From:	Juliusson, Lara
To:	Wiechman, Lief
Cc:	Ed Turner; Jim Lindstrom; Rich Young; Pat Deibert; Kevin Doherty
Subject:	Re: GIS: Spatial Needs for Species Report
Date:	Monday, March 30, 2015 11:37:52 AM
Attachments:	03.21.15 LW - Species Report Spatial Products_LJ.docx

---

Hi Lief,

Thanks for these documents. This is all going to be very helpful.

I've provided some comments/questions on the products list document you sent. Some of my edits are just details on specific data sets and methodology we will be using, so that we are consistent. The comments are clarifying questions for you and the SLT.

Thanks!
Lara

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On Sun, Mar 29, 2015 at 4:29 PM, Wiechman, Lief <lief_wiechman@fws.gov> wrote:

> GIS Team,
>
> Please see attached documents:
> (1) A list of products needed (maps as well as [example] tables populated). Also contains some generals notes and topics to discuss. SLT understands that some of the requested products may already be created/completed, but are subject to changes upon further review. I have also spoken to Kevin and it is possible that there maybe overlap on this list with some of the products he intends to generate. We will coordinate to eliminate any duplicate effort. Finally, this list may not be final. Things will likely come up as we put this product together.
>
> (2) I have reviewed the list of maps already created for various chapter of the Sp. Report. This list of comments (as well as the product list) will be sent to the SLT for review in the near future as not all maps were included in the chapter at the time of SLT review.
>
> (3) and (4) Two documents you've already seen: A list of BLM products and associated description of products delivered. Only relevant because of the example table discussed in (1) as possible analysis needed and associated products to be generated.
>
> Please review and provide feedback for discussion on Wednesday.

I'll try to get on SharePoint as well...

Take care,

LW

Lief Wiechman
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---------- Forwarded message ----------
From: **Juliusson, Lara** <lara_juliusson@fws.gov>
Date: Mon, Mar 23, 2015 at 7:52 AM
Subject: Fwd: GRSG: BLM ADPP and No-Action spatial data received
To: Rich Young <Rich_Young@fws.gov>, Ed Turner <Ed_Turner@fws.gov>, James Lindstrom <james_lindstrom@fws.gov>
Cc: Lief Wiechman <lief_wiechman@fws.gov>, Drue DeBerry <drue_deberry@fws.gov>

Hi GIS Team,

An FYI that we received all the BLM ADPP and no-action alternative data last Friday. Stay tuned for the SLT to tell us how they would like us to incorporate those data into analysis and maps.

Thanks,
Lara

Lara Juliusson, Geographer/Ecologist
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---------- Forwarded message ----------
From: **Juliusson, Lara** <lara_juliusson@fws.gov>
Date: Fri, Mar 20, 2015 at 3:42 PM
Subject: GRSG: BLM ADPP and No-Action spatial data received
To: Pat Deibert <pat_deibert@fws.gov>, Lief Wiechman <lief_wiechman@fws.gov>, Jesse DElia <jesse_delia@fws.gov>, Dawn Davis <dawn_davis@fws.gov>
Cc: Matt Kales <matt_kales@fws.gov>

Hi everyone,

Just confirming that BLM emailed ALL of the layers for ADPP and no-action to us this afternoon.

With a quick review, I'd say it looks complete to me, and the data loads into ArcGIS. I'm attaching here the delivery memo and list of datasets .PDFs for you.

I've put the data up on ScienceBase, here: https://www.sciencebase.gov/catalog/folder/550c909be4b02e76d759d771

Thanks,
Lara

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Species Report - Spatial Products
3.28.2015

DIRECT DISTURBANCE

- Direct disturbance footprint for Tier I and II overlaid on:
  - FWS 'Status Review Occupied Range' (updated from Schroeder et al. 2004) using the ArcGIS model builder Status Review toolbox provided. The actual working status review GIS file will be combined with MZ and will be named, "GRSG_2015_StatusReview_WORKING_CurrentRangeMZ.shp"
  - Modeled Distribution (Doherty)
  - Modeled Abundance (Doherty)

EXAMPLE TABLE

DIRECT DISTRUBANCE "Threat" (eg - Mining)	Within Occupied Range		Intersect: Modeled Distribution		Intersect: Modeled Abundance	
Management Zone	**Acres**	**%**	**Acres**	**%**	**TBD**	**TBD**
MZ 1						
MZ 2						
MZ 3						
MZ 4						
MZ 5						
MZ 6						
MZ 7						
Range wide[1]						

[1] All range wide calculations will not include Bi-State population or the Canadian portion of the range

- Direct disturbance layers have already been chosen by chapter authors in coordination with GIS team.
- SLT will recommend new/different layers as they review when/where appropriate.
  - Request GIS team update the appendix spreadsheet so that SLT will have data source information during review. https://docs.google.com/a/fws.gov/spreadsheets/d/1fkHeK8lJ3xkDy6tAzSac6Gu3W5IMBRTu62UG-FKHeV8/edit#gid=0

INDIRECT DISTURBANCE

- SLT is addressing this issue currently. For now, do not calculate indirect disturbance – Guidance is forthcoming.
- However, the table will likely be similar to the Direct Disturbance table, with the addition of a buffer radius (for the Area of Interest) per each type of ~~distrubace~~disturbance.
- Overlay method will be similar to the above.

CONSERVATION ACTIONS

- Conservation action footprint (from CED, etc. – prioritizing Tier I and II) overlaid on:
  - FWS 'Status Review Occupied Range' (updated from Schroeder et al. 2004)
  - Overlay method will be similar to the above
  - Modeled Distribution (Doherty)
  - Modeled Abundance (Doherty)
  - Risk/Threat layer(s) – aka direct disturbance footprints (where appropriate)

Comment [JLM1]: Will this be the modeled distribution at 0.65 probability, or 0.5?

Comment [LW 2]: Took a quick stab at the Ecosphere formatting…

Comment [JLM3]: As we currently have the GIS files set up, bi-state and Canada numbers would be calculated, and then we would exclude them from the final tables (percent calculations would exclude them as well). Would you like us to just not have them calculated at all? I would opt for not calculate them at all for Canada, since we have so little overlapping threats, etc. For bi-state, would you want us to still calculate them and then just exclude when reporting?

Comment [LW 4]: This will provide an idea as to how threats from "past" to present have been addressed.

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- Modeled risk layer(s) (where appropriate)

EXAMPLE TABLE

CONSERVATION ACTIONS "Activity" (eg – Conifer Removal)	Within Occupied Range		Intersect: Modeled Distribution		Intersect: Modeled Abundance	
Management Zone	Acres	%	Acres	%	TBD	TBD
MZ 1						
MZ 2						
MZ 3						
MZ 4						
MZ 5						
MZ 6						
MZ 7						
Range wide[1]						

[1] All range wide calculations will not include Bi-State population or the Canadian portion of the range

- Lief will coordinate with Jim (and other as necessary) to pull spatial data associated with conservation actions (from CED, etc.), compile it, and provide to GIS Team to calculate statistics/metrics. Subsequently providing that information in tabular form to the SLT.
  - Might be worth discussing if it's more efficient for GIS Team members who have been assigned to each threat remain the ones to work on those threats.

- The ArcGIS Model Builder toolbox will provide functionality during processing to clip the CED (and disturbance data) to the FWS combined status review occupied range dataset. Output acreages will be based on the clipped data. ~~All CED data (and disturbance data) will need to be clipped to FWS 'Status Review Occupied Range' layer being updated by Jim(based on the modeled distribution and input from states).~~

- CED data will be points, lines and polys

- CED data is currently approximately 330 files.
  - Some individual files have multiple polygons
  - Report stats as summary from each file, even if multiple polys, etc within it. (GIS Team may want to double check this as we receive files)

- There will be two sources for metrics (miles, acres) for conservation actions:
  - (1) reported acres within database
  - (2) GIS acreages
    - Will have to reconcile differences between GIS calculated metrics (miles, acres) and the reported metrics.
  - Acres from database reports will be captured in a field in the conservation action polygons
  - Compare GIS acreages with reported acreages and note any large discrepancies
    - "large" being 'Orders of Magnitude'

PACS

- We'll need this generated, however at this point will not include them in the tables for the Sp. Report
  - Inside and outside PAC within 'occupied range' minus Bi-State, Canada
    - NO stats by BLM PHMA/GHMA
    - NO stats (at this point - may be needed if asked for) by State

Comment [LW 5]: This will provide an idea of how certain actions may provide benefit and address threats (with certainty) into the future.

Comment [LW 6]: Not all conservation action carry a benefit into the future, and we'll have to discuss which types we'd like to overlay.

Comment [LW 7]: QUESTION - What to do about conservation actions intersecting occupied range at the edge? Extend out to capture full conservation polygons or just clip?

Comment [LW 8]: SUGGESTION - Given the complexity of creating different rule sets for different actions and/or file types (points, lines, polygons) and the different ways partners provided data, the simplest solution may be to clip all.

Comment [JLM9]: This takes place in the Model Builder toolbox processing when the "GRSG_2015_StatusReview_WORKING_CurrentRangeMZ.shp" file is used to clip the input data

Comment [JLM10]: What are we going to calculate for points and lines? Will we buffer them to create an area, or will we count points and linear miles respectively?

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EXAMPLE TABLE

DIRECT DISTRUBANCE "Threat" (eg - Mining)	Inside PAC		Outside PAC	
Management Zone	**Acres**	**%**	**Acres**	**%**
MZ 1				
MZ 2				
MZ 3				
MZ 4				
MZ 5				
MZ 6				
MZ 7				
Range wide[1]				

[1] All range wide calculations will not include Bi-State population or the Canadian portion of the range

CONSERVATION ACTIONS "Activity" (eg – Conifer Removal)	Inside PAC		Outside PAC	
Management Zone	**Acres**	**%**	**Acres**	**%**
MZ 1				
MZ 2				
MZ 3				
MZ 4				
MZ 5				
MZ 6				
MZ 7				
Range wide[1]				

[1] All range wide calculations will not include Bi-State population or the Canadian portion of the range

OTHER NOTES, PRODUCTS

- There may be instances where the threat data we have is insufficient to calculate the amount of amelioration via conservation actions, and where threat information is sufficient, but the conservation action data is insufficient. Where these cases occur, we'll discuss the best path forward on a case-by-case situation.
- Conifer "model" data not yet available and not site specific. Will likely be summarized by HUC10 watershed. Will obtain data at HUC10 watershed and then convert the CED data 'up' to that scale and illustrate for species report.
- CANADA: We'll need to display the 'Occupied Range' in Canada in all maps… however, because we do not have the same threat information in Canada, all calculations will include the US portion of the 'Occupied Range'.
- We'll need to get layers representing Surface ownership (SMA?) and use one consistent layer throughout (likely that of the NOC?).

  [PRODUCT REQUEST]
  We'll likely want to display the occupied range broken down by surface ownership.

  [PRODUCT REQUEST]
  Need a layer depicting other federally protected areas; national parks, wilderness, etc.

Comment [LW 11]: We'll need this generated, however at this point will not include them in the tables for the Sp. Report

Comment [JLM12]: Unless you say not to, we can do the PACs calculation while we run the previous ones by checking the PAC checkbox in the tool. That way, they will be already generated.

Comment [JLM13]: We already have this from the 1/2015 official SMA release by the BLM. This doesn't originate from Frank. Are you wanting us to get a specific version from Frank?

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BLM/FS LAND USE PLANS

- Changes in Land Use Decisions from 'No Action' to 'ADPP' (summarized by changes in acreage)
- Some Decision Layers may have 2 (Retention, Disposal), 3 (Open, Avoidance, Exclusion), 4 (Closed, Major Stips, Moderate Stips, and Standard Stips [open]) decisions making these tables very long. We may want to discuss the best way to format them, but the information below is what we'll need.

Δ No Action to ADPP	Within Occupied Range							
"Land Use Decision" (eg - Land Tenure)	2010 (No Action)				2015 (ADPP/Final EIS)			
In PACs	Retention		Disposal		Retention		Disposal	
Management Zone	Acres	%	Acres	%	Acres	%	Acres	%
MZ 1								
MZ 2								
MZ 3								
MZ 4								
MZ 5								
MZ 6								
MZ 7								
Range wide[1]								

[1] All range wide calculations will not include Bi-State population or the Canadian portion of the range

Δ No Action to ADPP	Within Occupied Range							
"Land Use Decision" (eg - Land Tenure)	2010 (No Action)				2015 (ADPP/Final EIS)			
Outside PACs	Retention		Disposal		Retention		Disposal	
Management Zone	Acres	%	Acres	%	Acres	%	Acres	%
MZ 1								
MZ 2								
MZ 3								
MZ 4								
MZ 5								
MZ 6								

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MZ 7	
Range wide[1]	

[1] All range wide calculations will not include Bi-State population or the Canadian portion of the range

Δ No Action to ADPP	**Intersect: Modeled Distribution**							
"Land Use Decision" (eg - Land Tenure)	**2010 (No Action)**				**2015 (ADPP/Final EIS)**			
In PACs	**Retention**		**Disposal**		**Retention**		**Disposal**	
Management Zone	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**
MZ 1								
MZ 2								
MZ 3								
MZ 4								
MZ 5								
MZ 6								
MZ 7								
Range wide[1]								

[1] All range wide calculations will not include Bi-State population or the Canadian portion of the range

Δ No Action to ADPP	**Intersect: Modeled Distribution**							
"Land Use Decision" (eg - Land Tenure)	**2010 (No Action)**				**2015 (ADPP/Final EIS)**			
Outside PACs	**Retention**		**Disposal**		**Retention**		**Disposal**	
Management Zone	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**
MZ 1								
MZ 2								
MZ 3								
MZ 4								
MZ 5								
MZ 6								
MZ 7								
Range wide[1]								

DRAFT

[1] All range wide calculations will not include Bi-State population or the Canadian portion of the range

Δ No Action to ADPP	Intersect: Modeled Abundance							
"Land Use Decision" (eg - Land Tenure)	2010 (No Action)				2015 (ADPP/Final EIS)			
In PACs	Retention		Disposal		Retention		Disposal	
Management Zone	Acres	%	Acres	%	Acres	%	Acres	%
MZ 1								
MZ 2								
MZ 3								
MZ 4								
MZ 5								
MZ 6								
MZ 7								
Range wide[1]								

[1] All range wide calculations will not include Bi-State population or the Canadian portion of the range

Δ No Action to ADPP	Intersect: Modeled Abundance							
"Land Use Decision" (eg - Land Tenure)	2010 (No Action)				2015 (ADPP/Final EIS)			
Outside PACs	Retention		Disposal		Retention		Disposal	
Management Zone	Acres	%	Acres	%	Acres	%	Acres	%
MZ 1								
MZ 2								
MZ 3								
MZ 4								
MZ 5								
MZ 6								
MZ 7								
Range wide[1]								

[1] All range wide calculations will not include Bi-State population or the Canadian portion of the range

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