

From: [Doug Young](#)
To: [Dawn Davis](#); [Julie Reeves](#); [Tyler Abbott](#); [Lief Wiechman](#); [Lee Corum](#); [Jay Martini](#); [Amy Defreese](#); [Pat Deibert](#); [Katie Powell](#); [Heather McPherron](#); [Jeff Berglund](#); [Jason Pyron](#); [Creed Clayton](#); [Drue DeBerry](#); [Steve Abele](#); [Ronald Baxter](#); [Jeff Everett](#); [Jennifer Siani](#); [Shauna Ginger](#); [Joe Zisa](#); [Ted Buerger](#)
Subject: RE: GRSG - Indirect Effects of transmission line projects - draft meeting notes for review - comments still welcome
Date: Friday, January 09, 2015 1:42:27 PM
Attachments: [draft Notes Indirect Effects Transmission Workshop 12-9-14.doc](#)

Thanks again for participating in the December 9 FWS mini-workshop on indirect effects science and applications.

I would still appreciate any FWS comments on the Dec 9 Indirect Effects draft meeting notes (3 pages - attached). **Comment period extended until 16 January**, then I will finalize and distribute.

Thanks,
Doug

From: Doug Young [mailto:doug_young@fws.gov]
Sent: Friday, December 12, 2014 2:29 PM
To: Dawn Davis; Julie Reeves; Tyler Abbott; Lief Wiechman; Lee Corum; Jay Martini; Amy Defreese; Pat Deibert; Katie Powell; Heather McPherron; Jeff Berglund; Jason Pyron; Creed Clayton; Drue DeBerry; Steve Abele; Ronald Baxter; Jeff Everett (Jeff_Everett@fws.gov); Jennifer Siani; Shauna Ginger; Joe Zisa (joe_zisa@fws.gov); Ted Buerger
Subject: GRSG - Indirect Effects mini-workshop - draft meeting notes for review, Powerpoint - comments due by December 23

All – thanks for participating in the FWS’ sage-grouse indirect effects and transmission line projects mini-workshop that was held on December 9, 2014. We had a successful review of FWS’ history with sage-grouse indirect effects and transmission line projects, reviewed/discussed recently available sage-grouse indirect effects literature, and reviewed/discussed analytical methods to assess and value indirect effects associated with transmission line projects.

Please review and comment on the draft meeting notes. Please provide any comments to me ASAP, and no later than December 23.

In brief summary, the FWS workshop participants found recent scientific papers to be valid, reliable, and best available information, and a meaningful basis for FWS to recommend that new transmission line projects evaluate and mitigate for indirect effects to sage-grouse. The workshop participants also found the proposed translation of new indirect effects literature into analytical concepts and tools to be reasonable and necessary for application to new transmission line projects. FWS workshop participants encouraged more discussion of these tools in a white paper format for eventual FMT review and approval.

Thanks again to Heather for her work in developing the workshop materials and Powerpoint, and for everybody’s participation in the workshop.

Doug Young

Workshop notes:

USFWS Sage-grouse Indirect Effects and Transmission Line Projects Mini-workshop

December 9, 2014

Participants: Doug Young, Heather McPherron, Dawn Davis, Julie Reeves, Lief Wiechman, Pat Deibert, Creed Clayton, Amy Defreese, Katie Powell, Jason Pyron, Jennifer Siani, Lara Juliusson, Drue DeBerry, Jeff Berglund, Jay Martini, Steve Abele, Lee Corum, Ron Baxter

Introduction/Background (Doug): Energy Team organized FWS-only mini-workshop to review best available transmission line project science, and discuss potential analytical approaches to addressing indirect effects to sage-grouse from transmission line projects. The goal of this FWS mini-workshop was to review and discuss best-science on transmission line project indirect effects, and ensure we have clear, empirical, objective measures of sage-grouse indirect impacts that we can apply to new transmission line projects. Key FWS staff were identified and invited because of their special expertise and responsibilities associated with sage-grouse and assessing impacts.

Three parts to the workshop:

1. **Background and review of previous “state-of-science”**: Why does industry (and FWS in past, to some extent) consider indirect impacts from transmission line projects as “uncertain”?
2. **Review of recent literature**: What new literature is available that addresses transmission line indirect effects?
3. **FWS interpretation and application of new scientific documents**: What new indirect effects analytical methods could be reasonably applied to new transmission line projects, based on these new literature sources?

The following notes identify workshop discussion topics and examples of FWS conversations. Refer to attached Powerpoint for the webinar presentation.

1. Background and review of previous “state-of-science” (see PowerPoint slides 1-6)

Discussion w FWS workshop participants on past indirect effects treatments: how have you dealt with this issue before? Are these pre-2014 reports “uncertain” because they weren’t specifically designed to separate out t-line indirect impacts from other noise? How can we mix our message of uncertain and certain impacts from indirect effects?

Pat D: FWS participated in UWIN report process. FWS was concerned with indirect effects from new transmission line projects, was asking for buffers and sliding scales of compensatory mitigation, but agreed to proposal for a BACI study on new transmission line, with results of indirect effects study applied to all future transmission line projects. However, BACI study never funded, so we should move forward with new literature informing our FWS recommendations.

Lee: New Conservation Crediting program in Nevada incorporates indirect effects. Participants (including transmission industry) understand that indirect effects from transmission line project will result in significant impacts and large mitigation burden.

Doug: appears that there has been confusion over indirect effects from “tall structures” vs. indirect effects due to all components (transmission line, towers, roads, etc) of a new project. We should make clear in future that FWS is concerned about indirect effects from all transmission line project features and activities, not just the “tall structures”.

2. Review of recent literature (see PowerPoint slides 7-12, four recent scientific documents)

Discussion w FWS workshop participants on these new literature sources: do these new literature sources move the discussion forward? Are these new information sources valid, reliable? Will industry disagree – why? Are these new information sources “scientifically sound” enough for FWS to take a stronger position on indirects, including recommending indirect impact assessments and mitigation? Are there any new literatures or soon-to-be-released studies that refute these findings?

Heather: available and new literature indicates several types of indirect effect from transmission line projects: e.g, Lek persistence, avoidance, increased predation, decreased nesting success, decreased hen survival. Leks are typically avoided by varying distances for new proposed transmission line project as part of the project design to avoid and minimize effects to lek persistence. But the remaining three indirect effects have not yet been quantified or mitigated during project analysis.

Heather: UWIN 2010 and Walters et al. 2014 did not consider several new scientific papers on transmission line indirect effects. Considerable research on sage-grouse, raven, and anthropogenic structures has been published in 2013 and 2014.

Pat: Upcoming scientific paper by Messmer finds sage-grouse avoiding transmission lines by 1km, but finds the associated access roads confound the “tall structure” indirect impacts.

Heather: graduate student will be finishing dissertation and publishing results of Falcon-Gondor transmission line study. Draft study results identify quantifiable indirect effects from this recent transmission line project. FWS to try to meet with student to better understand final results of study.

FWS participants: Discussed that a transmission line project’s access roads, tall structures and other features, as well as the construction, operations, and maintenance activities, should be

considered in an overall, holistic evaluation of a transmission line project's indirect effects. Indirect effects from a transmission line project to sage-grouse do not accrue solely from "tall structures" – and FWS should be cautious of proponents who only want to consider science that specifically addresses "tall structures" effects.

FWS participants: Found these recent scientific papers to be valid and reliable, and best available information. These papers appear to provide a meaningful basis for FWS to recommend that new transmission line projects evaluate and mitigate for indirect effects to sage-grouse.

3. FWS interpretation and application of new scientific documents (see PowerPoint slides 13-16)

Discussion w FWS experts: Are the proposed buffers (avoidance, predation, decreased productivity) reasonable considerations when quantifying indirect effects?

Brief presentation and limited FWS discussion on potential disturbance bands analysis concepts from V2P project.

FWS participants: Found the translation of indirect effects literature into analytical concepts and tools to be reasonable and necessary, and FWS participants encouraged more discussion of these tools in a white paper format. White paper should include additional information on how existing and new indirect effects science helps identify "services lost" within each disturbance band.

4. Next steps:

FWS will develop a whitepaper on sage-grouse indirect effects from transmission line projects, for review by the workshop participants. After the whitepaper is in final form, the FMT will be provided a final review and approval. FWS would then fully apply to new transmission line projects. In the meantime, these best science research papers and analytical tools will be applied to FWS' efforts on currently proposed transmission line projects in sage-grouse habitat.