USFS Region 4 - Forest Pl ×

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Ashley National Forest - Geospatial Data for Forest Plan Revision

Forest Planning

In 2012, the Forest Service Planning Rule set in motion a new way of doing business for designing and implementing Forest management plans across the country.

The rule calls for a ***Forest Assessment*** as a first step in a collaborative process with public stakeholders.

However, Forest Service managers and public stakeholders face a common challenge as they must also demonstrate and document how decisions are informed and made together.

Geospatial information plays a vital role in each Forest Assessment.

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Forest Planning

1 2 3 4 5 6 7 8 9

The Land Management Planning Handbook outlines the components of what a Forest Assessment must include.

Scroll down to Chapters 12 and 13 to identify sections in the Handbook where GIS data can play an integral role in making the case for management action.

- Identifying key ecosystem characteristics?
- Assessing air, soil, water conditions?
- Identifying and assessing At-Risk Species?
- Resolving multiple uses?
- Assessing recreation opportunities?
- Identifying watershed restoration priorities?

For agency suggestions about the types of information and data that Forest Planners should consider in the Forest Assessment, see the following Technical Information for Planning (TIPs):

http://www.fs.fed.us/emc/nfma/TIPS/directives.shtml

Proposed FS1909.12, Chapter 10, Version—02/14/2013
Information on how to comment is available online at http://www.fs.usda.gov/goto/planningrule/directives

1909.12
Page 1

FOREST SERVICE HANDBOOK
NATIONAL HEADQUARTERS (WO)
WASHINGTON, DC

FSH 1909.12 – LAND MANAGEMENT PLANNING HANDBOOK

CHAPTER 10 – THE ASSESSMENT

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Forest Planning

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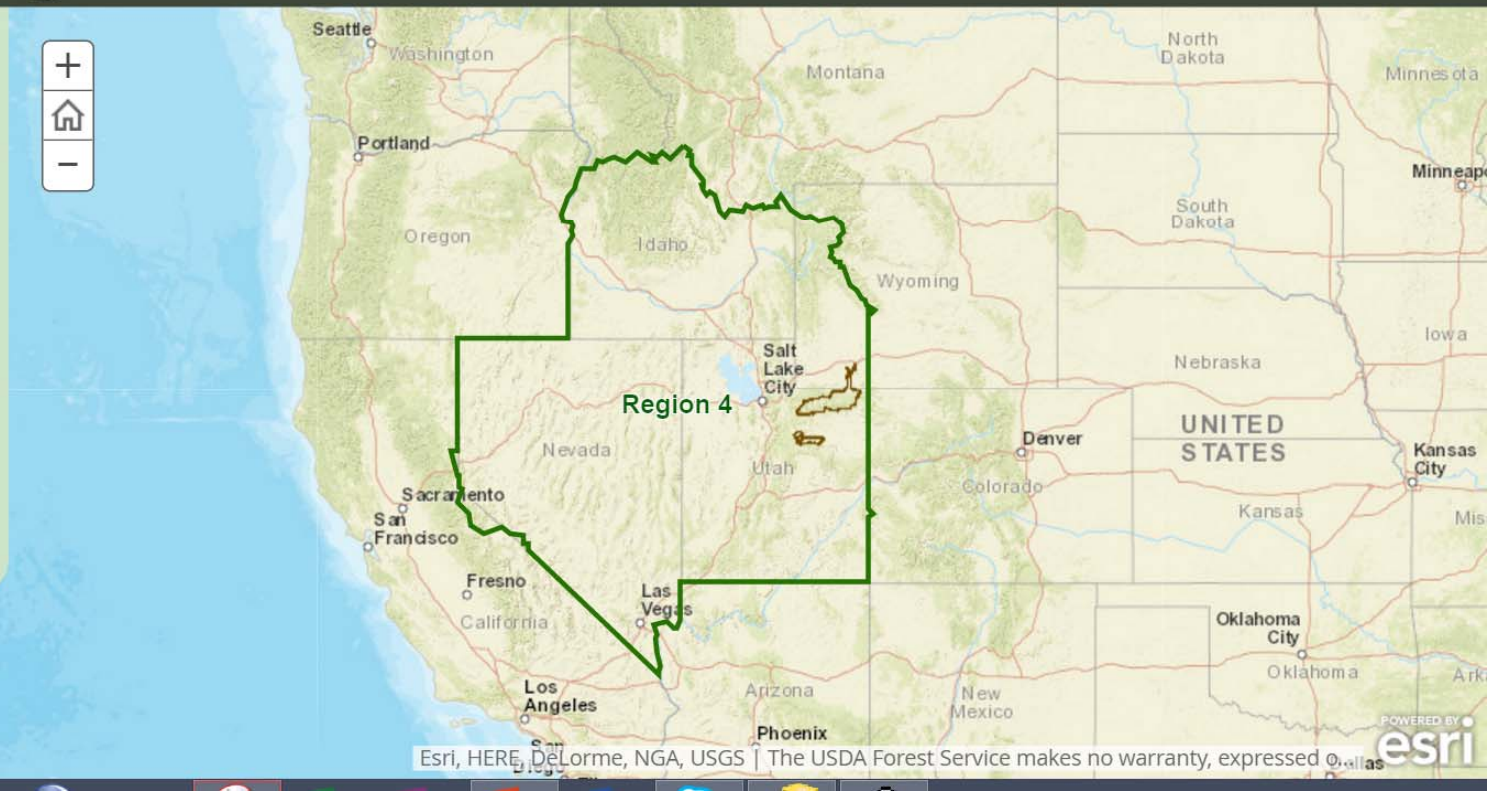
1 2 3 4 5 6 7 8 9

Nine Forest Plan revisions are scheduled across seven National Forests in Region 4 from 2016-2024.

To prepare a standard approach to harness geospatial data for these Forest Assessments, USFS Region 4 and the Ashley National Forest have coordinated an effort to assemble relevant data to inform Forest Assessments in 2016-17.

This narrative illustrates some of the numerous datasets assembled for the Ashley National Forest and provides a point of entry to utilize these data to inform and document the Forest Assessment.

(There are far more data assembled and rendered to the Ashley and Region 4 than are presented here.)



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Forest Planning

1 2 3 4 5 6 7 8 9

So much data. How to organize?

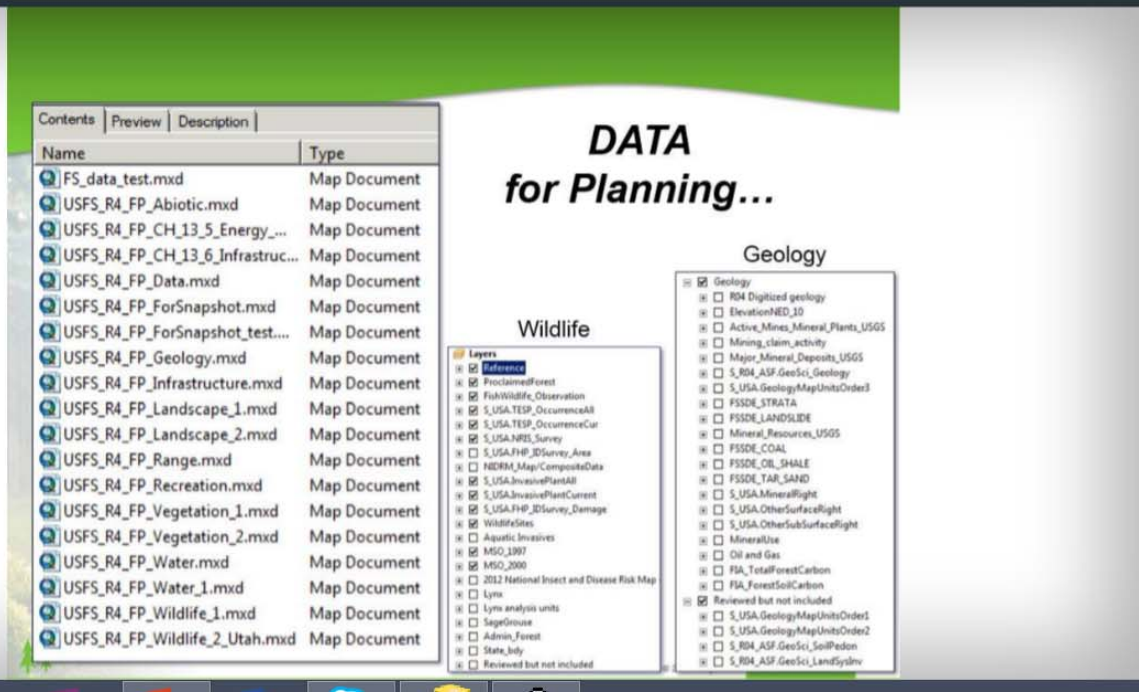
1 Data...

Dozens of Interviews with Natural Resource Program staff and Forest Planning Staff at the Region and on the Ashley National Forest resulted in hundreds of geospatial datasets.

To the right are listed samples of various data

2 Data...

3 and more DATA.



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Forest Planning

1 2 3 4 5 6 7 8 9

So much data. How to organize?

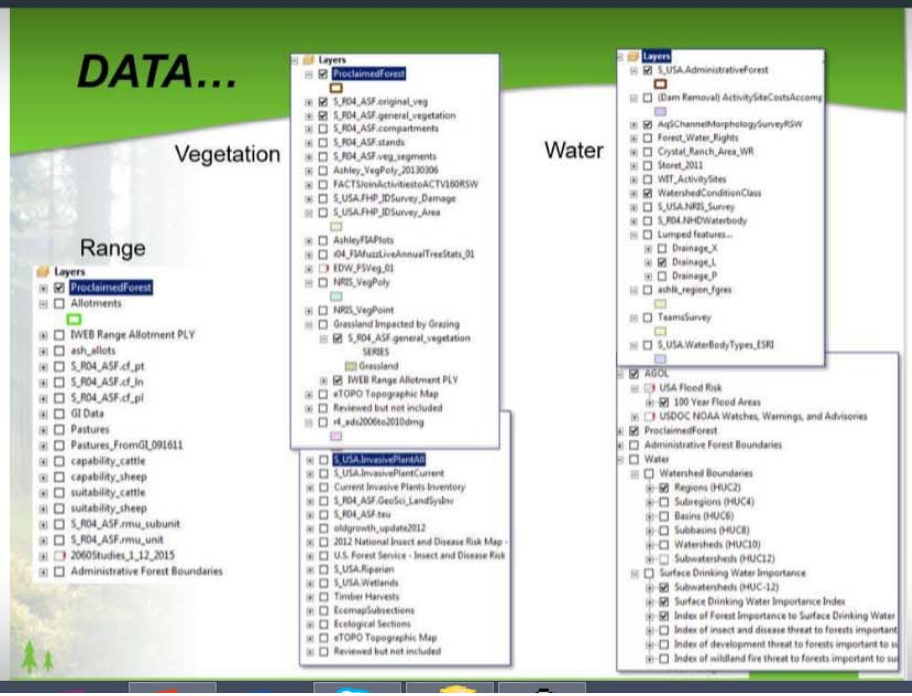
1 Data...

2 Data...

Interviews were conducted to identify and retrieve key geospatial data that Forest Planners will use to conduct the Forest Assessment for the Ashley National Forest.

The data inventory resulting from these specialists'

3 and more DATA.



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Forest Planning

1 2 3 4 5 6 7 8 9

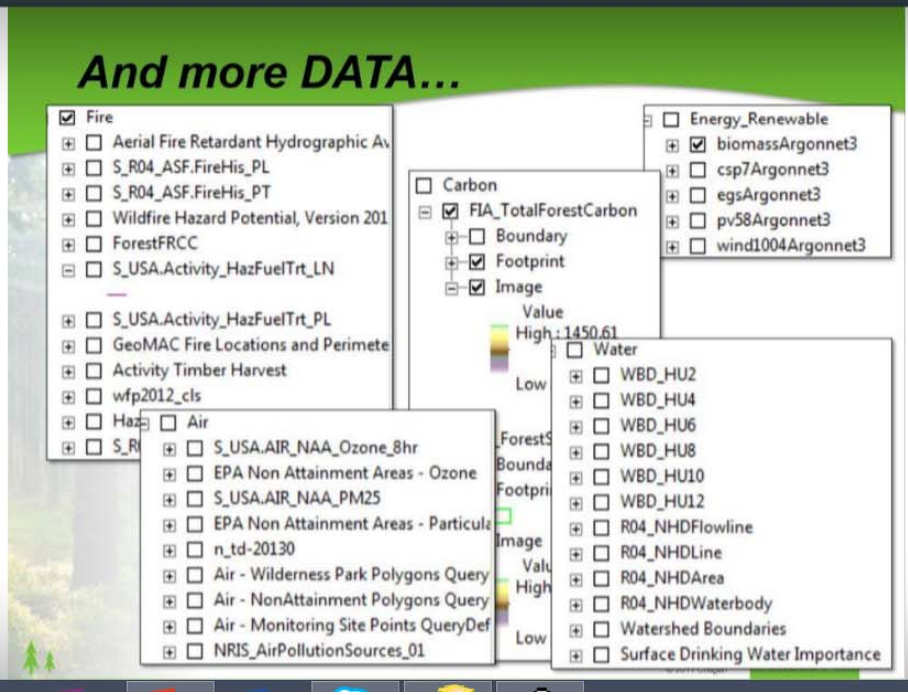
So much data. How to organize?

1 Data...

2 Data...

3 and more DATA.

Clearly, now that dozens of datasets have been identified and retrieved, the biggest hurdle lies in organizing data intuitively.
By reviewing these datasets, Forest Planners will become well-equipped to sort data according to the purpose they will serve in a Forest Assessment.



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Forest Planning

1 2 3 4 5 6 7 8 9

Forest Assessment

1 One Chapter, LOTS of data

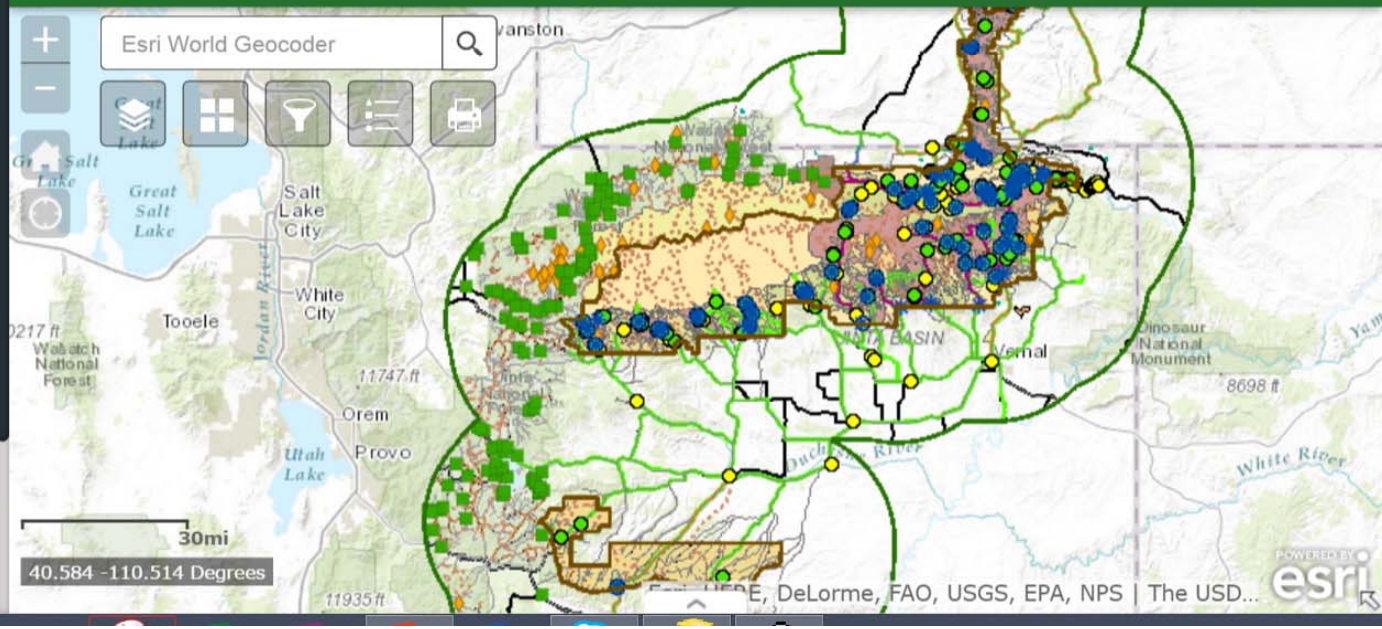
Chapter 13.4: Recreation Opportunities and Scenic Character

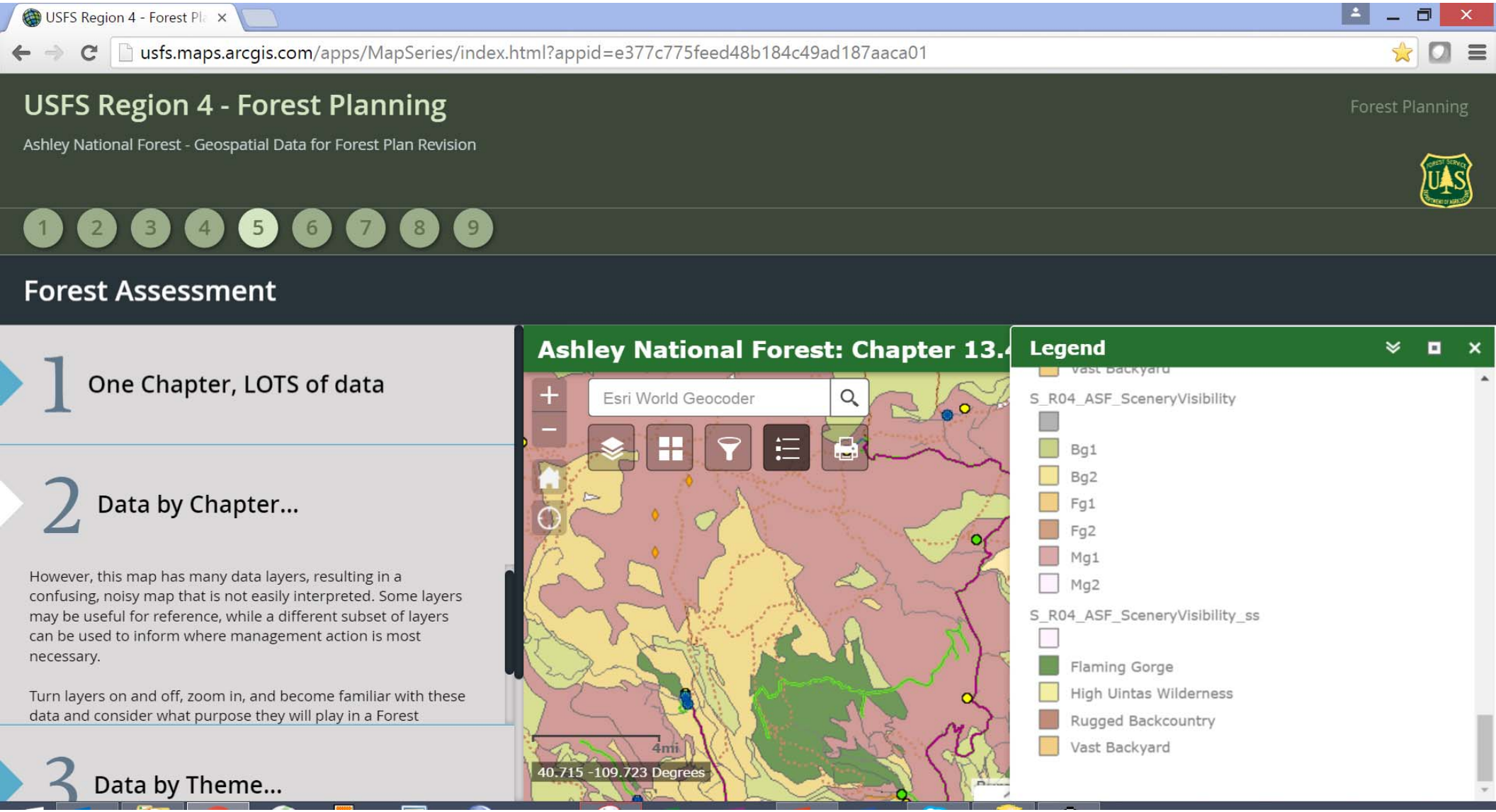
As an example of how to organize data for the Forest Assessment, this map displays data collected through interviews and data calls with Natural Resources Management staff from the Ashley National Forest and Region 4 that could inform Chapter 13.4: Recreation Opportunities and Scenic Character.

2 Data by Chapter...

3 Data by Theme...

Ashley National Forest: Chapter 13.4

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Ashley National Forest - Geospatial Data for Forest Plan Revision
Forest Planning
1 2 3 4 5 6 7 8 9
Forest Assessment
1 One Chapter, LOTS of data
2 Data by Chapter...
However, this map has many data layers, resulting in a confusing, noisy map that is not easily interpreted. Some layers may be useful for reference, while a different subset of layers can be used to inform where management action is most necessary.
Turn layers on and off, zoom in, and become familiar with these data and consider what purpose they will play in a Forest
3 Data by Theme...
Ashley National Forest: Chapter 13.
Esri World Geocoder
4mi
40.715 -109.723 Degrees
Legend
S_R04_ASF_SceneryVisibility
Bg1
Bg2
Fg1
Fg2
Mg1
Mg2
S_R04_ASF_SceneryVisibility_ss
Flaming Gorge
High Uintas Wilderness
Rugged Backcountry
Vast Backyard

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Forest Planning

1 2 3 4 5 6 7 8 9

Forest Assessment

2 Data by Chapter...

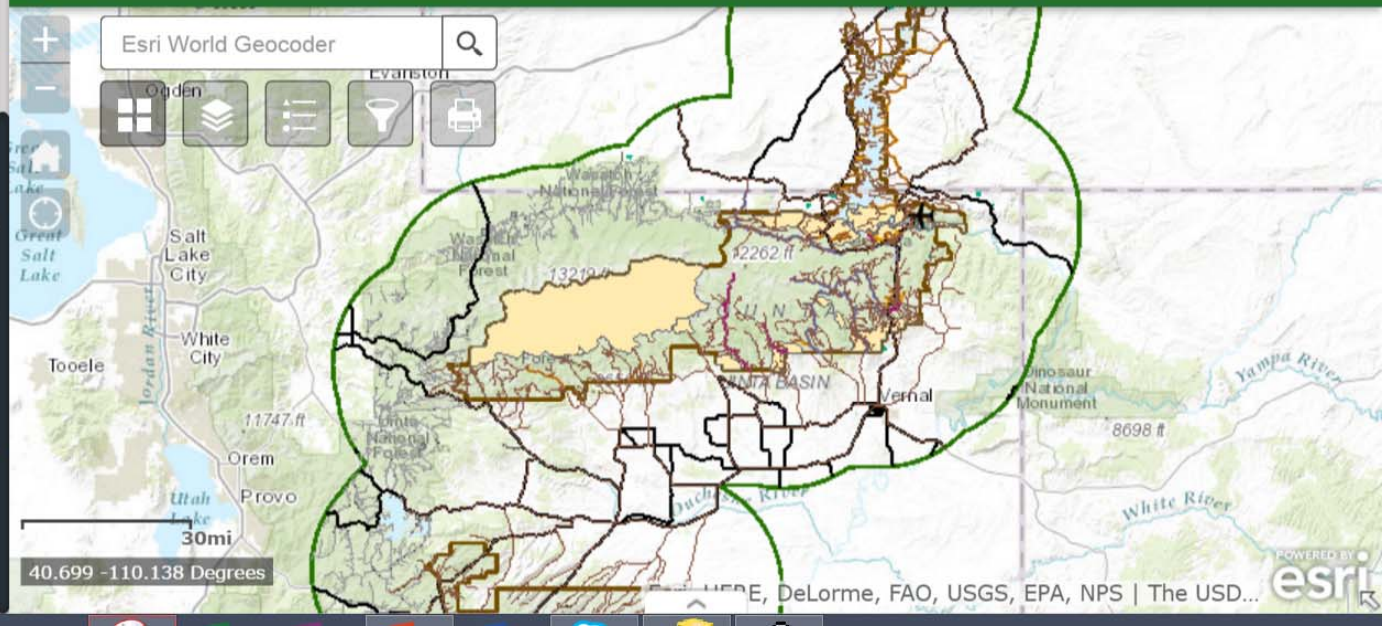
3 Data by Theme...

While these data are bundled together to inform a specific Chapter in the Assessment (13.4), Planners will also need to consider other data that will help inform multiple uses.

Rather than bundling data only according to Planning Handbook Chapter, an alternative grouping of the data, by descriptive theme for example, may grant a more flexible and intuitive opportunity.

4 What purpose do the data serve in a Forest Assessment?

Ashley National Forest - Transportation



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Forest Planning

1 2 3 4 5 6 7 8 9

Forest Assessment

2 Data by Chapter...

3 Data by Theme...

4 What purpose do the data serve in a Forest Assessment?

By organizing data into intuitive themes, Planning staff can better navigate to pick and choose the data that will best serve a purpose within the Forest Assessment.

Consider the purpose of GIS datasets in a Forest Assessment:

- For Reference (Forest Boundary, Districts, Wilderness/Roadless, Basemap Topography, etc..)
- For querying and data discovery (how many

Ashley National Forest - Transportation

USFS Region 4 - Forest Pl ×

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It's an assessment of

PRIORITIES

A Forest Assessment's primary purpose is to identify a need for change. The Assessment should evaluate landscape conditions, compare them with desired conditions, and prioritize where action is required to accomplish landscape objectives:

- Where should culverts be replaced or roads decommissioned to restore fisheries populations?
- Where do wildland fuels pose a risk to communities? Where do they pose an ecological risk?
- Where can conflict between motorized and non-motorized recreation be reduced?

These are spatial questions that the Forest Service can prioritize *only* by utilizing geospatial data.

For this reason, it is often helpful to perform a spatial analysis to *eliminate* places where a given land management action is clearly inappropriate, resulting a narrower map of targets for dedicated collaboration with public stakeholders.

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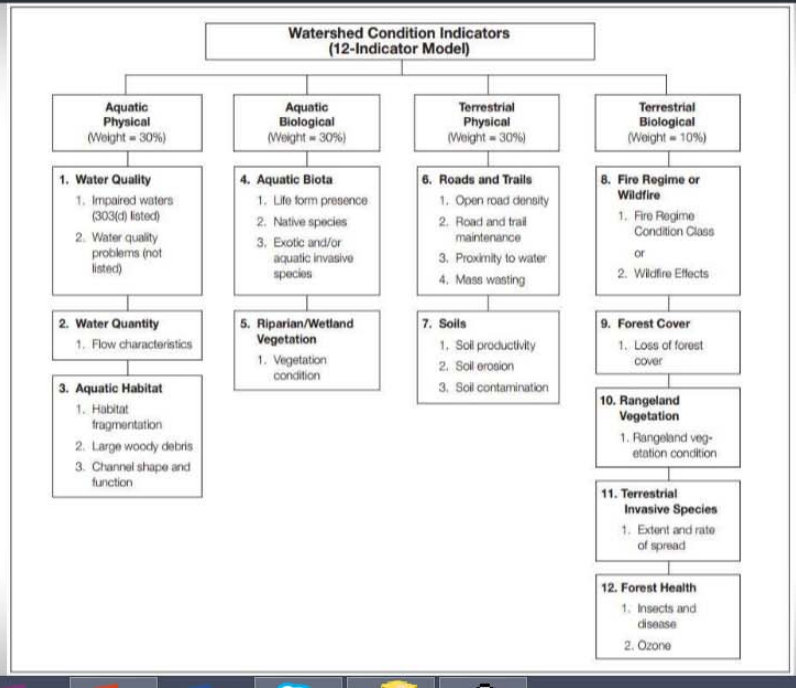
Watershed Condition Framework

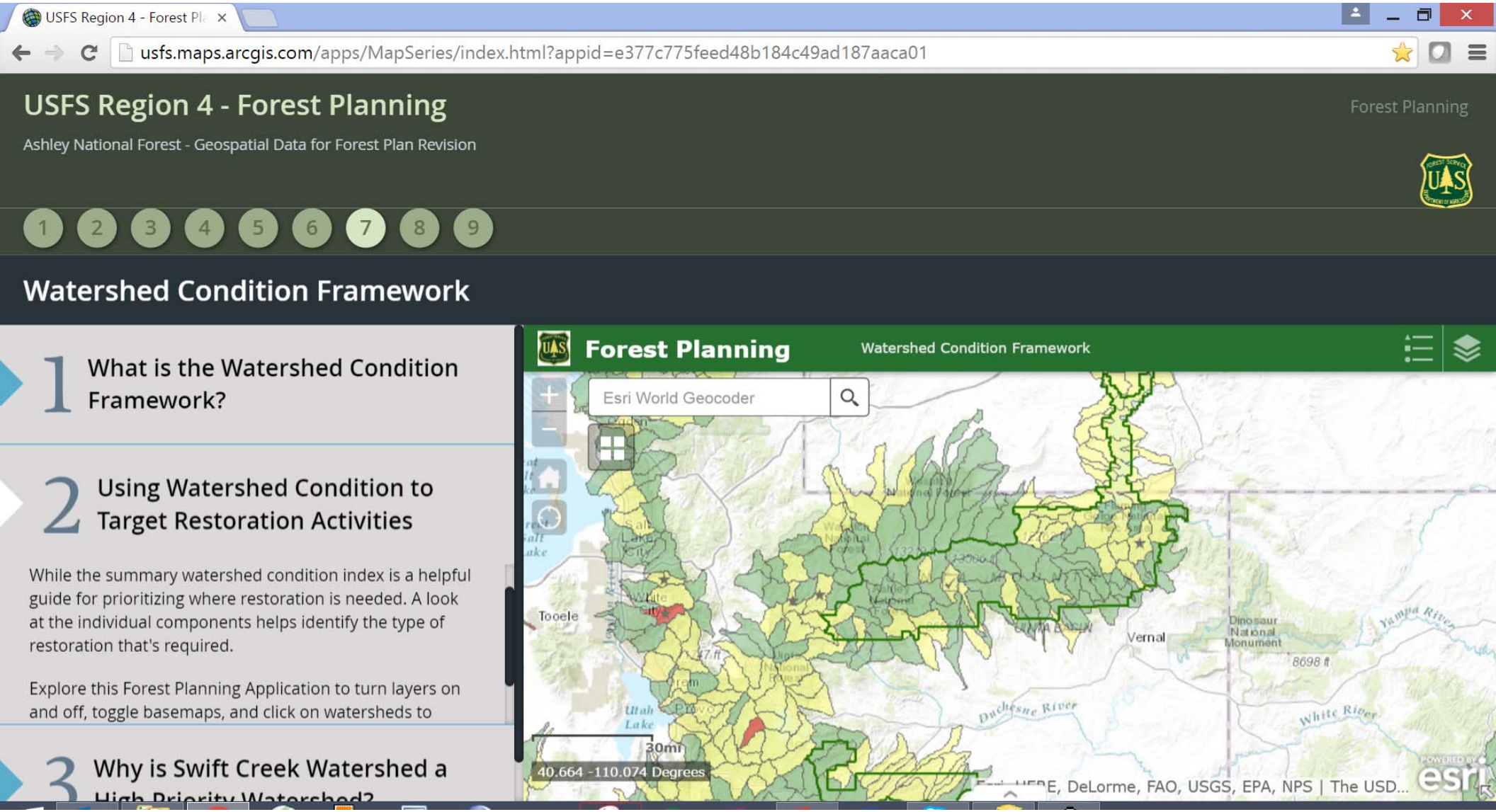
1 What is the Watershed Condition Framework?

This Watershed Condition Framework (WCF) provides a good example of how geospatial analysis can inform priorities for restoration. Conveniently, it was identified as a relevant dataset for a number of Assessment chapters. The WCF is composed of 12 geospatial variables that represent:

2 Using Watershed Condition to Target Restoration Activities

3 Why is Swift Creek Watershed a High Priority Watershed?

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Forest Planning
1 2 3 4 5 6 7 8 9
Watershed Condition Framework
1 What is the Watershed Condition Framework?
2 Using Watershed Condition to Target Restoration Activities
While the summary watershed condition index is a helpful guide for prioritizing where restoration is needed. A look at the individual components helps identify the type of restoration that's required.
Explore this Forest Planning Application to turn layers on and off, toggle basemaps, and click on watersheds to
3 Why is Swift Creek Watershed a
Forest Planning
Watershed Condition Framework
Esri World Geocoder
Tooele
Vernal
Dinosaur National Monument
Yampa River
White River
Duchesne River
Utah Lake
30mi
40.664 -110.074 Degrees
esri

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1 2 3 4 5 6 7 8 9

Watershed Condition Framework

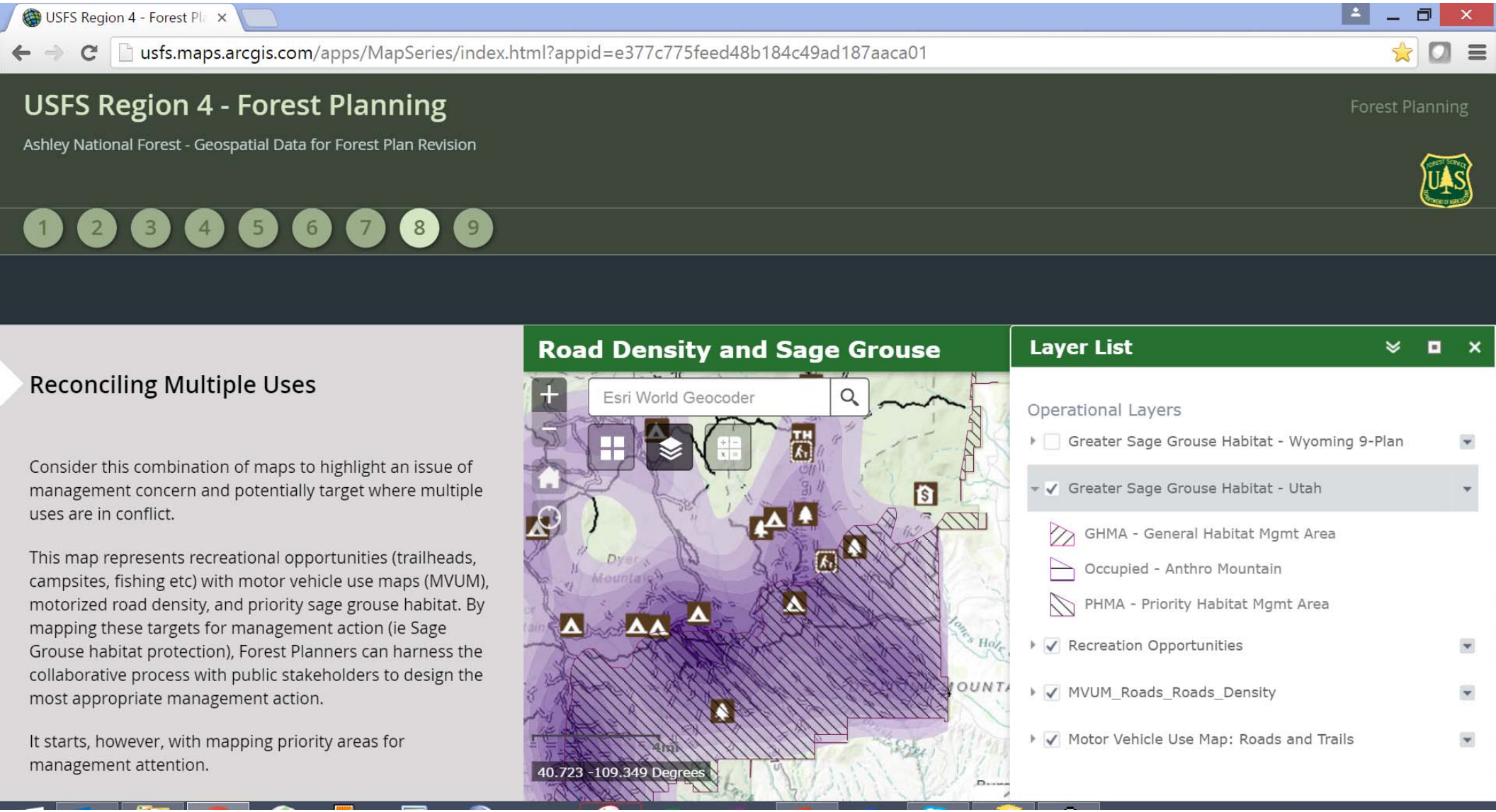
1 What is the Watershed Condition Framework?

2 Using Watershed Condition to Target Restoration Activities

3 Why is Swift Creek Watershed a High Priority Watershed?

By zooming in and investigating why a certain watershed was prioritized for restoration, management strategies can be designed through Forest Plan Revision.

Click on the Swift Creek Watershed to identify why it was identified as "Functioning At Risk" and qualifies for restoration efforts. Investigation reveals that a 7-mile historic mining road has resulted in increased soil erosion and sediment contributed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Reconciling Multiple Uses
Consider this combination of maps to highlight an issue of management concern and potentially target where multiple uses are in conflict.
This map represents recreational opportunities (trailheads, campsites, fishing etc) with motor vehicle use maps (MVUM), motorized road density, and priority sage grouse habitat. By mapping these targets for management action (ie Sage Grouse habitat protection), Forest Planners can harness the collaborative process with public stakeholders to design the most appropriate management action.
It starts, however, with mapping priority areas for management attention.
Road Density and Sage Grouse
Esri World Geocoder
40.723 -109.349 Degrees
Layer List
Operational Layers
Greater Sage Grouse Habitat - Wyoming 9-Plan
Greater Sage Grouse Habitat - Utah
GHMA - General Habitat Mgmt Area
Occupied - Anthro Mountain
PHMA - Priority Habitat Mgmt Area
Recreation Opportunities
MVUM_Roads_Roads_Density
Motor Vehicle Use Map: Roads and Trails

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Forest Planning

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1 2 3 4 5 6 7 8 9

1. Data assembly is necessary, but not sufficient for Forest Planning.
2. The Forest Assessment must demonstrate the need for landscape change, and map where this change is needed most.
3. Once Forest Planning staff are familiar with these data, consider how to integrate data to inform priorities for various management actions.
4. Discriminate between reference purposes and analytical purposes.
5. Forest assessment results and maps of priorities will be shared with the public.

   By sharing maps of assessment ingredients and results, collaboration with public stakeholders can be facilitated, and accomplishments can be more transparently reported.