**R1 NEPA Strike Teams GIS Project Tracking Report**

**Project Name: South Otter**

**Project Years: NST 2019-21**

**GIS Support:** Jeffrey Erwin, NST GIS (jeffrey.erwin@usda.gov)

**Pinyon (Box) Location for this project:** [**https://usfs.box.com/s/gj4vpcu3xz55rv3ztufuhhhb24zvnx1x**](https://usfs.box.com/s/gj4vpcu3xz55rv3ztufuhhhb24zvnx1x)

**Project T: Location:** [**T:\FS\NFS\Custer\Project\Ashland\SouthOtter**](file:///T:\FS\NFS\Custer\Project\Ashland\SouthOtter)

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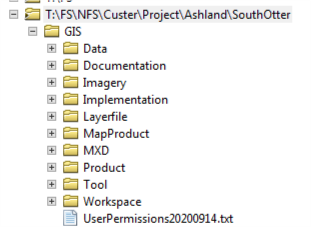
[March 2022 9](#_Toc97293653)

# Overview

This document will outline the folder structure and data content for the listed project. It shall be included with the project record for administrative purposes. Please note this project was started before regional folder structure guidance. Every attempt has been made to migrate to the new structure while maintaining continuity with Forest IDT staff.

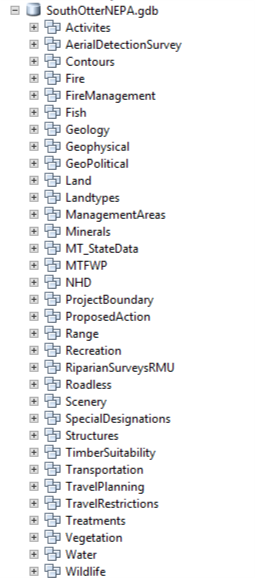
# Project Folder Structure

The project folder structure provides a clear and concise organization on all products used to generate a decision on a project. Each folder is purpose and content are described below:



### Figure : South Otter Project Folder Structure

# Project Data Structure



### Figure : South Otter FileGeodatabase Structure

# Chronologic Project Development Details

## March 2019

3/25/2019 Ron Hecker requested a basic project map of South Otter for a meeting with the Northern Cheyenne tribe

**T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Product\SouthOtterCheyenne20190326.pdf**

**T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\MXD\SouthOtterCheyenne**

## April 2019

4/1/2019

Request by Dennis Sandbak for products by which to conduct veg sampling. Documentation for this in the Documentation folder.

4/12/2019

Request by Dave Shimek. Documentation for this in the Documentation folder.

## May 2019

5/24/2019

Request by Lauren to create Land Survey need map

**T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\MXD\SouthOtterLandSurvey.mxd**

**T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Data\LandSurveys20160524.shp**

12/10/2019

Jeffrey Durkin –Strike Team silviculturist

Request for field maps

1. Latest and greatest Project Area Boundary
2. Fire perimeters with in the project area from 2010-present
3. FS roads, road numbers, and any potential temporary roads which have been identified
4. Streams layer
5. Cattle Allotments (if this makes the .pdf too busy we can look into this at a later time but may help create objectives)
6. Gates/ barriers which could limit our access to areas of opportunities
7. Dewayne’s **Areas of Opportunities**. If possible can we have Unit IDs and acreage labeled on the map for these? Additionally, it would be great to have the polygon identified as having high treatment needs- lower treatment needs

**T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\MXD\SouthOtterTimberField.mxd**

**Maps products are in \Workspace\jdurkin**

12/15/2019

Used the **SouthOtterTimberField.mxd** to make a set of field maps of each potential timber sale area using a topo and a naip background.

**T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Workspace\DThornburgh\FieldMaps20191213**

12/17/2019

Reviewed potential treatment units for the south otter project. Checked topology, geometry and edgematched to ownership. Put them in the data folder and sent an email to the team that they were ready to use. **T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Data\Treatment.gdb** backups are at T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Workspace\sdigiacomo\DTLSTA20191211.gdb

July 29, 2020

Nate Moztco requested the latest “units”. Hilary Rigby had moved the potential treatment units above to an archive because there was concern that people would regard them as actual units when in fact no units would be designated until after NEPA is completed. This feature class was updated with DeWayne’s final edits.

T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Data\PreliminaryAssessmentArea.gdb

He also requested roads broken out into County, Highway, Private, Administrative, Operation Maintenance Level1 and Operation Maintenance Level 2-5 (Only levels 2 and 3 are in South Otter project).

Ran Road with Core RSW from GI and queried out the road classes:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Feature Class | Query on | Route\_Status | SYSTEM | OperMtcLvl |
| **Administrative** | Applies\_To=ADMIN | All Existing | All NFSR | 2 and 3 |
| **County** | Jurisdiction= County | All Existing | County and NFSR | 3 and null |
| **Highway** | Jurisdiction=State | Existing | State Highway |  |
| **Private** | Jurisdiction=Private | Existing, converted and decommissioned | Private, NFSR, & not needed | 1, 2, 3, and null |
| **Level 1** | Oper\_Maint\_Level = 1 | Existing, converted and decommissioned | Not needed, undetermined and NFSR |  |
| **Level 2 and 3** | Oper\_Maint\_Level = 2 and 3 | Existing, converted and decommissioned | Not needed, undetermined, county, private and NFSR |  |
| **Decommissioned** | Route Status=Decommissioned | Decommissioned | Not needed, undetermined and NFSR | 1, 2 and null |
| **OperMaintLvlNull** | Everything not included above | Existing or Converted | Not needed, undetermined and NFSR (only 1) | null |

Calc into new field GIS\_miles

For Operational Maintenance Level 2 and 3 roads removed any with Jurisdiction and Primary Maintainer= BLM, Private, State or County. There are some roads left with Jurisdiction of FS with the Primary Maintainer as County (primarily in Lee Creek) or Private. These are roads we have an agreement on that we may do maintenance on.

For Operational Maintenance Level 1 roads there is one Private Jurisdiction road that the Forest Service maintains through an easement. Deleted this road from the Private feature class.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Feature Class | Query on | Route\_Status | SYSTEM | Jurisdiction |
| **Private** | Jurisdiction=Private | Existing, converted and decommissioned | Private, NFSR, & not needed | Private |
| **Level 1** | Oper\_Maint\_Level = 1 | Existing and decommissioned | Not needed, undetermined and NFSR | FS and 1 private (w FS easement for maintenance) |
| **Level 2 and 3** | Oper\_Maint\_Level = 2 and 3 | Existing, converted and decommissioned | Undetermined and NFSR | FS  (Primary Maintenance is FS, county or 1 private) |

Trail 48058 is the only trail in the project are with use confined to vehicles of <50 inches.

## August 2020

20200815 Jeff Erwin assumed GIS on the Project

20200909

Met with Nathan Motzko, Jeff Durkin to develop a proposed action treatment unit from the opportunity pool given to me by Suzanne. Several field were added to facilitate prescriptions and other managing factors. I used VMAP to gather aspect details about each PA unit. The following is a summary of how the analysis was performed:

* Converted the VMAP layer for the project area into a raster based upon the Aspect Class field
* Used zonal statistics tool to determine the aspect class for each polygon based upon the majority
* Converted the VMAP Aspect raster to a point grid – raster to point tool.
* Used the spatial join tool to join the PA units to the points.
* Calculated the point values per polygon and field calculated the VMAPAspectMAJ field with the values
* Resulting product was a proposed treatment unit featureclass with a field to ascertain the majority aspect for each unit.

Reference Material located here: T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Documentation\UnitDevelopment

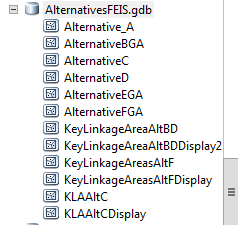
T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Data\SouthOtterNEPA.gdb\Treatments

20200911

Mary Gonzales provided the path to the FP Revision data and I will begin migrating data to the project FGDB.

T:\FS\NFS\R01\Collaboration\CusGalForestPlanRevision\FEIS\GIS\Data

Alternatives are in the geodatabase below.  Alternative F is preferred.

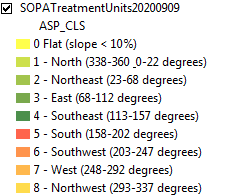


20201001

Assigned a prescription to units based upon the following crosswalk table:

|  |  |  |  |
| --- | --- | --- | --- |
| Aspect | Proposed Rx | Acres | Target Basal Area |
| 0-090 | Commercial Thin |  | 30-60 |
| 090-180 | Improvement Cut |  | 10-40 |
| 180-270 | Improvement Cut |  | 10-40 |
| 270-360 | Commercial Thin |  | 30-60 |
|  |  |  |  |
| 270-090 | Group Select (small openings generally less than 2 acres) | Approximately 10 percent of the unit areas | 4-8 trees per acre  Majority of canopy removed |

The following is the definitions for the aspect class number added to the VMAPAspectMAJ field:



Data and layers are here:

T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Data\SouthOtterNEPA.gdb\Treatments\SOOpportunityAreas20200909

T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Layerfile\Treatments

## December 2020

20201224 – Completed Reforestation Analysis. See this document: T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Documentation\Sliviculture\20201224SouthOtterReforestationAnalysis.docx

## May 2021

20210525 – Adjusted Proposed Action unit as per IDT meeting including a field (UnitComments) to denote reason for dropping unit. Direction was given to remove all commercial units within the BCAs and IRAs. Units that spanned the BCA or IRA boarders where adjusted to remain outside those boundaries. Addition direction was given to adjust the units on the east side of the Tongue River Breaks BCA to the eastern boarder of O’Dell motorized trail. The following is a list of units adjusted and dropped:

Units dropped: 722, 723, 721, 769, 768, 720 766, 767, 765, 764, 718

Units adjusted: 81, 68, 719, 62, 37, 30

Units removed where in the Poker Jim Sale Area

Units adjusted were in a combination of the Poker Jim Sale Area and Green Creek Sale Area

Unit acres before adjustment: 26493.72

Unit acres after adjustment: 26254.71

Total reduction in acres: 239.01

These totals represent all units that don’t have “Drop” in the POSS Treat Field within the unit schema. Further editing will remove the dropped units permanently to reduce confusion

The most current Unit Proposed action layer to date is now: T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Layerfile\ProposedAction\SOPAUnits.lyr

The routes Proposed Action was also adjusted to remove temp routes that led to the aforementioned dropped units. The following are the temp route number dropped for the routes featureclass:

Temp Routes Dropped: 105, 222, 253, 89, 185, 225

The most current routes layer to date is: T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Layerfile\ProposedAction\SOPARoutes.lyr

## October 2021

20211026

Performed wildlife modeling after a Forest review of the South Otter Transportation system. Please consult the following documents for details:

T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Documentation\Wildlife\20220121SOElkSecurityAnalysisReport.docx

T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Documentation\Wildlife\20221021ElkCoverAnalysisReport.docx

20210126

Performed Heritage analysis – products supplied to Mike Bergstrom and placed in the HeritageRestricted folder.

## February 2022

20220201

Adjusted routes layer (Lauren Osbourne and Parks Jefferson) – all routes with a RouteStatus of Decommission that are designated for haul where changed from “Maintenance” to “TempRoute” in the RouteActivity field. This resulted in 15 miles of routes added to the total temproute miles.

20220211

Completed fuels priority areas analysis using specified criteria provided by the project fuels specialist. Analysis is meant to provide a broad scope of areas that are meant to be prioritized for fuels treatments in each opportunity area (Sale area). Please refer to this documents for details and product locations: T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Documentation\20220211SOFuelsPriorityAreaAnalysis.docx

## March 2022

Edited routes layer with document provided by Lauren Osborne:

T:\FS\NFS\Custer\Project\Ashland\SouthOtter\GIS\Documentation\TransportationSystem\Jeff Erwin 20220301 South Otter Routes Observations\_lmo.docx

## July 2022

Helped Drew Brown with fuels loading maps and associated analysis