closing land to OHVs typically improves vegetation conditions by eliminating the vegetation crushing from vehicles. That's part of your rationale and your linkage of why this is going to have an impact.

Then thirdly, we start to get quantitative. This is where we state... "And this would protect a thousand acres of sagebrush step and 1500 acres of salt desert shrub habitat." This is where you're using your indicator that we are identified in our cause-and-effect analysis to measure the actual relative level of impact.

And then the fourth part of that is, using that indicator you establish the context, the severity of that impact, by comparing that impact to your affected environment section where you talk about the total number -- or amount of habitat out there using the same impact indicator. This 2500 acres represents 30% of the available sagebrush step and salt desert shrub in the Field Office area. Using this, we've already established context and severity for an impact, we've had a quantitative assessment, and now we can compare that between alternatives and have a good quantifiable distinction between our alternatives.

The last step is taking this impacts analysis and comparing that relative impact, that 30% impact, to what's occurring under the no-action alternative. The no-action alternative is the baseline for comparison for a NEPA document. And one of the mistakes that is often made is that people compare to the affected environment section, which does help you -- does allow you to have the context for the impact, but they forget to compare that contextual impact with the impact under no action. So a way that we would do this is, as you can see here, this would protect 500 more acres of sagebrush step and a thousand more acres of salt desert shrub, then the no-action alternative. So we have that comparison to the baseline.

So if you can remember these sequential steps, and pretty much any impact analysis you do, then you'll have a very robust, consistent analysis and you'll be able to do your comparison between alternatives and have it such that it's very defensible. The idea is, what you want is you want the public to -- if they have a disagreement or someone has a disagreement with the analysis, you want them to be disagreeing with your assumptions or your rationale or your numbers, and point being, if they disagree with those, they have to indicate why and that they have something better, and if they

don't have something better, then you use the best available. If they do, you can use what they have, if it is indeed better. And so that works very well.

Now, I'm going to show you two examples up here, a bad example of an impact analysis and a good example. In this case you look at the upper example on impacts to the grey wolf, you basically see what's known as a conclusory statement. This is a statement with no rationale to support it. This would destroy habitat, cause disturbance and it would be bad for the wolf population. It doesn't say how much habitat, how much disturbance or how bad, or even if it would be bad. I mean, you can destroy some habitat and not even affect a given population if it's a small enough amount in the context of how much is out there. So if someone disagrees with this, bad example, all they have to do is disagree with the conclusion and you can't win because the conclusion is not supported. They've already won that argument.

Now, if you look at the good example, they establish what the level of impact is with an indicator, acres, they have established the existing amount of habitat that provides the context of the impact, 10% of the wolf habitat, 1% of the available wolf habitat throughout the state, they've made an assumption that's backed up with a rationale that says that supports this many wolves and, therefore, this would probably impact approximately 1% of that population based on that valid assumption. And so we have very good defensible analysis of the good rationale, and if someone doesn't like it, the rationale is what they have to disagree with and they have to have something better or the data to support that that rationale is bad.

Again, another example here is we have an oil well project, and in this case I use visual resources because visual resources is one of those resources where it's harder to have a really good impact indicator sometimes because visual is such a subjective type

thing, what is a good visual resource to one person isn't to another. And in this case, we use VRM to show that there are semi-quantifiable, repeatable analysis methodologies and indicators out there for aesthetics. In this case, VRM Class 2 is used as the indicator and the fact that we will -- we will not meet the objectives of that management class in this case, therefore, that's an adverse impact. Whereas, the bad example is, we're going to do these things and they're just going to cause an adverse impact to visual resources. It doesn't establish why you consider that an adverse impact. To some people maybe it's not. But the second one does establish through that rationale, through that indicator of VRM why this is an adverse impact.