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# Introduction

This report assesses available information about infrastructure on the Ashley National Forest, including roads, trails, utilities, recreation facilities, and administrative and special uses as outlined in Forest Service Handbook 1909.12, Chapter 10, Section 13.6.

The developed infrastructure within the Ashley National Forest includes roads, trails, water diversions, pipelines, dams, communication towers, bridges and buildings for administrative, recreation, or special use purposes.

Infrastructure within the plan area can have a substantial impact on social, cultural, economic, and ecological conditions both within the plan area and in the broader landscape. Infrastructure can include facilities for energy generation or transport, communications, water delivery, transportation, or recreation. These facilities directly affect conditions and uses within the plan area and may support delivery of goods and services in the broader landscape.

There are approximately 1,472 miles of Forest Service system roads, and approximately 1,107 miles of Forest Service system trails within the Forest. Road and trail construction and maintenance must meet Forest Plan guidance for soils, watersheds, wildlife, scenery, archeology, and other topics.

Buildings and other facilities are described in a separate Facility Master Plan. The Facility Master Plan was last revised and signed in 2003. Currently the Facility Master Plan is being revised again for signatures in late 2017. The Forest Plan will use information from the Facility Master Plan to provide overall management direction on building design, construction, and maintenance.

# **Role of Infrastructure in the Plan Area**

The infrastructure on the Ashely National Forest supports multiple uses. The categories of multiple use and their infrastructure are:

- Recreation: Forest roads provided access. Campgrounds, trails, trailheads, dams, buildings, boat ramps and other constructed features provide the destination as well as the amenities to enhance forest visitor's experiences.
- Timber Resources: Forest roads provided access and the means to remove timber from forest land.
- Range Resources: Forest roads and trails provided access to range allotments and road drainage structures are often used to provide water for stock and wildlife. Cattleguards, gates and fences are used as allotment boundaries. Canals and dams provide water for stock on the forest and irrigation for crops off forest.
- Watershed/Water Uses: Forest roads provided access. Dams, canals, and pipelines provide municipal, irrigation, and stock water. Snotel sites provide valuable information on the location and quantity of water available on the forest.
- Fish, wildlife and plants (includes hunting and fishing and wildlife viewing): Forest roads, trails, and trailheads provided access for recreationists. The entire forest road system is utilized by hunters. Forest road corridors provide the main forest experience for persons with disabilities. Dams provide deep, year-long water for fish and streams preventing winter kill of fisheries.
- Minerals and Energy: Forest roads provided access and the primary removal corridor of energy and minerals.

# **Information Sources and Gaps**

## Sources

- Data sources are from the FS NRM-Infra and GIS databases (created from field GPS and imagery data), and is the best available inventory data, Travel Analysis Report (2015), Motor Vehicle Use Maps, Motorized Travel Plan (2009), and Watershed Condition Framework Assessment (2011) are also used for assessing condition and uses.
- Special Use Data System (SUDS) was used to identify the quantity and location of non-Forest Service buildings, dams, and canals.
- The Draft Intermountain Adaptation Partnership: Vulnerability Assessment Summaries were used for climate change information.

## Gaps

- The Facility Master Plan is currently being revised again. The most recent, signed Facility Master Plan is dated 2003. The Facility Master Plan evaluates and ranks fire, administrative, and other facilities (not Recreation Facilities) in order to aid in making intelligent investment decisions, such as determining which assets to repair or which assets to decommission.
- Deferred maintenance costs in the NRM-Infra database are based on national average costs and have not been modified to reflect local economic conditions.

# **Existing Forest Plan Direction for Infrastructure**

The 1986 Forest Plan states specific guidance for infrastructure under every resource area.

# Guidance for Facilities and Roads

- Recreation facilities, including the trail system as dispersed areas and developed sites will be upgraded and maintained at acceptable standards and new improvements added to provide for meeting public resource needs.
- High mountain reservoirs that are replaced by other storage projects will be stabilized at optimum levels for fisheries and recreation use.
- The number of buildings will be reduced from the present inventory where they are seldom used or uneconomic to maintain.
- Housing will be provided only at remote locations, or where suitable quarters are not available in the private sector for employee rental or purchase.
- Make and utilize agreements with counties to maintain higher-level arterial roads on the national forest.
- Keep about the same number of miles of roads open to the public distributed uniformly across the national forest.
- Temporary roads used for timber harvest will be closed upon completion of timber activities.

# Monitoring and Evaluation

Dams, facilities, drinking-water sources, road and trail bridges, and Forest System Roads, are inspected and maintained on regular schedules that comply with Forest Service policies and/or state and federal regulations.

# Scale of Analysis

The plan area includes the Ashley National Forest boundary, the surrounding Federal lands that border the Ashley National Forest (BIA, BLM, and Uinta Wasatch Cache National Forest), State lands, Tribal lands, private inholdings, and private lands that border the Ashley National Forest. The plan area for infrastructure is broken down into four spatial areas: the Flaming Gorge Unit, Vernal Unit, Duchesne-Roosevelt North Unit, and Duchesne-Roosevelt South Unit.

Infrastructure	Flaming Gorge	Vernal	Duchesne- Roosevelt North	Duchesne- Roosevelt South	Total
Forest Service Buildings	233	75	94	7	409
Other Buildings <sup>1</sup>	60	91	41	1	193
Dams <sup>2</sup>	8	14	10	0	32
Roads (miles)	462	445	307	258	1,472
Road Bridges <sup>3</sup>	13	14	22	1	50
Trails (miles)	213	358	461	75	1,107
Trail Bridges <sup>4</sup>	10	13	17	0	40
Trailheads	0	4	7	0	11
Wastewater Systems	36	3	19	0	58
Water Systems (in operation)	14	5	11	0	30
Recreation Residence Areas	1	2	1	0	4
Resorts	2	0	2	0	4
Marinas	3	0	0	0	3
Boat Ramps	13	1	2	0	16
Canals	13	12	14	0	39

Table 1. Facilities and infrastructure on the Ashley National Forest

1. Other Buildings: Recreation residences and out buildings (114), Snotel sites (13), resorts and outbuildings (32), marinas and out buildings (15), communication sites (11), miscellaneous (8)

2. Dams: Bureau of Reclamation (3), special use permit (27), Forest Service (2)

3. Road Bridges: Structures whose condition is reported to Federal Highways Administration

4. Trail Bridges: Longer than 20 feet in length and 5 feet above the ground

# Annual and Deferred Maintenance Summary

Many of the facilities on the Ashley National Forest are at end of their lifecycle—that is, they are beyond the age they were intended to last without maintenance and upgrades. The Ashley National Forest uses most of the available funding to maintain existing infrastructure.

#### **Roads and Bridges**

In 2009, the Ashley National Forest completed a comprehensive motorized travel plan, with extensive public involvement. This plan decided the location of routes open to public motorized use, the class of vehicle appropriate for each route, and the timing of use (e.g. seasonal restrictions). This plan designated 1,458 miles of open roads and 185 miles of open motorized trails. Each route was assigned a system number and shown on a motor vehicle use map.

In 2015, the staff of the Ashley completed a Travel Analysis Report to identify the minimum road system for the safe and efficient travel on the forest. This report tiered back to the 2009 Motorized Travel Plan and determined which system roads are likely needed and which roads are likely not needed. The report identified 11 miles of system road as likely not needed and these roads will be analyzed for decommissioning or trail conversion in future NEPA decisions. The Travel Analysis Report is only a planning document that will be used to guide future travel management decisions.

The Ashley National Forest maintains its road system with funding provided through the annual Congressional Appropriations, through County Road Agreements, and other agreements and funding sources. The majority of maintenance is performed through Congressional Appropriations funding and County Road Agreements. Currently 412 miles of road are under County Road Agreements, which equates to approximately 28 percent of the Ashley National Forest road system. Of the 412 miles under agreement, 329 miles are passenger car roads, which is approximately 59 percent of the passenger car system.

The primary components of road maintenance on the Ashley include blading and shaping; culvert cleaning and drainage improvements; sign maintenance and replacement; and resurfacing (gravel placement, chip seals, and asphalt resurfacing). Typical unit costs for the primary road maintenance activities are estimated for each maintenance level in Table 2.

The Ashley has 50 road bridges that require inspection on a minimum 2-year cycle per Federal Highway Administration guidelines. The inspection carries an average cost of \$460 per bridge. Currently, 7 of the 50 bridges are on the deficient bridge list. Typical bridge replacement costs for the Ashley National Forest are \$250 per square feet of travel way.

The total overall estimated cost includes annual road maintenance, fixed costs to operate and manage the road system including engineering, specialists, and replacement of deficient bridges is shown in Table 2.

Item	Number	Dollars per unit	Total		
Fixed Cost Operations and Management	1	\$367,500	\$367,500		
ML 1 roads (Roads closed more than 1 year)	18.9 miles	\$118	\$2,230		
ML 2 high clearance vehicle roads	898 miles	\$602	\$540,588		
ML 3 Passenger vehicles (not smooth)	316.5 miles	\$5,320	\$1,683,567		
ML 4 Passenger vehicles (smooth)	154.5 miles	\$10,564	\$1,631,715		
ML 5 Passenger vehicles (dust free usually paved)	84.6 miles	\$14,593	\$1,234,028		
Replacement of Deficient Bridges	1 per 2 years, 35-foot average length	\$61,250	\$61,250		

Table 2. Summary of annu	ual funding needed for road	d maintenance and operation
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ML = maintenance level

The Ashley National Forest annual roads budget has decreased from approximately \$1.07 million in 2005 to \$706, 000 in 2015, a 34 percent reduction. Approximately 52 percent of the 2015 roads budget was used for overhead to manage the road system, which covers such items as engineering, maintenance personnel, equipment, administrative services, contract preparation and administration, status or monetary reporting as well as input from other specialists in hydrology, archeology, wildlife and recreation.

## **Forest Service Buildings**

The Ashley National Forest maintains Forest Service buildings through annual Congressional appropriations, grants and agreements from outside agencies, quarter's collections, and recreation fee collections. The majority of the maintenance is performed through Congressional appropriations.

In recent years, the Ashley has reduced the number of buildings through decommissioning and through the conveyance process, a method of transferring ownership of a building and site to another entity for an equitable value. In 2010, we conveyed 10 buildings at 5 different administrative sites. In 2012, we conveyed another 4 buildings at 2 different administrative sites. In 2017, we are planning on conveying another 10 buildings at 5 sites. These conveyances total 24 buildings that have been conveyed or will soon be conveyed in 6 years.

In that same time, we have also decommissioned 25 additional buildings across the national forest that were deemed too costly to maintain and not critical to operations. In total, the Ashley National Forest has removed 49 buildings through either conveyance or decommissioning in the past 6 years. It is anticipated that the trend will continue but at a slower pace over the next 5 years as the Forest identifies buildings that are too costly to maintain and not critical to operations.

National forest facilities continue to age, while facility maintenance budgets have failed to keep up with maintenance needs. As a result, there is a large backlog of maintenance work required to bring buildings up to standard. Often our older buildings are potentially eligible or listed in the National Register of Historic Places. This status requires the Forest Service to consider alternative uses before decommissioning and requires additional considerations and funding to repairing and bring up to standard.

In general, the Ashley National Forest's buildings are being utilized efficiently and are located in areas that support current land management needs.

### **Drinking Water Systems**

The Ashley National Forest maintains drinking water systems at a number of campground and administrative sites across the national forest. Maintenance of these drinking water systems is through the annual Congressional appropriations, grants and agreements from outside agencies, and recreation fee collections. The majority of the maintenance is performed through Congressional appropriations.

In recent years, the Ashley National Forest has reduced the number of drinking water systems and continues to consider reducing additional drinking water systems. There are several campgrounds across the national forest that do not receive the visitation numbers to justify the costs of maintaining their drinking water systems. Also, the aging water systems are costly to maintain and replace. Galvanized pipe and fittings are rusting away, distribution and water collection systems fail, or water-collection system are determined to be under the influence of surface water and require additional water treatment and disinfection.

Presently there are 30 drinking water systems across the Ashley that are in operation. Each of these drinking water systems is tested monthly during their operational period to ensure that they are meeting State drinking water standards.

#### Wastewater Systems

The Ashley National Forest maintains wastewater systems at a number of campground and administrative sites across the national forest. Maintenance of these wastewater systems is through the annual Congressional appropriations, grants and agreements from outside agencies, and recreational fee collections. The majority of the maintenance is performed through Congressional appropriations.

In recent years, the Ashley National Forest has reduced the number of drinking water systems across the national forest. As a result, the number of associated wastewater systems has been reduced. Presently, there are several campgrounds being considered for decommissioning or reduced services, such as removal of water and wastewater systems, due to low visitor use and high operational costs.

Presently there are 58 wastewater systems across the Ashley National Forest.

#### Dams

The number of dams on the Ashley is decreasing. In the last 10 years, 13 wilderness dams have been breached, thus stabilizing the reservoirs to natural lake levels. Three of the six remaining wilderness dams have been reconstructed by special use permittees and one wilderness dam is currently being evaluated for stabilization. The Ashley has sole jurisdiction of two dams on the national forest and the rest are under special use authorizations or easements.

## **Outside Influences**

The Ashley National Forest is the watershed for the Uintah Basin and Daggett County. There are several dams, irrigation systems, marinas, and resorts built along properties within and adjacent to the national forest. These features require maintenance and special use permits, and are accessed by National Forest System roads.

The Ashley National Forest is accessed by roads from other Federal lands, Tribal roads, county roads and State highways. The national forest land on the Duchesne Ranger District is accessed exclusively by the tribal and county road systems. Duchesne County has expressed concern the closure of Tribal roads can prevent access to National Forest System lands.

# Trends

# Census Data and Population Data

The population growth of Uintah and Duchesne counties from 2010 to 2015 was 16.4 percent and 12.1 percent, respectively. The local economy is highly dependent on oil prices and as the long term price of oil rises and falls so does the population. The population growth of Daggett and Sweetwater counties was much lower at 4.5 percent and 1.9 percent, respectively.

### **Communication Site Infrastructure**

The most heavily used communication site on the Ashley National Forest is Grizzly Ridge. It is currently full and other forest communications sites are growing. The forest has received requests to expand the number of communications sites.

### **Forest Service Buildings**

The Ashley has been reducing the number of unneeded buildings through decommissioning and conveyance. The trend is expected to continue due to decreasing budgets and aging infrastructure, but at a slower pace.

#### Dams

The number of dams on the forest is decreasing. New dams are not being built and many remote high mountain reservoir dams have been stabilized. Plans are in the works to stabilize two high mountain reservoirs. There was a recent proposal to construct new dams on the Forest, but after some initial field investigative work, the proponent dropped the proposal.

### Water Systems

Increased regulations and increasing maintenance costs are forcing Ashley personnel to look closely at the viability of our water systems. The number of water systems on the forest is trending downward.

## **Climate Change**

- Increased temperatures in the fall and spring could allow roads that are closed with snowpack to be open sooner in the spring and stay open longer in the fall.
- Roads in near-stream environments are periodically exposed to high flows. Midwinter flooding is expected to become more common in places where it now occurs and to occur in more locations. Because rain-on-snow driven flood peaks tend to be much higher, flood magnitudes are expected to increase in the rain-on-snow zone as well. Increased peak flow makes infrastructure more vulnerable to effects ranging from minor washout to complete loss of road prism.

### **Roads and Motorized Trails**

- The public demand for recreation is increasing on the Ashley. This comment was issued at all four forest plan public meetings.
- The number of off-highway vehicles, particularly multi passenger models, is increasing on the national forest. The demand for looped routes to accommodate multi passenger off-highway vehicles is growing.
- Roads and trails provide access to Federal lands and are being maintained on a schedule. The increase in unauthorized user created routes increases resource damage. The staff of the Ashley needs to be aware of these changes and how they could affect planning in the area.
- Very little new road construction occurs on the national forest. The Ashley utilizes all road funding to maintain roads and mitigate safety and resource concerns. This trend is expected to continue.
- As the road budget decreases, the staff of the Ashley National Forest is reducing the operational maintenance level of some roads to shift funding to the maintenance of more heavily traveled roads.
- The Ashley National Forest utilizes county road agreements with Daggett, Duchesne, Sweetwater and Uintah Counties to maintain many of the major roads on the forest and help bridge financial gap in appropriated funds for road maintenance. This trend is expected to continue.

### **User Created Travel Routes**

The amount of unauthorized user created routes mainly from motorized use has been increasing. The forest is decommissioning/rehabilitating approximately 15 miles of unauthorized routes each year.

### Watershed Condition Framework

The Ashley National Forest promotes quality watersheds. In 2011, a watershed condition assessment was completed and the forest has concentrated work and funding on two priority watersheds.

1. Cart Creek is functioning at risk

2. Swift Creek is functioning at risk but recently had all proposed mitigation measures completed.

3. Middle Sheep Creek is functioning at risk. Will replace the Swift Creek watershed as a priority for mitigation actions.

Mitigation actions pertaining to infrastructure in the Cart Creek watershed were relocation of two system roads out of meadows and onto adjacent hillsides, decommissioning of these roads, and decommissioning of some unauthorized roads in the watershed. The Swift Creek watershed is in the wilderness. Prior to Fall 2010, five dams in the Swift Creek watershed were stabilized at natural lake levels and removed from the dam system. In 2014, two system trails were rerouted in some locations and rehabilitated in other locations to improve the trails and reduce sediment to streams. Watershed improvement mitigation actions pertaining to infrastructure usually involve reducing sediment from system roads, closure of unauthorized roads, and dispersing the flow of water under roads in meadows bisected by system roads to enhance meadow connectivity.

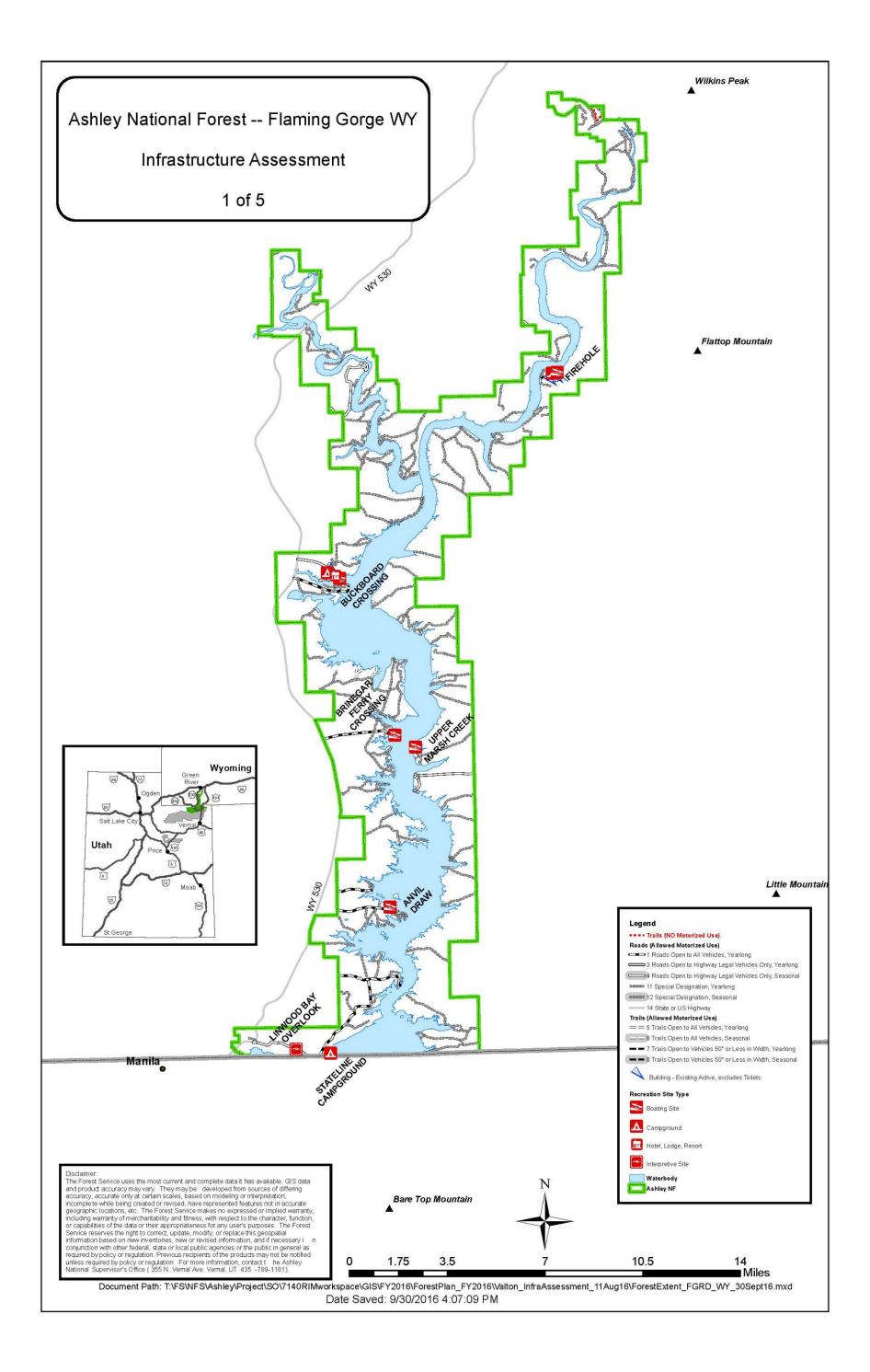
# Summary

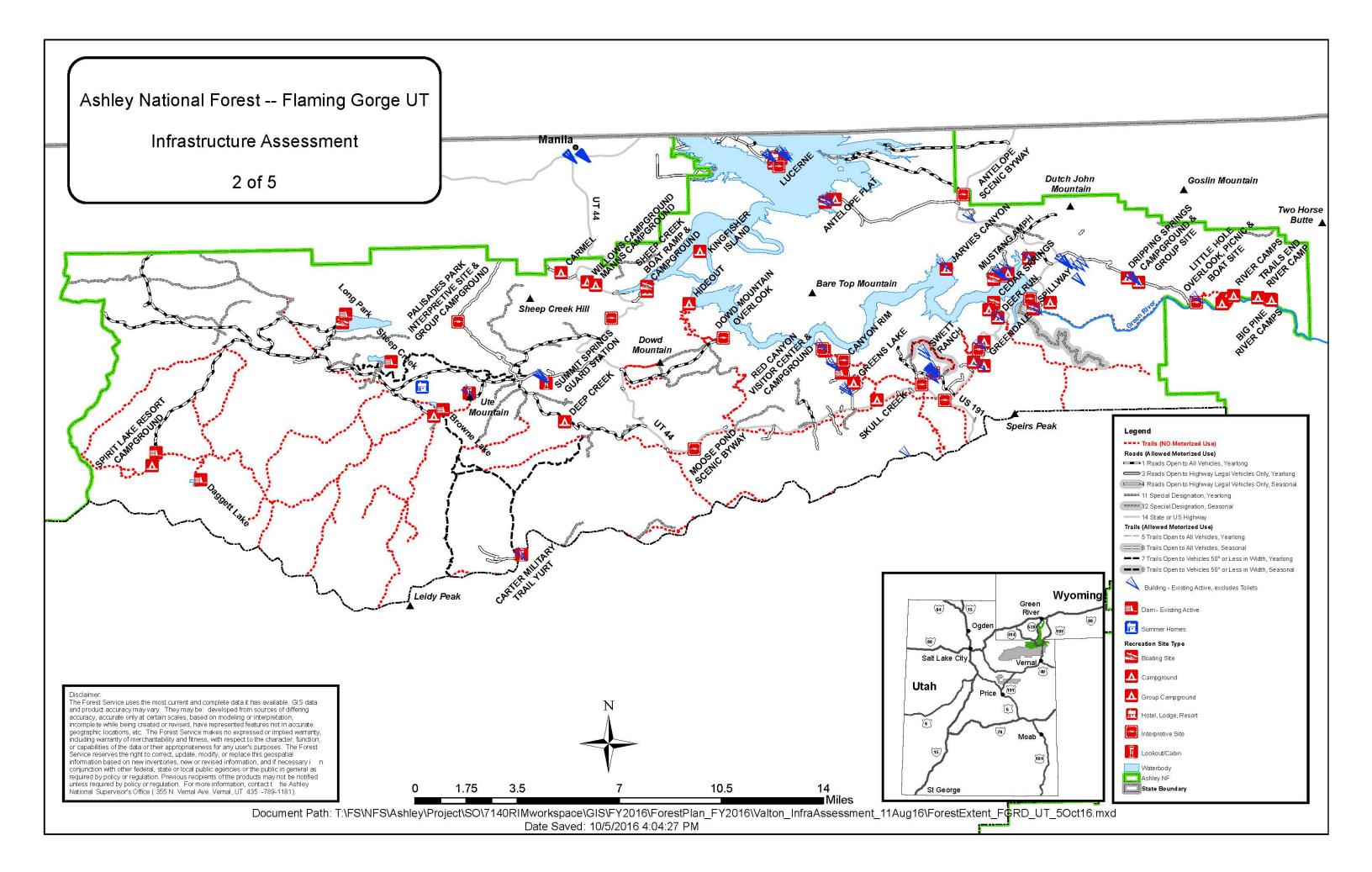
We are following current forest plan direction. However, with aging infrastructure and continued budget decreases, maintenance to a desirable standard is difficult. Several of our buildings, particularly guard stations and their outbuildings, are potentially eligible for or listed on the National Register of Historic Places. This status requires Ashley National Forest staff to consider alternative uses before decommissioning and requires additional considerations when repairing and bring up to standards. The deferred maintenance backlog will continue to increase and this trend is not sustainable. The deferred maintenance is a safety issue for the public and the employees of the Ashley National Forest.

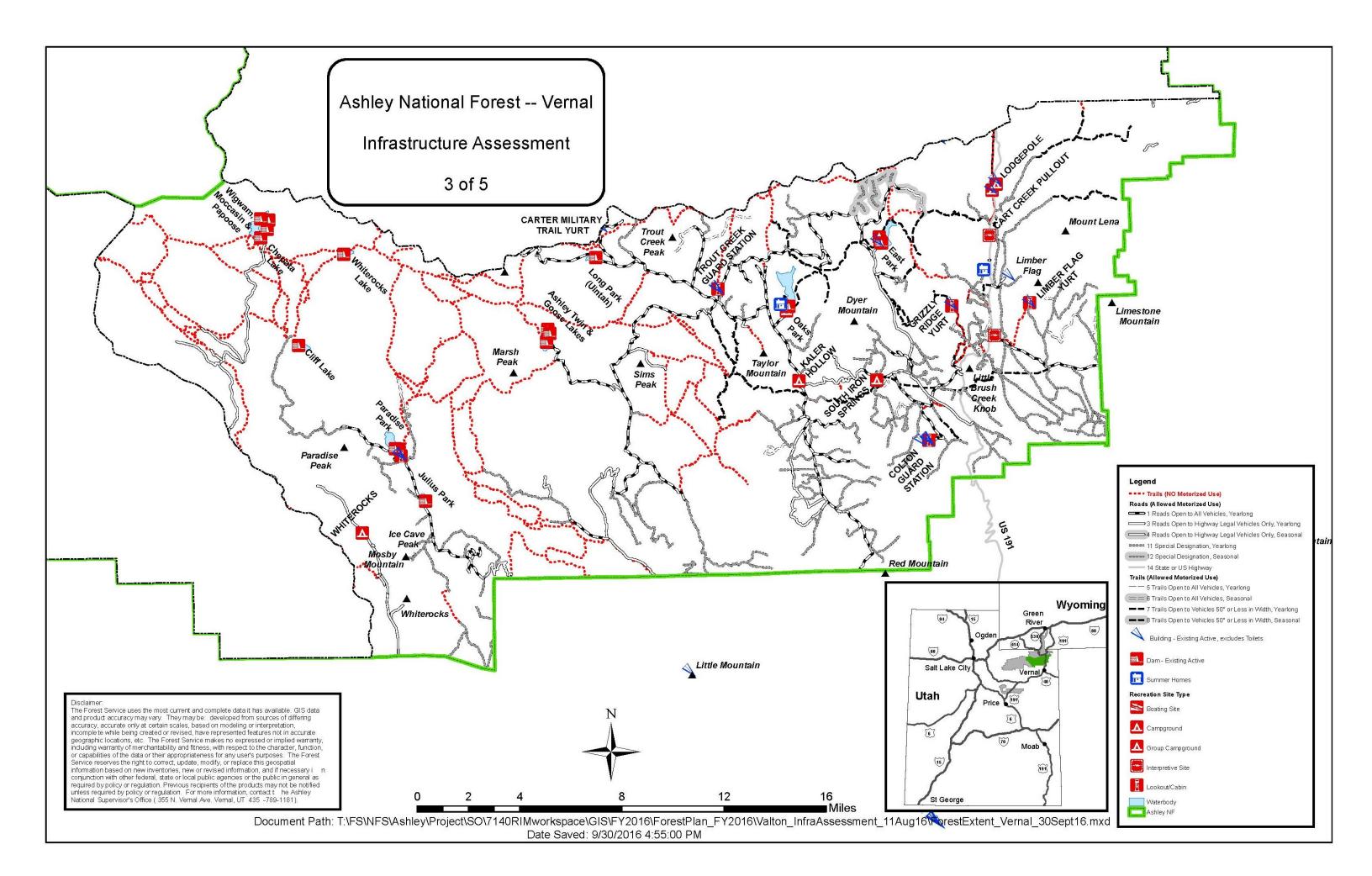
The local economy in Uintah and Duchesne counties is based heavily on oil production and development. The local population follows the price of oil. The population is generally increasing, but does decrease when oil prices are down. Forest usage is high during the summer and fall. Hunting and dispersed recreation are popular on the forest. Climate change and new technology will affect how the forest is accessed and used. Access to and within national forestlands is the primary concern of the local public. The Ashley National Forest cannot support multiple use without an adequate road system.

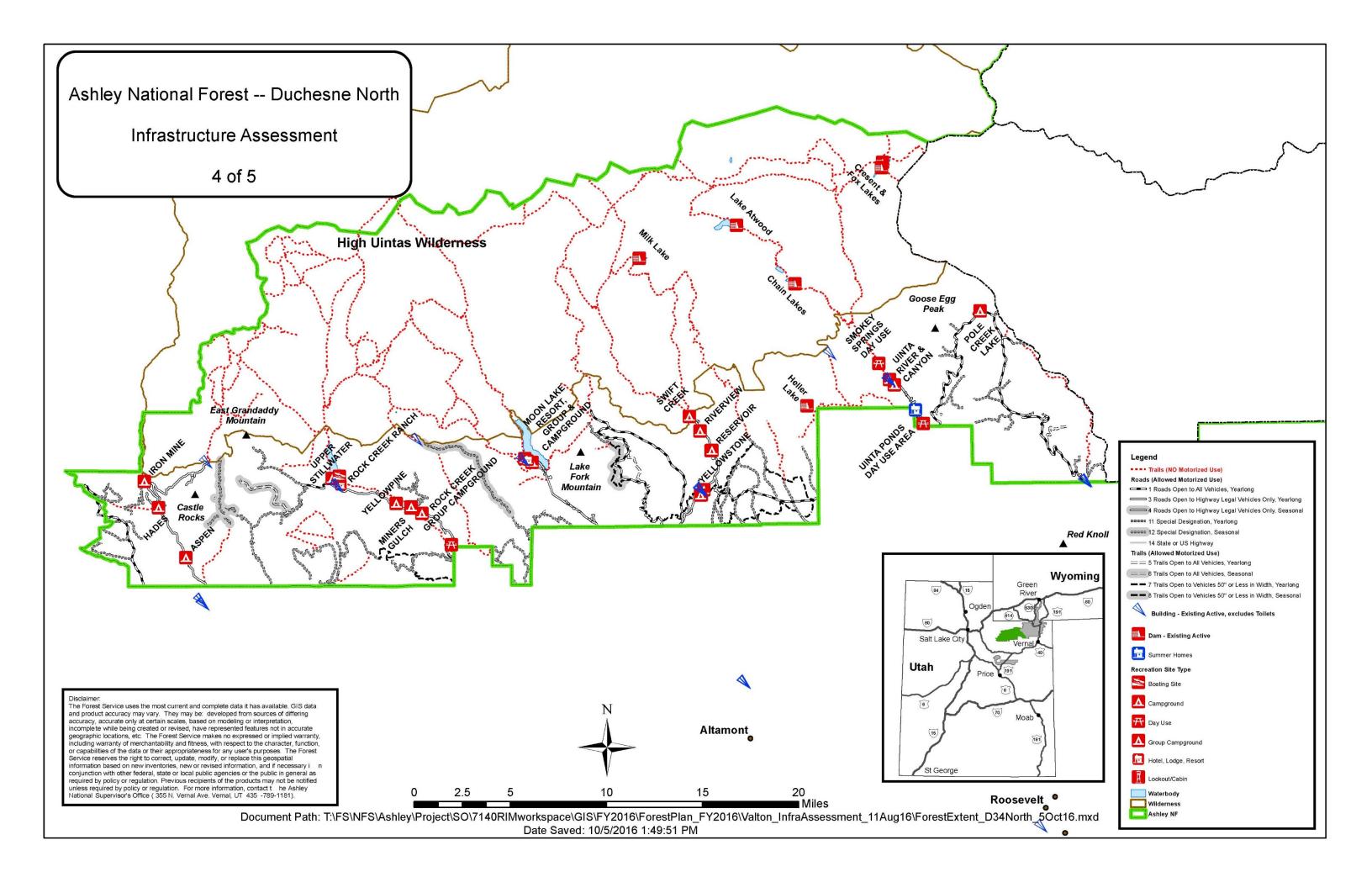
# Maps

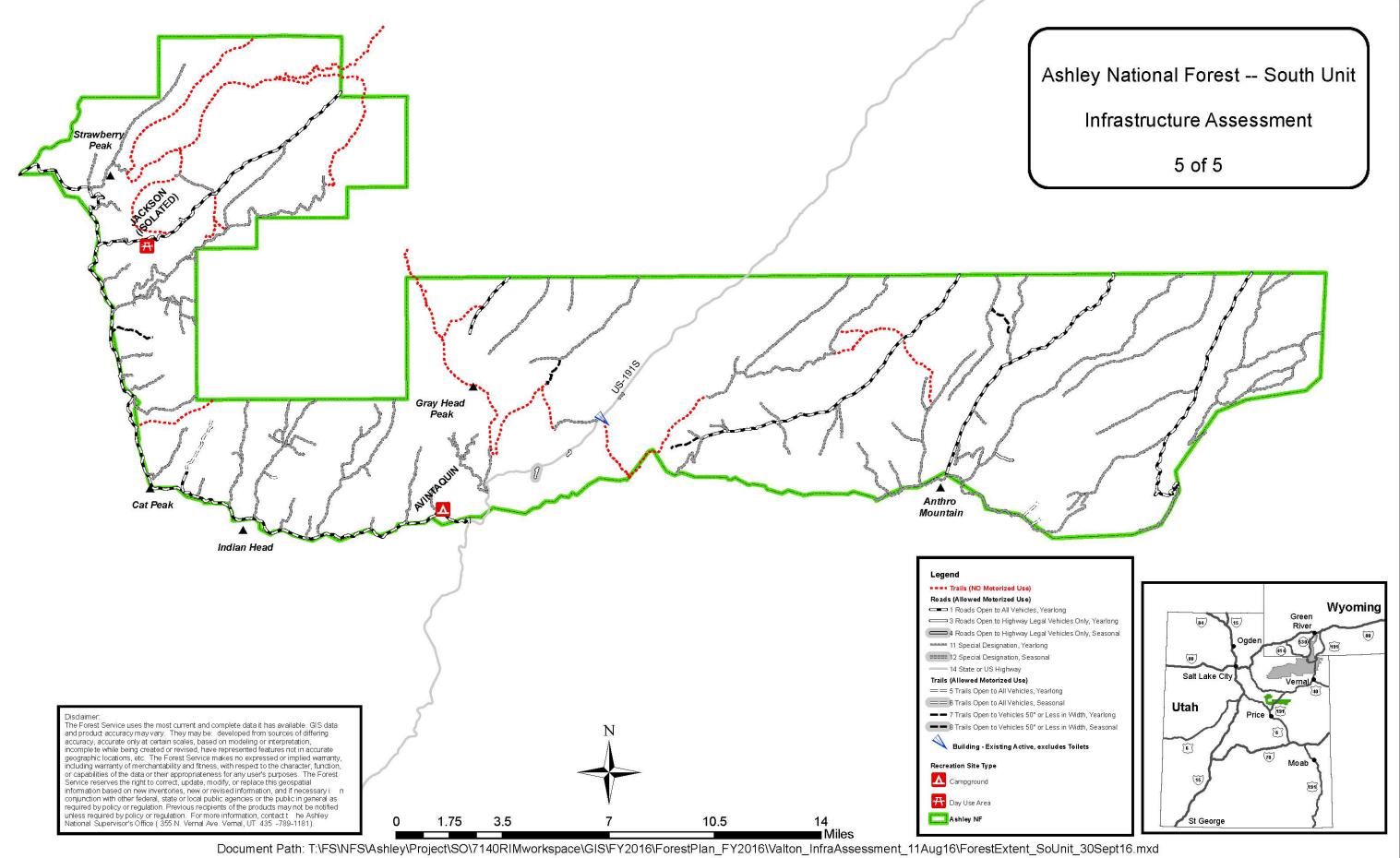
The maps on the following pages show the infrastructure across the various planning units on the Ashley National Forest. **Please note these maps must be printed on paper sized 11 inches by 17 inches.** 











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