

From: [Lindstrom, James](#)
To: [Lief Wiechman](#)
Cc: [Amy Nicholas](#); [Pat Deibert](#)
Subject: GRSG Indirect Effects
Date: Tuesday, February 24, 2015 4:04:30 PM
Attachments: [20150217_AreaOfImpact_Notes.docx](#)

Here are the notes from Kate on our call about the Direct and Indirect effects and buffers.
Below are a couple bullet points from the doc. I hope things are different.

Jim

- So are we continuing to describe the impacts qualitatively?
 - Yes- even though we won't be using a GIS analysis or in other ways creating an area for the buffers, we can describe what the literature says
- So how are we working with the modeling? GIS team isn't working on modeling, so how do we move forward together?
 - We won't use buffers for indirect impacts (as we discussed).

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Writing and GIS discussion (Area of Impact)

MEETING:

Team: Writing and GIS
Date: February 17, 2015
Time: 3:00 pm MT
Phone: 877-937-1692 code: 476873 (GROUSE)
SharePoint: <https://portal.doi.net/usfws/SG/docs/Forms/GIS.aspx>

INVITEES:

(attendees are in **bold**)

Region 1	
RO	Rich Young
WA	Heather McPherron
Region 6	
RO	Nicole Alt, Kate Norman, Lara Juliusson, Joy Gober
WY	Pat Deibert, Amy Nicholas, Jim Lindstrom, Lisa Solberg Schwab
Region 8	
RO	Ron Baxter, Ed Turner

NOTES

Nicole and Kate provided an overview of what's happening with our evaluation of infrastructure, oil and gas, ag conversion, and other impacts.

The expectation is that we will evaluate roads, wells, transmission lines, wind turbines, solar arrays, and agriculture by using the direct footprint of these items as the starting point for GIS analysis. We recognize that the indirect impacts are likely to occur beyond the footprint, but we do not anticipate creating totals for that impact using buffers (that is creating total acres or total % of populations impacted beyond footprint). We will describe these indirect impacts through our qualitative assessment of the threats.

A stand-alone document outlining this issue is available on SharePoint

(https://portal.doi.net/usfws/SG/docs/20150217_ConsistencyInEvalSpatialOverlays.docx). It is pasted here for reference:

Consistency in Evaluation of Spatial Overlays

Common Assumptions to Guide Writers

Decisions:

- We will not quantify a buffer around line and point data. We will create a footprint for these projects (direct effects).
- In text, we will describe qualitatively the impacts that may extend beyond the direct footprint.

- This will ensure that we do not quantitatively over or under estimate indirect impacts by applying a uniform “area of influence” (area where indirect effects are likely). The actual area of influence can vary due to topography, location of the threat, quality of existing habitat prior to disturbance, etc. A footprint only GIS analysis will also ensure consistency with the efforts from modelers, allowing for greater comparability. Using the scientific literature to qualitatively assess indirect effects due to threat presence will ensure that those effects are considered in our overall assessment. Where indirect effects can be quantified through local knowledge and data, they can be incorporated into our assessment either through the text, or a refined, if appropriate, GIS analysis.
- These decisions will also apply to the area of influence created by any noise associated with a threat. Although noise can be considered a direct effect, creating a universal area of influence is limited by the factors mentioned in the above bullet. However, the influence of noise should be discussed in the text.

Assumptions:

- In order to get consistent footprints, we will work with the GIS team to create polygon layers from point and line data. (For example, 4-lane highways will have a consistent width based upon the standard size for these roadways; we will use standard data layers to identify roads and road categories)
- For impacts that have polygon layers (not point or line) we will rely upon the polygons to provide the direct impact footprint.
- These footprints will be intersected with modeled data for abundance, distributions, and trends to determine the approximate percent of population by management zone that is experiencing a direct impact from the development in question.
- The output will be a percent of population impacted. As mentioned above, we will need to describe the indirect effects (e.g. noise, disturbance) through the text.

QUESTIONS

- Are we going to buffer lines and points to get the footprint?
 - Yes- we are technically “buffering” using GIS data, but all we will create is a footprint.
- Are we going to look up those values for road widths?
 - We can use what’s in existence (e.g. the Baseline Environmental Report)
- So are we continuing to describe the impacts qualitatively?
 - Yes- even though we won’t be using a GIS analysis or in other ways creating an area for the buffers, we can describe what the literature says
- So how are we working with the modeling? GIS team isn’t working on modeling, so how do we move forward together?
 - We won’t use buffers for indirect impacts (as we discussed).

- We will use the footprints and intersect that with either the abundance, distribution, and trends.