SWCA®
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.®

County Resource Management Plan Reference Document

Prepared for

Uintah Basin Association of Governments

Prepared by

SWCA Environmental Consultants

December 2016

COUNTY RESOURCE MANAGEMENT PLAN
REFERENCE DOCUMENT

Prepared for

Uintah Basin Association of Governments
330 East 100 South
Roosevelt, Utah 84066

Prepared by

SWCA Environmental Consultants
257 East 200 South, Suite 200
Salt Lake City, Utah 84111

December 19, 2016

PREFACE

The authors of this report recognize the efforts of county commissioners, public land committees, and planning offices for prior work on resource management planning and for their time reviewing drafts of this document.

INTRODUCTION

The United States federal government administers large tracts of land in the western states. In Utah, the federal government controls approximately 35 million acres, or 66% of the state, placing Utah behind only Alaska and Nevada in percentage of federal land holdings. Most federal lands in Utah are administered by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS).

BLM and USFS manage federal lands based on the principles outlined in the Federal Land Policy and Management Act of 1976, as amended, and the National Forest Management Act of 1976, as amended. These laws require that each agency prepare land management plans and/or resource management plans (RMPs) to guide the administration of the lands and resources under their jurisdiction. Most relevant to this project, the laws also require that the federal agencies coordinate these land use planning actions with local government plans and policies.

In Daggett, Duchesne, and Uintah Counties, BLM lands are administered under the *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan*, and USFS lands are administered under the *Ashley National Forest Forest Plan* (1986, as amended). USFS is in the early stages of revising the forest plan for Ashley National Forest. The three-county area also contains extensive natural and undeveloped areas that are owned by the State of Utah, the Ute Tribe, or private interests.

Management of federal lands in Utah is a high-profile and at times controversial issue with the public and policymakers. In recent years, the Utah State Legislature has passed laws such as House Bill (HB) 148 Transfer of Public Lands Act and Related Study (2012), HB 323 Resource Management Planning by Local Governments (2015), and HB 276 Utah Public Land Management Act (2016) in an attempt to address this issue. HB 323 identifies 28 resources and requires each county to develop an RMP considering those resources as a part of the county's general plan. HB 323 also establishes content requirements for these plans, and establishes a county's general plan as a basis for coordinating with the federal government on resource management planning issues. HB 219 Resource Management Planning (2016) made adjustments to the requirements of HB 323 based on the work performed by the state, the Utah Public Lands Policy Coordinating Office (PLPCO), and counties since the passage of HB 323. In addition, the Public Lands Initiative (PLI) is a locally driven federal legislative effort to bring resolution and certainty to land disputes in Utah; the initiative includes draft language regarding land use and designations in Daggett, Uintah, and Duchesne Counties. It is important to note that the ongoing development of PLI and future passage of this bill could affect the findings, objectives, and policies in this document.

PLPCO is assisting and advising the Uintah Basin Association of Governments (UBAOG) and Daggett, Duchesne, and Uintah Counties during the data-collection process (Phase 1) and subsequent preparation of their RMPs (Phase 2). PLPCO is facilitating dialogue between the counties and hosting workshops regarding specific issues. PLPCO has developed resource templates, RMP templates, and guidance that can be used by the counties. Based on this support, each county is approaching the RMP preparation process based on their own unique needs. Some counties have retained consultants to prepare all or some of their RMPs, and some counties are planning to use county staff to prepare the documents.

HOW TO USE THIS DOCUMENT

This document is intended to be a resource document for Daggett, Duchesne, and Uintah Counties as they prepare county-level RMPs. It is divided into 24 standalone resource sections that include findings with supporting data, resource management objectives, policies for meeting objectives, and county-level maps. Resource data on individual maps extend 5 miles beyond county lines to provide landscape context for resources adjacent to these political boundaries. SWCA used existing content from county management efforts and held a series of workshops with county representatives to review resource issues and craft resource specific language to complete this document. In some cases (e.g., air quality and noxious weeds), county or state experts were asked to review resource findings, objectives, and policies. This document reflects input from all three counties and is not intended to be adopted comprehensively by each county. County planners and others writing the county resource plans may be selective using the findings, objectives, and polices most relevant to their physical, social, and regulatory landscape.

SUPPORTING INFORMATION

To develop this document, SWCA used information and data compiled in a database that was the primary deliverable for Phase 1 of the county RMP process. To adequately and accurately compile such a database, the consultant team engaged county commissioners, planning staff, and stakeholders in discussions on which of the 24 resources they considered priorities. Additional discussions centered on the best format for a database to ensure an effective interface for accessing database records. The SWCA team collected information from existing databases by "mining" websites and by direct request from state and federal agency personnel. These data are summarized in a report (SWCA Environmental Consultants and Horrocks Engineers 2016) and accessible in an internet and Excel-based database.

COUNTY INVOLVEMENT

County involvement was integral to the development of this resource document. SWCA facilitated the following workshops to ensure that the process identified local resource issues, priority resources, and language that reflects local perspectives.

- July 12, 2106: Regional workshop to review priority resource consisting of air quality; energy and mineral resources; fire and forest management; livestock and grazing; and threatened, endangered, and sensitive species
- August 16, 2016: Uintah County workshop
- August 17, 2016: Daggett County workshop
- August 23, 2016: Duchesne County workshop

SWCA did not include a public involvement component in this process based on the assumption that the county-specific RMP process would accommodate local input prior to formal adaption by the county commission.

LITERATURE CITED

Bureau of Land Management (BLM). 2008. *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan*. Available at: http://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.12251.File.dat/VernalFinalPlan.pdf. Accessed August 8, 2016.

Duchesne County. 2013. *Duchesne County General Plan*. County Policies, Objectives, Action Steps & Resource Management Plan. Amended August 19, 2013. Available at the Duchesne County Office, Duchesne, Utah.

SWCA Environmental Consultants and Horrocks Engineers. 2016. *Database Report, Implementation Plan, and Coordination Plan for Uintah Basin Association of Governments*. Submitted to Uintah Basin Association of Governments. May 12, 2016.

U.S. Department of Agriculture (USDA). 1986. *Land and Resource Management Plan for the Ashley National Forest*. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5277279.pdf. Accessed on August 31, 2016.

This page intentionally blank

CONTENTS

FIGURES

TABLES

1. AGRICULTURE

Developing a resource management plan section for agriculture is best completed at the county level based on local understanding and management decisions regarding agriculture. No agriculture issues were identified during the county involvement process. Agricultural spatial data available to the county include water-related agricultural land use complied by the Utah Division of Water Resources.

This page intentionally blank

2. AIR QUALITY

2.1. Findings

2.1.1. The Clean Air Act, last amended in 1990, requires that U.S. Environmental Protection Agency (EPA) set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. Standards have been set for six criteria pollutants: carbon monoxide (CO), lead, nitrogen dioxide (NO_2; also known as nitrogen oxides, oxides of nitrogen, or NO_x), ozone (O_3), sulfur dioxide (SO_2), and particulate matter (PM). Once emitted into the atmosphere, NO_x and volatile organic compounds (VOC) emissions react together to form O_3. Sunlight provides the energy for the reaction, and extremely reactive gases called radicals serve as catalysts. The Utah Department of Environmental Quality (UDEQ), Division of Air Quality (DAQ) operates a network of permanent air monitoring stations across the state to measure air quality and to determine NAAQS compliance, including one station in Roosevelt (Duchesne County) and one station in Vernal (Uintah County). The Roosevelt and Vernal stations monitor for meteorological conditions, NO_2, O_3, and PM less than 2.5 micrometers in diameter ($PM_{2.5}$). Both stations indicate that Duchesne and Uintah Counties have been in compliance with the NAAQS, with the exception of occasional exceedances of the O_3 standard.

2.1.2. Emissions data for the State of Utah are provided in the *Utah Division of Air Quality 2015 Annual Report* (DAQ 2015). The 2015 report contains a 2011 triennial inventory of pollutants produced in each of Utah's 29 counties in tons per year. Emissions from Duchesne, Uintah, and Daggett Counties are summarized in Table AIR1.

Table AIR1. 2011 Triennial Emissions Inventory for Daggett, Duchesne, and Uintah Counties (tons per year)

Pollutant Type	Daggett County	Duchesne County	Uintah County
CO	3,858	19,793	26,282
NO_x	1,324	11,934	12,348
PM_{10}	604	6,912	9,547
$PM_{2.5}$	94	1,082	1,420
SO_x	2	144	228
VOC	8,386	57,798	109,809

Notes: PM_{10} = PM less than 2.5 micrometers in diameter; SO_x = sulfur oxides.
Source: DAQ (2015).

2.1.3. In addition to the air monitoring stations operated by the DAQ in Vernal and Roosevelt, EPA, the Ute Tribe, Bureau of Land Management (BLM), and National Park Service (NPS) maintain permanent air monitoring stations in the Uintah Basin. EPA and the Ute Tribe operate stations in Indian Country in Myton, Ouray, Redwash, and Whiterocks. NPS operates a station in Dinosaur National Monument, and BLM operates a station in the community of Fruitland. A semi-permanent air monitoring station at Horsepool has been used as a National Oceanic and Atmospheric Administration research site during winter intensive studies. The locations of these permanent and semi-permanent air monitoring stations are shown in Figure AIR1 at the end of this section. Up to two dozen temporary, portable air monitors are also set up at different locations throughout the Uintah Basin during the winter to measure meteorological conditions, O_3 concentrations, and levels of O_3 precursors. Utah State University has been involved in operating a number of the temporary monitors as well as assisting with permanent monitoring stations.

2.1.4. The Uintah Basin is in the northeast corner of Utah and is bounded on the north by the Uinta Mountains, on the south by the Tavaputs Plateau, on the west by the Wasatch Mountains, and on the east by elevated terrain that separates it from the Piceance Basin in Colorado. The Uintah and Ouray Indian Reservation covers a significant portion of Uintah Basin lands, as do Duchesne and Uintah Counties. Daggett County is not part of the Uintah Basin, and at this time, there is no evidence that emissions from Duchesne and Uintah Counties impact Daggett County (Lyman 2016). Because the Uintah Basin is surrounded on all four sides by mountains, it is shaped physically like a basin and tends to trap polluted air and facilitate inversion formation. In recent years, concentrations of wintertime O_3 in the Uintah Basin have been elevated and at times exceed the NAAQS. High episodes are typically observed during winter inversion periods when the ground is covered by snow and stagnant air conditions are present. A multi-year study (the Uintah Basin Ozone Study) led by DAQ and other partners began in the winter of 2011–2012 to study the problem. According to DAQ (2016), key findings from this study to date indicate the following:

- Elevated winter O3 is episodic and only occurs with snow cover and a persistent temperature inversion.
- Oil and gas operations were responsible for 98% to 99% of VOC emissions and 57% to 61% of NOx emissions.
- The primary chemical drivers of winter O3 formation in the Uintah Basin differ greatly from those of summer O3 formation in urban areas.
- Formaldehyde and other aldehydes are the dominant contributors to the creation of radicals that drive O3 formation in the Uintah Basin.
- Research indicates that VOC controls focused on these reactive species will be particularly effective.

Air monitoring station data from the *2014 Uintah Basin Winter Ozone Study* are shown in Table AIR2. O_3 exceedances have also occurred in the summer in the Uintah Basin, especially at higher elevations (Lyman 2016).

Table AIR2. 8-Hour Average Ozone Concentrations in the Uintah Basin, Winter 2013–2014

Uintah Basin Air Monitoring Station	Overall Daily Maximum* (parts per billion)	Overall Exceedances of the NAAQS O_3 Standard of 75 Parts per Billion†
Dinosaur National Monument	80.6	5
Fruitland	58.4	0
Horsepool	96.8	13
Myton	89.3	6
Ouray	92.8	17
Red Wash	89.0	7
Roosevelt	65.5	2
Vernal	73.4	3
Whiterocks	67.3	3

Source: ENVIRON International Corporation (2015).

* Fourth highest daily maximum.

† The NAAQS O_3 standard is now 70 ppb (the final rule became effective on December 28, 2015).

2.1.5. In December 2015, EPA lowered the primary and secondary O_3 standard from 0.075 to 0.070 parts per million. According to EPA and DAQ (based on 2012–2014 data), Duchesne and Uintah Counties do not meet the updated standard. Utah submitted the Governor's recommendation for area designation on September 30, 2016. Two areas are recommended for ozone nonattainment designation: the Wasatch Front Area (Salt Lake and Davis counties, and portions of Weber, Tooele, and Utah counties) and the Uinta Basin Area (portions of Uintah and Duchesne counties at and below 6,000 feet of elevation). The Uintah Basin Area excludes a large portion of tribal land; the Ute Indian Tribe will make a separate recommendation to the EPA for area designation on tribal lands. Final ozone area designations would be promulgated by the EPA no later than October 1, 2017. States are required to develop federally-enforceable State Implementation Plans (SIPs) to identify how the primary and secondary NAAQS would be attained in nonattainment areas. The Ute Tribe and EPA would also be required to develop a plan covering Indian Country. Through these plans, the state and the Ute Tribe would design control measures and strategies to reduce pollutant levels in the area, and if appropriate, any emissions of precursor pollutants.

The time period for ozone nonattainment areas to achieve attainment depends on the area's classification as marginal, moderate, serious, severe, or extreme. A higher classification would mean more stringent requirements, but allow for a longer time to reach attainment. Although the classification of the Utah-recommended nonattainment areas is unknown at this time, they are expected to be either marginal (3 years to attainment from date of classification) or moderate (6 years to attainment from date of classification). An attainment SIP is not required for marginal nonattainment areas, but states must implement control mandates such as new source review and emission limitations for major sources. Clean Air Act permitting in Utah is the responsibility of UDEQ. In Indian Country, the permitting authority is EPA. Economic development could be impacted by a nonattainment designation. Consequences of a nonattainment designation could include requiring new facilities wanting to locate in the nonattainment area to install pollution controls or take stringent operational limits, requiring emission offsets, or requiring the implementation of voluntary measures to reduce emissions. Emissions reductions from existing sources are also likely to be required.

2.1.6. In May 2016, EPA finalized the federal implementation plan to implement the Minor New Source Review Program for oil and gas production and processing segments (EPA 2016). Permit options include the general permit, permit-by-rule, and true minor source registration. The final rule also incorporates emission limits and other requirements from eight federal standards and applies limits for a range of equipment and processes used in oil and natural gas production and natural gas processing (New Source Performance Standards [NSPS] subparts D, Kb, llll, JJJJ, KKKK, and OOOOa and National Emission Standards for Hazardous Air Pollutants subparts HH, ZZZZ, and DDDDD). NSPS subpart OOOO is the first set of federal air standards to limit VOC emissions at natural gas wells that are hydraulically fractured and to establish requirements for several other oil and gas industry sources of air pollution (e.g., storage tanks, pneumatic controllers, and glycol dehydrators) that were constructed, modified, or reconstructed after August 23, 2011. NSPS subpart OOOOa is a follow-on to subpart OOOO that limits VOC and methane emissions from affected equipment and processes in the oil and gas industry that were constructed, modified, or reconstructed after September 18, 2015. These new regulations will affect multiple emission sources in Daggett, Duchesne, and Uintah Counties.

2.1.7. UDEQ finalized rules (Utah Administrative Code R307-504) in 2014 that established requirements to ensure that existing oil and gas equipment is maintained and operated as designed, that bottom filling or submerged filling is used when loading a product into tanker

trucks, that high-bleed pneumatic controllers are replaced with low-bleed controllers, and that self-igniters are installed on flares. UDEQ also inspects, audits, and enforces actions to ensure facilities are meeting applicable regulatory requirements. In addition, UDEQ compares Utah Division of Oil, Gas and Mining production data with their air permits database to verify that oil and gas facilities have obtained the necessary air permits. These regulations also affect multiple emission sources in Daggett, Duchesne, and Uintah Counties.

2.1.8. O_3 is present in the atmosphere even in the absence of significant, local, human-caused emissions of NO_x and VOC. This background O_3 is a result of natural emissions and of human-caused emissions transported from outside the Uintah Basin or outside the United States. Background O_3 is O_3 that is beyond the ability of local regulators to control (Lyman 2016). Background O_3 is often higher in areas of higher elevation (such as the Uintah Basin) because natural stratospheric O_3 impacts and international transport impacts increase with altitude, whereas O_3 lifetimes are longer (EPA 2014). Some research suggests that increased transport of O_3 and precursors from outside the United States are counteracting domestic emissions reductions in the west (Cooper et al. 2012). O_3 and precursors from outside the Uintah Basin, combined with wildfires and intrusions of O_3-rich air from the stratosphere, have occasionally led to exceedances of the O_3 NAAQS during the summer in the Uintah Basin. Understanding the mechanics of the Uintah Basin airshed in the winter and summer, including O_3 transport within and from outside the basin, will be important before policies are developed.

2.1.9. A state may request that EPA exclude data showing exceedances or violations of the NAAQS that are related directly to an exceptional event (40 Code of Federal Regulations [CFR] 50.14(a)(1)). An *exceptional event* is defined in 40 CFR 50.1(j) as "an event that affects air quality, is not reasonably controllable or preventable, is an event caused by human activity that is unlikely to recur at a particular location or a natural event, and is determined by the Administrator in accordance with 40 CFR 50.14 to be an exceptional event. It does not include stagnation of air masses or meteorological inversions, a meteorological event involving high temperatures or lack of precipitation, or air pollution relating to source noncompliance." Examples of exceptional events include fireworks and prescribed fire. Daggett, Duchesne, and Uintah Counties support this regulation and agree that exceptional events should not count toward nonattainment status.

2.1.10. Senate Bill 2072 would require EPA to establish a program (Early Action Compact program) under which the EPA administrator would defer the designation of an area as a nonattainment area for purposes of the 8-hour O_3 NAAQS if the area achieves and maintains certain standards under a voluntary early action plan. The bill was introduced in September 2015, and a hearing was held in June 2016. The county supports the passage of this bill because it allows the use of locally crafted solutions to improve air quality and achieve compliance with the NAAQS.

2.2. Objectives

2.2.1. Maintain or improve air quality to protect the health and well-being of county residents, and maintain or improve the desirability of the county as a place to visit and recreate.

2.2.2. Promote economic development without sacrificing local air quality. Air quality should be protected to prevent potential restrictions on future development.

2.2.3. Work cooperatively as full partners with other agencies and entities to identify baseline air quality for the Uintah Basin.

2.2.4. Assess the extent to which Uintah Basin air is degraded by natural phenomena and by sources outside the Uintah Basin. Work cooperatively as full partners with other agencies to establish an understanding of contributions from non-area emission sources.

2.3. Policies and Guidelines

2.3.1. Comply with all federal, state, and local air quality rules, regulations, and directives.

2.3.2. Cooperate with air regulatory authorities to prevent significant adverse effects from air pollution.

2.3.3. Participate with regulatory authorities in determining air monitoring needs.

2.3.4. Cooperate with the Ute Tribe, EPA, and the State of Utah to create workable agreements to address air quality issues.

2.3.5. Continue to encourage and support research and studies to inform the decision-making process for better air quality.

- Support research and improve knowledge of the wintertime O_3 problem in the Uintah Basin, including understanding non-area emission sources.
- Work cooperatively with other agencies to develop solutions to reduce the O_3 problem based on research outcomes.
- Support the implementation of developed solutions for O_3 reductions.

2.3.6. Encourage industry to reduce VOCs and NO_x to help address the O_3 problem.

- When possible, consider sponsoring air quality forecasting for winter months and sending alerts to companies when impaired air quality is likely to help reduce emissions.
- Collect and disseminate information about low-emission technologies that could be used by industry, and encourage voluntary adoption of those technologies.
- Consider offering incentives to industry for the adoption of emission reduction technologies (e.g., awards, an unofficial certification program).

2.3.7. Evaluate whether it is possible or economically feasible to restrict non-essential industry activities during winter inversion episodes.

2.3.8. Implement county policies to maintain good air quality and to avoid nonattainment (hazardous days).

- Publish county requirements online for local burning. Encourage all residents to follow the requirements (e.g., the clearing index), especially during winter inversions.
- Only allow agricultural burning during times of low fire danger and when atmospheric conditions will disperse smoke efficiently.
- Assist local health departments in enforcing Utah Administrative Code R307-202 (Emission Standards: General Burning), which prohibits open burning at sites used for the disposal of community garbage and other waste, and prohibits a person from burning petroleum wastes, demolition or construction debris, residential rubbish, garbage, vegetation, wood, and other types of waste.

- Educate county communities about air quality issues and what they can do to help (e.g., reduce idling).
- Consider implementing incentives to reduce the use of wood-burning stoves.
- Work with natural gas providers and developers to encourage the wider availability of natural gas so that it can be used to replace more polluting fuels.
- Work with the local health department to address fugitive dust issues. Implement measures to reduce fugitive dust from roads, gravel pits, etc. Such measures could include water applications, chemical applications such as magnesium chloride, and covering truck loads.
- Cooperate with regulators to require adequate dust-control measures at mining, mineral resource, and energy resource locations, such as speed limits, watering, and ceasing operations during high winds.
- Educate the public about fugitive dust and about ways to reduce fugitive dust emissions. Work to prevent degradation from non-area sources, after the sources are better understood.

2.3.9. Investigate incentives to encourage industry to reduce greenhouse gas emissions such as methane, carbon dioxide, and NO_x (e.g., the use of carbon credits). Reduction of greenhouse gas emissions such as NO_x would also help with the O_3 problem.

2.4. Literature Cited

Cooper, O.R., R. Gao, D. Tarasick, T. Leblanc, and C. Sweeney. 2012. Long-term ozone trends at rural ozone monitoring sites across the United States, 1990–2010. *Journal of Geophysical Research* 117(D22307):1–24.

ENVIRON International Corporation. 2015. *Final Report. 2014 Uinta Basin Winer Ozone Study*. Edited by Till Stoeckenius. 2015. Available at: http://www.deq.utah.gov/locations/U/uintahbasin/ozone/strategies/studies/2014.htm. Accessed on September 8, 2016.

Lyman, S. 2016. Personal communication from Seth Lyman, Brigham Research Center, Utah State University, to SWCA, via comment on Draft RMP. August 19, 2016.

U.S. Environmental Protection Agency (EPA). 2014. Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards. EPA-452/R-14-006.

———. 2016. Federal Implementation Plan for True Minor Sources in Indian Country in the Oil and Natural Gas Production and Natural Gas Processing Segments of the Oil and Natural Gas Sector; Amendments to the Federal Minor New Source Review Program in Indian Country To Address Requirements for True Minor Sources in the Oil and Natural Gas Sector. Final Rule. 40 Code of Federal Regulations 46. *Federal Register* 81(107): 35944–35981.

Utah Division of Air Quality (DAQ). 2015. *Utah Division of Air Quality 2015 Annual Report.* Available at: http://www.airquality.utah.gov/info/annualreports/index.html. Accessed on July 21, 2016.

———. 2016. Uinta Basin Ozone Studies. Available at: http://www.deq.utah.gov/locations/U/uintahbasin/ozone/strategies/strategies.htm. Accessed on July 21, 2016.

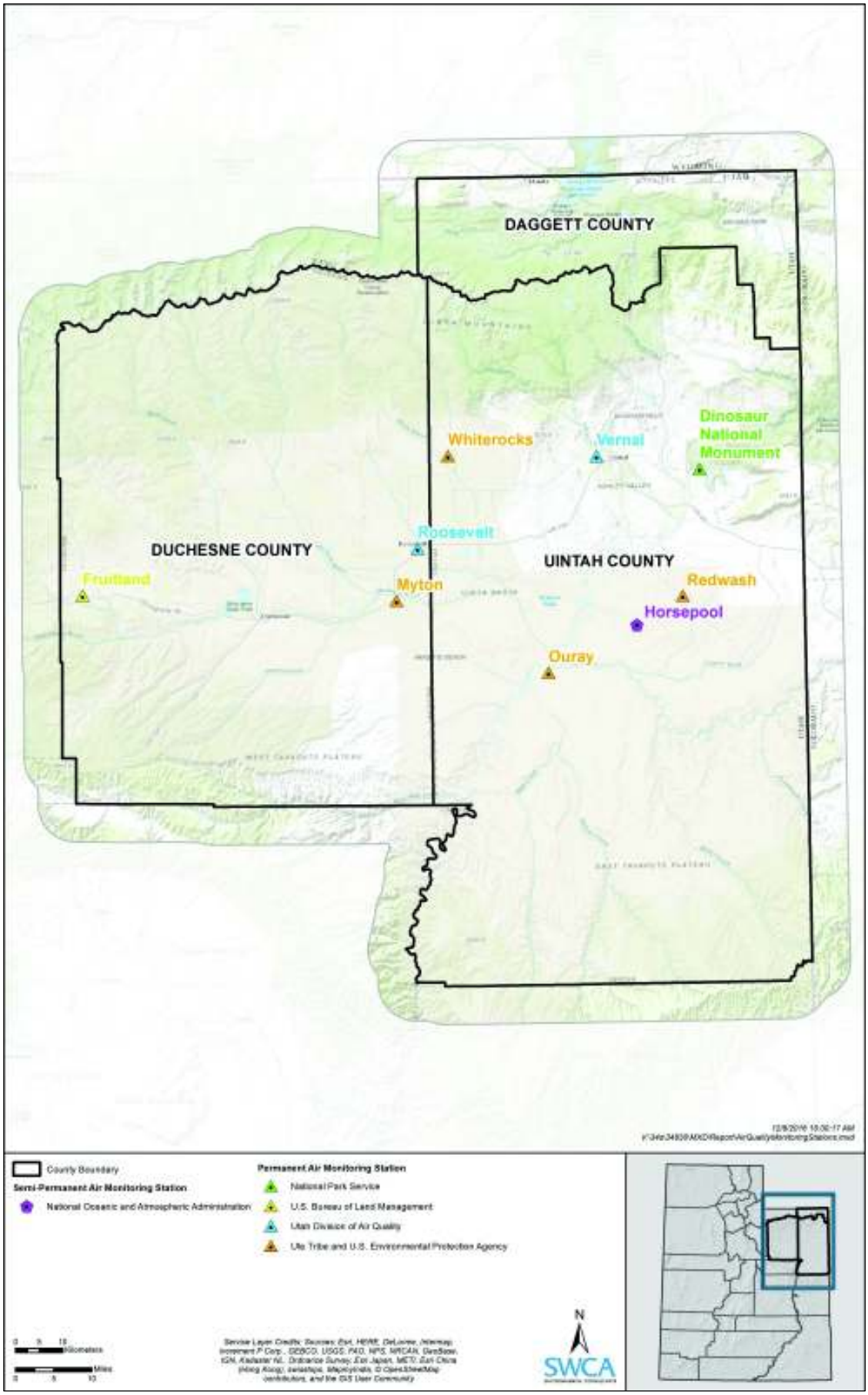

Figure AIR1. Permanent and semi-permanent air monitoring stations in Duchesne and Uintah Counties.

This page intentionally blank

3. CULTURAL, HISTORICAL, AND PALEONTOLOGICAL RESOURCES

3.1. Findings

3.1.1. The Uintah Basin and its surrounding counties have a large quantity and variety of cultural and historical resources. The history of the Uintah Basin is broken down into five major periods: 1) the PaleoArchaic period (ca. 10,000–6000 B.C.), 2) the Archaic period (ca. 6000–500 B.C.), 3) the Formative period (ca. 500 B.C.–A.D. 1300), 4) the ProtoHistoric or Historic Ute period (ca. A.D. 1300–1800), and 5) the Historic Euro-American period (ca. 1800–present). Sites from the Formative and Historic Euro-American periods dominate the archaeological and historical record in the Uintah Basin and include resources such as granaries, rock art, villages (as seen in sites found in Nine Mile Canyon), ranches, irrigation systems, and forts (as seen in Fort Duchesne).

3.1.2. Cultural and historical resources are defined as the physical evidence or place of past human activity, such as a site, an object, a landscape, or a structure. Archaeological sites and historic built environments (such as buildings) are two of the most common types of cultural and historical resources.

3.1.3. Cultural and historical resources can be further defined as non-archaeological sites and non-structural sites (such as waterways, viewsheds, and resource procurement areas) that have been identified as important for traditional and/or ideological reasons by either Native American groups or other organizations with ancestral and/or present ties to an area.

3.1.4. Federal laws, procedures, and policies affecting the treatment of cultural resources include the Antiquities Act of 1906, Public Law 59-209, Executive Order 11593, Section 106 of the National Historic Preservation Act (NHPA) of 1966 (Public Law 91-190), the Federal Land Policy Management Act (Public Law 94-579), and 36 Code of Federal Regulations (CFR) 60 and 36 CFR 800. The American Indian Religious Freedom Act (42 United States Code [USC] 1996) has also been established to protect religious practices, ethnic heritage sites, and land uses of federally recognized Native Americans. The Native American Graves Protection and Repatriation Act applies to human remains found on federal lands.

3.1.5. SWCA conducted a National Register of Historic Places (NRHP) properties file search on November 17, 2016, for Daggett, Duchesne, and Uintah Counties to obtain a current list of NRHP-eligible and NRHP-listed properties in Daggett, Duchesne, and Uintah Counties. Information for Duchesne County was provided by the county, and the Utah Division of State History's Preservation Pro system was used to obtain information for Daggett and Uintah Counties.

3.1.6. Analysis data gathered from the Utah Division of State History's Preservation Pro system indicate that 20, 579, and 1,596 properties have been evaluated for their eligibility for the NRHP in Daggett, Duchesne, and Uintah Counties, respectively (Table CHP1). Of these properties, three in each county are listed on the NRHP (Table CHP2). Twenty-five properties in Duchesne County and 20 properties in Uintah County have been determined eligible through the Section 106 process. No action has yet been taken on the remaining properties that have been evaluated as eligible or recommended eligible for the NRHP (not listed). For these properties to be listed on the NRHP, additional work will need to be conducted. Tables CHP3–5 provide the following information for listed and determined eligible properties by county:

- The name of the property (if applicable)
- The date the property was constructed (if known)
- A brief description of its original use (if known)
- The city that the property is located in
- The record ID number
- The property's current NRHP status

Table CHP1. NRHP-Evaluated Properties in Daggett, Duchesne, and Uintah Counties

Evaluation	Daggett	Duchesne	Uintah
Eligible/significant	9	114	508
Eligible/contributing	3	164	100
Recommended	5	40	44
Undetermined	1	57	2
Subtotal	*18*	*375*	*654*
Other	2	204	942
Total	**20**	**579**	**1,596**

Notes:

Eligible/significant = Generally, these properties have been recommended eligible/significant by qualified professionals because they were built during the Historic period and they retain integrity; they are an excellent example of a style or type; and/or they are unaltered or have only minor alterations or additions.

Eligible/contributing = Generally, these properties have been recommended eligible/contributing by qualified professionals because they were built during the Historic period and retain integrity; they are a good example of a style or type, but are not as well preserved or executed as eligible/significant properties; and/or they have more substantial alterations or additions than eligible/significant properties, though the overall integrity of the property is retained.

Recommended =These properties have been recommended eligible for the NRHP by qualified professionals, based on research and assessment, although no specific category (eligible/significant or eligible/contributing) was identified at the time they were recorded.

Undetermined = Complete information regarding the eligibility status of these properties is not available.

Other = These properties fall into three other categories: 1) they have been recommended for the NRHP, but because of their condition (e.g., they have been demolished), they cannot be included; 2) they have been evaluated and are found to be out-of-period, and therefore cannot be included; or 3) they have been evaluated and are found to be ineligible/non-contributing. Only out-of-period properties have the possibility for inclusion through re-evaluation, but only if the resource's construction date falls within the Historic period.

Table CHP2. NRHP Status of Cultural Resources Properties in Daggett, Duchesne, and Uintah Counties

NRHP Status	Daggett	Duchesne	Uintah
Listed	3	3	3
Determined eligible (Section 106)	0	25	20
Not listed	15	347	631
Total	**18**	**375**	**654**

Notes:

Listed = SHPO's final approval of a property's determination, resulting in that property being listed on the NRHP.

Determined eligible (Section 106) = SHPO concurred with a property's determination, as recommended by a qualified professional. Additional work needed to verify this recommendation.

Not Listed = SHPO has yet to provide concurrence with a property's determination, as recommended by a qualified professional. Additional work needed to obtain SHPO's concurrence.

Table CHP3. NRHP-Eligible and NRHP-Listed Properties in Daggett County

Property Name	Construction Date	Original Use	City	Property Record ID	NRHP Status
Jarvie John Ranch Historic District	1880	Agricultural Outbuilding	Brown's Park	37228	Listed
Swett Ranch	1909	Agricultural (General)	N/A	38839	Listed
Ute Mountain Fire Tower	1937	Camp/seasonal housing	N/A	38909	Listed

Table CHP4. NRHP-Eligible and NRHP-Listed Properties in Duchesne County

Property Name	Construction Date	Original Use	City	Property Record ID	NRHP Status
U.S. Dry Gulch Canal	1905	Irrigation	Myton	33049	Determined eligible (Section 106)
Bridger Jim Ditch	1890	Irrigation	Tabiona	33064	Determined eligible (Section 106)
Pahcease Canal	1906	Irrigation	Myton	39655	Determined eligible (Section 106)
Jasper Pike Canal	1906	Irrigation	Tabiona	33072	Determined eligible (Section 106)
Jepp Thomas Canal	1907	Irrigation	Hanna	33030	Determined eligible (Section 106)
Myton Townsite Canal	1907	Irrigation	Myton	33041	Determined eligible (Section 106)
Hancock Lateral	1907	Irrigation	Roosevelt	39670	Determined eligible (Section 106)
Martin Lateral	1907	Irrigation	Roosevelt	33042	Determined eligible (Section 106)
Sheehan Lateral	1907	Irrigation	Roosevelt	33085	Determined eligible (Section 106)
C Canal	1907	Irrigation	Upalco	39654	Determined eligible (Section 106)
Page Canal	1909	Irrigation	Roosevelt	39669	Determined eligible (Section 106)
State Road Lateral	1909	Irrigation	Roosevelt	33084	Determined eligible (Section 106)
Cedarview Canal	1910	Irrigation	Neola	33083	Determined eligible (Section 106)
Pleasant Valley Canal	1911	Irrigation	Myton	33050	Determined eligible (Section 106)

Table CHP4. NRHP-Eligible and NRHP-Listed Properties in Duchesne County

Property Name	Construction Date	Original Use	City	Property Record ID	NRHP Status
Knight Ditch	1913	Irrigation	Utahn	33037	Determined eligible (Section 106)
Riverdell Canal	1917	Irrigation	Myton	39656	Determined eligible (Section 106)
U.S. Lake Fork Canal	1890/1905	Irrigation	Myton	33025	Determined eligible (Section 106)
Uintah Canal	1905/1909	Irrigation	Neola	33071	Determined eligible (Section 106)
Duchesne Feeder Canal	1935/1937	Irrigation	N/A	33082	Determined eligible (Section 106)
Rocky Point Canal	1905	N/A	Duchesne	39649	Determined eligible (Section 106)
Red Cap Canal	1907	N/A	Bridgeland	39693	Determined eligible (Section 106)
Gray Mountain Canal	1907	N/A	Duchesne	33045	Determined eligible (Section 106)
Lake Fork Canal	1909	N/A	Altamont	33035	Determined eligible (Section 106)
Lake Fork No. 1 Canal	1909	N/A	Altonah	33040	Determined eligible (Section 106)
Yellowstone Feeder Canal	1938	N/A	Altonah	33048	Determined eligible (Section 106)
Simmons Ranch	1913/1920	Agricultural storage	N/A	55192	Listed
Stockmore Ranger Station	1914	Institutional housing	Stockmore	70858	Listed
Indian Canyon Guard Station	1914	Institutional housing	N/A	46325	Listed

Table CHP5. NRHP-Eligible and NRHP-Listed Properties in Uintah County

Property Name	Construction Date	Original Use	City	Property Record ID	NRHP Status
U.S. Whiterocks Canal	1907	Agricultural (general)	Whiterocks	113519	Determined eligible
Ouray School Canal	1908	Irrigation	Randlett	80519	Determined eligible
Ditch A	1905	N/A	Whiterocks	113520	Determined eligible
Ditch B	1906	N/A	Whiterocks	114384	Determined eligible
Ditch C	1906	N/A	Whiterocks	114058	Determined eligible
Ditch D	1906	N/A	Whiterocks	111421	Determined eligible
Harmes Canal	1906	N/A	Whiterocks	113797	Determined eligible
Big Six Canal	1911	N/A	Whiterocks	113796	Determined eligible
U.S. Farm Creek Canal	1911	N/A	Whiterocks	113639	Determined eligible
Ashley Central Canal	1879	N/A	Vernal	111417	Determined eligible
Military Canal	1887	N/A	Fort Duchesne	79041	Determined eligible
Bench Canal	1903	N/A	Fort Duchesne	78950	Determined eligible
Deep Creek Canal	1905	N/A	Lapoint	86020	Determined eligible
Wissiup Ditch	1906	N/A	Ouray	80517	Determined eligible
Leland Canal	1906	N/A	Randlett	96966	Determined eligible
Henry Jim Canal	1908	N/A	Fort Duchesne	82415	Determined eligible
Ouray Park Canal	1920	N/A	Lapoint	80491	Determined eligible
Building # 2	1930	N/A	Whiterocks	7846	Determined eligible
Building # 5/Feed Storage Building	1940	N/A	Whiterocks	12411	Determined eligible
Building # 6/Hatchery Building	1940	N/A	Whiterocks	10604	Determined eligible
Holy Spirit Episcopal Church	1896	Religious facility	Randlett	79119	Listed
Morris Josie Bassett Ranch Complex	1924	Agricultural storage	Dinosaur National Monument	117815	Listed
Dinosaur Nat. Mon. Quarry Visitor Center (42un8569)	1957	Museum	Dinosaur National Monument	115503	Listed

3.1.7. Occasionally, resources managed by agencies are not included in the most up-to-date NRHP listing. This is usually the result of batch nominations, that is, properties submitted to the SHPO in groups (usually as multiple properties listings) for the SHPO's review and evaluation. These batches are usually only submitted to the SHPO a few times during the year, or in this case, once every other year as illustrated in Table CHP6. The Bureau of Land Management (BLM)'s Vernal Field Office recently submitted such a batch nomination to the SHPO for properties associated with the West Tavaputs Programmatic Agreement (PA). The work conducted for this PA identified 445 NRHP-evaluated properties within the Nine-Mile Canyon Area that have been recommended eligible for the NRHP. Although they may not be included in the most up-to-date NRHP listing, they should all be considered as NRHP-listed properties.

Table CHP6. NRHP-Evaluated Properties in Nine-Mile Canyon Area containing Portions of Carbon, Duchesne, and Uintah Counties

Evaluation	Carbon	Duchesne	Uintah	Total*	Listed
2009 recommended	–	–	–	63	63
2011 recommended	–	–	–	167	167
2013 recommended	–	–	–	101	101
2015 recommended	15	57	42	114	114 (pending)
Total	**–**	**–**	**–**	**445**	**445**

In the documents reviewed by SWCA, only the 2015 batch had property information at the county level. Low-resolution maps of 2009, 2011, and 2013 recommended properties indicated that no locations fall within Uintah County. For these years the majority are located in Carbon County. If required, the BLM can provide county-level property information.

3.1.8. As a result of previous evaluation and the nomination processes that led to inclusion of a property on the NRHP, many properties are recommend eligible but are not yet formally listed. Further research and evaluation are needed for these properties to determine if they could be listed or found ineligible/non-contributing, with most properties eventually being determined eligible for the NRHP under Section 106 of the NHPA.

3.1.9. The NHPA is the basis for cultural and historical preservation and defines the responsibility of federal agencies for protection and preservation of cultural and heritage resources. The standards and guidelines established by the BLM take this into consideration and are used to assist with inventorying and evaluating cultural and historical resources (BLM 2004).

3.1.10. The preservation of historic properties and cultural landscapes has the potential to add economic value to an economy by balancing preservation and need. A county that is a certified local government (CLG) with a historic preservation committee can apply for federal grants and gain the tools and resources needed to integrate historic buildings into the community's social and economic fabric. Supporting information and a model Historic Preservation Ordinance are found on the Utah Division for State History website.

3.1.11. The Uintah Basin and its surrounding counties contain paleontological resources, which are defined as any fossilized remains, traces, or imprints of organisms preserved in or on the Earth's crust.

3.1.12. Ground disturbance (e.g., new development) can create opportunities for preserving and studying paleontological resources. These opportunities include 1) avoiding the destruction of scientifically significant resources, 2) identifying areas where scientifically important fossils may exist, 3) collecting and preserving scientifically significant fossils, and 4) allowing and maintaining access to the study of scientifically significant fossils.

3.1.13. Both state and federal legislation has been passed to encourage the preservation of paleontological resources while allowing for personal, professional, and academic study and research.

3.1.14. Federal laws, policies, and guidelines affecting fossil resources include the Paleontological Resources Preservation Act (PRPA) of 2009. The PRPA is codified in Title VI of the Omnibus Public Lands Management Act of 2009 (Public Law 11- 011, Title VI, Subtitle D), which defines paleontological resources, resource-use permit criteria, requirements for curation, and the criminal and civil penalties. In addition, the Federal Land Management and Policy Act of

1976 (Public Law 94-579; 90 Stat. 2743; USC 1701–1782), the National Environmental Policy Act (Public Law 91-190; 31 Stat. 852; 42 USC 4321–4327), and general procedural guidelines for management are provided in the BLM's Instructional Memorandum (IM) 2008-009 (2007), Manual H-8270-1 (BLM 1998), and IM 2009-011 (BLM 2008), which define management, preservation, and protection of paleontological resources.

3.1.15. Paleontological resources differ from cultural resources in that they play an important role in local economies of the Uintah Basin, specifically through the tourism industry.

3.2. Objectives

3.2.1. Preserve the cultural, historical, and paleontological heritage of the Uintah Basin.

3.2.2. Support the protection, study, and excavation of unique cultural and historical resources that occur within the Uintah Basin, including the responsible stewardship of these resources through balancing resource protection with visitor values.

3.2.3. Provide for the protection of cultural, historical, and paleontological resources through management decisions that are based on the quality and significance of each individual resource.

3.2.4. Allow for public education, visitation opportunities, and site protection for cultural, historical, and paleontological resources (where appropriate).

3.2.5. Preserve and perpetuate the heritage and culture of the Uintah Basin for both the Native American community and other communities.

3.2.6. Mitigate to the furthest extent possible all adverse effects to cultural, historical, and paleontological resources.

3.3. Policies and Guidelines

3.3.1. Ensure that the county has appropriate opportunities to participate in all management decisions regarding cultural, historical, and paleontological resources.

3.3.2. Where significant prehistoric and historic sites and scientifically important resources can be protected, consider developing them for education and tourism (where appropriate).

3.3.3. Manage potential adverse effects to significant and scientifically important cultural, historical, and paleontological resources to the extent possible through avoidance before other protections are considered (such as removal/excavation and mitigation).

3.3.4. All federal undertakings that could affect significant cultural values require, under NHPA, an archaeological review and inventory before they are implemented. Historic and cultural sites inventoried will be evaluated for significance by a qualified archaeologist in cooperation with the state historic preservation officer.

3.3.5. Additionally, state legislation such as Utah Code 9-8-401 states that "The Legislature determines and declares that the public has a vital interest in all antiquities, historic and prehistoric ruins, and historic sites, buildings, and objects which, when neglected, desecrated, destroyed or diminished in aesthetic value, result in an irreplaceable loss to the people of this state." Cultural and historical resources that have been evaluated and determined to be significant (such as those listed on the NRHP) will have special consideration.

3.3.6. In accordance with Utah Code 63J-8-104 (i) regarding state land use planning and management, federal lands shall be managed "so as to protect prehistoric rock art, three-dimensional structures, and other artifacts and sites recognized as culturally important and significant by the state historic preservation officer or each respective county by imposing reasonable and effective stipulations and conditions reached by agreement between the federal agency and the state authorized officer pursuant to the authority granted by the National Historic Preservation Act, 16 USC 470 et seq."

3.3.7. Federal and state agencies must not jeopardize private property rights or existing land uses, such as oil and gas exploration, mining, logging and harvesting of forest products, road maintenance, and grazing, through the protection of cultural and archaeological sites. This can be accomplished by carefully assessing the sensitivity and importance of the site relative to the economic and cultural impacts associated with land management decisions based around cultural and archaeological sites in the Uintah Basin.

3.3.8. Consider a historic preservation committee for the purpose of protecting cultural resources.

3.3.9. Establish a county register of cultural and heritage resources to discover and describe the nature of cultural resources. Assess and rank resources according to need relevant to preservation and enhancement.

3.3.10. Give priority to the retention and display of locally collected artifacts within the Uintah Basin.

3.3.11. In the case of natural and built forms upon the land, and in accordance with the protocols and rankings set forth above, measures to stabilize and enhance historic sites and objects shall be an ongoing objective of the county and its historic preservation committee.

3.3.12. Many of the cultural and historical sites in the Uintah Basin represent a unique culture and are closely related to early settlements of the area. They continue to have historical significance and are held by many residents as reverent or consecrated sites. Preserve these sites and keep them accessible.

3.3.13. Any alteration of landforms, waterways, closure of roads, and other such matters shall be carried out only after full consideration of each county's prehistoric and historical cultural heritage.

3.3.14. Develop mitigation measures and treatment options when it has been determined that a project will have an adverse effect on significant cultural and historical resources. Mitigation measures can range from preservation through avoidance to analysis and research through scientific study, although they should be project specific and tailored in such a way that each resource is specifically analyzed and dealt with.

3.3.15. Although this land use document addresses such issues as roadways and trails access, wildlife, water, timber and range use, it shall be referred to on all matters regarding the use of natural resources as part of cultural identity. Traditional ways of life such as harvesting cedar posts, running cattle on the open range, and agriculture shall be protected.

3.3.16. Preserve all remnants of prehistoric lifeforms, geological traces, and cultural elements in accordance with existing laws, and ensure that they remain within the county, either in appropriate museums or in the Utah State University Uintah Basin Special Collections Archive. These items shall be made available to the public in an appropriate setting of discovery and study.

3.3.17. Utah Code 63-73-11 through 63-73-19 state that paleontological resources are important and require the preservation of scientifically significant fossil resources on state lands. These code sections mandate that those removing or excavating critical fossils on state lands must be qualified and permitted under joint jurisdictional cooperation from the Utah Geological Survey, the Utah Museum of Natural History, and the State of Utah School and Institutional Trust Lands Administration. Additional state codes (Utah Code 53B-17-603, Utah Administrative Code R807-1) also require that important extracted fossils be curated by an approved and qualified institution. These mandates will be followed.

3.3.18. All scientifically important fossils found in the area should remain in each particular county. The county recognizes that vertebrate fossils may be collected from BLM–administered lands under a permit issued to qualified individuals and that such fossils remain the property of the federal government and must be placed in a suitable repository (such as a museum or university) identified at the time of permit issuance. Additionally, the county recognizes that all scientifically significant fossils collected on Utah state lands must be curated with the Natural History Museum of Utah. Recreational collectors may collect and retain reasonable amounts of common invertebrate and plant fossils for personal, non-commercial use. No vertebrate fossils or associated trace fossils such as tracks, eggs, etc. may be collected without a permit. Any fossils collected on non-federal lands belong to the landowner.

3.3.19. Management plans must provide the opportunity for amateur collectors and students of natural resource–related sciences to study, explore, and collect related items as provided by law.

3.3.20. Public land management agencies should promote these resources with educational material, signage, and information centers where appropriate.

3.3.21. When designating locations for sites, trails and other public use spaces, consider the following for cultural, historical, and paleontological resources: physical location and non-tangible elements (such as its sense of place or historical value).

3.4. Literature Cited

Bureau of Land Management (BLM). 1998. *General Procedural Guidance for Paleontological Resource Management*. Handbook H-8270-1 (revised). Available at: http://www.wilderness.net/toolboxes/documents/paleo/H-8270-1%20BLM%20General%20Paleontological%20Procedural%20Guidance.pdf. Accessed September 9, 2016.

———. 2004. *Identifying and Evaluating Cultural Resources.* Handbook H-8110. Available at: http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.23101.File.dat/8110.pdf. Accessed September 9, 2016.

———. 2007. *Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands*. Instructional Memorandum 2008-009. Available at: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/20080/im_2008-009.html. Accessed September 9, 2016.

———. 2008. *Assessment and Mitigation of Potential Impacts to Paleontological Resources*. Instructional Memorandum 2009-011. Available at: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2009/IM_2009-011.html. Accessed September 9, 2016.

This page intentionally blank

4. DITCHES AND CANALS

Developing a resource management plan section for ditches and canals is best completed at the county level based on local understanding and management decisions regarding ditches and canals. Issues identified during the county involvement process include clarification of ditch and canal jurisdiction by the U.S. Army Corps of Engineers under the Clean Water Act. Ditches and canal spatial data available to the county include a "canal/ditch" layer from the U.S. Geological Survey and points of diversion from the Utah Division of Water Resources.

This page intentionally blank

5. ECONOMIC CONSIDERATIONS

Developing a resource management plan section for economic considerations is best completed at the county level based on local understanding and management decisions regarding these considerations. No economic issues were identified during the county involvement process. No spatial data are included in this report or planning process.

This page intentionally blank

6. ENERGY AND MINERAL RESOURCES

6.1. Findings

6.1.1. Most Uintah Basin residents (79.9%) believe federal land managers should maintain or increase mineral development (Krannich 2008).

6.1.2. The *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan* (BLM Vernal ROD/RMP) makes the following allocations for oil and gas leasing (BLM 2008) (see Figures ENG-MIR1–3 at the end of this section):

- Unavailable: 190,434 acres:
  - 53,058 acres of wilderness study areas (WSAs) in the BLM Vernal Field Office plus 2,750 acres of WSA in the BLM Moab Field Office.
  - 99,498 acres in 14 areas identified as lands with wilderness characteristics (LWC) (does not include 6,680 acres of LWC in BLM White River Field Office that are no surface occupancy [NSO]).
  - 35,128 acres within the Hill Creek Extension.
- Open subject to NSO: 86,789 acres:
  - 0.25-mile area around greater sage-grouse (Centrocercus urophasianus) leks.
  - High-use recreation areas such as Pelican Lake.
  - White River LWC.
  - Areas of critical environmental concern (ACECs) including the Nine Mile Canyon ACEC (44,168 acres in Duchesne and Carbon Counties), Lear's Canyon (1,375 acres, all in Duchesne County), and the Pariette Wetlands (10,437 acres, the bulk of which are in Uintah County)
- Open subject to moderate constraints: 890,280 acres
- Open subject to standard terms and conditions: 750,131 acres

6.1.3. More upgraded pipeline and crude oil infrastructure is needed to bring crude oil products produced in the Uintah Basin to market.

6.1.4. On March 23, 2015, the Utah Legislature established the Uintah Basin Energy Zone for the purpose of maximizing efficient and responsible development of energy and mineral resources

6.1.5. The business environment for renewable energy and non-renewable energy is not on a level playing field because renewable energy is heavily subsidized.

6.1.6. The management of the greater sage-grouse by federal and state entities have implications on the level of mineral development that is allowed in the counties.

6.1.7. Voluntary management provisions in the *Conservation Plan for Greater Sage-grouse in Utah* (Utah Division of Wildlife Resources 2013) are as follows:

- a) Avoid disturbance within a lek if possible. Project proponents must demonstrate why avoidance is not possible.
- b) If avoidance is not possible, use minimization as appropriate to the lek.

- c) If minimization is not sufficient, mitigation is required. Mitigation should be calculated at a minimum of a 4:1 ratio starting with the first acre disturbed. Mitigation must produce lands capable of supporting greater sage-grouse as habitat before the proposed disturbance occurs, although birds do not need to be using the mitigated area.
- The proponent of the disturbance must demonstrate that the conditions have been met. Cumulative new permanent disturbance should not exceed 5% of the surface area of other habitat within the sage-grouse management area.

6.1.8. The BLM Vernal ROD/RMP manages the greater sage-grouse in Utah with some of the following provisions: 1) NSO in a 0.25-mile zone around leks year-round; 2) no permanent facilities or structures allowed within 2 miles of a lek when possible; 3) no surface-disturbing activities within 2 miles of active greater sage-grouse leks allowed from March 1 to June 15; 4) within 0.5 mile of known active leks, the best available technology used to reduce noise, e.g., installation of multi-cylinder pumps, hospital sound-reducing mufflers, and placement of exhaust systems.

6.1.9. Applications for permit to drill (APD) have decreased dramatically in Uintah and Duchesne Counties between 2012 and 2016 (Table ENG-MIR1).

Table ENG-MIR1. Number of Applications for Permit to Drill in Daggett, Duchesne, and Uintah Counties

Year	Daggett County	Duchesne County	Uintah County
2016	0	41	107
2015	0	77	451
2014	0	511	798
2013	0	794	737
2012	0	745	1,213

Source: Utah Division of Oil, Gas and Mining (2016a).

6.1.10. Oil production has decreased between 2012 and 2016 in Uintah, Daggett, and Duchesne Counties (Table ENG-MIR2).

Table ENG-MIR2. Barrels of Oil Production in Daggett, Duchesne, and Uintah Counties

Year	Daggett County	Duchesne County	Uintah County
2016	465	5,597,018	4,331,187
2015	601	17,113,922	12,735,440
2014	867	19,468,405	13,472,226
2013	444	16,540,963	10,511,575
2012	348	14,415,391	8,367,921

Source: Utah Division of Oil, Gas and Mining (2016b).
Note: 1 Barrel is 42 U.S. gallons.

6.2. Objectives

6.2.1. Ensure federal recognition of the Uintah Basin Energy Zone in Uintah and Duchesne Counties.

6.2.2. Maintain federal lands available for oil and gas leasing and development with standard stipulations while considering the impacts to other public land resources and uses.

6.2.3. Avoid unnecessary federal rules associated with fracking and master leasing plans.

6.2.4. Withhold county support for mineral development provisions within federal land management plans until the appropriate land management plan and environmental impact statement clearly demonstrate the following:

- That the authorized planning agency has considered and evaluated the mineral and energy potential in all areas of the planning area as if the areas were open to mineral development under standard lease agreements.
- That a baseline is established from which the effect of management prescriptions can be analyzed and evaluated for its impact on the area's baseline mineral and energy potential.
- That the development provisions do not unduly restrict access to public lands for energy exploration and development.
- That the authorized planning agency has supported any closure of additional areas to mineral leasing and development or any increase of acres subject to NSO restrictions by adhering to
    - the relevant provisions of the Federal Land Policy and Management Act, 43 United States Code 1701 et seq.;
    - other controlling mineral development laws; and
    - the withdrawal and reporting procedures set forth in the Federal Land Policy and Management Act, 43 United States Code 1701 et seq.
- That the authorized planning agency has evaluated whether to repeal any moratorium that may exist on the issuance of additional mining patents and oil and gas leases.

6.2.5. Continue to support Utah Department of Transportation's (UDOT's) *2015–2040 Long-Range Transportation Plan* (UDOT 2015). With energy development comes the need for sufficient transportation facilities to support the industries. This plan supports the widening of U.S. Highway 40 and the development of passing lanes in Duchesne and Uintah Counties.

6.2.6. Support infrastructure that conveys energy resources such as pipeline development (e.g., pipeline from the Uintah Basin to existing railroads).

6.2.7. Encourage technology that would allow for the transport of crude oil.

6.2.8. Eliminate or reduce the amount of federal agency approval requirements for development to simplify and encourage investment in the area.

6.2.9. Promote renewable energy development.

6.2.10. Support the development of a local refinery.

6.2.11. For generating electricity for sale or for use on-site, support the development of wind and solar energy at large and small scales on public and private lands throughout the county. The county will establish policies, guidelines, and/or goals to support the development of wind and solar energy resources on public and private lands in the county.

6.2.12. Support the use of alternative fuel vehicles and fuel stations.

6.2.13. Support the development of technologies that will further the development of the vast oil shale and tar sands resources in the Uintah Basin.

6.2.14. Support the continued regulation of oil and gas production, including fracking, by the State of Utah, and oppose efforts by the federal government, such as federal fracking rules, that add unnecessary layers of bureaucracy and increased costs to producers.

6.3. Policies and Guidelines

6.3.1. Call upon the federal agencies who administer lands within the Uintah Basin Energy Zone to do the following:

- Fully cooperate and coordinate with the county to develop, amend, and implement land and resource management plans and to implement management decisions that are consistent with the purposes, goals, and policies described in this section to the maximum extent allowed under federal law.
- Expedite the processing, granting, and streamlining of mineral and energy leases and applications to drill, extract, and otherwise develop all existing energy and mineral resources located within the Uintah Basin Energy Zone, including oil, natural gas, oil shale, oil sands, gilsonite, phosphate, gold, uranium, copper, solar, and wind resources.
- Allow continued maintenance and increased development of roads, power lines, pipeline infrastructure, and other utilities necessary to achieve the goals, purposes, and policies described in this section.
- Refrain from any planning decisions and management actions that will undermine, restrict, or diminish the goals, purposes, and policies for the Uintah Basin Energy Zone.
- Refrain from implementing a policy that is contrary to the goals and purposes of the Uintah Basin Energy Zone.

6.3.2. The county calls upon U.S. Congress to establish an intergovernmental standing commission among federal, state, and local governments to guide and control planning decisions and management actions in the Uintah Basin Energy Zone in order to achieve and maintain the goals, purposes, and policies described in this resolution.

6.3.3. The decisions of the BLM Vernal ROD/RMP should remain in effect until they are amended so that projects are not held up for an undetermined amount of time while a decision is considered.

6.3.4. Support the State of Utah's *Conservation Plan for Greater Sage-grouse in Utah* (Utah Division of Wildlife Resources 2013) as opposed to the BLM and U.S. Forest Service sage-grouse land use plan amendments.

6.4. Literature Cited

Bureau of Land Management (BLM). 2008. *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan*. Available at: http://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.12251.File.dat/VernalFinalPlan.pdf. Accessed August 8, 2016.

Krannich, R.S. 2008. *Public Lands and Utah Communities: A Statewide Survey of Utah Residents*. Submitted to Public Lands Policy Coordination Office. Logan, Utah: Utah State University Institute for Social Science Research. Available at: http://publiclands.utah.gov/wp-content/uploads/2013/08/PublicLandsandCommunities.pdf. Accessed August 12, 2016.

Utah Department of Transportation (UDOT). *2015–2040 Long-Range Transportation Plan*. Available at: https://www.udot.utah.gov/main/uconowner.gf?n=23540107153558604. Accessed September 12, 2106.

Utah Division of Oil, Gas and Mining. 2016a. Applications for Permit to Drill (APD) - by County. Available at: http://oilgas.ogm.utah.gov/Statistics/APD_county.cfm. Accessed September 12, 2016.

———. 2016b. Utah Oil Production - by County (past 5 years). Available at: http://oilgas.ogm.utah.gov/Statistics/PROD_Oil_county.cfm. Accessed September 12, 2016.

Utah Division of Wildlife Resources. 2013. *Conservation Plan for Greater Sage-grouse in Utah*. February 14, 2015. Final. Available at: http://wildlife.utah.gov/uplandgame/sage-grouse/pdf/greater_sage_grouse_plan.pdf. Accessed August 12, 2016.

This page intentionally blank

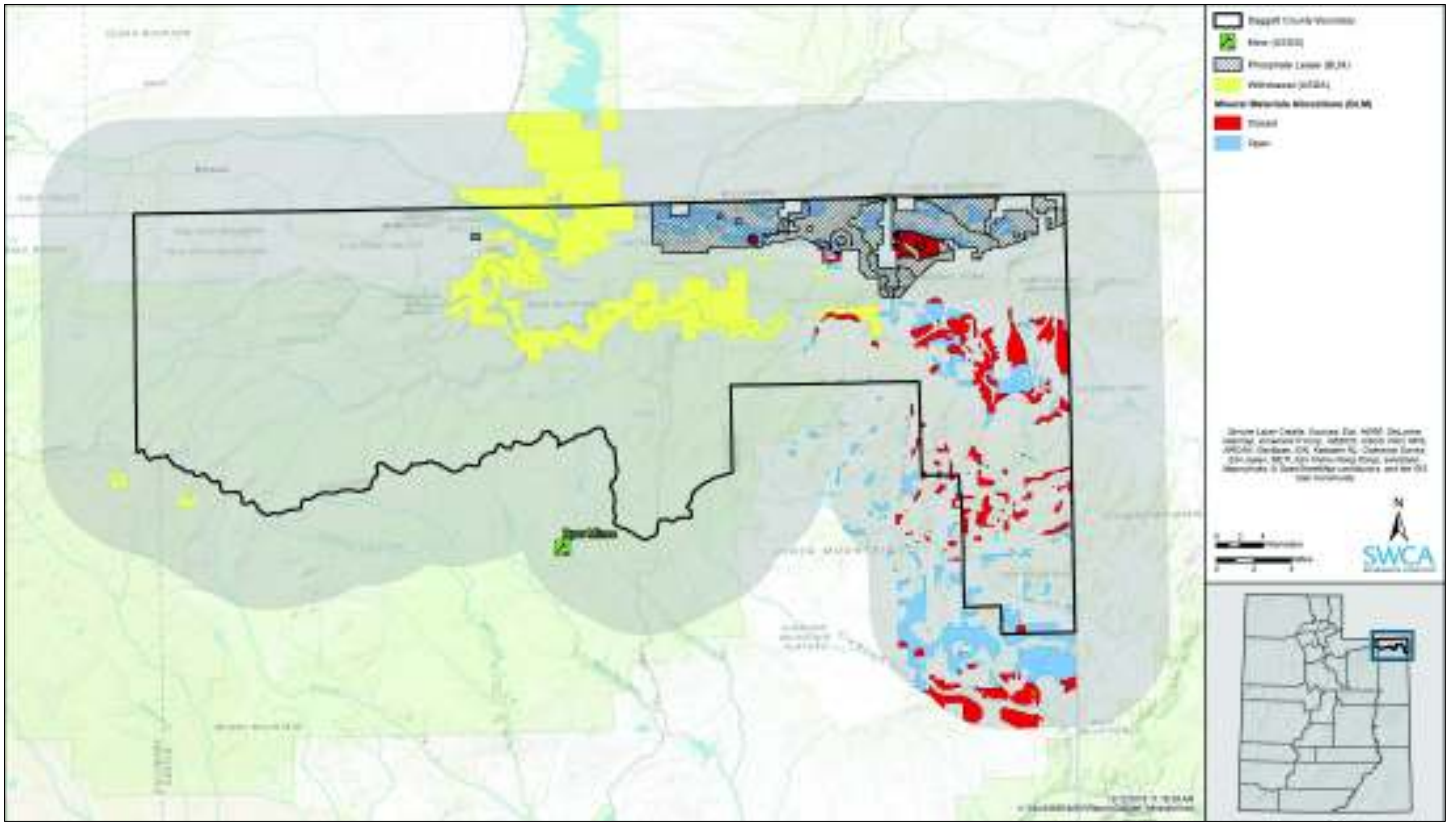

Figure ENG-MIR1. Mineral leasing allocations in Daggett County.

This page intentionally blank

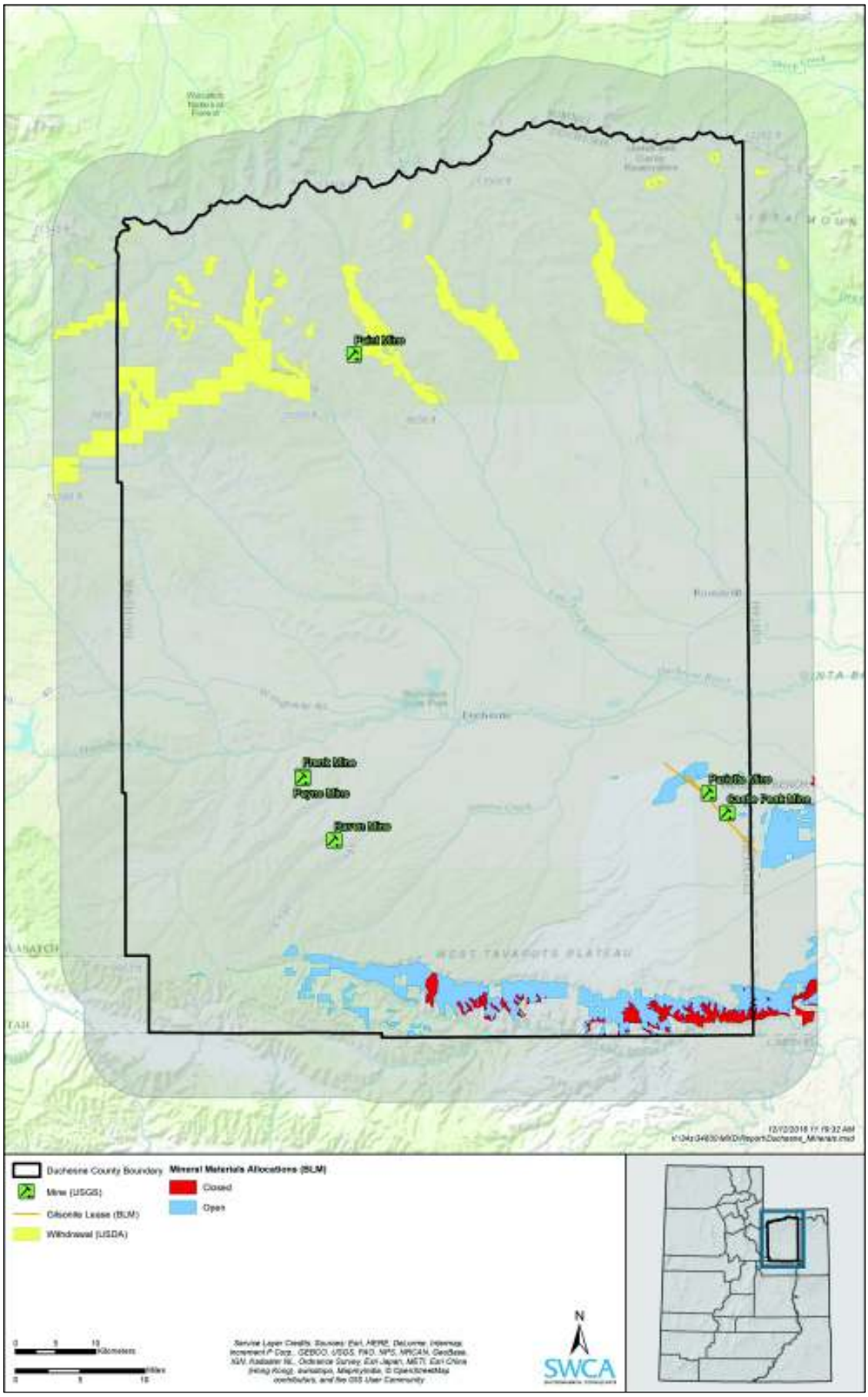

Figure ENG-MIR2. Mineral leasing allocations in Duchesne County.

This page intentionally blank

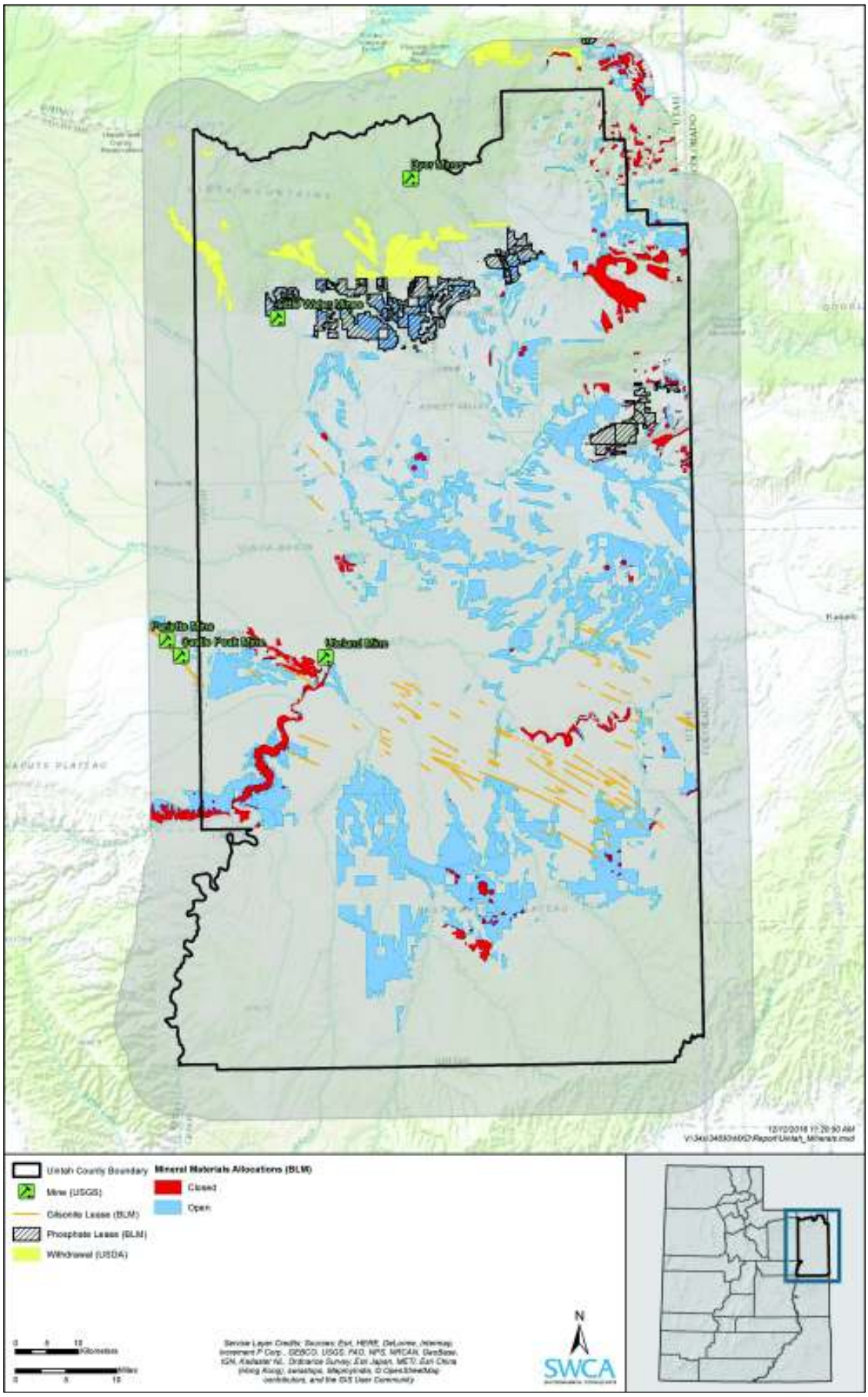

Figure ENG-MIR3. Mineral leasing allocations in Uintah County.

This page intentionally blank

7. FISHERIES

7.1. Findings

7.1.1. In Utah, the Utah Division of Wildlife Resources (DWR) manages the state's fisheries. Fish habitats (that is the state's streams, rivers, lakes, ponds, and reservoirs) are managed by the underlying landowner, which can include state and federal agencies.

7.1.2. In Utah, sport fish species are usually grouped into 1) cold water species, which typically include whitefish, trout, char, and salmon; and 2) warm water-cool water species, which include sportfish such as bass, pike, walleye, perch, catfish, bluegill, and crappie. Rare fish species and those subject to federal listing under the Endangered Species Act (ESA) are referenced more fully in the Threatened, Endangered, and Sensitive Species section. In general, sport fishing for these species is not permitted.

7.1.3. Angling preferences have evolved over time, and DWR has adapted its management of fisheries to these changing preferences. Within the last decade, DWR has begun focusing its sportfish management direction more on 1) the protection and enhancement of conservation sportfish species (e.g., cutthroat trout), 2) quality and trophy fishing opportunities, 3) recruiting and retaining new anglers through development of community fisheries, 4) biological control of undesirable species through the stocking of predators like "wipers" (white bass-striped bass hybrids) and tiger muskie, and 5) management of multi-story fisheries.

7.1.4. DWR stocks fish in many waters around the state. Utah's system of state fish hatcheries makes it possible to supply more people with a better quality fishing experience involving higher catch rates and/or larger fish specimens than would otherwise be possible given the capacity of our waters to produce fish and the population's demand for fishing opportunities.

7.1.5. Healthy fisheries require good water quality and high-quality fish habitat. The Utah Department of Environmental Quality's Division of Water Resources monitors water *quality* in Utah. Fish *habitat* is managed by the landowner or the public land management agency.

7.1.6. Managing for self-sustaining fisheries in Utah streams should be a priority. Protecting native aquatic species and avoiding the spread of undesirable non-native species and aquatic diseases (e.g., whirling disease) are principal concerns for fisheries managers. Undesirable non-native species and aquatic diseases are easily and inadvertently spread by the recreating public.

7.1.7. DWR develops management plans for certain high-profile waters. These plans are developed in cooperation with the public through internet-based surveys as well as committee-based approaches involving interested members of the public. When completed, these plans are presented to regional advisory councils for additional public review and input.

7.1.8. Recreational fishing provides a significant economic benefit to the Utah economy. Economic impacts or contributions have been estimated based on anglers' expenditures associated with the fishing trips. Estimates by the Department of Applied Economics at Utah State University (USU) indicate that in 2011 a typical angler spent $90 per fishing trip to identified Blue Ribbon waters in Utah (Kim and Jakus 2013). This resulted in $184 million in direct expenditures made by anglers for Utah goods and services, which generated an additional $143 million in economic output, resulting in a total economic output of nearly $327 million (Kim and Jakus 2013). Approximately 3,976 jobs were associated with this expenditure related to Blue Ribbon waters. Tax revenue generated by this increased level of output, labor income, and value added was

estimated to be $35 million for state and local government (Kim and Jakus 2013). The variety of angling experiences available to Utahans is important, and it helps to sustain recreational activity in a number of state parks associated with reservoirs.

7.1.9. Fishing also provides economic benefits and employment opportunities for local residents through the operation of outfitter and guide businesses and destination hunting and fishing resorts.

7.1.10. Blue Ribbon fisheries are waters that provide highly satisfying fishing and outdoor experiences for diverse groups of anglers and enthusiasts. A *Blue Ribbon* water is a water feature that has been reviewed by DWR biologists and the Blue Ribbon Fisheries Advisory Council and is found to have fishing quality, a quality outdoor experience, quality fish habitat, and economic benefits. Criteria such as water quality and quantity, water accessibility, natural reproduction capacity, angling pressure, and specific species are factored into the designation. The council allocates funds generated by the sale of fishing licenses on an annual basis to projects that benefit Blue Ribbon fisheries.

7.1.11. Blue Ribbon fisheries in Utah draw visitors from across the United States and around the world. In 2010, over 120,000 non-resident fishing licenses were sold, which constituted 23% of all fishing licenses sold (DWR 2013).

7.1.12. In the three-county area, DWR lists the following Blue Ribbon fishing opportunities (Table FIS1):

Table FIS1. Blue Ribbon Fishing Opportunities in Daggett, Duchesne, and Uintah Counties

Daggett County	Duchesne County	Uintah County
Flaming Gorge Reservoir, Green River	West Fork of the Duchesne River, Duchesne River (Hanna to North Fork), Strawberry River (Red Creek to Soldier Creek Dam), Lake Canyon Lake, Strawberry River (Duchesne River to Starvation Reservoir	Pelican Lake, Brough Reservoir, Calder Reservoir, Steinaker Reservoir

7.1.13. DWR has developed and stocks a series of community fisheries to provide a fun, easy way to spend quality time with family and friends outdoors. These fisheries offer a setting for parents and kids to talk, enhance family interaction, and keep busy Utahans in touch with the natural world. Fishing can provide families with opportunities to get away from their day-to-day tasks and share time together. Unfortunately, there are no community fisheries in Daggett, Duchesne, or Uintah County.

7.1.14. A December 2008 report published by Utah State University entitled *Public Lands and Utah Communities: A Statewide Survey of Utah Residents* finds that 92.2% of residents surveyed in the three-county region felt that opportunities to fish in area lakes, streams, and rivers are moderately important (23.6%) or very important (68.6%) to the overall quality of life in the community (Krannich 2008). Of these same respondents, only 7.2% had moderate (4.1%) or strong (3.1%) opposition to public land managers increasing the extent to which protection of important fish and wildlife habitat occurs on Utah's public lands (Krannich 2008).

7.1.15. Some fish from specific areas in Utah may contain chemicals that could pose human health risks. When contaminant levels are unsafe, Utah public health officials issue fish consumption advisories. These advisories outline recommendations for limiting intake of specific fish at specific locations. Fish advisories have been issued in Utah because of elevated levels of arsenic, mercury, selenium, and polychlorinated biphenyls. Some of these contaminants occur naturally, whereas others are from anthropogenic sources.

7.2. Objectives

7.2.1. Maintain, enhance, and expand sport fishing opportunities.

7.2.2. Protect and preserve water quality and fish habitat while balancing the needs of other water users, including those holding water rights.

7.2.3. Enhance public access to fishing opportunities.

7.2.4. Prevent spread of invasive species or diseases that negatively affect fish populations.

7.2.5. Support economic development associated with fishing, including private businesses and facilities.

7.3. Policies and Guidelines

7.3.1. Support and encourage public land management agencies to provide and maintain sufficient opportunities for fishing on public lands.

7.3.2. Support DWR's efforts to work with landowners to voluntarily acquire public fishing access through the Walk-in-Access program.

7.3.3. Support DWR's efforts to educate the recreating public about preventing the spread of aquatic invasive species and diseases.

7.3.4. Support efforts to protect water quality and the quality of the associated fisheries.

7.3.5. Support efforts to improve fish habitats while balancing the rights of adjacent landowners and holders of water rights.

7.3.6. Coordinate and communicate with DWR to ensure that public fishing opportunities are maintained and enhanced, including appropriate stocking levels.

7.3.7. Support tourism and associated businesses and commercial enterprises that are supported by local fisheries such as destination resorts and guide services.

7.3.8. Promote land uses that are compatible with maintaining healthy fisheries on lands adjacent to fish bearing streams, lakes, and reservoirs.

7.3.9. Continue coordination between the county and federal land management agencies on treatments, such as rotenone.

7.4. Literature Cited

Kim, M., and P.M. Jakus. 2013. *The Economic Contribution and Benefits of Utah's Blue Ribbon Fisheries. Center for Society, Economy, and the Environment*. CSEE Research Report #4 February 27, 2013. Available at: http://csee.usu.edu/files/uploads/CSEE_RR_4_Kim_and_Jakus_Feb_2013.pdf. Accessed September 15, 2016.

Krannich, R.S. 2008. *Public Lands and Utah Communities: A Statewide Survey of Utah Residents*. Submitted to Public Lands Policy Coordination Office. Logan, Utah: Utah State University Institute for Social Science Research. Available at: http://publiclands.utah.gov/wp-content/uploads/2013/08/PublicLandsandCommunities.pdf. Accessed August 12, 2016.

Utah Division of Wildlife Resources (DWR). 2013. Utah's Blue Ribbon Fisheries presentation. Utah Blue Ribbon Fisheries Advisory Council. Accessed September 8, 2016 at: http://wildlife.utah.gov/blueribbon/pdf/overview.pdf.

8. FLOODPLAINS AND RIVER TERRACES

8.1. Findings

8.1.1. Federal Emergency Management Agency (FEMA) flood zones exist for Uintah County but not for Daggett or Duchesne Counties (Table FLO1). Uintah and Duchesne Counties have predicated worst case scenario inundation flood zones as described below in Table FLO1 and in Figures FLO1–3 at the end of this section. There are no flood zone data associated with Starvation Reservoir, Strawberry Reservoir, or Strawberry River. No flood zone mapping is available for Daggett County.

8.1.2. Flood events in the Uintah Basin result from snowmelt associated with above-average snow packs, rain-on-snow events, and summer storm precipitation events.

8.1.3. Flood events are part of a stream's natural hydrograph, and development in active floodplains often results in property damage.

8.1.4. Annual flooding of the Green River for threatened and endangered species habitat enhancement can conflict with private property.

8.1.5. Dams serve a variety of purposes including water storage and flood control. Table FLO1 below and Figures FLO4–6 at the end of this section illustrate the number of dams in Daggett, Duchesne, and Uintah Counties as recorded by Automated Geographic Reference Center (AGRC) and Utah Division of Water Rights (DWRi). AGRC data refer to those dams labeled or symbolized on U.S. Geological Survey quadrangles. DWRi data refer to those dam locations in the Utah Dam Safety Regulatory Database administered by the DWRi.

Table FLO1. Number of Dams per County and Acres of Mapped Flood Zones in Daggett, Duchesne, and Uintah Counties

	Daggett County	Duchesne County	Uintah County
Dams - AGRC (number of)*	8	33	27
Dams - DWRi (number of)†	66	247	255
Flood zones (acres)‡			
A (100-year floodplain, no base flood elevation)	N/A	N/A	138,133
AE (100-year floodplain, with base flood elevation)	N/A	N/A	7
D (undetermined but possible flood hazards)	N/A	N/A	321,519
X (outside the 100-year and 500-year floodplains)	N/A	N/A	2,422,661
Worst case inundation	N/A	19,384	120,790

* Data from Automated Geographic Reference Center (2015)

† Data from Utah Division of Water Rights (2015).

‡ Data from Automated Geographic Reference Center and Federal Emergency Management Agency (2014).

8.2. Objectives

8.2.1. Restore floodplain connectivity for threatened and endangered species that rely on these locations in areas outside human habitation while preserving the health and safety of residents.

8.2.2. Restore floodplain connectivity for improved flood control in suitable areas.

8.2.3. Support Utah Division of Water Rights Dam Safety Program that assesses existing dam condition to prevent dam failure or uncontrolled release of water.

8.3. Policies

8.3.1. Restrict construction of habitable structures and non-essential infrastructure in floodplains.

8.3.2. Manage flows from regulated streams and rivers when possible to periodically reestablish floodplain connectivity.

8.3.3. Develop floodplain ordinances and overlays as appropriate in an effort to coordinate with FEMA on floodplain mapping.

8.4. Literature Cited

Automated Geographic Reference Center. 2015. Dams GNIS geographic information systems data. Available at: http://gis.utah.gov/. Accessed February 10, 2016.

Automated Geographic Reference Center and Federal Emergency Management Agency. 2014. Flood Zones. Available at: http://gis.utah.gov/data/water-data-services/flood-areas/. Accessed January 12, 2016.

Utah Division of Water Rights. 2015. Water Rights Dam geographic information systems data. Available at: http://www.waterrights.utah.gov/gisinfo/wrcover.asp. Accessed February 10, 2016.

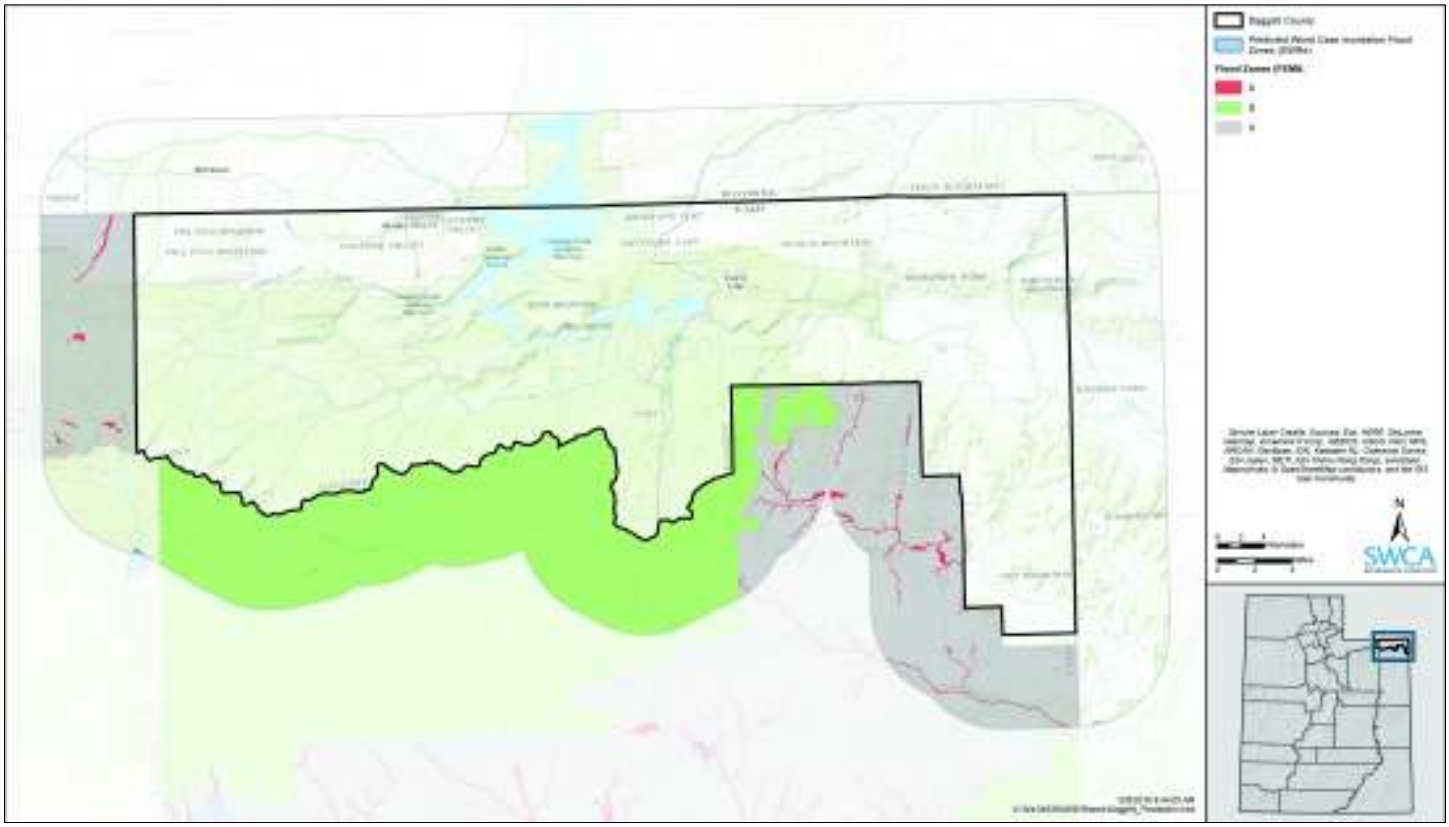

Figure FLO1. Flood zones in Daggett County.

This page intentionally blank

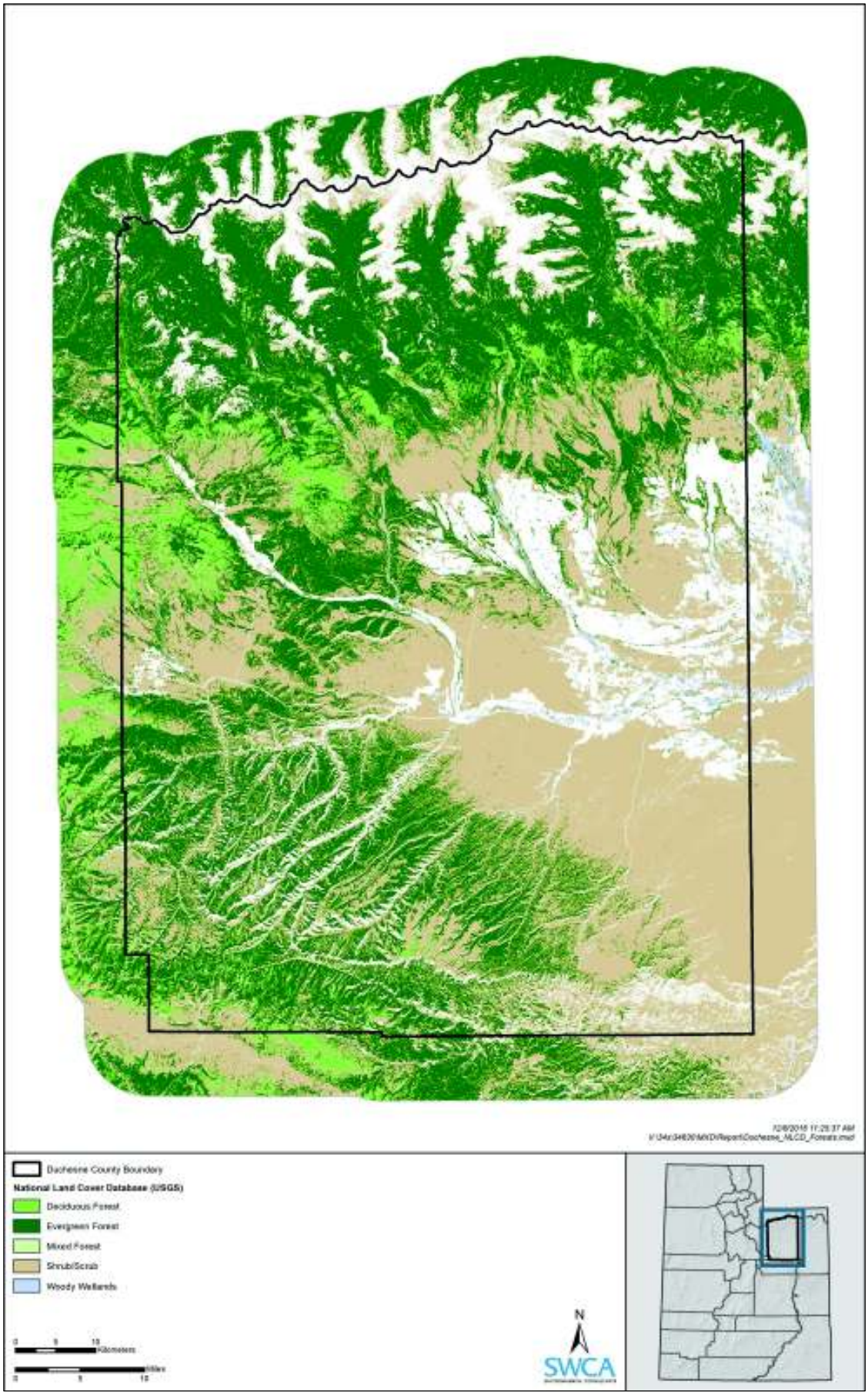

Figure FLO2. Flood zones in Duchesne County.

This page intentionally blank

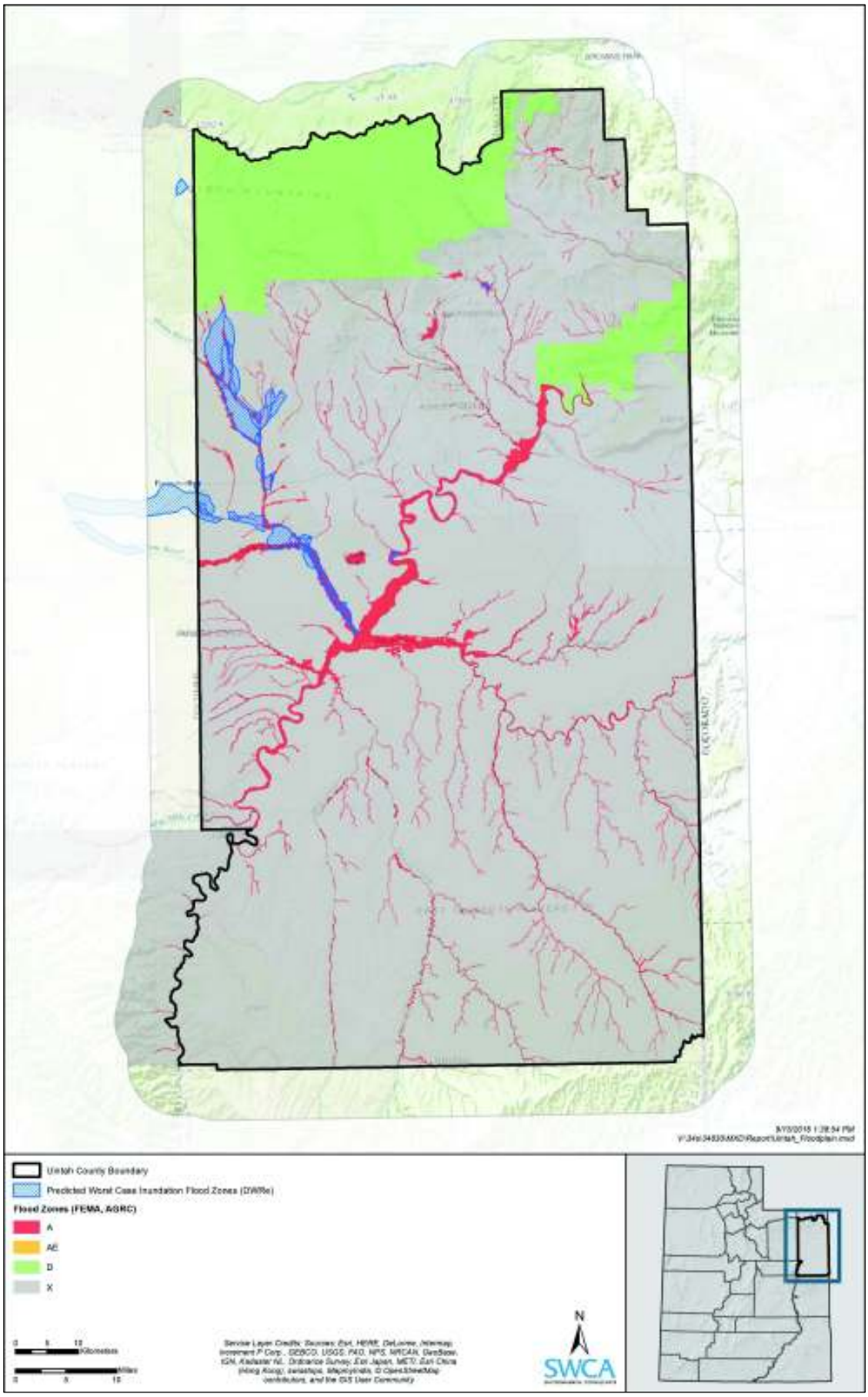

Figure FLO3. Flood zones in Uintah County.

This page intentionally blank

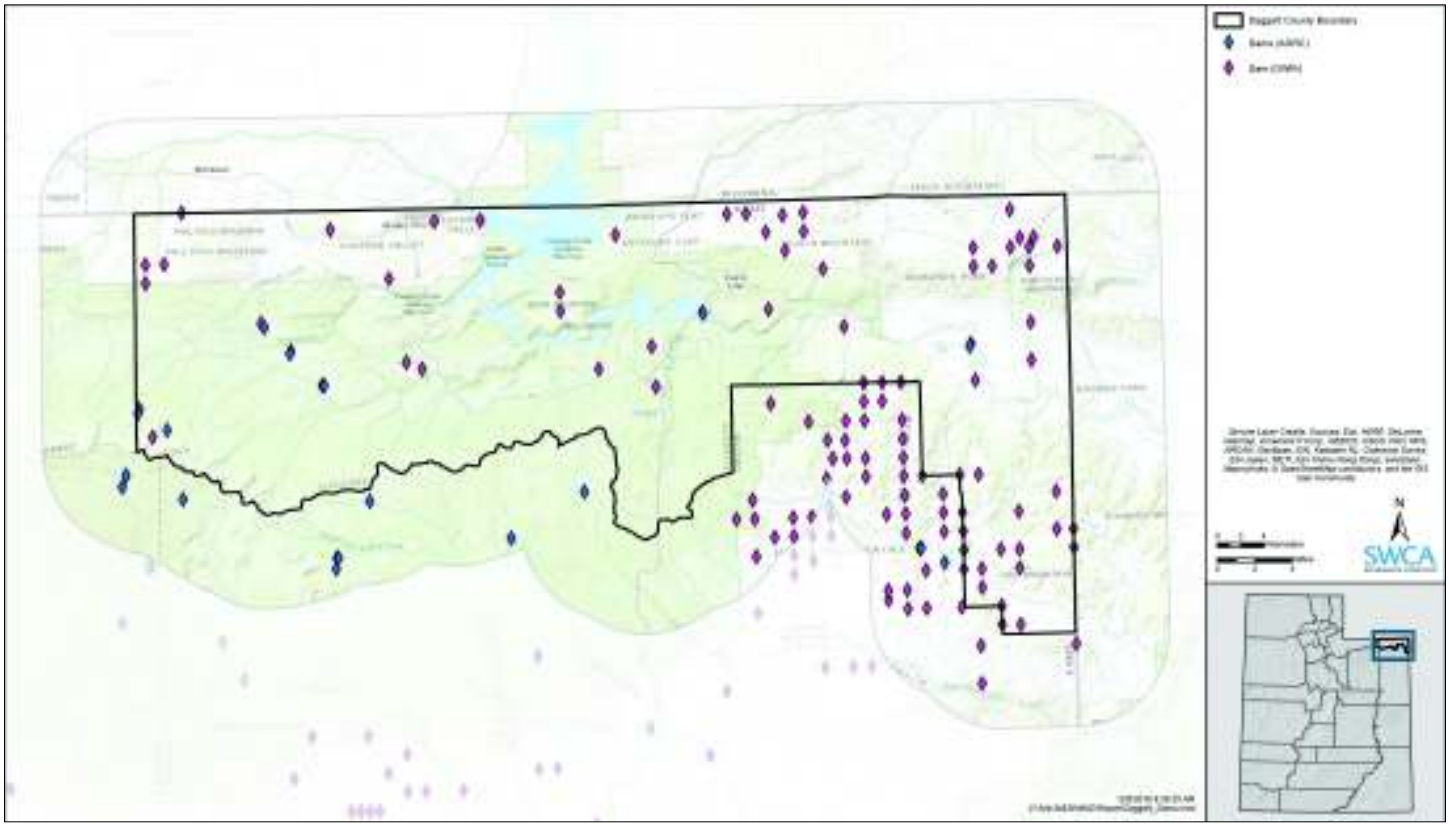

Figure FLO4. Dams in Daggett County.

This page intentionally blank

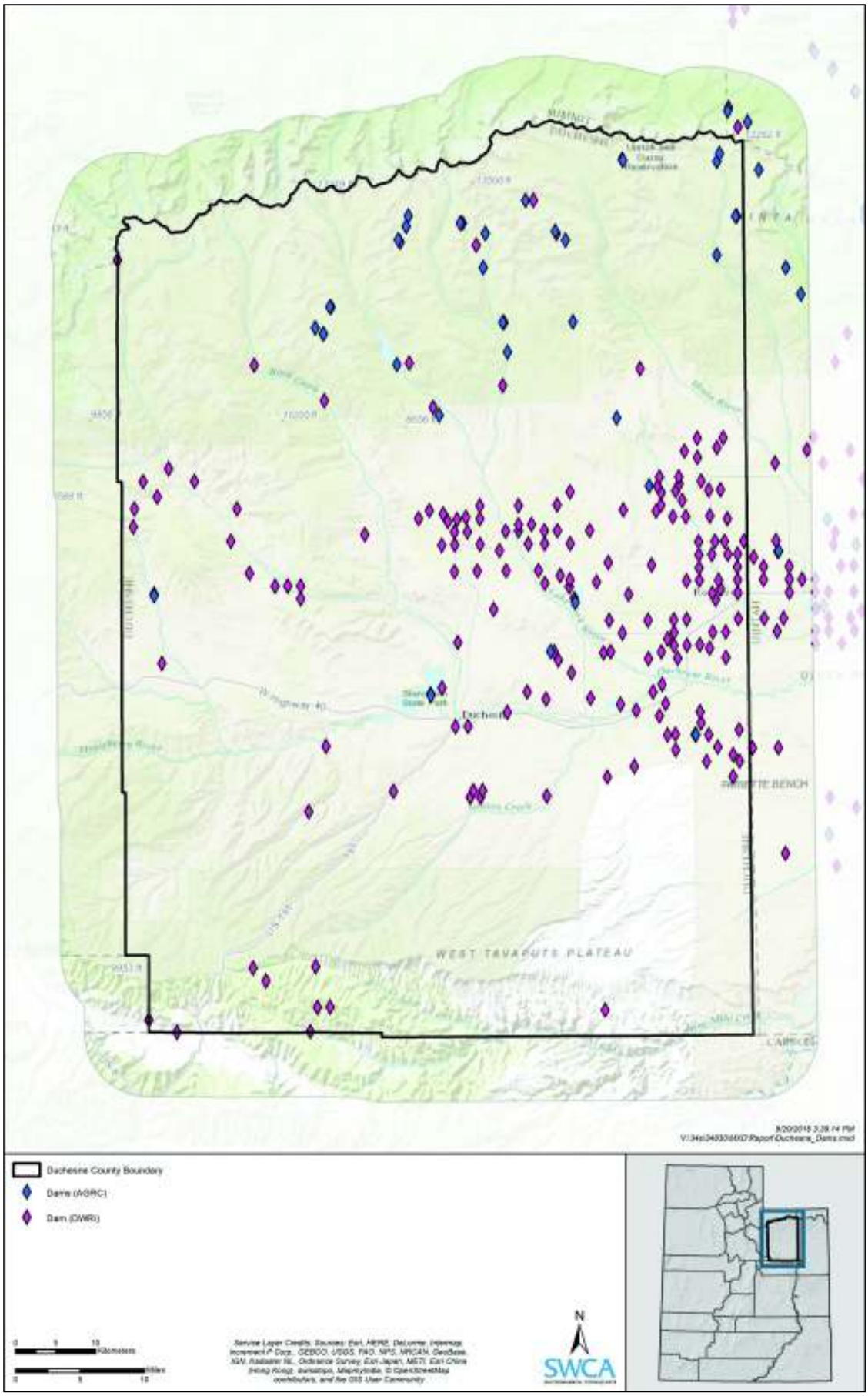

Figure FLO5. Dams in Duchesne County.

This page intentionally blank

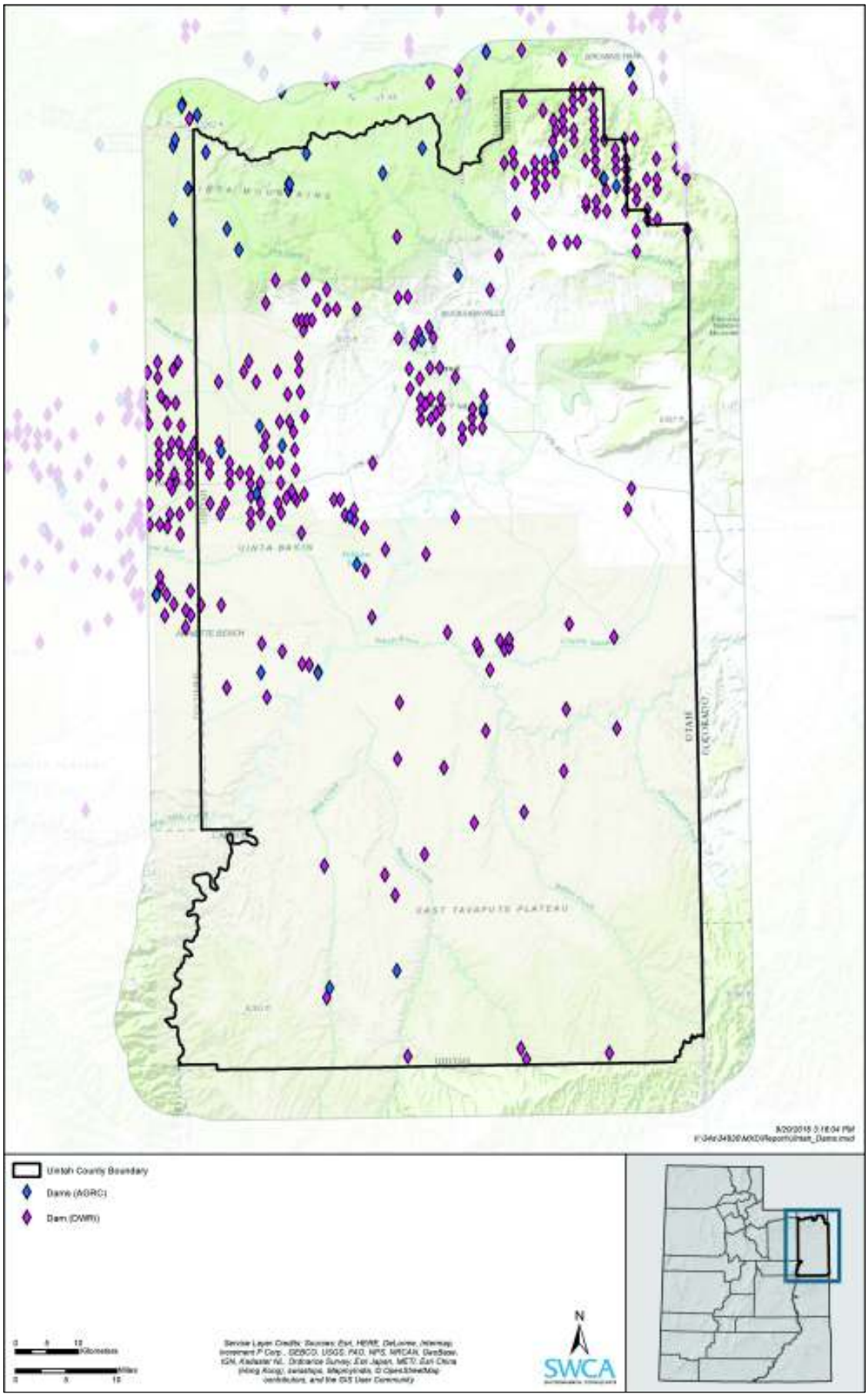

Figure FLO6. Dams in Uintah County.

This page intentionally blank

9. FIRE AND FOREST MANAGEMENT

9.1. Findings

9.1.1. Forest lands make up 29% of the Utah landscape and provide scenic, recreation, wildlife, and other forest values underscoring the importance of forest health (Utah Division of Forestry, Fire and State Lands [FFSL] and U.S. Forest Service [USFS] 2014).

9.1.2. National Land Cover Database (NLCD) geospatial data use a 16-class land cover classification scheme at a spatial resolution of 30 meters (Homer et al. 2015). Acres of forested NLCD land cover types predicted to occur in Daggett, Duchesne, and Uintah Counties are listed in Table FIR-FOR1 below and shown on Figure FIR-FOR1–3 at the end of this section.

Table FIR-FOR1. Acres of Forested National Land Cover Database Land Cover Types in Daggett, Duchesne, and Uintah Counties

Forest Cover Type	Daggett County	Duchesne County	Uintah County
Deciduous Forest	3,788	77,635	39,638
Evergreen Forest	219,748	764,079	676,571
Mixed Forest	1,184	13,230	5,176
Shrub/Scrub	189,385	826,194	1,806,941
Woody Wetlands	2,563	14,803	54,434
Total	**416,668**	**1,695,940**	**2,582,760**

Source: U.S. Geological Survey (2010).

9.1.3. In Utah, approximately 15 million acres of forest are administered by federal, state, and local agencies with another 3 million acres held privately (FFSL and USFS 2014).

9.1.4. The 2014 fire season included 914 fires totaling 26,148 burned acres. Most individual fires were less than 100 acres, the largest of which was 5,000 acres (FFSL and USFS 2014). Acres of hazard fuel and burn areas are illustrated below in Table FIR-FOR2 and in Figures FIR-FOR4–6 at the end of this section.

Table FIR-FOR2. Acres of Hazardous Fuel Treatments and Burn Areas in Daggett, Duchesne, and Uintah Counties from 2004 through 2016

	Daggett County	Duchesne County	Uintah County
Hazard fuel treatments*	37,739	61,653	17,297
Burn areas†	35,731	61,845	97,567

* Data from U.S. Department of Agriculture (2016a)

† Data from U.S. Department of Agriculture (2016b).

9.1.5. Average net annual growth of trees in Utah is -4,556 thousand cubic feet per year indicating more mortality than growth (FFSL and USFS 2014).

9.1.6. Spruce (*Picea* sp.) and fir (*Abies* sp.) mortality continues to increase from beetles, although mortality in pines (*Pinus* sp.) appears to have decreased from 2013 (FFSL and USFS 2014). Western Bark Beetle Strategy activities in Utah, including Daggett, Duchesne, and Uintah

Counties center on three objectives: 1) increasing safety to ensure that people and community infrastructure are protected from the hazards of falling bark beetle–killed trees and elevated wildfire potential, 2) facilitating recovery to re-establish forests damaged by bark beetles, and 3) cultivating resiliency to prevent or mitigate future bark beetle impacts (U.S. Department of Agriculture 2016c). Acres of Western Bark Beetle Strategy activities, timber harvest, and brush disposal activities are described below in Table FIR-FOR3 and in Figures FIR-FOR7–9 at the end of this section.

Table FIR-FOR3. Acres of Western Bark Beetle Strategy Activities, Timber Harvest, and Brush Disposal Activities in Daggett, Duchesne, and Uintah Counties from 2004 through 2016

	Daggett County	Duchesne County	Uintah County
Western Bark Beetle Strategy (WBBS) activities*	10,884	14,930	4,560
Timber harvest†	36,443	15,113	24,924
Brush disposal‡			
Burning of piled material	–	40	–
Certification of natural regeneration without site prep	63	–	–
Other stand tending	328	290	580
Piling of fuels, hand or machine	3,629	962	10061
Rearrangement of fuels	215	489	1330
Stocking survey	80	–	33
Wildlife habitat regeneration cut	1,467	–	–
Total	**5,781**	**1,781**	**12,002**

* Data from U.S. Department of Agriculture (2016c).

† Data from U.S. Department of Agriculture (2016d).

‡ Data from U.S. Department of Agriculture (2016e).

9.1.7. A decline in aspen (*Populus tremuloides*) has been mapped since 2003 and is caused largely by drought, canker diseases, and insect borers (FFSL and USFS 2014).

9.1.8. Forests are an important natural resource and contribute to the quality of life by providing employment, forest products, open space, wildlife habitat, forage for livestock, recreation, and numerous other social and economic benefits. The timber resources and woodlands of Daggett, Duchesne, and Uintah Counties are considerable and are mostly located on public lands.

9.1.9. Table FIR-FOR4, taken from the USFS-published report *Forest Resource Statistics for Northern Utah, 1993* (Brown and O'Brien 1993) illustrates acres of timberland by county. *Timberland* is defined as forested areas "capable of producing commercial wood products" (Brown and O'Brien 1993) and differs from other estimates of forest (vegetation community) or USFS-managed forest lands.

Table FIR-FOR4. Acres of Timberland in Daggett, Duchesne, and Uintah Counties

Land Management	Daggett County	Duchesne County	Uintah County
National Forest	150,220	243,921	201,637
Other public	9,873	19,752	66,031
Non-industrial private	2,070	92,352	26,685
Total	**162,163**	**356,025**	**294,354**

Source: Brown and O'Brien (1993).

9.1.10. The Ashley National Forest, which covers portions of Daggett, Duchesne, and Uintah Counties, contributes the following percentages of flow to the following surface waters according to the USFS national forest contributions to streamflow project (Table FIR-FOR5; USFS 2016), and these percentages reflect current water yields.

Table FIR-FOR5. Percentages of Streamflow Contributions from the Ashley National Forest

Location	Percentage
Green River at the confluence with the Colorado River	13%
Green River at the confluence with the Yampa River	4%
Green River at the confluence with the Duchesne River	4%
Ashley Creek at the confluence with the Green River	91%
Green River at the confluence with the Price River	14%
Strawberry River at the confluence with the Duchesne River	24%
Duchesne River at the confluence with the Green River	67%

Source: USFS (2016).

9.1.11. In recent years, timber harvesting has decreased on the Ashley National Forest. The risk of timber loss from wildfire, insects, and disease and from reduced water yields from watersheds is increased as a result of these management policies. Economic opportunities are also lost. Research on water yield and fire and forest management practices has been conducted in Utah.

9.1.12. In 2008, the Ashley National Forest published a review of vegetation management and water yield. This document considers precipitation to be the primary parameter affecting water yield. Therefore, maximizing or appreciably changing the amount and timing of water is unrealistic. However, optimizing water yield can result in maintenance of healthy vegetation in aquatic ecosystems, which in turn supplies clean water for both consumptive and non-consumptive uses (Muir 2008).

9.1.13. Significant issues impacting the timber resource in Daggett, Duchesne, and Uintah Counties include declining forest health, declining productive capacity of forest ecosystems, forest habitat fragmentation, and socioeconomic concerns (e.g., decline of the commercial timber industry). Because of the lack of active vegetation (forest) management, forests have become more susceptible to intense wildfire, insects, and diseases. Sustaining a full range of services and benefits that people desire from forests will require a diverse mosaic of forest conditions and a full suite of active management strategies across the landscape.

9.1.14. Proper forest management techniques, such as selective harvest and thinning projects, create healthier forests that are more resistant to insect damage and less likely to contain fuel loads that can result in catastrophic wildfire. A study of ponderosa pine (*Pinus ponderosa*) forests by Arizona State University with funding from The Nature Conservancy indicates that harvesting small diameter wood (8 to 12 inches) is critical to restoring the structure, pattern, and composition of fire-adapted ecosystems, and also provides for fuels reduction, forest health, and wildlife and plant diversity. Costs typically born by state and federal agencies can be reduced through development of a wood products supply chain, which includes lumber, pellets, and chips (Arizona State University 2013).

9.1.15. Air quality conditions deteriorate unnecessarily when inactive forest management results in wildfire.

9.1.16. According to the interagency report *Utah Forest Health Report A Baseline Assessment 1999 - 2001* (Keyes et al. 2003), deteriorated air quality (e.g., increase in ozone) can damage vegetation and predispose plants to other disturbance. Some effects can include a decrease in lichen richness, tree crown thinning, and discolored foliage.

9.1.17. Of the 21 sawmills listed by the Utah State University Forestry Extension Program, three are in Duchesne County: Defa Sawmill, Hanna, Utah; John Larson Sawmill, Neola, Utah; and Knotty Wood Products, Duchesne, Utah. There are no identified sawmills in Daggett or Uintah Counties.

9.1.18. A 1998 Government Accounting Office report titled *Forest Service Barriers to Generating Revenue or Reducing Costs* portrays the importance of 'economic sustainability' on USFS lands and demonstrates the critical importance of multiple uses for the lands (Government Accounting Office 1998). The report provides good examples for a more 'capitalistic' approach to public land management based on private land models.

9.1.19. Table FIR-FOR6 illustrates management actions on the Ashley Nation Forest in 2010 and 2014 and are taken from the *Ashley National Forest 2010 Year and 2014 In Review* Newsletters.

Table FIR-FOR6. 2010 and 2014 Ashely National Forest Summary

2010 Management Action	**Details**
Timber sales	1,315,800 cubic feet of timber sold through permits, timber sales, and stewardship contracts.
Fire treatments	12 square miles or 8,100 acres
Fire	14 fires burning 166 acres of which 1.2 acres were human caused.
Active or semi-active wells	37 wells
Grazing	18 horses, 12,857 cattle, and 13,795 sheep
2014 Management Action	Details
Timber and Vegetation	Forest vegetation monitoring program continued to transition our repeat photography monitoring program to virtual reality (VR) photography. Posted on a dedicated webpage: http:anfphotomonitoring.info.
Fish and Wildlife	Intensive electrofishing effort to remove non-native brook trout and aide in the restoration of Colorado River cutthroat trout
Air Quality	Quarterly visibility reports for the High Uintas Wilderness are available at http://www.fs.usda.gov/ashley

Table FIR-FOR6. 2010 and 2014 Ashely National Forest Summary

2010 Management Action	Details
Water Quality	Ongoing data collection process for Walkup, Uinta Noname, Upper Coffin and Fish lakes to create a chemical analysis to determine trends in lake chemistry
Range and Recreation	145 out of 232 pastures were monitored for compliance with Allotment Management Plans. Of the pastures monitored 82 % met utilization standards.

Source: USFS (2010 and 2014).

9.2. Objectives

9.2.1. Use active and adaptive forest management to improve forest health and support multiple use and sustained yield with emphasis on employment, forest product production, open space, wildlife habitat, forage, recreation, and other social and economic benefits.

9.2.2. Manage forest resources to reduce the risk of catastrophic fires, which cause unacceptable harm to resources and assets valued by society, including ecosystem and community health and resilience. In most cases, fires reach catastrophic levels largely as the result of human intervention, or lack thereof, on the land. Catastrophic wildfires are more intense than natural fires and kill practically all vegetation within the fire perimeter. They can also sterilize soils, resulting in difficult regeneration and depositions of ash and sediments in waterways. Catastrophic wildfires also have a higher probability of threatening private property and public infrastructure, and they can adversely affect public health and safety.

9.2.3. Encourage and support the expansion of the local forest product market at sustainable harvest levels.

9.2.4. Develop new markets for timber and forestry products that are available for harvest (e.g., use timber products for bracing in nearby coal mines or biofuels industry).

9.2.5. When sustainable and based on scientific knowledge and local data, increase grazing to historic levels (allotments, AUMs, or seasonal use) to reduce fuel loads, support local economies, and support rural lifestyles for county residents.

9.2.6. Manage forest watersheds for optimal yield without compromising other resources.

9.2.7. Seek opportunities to use and harvest forest products that have been affected by wildfire or pests (e.g., beetle).

9.2.8. Reduce time required for National Environmental Policy Act processes associated with timber harvests so that economic benefits can be maximized.

9.3. Policies

9.3.1. Participate in the planning for and revision of USFS forest management plans and Bureau of Land Management resource management plans affecting forest management.

9.3.2. Encourage USFS to open appropriate areas for commercial timber harvest.

9.3.3. Encourage USFS to find commercial uses for timber and forest products affected by wildfire or pests.

9.3.4. When revising or updating a forest plan, USFS should engage with the county in developing alternative management strategies and management policies.

9.3.5. Collect and provide data to USFS regarding appropriate forest management methodologies. Data may include published scientific literature, local case studies, inventories, or other pertinent information.

9.3.6. USFS forest plans should address commercial tree species selection, stocking levels, age class distribution, integrated pest management, and fuel loading. Additionally, areas for timber and non-timber product harvest and wildlife habitats shall be identified for the forest. Long- and short-term productive capacities and targets shall be established.

9.3.7. Removal of forest products shall be viewed as achievable and sustainable provided that appropriate science and technology are used.

9.3.8. Management programs must provide opportunities for citizens to harvest forest products for personal needs, economic value, and forest health. Sound economic approaches, considering both long- and short-term goals, shall be used when considering the harvesting of both wood and non-wood products, and appropriate social values shall be considered.

9.3.9. Forest management plans shall be written, and effective management techniques should be adopted to promote a stable forest economy and enhanced forest health, in accordance with the National Healthy Forest Initiative.

9.3.10. Grazing access on national forest land should be tied to historic levels and healthy forest conditions.

9.4. Literature Cited

Arizona State University. 2013. *Modeling the Economic Viability of Restorative Thinning*. Walton Sustainability Solutions Initiative. Sustainability Solutions Services. December 2013. Available at: https://sustainability.asu.edu/wp-content/uploads/sites/15/2014/09/TNC_EconomicViabilityRestorativeThinning.pdf. Accessed on September 8, 2016.

Brown, M.J., and R. O'Brien. 1993. *Forest Resource Statistics for Northern Utah, 1993*. Ogden, Utah: U.S. Forest Service, Intermountain Research Station.

Government Accounting Office. 1998. *Forest Service. Barrier to Generating Revenue or Reducing Costs*. GAO/RCED-98-58. Available at:

Homer, C.G., J.A. Dewitz, L. Yang, S. Jin, P. Danielson, G. Xian, J. Coulston, N.D. Herold, J.D. Wickham, and K. Megown. 2015. Completion of the 2011 National Land Cover Database for the Conterminous United States-Representing a Decade of Land Cover Change Information. *Photogrammetric Engineering and Remote Sensing* 81(5):345–354.

Keyes, C., P. Rogers, L. LaMadeleine, V. Applegate, and D. Atkins. 2003. *Utah Forest Health Report A Baseline Assessment 1999-2001*. Salt Lake City, Utah: Utah Division of Forest, Fire & State Lands, and Missoula, Montana and Ogden, Utah: U.S. Forest Service.

Muir, M. 2008. *A Review of Vegetation Management and Water Yield with Local Application to the Ashley National Forest*. U.S. Forest Service White Paper.

U.S. Department of Agriculture. 2016a. Hazard fuel treatments geographic information systems data. Available at: http://data.fs.usda.gov/geodata/edw/datasets.php. Accessed April 14, 2016.

———. 2016b. Burn area boundaries geographic information systems data. Available at: http://data.fs.usda.gov/geodata/edw/datasets.php. Accessed April 14, 2016.

———. 2016c. Western Bark Beetle Strategy geographic information systems data. Available at: http://data.fs.usda.gov/geodata/edw/datasets.php. Accessed April 14, 2106.

———. 2016d. Timber harvest geographic information systems data. Available at: http://data.fs.usda.gov/geodata/edw/datasets.php. Accessed April 14, 2016.

———. 2016d. Brush disposal activity geographic information systems data. Available at: http://data.fs.usda.gov/geodata/edw/datasets.php. Accessed April 14, 2016.

U.S. Forest Service (USFS). 2010. Ashley National Forest in 2010. In *Ashley National Forest 2010 Year In Review*. http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsm9_002060.pdf. Accessed September 16, 2016

———. 2016. National forest contributions to streamflow. Available at: https://wwwapps.fs.usda.gov/rmrs/projects/national-forest-contributions-streamflow. Accessed September 8, 2016.

U.S. Geological Survey. 2011. National Land Cover Database geographic information systems data. Available at: http://www.mrlc.gov/index.php. Accessed January 12, 2016.

Utah Department of Agriculture and Food (UDAF). 2016. History of Grazing in Utah. Available at: http://www.ag.utah.gov/conservation-environmental/grazing-improvement-program/history-of-grazing-in-utah.html. Accessed September 9, 2016.

Utah Division of Forestry, Fire & State Lands (FFSL) and U.S. Forest Service (USFS). 2014. *Utah Forest Health Highlights 2014*. Available at: http://www.ffsl.utah.gov/images/forestry/health/statehighlights2014.pdf. Accessed on September 9, 2016.

This page intentionally blank

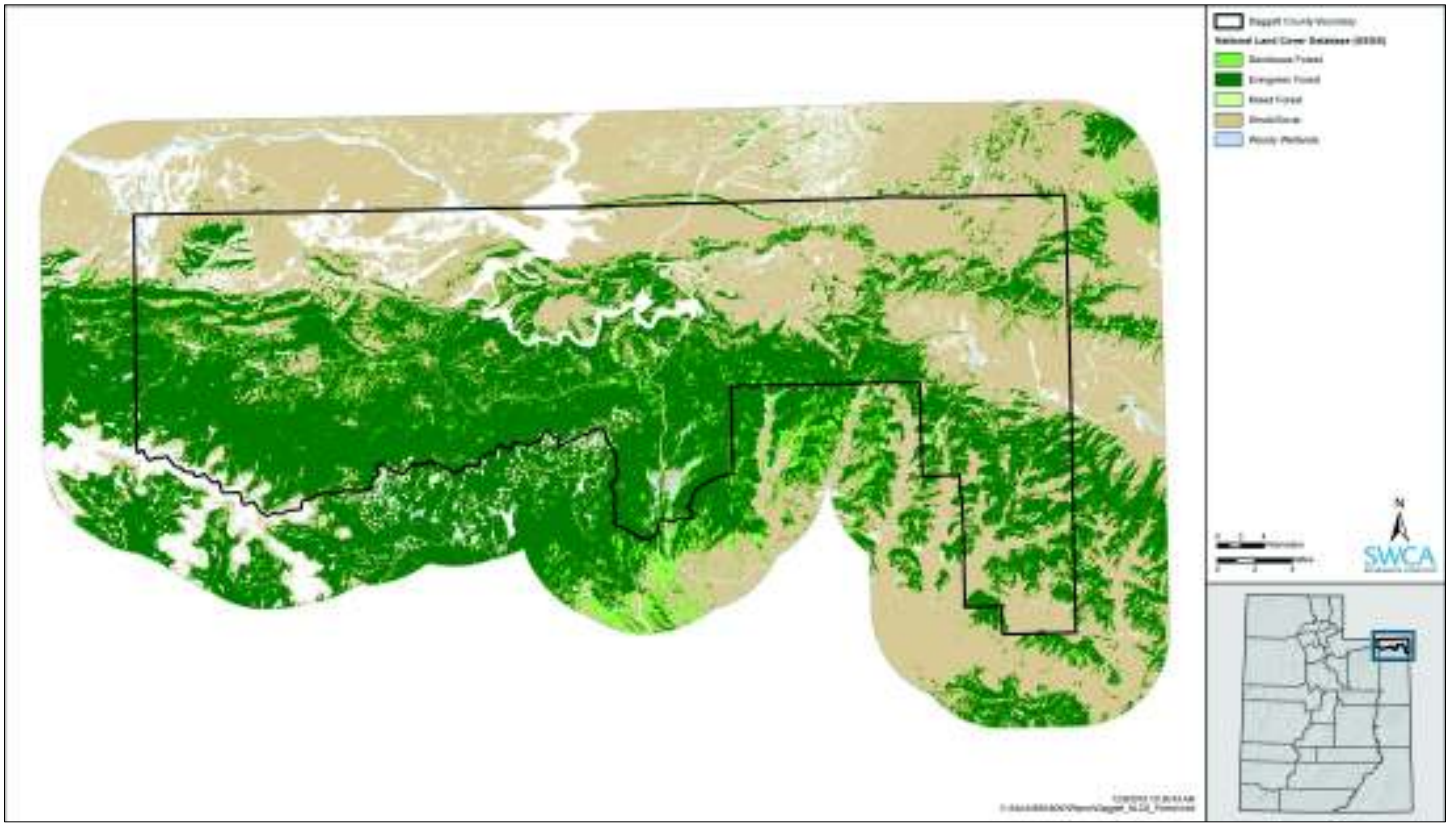

Figure FIR-FOR1. National Land Cover Database forested land cover types in Daggett County.

This page intentionally blank

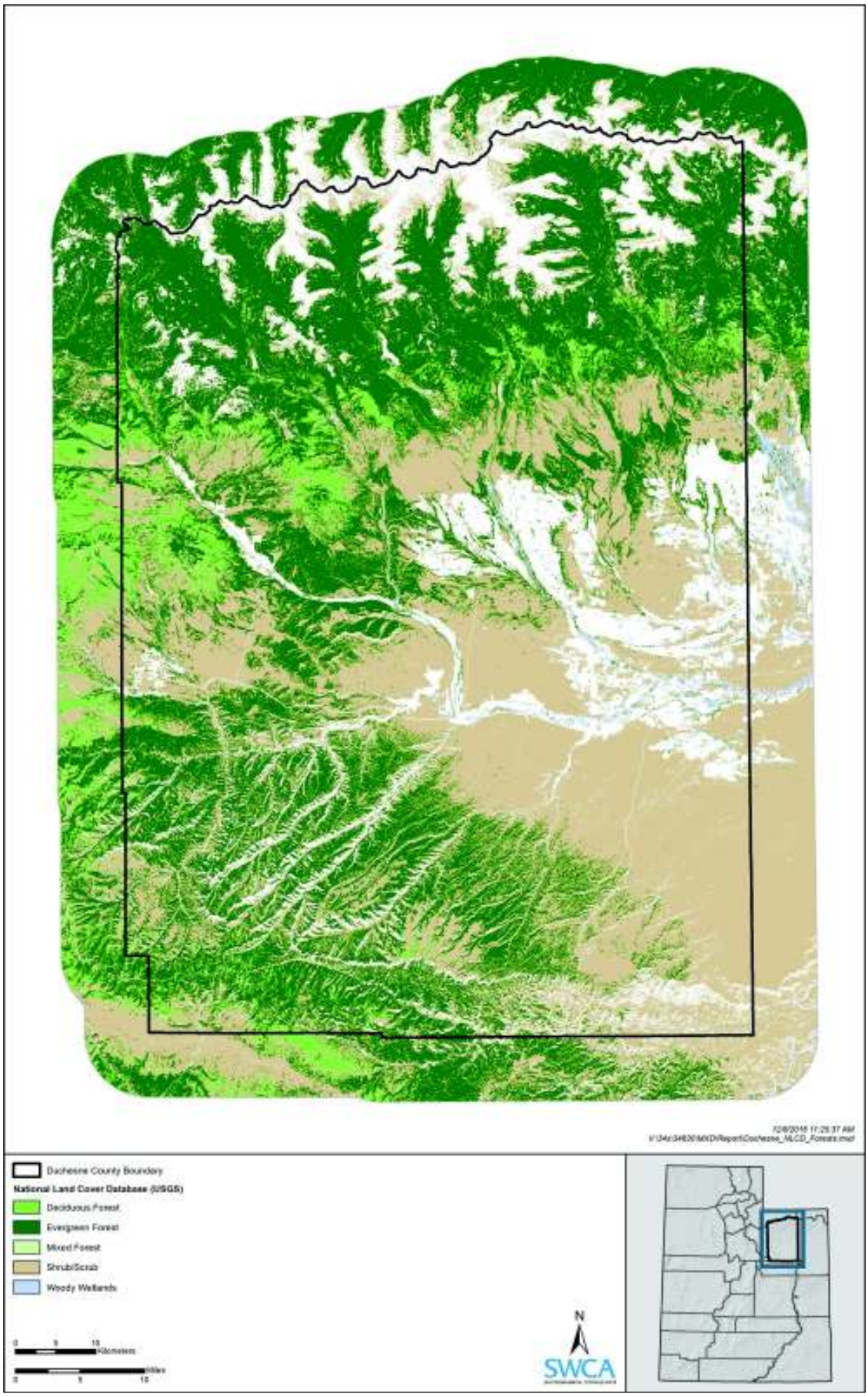

Figure FIR-FOR2. National Land Cover Database forested land cover types in Duchesne County.

This page intentionally blank

Figure FIR-FOR3. National Land Cover Database forested land cover types in Uintah County.

This page intentionally blank

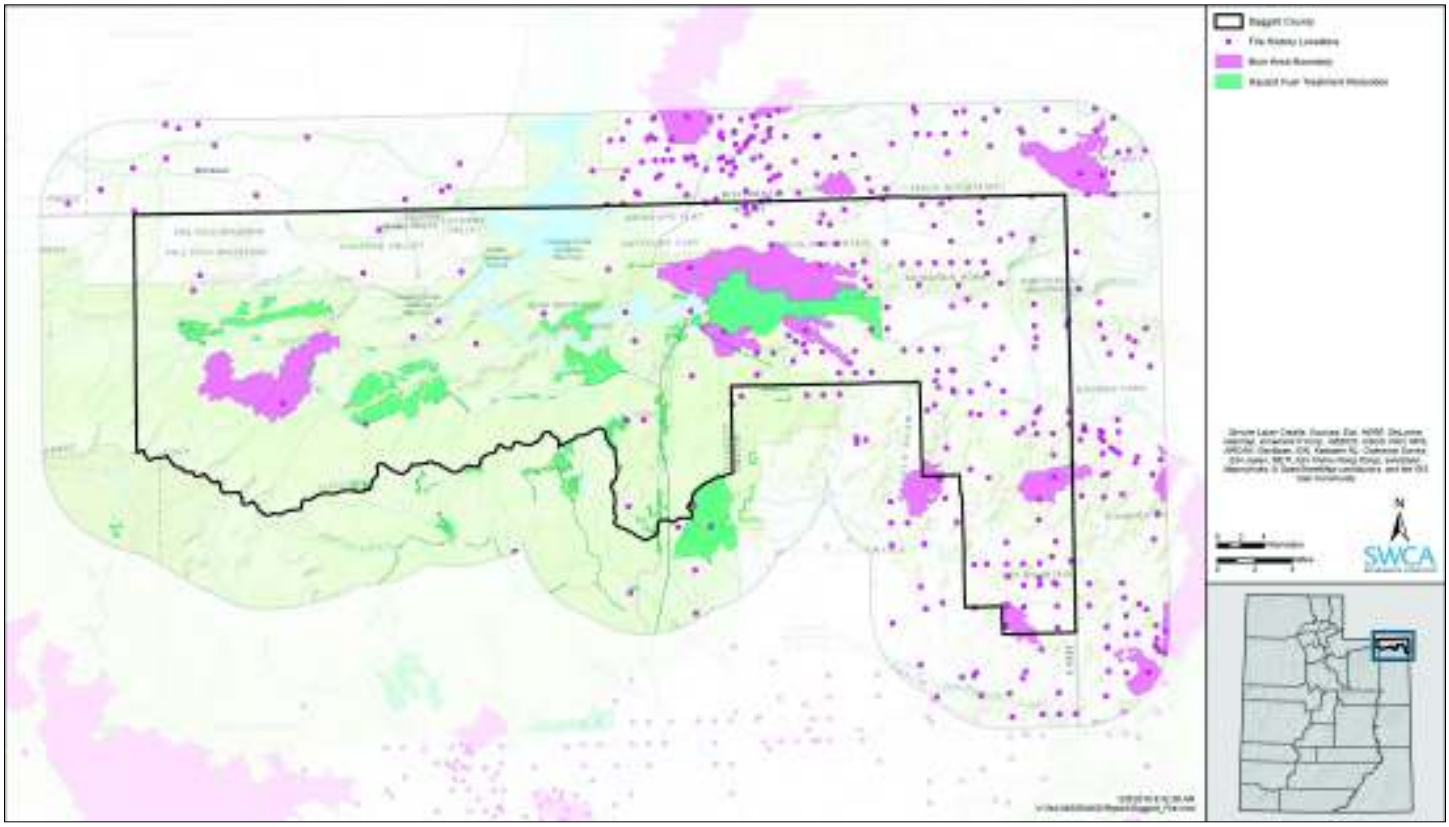

Figure FIR-FOR4. Hazardous fuel treatments, burn area boundaries, and fire history locations in Daggett County.

This page intentionally blank

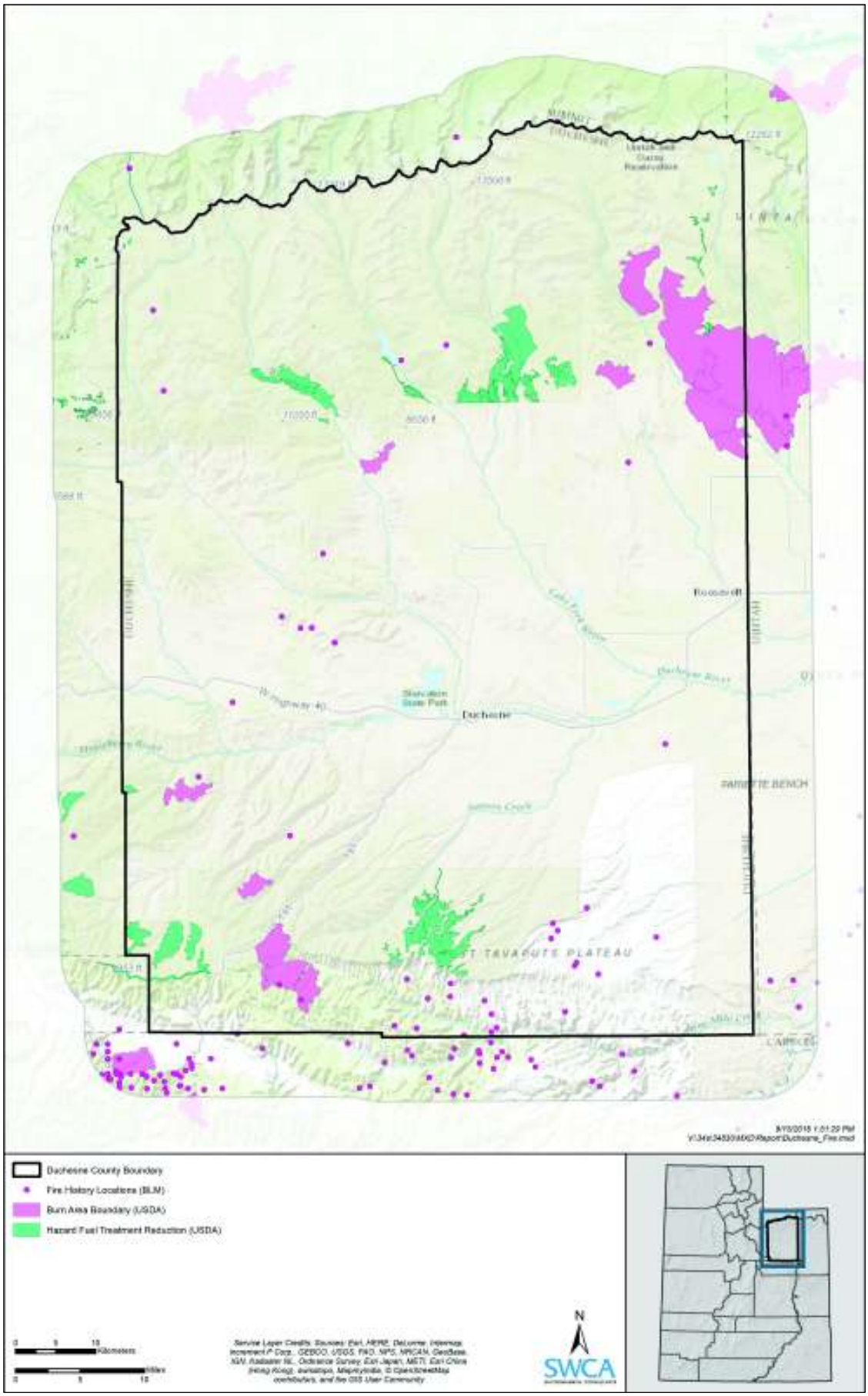

Figure FIR-FOR5. Hazardous fuel treatments, burn area boundaries, and fire history locations in Duchesne County.

This page intentionally blank

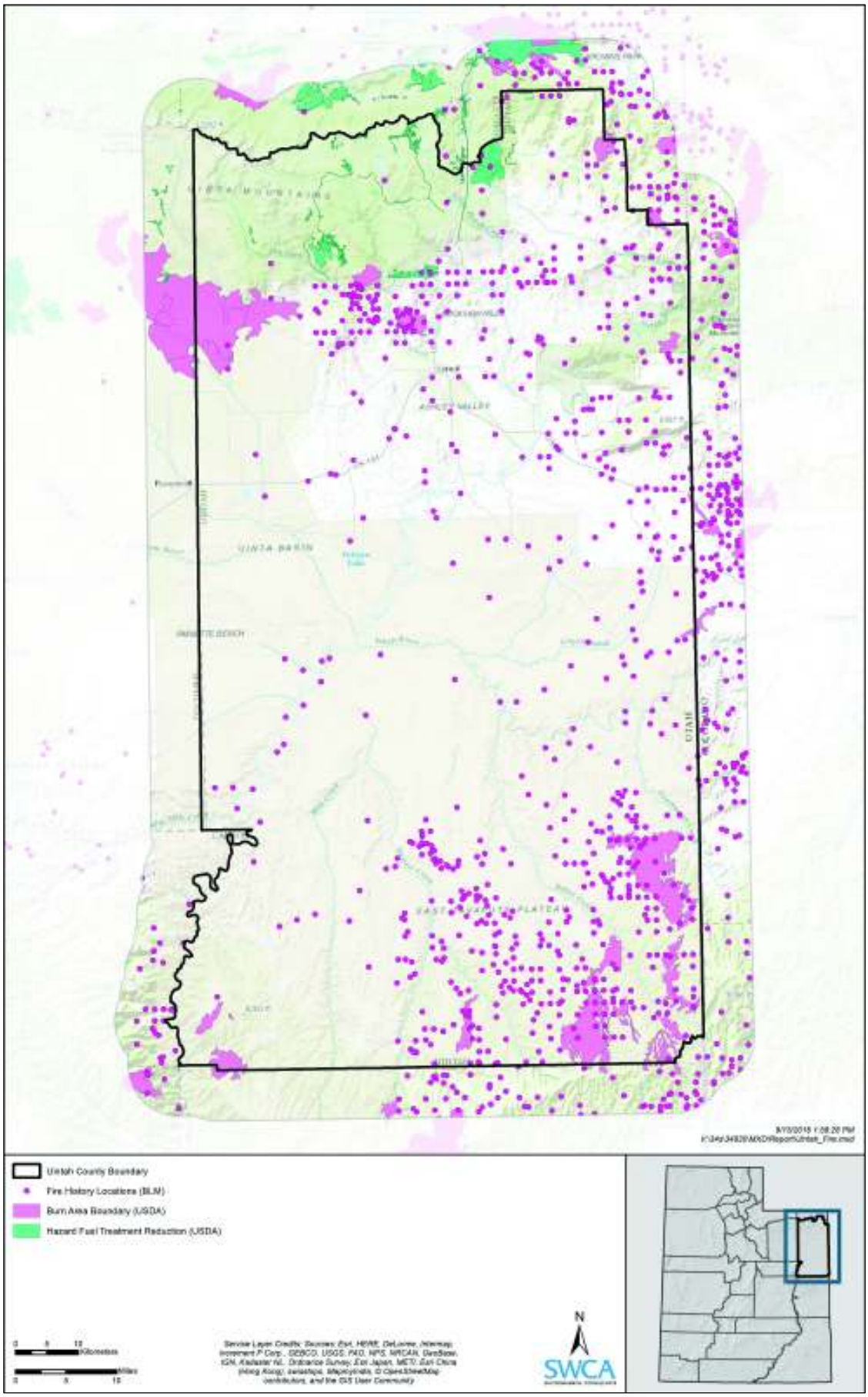

Figure FIR-FOR6. Hazardous fuel treatments, burn area boundaries, and fire history locations in Uintah County.

This page intentionally blank

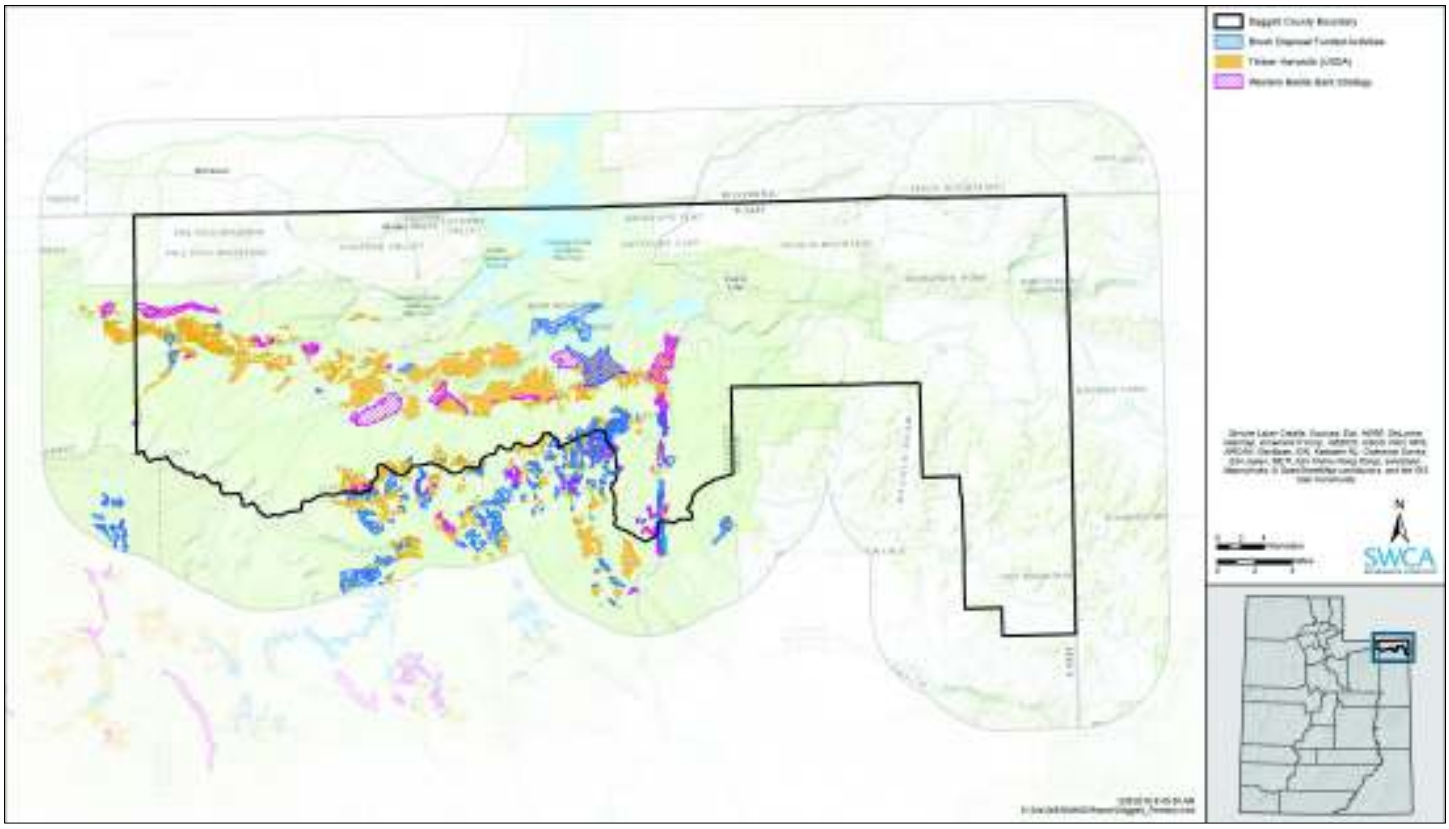

Figure FIR-FOR7. Western Bark Beetle Strategy activities, brush disposal, and timber harvest locations in Daggett County.

This page intentionally blank

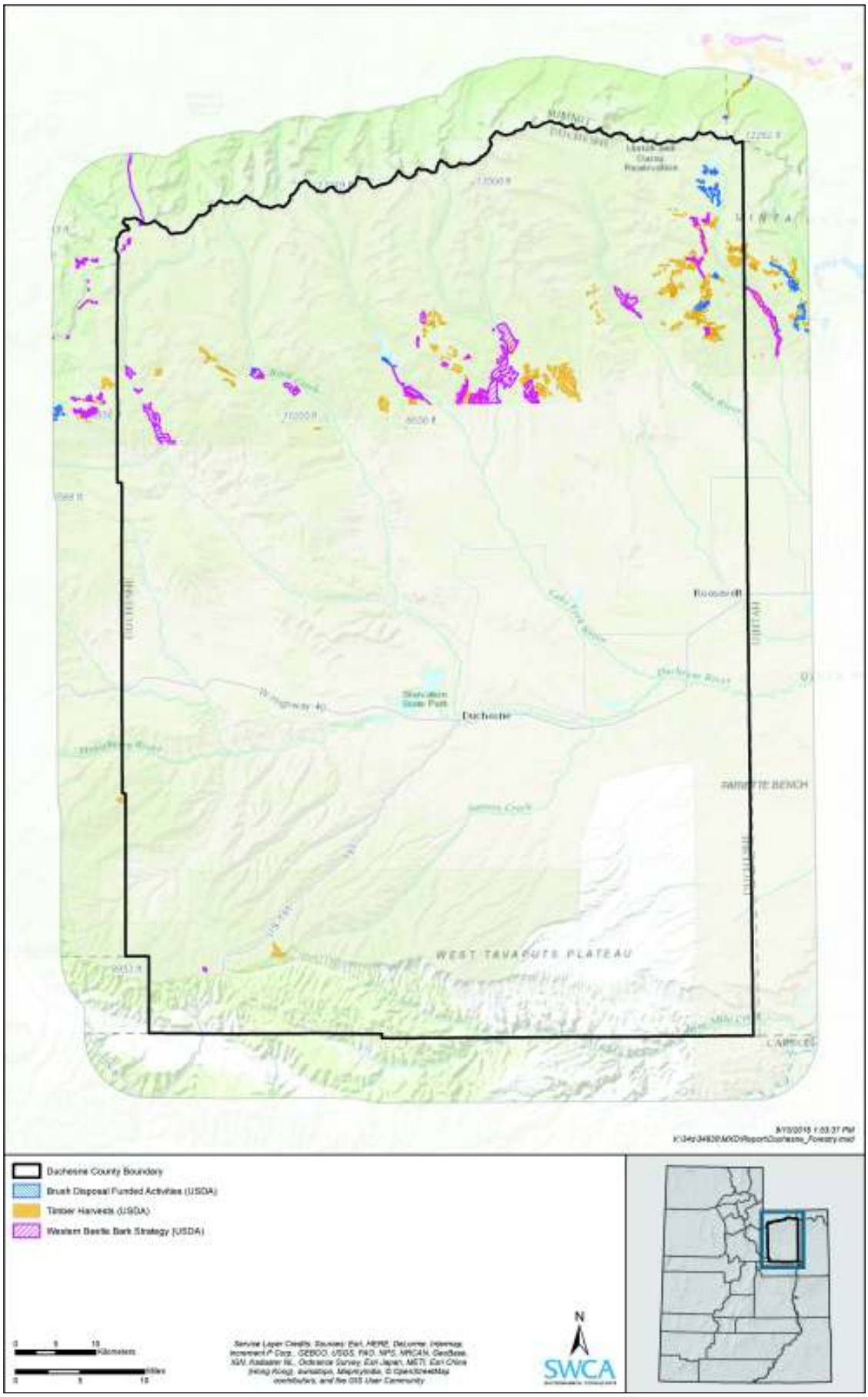

Figure FIR-FOR8. Western Bark Beetle Strategy activities, brush disposal, and timber harvest locations in Duchesne County.

This page intentionally blank

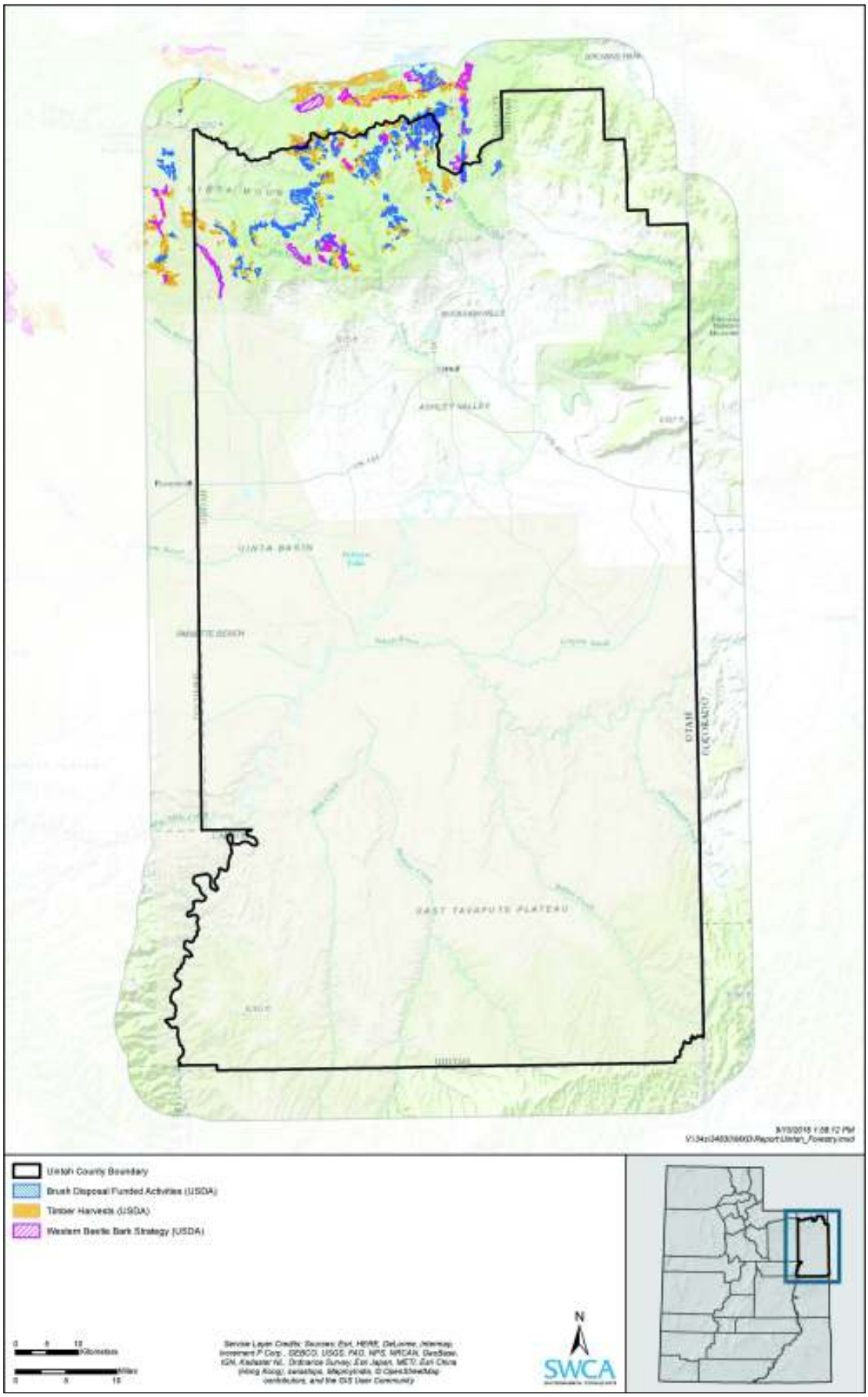

Figure FIR-FOR9. Western Bark Beetle Strategy activities, brush disposal, and timber harvest locations in Uintah County.

This page intentionally blank

10. IRRIGATION

Developing a resource management plan section for irrigation is best completed at the county level based on local understanding and management decisions regarding irrigation. No irrigation issues were identified during the county involvement process. Irrigation spatial data available to the county include irrigation acreage and irrigation type and are available from the Utah Division of Water Resources.

This page intentionally blank

11. LAND ACCESS

Developing a resource management plan section for land access is best completed at the county level based on local understanding and management decisions regarding land access. Land access issues identified during the county involvement process include historic uses of roads on federal land. Land access spatial data available to the county include rights-of-way, trail locations, U.S. Forest Service road inventory, vehicle use maps, and Bureau of Land Management travel management allocations.

This page intentionally blank

12. LAND USE

12.1. Findings

Information in sections 12.1.2, 12.1.4, 12.1.5, and 12.1.6 is extracted from the Profile of Land Use, found in the Headwaters Economics Economic Profile System (EPS 2016). Headwaters Economics is an independent, nonprofit research group. EPS uses published statistics from federal data sources, including Bureau of Economic Analysis and Bureau of the Census, U.S. Department of Commerce, Bureau of Labor Statistics, and U.S. Department of Labor.

12.1.1. Land use in Daggett, Duchesne, and Uintah Counties generally falls under the jurisdiction of federal, state, tribal, and local government entities (Daggett County has no tribal land). Land use on federal lands (U.S. Forest Service [USFS], Bureau of Land Management [BLM], and National Park Service [NPS]) is guided by federal land management plans. Land use on state lands is determined by the managing state agency. Land use on tribal lands is determined by the tribal government or by the Bureau of Indian Affairs for trust lands. Land use on private lands is determined by the specific county, or in incorporated municipalities, it is determined by the municipality through land use and zoning ordinances.

12.1.2. Landownership in the Daggett, Duchesne, and Uintah Counties by acres and percentage is presented in Table LDU1.

Table LDU1. Acres and Percentages of Landownership Types in Daggett, Duchesne, and Uintah Counties

	Daggett County	Duchesne County	Uintah County
Private lands	64,609 (14.0%)	597,004 (28.9%)	437,190 (15.2%)
Conservation easement	0 (0%)	15,288 (0.7%)	1 (0%)
Federal lands	356,960 (77.4%)	926,679 (44.8%)	1,709,996 (59.4%)
USFS	243,723 (52.8%)	716,702 (34.6%)	268,809 (9.3%)
BLM	113,236 (24.6%)	209,977 (10.2%)	1,376,957 (47.8%)
NPS	0 (0%)	0 (0%)	54,124 (1.9%)
Other federal	1 (0%)	0 (0%)	10,106 (0.4%)
State lands	39,646 (8.6%)	148,968 (7.2%)	261,667 (9.1%)
State Trust lands	30,303 (6.6%)	55,051 (2.7%)	234,962 (8.2%)
Other State	9,343 (2.0%)	93,917 (4.5%)	26,705 (0.9%)
Tribal lands	**0 (0%)**	**395,857 (19.1%)**	**472,014 (16.4%)**
Total Area	**461,215**	**2,068,508**	**2,880,868**

Source: EPS (2016).

12.1.3. Utah Code 57-18 is known as the Land Conservation Easement Act. Conservation easements are legal documents reducing certain property rights, in perpetuity, offered voluntarily by private property owners in exchange for compensation or tax breaks, from non-profit or government agencies. Once signed, conservation easements are to be recorded with the county and notice given to the county assessor. Land values can be greatly reduced as a result of a conservation easement, and such reductions have a negative effect on the county tax base.

12.1.4. For federal lands in each county, the Headwaters Economics EPS categorizes the federal lands as Type A, B, and C to more easily distinguish lands according to primary or common uses and/or conservation functions, activities, permitted uses, and whether they have a special designation (EPS 2016).

- Type A: National Parks and Preserves (NPS), wilderness (NPS, U.S. Fish and Wildlife Service [USFWS], USFS, BLM), National Conservation Areas (BLM), National Monuments (NPS, USFS, BLM), National Recreation Areas (NPS, USFS, BLM), National Wild and Scenic Rivers (NPS, USFS, BLM), Waterfowl Production Areas (USFWS), Wildlife Management Areas (USFWS), Research Natural Areas (USFS, BLM), areas of critical environmental concern (ACECs) (BLM), and National Wildlife Refuges (USFWS). Type A lands tend to have more managerial and commercial use restrictions than Type C lands.
- Type B: Wilderness study areas (NPS, USFWS, USFS, BLM), inventoried roadless areas (USFS).
- Type C: Public Domain Lands (BLM), O&C Lands (BLM), National Forests and Grasslands (USFS). Type C lands generally have no special designations and may allow a wider range of uses.

Type A, B, and C federal lands in the Daggett, Duchesne, and Uintah Counties by acres and percentages are presented in Table LDU2.

Table LDU2. Acres and Percentages of Type A, B, and C Federal Lands in Daggett, Duchesne, and Uintah Counties

	Daggett County	Duchesne County	Uintah County
Total Federal Area	**357,574**	**927,839**	**1,709,996**
Type A	149,715 (41.9%)	328,817 (35.4%)	113,257 (6.6%)
Type B	126,278 (35.3%)	361,238 (38.9%)	247,258 (14.5%)
Type C	81,581 (22.8%)	237,784 (25.6%)	1,349,977 (78.9%)

Source: EPS (2016).

12.1.5. Land cover in Daggett, Duchesne, and Uintah Counties by acres and percentages is presented in Table LDU3.

Table LDU3. Acres and Percentages of Land Cover in Daggett, Duchesne, and Uintah Counties

	Daggett County	Duchesne County	Uintah County
Total Area	**461,215**	**2,068,508**	**2,880,868**
Forest	138,364 (30.0%)	310,276 (15.0%)	172,852 (6.0%)
Grassland	156,813 (34.0%)	1,054,939 (51.0%)	1,757,329 (61.0%)
Shrubland	138,364 930.0%)	558,497 (27.0%)	806,643 (28.05)
Mixed cropland	3,198 (0.7%)	62,055 (3.0%)	28,809 (1.0%)
Water	13,836 (3.0%)	3,188 (0.2%)	7,418 (0.3%)
Urban	0 (0%)	0 (0%)	1,731 (0.1%)
Other	2,952 (0.6%)	20,685 1.0%)	28,809 (1.0%)

Source: EPS (2016).

12.1.6. Residential Development Trends

Resident development in the county can be categorized by average residential lot size.

- Urban/Suburban: Average residential lot size < 1.7 acres.
- Exurban: Average residential lot size 1.70–40.0 acres.
- Total Residential: Cumulative acres of land developed at urban/suburban and exurban densities.

Table LDU4. Acres of Private Lands by Type and Percentages of Private Land Developed for Residential Use in Daggett, Duchesne, and Uintah Counties

	Daggett County	Duchesne County	Uintah County
Total Private Land (acres)	**64,609**	**597,004**	**437,190**
Total residential, 2000	2,958	21,604	37,962
Urban/suburban, 2000	338	1,641	2,395
Exurban, 2000	2,619	19,963	35,568
Total residential, 2010	3,935	49,081	49,312
Urban/suburban, 2010	424	2,228	3,291
Exurban, 2010	3,510	46,853	46,021
Percentage change in total residential	33.0%	127.2%	29.9%
Total Private Land Developed for Residential Use (%)			
Total residential, 2000	4.6%	3.6%	8.7%
Urban/suburban, 2000	0.5%	0.3%	0.5%
Exurban, 2000	4.1%	3.3%	8.1%
Total residential, 2010	6.1%	8.2%	11.3%
Urban/suburban, 2010	0.7%	0.4%	0.8%
Exurban, 2010	5.4%	7.8%	10.5%

Source: EPS (2016).

12.1.7. Land use patterns have considerable influence on the infrastructure (transportation, water, sewer, electricity, natural gas, etc.) needs of the county and on the amount of energy needed to move from residences to jobs, services, shopping, or recreation.

12.1.8. Daggett, Duchesne, and Uintah Counties contain a patchwork of land use authorities. Land use decisions made by each of these authorities affect the other authorities. Coordination of planning efforts in a proactive, cooperative manner helps ensure that land use decisions complement rather than contradict each other.

12.1.9. Orderly and responsible residential, commercial, industrial, and recreational growth is important for the continued development of the county's economy. There are areas within the county suited to accommodate these types of development.

12.1.10. Land use changes and development can stress the services and infrastructure provided by county government and local municipalities.

12.1.11. Public land management is dictated by law and regulation. These laws and regulations require public land management agencies to prepare land and resource management plans. These land and resource management plans include land use allocations that specify locations that are available or not for certain uses. These include decisions such as what lands are available for livestock grazing, mineral material use, oil and gas leasing, and locatable mineral development; what lands may be available for disposal via exchange and/or sale; and what lands are open, closed, or limited to motorized travel. The laws and regulations also require the federal land management agencies to involve local governments in the planning and decision-making processes. Further, federal land managers are required to ensure that land use plans and management decisions are consistent with local governments' approved plans, ordinances, and policies to the fullest extent possible while maintaining consistency with federal law.

12.1.12. Section 102(a) of the Federal Land Policy and Management Act of 1976 (FLPMA) requires that all public lands be retained in federal ownership unless it is determined that disposal of a particular parcel will serve the national interest. Furthermore, Section 203(a) of FLPMA provides for the sale of public lands if one of the following criteria is met: 1) the tract is difficult and uneconomic to manage as part of the public lands and is not suitable for management by another federal agency; 2) such tract was acquired for a specific purpose and the tract is no longer required for that or any other federal purpose; or 3) disposal of such tract will serve important public objectives, including expansion of communities and economic development that cannot be achieved prudently or feasibly on land other than public land.

12.1.13. The *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan* (BLM Vernal ROD/RMP) identifies 32,067 acres of land for potential federal disposal and 42,550 acres of land for potential federal acquisition (BLM 2008). The breakdown by county is presented below in Table LDU5 and in Figures LDU1–3 at the end of this section.

Table LDU5. Acres of Federal Lands for Disposal or Potential Federal Acquisition

	Daggett County	Duchesne County	Uintah County
Federal lands identified for potential disposal	–	3,258	28,822
Lands identified for potential Federal acquisition	–	3,729	36,824

Source: BLM (2008).

12.1.14. BLM and USFS resource management plans also consider an area's visual values and identify management classes with established objectives for public lands. The BLM's management of visual resources includes identification of visual resource management (VRM) classes, which are categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes. Each class has an objective that prescribes the amount of change allowed in the characteristic landscape. USFS classes are similar but are referred to as visual quality objectives and include preservation, retention, partial retention, and modification designations.

- **VRM Class I objective:** To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.
- **VRM Class II objective:** To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.

- **VRM Class III objective:** To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.
- **VRM Class IV objective:** To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.

12.1.15. The 2008 BLM Vernal ROD/RMP (BLM 2008) and 1986 *Land and Resource Management Plan for the Ashley National Forest* (U.S. Department of Agriculture 1986) identify the following VRM prescriptions for federal lands (Table LDU6 and LDU7; see Figures LDU4–5 at the end of this section):

Table LDU6. Acres of Visual Resource Management Classes and Objectives for Federal Lands

BLM Class (USFS objective)	BLM	USFS
VRM Class I (Preservation)	57,776	338,088
VRM Class II (Retention)	259,734	473,545
VRM Class III (Partial Retention)	759,977	240,485
VRM Class IV (Modification)	642,450	332,581

Sources: BLM (2008), U.S. Department of Agriculture (1986).

Table LDU7. Acres of Visual Resource Management Classes and Objectives for Bureau of Land Management Lands in Daggett, Duchesne, and Uintah Counties

BLM Class	Daggett County	Duchesne County	Uintah County
VRM Class I	6,685	–	48,363
VRM Class II	63,762	7,943	163,923
VRM Class III	34,984	67,980	654,989
VRM Class IV	7,328	131,819	503,290

Sources: BLM (2009).

12.1.16. In some instances, BLM has used VRM classifications as substitutes for former Wilderness Inventory Units or so-called Citizens' Proposed Wilderness Units, or as a means to displace valid surface-occupying multiple-use activities. Such designations cause resource waste, serious impacts to other important resources and actions, and are inconsistent with the principles of multiple-use and sustained yield.

12.1.17. Administrative designations contained in federal land use plans, such as ACECs, special recreation management areas (SRMAs), or other prescriptive designations, can dictate practices that restrict access or use of the land and negatively impact other resources or their use. Such designations cause resource waste, serious impacts to other important resources and actions, and are inconsistent with the principles of multiple use and sustained yield.

12.1.18. Administrative designations identified in the 2008 BLM Vernal ROD/RMP are provided below (BLM 2008) and in Figures LDU7–9 at the end of this section:

- Daggett County
  - SRMAs
    - Browns Park (18,486 acres)
  - ACECs
    - Browns Park (20,597 acres)
    - Red Creek Watershed (27,307 acres)
- Duchesne County
  - SRMAs
    - Nine Mile Canyon (36,956 acres)
  - ACECs
    - Lear's Canyon (1,377 acres)
    - Nine Mile Canyon (40,285 acres)
    - Pariette Wetlands (839 acres)
- Uintah County
  - SRMAs
    - Red Mountain – Dry Fork Complex (24,258 acres)
    - Blue Mountain (42,729 acres)
    - Fantasy Canyon (69 acres)
    - White River (2,831 acres)
    - Pelican Lake (1,013 acres)
    - Nine Mile Canyon (7,179 acres)
    - Brown's Park (1 acre)
  - ACECs
    - Red Mountain – Dry Fork Complex (37,176 acres)
    - Lower Green River Corridor (9,347 acres)
    - Pariette Wetlands (9,811 acres)
    - Nine Mile Canyon (7,830 acres)
    - Brown's Park (5 acres)

12.1.19. Local governments and citizens are often the "closest to the ground" and have the best understanding of how land use practices of federal agencies will affect local communities.

12.1.20. These lands and resources located on public lands cannot be separated from the culture, quality of life, and economic well-being of the county. The oil and gas, agriculture, recreation and tourism, and timber industries require access to and across public lands.

12.1.21. BLM is currently revising the agency's planning regulations for developing resource management plans. The revised regulations are referred to by BLM as Planning 2.0. BLM's Planning 2.0 regulations would negatively affect Daggett, Duchesne, and Uintah Counties by encouraging the agency to move away from multiple-use sustained-yield management principles to planning that focuses on ecological metrics and landscapes as opposed to commonly used administrative boundaries.

12.2. Objectives

12.2.1. Avoid loss of private lands within the county boundaries as measured by acreage and fair market value.

12.2.2. Encourage disposal of federal lands to support community growth and community needs.

12.2.3. Improve communication and coordination among various federal, state, tribal, and local land use authorities.

12.2.4. Minimize impacts of development and land use changes on local governments, infrastructure, and community services.

12.2.5. Ensure that adjacent land uses and land use restrictions do not deny private property owners the right of fair use, access to, and enjoyment of their property.

12.2.6. Discourage or eliminate land use restrictions or special designations that restrict economic growth and activity, especially on federal lands.

12.2.7. Promote land uses on federal lands consistent with the principles of multiple use and sustained yield as directed by the FLPMA and the Multiple Use and Sustained Yield Act of 1960.

12.3. Policies and Guidelines

12.3.1. A private property owner has a right to dispose of or exchange his or her property as seen fit within applicable law.

12.3.2. Federal and state governments currently hold sufficient land to protect the public interest.

12.3.3. Federal lands shall be available for disposal when lands are difficult to manage or lie in isolated tracts, when such disposal meets the important public objective of community expansion or economic development, or when the disposal would serve the public interest.

12.3.4. There shall be no net loss of the private lands within the county. No net loss shall be measured in acreage and in fair market value.

12.3.5. The county should be compensated for net loss of private lands with private lands of equal value. Tax base resulting from exchanges shall be compensated for by the appropriate acquiring agency.

12.3.6. A private property owner should be protected from federal, state, and county encroachment and/or coerced acquisition.

12.3.7. The county should be consulted on any federal land acquisition or disposal actions.

12.3.8. Lands must be made available for disposal under the Recreation and Public Purposes Act of 1954 and in resource management plans and upon request by an appropriate entity in accordance with the act.

12.3.9. The county shall encourage and participate in coordination and communication among various federal, state, tribal, and local land management authorities. Where appropriate, the county will enter into a reciprocal agreement to require notification of planning decisions made by each entity and to provide an opportunity for comments.

12.3.10. The county will propose appropriate revisions and amendments to their existing land-use ordinances and regulations to help offset or reduce the cost of service provision, infrastructure, and other costs of new development and land use patterns.

12.3.11. The county will encourage and maintain improved cooperation and coordination between planning entities and service providers (e.g., utilities and water supply companies).

12.3.12. The county, through their zoning ordinance, will encourage a mixture of land uses.

12.3.13. Consistent with Utah Code 63J-8-104(j), federal land agencies shall manage lands under their jurisdiction so as to not interfere with the property rights of private landowners as follows:

- Federal land management policies and standards shall not interfere with the property rights of any private landowner to enjoy and engage in uses and activities on an individual's private property consistent with controlling county zoning and land use laws.
- A private landowner or a guest or client of a private landowner should not be denied the right of motorized access to the private landowner's property consistent with past uses of the private property.

12.3.14. The county supports the wise use, conservation, and protection of public lands and their resources, including well-planned management prescriptions. It is the county's position that public lands be managed for multiple uses, sustained yields, and prevention of waste of natural resources, as well as to protect the health, safety, and welfare of the public. It is important to the county's economy that public lands be properly managed for fish, wildlife, livestock production, timber harvest, recreation, energy production, mineral extraction, and for the preservation of natural, scenic, scientific, and historical values.

12.3.15. Multiple-use and sustained-yield management means that state and federal agencies shall develop and implement management plans and make other resource-use decisions that facilitate land and natural resources use allocation, which would support the specific plans, programs, processes, and policies of state agencies and local governments. Such management plans shall be designed to produce and provide the watersheds, food, fiber, and minerals necessary to meet future economic growth needs and community expansion. Such plans shall meet the recreational needs of the citizens of the counties and the state without permanent impairment of the productivity of the land.

12.3.16. The county opposes BLM's implementation of the regulations contained in Planning 2.0.

12.3.17. In support of the national interest in energy independence and in consideration of the nation's dependence on foreign oil, it is important that public lands remain open for oil and gas exploration and production.

12.3.18. BLM and USFS should produce planning documents consistent with state and local land use plans to the maximum extent consistent with federal law and FLPMA's purposes, by incorporating the county's and state's land use planning and management program for the subject lands that preserve traditional multiple use and sustained yield management on the subject lands to the following:

- Achieve and maintain in perpetuity a high-level annual or regular periodic output of agricultural, mineral, and various other resources from the subject lands.
- Support valid existing transportation, mineral, and grazing privileges in the subject lands at the highest reasonably sustainable levels.

- Produce and maintain the desired vegetation for watersheds, timber, food, fiber, livestock forage, wildlife forage, and minerals that are necessary to meet present needs and future economic growth and community expansion in each county where the subject lands are situated without permanent impairment of the productivity of the land.
- Meet the recreational needs and the personal and business-related transportation needs of the citizens of each county where the subject lands are situated by providing access throughout each county.
- Meet the needs of wildlife, provided that the respective forage needs of wildlife and livestock are balanced.
- Protect against adverse effects to historic properties.
- Meet the needs of community economic growth and development.
- Provide for the protection of existing water rights and the reasonable development of additional water rights.
- Provide for reasonable and responsible development of electrical transmission and energy pipeline infrastructure on the subject lands.

12.3.19. The county opposes the use of a buffer zone management philosophy that dictates land use practices and influences decisions beyond the scope and boundaries of the designations. The county also opposes the imposition of ACECs, National Conservation Areas, or VRM classifications as substitutes for former Wilderness Inventory Units or so-called Citizens' Proposed Wilderness Units, or as a means to displace valid surface occupying multiple use activities. ACEC and VRM classifications are improper management tools unless narrowly drawn and tailored, both geographically and programmatically, to establish only those restrictions that are actually necessary to prevent irreparable damage to valid and relevant resource values.

12.3.20. In general, objectives of special designations can be met by well-planned and managed development of natural resources. For this reason, no special designations shall be proposed until the need has been determined and substantiated by verifiable scientific data available to the public. Furthermore, it must be demonstrated that protection cannot be provided by other means and that the area in question is truly unique compared to other area lands.

12.3.21. Consistent with Utah Code 63J-4-401, county support for the designation of an ACEC shall be withheld until the following actions take place:

- It is clearly demonstrated that the proposed area satisfies all the definitional requirements of FLPMA, 43 USC 1702(a).
- It is clearly demonstrated that the area proposed for designation as an ACEC is limited in geographic size and that the proposed management prescriptions are limited in scope to the minimum necessary to specifically protect and prevent irreparable damage to the relevant and important values identified, or limited in geographic size and management prescriptions to the minimum required to specifically protect human life or safety from natural hazards.
- It is clearly demonstrated that the proposed area is limited only to areas that are not already developed or used or to areas where no development is required.
- It is clearly demonstrated that the proposed area contains historic, cultural or scenic values, fish or wildlife resources, or natural processes, which are unique or substantially significant

and that the land area of the proposed designation is limited to the minimum acreage required to protect those resources.

- The regional values, resources, processes, or hazards have been analyzed by the federal agency for impacts resulting from potential actions which are consistent with the multiple-use, sustained-yield principles, and that this analysis describes the rationale for any special management attention required to protect, or prevent irreparable damage to the values, resources, processes, or hazards.
- It is clearly demonstrated that the proposed designation is consistent with the plans and policies of the state and of the county where the proposed designation is located as those plans and policies are developed according to Subsection (3) of Utah Code 63J-4-401.
- It is clearly demonstrated that the proposed ACEC designation will not be applied redundantly over existing protections provided by other state and federal laws for federal lands or resources on federal lands, and that the federal statutory requirement for special management attention for a proposed ACEC will discuss and justify any management requirements needed in addition to those specified by the other state and federal laws.
- The difference between special management attention required for an ACEC and normal multiple-use management has been identified and justified, and that any determination of irreparable damage has been analyzed and justified for short and long-term horizons.
- It is clearly demonstrated that the proposed designation is not a substitute for a wilderness suitability recommendation, is not a substitute for managing areas inventoried for wilderness characteristics after 1993 under the BLM interim management plan for valid wilderness study areas; and it is not an excuse or justification to apply de facto wilderness management standards.
- The conclusions of all studies are submitted to the State of Utah and the county, as cooperating agencies, for review and the results, in support of or in opposition to, are included in all planning documents.
- Any impacts on private property rights are evaluated and mitigated.

12.3.22. The county encourages property owners to consult legal counsel before considering a conservation easement on their property and carefully consider the impacts of the loss of certain property rights in perpetuity.

12.3.23. In accordance with Utah Code 63J-8-104(m), it is the policy of the county that a BLM VRM Class I or II rating is generally not compatible with the county's plan and policy for managing federal lands, but special cases may exist where such a rating is appropriate if jointly considered and created by state, local, and federal authorities as part of an economic development plan for a region of the state, with due regard for valid existing rights, school trust lands and private lands within the area.

12.4. Literature Cited

Bureau of Land Management (BLM). 2008. *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan*. Available at: http://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.12251.File.dat/VernalFinalPlan.pdf. Accessed August 8, 2016.

———. 2009. Visual Resource Management Classes. Available at: http://www.blm.gov/ut/st/en/prog/more/geographic_information/gis_data_and_maps.html. Accessed February 16, 2016

Economic Profile System (EPS). 2016. A Profile of Land Use, County Region Selected Geographies: Daggett County, UT; Uintah County, UT, Duchesne County, UT. Available at: http://headwaterseconomics.org/tools/economic-profile-system/. Accessed September 16, 2016.

U.S. Department of Agriculture (USDA). 1986. *Land and Resource Management Plan for the Ashley National Forest*. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5277279.pdf. Accessed on August 31, 2016.

This page intentionally blank

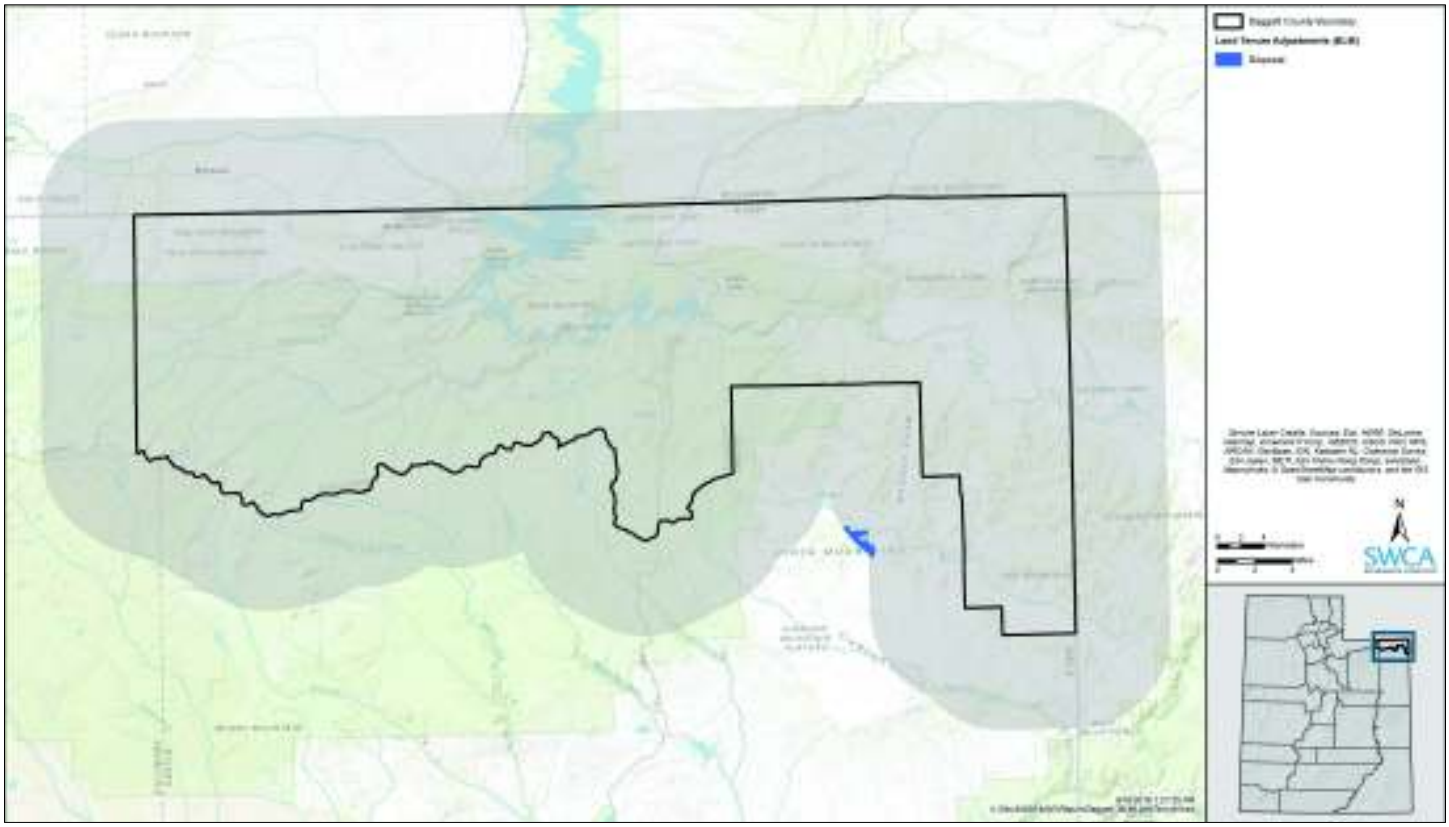

Figure LDU1. Federal lands for disposal or potential federal acquisition in Daggett County.

This page intentionally blank

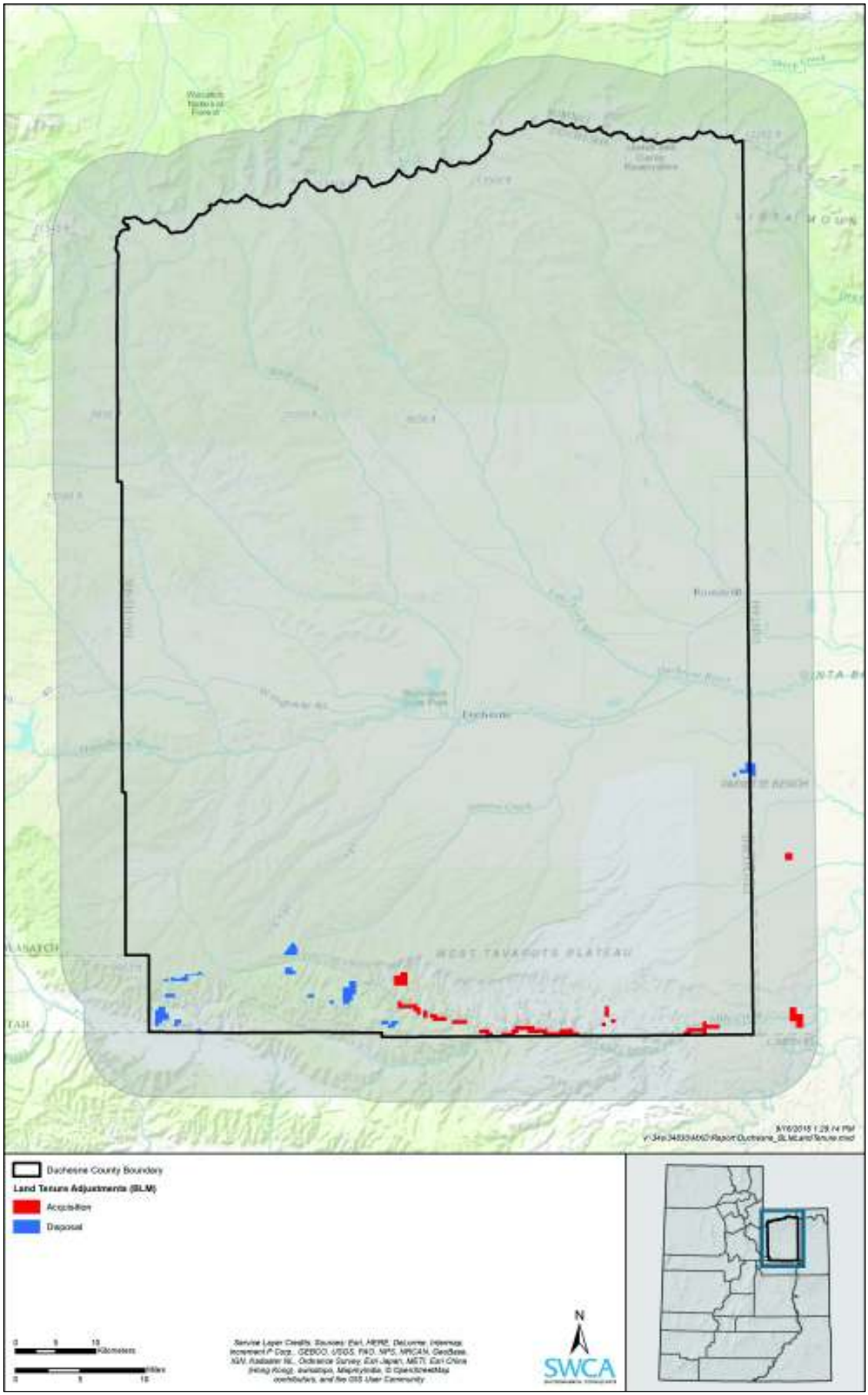

Figure LDU2. Federal lands for disposal or potential federal acquisition in Duchesne County.

This page intentionally blank

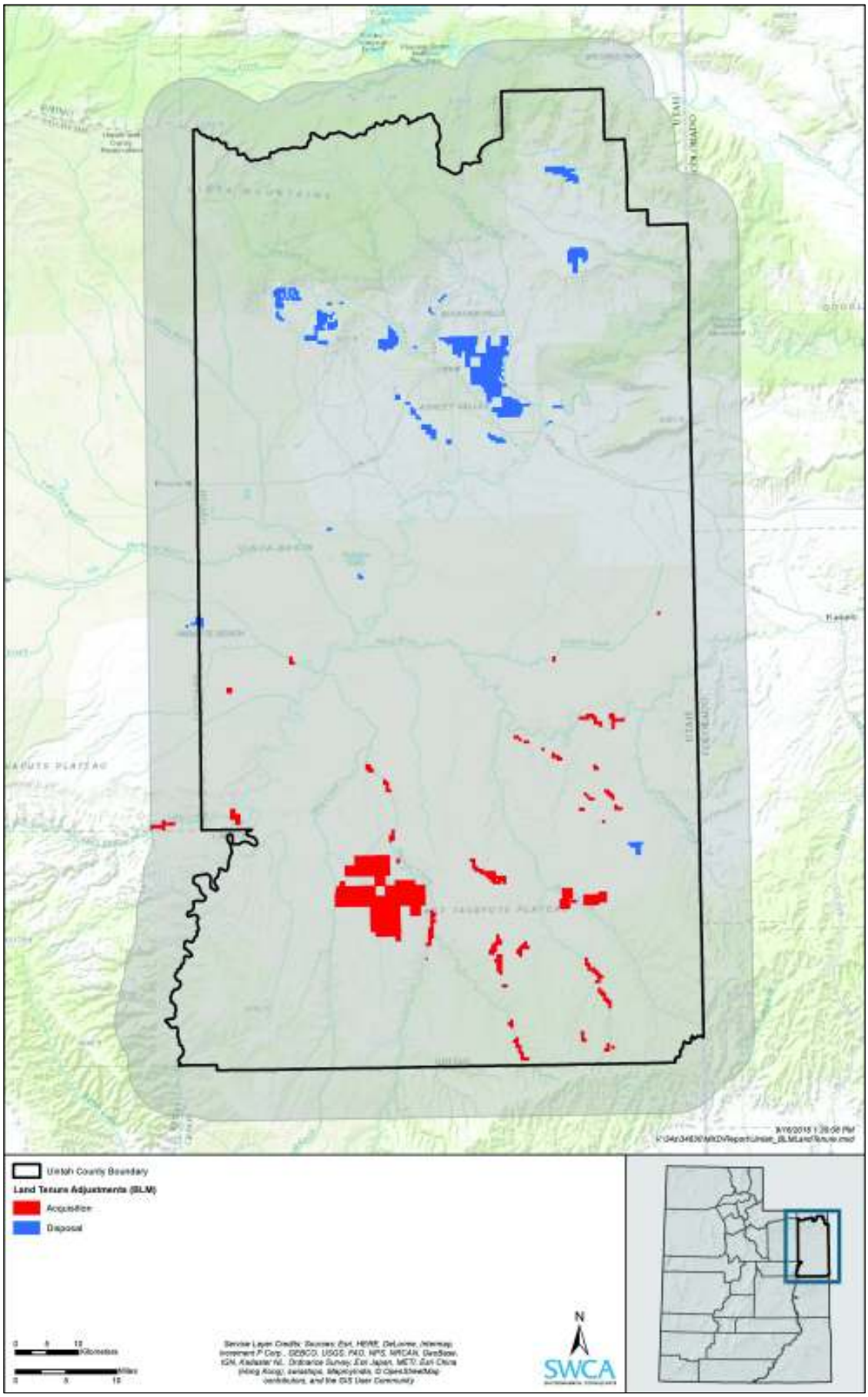

Figure LDU3. Federal lands for disposal or potential federal acquisition in Uintah County.

This page intentionally blank

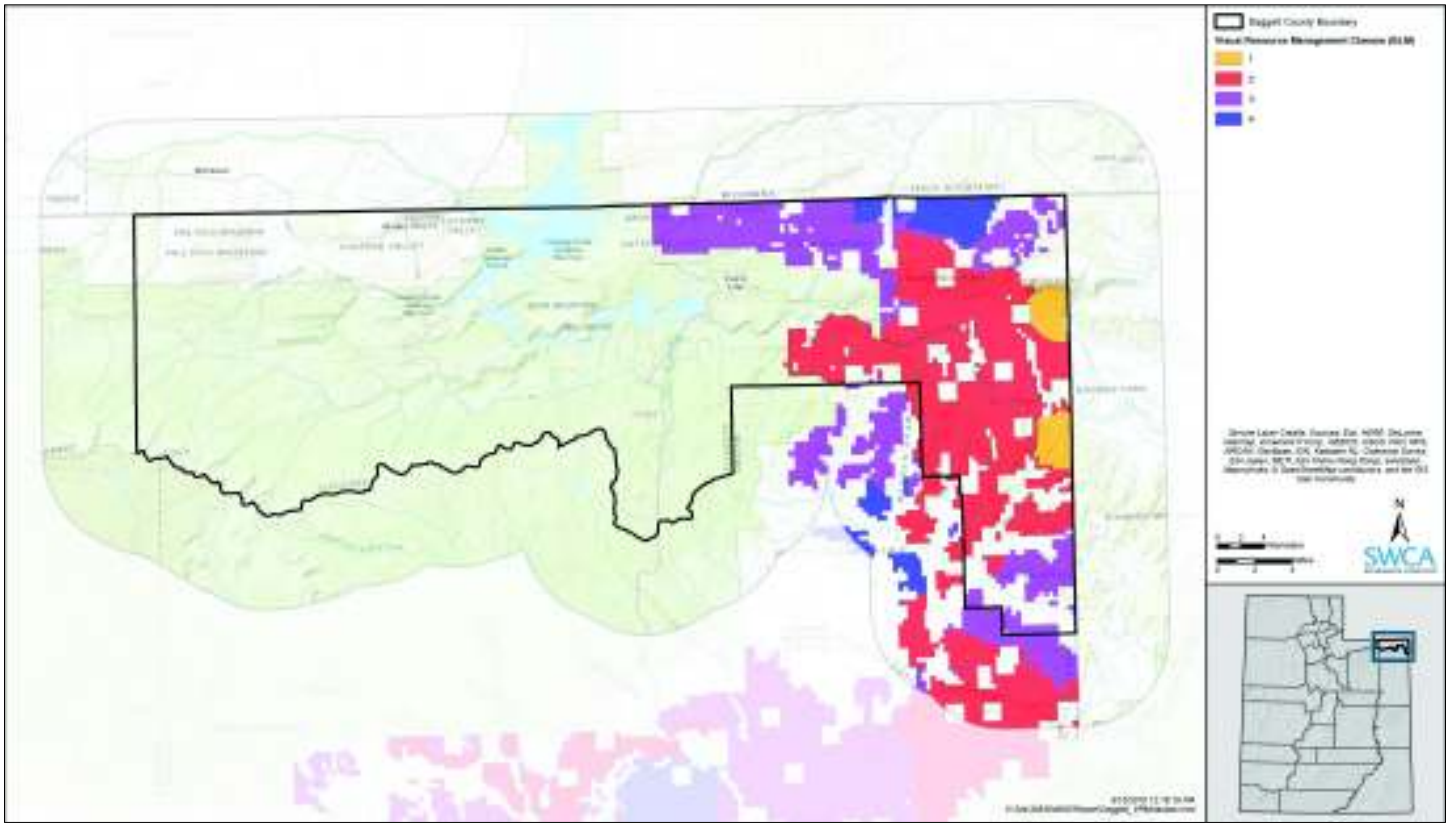

Figure LDU4. Bureau of Land Management visual resource management classes in Daggett County.

This page intentionally blank

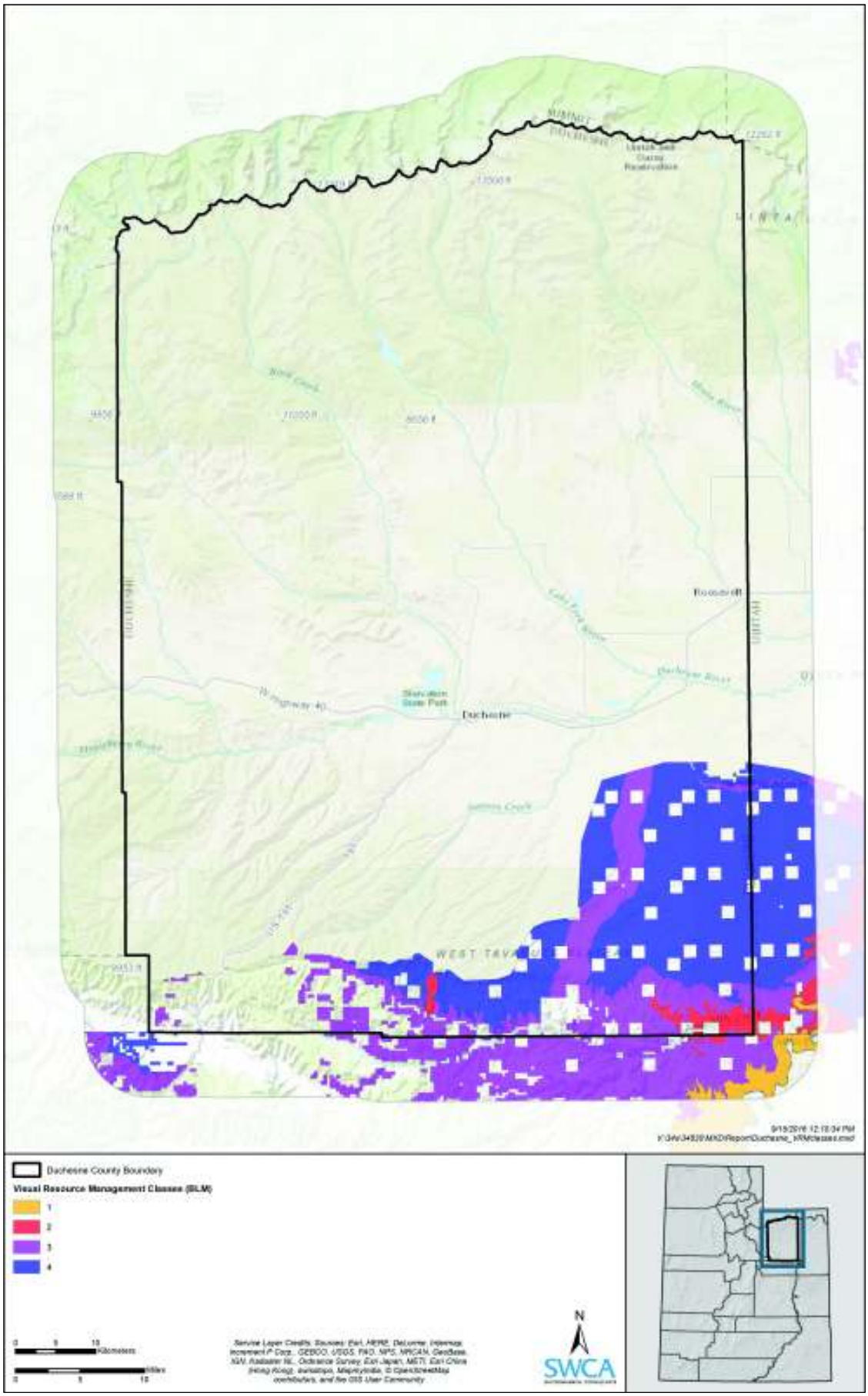

Figure LDU5. Bureau of Land Management visual resource management classes in Duchesne County.

This page intentionally blank

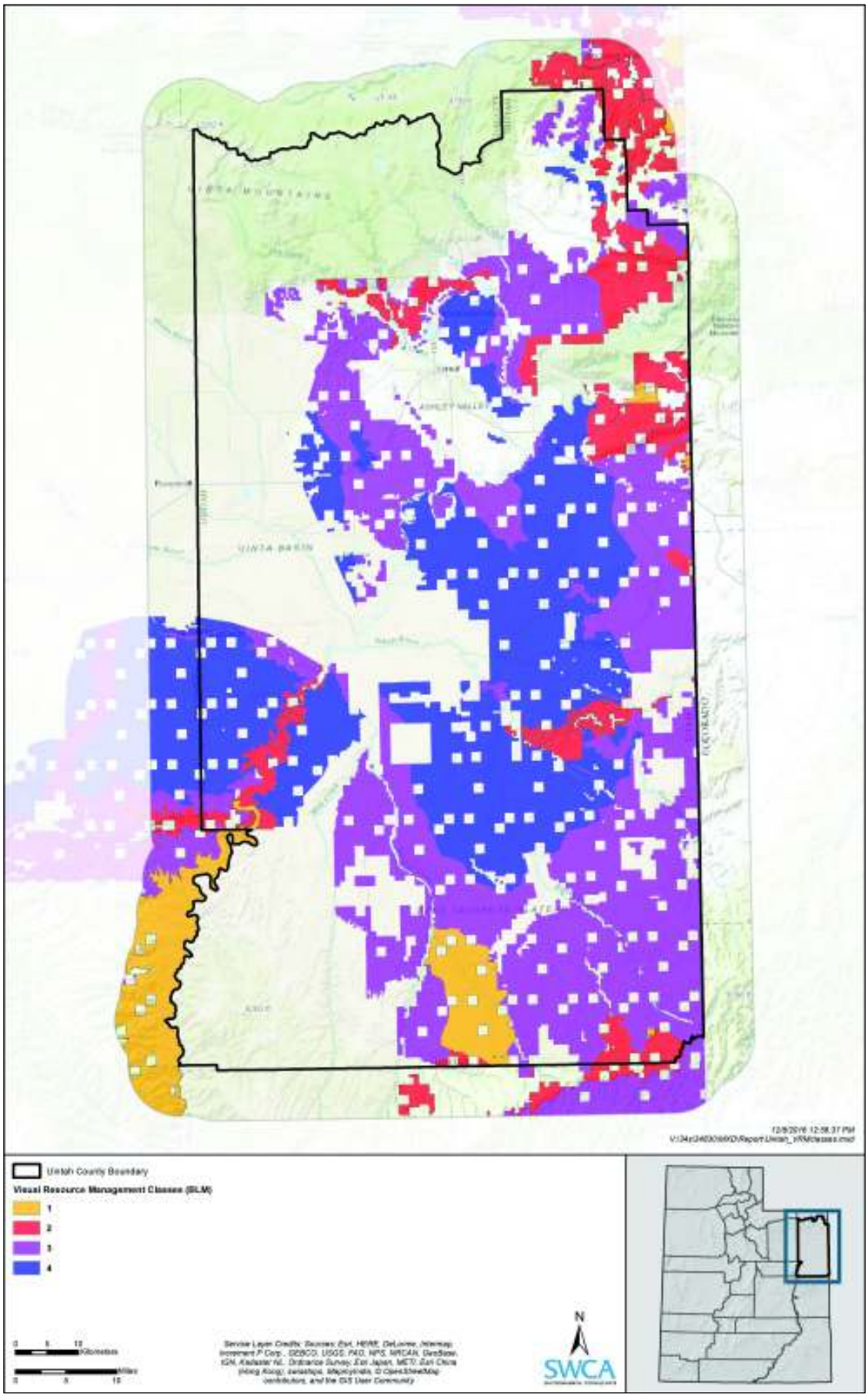

Figure LDU6. Bureau of Land Management visual resource management classes in Uintah County.

This page intentionally blank

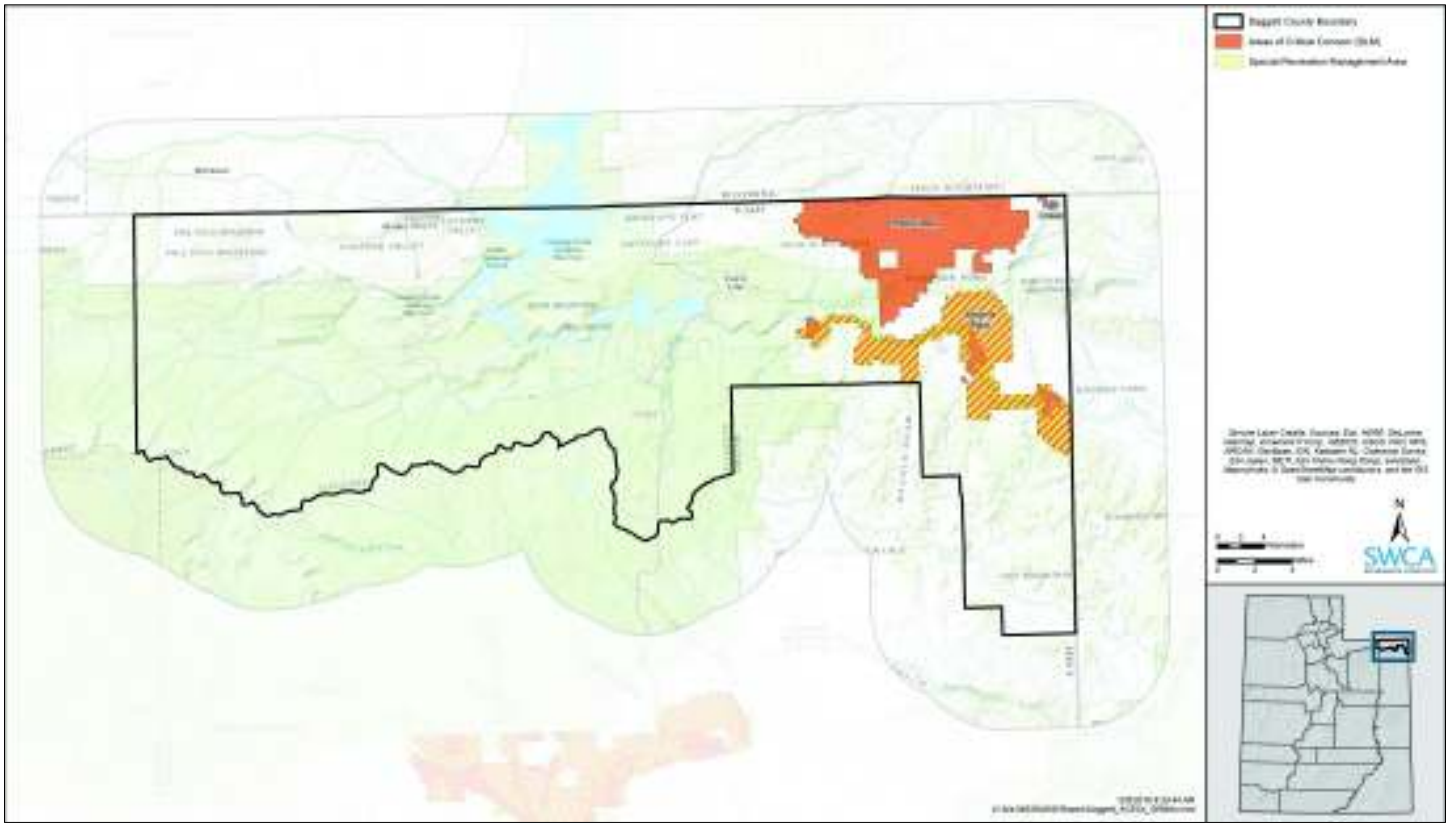

Figure LDU7. Areas of critical environmental concern and special recreation management areas in Daggett County.

This page intentionally blank

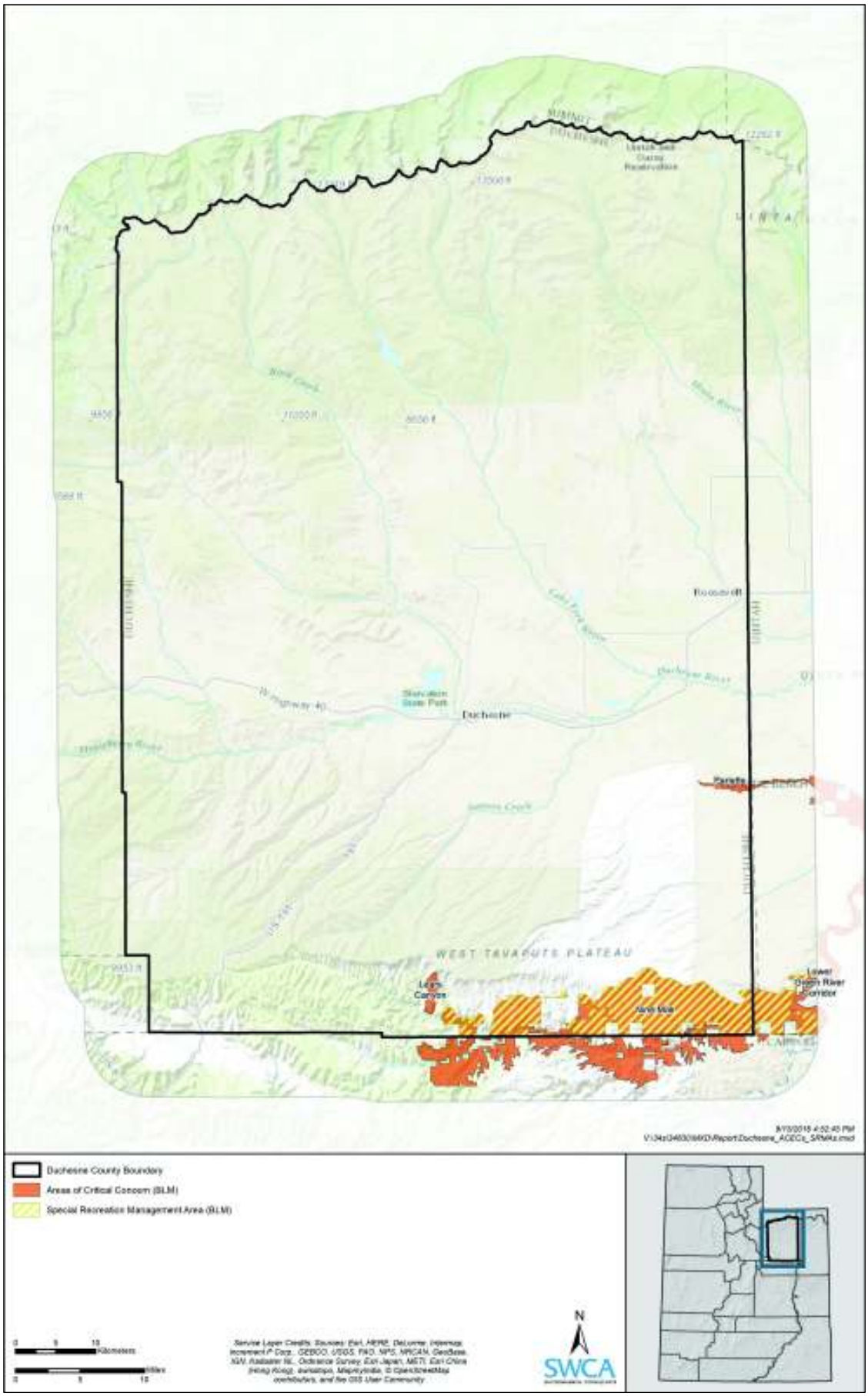

Figure LDU8. Areas of critical environmental concern and special recreation management areas in Duchesne County.

This page intentionally blank

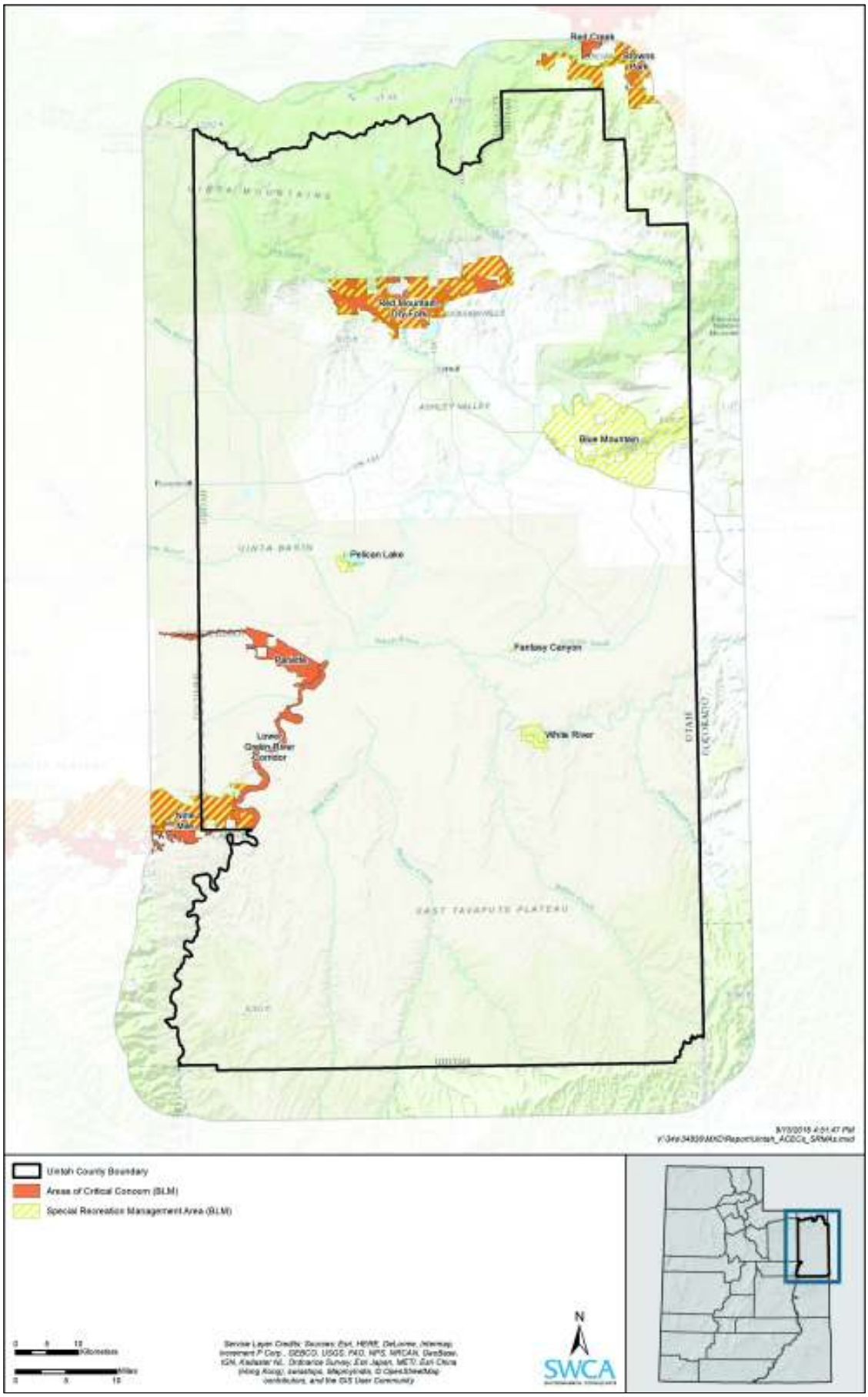

Figure LDU9. Areas of critical environmental concern and special recreation management areas in Uintah County.

This page intentionally blank

13. LIVESTOCK AND GRAZING

13.1. Findings

13.1.1. Animal agriculture in Utah represents the single largest sector of farm income in Utah. At a value of more than $1 billion, 25 of the state's 29 counties report livestock as the dominant agricultural sector (Utah Department of Agriculture and Food 2016).

13.1.2. In general, the number of head of cattle and calves in Utah has reduced since 2002. The number of farms raising beef cows in Utah has increased, but the number of beef cows, milk cows, sheep, and lambs has decreased (Table LSG1).

Table LSG1. Number of Livestock Farms from 2002 to 2012 in Daggett, Duchesne, and Uintah Counties

Livestock Type	Daggett County	Duchesne County	Uintah County
Cattle and calves inventory	3,726 (2002)	63,395 (2002)	35,385 (2002)
	3,647 (2007)	45,222 (2007)	43,856 (2007)
	2,638 (2012)	46,907 (2012)	36,085 (2012)
Beef cows	D* (2002)	D* (2002)	20,402 (2002)
	2,096 (2007)	24,823 (2007)	22,287 (2007)
	1,709 (2012)	28,082 (2012)	24,950 (2012)
Milk cows	D* (2002)	3,050 (2002)	1338 (2002)
	0 (2007)	2,249 (2007)	576 (2007)
	100 (2012)	2,608 (2012)	652 (2012)
Sheep and lambs	D* (2002)	7,525 (2002)	16,105 (2002)
	3,647 (2007)	2,072 (2007)	15,504 (2007)
	100 (2012)	1,514 (2012)	12,857 (2012)

Source: U.S. Department of Agriculture (2012).

* In keeping with the provisions of Title 7 of the United States Code, no data are published that would disclose information about the operations of an individual farm or ranch. All tabulated data are subjected to an extensive disclosure review before publication. Any tabulated item that identifies data reported by a respondent or allows a respondent's data to be accurately estimated or derived, was suppressed and coded with a 'D'. However, the number of farms reporting an item is not considered confidential information and is provided even though other information is withheld.

13.1.3. There has been a 25% increase in the number of farms in Uintah County and a 41% increase in the market value of products sold (U.S. Department of Agriculture [USDA] 2007, 2012). Daggett County has seen a 6% increase in the number of farms and a 36% increase in the market value of products sold (USDA 2007, 2012). Duchesne County had a 20% increase in the number of farms and 66% increase in the market value of products (USDA 2007, 2012). See Table LSG2 for more information.

13.1.4. Daggett County has seen a marked increase (267%) in government payments between 2007 and 2012. The average per farm receiving payments has also dramatically increased (269%). Uintah County has seen slight increases in each of 5% and 7%, respectively. Duchesne County government payments and average per farm receiving payments has decreased slightly, -3% and -2%, respectively (see Table LSG2).

Table LSG2. Number of Farms, Market Value, Government Payments, and Average Per Farm Receiving Payments for Daggett, Duchesne, and Uintah Counties, Years 2007 and 2012

County	2007	2012	Percentage Change
Daggett County			
Number of farms	48	51	+6
Market value of products sold Crop sales = 34%, livestock sales = 67%	$1,705,000	$2,322,000	+36
Government payments	$12,000	$44,000	+267
Average per farm receiving payments	$3,000	$11,076	+269
Duchesne County			
Number of farms	879	1,058	+20
Market value of products sold Crop sales = 33%, livestock sales = 67%	$34,427,000	$57,123,000	+66
Government payments	$469,000	$455,000	-3
Average per farm receiving payments	$5,209	$5,116	-2
Uintah County			
Number of farms	981	1,231	+25
Market value of products sold Crop sales = 46%, livestock sales = 54%	$33,147,000	$46,627,000	+41
Government payments	$620,000	$653,000	+5
Average per farm receiving payments	$7,560	$8,064	+7

Source: U.S. Department of Agriculture (2012).

13.1.5. In response to these declines, 2006 House Bill 145 – the Rangeland Improvement Act was passed, and the Utah Grazing Improvement Program was established. The goals of the act are to strengthen Utah's livestock industry, improve rural economies, and enhance the environment.

13.1.6. In Duchesne County, summertime allotments on the south slope of the Uinta Mountains are used by Wyoming ranchers.

13.1.7. The U.S. Forest Service is looking at the impacts of domestic versus bighorn sheep in the Uinta Mountains. They also converted an allotment from sheep to cattle to reduce conflicts with bighorn sheep.

13.1.8. Grazing on USFS land has declined. According to the Utah Department of Agriculture and Food (UDAF) in their *History of Grazing in Utah* summary, grazing has decreased from 2.7 million animal unit months (AUMs) in the 1940s to 614,000 AUMs in 2008 (UDAF 2016). Additional research suggests that although the percentage of forage harvested by livestock on federal lands is decreasing, the total number of AUMs in Utah has remained relatively stable over the past 60 years.

13.1.9. Rangelands in Utah are primarily administered by BLM and the U.S. Forest Service. Allotments for each agency are depicted in Figures LSG1–3 at the end of this section.

13.2. Objectives

13.2.1. Maintain cattle and sheep grazing on BLM and U.S. Forest Service lands at historic levels.

13.2.2. Maintain cattle and sheep grazing on BLM and U.S. Forest Service lands at historic seasons of use.

13.2.3. Avoid the reduction of grazing to support wildlife, especially non-native species.

13.2.4. Cooperate with U.S. Forest Service to address the transmission of disease from domestic sheep to wild sheep.

13.3. Policies and Guidelines

13.3.1. Manage lands to maintain or increase forage allocation for livestock grazing. Require annual checking and verification that lands are still up to standard.

13.3.2. Public land agencies should not decrease livestock grazing permits and grazing allocations below present levels considering the impacts of fire and drought.

13.3.3. Support good monitoring and allotment management plans. Encourage third-party data collection for allotment management plans. The Utah Department of Agriculture and Food should be involved in areas of dispute regarding range conditions.

13.3.4. The county opposes the reduction, relinquishment, or retirement of grazing AUMs in favor of conservation, wildlife, and other uses.

13.3.5. The county expects the Utah Division of Wildlife Resources to participate in managing forage and grazing allotments in relation to wildlife populations.

13.3.6. Wildlife populations should not be increased nor should new species be introduced until forage allocations have been provided and until an impact analysis has been completed for the effects on other wildlife species and livestock.

13.3.7. Reduction in forage allocation resulting from forage studies, drought, or other natural disasters will be shared proportionately by wildlife, livestock, and other uses.

13.3.8. Increases in forage allocation resulting from improved range conditions should be shared proportionally by wildlife, livestock, and other uses.

13.3.9. Wildlife target levels and/or populations must not exceed the forage assigned in the resource management plan forage allocations. Revise allocations as appropriate using recent forage data.

13.3.10. Land management plans, programs, and initiatives should provide the amount of domestic livestock forage, expressed in AUMs, for permitted, active use as well as the wildlife forage included in that amount, be no less than the maximum number of AUMs sustainable by range conditions in grazing allotments and districts, based on an on-the-ground and scientific analysis.

13.3.11. The county favors the best management practices that are jointly sponsored by cattlemen's, sportsmen's, and wildlife management groups such as chaining, logging, seeding, burning, and other direct soil and vegetation prescriptions that are demonstrated to restore forest and rangeland health, increase forage, and improve watersheds in grazing districts and allotments for the mutual benefit of domestic livestock and wildlife. When the practices described above

increase a grazing allotment's forage beyond the total permitted forage use that was allocated to that allotment in the last federal land use plan or allotment management plan still in existence as of January 1, 2005, a reasonable and fair portion of the increase in forage beyond the previously allocated total permitted use should be allocated to livestock as recommended by a joint, evenly balanced committee of livestock and wildlife representatives that is appointed and constituted by the governor for that purpose. The county favors quickly and effectively adjusting wildlife population goals and population census numbers in response to variations in the amount of available forage caused by drought or other climatic adjustments, and state agencies responsible for managing wildlife population goals and population census numbers will give due regard to both the needs of the livestock industry and the need to prevent the decline of species to a point where listing under the terms of the Endangered Species Act is possible, when making such adjustments.

13.3.12. The county recognizes grazing permits on public lands as an asset, which may be transferred by the permit owner. Such transactions must be processed by the land management agency promptly after proper notification. Any reduction in the size of the permit or forage allocation as a result of the transaction shall not be made without a specific scientific justification.

13.3.13. When grazing permits are withdrawn from a livestock operator because of grazing violations, the permit should not be reallocated to other uses and should be made available for continued livestock use as soon as possible.

13.3.14. Motorized access to public rangeland is vital to the permit holders and the land management agency for planning, management, and development. Motorized access should be maintained as open and improved as management needs require. Valid existing rights should be maintained.

13.3.15. The permit holder should be compensated for the remaining value of improvements made by the permit holder on reduced allotments, unless the permit was canceled for non-compliance with grazing regulations.

13.4. Literature Cited

U.S. Department of Agriculture (USDA). 2007. 2007 Census Volume 1, Chapter 2: County Level Data. Available at: https://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/Utah/. Accessed September 15, 2016.

———. 2012. Table 1. County Summary Highlights: 2012. 2012 Census of Agriculture - County Data. Available at: https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/Utah/st49_2_001_001.pdf. Accessed September 9, 2016.

Utah Department of Agriculture and Food (UDAF). 2016. History of Grazing in Utah. Available at: http://www.ag.utah.gov/conservation-environmental/grazing-improvement-program/history-of-grazing-in-utah.html. Accessed September 9, 2016.

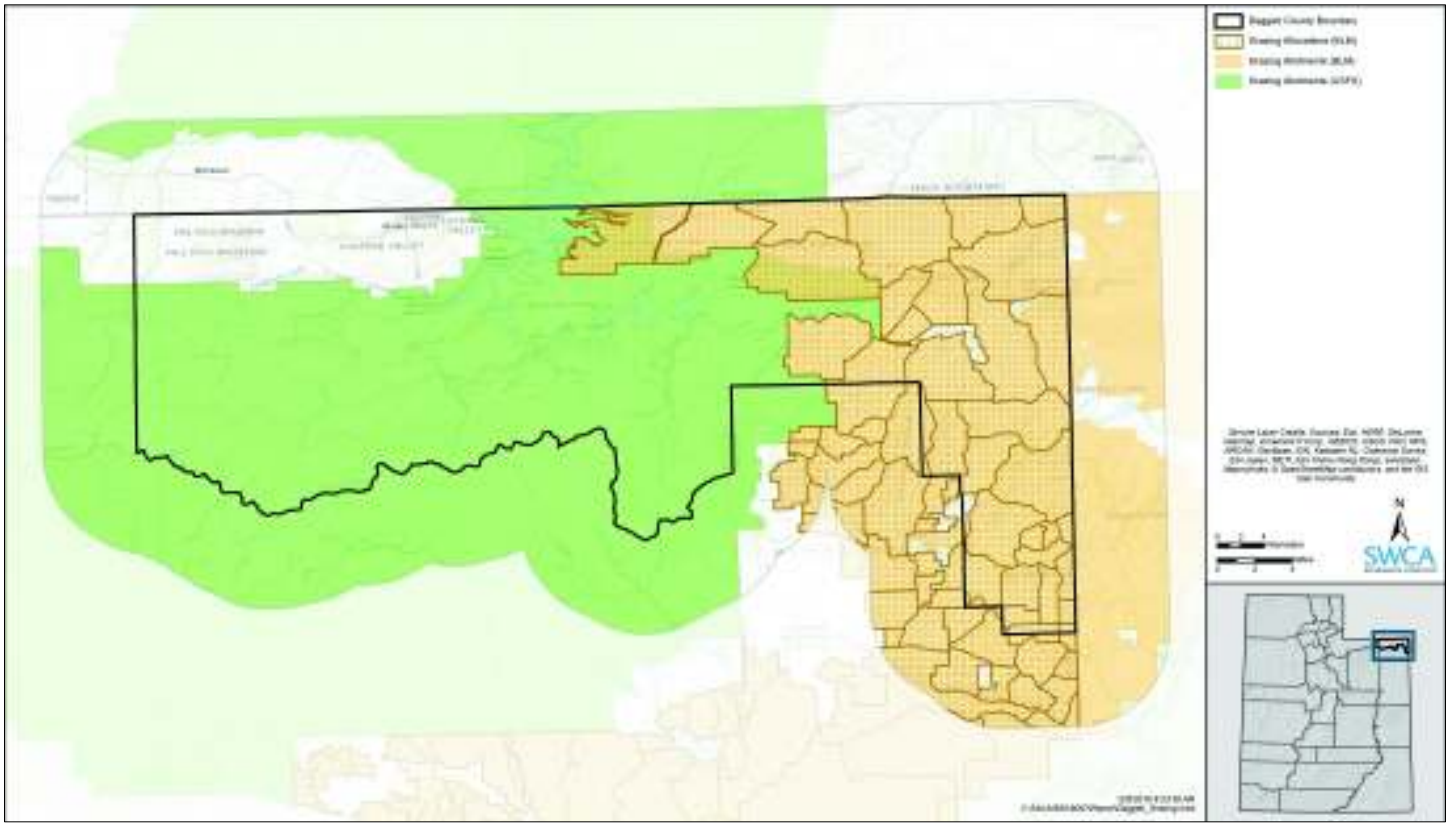

Figure LSG1. Grazing allotments in Daggett County.

This page intentionally blank

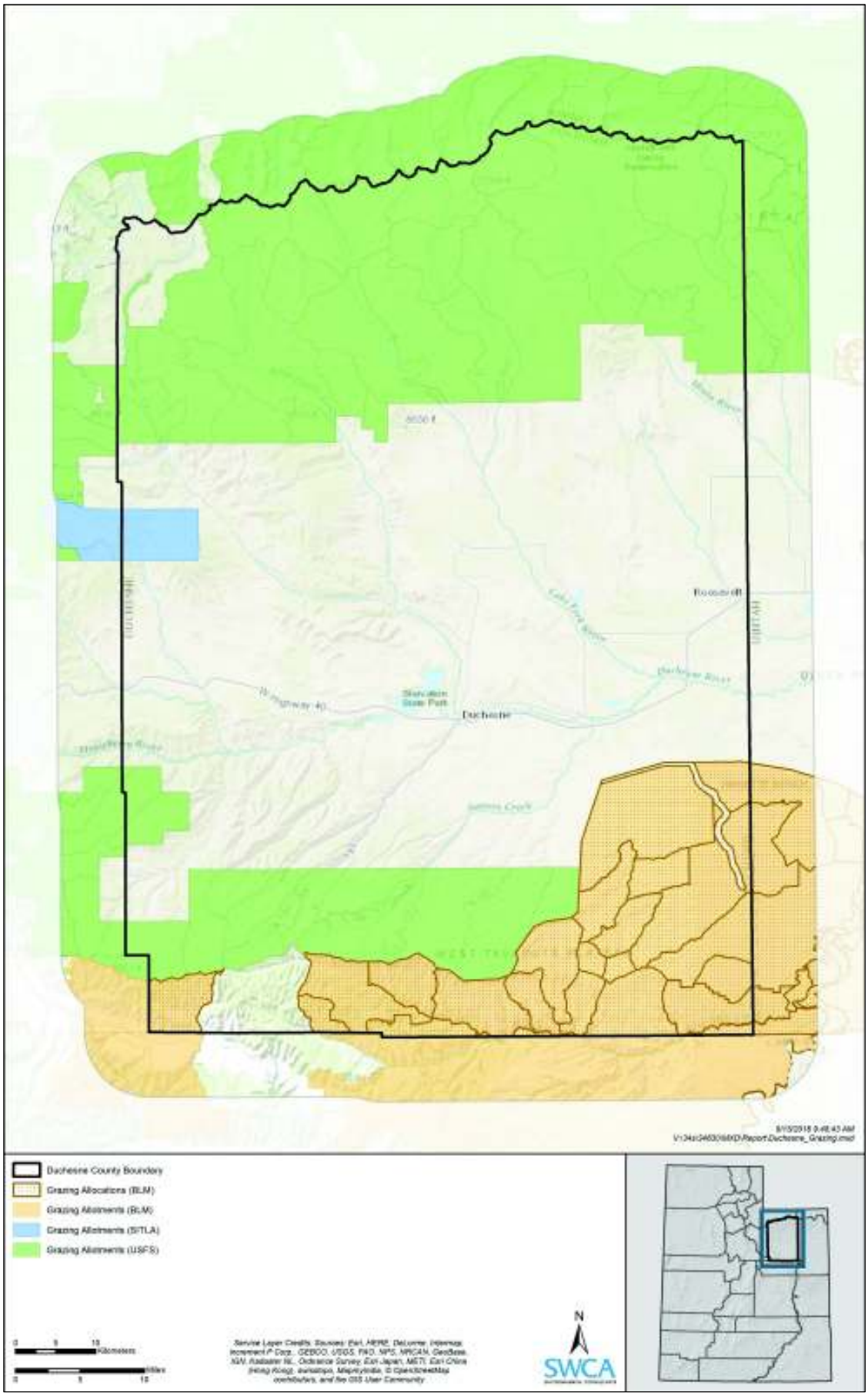

Figure LSG2. Grazing allotments in Duchesne County.

This page intentionally blank

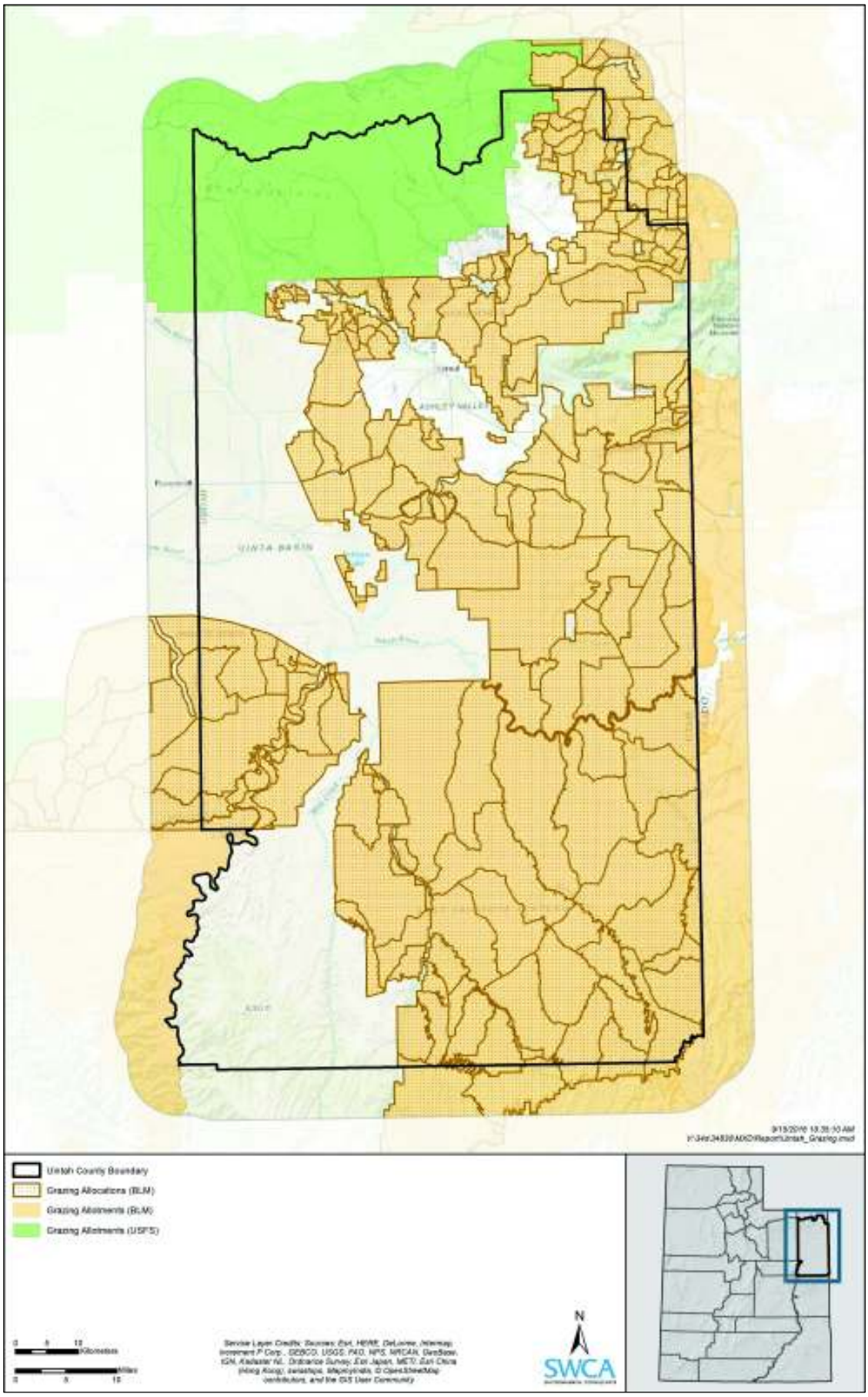

Figure LSG3. Grazing allotments in Uintah County.

This page intentionally blank

14. MINING

14.1. Findings

14.1.1. The mining industry is an important part of the history and economy of the Uintah Basin.

14.1.2. Continued access to mineral resources associated with public lands is paramount to the well-being of Uintah Basin residents and its economy, the State of Utah, the national economy, and national security especially because mining (e.g., phosphate) is on a different economic cycle than the oil and gas industry.

14.1.3. Approximately 79% of residents in the Uintah Basin believe that federal land managers should either maintain, moderately increase, or substantially increase the extent to which mineral exploration and extraction activities occur on Utah's public lands (Krannich 2008).

14.1.4. Utah Code 40-8-2 states that a mining industry is essential to the economic and physical well-being of the state. It is necessary to alter the Earth's surface to extract minerals required by our society, but such mining should be done in a manner that minimizes undesirable effects on the surroundings and provides for reclamation of the surface when mining is completed.

14.1.5. Utah Division of Oil, Gas and Mining permits for active or recent mining operations within the Uintah Basin include permits for the mining of aggregates (flagstone, sand, frack sand, gravel, bedrock, sandstone, limestone, mudstone, decorative stones, onyx, and calcite), industrial minerals (phosphate and Gilsonite), and energy fuels (tar sands and oil shale).

14.1.6. The energy industry in the Uintah Basin relies on a supply of rock and gravel aggregate products to construct roads and well pads needed to produce energy resources.

14.1.7. The *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan (*Vernal ROD/RMP; BLM 2008) allocates the following acreages for mineral exploration and development activities on public lands (information about oil and gas leasing can be found in the Energy and Mineral Resources section):

- Unavailable: 190,434 acres
- Open (subject to major constraints such as no surface occupancy [NSO]): 86,789 acres
- Open (subject to moderate constraints such as timing limitations/controlled surface use): 890,280 acres
- Open (subject to standard terms and conditions): 750,131 acres
- Total: 1,917,634 acres

14.1.8. The BLM Vernal ROD/RMP (BLM 2008) includes the following management decisions regarding mining on public lands (see Figures MIN1–3 at the end of this section) (information about oil and gas leasing can be found in the Energy and Mineral Resources section):

- For leasable minerals:
  - 36,846 acres of BLM-administered lands along 172 miles (approximately 11 miles in Duchesne County and 161 miles in Uintah County) of Gilsonite veins will be available for prospecting, leasing, and development (additional veins located through field study or prospecting will also be available if such are within "open" category lands).

  - 76,208 acres of BLM-administered lands (approximately 30,273 acres in Daggett County and 42,235 acres in Uintah County) will be open to phosphate prospecting, leasing, and development with standard and special stipulations within the phosphate occurrence areas.
  - Other minerals designated as leasable in the BLM Vernal ROD/RMP include coal, asphalt, sulfur, potassium, and sodium. However, no acreages are provided for these minerals.

- For locatable minerals:
  - Operations on BLM-administered lands open to mineral entry (as well as on claim locations that pre-date withdrawal) must be conducted in compliance with 43 Code of Federal Regulations (CFR) 3809 and 3715 regulations. The three levels of operation under these regulations are casual use, notice, plan of operation. A plan will have to be filed for operations usually conducted under notice in the following:
    - Areas in the National Wild and Scenic Rivers System and areas designated for potential addition to the system.
    - Designated areas of critical environmental concern.
    - Areas designated as part of the National Wilderness Preservation System and administered by the BLM.
    - Areas designated as "closed" to off-highway vehicle use as defined in 43 CFR 8340-5.
    - Any lands or waters known to contain federally proposed or listed threatened or endangered species or their proposed or designated critical habitat.
    - National Monuments and National Conservation Areas administered by the BLM; see 43 CFR 3809.11(c).
    - A plan must be submitted for any bulk sampling of 1,000 tons or more of presumed ore for testing (see 43 CFR 3809.11(b)).

- For saleable minerals and mineral materials:
  - All existing mineral material sites will be evaluated to determine continual need and to ensure that they are accommodating user needs.
  - Mineral material common use areas, community pits, free-use permits, competitive and noncompetitive contract sales, and testing and sampling of mineral materials may be authorized by the BLM in "open" areas.
  - 389,788 acres of BLM-administered lands (14,915 acres in Daggett County, 38,612 acres in Duchesne County, and 336,762 acres in Uintah County) will be available for mineral material disposal with standard and special stipulations (BLM 2008).
  - Close non–wilderness study area lands with wilderness characteristics to the disposal of mineral materials (106,178 acres).

14.1.9. In accordance with the Federal Land Policy and Management Act of 1976 (FLPMA), the U.S. Forest Service (USFS) must consider that all National Forest system lands are available for mineral exploration and development unless they are withdrawn from mineral entry and leasing. The total area within the boundary of the Ashley National Forest is 1,405,609 acres. Approximately 20,910 acres of this area are state and private land. This leaves 1,384,699 acres available subject to the constraints imposed by the following (U.S. Department of Agriculture [USDA] 1986):

- **Outstanding or Reserved National Forest System Lands Mineral Rights**: There are 22,356 acres of acquired federal lands within the Ashley National Forest where all mineral rights are outstanding or reserved. An additional 5,087 acres have the oil and gas rights only outstanding.
- **Existing National Forest System Lands Withdrawals:** In total, 137,729 acres of National Forest System lands in Daggett, Duchesne, and Uintah Counties have been formally withdrawn from all forms of appropriation under the public land laws. This includes 33,162.6 acres of withdrawals in Daggett County, 74,188.1 acres of withdrawals in Duchesne County, and 30,379.8 acres of withdrawals in Uintah County.
- **Special Legislation**: Approximately 185,645 acres (93,930 acres in Daggett County) of Ashley National Forest were withdrawn under Public Law 90-540 when the Flaming Gorge National Recreation Area was established on October 1, 1968. Approximately 273,426 acres were withdrawn with the passage of the Utah Wilderness Act of 1984.
  - **Lands with Wilderness Characteristics**: Daggett County = 40,660 acres, Duchesne County = 22,670 acres, Uintah County = 209,683 acres
  - **Wilderness Study Areas**: Daggett County = 7,207 acres, Uintah County = 46,831 acres.
- **Summary**: The National Forest land with the above constraints totals 523,344 acres. This leaves 861,355 acres, which include outstanding oil and gas rights (information about oil and gas leasing can be found in the Energy and Mineral Resources section) considered available for mineral appropriation and entry as follows:
  - Locatable minerals: 861,355 acres
  - Leasable minerals: 1,083,830 acres
  - Oil and gas: 1,083,830 acres

14.1.10. The Ashley National Forest applies the following objectives, standards, and guidelines to mineral activities on Forest System lands (USDA 1986):

- **Objective**: Control mineral activities to protect other resources, and restore disturbances resulting from mining or leasing activities.
  - Standards and Guidelines:
    - Accomplish needed reclamation work on abandoned and/or invalid mining claims.
    - Prohibit the depositing of material from drilling, processing, or site preparation in natural drainages or floodplains unless restricted to prevent contamination of overland flow.
    - Surface occupancy will be allowed only where impacts on surface resources will be acceptable.
    - Recommend against leasing and sale of minerals when critical adverse impacts cannot be mitigated.

        - Recommend withdrawal of lands from mineral leasing when there are sensitive, unique surface resources that cannot be adequately protected under current public laws and federal regulations.
        - Specific stipulations will be assigned on a case-by-case basis for all mineral activities and designed to protect other resource values.
        - Prohibit open pit phosphate mining visible from Flaming Gorge Reservoir or Highway 44 from Greendale to Manila.
        - Prohibit surface occupancy of mineral leases within 500 feet of highways and lakes.
        - Retain mineral entry withdrawal for the Sheep Creek Geological Area. Except for existing valid claims, the entire geologic area is withdrawn from all mineral entry.
        - Mineral activities will not be allowed on areas where the erosion hazard rating or geologic hazard rating is high.
        - Require leases, prospectors, and miners to complete reclamation work on all disturbed lands.
        - Disposal of mineral waste material will be allowed only when there is no risk to the public or will not result in adverse environmental impacts.
    - **Objective**: Inventory, conserve, and determine in-service needs, and establish proper use levels of all common variety minerals.
        - Standards and Guidelines:
            - Maintain an inventory of both proven and probable mineral material availability.
            - Estimate in-service demands and allow out-service use only in excess of that need.

14.1.11. The State of Utah School and Institutional Trust Lands Administration (SITLA) manages 3.4 million surface and subsurface acres, and an additional 1.1 million acres of mineral estate, which include land in the Uintah Basin (26,765 acres in Daggett County, 54,359 acres in Duchesne County, and 262,131 acres in Uintah County). The revenue generated from SITLA lands is transferred into the Permanent School Fund, and Utah's public schools are the beneficiary of 96% of all SITLA lands.

14.1.12. Utah Code 53C-2-4 and Utah Administrative Code R850 define SITLA's responsibilities regarding mineral leases.

14.1.13. The hard rock mineral, coal, and industrial mineral assets of SITLA are managed by the Administration's mining group. Revenue is generated primarily through rents and production royalties. Crushed stone aggregate and tar sands are the main mineral assets SITLA manages in the Uintah Basin. Information about oil and gas leasing can be found in the Energy and Mineral Resources section.

14.1.14. Minerals on Uintah and Ouray Reservation lands are managed by the Ute Tribe and the U.S. Bureau of Indian Affairs.

14.2. Objectives

14.2.1. Continue to allow access, and increase access to public lands for mining and mineral resource development in a manner that 1) satisfies local and national needs and provides for economical and environmentally sound exploration, extraction, and reclamation practices; and 2) is consistent with, and complementary to, the Uintah Basin's lifestyle, character, and economy.

14.3. Policies and Guidelines

14.3.1. Mining and mineral resource exploration and development are consistent with the multiple use philosophy for management of public lands. These activities constitute a temporary use of the land that will not impair its use for other purposes in the future. All mineral resource exploration activities shall comply with appropriate laws and regulations.

14.3.2. All available, recoverable solid mineral resources in the Uintah Basin should be seriously considered for contribution or potential contribution to the state's economy and the economies of the respective counties.

14.3.3. Those portions of the Uintah Basin shown to have reasonable mineral potential should be open to leasing and other access with reasonable stipulations and conditions, including mitigation, reclamation, and bonding measures where necessary, that will protect the lands against unnecessary and undue damage to other significant resource values.

14.3.4. Any prior existing lease restrictions in the Uintah Basin that are no longer necessary or effective should be modified, waived, or removed. Existing lease restrictions are discussed above in Section 14.1.

14.3.5. Restrictions against surface occupancy in the Uintah Basin should be eliminated, modified, or waived, where reasonable. Existing lease restrictions are discussed above in Section 14.1.

14.3.6. Any moratorium that may exist against the issuance of qualified mining patents in the Uintah Basin, and any barriers that may exist against developing unpatented mining claims and filing for new claims, should be carefully evaluated for removal. Existing lease restrictions are discussed above in Section 14.1.

14.3.7. Future withdrawals of land from mineral exploration and development should be avoided.

14.3.8. Consistent with Utah Code 63J-8-104, the Uintah Basin counties' support for mineral development provisions within federal land management plans will be withheld until the appropriate land management plan environmental impact statement clearly demonstrates the following:

- That the authorized planning agency has
  - considered and evaluated the mineral potential in all areas of the planning area as if the areas were open to mineral development under standard lease agreements; and
  - evaluated any management plan prescription for its impact on the area's baseline mineral potential.
- That the development provisions do not unduly restrict access to public lands for mineral exploration and development.
- That the authorized planning agency has supported any closure of additional areas to mineral leasing and development or any increase of acres subject to NSO restrictions by adhering to
  - the relevant provisions of FLPMA, 43 United States Code (USC) 1701 et seq.;
  - other controlling mineral development laws;
  - the controlling withdrawal and reporting procedures set forth in FLPMA, 43 USC 1701 et seq.; and

  - the relevant laws and regulations governing land management decisions of the USFS, the U.S. Fish and Wildlife Service, the Bureau of Indian Affairs, and other federal agencies managing land in the Uintah Basin.
- That the authorized planning agency evaluated whether to repeal any moratorium that may exist on the issuance of additional mining patents.
- That the authorized planning agency analyzed all proposed mineral lease stipulations and considered adopting the least restrictive necessary to protect against damage to other significant resource values.
- That the authorized planning agency evaluated mineral lease restrictions to determine whether to waive, modify, or make exceptions to the restrictions on the basis that they are no longer necessary or effective.
- That the authorized federal agency analyzed all areas proposed for NSO restrictions, and that the analysis evaluated
  - whether analysis of management prescriptions demonstrates that the proposed NSO prescription, in effect, sterilizes the mineral resources beneath the area; and
  - whether, if the minerals are effectively sterilized, the area must be reported as withdrawn under the provisions of FLPMA.

14.3.9. Identification of mineral potential and location is important for planning future energy needs and resource management. All management plans must address and analyze the possibility for the development of mineral resources where there is a reasonable expectation of their occurrence within the planning area.

14.3.10. All mining permits and applications should be processed on a timely basis, provided that the applicant follows proper procedures and submits all required information at the time of application. The regulations implementing the National Environmental Policy Act provide guidance on reducing delay (40 CFR 1500.5). The Utah Administrative Code R645 and R647 include the timelines and requirements for mining permit applications.

14.3.11. Development of mineral resources of the Uintah Basin should be encouraged. The bypassing of valuable mineral resources within developed areas should be avoided. The requirements to mitigate or reclaim mineral resource development projects should be based on credible evidence of significant impacts to natural or cultural resources.

14.3.12. Mining operations that serve the energy industry should be supported, provided that such operations comply with the requirements of county zoning ordinances that attempt to mitigate nuisance impacts on surrounding property owners.

- In split-estate situations, the subsurface owners shall work cooperatively with surface owners to resolve any nuisance issues.

14.3.13. The development of mining and mineral resources should be conducted in a manner that minimizes adverse impacts to water quality in accordance with local, state, and federal standards.

14.3.14. The development of mining and mineral resources should be conducted in a manner that uses water in accordance with terms set forth by the Utah Division of Water Rights and the State Engineer, county zoning ordinances, and is in compliance with other applicable laws and regulations, such as Utah Administrative Code R317-1-3.3, which requires that discharges having reasonable potential to discharge phosphorus implement new water quality monitoring requirements and the dischargers must meet specified effluent limits by January 1, 2020.

14.3.15. Provide, as appropriate, incentives to encourage economic development and stimulate natural resource-based business recruitment, retention, and expansion activities.

14.3.16. An environment that is conducive to owner-operator natural resource-based businesses should be encouraged, created, and maintained.

14.3.17. A broad spectrum of educational and vocational programs relating to natural resource use and development should be encouraged and supported.

14.3.18. County land use plans and regulations that complement the Uintah Basin's natural resource exploration and development interests and objectives should be maintained and should accommodate resource planning efforts.

14.3.19. Additional transportation options (including air, rail, pipeline, and interstate roadway system, corridors) to expand natural resource development opportunities and markets should be explored.

14.4. Literature Cited

Bureau of Land Management (BLM). 2008. *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan*. Available at: http://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.12251.File.dat/VernalFinalPlan.pdf. Accessed August 8, 2016.

Krannich, R.S. 2008. *Public Lands and Utah Communities: A Statewide Survey of Utah Residents*. Submitted to Public Lands Policy Coordination Office. Logan, Utah: Utah State University Institute for Social Science Research. Available at: http://publiclands.utah.gov/wp-content/uploads/2013/08/PublicLandsandCommunities.pdf. Accessed August 12, 2016.

U.S. Department of Agriculture (USDA). 1986. *Land and Resource Management Plan for the Ashley National Forest*. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5277279.pdf. Accessed on August 31, 2016.

This page intentionally blank

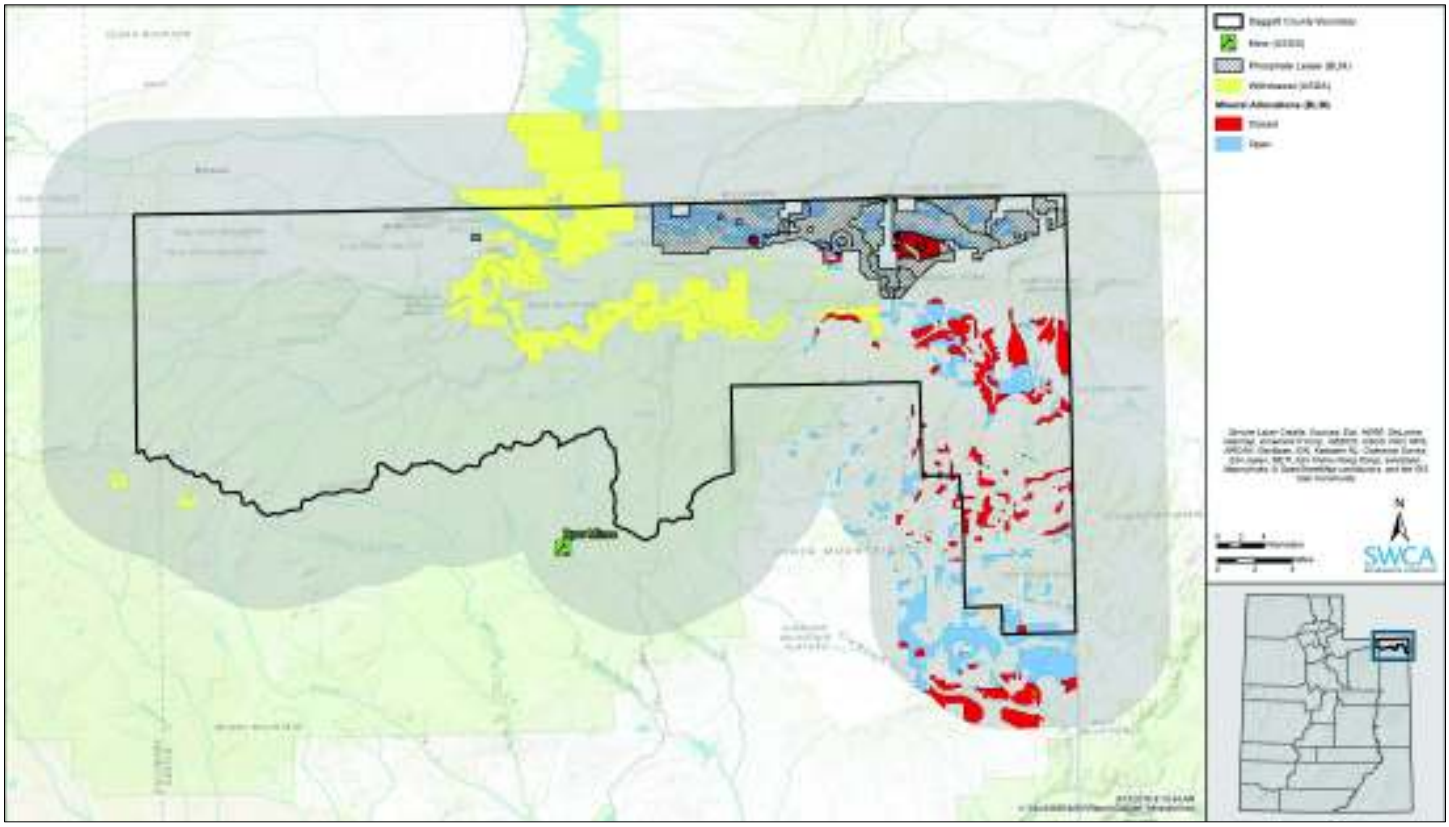

Figure MIN1. Mineral allocations and mining information in Daggett County.

This page intentionally blank

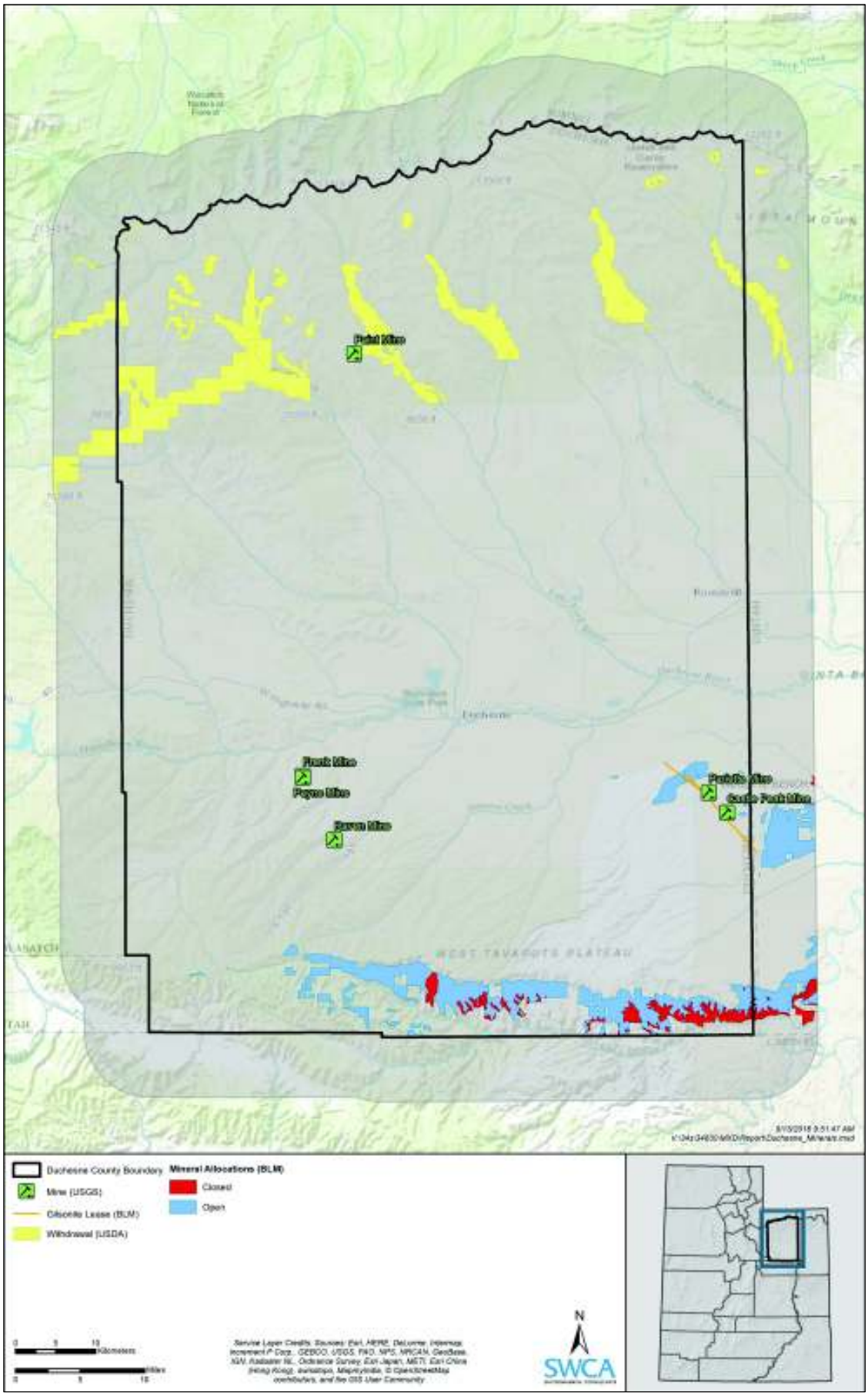

Figure MIN2. Mineral allocations and mining information in Duchesne County.

This page intentionally blank

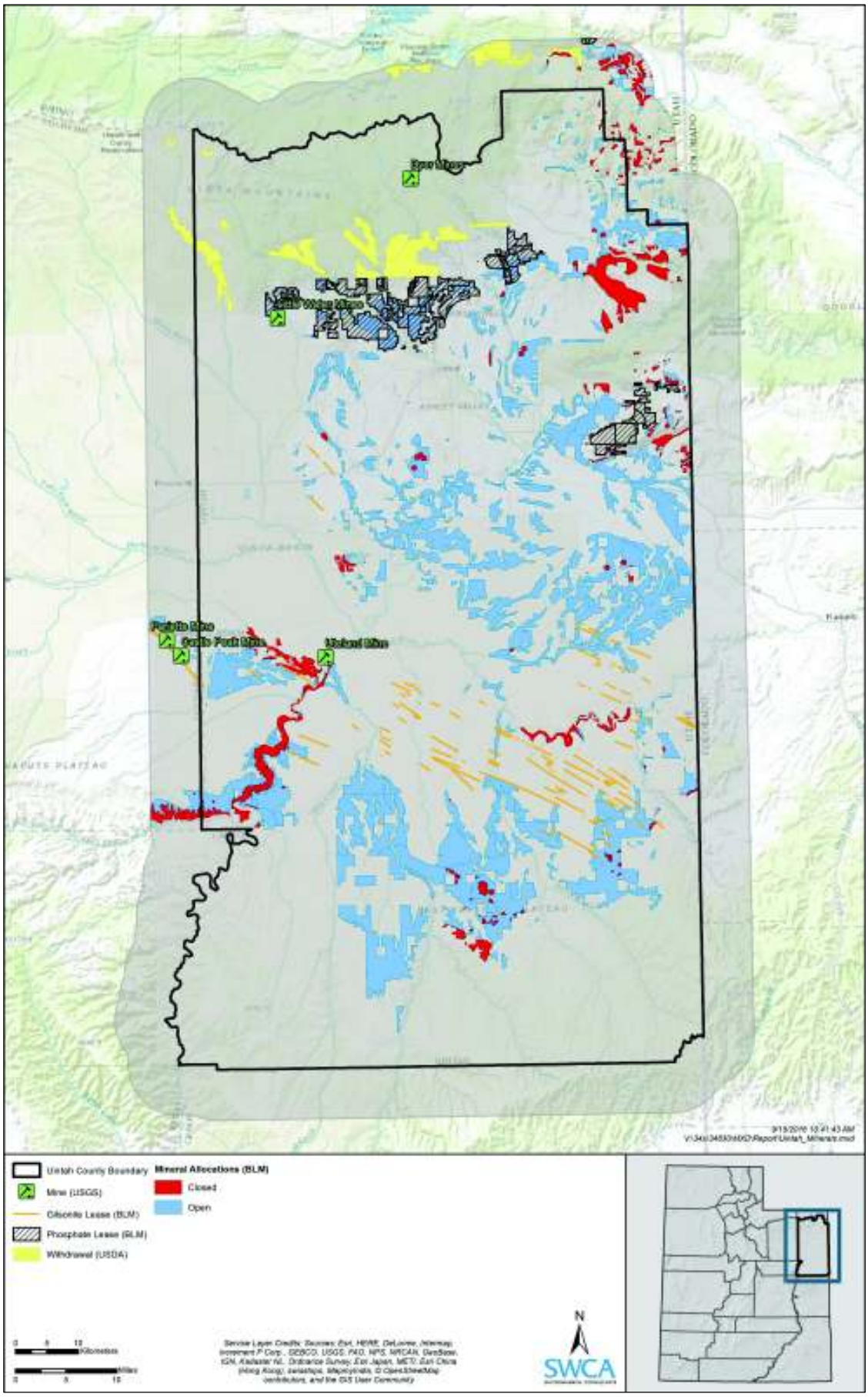

Figure MIN3. Mineral allocations and mining information in Uintah County.

This page intentionally blank

15. NOXIOUS WEEDS

15.1. Findings

15.1.1. As defined in the Utah Noxious Weed Act (Utah Code 4-17-2), a *noxious weed* is "any plant the commissioner determines to be especially injurious to public health, crops, livestock, land, or other property."

15.1.2. The Utah Noxious Weed Act in Utah Administrative Code R68-9 designates five classes of noxious weeds in the state:

- **Class 1A: Early Detection Rapid Response (EDRR) Watch List:** Declared noxious and invasive weeds not native to the state of Utah and not known to exist in the State that pose a serious threat to the state and should be considered as a very high priority.
- **Class 1B: EDRR:** Declared noxious and invasive weeds not native to the state of Utah and that are known to exist in the State in very limited populations and pose a serious threat to the State and should be considered as a very high priority.
- **Class 2: Control:** Declared noxious and invasive weeds not native to the state of Utah that pose a threat to the State and should be considered a high priority for control. Weeds listed in the control list are known to exist in varying populations throughout the state. The concentration of these weeds is at a level where control or eradication may be possible.
- **Class 3: Containment:** Declared noxious and invasive weeds not native to the State of Utah that are widely spread. Weeds listed in the containment noxious weeds list are known to exist in various populations throughout the state. Weed control efforts may be directed at reducing or eliminating new or expanding weed populations. Known and established weed populations, as determined by the weed control authority, may be managed by any approved weed control methodology, as determined by the weed control authority. These weeds pose a threat to the agricultural industry and agricultural products.
- **Class 4: Prohibited:** Declared noxious and invasive weeds, not native to the state of Utah, that pose a threat to the state through the retail sale or propagation in the nursery and greenhouse industry. Prohibited noxious weeds are annual, biennial, or perennial plants that the commissioner designates as having the potential or are known to be detrimental to human or animal health, the environment, public roads, crops, or other property.

15.1.3. The State of Utah in Utah Administrative Code R68-9 identifies 54 plant species as noxious weeds (Table NOX1). Eighteen of these species have been recorded in Daggett, Duchesne, and/or Uintah County (see Table NOX1)

15.1.4. Additional county-declared noxious weeds are as follows (Utah Department of Agriculture and Food 2015):

- Daggett County: None
- Duchesne County: western water hemlock (*Cicuta douglasii*)
- Uintah County: common teasel (*Dipsacus fullonum*)

Table NOX1. Utah State and Noxious Weed List and County Records for Daggett, Duchesne, and Uintah Counties

Common Name	Scientific Name	Utah Noxious Weed Class*	County Record†
African rue	*Peganum harmala*	1A	ND
Asian mustard	*Brassica tournefortii*	1B	ND
Bermudagrass	*Cynodon dactylon*	3	ND
Black henbane	*Hyoscyamus niger*	2	Daggett, Uintah
Camelthorn	*Alhagi maurorum*	1B	ND
Canada thistle	*Cirsium arvense*	3	Daggett, Duchesne, Uintah
Cogongrass	*Imperata cylindrica*	4	ND
Common crupina	*Crupina vulgaris*	1A	ND
Cutleaf vipergrass	*Scorzonera laciniata lacinata*	1B	ND
Dalmatian toadflax	*Linaria dalmatica*	2	Daggett, Duchesne
Dames rocket	*Hesperis matronalis*	4	ND
Diffuse knapweed	*Centaurea diffusa*	2	Uintah
Dyer's woad	*Isatis tinctoria*	2	Daggett, Duchesne, Uintah
Elongated mustard	*Brassica elongate*	1B	ND
Field bindweed	*Convolvulus arvensis*	3	Uintah
Garlic mustard	*Alliaria petiolata*	State or Utah Class 1B	ND
Giant reed	*Arundo donax*	1B	ND
Goatsrue	*Galega officinalis*	1B	ND
Hoary cress	*Cardaria draba* (*Cardaria* spp.)	3	Daggett, Duchesne, Uintah
Houndstongue	*Cynoglossum officinale*	3	Daggett, Duchesne, Uintah
Japanese knotweed	*Polygonum cuspidatum*	1B	ND
Jointed goatgrass	*Aegilops cylindrica*	4	Uintah
Leafy spurge	*Euphorbia esula*	2	Daggett, Duchesne, Uintah
Malta starthistle	*Centaurea melitensis*	1A	ND
Mediterranean sage	*Salvia aethiopis*	1A	ND
Medusahead	*Taeniatherum caput-medusae*	2	Duchesne,
Musk thistle	*Carduus nutans*	3	Daggett, Duchesne, Uintah
Myrtle spurge	*Euphorbia myrsinites*	4	ND
Oxeye daisy	*Leucanthemum vulgare* (syn. *Chrysanthemum leucanthemum*)	1B	Daggett
Perennial pepperweed	*Lepidium latifolium*	3	Daggett, Duchesne, Uintah
Perennial sorgum	*Sorghum halepense* (*S. almum*, *S.* spp.)	3	ND
Phragmites (common reed)	*Phragmites australis ssp.*	3	ND
Plumeless thistle	*Carduus acanthoides*	1A	ND
Poison hemlock	*Conium maculatum*	3	ND
Puncturevine	*Tribulus terrestris*	3	ND
Purple loosestrife	*Lythrum salicaria*	2	Uintah
Purple starthistle	*Centaurea calcitrapa*	1B	ND

Table NOX1. Utah State and Noxious Weed List and County Records for Daggett, Duchesne, and Uintah Counties

Common Name	Scientific Name	Utah Noxious Weed Class*	County Record†
Quackgrass	*Elymus repens*	3	ND
Rush skeletonweed	*Chondrilla juncea*	2	ND
Russian knapweed	*Rhaponticum (Acroptilon) repens*	3	Daggett, Duchesne, Uintah
Russian olive	*Elaeagnus angustifolia*	4	Daggett, Duchesne, Uintah
Scotch broom	*Cytisus scoparius*	4	ND
Scotch thistle	*Onopordum acanthium*	3	Duchesne, Uintah
Small bugloss	*Anchusa arvensis*	1A	ND
Spotted knapweed	*Centaurea stoebe* ssp. *micranthos*	2	Daggett, Duchesne, Uintah
Spring millet	*Milium vernale*	1A	ND
Squarrose knapweed	*Centaurea virgata*	2	ND
St. Johnswort	*Hypericum perforatum*	1B	Daggett
Syrian beancaper	*Zygophyllum fabago*	1A	ND
Tamarisk	*Tamarix ramosissima*	3	Daggett, Duchesne, Uintah
Ventenata (North African grass)	*Ventenata dubia*	1A	ND
Vipers bugloss	*Echium vulgare*	1B	ND
Yellow starthistle	*Centaurea solstitialis*	2	ND
Yellow toadflax	*Linaria vulgaris*	2	Uintah

* Data from Utah Administrative Code R68-9, in effect on June 1, 2016.

† Data from Automated Geographic Reference Center (2005), U.S. Department of Agriculture (2016). ND = the species is not listed for a particular county in the aforementioned references.

Notes: Class 1A: EDRR Watch List; Class 1B: EDRR; Class 2: Control; Class 3: Containment; Class 4: Prohibited.

15.1.5. Geospatial data for introduced plant species not classified as noxious weeds are also available for Daggett, Duchesne, and Uintah Counties through the Utah Automated Geographic Reference Center (Table NOX2).

Table NOX2. Introduced Plant Species Records for Daggett, Duchesne, and Uintah Counties

Common Name	Scientific Name	County Record
Annual sowthistle	*Sonchus oleraceus*	Uintah
Bull thistle	*Cirsium vulgare*	Daggett, Duchesne, Uintah
Bur buttercup	*Ceratocephala testiculata*	Uintah
Burdock	*Arctium minus*	Duchesne, Uintah
Cocklebur	*Xanthium* sp.	Uintah
Common mullein	*Verbascum thapsus*	Uintah
Crested wheatgrass	*Agropyron cristatum*	Uintah
Halogeton	*Halogeton glomeratus*	Uintah
Lesser burrdock	*Arctium minus*	Uintah
Perennial sowthistle	*Sonchus arvensis*	Uintah
Proso millet	*Panicum miliaceum*	Daggett

Table NOX2. Introduced Plant Species Records for Daggett, Duchesne, and Uintah Counties

Common Name	Scientific Name	County Record
Russian thistle	*Salsola tragus*	Uintah
Yellow salsify	*Tragopogon dubius*	Uintah
Western water hemlock*	*Cicuta douglasii*	Uintah
Yellow sweetclover	*Melilotus officinalis*	Uintah

Source: Automated Geographic Reference Center (2005), U.S. Department of Agriculture (2016).

*County-declared noxious in Duchesne County.

15.1.6. According to the Land and Resource Management Plan for the Ashley National Forest (U.S. Department of Agriculture 1986):

- The Ashley National Forest has been actively involved in the control of noxious farm weeds on U.S. Forest Service–administered lands in cooperation with state and local weed control organizations.
- *Noxious farm weeds* are defined as "Those pernicious plant species occurring unnaturally on National Forest System lands that have the greatest potential of contributing to an unfavorable economic impact on crop or pasture land downstream" (U.S. Department of Agriculture 1986).

15.1.7. In recognition of the ecological and economic impacts of weeds, the Utah Noxious Weed Act requires landowners to control state-listed noxious weed species on their lands. The act stipulates that each county and municipality in Utah must adopt a noxious weed management plan for its jurisdiction and identify the plant species in its area that it considers noxious weeds. In addition, if landowners and managers fail to control weeds on their property, the county or municipality may legally enter the property, control weeds, and charge the landowner for the cost of control work.

15.1.8. The highest priority weeds in Uintah County are black henbane, Dalmatian toadflax, diffuse knapweed, dyer's woad, leafy spurge, perennial pepperweed, poison hemlock, Russian knapweed, Russian olive, Scotch thistle, and spotted knapweed (Belliston and Cazier 2016).

15.1.9. An important component of adaptive management is an integrated weed management plan that uses multiple weed management techniques. Integrated weed management is a process that combines biological, chemical, mechanical, and cultural management techniques to synergistically control target weed species with minimal adverse impacts to non-target organisms (Colorado Natural Areas Program et al. 2000). Most traditional weed management concentrates only on suppression, typically by using herbicides; however, this approach does not address the ultimate causes of weed invasion. Integrated weed management uses ecological principles of plant community establishment and persistence and integrates strategies that are practical, economical, and protective of public and environmental health (Colorado Natural Areas Program et al. 2000). By implementing multiple weed control methods, the likelihood that one of the methods will control or eliminate the target weed species is increased. Objectives of an adaptive weed management process that uses the principles of integrated weed management are as follows:

- **Work to establish and maintain functioning native plant communities.** Disturbance—both anthropogenic and natural—is the primary factor in the degradation of native plant communities and spread of noxious weeds.

- **Implement appropriate prevention methods.** Preventing weeds from invading a site in the first place is the most effective and least costly method for controlling weeds.
- **Choose appropriate control actions.** Control strategies are a function of the biology and ecology of the target species. The appropriate strategy should also be
  - applied at the most effective time,
  - the least damaging to non-target organisms,
  - the least hazardous to human health,
  - the least damaging to the general environment,
  - the most likely to reduce the need for weed control over the long term,
  - the most easily implemented, and
  - the most cost effective in the short term and long term.

15.1.10. Cooperative weed management areas (CWMAs) can be an effective resource in the prevention, detection, and suppression of noxious and invasive weeds. Coordinated mechanical, chemical, and biological control over large areas by multiple landowners has proven successful for a variety of weed species. These areas replace jurisdictional boundaries in favor of natural boundaries that facilitate cooperation, coordination, and implementation of effective integrated weed management programs for listed noxious weeds. For example, the Upper Green River CWMA, which includes Daggett County in Utah and neighboring Sweetwater County in Wyoming, was formed to facilitate the management of weeds on lands under various jurisdictions and to combine resources for education opportunities and weed control activities (Bureau of Land Management [BLM] 2008). Other CWMAs include the Uintah Basin CWMA and the North Ute Indian Tribe CWMA in Uintah County, and the West Basin CWMA in Duchesne County (U.S. Forest Service 2016). In 2003, the Duchesne County Weed Management Area and the Uintah County Weed Management Area were formed to meet similar objectives.

15.1.11. Priority weed species for management on BLM lands are Russian knapweed, spotted knapweed, Canada thistle, perennial pepperweed, hoary cress, musk thistle, Scotch thistle, and leafy spurge (BLM 2008).

15.1.12. The Duchesne County Conservation District identifies the following challenges associated with noxious weeds in Duchesne County (Duchesne County 2016):

- The spread of weed seeds by human activity.
- Limited availability of resources for controlling noxious weeds.
- Weed control efforts are challenging to coordinate because of the mixture in landownership.
- The spread of Russian olive into pasture and rangelands.
- The spread of noxious weeds from adjacent lands.

15.2. Objectives

15.2.1. Reduce or eliminate noxious weed infestations and minimize the establishment of new weed species across jurisdictional boundaries using adaptive management and integrated weed management approaches.

15.2.2. Accomplish weed control without adverse human, grazing, and environmental effects.

15.2.3. In areas where weeds have been treated, revegetate and restore with desirable native plant species.

15.2.4. Manage noxious weeds to enhance wildlife habitat and farmland.

15.3. Policies and Guidelines

15.3.1. Support EDRR of new weed infestations.

15.3.2. Comply with existing state, county, and federal rules, regulations, ordinances, and directives pertaining to noxious weeds.

15.3.3. Comply with existing state, county, and federal rules, regulations, and directives pertaining to the application of herbicides to manage noxious weeds.

15.3.4. Work cooperatively with other agencies and entities to reduce or eliminate noxious weed species and minimize or prevent the establishment of new infestations and new weed species.

15.3.5. Implement weed monitoring programs in addition to county weed mapping programs.

15.3.6. Create noxious weed awareness and education programs to teach people about the economic and environmental impacts of weeds.

15.3.7. Employ a variety of (integrated) weed management techniques including prevention, biological controls, chemical controls, and mechanical controls.

15.4. Literature Cited

Automated Geographic Reference Center. 2005. Noxious weeds geographic information systems data. Available at: http://gis.utah.gov/data/bioscience-overview/. Accessed January 12, 2106.

Belliston, N., and M. Cazier. 2016. Email conversation between Nathan Belliston, Uintah County Weed Supervisor, and Matt Cazier, Uintah County Community Development Director. August 31, 2016.

Bureau of Land Management (BLM). 2008. *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan*. Available at: http://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.12251.File.dat/VernalFinalPlan.pdf. Accessed August 8, 2016.

Colorado Natural Areas Program, Colorado State Parks, Colorado Department of Natural Resources, and the Colorado Department of Agriculture. 2000. *Creating an Integrated Weed Management Plan: A Handbook for Owners and Managers of Lands with Natural Values.* Caring for the Land Series, Vol. IV. Colorado Department of Agriculture.

Duchesne County. 2016. Duchesne County General Plan County Policies, Objectives, Action Steps & Resource Management Plan. Copies available at the Duchesne County Office, Duchesne, Utah.

U.S. Department of Agriculture (USDA). 1986. *Land and Resource Management Plan for the Ashley National Forest*. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5277279.pdf. Accessed on August 31, 2016.

———. 2016. Invasive Plants Current geographic information systems data. Available at: http://data.fs.usda.gov/geodata/edw/datasets.php. Accessed April 14, 2016.

U.S. Forest Service. 2016. Noxious Weeds – Cooperative Weed Management Areas. Available online: http://www.fs.usda.gov/detail/r4/landmanagement/resourcemanagement/?cid=fsbdev3_015966. Accessed August 15, 2016.

Utah Department of Agriculture and Food. 2015. *County Declared Noxious Weeds in Utah*. Available at: http://ag.utah.gov/documents/ISM_CountyNoxiousWeeds_2015.pdf. Accessed August 8, 2016.

This page intentionally blank

16. RECREATION AND TOURISM

16.1. Findings

16.1.1. Daggett, Duchesne, and Uintah Counties have identified the recreation and tourism industries as an important and contributing part of their economy and tax base. These industries have a stabilizing effect on the economic cycles of agriculture and the oil and gas industry. Public lands are a component of recreation and tourism in northeastern Utah.

16.1.2. Federal, state, county, and even private lands offer a broad range of recreational opportunities, including camping, hiking, fishing, hunting, horseback riding, biking, nature appreciation, interpretive trips, wildlife watching, boating, and other tourism-related activities. Public lands also support businesses that offer such opportunities to the public, including outfitters and guides, whitewater rafting, outdoor camps, wilderness/survival schools, and dude ranches.

16.1.3. Every 5 years, the State of Utah, through the Utah Division of Parks and Recreation (UDPR), develops a state comprehensive outdoor recreation plan (SCORP), which enables the state to qualify for funding under the federal Land and Water Conservation Fund. The most recent SCORP was completed in September 2013 (UDPR 2013).

- The SCORP planning process includes a survey of Utah residents to assess their perception of needed recreation facilities in the state. Daggett, Uintah, and Duchesne County residents were surveyed as part of the Uintah Basin Planning District. Survey results show that over 60% of the basin residents felt that opportunities for outdoor recreation are extremely important. Over 50% of the survey respondents stated that they are willing to travel over 25 miles to participate in outdoor recreation.
- SCORP survey respondents in the basin indicated that they frequently participate in camping, picnicking, fishing, swimming, off-highway vehicle (OHV) riding, horseback riding, hunting, hiking, motorized water sports, wildlife viewing, and birdwatching. Field-based sports, court-based sports, walking, running, and golf were also popular. Those surveyed saw a need for more swimming pools, paved trails, OHV riding areas, camping areas, and parks. The percentage of Uintah Basin respondents who participated in camping over the previous 12 months was 85.9%; the highest of any planning district in the state. Among the planning districts, the Uintah Basin also had the overall highest proportion of fishing participants at 76%. There were also relatively high proportions of participants in OHV riding, horseback riding, hunting, and wildlife viewing or birdwatching. Basin respondents placed high importance on OHV riding areas, but commented on low area availability (12%). This indicates that people in the basin are extremely engaged in outdoor recreation pursuits and that these activities are often resource based (UDPR 2013).
- Responses to the importance and satisfaction rating scales indicate that Uintah Basin Planning District residents see a greater need for swimming pools, paved trails, OHV riding areas, camping areas, and parks and other parks and recreation facilities (UDPR 2013).

16.1.4. A variety of recreational opportunities and experiences are available for residents and visitors alike to enjoy in the basin. The Uinta Mountains have more than 1,000 natural lakes and small streams, over half of which support populations of game fish. These mountains contain Utah's largest designated wilderness area and highest peak (Kings Peak). Many of the trailheads in this beautiful backcountry are within a 90-minute drive from Salt Lake City. (State of Utah 2013). One of the West's most spectacular reservoirs (Flaming Gorge) is also located in this part of the state and serves as a grand playground for boaters and anglers. High desert landscapes provide unparalleled vistas and opportunities for OHV use, hunting, and other recreational pursuits.

16.1.5. Public lands in the Uintah Basin provide many landscapes, resources, and unique features for recreation. These lands include Ashley National Forest, Dinosaur National Monument, Browns Park National Wildlife Refuge, Ouray National Wildlife Refuge and National Fish Hatchery, four state parks (Red Fleet, Starvation, Steinaker, Utah Field House of Natural History), Jarvie Ranch, Dry Fork, Flaming Gorge-Uintas National Scenic Byway, Fantasy Canyon, Green River, White River, Moonshine Arch, Nine Mile Canyon, Pariette Wetlands, Pelican Lake, and the Book Cliffs with its myriad opportunities for hunting, hiking, and wildlife watching. Some of these areas have been included as part of larger special recreation management areas designated in the *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan* (Bureau of Land Management [BLM] 2008). As an indication of their popularity, visitation at Starvation, Steinaker, and Utah Field House of Natural History State Parks has all increased between fiscal years 2014 and 2015 by 15%, 17%, and 10%, respectively (Leaver 2016).

16.1.6. Water-based recreation opportunities (e.g., boating, rafting, and fishing) for Daggett, Uintah, and Duchesne Counties have relatively fewer managerial concerns than the other regions throughout the state. Steinaker provides opportunities for personal watercraft use, beach use, etc. Red Fleet is more scenic and a little quieter. Flaming Gorge is an important attraction in the region and provides excellent fishing. Although a very large waterbody, Flaming Gorge has a relatively short season. Starvation Reservoir has the mandate to increase use and subsequently increase revenue (UDPR 2010). Fishing is a tremendously popular recreation activity in the Uintah Basin (UDPR 2013). Fishing license sales in Uintah County outstripped sales in Duchesne and Daggett County in 2010 (Utah Division of Wildlife Resources 2013).

16.1.7. Between 2010 and 2013, statewide leisure and hospitality employment grew 12%, whereas all other employment grew at a lesser rate of 10%. Approximately 10% of jobs in eastern Utah (defined as Daggett, Duchesne, Uintah, Carbon, and Emery Counties) were in the leisure and hospitality sector. This is the lowest of all the regions analyzed in Utah. However, Daggett County, home to Flaming Gorge National Recreation Area, has the greatest ratio of leisure and hospitality jobs to total private industry jobs (73%) in Utah. Over a third of total wages in Daggett County was generated in the leisure and hospitality sector (41%, second highest in the state) (Bureau of Economic and Business Research [BEBR] 2014).

16.1.8. Statewide, Utah residents make up approximately 45% of visitors to Utah national and state parks. After transportation costs, non-resident visitors spend more of their total expenditures on lodging and dining out; whereas resident travelers spent larger shares of their total spending on groceries, shopping, and entertainment (Leaver 2016). Non-resident visitor spending is significant because it augments and adds outside dollars to Utah's economy. Resident spending recirculates dollars already present in the state's economy; however, Utah resident visits do contribute non-local dollars and spend their money outside their county of origin (BEBR 2014). Regarding spending in the Uintah Basin, anecdotal information suggests that because Daggett, Duchesne, and Uintah Counties are so close to the Wasatch Front, which comprises most of Utah's population, Utah resident visits may involve more day trips and subsequently not spend as much locally before returning home.

16.2. Objectives

16.2.1. Support outdoor recreation as part of a balanced plan of economic growth and quality of life.

16.2.2. Leverage federal and state recreation areas, parks, and sites as county-based scenic and recreation economic assets.

16.2.3. Coordinate Uintah Basin Association of Governments and county recreation economic development efforts and activities with other state, local, and private interests, e.g., destination resorts and private facilities.

16.2.4. Cultivate recreation and tourism facility development and maintenance "partnerships" with agencies and special interest groups.

16.2.5. Identify and preserve locally important recreation resources for future generations.

16.2.6. Support active management of conflicting recreational uses so that multiple users, e.g., motorized and non-motorized user groups, are accommodated to the greatest extent practicable.

16.3. Policies and Guidelines

16.3.1. BLM or U.S. Forest Service must coordinate and closely consult with county and municipal governments who are conducting inventories related to recreation resources and opportunities or scenic values, and these inventories should reflect a consensus among those governmental agencies.

16.3.2. Public land agencies must evaluate proposed plans and actions for impacts on existing recreational resources and activities and potential future activities. This should be coordinated with county and municipal governments.

16.3.3. Plan and manage recreational activities to be compatible with resource development. Resource development, recreation, and tourism are compatible when properly managed.

16.3.4. Management plans and decisions must provide opportunities to meet the increased demand for dispersed and developed recreational opportunities.

16.3.5. County land use plans and regulations will support expanding recreation opportunities and the protection and enhancement of traditional recreation areas and sites.

16.3.6. BLM or U.S. Forest Service must coordinate and consult closely with county and municipal governments on any proposals for special designations (Special Recreation Management Areas, wilderness, etc.) that may affect current and future recreation use.

16.3.7. During land use planning processes, the county will identify potential locations of desired recreational facilities.

16.3.8. When possible, development proposals will be sensitive to county outdoor recreation, scenic quality, and open space preservation objectives.

16.3.9. County-identified public recreation areas and lands with unique natural features may be preserved through easements or other common open space preservation strategies.

16.3.10. Federal and state land management should support recreation and tourism and associated businesses in the county, including the broad range of activities from off-road vehicle use to primitive outdoor adventures.

16.3.11. Encourage private sector development of recreational facilities and services using development incentives or other feasible tools as appropriate and in coordination with county commissioners and city councils.

16.3.12. Cultivate recreation facilities and services (e.g., dinosaur trails system) development and maintenance "partnerships" with other entities, agencies, and special interest groups as appropriate and in coordination with county commissioners, city councils, and recreation special service district boards.

16.3.13. Permitting of commercial business enterprises or concessions on federal lands that reflect the custom and culture of the county in terms of recreation and outdoor lifestyles and uses should be encouraged.

16.3.14. Management decisions should provide for the continuation or expansion of outfitting and lodge operations. They are an important part of local history and tradition and they contribute substantially to the local economies.

16.3.15. Encourage recreation-oriented economic development activities that are consistent with the Uintah Basin's character and lifestyle.

16.3.16. Permit or lease terms and conditions (e.g., grazing permits) must allow OHV access and use for needed and legitimate purposes to enter a specific area on public lands.

16.3.17. In accordance with Utah Code 63J-8-104(g), federal land management agencies shall achieve and maintain traditional access to outdoor recreational opportunities available on federal lands as follows:

- Hunting, trapping, fishing, hiking, camping, rock hounding, OHV travel, biking, geological exploring, pioneering, recreational vehicle camping, and sightseeing are activities that are important to the traditions, customs, and character of the county and should be allowed to continue.
- Wildlife hunting, trapping, and fishing should continue at levels determined by the Utah Wildlife Board and the Utah Division of Wildlife Resources. Traditional levels of group camping, group day use, and other traditional forms of outdoor recreation, both motorized and non-motorized, should be allowed to continue.
- The broad spectrum of outdoor recreational activities available on the subject lands should be available to citizens for whom a primitive, non-motorized, outdoor experience is not preferred, affordable, or physically achievable.

16.3.18. Federal land outdoor recreational access should not discriminate in favor of one particular mode of recreation to the exclusion of others.

16.3.19. Recreation resource protection and management must provide for continued and reasonable access to and development of property rights within the area and provide for full use and enjoyment of these rights.

16.3.20. Existing levels of motorized public access to traditional outdoor recreational designations in the county must be continued, including both snow machine and OHV use.

16.3.21. OHV use should be limited to trails, roads, or areas specifically designated by the agency for that purpose. However, the availability and overall mileage of such trails should be expanded to meet demand. OHV loops should be provided to connect communities with the region. Open area riding as well as looped and stacked trail systems should be offered, with a variety of levels of trail difficulty.

16.3.22. Group camping and day use sites and availability must be continued and expanded to meet demand.

16.4. Literature Cited

Bureau of Land Management (BLM). 2008. *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan*. Available at: http://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.12251.File.dat/VernalFinalPlan.pdf. Accessed August 8, 2016.

Bureau of Economic and Business Research (BEBR). 2014. The State of UT Tourism Travel and Recreation Industry. *Utah Economic and Business Review* 74(4):1–15.

Leaver, J. 2016. *The State of Utah's Travel and Tourism Industry, 2015*. Kem C. Gardner Policy Institute, University of Utah. April 2016. Available at: http://gardner.utah.edu/wp-content/uploads/2016/05/TourismReport-v7.pdf. Accessed September 8, 2016.

State of Utah. 2013. *The State of Utah Outdoor Recreation Vision*. January 2013. Available at: http://utah.gov/governor/docs/OutdoorRecreationVision.pdf. Accessed September 9, 2016.

Utah Division of State Parks and Recreation (UDPR). 2010. *Utah Boating Program Strategic Plan 2010*. Available at: http://stateparks.utah.gov/stateparks/wp-content/uploads/sites/26/2015/03/BoatingStrategicPlan2010.pdf. Accessed September 8, 2016.

———. 2013. *2014 Utah State Comprehensive Outdoor Recreation Plan*. September 2013. Available at: http://static.stateparks.utah.gov/docs/SCORP2014.pdf. Accessed September 12, 2016.

Utah Division of Wildlife Resources (DWR). 2013. Utah's Blue Ribbon Fisheries presentation. Utah Blue Ribbon Fisheries Advisory Council. Accessed September 8, 2016 at: http://wildlife.utah.gov/blueribbon/pdf/overview.pdf.

This page intentionally blank

17. RIPARIAN AREAS

17.1. Findings

17.1.1. Riparian areas are functioning properly when adequate vegetation, landforms, or large woody debris is present to dissipate stream energy, filter sediment, capture bedload, aid floodplain development, improve floodwater retention and groundwater recharge, develop root masses that stabilize streambanks against cutting action, develop diverse ponding and channel characteristics, and support greater biodiversity (Leonard et al. 1997).

17.1.2. The Utah Division of Wildlife Resources (DWR) considers mountain riparian and lowland riparian areas as key habitats in their *Utah Comprehensive Wildlife Strategy*, effective October 2 2005–2015 (DWR 2005). The *Utah Wildlife Action Plan* references riparian areas under key aquatic habitats and includes policies promoting their protection (Utah Wildlife Action Plan Joint Team 2015). The DWR document *A Handbook of Riparian Restoration and Revegetation for the Conservation of Land Birds in Utah with Emphasis on Habitat Types in Middle and Lower Elevations* indicates the importance the state places on these resources (Gardner et al. 1999).

17.1.3. The Utah Bureau of Land Management (BLM) uses a statewide guidance document called *Riparian Management Policy* to manage riparian areas. The policies in this document generally include maintaining or improving riparian areas to proper functioning condition through enhancement, restoration, protection, and preservation in cooperation with interested federal, state, tribal, and local governments as well as private conservation and volunteer groups.

17.1.4. Using the *Riparian Area Management* (Leonard et al. 1997), the BLM and the U.S. Forest Service (USFS) provide guidance for grazing management in riparian-wetland areas.

17.1.5. Table RIP1 provides acreage of native and invasive riparian communities in the Uintah Basin counties as determined by the U.S. Geological Survey's (USGS) National Gap Analysis Program. Figures RIP1–3 at the end of this section show these riparian communities by county.

Table RIP1. Acres of Southwestern Regional Gap Analysis Riparian Communities in Daggett, Duchesne, and Uintah Counties

Riparian Community	Daggett County	Duchesne County	Uintah County
Invasive Southwest Riparian Woodland and Shrubland	9.8	1,126	10,811
Rocky Mountain Lower Montane Riparian Woodland and Shrubland	3,276	16,795	37,132
Rocky Mountain Subalpine-Montane Riparian Shrubland	768	7,314	5,440
Total	**4,054**	**25,235**	**53,383**

Source: USGS (2004).

17.2. Objectives

17.2.1. Inventory and map riparian areas so that appropriate measures can be taken to protect or avoid impacts to them, when possible.

17.2.2. Conserve and protect riparian areas through application of best management practices.

17.2.3. Support the establishment of riparian buffer areas, which not only protect riparian plant and animal species but also protect aquatic systems and water quality associated with them.

17.2.4. Participate in state and local riparian planning opportunities, e.g., Duchesne River Watershed Restoration Plan, as a way to prioritize water quality enhancement and water resource protection projects, and identify funding sources.

17.2.5. Support the treatment of invasive species, e.g., *Phragmites*, tamarisk, and Russian olive, which can degrade habitat value and impact groundwater levels.

17.2.6. Use naturalized flow management regimes from dams or other impoundments to enhance aquatic and riparian habitat along waterways, where appropriate, and not in conflict with human habitation.

17.2.7. Increase cover and extent of native riparian vegetation

17.3. Policies

17.3.1. Avoid impacts to riparian areas from road development.

17.3.2. Manage recreation (e.g., camping and OHV use) in riparian areas to conserve the resource while still providing access to streams and rivers.

17.3.3. Support timber harvests in riparian areas only when those activities enhance other resources or services.

17.3.4. Manage access of livestock, wild horses, and native ungulates to sensitive riparian areas using exclosures when appropriate with the understanding that all have potential to negatively affect these resources from overgrazing.

17.3.5. Offset road alignments at least 300 feet from riparian areas and wetlands as practicable. Relocate or improve road crossings as practicable.

17.3.6. Use guzzlers, reservoirs, wells, and springs to attract livestock and native wildlife away from riparian areas, which can help decrease soil disturbance and impacts to aquatic resources.

17.3.7. Use bio-engineering methods that facilitate riparian vegetation growth for bank stabilization in lieu of hardened structures or surfaces.

17.3.8. Use scientific methodology, e.g., proper functioning condition or multiple indicator monitoring, to guide management decisions in riparian areas.

17.3.9. Use riparian overlays at local levels to guide protection of riparian zones.

17.3.10. Consider releasing northern tamarisk beetle (*Diorhabda carinulata*) as a biological control of tamarisk, an invasive plant species. Follow release with revegetation treatments to re-establish riparian area, stabilize streambanks, and protect water quality. Support for biological control and restoration is available from organizations like the Tamarisk Coalition of Grand Junction, Colorado.

17.3.11. Support application of aquatic-approved herbicides to remove undesired vegetation.

17.3.12. Conduct riparian vegetation treatments to restore characteristic vegetation and reduce uncharacteristic fuel types and loads.

17.3.13. Consider removing or introducing beavers to the landscape where permitted by social and environmental factors.

17.3.14. Modify grazing use to avoid overgrazing if appropriate.

17.4. Literature Cited

Gardner, P.A., R. Stevens, and F.P. Howe. 1999. A Handbook of Riparian Restoration and Revegetation for the Conservation of Land Birds in Utah with Emphasis on Habitat Types in Middle and Lower Elevations. Utah Division of Wildlife Resources Publication Number 99-38. U.S. Fish and Wildlife Service Partnership for Wildlife ACT Program — Grant PW-5.

Leonard, S., G. Kinch, V. Elsbernd, M. Borman, and S. Swanson. 1997. *Grazing Management for Riparian-Wetland Areas.* Riparian Area Management TR 1737-174 1997. Available at: http://www.blm.gov/or/programs/nrst/files/Final%20TR%201737-14.pdf. Accessed September 9, 2016.

U.S. Geological Survey (USGS). 2004. National Gap Analysis Program. Provisional Digital Land Cover Map for the Southwestern United States. Version 1.0. RS/GIS Laboratory, College of Natural Resources, Utah State University.

Utah Division of Wildlife Resources (DWR). 2005. *Utah Comprehensive Wildlife Conservation Strategy*. DWR Publication No. 01-19. Available at: https://wildlife.utah.gov/cwcs/11-03-09_utah_cwcs_strategy.pdf. Accessed March 25, 2016.

Utah Wildlife Action Plan Joint Team. 2015. Utah Wildlife Action Plan: A Plan for Managing Native Wildlife Species and Their Habitats to Help Prevent Listing under the Endangered Species Act. Publication number 15-14. Salt Lake City, Utah: Utah Division of Wildlife Resources.

This page intentionally blank

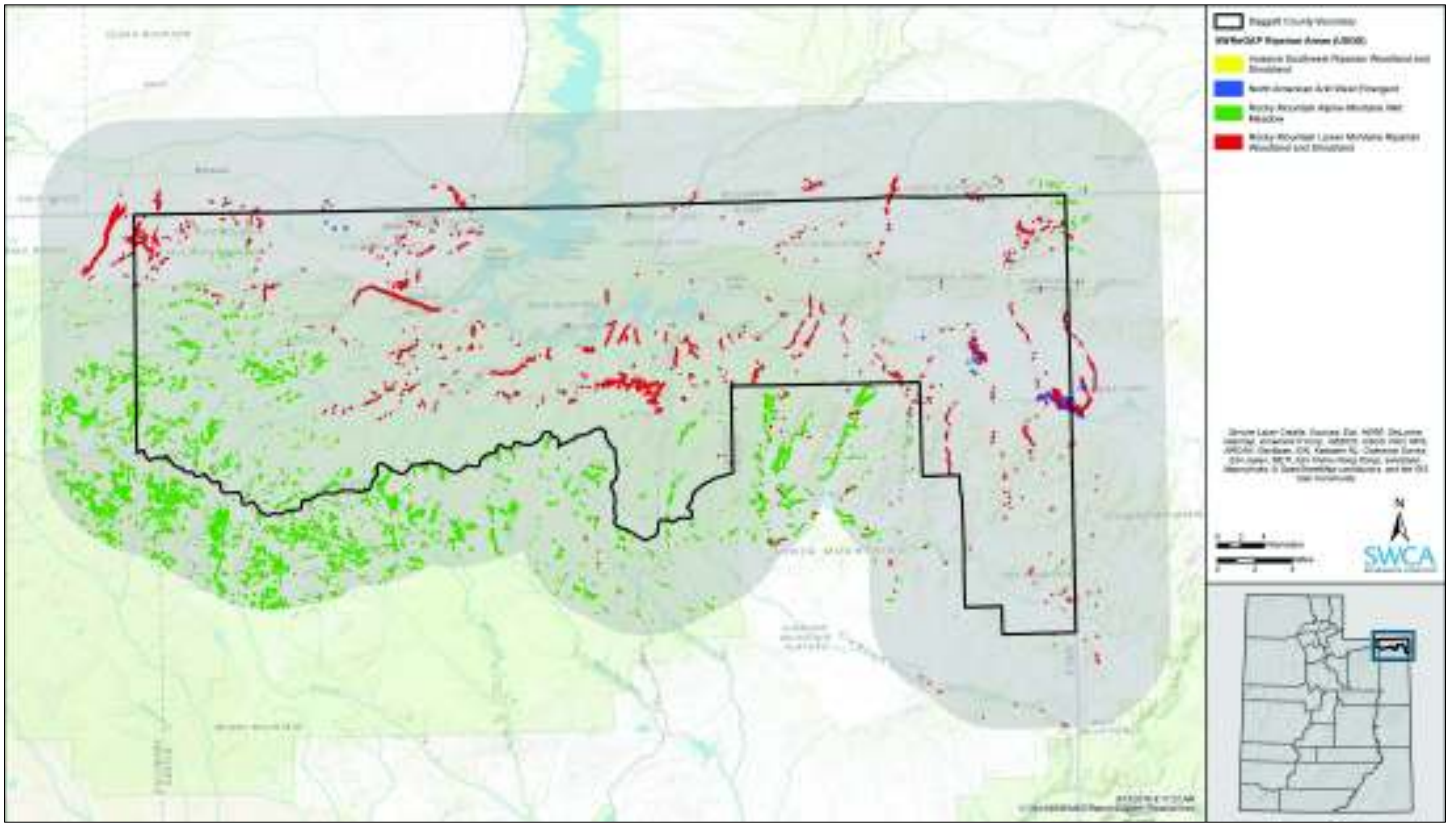

Figure RIP1. Southwestern Regional Gap Analysis riparian communities in Daggett County.

This page intentionally blank

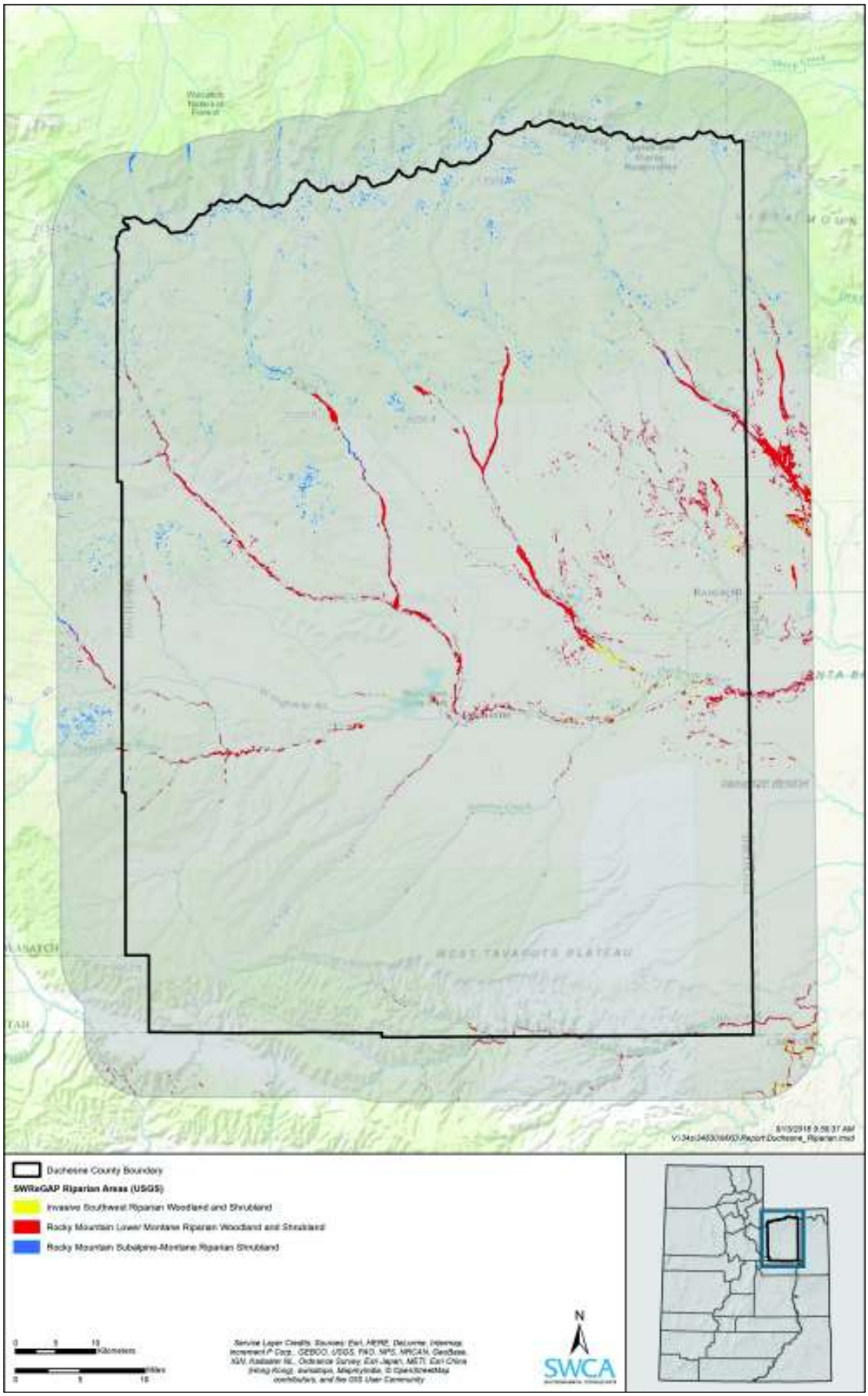

Figure RIP2. Southwestern Regional Gap Analysis riparian communities in Duchesne County.

This page intentionally blank

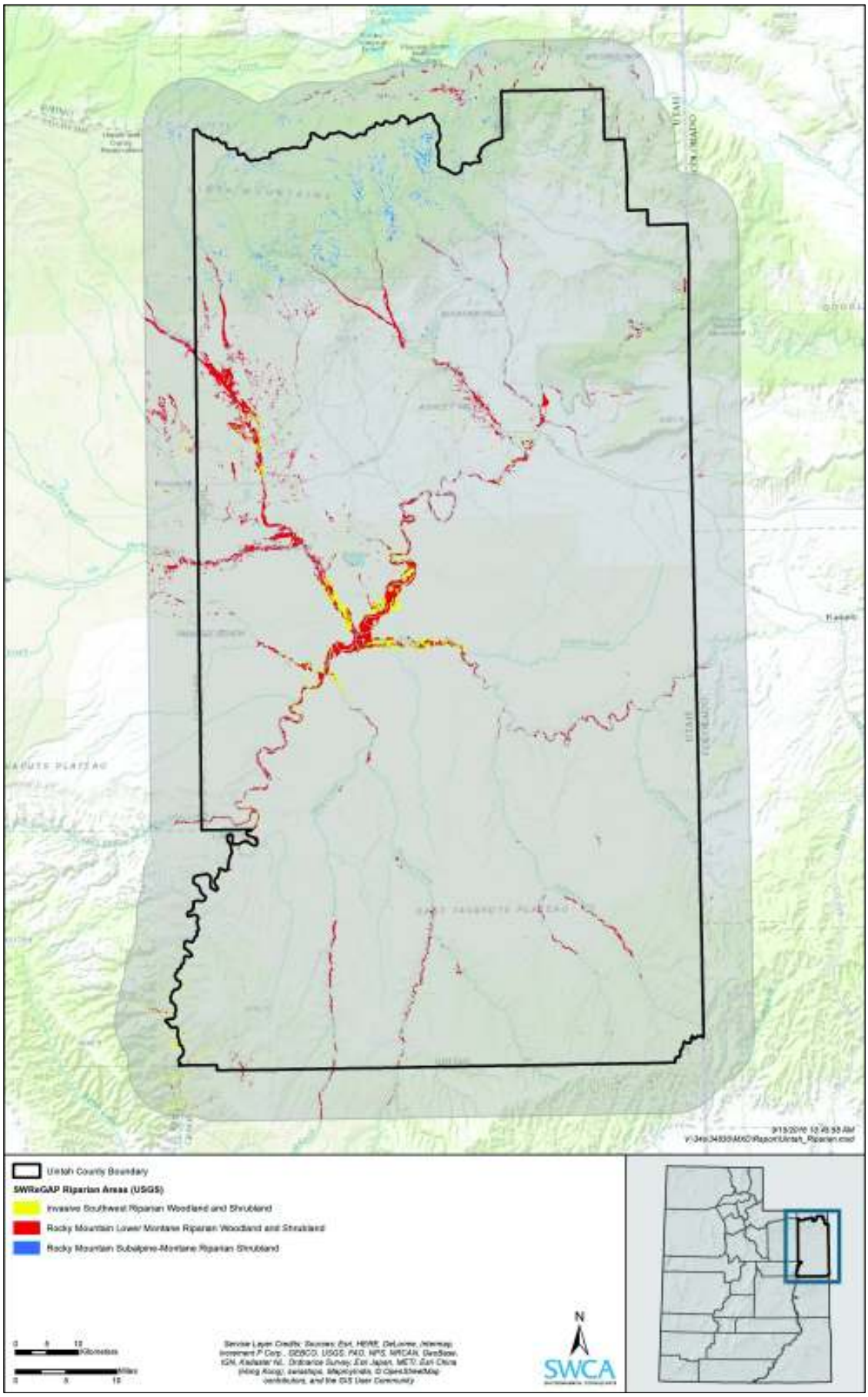

Figure RIP3. Southwestern Regional Gap Analysis riparian communities in Uintah County.

This page intentionally blank

18. THREATENED, ENDANGERED, AND SENSITIVE SPECIES

18.1. Findings

18.1.1. Once a species of plant or animal becomes federally listed as threatened or endangered, the range of options for managing lands and waters where that species occur substantially narrows. A common approach used by federal agencies following a listing is to follow the prescriptions outlined in recovery plans or habitat conservation plans developed by U.S. Fish and Wildlife Service (USFWS), which are expensive to develop and challenging to implement.

18.1.2. The Endangered Species Act (ESA) requires stringent review and management protocols for lands and waters occupied by threatened and endangered species, dramatically reducing the flexibility to address land and resource management decisions at a local or regional level.

18.1.3. ESA listings often impact management regardless of landownership, although plant listings may not impact private lands as stringently.

18.1.4. Threatened and endangered species and designated habitats in Daggett, Duchesne, and Uintah Counties as of July 2016 are presented below in Tables TES1–TES5. Designated critical habitat for wildlife in Duchesne and Uintah Counties is provided in Figures TES1–5 at the end of this section. There are no designated critical habitats in Daggett County.

Table TES1. Threatened and Endangered Species for Daggett County

Common Name	Scientific Name
Birds	
Yellow-billed cuckoo	*Coccyzus americanus*
Fish	
Humpback chub	*Gila cypha*
Bonytail chub	*Gila elegans*
Colorado pikeminnow	*Ptychocheilus lucius*
Razorback sucker	*Xyrauchen texanus*
Plants	
Ute ladies'-tresses	*Spiranthes diluvialis*
Mammals	
Canada lynx	*Lynx canadensis*
Black-footed ferret	*Mustela nigripes*

Source: USFWS (2016).

Table TES2. Threatened and Endangered Species for Duchesne County

Common Name	Scientific Name
Birds	
Yellow-billed cuckoo	*Coccyzus americanus*
Mexican spotted owl	*Strix occidentalis lucida*
Fish	
Humpback chub	*Gila cypha*
Bonytail chub	*Gila elegans*
Colorado pikeminnow	*Ptychocheilus lucius*
Razorback sucker	*Xyrauchen texanus*
Plants	
Barneby ridge-cress	*Lepidium barnebyanum*
Clay reed-mustard	*Schoenocrambe argillacea*
Shrubby reed-mustard	*Schoenocrambe suffrutescens*
Pariette cactus	*Sclerocactus brevispinus*
Uinta basin hookless cactus	*Sclerocactus wetlandicus*
Ute ladies'-tresses	*Spiranthes diluvialis*
Mammals	
Canada lynx	*Lynx canadensis*
Black-footed ferret	*Mustela nigripes*

Source: USFWS (2016).

Table TES3. Designated Critical Habitats for Duchesne County

Common Name	Scientific Name
Birds	
Yellow-billed cuckoo	*Coccyzus americanus*

Source: USFWS (2016).

Table TES4. Threatened and Endangered Species for Uintah County

Common Name	Scientific Name
Birds	
Yellow-billed cuckoo (proposed)	*Coccyzus americanus*
Mexican spotted owl	*Strix occidentalis lucida*

Table TES4. Threatened and Endangered Species for Uintah County

Common Name	Scientific Name
Fish	
Humpback chub	*Gila cypha*
Bonytail chub	*Gila elegans*
Colorado pikeminnow	*Ptychocheilus lucius*
Razorback sucker	*Xyrauchen texanus*
Plants	
Clay reed-mustard	*Schoenocrambe argillacea*
Shrubby reed-mustard	*Schoenocrambe suffrutescens*
Pariette cactus	*Sclerocactus brevispinus*
Uinta basin hookless cactus	*Sclerocactus wetlandicus*
Ute ladies'-tresses	*Spiranthes diluvialis*
Mammals	
Canada lynx	*Lynx canadensis*
Black-footed ferret	*Mustela nigripes*

Source: USFWS (2016).

Table TES5. Designated Critical Habitats for Uintah County

Common Name	Scientific Name
Birds	
Yellow-billed cuckoo (proposed)	*Coccyzus americanus*
Mexican spotted owl	*Strix occidentalis lucida*
Fish	
Humpback chub	*Gila cypha*
Bonytail chub	*Gila elegans*
Colorado pikeminnow	*Ptychocheilus lucius*
Razorback sucker	*Xyrauchen texanus*

Source: USFWS (2016).

18.1.5. The State of Utah sensitive species list is prepared pursuant to Utah Administrative Code R657-48. By rule, wildlife species that are federally listed candidates for federal listing, or for which a conservation agreement is in place, automatically qualify for the list. The additional species on the Utah sensitive species list—wildlife species of concern—are those species for which there is credible scientific evidence to substantiate a threat to continued population viability. It is anticipated that wildlife species of concern designations will act as an "early warning" system to identify species for which conservation actions are needed, and that timely and appropriate conservation actions can then be implemented on their behalf, precluding the need to list these species under the provisions of the ESA. Species on the State of Utah sensitive species list are not protected by any special state regulations.

18.1.6. State of Utah sensitive wildlife species in Daggett, Duchesne, and Uintah Counties as of July 2016 are presented below in Tables TES6–TES8

Table TES6. State of Utah Sensitive Wildlife Species for Daggett County

Common Name	Scientific Name
Birds	
Northern goshawk	*Accipiter gentilis*
Short-eared owl	*Asio flammeus*
Greater sage-grouse	*Centrocercus urophasianus*
Bald eagle	*Haliaeetus leucocephalus*
Lewis's woodpecker	*Melanerpes lewis*
American three-toed woodpecker	*Picoides dorsalis*
Fish	
Bluehead sucker	*Catostomus discobolus*
Flannelmouth sucker	*Catostomus latipinnis*
Bear Lake sculpin	*Cottus extensus*
Humpback chub	*Gila cypha*
Roundtail chub	*Gila robusta*
Colorado river cutthroat trout	*Oncorhynchus clarkii pleuriticus*
Colorado pikeminnow	*Ptychocheilus lucius*
Razorback sucker	*Xyrauchen texanus*
Mammals	
Townsend's big-eared bat	*Corynorhinus townsendii*
White-tailed prairie-dog	*Cynomys leucurus*
Canada lynx	*Lynx canadensis*
Black-footed ferret	*Mustela nigripes*
Fringed myotis	*Myotis thysanodes*
Brown (grizzly) bear	*Ursus arctos*
Amphibians	
Western toad	*Bufo boreas*

Source: DWR (2015a).

Table TES7. State of Utah Sensitive Wildlife Species for Duchesne County

Common Name	Scientific Name
Birds	
Northern goshawk	*Accipiter gentilis*
Short-eared owl	*Asio flammeus*
Burrowing owl	*Athene cunicularia*
Ferruginous hawk	*Buteo regalis*

Table TES7. State of Utah Sensitive Wildlife Species for Duchesne County

Common Name	Scientific Name
Greater sage-grouse	*Centrocercus urophasianus*
Mountain plover	*Charadrius montanus*
Black swift	*Cypseloides niger*
Bald eagle	*Haliaeetus leucocephalus*
Lewis's woodpecker	*Melanerpes lewis*
Long-billed curlew	*Numenius americanus*
American three-toed woodpecker	*Picoides dorsalis*
Fish	
Bluehead sucker	*Catostomus discobolus*
Flannelmouth sucker	*Catostomus latipinnis*
Roundtail chub	*Gila robusta*
Colorado river cutthroat trout	*Oncorhynchus clarkii pleuriticus*
Bonneville cutthroat trout	*Oncorhynchus clarkii Utah*
Mammals	
Gray wolf	*Canis lupus*
Townsend's big-eared bat	*Corynorhinus townsendii*
White-tailed prairie-dog	*Cynomys leucurus*
Spotted bat	*Euderma maculatum*
Black-footed ferret	*Mustela nigripes*
Fringed myotis	*Myotis thysanodes*
Brown (grizzly) bear	*Ursus arctos*
Kit fox	*Vulpes macrotis*
Reptiles and Amphibians	
Western toad	*Bufo boreas*
Smooth greensnake	*Opheodrys vernalis*
Gastropod	
Eureka mountainsnail	*Oreohelix eurekensis*

Source: DWR (2015a).

Table TES8. State of Utah Sensitive Wildlife Species for Uintah County

Common Name	Scientific Name
Birds	
Northern goshawk	*Accipiter gentilis*
Burrowing owl	*Athene cunicularia*
Short-eared owl	*Asio flammeus*
Ferruginous hawk	*Buteo regalis*

Table TES8. State of Utah Sensitive Wildlife Species for Uintah County

Common Name	Scientific Name
Greater sage-grouse	*Centrocercus urophasianus*
Mountain plover	*Charadrius montanus*
Yellow-billed cuckoo	*Coccyzus americanus*
Bobolink	*Dolichonyx oryzivorus*
Bald eagle	*Haliaeetus leucocephalus*
Lewis's woodpecker	*Melanerpes lewis*
Long-billed curlew	*Numenius americanus*
American white pelican	*Pelecanus erythrorhynchos*
American three-toed woodpecker	*Picoides dorsalis*
Fish	
Bluehead sucker	*Catostomus discobolus*
Flannelmouth sucker	*Catostomus latipinnis*
Humpback chub	*Gila cypha*
Bonytail	*Gila elegans*
Roundtail chub	*Gila robusta*
Colorado river cutthroat trout	*Oncorhynchus clarkii pleuriticus*
Colorado pikeminnow	*Ptychocheilus lucius*
Mammals	
Townsend's big-eared bat	*Corynorhinus townsendii*
White-tailed prairie-dog	*Cynomys leucurus*
Spotted bat	*Euderma maculatum*
Canada lynx	*Lynx canadensis*
Black-footed ferret	*Mustela nigripes*
Fringed myotis	*Myotis thysanodes*
Big free-tailed bat	*Nyctinomops macrotis*
Brown (grizzly) bear	*Ursus arctos*
Kit fox	*Vulpes macrotis*
Reptiles and Amphibians	
Cornsnake	*Elaphe emoryi*
Smooth greensnake	*Opheodrys vernalis*

Source: DWR (2015a).

18.1.7. Some species identified as sensitive by the State of Utah either no longer exist in Daggett, Duchesne, and Uintah Counties or were introduced experimentally (e.g., Bear Lake sculpin in Daggett County). These species are not appropriate for the State of Utah sensitive species list.

18.1.8. BLM identifies a list of sensitive species on BLM-administered lands. State directors designate species within their respective states as BLM sensitive using the following criteria:

- There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or
- the species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.

18.1.9. BLM sensitive wildlife and plant species in the BLM Vernal Field Office are presented in Table TES9 (BLM 2008).

Table TES9. BLM Sensitive Wildlife and Plant Species in the Vernal Field Office

Common Name	Scientific Name
Birds	
Northern goshawk	*Accipiter gentilis*
Grasshopper sparrow	*Ammodramus savannarum*
Burrowing owl	*Athene cunicularia*
Ferruginous hawk	*Buteo regalis*
Greater sage-grouse	*Centrocercus urophasianus*
Yellow-billed cuckoo	*Coccyzus americanus*
Bobolink	*Dolichonyx oryzivorus*
Bald eagle	*Haliaeetus leucocephalus*
Lewis's woodpecker	*Melanerpes lewis*
Long-billed curlew	*Numenius americanus*
American white pelican	*Pelecanus erythrorhynchos*
Three-toed woodpecker	*Picoides tridactylus*
Fish	
Bluehead sucker	*Catostomus discobolus*
Flannelmouth sucker	*Catostomus latipinnis*
Roundtail chub	*Gila robusta*
Colorado River cutthroat trout	*Oncorhynchus clarki pleuriticus*
Mammals	
Townsend's big-eared bat	*Corynorhinus townsendii*
White-tailed prairie dog	*Cynomys leucurus*
Reptiles	
Smooth greensnake	*Opheodrys vernalis*

Table TES9. BLM Sensitive Wildlife and Plant Species in the Vernal Field Office

Common Name	Scientific Name
Plants	
Park rockcress	*Arabis vivariensis*
Hamilton milkvetch	*Astragalus hamiltonii*
Owenby's thistle	*Cirsium owenbyiiownbeyi*
Goodrich stinkweed	*Cleomella palmeriana var. goodrichii*
Untermann daisy	*Erigeron untermannii untermanii*
Alcove bogorchard	*Habenaria zothecina*
Rock hymenoxys	*Hymenoxys lapidicola*
Huber's pepperweed	*Lepidium huberi*
Goodrich blazingstar	*Mentzelia goodrichii*
Stemless penstemon	*Penstemon acaulis*
Gibbens penstemon (Gibbens beardtongue)	*Penstemon gibbensii*
Goodrich penstemon (Goodrich beardtongue)	*Penstemon goodrichii*
Graham's beardtongue	*Penstemon grahamii*
White River beardtongue	*Penstemon scariosus albifluvis*
Uinta greenthread	*Thelesperma caespitosum*

18.1.10. USFS identifies a list of sensitive species on USFS-administered lands. The list of USFS sensitive species includes plant and animal species identified by a regional forester and for which population viability is a concern, as evidenced by the following:

- Significant current or predicted downward trends in population numbers or density.
- Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

18.1.11. USFS defines policies and objectives for USFS sensitive species in Chapter 2670 of Forest Service Manual 2600 (USFS 2005).

18.1.12. Sensitive wildlife and plant species in the Ashley National Forest are presented in Table TES10 (USFS 2016). An update of this list is currently underway as part of the upcoming forest plan revision:

Table TES10. Sensitive Wildlife and Plant Species in the Ashley National Forest

Common Name	Scientific Name
Birds	
Northern goshawk	*Accipiter gentilis*
Boreal owl	*Aegolius funereus*
Greater sage-grouse	*Centrocercus urophasianus*
Peregrine falcon	*Falco peregrinus*

Table TES10. Sensitive Wildlife and Plant Species in the Ashley National Forest

Common Name	Scientific Name
Bald eagle	*Haliaeetus leucocephalus*
American three-toed woodpecker	*Picoides dorsalis*
Flammulated owl	*Psiloscops flammeolus*
Great gray owl	*Strix nebulosa*
Fish	
Colorado river cutthroat trout	*Oncorhynchus clarkii pleuriticus*
Mammals	
Townsend's western big-eared bat	*Corynorhinus townsendii townsendii*
Spotted bat	*Euderma maculatum*
Bighorn sheep	*Ovis canadensis*
Amphibians	
Boreal toad	*Bufo boreas*
Columbia spotted frog	*Rana luteiventris*
Plants	
Graham columbine	*Aquilegia grahamii*
Petiolate wormwood	*Artemisia campestris* ssp. *borealis* var. *petiolata*
Dainty moonwort	*Botrychium crenulatum*
Slender moonwort	*Botrychium lineare*
Brownie ladyslipper	*Cypripedium fasciculatum*
Rockcress draba	*Draba globosa*
Untermann daisy	*Erigeron untermannii untermanii*
Goodrich stickleaf	*Mentzelia goodrichii*
Arctic poppy	*Papaver radicatum* var. *pygmaeum*
Stemless beardtongue	*Penstemon acaulis* var. *acaulis*
Caespitose greenthread	*Thelesperma caespitosum*

Source: USFS (2016).

18.1.13. In addition to sensitive species, USFS also identifies management indicator species (MIS). MIS are defined as certain vertebrate and invertebrate species selected because their population changes are believed to indicate the effects of management activities (36 Code of Federal Regulations 219.19(a)(1)). Population trends of MIS are monitored and relationships to habitat changes are determined to assess the effects of management activities. Important characteristics of a MIS are that they have narrow habitat associations, respond to the effects of management, and can be effectively monitored.

18.1.14. MIS for the Ashley National Forest are presented in Table TES11 (U.S. Department of Agriculture 1986):

Table TES11. Management Indicator Species in the Ashley National Forest

Common Name (habitat relationship)	Scientific Name
Birds	
Northern goshawk (forest)	*Accipiter gentilis*
Golden eagle (other)	*Aquila chrysaetos*
Greater sage-grouse (sagebrush)	*Centrocercus urophasianus*
White-tailed ptarmigan (other)	*Lagopus leucura*
Lincoln's sparrow (riparian)	*Melospiza lincolnii*
Song sparrow (riparian)	*Melospiza melodia*
Red-naped sapsucker (aspen)	*Sphyrapicus nuchalis*
Warbling vireo (aspen)	*Vireo gilvus*
Fish	
Cutthroat trout (aquatic)	*Oncorhynchus clarkii*
Mammals	
Rocky Mountain elk (other)	*Cervus canadensis nelsoni*
Mule deer (other)	*Odocoileus hemionus*
Other	
Macroinvertebrates (aquatic)	Various

Source: U.S. Department of Agriculture (1986).

18.2. Objectives

18.2.1. Avoid listings of species as threatened or endangered or designation of critical habitats under the ESA.

18.2.2. Delist special-status species and designated critical habitats that were erroneously listed (e.g., listed based on incorrect data or assumptions) and/or that are no longer threatened and endangered species or sensitive based on criteria established by BLM, USFS, or the State of Utah. Based on their observed local abundance, the county believes that the following species may have been erroneously listed under the ESA:

- Pariette cactus (Sclerocactus brevispinus)
- Ute ladies'-tresses (*Spiranthes diluvialis*)

18.2.3. Reduce the impacts of endangered and sensitive species listings on private and public lands. Listings typically include land use restrictions and hamper multiple use of public lands.

18.2.4. Avoid special management of lands and associated land use restrictions associated with reintroduction of large predators that are listed as threatened or endangered (e.g., gray wolf *(Canis lupis)*, grizzly bear *(Ursus arctos)*, and Canada lynx (*Lynx canadensis*).

18.2.5. Minimize the land use restrictions associated with any reintroduction of large predators that are listed as threatened or endangered.

18.2.6. Ensure federal agencies accurately inventory threatened, endangered, and sensitive species across all state, federal, and tribal lands.

18.3. Policies and Guidelines

18.3.1. Support efforts to update and modernize the ESA, such as those undertaken by the Western Governors' Association, to address issues that affect local governments, including the following:

- The difficulty of delisting species, even once recovery objectives are met.
- The use of the ESA by special interest groups in efforts to influence land use decisions by petitioning USFWS to list large groups of species as threatened or endangered.

18.3.2. Support alternatives to listing under the ESA, including conservation plans, initiatives, or agreements to address threats to species and their habitats. Examples of successful collaborative conservation agreements include the *Conservation Agreement and Strategy for Graham's beardtongue (*Penstemon grahamii*) and White River beardtongue* (P. scariosus *var.* albifluvis*)* (SWCA 2014) and the State of Utah's *Conservation Plan for Greater Sage-Grouse in Utah* (DWR 2013).

18.3.3. Implement recommendations from the *Utah Wildlife Action Plan 2015–2025* (DWR 2015b). DWR worked with other agencies, stakeholders, and organizations to identify the wildlife species (not plants) most in need of conservation attention, and to determine which key habitats were essential for their survival. The wildlife action plan provides strong, clear guidance for developing creative, solution-based partnership actions to manage threats, reduce limiting factors, and resolve critical data gaps. The plan includes provisions for gaining feedback, including periodic status assessments and effectiveness monitoring to allow for informed adjustments to management actions. If effectively implemented, the plan would result in healthier habitats and more secure wildlife populations, therefore reducing the likelihood of new listings under the ESA.

18.3.4. Support mitigation banking programs as a way to offset impacts to threatened and endangered species, species at risk of becoming threatened or endangered, and their habitats.

18.3.5. Do not support actions to list any species as a threatened or endangered species under the ESA or actions to add any species to the State of Utah's sensitive species list until verifiable scientific data have been available to the public that demonstrate

- the need for the designation;
- that protections cannot be provided by other methods, and
- that the area in question is truly unique compared to other area lands.

18.3.6. Focus necessary conservation efforts on species identified on the State of Utah's sensitive species list. This list identifies "wildlife species of concern," which are those species for which there is credible scientific evidence to substantiate a threat to continued population viability. Conservation efforts could include the following:

- Avoiding impacts to sensitive species and their habitats when possible.
- When avoidance is not possible, taking reasonable steps to minimize the effects of development on sensitive species and their habitats.
- When high levels of impact on sensitive species are unavoidable, meaningful long-term mitigation may be necessary. Depending upon the species in question, meaningful long-term mitigation could include habitat conservation/restoration (e.g., rangeland restoration, wetland enhancement, noxious weed control, pinyon-juniper removal, or other actions that provide new or enhanced wildlife habitats) or research to learn more about the species and the causes for its decline.

18.3.7. Recovery plans, reintroduction plans, guidelines, and protocols for species listed as threatened or endangered under the ESA should be developed with full public disclosure and in coordination with private property owners and local governments that will be affected by the recovery plan. Recovery plans must contain indicators of effectiveness and recovery progression, identifiers of recovery completion, self-terminating provisions upon successful recovery, and management provisions after the plan is terminated.

18.3.8. Recovery plans for species listed as threatened or endangered should clearly identify the parties responsible for collecting data to monitor species recovery and how that data will be collected. Funding adequate to collect the data required to monitor progress toward recovery should be appropriated by federal agencies at the time of listing.

18.3.9. Devaluation of private property by the ESA is a "taking" under the 5th Amendment of the U.S. Constitution, and compensation must be paid to affected property owners.

18.3.10. Do not support buffer zones around habitat for the protection of threatened and endangered species.

18.3.11. USFWS shall exclude areas from critical habitat designation if the economic damage is considered too great. USFWS shall involve local and county government representatives in their assessment of the economic impact of critical habitat designations.

18.3.12. When developing recovery plans for species listed as threatened or endangered, it is typically not necessary to restore a species to all habitats once occupied by the species to achieve a population that is not at risk of extinction. Recovery plans should establish objectives that restore and preserve only the amount of habitat and population size needed to protect the species from extinction.

18.3.13. Do not support the creation or expansion of grizzly bear, gray wolf, wolverine (*Gulo gulo*), and Canada lynx populations or the protection of their habitats, ranges, or migration corridors within the county.

18.3.14. Designation of critical habitats for threatened and endangered species or reintroductions must not be allowed to grow beyond the originally intended physical boundaries and scope resulting in detrimental effects on the economy, life styles, culture, and heritage.

18.4. Literature Cited

Bureau of Land Management (BLM). 2008. *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan*. Available at: http://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.12251.File.dat/VernalFinalPlan.pdf. Accessed August 8, 2016.

SWCA Environmental Consultants (SWCA). *Conservation Agreement and Strategy for Graham's beardtongue (*Penstemon grahamii*) and White River beardtongue* (P. scariosus *var.* albifluvis*)*. Available at: https://www.fws.gov/mountain-prairie/species/plants/2utahbeardtongues/20140505ConservationAgreement.pdf. Accessed September 16, 2016.

U.S. Department of Agriculture (USDA). 1986. *Land and Resource Management Plan for the Ashley National Forest*. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5277279.pdf. Accessed on August 31, 2016.

U.S. Fish and Wildlife Service (USFWS). 2016. IPaC Information for Planning and Conservation. Find location query. Available at: https://ecos.fws.gov/ipac/gettingStarted/map. Accessed September 18, 2016.

U.S. Forest Service (USFS). 2005. FSM 2600 - Wildlife, Fish, And Sensitive Plant Habitat Management, Chapter 2670 - Threatened, Endangered And Sensitive Plants And Animals. Amendment No.: 2600-2005-1. Effective Date: September 23, 2005. Washington, DC: USFS National Headquarters.

———. 2016. Intermountain Region (R4) Threatened, Endangered, Proposed, and, Sensitive Species June 2016 Known / Suspected Distribution by Forest. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5370041.pdf. Accessed September 16, 2016.

Utah Division of Wildlife Resources (DWR). 2013. *Conservation Plan for Greater Sage-grouse in Utah*. February 14, 2015. Final. Available at: http://wildlife.utah.gov/uplandgame/sage-grouse/pdf/greater_sage_grouse_plan.pdf. Accessed August 12, 2016.

———. 2015a. Utah State Listed Species By County. Available at: http://dwrcdc.nr.utah.gov/ucdc/ViewReports/sscounty.pdf. Accessed September 12, 2106.

———. 2015b. Utah Wildlife Action Plan 2015–2025. Available at: https://wildlife.utah.gov/wap/wap2015draft.pdf. Accessed September 12, 2106.

This page intentionally blank

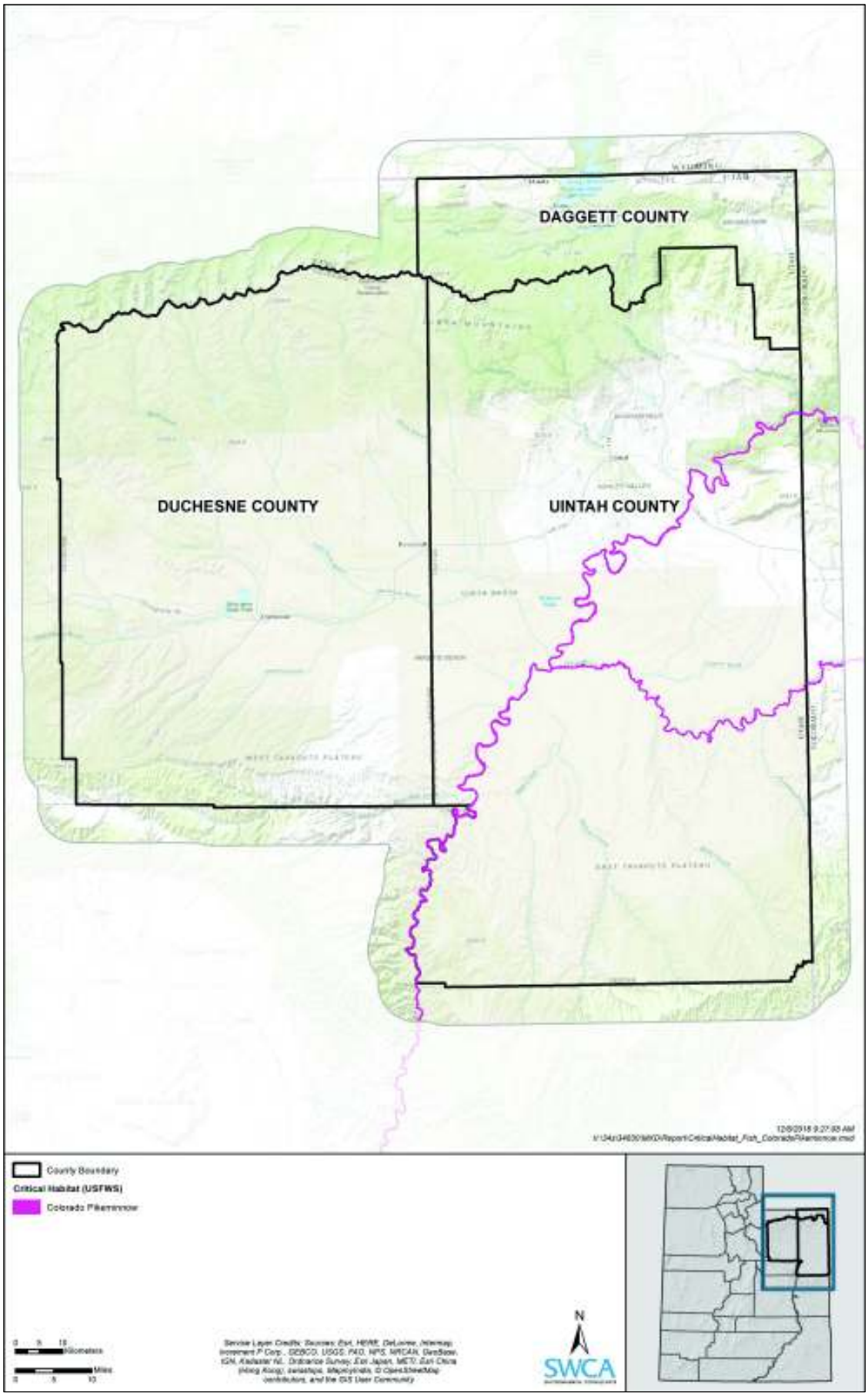

Figure TES1. Designated critical habitat for Colorado pikeminnow in Daggett, Duchesne, and Uintah County.

This page intentionally blank

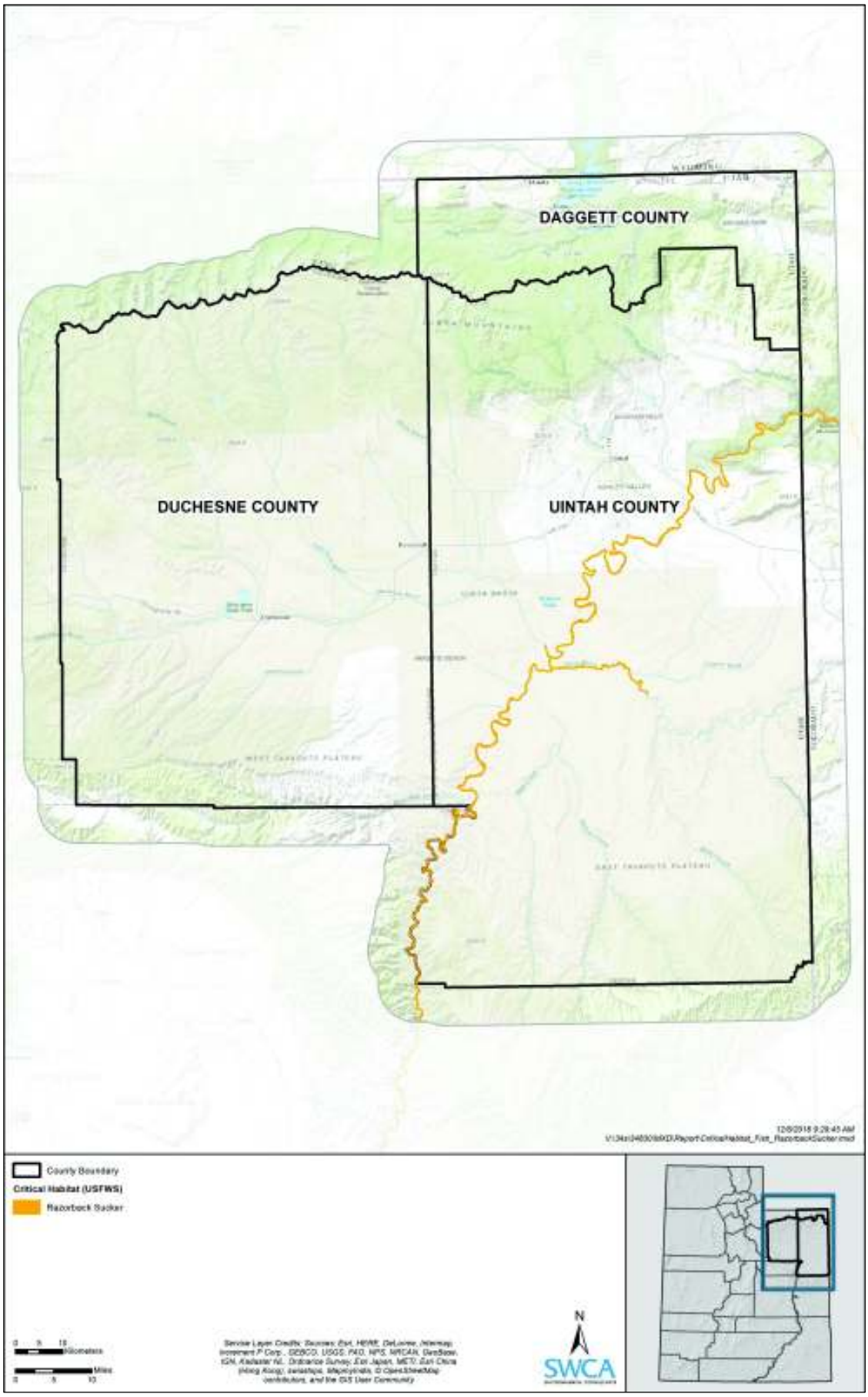

Figure TES2. Designated critical habitat for razorback sucker in Daggett, Duchesne, and Uintah County.

This page intentionally blank

Figure TES3. Designated critical habitat for humpback chub in Daggett, Duchesne, and Uintah County.

This page intentionally blank

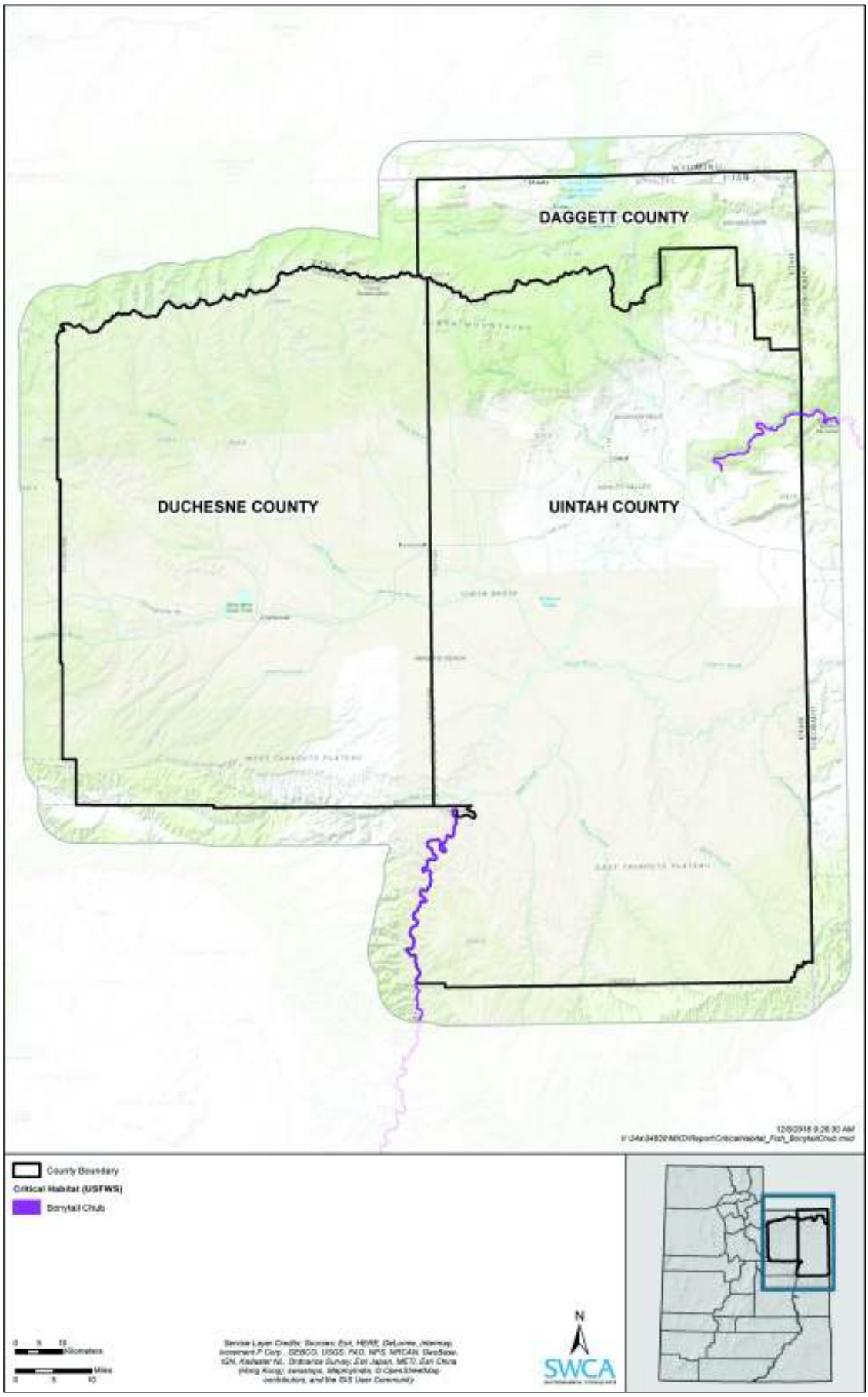

Figure TES4. Designated critical habitat for bonytail chub in Daggett, Duchesne, and Uintah County.

This page intentionally blank

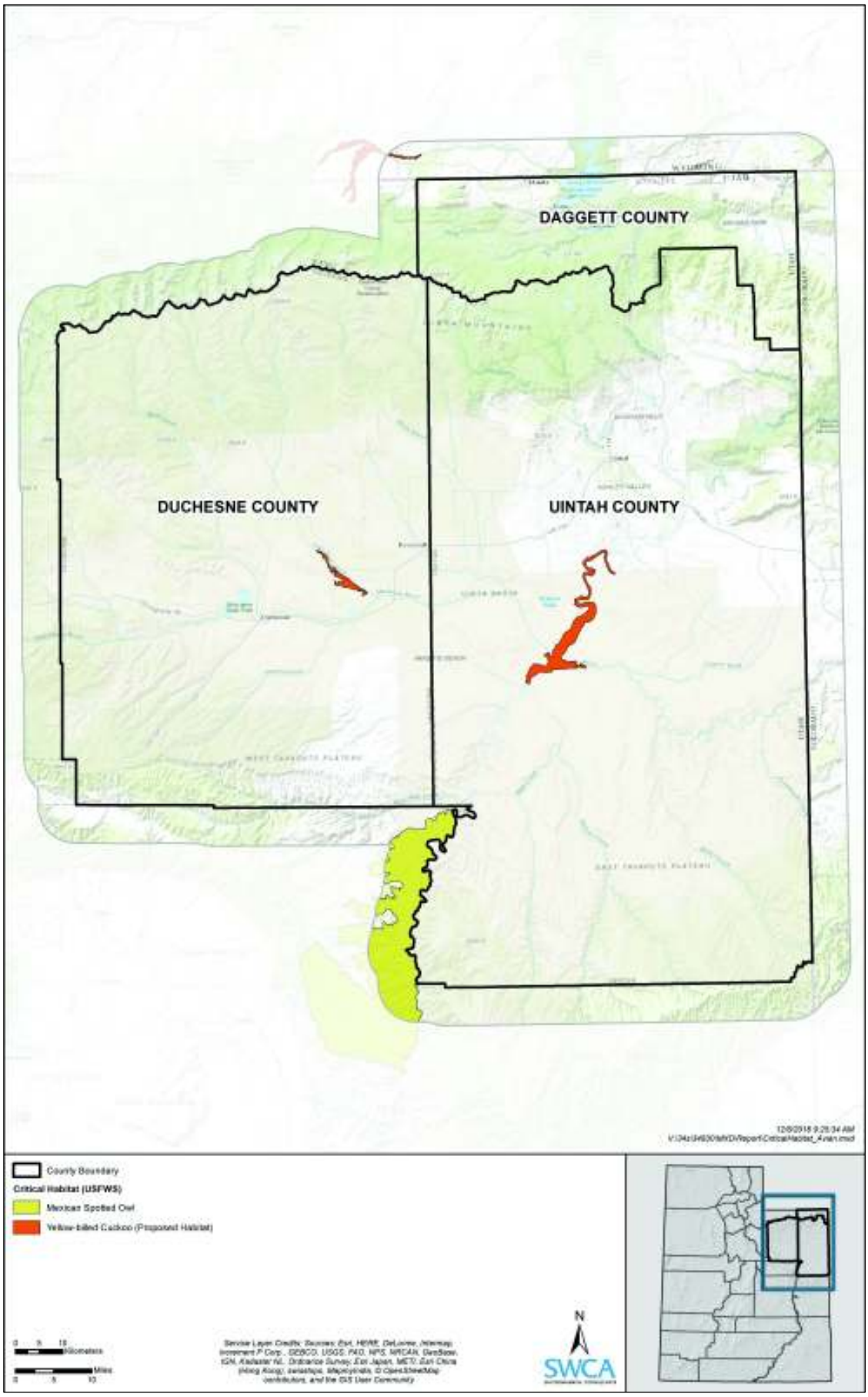

Figure TES5. Designated critical habitat for Mexican spotted owl and yellow-billed cuckoo in Daggett, Duchesne, and Uintah County.

This page intentionally blank

19. VEGETATION

19.1. Findings

19.1.1. Vegetation in the Bureau of Land Management (BLM) Vernal Field Office Planning Area was mapped on lands administered by the BLM in conjuncture with the Natural Resources Conservation Service (NRCS), and the land cover associations were classified using vegetation categories defined by the National Gap Analysis Program (GAP) and the BLM (BLM 2008; U.S. Geological Survey 2004). Six main land cover types were identified in the Vernal Planning Area: plains grassland/herbaceous, desert shrub, sagebrush/perennial grass, pinyon-juniper, mountain shrub, and conifer (including aspen/forb). Other land cover types in the Vernal Planning Area are badland/rock outcrops, wetlands, and riparian areas (BLM 2008).

- **Plains Grassland/Herbaceous:** This land cover type is dominated by herbaceous species and includes solitary shrubs. It is found in a small portion of the Vernal Planning Area. Many of the plant species that make up this land cover type are also found in the understory of the other land cover types. Many wildlife species use this land cover type for forage at some time during the year.
- **Desert Shrub:** This cold desert land cover type occurs in approximately 20% of the Vernal Planning Area at elevations from 4,800 to 6,000 feet. Vegetation in this land cover type is characterized by shrubs, including shadscale (*Atriplex canescens*), Mormon tea (*Ephedra viridis*), winter fat (*Krascheninnikovia lanata*), rubber rabbitbrush (*Ericameria nauseosa*), four-winged saltbush (*Atriplex confertifolia*), Gardner's saltbush (*Atriplex gardneri*), mat saltbush (*Atriplex corrugata*), and greasewood (*Sarcobatus vermiculatus*). The understory is sparsely vegetated and may contain galleta, Indian ricegrass, spring parsley, scarlet globemallow, bud sagebrush, and textile onion.
- **Sagebrush/Perennial Grass:** This land cover type occurs in approximately 57% of the Vernal Planning Area and is composed mainly of basin big sagebrush, mountain big sagebrush, Wyoming big sagebrush, and black sagebrush. Other shrubs include bitterbrush, rabbitbrush, and Mormon tea. The understory is typically composed of Indian ricegrass, Idaho fescue, bluebunch wheatgrass, western wheatgrass, Junegrass, and a variety of needlegrasses.
- **Pinyon-Juniper:** This land cover type occurs at a slightly higher elevation than the sagebrush vegetation type but typically has a wide transition zone from sagebrush to sagebrush-juniper to juniper. Understory vegetation is typically sparse in areas dominated by juniper. Vegetation manipulation in the form of prescribed burns and chaining has occurred in the past to create openings that are beneficial to wildlife and ecosystem health.
- **Mountain Shrub:** This land cover type has a high cover and forage value for wildlife. Dominant shrub species include antelope bitterbrush, sagebrush, mountain mahogany, Gambel oak, snowberry, serviceberry, and wild crabapple. Herbaceous species commonly include native grasses, buckwheat species, sticky geranium, showy goldeneye, and hoary aster.
- **Conifer Forest:** This land cover type includes conifer-aspen, spruce-fir, and aspen-forb forests, and occurs at the highest elevations in the Vernal Planning Area. Dominant tree species include aspen, ponderosa pine, Douglas-fir, and spruce. Elk, deer, and domestic livestock use this land cover type for its forage and cover resources.

- **Badland/Rock Outcrops:** In the Uintah Basin, badlands are characterized as Mancos shales consisting of mudstone, sandstone, and shale layers of the Uinta Formation. Vegetation on the badlands is sparse with bare ground occurring across extensive areas. Dominant shrub species consist of mat saltbush and Gardner's saltbush. This land cover type is used by domestic sheep, antelope, and raptors.
- **Wetlands and Riparian Areas:** Wetlands and riparian areas are those transition vegetation communities between aquatic and terrestrial communities. Wetland and riparian areas can be negatively impacted and are threatened by non-native plant species, flow alterations, and livestock grazing. Several noxious weeds, including hoary cress, perennial pepperweed, tamarisk, and *Phragmites*, are well established in riparian areas and wetlands.

19.1.2. Southwestern Regional Gap Analysis (SWReGAP) geospatial data describe the land cover classes predicted to occur in Daggett, Duchesne, and Uintah Counties (USGS 2004). Acres of SWReGAP land cover classes predicted to occur in Daggett, Duchesne, and Uintah Counties are listed in Table VEG1.

Table VEG1. Acres of Southwestern Regional Gap Analysis Land Cover Classes Predicted to Occur in Daggett, Duchesne, and Uintah Counties

SWReGAP Land Cover Class	Daggett County	Duchesne County	Uintah County
Agriculture	17,004.6	150,297.4	130,552.3
Colorado Plateau Blackbrush-Mormon-tea Shrubland	0	0	49.6
Colorado Plateau Mixed Bedrock Canyon and Tableland	2,494.7	37,558.9	165,971.6
Colorado Plateau Mixed Low Sagebrush Shrubland	66.5	112,451.0	153,761.6
Colorado Plateau Pinyon-Juniper Shrubland	5,832.2	145,081.6	300,809.2
Colorado Plateau Pinyon-Juniper Woodland	11,2038.6	336,135.3	381,006.5
Developed, Medium - High Intensity	77.4	3,119.5	5,619.0
Developed, Open Space - Low Intensity	868.3	7,149.9	5,536.7
Disturbed, Oil well	0	1,735.6	60.5
Inter-Mountain Basins Big Sagebrush Shrubland	74,551.1	157,552.7	524,301.6
Inter-Mountain Basins Big Sagebrush Steppe	0	38.3	0
Inter-Mountain Basins Greasewood Flat	3,518.1	31,169.2	104,150.9
Inter-Mountain Basins Mat Saltbush Shrubland	1,015.4	4,925.7	32,055.9
Inter-Mountain Basins Mixed Salt Desert Scrub	2,134.0	52,538.5	294,469.3
Inter-Mountain Basins Montane Sagebrush Steppe	40,937.0	234,266.8	186,050.3
Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland	1,276.8	21.8	0
Inter-Mountain Basins Playa	7.1	0	0
Inter-Mountain Basins Semi-Desert Grassland	274.8	5,258.2	9,545.4
Inter-Mountain Basins Semi-Desert Shrub Steppe	68.3	8,845.9	57,491.0
Inter-Mountain Basins Shale Badland	377.2	4,427.7	63,617.0
Inter-Mountain West Aspen-Mixed Conifer Forest and Woodland Complex	2,541.2	17,664.8	4,786.5
Invasive Annual and Biennial Forbland	114.6	0	721.9
Invasive Annual Grassland	3,100.9	2,258.0	59,625.5

Table VEG1. Acres of Southwestern Regional Gap Analysis Land Cover Classes Predicted to Occur in Daggett, Duchesne, and Uintah Counties

SWReGAP Land Cover Class	Daggett County	Duchesne County	Uintah County
Invasive Perennial Grassland	240.7	0	32.5
Invasive Southwest Riparian Woodland and Shrubland	9.8	1,125.5	10,811.5
North American Alpine Ice Field	55.9	1,425.2	55.7
North American Arid West Emergent Marsh	198.2	0	10.7
Open Water	14,905.0	14,343.3	21,354.9
Recently Burned	979.2	2,503.3	8,475.2
Recently Chained Pinyon-Juniper Areas	35.6	4,328.5	0
Recently Logged Areas	11,009.5	5,515.3	19,709.1
Recently Mined or Quarried	210.2	0	545.3
Rocky Mountain Alpine Bedrock and Scree	3,913.8	89,408.7	8,829.6
Rocky Mountain Alpine Dwarf-Shrubland	618.3	14,444.4	1,408.2
Rocky Mountain Alpine Fell-Field	1,108.9	26,401.5	5,764.9
Rocky Mountain Alpine-Montane Wet Meadow	1,999.7	28,299.4	11,450.8
Rocky Mountain Aspen Forest and Woodland	8,333.4	75,636.4	35,172.4
Rocky Mountain Bigtooth Maple Ravine Woodland	0	57.7	0
Rocky Mountain Cliff and Canyon	1,162.4	56,357.7	10,726.9
Rocky Mountain Dry Tundra	436.2	15,454.1	2,290.6
Rocky Mountain Gambel Oak-Mixed Montane Shrubland	436.6	20,345.1	16,206.0
Rocky Mountain Lodgepole Pine Forest	72,802.6	88,978.6	86,206.2
Rocky Mountain Lower Montane Riparian Woodland and Shrubland	3,276.3	16,795.0	37,131.9
Rocky Mountain Lower Montane-Foothill Shrubland	17,833.2	7,843.4	25,669.6
Rocky Mountain Montane Dry-Mesic Mixed Conifer Forest and Woodland	2,627.7	26,992.2	22,920.0
Rocky Mountain Montane Mesic Mixed Conifer Forest and Woodland	6,958.1	20,152.0	16,158.5
Rocky Mountain Ponderosa Pine Woodland	24,877.6	20,446.5	14,618.0
Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	9645.0	160,030.4	29,673.0
Rocky Mountain Subalpine Mesic Meadow	149.7	15,158.0	1,447.0
Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland	4,641.3	31,710.7	7,056.1
Rocky Mountain Subalpine-Montane Limber-Bristlecone Pine Woodland		50.0	0
Rocky Mountain Subalpine-Montane Riparian Shrubland	768.5	7,314.1	5,439.6
Southern Rocky Mountain Montane-Subalpine Grassland	2,373.4	13,404.2	4,110.6
Wyoming Basins Low Sagebrush Shrubland	784.2	0	218.0
Total	**460,689.7**	**2,077,017.5**	**2,883,675.0**

Source: USGS (2004).

National Land Cover Database (NLCD) geospatial data use a 16-class land cover classification scheme at a spatial resolution of 30 meters (Homer et al. 2015). Acres of NLCD land cover types, which are consolidated into more general cover types, predicted to occur in Daggett, Duchesne, and Uintah Counties are listed below in Table VEG2 and shown on Figures VEG1–3 at the end of this section.

Table VEG2. Acres of National Land Cover Database Land Cover Types Predicted to Occur in Daggett, Duchesne, and Uintah Counties

NLCD Land Cover Types	Daggett County	Duchesne County	Uintah County
Barren Land (Rock/Sand/Clay)	3,186.0	154,206.5	115,665.7
Cultivated Crops	0	1,306.3	1,961.4
Deciduous Forest	3,787.6	77,634.5	39,637.7
Developed, High Intensity	0	96.0	347.0
Developed, Low Intensity	815.8	6,221.7	9,061.2
Developed, Medium Intensity	10.9	477.0	1,490.0
Developed, Open Space	2,892.3	20,087.9	16,686.9
Emergent Herbaceous Wetlands	1,840.6	1,248.1	1,143.7
Evergreen Forest	219,748.2	764,078.8	676,571.1
Grassland/Herbaceous	12,829.3	50,192.8	27,396.0
Mixed Forest	1,183.7	13,229.6	5,176.2
Open Water	13,480.0	9,678.4	14,036.4
Pasture/Hay	8,966.6	137,543.1	113,126.7
Perennial Ice/Snow	0	19.7	0
Shrub/Scrub	189,385.2	826,194.3	1,806,940.9
Woody Wetlands	2,563.5	14,802.8	54,434.2
Total	**460,689.7**	**2,077,017.5**	**2,883,675.0**

Source: USGS (2011).

19.1.3. According to the 1986 *Land and Resource Management Plan for the Ashley National Forest*, there are 512,578 acres of commercial timber stands in the Ashley National Forest that are composed of lodgepole pine, ponderosa pine, Douglas-fir, subalpine fir, Engelmann spruce, and aspen (U.S. Department of Agriculture 1986). Of the 512,578 acres, lodgepole pine accounts for approximately 240,263 acres. Lodgepole pines and ponderosa pines are highly susceptible to infestation by the mountain pine beetle, which have killed the majority of these two tree species across the forest.

19.1.4. Successful vegetation reclamation following disturbance is difficult in the Uintah Basin because of the presence of noxious and invasive weed species, prolonged drought conditions, and a high percentage of soils with restoration limiting characteristics (BLM 2010).

19.1.5. Vegetation in the Uintah Basin has been affected by surface disturbance from oil and gas development. In 2011, the total estimated existing surface disturbance associated with oil and gas development in the Uintah Basin was 23,811 acres. Estimated foreseeable surface disturbance associated with oil and gas development is 44,219 acres (BLM 2012). Information on reclamation efforts is not available.

19.2. Objectives

19.2.1. Manage vegetation, specifically forage, to benefit livestock and wildlife and to contribute to the recreation and tourism industry.

19.2.2. Reduce or eliminate noxious weed infestations and minimize the establishment of new weed species across jurisdictional boundaries using adaptive management and integrated weed management approaches.

19.2.3. Manage the spread of invasive species and the encroachment of native species like sagebrush and juniper, to benefit wildlife, recreation, grazing, and water quality.

19.2.4. Revegetate and restore areas where weeds have been controlled by seeding desirable native plant species.

19.2.5. Reduce the spread of the mountain pine beetle through forest management practices.

19.2.6. Enhance forest health through active forest management (vegetation treatments) to benefit grazing, recreation, water quality, and optimal yield.

19.3. Policies and Guidelines

19.3.1. Comply with existing state, county, and federal rules, regulations, ordinances, and directives pertaining to noxious weeds.

19.3.2. Comply with existing state, county, and federal rules, regulations, and directives pertaining to reclamation and revegetation following surface disturbance.

19.3.3. Work cooperatively with other agencies and entities to restore natural vegetation composition to enhance ecosystem function.

19.4. Literature Cited

Bureau of Land Management (BLM). 2008. *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan*. Available at: http://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.12251.File.dat/VernalFinalPlan.pdf. Accessed August 8, 2016.

———. 2010. *Greater Natural Buttes Draft Environmental Impact Statement*. DES 10-31. Available at: http://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/greater_natural_buttes.Par.5692.File.dat/a_Volume_I_Cover_thru_Chapter_2.pdf. Accessed September 12, 2016.

———. 2012. *Greater Uinta Basin Oil and Gas Cumulative Impacts Technical Support Document*. Available at: http://www.blm.gov/style/medialib/blm/ut/vernal_fo.Par.57849.File.dat/GCW%20Cums%20TSD%2003-22-12%20final.pdf. Accessed on August 18, 2016.

Homer, C.G., J.A. Dewitz, L. Yang, S. Jin, P. Danielson, G. Xian, J. Coulston, N.D. Herold, J.D. Wickham, and K. Megown. 2015. Completion of the 2011 National Land Cover Database for the Conterminous United States-Representing a Decade of Land Cover Change Information. *Photogrammetric Engineering and Remote Sensing* 81(5):345–354.

U.S. Geological Survey (USGS). 2004. National Gap Analysis Program. Provisional Digital Land Cover Map for the Southwestern United States. Version 1.0. RS/GIS Laboratory, College of Natural Resources, Utah State University.

———. 2011. National Land Cover Database geographic information systems data. Available at: http://www.mrlc.gov/index.php. Accessed January 12, 2016.

U.S. Department of Agriculture (USDA). 1986. *Land and Resource Management Plan for the Ashley National Forest*. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5277279.pdf. Accessed on August 31, 2016.

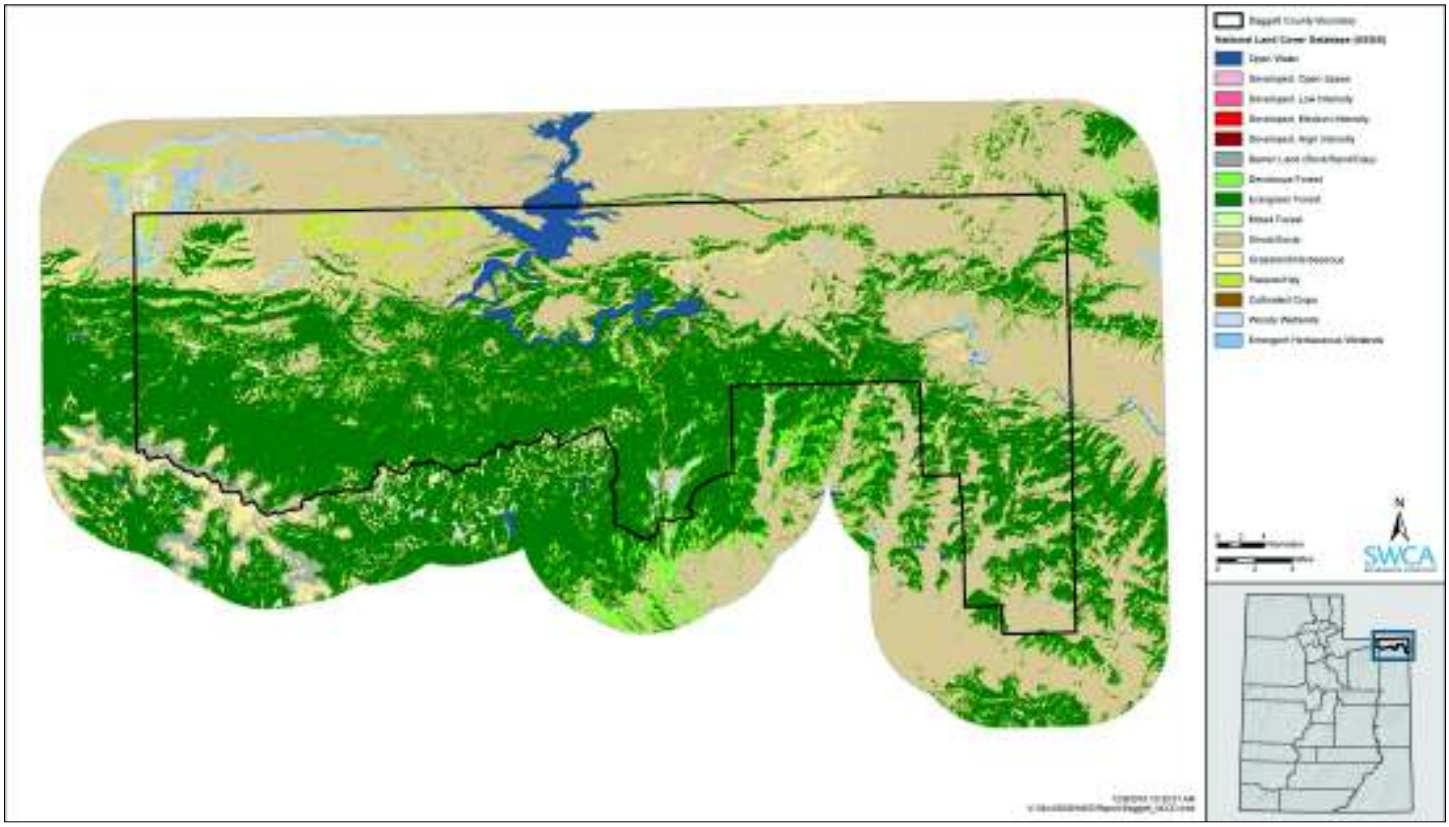

Figure VEG1. National Land Cover Database land cover types predicted to occur in Daggett County.

This page intentionally blank

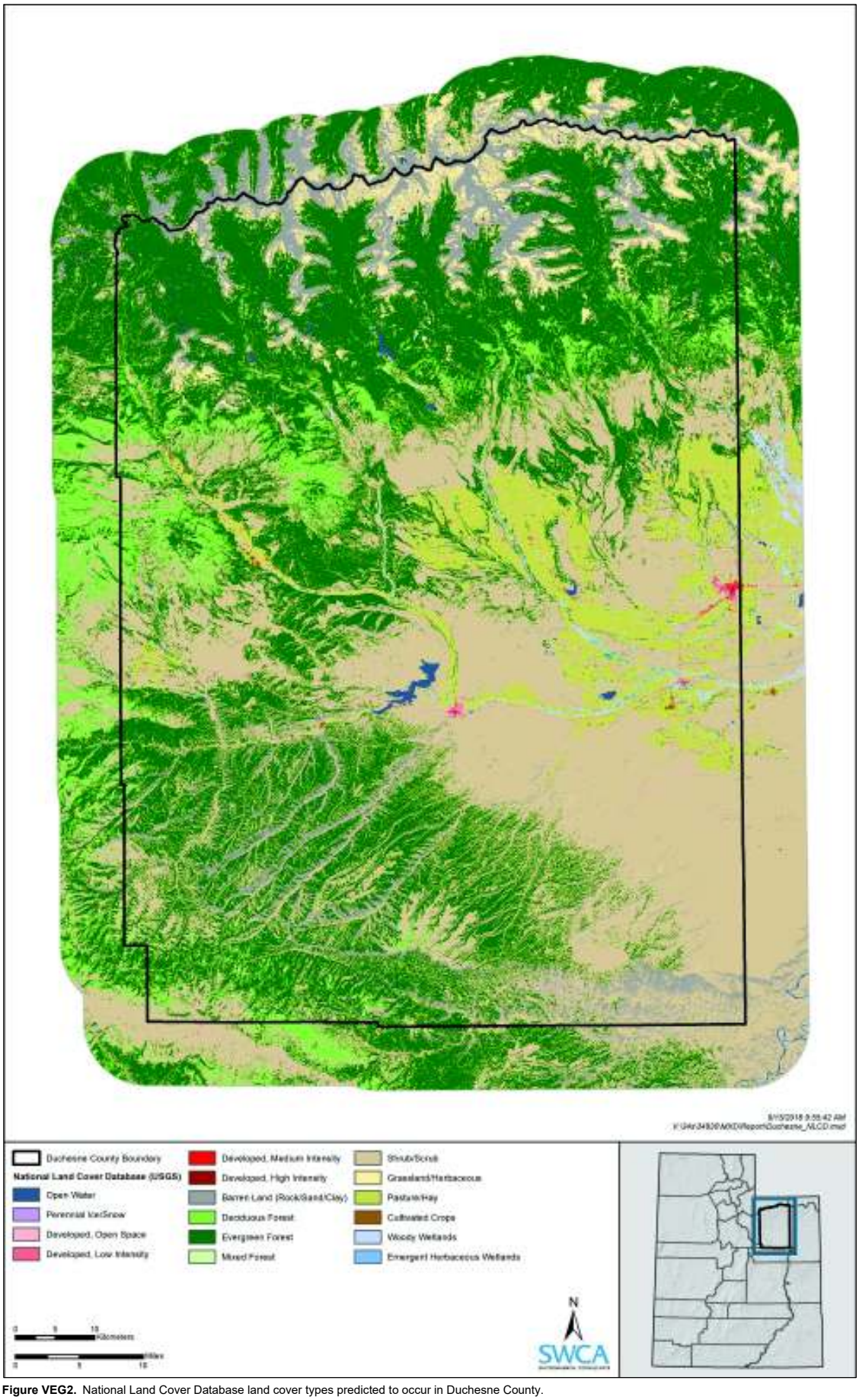

Figure VEG2. National Land Cover Database land cover types predicted to occur in Duchesne County.

This page intentionally blank

Figure VEG3. National Land Cover Database land cover types predicted to occur in Uintah County.

This page intentionally blank

20. WATER QUALITY, WATER RIGHTS, AND HYDROLOGY

20.1. Findings

20.1.1. Water resources are fundamental to future prosperity and quality of life in the Uintah Basin.

20.1.2. Clean water is essential to the health of county residents.

20.1.3. Nationalization or federal control of water resources is opposed.

20.1.4. Surface waters including perennial, intermittent, and ephemeral streams are regulated under the Clean Water Act and for these reasons are considered waters of the U.S.

20.1.5. Waters of the State of Utah are generally delineated as "blue lines" on topographic maps, named features on maps, or support riparian vegetation.

20.1.6. Consumptive and non-consumptive uses of surface water occur downstream of the Ashley National Forest. The U.S. Forest Service estimates that the Ashley National Forest contributes the following percentages of stream flow (U.S. Forest Service 2016):

- 13% of the flow at the Green River at the confluence with the Colorado River
- 4% of the flow at the Green River at the confluence with the Yampa River
- 4% of the flow at the Green River at the confluence with the Duchesne River
- 91% of the flow at the Ashley Creek at the confluence with the Green River
- 24% of the flow at the Strawberry River at the confluence with the Duchesne River
- 67% of the flow at the Duchesne River at the confluence with the Green River

Surface Water Resources

20.1.7. The Utah Division of Water Resources (DWRe) in their 2015 publication *Uintah Basin Planning For the Future* describes the Uintah Basin as follows:

> The Uintah Basin, located in the northeast corner of Utah, is defined in this UDWRe planning document in terms of watersheds and includes Daggett, Uintah, and portions of Duchesne, Grand, Emery, Carbon, Wasatch, and Summit Counties. The Uintah Basin, receives an average of 15.5 inches of precipitation annually — only slightly more than the statewide average of 13 inches — and contains many of Utah's largest water supply reservoirs. While much of the water stored in these reservoirs is used in the basin, a significant amount is transferred out of the basin to satisfy water needs along the Wasatch Front. The Uintah Basin is predominantly a rural agricultural area with farms distributed throughout the basin. The Uintah Basin is not densely populated like other Utah basins, and while subject to similar issues associated with providing water for a growing population, does not experience them at the same magnitude. The basin is rich in energy resources and thus highly influenced by the ebb and flow of the oil and gas industry. The potential for large scale oil shale and tar sands extraction within the basin illustrates the need for future water planning. In addition to uncertainties surrounding future energy development, not all streams and other water bodies in the basin meet Utah's water quality standards. Increasing environmental and recreational demands bring greater competition for the water in the basin and will require more emphasis on integrated water resource management and efficient use of the basin's water resources. (DWRe 2015)

20.1.8. Stream gages and National Hydrography Dataset information pertaining to surface waters in Daggett, Duchesne, and Uintah Counties are illustrated in Figures HYD-WRI1–3 at the end of this section.

Water Budget Projections

20.1.9. The current and future water demand for surface waters within Daggett, Duchesne, and Uintah Counties is illustrated in Table HYD-WRI1 and is excerpted from *Conceptual Analysis of Uinta and Green River Water Development Projects* (Franson Civil Engineers & CH2M Hill 2007).

Table HYD-WRI1. Summary of Overall Existing and Future Demands (acre-feet per year)

Demand Type	Total Existing Demand	Total Near Future Demand	Total Likely Future Demand
Agricultural	253,424	261,882	286,055
Municipal	4,228	14,782	14,782
Energy Industry	4,230	116,710	241,710
Total	**261,882**	**393,374**	**542,547**

Source: Franson Civil Engineers & CH2M Hill (2007).

20.1.10. In their 2015 publication *Uintah Basin Planning for the Future*, DWRe describes how local water districts intended to use the Flaming Gorge water rights:

> In 2007, a collaborative study was done by the Central Utah Water Conservancy District (CUWCD), Duchesne County Water Conservancy District (DCWCD) and the Uintah Water Conservancy Districts (UWCD). The purpose of this study was to show how the districts intended to use the Flaming Gorge water rights awarded to them by the Board of Water Resource. The study also identified and evaluated scenarios to use the water rights on the Uinta and Green Rivers (held by the Duchesne County WCD and Uintah WCD) to meet municipal, agricultural, and energy industry demands (Figure 2). These demands were split into two categories—near future and likely future. Near future demands refer to applications for a portion of the Green River Allocation that have been approved by the Uintah WCD and Duchesne County WCD and are imminent water needs. Likely future water demands are those that are expected to be realized in the future because of projected growth based on previous studies and discussions with land owners, municipalities and energy industry. (DWRe 2015)

20.1.11. Water rights regions in Daggett, Duchesne, and Uintah Counties are illustrated in Figures HYD-WRI4–6 at the end of this section.

Water Development Scenario Summary

20.1.12. A summary of the water development scenarios for the Uintah Basin as defined by the DWRe is illustrated in Table HYD-WRI2 and is excerpted from *Conceptual Analysis of Uinta and Green River Water Development Projects* (Franson Civil Engineers & CH2M Hill 2007).

Table HYD-WRI2. Water Development Scenario Summary

Project Features	1	2	3	4	5	6	7	8	9	10
Stabilize High Uinta High Mountain lakes (Transfer storage to downstream storage)		x	x	x	x	x	x			
Upper Uinta Reservoir (28,000 acre-feet storage)		x	x			x	x			
Brown's Draw Enlargement (1,900 acre-feet storage increase)				x	x	x	x			
Montes Creek Enlargement (950 acre-feet storage increase)				x	x	x	x			
Bennett Reservoir (5,000 acre-feet storage)				x	x	x	x			
Neola Reservoir (5,000 acre-feet storage)				x	x	x	x			
East Cottonwood Reservoir (5,200 acre-feet storage)				x	x	x	x			
Renn Smith Reservoir		x	x	x	x	x	x	x	x	x
Cliffs and Whiterocks High Mountain Lakes transfer to M & I demand		x								
Fill Cottonwood Reservoir with Exchange								x	x	x
Yellowstone Feeder Canal Extension to Area 16 (capacity = 19 cubic feet per second)				x	x	x	x			
Pump from Green River to Pelican Lake		x		x		x		x	x	x
Pump from Green River to Ouray Park, Cottonwood Service Area		x		x		x		x		
Pump from Pelican Lake to Cottonwood Area (3,500 acres in Cottonwood Service Area)										x

Source: Franson Civil Engineers & CH2M Hill (2007)

20.1.13. DWRe further describes these scenarios below and in Table HYD-WRI3:

> Combinations of computer models were used to estimate the water yield for each scenario. A cost estimate was developed for each project and for each scenario. Ranking criteria were then developed that, "assumed an alternative must be complete, effective, efficient and acceptable in order to be viable." Each scenario was then ranked and assigned a score. Finally, in September 2007 a public meeting was held with all of the stakeholders participating. The outcome was a decision that scenarios two, four, six, eight and 10 would remain as viable ones to consider. In addition to being the ones most favored, these also had either the highest ranking score or lowest total cost. Figure 3 shows the preferred scenarios along with the water developed, total capital cost, cost per acre-foot and score. (DWRe 2015)

Table HYD-WRI3. Viable Scenario Summary

Scenario	Water Developed (acre-feet)	Total Capital Cost	Capital Cost per Acre-Feet of Developed Water	Score
2	22,300	$137,468,000	$6,200	593
4	17,900	$251,865,100	$14,100	593
6	26,200	$355,523,600	$13,600	593
8	9,800	$25,133,300	$2,600	464
10	8,400	$35,978,400	$4,300	427

Source: DWRe (2015).

Water Quality

20.1.14. As required by the Clean Water Act, the Utah Division of Water Quality (DWQ) is charged with establishing and maintaining water quality standards designed to protect, restore, and preserve water quality in Utah. Total maximum daily load (TMDL) studies are one tool used to manage water quality. Watersheds are the primary means of organizing surface waters for management, and if a specific lake, river, or stream within that watershed is considered impaired (i.e., on the 303(d) list), a TMDL study is typically required. Monitoring sites at which water quality data are gathered and assessment units inform this process and are illustrated in Figures HYD-WRI7–9 at the end of this section. Watershed condition information and boundaries are illustrated in Figures HYD-WRI10–12 at the end of this section.

20.1.15. Some of the Uintah Basin's watersheds, reservoirs, and other waterbodies have required total maximum daily loads prepared for them. Summaries of these TMDLs are provided below.

Duchesne River Watershed

20.1.16. The following summaries are excerpted from the 2007 *TMDLs for Total Dissolved Solids in the Duchesne River Watershed* (Tetra Tech, Inc. 2007):

> The Duchesne River watershed drains approximately 2,679 square miles (1,714,553 acres) in northeastern Utah. It occupies approximately 102 sq miles of Wasatch County, 2,103 sq miles of Duchesne County, and 474 sq miles of Uintah County.
>
> The Utah Department of Environmental Quality (UDEQ) listed several segments in the Duchesne River watershed on Utah's 2004 Section 303(d) list of impaired waters for Total dissolved solids (TDS)
>
> Surface and subsurface irrigation return flows that dissolve and transport TDS to receiving streams have been identified as a significant source of TDS in the watershed
>
> Sources of TDS loading in the Duchesne River Watershed include areas of surface disturbance, irrigation activities, natural sources (geology), streambank erosion/destabilization, grazing, roadways, and energy development. (Tetra Tech, Inc. 2007)

Strawberry River Watershed

20.1.17. There are currently no point sources of pollution within the Strawberry River watershed. Total phosphorous loading into Strawberry Reservoir is derived from non-point sources such as soil erosion and land use. Examples of land use sources of pollution include recreation, hydrologic modifications, grazing, roads, and energy development.

Brough, Steinaker, and Red Fleet Reservoirs

20.1.18. The following summaries are excerpted from the 2008 *Total Maximum Daily Load Water Quality Study Brough, Red Fleet, and Steinaker Reservoirs* (Millennium Science & Engineering and Limno-Tech, Inc. 2008):

> Brough, Steinaker and Red Fleet Reservoirs were placed on Utah's 303(d) list of impaired waters due to failure to support these waterbodies's designated 3A beneficial use for protection of cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain. The impairment is due to low dissolved oxygen concentrations.

Brough Reservoir is located in the Lower Green - Diamond Watershed, Hydrologic Unit Code (HUC) 14060001 as an off-stream impoundment in the Uinta Basin 16 miles southwest of Vernal, Utah. The reservoir was constructed to store and deliver water for irrigation. Water is diverted from the Whiterocks River into the Whiterocks and Ouray Valley Canal that becomes the Ouray Valley Canal near La Point, Utah, 17 miles northeast of the reservoir. The Brough Reservoir catchment area encompasses 15,786 acres.

Red Fleet Reservoir is an impoundment on Big Brush Creek located 10 miles northeast of Vernal, Utah. The reservoir lies within the Uinta Basin Watershed Assessment Unit (UT-L- 14060002-006). The reservoir is within the Ashley-Brush Watershed identified with 4th order (8- digit) Hydrologic Unit Code (HUC) – 14060002. Within the Ashley-Brush Watershed, Red Fleet Reservoir is situated in the Big Brush Creek and Cottonwood Wash sub-watersheds. The catchment area encompasses 59,827 acres.

Steinaker Reservoir is located in north-eastern Utah, 3.5 miles north of Vernal and lies within the Green River Basin of the Upper Colorado River Basin. The reservoir is in the Uinta Basin Watershed Assessment Unit (UT-L-14060002-004) and part of the Ashley-Brush Watershed identified with 4th order (8-digit) Hydrologic Unit Code (HUC) – 14060002. Within the Ashley Brush Watershed, Steinaker Reservoir is situated in the Lower Ashley Creek watershed and Steinaker Reservoir sub-watershed. The catchment area encompasses 166,752 acres. (Millennium Science & Engineering and Limno-Tech, Inc. 2008)

Browne Lake

20.1.19. The following summaries are excerpted from the 2003 Browne Lake, Utah Total Maximum Daily Loads for Dissolved Oxygen and Total Phosphorus (DWQ 2008):

Browne Lake is located in the southern portion of the Upper Green-Flaming Gorge Reservoir watershed (HUC 14040106) in the Uinta Mountains of northeastern Utah (Figure 1-1). The lake has been placed on Utah's 2000 303(d) list for total phosphorus and dissolved oxygen impairments. (DWQ 2008)

Uinta River Watershed

20.1.20. The following summaries are excerpted from the 2006 Uinta River, Deep Creek and Dry Gulch Creek TMDLs for Total Dissolved Solids (Tetra Tech, Inc. 2006):

The Uinta River and Dry Gulch Creek watersheds are located in northeastern Utah approximately 140 miles east of Salt Lake City in Uinta and Duchesne counties. The Uinta River is approximately 60 miles long and drains the southern slope of King's Peak, Utah's highest point, until it converges with the Duchesne River, a tributary of the Green River. The Uinta River has a large network of tributary streams and mountain lakes that make the river the largest on the southern slope of King's Peak. Deep Creek is a tributary of the Uinta River and drains the area northeast of the Uinta River. Dry Gulch Creek is a tributary of the Uinta River and drains the area west of the Uinta River.

The Uinta River, Deep Creek and Dry Gulch Creek are included on the state of Utah's 2000 303(d) list as a high priority for TMDL development due to impairments associated with high concentrations of total dissolved solids (TDS).

> The subsurface bedrock formations in the lower basin are saline and soluble, dissolving easily and contributing TDS to any water that comes into contact with them. (Tetra Tech, Inc. 2006)

Pariette Draw

20.1.21. The following summaries are excerpted from the 2010 TMDLs for Total Dissolved Solids, Selenium, and Boron in the Pariette Draw Watershed EPA (DWQ 2010):

> The Pariette Draw watershed, part of the Uintah Basin, is located in the northeast corner of Utah. The Uintah Basin is approximately 6,969,500 acres (10,890 mi2) and includes all of Duchesne, Uintah, and Daggett Counties and part of Summit, Wasatch, Carbon, Emery, and Grand Counties. Most of the counties lie between 5,000 to 6,000 ft in elevation and have peaks rising to over 13,000 ft. The Pariette Draw watershed receives most of its water from the Duchesne River via Pleasant Valley Canal and is ultimately drained by the Pariette Draw into the Green River.
>
> Pariette Draw is listed on Utah's 2002 303(d) list for impairments associated with excess concentrations of Boron (B) and Total Dissolved Solids (TDS) and on the 2004 303(d) list for Selenium (Se) (UDEQ 2004).

Matt Warner and Calder Reservoirs

20.1.22. The following summaries are excerpted from the 2007 *Matt Warner Calder Reservoirs TMDL* (DWQ 2007b):

> Matt Warner and Calder Reservoirs are small stabilized lakes on Pot Creek located in Uintah County. Matt Warner Reservoir, the largest lake, is located several miles upstream of Calder Reservoir. Matt Warner Reservoir has a surface area of 297 acres, and average depth of 9.4 feet and an elevation of 7,540 feet above sea level. Calder Reservoir has a surface area of approximately 99 acres, an average depth of 17 feet and an elevation of 7,291 feet above sea level.
>
> Both reservoirs are listed as partially supporting their cold-water fishery beneficial use on the 2004 303(d) list for waters requiring the development of TMDLs. (DWQ 2007b)

20.2. Objectives

20.2.1. Maintain or improve water quality to protect the health and well-being of county residents and the desirability of the county as a place to visit and recreate.

20.2.2. Balance water resource allocation among beneficial uses, e.g., agricultural, recognizing that growing populations will require larger portions of municipal and industrial water and an increased interest in water-based recreation.

20.2.3. Support ongoing water quality and quantity monitoring to inform water and land management activities that protect surface water and groundwater.

20.2.4. Obtain benefits allocated to the county as part of state and federal water development projects, e.g., Central Utah Project

20.2.5. Ensure that allocation of water resources is administered under applicable Utah laws and Prior Appropriation Doctrine.

20.2.6. Manage federal lands and watersheds for optimal water yield.

20.2.7. Integrate multiple strategies for meeting future water demands not limited to conservation, conversion, water transfers, water development, conjunctive use of surface and ground water, aquifer storage and recovery, secondary irrigation systems, cooperative agreements (arrangements with other water suppliers to share/lease their excess supplies), and water reuse (recycling wastewater effluent).

20.2.8. The high quality of Ashely National Forest water should not be impaired.

20.2.9. Take an active role in state and federal water resource management processes, including revisions to the definition of waters of the U.S. and groundwater management.

20.3. Polices

20.3.1. Adhere to state-developed water quality standards.

20.3.2. Support ongoing water quality monitoring to establish baseline conditions to track potential surface and groundwater contamination that could result from changes in land use, e.g., oil shale and oil sands development.

20.3.3. Recognize that natural conditions and processes may affect achievement of state water quality standards and might not be indicative of impairment.

20.3.4. Adhere to water quality standards and those mitigation strategies outlined for nonpoint and point sources in local total maximum daily load documents.

20.3.5. Water quality studies undertaken by or on behalf of the public land management must be coordinated with the counties.

20.3.6. Protect against surface and groundwater contamination.

20.3.7. Support projects that improve water quality and increase quantity and dependability of water supply.

20.3.8. Impound wastewater/stormwater from agriculture, mining, or other surface disturbance activities.

20.3.9. Water-quality testing guidelines should be established by the state and not the federal government. Mandated water-quality tests should be financed by the agency requiring the testing. At a minimum, the county feels that agencies should modify testing requirements to fit local necessity and circumstances.

20.3.10. Participate in the Colorado River Basin Salinity Control Program.

20.3.11. Work toward recognition of industrial applications, e.g., mining processes, as a beneficial use.

20.3.12. Participate in integrated water resource management processes that seek to coordinate development and management of water, land, and related resources in order to maximize economic and social welfare without compromising the sustainability of vital ecosystems.

20.3.13. Ensure that federal reserved water rights, tribal rights, and threatened and endangered species conservation flow recommendations located within the county are included in discussions regarding future water resource management, development, and conservation decisions. The onus of water resource management, development, and conservation should not fall only to the counties or individual water rights holders.

20.3.14. Use the best available water resource data when conducting planning activities.

20.3.15. Support maintenance of existing water quantity measurement equipment, e.g., U.S. Geological Survey gauges and SNOTEL, to document water resource availability.

20.3.16. Consider installing water meters at appropriate locations.

20.3.17. Water rights held by federal entities must be obtained through the state water appropriation process and will not infringe upon downstream water rights.

20.3.18. Protect property rights associated with implementation of state and federal water development projects.

20.3.19. As a stakeholder, the county has a voice in any proposed sale, lease, exchange, or transfer of water rights and should comment.

20.3.20. Decreases in consumptive and non-consumptive uses of water downstream of the Ashley National Forest are not supported.

20.3.21. Incorporate a watershed approach for water quality protection and restoration that supports current and potential future uses.

20.3.22. Initiate local water management planning that addresses water supply and demand for agriculture, industry, recreation, culinary, ecosystem, and other uses and coordinate with local water conservancy districts and DWRe plans (or planning processes) that currently extend into the future.

20.3.23. Use existing local water resource knowledge and develop future knowledge through education.

20.3.24. Use and adapt water conservation education strategies developed by the state and other entities that focus on water supply and demand and on diverse strategies for meeting demand.

20.3.25. Coordinate with county landowners, e.g., public, tribal, and private, to assess potential water storage sites to meet increased demands for water.

20.3.26. Establish reasonable water conservation objectives as one way to meet future water demands.

20.3.27. Direct water development for livestock outside of sensitive riparian, stream, and wetland areas.

20.3.28. Manage unpaved roads on the Ashley National Forest for watershed and water quality protection while protecting existing access rights and public access.

20.3.29. As a stakeholder, provide comments on new Clean Water Act rules that modify the definition of waters of the U.S. and increase federal jurisdiction among other topics.

20.3.30. Participate in upcoming Ashley National Forest plan revisions and all future revisions.

20.4. Literature Cited

Franson Civil Engineers & CH2M Hill. 2007. *Conceptual Analysis of Uinta and Green River Water Development Projects*. Available at: http://www.riversimulator.org/Resources/USBR/UintaGreenRiverWaterDevelopmentReport.pdf. Accessed September 17, 2016.

Millennium Science & Engineering and Limno-Tech, Inc. 2008. *Total Maximum Daily Load Water Quality Study Brough, Red Fleet, and Steinaker Reservoirs*. Available at: http://www.deq.utah.gov/ProgramsServices/programs/water/watersheds/docs/2010/12Dec/Brough_Steinaker_Red_Fleet_TMDLs.pdf. Accessed September 17, 2016.

Tetra Tech, Inc. 2006. *Uinta River, Deep Creek and Dry Gulch Creek TMDLs for Total Dissolved Solids*. Available at: http://www.deq.utah.gov/ProgramsServices/programs/water/watersheds/docs/2006/08Aug/Uinta_River_Watershed_TMDL.pdf. Accessed September 17, 2016.

———. 2007. *TMDLs for Total Dissolved Solids in the Duchesne River Watershed*. Available at: http://www.deq.utah.gov/ProgramsServices/programs/water/watersheds/docs/2007/07Jul/Duchesne_River_Watershed_TMDL.pdf. Accessed September 17, 2016.

U.S. Forest Service. 2016. 2016 National forest contributions to streamflow, Intermountain Region (Region 4). Available at: https://wwwapps.fs.usda.gov/rmrs/projects/national-forest-contributions-streamflow. Accessed September 13, 2016.

Utah Department of Environmental Quality. 2004. Utah's 2004 303(d) List of Impaired Waters. Utah Department of Environmental Quality, Division of Water Quality, Salt Lake City, Utah. April 1, 2004. Available at: http://www.waterquality.utah.gov/documents/2004303dlistFINALall-11-04-04.pdf. Accessed September 17, 2016.

Utah Division of Water Quality (DWQ). 2003. *Browne Lake, Utah Total Maximum Daily Loads for Dissolved Oxygen and Total Phosphorus*. Available at: http://www.deq.utah.gov/ProgramsServices/programs/water/watersheds/docs/2006/09Sep/Browne_Lake_TMDL.pdf Accessed September 17, 2016.

———. 2007a. *Strawberry Reservoir TMDL*. Available at: http://www.deq.utah.gov/ProgramsServices/programs/water/watersheds/docs/2007/07Jul/Strawberry_Reservoir_TMDL.pdf. Accessed September 17, 2016.

———. 2007b. *Matt Warner Calder Reservoirs TMDL*. Available at: http://www.deq.utah.gov/ProgramsServices/programs/water/watersheds/docs/2007/07Jul/Matt_Warner_and_Calder_Reservoir_TMDLs.pdf. Accessed September 17, 2016.

———. 2010. *TMDLs for Total Dissolved Solids, Selenium, and Boron in the Pariette Draw Watershed EPA*. Available at: http://www.deq.utah.gov/ProgramsServices/programs/water/watersheds/docs/2010/11Nov/Pariette DrawTMDlFinal.pdf. Accessed September 17, 2016.

Utah Division of Water Resources (DWRe). 2015. *Uintah Basin Planning for the Future*. Part of the Utah State Water Plan series. Available at: http://www.water.utah.gov/Planning/SWP/Unitah/UintahBasin2015.pdf. Accessed September 17, 2016.

This page intentionally blank

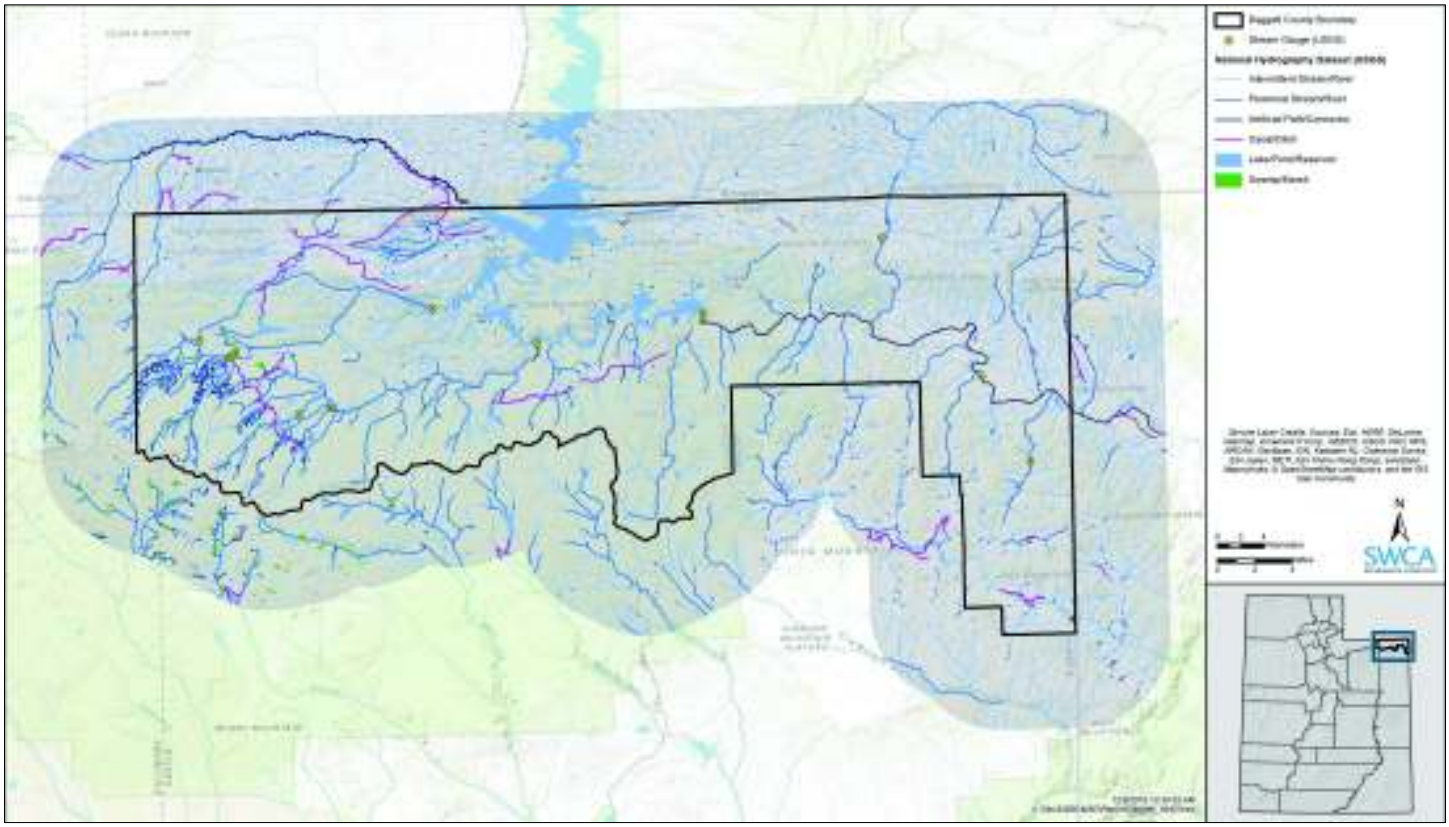

Figure HYD-WRI1. Stream gages and National Hydrography Dataset data in Daggett County.

This page intentionally blank

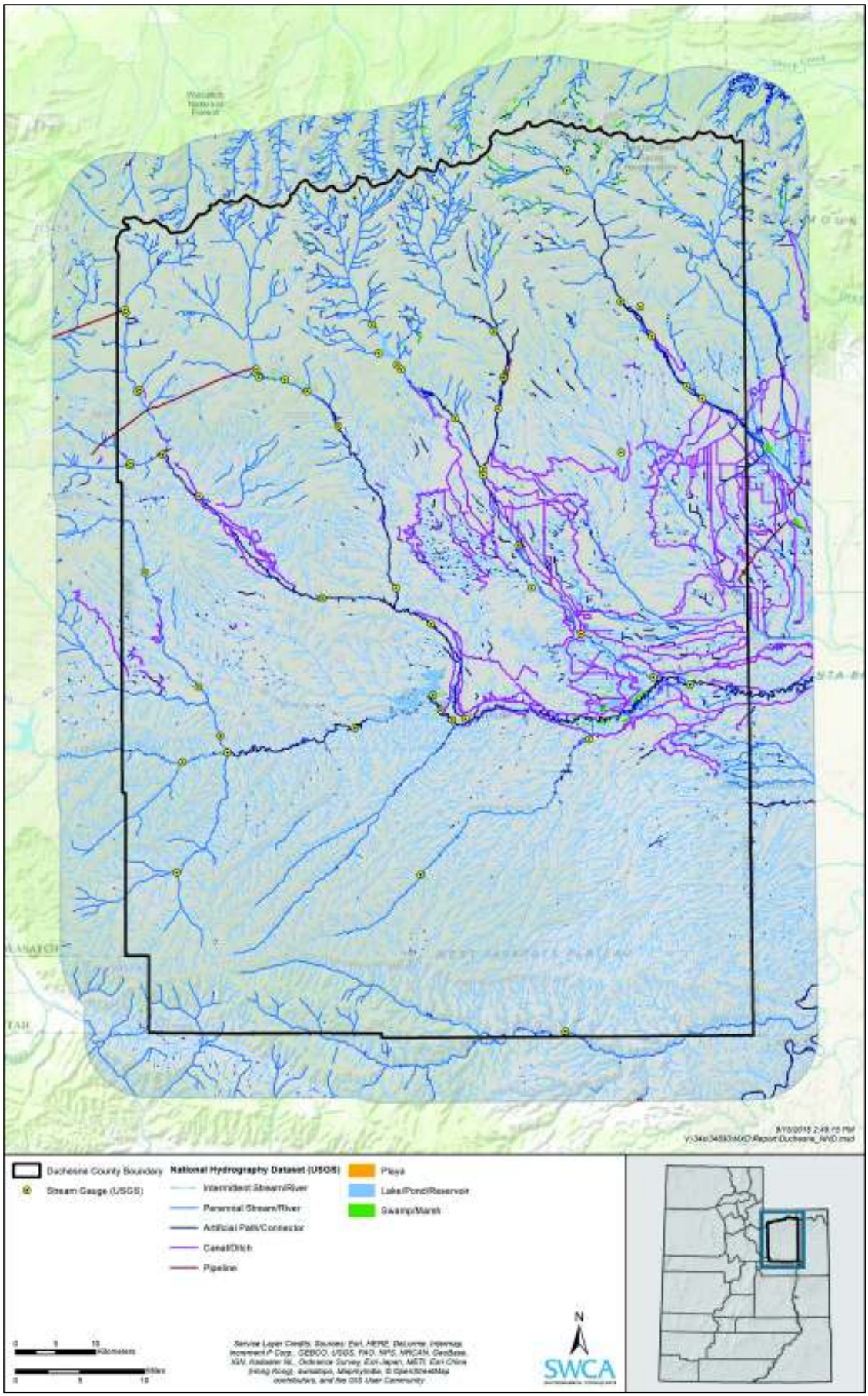

Figure HYD-WRI2. Stream gages and National Hydrography Dataset data in Duchesne County.

This page intentionally blank

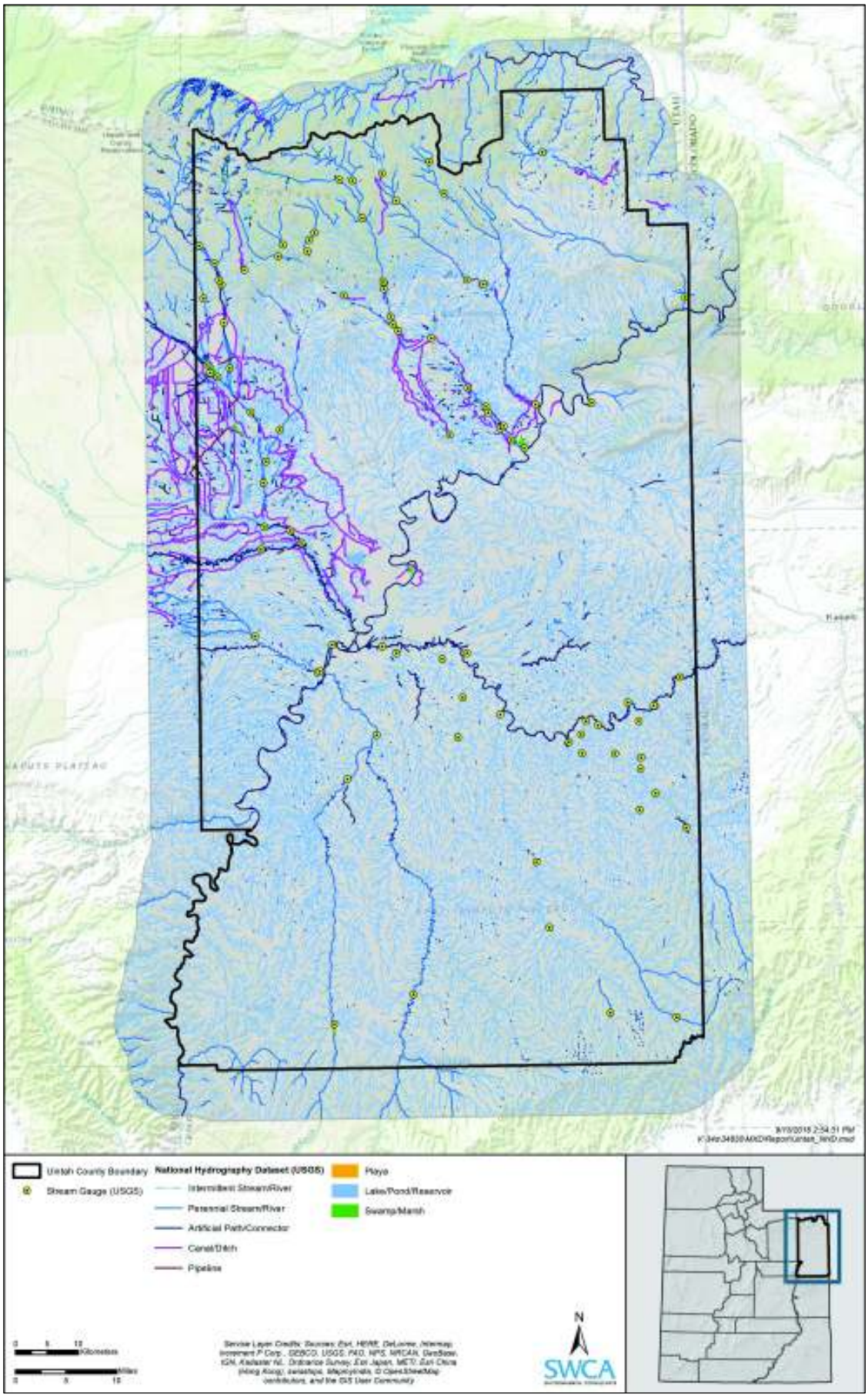

Figure HYD-WRI3. Stream gages and National Hydrography Dataset data in Uintah County.

This page intentionally blank

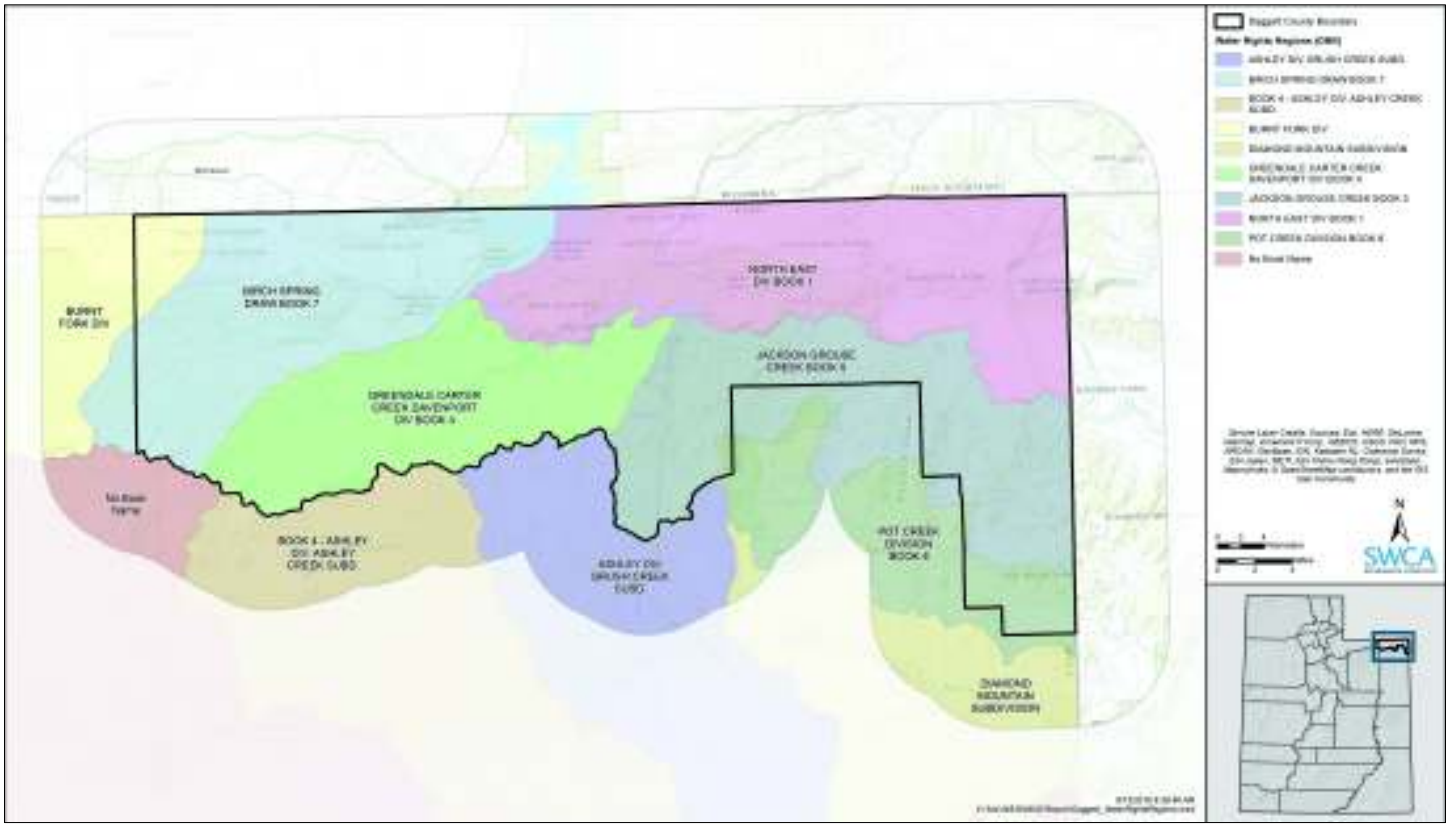

Figure HYD-WRI4. Water rights regions in Daggett County.

This page intentionally blank

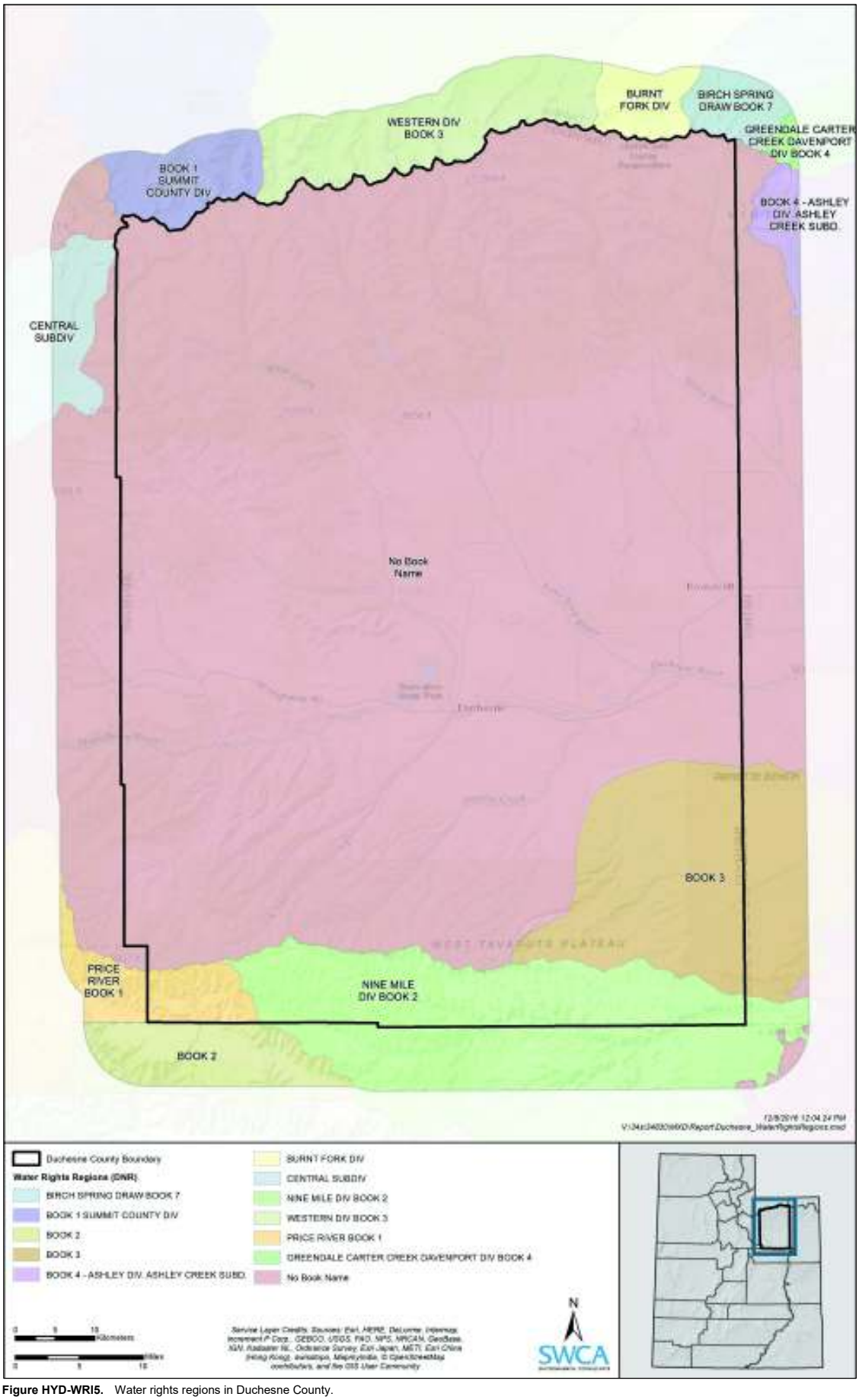

Figure HYD-WRI5. Water rights regions in Duchesne County.

This page intentionally blank

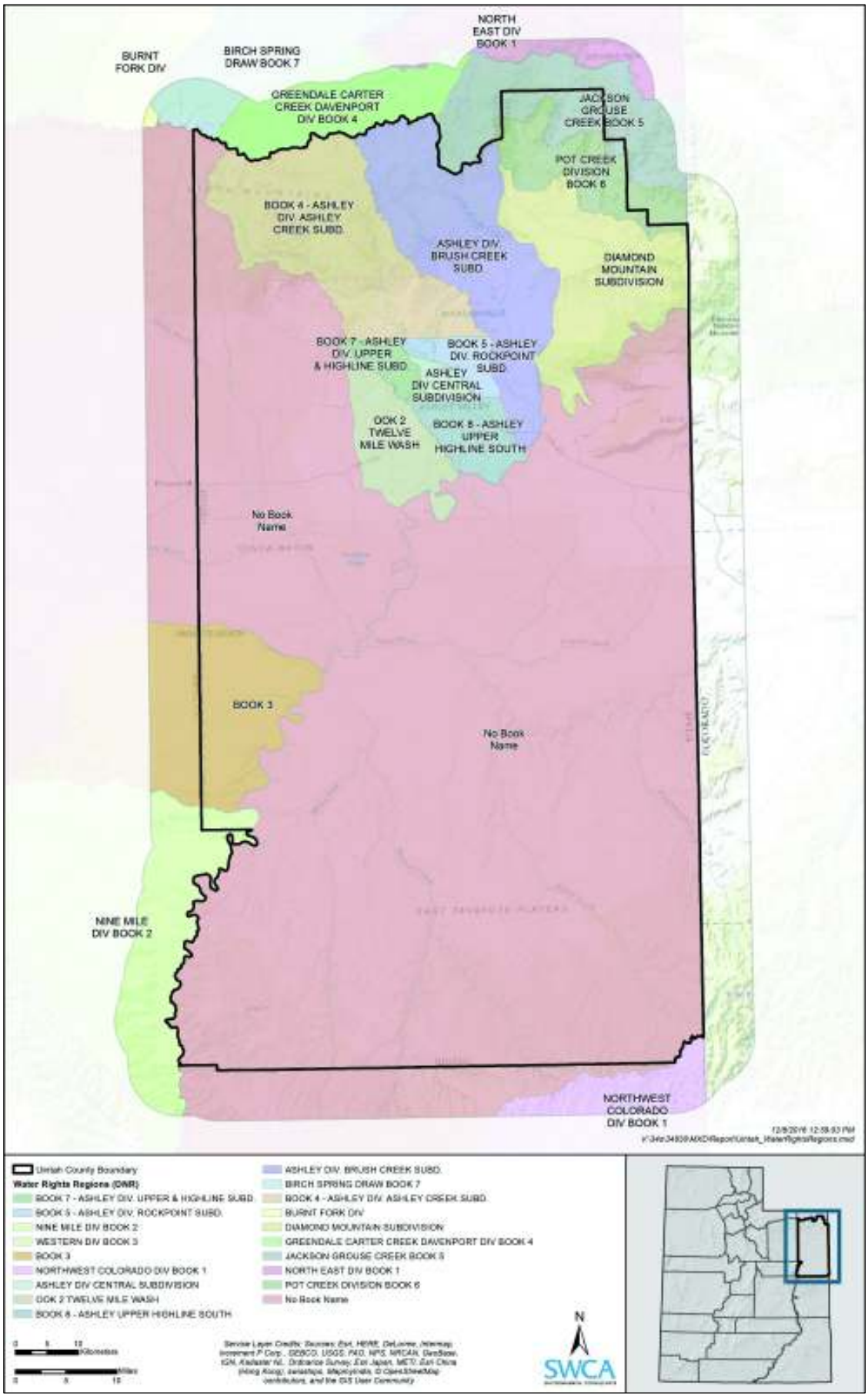

Figure HYD-WRI6. Water rights regions in Uintah County.

This page intentionally blank

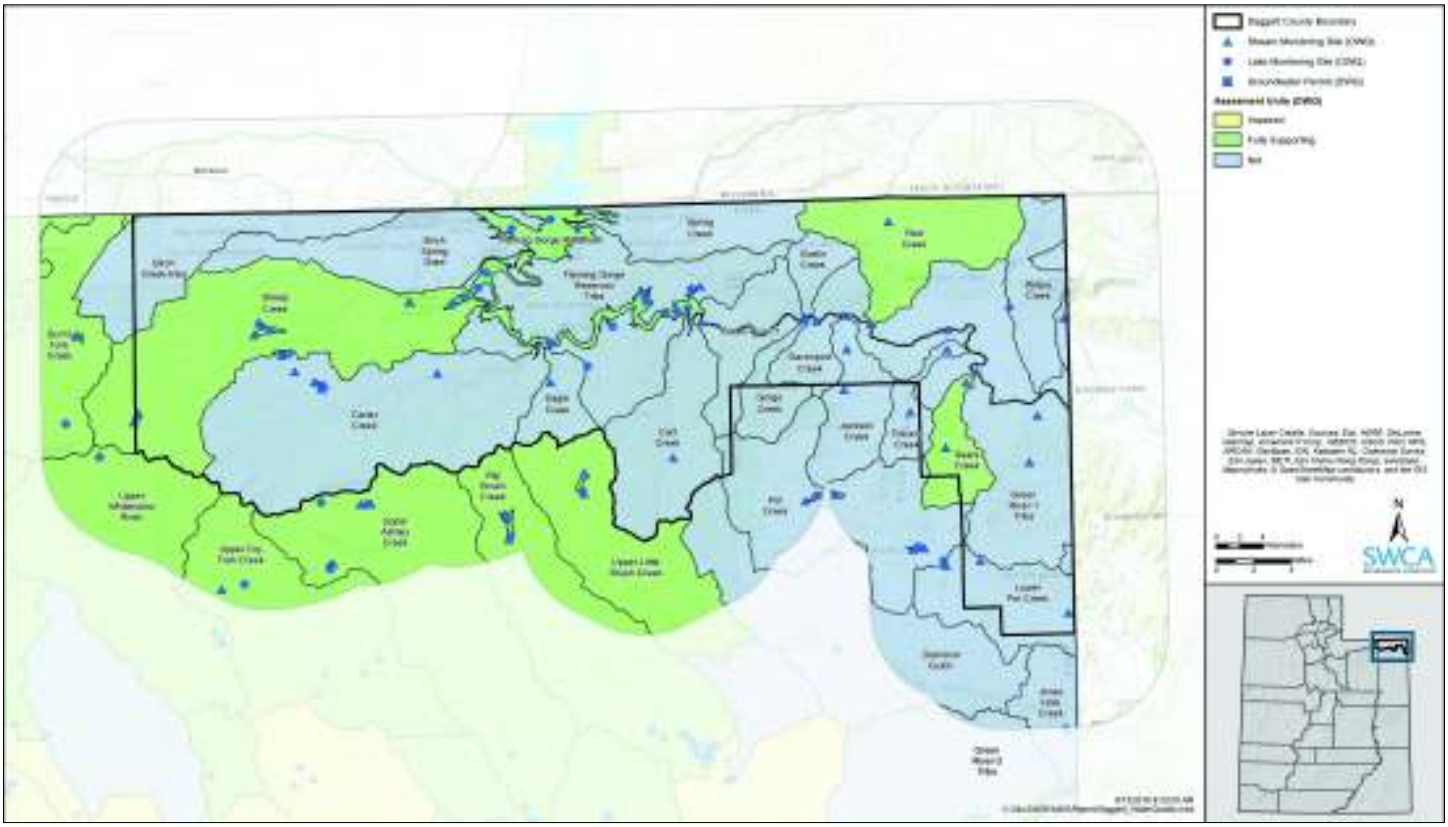

Figure HYD-WRI7. Utah Division of Water Quality monitoring sites and assessment units in Daggett County.

This page intentionally blank

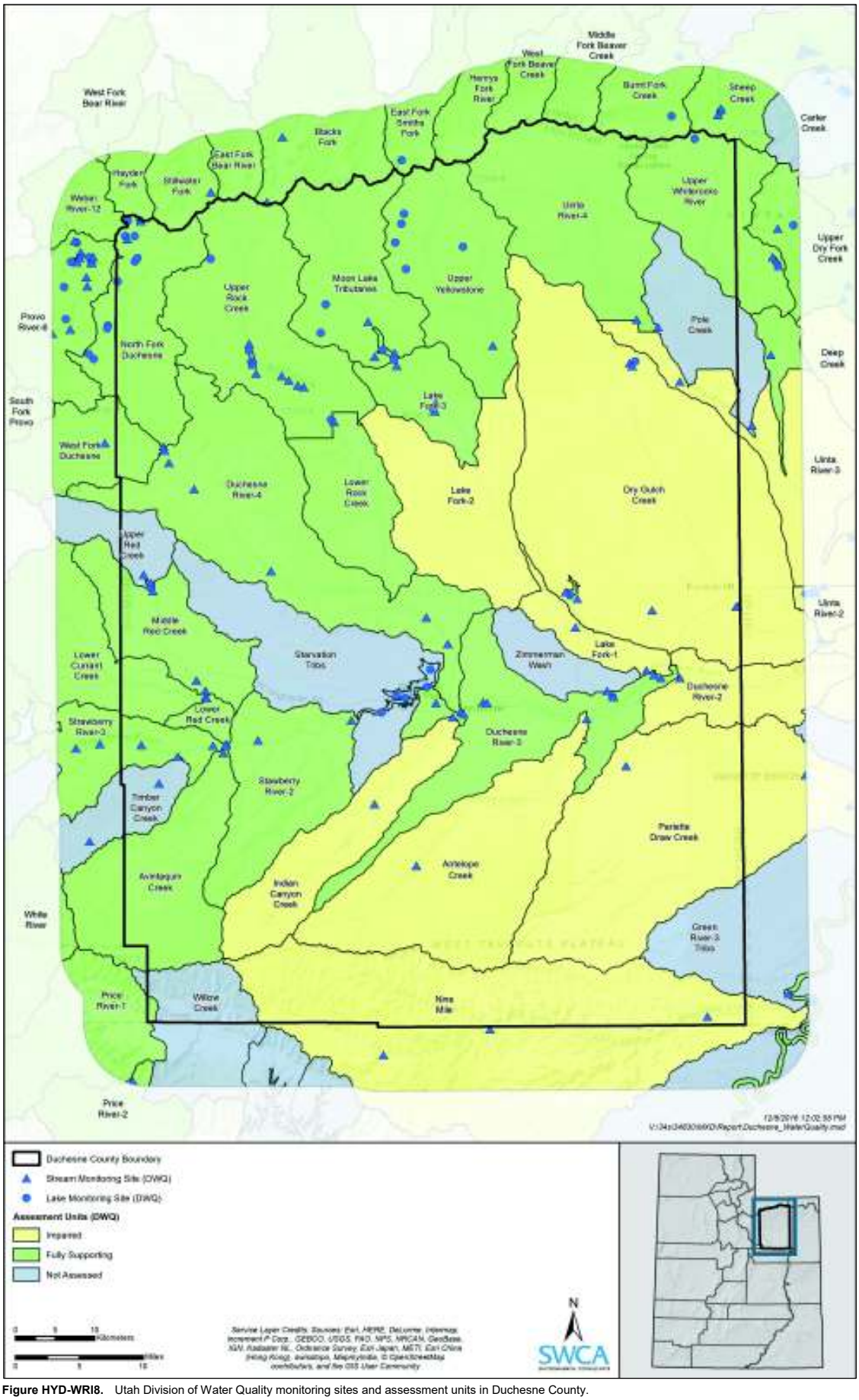

Figure HYD-WRI8. Utah Division of Water Quality monitoring sites and assessment units in Duchesne County.

This page intentionally blank

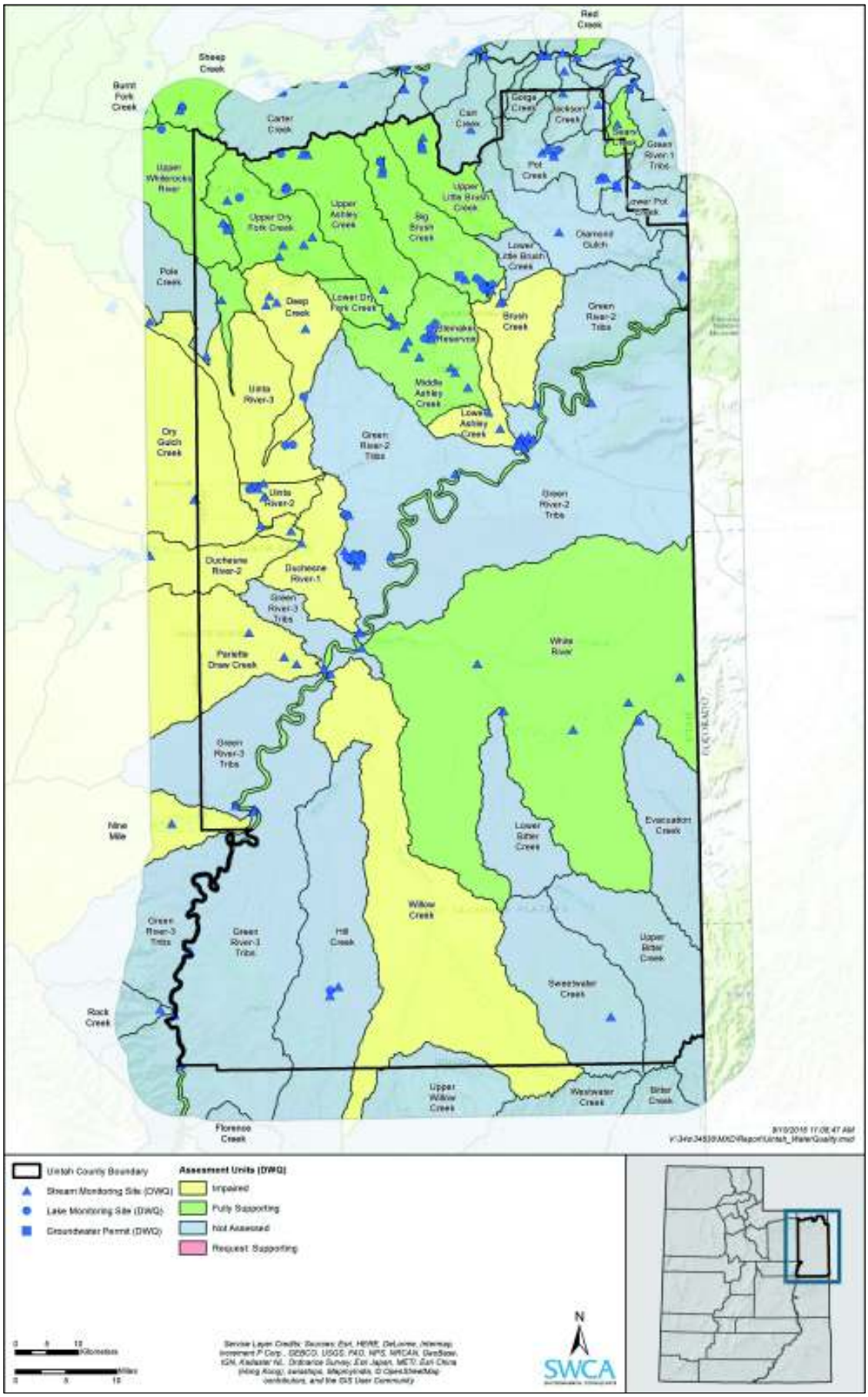

Figure HYD-WRI9. Utah Division of Water Quality monitoring sites and assessment units in Uintah County.

This page intentionally blank

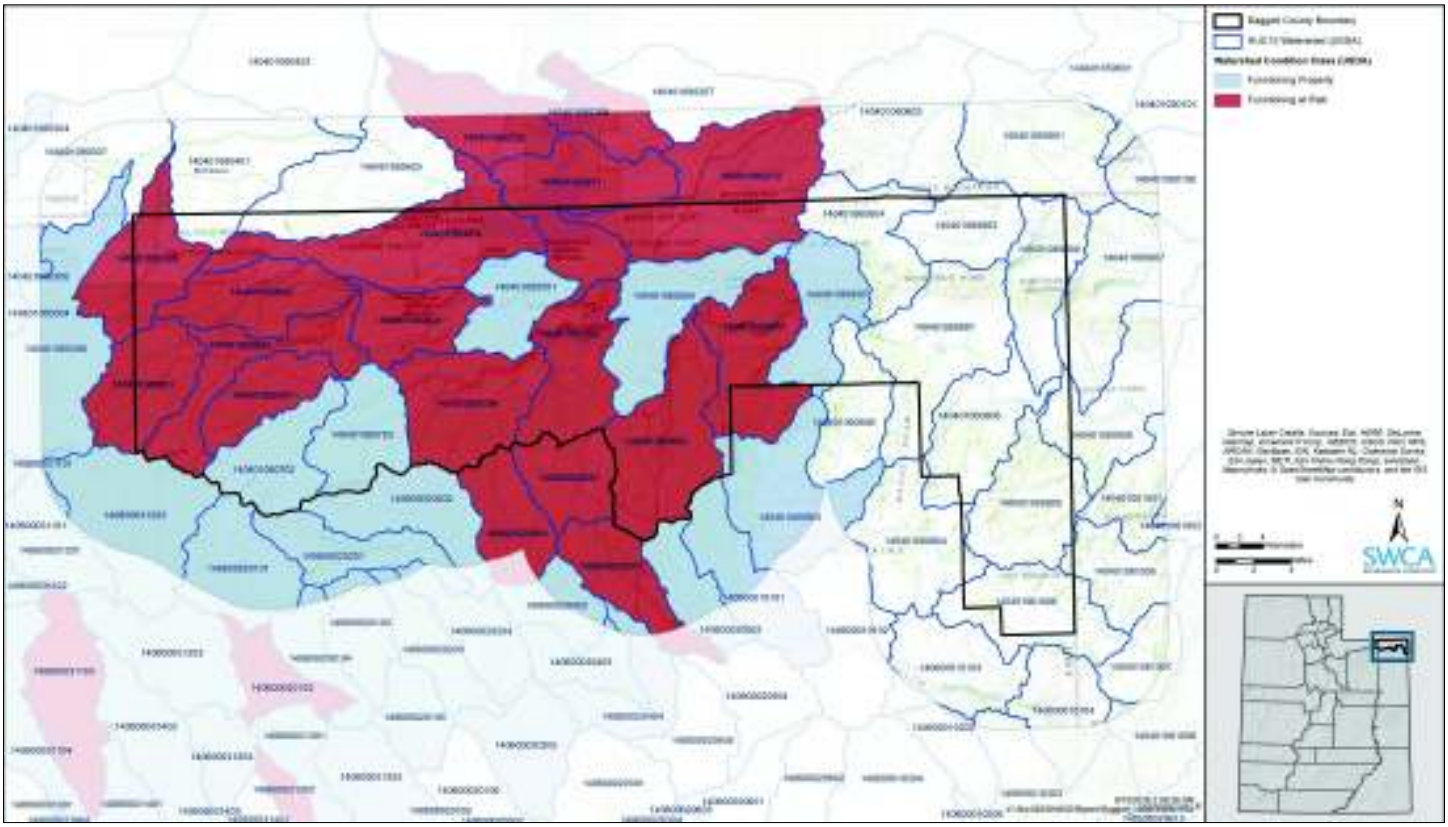

Figure HYD-WRI10. Watershed condition and boundaries in Daggett County.

This page intentionally blank

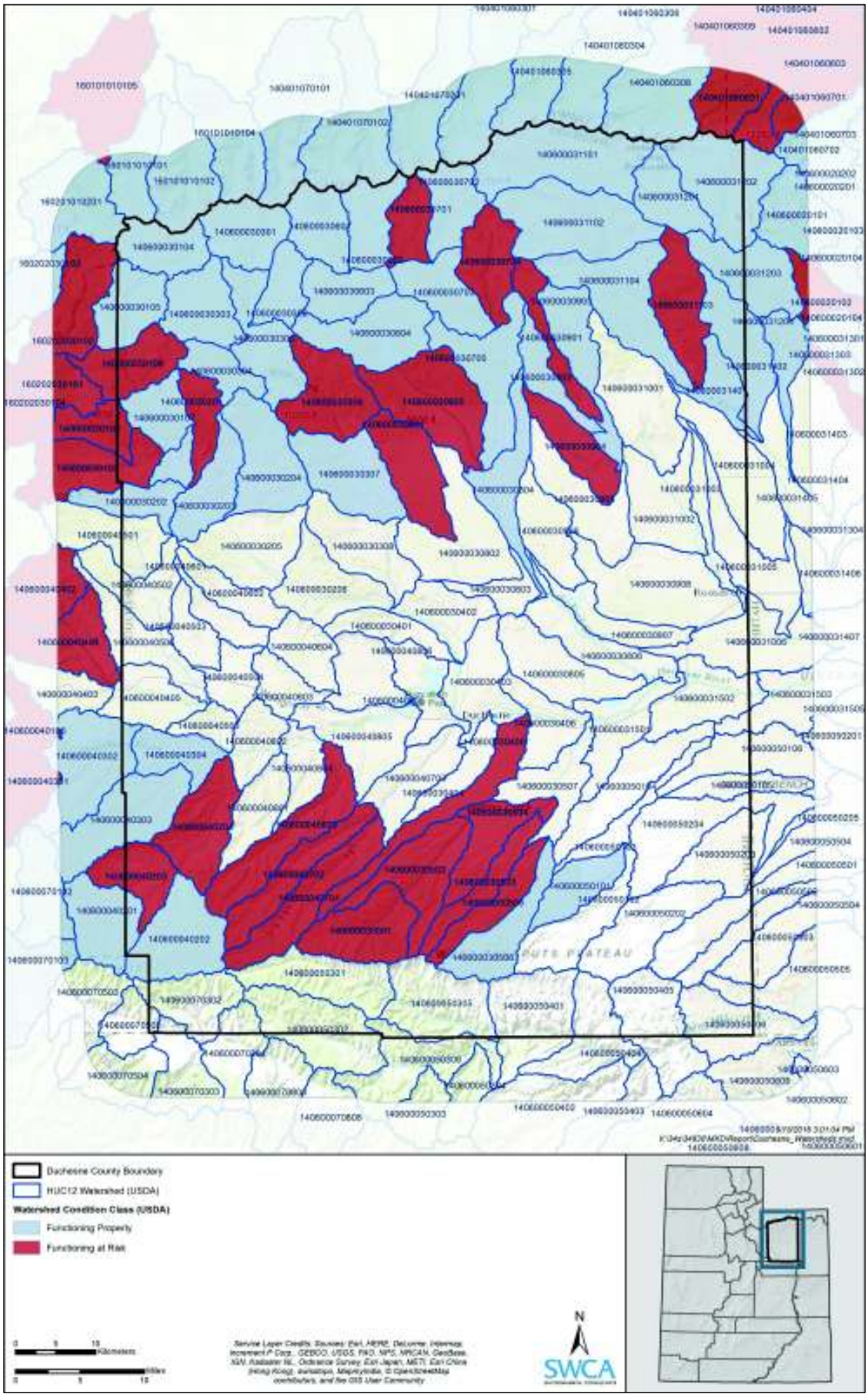

Figure HYD-WRI11. Watershed condition and boundaries in Duchesne County.

This page intentionally blank

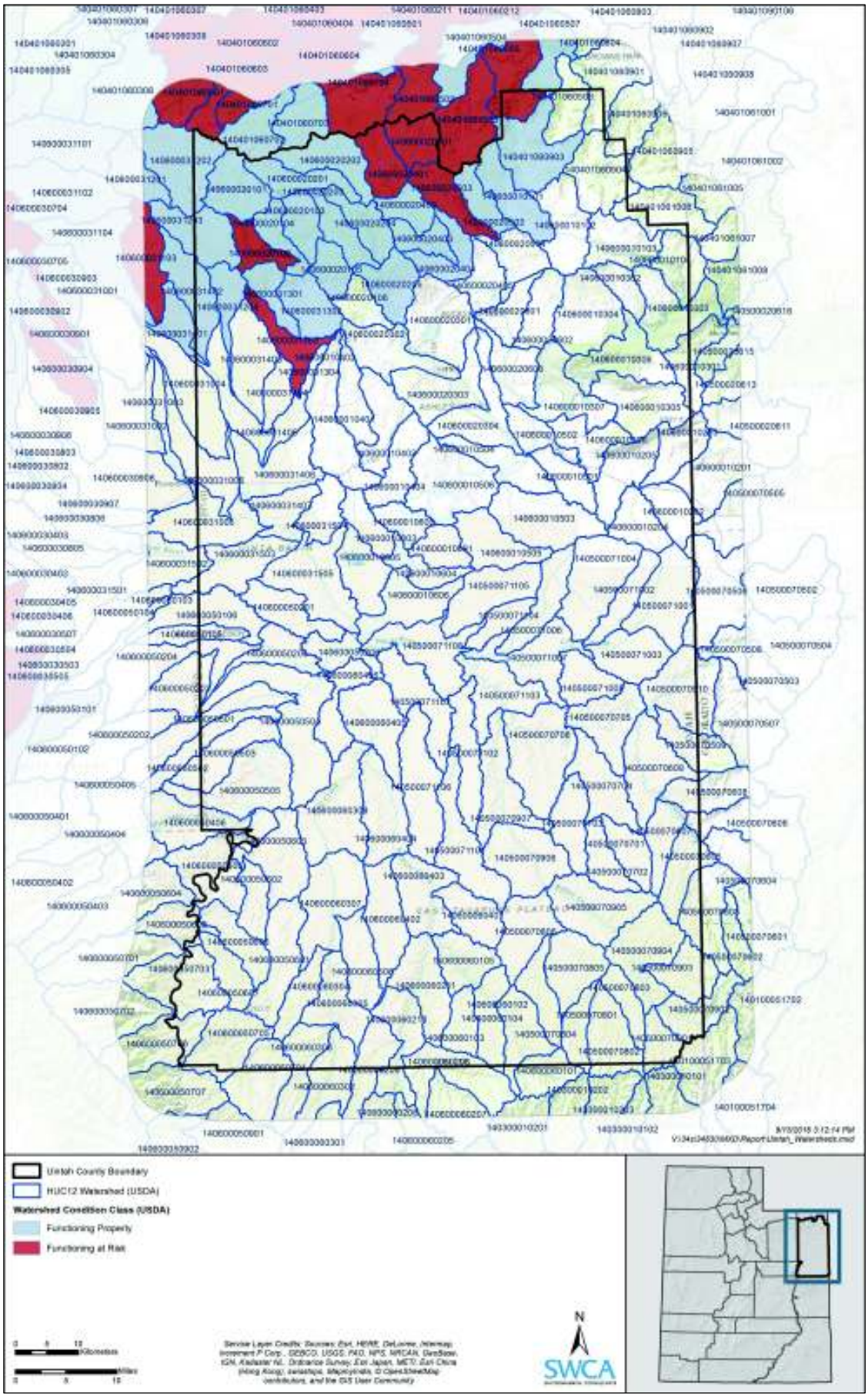

Figure HYD-WRI12. Watershed condition and boundaries in Uintah County.

This page intentionally blank

21. WETLANDS

21.1. Findings

21.1.1. In addition to providing wildlife habitat, wetlands provide numerous ecosystem services related to water provision and storage, water filtration, and water detention. These services are reflected in regional management goals such as optimal yield, maintenance and enhancement or water quality, and flood attenuation and private property protection, respectively.

21.1.2. In addition to water-related services, wetlands provide recreation opportunities such as boating and hunting for a growing regional population.

21.1.3. Wetlands come in many forms, including ponds, lake fringes, vegetated playas, wet meadows, marshes, bogs, shrub-scrub wetlands, and forested wetlands. Riparian areas are not always considered wetlands.

21.1.4. Wetlands support many plant and animal species, including the Ute ladies'-tresses (*Spiranthes diluvialis*), which is on the threatened and endangered species list.

21.1.5. Drawdown of groundwater levels can affect conditions of local wetlands.

21.1.6. Wetlands are federally recognized as special aquatic sites and are regulated as waters of the U.S. under the Clean Water Act.

21.1.7. The Bureau of Land Management and the U.S. Forest Service provide guidance for grazing management in riparian-wetland areas in *Grazing Management for Riparian-Wetland Areas* (Leonard et al. 1997).

21.1.8. The National Wetland Inventory (NWI) program, administered by the U.S. Fish and Wildlife Service, consists of planning-level spatial data illustrating the extent and location of wetlands and other aquatic resources in the United States. Wetland and other aquatic resources are classified using the Cowardin (Cowardin et al. 1979) system. Table WET1 below provides estimated acreages for different wetland classes at the county level, based on NWI data, and Figures WET1–3 at the end of this section provide maps showing these NWI data per county. Palustrine emergent wetlands, which include marshes and wet meadows, have the largest area within each county. This class is also commonly affected by irrigation practices, which can reduce (hydrological modifications and construction of ditches) or increase (application of additional water to the landscape) wetland acreage.

Table WET1. Acres of National Wetland Inventory Data in Daggett, Duchesne, and Uintah Counties

Wetland Classification	Daggett County	Duchesne County	Uintah County
L1: lacustrine limnetic	13,987	8,985	4,175
L2: Lacustrine littoral	261	1,296	4,184
PAB: palustrine aquatic bed	383	2,730	1,338
PEM: palustrine emergent	4,709	34,136	25,941
PFO: palustrine forested	5	616	836
PSS: palustrine scrub-shrub	962	6,965	6,246
PUB: palustrine unconsolidated bottom	2	145	101
PUS: palustrine unconsolidated shore	36	357	1,025
Total	**21,393**	**57,047**	**58,360**

Source U.S. Fish and Wildlife Service (2015).

21.2. Objectives and Policies

21.2.1. Identify high-priority or ecologically sensitive wetland areas for conservation.

21.2.2. Track changes and updates in federal regulations that affect wetland jurisdiction and permitting to avoid overreach by the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers.

21.2.3. Support wetland conservation through planning and management.

21.2.4. Support the treatment of invasive species, e.g., *Phragmites*, tamarisk, and Russian olive, which can degrade habitat value and impact groundwater levels.

21.3. Policies

21.3.1. Coordinate comments with other stakeholders regarding Clean Water Act rule revisions.

21.3.2. Participate in federal, tribal, state, and local wetland conservation planning processes.

21.3.3. Identify opportunities for creation, restoration, and enhancement of wetlands to augment the ecosystem services these resources provide.

21.3.4. Manage access by livestock, wild horses and burros, and native ungulates to wetlands to prevent overgrazing when appropriate, with the understanding that all have potential to negatively affect these resources when sensitive vegetation, soil, and hydrology conditions exist.

21.3.5. Use scientific methodology, e.g., proper functioning condition, to guide management decisions regarding recreation and grazing exclosures in wetlands.

21.3.6. Offset road alignments at least 300 feet from riparian areas and wetlands as practicable.

21.3.7. Consider release of northern tamarisk beetle (*Diorhabda carinulata*) as a biological control of tamarisk, an invasive plant species.

21.3.8. Cooperate with Natural Resources Conservation Service, Utah State University Extension, and other entities responsible for integrated weed management in wetland areas

21.4. Literature Cited

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. Washington D.C.: U.S. Fish and Wildlife Service.

Leonard, S., G. Kinch, V. Elsbernd, M. Borman, and S. Swanson. 997. *Grazing Management for Riparian-Wetland Areas.* Riparian Area Management TR 1737-174 1997. Available at: http://www.blm.gov/or/programs/nrst/files/Final%20TR%201737-14.pdf. Accessed September 9, 2016.

U.S. Fish and Wildlife Service. 2015. National Wetlands Inventory program geographic information systems data. Available at: http://www.fws.gov/wetlands/data/Data-Download.html. Accessed January 12, 106.

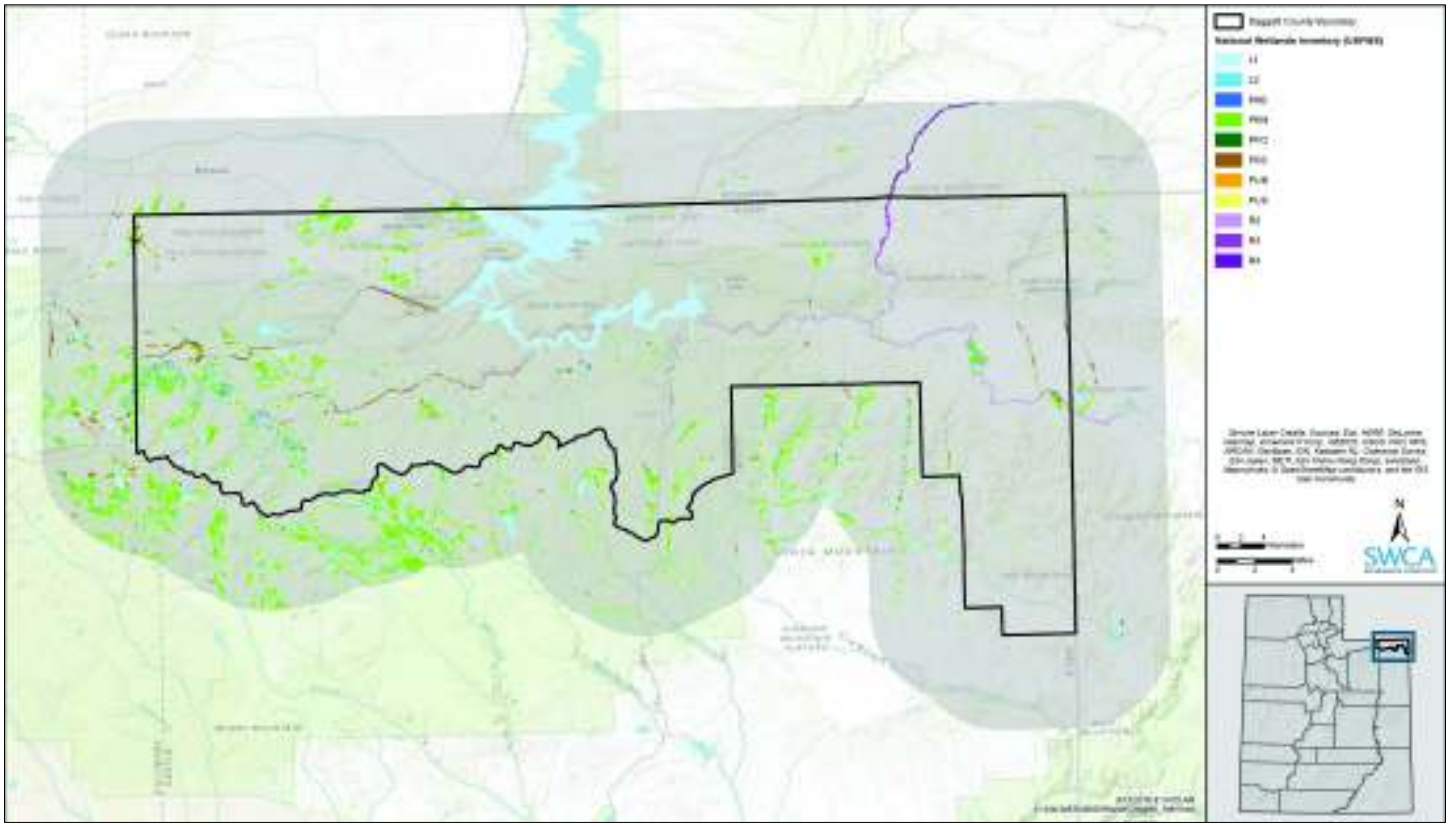

Figure WET1. National Wetland Inventory data for Daggett County.

This page intentionally blank

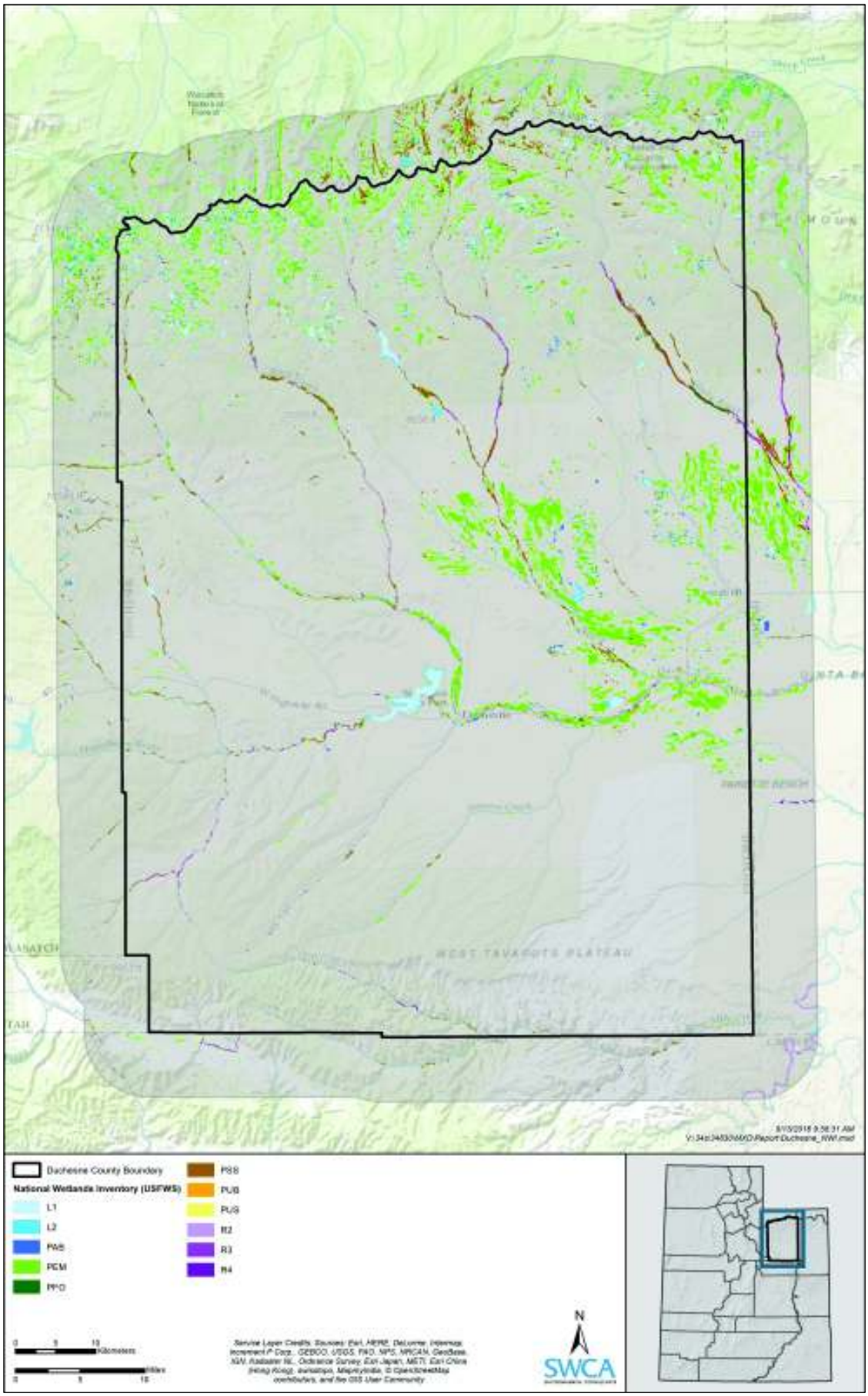

Figure WET2. National Wetland Inventory data for Duchesne County.

This page intentionally blank

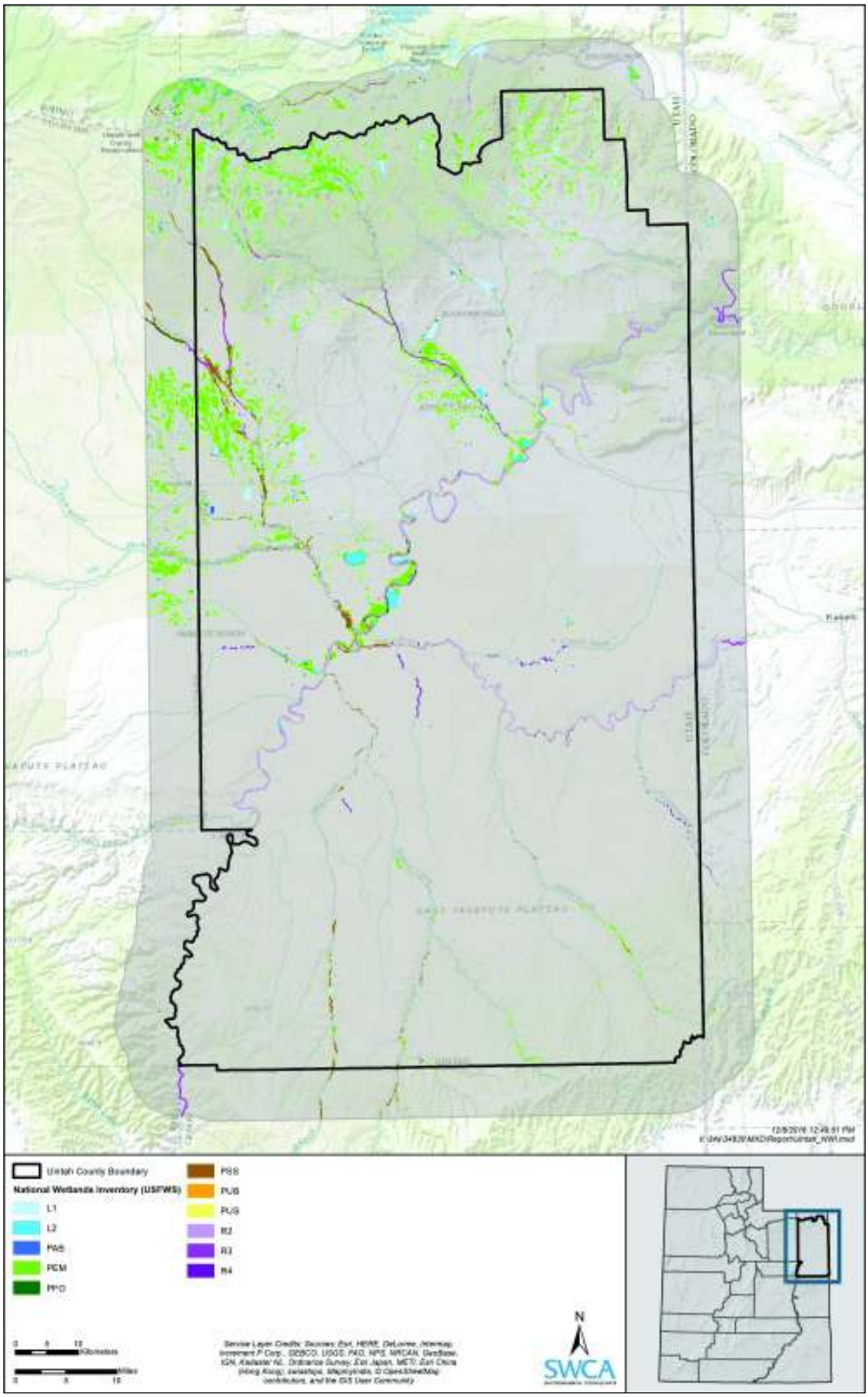

Figure WET3. National Wetland Inventory data for Uintah County.

This page intentionally blank

22. WILD AND SCENIC RIVERS

22.1. Findings

22.1.1. The National Wild and Scenic Rivers System was created by U.S. Congress in 1968 under the Wild and Scenic Rivers Act of 1968 (Public Law 90-542; 16 United States Code 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The act is notable for safeguarding the special character of these rivers while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection. The act purposefully strives to balance dam and other construction at appropriate sections of rivers with permanent protection for some of the country's most outstanding free-flowing rivers. To accomplish this, it prohibits federal support for actions such as the construction of dams or other instream activities that would harm the river's free-flowing condition, water quality, or outstanding resource values. However, designation does not affect existing water rights or the existing jurisdiction of states and the federal government over waters as determined by established principles of law.

22.1.2. Under the Wild and Scenic Rivers Act, rivers may be designated by U.S. Congress or, if certain requirements are met, by the Secretary of the Interior. Each river is administered by either a federal or state agency. Designated segments need not include the entire river and may include tributaries. For federally administered rivers, the designated boundaries generally average 0.25 mile on either bank in the lower 48 states in order to protect river-related values.

22.1.3. Under the Wild and Scenic Rivers Act, rivers are classified as *wild*, *scenic*, or *recreational*.

- **Wild River Areas:** Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
- **Scenic River Areas:** Those rivers or sections of rivers that are free of impoundments, have shorelines or watersheds still largely primitive and shorelines largely undeveloped, but are accessible in places by roads.
- **Recreational River Areas:** Those rivers or sections of rivers that are readily accessible by road or railroad, may have some development along their shorelines, and may have undergone some impoundment or diversion in the past.

22.1.4. Section 5(d)(1) of the Wild and Scenic Rivers Act directs federal agencies to identify potential additions to the National Wild and Scenic Rivers System through federal agency plans. Under these provisions, federal agencies study the suitability of river sections they manage for designation under the Wild and Scenic Rivers Act. Sections that are determined to be suitable can be managed to preserve their suitability by an agency land management plan while awaiting congressional designation.

22.1.5. Four federal land management agencies—the U.S. Forest Service (USFS), the Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service, and the National Park Service (NPS)—administer the Wild and Scenic Rivers Act. This includes managing rivers that have been designated by U.S. Congress and managing rivers that have been studied and determined to be suitable for designation and that are awaiting congressional action.

22.1.6. USFS completed a statewide Wild and Scenic River Suitability Study for National Forest System Lands in Utah in 2008 (USFS 2008), and BLM completed the Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan (BLM Vernal ROD/RMP) in 2008. Both evaluate and recommend suitability of river segments on USFS and BLM-administered lands. A wild and scenic river study and environmental impact statement was published in 1980 for NPS-administered lands in Dinosaur National Monument. In Daggett, Duchesne, and Uintah Counties, BLM and USFS currently manage the following river sections to preserve their wild or scenic values while awaiting congressional action (Table WSR1; see Figure WSR1 at the end of this section).

Table WSR1. Recommended Wild and Scenic Rivers in Daggett, Duchesne, and Uintah Counties

Agency	Daggett County	Duchesne County	Uintah County
BLM	Upper Green River Little Hole to the Utah state line (12 miles) – Suitable, scenic	–	Lower Green River BLM boundary south of Ouray to the Carbon County line (27 miles) – Suitable, scenic
USFS	Upper Green River Flaming Gorge Dam to Ashley National Forest boundary (13 miles) – Suitable, scenic	Upper Uinta River, including Gilbert Creek, Center Fork, and Painter Draw (40 miles) – Suitable, wild	–
NPS	–	–	Green River from Colorado state line to NPS boundary – Suitable, wild

Sources: BLM (2008); USFS (2008).

22.1.7. Designating river segments as wild, scenic, or recreational would restrict many activities related to the stream and other uses within 0.25 mile of it, and in some cases, these designations could be detrimental to users' ability to develop and manage water resources necessary to meet future growth needs. The ability to obtain approval for water right change applications on, or upstream of, designated streams by existing water users may also be limited. Similarly, federal permits cannot be issued for uses on a stream segment that would be in conflict with the wild and scenic designation.

22.1.8. Designation of wild and scenic rivers may result in non-use, restricted use, or environmental impacts on public and private lands. These restrictions may prohibit future uses that are necessary to continue to assure economic prosperity or may adversely affect the operation, management, and maintenance of existing facilities.

22.1.9. A December 2008 report prepared by Utah State University for the Governor's Public Lands Policy Coordination Office, entitled *Impacts of Wild and Scenic River Designation*, finds no scientific evidence that wild and scenic river designation led to increased recreational use of such rivers and no scientific evidence that the economic benefits of designation would offset potential economic losses from decreased timber production, grazing, mining, and water development (Utah State University 2008a).

22.1.10. When asked whether public land managers should reduce or increase the extent to which designation of wild and scenic rivers occurs on Utah's public lands, a December 2008 report published by Utah State University entitled *Public Lands and Utah Communities: A Statewide Survey of Utah Residents*, finds survey respondents in the Daggett, Duchesne, and Uintah County area believed that public land managers should take the following action (Utah State University 2008b):

- Major reduction (8.8%)
- Moderately reduce (12.2%)
- Stay about the same (48.2%)
- Moderately increase (15.4%)
- Major increase (5.1%)

22.2. Objectives

22.2.1. Avoid designating rivers as wild and scenic if the designation would adversely affect the economic interests of the county, including enjoyment of private property rights, mineral extraction, timber harvest, agriculture, water rights, water storage, or water delivery.

22.2.2. Manage rivers and river corridors not designated as wild and scenic by U.S. Congress but deemed suitable based on the multiple-use and sustained-yield management standard prescribed in Federal Land Policy and Management Act of 1976.

22.2.3. Ensure that any designation of rivers as wild and scenic supports the economic interests of the county.

22.3. Policies and Guidelines

22.3.1. The county will be actively involved in all studies or plans that may consider or evaluate eligibility or may recommend inclusion of rivers in the National Wild and Scenic River System.

22.3.2. The county will be actively involved in all legislation that could result in designation of wild or scenic rivers within the boundaries of the county.

22.3.3. Potential reservoir sites should be protected from designation as wild and scenic rivers.

22.3.4. Any instream water right created by the designation of wild and scenic rivers is junior to all absolute and conditional water rights existing before the special designation is finalized.

22.3.5. Wild and scenic rivers should be identified based on their regional and national significance rather than on their local significance. These selections should be supported by data that clearly show such selection will not negatively impact the ability of agriculture and other industry to access the water it needs and the county to develop water supplies and other resources to meet future needs. Where such impacts are unavoidable, a plan to mitigate such impacts should be presented.

22.3.6. In accordance with Utah Code 63J-4-401, county support for the addition of a river segment to the National Wild and Scenic Rivers System or its management to protect wild and scenic values while awaiting congressional action shall be withheld until the following take place:

- It is clearly demonstrated that water is present and flowing at all times. Dry washes or stream segments below dams and other controls and other stream segments that have been physically altered by human activity should not be considered, even in the eligibility stage.
- It is clearly demonstrated that the required water-related value is considered outstandingly remarkable within a region of comparison consisting of one of the three physiographic provinces in the state. The rationale and justification for the conclusions shall be disclosed.
- It is clearly demonstrated that the inclusion of each river segment is consistent with the plans and policies of the state and the county or counties where the river segment is located as those plans and policies are developed according to Subsection (3) of Utah Code 63J-4-401.
- The effects of the addition on the local and state economies, private property rights, agricultural and industrial operations and interests, tourism, water rights, water quality, water resource planning, and access to and across river corridors in both upstream and downstream directions from the proposed river segment have been evaluated in detail by the relevant federal agency.
- It is clearly demonstrated that the provisions and terms of the process for review of potential additions have been applied in a consistent manner by all federal agencies.
- The rationale and justification for the proposed addition, including a comparison with protections offered by other management tools, is clearly analyzed within the multiple-use mandate, and the results disclosed. All valid existing rights, including grazing permits shall not be affected.
- It is clearly demonstrated that the federal agency with management authority over the river segment, and which is proposing the segment for inclusion in the National Wild and Scenic River System will not use the actual or proposed designation as a basis to impose management standards outside of the federal land management plan.
- It is clearly demonstrated that the terms and conditions of the federal land and resource management plan containing a recommendation for inclusion in the National Wild and Scenic River System
    - evaluates all eligible river segments in the resource planning area completely and fully for suitability for the National Wild and Scenic River System;
    - does not suspend or terminate any studies for inclusion in the National Wild and Scenic River System at the eligibility phase;
    - fully disclaims any interest in water rights for the recommended segment as a result of the adoption of the plan; and
    - fully disclaims the use of the recommendation for inclusion in the National Wild and Scenic River System as a reason or rationale for an evaluation of impacts by proposals for projects upstream, downstream, or within the recommended segment.
- It is clearly demonstrated that the agency with management authority over the river segment commits not to use an actual or proposed designation as a basis to impose visual resource management prescriptions that do not comply with the provisions of Subsection (8)(t) of Utah Code 63J-4-401.

- It is clearly demonstrated that including the river segment and the terms and conditions for managing the river segment as part of the National Wild and Scenic River System will not prevent, reduce, impair, or otherwise interfere with
  - the state and its citizens' enjoyment of complete and exclusive water rights in and to the rivers of the state as determined by the laws of the state; or
  - local, state, regional, or interstate water compacts to which the state or any county is a party.
- The conclusions of all studies related to potential additions to the National Wild and Scenic River System, 16 United States Code 1271 et seq., shall be submitted to the state for review and action by the legislature and governor, and the results, in support of or in opposition to, shall be included in any planning documents or other proposals for addition and such documentation shall be forwarded to the U.S. Congress.
- A time limit is set for Congress to act on recommended wild and scenic rivers.

22.4. Literature Cited

Bureau of Land Management (BLM). 2008. *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan*. Available at: http://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.12251.File.dat/VernalFinalPlan.pdf. Accessed August 8, 2016.

U.S. Forest Service (USFS). 2008. *Wild and Scenic River Suitability Study for National Forest System Lands in Utah*. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5122056.pdf. Accessed September 16, 2016.

Utah State University. 2008a. *Impacts of Wild and Scenic River Designation.* Available at: http://publiclands.utah.gov/wp-content/uploads/2013/08/WS_Final_Report_804.pdf. Accessed September 16, 2016.

———. 2008b. *Public Lands and Utah Communities: A Statewide Survey of Utah Residents*. Available at: http://apecextension.usu.edu/files/uploads/Environment%20and%20Natural%20Resources/Public%20Lands/General%20Population%20Final%20Report.pdf. Accessed September 16, 2016.

This page intentionally blank

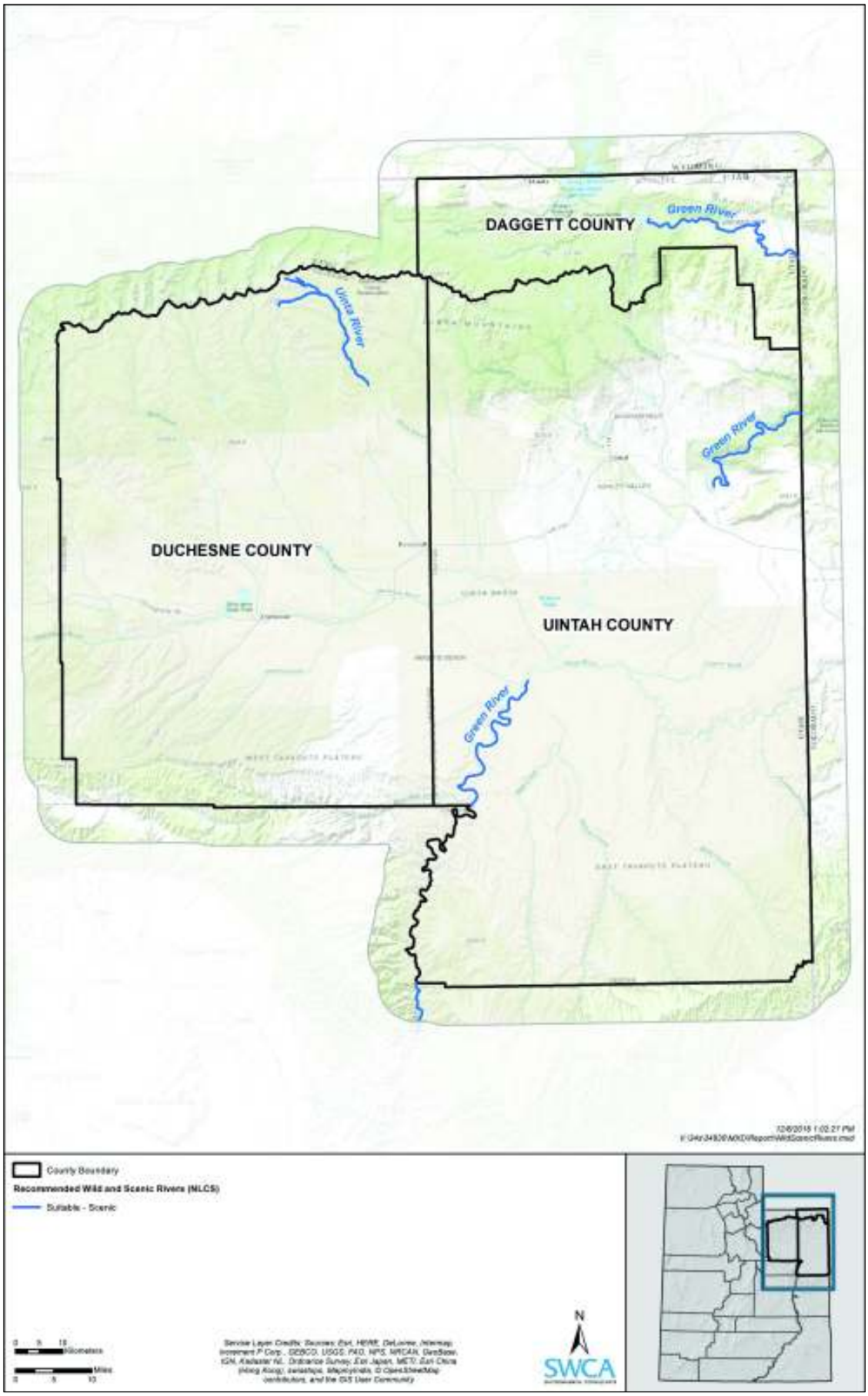

Figure WSR1. Recommended wild and scenic river segments in Daggett, Duchesne, and Uintah County.

This page intentionally blank

23. WILDERNESS

23.1. Findings

23.1.1. The Wilderness Act of 1964 created the National Wilderness Preservation System and recognized wilderness as “an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain.” (16 United States Code [USC] 1131). The act further defines wilderness as "an area of undeveloped federal land retaining its primeval character and influence without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions." (16 USC 1131).

23.1.2. Designated wilderness is the highest level of conservation protection for federal lands. Only U.S. Congress may designate wilderness or change the status of wilderness areas. Wilderness areas are designated within existing federal public land.

23.1.3. The Wilderness Act requires management of human-caused impacts and protection of the area's wilderness character to ensure that it is "unimpaired for the future use and enjoyment as wilderness" (16 USC 1131). To comply with this standard, wilderness areas generally do not allow motorized equipment, motor vehicles, mechanical transport, temporary roads, permanent structures, or installations. Motorized equipment and equipment used for mechanical transport may be allowed in certain circumstances such as search and rescue. This includes the use of motor vehicles, motorboats, motorized equipment, bicycles, hang gliders, wagons, carts, portage wheels, and the landing of aircraft including helicopters, unless provided for in specific legislation. The Wilderness Act also prohibits permanent roads and commercial enterprises, except commercial services that may provide for recreational or other purposes of the Wilderness Act. Livestock grazing is allowed in wilderness areas. Wilderness areas are to be primarily affected by the forces of nature, though the Wilderness Act does acknowledge the need to provide for human health and safety, protect private property, control insect infestations, and fight fires.

23.1.4. U.S. Congress has directed four federal land management agencies—the U.S. Forest Service (USFS), the Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service, and the National Park Service (NPS)—to manage wilderness areas so as to preserve and, where possible, restore their wilderness character.

23.1.5. U.S. Congress has now designated more than 106 million acres of federal public lands as wilderness: 44 million of these acres are in 47 national parks and total 53% of National Park System lands.

23.1.6. There are no federally designated wilderness areas in Daggett and Uintah Counties. Federally designated wilderness areas in Duchesne County are listed below and shown in Figure WLD1 at the end of this section.

- Duchesne County
  - The federally designated High Uintas Wilderness Area is partially within Duchesne County. The U.S. Congress designated the High Uintas Wilderness Area in 1984, and it now has a total of 456,705 acres (of which 289,311 acres are in Duchesne County). All of the wilderness is managed by the USFS. The High Uintas Wilderness Area comprises 13.8% of Duchesne County’s land area.

23.1.7. Designating an area as a wilderness area is often not an appropriate, effective, efficient, economic, or wise use of land. Lands can often be adequately protected with other management options.

23.1.8. In 1976, U.S. Congress directed BLM through Section 603(a) of Federal Land Policy and Management Act (FLPMA) to inventory and respond to U.S. Congress within 15 years "… those roadless areas of five thousand acres or more and roadless islands of the public lands, identified during the inventory required by section 201(a) of this Act as having wilderness characteristics described in the Wilderness Act of September 3, 1964 and shall from time to time report to the President his recommendation as the suitability or non-suitability of each such area or island for preservation as wilderness …" (43 USC 35).

23.1.9. The wilderness characteristics that were used in the inventory as described in the 1964 Wilderness Act were as follows:

- Generally appears to have been affected primarily by the forces of nature, with the imprint of humankind's work substantially unnoticeable.
- Has at least 5,000 acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition.
- Has outstanding opportunities for solitude, or a primitive or unconfined type of recreation in at least part of the area.
- May also contain ecological, geological, other features of scientific, scenic, or historical value.

23.1.10. Section 603(c) of FLPMA provides direction to BLM on the management of wilderness study areas (WSAs) and states that with some exceptions "During the period of review of such areas and until U.S. Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness." (43 USC 35). BLM manuals refer to this language as the "non-impairment" mandate. BLM developed a non-impairment standard to meet this mandate. In general, Section 603(c) of FLPMA requires BLM to maintain the wilderness characteristics of each WSA until U.S. Congress decides whether it should either be designated as a Wilderness or should be released for other purposes.

23.1.11. BLM in Utah completed an initial inventory and identification of WSAs in Utah in 1980, identifying 3.2 million acres of WSAs statewide. On October 18, 1991, BLM submitted a report to U.S. Congress recommending which WSAs in Utah should be designated as Wilderness and which should be released for other purposes. This recommendation included 1.9 million acres of Wilderness from the 3.2 million acres of WSAs. Congress has received BLM's Wilderness recommendation from the Secretary of the Interior and the President. However, the full 3.2 million acres continue to be managed so as not to impair wilderness character pending congressional action.

23.1.12. In 1996, then Secretary of Interior Babbitt initiated a "re-inventory" of public lands in Utah under Section 201 of FLPMA and identified 2.6 million acres of federal land as wilderness inventory areas (WIAs). This re-inventory process was not subject to public comment or environmental analysis under the National Environmental Policy Act (NEPA) and was challenged by the State of Utah and the Utah Association of Counties. The federal district court initially enjoined the re-inventory; however, this injunction was overturned by the Tenth Circuit, allowing the re-inventory to proceed. The re-inventory was completed in 1999. This controversial wilderness re-inventory was a key scoping issue in BLM's land use plan revisions

for the Vernal resource management plan, initiated in 2001. WIAs proposed for designation as "new" WSAs through the planning process were to be protected pending congressional review for possible wilderness designation pursuant to BLM's *H-8550-1 - Interim Management Policy for Lands Under Wilderness Review* (BLM 2007). In March 2003, the State of Utah revived its lawsuit challenging the wilderness inventory. Department of the Interior and the State of Utah settled the case in April 2003, which nullified the re-inventory but retained 3.2 million acres as WSAs under BLM's 1991 wilderness recommendations. BLM also rescinded, as inconsistent with the settlement, the wilderness handbook, adopted in January, 2001, entitled *Wilderness Inventory and Study Procedures* H-6310-1 (BLM 2001).

23.1.13. The 1999 BLM wilderness re-inventory project was legally and technically flawed.

23.1.14. BLM's 1980 WSA inventory identified the following WSAs in Daggett, Duchesne, and Uintah Counties (see Figure WLD2 at the end of this section):

- Daggett County
  - West Cold Springs (17,682 acres [3,200 acres in Utah], not recommended for wilderness designation by BLM in 1991)
  - Diamond Breaks (34,745 acres [3,900 acres in Utah], 3,620 acres in Utah recommended for wilderness designation by BLM in 1991)
- Duchesne County
  - None
- Uintah County
  - Winter Ridge (42,462 acres, not recommended for wilderness designation by BLM in 1991)
  - Book Cliffs Mountain Browse (400 acres, not recommended for wilderness designation by BLM in 1991)
  - Daniels Canyon (2,496 acres, not recommended for wilderness designation by BLM in 1991)
  - Bull Canyon (12,297 [520 acres in Utah], 480 acres in Utah recommended for wilderness designation by BLM in 1991)

23.1.15. BLM's management of WSAs is guided by *BLM Manual 6330 – Management of Wildness Study Areas,* which was published on June 13, 2012 (BLM 2012a). This manual describes BLM's non-impairment standard to meet the mandates for managing WSAs described in FLPMA. Valid existing rights are recognized, and grandfathered uses such as grazing and mineral uses are allowed but restricted to the same manner and degree as on the date FLPMA was approved. Although many activities are allowed within WSAs, some have specific restrictions.

23.1.16. The only legal designations of WSAs are those designated under the Wilderness Act of 1964 and under Section 603 of FLPMA, or WSAs subsequently designated by U.S. Congress. On BLM-administered lands, the opportunity to create additional wilderness ended in 1991 except as authorized by U.S. Congress.

23.1.17. Some or all of the area WSA designations pending before U.S. Congress are legally and/or technically flawed. The counties will pursue that position when the WSAs go before U.S. Congress for approval.

23.1.18. Similar to wilderness areas, use of WSAs is highly restricted and does not provide the desired wilderness experience for most citizens and groups.

23.1.19. Similar to Wilderness designation, BLM's management of WSAs is inconsistent with the multiple-use mandate. Managing public lands for "wilderness characteristics" circumvents the statutory wilderness process and is inconsistent with the multiple-use and sustained-yield management standard that applies to all BLM and USFS lands that are not wilderness areas or WSAs and adversely affects the counties' economy in terms of the grazing, tourism, oil and gas extraction, mining, timber industries, and water resource development.

23.1.20. The federal agencies that manage wilderness areas also inventory other lands under their jurisdiction to assess the presence of wilderness characteristics. The agencies may manage areas that have not been designated as wilderness by U.S. Congress in various fashions that preserve their wilderness values while awaiting congressional action.

- BLM lands with wilderness characteristics and natural areas:
- Section 201 of FLPMA requires the BLM to maintain an inventory of all public lands and their resources and other values, including wilderness characteristics. It also provides that the preparation and maintenance of the inventory shall not, of itself, change or prevent change of the management or use of public lands. BLM Instruction Memorandum 2011-154, 2013-106, and Manuals 6310 and 6320 set out the BLM's approach inventorying and managing wilderness characteristics on the public lands (BLM 2011, 2013, 2012b, 2012c).
- Each inventory is a snapshot of the existing character of the landscape at a particular time; therefore, BLM will continue to update the inventories as inventoried conditions on the ground change over time in response to both human activities and natural environmental changes.
- For an area to qualify as lands with wilderness characteristics, the area must possess sufficient size, naturalness, and outstanding opportunities for either solitude or primitive and unconfined recreation. In addition, it may also possess supplemental values.
    - *Size:* The area must be over 5,000 acres of roadless, contiguous BLM-managed lands. Areas smaller than 5,000 acres may qualify if it is practical to preserve and use them without damaging their current condition. In addition, roadless areas less than 5,000 acres that are contiguous with lands that have been formally determined to have wilderness or potential wilderness values, or any federal lands already managed for the protection of wilderness characteristics (e.g., wilderness areas or WSAs), may also qualify.
    - *Naturalness*: Must appear to have been affected primarily by the forces of nature, and any work of human beings in the area must be substantially unnoticeable. Minor human impacts such as a water trough or fences may often be considered substantially unnoticeable.
    - *Outstanding Opportunities for Solitude or Primitive, Unconfined Recreation:* The area must offer a visitor the chance to avoid evidence of other people or provide for outstanding opportunities for primitive and an unconfined type of recreation activity like hiking, fishing, etc. Solitude or outstanding primitive recreation opportunities do not have to be available in all portions of the area. An area may possess outstanding opportunities through either the diversity of possible recreation opportunities in the area or the outstanding quality of one opportunity.
    - *Supplemental Values:* If size, naturalness, and outstanding opportunities criteria are met, then ecological, geological, or other features of scientific, educational, scenic, or historical values may be noted, but are not required to qualify as lands with wilderness characteristics.

- After an area is inventoried and found to possess wilderness characteristics, the BLM must then make a decision as to whether the area will be managed for those characteristics or for other priority multiple uses. This analysis and management decision is made through a public land use planning process.
- The *Bureau of Land Management Vernal Field Office Record of Decision and Approved Resource Management Plan* prescribes management of 15 areas totaling 106,178 acres for protection of their wilderness characteristics (BLM 2008). Additional areas were found to contain wilderness characteristics, although they are not managed to maintain these characteristics. The 15 areas managed to maintain their wilderness characteristics are also referred to by BLM as "natural areas" and are located wholly or in part of Daggett or Uintah County (Table WIL1; see Figures WIL3–4 at the end of this section).

Table WIL1. Name of and Acres of Lands with Wilderness Characteristic in Daggett and Uintah Counties

Land Name	Daggett County	Uintah County
Beach Draw	–	898
Bourdette Draw	–	13,334
Bull Canyon	–	2,483
Cold Spring Mountain	8,764	–
Daniels Canyon	–	3,045
Dead Horse Pass	6,211	783
Diamond Breaks	4,538	–
Diamond Mountain	–	27,238
Lower Flaming Gorge	14,065	3,745
Moonshine Draw	–	4,513
Mountain Home	7,083	–
Stuntz Draw	–	1,992
Vivas Cake Hill	–	277
White River	–	6,716
Wild Mountain	–	527
Total	**40,661**	**65,551**

- NPS-recommended and potential wilderness:
- The policies of NPS, guided by the Organic Act of 1916 and the Wilderness Act of 1964, clearly direct staff not only to manage wilderness areas for the preservation of the physical wilderness resources, but also to ensure the preservation of the wilderness character during planning.
- In accordance with these policies, NPS surveys its roadless areas for lands eligible for wilderness designation. NPS lands eligible for wilderness designation are managed as "recommended" or "proposed" wilderness until U.S. Congress acts on their status.

- Initial surveys for lands eligible for wilderness designation in Dinosaur National Monument were completed in 1968. In 1978, legislation was formally recommended to U.S. Congress by Presidential Proclamation for designation of wilderness in Dinosaur National Monument, as follows:
  - The wilderness proposal recommended two units totaling 205,672 acres of designated wilderness and 5,055 acres of potential wilderness (representing roads associated with grazing units that would eventually be phased out of use) inside the monument. This recommendation was never approved nor rejected by U.S. Congress. It is NPS policy to continue to fully protect the wilderness values and resources of any area deemed suitable for further wilderness study until it is formally eliminated from eligibility.
- Some of the proposed and recommended wilderness within the Dinosaur National Monument is located in Uintah County. The remainder is located in Moffatt County, Colorado.

USFS-Inventoried Roadless Areas

- The 2001 Roadless Area Conservation Rule generally prohibits road building and commercial logging in 58.5 million acres of national forest roadless areas across the United States. The 2001 Roadless Area Conservation Rule, unlike the establishment of wilderness areas, permits a wide range of activities in roadless areas. Permitted activities include timber harvesting for limited purposes, livestock grazing, off-highway vehicle use, and oil and gas development that do not require new roads in roadless areas. Timber harvest in inventoried roadless areas is limited to clearly defined, limited purposes; when incidental to the implementation of an activity not otherwise prohibited by this rule; for personal and administrative uses; or where roadless characteristics have been substantially altered in a portion of an inventoried roadless area due to the construction of a classified road and subsequent timber harvest.
- The 2001 Roadless Area Conservation Rule established extensive roadless areas on USFS-administered lands in Daggett, Duchesne, and Uintah Counties (Table WIL2; see Figures WIL5–7 at the end of this section).

Table WIL2. Acres of Inventoried Roadless Areas

National Forest	Daggett County	Duchesne County	Uintah County
Ashley National Forest	158,938	355,737	199,577
Wasatch-Cache National Forest	–	7,940	–
Total	**158,938**	**363,677**	**199,577**

23.1.21. A December 2008 report published by Utah State University entitled *Public Lands and Utah Communities: A Statewide Survey of Utah Residents* finds that most Utah residents prefer that public lands managers maintain the same amount of wilderness or decrease the amount (Utah State University 2008). Only residents of the Summit, Morgan, and Wasatch County area supported increases in wilderness acreage. In the Daggett, Duchesne, and Uintah County area, 11.5% of the residents surveyed supported major reductions in wilderness, 18.5% supported moderate reductions in wilderness, and 40.5% supported the acreage to stay about the same. In the Daggett, Duchesne, and Uintah County area, 16.2 % of residents supported moderate and 3.2% supported major increases in wilderness. Data for each individual county are not available in this report.

23.1.22. Although the counties acknowledge the values of wilderness areas, use in these areas is highly restricted and does not provide the desired wilderness experience for most citizens and groups.

23.1.23. Wilderness designation is inconsistent with the multiple-use mandate. Managing public lands for wilderness characteristics circumvents the statutory wilderness process and is inconsistent with the multiple-use and sustained-yield management standard that applies to all BLM and USFS lands that are not wilderness areas or WSAs and adversely affects the counties' economy in terms of the grazing, tourism, oil and gas extraction, mining, timber industries, and water resource development. Management for wilderness characteristics also negatively affects forest health, water quality, watershed health, and increases catastrophic fire risk.

23.1.24. BLM lacks congressional authority to manage lands, other than WSAs, as if they are or may become wilderness, as follows:

- BLM lacks authority to designate geographic areas as lands with wilderness characteristics or designate management prescriptions for such areas other than to use specific geographic-based tools and prescriptions expressly identified in FLPMA.
-
- BLM lacks authority to manage the lands in any manner other than to prevent unnecessary or undue degradation, unless BLM uses geographic tools expressly identified in FLPMA and does so pursuant to a duly adopted provision of a resource management plan adopted under FLPMA, 43 USC 1712.

23.1.25. BLM's Conducting Wilderness Characteristics Inventory of BLM Lands Manual (MS-6310) is legally and technically flawed (BLM 2012b).

23.2. Objectives

23.2.1. Avoid designation of additional areas within the county as federally designated wilderness.

23.2.2. Release WSAs not recommended for designation as wilderness by U.S. Congress for uses other than preservation of wilderness character and multiple-use sustained yield management.

23.2.3. Avoid management of any additional federal lands within the county as non-WSA lands with wilderness characteristics, natural areas, inventoried roadless areas, or similarly intentioned management regimes.

23.2.4. Remove management provisions from federal lands that promote their management for wilderness characteristics and roadless qualities over other uses consistent with the multiple-use and sustained-yield management standard.

23.2.5. Actively manage forests to promote forest and watershed health.

23.2.6. Manage lands not designated as wilderness or WSAs by U.S. Congress based on the multiple-use and sustained-yield management standard prescribed in FLPMA and National Forest Management Act of 1976.

23.3. Policies and Guidelines

23.3.1. The county's support for any recommendations made under a statutory requirement to examine the wilderness option during the revision of land and resource management plans or other methods will be withheld until the following are clearly demonstrated:

- The adopted transportation plans of the state and county or counties within the federal land management agency's planning area (National Forest or BLM land) are fully and completely incorporated into the baseline inventory or information from which plan provisions are derived.
- Valid state or local roads and rights-of-way are recognized and not impaired in any way by the recommendations.
- The possibility of future development of mineral resources by underground mining or oil and gas extraction by directional or horizontal drilling or other non-surface disturbing methods are not affected by the recommendations.
- The need for additional administrative or public roads necessary for the full utility of the various multiple uses, including recreation, mineral exploration and development, forest health activities, operation and maintenance of water facilities, and grazing operations on adjacent land, or on subject lands for grand-fathered uses, is not unduly affected by the recommendations.
- Analysis and full disclosure are made concerning the balance of multiple-use management in the proposed areas.
- The analysis compares the full benefit of multiple-use management to the recreational, forest health, and economic needs of the state and the county to the benefits of the requirements of wilderness management.
- The conclusion of all studies related to the requirement to examine the wilderness option are submitted to the county for review and action, and the results in support of or in opposition to, are included in any planning documents or other proposals that are forwarded to the United States U.S. Congress.
- Areas must merit the suitability requirements contained in the Wilderness Act of 1964 unless requirements are changed by U.S. Congress.

23.3.2. Public lands that were determined to lack wilderness character during previous wilderness review processes cannot be managed as if they were wilderness based on new or revised views of wilderness character. These areas were studied and released and must remain subject to the full range of multiple uses.

23.3.3. Any proposed wilderness designations in the county forwarded to U.S. Congress for consideration must be based on a collaborative process in which support for the wilderness designation is unanimous among federal, state, and county officials.

23.3.4. All WSAs awaiting congressional action, which were not recommended for wilderness designation by the Secretary of Interior or are released by U.S. Congress, shall be released and managed for multiple use and sustained yield. The management plans must be amended in a timely manner to reflect change in status. The county defines a "timely manner" as not to exceed 2 years.

23.3.5. All wilderness management plans must provide for access for the elderly and physically disabled individuals to the fullest extent possible provided by law.

23.3.6. Wilderness management must provide for continued and reasonable access to and development of valid, existing property rights within the area and provide for full use and enjoyment of these rights.

23.3.7. No lands within the Uintah Basin Energy Zone shall be designated as wilderness.

23.3.8. BLM inventories for the presence of wilderness characteristics must be closely coordinated with inventories for those characteristics conducted by state and local governments, and they should reflect a consensus among those governmental agencies about the existence of wilderness characteristics, as follows:

- Any inventory of wilderness characteristics should reflect all of the criteria identified in the Wilderness Act of 1964, including a size of 5,000 acres or more, containing no visible roads and the presence of naturalness, the opportunity for primitive and unconfined recreation, and the opportunity for solitude.
- Geographic areas found to contain the presence of naturalness must appear pristine to the average viewer and must not contain any of the implements, artifacts, or effects of human presence (including visible roads, whether maintained or not) and must not contain human-made features such as vehicle bridges, fire breaks, fisheries, enhancement facilities, fire rings, historic mining, and other properties, including tailings piles, commercial radio and communication repeater sites, fencing, spring developments, linear disturbances, stock ponds, visible drill pads, pipeline and transmission line rights-of-way, and other similar features.
- Factors, such as the following, though not necessarily conclusive, should weigh against a determination that a land area has the presence of naturalness, the area is or once was the subject of mining and drilling activities, mineral and hard rock mining leases exist in the area, and the area is in a grazing district with active grazing allotments and visible range improvements.
- Geographic areas found to contain the presence of solitude should convey the sense of solitude within the entire geographic area identified, otherwise boundary adjustments should be performed.
- Geographic areas found to contain the presence of an opportunity for primitive and unconfined recreation must find these features within the entire area and provide analysis about the effect of the number of visitors to the geographic area upon the presence of primitive or unconfined recreation, otherwise boundary adjustments should be performed.
- In addition to the actions required by the review for roads pursuant to the definitions of roads contained in BLM Manual H 6301, or any similar authority, BLM should, pursuant to its authority to inventory, identify and list all roads or routes identified as part of a local or state governmental transportation system, and consider those routes or roads as qualifying as roads within the definition of the Wilderness Act of 1964.
- BLM should adjust the boundaries for a geographic area to exclude areas that do not meet the criteria of lacking roads, offering solitude, and offering primitive and unconfined recreation, and the boundaries should be redrawn to reflect an area that clearly meets the criteria above, and which does not employ minor adjustments to simply exclude small areas with human intrusions; specifically, the boundaries of a proposed geographic area containing lands with wilderness characteristics should not be drawn around roads, rights-of-way, and intrusions; and lands located between individual human impacts that do not meet the requirements for lands with wilderness characteristics should be excluded.

23.3.9. In accordance with Utah Code 63J-8-104 (b) and (c), it is the policy of the county that federal land management agencies shall

- not designate, establish, manage, or treat any of the subject lands as an area with management prescriptions that parallel, duplicate, or resemble the management prescriptions established for wilderness areas or WSAs, including the non-impairment standard applicable to WSAs or anything that parallels, duplicates, or resembles that non-impairment standard;
- recognize, follow, and apply the wilderness settlement agreement between the State of Utah and the U.S. Department of the Interior;
- revoke and revise BLM Manuals H 6310, 6320, and 6330;
- recognize that BLM lacks congressional authority to manage subject lands, other than WSAs, as if they are or may become wilderness; and
- recognize that even if BLM were to properly inventory an area for the presence of wilderness characteristics, BLM still lacks authority to make or alter project level decisions to automatically avoid impairment of any wilderness characteristics without express congressional authority to do so.

23.3.10. Management of WSAs must provide for continued and reasonable access to and development of property rights within the area and provide for full use and enjoyment of these rights.

23.4. Literature Cited

Bureau of Land Management (BLM). 2001. *Wilderness Inventory and Study Procedures*. H-6310-1. Washington, DC.

———. 2007. *H-8550-1 - BLM's Interim Management Policy for Lands Under Wilderness Review*. Available at: http://www.blm.gov/style/medialib/blm/ut/natural_resources/utah_wilderness.Par.28799.File.dat/WildernessIMP.pdf. Accessed September 20, 2016.

———. 2011. Instruction Memorandum No. 2011-154. Requirement to Conduct and Maintain Inventory Information for Wilderness Characteristics and to Consider Lands with Wilderness Characteristics in Land Use Plans. Available at: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2011/IM_2011-154.html. Accessed September 16, 2016.

———. 2012a. *BLM Manual 6330—Management of BLM Wilderness Study Areas*. Available at: http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.31915.File.dat/6330.pdf. Accessed September 16, 2016.

———. 2012b. 6310—Conducting Wilderness Characteristics Inventory on BLM Lands (Public). Available at: http://www.blm.gov/or/plans/rmpswesternoregon/files/lwci-manual.pdf. Accessed September 16, 2016.

———. 2012c. 6320—Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process (Public). Available at: http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.52465.File.dat/6320.pdf. Accessed September 16, 2016.

———. 2013. Instruction Memorandum No. 2013-106. Bureau of Land Management Manual No. 6310 and 6320 - Additional Guidance Regarding Public and Cooperating Agency Involvement in and Access to Wilderness Characteristics Inventory Information and the Land Use Planning Process. Available at: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2013/IM_2013-106.print.html. Accessed September 16, 2016.

Utah State University. 2008. *Public Lands and Utah Communities: A Statewide Survey of Utah Residents*. Available at: http://apecextension.usu.edu/files/uploads/Environment%20and%20Natural%20Resources/Public%20Lands/General%20Population%20Final%20Report.pdf. Accessed September 16, 2016.

This page intentionally blank

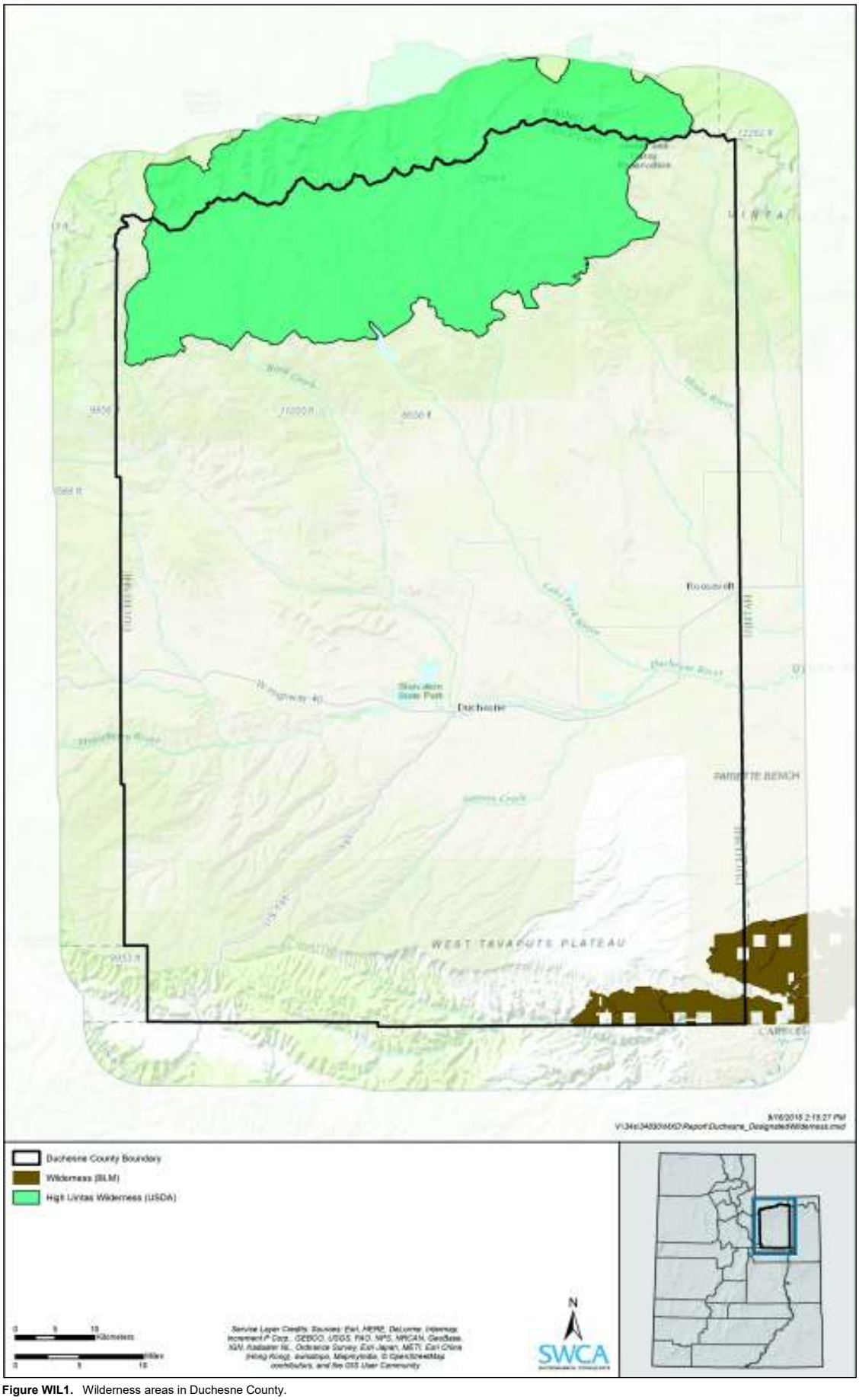

Figure WIL1. Wilderness areas in Duchesne County.

This page intentionally blank

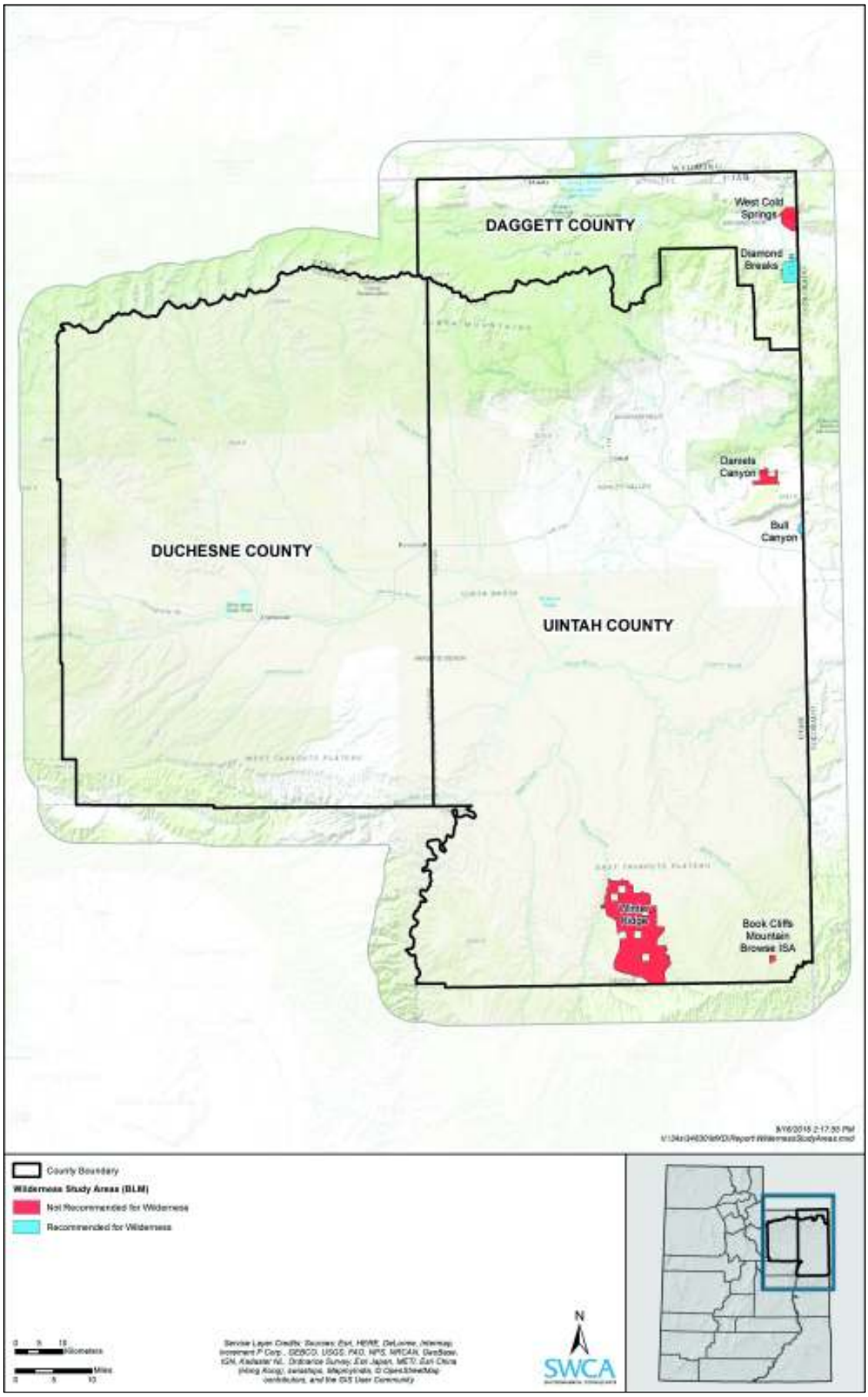

Figure WIL2. Wilderness study areas in Daggett, Duchesne, and Uintah Counties.

This page intentionally blank

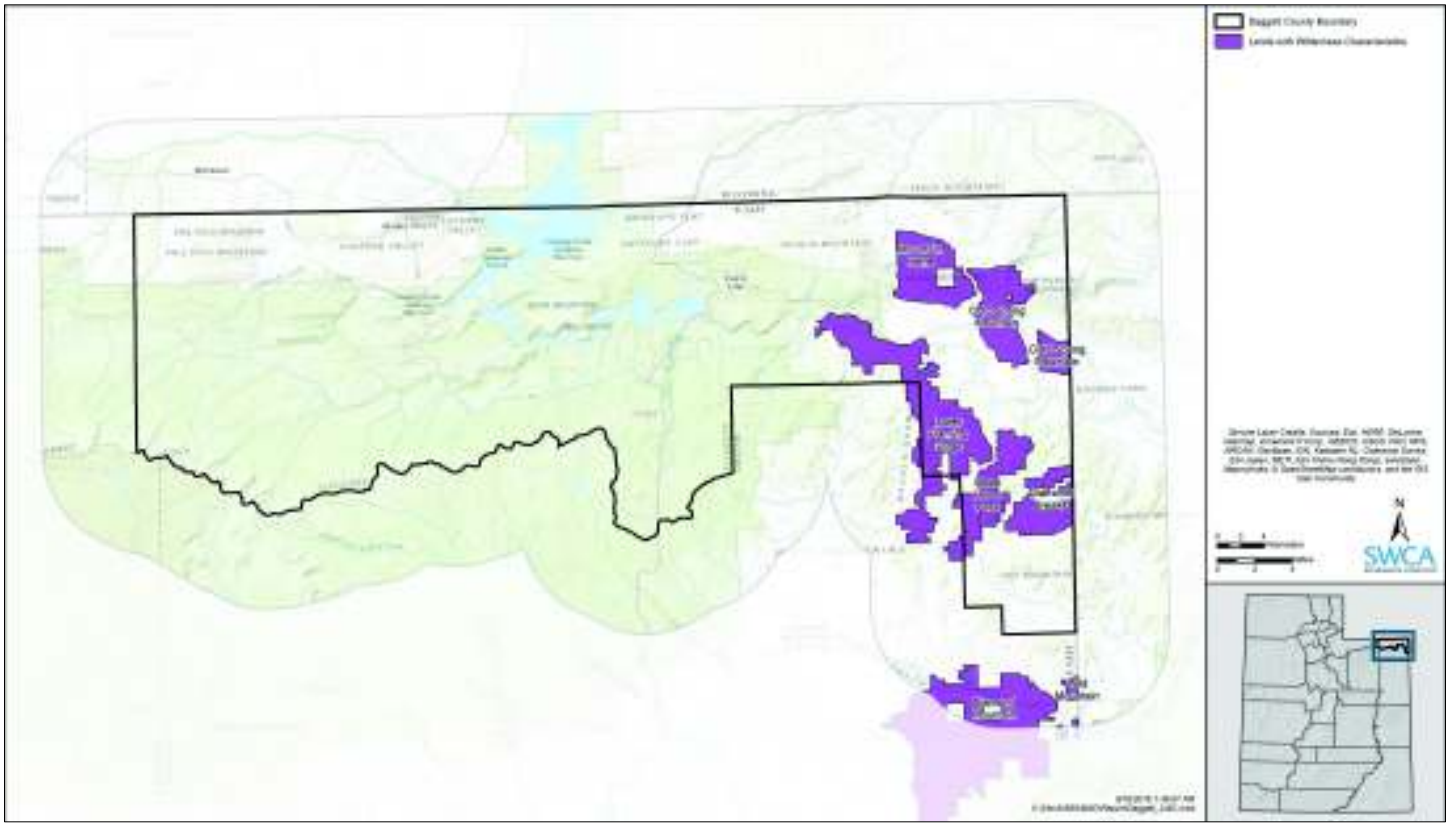

Figure WIL3. Lands with wilderness characteristics in Daggett County.

This page intentionally blank

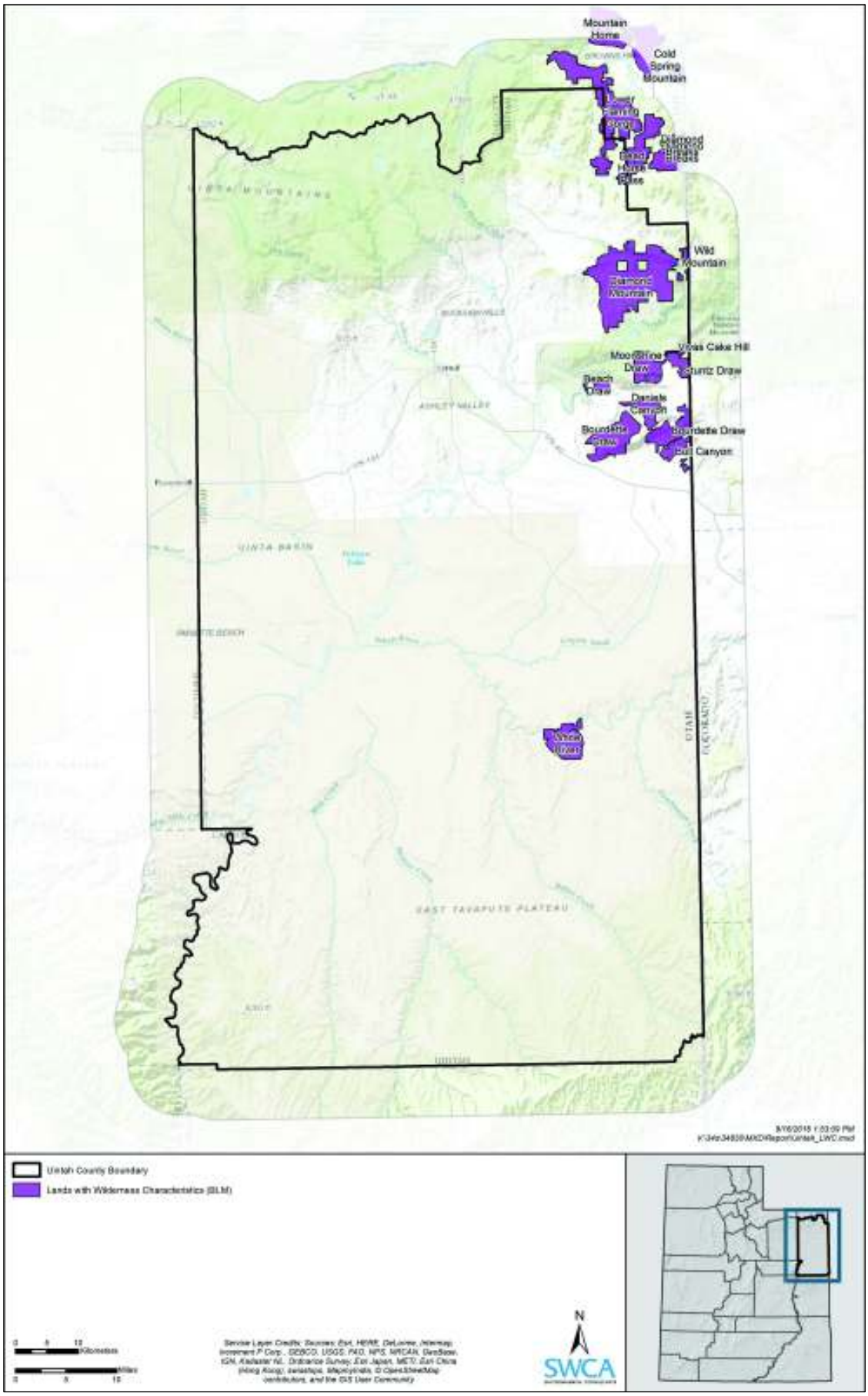

Figure WIL4. Lands with wilderness characteristics in Uintah County.

This page intentionally blank

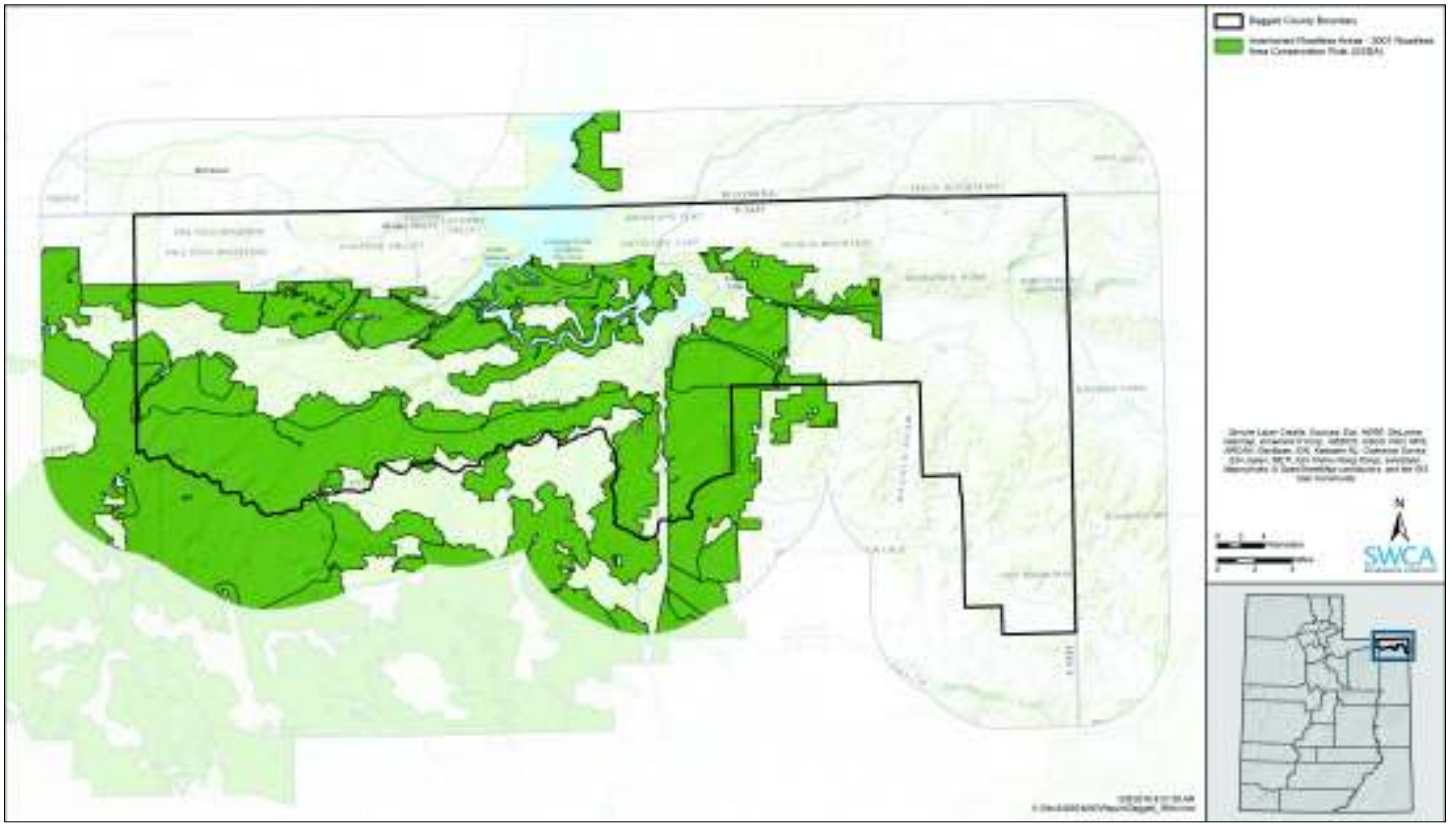

Figure WIL5. Inventoried roadless areas in Daggett County.

This page intentionally blank

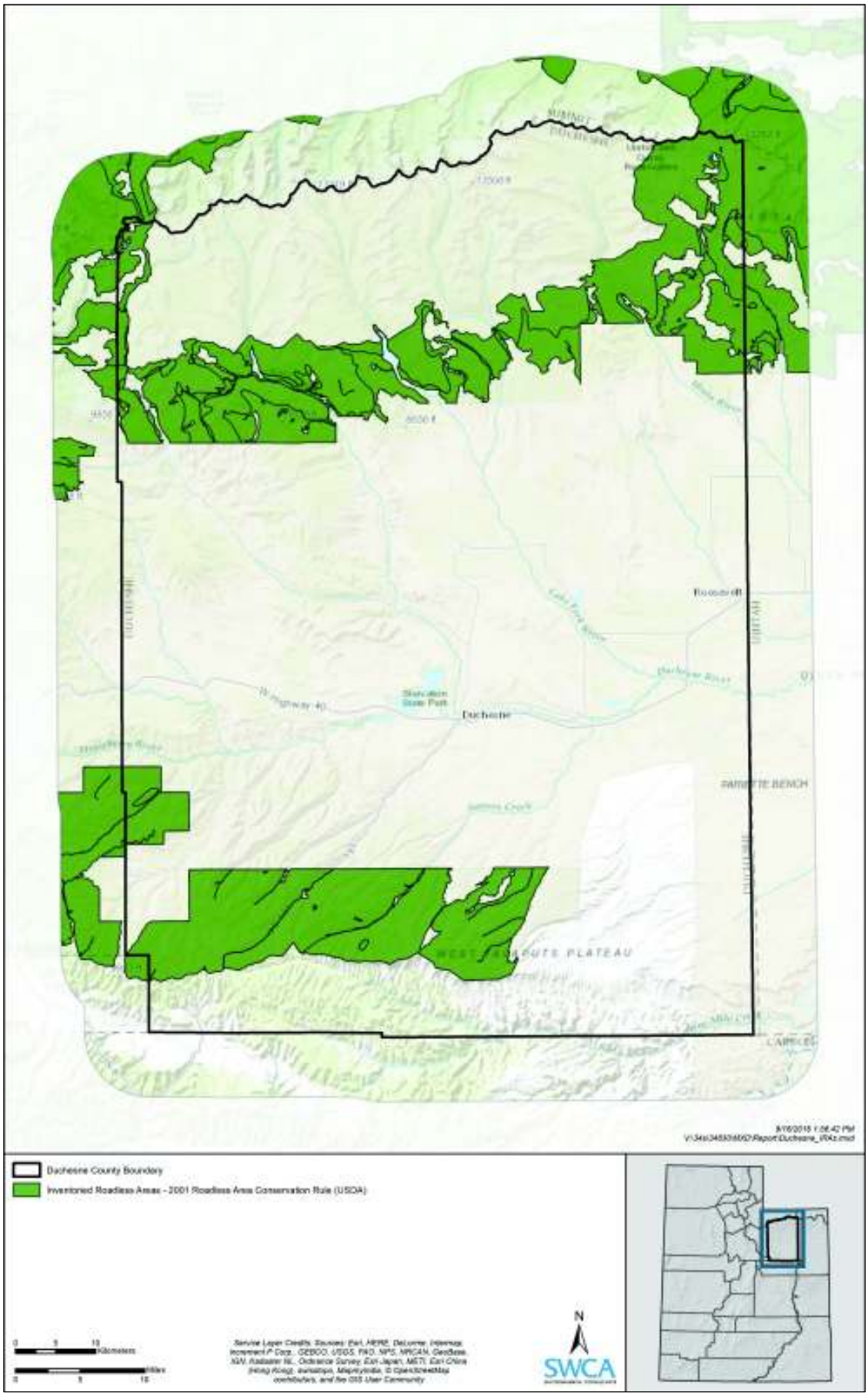

Figure WIL6. Inventoried roadless areas in Duchesne County.

This page intentionally blank

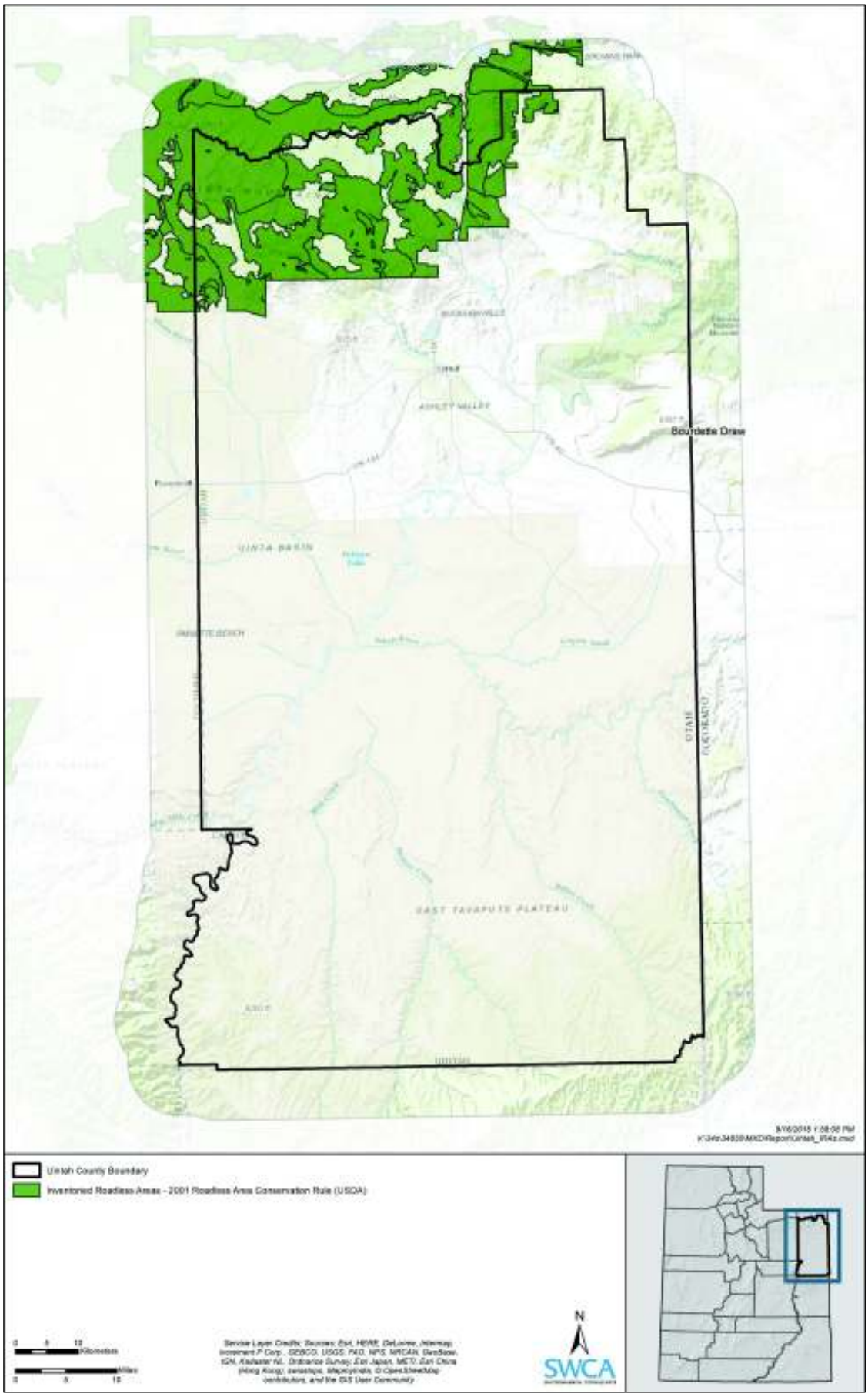

Figure WIL7. Inventoried roadless areas in Uintah County.

This page intentionally blank

24. WILDLIFE

24.1. Findings

24.1.1. The Utah Division of Wildlife Resources (DWR) *Utah Wildlife Action Plan* (Utah Wildlife Action Plan Joint Team 2015) presents strategies for managing native wildlife species and their habitat to help prevent listings under the Endangered Species Act.

24.1.2. Wildlife has always been an important part of America's cultural lifestyle and is an important part of northeastern Utah's tourism and recreation economy.

24.1.3. In Utah, wildlife includes brine shrimp and crayfish; mollusks; and vertebrate animals (fish, amphibians, reptiles, birds, and mammals) living in nature, except for feral animals. Wildlife are protected, except for coyotes, field mice, gophers, ground squirrels, jack rabbits, muskrats, and raccoons. Rare species and those subject to federal listing under the Endangered Species Act are referenced more fully in the Threatened, Endangered, and Sensitive Species section. Although fish are legally considered wildlife, fisheries and angling-related benefits for local economies are addressed in the Fisheries section. Limited amounts of geographic information system (GIS) data on a number of common vertebrate wildlife species in Utah can be accessed online at the DWR's Index of Available GIS Data (DWR 2016a).

Balancing Interests

24.1.4. Wildlife and their habitat contribute to a productive natural environment. They improve our quality of life, and provide a rich source of aesthetic enjoyment, inspiration, and outdoor recreation for many people.

24.1.5. At the same time, it must be recognized that wildlife can have an impact on the economic activities of humankind, influencing how people experience the benefits of their private property. Wildlife can affect local economies in both positive and negative ways.

24.1.6. Most people support efforts to find a balance between the habitat requirements of wildlife populations and the economic activities of humankind. Wildlife are capable of yielding important social and economic values, including hunting, photography, and wildlife observation.

24.1.7. The process for determining the balance among competing uses and establishing the best wildlife management policies is described in state law. This process is founded on an open, public dialogue concerning wildlife issues. Five regional advisory councils (RACs) are active across Utah, each consisting of a dozen or more individuals nominated by various interest groups and selected by the leadership of the Utah Department of Natural Resources. Council members can include citizens, local elected officials, sportsmen, agriculturists, federal land managers, and members of the public at large. The duty of each RAC is to hear input and recommendations, to gather data and evaluate expert testimony, and then to make informed policy recommendations to the Utah Wildlife Board. To fulfill this duty, the RACs hold monthly meetings.

The Utah Wildlife Board

24.1.8. The Utah Wildlife Board is composed of individuals nominated by a committee selected by the governor. The board is represented by diverse groups including non-consumptive wildlife interests, the agriculture industry, sportsmen groups, federal land management agencies, the Utah Association of Counties, and range management specialists. From this list of nominees the governor then appoints seven Utah Wildlife Board members with the consent of the Utah Senate.

24.1.9. The Utah Wildlife Board is responsible for considering RAC input and recommendations to the extent that the board must provide a written explanation if they reject recommendations or positions submitted by a RAC. The Utah Wildlife Board uses public input, the recommendations of the RACs, and the assembled facts to make determinations and establish policies best designed to accomplish the purposes and fulfill the intent of the wildlife laws. The Utah Wildlife Board generates wildlife management policy, and exercises its powers by promulgating administrative rules and issuing proclamations and orders under Utah Code.

Agricultural Impacts

24.1.10. Thriving populations of big-game animals will, at times, cause some level of damage to farming and ranching operations by competing with domestic livestock for available forage, or by damaging crops, fences, or irrigation equipment. A number of methods can be applied to mitigate the damage, including various forms of wildlife harvest and removal, issuance of landowner permits, development of a conservation lease that involves remuneration or other forms of compensation for depredation, and, finally, direct monetary compensation for agricultural damages. Although depredation mitigation review and appeal procedures apply, and are used as needed, the total amount of compensation that can be provided to landowners to prevent or compensate for damages may not exceed the funding amounts appropriated by the legislature for fencing material and compensation for damaged crops, fences, and irrigation equipment.

24.1.11. The Utah Grazing Improvement Program (UGIP) is a program under the Utah Department of Agriculture and Food designed to improve the productivity, health, and sustainability of rangelands and watersheds throughout the state. UGIP devotes considerable time and resources to improve rangelands, which results in a better environment, a healthier livestock industry, and more abundant wildlife. The program has established a State Grazing Advisory Board and six Regional Grazing Advisory Boards to improve the grassroots voice of both private and public grazing land managers.

24.1.12. Utah's Watershed Restoration Initiative (WRI) provides a balancing influence that promotes wildlife values and supports agricultural needs. The WRI is a diverse partnership of state and federal agencies working together with private organizations, industry, local elected officials, and stakeholders, and is coordinated by the Utah Department of Natural Resources.

24.1.13. Significant investments have been made through the WRI to improve rangeland health and watershed conditions. In fiscal year 2014, the Utah Legislature contributed $3.95 million to the WRI. Ninety-one participating partners completed restoration of 112,987 acres of uplands and 55 miles of stream and riparian areas, leveraging the legislative funds by a factor of 7-to-1. Sportsman-generated funding plays an important role in the WRI.

24.1.14. Daggett, Duchesne, and Uintah Counties appreciate the benefits that are enabled through WRI habitat restoration projects. The long-term results of the WRI will be measured in reduced wildfire acreage and suppression costs, reduced soil loss from erosion, reduced sedimentation and storage loss in reservoirs, improved water quality and yield, improved wildlife populations, reduced risk of additional federal listing of species under the Endangered Species Act, improved agricultural production, and resistance to invasive plant species.

Compensation for Damage

24.1.15. Although predator management is dealt with under a separate chapter entitled "Predator Management," the Wildlife Damage Compensation Act (see Utah Code 23-24-1) should be mentioned because it provides a mechanism by which livestock owners may obtain compensation if livestock are damaged by a bear, mountain lion, wolf, or eagle. In this case, "livestock" means cattle, sheep, goats, and turkeys.

Species Management Plans

24.1.16. Management plans provide guidance and direction for a number of species in Utah. These plans are taken through a public process to gather input from interested constituents and then presented to the Utah Wildlife Board for approval. Species covered by statewide plans include wild turkey, chukar, greater sage-grouse, mule deer, elk, moose, pronghorn, mountain goat, bighorn sheep, Utah prairie dog, beaver, northern river otter, black bear, cougar, bobcat, and wolf.

24.1.17. With regard to wolves, Senate Bill 36 (Wolf Management Act) from the 2010 Utah General Legislative Session directed DWR to prevent any wolf packs from establishing in the portion of the state where wolves are removed from the protection of the Endangered Species Act. The law also directs the DWR to request that the U.S. Fish and Wildlife Service immediately remove any wolves discovered in areas of Utah where they are still protected under the Endangered Species Act. This area includes Daggett, Duchesne, and Uintah Counties. This law suspends the portion of the *Utah Wolf Management Plan* (DWR and The Utah Wolf Working Group 2013) that allows two packs to become established in Utah, although the remaining strategies of the plan are still in effect. If wolves are delisted across all of Utah, the management plan then will be fully implemented.

Greater Sage-Grouse

24.1.18. For the greater sage-grouse (*Centrocercus urophasianus*), the *Conservation Plan for Greater Sage-grouse in Utah* (DWR 2013a) was developed to help eliminate threats facing the greater sage-grouse while balancing the economic and social needs of Utahans through a coordinated program that provides for

- voluntary programs for private, local government, and School and Institutional Trust Lands Administration lands; and
- cooperative regulatory programs on other state and federally managed lands.

24.1.19. These voluntary and cooperative regulatory programs include WRI, Utah Partners for Conservation and Development, National Resources Conservation Service's Sage-grouse Initiative, and UGIP.

24.1.20. Mapped within each county are winter, brooding, and occupied greater sage-grouse habitat as illustrated below in Table WLD1 and WLD2 and in Figures WLD1–D3 at the end of this section.

Table WLD1. Acres of Greater Sage-Grouse Habitat in Daggett, Duchesne, and Uintah Counties

Habitat	Daggett County	Duchesne County	Uintah County
Winter	66,899	258,289	479,959
Brooding	133,765	442,932	1,003,996
Occupied	133,918	476,227	1,027,206

Source: DWR (2015a).

Notes: Acres by county cannot be totaled because these areas overlap.

Table WLD2. Acres of State Greater Sage-Grouse Management Areas in Daggett, Duchesne, and Uintah Counties

Habitat	Daggett County	Duchesne County	Uintah County
Nesting and brood-rearing non-winter habitat	33,013	277	117,697
Nesting and brood-rearing winter habitat	41,502	14,568	147,330
Winter habitat	15,583	48,630	75,537
Non-winter habitat	17,688	16,912	92,870
Non-winter other	36,909	7,607	29,628
Non-winter opportunity	52,978	23,534	133,077

Source: DWR (2016b).

Deer and Elk

24.1.21. In the case of mule deer (*Odocoileus hemionus*) and elk (*Cervus canadensis nelsoni*), in addition to the statewide plans required by state law, herd unit plans also have been developed for each mule deer and elk herd unit across the state. Each of these unit plans have been reviewed and approved by the Utah Wildlife Board. In many cases, herd unit plans have been revised multiple times since their initial development in the mid-1990s. The plans establish target herd-size objectives for each herd unit, which DWR and the Utah Wildlife Board then strive to meet through harvest adjustment and other mechanisms. Habitat needs and other local management considerations are also addressed in these unit plans.

24.1.22. Portions of Daggett, Duchesne, and Uintah Counties are within the South Slope Deer Herd Unit #9 Management Plan (which also includes lands in Summit and Wasatch Counties). The target winter herd size is 26,000. Most of the summer range for deer (85%) is located on U.S. Forest Service and Bureau of Land Management (BLM) lands. Winter range is more evenly distributed, with 31% on BLM land, 28% on tribal land, and 24% on private lands. Daggett County has winter range and part of the summer range overlaps into Colorado and Wyoming. Factors that drive deer population include forage conditions, predation (especially by coyotes) highway collisions, disease, poaching, and the severity of winters. Mule deer habitat by county is described below in Table WLD3 and consolidated as habitat in Figures WLD5, WLD7, and WLD9 at the end of this section.

Table WLD3. Acres of Mule Deer Habitat in Daggett, Duchesne, and Uintah Counties

Habitat Type	Daggett County	Duchesne County	Uintah County
Spring/fall, crucial	–	3,064	–
Summer, crucial	229,210	758,251	487,431
Summer, substantial	–	–	81,905
Winter, crucial	148,368	597,509	635,105
Winter, substantial	54,399	212,063	407,354
Year-long, crucial	–	140,951	246,605
Year-long, substantial	7,338	201,269	113,530
Total	**439,316**	**1,913,107**	**1,971,930**

Source: DWR (2015b).

24.1.23. Portions of western Duchesne County are within the Wasatch Mountain Elk Herd Unit #17 Management Plan (which also includes lands within Carbon, Salt Lake, Summit, Wasatch, and Utah Counties). The target winter herd size for this unit is 5,400. Most of the lands used by elk in the spring, summer, and fall are on U.S. Forest Service lands (77% for spring/fall and 83% for summer); however, the largest group of lands used by the elk in the winter are private lands (46%). Elk habitat by county is described below in Table WLD4 and consolidated as habitat in Figures WLD4, WLD6, and WLD8 at the end of this section.

Table WLD4. Acres of Elk Habitat in Daggett, Duchesne, and Uintah Counties

Habitat Type	Daggett County	Duchesne County	Uintah County
Elk, spring/fall, crucial	–	11,525	–
Elk, summer, crucial	187,146	679,677	490,968
Elk, summer, substantial	–	–	22,474
Elk, winter, crucial	170,782	702,539	705,729
Elk, winter, substantial	13,266	104,525	408,092
Elk, year-long, crucial	18,655	95,836	111
Elk, year-long, substantial	–	143,992	4,541
Total	**389,850**	**1,738,093**	**1,631,915**

Source: DWR (2015b).

24.1.24. On a seasonal basis, big-game animals migrate among public, private, and tribal lands. These movements create game management issues as a result of damage to private property and consumption of livestock feed by wildlife. To address these issues, the DWR plan seeks to enhance forage production through prescribed fire, pinion-juniper chaining, and conifer thinning and to protect habitat using tools such as conservation easements, conservation agreements, and cooperative wildlife management units. Utah Code 23-21-2.5 (2) states that "When changing any existing right to use the land, the division shall seek to make uses of division-owned land compatible with local government general plans and zoning and land use ordinances."

24.1.25. The Western Association of Fish and Wildlife Agencies (WAFWA) Mule Deer Working Group has produced an informative fact sheet titled "Understanding Mule Deer Migration" (WAFWA 2015a). This fact sheet was developed after wildlife researchers tracked deer migration using global positioning system technology. Several potential risks to migrating deer and their corridors were mentioned, including energy development, vehicle collisions, fences, and increasing residential and urban development. The fact sheet presents the following conclusions regarding the preservation of deer migration corridors:

> Efforts to conserve migration corridors are an important component of overall conservation of mule deer in the West because the largest and most productive mule deer herds are migratory. As awareness of the importance of migration corridors grows, conservation efforts to maintain these corridors and incorporate them into land-use planning processes are imperative. Similar to critical winter ranges, migration corridors need to be considered in local, state, and federal land-use planning in order to sustain current mule deer populations. Common sources of risk to migrating mule deer and their corridors include fences, road crossings, energy development, and residential development. With specific maps of migration routes now available, we can identify and prioritize where conservation efforts should be focused to reduce risks to migrating mule deer and migration corridors. Effective conservation measures may include road crossing structures, fence alterations or removal, modifications to proposed industrial developments, conservation easements, leasing stipulations, and state, provincial, or federal protections available through land-use planning. Mule deer migration corridors are essential to the long-term conservation of this iconic species. Many corridors are more than 100 miles in length and cross through many different land ownerships and agency jurisdictions. This situation complicates conservation efforts and requires people work together to develop site-specific measures to ensure migrations continue into the future. (WAFWA 2015a)

24.1.26. Another WAFWA fact sheet titled "Understanding Mule Deer and Winter Feeding" deals with the issue of winter feeding of mule deer (WAFWA 2015b). After looking at the biological, behavioral, disease, predation, competition, and sociological issues associated with winter feeding, WAFWA reached this conclusion that

> At best, feeding has a limited nutritional benefit, often negated by undesirable, even catastrophic, behavioral and biological effects. Of course, we all have the best interest of wildlife in mind. However, we must ensure we understand the biology of the animals we're concerned about so our actions are truly beneficial. This is often the point of debate as society considers winter feeding mule deer. Our conventional wisdom, experience, and professional consensus is clear - feeding mule deer violates the most basic principle of population regulation within natural systems. At best, winter feeding for mule deer is only successful in making people who are compassionate about wildlife feel better and seldom are any benefits of winter feeding realized. (WAFWA 2015b)

24.1.27. Wildlife management agencies generally agree that although winter mule deer feeding is based on good intentions, it can result in a variety of issues ranging from disease, malnutrition, predation, behavior changes, and rangeland damage. For these reasons and others, it is discouraged. Information about winter feeding is available from DWR and the Mule Deer Working Group (2015b)

24.1.28. As the population grows in the future, the likelihood of conflicts between mule deer and rural or urban fringe homeowners will increase. WAFWA has published a fact sheet to address that issue as well, titled "Urban Mule Deer Issues" (WAFWA 2015c). Mule deer populations can increase rapidly in rural residential or urban fringe areas as deer take advantage of the abundant forage and water sources provided by humans as well as protection from hunting and other types of predation. Mule deer are browsers, preferring leaves, stems, and buds of woody plants, as well as forbs (e.g., weeds). Like many other wildlife species, mule deer are opportunistic and in some cases will eat and damage ornamental plants, hedges, vegetables, flowers, and lawns. Bucks can damage shrubs and saplings by rubbing the bark with their antlers. This damage to personal and commercially grown vegetation is not well tolerated and can make people view mule deer as a nuisance. WAFWA recommends several strategies to deal with these conflicts, including prohibiting supplemental feeding of deer, chemical repellents and scare devices, construction of fencing, using deer resistant plantings, regulated hunting, and relocation of deer to more remote areas.

Feral or Wild Horses

24.1.29. At present there are three known wild horse and burro herd areas in Uintah County (Table WLD5). No wild horse and burro herd areas exist in Daggett or Duchesne Counties. Free-roaming horses on public lands adversely impact soil, water, wildlife, and vegetative resources and increase the possibility of equine disease among domestic horses. Wild and free-roaming horses rapidly increase in population, cause overgrazing, negatively impact wildlife and livestock, and burden the land managing agency with unnecessary costs. The introduction of wild horses would adversely affect the counties' environment and economy.

Table WLD5. Acres of Wild Horse and Burro Herds in Uintah County

Herd Name	Uintah County
Bonanza	141,857
Hill creek	136,130
Winter ridge	44,216

Source: BLM (2009).

Pronghorn Antelope

24.1.30. DWR administers a Pronghorn Herd Management Plan for non-tribal lands in the area generally bounded by Nine Mile Canyon on the south, Utah Route 191 on the west, U.S. Highway 40 on the north, and the Green River to the east. It is the purpose of this plan to "Manage for a population of healthy animals capable of providing a broad range of recreational opportunities, to include hunting and viewing. Balance the pronghorn population with human needs, such as authorized livestock grazing rights, private land development rights, and local economies. Maintain the population at a level that is within the long term habitat capability." (DWR 2009)

24.1.31. DWR has a goal of maintaining a population of 1,125 pronghorn in this area, with a buck-to-doe ratio of 25:100. Counts in 2008 estimated a population of approximately 340, with a buck-to-doe ratio of 41:100. DWR plans to transplant approximately 50 pronghorn in the herd management area per year until the population reaches the goal. Table WLD6 below describes the type of pronghorn antelope habitat present within each county, which is consolidated into general habitat in Figures WLD5, WLD7, and WLD9 at the end of this section.

Table WLD6. Acres of Pronghorn Antelope Habitat in Daggett, Duchesne, and Uintah Counties

Habitat Type	Daggett County	Duchesne County	Uintah County
Summer, crucial	26,820	–	–
Summer, substantial	896	–	8,930
Year-long, crucial	47,022	131,511	708,408
Year-long, substantial	14,942	48,612	250,573
Total	**89,680**	**180,123**	**967,912**

Source: DWR (2014b).

Bison

24.1.32. There are six bison management areas in Uintah County, one of which extends into Duchesne County. No known populations of bison exist in Duchesne County. A bison herd does exist on tribal lands east of the Green River in Uintah County. DWR has considered reintroduction of bison in the Book Cliffs area of Uintah and Grand Counties. Table WLD7 below describes the type of habitat present within each county, which is consolidated into general habitat in Figures WLD5, WLD7, and WLD9 at the end of this section.

Table WLD7. Acres of Bison Habitat in Daggett, Duchesne, and Uintah Counties

Habitat Type	Daggett County	Duchesne County	Uintah County
Winter, crucial	–	–	404,541
Winter, potential	–	–	316,317
Winter, substantial	–	4,983	36,870
Year-long, crucial	–	–	123,443
Year-long, potential	–	–	258,787
Year-long, substantial	–	–	25,628
Total	–	**4,983**	**1,165,586**

Source: DWR (2014c).

Bighorn Sheep

24.1.33. DWR through its Utah Wildlife Board adopted a *Utah Bighorn Sheep Statewide Management Plan* on June 4, 2013 (DWR 2013b). This plan is effective for 5 years. The plan notes that bighorn sheep are one of the most sought-after and highly prized big-game animals in North America. Demand for hunting opportunities far exceeds the supply of hunting permits. There is also great demand for bighorn sheep viewing opportunities. Bighorn sheep are an important part of fragile ecosystems in Daggett, Duchesne, and Uintah Counties. Rocky Mountain bighorn sheep habitat exists in the High Uintas Wilderness. In 2009, 30 bighorn sheep were transplanted from Montana into the Lake Canyon area and an additional 30 were transplanted into the Indian Canyon area. The state management plan calls for augmentation of existing populations to meet management objectives in the Avintaquin Management Unit (DWR 2013b). A summary of bighorn sheep habitat is provided below in Table WLD8 and in Figures WLD4, WLD6, and WLD8 at the end of this section.

24.1.34. One of the key management issues associated with bighorn sheep is the prevention of disease that can result from contact with domestic sheep. There is also the potential for bighorn sheep to compete with domestic sheep for resources.

Table WLD8. Acres of Bighorn Sheep Habitat in Daggett, Duchesne, and Uintah Counties

Habitat Type	Daggett County	Duchesne County	Uintah County
Spring/fall, crucial	15,666	–	–
Year-long, crucial	99,290	429,791	586,277
Year-long, substantial	–	50,630	1,916
Total	**114,956**	**480,420**	**588,193**

Source: DWR (2006).

24.2. Objectives

24.2.1. Encourage the WRI to focus on projects that include private landowner involvement by having county representatives attend meetings of the WRI regional teams, expressing their views, advising the WRI to involve private land owners, and advocating for the kinds of watershed restoration efforts they feel are most important.

24.2.2. Maintain healthy populations of mule deer while minimizing negative impacts from winter migration, including vehicle collisions and residential and commercial vegetation damage.

24.2.3. Avoid damage caused by wild horses by preventing the introduction of wild horse populations.

24.2.4. Support bighorn sheep populations for hunting, viewing, and ecosystem support.

24.2.5. Support energy development while minimizing loss or fragmentation of habitats and disturbance during sensitive periods.

24.2.6. Meet municipal and industrial water needs while preserving traditional agricultural uses and ensuring aquatic habitat to support wildlife.

24.3. Policies

24.3.1. Wildlife management agencies, public land management agencies, and the county shall work together to manage and conserve big-game populations and their habitats, identify their migration corridors, and seek to remove barriers along those corridors in a manner that respects private property rights.

24.3.2. Wildlife agencies shall find effective ways to mitigate and compensate landowners for damage caused by big-game animals on private property. The county recognizes that DWR is mandated by Utah Code to mitigate damage to agricultural crops, equipment, and improvements and that a process to do so is in place.

24.3.3. Wildlife populations shall not be increased nor shall new species be introduced until forage allocations have been provided and an impact analysis that includes participation and concurrence by the county, wildlife management agencies, public land management agencies, and private landowners is completed for the effects on other wildlife species and livestock.

24.3.4. Reduction in forage allocation resulting from forage studies, drought, or other natural disasters will be shared proportionately by wildlife, livestock, and other uses.

24.3.5. Increases in forage allocation resulting from improved range conditions shall be shared proportionally by wildlife, livestock, and other uses.

24.3.6. Wildlife populations shall be consistent with the forage assigned in the resource management plan forage allocations.

24.3.7. Livestock, other private property, and habitat of wildlife species will be protected by controlling predator and wildlife numbers.

24.3.8. Federal land management decisions should be coordinated with state wildlife management agencies and should support state-sponsored initiatives or programs designed to stabilize wildlife populations that may be experiencing a scientifically proven decline in numbers.

24.3.9. It is the policy of the county to support the efforts of the DWR to maintain a healthy population of pronghorn in the area described above, provided that the rights of farmers, ranchers, and mineral owners are protected.

24.3.10. It is the policy of the county to oppose any proposals to introduce bison into the county because the impacts this action would have on available forage for livestock and wildlife.

24.3.11. No forage allocations or permits shall be provided for feral or wild horses on public lands in the county.

24.3.12. All feral or wild horses found roaming on public lands in the county are trespassing and shall be removed.

24.3.13. It is the policy of the county to support efforts by DWR to manage bighorn sheep populations for recreational purposes such as hunting and viewing and to ensure their contribution to ecosystems, provided that such management can be accomplished in coordination with the domestic sheep industry in a manner that does not force domestic sheep operators from their ranges or force them out of business. The County supports efforts to manage and augment the bighorn sheep population as long as there is not competition or interference with domestic animals.

24.3.14. All federal or state wildlife management agencies shall coordinate with the county before establishing regulatory measures associated with wildlife that could impact energy development.

24.3.15. It is the policy of the county that wildlife shall be managed on public and private lands in a manner that keeps water resources from being degraded below state or federal standards.

24.4. Literature Cited

Bureau of Land Management. 2009. Wild Horse and Burro Herd Areas. Available at: http://www.blm.gov/ut/st/en/prog/more/geographic_information/gis_data_and_maps.html. Accessed February 11, 2016.

Utah Division of Wildlife Resources. 2006. Bighorn Sheep Habitat geographic information systems data. Available at: http://dwrcdc.nr.utah.gov/ucdc/DownloadGIS/disclaim.htm. Accessed February 11, 2016.

———. 2009. *Utah Pronghorn Statewide Management Plan*. Available at http://wildlife.utah.gov/hunting/biggame/pdf/Statewide_prong_mgmt_2009.pdf. Accessed August 12, 2016.

———. 2013a. *Conservation Plan for Greater Sage-grouse in Utah*. February 14, 2015. Final. Available at: http://wildlife.utah.gov/uplandgame/sage-grouse/pdf/greater_sage_grouse_plan.pdf. Accessed August 12, 2016.

———. 2013b. *Utah Bighorn Sheep Statewide Management Plan*. Available at: https://wildlife.utah.gov/hunting/biggame/pdf/bighorn-plan.pdf. Accessed August 12, 2016.

———. 2014a. *Utah Mule Deer Statewide Management Plan*. Available at: http://wildlife.utah.gov/hunting/biggame/pdf/mule_deer_plan.pdf. Accessed September 12, 2016.

———. 2014b. Pronghorn Antelope Habitat geographic information systems data. Available at: http://dwrcdc.nr.utah.gov/ucdc/DownloadGIS/disclaim.htm. Accessed February 11, 2016

———. 2014c. Bison Habitat geographic information systems data. Available at: http://dwrcdc.nr.utah.gov/ucdc/DownloadGIS/disclaim.htm. Accessed February 11, 2016

———. 2015a. Greater Sage-Grouse Habitat geographic information systems data. Available at: http://dwrcdc.nr.utah.gov/ucdc/DownloadGIS/disclaim.htm. Accessed February 11, 2016

———. 2015b. Mule Deer Habitat geographic information systems data. Available at: http://dwrcdc.nr.utah.gov/ucdc/DownloadGIS/disclaim.htm. Accessed February 11, 2016

———. 2016a. Utah Division of Wildlife Resources Index of Available GIS Data. Available at: http://dwrcdc.nr.utah.gov/ucdc/downloadgis/disclaim.htm. Accessed September 12, 2016.

———. 2016b. State Sage-grouse Management Areas geographic information systems data. Available at: http://dwrcdc.nr.utah.gov/ucdc/DownloadGIS/disclaim.htm. Accessed May 2, 2016.

Utah Division of Wildlife Resources (DWR) and The Utah Wolf Working Group. 2013. *Utah Wolf Management Plan.* Available at: http://wildlife.utah.gov/wolf/wolf_management_plan.pdf. Accessed September 12, 2016.

Utah Wildlife Action Plan Joint Team. 2015. Utah Wildlife Action Plan: A Plan for Managing Native Wildlife Species and Their Habitats to Help Prevent Listing under the Endangered Species Act. Publication number 15-14. Salt Lake City, Utah: Utah Division of Wildlife Resources.

Western Association of Fish and Wildlife Agencies (WAFWA). 2015a. Understanding Mule Deer Migration. Fact Sheet #12. Available at: http://www.wafwa.org/committees___groups/mule_deer_working_group/publications/. Accessed September 12, 2016.

———. 2015b. Understanding Mule Deer and Winter Feeding. Fact Sheet #2. Available at: http://www.wafwa.org/committees___groups/mule_deer_working_group/publications/. Accessed September 12, 2016.

———. 2015c. Urban Mule Deer Issues. Fact Sheet #9. Available at: http://www.wafwa.org/committees___groups/mule_deer_working_group/publications/. Accessed September 12, 2016.

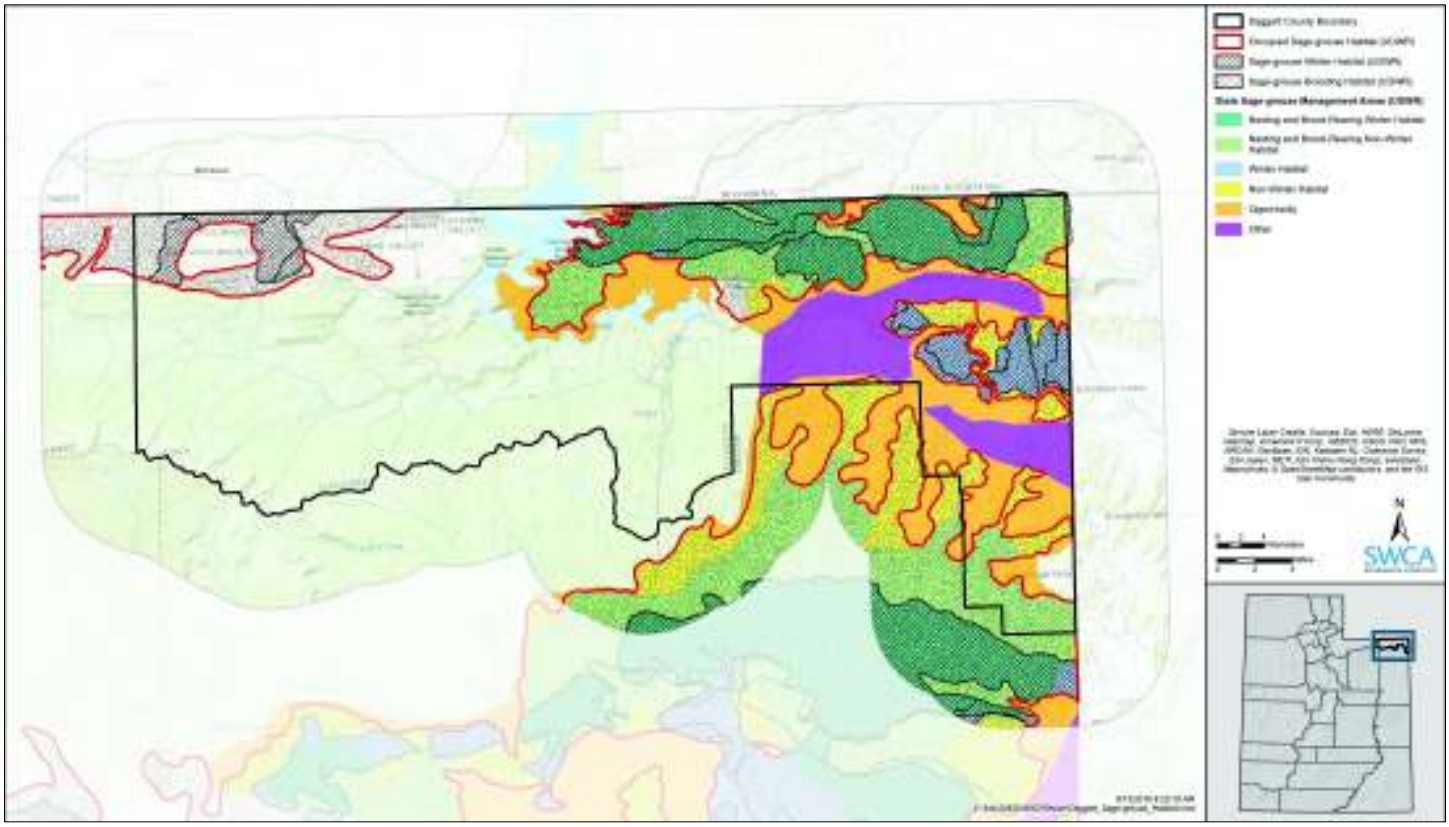

Figure WLD1. State Greater Sage-Grouse Management Areas and greater sage-grouse habitat in Daggett County.

This page intentionally blank

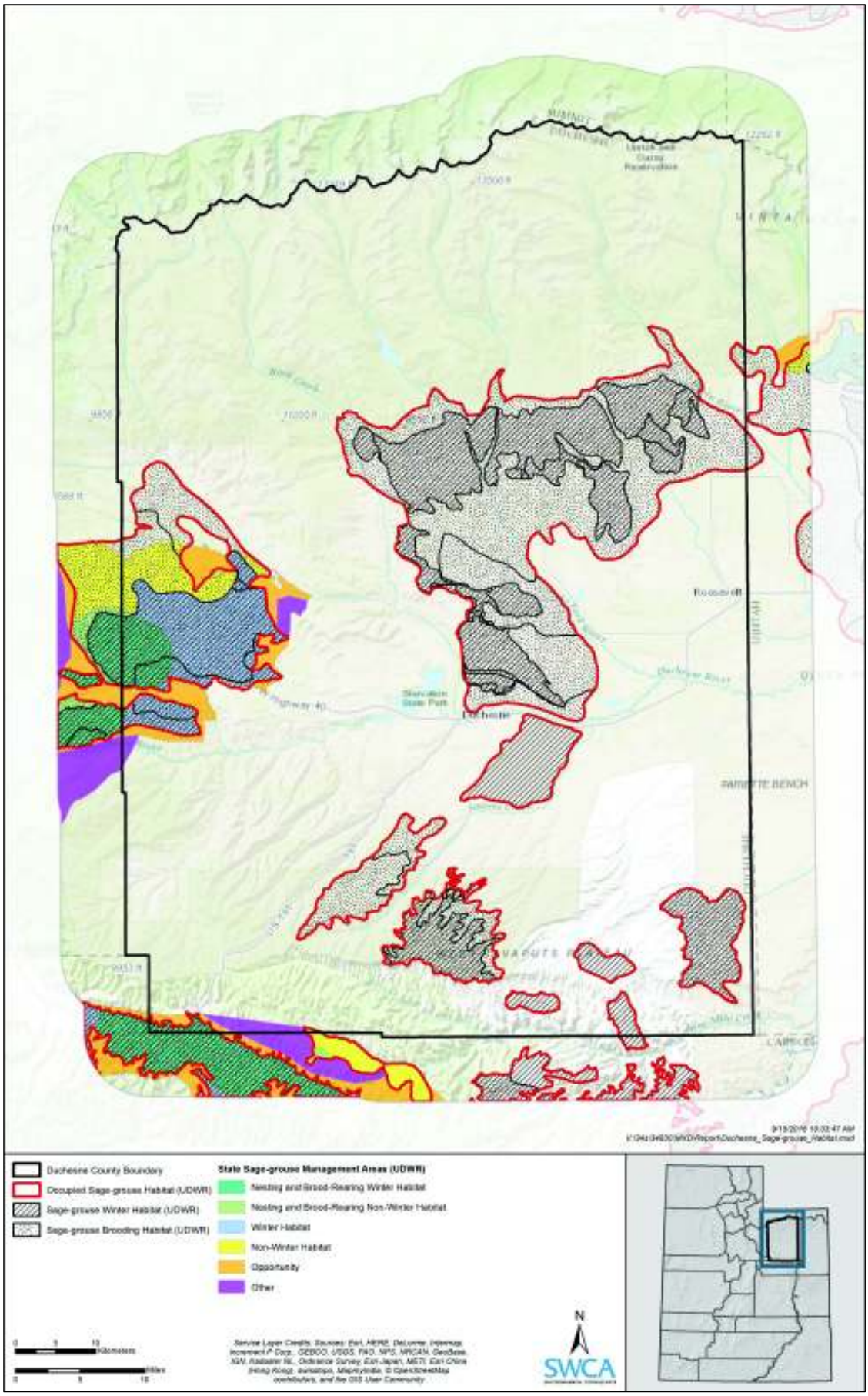

Figure WLD2. State Greater Sage-Grouse Management Areas and greater sage-grouse habitat in Duchesne County.

This page intentionally blank

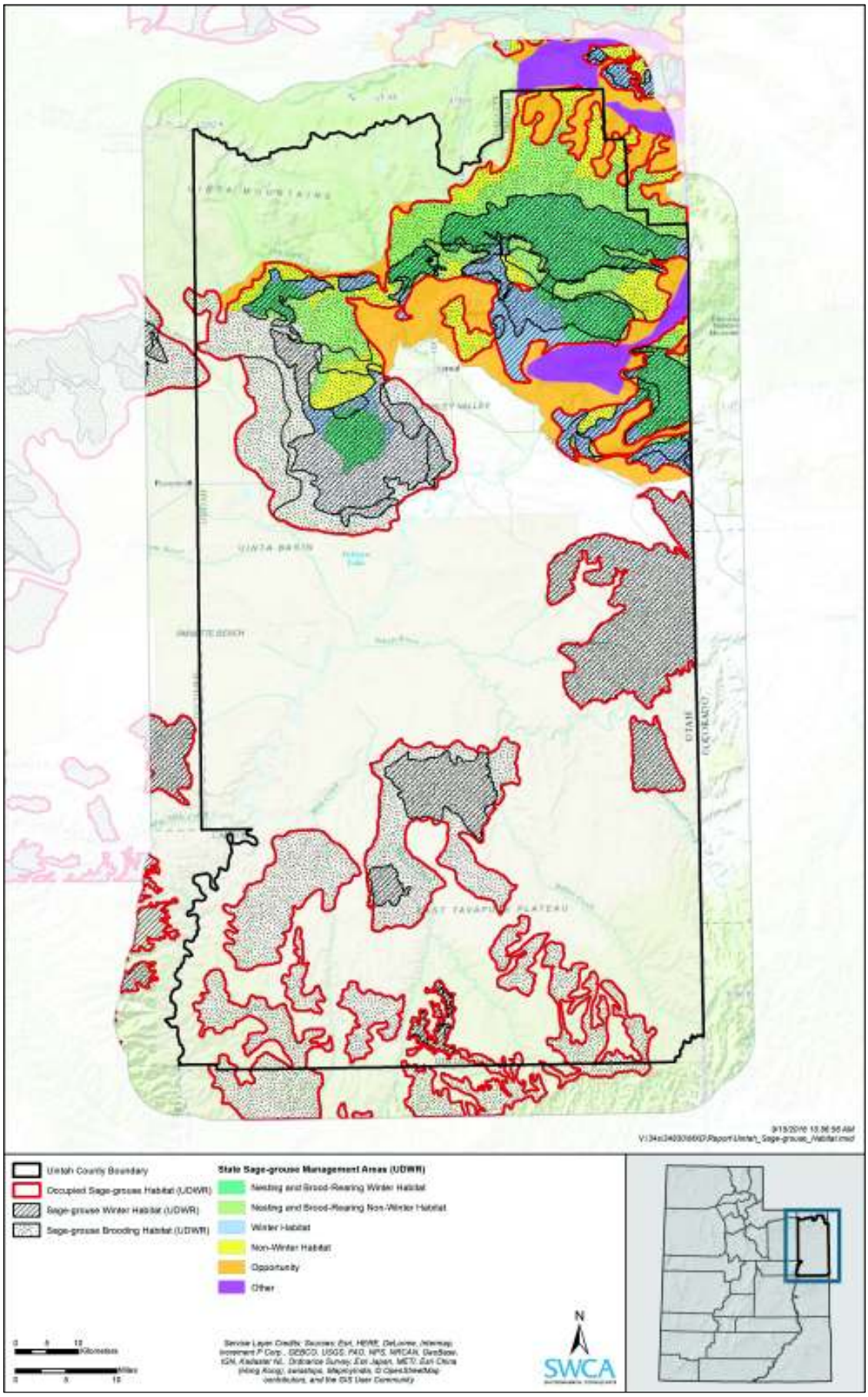

Figure WLD3. State Greater Sage-Grouse Management Areas and greater sage-grouse habitat in Uintah County.

This page intentionally blank

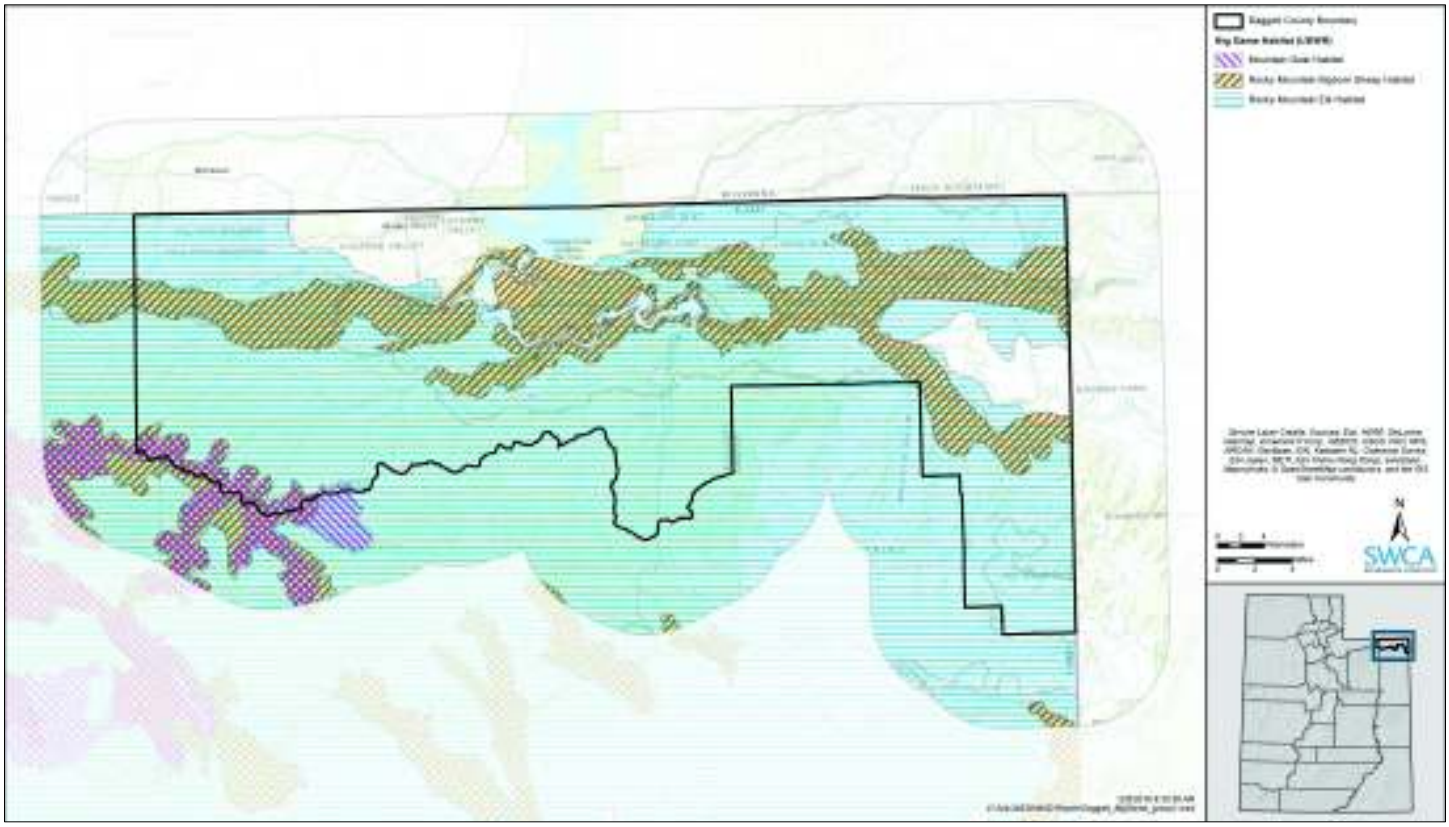

Figure WLD4. Big-game habitat in Daggett County (map 1 of 2)

This page intentionally blank

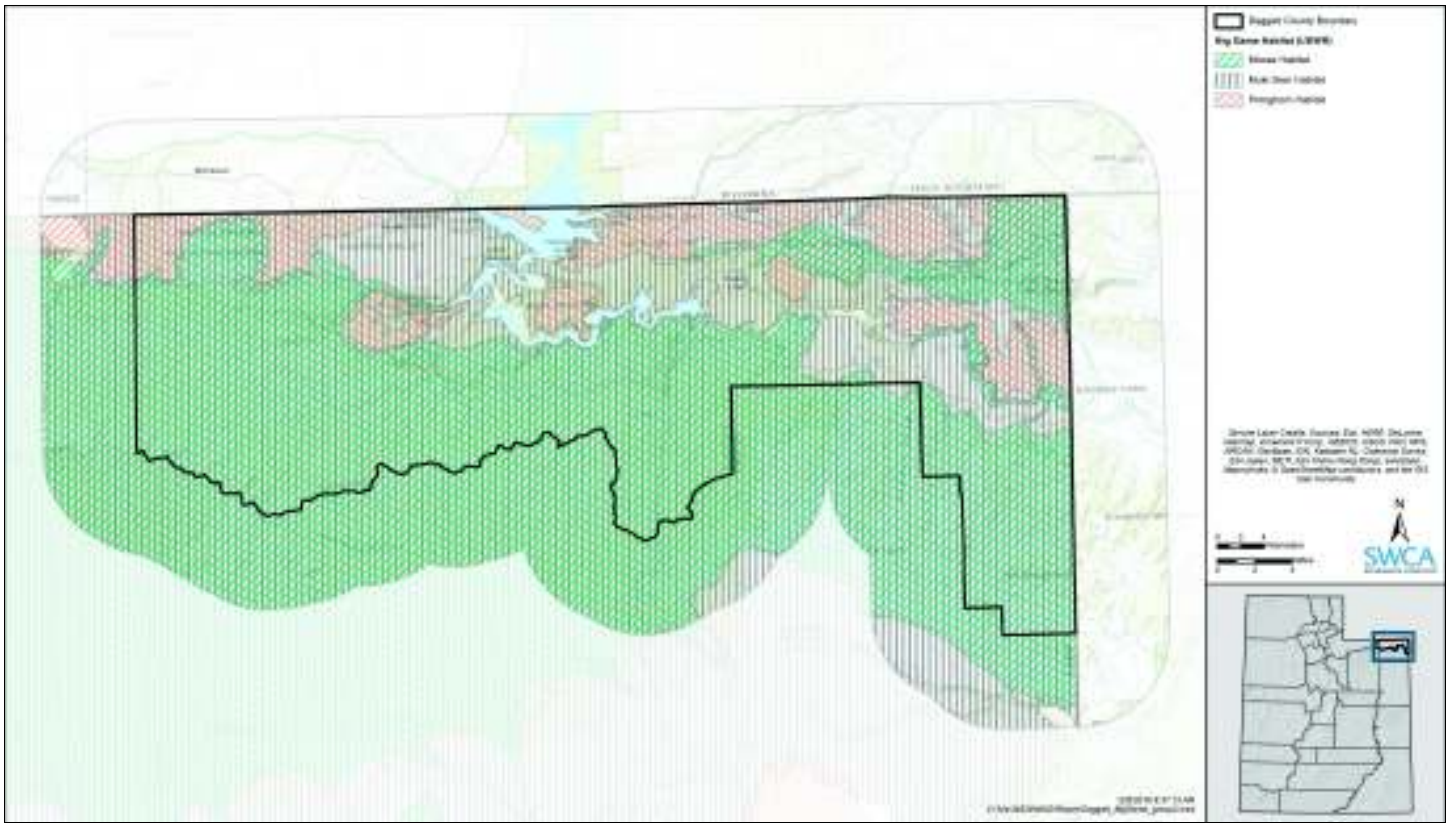

Figure WLD5. Big-game habitat in Daggett County (map 2 of 2)

This page intentionally blank

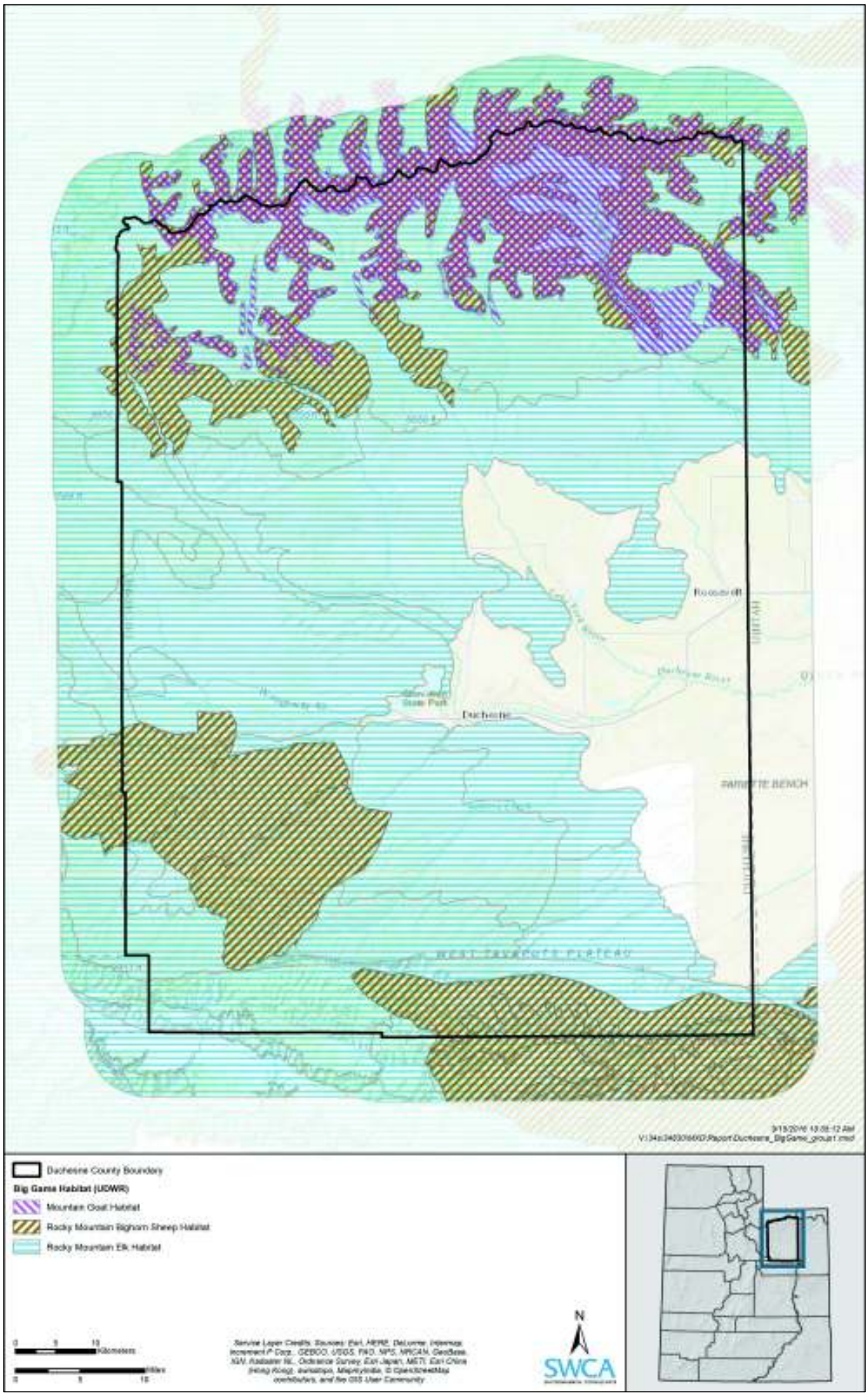

Figure WLD6. Big-game habitat in Duchesne County (map 1 of 2)

This page intentionally blank

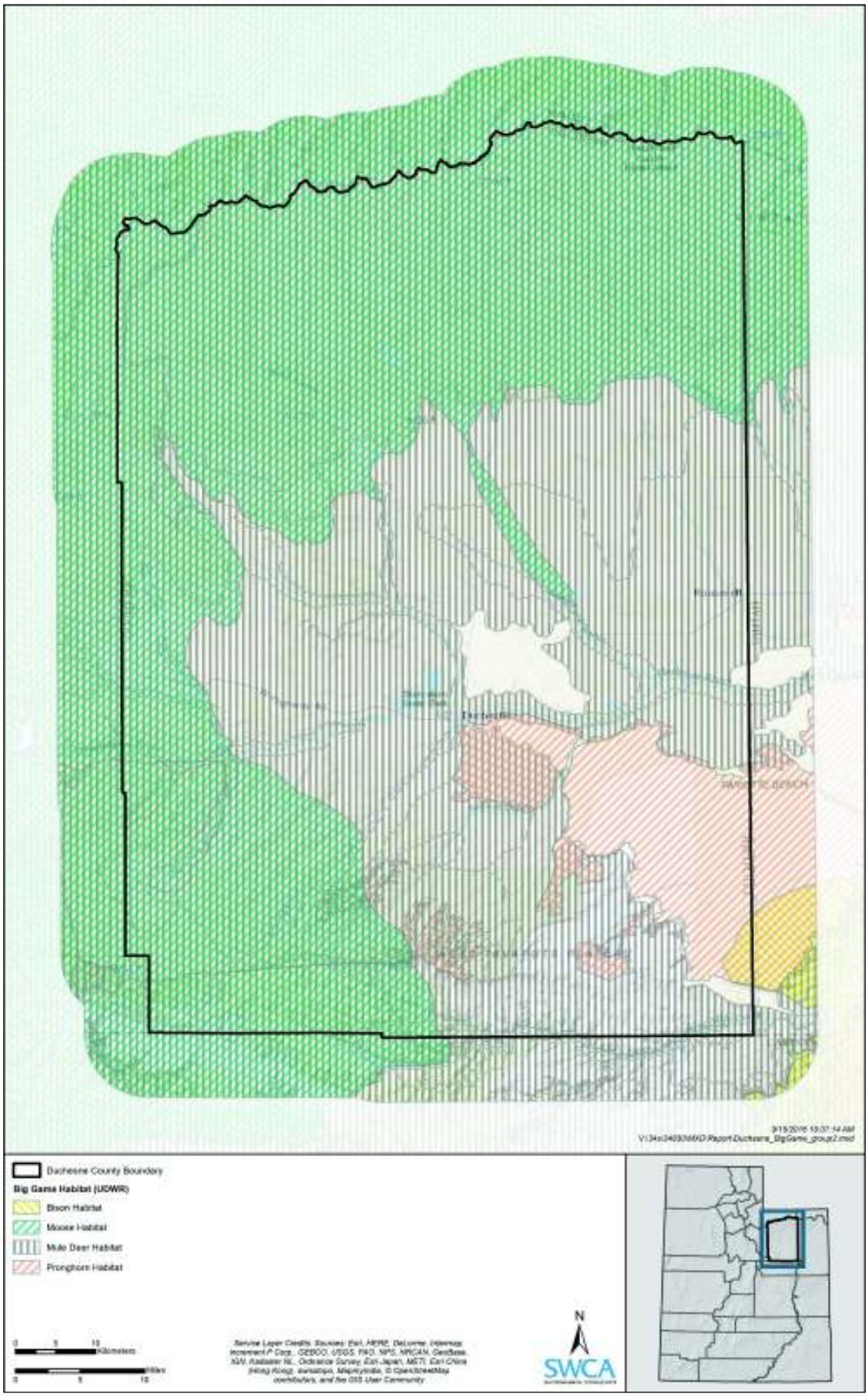

Figure WLD7. Big-game habitat in Duchesne County (map 2 of 2)

This page intentionally blank

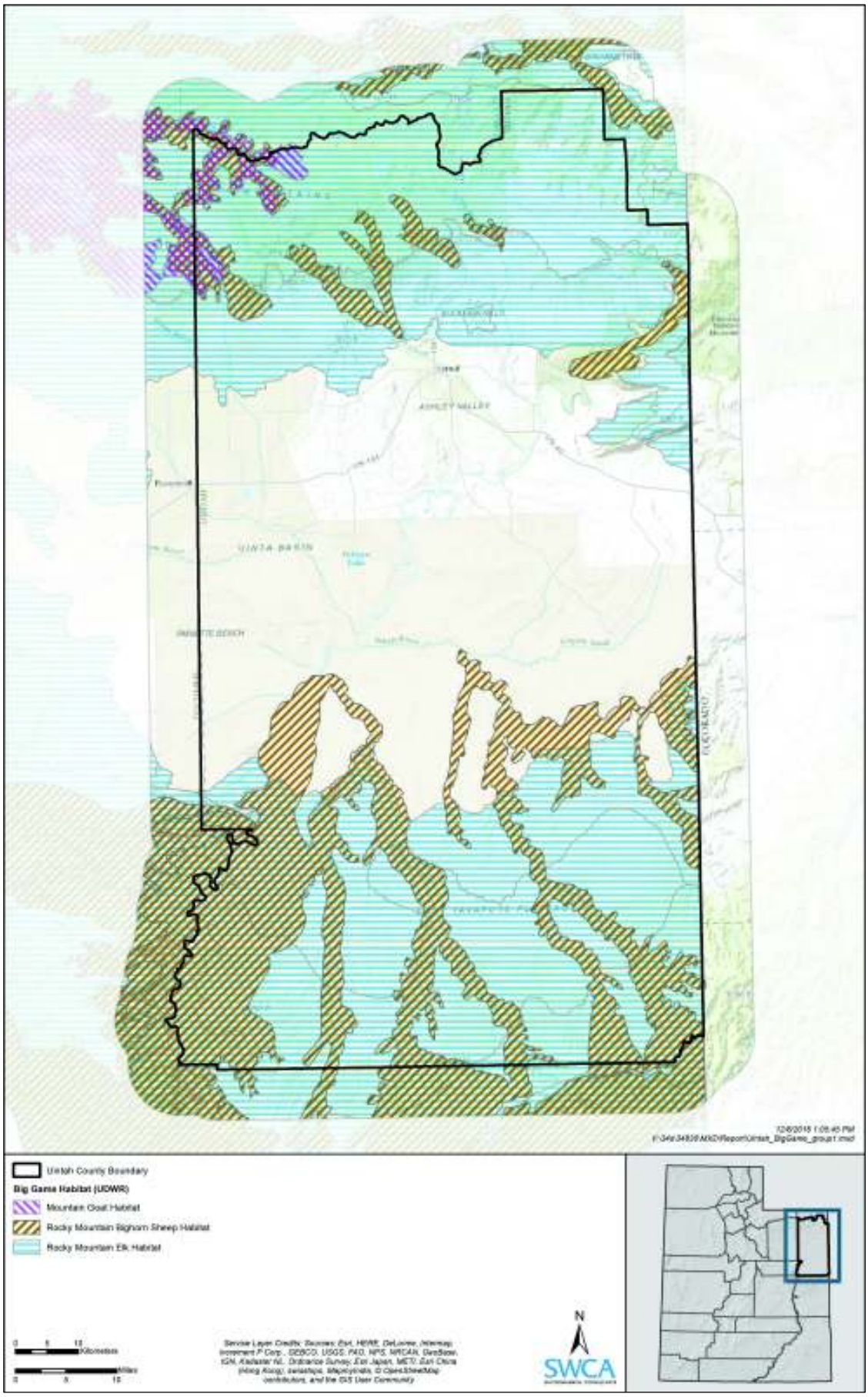

Figure WLD8. Big-game habitat in Uintah County (map 1 of 2)

This page intentionally blank

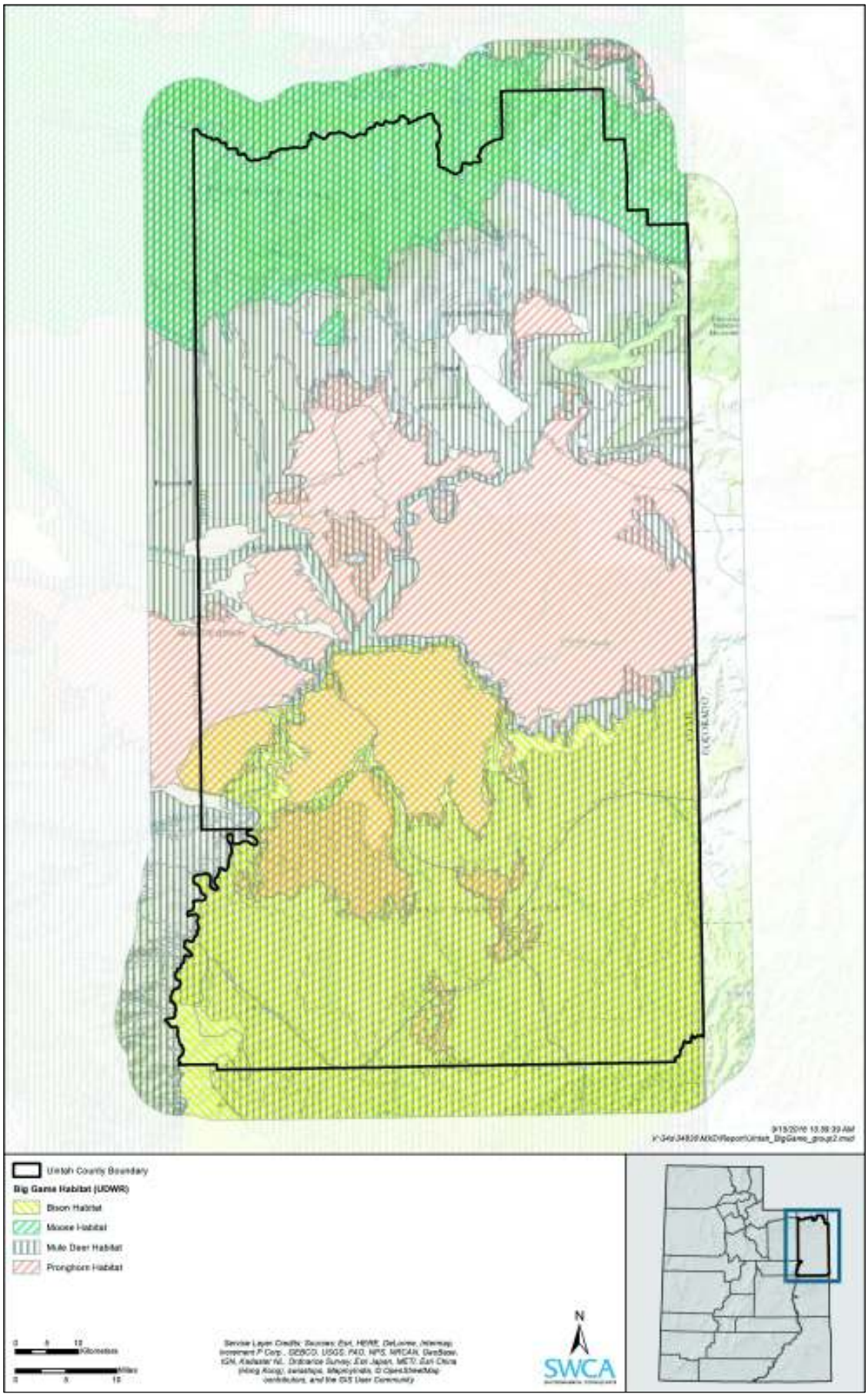

Figure WLD9. Big-game habitat in Uintah County (map 2 of 2)

This page intentionally blank