

Online Density and Disturbance Calculation Tool Application Training



Wyoming Density and Disturbance Calculation Tool

Wyoming Geographic Information Science Center
&
Wyoming Game & Fish Department

Nicholas Graf

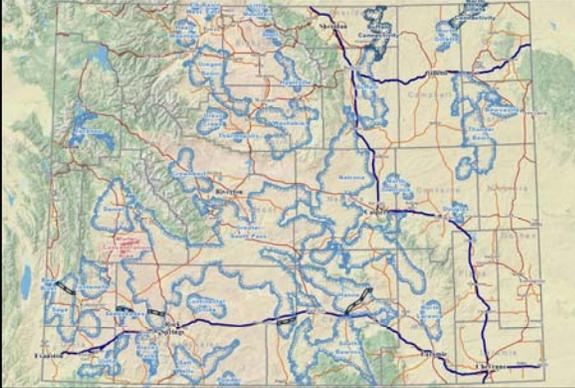
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What is a “Core Area Strategy”?

- Establish core population areas
- Limit development to defined thresholds
- Establish thresholds for affected areas
 - 5% Disturbance averaged
 - Averaged 1 disruption per 640 acres
- Determine affected area and evaluate for thresholds
 - Affected area:
 - 4 mile buffer from proposed project perimeter
 - Subsequent 4 mile buffer around occupied core area leks within initial 4 mile buffer
 - Clip to core area
 - Evaluate for Thresholds:
 - Calculate density
 - Calculate disruptions

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Transmission Corridor Connectivity Area Core Area Winter Concentration Area

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Use of GIS:

The slide features a horizontal timeline with three brown arrow-shaped boxes pointing right. Each box contains a date and a list of activities. The first box is for June 2010, the second for June 2011, and the third for July 2012. The background is a light blue textured pattern.

- June 2010**
 - Project Impact Analysis Area (PIAA)
 - ArcGIS 9.3 Model (BLM)
- June 2011**
 - Desktop DDCT
 - ArcGIS 10 Python Script (WyGISC)
- July 2012**
 - Web DDCT
 - Creation of a DDCT Data and Application Steward position

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Online Density and Disturbance Calculation Tool

Everything is run through the website

ddct.wygis.org

Requires Registration

The screenshot shows the homepage of the Wyoming Density and Disturbance Calculation Tool. It has a blue header with the title and a navigation menu. The main content area is white with several orange buttons and text links. The footer contains copyright information.

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Registration

Go to the ddct.wygis.org

- On the top of the page click on **Register**
- Enter a User ID, Email Address, Password, Security Question, Security Answer, and Time Zone
- Click the **Create Account** button
- An email will be sent to the email address provided in the registration with information of how to confirm the email address
- Once the email is confirmed the user has access to the site as a proponent

The screenshot shows a registration form titled 'Create a New Account'. It includes input fields for Username, Password, Confirm Password, Security Question, Security Answer, and Time Zone. A 'Create Account' button is at the bottom.

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User Roles

Policy Reviewer	<ul style="list-style-type: none">Review projects submitted for policy reviewChange project statusView projects submitted for policy review
Technical Reviewer	<ul style="list-style-type: none">Review projects submitted for technical reviewChange project statusView projects submitted for technical and policy review
Proponent	<ul style="list-style-type: none">Create and edit DDCTsSubmit projects for technical reviewSubmit projects for policy reviewView only projects created by the user

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Website Layout

- Module Layout
- Application and History
- Resources and Questions

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Application and History

- History and Development of the Core Area Policy
 - Introduction and background of the Core Area Policy
- How to use the online DDCT application
- DDCT workflow and online application procedures
- Sign in and access the online DDCT application
- Sign in
- Open the online DDCT application

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Resources and Questions

- Common Core Area Policy questions
 - DDCT and Core Area Policy frequently asked questions
- Common application and website questions
 - Website and application frequently asked questions
- Other available resources
 - State Resources
 - Federal Resources

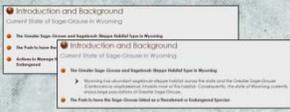


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Website Layout Demo

- Demonstration of the website and some of the features
- Note: Additional information is available when clicked



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Information Needed to Run the DDCT

- Required Information
 - Project Area
- Other Helpful Information
 - Existing surface disturbances in the area

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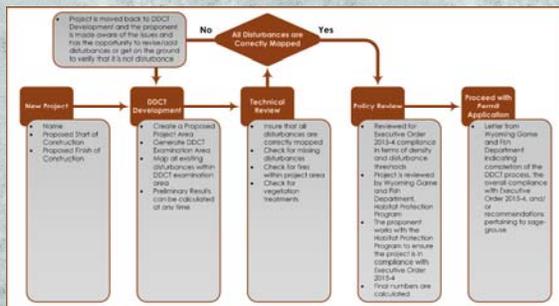
Software Needed to Run the DDCT

- Required Software
 - Web Browser
 - Adobe Flash (<http://get.adobe.com/flashplayer/>) – Free
- Other Helpful Software
 - Adobe Reader (<http://get.adobe.com/reader/>) – Free
 - With terraGo toolbar (<http://terragotech.com>) – Free
 - Desktop GIS (e.g. ArcGIS or AutoCAD Map 3D)
 - Interface with esri® Shapefile built into web application
 - Interface with AutoCAD spatial referenced files coming soon

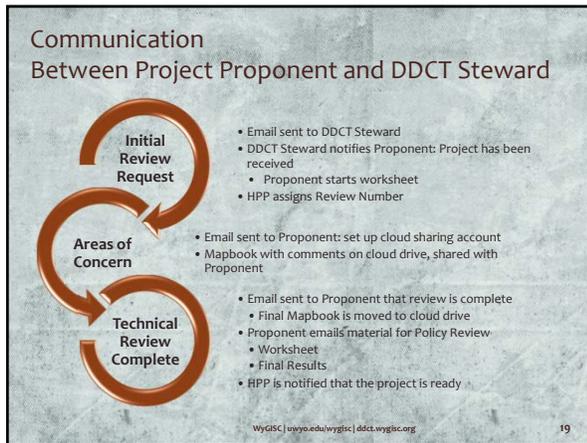
Procedures Quick Overview

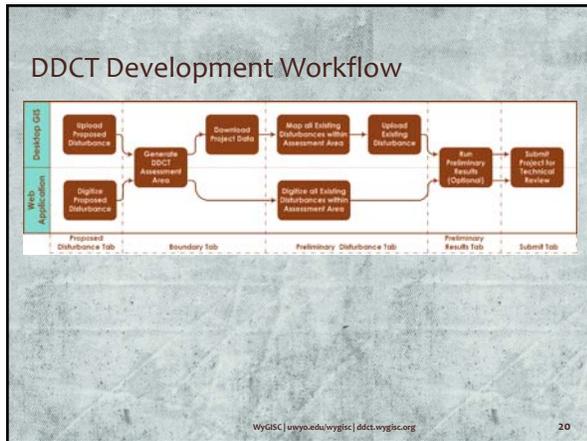
- Quick Overview
1. Create a New Project
 2. Create a Project Area
 3. Generate the DDCT Area Boundary
 4. Map all Disturbances Within the DDCT Area
 5. Run Preliminary Results – Optional
 6. Submit for Technical Review
 7. Address Issues Brought up in Technical Review and Resubmit for Technical Review
 8. Once the Technical Review is Complete – Run Final Results, Complete the DDCT worksheet, and Submit for Policy Review
 9. Work with Wyoming Game & Fish – Habitat Protection Program to Resolve any Issues

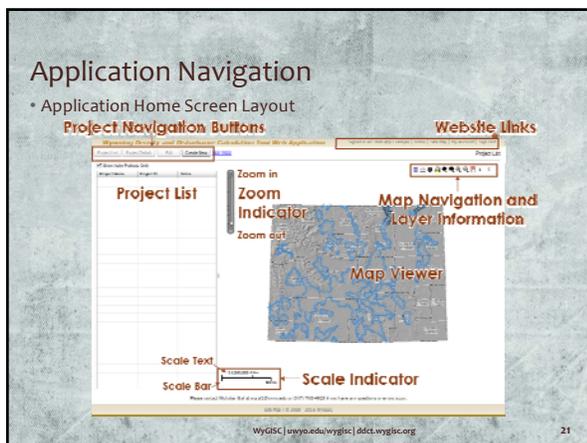
Permitting Workflow



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Project Navigation Buttons

- Home – Opens to the application home screen
- Project Details – Opens the project details screen
- Edit – Opens the project edit screen
- Create New – Opens the new project creation wizard



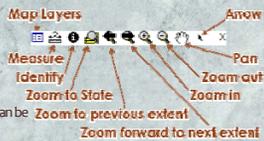
Project List Area

- Displays Project Name, Project ID, and Status
- Single click on a project zooms the Map Viewer to either the Project Boundary, of the Project Area if the boundary has been not generated
- Double Click opens the **Project Home Screen** with the **Edit** tab selected

Project Name	Project ID	Status
Random View Pad	20120506_1	DDCT Development
Project Name	Project ID	Project Status

Map Navigation and Layer Information

- Map Layer – Opens new window with Map Layer Information
- Measure – Opens the measure tool
- Identify – Opens the identify tool
- Zoom to State – Zooms to the full extent of Wyoming
- Zoom to previous extent – Zoom to the last extent – can be used multiple times
- Zoom forward to next extent – Only available after the use of the Zoom to previous extent tool – can be used multiple times
- Zoom in – Zooms in to a window drawn on the screen
- Zoom out – Zoom out using a window drawn on the screen
- Pan – Opens the pan tool
- Arrow – Opens the arrow tool



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Layers Edited by Users

- Project Table
 - Project Identifier*
 - Name of project
 - Project Ownership Information
 - Description
 - Dates
 - HPP Project Identifier*
 - Proposed Disturbance
 - Project Identifier*
 - Disturbance identifier
 - Disruption Identifier
 - Comments
 - Location and Area
 - Preliminary Disturbance
 - Project Identifier*
 - Disturbance identifier
 - Disruption Identifier
 - Comments
 - Location and Area
- *Created by Application
*Added by DDCT Steward

Layers Created by Application

- Boundary
 - Project Identifier
- Map Grids
 - Project Identifier
 - Grid Name
- Statistical Outputs
 - Disturbance Statistics
 - Lek Disturbance Statistics
 - Ownership Statistics

Layers Edited by the Data and Application Steward

- Statewide Existing Disturbance
 - Project Identifier
 - Disturbance identifier
 - Disruption Identifier
 - Comments
 - User information
 - Location and Area

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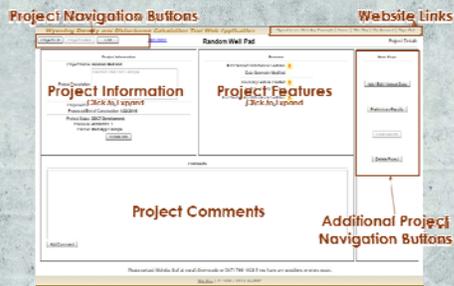
Creating a New Project

- From the **Application Home Screen** click the **Create New** button
- Enter Project Name
- Enter Project Description
- Enter Proposed Start of Construction
- Enter Proposed End of Construction
- Click **Add Project Button**



Project Details Screen

- Features of the project details screen



Project Details Screen Project Information

- Contains a summary of the project information
- Project Name
- Project Description
- Start of Construction
- End of Construction
- Project Status
- Project ID
- Planner
- The information can be edited by clicking the **Update Info** button



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Project Details Screen

Project Features

- Contains a summary of the project Features
- Number of Planned Disturbances
 - Proposed Project Area
 - Data last updated
- Project Boundary
 - Number of boundary features
 - Date last updated
- Number of Preliminary Disturbance Features
 - User entered existing disturbances
 - Date last updated



Features	
# of Planned Disturbance Features	1
Date Geometry Modified	06/07/2012
Boundary Features Created	1
Date Geometry Modified	06/13/2012
# of Preliminary Disturbance Features	13
Date Geometry Modified	06/18/2012

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Project Details Screen

Additional Project Navigation Buttons

- **Add/Edit/Upload Data** button
 - Takes the user to the **Digitize** Tab on the Edit Project Home Screen
 - Only available during the DDCT Development Phase
- **Preliminary Results** button
 - Takes the user to the **Preliminary Results** Tab on the Edit Project Home Screen
 - Only available during the DDCT Development Phase
- **Final Results** button
 - Takes the user to the **Final Results** Screen
 - Only available during the Technical Review Complete Phase
- **Delete Project** button
 - Deletes the project
 - Always available



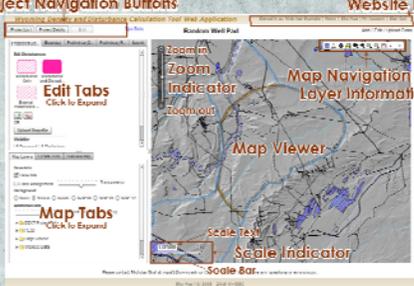
Next Steps

- ADD/EDIT/UPLOAD DATA
- PRELIMINARY RESULTS
- FINAL RESULTS
- DELETE PROJECT

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Editing and Creating Features

- Features of the project edit home screen



Project Navigation Buttons Website Links

Zoom in Zoom Indicator Zoom out

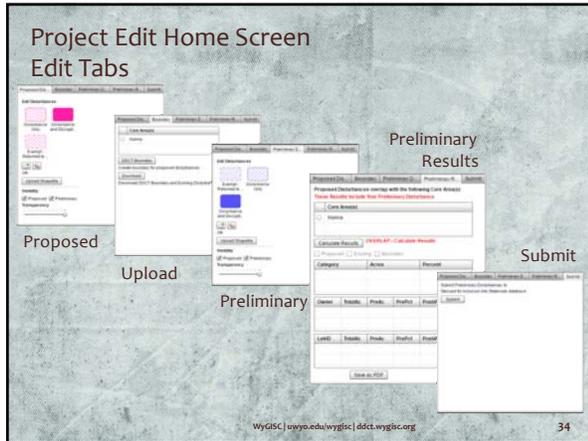
Map Navigation and Layer Information

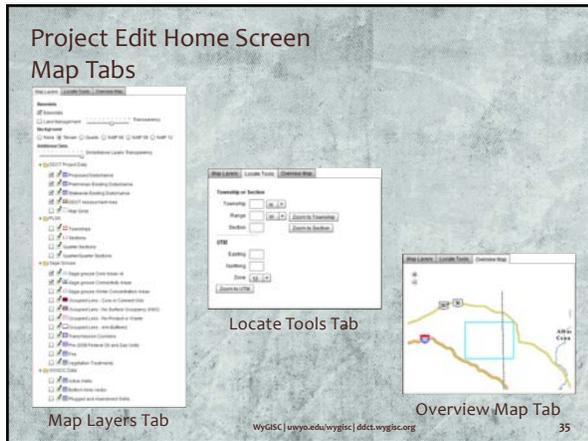
Map Viewer

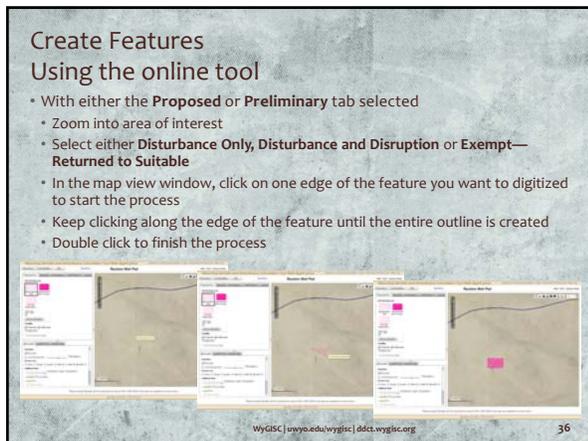
Scale Text Scale Indicator Scale Bar

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Create Features

Editing features using the online tool

- With either the **Proposed** or **Preliminary** tab selected
 - Select either **Disturbance Only**, **Disturbance and Disruption** or **Exempt—Returned to Suitable**
- In the map view window, click on the feature you want to edit to open the **Edit Disturbances** sub-tab
- Select whether the feature is a Disturbance and/or Disruption
- Select the Category and Type of disturbance
- Enter any comments in the comments box (optional)
- Click the **Update Feature** button to finish the process



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Create Features

Selecting multiple features using the online tool

- With either the **Proposed** or **Preliminary** tab selected
 - Click on the **Select Multiple Feature** tool 
- Use the mouse to draw a box around the features desired for selection
- The selected features will have a yellow inner glow
- Any attribute changes or deletions will apply to all selected features



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Create Features

Clearing a multiple selection

- With either the **Proposed** or **Preliminary** tab selected
 - Click on the **Clear Selected Features** button 



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Create Features

Using the upload Shapefile tool – Step Three

- Select the fields that contain the Disturbance/Disruption/Category/Type/Comments Information
- Attribute fields are listed in alphabetical order, not in the order they appear in the feature
- If no field contains the information, leave the dropdown blank
- If the shapefile contains no pertinent attribute information select the check box at the bottom
- Press the **Next** button



Create Features

Using the upload Shapefile tool – Step Four

- Press the **Write to DB** button to finalize the upload
- Press the **Done** button to finish the process



Create Features

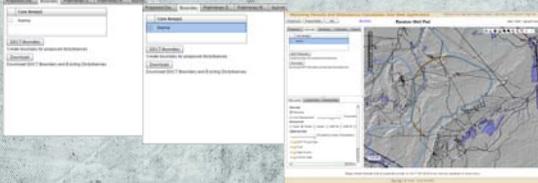
Using AutoCAD

- AutoCAD Map 3D and Civil 3D export to shapefile
- Make sure to treat closed polylines and polygons

DDCT Assessment Area

Generating the DDCT Boundary

- With the **Boundary** tab selected
 - Select the radio button next to the name of the **Core Area(s)** to be used in the DDCT process
 - Press the **DDCT Boundary** button
 - Wait until the boundary generation process has run, the screen will refresh when the process is complete



DDCT Examination Area

Downloading the DDCT Boundary

- With the **Boundary** tab selected
 - Click the **Download** button
 - An email will be sent to the Data and Application Steward
 - Email sent proponent to ask GIS version
 - Data emails to proponent



DDCT Assessment Area

Download – What is Emailed?

- The <Project Name>.zip that contains esri® Layerfiles and either an esri® File Geodatabase or esri® Shapefile of the following features:
 - ddctBoundary – The DDCT boundary
 - ExistingDisturbance – Statewide Disturbance clipped to the DDCT boundary
 - MapGrids – Grid covering the DDCT boundary used to create a Mapbook for the project
 - PrelimDisturbance – Preliminary Disturbance for the project area, entered by the user
 - ProposedDisturbance – The proposed project boundary entered by the user
- Layer files are included

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Preliminary Results

Preliminary and Statewide Disturbance Data

- With the **Preliminary Results** tab selected
- Select the **Core Area** for the calculation
- Click the **Calculate Results** button
- Wait until the preliminary calculation process has run, the tables will populate with data when the process is complete
- These results are **not** stored in the database, and are **only for informative purposes**



Preliminary Results

Saving Preliminary Results

- With the **Preliminary Results** tab selected
- Click the **Save as PDF** button
- Give the results a name and select the location to save the PDF

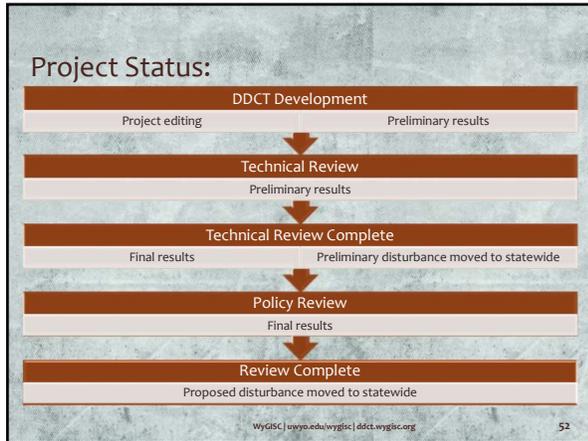


Submit a Project for Technical Review

- With the **Submit** tab selected
- Press the **Submit** button
- An email will be sent to the DDCT Data and Application Steward indicating that the project is ready for review
- Proponents will be contacted with the results of the technical review



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Technical Review

- Overview of the Technical Review Process
- Project is reviewed by the Data and Application Steward to ensure that all disturbances have been accounted for
- There are two possible results of the technical review
 - Disturbances need revision
 - All disturbances are accounted for and mapped correctly

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Technical Review Revision Process

- Overview of Revision Process
 - Project is moved back to the **DDCT Development** stage
 - Proponent receives a series of PDF maps highlighting the areas of concern
 - Proponent can either manually correct the problems using the online tool, or upload corrected disturbance data
 - Once the concerns have been addressed the project is then re-submitted for **Technical Review**

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Technical Review

All disturbances mapped correctly

- Overview of the Technical to Policy Review transition
- Role of the Data and Application Steward:
 - Take the disturbances from the Preliminary layer and incorporate them into the Statewide Disturbance Data layer
 - Change the project status to Technical Review Complete
 - Notify the proponent that the Technical Review is complete
- Role of the Proponent
 - Completes the steps necessary to start the policy review process

Policy Review

Generate Final Results and Start Policy Review

- From the **Project Details** screen click the **Final Results** button
- Select the **Core Area** for the calculation
- Click the **Calculate Results** button
- Wait until the final calculation process has run, the tables will populate with data when the process is complete
- Click the **Write to DB** button to save the results
- Click the **Start Policy Review** button to start the policy review process



Policy Review

Features of the Final Results Screen

- On the **Final Results** screen
 - The proposed project area can be turned off by unchecking the **Proposed** box
 - The disturbances used in the calculations can be turned off by unchecking the **Existing** box
 - The assessment area can be turned off by unchecking the **Boundary** box



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Policy Review

Role of the DDCT in compliance with SGEO 2015-4

- The DDCT results are only one aspect of SGEO 2015-4
 - Permitting agencies and the Wyoming Game & Fish Department evaluate the proposed project in terms the applicable stipulations for development, both general and specific, outlined in Attachment B of Executive Order 2015-4
 - Proponents should complete the DDCT worksheet with information pertaining to the proposed project, and submit it along with DDCT results to the Wyoming Game and Fish Department's Habitat Protection Program, via the DDCT Data and Application Steward, for review
- Issues that arise during Policy Review may be handled directly between the proponent, permitting agency, and the WGFD Habitat Protection Program

Policy Review

Summary

- Overview of the Policy Review Process
 - Project is reviewed by the Wyoming Game & Fish Department, Habitat Protection Program, to ensure compliance with Governor's Executive Order 2015-4
 - The Habitat Protection Program is able to review and provide feedback and response for most projects within 30 days, depending on the completeness and specificity of the DDCT package that is submitted
 - At the completion of the Policy Review a letter is issued indicating completion of the DDCT process, the overall compliance with Executive Order 2015-4, and/or recommendations pertaining to sage-grouse

Wyoming Density and Disturbance Calculation Tool

Thank you.
Questions?

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