

COMBINED SPECIAL MEETING/WORK SESSION AGENDA

**CITY COUNCIL COMBINED SPECIAL
MEETING/WORK SESSION
TUESDAY
NOVEMBER 12, 2019**

**COUNCIL CHAMBERS
211 WEST ASPEN AVENUE
6:00 P.M.**

SPECIAL MEETING

1. Call to Order

NOTICE OF OPTION TO RECESS INTO EXECUTIVE SESSION

Pursuant to A.R.S. §38-431.02, notice is hereby given to the members of the City Council and to the general public that, at this work session, the City Council may vote to go into executive session, which will not be open to the public, for legal advice and discussion with the City's attorneys for legal advice on any item listed on the following agenda, pursuant to A.R.S. §38-431.03(A)(3).

2. Pledge of Allegiance and Mission Statement

MISSION STATEMENT

The mission of the City of Flagstaff is to protect and enhance the quality of life for all.

3. ROLL CALL

NOTE: One or more Councilmembers may be in attendance telephonically or by other technological means.

MAYOR EVANS
VICE MAYOR SHIMONI
COUNCILMEMBER ASLAN
COUNCILMEMBER MCCARTHY

COUNCILMEMBER ODEGAARD
COUNCILMEMBER SALAS
COUNCILMEMBER WHELAN

4. Public Participation

Public Participation enables the public to address the council about items that are not on the prepared agenda. Public Participation appears on the agenda twice, at the beginning and at the end of the work session. You may speak at one or the other, but not both. Anyone wishing to comment at the meeting is asked to fill out a speaker card and submit it to the recording clerk. When the item comes up on the agenda, your name will be called. You may address the Council up to three times throughout the meeting, including comments made during Public Participation. Please limit your remarks to three minutes per item to allow everyone to have an opportunity to speak. At the discretion of the Chair, ten or more persons present at the meeting and wishing

to speak may appoint a representative who may have no more than fifteen minutes to speak.

5. **Consideration of Appointments:** Building & Fire Code Board of Appeals.

STAFF RECOMMENDED ACTION:

Make one appointment to a term expiring in October 2022.

6. **Adjournment**

WORK SESSION

1. **Call to Order**

NOTICE OF OPTION TO RECESS INTO EXECUTIVE SESSION

Pursuant to A.R.S. §38-431.02, notice is hereby given to the members of the City Council and to the general public that, at this work session, the City Council may vote to go into executive session, which will not be open to the public, for legal advice and discussion with the City's attorneys for legal advice on any item listed on the following agenda, pursuant to A.R.S. §38-431.03(A)(3).

2. **Review of Draft Agenda for the November 19, 2019 City Council Meeting**

Citizens wishing to speak on agenda items not specifically called out by the City Council may submit a speaker card for their items of interest to the recording clerk.

3. **Flagstaff Arts Council – Annual Update**

4. **Sidewalk Program Discussion**

5. **Discussion about the life of the landfill, composting and organic waste**

6. **Legally Designated Open Space Management Plan - McMillan Mesa Natural Area Management Chapter:**

Staff will provide a summary of the McMillan Mesa Natural Area Management drafted with community input for the administration of the voter approved open space property.

7. **Discussion of Potential City Council Flag Policy**

8. **Public Participation**

9. **Informational Items To/From Mayor, Council, and City Manager; future agenda item requests**

10. **Adjournment**

CERTIFICATE OF POSTING OF NOTICE

The undersigned hereby certifies that a copy of the foregoing notice was duly posted at Flagstaff City Hall on _____,
at _____ a.m./p.m. in accordance with the statement filed by the City Council with the City Clerk.

Dated this _____ day of _____, 2019.

Stacy Saltzburg, MMC, City Clerk

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To: The Honorable Mayor and Council
From: Stacy Fobar, Deputy City Clerk
Date: 11/07/2019
Meeting Date: 11/12/2019



TITLE:

Consideration of Appointments: Building & Fire Code Board of Appeals.

STAFF RECOMMENDED ACTION:

Make one appointment to a term expiring in October 2022.

Executive Summary:

The Building & Fire Code Board of Appeals consists of seven citizens serving five-year terms. The Building and Fire Code Board of Appeals holds hearings as needed on appeals related to the application and interpretation of City building and fire codes. The Board of Appeals has no authority to waive requirements of the code.

There are currently two vacancies on the Board with one application. The Board currently has five members and a case to review. However, two members of the Board have a conflict of interest in the case so there is not a quorum of members without an additional appointment. By making this appointment, the Board may hear the case and proceed with a quorum of members.

There is one application on file for consideration by the Council as follows:

Bill Hastings (new applicant)

In an effort to reduce exposure to personal information the applicant roster and applications will be submitted to the City Council separately. The applicant has been contacted and verbally confirmed that he would like to be considered for the appointment.

COUNCIL APPOINTMENT ASSIGNMENT: Councilmember Whelan

Financial Impact:

These are voluntary positions and there is no budgetary impact to the City of Flagstaff.

Policy Impact:

Not applicable.

Connection to Council Goal, Regional Plan and/or Team Flagstaff Strategic Plan:

There is no Council goal that specifically addresses appointments to Boards and Commissions; however, boards and commissions provide input and recommendations based on City Council goals that may pertain to the board or commission work plan.

Has There Been Previous Council Decision on This:

None.

Community Benefits and Considerations:

The City's boards, commissions, and committees were created to foster public participation and input and to encourage Flagstaff citizens to take an active role in city government.

Community Involvement:

INFORM: The vacancies are posted on the City's website and individual recruitment and mention of the opening by Commission members and City staff has occurred, informing others of this vacancy through word of mouth as well as postings on the City's social media.

Attachments: Bldg & Fire Code BOA Authority

CHAPTER 2-02 BUILDING AND FIRE CODE BOARD OF APPEALS

SECTIONS:

- 2-02-001-0001 GENERAL
- 2-02-001-0002 MEMBERSHIP OF BOARD
- 2-02-001-0003 OFFICERS
- 2-02-001-0004 SECRETARY
- 2-02-001-0005 LEGAL COUNSEL
- 2-02-001-0006 MEETINGS/HEARINGS
- 2-02-001-0007 RULES AND PROCEDURES
- 2-02-001-0008 STAY OF APPEAL
- 2-02-001-0009 BOARD DECISION

2-02-001-0001 GENERAL

A. In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The Board of Appeals shall be appointed by the City Council and shall hold office at its pleasure.

B. Authority.

1. An application for an appeal shall be based on a claim that the true intent of the applicable code or the rules legally adopted thereunder have been incorrectly interpreted; the provisions of the applicable code do not fully apply or an equally good or better form of construction is proposed. The Board has no authority relative to interpretation of the administrative provisions of the applicable code nor shall the board be empowered to waive its requirements.

C. Application.

1. The application for appeal shall be filed on a form obtained from the code official within ten (10) days after the notice was served, and shall be accompanied by a non-refundable fee as established in the City's fee schedule. (Ord. 2011-31, 01/03/2012)

2-02-001-0002 MEMBERSHIP OF BOARD

A. The Board of Appeals shall consist of seven (7) individuals, serving three (3) year staggered terms, appointed by the Council who are qualified by experience and training

to pass upon matters pertaining to building construction and pertinent matters of the Fire Code, Chapter 5-02.

B. The Building Official and Fire Marshal shall be ex officio members of said Board but shall have no vote on any matter before the Board.

C. A quorum shall consist of four (4) voting members of the Board.

D. Citizen members of the Board may be removed by the Mayor and Council for inefficiency, neglect of duty or malfeasance in office or in accordance with the Board and Commission Members' Rules and Operations Manual adopted by resolution of the City Council. (Ord. 2011-31, 01/03/2012; Ord. 2014-28, Amended, 11/18/2014; Ord. 2016-30, Amended, 07/05/2016)

2-02-001-0003 OFFICERS

The Board shall annually select one of its voting members to serve as Chairperson and one voting member to serve as Vice-Chair. (Ord. 2011-31, 01/03/2012)

2-02-001-0004 SECRETARY

The Community Development Director shall designate a qualified clerk to serve as secretary of the Board. The secretary shall file a detailed record of all proceedings in the office of the City Clerk. (Ord. 2011-31, 01/03/2012)

2-02-001-0005 LEGAL COUNSEL

The City Attorney's Office shall make available legal counsel to the Board to provide members with general legal advice concerning matters before them for consideration. (Ord. 2011-31, 01/03/2012)

2-02-001-0006 MEETINGS/HEARINGS

All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official(s) and any person whose interest are affected shall be given an opportunity to be heard.

A. The Board shall meet upon notice from the Chairperson or Vice-Chairperson within twenty (20) days of the filing of an appeal.

B. A member shall not hear an appeal in which that member has a personal, professional or financial interest.

C. Hearing Procedures:

1. The Board shall adopt and make available to the public through the ex-officio building official procedures under which a hearing will be conducted. The procedures shall not require strict compliance with strict rules of evidence, but shall mandate that only relevant information be received. (Ord. 2011-31, 01/03/2012)

2-02-001-0007 RULES AND PROCEDURES

Official business shall be conducted pursuant to the Board of Appeals' adopted hearing procedures and the Board and Commission Members' Rules and Operations Manual adopted by Resolution No. 2014-37 of the City Council and in accordance with meeting procedures, if any, adopted by the Commission insofar as they are not in conflict with the Board and Commission Members' Rules and Operations Manual. In the event of any such conflict, the provisions of the Board and Commission Members' Rules and Operations Manual shall prevail. (Ord. 2011-31, 01/03/2012; Ord. 2014-28, Amended, 11/18/2014)

2-02-001-0008 STAY OF APPEAL

During the pendency of the request to the Board, the decision appealed will be stayed unless the fire marshal or building officer determines that a stay would create or allow the continuance of a substantial hazard threatening the lives or property of persons other than the appellant. (Ord. 2011-31, 01/03/2012)

2-02-001-0009 BOARD DECISION

- A. The Board shall affirm, modify or reverse the decision of the code official by affirmative votes of the majority present, but not less than three, shall be required.
- B. The decision of the Board shall be by written decision issued no later than 30 (thirty) days following the last hearing. Certified copies shall be furnished by the appellant and to the code official. (Ord. 2011-31, 01/03/2012)

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To: The Honorable Mayor and Council

From: Eliza Kretzmann, Beautification, Arts & Sciences Manager

Date: 11/07/2019

Meeting Date: 11/12/2019



TITLE:
Flagstaff Arts Council – Annual Update

DESIRED OUTCOME:

Council to hear a presentation by the Flagstaff Arts Council (FAC) Director, discuss, and provide feedback as warranted.

EXECUTIVE SUMMARY:

The City of Flagstaff contracts with the FAC to provide services for the arts, science, and culture segments of the community. Funded by local tax dollars generated by the hospitality industry (hotels, restaurants, and bars), it serves as a lead agency in the administration of grants to arts, science, and culture organizations and projects.

Annually, the FAC reports to the City Council regarding their enterprises under the contract. This year's update will include information about managing the Coconino Center for the Arts, current programs, and the recently launched strategic planning effort for arts in Flagstaff.

This year, \$360,000 was granted to 43 organizations and projects. By contract, the FAC also receives 15% percent of the grant amount for managing the funding process and an additional \$35,000 for acting as the local arts, culture, and science agency in the community.

INFORMATION:

This update relates to the following Council goals:

ECONOMIC DEVELOPMENT: Grow and strengthen a more equitable and resilient economy.

COMMUNITY OUTREACH: Enhance public transparency and accessibility.

Attachments: Power Point Presentation



**FLAGSTAFF
ARTS
COUNCIL**

Celebrating 20 Years



Annual presentation to
City of Flagstaff City Council
Tuesday, November 12, 2019
Jonathan Stone, Executive Director

Pictured: CCC Comet Art Gallery Opened in May
Credit: Gabriel Granillo, Arizona Daily Sun



Agenda

1. Brief Flagstaff Arts Council Overview
2. Art & Science Fund
3. Accomplishments since our last presentation in November 2017
4. Flagstaff 2030: a vision for art, science, and culture

Local Arts (& ___) Agencies

- 4,500 local arts agencies in the United States.
- 70% are nonprofit entities, like Flagstaff Arts Council.
- Majority operate grant programs, like Flagstaff's Art & Science Fund.
- 50% have adopted a diversity, equity, and inclusion statement.
- 47 percent work in communities that have integrated the arts into a community-wide planning effort such as a city's master plan or a foundation's regional needs assessment.

Flagstaff has an opportunity to build on its successes and be a national arts and ___ leader.

*Based on Americans for the Arts 2018 Profile of Local Arts Agencies

About Flagstaff Arts Council

Mission: To promote, strengthen and advocate for the arts in our community.

- Flagstaff's Art, Science, & Culture Agency
- Operator of Coconino Center for the Arts
- Formed in 1999 as Flagstaff Cultural Partners from CCC, NAU, City, County, Chamber, & FUSD leadership.
- 4.5 FTE Paid Staff & 20 Board Members

Our Current Programs

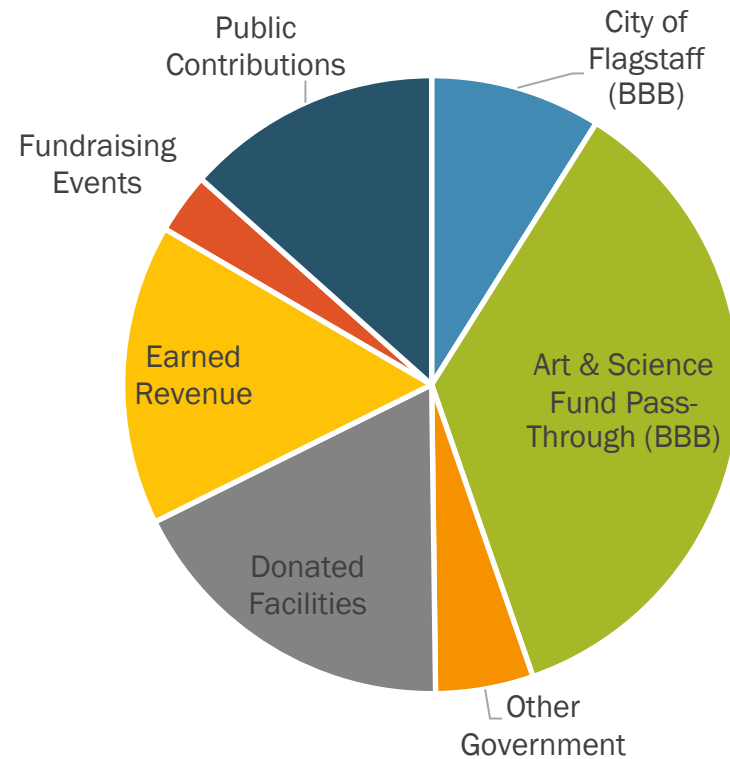
- Vision 2030
- Viola Awards
- Art & Science Grants (BBB)
- Nonprofit planning, training, & coordination
- First Friday ArtWalk
- Annual Rug Auction
- Economic Impact Studies
- Flagstaff365.com
- Coconino Center for the Arts Operations & Programming



Current FY Budget: \$1,008,000

Includes \$360,000 Art & Science Fund pass-through and \$180,000 in-kind lease from Coconino County

Income



Expenses



*includes estimated payroll and facilities allocations

A nighttime photograph of the Lowell Observatory Open Deck. The scene is dimly lit, with the primary light source being the ambient light from the observatory building and some ground-level lighting. In the background, the Lowell Observatory building is visible, featuring a large, curved, arched roof. The foreground and middle ground are filled with people, mostly seen as silhouettes, who are gathered around various astronomical instruments. On the left, there is a large, complex telescope structure. To the right, a group of people is standing near a smaller, more compact instrument. The overall atmosphere is one of quiet observation and scientific activity. The text "Art & Science Fund" is overlaid in the center of the image in a large, white, sans-serif font.

Art & Science Fund

Giovale Open Deck Observatory at Lowell Observatory Opened Fall 2019

Grant Program Overview

Current Award Year

- \$360,000 in awards
- \$721,000 in requests
(largest ever, 605k last year)
- 54 Grant Recipients
 - 25 General Operating Support Grants
 - 24 Project Grants
 - 5 Alternate Year General Operating Support Grants

Moving Forward

- New grant application system
(same as Arizona Commission on the Arts)
- Evaluating modest updates to criteria and application questions.
 - Reflect Vision 2030 values
 - Emphasis on impact and sustainability
- Need to evaluate how to support continued growth in demand

FY19-20 Grant Recipients

General Operating Support

- Alpine Community Theater
- Arizona Historical Society
- Artists Coalition of Flagstaff
- Ballet Folklorico de Colores
- Canyon Movement Company
- Capoeira Amizade
- Dark Sky Aerial
- Elden Pueblo
- Flag Shakespeare Festival
- Flagstaff Community Band
- Flagstaff Festival of Science
- Flagstaff Friends of Traditional Music
- Flagstaff Light Opera Company
- Flagstaff Symphony Orchestra
- Flagstaff Youth Chorale
- Grand Canyon Guitar Society
- Heritage Square Trust

- Human Nature Dance Theatre
- Living Traditions Presentations
- Lowell Observatory
- Master Chorale of Flagstaff
- Museum of Northern Arizona
- Northern Arizona Book Festival
- Northern Arizona Celtic Heritage Society
- Orchestra of Northern Arizona
- The Arboretum At Flagstaff
- Theatrikos
- USA Dance
- Willow Bend

Project Support

- Ballet Folklorico de Colores
- Coconino Community College

- Episcopal Church of the Epiphany - Art in Action
- Flag Wool and Fiber
- Flagstaff Arts Music and Education (FAME)
- Flagstaff Dark Skies Coalition
- Flagstaff Mountain Film Fest
- Flagstaff Shakespeare Festival
- Flagstaff Symphony Orchestra
- Grand Canyon Salsa Festival
- Hozhoni Foundation, Inc.
- Lowell Observatory
- Northern Arizona Pride Association
- Northern Arizona University - CAL
- Southside Community Association
- Theatrikos
- Tynkertopia



<< International Peace Day Celebration with
Capoeira Amizade Flagstaff
FY20 Award \$3,000

Grant Highlights

BEHIND: Festival of Science Keynote
Speaker General Charlie Duke Apollo 16
Astronaut
FY20 Grant Award \$10,000

The Curious Incident of the Dog in the
Night-Time, Theatrikos >>

*Theatrikos received largest FY20 grant
award of \$33,000 for GOS and Project*

Credit: Becky Daggett





Recent Highlighted Accomplishments

Hidden Landscapes: Yasuaki Onishi was on display at
Coconino Center for the Arts September & November 2018

Facility Feasibility Study

Study Details

- Released August 2018
- Includes:
 - Draft Consultant Report
 - FAC Cover Letter and Recommended Plan of Action
- Engagement:
 - Year-long process.
 - Dozens participated in surveys and public meetings.

Recommended Plan of Action

1. Convene coalition of arts, culture and science non-profit organizations in Flagstaff.
2. Multi-site approach.
3. Explore splitting Council into two organizations.
4. Develop and test fundraising and operational models.
5. Explore public funding initiatives.

Coconino Center for the Arts Renovations

- \$60,000+ invested August to today
 - Includes \$40,000 in equipment and materials.
- Renovated Gallery / Concrete Floors
- Audio Visual System in Theater
- Renovated Lobby & Front Desk
- New Meeting Space
- Modern Office Spaces



11th Annual Viola Awards

Awards

Legacy – Mac Groves

Legacy – SD Nelson

Arts Education

Emerging Artist

Music

Performing Arts

Science Education

Storytelling

Visual Arts

Community Impact – Organization

Community Impact – Individual



A group of people, including an older woman in the foreground, are gathered in a gallery or museum. They are looking at a large wall display covered with many yellow sticky notes. The word "INCLUDE" is visible in large letters on the wall. The scene is dimly lit, with the focus on the people and the wall display.

Flagstaff 2030

A vision for art, science, and culture

Vision 2030

Purpose

- Why? “Flagstaff” inspires us.
- Address key themes from board retreat.
- Need to establish broad context to support multi-stakeholder goals.
- Last cultural landscape study completed before 2000.
- 10-year context supports 5-year strategic plan.

Process

- Board Retreat – Completed April 2019
- Strategic Planning Committee – Ongoing
- Community Visioning Session – Completed October 2019
- Compilation of Existing Research – Ongoing
- Community-wide Survey – Scheduled November/December 2019
- Initial roundtable meetings – January 2020
- Ongoing roundtables and outreach – January and February 2020
- Vision unveiling at Viola Awards – March 2020.

3 Pillars

Support

A dynamic creative ecosystem supports a strong economy and sense of place.

Pictured: Flame Performers at Downtown Friday Nights

Inspire

Flagstaff is at the intersection of art, science, and culture.

Pictured: A New HOPI R2, Museum of Northern Arizona

Include

The mountain is a gathering place.

Credit: U.S. Forest Service/Cocorino National Forest

Take-Aways from Community Visioning

- Nearly 90 attended.
- Strong emphasis on community and sense of place.
- Palpable excitement around the intersection of art and science.
- Universal agreement that more needs to be done to address cultural equity and consciousness.



Questions? Discussion.

- What matters most to you as we move forward with our vision plan?
- How do you want to be included as we finalize our vision and strategic plan?
- Would you consider formal acknowledgement of resulting vision and goals?
- When do you feel most connected to your community? What is the role of creative expression?

Please feel free to contact me at:

Jonathan Stone

jstone@flagartscouncil.org

928-779-7019

Appendix

About Flagstaff Arts Council

- Formed in 1999 as Flagstaff Cultural Partners; became Flagstaff Arts Council in 2014.
- Reopened Coconino Center for the Arts in 1999.
- Held contract with City since July 2000.
- Administered Art & Science Fund since 2001.

Mission

The Flagstaff Arts Council promotes, strengthens and advocates for the arts in our community.

Vision

Flagstaff is a vibrant arts community.



FAC Leadership

Flagstaff Arts Council was born from Flagstaff Chamber of Commerce and Flagstaff Art & Science Commission leadership.

Our board represents 15 at-large members in addition to permanent board seats from CCC, NAU, FUSD, City, County, and the Chamber.

Officers

President

Karl Eberhard

Vice-President

Kimberly Batty-Herbert (CCC)*

Past President

Dorlee Henderson

Secretary

Kathy Bryant

Treasurer

Ron Borkan

Directors

Jillian Asplund

Matt Beaty

Susan Brown (Coconino County)*

Patrick Gamble (Chamber)*

Susie Garretson

Ingrid Lee

Terry Madeksza

Michael Marquess

Paul Moore

Mike Penca (FUSD)*

Paula Rice

Rich Rummel

Todd Sullivan (NAU)*

Stanley Sutherland

Jessica Young (City of Flagstaff)*

Non-Voting

Jonathan Stone, Executive Director

James Jayne (County Manager)

Greg Clifton (City Manager)

*Indicates founding ex-officio seat.

About The Presenter



Jonathan Stone
MBA, MSIS, BARCH, LEED AP

Education

- Bachelor of Architecture from Boston Architectural College
- Master of Business Administration from Boston University
 - Emphasis on nonprofit management, marketing, and branding
- Master of Information Systems from Boston University

Professional Experience

- Managed architecture projects in Baltimore and Boston
- Executive Director of Downtown Oregon City Association
 - Winner of 2018 Great American Main Street Award
- Founding Board Member & Treasurer, Willamette Falls Trust
- Board Member, Willamette Falls & Landings Heritage Area
 - Currently in pursuit of first national heritage area designation in western U.S.
- Board Member, Oregon City Chamber of Commerce
- Former small business owner

Budget By the Numbers

Revenue

Art & Science Fund (w/pass-through)	\$415,000
Donated Facilities (County)	\$180,000
Public Contributions & Membership	\$135,000
Program Revenue	\$122,000
Other Govt. Grants	\$52,000
Other Earned Revenue	\$37,000
City of Flagstaff Art Agency Contract	\$35,000
Net Fundraising Events	\$32,000
Total Revenue	\$1,008,000
Allocation to Strategic Reserve	(\$36,000)
	\$972,000

Functional Expenses

Art & Science Grant Awards	\$360,000
Personnel	\$241,000
Occupancy (inc. donated facility)	\$193,000
Office, Admin, Information Tech.	\$34,000
Professional Services	\$30,000
Advertising & Marketing	\$24,000
Partnerships/Co-Promotion	\$22,000
Other Expenses	\$23,000
Travel, Meetings, Hospitality	\$19,000
Program Expenses (Other)	\$13,000
Depreciation	\$13,000
Total Expenses	\$972,000

Support.

A DYNAMIC CREATIVE ECOSYSTEM SUPPORTS A STRONG ECONOMY AND SENSE OF PLACE.

Flagstaff is home to a vast network of artists, creators, makers, critical thinkers, inventors, explorers, and observers. The arts and sciences generate more than \$90 million in economic activity per year.

We believe in change-makers who work together to increase the vitality of our city.

Our opportunity is to elevate the importance of the creative sector to be a primary driver of our economy.

Inspire.

FLAGSTAFF IS AT THE INTERSECTION OF ART, SCIENCE, AND CULTURE.

Pluto was discovered here and we continue to preserve our magnificent night sky. Our biggest museum was founded by an artist and a scientist. In 2012, we became America's first STEM (science, technology, engineering, math) City.

We believe in the magic of discovery and the power of collaboration.

Our opportunity is to turn the next generation of critical thinkers into critical makers.

Include.

THE MOUNTAIN IS A GATHERING PLACE.

People have gathered at the base of San Francisco Peaks for time immemorial. Throughout modern history, Flagstaff has evolved from a community rooted in the forest economy to a world-class destination with a top-notch university.

The experiences and traditions of all that call this region home should be celebrated.

Our opportunity is to provide informed, authentic leadership for cultural equity, pursue cultural consciousness within our community, acknowledge and dismantle inequities within our organization and inspire others to do the same.

**CITY OF FLAGSTAFF
STAFF SUMMARY REPORT**

To: The Honorable Mayor and Council
From: Scott Overton, Streets Section Director
Date: 11/07/2019
Meeting Date: 11/12/2019



TITLE**Sidewalk Program Discussion****STAFF RECOMMENDED ACTION:**

Discuss Sidewalk Ordinance and provide direction for upcoming ordinance revisions.

EXECUTIVE SUMMARY:

In the City of Flagstaff there is over 270 miles of existing sidewalk. City of Flagstaff planning and regulatory documents emphasize the value of a walkable community and the desire to encourage multi-modal transportation and alternatives to the motor vehicle.

City sidewalks are in various states and conditions citywide; many locations are passable and in good condition. Neighborhoods that have more significant issues are a result of age, poor soil conditions, vegetation and tree encroachments, severe degradation of surfaces and/or the vertical displacement of panels as a result of freeze-thaw cycles. Repair techniques, treatment types and methods will often vary with the various issues; grinding, cutting or panel replacement are common in all communities.

The work session presentation and discussion will provide the background of the ordinance and history of the sidewalk ordinance. Staff will discuss the program efforts of Summer 2019 and the work that was recently completed to address sidewalk issues and request some direction as to the responsibility of an adjacent property owner. This direction is invaluable and the base line for the ordinance revision moving forward.

In addition, we are seeking reaffirmation of direction to perform improvements to the paver surface beatification amenities in the downtown area.

INFORMATION:

Sidewalk Presentation is attached for preparation and review of the work session discussion.

Attachments: [Presentation](#)

Sidewalk Maintenance Program

Public Works – Street Section





Objectives of Worksession

- Provide a program update from Council discussion Spring of 2019 and review Ordinance #86
- Recap Summer 2019 successes and work program
- Discuss the upcoming ordinance revisions and request specific direction



Ordinance History

Ordinance #86 adopted on July 14, 1903



COCONINO SUN.

ORDINANCE No. 86.

To Provide for the Preservation, Repair and Renewal of Sidewalks and the Establishment and Enforcement of Liens for the Expense thereof.

BE IT ORDAINED, By the Common Council of the Town of Flagstaff as follows:

SECTION 1. It shall be the duty of the Street Supervisor to inspect all sidewalks, to keep informed as to the condition of the same, and whenever any sidewalk, or any portion thereof, shall be broken, decayed, or otherwise in bad condition or repair, he shall notify the owner or owners of the lot or lots or part of lot or lots adjoining such sidewalk or portion thereof, in writing, to repair or renew the same within fifteen days after the serving of such notice.

SEC. 2. Such notice may be served by the Street Supervisor, by personally delivering the same to such owner or owners, or by depositing the same in the U. S. postoffice at the town of Flagstaff, addressed to such owner or owners, at his or their last known place of residence, with the proper postage thereto affixed, and upon such delivery or deposit, as aforesaid, service of such notice shall be deemed completed.

SEC. 3. It shall be the duty of the owner or owners of such lot or lots, or portion of lot or lots, within fifteen days after the service of such notice as aforesaid, to place the sidewalk or portions of sidewalk in such notice mentioned or described in good condition and repair, using therefor material similar in character and dimensions to that with which such sidewalk was originally constructed; provided that if such sidewalk was originally constructed of wood with a top of boards or planks less than 2 inches in thickness, the same shall be renewed and completed in the manner following to-wit: with good surfaced lumber 2 inches in thickness and not more than 10 inches in width laid

NEW BRANDS APPLIED FOR.

The following brands and earmarks have been offered for record with the Live Stock Sanitary Board and are herewith advertised in order that cattlemen may be given an opportunity to protest against any that in their opinion conflicts with any existing irons.

This list will appear twice in this paper, and all applications will be withheld from record for 10 days after second publication. All communications to be addressed,

**LIVE STOCK SANITARY BOARD,
PHOENIX, ARIZONA.**

FG	∞	C—Left hip. H—Left thigh. Francisco Garcia, St. Johns, Ariz.
+>	∞	C—Left shoulder. H—Left thigh. W. F. Wallace, Flagstaff, Ariz.
+--+	∞	C—Right hip, ribs, shoulder and jaw. H—Left hip. Geo. J. Robinson, Williams, Ariz.
>	∞	C—Left hip. Katie Young, Young, Ariz.
4	∞	C—Left hip. E. E. Young, Young, Ariz.
R	∞	H—Left thigh. Pablo Herrera, Tucson, Ariz.
AG	∞	C—Left hip. H—Left thigh. Jose Ramirez, Nogales, Ariz.



Ordinance History

Amended in 1916 – Added language for Cement Sidewalks



To the Mayor and Council, town of
Flagstaff;
Gentlemen:

I do hereby submit bid for the construction of cement sidewalks as per advertisement hereto attached

All cement sidewalks 15 cts. per sq. ft.

All dirt cut and fill 60 cts. per cu. yd.

All rock cut \$1.25 per cu. yd.

All stone retaining wall \$2.75 a perch.

Respectfully submitted,
WM. J. MULLEN.



Ordinance History

Amended in 1989 – Revised to be complaint driven

ORDINANCE NO. 1610

AN ORDINANCE AMENDING FLAGSTAFF CITY CODE TITLE 8,
CHAPTER 1, PERTAINING TO SIDEWALKS.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF FLAGSTAFF AS
VS:

SECTION 1: That Title 8, Chapter 1, Sidewalks, of the Flagstaff City Code be
i to read as follows:

8-1-1: DUTY OF STREET SUPERINTENDENT: ~~It shall be the duty of the
Street Superintendent to inspect all sidewalks, to keep informed as to the
condition of the same and whenever any sidewalk or any portion thereof shall be
broken, decayed or otherwise in bad condition or repair, he~~

(A) It shall be the duty of the Street Superintendent to receive
and maintain a record of all complaints regarding sidewalks in
bad condition or need of repair. Upon receipt of said
complaint the Street Superintendent shall notify the owner or
owners of the lot or lots or part of lot or lots adjoining such
sidewalk or portion thereof, in writing, to repair or renew the
same within ~~fifteen (15)~~ thirty (30) days after the service of
such notice or as weather permits as determined by the
Street Superintendent.



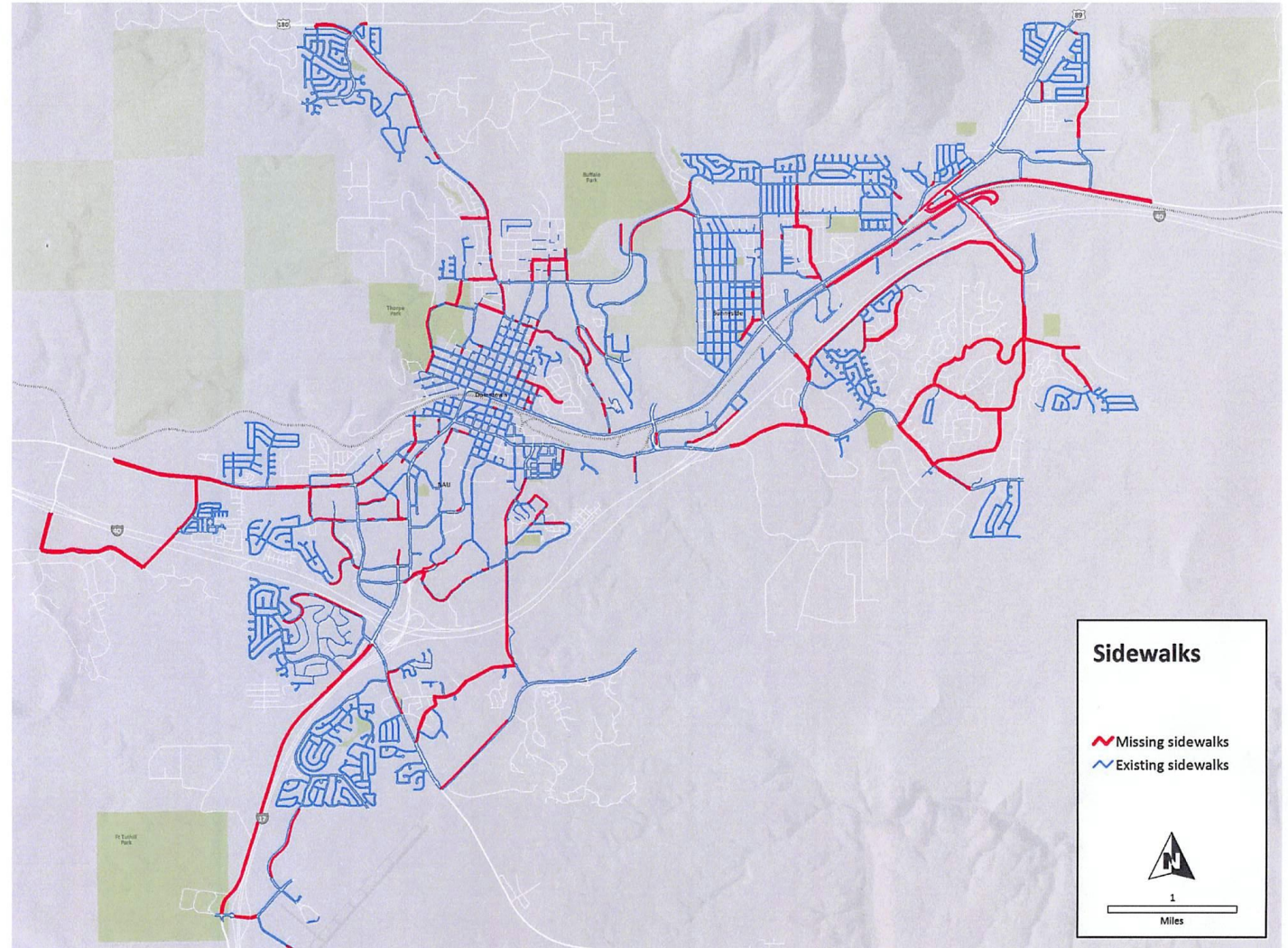
City Sidewalks



270 miles citywide

5.8 million sq. ft.

1/3 likely needing repair





2019 Summer Successes

- Road Repair Street Safety (RRSS) Sales Tax
 - 31,697 sq. ft. of Adjacent Sidewalk repairs completed
 - 7925 lineal feet of 4' sidewalk. \$394,762*
 - *engineering, traffic control, construction management, taxes not included in this number.
- Streets crew completed 20 minor replacement projects



2019 Summer



Fix 50 Pilot Program

- Identified 50 unique locations in Shadow Mountain
- 2 local on-call contractors provided bid for work
- Pricing was higher than RRSS costs per foot
- Fall temperatures are not conducive to the work
- Desired specific direction from City Council



Sidewalk Current Practice

-Responsibility for repair of damaged sidewalks.

- Adjacent Property Owner
 - 50% cost share at residential locations
 - 100% at commercial locations
- Pros: less direct cost to the City; consistent with other areas of code that place maintenance responsibilities (clearing snow, keeping clean and unobstructed) on adjacent property owner.
- Cons: inconsistent compliance, difficult to bundle and bid in timely fashion, delay in resolution, often ends up with city performing work anyway, work program is inefficient, RRSS locations are completed without property owner contributions and liens can be costly.



Sidewalk Key Policy Question

Should adjacent property owners be responsible for sidewalk replacements above and beyond general upkeep and cleaning?



Sidewalk Policy Questions

If Yes, ordinance revisions will include language to reflect the direction, provide repair specifications, delivery options, billing procedures and collection methods.

Consideration:

- Cost Share? Commercial/Residential?
- Timing, when shall the City make repair?
- Collections; direct billing or liens?
- RRSS adjacent property owners?



Sidewalk Policy Questions

If No, ordinance revisions will include language to reflect the direction, provide repair specifications, establish a city policy for inventory, scheduling and completing the work program.

Consideration:

- Contracted work program?
- Establish a city crew to complete?



Sidewalk Key Policy Question

Should adjacent property owners be responsible for sidewalk replacements above and beyond general upkeep and cleaning?

YES or No



Next Steps

- Ordinance Rewrite and 1st and 2nd Read in December
- Continue to inventory locations
- Develop work program for Spring of 2020
- Budget Consideration for Sidewalk Program FY21

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To: The Honorable Mayor and Council
From: Todd Hanson, Solid Waste Section Director
Co-Submitter: Dylan Lenzen
Date: 11/07/2019
Meeting Date: 11/12/2019



TITLE

Discussion about the life of the landfill, composting and organic waste

STAFF RECOMMENDED ACTION:

Provide staff with direction and feedback as to what other actions Council would like to see explored.

EXECUTIVE SUMMARY:

The Cinder Lake Landfill is a 343-acre municipal solid waste landfill providing disposal services to the City of Flagstaff and Coconino County. The City has operated the landfill since the late 1960s under a special use permit from the U.S. Forest Service. The Current anticipated final closure date is 2060.

This discussion will cover past, present, and future efforts to extend the life of the Landfill through various initiatives to divert waste from the Landfill thereby serving the community, protecting the environment, minimizing further capital expenditures, and keeping disposal costs low for residents. The focus of this discussion will be on efforts other than the City's existing curbside and commercial recycling program, which has been in place since the late 1990s has experienced minimal growth in participation.

Included in the discussion will be strategies for preventing and diverting organic waste, such as composting. Composting is recycling for organic material. It converts organic materials, like food waste and yard trimmings, into a valuable soil amendment that contributes to soil health and keeps organic wastes out of landfills.

INFORMATION:

Landfill Background

The Cinder Lake Landfill is a 343-acre municipal solid waste landfill providing disposal services to the City of Flagstaff and Coconino County. The City has operated the landfill since the late 1960s under a special use permit from the U.S. Forest Service. The Landfill receives an average of 385 tons per day of material. The Current anticipated final closure date is 2060 based on 3% growth, and 2070 based on 1% growth.

Currently there are only approximately 2,000 Solid Waste Landfills in the United States and the number is steady decreasing. Obtaining a site, permitting and construction of a new Landfill will cost 100's of millions of dollars. Current estimates range from 1-2 million dollars per acre. The Landfill is also home to the Hazardous Products Center which is forecasted to divert 66 tons of Household Hazardous Waste and 17,286 pounds of electronic waste from being buried in the Landfill this fiscal year.

Existing and past efforts to prevent and divert material from the landfill:

Composting pilot with NAU – This pilot program allows the City to test the collection of different streams of organic material within the community. It will start with the diversion of material from City parks and move to other streams, such as commercial food scraps and potentially yard waste from residential customers. Collecting and diverting these streams of organic waste could require new infrastructure and this pilot will allow us to explore those infrastructure needs.

Direct Recycling Outreach – Staff have begun to provide direct feedback on residents' recycling habits. When staff finds contamination in recycling carts, staff provides a tag informing them of what is incorrect. Our pilot studies have shown that this not only reduces contamination but increases the amount of recyclable items collected.

Implementation of Volumetric Pricing – In Spring 2020, staff plans to pilot the rollout of volumetric pricing, which allows residents to choose from more trash cart sizes with smaller sizes available at a lower cost.

Materials Recovery Facility (MRF) Study – With consultant help, staff are exploring options related to the expiration of the existing MRF contract. Included in these efforts are discussions with the Arizona Department of Environmental Quality and surrounding municipalities to utilize Flagstaff as a regional hub for the sorting of recyclables, which would increase the financial viability of the MRF.

Construction Waste Advisory Committee – For the past two years staff have been meeting with a group of construction contractors to explore strategies for diverting impactful construction and demolition waste material. Currently, the landfill is collecting clean concrete from demolition with the plan of using it as alternative daily cover or road base. The landfill has accumulated 200 tons of clean concrete so far.

Innovate Waste Challenge – This entrepreneurial competition seeks to promote end markets for waste produced in Flagstaff by offering cash prizes to fund the startup of viable business ideas that turn waste into a viable product or service. The second annual challenge will take place in Spring 2020.

Tarp System – In the summer of 2019, the Landfill implemented the use of a Geosynthetic cover (tarp) system for alternate daily cover. The advantages of tarps include using no airspace, minimal cost, speed of deployment and removal, and the fact that they are reusable. This operational change extended the life of the Landfill a minimum of five years.

Metals Recycling – Since 2006, approximately 3,700 tons of metal has been recycled at Cinder Lake Landfill. Approximately 1,300 customers have utilized this service.

Lumber Diversion – Since 2013 approximately 1,500 tons of lumber waste has been used as alternative daily cover. Approximately 2,500 customers have disposed of the product at the Landfill.

Future efforts:

Food Waste Prevention Programming – Even more important than composting is encouraging the reduction in edible food waste generated by individual consumers, as well as commercial kitchens. With the help of the Natural Resources Defense Council, staff are investigating the sources of food waste within Flagstaff. Based on this analysis, staff will develop programming to reduce food waste and encourage the donation of edible food to food security organizations.

Development of a Strategic Plan – Following the implementation of volumetric pricing, staff will develop a strategic plan to guide materials management efforts and lead to the achievement of goals identified in the Rethink Waste Plan.

Landfill Cell E Redesign – Cell E is currently designed to be 30 to 50 feet deep. However, it may be necessary to excavate 100 feet further down to realize cover material for future operations. This could result in an additional 10 years of Landfill Life with 3% growth. Not only would this give us more airspace, but it would also allow us to access the bedrock as a valuable revenue resource for regional transportation projects. This has been explored by staff and will be pursued when Cell's A, B, C and D are closer to capacity.

Attachments: [Presentation](#)

Life of Cinder Lake Landfill, Composting and Organics

November 12, 2019

Dylan Lenzen, Sustainability Specialist

Todd Hanson, Solid Waste Section Director





Outline

1. Background
 - Current expected life
 - Importance of extending
2. Previous initiatives
3. Existing efforts
4. Future strategy
5. Relationship to council goals



Background

Current closure date for entire landfill:

- Based on 3% growth – 2060
- Based on 1% growth – 2079

Grandfathered area (sequence A – C):

- Sequence B (current operating area) – approximately 7 years of Airspace*
- Sequence A and C – approximately 5 years of Airspace*

*based on 3% growth





Background

Importance of landfill life:

- A publicly-owned landfill provides a service to residents
- Landfills are costly assets
 - Maximize life of Landfill to delay future capital expenditures
 - Ultimately, this keeps disposal costs low for residents
- Goals of a privately-owned landfill may be different
 - Maximize use of the landfill to maximize revenue



Background

Importance of landfill life:

- Currently, there are approximately only 2,000 landfills in the United States
- Developing a new landfill is an extremely costly endeavor
- Flagstaff also has a Hazardous Products Center (HPC)
 - Located at and managed by the Landfill
 - Diversion of 66 tons of Household Hazardous Waste this year
 - Forecast to divert 17,286 lbs. of e-waste this year



Past Initiatives



Material Diversion

- SCA Tissue Paper Millings
 - Initiated in 1998 as a pilot
 - Since, we have used 600,000 cubic yards of paper millings in lieu of soil
 - Has provided us with 10 years of operational soil
 - Still hold approximately 50,000 cubic yards of the material that is utilized as necessary





Past Initiatives



Material diversion

- Metal recycling
 - 3,700 tons of metal has been diverted since 2006
- Lumber
 - 1,500 tons of lumber waste has been used as alternative daily cover.
- Clean Wood Chips
 - 4,000 tons of wood chips have been delivered to the landfill
 - Residents can use them for free





Current Initiatives



Material diversion

- Construction Waste Advisory Committee
 - Staff and local contractors have met for the past two years
 - Exploring strategies to divert construction and demolition waste
- Currently, piloting concrete collection
 - Landfill has accumulated 200 tons
 - This product will be used as alternative daily cover.





Current Initiatives

Composting pilot with NAU

- Allows the City to test the collection of different streams of organic material within the community
- Exploring what new infrastructure is needed to expand capacity

Innovate Waste Challenge

- Entrepreneurial competition that promotes end markets for Flagstaff's waste
- Offers cash prizes to fund the startup of viable business ideas that turn waste into a viable product or service
- The second annual challenge will take place in Spring 2020



Current Initiatives

Materials Recovery Facility (MRF) Study

- Staff is exploring options related to the expiration of the existing MRF contract (2023)
- Partnering with Department of Environmental Quality (ADEQ) and surrounding municipalities to explore Flagstaff as regional hub for sorting recyclables

Direct Recycling Outreach

- Staff has started providing direct feedback on residents' recycling habits
- Pilot studies have shown that this reduces contamination and increases amount of clean recyclables



Current Initiatives

Landfill Strategies

- Implement a Geosynthetic Cover (Tarp) system for Daily Cover
 - Tarps use no airspace
 - Using tarps has extended the life of the landfill at least 5 years
- New Cell Design Depth
 - Exploring a redesign of Cell E to 100' deeper than current design
 - Results in an additional 10 years of Landfill life





Background – Future Strategy

Food Waste Prevention Programming

- More important than composting is reducing the amount of edible food waste generated by individual consumers, as well as commercial kitchens
- Staff researching the sources of food waste within Flagstaff
- Based on analysis, staff will develop future programming, which could include:
 - Consumer behavior change campaigns to shop smarter and reduce waste
 - Outreach to commercial kitchens to encourage the donation of edible food to food security organizations



Background – Future Strategy

Volumetric Pricing

- In 2020, staff plans to pilot the rollout of volumetric pricing
- This program allows residents to choose from more trash cart sizes with smaller sizes available at a lower cost

Strategic Plan

- Following the implementation of volumetric pricing, staff will develop a strategic plan to guide materials management efforts
- Identify other initiatives necessary to achieve goals identified in the Rethink Waste Plan



Relationship to council goals

Rethink Waste Plan

- Achieving the goals of this plan will significantly extend the life of the landfill

Climate Action and Adaptation Plan

- Disposal of material in the landfill produces greenhouse gas emissions
- Diverting impactful materials like organic waste reduces emissions
- Reducing material consumption has an even greater impact on Flagstaff's environmental footprint

Questions



CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To: The Honorable Mayor and Council
From: Robert Wallace, Open Space Specialist
Co-Submitter: Nicole Antonopoulos
Date: 11/07/2019
Meeting Date: 11/12/2019



TITLE

Legally Designated Open Space Management Plan - McMillan Mesa Natural Area Management Chapter:

Staff will provide a summary of the McMillan Mesa Natural Area Management drafted with community input for the administration of the voter approved open space property.

STAFF RECOMMENDED ACTION:

Provide comment on the proposed McMillan Mesa Management chapter of the Legally Designated Open Space Management Plan. With City Council input the chapter will be brought back to City Council in early 2020 to be adopted into the Legally Designated Open Space Management Plan, which is the guiding document for managing the natural area within Flagstaff.

EXECUTIVE SUMMARY:

Community members and local organizations have advocated for the preservation of the greater McMillan Mesa area for decades. On November 8, 2016, approximately 86% of Flagstaff voters voted in favor of Proposition 413 – Campaign for a Greater Buffalo Park. Even though the current zoning allows for the passive recreation uses required by the proposition. The City Council approved the McMillan Mesa Natural Area major plan amendment (Resolution Number 2018-50) on Tuesday, October 16, 2018. The resolution went into effect on November 15, 2018. The rezoning application is currently in process, although the submission requires an unfunded cultural study. Given the situation of the budget and revenues in the general fund, the City is suggesting this cultural study is considered as part of the upcoming budget process.

The land affected by Proposition 413 is zoned as Public Facilities and Rural Residential (as of March 2019), both of which permit “Outdoor Public Uses, General” and “Passive Recreation” as allowed uses (Zoning Code 10-40.30.030 and 10-40.30.060). Therefore, the City can plan and develop trails, trailheads, parking, and other amenities consistent with the initiative. According to the Ordinance, the City cannot sell the land or permit any of the other allowed uses under Public Facilities and Rural Residential. Therefore, it is protected as de facto conservation land given the development limitations. Staff surveyed the community to gather their input on how to manage the property. Over 400 community members provided input. Respondents indicated a

preference that developments/improvements be minimized, and that the property is kept as natural as possible. People stated that infrastructure, such as signage, trails, and restrooms be minimal. There was also an emphasis on maintaining the health of the ecosystem, protecting viewsheds, and preventing encroachment on the property. Based on community feedback, staff prepared the management plan to ensure proper and effective management, to provide continuity of management, and to form a framework for decision making.

INFORMATION:

Previous Council Input:

- March 2007: Open Spaces Commission and the Parks & Recreation Commission developed a common plan for the City owned properties on McMillan Mesa. City Council provided direction related to next steps.
- June 2007: Council considered the McMillan Mesa Public Properties Concept Plan prepared jointly for the Parks & Recreation Commission and the Open Spaces Commission. City Council provided feedback.
- November 2016: City Council approved Proposition 413 ballot measure for poll.
- October 2018: City Council approved the McMillan Mesa Natural Area major plan amendment (Resolution Number 2018-50).
- November 2018: McMillan Mesa Natural Area major plan amendment resolution went into effect.

Proposition 413:

Proposition 413 restricted the use of approximately 300 acres of City-owned property on McMillan Mesa to public open space and passive recreation (Initiative Number 2016-02). The results of the election were canvassed and approved by Resolution Number 2016-38 on November 28, 2016. The preservation of these lands was enacted through the voter initiative process and, therefore, can only be amended by the City Council if the proposed amendment furthers the original purpose of Proposition 413. Any substantive changes that do not further the purpose would have to go back to the voters. This provides the highest level of protection available.

Community Survey:

The community survey was open from March 29, 2018, through October 5, 2018. Staff received 366 responses to the community forum, 25 written comments, and approximately 20 verbal comments. 96% of participants reported using the FUTS trails and sidewalks to access the natural area, while 65% reported using the AZ Trail. When indicating what they most value about McMillan Mesa Natural Area, 41% selected recreational opportunities, 33% ecological resources, and 14% views of San Francisco Peaks. Community members indicated using the natural area for a wide variety of recreational activities:

- 91% walking/hiking
- 56% watching wildlife
- 54% biking
- 44% dog walking
- 43% running
- 22% cross country skiing
- 19% snowshoeing

Council Goals:

Actively manage and protect all environmental and natural resources

Goal OS.1. The region has a system of open lands, such as undeveloped natural areas, wildlife corridors and habitat areas, trails, access to public lands, and greenways to support the natural environment that sustains our quality of life, cultural heritage, and ecosystem health.

Goal CC.2. Preserve, restore, and rehabilitate heritage resources to better appreciate our culture.

Goal REC.1. Maintain and grow the region's healthy system of convenient and accessible parks, recreation facilities, and trails.

Attachments: • Legally Designated Open Space Management Plan Presentation
• McMillan Mesa Management Chapter

Management Plan for Legally-Designated Open Space Properties

March 2017



View of the San Francisco Peaks from Observatory Mesa © Tom Bean

Prepared By:
City of Flagstaff Open Space Program
211 W. Aspen Avenue
Flagstaff, Arizona 86001



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Executive Summary

The City of Flagstaff's Open Space Program was founded in 1998 as an outgrowth of the Flagstaff Area Open Space and Greenways Plan. The Program exists to acquire and restore properties within the City of Flagstaff that have significant natural, cultural, and aesthetic properties in order to promote Flagstaff's quality of life and provide opportunities for outdoor recreation and education within the City.

In 2004, Flagstaff voters approved two separate open space bond initiatives, one dedicated to acquiring neighborhood open space and properties for the Flagstaff Urban Trail System and another bond dedicated to purchasing State Trust land on Observatory Mesa. These bond funds were leveraged against two separate Growing Smarter grants from Arizona State Parks to acquire 2,751 acres of legally-designated open space in 2012 and 2013 (Picture Canyon Natural and Cultural Preserve and Observatory Mesa Natural Area, respectively). As part of these acquisition processes, conservation easements were granted to Arizona State Parks to permanently preserve the conservation values of each of these properties (Appendices C and K).

Picture Canyon Natural and Cultural Preserve is a 478-acre Preserve that was inhabited by the Northern Sinagua between approximately 700 and 1300 A.D. Archaeologists have identified 29 cultural sites within the Preserve, some of which have been listed with the Arizona State Museum and National Register of Historic Places. Approximately 100 separate petroglyph panels with nearly 800 individual petroglyph images are pecked into the Canyon's walls and basalt boulders. Other significant cultural resources, including excavated pithouses and concentrations of pottery sherds are also located within the Preserve, making it an important cultural site for the northern Arizona region. Additionally, water supply from the adjacent Wildcat Reach Wastewater Treatment Plant supports a healthy riparian corridor along the Rio de Flag, providing habitat for over 180 bird species.

Observatory Mesa Natural area is a 2,251-acre natural amenity for northern Arizona, providing important habitat for wildlife traversing between the San Francisco Peaks and Mogollon Rim and serving as a popular recreation corridor for the community. Its proximity to Lowell Observatory makes it an important area for protecting Flagstaff's dark skies from light pollution. Additionally, due to the Mesa's location within City limits and proximity to multiple neighborhoods, it serves as a popular recreation area and a "neighborhoods" for local residents.

Picture Canyon and Observatory Mesa were purchased for the express purpose of preserving the unique conservation values associated with these properties, specifically their open space value, unique scenic beauty, native vegetative communities, diverse wildlife habitats, and

historical/cultural resources. The acquisition of these properties allows the City to protect these unique conservation values from potential threats, including encroachment from adjacent landowners, over-use of the property by the community, elevated fuel loads, illegal vehicle trespass, spread of invasive species, and development interests. As landowners, it is imperative that the City of Flagstaff manage legally-designated open space properties in a way that enhances natural resources and public experience on the property.

Open Space Program staff developed this management plan in partnership with stakeholders to provide a framework for managing the natural, ecological, historical, and recreational resources on legally-designated open space properties to minimize conflict and degradation. The plan identifies general management policies in Chapter 2, and specific resource- and property-related management goals, policies, and actions in each subsequent chapter.

The management prescriptions included herein apply to all lands managed by the Open Space Program. The plan is a dynamic document that will be updated and revised, as needed. The Priority Action Plans for each property will be updated biennially.

Overall Management Goals: There are 5 overarching management goals for legally-designated open space properties:

1. To maintain, restore, and enhance the natural ecosystem processes of these properties, including watershed health (including intermittent streams), forest structure, native plant communities, and rare habitat types.
2. To protect cultural resources present within these properties.
3. To maintain and protect diverse and healthy wildlife populations.
4. To provide opportunities for public use of these properties through passive recreational use, resource interpretation, education, scientific research, and other compatible activities in a manner that is consistent with the preservation of the conservation values of the site and the management goals.
5. To maintain and develop partnerships that facilitate resource management, stewardship, and conservation.

Plan Organization: This Management Plan is organized into 4 core sections to address the resources, uses, and values of these properties.

Chapter 1: Management Coordination

This section outlines the working relationship between the various stakeholders involved in the management of legally-designated open space properties and the roles associated with each of those groups.

Chapter 2: General Management Policies

This section outlines management goals, policies, and planned actions related to all properties managed by the Open Space Program, including its natural resources, archaeological and/or historic resources, and public use.

Chapter 3: Picture Canyon Natural and Cultural Preserve

This section outlines property-specific management goals, policies, and actions related to managing natural resources, archaeological and/or historic resources, and public use within the Preserve.

Chapter 4: Observatory Mesa Natural Area

This section outlines property-specific management goals, policies, and actions related to managing natural resources, archaeological and/or historic resources, and public use within the Natural Area.

1.0 Management Coordination

Introduction: The day-to-day operations of legally-designated Open Space properties are coordinated by the City of Flagstaff Open Space Program and supported by: (1) an internal City workforce; (2) the City of Flagstaff Open Spaces Commission; (3) Arizona State Parks; (4) Coconino National Forest; (5) the Flagstaff Police Department; (6) the Coconino County Sheriff's Office; (7) the Flagstaff Fire Department; (8) local organizations; and (9) volunteers.

Staffing: City staff will oversee all operations pertaining to but not limited to: (1) forest health; (2) policy enforcement; (3) volunteer efforts; (4) permitting; (5) resource management; (6) facility development; and (7) fiscal responsibilities. City Staff includes:

Open Space Specialist: The Open Space Specialist will provide resource management in accordance with the conservation values and regulatory requirements of the Open Space properties. The Open Space Specialist oversees, and directly implements or facilitates all management activities within the properties, including budgeting, planning, implementing, reporting, and monitoring. The Open Space Specialist coordinates with Parks, Real Estate, and community partners to establish property boundaries, install fencing, decommission existing roads, restore native vegetation, and provide signs throughout the properties. The Open Space Specialist also manages volunteer activities, such as invasive weed removal projects, community cleanups, and trail days, as well as coordinates community marketing, outreach, and education efforts. The Open Space Specialist position is housed in the Sustainability Section within the City of Flagstaff's Public Works Department.

The responsibilities of the individuals, organizations, and/or agencies involved in the management of these properties is as follows:

City of Flagstaff Internal Task Force: The Internal City Task Force will consist of members from City departments including: (1) Sustainability; (2) Fire; (3) Police; (4) Utilities; (5) Parks; (6) Planning; (7) Real Estate; and (8) Stormwater. This Task Force will meet quarterly to discuss issues related to the management of legally-designated open space properties.

City of Flagstaff Open Spaces Commission: The Open Space Commission consists of seven voting members – 6 Council-appointed members and a representative from the Planning and Zoning Commission. The Commission serves as an advisory body for the acquisition, management, use, restoration, enhancement, protection, and conservation of legally-designated open space properties. The Open Space Commission will provide guidance to the Open Space Program regarding management.

Arizona State Parks: As the recipient of an Arizona State Parks Growing Smarter Grant, the City of Flagstaff conveyed a conservation easement to Arizona State Parks that allows for passive recreation and requires reasonable public access. Arizona State Parks must approve all

infrastructure and improvement projects prior to each project. Additionally, the City is required to provide annual reports to Arizona State Parks explaining infrastructure and improvement projects and estimated visitation.

Coconino National Forest: Observatory Mesa Natural Area shares multiple property lines with Coconino National Forest. The City and National Forest will coordinate to ensure effective management of motor vehicle access, boundary issues, forest treatments, and grazing.

Flagstaff Police Department: The Flagstaff Police Department will provide police assistance in partnership with the Coconino County Sheriff's Office, including monitoring the area for illegal camping and vehicles during the summer season as part of the Woods Watch program.

Coconino County Sheriff's Office: The Coconino County Sheriff's Office will provide police assistance in partnership with the Flagstaff Police Department, including monitoring the area for illegal camping and vehicles during the summer season as part of the Woods Watch program.

Flagstaff Fire Department: The Flagstaff Fire Department will provide fire and emergency assistance within legally-designated open space properties. Flagstaff Fire Department will also develop site-specific prescriptions to improve forest health and implement/oversee forest treatment projects.

Local Organizations: City of Flagstaff Staff will coordinate with a myriad of local organizations to complete improvement projects on open space properties.

Volunteers: Volunteers will be utilized when appropriate. Tasks assigned to volunteers will be consistent with the skills and expertise of the individual and may include activities ranging from coordination of interpretive programs to trail maintenance.

2.0 General Management Policies

This section of the plan outlines the general management policies that apply to all legally-designated open space properties managed by the Open Space Program. Specific policies related to each property are outlined in their respective chapter (Chapter 3: Picture Canyon Natural and Cultural Preserve; Chapter 4: Observatory Mesa Natural Area).

2.1 Natural Resources

Effectively managing natural resources is one of the overall management goals for the Open Space Program. In most cases, the water, wildlife, vegetation, and geologic resources are important factors that supported acquisition of these properties. To ensure biological, physical, and visual resources are protected, the following management goals, policies, and planned management actions apply to all properties within the Open Space Program.

2.1.1 Water Resources

Management Goal: Legally-designated open space properties will be managed to maintain or improve surface and ground water quality, surface water flow, ground water levels, and overall watershed health, including any wetland and riparian zones.

Management Policies: The following policies apply to the management of water resources within legally-designated open space properties.

- Protect and enhance the surface and ground water resources, including springs, earthen tanks, and other wildlife waters, associated with the overall watershed.
- Prohibit activities and/or uses that materially diminish the quality, quantity, or duration of flow of surface or ground water.
- Manage forest resources sustainably, given their benefit to water resources (e.g. intercepting precipitation, stabilizing soils, and maintaining soil infiltration).
- Implement best management practices to protect, restore, and maintain surface waters and their contributing watersheds.
- Minimize erosion caused by run-off through forest restoration and stabilization projects.
- Maintain the City's right to surface and ground water resources present within the property and any additional lands that may be added to the area in the future.

Planned Management Actions: The following actions related to the management of water resources are planned.

- Consider replanting areas affected by forest fire with native plants.
- Periodically clean out earthen tanks and wildlife waters if their capacity is significantly diminished by sedimentation.
- Construct channel stabilization or retention/erosion prevention structures in drainages and along trails.
- Consider type (hand or mechanical) and extent (density, size, etc.) of any forest thinning operations in major drainages, and utilize established Best Management Practices to ensure timing and impacts are managed and mitigated appropriately.
- Limit mechanical operations (including forest thinning operations) within the riparian zone.

2.1.2 Vegetative Resources

Management Goal: Legally-designated open space properties will be managed to restore and enhance the native plant communities present on the site while also reducing invasive species populations.

Management Policies: The following policies apply to the management of vegetative resources within legally-designated open space properties.

- Prohibit livestock grazing within the boundaries of open space properties.
- Manage public use to levels that do not materially degrade or alter vegetative resources.
 - Public use will be consistent with reasonable public access, as outlined by the Arizona State Parks Conservation Easement.
 - If public access restrictions are undertaken to ensure vegetative health, Arizona State Parks and adjacent landowners will be notified.
- Consider sensitive plant species and area types when planning management activities to ensure populations and habitats are not negatively affected by projects.
- Enhance understory vegetative communities.

- Maintain the existing mosaic of native vegetative communities.
- Make boughs and herbaceous plant parts used for Native American religious and ceremonial purposes available under conditions that minimize restrictions, consistent with laws, regulations, and agreements with Tribes. This authorization does not include firewood.
- Prevent any new noxious or invasive weed species from becoming established.
- Eliminate noxious weeds wherever possible. When elimination is not possible, contain or control the spread of known weed species.
- Prioritize treatment and eradication of species and populations that are the most invasive and pose the greatest threat to the biological diversity and watershed condition.

Planned Management Actions: The following actions related to the management of vegetative resources are planned.

- Survey the property for sensitive plant populations and area types, including riparian communities, so they can be more effectively managed.
- Develop a monitoring plan for each property with specific monitoring protocols and indicators, including photography and surveys as analytical tools to determine the natural and extent of vegetative changes resulting from management prescriptions and programs (Appendices B and J).
- Routinely monitor noxious and invasive plant populations within these properties and utilize Early Detection and Rapid Response techniques to implement eradication programs before they develop substantial populations.
- Coordinate with community partners to organize invasive weed removal volunteer events.
- Implement native plant restoration programs or pilot projects to restore native plant communities and revegetate disturbed areas.
- Use environmentally responsible herbicides to prevent or suppress the spread of invasive weeds.

- Newly germinated weeds will be eradicated by applying herbicides and using other physical control methods.¹
 - Annual species are best treated in the spring soon after their emergence, whereas perennial species may be treated later in the growing season.
 - Mowing and early herbicide treatment will be timed to minimize seed production.
- Use biocontrol methods in coordination with experts that target non-native, invasive weed species only when the likelihood of success is high, and the anticipated ecological impacts are low.
 - Monitor and evaluate weed populations both pre- and post-treatment to determine success and develop future weed management strategies specific to the property.
 - Revegetate with native species where needed as part of restoration and other management activities.

2.1.3 Forest Health

Management Goal: Legally-designated open space properties will be actively managed to achieve a forest structure that is resistant and resilient to wildfire or other disturbances and continues to provide ecosystem services to the surrounding community.

Management Policies: The following policies apply to the management and improvement of forest health within these properties.

- Reduce the risk of catastrophic, stand-replacing wildfire on the property.
- Manage for a heterogeneous forest structure that ensures forest sustainability and resiliency.
- Manage for an uneven-age forest structure with clumps and groups of trees with some interlocking crowns and a multi-story structure, interspersed with openings and interspaces that more closely resembles conditions which existed prior to interruption of the historic fire regime.
- Improve understory productivity and diversity.

¹ Herbicides planned for use within the riparian area include: (1) Rodeo; (2) Habitat; (3) Garlon 3A; and (4) LI700 surfactant. Additional herbicides that could be used in the upland area of the project area are: (1) Round Up; (2) Milestone; and (3) Plateau.

- Maintain or enhance the unique aesthetic qualities, watershed values, recreational opportunities, wildlife habitat, native plant diversity, and other vegetative features.
- Manage public use to levels that do not materially degrade or alter the sites forest resources.
 - Public use will be consistent with reasonable public access, as outlined by the Arizona State Parks conservation easement.
 - If public access restrictions are undertaken to ensure forest health, Arizona State Parks will be notified.
- Reduce the risk of damage from insects and disease, unnaturally destructive wildfire, and subsequent post fire impacts such as flooding.
- Plan and implement forest health management activities in partnership with the Flagstaff Fire Department Wildland Fire Management division.
- Conduct forest treatment operations during conditions that protect soils and other ecological components.
- Plan and conduct any necessary forest treatments within major drainages so as to protect watershed resources.
- Consider and protect known and identified cultural, historical, and other sensitive resources during forest health management activities.
- Prohibit personal firewood collection.
- Plan, coordinate, and implement broadcast burning operations with Flagstaff Fire Department crews.
- Conduct forest management activities in accordance with:
 - Arizona State Parks Conservation Easement(s);
 - Arizona Antiquities Act (if thinning within established cultural sites);
 - Applicable sections of the Flagstaff Zoning Code, adopted by City Council November 1, 2011, including the Flagstaff Fire Department Firewise Process (Appendix 5.020)
 - Goals identified in the National Cohesive Wildland Fire Management Strategy:

- Resilient Landscapes
- Fire Adapted Communities
- Wildfire Response
- The Greater Flagstaff Community Wildfire Protection Plan (CWPP), adopted by City Council December 2004;
- The Governor's Statewide Strategy for Restoring Arizona's Forests, June 2007;
- Flagstaff Wildland Urban Interface Fire Code, adopted by City Council April 2008;
- The General City-wide Forest Stewardship Plan, Sept 2009;
- The Community Conversation on Sustainability, Healthy Forests – Healthy Communities, Nov 2010;
- Site specific vegetation management plan(s), if required.

Planned Management Actions: The following actions related to managing forest health are planned.

- Consult with the Flagstaff Fire Department, archaeologists, and other technical experts, to develop site specific prescriptions that reduce the risk of catastrophic wildfire and move stand conditions toward the natural range of variability along a path of forest restoration.
- Reintroduce low intensity surface fire as a natural part of the ecosystem.
- Reduce fuel buildup to help reduce the intensity and spread of unwanted wildfire.
- Retain live reserve trees, snags, downed logs, and woody debris levels throughout ponderosa pine forest cover types.
- Improve forest health by decreasing inter-tree competition, increasing individual tree growth and vigor, increasing age and size class diversity, reducing wildfire hazard, decreasing susceptibility to disease and insect mortality, increasing understory productivity and diversity, maintain and where possible, improve wildlife habitat.
- Communicate and/or notify adjacent landowners prior to implementing forest health treatment projects.
- Improve individual tree vigor and long-term forest health.

- Reduce overall stand densities and move stand conditions toward a forest structure more representative of pre-settlement fire regimes.
- Reduce mistletoe infection levels to endemic levels, where possible.
- Sustain a mosaic of vegetation densities (overstory and understory), size, age classes, and species composition across the landscape, including open forest and savanna conditions.
- Maintain near natural densities of snags, spike tops, lightning scarred trees, downed logs, and oaks.
- Develop cutting guidelines for each harvesting project to ensure appropriate trees are targeted for removal to meet management goals.
- Protect sensitive wildlife habitat during forest treatment operations.
- Consider the value of trees as wildlife habitat while planning forest treatments and developing cutting guidelines.
- Permit the establishment of natural regeneration in openings, so long as doing so does not disrupt natural site diversity, increase fire threat, or threaten/eliminate unique aspects of the Natural Area.
- Utilize broadcast burning as a tool to reduce surface fuel levels, accelerate recycling of nutrients, foster native grass and shrub development, and maintain forest structure.
 - Where possible, broadcast burning should be repeated approximately every 3 - 10 years to mimic natural conditions and historic fire return intervals in the region.
 - Any and all broadcast burning will be planned, coordinated and implemented by the Flagstaff Fire Department with advance approval from the Open Space Specialist, as required by the Arizona State Parks conservation easement.
- Monitor insect and disease activities to evaluate the extent to which insect and disease control measures are needed.
- Continue fire management analysis and planning for activities such as presuppression, detection, suppression, prevention, and fuel treatment.

2.1.4 Wildlife Resources

Management Goal: Legally-designated open space properties will be managed to maintain and enhance a diversity of habitats that support native wildlife species. Emphasis will be placed on the protection of rare habitat types and special-status species.

Management Policies: The following policies apply to the management of wildlife resources within these properties.

- Prioritize actions to protect endangered, threatened, Species of Greatest Conservation Need (as identified by Arizona Game and Fish Department), or other special-status species in the development and implementation of resource management programs.
- Manage public use to protect habitat and avoid adverse impacts to wildlife, which may involve temporary closures of portions of properties.
 - Notify Arizona State Parks if public use is restricted for the purpose of ensuring wildlife protection.
- Improve habitat for listed threatened, endangered, or sensitive species of plants and animals and other species as they become threatened or endangered.
- Identify and protect areas that contain threatened, endangered, and sensitive species of animals.
- Enhance and develop opportunities for wildlife oriented recreation activities that avoid or limit disturbance to wildlife.

Planned Management Actions: The following actions related to managing wildlife resources are planned.

- Develop and implement cooperative agreements with the Arizona Game and Fish Department and U.S. Fish and Wildlife Service when deemed appropriate for the management of wildlife resources.
- Develop and implement cooperative agreements with Northern Arizona University or other institutions as a way to establish and maintain wildlife surveys and monitoring programs within the Preserve.
- Develop and implement cooperative programs with non-governmental organizations to implement certain wildlife monitoring programs such as annual breeding bird surveys and elk counts.

- Survey the property for special-status and protected wildlife species, including northern goshawk, bald eagle, and Mexican spotted owl, to establish a baseline understanding of where these animals are located.
- Inventory sensitive wildlife species before restoration activities begin and regularly complete wildlife surveys thereafter.
- Inventory and evaluate wildlife habitat to establish a baseline by 2018, and resurvey as necessary.
- Use the best available resource data and technical expertise to identify habitat objectives and prepare implementation schedules for key habitats.
- Improve vegetation conditions through seeding a mixture of species of grass, forbs, forage, and browse species desirable to wildlife.
- Maintain near natural densities of snags, spike tops, lightning scarred trees, downed logs, and oaks.
- Sustain a mosaic of vegetation densities (overstory and understory), size, age classes, and species composition across the landscape, including open forest and savanna conditions.
- Improve forage conditions by using prescribed fire where environmental analysis shows beneficial effects and in line with approved burning plans.
- Design any new fencing or upgrades to wildlife-friendly specifications to minimize risk of animals becoming entangled and/or killed by fences, while promoting wildlife's ability to move freely across the landscape to access resources and make seasonal migrations.
 - The top two fence wires will be spaced a minimum of 12 inches apart and the bottom wire will be smooth and raised to at least 18-20 inches off the ground.
- Maintain, enhance, and/or restore wetlands for waterfowl, shorebirds, wading birds, songbirds, and possibly amphibians.

2.2 Cultural and Historic Resources

Preserving cultural and historic resources is a primary criterion when considering whether to purchase an open space parcel. Northern Arizona and the Flagstaff area is rich in these fragile resources, and purchasing these parcels allows the City to permanently protect them.

The City is required to work within various local, state, and federal policies regarding managing cultural and historic resources.

Management Goal: Legally-designated open space properties will be managed to preserve, protect, and interpret the cultural and historic resources present on the property.

Management Policies: The following policies apply to the management and protection of archaeological cultural resources within these properties.

- If an activity will impact cultural resources within designated archaeological site boundaries, an Arizona Antiquities Act permit, issued by the Arizona State Museum, is required per ARS 41-841 et seq.
- If an activity involves State-level funding or a state agency (e.g. the Arizona Game and Fish Department), the lead agency must formally consult with the State Historic Preservation Office per the State Historic Preservation Act.
- If an activity involves federal funding or a federal agency (e.g. National Park Service), the lead agency must formally consult with the State Historic Preservation Office per the National Historic Preservation Act.
- Facilities and improvements will be designed to avoid conflicts with known or potential historic and cultural resource sites. In instances where it is not feasible to completely avoid conflicts, historic and cultural resource sites will be mitigated in accordance with the recommendations of the Arizona State Museum (per ARS 41-841 et seq.), State Historic Preservation Office (SHPO)², and the Flagstaff Zoning Code.³

² In the event that avoidance, preservation and protection of the Register Eligible Site or Sites cannot be accomplished, purchaser shall ensure a Data Recovery Plan is developed in consultation with and acceptable to, the Arizona State Museum and the State Historic Preservation Office, or their successor agencies, and the Data Recovery is implemented and completed prior to the Register Eligible Sites or Sites being affected. The artifacts and records recovered from the property shall be curated according to the Arizona State Museum (ASM) Conservation and Curation Standards as established in rules implementing the Arizona Antiquities Act. These conditions shall run with the land, and be binding on the purchaser's heirs, successors and assigns (Cultural Resources Review for Application to Purchase State Land 53-115750-00-000, p.3).

³ The appropriate type and scope of measures varies depending on the cultural resource and impacts, and shall be recommended based on the professional expertise of the preparer and the following... (City of Flagstaff Zoning Code, 30.30-15)

- In instances where historical and cultural sites conflict with natural resources, historical and cultural sites take precedence in terms of maintenance and management activities.

Planned Management Actions: The following actions related to managing cultural and historic resources are planned.

- Monitor the condition of known historical and cultural sites within these properties.
- Consider interpreting cultural resources, including historic and pre-historic sites, as opportunities, management resources, and partnerships allow.

2.3 Public Use

Legally-designated open space properties are open to varying levels of public use. In general, these properties are managed to provide passive outdoor recreational and educational opportunities, including hiking, snow shoeing, wildlife watching, and nature study. These properties are closed to overnight use and motorized travel within these properties is restricted in order to protect the unique conservation values.

This chapter outlines the management goal, policies, and actions identified for managing public access, recreational use, roads, easements and leases, education and research, and facilities within legally-designated open space properties.

2.3.1 Access Management

Management Goal: Legally-designated open space properties will be managed to ensure reasonable public access for motorized and non-motorized recreational activities within the framework of the Arizona State Parks conservation easement.

Management Policies: The following policies apply to managing public access to these properties.

- Provide reasonable public access.
- Eliminate illegal, unauthorized vehicle trespass onto and within these properties.
- Encourage non-motorized access these properties from the city and surrounding neighborhoods.

Planned Management Actions: The following actions related to managing public access are planned.

- Install structures, such as gates, signs, or natural barriers (e.g. logs, boulders) to manage roads or limit/restrict illegal vehicle access and trespass.
- Install signs and maps at primary access points to inform the public about rules and regulations in force on the property.
- Designate appropriate vehicular access points and parking areas that will have minimal resource impacts.
- Investigate potential for additional access points and parking areas from surrounding neighborhoods.

2.3.2 Recreational Use

Management Goal: Legally-designated open space properties will be managed to provide a wide variety of developed and dispersed day-use recreational opportunities.

Management Policies: The following policies apply to the management of recreation opportunities within these properties.

- Eliminate illegal dumping, vandalism, and encampment.
- Prohibit camping and campfires.
- Prohibit fuelwood collection, except during City-sponsored collection events that require a permit.
- Prohibit recreational activities that result in damage to the properties or their historic/cultural resources.
- Manage public and recreational use to protect ecological and historical resources and avoid adverse impacts to ecological and historical resources, which may involve temporary closures of portions of these properties. Notify Arizona State Parks if recreational use or public access is restricted for the purpose of protecting ecological or historical resources.
- Allow dispersed equine recreation. Equine recreation may not be allowed along certain high-use trails (including sections of the Flagstaff Urban Trail System) and will be signed accordingly.

- Maintain and enhance visual resource values by including visual quality objectives in resource planning and management activities.
- Coordinate trail management, use, and development with other resource management considerations.
- Maintain open communication with the local community, stakeholders, and adjacent landowners regarding management considerations, improvement projects, etc.

Planned Management Actions: The following actions related to managing recreational use are planned.

- Survey properties to locate user-created trails.
 - Involve trail user groups as partners in survey development and on-the-ground data collection.
 - Consider user-created trails and roads for inclusion into the designated trail system.
- Construct and maintain a variety of trails that include foot, horse, and bicycle trails of varying levels.
- Develop trail maintenance standards and schedules for each trail type.
 - Establish partnerships to maintain and manage trails.
 - Promote and expand the Adopt-a-FUTS Program to encourage volunteer assistance with trail maintenance, in partnership with the City of Flagstaff Community Stewards Program.
 - Coordinate with Coconino County Parks and Recreation Department, Coconino National Forest, Arizona Trail Association, and adjacent landowners to connect trails within the Preserve to regional trail networks when it is mutually beneficial, provides better public service, and development is compatible with other resource management constraints.
- Investigate potential additional motorized and non-motorized access points for the Preserve.
- Mark trails and access points.
- Revegetate and/or naturalize unauthorized, user-created trails not included in the designated trail system.

- Coordinate at least one volunteer event at the Preserve each summer.
- Work with Flagstaff Police Department and Coconino County Sheriff's Office to provide law enforcement at a level that protects human health and safety, property, and resource values in coordination with appropriate law enforcement agencies
- Help prevent occupancy trespass and other law violations by regularly patrolling the property.
- Advertise and maintain a 24-hour contact point for the public to report suspected violations.
- Provide timely public information about closures, fire danger, and other important information to the public.
- Provide an appropriate response to each public report including feedback to the person making the report.
- Share annual stewardship reports with stakeholders and the general public electronically by posting copies online.
- Develop educational signage and electronically accessible information that interprets the resources, uses, and management of these properties.
- Provide information to the public about how to access legally-designated open space properties, their importance, and recreational opportunities.
- Install trail counters along established trails to obtain data associated with trail use and trends in order to prioritize management and maintenance efforts.
- Enforce applicable leash laws and regulations within the Preserve. ⁴

⁴ Flagstaff City Code, Section 6-02-001-0001

2.3.3 Roads

Management Goal: Legally-designated open space properties will be managed to reduce motorized travel within these properties.

Management Policies: The following policies apply to the management of roads within these properties.

- Prohibit cross-country motorized travel, except as may be required for emergency activities/operations, forest treatments, essential administrative activities, infrastructure improvement projects, and maintenance.
- Eliminate illegal, unauthorized vehicle trespass.
- Prohibit the construction of new roads, except as necessary for timber harvesting operations or in accordance with the rights as defined by existing easements.
 - Require timber harvesting contractors to decommission and/or rehabilitate any constructed roads upon completion of the project.
- Rehabilitate and close-out any temporary roads constructed to support any planned or emergency activities.

Planned Management Actions: The following actions related to managing roads are planned.

- Use natural barriers (e.g. rocks, logs) to decommission and block unauthorized, user-created roads.
- Educate the public and visitors about the non-motorized nature of the properties.
- Investigate potential of developing additional parking areas along the property boundary to encourage visitors to utilize non-motorized forms of recreation.

2.3.4 Easements and Leases

Management Goal: Manage legally-designated open space properties for non-consumptive, sustainable uses.

Management Policies: The following policies apply to the managing easements and leases within these properties.

- Renew non-perpetual easements that do not substantially impact the conservation values of these properties.
- Prohibit commercial or industrial uses of the property.

Planned Management Actions: The following actions related to managing easements and leases are planned.

- Review and assess easements periodically.
- Ensure that ground-disturbing activities associated with easements and leases are coordinated with the Open Space Program and implement Best Management Practices to preserve cultural resources, restore vegetation, and prevent the establishment of noxious, invasive weeds.

2.3.5 Education and Research

Management Goal: legally-designated open space properties will be managed to provide diverse educational and research opportunities.

Management Policies: The following policies apply to the management of educational and research opportunities within these properties.

- Promote the use of legally-designated open space properties for educational and research activities to local organizations and school groups.
- Prohibit educational or research activities that may result in damage to ecological, cultural, or historical resources.
- Require entities to submit an Open Space Research Permit (Appendix H) to the Open Space Specialist for approval in order to conduct educational and research activities within legally-designated open space properties.

- Educate visitors about ecological values of the property.
- Manage public use to protect conservation values and avoid adverse impacts to ecological and cultural resources, which may involve temporary closures of portions of these properties. Notify Arizona State Parks if public use is restricted for the purpose of protecting ecological values.

Planned Management Actions: The following actions related to managing education and research opportunities are planned.

- Partner with local organizations to develop and provide educational and interpretive activities about wildlife, natural resources, and ecology.
- Present age-appropriate workshops and educational programs for youth.
- Develop educational materials (e.g. interpretive signs, brochures) to provide information about wildlife, natural resources, and ecology.
- Partner with local schools and organizations to sponsor educational programs.
- Include Northern Arizona University and other educational institutions in monitoring and research efforts within these properties, when appropriate.
- Monitor and document educational and research activities occurring within legally-designated open space properties.
- Coordinate with schools to provide restoration and monitoring activities that are educational in nature.

2.3.6 Facility Development

Management Goal: Legally-designated open space properties will be managed to provide facilities that enhance visitor's experience according to the requirements of the Arizona State Parks conservation easement and available funding.

Management Policies: The following policies apply to the construction of new facilities and site improvements within legally-designated open space properties.

- Minimize impacts to ecological, cultural, and visual resources, and dark sky quality during construction of new facilities and site improvement projects.
 - Consider utilizing previously disturbed areas for new facilities.
- Limit development to not exceed 10% (or up to 20 acres) of the property.
- Prohibit any projects that would seriously or negatively affect the property's conservation and open space values.
- Design and install customary signs for interpretive and recreational purposes, such as "no trespassing" signs and trail markers.
 - Require advanced written approval from the Open Space Specialist for any outside entity to install signage on the property.
 - Require signs to include the following characteristics:
 - FUTS color scheme
 - City of Flagstaff and Arizona State Parks logos
 - Anti-graffiti coating
 - UV-protective coating
- Obtain advanced written approval from Arizona State Parks for all facility construction and site improvement projects, as required by the Arizona State Parks conservation easement.

Planned Management Actions: The following actions related to developing facilities within legally-designated open space properties planned.

- Design and install additional kiosks and signage to provide information regarding land ownership, rules and regulations, etc.
- Design and install boundary signs along the perimeter of the property.

- Remove any trash and/or debris piles resulting from illegal dumping.
- Remove outdated and unnecessary signage throughout the area.

3.0 Picture Canyon Natural and Cultural Preserve

3.1 Property Overview

Picture Canyon Natural and Cultural Preserve is a 478-acre legally designated open space property on the east side of Flagstaff behind the Wildcat Wastewater Treatment Plant and Coconino County Public Works Yard (Figure 1). The Preserve is bound by development on all sides – industrial uses on the south and west and private development (primarily single family homes) on the east and north. Additionally, the Kinder Morgan Gas Plant owns a 40-acre inholding along the Southern boundary of the Preserve.

The ALTA land survey (Appendix A) identified the legal description for the Preserve as follows: government lots 1, thru 4, the south half of the north half, and portions of the southwest quarter and the southeast quarter of Section 4, Township 21 North, Range 8 East, of the Gila and Sal River Meridian, Coconino County, Arizona.

Efforts to preserve Picture Canyon began well before it was identified as a priority area in the 1998 Flagstaff Area Open Spaces and Greenways Plan. Community groups hosted a number of volunteer events focused on removing trash, debris, and invasive weeds from the area beginning in 2001. In 2005, representatives from organizations and agencies formed the Picture Canyon Working Group (PCWG), dedicated to preserving the property. Also in 2005, the PCWG helped organize the annual Make a Difference Day event at Picture Canyon, drawing hundreds of volunteers to remove tons of trash and debris from the property. In 2008, the PCWG successfully listed the inner canyon on the National Register of Historic Places, providing an additional layer of protection to the parcel.

Prior to the City's acquisition in 2012, the property was owned by the Arizona State Land Department and operated as State Trust Land. Arizona State Trust lands are held in trust and managed for the sole purpose of generating revenues for the 13 State Trust land beneficiaries, the largest of which is Arizona's K-12 education system. In 1996, the Arizona State Legislature passed HB 2555, the Arizona Preserve Initiative, which was designed to encourage the preservation of select parcels of State Trust Land in and around urban areas for open space to benefit future generations.

In 2012, the City purchased 478.8 acres from the State Land Department for \$4,977,132.30 under the Arizona Preserve Initiative. The City secured \$2,389,000 from an Arizona State Parks Growing Smarter grant and matched that with \$2,588,132.30 from the 2004 voter-approved open space bond.

As part of the acquisition process, a conservation easement was granted to Arizona State Parks, outlining improvement and development limitations associated with the property (Appendix B) to ensure the property is retained forever in predominantly the condition reflected in the Baseline Documentation identified as part of the grant application. The easement also restricts the use of the property to passive recreational uses. Subsequently, the City of Flagstaff Open Space Program is required to submit annual reports to Arizona State Parks outlining all improvement projects (Appendix C).

In 2016, the City of Flagstaff rezoned the entire Preserve from Rural Residential to Public Open Space and annexed a county inholding within the Preserve into City Limits.

Picture Canyon Natural and Cultural Preserve

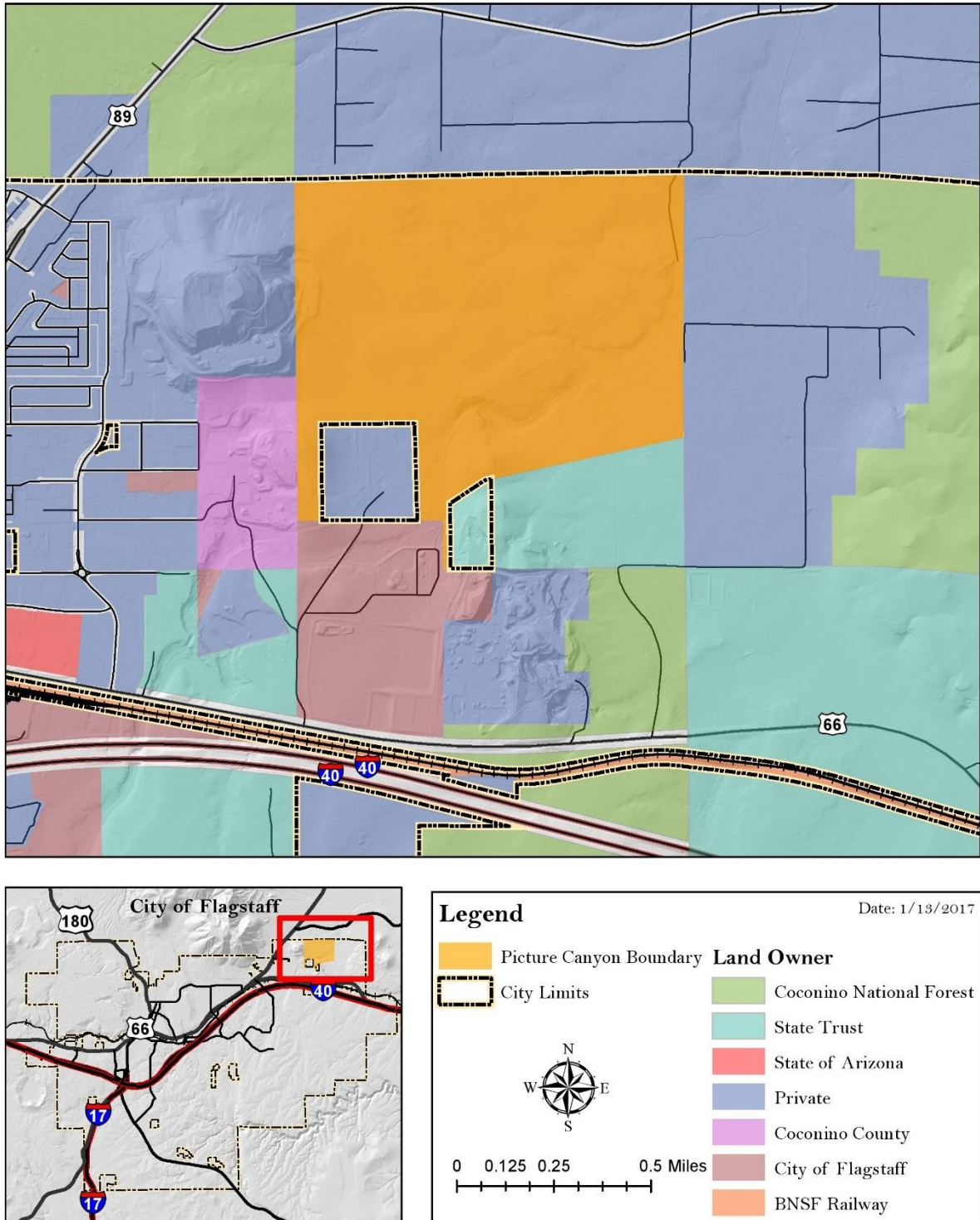


Figure 1: Land ownership surrounding Picture Canyon Natural and Cultural Preserve.

3.2 Natural Resources

Central to the overall management of Picture Canyon is the effective management of its natural resources. The water, wildlife, vegetation and geologic resources are important factors that supported the acquisition of the property and the establishment of the Preserve, and subsequently need to be managed and maintained appropriately to ensure they are not damaged. To ensure the protection of the biological, physical, and visual resources, specific management objectives, policies, and actions have been identified.

3.2.1 Water Resources

Summary of Current Conditions: The Rio de Flag flows northeasterly through Picture Canyon, providing nearly five acres of healthy riparian and wetland habitat for plants and animals as well as important ecological services, including filtering contaminants, storing water, and providing riparian habitat. Only 1% of the land cover in Coconino County land cover is designated as riparian habitat, making the Rio de Flag corridor through Picture Canyon a regionally important habitat for birds and wildlife.

Between 2005 and 2016, the City of Flagstaff received grant funding from the Arizona Water Protection Fund to complete a series of restoration projects to improve riparian habitat and function of the floodplain. These projects were completed in multiple phases, and included realigning the natural meander to the stream channel by creating a wide, shallow channel that allows water to flow into the floodplain during high flow events. Additionally, volunteers removed a substantial amount of invasive weeds from the floodplain area and replanted native riparian vegetation, including willows, grasses, and wildflowers. A 5-foot deep pond was also constructed to encourage water retention and groundwater recharge while providing valuable wetland habitat for the riparian-obligate species that visit the Preserve during some portion of their life cycle.

In 2010, the City of Flagstaff and Arizona Game and Fish Commission signed the Bow and Arrow Park Agreement, a 20-year water right agreement that ensures an ongoing supply of an hourly average of 200 gallons per minute of Class A reclaimed wastewater to be released into three riparian sites along the Rio de Flag: Frances Short Pond, Rio de Flag Wetlands, and Picture Canyon (Appendix D). This agreement ensures that Picture Canyon has a permanent supply of water until the agreement expires in 2030.

Given that the Rio de Flag flows through the Preserve, there is designated floodplain and floodway areas within the property (Figure 2). These portions of the property have Rural Floodplain overlay zoning, which limits what activities are permitted in the area⁵⁵. These areas

⁵⁵ Activities permitted in Rural Floodplain overlay zoning category are outlined in Section 10-50.90.040 of the Flagstaff Zoning Code.

are monitored and regulated by either the Army Corps of Engineers, Stormwater Section, or Federal Emergency Management Agency given the Rio's designation as a "navigable water of the United States" and subsequently, permits may be required for projects requiring any type of ground disturbance, especially if those projects might impact the function and/or flow of the floodplain.

Management Goal: The Preserve will be managed to maintain or improve surface and ground water quality, surface water flow, and ground water levels within the Rio de Flag to sustain watershed health, including the wetlands and riparian zone.

Management Policies: In addition to the general management policies guiding water resource management (outlined in Chapter 2.1.1), the following policies apply to the management of water resources within Picture Canyon Natural and Cultural Preserve.

- Manage water elevations and vegetation within the pond to sustain a healthy habitat mix of open water with a vegetated margin. Prolonged periods of low water in the pond will allow emergent vegetation to invade the deeper portions of the pond and degrade open water habitat.
- Consult with Stormwater Section on projects requiring ground disturbance within the designated floodplain or floodway to determine if any permits are required.

Planned Management Actions: In addition to the general management actions guiding water resource management (outlined in Chapter 2.1.1), the following actions resources are planned.

- Maintain irrigation line within the restoration area to ensure plantings receive adequate water.
 - Irrigation should be turned on in late April and turned off in November.
- Monitor vegetation surrounding the deep water pond.
 - Mechanical manipulation of the vegetation may be required if cattails begin to invade the pond during periods of prolonged low water levels.
- Remove unnecessary culverts from the Rio de Flag channel in the southeastern portion of the Preserve along the Tom Moody Trail.
- Cooperate with the Arizona Department of Environmental Quality (ADEQ) and City of Flagstaff Utilities Department to monitor of surface and ground water quality within the Preserve.

- Investigate potential for securing permanent reclaimed water rights for the Rio de Flag stream channel through the Preserve.

Floodplain Within Picture Canyon Natural and Cultural Preserve

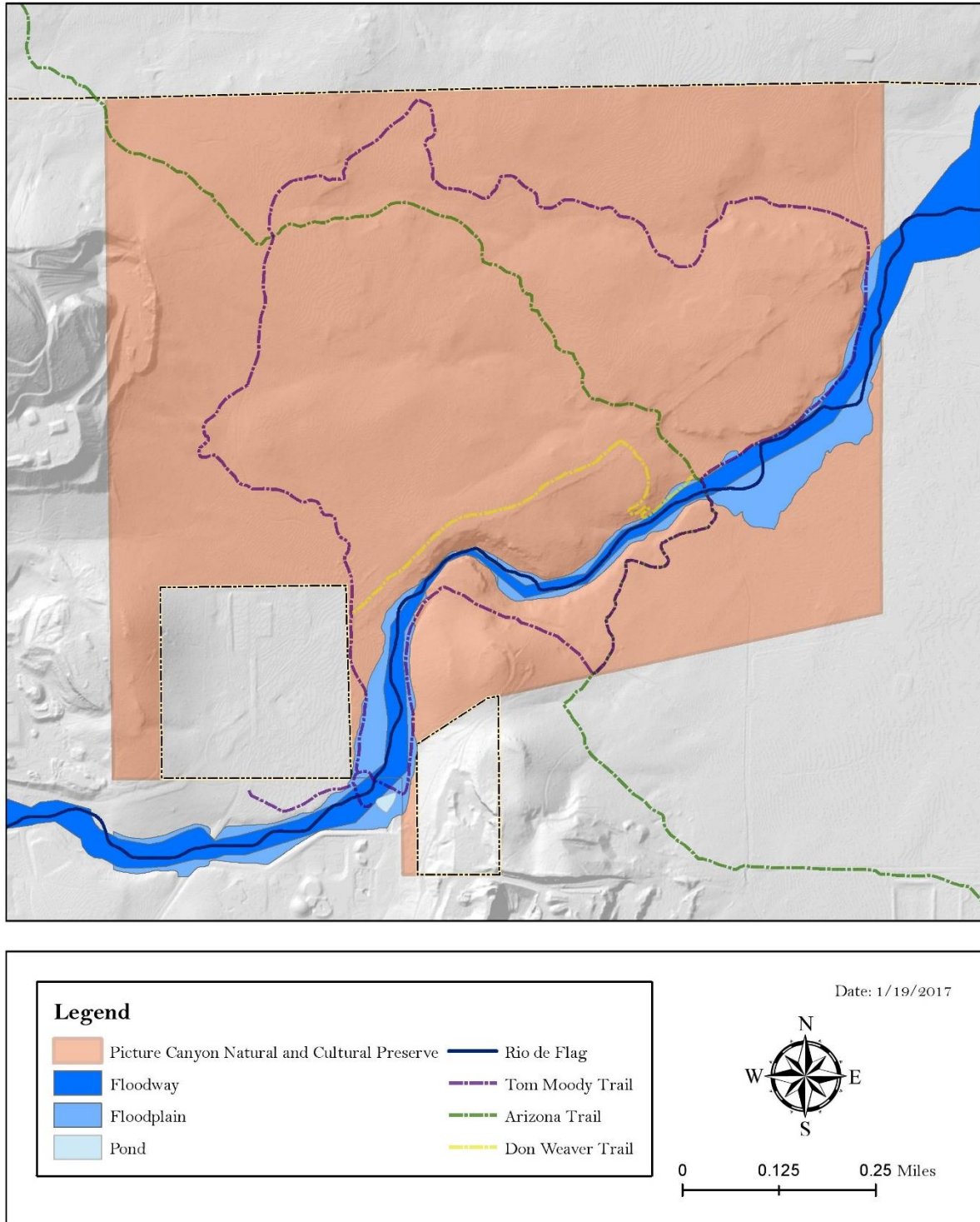


Figure 2: Floodplain and floodway designations within Picture Canyon Natural and Cultural Preserve.

3.2.2 Vegetative Resources

Summary of Current Conditions: Picture Canyon is a diverse area that supports suitable conditions for many woody, forb, and grass species. The Preserve also has a riparian corridor with a number of riparian vegetative communities and plant species.

The biodiversity within the Preserve is typical of northern Arizona ponderosa pine forests. The overstory vegetation is dominated by ponderosa pine (*Pinus ponderosa*). However, Gambel oak (*Quercus gambelii*), pinyon pine (*Pinus edulis*), Arizona walnut (*Juglans major*), and many juniper species, including Alligator, one seed, and Rocky Mountain (*Juniperus deppeana*, *Juniperus monosperma*, and *Juniperus scopulorum*, respectively) are present within the transitional zone.

The understory shrubs and grasses are primarily comprised of Arizona rose (*Rose arizonica*), Arizona fescue (*Festuca arizonica*), mountain muhly (*Muhlenbergia montana*), western wheat grass (*Agropyron smithii*), blue grama (*Bouteloua gracilis*), squirreltail (*Elymus elymoides*), silver lupine (*Lupinus argenteus*), Rocky Mountain iris (*Iris missouriensis*), foxglove (*Penstemon digitalis*), Indian paintbrush (*Casteilleja spp.*), buckwheat (*Fagopyrum esculentum*), wax currant (*Ribes cereum*), and Wheeler's thistle (*Cirsium wheeleri*). Meadows are scattered through the Preserve as the soil is primarily composed of coarse cinders, which are unfavorable to the establishment of dense grasslands.

Along the shaded cliffs are colonies of Arizona walnut (*Juglans major*), Arizona grape (*Vitis arizonica*), banana yucca (*Yucca baccata*), apache plume (*Fallugia paradoxa*), wolfberry (*Lycium barbarum*), and cliff rose (*Purshia mexicana*).

Land management agencies have identified 8 special-status plant species within a 5-mile radius of the Preserve (see Table 1). These species may or may not be present within the Preserve but special consideration should be given to ensure projects do not impact these species.

Table 1: Special status plant species identified within a 5 mile radius of Picture Canyon.

Common Name	Scientific Name	Identification Agency
Sunset Crater Beardtongue	<i>Penstemon clutei</i>	FWS, USFS, State
Cinder Phacelia	<i>Phacelia serrata</i>	FWS
Green Death Camas	<i>Zigadenus virescens</i>	State
Flagstaff False Pennyroyal	<i>Hedeoma diffusa</i>	USFS, State
Clustered Leather-flower	<i>Clematis hirsutissima</i>	USFS
Rock Fleabane	<i>Erigeron scopulinus</i>	USFS

Mogollon Columbine	<i>Aquilegia desertorum</i>	State
Rusby's Milkvetch	<i>Astragalus rusbyi</i>	USFS

There are multiple exotic and invasive plant species within the Preserve (Table 2). In 2009, Natural Channel Design developed a Noxious Weed Management Plan for the riparian area within the Preserve (Appendix E) as part of the Rio de Flag restoration project. The identified species threaten native vegetative communities at varying levels and therefore, only those species that present the greatest risk have been targeted for treatment.

Table 2: Invasive and exotic species identified at the Preserve in 2009.

Common Name	Scientific Name	Total Area (acres)	Targeted for Treatment
Bull thistle	<i>Cirsium vulgare</i>	1.3	X
Cheatgrass	<i>Bromus tectorum</i>	4.3	
Common dandelion	<i>Taraxacum officinale</i>	2.9	
Common mullein	<i>Verbascum thapsus</i>	2.5	
Dalmatian toadflax	<i>Linaria dalmatica</i>	5.8	
Diffuse knapweed	<i>Centaurea diffusa</i>	5.6	X
Field bindweed	<i>Convolvulus arvensis</i>	0.001	X
Horehound	<i>Marrubium vulgare</i>	8.3	X
Kochia	<i>Bassia scoparia</i>	6.7	X
Redstem filaree	<i>Erodium cicutarium</i>	0.002	
prickly Russian thistle	<i>Salsola tragus*</i>		
slender Russian thistle	<i>Salsola collina*</i>	6.7	X
Scotch cotton thistle	<i>Onopordum acanthium</i>	13.2	X
Tall tumblemustard	<i>Sisymbrium altissimum</i>	1.3	
Yellow salsify	<i>Tragopogon dubius</i>	0.7	
Yellow star-thistle	<i>Centaurea solstitialis</i>	0.6	X
Yellow sweetclover	<i>Melilotus officinalis</i>	In uplands only	

*Both *Salsola tragus* and *Salsola collina* were found on the property, but will be managed identically.

Management Goal: The Preserve will be managed to restore and enhance the native plant communities present on the site, especially the riparian communities, while also reducing invasive species populations.

Management Policies: The policies applicable to managing vegetative resources within the Preserve are outlined in the General Management Policies (Chapter 2.1.2).

Planned Management Actions: In addition to the general management actions related to vegetative resources (outlined in Chapter 2.1.2), the following actions are planned for the Preserve.

- Treat invasive weeds within the Preserve on a biannual basis to reduce populations and the risk of spread.
- Design and install educational signs outlining the ethnobotanical and ecological importance of specific plants.
- Re-establish and maintain cottonwood/willow and rush/sedge vegetation communities along the stream channel to increase habitat availability for birds.
- Maintain consultation with representatives of affiliated tribes regarding plant resources and restoration efforts.
- Physically block off access to sensitive riparian areas to limit degradation of this rare habitat type.

3.2.3 Forest Health

Summary of Current Conditions: Results from a study in the Ft. Valley area north of Flagstaff shows that ponderosa pine increased from 22.8 trees per acre in 1876 to 1,253.5 trees per acre in 1992 (Covington et al. 1994). These conditions are comparable to the conditions at the Preserve, which has experienced parallel land use and history. This influx of small diameter trees from several dominant cohorts has produced a continuous canopy cover at the time of plan adoption. In 1876, 19% of the surface area was under pine canopy, with the balance (81%) representing grassy openings. In 1992, pine canopy covered 93% of the area with only 7% left in grassy openings. Some areas in the region have seen a much greater increase in the number of small pines than depicted in this single study. That range is largely due to differences in site condition. Canopy cover greatly affects under-story plant diversity and water run-off.

Management Goal: The Preserve will be actively managed to achieve a forest structure that is resistant and resilient to wildfire or other disturbances and continues to provide ecosystem services to the surrounding community.

Management Policies: In addition to the general management policies associated with managing forest health (outlined in Chapter 2.1.3), the following policies apply.

- Reduce impacts to established cultural sites by hand thinning trees within designated cultural site boundaries.
- Mitigate any damage to cultural resources by consulting with archaeologists prior to beginning any forest treatment operations.
- Plan, coordinate, and implement broadcast burning operations with Flagstaff Fire Department crews upon consultation with archaeologists.

Planned Management Actions: In addition to the general management policies associated with managing forest health (outlined in Chapter 2.1.3), the following policies apply.

- Coordinate with Campbell Global to finalize a Forest Stewardship Plan for Picture Canyon Natural and Cultural Preserve.

3.2.4 Wildlife Resources

Summary of Current Conditions: The Preserve contains a variety of geologic and vegetative characteristics, providing a unique diversity of wildlife habitats. A 20-year water supply from the Wildcat Wastewater Treatment Plant creates important stream and wetland habitat for riparian-obligate breeding and migratory birds and waterfowl. Riparian habitats are critically important for wildlife species in the Southwest and comprise less than one percent of all land cover in Coconino County. Current wetland and riparian conditions in the Rio de Flag within Picture Canyon attract over 130 bird species⁶, including raptors, warblers, flycatchers, sparrows, hummingbirds, waterfowl, shorebirds, wading birds, and migratory songbirds. Birds are especially common during spring and fall migrations. Subsequently, Picture Canyon has been designated as a Watchable Wildlife site with the Arizona Watchable Wildlife Experience and a Bird Sanctuary with the Northern Arizona Audubon Society.

The wetland and riparian conditions in Picture Canyon provide foraging habitat and hiding cover for waterfowl, shorebirds, and songbirds. These habitats have been improved via on-going vegetation restoration efforts, including restoring riparian plants and structural complexity. Many small mammals and mesocarnivores also utilize riparian habitats. Oak woodlands and mature stands of ponderosa pine forest support substantial elk and mule deer use. The numerous decaying ponderosa pine snags in the canyon attract foraging peregrine falcons, wintering bald eagles, as well as an unusually high diversity of woodpecker species. Standing dead snags provide critical habitat for cavity nesting birds. Basalt cliffs support habitat for bats, cliff-dwelling passerines, and reptiles. The uplands in Picture Canyon are also valuable to wildlife, especially the riparian zone, oak woodlands, and old-growth stands of ponderosa pine forest.

Hunting is strictly prohibited within Picture Canyon given its designation as a Preserve, small size, and the need to minimize conflicts with other recreational and educational activities.

Picture Canyon and surrounding lands within a five-mile buffer provide habitat for seven sensitive species, as identified by state and federal offices. It is important to note that these species may or may not occur within the Preserve and the City will need to work with partners to survey and inventory wildlife on the Property to determine if the following management suggestions apply.

⁶ As identified by Northern Arizona Audubon Society

Table 3: Special-status wildlife species identified within a 5-mile radius of Picture Canyon.

Common Name	Scientific Name	Identification Agency
Northern goshawk	<i>Accipiter gentilis</i>	FWS, USFS, BLM, State
Mexican spotted owl	<i>Strix occidentalis</i>	FWS, State
Bald eagle	<i>Haliaeetus leucocephalus</i>	FWS, USFS, BLM, State
Greater western bonneted bat	<i>Eumops perotis californicus</i>	FWS
American peregrine falcon	<i>Falco peregrinus anatum</i>	FWS, USFS, BLM, State
Allen's lappet-browed bat	<i>Idionycteris phyllotis</i>	FWS, USFS, BLM
Arizona myotis	<i>Myotis occultus</i>	FWS, BLM

Northern Goshawk: The northern goshawk is protected under the Migratory Bird Treaty Act and is currently listed as a "Species of Concern". A post-fledging area (PFA) is an area used by young goshawks until they are no longer dependent upon adult goshawks for food. A PFA is typically 600 acres in size, close to a goshawk nest, and functions to provide cover for young goshawks from predators.

If northern goshawk is identified on the property, efforts will be made to avoid impacts to breeding birds, maintain or enhance large tree density and canopy cover at nest sites. Breeding season or other seasonal times for project activity avoidance, which may need to be taken into consideration. Harvesting and hauling within occupied Post-Fledgling Areas (PFAs) should not occur during the breeding season; March 1 to September 30.

Recommendations for maintaining adequate stand conditions within northern goshawk habitat include⁷:

- Keep the canopy cover greater than 50 percent.
- Manage for uneven-age stand conditions for live trees and retain live reserve trees, snags, downed logs, and woody debris levels throughout ponderosa pine forest cover types.
- Manage for old age trees such that as much old forest structure as possible is sustained over time across the landscape.
- Sustain a mosaic of vegetation densities (overstory and understory), age classes, and species composition across the landscape.

⁷ Reynolds, Richard T.; Graham, Russell T.; Reiser, M. Hildegard; and others. 1992. Management recommendations for the northern goshawk in the southwestern United States. Gen. Tech. Rep. RM-217, Ft. Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. 90 p.

- Limit human activity in nesting areas during the breeding season (March 1 – September 30).
- Manage the ground surface layer to maintain satisfactory soil conditions to minimize soil compaction and to maintain hydrologic and nutrient cycles.
- Maintain a well-developed understory that includes snags.
- High intensity crown fires are not acceptable in the PFA or nest areas.

Mexican Spotted Owl: The Mexican Spotted Owl (MSO) is currently federally listed as a threatened species and has been identified within a 5-mile radius of the Preserve. The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the Endangered Species Act.

Bald Eagle: The bald eagle, which has also been identified by federal agencies within a 5-mile radius of the Preserve, is no longer listed under the Endangered Species Act (ESA) as Endangered (removed in 2007), but is protected under the Bald and Golden Eagle Protection Act. Wintering populations of eagles may occur seasonally within the vicinity of the Preserve.

Bat Species: Three sensitive bat species have been identified within a 5-mile radius of the Preserve and their habitat requirements should be considered during management planning. Bats tend to roost in snags, tree cavities, downed logs, or rock piles, making it important to retain snags and downed woody debris. Bats generally forage along forest edges, forest roads, trails, or natural openings and prefer a heterogeneous forest structure. Additionally, bats rely on clean, pooled, open bodies of fresh water as their water source.

Management Goal: The Preserve will be managed to maintain and enhance a diversity of habitats that support native wildlife species, emphasizing the protection of rare habitat types and special-status species.

Management Policies: General policies for managing wildlife resources within legally-designated open space properties are outlined in Chapter 2.1.4.

Planned Management Actions: In addition to the general management actions planned for managing wildlife resources outlined in Chapter 2.1.4, the following actions are planned at the Preserve.

- Post “No Hunting” signs at primary entrance points and other key locations within the Preserve.
- Enhance the Preserve as an Arizona Watchable Wildlife Experience (AWWE) site including expanding wildlife viewing opportunities and facilities.

3.3 Cultural and Historic Resources

Summary of Current Conditions: The Northern Sinagua occupied the Flagstaff region, including Picture Canyon, between A.D. 600 and A.D. 1400. Subsequently, the Preserve has extensive cultural and historic resources, including petroglyphs, pottery sherds, and habitation sites. There are 29 cultural sites listed with the Arizona State Museum, including pre-historic and historic sites. Some of these have been listed on the National Register of Historic Places, while others are eligible for listing and therefore must be protected to the same extent.

Prehistoric peoples like the Northern Sinagua were likely attracted to Picture Canyon because of the resources within the area, including reliable water, habitable caves and rock shelters, usable plant species, and proximity to arable land.

On January 10, 2008 the Picture Canyon Archaeological Site (AZ I:14:346[ASM] and NA17897), which encompasses the entire inner canyon area, was placed on the National Register of Historic Places given the significant cultural resources within the area, including pit houses, pottery sherds, and petroglyphs.⁸

Although possible Pre-Elden Phase (pre- A.D. 1150) rock art has been identified, the Northern Sinagua left the most visible evidence within the Preserve. Over 126 petroglyph panels, depicting 736 elements of archers, turtles, deer, elk, bighorn sheep, water birds, and geometric designs are carved into the canyon walls and boulders. The density of petroglyphs gave Picture Canyon its modern name. Archaeologists have cited it as the type site (or first scientifically documented example) for Northern Sinagua rock art. Subsequently, archaeologists continue to conduct research within the Preserve to learn more about the Northern Sinagua culture.

In addition to the Sinagua petroglyphs, Picture Canyon contains additional petroglyphs that may be of non-Sinagua origin, such as two unusually tall (40 to 46 cm) anthropomorphic figures located in Loci A and F. These figures do not resemble the rock art typically seen at Sinagua sites and their heavy weathering suggest greater age than the late Sinagua elements.

Aside from petroglyphs, there are Sinagua cave dwellings below the canyon rim, pithouse and rock structures on the slopes above the rim, and pottery sherds.

Initial excavations were conducted in 1919 and 1921 by Harold S. Colton, founder of the Museum of Northern Arizona. These ruins and features were described by Colton in a 1932 *Bureau of*

⁸ In 1978, Donald E. Weaver, Jr., archaeologist and rock art expert, assigned a single site number (NA17897) to the canyon's extensive petroglyphs; however, by today's standards, the features would be considered loci within a single site, given their proximity and continuity of cultural material. Therefore, in 1998 the Arizona State Museum applied the site number AZ I:14:346 (ASM) to the entire site, including petroglyphs, habitation features, and burial features (National Register of Historic Places, Picture Canyon Archeological Site, Flagstaff, Coconino County, AZ, National Register #07001349).

American Archaeology Bulletin. Colton excavated burials and stone houses during his initial visits to Picture Canyon. An important dwelling, Porcupine Cave, had three rooms, a plastered wall, and a door when Colton first visited in 1919. It has since been disturbed by looters and a low mound of rubble is all that remains of the internal walls.

The primary ceramic group found at Picture Canyon is Alameda Brown Ware, an undecorated pottery made from volcanic clays using a technique called paddle-and-anvil. The presence of other ceramics (Tusayan Gray Ware, San Francisco Mountain Gray Ware, Little Colorado White Ware, and Tusayan White Ware) reflects trade between the Northern Sinagua and neighboring groups such as the Cohonina to the west and Kayenta to the north.

Don Weaver, Jr. and Rupestrian Cyberservices completed a summary inventory of the petroglyphs that identified a minimum of 126 rock-art panels and 736 elements. Prior to that, Harold S. Colton assembled resources in a table form. In 2012, Northland Research surveyed the entire Preserve for cultural resources, resulting in discovery of several new archaeological features. The Cultural Resource Survey of the Preserve is included as Appendix F.

The City of Flagstaff participates in the Arizona State Parks Site Stewards Program, a volunteer program dedicated to protecting and preserving cultural resources and heritage sites. Volunteers monitor the cultural sites, including the inner canyon, petroglyph sites, and pithouse regularly. The Site Steward is responsible for documenting the status of each site (Appendix G) and providing that information to the Open Space Program.

The Preserve also contains the remnants of railroad beds that were part of the Greenlaw North line responsible for carrying timber into the Greenlaw lumber mill. In the first decade of the twentieth century, the Arizona Lumber & Timber Company constructed a logging railroad from its mill at Cliffs to the base of Turkey Hills. The line came within 100 meters of the southern boundary of the inner canyon. Its grade can still be seen from the southwestern edge of the site. The line was used during timber cutting operations in 1908 and 1909 and then abandoned. The remains of a train trestle made from large virgin timber can be found above the Picture Canyon waterfall. Railroad beds were utilized to build a segment of the Tom Moody Trail in the southern part of the Preserve.

If projects within the Preserve result in any new artifacts being discovered, the City has a curation agreement in place with the Museum of Northern Arizona to curate artifacts at their facility.

Management Goal: The Preserve will be managed to preserve, protect, and interpret the cultural and historic resources present on the property.

Management Policies: In addition to the general policies for managing cultural resources within legally-designated open space properties (outlined in Chapter 2.2), the following policies apply to the Preserve.

- **City Policies:** Per Section 10-30.30.060 of the Flagstaff Zoning Code, whether or not any other permit or approval is required, all development within the Landmarks Overlay District (which includes Picture Canyon Natural and Cultural Preserve) requires prior approval by the Heritage Preservation Commission. This includes development projects that do not impact cultural or historic sites. The City's Historic Preservation Office can approve some projects, including those that do not require substantial ground disturbance. The Heritage Preservation Commission can approve projects via a Certificate of Appropriateness, a Certificate of No Effect, or a Certificate of Economic Hardship. A project-specific Cultural Resource Study (different from the Cultural Resource Survey completed by Northland Environmental in 2012, Appendix F) is required to be submitted to the Heritage Preservation Commission prior to development within the Preserve as part of the project review process. Project-specific Cultural Resource Studies are required for cultural and historic resources.
 1. Impacts requiring approval by the Heritage Preservation Commission include:
 - a. Physical destruction or damage to all or part of a cultural resource;
 - b. Alteration to all or part of a cultural resource that is not consistent with applicable standards and guidelines;
 - c. Relocation or isolation of the cultural resource from its setting;
 - d. Alteration of the character of the cultural resource's setting;
 - e. Introduction of visual, audible, or atmospheric elements that are out of character with the cultural resource or its setting;
 - f. Neglect of a cultural resource resulting in its deterioration or destruction.⁹
 2. Per Section 10-30.30.060 of the Flagstaff Zoning Code, an impact is not considered significant if:
 - a. It does not alter the resource; or,
 - b. It is reversible; or,

⁹ City of Flagstaff Zoning Code, 30.30-14

- c. It is temporary.¹⁰
3. Cultural Resource Studies for the Heritage Preservation Commission formally analyze:
 - a. The presence or potential presence of resources;
 - b. The significance of known or potential resources;
 - c. The integrity of known resources;
 - d. The potential impacts of the proposed development; and
 - e. They propose measures to mitigate such impacts.
4. In accordance with resolution No. 2012-12 adopted by the City of Flagstaff City Council in April 2012, the City of Flagstaff will comply with applicable federal, state, and local laws, regulations, rules, standards, procedures, and guidelines governing the protection of cultural resources at the Picture Canyon Preserve.¹¹

Planned Management Actions: In addition to the archaeological and historic resource management actions outlined in Chapter 2.2, the following actions are planned at the Preserve.

- Receive approval from the City Heritage Preservation Commission prior to implementing projects as required by the inclusion of Picture Canyon in the City of Flagstaff Landmarks Overlay District.
- Establish baseline documentation with significant detail of surface artifacts and feature conditions.
- Complete scale drawings, mappings, and photo-documentation of the rock art elements and panels.
 - Coordinate with partners, including Coconino National Forest, Museum of Northern Arizona, and Northern Arizona University to host field schools at the Preserve focused on completing scale drawings, describing panels, and photo-documenting panels to complete baseline documentation of rock art resources.

¹⁰ *Ibid*

¹¹ Picture Canyon Cultural Resources Resolution, p.3

- Develop a comprehensive monitoring program utilizing Arizona Site Stewards and volunteers from the Picture Canyon Stakeholder Group.
 - Coordinate with Arizona Site Stewards Area Coordinator to ensure trained volunteers periodically inspect and monitor vulnerable sites for vandalism and/or degradation.
- Develop educational signage to interpret cultural resources within the Preserve.
- Refine and update planimetric map of the prehistoric architectural features located in Locus A of the prehistoric site.
- Map the extent of the cultural midden associated in Locus A with the prehistoric architectural features and document to current professional standards.
- Maintain ongoing government-to-government consultation about management and interpretation with official representatives of associated tribes, including Hopi Tribe, Navajo Nation, Yavapai Apache Nation, Prescott Yavapai Indian Tribe, Pueblo of Zuni, and the Havasupai Tribe.
- Remove or control brush that may threaten fire damage to petroglyph panels.
- Evaluate options for documentation, stabilization, and interpretation of the excavated pit house.

3.4 Public Use

Picture Canyon Natural and Cultural Preserve provides a buffer between developed and developing industrial and residential areas in eastern Flagstaff. It serves as “neighborhoods” for residents in the Doney park area, including Winona, Cosnino, and Doney Park neighborhoods who utilize the Preserve for recreation.

The Preserve is designated as a Watchable Wildlife Site with the Arizona Watchable Wildlife Experience and a Bird Sanctuary with the Northern Arizona Audubon Society, making it a popular location for wildlife viewing.

The Preserve is heavily used by the greater Flagstaff community for its recreational and educational values. In 2016, an estimated 1,000 individuals visited the Preserve each month to participate in outdoor recreation activities and this number is expected to grow as the trail system and infrastructure is finalized and the Open Space Program begins marketing the Preserve as an outdoor destination in northern Arizona.

There is evidence of damage and degradation from unmanaged public use, including visible signs of deterioration and degradation, such as a proliferation in user-created trails, off-road vehicle damage, and trail width expansion.

The conservation easement granted to Arizona State Parks as part of the acquisition process limits public use to those that do not materially degrade the conservation values of the property. Therefore, there is a focus on providing passive recreational uses within the Natural Area (Table 4). If you are interested in using the property for a use that is not included in Table 4, contact the Open Space Program at NaturalAreas@flagstaffaz.gov.

Table 4: Permitted and Prohibited Recreational Uses of Picture Canyon Natural and Cultural Preserve.	
Permitted Uses	Prohibited Uses
Cross Country Skiing	Campfires
Geocaching	Camping
Hiking/Running	Fuelwood Collection (except with permit)
Horseback Riding	Off Highway Vehicles/Driving
Snow Shoeing	Hunting
Mountain Biking	Large-Scale Activities/Events (except with express written approval from the Open Space Specialist)
Nature Study/Environmental Education	
Wildlife Watching	

Additionally, a number of local organizations, including the Museum of Northern Arizona, Willow Bend Environmental Education Center, and Northern Arizona University utilize the Preserve as an outdoor classroom for youth summer camps and environmental education activities.

In 2016, the Open Space Program partnered with Willow Bend Environmental Education Center to provide guided tours of the Preserve for the Flagstaff during the summer months. Additionally, as part of this partnership, Willow Bend coordinates and facilitates tours of the Preserve that incorporate educational activities for schools in the Flagstaff Unified School District. The terms of this partnership are reassessed annually.

This section of the Plan focuses on public access, recreational use, roads, easements and leases, education and research, and facility development within the Preserve.

3.4.1 Access Management

Summary of Current Conditions: There are multiple motorized and non-motorized access points to the Preserve.

- Authorized, legal motorized access points include:
 - *El Paso Flagstaff Road from Route 66* – This is the designated access point for individuals wishing to visit Picture Canyon. The City has constructed a parking area that accommodates approximately 6 cars. Frequently, this does not provide adequate parking and visitors are required to park along El Paso Flagstaff Road.
 - *North Rain Valley Road from Townsend-Winona Road* – This parking area provides authorized access to the northeast portion of the Preserve for City staff and project contractors. Given that North Rain Valley Road is privately maintained, it is not open for public use. A gate is installed at the Picture Canyon boundary to limit public access to the Preserve from this road.
- Authorized, legal non-motorized access points include:
 - The *Arizona Trail* travels diagonally through the Preserve, providing non-motorized access to the southeast and northwest corners of the Preserve.
 - The *Tom Moody Loop*, a segment of the Flagstaff Urban Trail System connects adjacent parcels to Picture Canyon and ultimately, will provide non-motorized access from downtown Flagstaff, through the Preserve, to Doney Park.

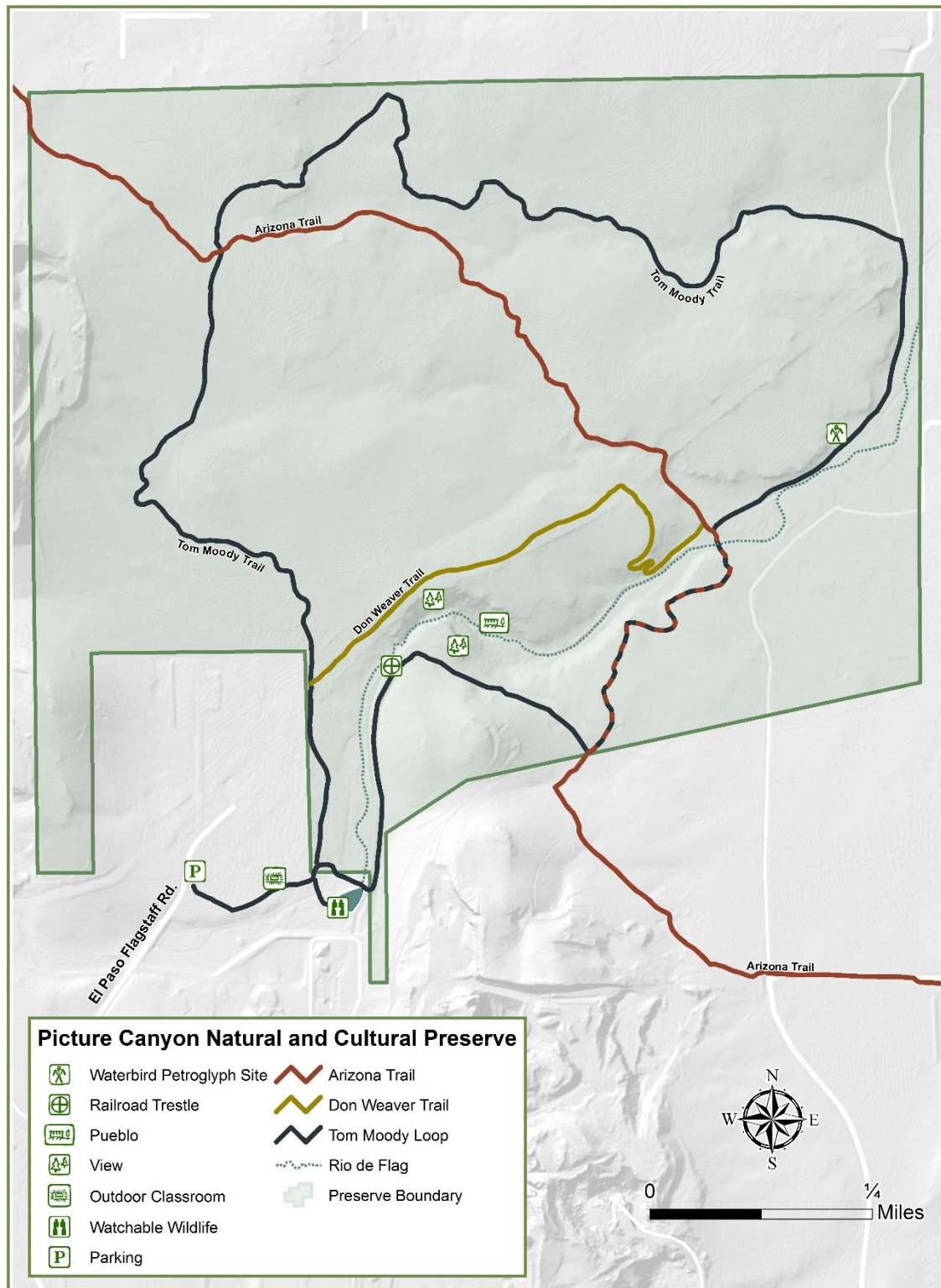


Figure 3: Motorized and Non-Motorized Access to Picture Canyon Natural and Cultural Preserve.

Note: Legal motorized access for the public is available via El Paso Flagstaff Road. Motorized access for authorized uses is available via North Rain Valley Road, in the northeast corner of the Preserve. Non-motorized access is available via the Arizona Trail and Tom Moody Loop Trail (also included as part of the Flagstaff Urban Trail System).

Management Goal: The Preserve will be managed to ensure reasonable public access for motorized and non-motorized recreational activities within the framework of the Arizona State Parks conservation easement.

Management Policies: The policies applicable to managing access within the Preserve are outlined in the General Management Policies (Chapter 2.3.1).

Planned Management Actions: In addition to the management actions guiding access management outlined in Chapter 2.3.1, the following actions are planned at the Preserve.

- Coordinate with City Traffic Engineers to install a directional sign for Picture Canyon at the southeast corner of Highway 89 and Route 66.
- Coordinate with APS to install physical barriers along the powerline road to reduce illegal vehicle trespass onto City property.
- Coordinate with landowners along Lindsey Road and North Rain Valley Road to reduce public trespass along private roads to access the northeastern portion of the Preserve.
- Construct Flagstaff Urban Trail System segment from Route 66 through the Wildcat Reach, providing non-motorized connectivity to the Preserve.
- Investigate potential of incorporating City-owned parcel to the south of the Preserve into the Preserve boundary.
- Investigate potential of purchasing Arizona State Trust parcel upstream of Picture Canyon (north of Route 66) to connect Picture Canyon to the downtown area via the Flagstaff Urban Trail System.

3.4.2 Recreational Use

Summary of Current Conditions: The Preserve provides a buffer between developed/developing industrial and residential areas. It serves as “neighborhoods”¹² for the Townsend-Winona/Cosnino/Doney Park neighborhoods and connects open space east of the San Francisco Peaks with that north of Walnut Canyon and Flagstaff.

A broad array of recreational activities are available within the Preserve, including hiking, bicycling, horseback riding, cross-country skiing, and snow shoeing (Table 4). As of 2016, an estimated 1,000 individuals visit the Preserve each month to participate in these activities.

Additionally, a number of local organizations, including the Museum of Northern Arizona, Willow Bend Environmental Education Center, and Northern Arizona University utilize the Preserve as an outdoor classroom for youth summer camps and environmental education activities.

Arizona Game & Fish Department has identified Picture Canyon as important wildlife habitat and has designated the Preserve as a site in the Arizona Watchable Wildlife Experience (AWWE) program given the wildlife watching opportunities. AWWE is a partnership of Arizona Game & Fish Department, Arizona Wildlife Federation, City of Flagstaff, Coconino County, and Coconino National Forest to develop a designated network of watchable wildlife recreation sites in the greater Flagstaff area. Additionally, the Northern Arizona Audubon Society has designated the Preserve as a bird sanctuary and frequently hosts bird-watching events on the property.

As of 2016, there are four designated, authorized trails within the Preserve (Figure 3), although a network of user-created, unauthorized trails traverse the property given the history of unmanaged recreation prior to the City’s acquisition. Open Space Program staff will need to survey the property to determine the extent of user-created trails and identify a restoration plan.

- The equestrian bypass of the *Arizona Trail*, which is a component of the Flagstaff Loop Trail, is located on the property. A 20-foot-wide trail easement was established in partnership with Coconino County. It is a natural surface, single track trail. The right-of-way is for public non-motorized access only, including hikers and bicyclists. Primarily, the trail is maintained by Arizona Trail Stewards. Any modifications to the Arizona Trail require cooperation with the Arizona Trail Association and Coconino County staff.
- The *Tom Moody Loop* follows the perimeter of the Preserve, intersecting the Arizona Trail and Don Weaver Trail at the southern boundary. A majority of this

¹² “Neighborhoods” is a term used in the Flagstaff Area Open Spaces and Greenways Plan that refers to undeveloped areas near neighborhoods which act as a buffer and provide opportunities for recreation and relaxation.

trail was constructed using existing road beds and railroad grades. The Open Space Program is responsible for maintaining this trail.

- Plans exist to convert the portion of the Tom Moody Loop between the Outdoor Classroom and Rain Valley Road into a segment of the Flagstaff Urban Trails System (FUTS). The Flagstaff Metropolitan Planning Organization, which is responsible for planning FUTS trails, has identified funding for this upgrade in 2025. This FUTS alignment will provide a connection between the Flagstaff Mall area and Doney Park for cyclists and pedestrians.
- The *Don Weaver Trail* separates from the Tom Moody Trail after the bridge across the Rio de Flag. It utilizes switchbacks from the previous alignment of the Arizona Trail up to the El Paso Gas easement and heads west along the north rim of the canyon overlooking petroglyph sites and a pithouse. This trail provides a three-mile loop around the Canyon and through the riparian area. The Open Space Program is responsible for maintaining this trail.
- The *Waterbird Trail* is a 75-foot trail that loops away from the Tom Moody Trail to provide visitors a safe route to experience the expansive petroglyph panels at the site. This trail was constructed in 2016 with funding from Arizona State Parks, Flagstaff Area National Monuments, and American Conservation Experience. The Open Space Program is responsible for maintaining this trail.

Management Goal: The Preserve will be managed to provide a wide variety of developed and dispersed day-use recreational opportunities.

Management Policies: In addition to the general recreation management policies outlined in Chapter 2.3.2, the following policies apply to managing recreation within the Preserve.

- Prohibit large-scale special events at the Preserve, except upon express written approval of the Open Space Specialist.

Planned Management Actions: In addition to the general recreation management actions outlined in Chapter 2.3.2, the following actions are planned for the Preserve.

- Install trash and recycling receptacles at the primary trailhead off of El Paso Flagstaff Road.
- Upgrade the Tom Moody Trail to FUTS standards.

- Improve the short trail to the watchable wildlife site to be more sustainable, which may include constructing a boardwalk for the portion that crosses the Rio de Flag channel.
- Investigate potential of installing compost or “pit” toilets at the El Paso Flagstaff Trailhead.
- Replace the existing bridge over the Rio de Flag with a bridge or boardwalk that meets Flagstaff Urban Trails System standards and allows safe access for horses and hikers.
- Coordinate with the State Historic Preservation Office to develop an alignment for the Don Weaver Trail that travels through the riparian portion of the canyon to visit cultural sites.
- Decommission user-created, unauthorized trails within the inner canyon and riparian area.

3.4.3 Roads

Summary of Current Conditions: Unmanaged public use of the property prior to the City’s acquisition resulted in a network of unofficial, user-created roads traversing the Preserve (Figure 4). Many of these roads are unnecessary and lead to dead ends. Some are causing erosion, segmenting wildlife habitat, and facilitating illegal dumping and/or illegal vehicle trespass onto the property. Given that the City purchased this property using funding from the Arizona State Parks Growing Smarter grant, the City is required to manage it as a non-motorized property in order to protect the conservation values associated with the property.

Arizona Public Service (APS) and El Paso Gas both hold perpetual easements for utilities within the Preserve and therefore have rights to manage and maintain service roads associated with these utilities. Although these easements were originally granted by the Arizona State Land Department, the City of Flagstaff inherited them with the acquisition.

APS manages overhead power transmission lines along the southern boundary of the Preserve. This transmission line has an associated service road along the property boundary, allowing for vehicles to illegally trespass onto the Property.

El Paso Gas holds a perpetual easement for a gas transmission line and service road through the Preserve. Kinder Morgan bought out El Paso Gas in 2011 and acquired this easement.

Roads within Picture Canyon Natural and Cultural Preserve

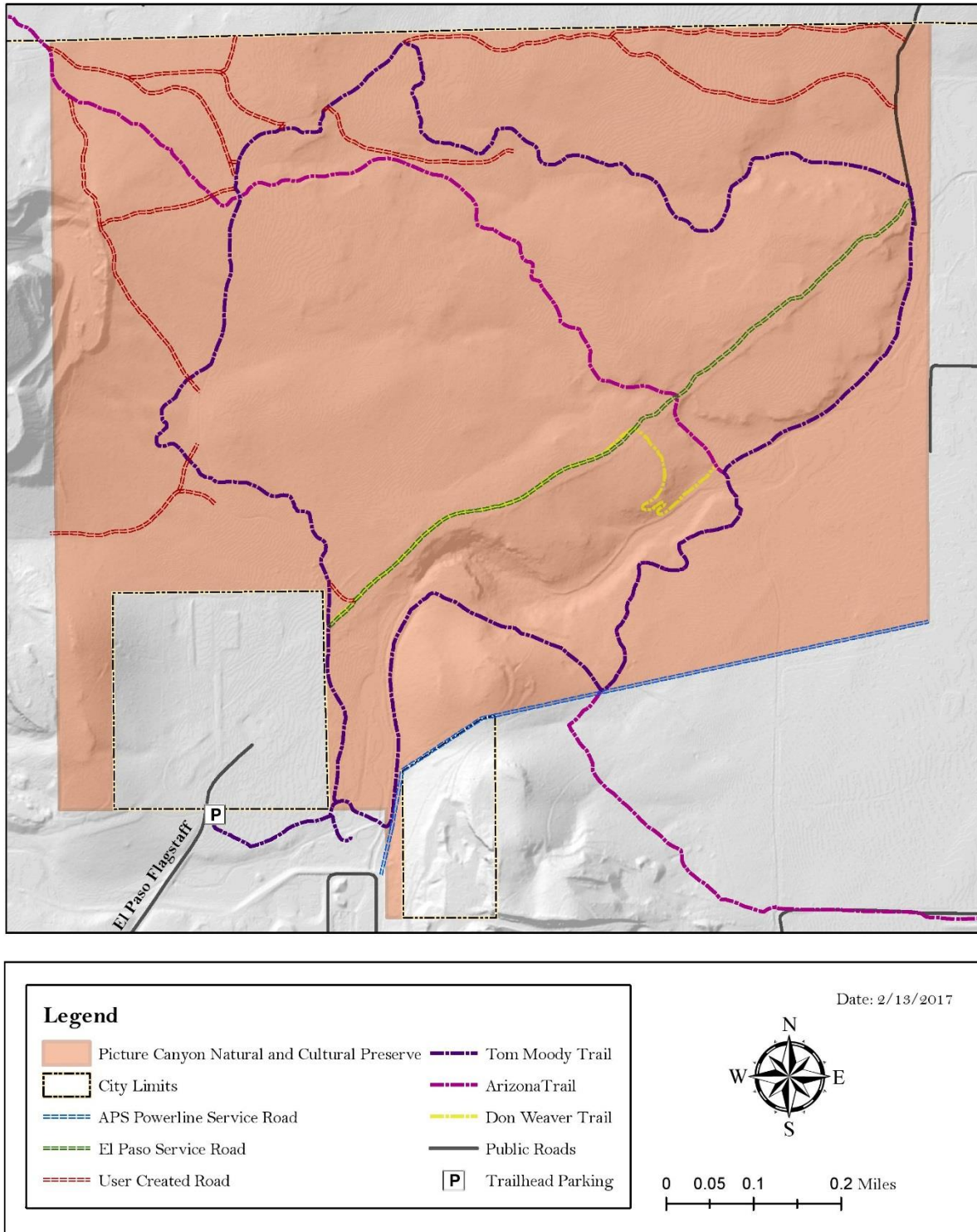


Figure 4: Road Network within Picture Canyon Natural and Cultural Preserve.

Management Goal: Picture Canyon will be managed to reduce motorized travel within the Preserve.

Management Policies: The policies applicable to managing roads within the Preserve are outlined in the General Management Policies (Chapter 2.3.3).

Planned Management Actions: In addition to the general road management actions outlined in Chapter 2.3.3, the following actions are planned at the Preserve.

- Coordinate with APS to install signs and natural barriers along their transmission line/service road at the southern boundary of the Preserve to prevent illegal trespass into the Preserve.

3.4.4 Easements and Leases

Summary of Current Conditions: A number of entities hold easements and/or leases within Picture Canyon Natural and Cultural Preserve. The City of Flagstaff inherited these easements and leases from the Arizona State Land Department as part of the acquisition process and is now responsible for managing these uses.

Table 5: Perpetual, non-perpetual, and expired easements and leases within Picture Canyon Natural and Cultural Preserve.

Number	Holder	Use	Issue Date	Expiration Date
PERPETUAL				
16-4421	Arizona Public Service	Electric Transmission Easement	10/3/1968	perpetual
71-3663	Arizona Public Service	Electric Transmission Easement	8/25/1964	perpetual
16-919	El Paso Gas	Gas Transmission Easement	4/8/1954	perpetual
16-1857	El Paso Gas	Gas Transmission Easement	1/12/1960	perpetual
NON-PERPETUAL				
14-3676	City of Flagstaff	Water Line Easement	9/24/1989	9/23/2039
56-105715	NAU/Centennial Forest	Right of Way	12/20/1999	12/19/2074
23-113715-05	City of Flagstaff	Right of Way	4/2/2009	4/1/2019
56-114761	City of Flagstaff	Right of Way	7/29/2010	7/28/2030
EXPIRED				
18-33782	El Paso Gas	Cathodic Protection Easement	9/10/2005	9/9/2015
18-98632	Fanning	Water Line Easement	5/12/2000	5/11/2010
23-105581	NAU/Centennial Forest	Right of Way	5/11/2009	5/10/2011

Management Goal: Manage Picture Canyon for non-consumptive, sustainable uses.

Management Policies and Actions: Policies and actions applicable to managing easements and leases within Picture Canyon Natural and Cultural Preserve are outlined in Chapter 2.3.4.

3.4.5 Education and Research

Summary of Current Conditions: Since the 1980s, Picture Canyon has been an outdoor classroom for students in northern Arizona. The abundance of archaeological sites has provided extensive educational opportunities for archaeology and cultural history of northern Arizona. The presence of the Rio de Flag's permanent flow serves as an educational site to study riparian habitats and watershed issues.

Many organizations utilize the Preserve for educational purposes and a long-range living classroom, including Northern Arizona University School of Forestry, Department of Anthropology, Museum of Northern Arizona, and Willow Bend Environmental Education Center.

In 2016, the Open Space Program partnered with Willow Bend Environmental Education Center to provide guided tours and educational programming for the Flagstaff community and local school groups. During the first year of the contract, Willow Bend provided 4 free tours of the Preserve to the community and fifteen tours for local school groups. The contract must be reviewed and renewed annually.

Individuals and organizations wishing to complete research and/or monitoring projects within the Preserve are required to complete an "Open Space Research Permit" application for the Open Space Program to review (Appendix H). Research projects are acceptable uses of the Preserve as long as they are non-destructive in nature, do not impact cultural sites, and don't conflict with the conservation values or management goals or objectives for the property. The individual/organization wishing to conduct research on the Property is responsible for obtaining permits and approvals for their project (which may include a Project Specific Permit from the Arizona State Museum).

Management Objective: The Preserve will be managed to provide diverse educational and research opportunities.

Management Policies and Actions: Policies and actions applicable to managing education and research opportunities within Picture Canyon Natural and Cultural Preserve are outlined in Chapter 2.3.5.

3.4.6 Facility Development

Summary of Current Conditions: Since acquisition in 2012, the City has invested in a series of infrastructure improvements and developed facilities for the Preserve (Figure 5).

There are 4 designated trails on the property: the Arizona Trail, Don Weaver Trail, Waterbird Trail, and Tom Moody Loop Trail. More information about these trails is available in Chapter 3.4.2.

Kiosks exist at the primary access points to the Preserve, including at the parking area along El Paso Flagstaff Road and where the Arizona Trail enters and exists the Preserve. Additional signage includes educational panels at the Watchable Wildlife Site (2), Outdoor Classroom (6), railroad trestle (1), Rio de Flag fencing (2), Waterbird Site (4), and along trails (1). The first phase of trail signs has also been installed, with an additional phase planned for installation.

Two parking areas exist on the property. A public parking area is located along El Paso Flagstaff Road and a parking area for authorized use is located along North Rain Valley Road. More information about these parking areas is available in Chapter 5.1.

A gate has been installed where North Rain Valley Road accesses the Preserve in order to reduce public use of the road. Two bollards were installed where the Tom Moody Trail enters the Preserve from El Paso Flagstaff Road to reduce illegal vehicle trespass onto the property.

During the Rio de Flag restoration project, the riparian area was fenced to prevent cattle and large mammals from damaging the plantings. This fencing is owned in part by the Arizona Water Protection Fund (AWPF). In 2016, the AWPF granted the City permission to remove the fencing given that the plantings are established.

Management Goal: The Preserve will be managed to provide facilities that enhance visitor's experience within the framework of the Arizona State Parks conservation easement.

Management Policies: In addition to the general facility development management policies outlined in Chapter 2.3.6, the following policies apply to the construction of new facilities and site improvements within the Preserve.

- Submit all facility improvement projects to the Heritage Preservation Commission for approval, given Picture Canyon's location within the Landmark Overlay District.

Planned Management Actions: In addition to the general facility development actions outlined in Chapter 2.3.6, the following actions are planned for the Preserve.

- Remove fencing from Rio de Flag restoration boundary.

- Inventory property for existing infrastructure, including fences, gates, roads, trails, cattle guards, trash piles, and signs.
- Coordinate with the State Historic Preservation Office to develop an alignment for the Don Weaver Trail.

Infrastructure within Picture Canyon Natural and Cultural Preserve

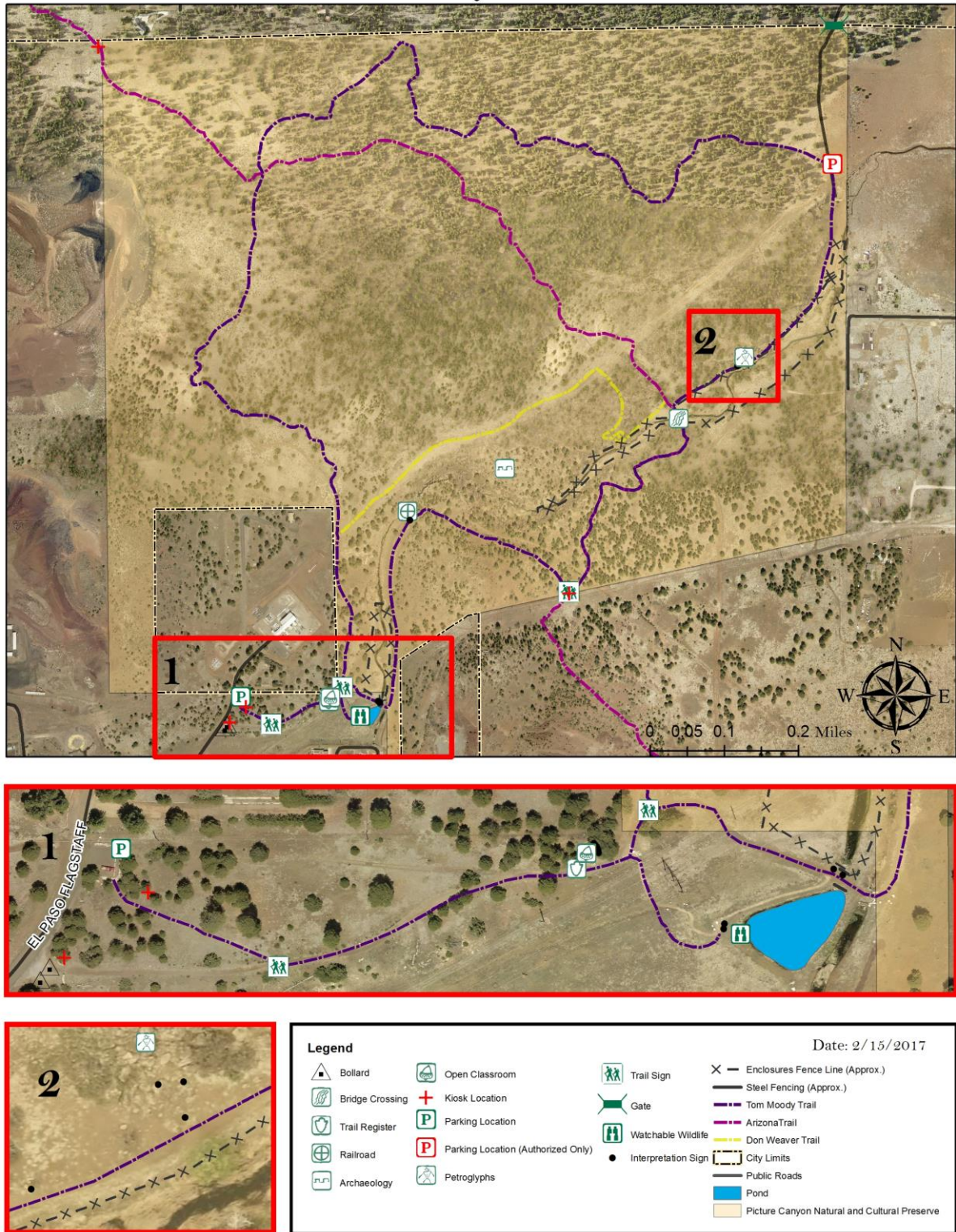


Figure 5: Infrastructure within Picture Canyon Natural and Cultural Preserve, as of February 2017.

3.5 Priority Action Plan

Provided below is a summary of priority actions that will be taken related to the expansion, development, and management of the Preserve. It is anticipated that this Priority Action Plan will be updated every two years. The biannual review will be conducted in advance of the City of Flagstaff's budget development process. Modifications to the plan will be made to reflect existing conditions at the time of each update.

Table 6: Priority Action Plan – Facility Development

Action:	Responsibility:	Implementation Date:	Estimated Financial Requirement:
Construct Don Weaver Trail for nature and cultural resource viewing.	City of Flagstaff	Summer 2020	\$100,000
Decommission and revegetate extraneous trails and roads not designated as part of planned trail system.	City of Flagstaff	Summer 2019	\$10,000
Install an entry sign at the El Paso Flagstaff Trailhead.	City of Flagstaff	Summer 2019	\$10,000
Install boundary signage along the perimeter of the Preserve.	City of Flagstaff	Summer 2017	\$2,500
Develop a trail system plan for hiking, biking, and equine trails of varying intensity.	City of Flagstaff	Summer 2017	\$3,500
Install interpretive signs along trails.	City of Flagstaff	Summer 2018	\$10,000
Install regulatory signs along trails.	City of Flagstaff	Summer 2018	\$5,000
Design and install trail signs throughout Preserve.	City of Flagstaff	Spring 2017	\$5,000

Utilize volunteers and partner organizations to complete area monitoring and trail maintenance.	City of Flagstaff	on-going/monthly	\$0
Upgrade Tom Moody Trail to Flagstaff Urban Trails System standards.	City of Flagstaff	Summer 2024	\$50,000
Investigate potential of developing additional parking and access points in partnership with adjacent landowners.	City of Flagstaff	Summer 2018	\$0
Replace existing trail bridge over the Rio de Flag with bridge or boardwalk that meets Flagstaff Urban Trails System standards.	City of Flagstaff	Summer 2024	unknown
Install boulders and physical barriers to block illegal OHV access at entrance points.	City of Flagstaff	Summer 2017	\$5,000
Remove fencing from riparian areas.	City of Flagstaff with volunteers	Summer/Fall 2017	\$2,000
Install trash and recycling receptacles at primary trailhead.	City of Flagstaff	Summer 2017	\$3,500
Improve trail to watchable wildlife site to be more sustainable.	City of Flagstaff	Summer 2018	\$7,500
Investigate potential of installing “pit” toilets at primary trailhead.	City of Flagstaff	Summer 2018	\$30,000 per unit

Remove unnecessary culverts from Rio de Flag channel.	City of Flagstaff	Summer 2020	unknown
Install directional sign at intersection of Highway 89 and Route 66.	City of Flagstaff	Summer 2017	\$2,500

Table 7: Priority Action Plan – Resource Management

Action:	Responsibility:	Implementation Date:	Estimated Financial Requirement:
Conduct stream flow monitoring in the Rio de Flag and Picture Canyon.	Water Resources Specialist	On-going	\$0
Conduct in-field water quality testing and monitoring in the Rio de Flag and Picture Canyon.	City of Flagstaff	On-going	\$0
Conduct sampling and laboratory analysis of water quality in the Rio de Flag and Picture Canyon.	City of Flagstaff	On-going	Unknown
Develop and maintain plant and animal species observation database.	City of Flagstaff and volunteers	On-going	\$0
Conduct noxious plant surveys and maintain map of occurrence locations.	City of Flagstaff and volunteers	On-going	\$3,000 per annum
Coordinate with Flagstaff Fire Department and Arizona State Forestry to complete forest health improvement projects.	City of Flagstaff	Variable	\$0
Monitor insect and disease occurrences.	City of Flagstaff	On-going	\$0

Update photo-monitoring program with new photographs from established monitoring stations.	City of Flagstaff	Annually	\$0
Treat invasive weeds biannually.	City of Flagstaff	Bi-Annually	\$3,000 per annum
Conduct wildlife surveys for game, non-game, endangered, and special-status species.	City of Flagstaff with AZGFD assistance	Summer 2017 and then as needed	\$5,000
Conduct reptile and amphibian surveys.	AGFD with volunteer assistance	Annual	Unknown
Establish cultural resource baseline documentation.	City of Flagstaff, with volunteers	Summer 2018	Unknown
Secure sustainable funding for ongoing, appropriate maintenance.	City of Flagstaff	Summer 2018	\$30,000/year
Establish permanent position dedicated to open space management and maintenance.	City of Flagstaff	Summer 2017	\$80,000/year
Survey the property for user-created roads and trails.	City of Flagstaff	Summer 2018	\$3,500
Develop trail maintenance standards and schedules.	City of Flagstaff	Summer 2018	\$0
Maintain irrigation line for plantings within the Rio de Flag floodplain.	City of Flagstaff	Annual	\$500
Monitor vegetation surrounding deep water pond.	City of Flagstaff	On-going	\$0
Maintain cottonwood/willow and rush/sedge vegetative communities.	City of Flagstaff	On-going	\$0

Table 8: Priority Action Plan - Partnerships

Action:	Responsibility:	Implementation Date:	Estimated Financial Requirement:
Establish formal Volunteer/Docent Program at the Preserve.	City of Flagstaff	On-going	\$0
Manage Site Stewards Program in partnership with Arizona State Parks.	City of Flagstaff	On-going	\$0
Confirm existing agreements and/or establish new agreements with AZGFD regarding annual mammal and reptile/amphibian surveys.	City of Flagstaff	As needed	\$0
Conduct meeting with Northern Arizona University representatives regarding on-site natural resource research work.	City of Flagstaff	Annual	\$500 per annum
Establish informal agreements with private organizations and volunteer groups related to annual bird surveys.	City of Flagstaff	Update/renew annually	\$0
Document rock art and other cultural resources (especially architecture and midden deposits) at Locus A.	City of Flagstaff with volunteers	On-going	Unknown
Facilitate quarterly Picture Canyon Stakeholder Group meetings.	City of Flagstaff	On-going	\$300 per annum
Investigate potential of securing permanent reclaimed water rights.	City of Flagstaff	On-going	Unknown

Maintain tribal consultation regarding projects and management.	City of Flagstaff	On-going	\$500 per annum
Maintain communication with adjacent landowners regarding projects and events at the Preserve.	City of Flagstaff	On-going	\$200 per annum

4.0 Observatory Mesa Natural Area

4.1 Property Overview

Observatory Mesa Natural Area is a 2,251 acre protected open space property just west of downtown Flagstaff behind Lowell Observatory and Mars Hill (Figure 6). The property is bound on the northern, eastern, and southern boundaries by private development (primarily single family homes), with Forest Service property immediately adjacent on the western property boundary. The Forest Service also owns a full section (Section 7) within Natural Area.

The legal description for the property is: Section 12, T 21 N, R 6 E, and portion of Section 6, Sections 8, 17, and Portions of Section 19, T 21 N, R 7 E, Gila and Salt River Meridian, Coconino County Arizona. The ALTA Land Survey for the property, which includes information about the property boundaries and existing easements, is included as Appendix I.

The Observatory Mesa vicinity has been widely used by the Flagstaff community for decades as a hunting ground, off-road driving area, and outdoor recreation location. Varied recreational use resulted in a strong community interest in permanently protecting the area. In 2004, Flagstaff voters approved a \$5.5-million-dollar bond dedicated to acquiring approximately 480 acres of Arizona State Trust land on Observatory Mesa to provide permanent natural open spaces for public use and to preserve the unique conservation values of the area.

Additionally, Observatory Mesa is an important component of the Flagstaff-area ecosystem. A number of drainages, seeps, and springs make it an important component of the Rio de Flag watershed. It is located within an important wildlife corridor that provides habitat for large mammals traveling between the San Francisco Peaks and Mogollon Rim. Special-status species, including northern goshawk, Mexican spotted owl, and bald eagle are known to utilize the property during their life span. It also provides a natural buffer between the Forest Service property to the west and downtown Flagstaff.

Prior to the City's acquisition in 2013, the property was owned by the Arizona State Land Department and operated as State Trust Land. Arizona State Trust lands are held in trust and managed for the sole purpose of generating revenues for the 13 State Trust land beneficiaries, the largest of which is Arizona's K-12 education system. In 1996, the Arizona State Legislature passed HB 2555, the Arizona Preserve Initiative, which was designed to encourage the preservation of select parcels of State Trust Land in and around urban areas for open space to benefit future generations.

In 2013, the City of Flagstaff purchased the property for \$12,415,960.00 under the Arizona Preserve Initiative. \$5.5 million dollars from the 2004 Observatory Mesa bond and \$775,000

from the 2004 Flagstaff Urban Trail System/Neighborhood Open Space bond were leveraged with \$6 million dollars from an Arizona State Parks Growing Smarter grant to purchase the property.

As part of the acquisition process, a conservation easement was granted to Arizona State Parks, outlining improvement and development limitations associated with the property (Appendix J) to ensure the property is retained forever in predominantly the condition reflected in the Baseline Documentation identified as part of the grant application. The easement also restricts the use of the property to passive recreational uses. Subsequently, the City of Flagstaff Open Space Program is required to submit annual reports to Arizona State Parks outlining all improvement projects (Appendix K).

In 2016, the City of Flagstaff rezoned the entire property to Public Open Space and annexed Section 12 into City Limits.

Observatory Mesa Natural Area

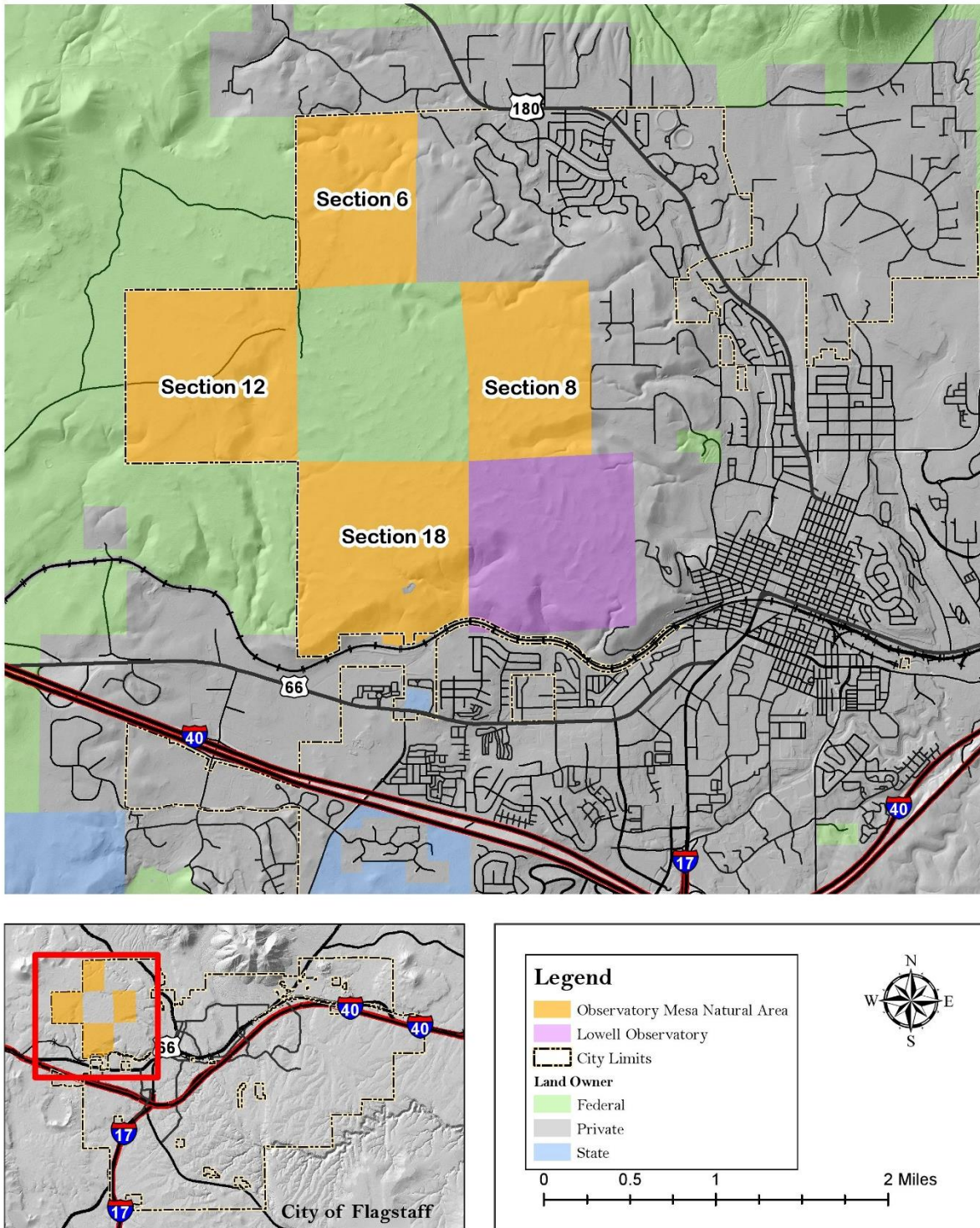


Figure 6: Observatory Mesa Natural Area land ownership and vicinity map.

4.2 Natural Resources

Central to the overall management of Observatory Mesa Natural Area will be the effective management of its natural resources. The water, wildlife, vegetation, and geologic resources are important factors that supported the acquisition of the property and the establishment of the Natural Area. To ensure the protection of the biological, physical, and visual resources, specific management objectives, policies, and planned management actions have been identified.

4.2.1 Water Resources

Summary of Current Conditions: There are several significant first order ephemeral streams/drainages which flow to the north and west into the Rio de Flag, and to the south into Clay wash which flow directly into the Rio de Flag (Figure 7). Two intermittent streams in Section 6 are tributaries of the Rio de Flag. Another intermittent stream in the northeast quarter of Section 8 flows to the east into the Rio de Flag. Section 12 has three intermittent streams, one of which feeds into Belle Spring in the adjacent Forest Service section. Section 18 has an intermittent stream that originates from Tunnel Spring. Sections 6 and 8 also contain ephemeral water sources that feed Matson Tank on the adjacent Forest Service section. These intermittent streams make Observatory Mesa Natural Area an important component of the Rio de Flag watershed. It is important to note that none contain true riparian habitat due to the ephemeral nature of these drainages.

In addition to intermittent streams, there are also several water tanks for wildlife and livestock within Observatory Mesa Natural Area, including Truck Tank, Lang Tank, and a number of unnamed tanks (Figure 7). There are also tanks located on adjacent Forest Service property, including Matson Tank and Observatory Tank.

Tunnel Springs is located on adjacent City-owned property just outside of the Natural Area boundary. Belle Spring is located adjacent to the project boundary, just south of Section 12. These sites, though not riparian areas, are important to the ecosystems and should be managed appropriately. These springs and seeps are generally located along the periphery of the Observatory Mesa escarpment, and occasionally along rock outcrops in the drainages.

Management Goal: The Natural Area will be managed to maintain or improve surface and ground water quality, surface water flow, ground water levels, and overall watershed health.

Management Policies: In addition to the overarching management policies regarding water resources (Chapter 2.1.1), the following policies apply to the management of water resources within Observatory Mesa Natural Area.

- Protect and enhance the surface and ground water resources, including springs, earthen tanks, and other wildlife waters, associated with the overall Observatory Mesa watershed.
 - Protect Tunnel Spring from upslope erosion and recreational impacts.

Planned Management Actions: Planned management actions regarding water resources are outlined in Chapter 2.1.1.

Observatory Mesa Drainages, Springs and Tanks

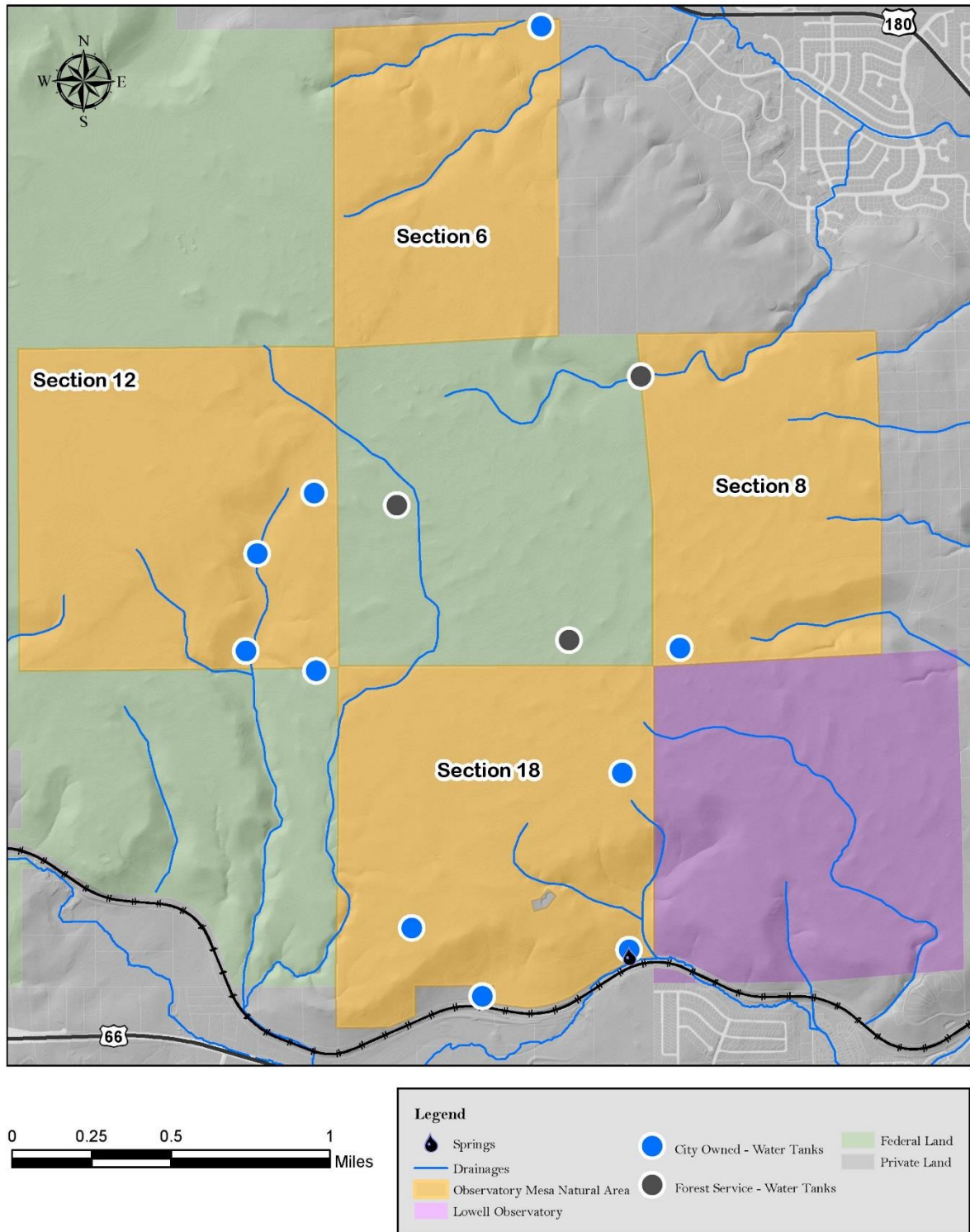


Figure 7: Drainages, wildlife waters, and spring locations within Observatory Mesa Natural Area.

4.2.2 Vegetative Resources

Summary of Current Conditions: Observatory Mesa is a diverse area that supports suitable conditions for many woody, forb, and grass species. The biodiversity within the property is typical of a northern Arizona ponderosa pine forests. The overstory is comprised almost entirely of ponderosa pine (*Pinus ponderosa*), with small pockets of Gambel oak (*Quercus gambelii*). A small number of Douglas fir (*Pseudotsuga menziesii*) trees were identified on north-facing slopes during the field inventory process. The understory shrubs and grasses are primarily comprised of: Arizona rose (*Rosa arizonica*), Arizona fescue (*Festuca arizonica*), mountain muhly (*Muhlenbergia montana*), western wheat grass (*Agropyron smithii*), blue grama (*Bouteloua gracilis*), squirreltail (*Elymus elymoides*), silver lupine (*Lupinus argenteus*), and Rocky Mountain iris (*Iris missouriensis*).

A large portion of Section 12 was burned in the Belle Fire in 1951 and is now an open, savannah-like area. The underlying soils are not indicative of a grassland and therefore the area will need to be actively managed, using methods like tree removal and prescribed fire, to achieve the “grassland” characteristics.

The parcel and surrounding lands within a five-mile buffer provide habitat for seven sensitive plant species, as identified by State and Federal offices (Table 9). The property has not been surveyed for specific instances of these plants and a comprehensive survey is needed to determine if and where these sensitive plants are located on Observatory Mesa Natural Area.

Table 9: Sensitive plant species identified within 5-mile radius of Observatory Mesa Natural Area.

Common Name	Scientific Name	Identification Agency
Mogollon Columbine	<i>Aquilegia desertorum</i>	State
Rusby’s Milkvetch	<i>Astragalus rusbyi</i>	USFS
Clustered Leather Flower	<i>Clematis hirsutissima</i>	USFS
Flagstaff False Pennyroyal	<i>Hedeoma diffusa</i>	USFS, State
Seashore Cactus	<i>Opuntia martiniana</i>	State
Green Death Camas	<i>Zigadenus virescens</i>	State

Exotic and invasive species are also present throughout the Natural Area, including Dalmation toadflax (*Linaria dalmatica*), common mullein (*Verbascum thapsus*), diffuse knapweed (*Centaurea L.*), bull thistle (*Cirsium vulgare*), Scotch thistle (*Onopordum acanthium*), leafy spurge (*Euphorbia esula*), yellow sweet clover (*Melilotus officinalis*), and many species in the *Bromus* genus, including cheatgrass (*Bromus tectorum*). The San Francisco Peaks Weed Management

Area, Coconino National Forest¹³, and Coconino County have identified invasive species with potential to pose the greatest threat to forest resources in order to help prioritize treatments (Table 10).

Table 10: Invasive weeds of concern in Coconino County, as identified by the San Francisco Peaks Weed Management Area, Coconino National Forest, and Coconino County, with hyperlinks to information about effective treatment and eradication.

*Note: Species are listed in alphabetical order, not order of importance.

Common Name	Scientific Name	Treatment Notes
Barbwire Russian thistle	<i>Salsola paulsenii</i>	UC IPM
Bull Thistle	<i>Cirsium vulgare</i>	USFS FEIS
Camelthorn	<i>Alhagi maurorum</i>	WA NWCB
Canada thistle	<i>Cirsium arvense</i>	Purdue Bot
Cheatgrass/Downy brome	<i>Bromus tectorum</i>	Plants.USDA
Common purslane	<i>Portulaca oleracea</i>	UNCE
Dalmation toadflax	<i>Linaria dalmatica dalmatica</i>	UNCE
Diffuse knapweed	<i>Centaurea diffusa</i>	USFS FEIS
Dyer's Woad	<i>Isatis tinctoria</i>	CDFA
Eurasian water milfoil	<i>Myriophyllum spicatum</i>	CAL IPC
Field bindweed	<i>Convolvulus arvensis</i>	UNCE
Flannel mullein	<i>Verbascum thapsus</i>	UNCE
Goathead/Puncturevine	<i>Tribulus terrestris</i>	UC IPM
Halogeton	<i>Halogeton glomeratus</i>	Plants.USDA
Japanese brome/Field brome	<i>Bromus arvensis</i>	UNCE
Jointed goatgrass	<i>Aegilops cylindrica</i>	CDFA
Kochia	<i>Bassia scoparia</i>	USFS FHP
Leafy spurge	<i>Euphorbia esula</i>	NPS IPM
Malta starthistle	<i>Centaurea melitensis</i>	CAL IPC
Mediterranean sage	<i>Salvia aethiopis</i>	UNCE
Musk thistle	<i>Carduus nutans</i>	UNCE
Oats	<i>Avena fatua</i>	UC IPM
Oxeye daisy	<i>Leucanthemum vulgare</i>	UNCE
Poison hemlock	<i>Conium maculatum</i>	CAL IPC

¹³ As identified in the ["Final Environmental Impact Statement for the Integrated Treatment of Noxious or Invasive Weeds"](#), 2005.

Prickly russian thistle	<i>Salsola tragus</i>	UC IPM
Red brome	<i>Bromus rubens</i>	Bugwood TNC
Ripgut brome	<i>Bromus diandrus rigidus</i>	UNCE
Russian knapweed	<i>Acroptilon repens</i>	USFS FEIS
Russian olive	<i>Elaeagnus angustifolia</i>	USFS FEIS
Salsify/Goatsbeard	<i>Tragopogon dubius</i>	USFS FEIS
Scotch thistle	<i>Onopordum acanthium</i>	UNCE
Siberian elm	<i>Ulmus pumila</i>	NPS IPM
Spotted knapweed	<i>Centaurea stoebe micranthos</i>	USFS FEIS
Spotted spurge	<i>Chamaesyce maculata</i>	UC IPM
Sulfer cinquefoil	<i>Potentilla recta</i>	KingCo NWCP
Tamarisk/saltcedar	<i>Tamarix ramosissima</i>	USFS FEIS
Teasel	<i>Dipsacus fullonum</i>	USFS FEIS
Tree of Heaven	<i>Ailanthus altissima</i>	NPS IPM
White horehound	<i>Marrubium vulgare</i>	CAL IPC
Whitetop/Hoary cress	<i>Cardaria draba</i>	CAL IPC
Yellow starthistle	<i>Centaurea solstitialis</i>	UNCE
Yellow/White sweetclover	<i>Melilotus officinalis</i>	UC IPM

Before the City's acquisition of the Natural Area, the property was leased for grazing by the Arizona State Land Department and Coconino National Forest. The U.S. Forest Service continues to manage a cattle grazing allotment on adjacent Forest Service property, including the center section (7). The A-1 Mountain Grazing allotment includes 5 separate pastures (Figure 9) for the grazing permittee to move cattle between. There is City-owned and Forest Service-owned infrastructure (e.g. fencing, tanks) on the Property (Figure 8). The City is only able to maintain and/or upgrade City-owned infrastructure, and must coordinate with the Forest Service for any modifications to the Forest Service-owned infrastructure. It is important to note that Arizona is a "fence out" state and therefore grazing will likely continue to occur on sections 12 and 18 until boundary fencing is repaired or constructed along the boundary to exclude cattle from the City-owned property. The grazing permit was most recently renewed in 2016 and is on a 10-year renewal schedule. The allotment is available for 99 cattle and is usually grazed each year between June and October. A specific pasture schedule can be obtained from the Forest Service at the beginning of each summer season. More information about the City's facility development plans for the property is included in Chapter 4.4.6.

Management Goal: Legally-designated open space properties will be managed to restore and enhance the native plant communities present on the site while also reducing invasive species populations.

Management Policies: In addition to the general management policies regarding managing vegetative resources (Chapter 2.1.2), the following policies apply to the management of vegetative resources within Observatory Mesa Natural Area.

- Maintain grassland communities and prevent encroachment and degradation using science-based forest treatment methods.

Planned Management Actions: In addition to the general management policies regarding managing vegetative resources (Chapter 2.1.2), the following actions are planned for the Natural Area.

- Maintain City-owned fencing and/or infrastructure to limit the potential for cattle trespass onto City property.
- Construct additional fencing and infrastructure along boundaries to limit the potential for cattle trespass onto City property.
- Coordinate with Coconino National Forest and grazing permittee to maintain and improve Forest Service fencing and/or infrastructure to limit the potential for cattle trespass onto City property.

Observatory Mesa Natural Area Infrastructure

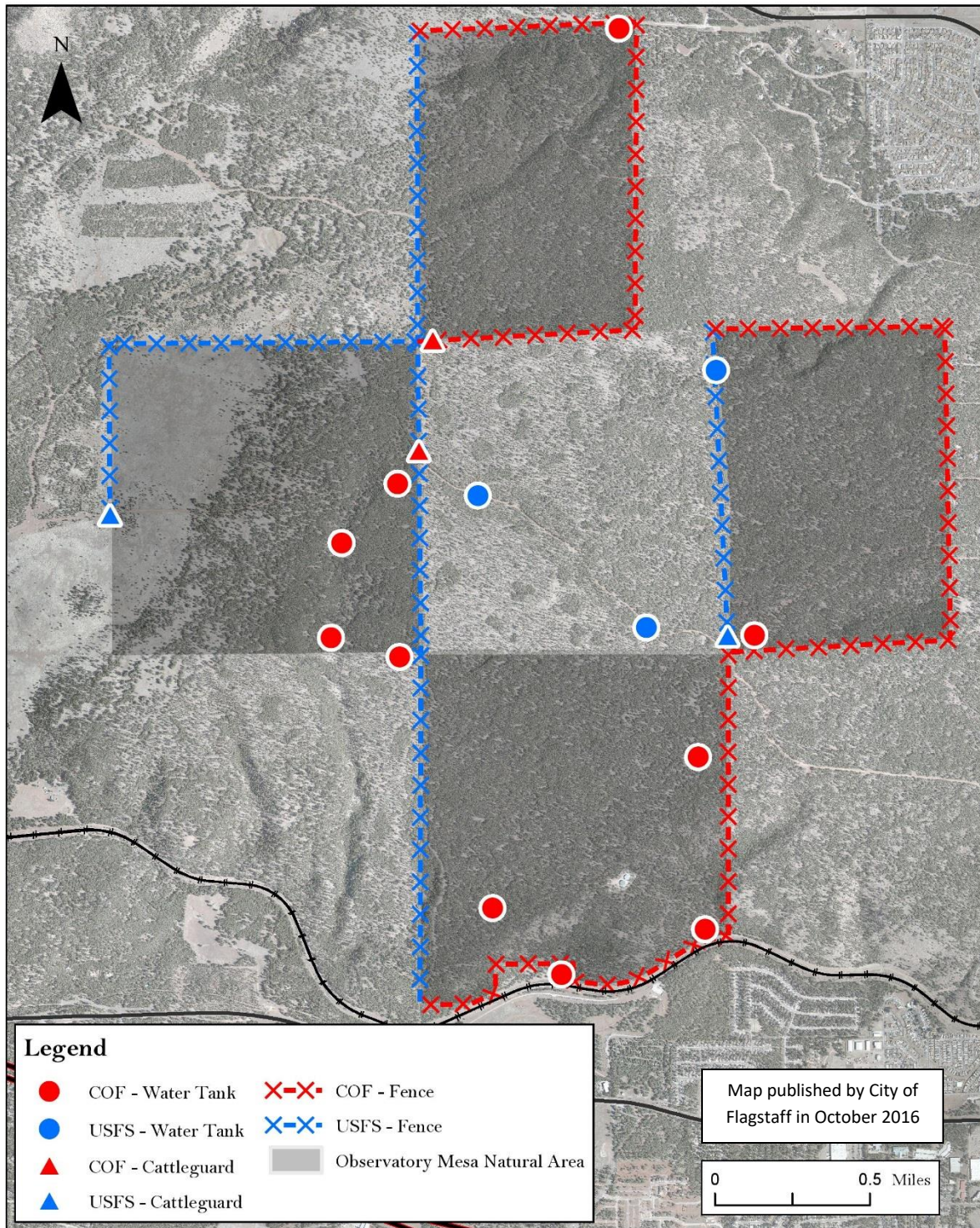


Figure 8: City and Forest Service infrastructure, including fences, cattle guards, and tanks within Observatory Mesa Natural Area.

A-1 Mountain Allotment

Pastures with Open Roads

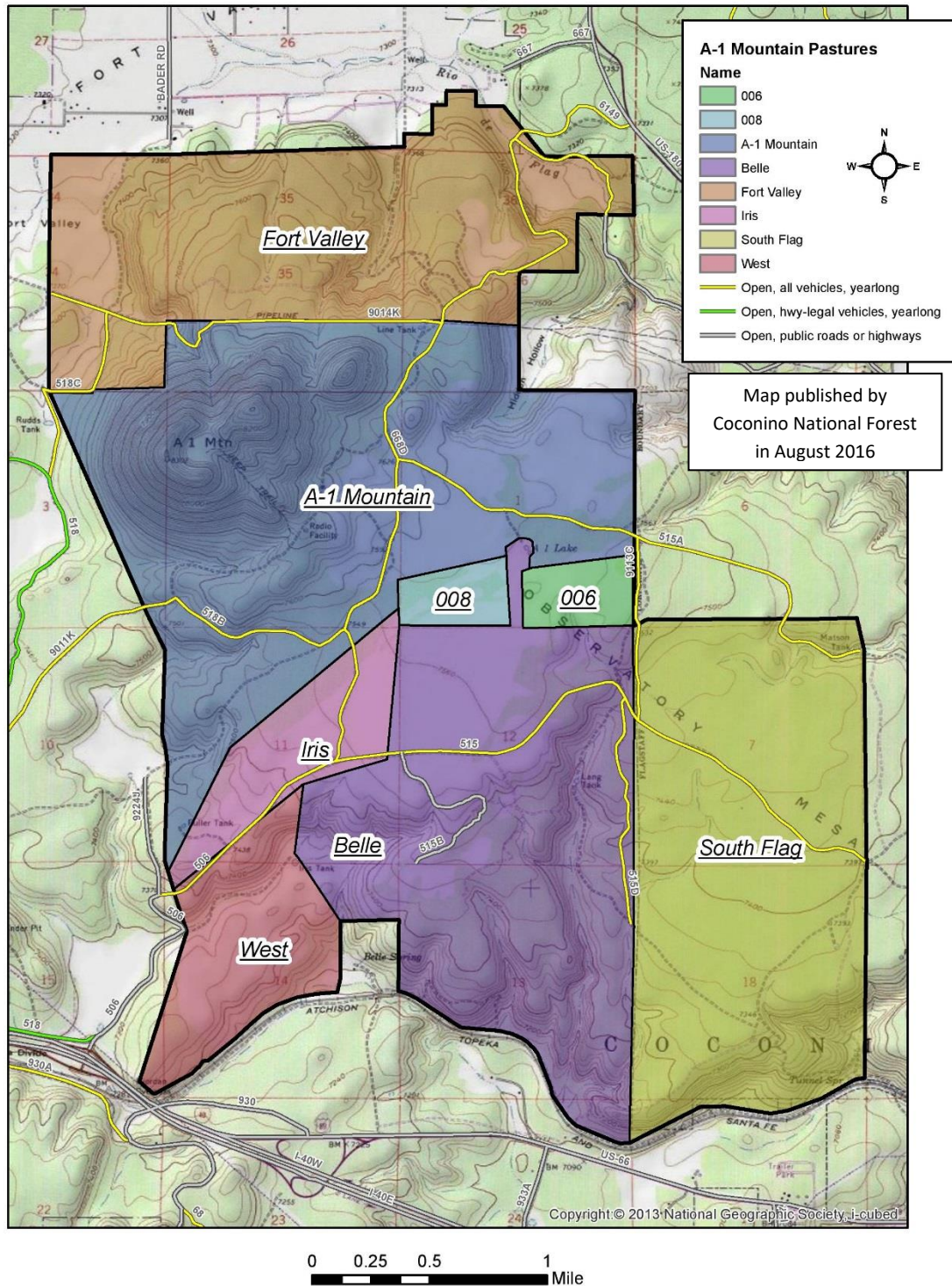


Figure 9: Pastures within the A-1 Mountain Grazing Allotment. Sections 12 and 18 have been removed from the Belle and South Flag pastures, but lack of pasture fencing allows for cattle trespass and those areas to be grazed.

4.2.3 Forest Health

Summary of Current Conditions: Prior to the City’s acquisition, this property was owned by the Arizona State Land Department and primarily managed for timber harvest and livestock grazing. Numerous sawtimber, pulp-wood, and firewood harvests have occurred on the property since the early 1900s:

- In Section 6, sawtimber harvests occurred in 1919, 1925, 1950, and 1972 with pulpwood sales in 1964 and 1975.
- In Section 12, sawtimber harvests occurred in 1919, 1925, 1951, 1973 with pulpwood sales in 1964 and 1974.
- In Section 8, sawtimber harvests occurred in 1919, 1925, 1972 with pulpwood sales in 1964 and 1975.
- In Section 18, sawtimber harvests occurred in 1919, 1925, 1955, 1973 with pulpwood sales in 1964 and 1974.

This resulted in a relatively young, even-aged forest with little vertical or horizontal structure and little understory of shrubs, forbs, and grasses. Additionally, the forest density on the property is much higher than historic conditions. There are expansive stands of small diameter ponderosa pine. Forest restoration utilizing mechanical thinning and prescribed fire is needed to restore heterogeneity to the forest structure and eventually return it to something within the range of natural variability, improve understory cover, and reduce the risk of wildfire.

Observatory Mesa Natural Area is in overall fair/good forest health. However, there are indicators that suggest some forest health issues, including pitch tubes on single trees (which is indicative of bark beetle activity), orange “flagging” of needles on lower branches, branches with little or no new growth, moderate size trees standing dead or recently fallen, “tight” growth rings indicating stress and competition among trees, and dwarf mistletoe in areas.

In 2015, Arizona State Forestry Division and Flagstaff Fire Department prepared a Forest Stewardship Plan for Observatory Mesa (Appendix L). This Plan includes recommendations for managing about multiple resource elements including: soil, water, biological diversity, aesthetic quality, recreation, timber, fish and wildlife, threatened and endangered species, forest health, cultural sites, wetlands, and fire.

Since the City’s acquisition, Flagstaff Fire Department has coordinated multiple forest health improvement projects on the property utilizing funds from the Flagstaff Watershed Protection Project bond and grant funding from multiple state and federal agencies. A mosaic of mechanized

and hand treatments have been implemented across the property (Figure 10), with the primary goal being fuel reduction.

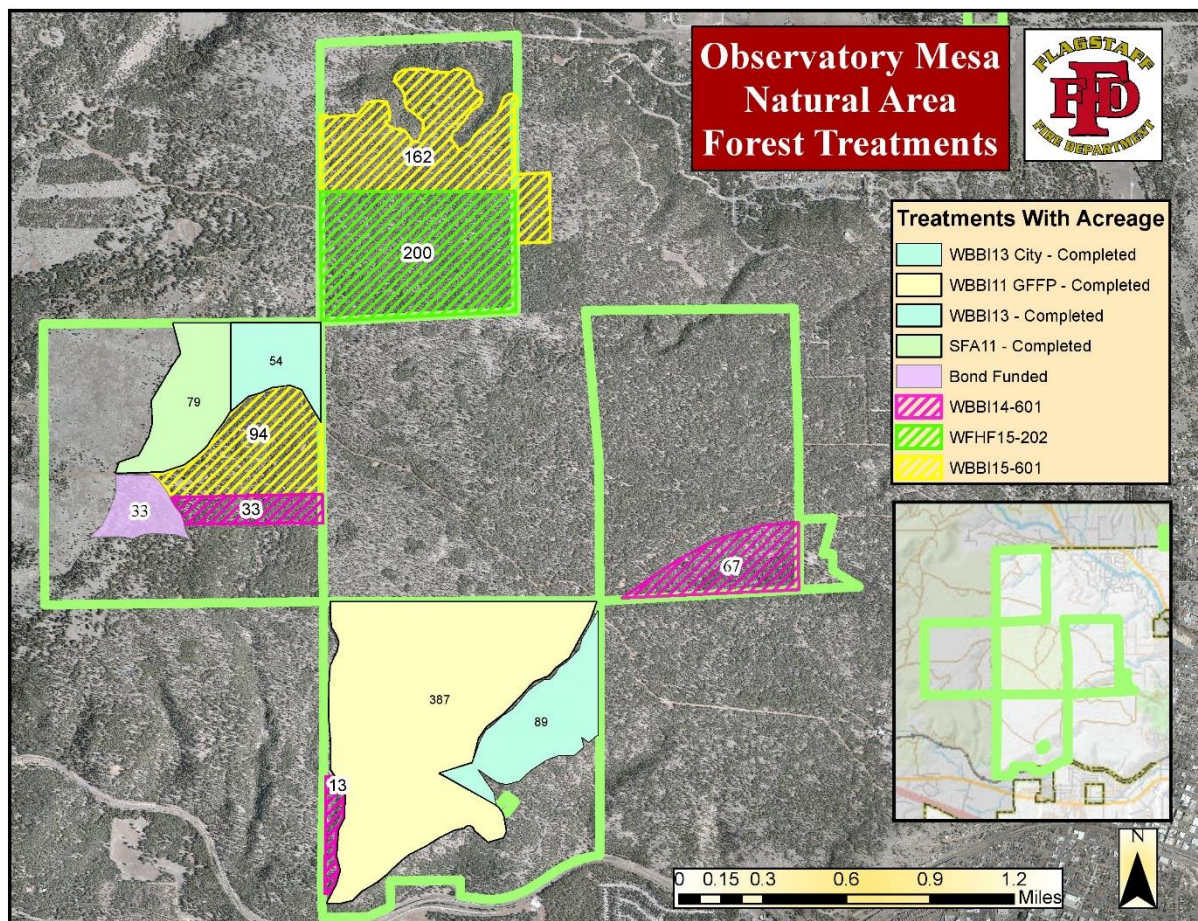


Figure 10: Forest Treatments on Observatory Mesa Natural Area, as of August 2016.

Management Goal: Legally-designated open space properties will be actively managed to achieve a forest structure that is resistant and resilient to wildfire or other disturbances and continues to provide ecosystem services to the surrounding community.

Management Policies and Actions: General management policies and actions related to managing forest health resources are outlined in Chapter 2.1.3 of this document.

4.2.4 Wildlife Resources

Summary of Current Conditions: Observatory Mesa Natural Area contains a variety of geologic, topographic, and vegetative characteristics that provide a diversity of wildlife habitats. Several vegetation types are present in the region, including ponderosa pine forest, stands of Gambel oak, high-elevation grassland and shrub-steppe, and numerous springs and seeps. These habitats provide essential resources for diverse wildlife, including: elk, mule deer, pronghorn, grey fox, several species of squirrels, chipmunks and other small mammals, porcupine, mountain lion, black bear, various species of bats, turkey, raptors including red-tailed hawk, sharp-shinned hawk, and several owls, migratory and resident songbirds, and reptiles and amphibians such as chorus frogs and short-horned lizards.

The Arizona Game and Fish Department recognizes Observatory Mesa Natural Area and the surrounding area as an important link in a landscape-scale wildlife corridor known as the Woody Ridge Corridor, which connects habitat on the San Francisco Peaks with lower-elevation shrub and grassland habitat near the Mogollon Rim. Protecting wildlife movement corridors, including Woody Mountain Corridor, is important for numerous species because they need to access different resources seasonally and in response variations in precipitation from year to year. This corridor supports migratory movements of a wide range of species including those cited above.

Observatory Mesa Natural Area is within Arizona Game and Fish Department game management unit 11M, a metropolitan hunting unit that encompasses the greater Flagstaff area. Subsequently, hunting opportunities remain available in the Natural Area for antelope, black bear, mule deer, elk, and turkey. Rifle hunting and the discharge of firearms is prohibited throughout the entire property given its location within City limits, but archery is allowed in all four sections of Observatory Mesa Natural Area (Table 11). Open seasons for each species are variable, but generally, the area is open for hunting between August and October. Hunting of any kind is not permitted within ¼ mile of an occupied residence, building, or trailhead within Flagstaff City limits. Additional information about hunting in 11M is available on the [Arizona Game and Fish Department website](#).

Table 11: Hunting regulations for Observatory Mesa Natural Area.

Method	Regulations for Observatory Mesa Natural Area and Forest Service Section 7
Hunting with a rifle	Not allowed given location within metropolitan game management unit 11M.
Hunting with a shotgun	Not allowed given location within City limits.

Archery Hunting	Allowed only if at least ¼ mile from an occupied building, wildlife viewing platform, picnic area or trailhead.
Retrieval of game	Motorized vehicles are restricted to open roads. Cross-country motorized game retrieval is prohibited (per City regulations).
Target practice	Not allowed given location within City limits.

Observatory Mesa Natural Area and surrounding lands within a 5-mile buffer provide habitat for fourteen sensitive species, as identified by state and federal offices (Table 12). It is important to note that these species may or may not occur within Observatory Mesa Natural Area and the City will need to work with partners to survey and inventory sensitive species on the Property. Special forest management considerations for Northern Goshawk, Bald Eagle, Mexican spotted owl, and general bat species are included in the following pages.

Northern goshawk nest areas have been identified within the Natural Area (Figure 11). A post fledgling area (PFA) was identified by the Forest Service in 1993 and spans across City, Forest Service, and Lowell Observatory properties. It is unknown if this continues to be an actively used nest area. Additionally, in 2016, the Forest Service located 2 northern goshawk nest trees in Section 6 of the Natural Area. A PFA has not been formally identified, but the drainage area was deferred from the mechanical cutting area to protect the sensitive species.

Table 12: Sensitive wildlife species identified within 5-mile buffer of Observatory Mesa Natural Area.

Common Name	Scientific Name	Identification Agency
Northern Goshawk	<i>Accipiter gentilis</i>	FWS, USFS, BLM, State
Bald Eagle	<i>Haliaeetus leucocephalus</i>	FWS, USFS, BLM, State
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	FWS, State
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	FWS, USFS, BLM, State
Golden Eagle	<i>Aquila chrysaetos</i>	FWS, BLM
Greater Western Bonneted Bat	<i>Eumops perotis californicus</i>	FWS, USFS, BLM
California Condor	<i>Gymnogyps californianus</i>	FWS
Allen's Lappet-browed Bat	<i>Idionycteris phyllotis</i>	FWS, USFS, State
Navajo Mexican Vole	<i>Microtus mexicanus Navaho</i>	FWS
Long-eared Myotis	<i>Myotis evotis</i>	FWS, BLM
Arizona Myotis	<i>Myotis occultus</i>	FWS
Fringed Myotis	<i>Myotis thysanodes</i>	FWS
Long-legged Myotis	<i>Myotis volans</i>	FWS

Northern Leopard Frog	<i>Rana pipiens</i>	USFS, BLM, State
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Northern Goshawk: Geographical information provided by the Arizona Game and Fish Department does show that a northern goshawk post-fledging family area is located within Observatory Mesa Natural Area. The northern goshawk is protected under the Migratory Bird Treaty Act and is currently listed as a “Species of Concern”. The post-fledging area (PFA) is an area used by young goshawks until they are no longer dependent upon adult goshawks for food. A PFA is typically 600 acres in size, close to a goshawk nest, and functions to provide cover for young goshawks from predators.

Efforts will be made to avoid impacts to breeding birds, maintain or enhance large tree density and canopy cover at nest sites. Breeding season or other seasonal times for project activity avoidance, which may need to be taken into consideration. Harvesting, hauling, and other loud activities within occupied Post-Fledgling Areas (PFAs) should not occur during the breeding season; March 1 to September 30.

Recommendations for maintaining adequate stand conditions within northern goshawk habitat include¹⁴:

- Keep the canopy cover greater than 50 percent in nest stands and PFAs.
- Manage for uneven-age stand conditions for live trees and retain live reserve trees, snags, downed logs, and woody debris levels throughout ponderosa pine forest cover types.
- Manage for old age trees such that as much old forest structure as possible is sustained over time across the landscape.
- Sustain a mosaic of vegetation densities (overstory and understory), age classes, and species composition across the landscape.
- Limit human activity in nesting areas during the breeding season (March 1 – September 30).
- Manage the ground surface layer to maintain satisfactory soil conditions to minimize soil compaction and to maintain hydrologic and nutrient cycles.
- Maintain a well-developed understory that includes snags.
- High intensity crown fires are not acceptable in the PFA or nest areas.

Bald Eagle: The bald eagle is no longer listed under the Endangered Species Act (ESA) as Endangered (removed in 2007), but is protected under the Bald and Golden Eagle Protection Act

¹⁴ Reynolds, Richard T.; Graham, Russell T.; Reiser, M. Hildegard; and others. 1992. Management recommendations for the northern goshawk in the southwestern United States. Gen. Tech. Rep. RM-217, Ft. Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. 90 p.

(BGA). Populations of eagles may occur year-round within the vicinity of Observatory Mesa Natural Area.

Mexican Spotted Owl: The Mexican Spotted Owl (MSO) is currently federally listed as a threatened species. The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the Endangered Species Act. As of the adoption of this plan, there are no known MSO Protected Area Centers within the vicinity of the Natural Area.

Bat Species: Six sensitive bat species have been identified within a 5-mile radius of Observatory Mesa and their habitat requirements should be considered during management planning. Bats tend to roost in snags, tree cavities, downed logs, or rock piles, making it important to retain snags and downed woody debris. Bats generally forage along forest edges, forest roads, trails, or natural openings and prefer a heterogeneous forest structure. Additionally, bats rely on clean, pooled, open bodies of fresh water as their water source.

Management Goal: Observatory Mesa will be managed to maintain and enhance a diversity of habitats that support native wildlife species, emphasizing the protection of rare habitat types and special-status species.

Management Policies: General management policies associated with managing wildlife resources are outlined in Chapter 2.1.4 of this plan.

Planned Management Actions: In addition to the general management actions regarding managing wildlife resources (Chapter 2.1.4), the following actions are planned within the Natural Area.

- Establish a partnership with Arizona Game and Fish Department to develop a Watchable Wildlife program on the property.

Northern Goshawk Nest Areas within Observatory Mesa Natural Area

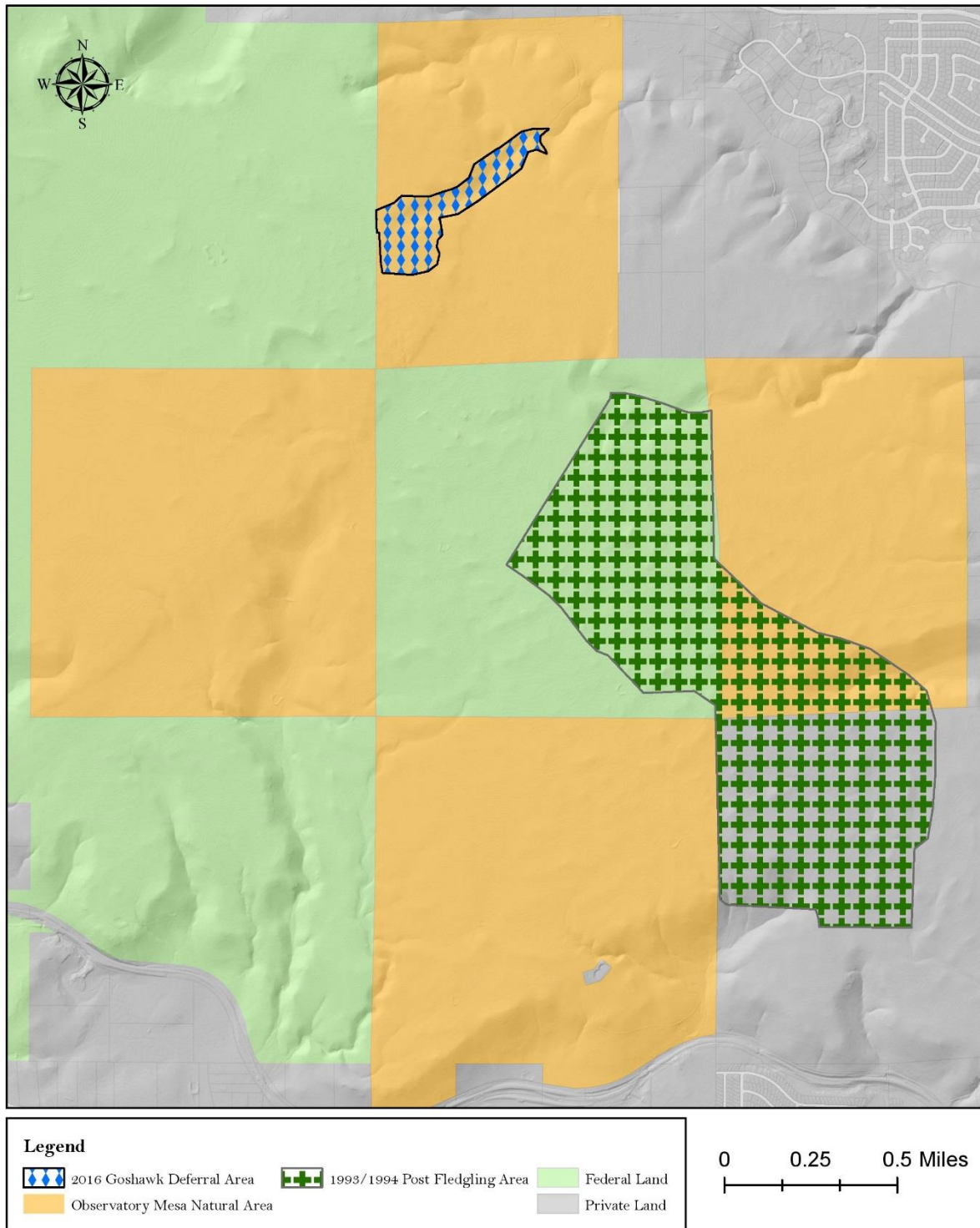


Figure 11: Northern Goshawk nest stand and post-fledgling areas identified in the Observatory Mesa Natural Area vicinity (including Forest Service and Lowell Observatory property).

4.3 Cultural and Historic Resources

Summary of Current Conditions: As part of the acquisition process, Cornerstone Environmental Consulting, LLC completed a cultural resource survey¹⁵ of the property in 2013 (Appendix M). This survey found that the Natural Area does not have a significant number of cultural and/or historic resources and none of the existing resources are eligible for inclusion to the National Register of Historic Places. There is one site with a moderate density of prehistoric flaked stone scatter near the boundary of Section 6 of the Natural Area and Section 7, the adjacent Forest Service parcel.

The area played a role in pioneer and Native American history, but there is little physical evidence on the property. There are several old roadbeds that are supported by hand-built rock walls. Additionally, the old sandstone railroad bridge abutments found just south of the current tracks in Section 18 are the oldest in Flagstaff. These are remnants of the Atlantic and Pacific Railroad line, which came to Flagstaff in 1881. There is a historic Euroamerican livestock staging area located near Tunnel Springs in Section 18 and multiple historic Euroamerican can dumps dated between 1915 and 1930 located throughout the property. Specific details about all of these sites can be found in the cultural resource survey (Appendix M).

Management Goal: Legally-designated open space properties will be managed to preserve, protect, and interpret the cultural and historic resources present on the property.

Management Policies and Actions: General management policies and actions associated with managing cultural and historic resources within legally-designated open space properties are outlined in Chapter 2.2 of this plan.

¹⁵ "A Cultural Resources Survey of 2,260 Acres on Observatory Mesa in Flagstaff, Coconino County, Arizona". Cornerstone Environmental Consulting, LLC. 2013.

4.4 Public Use

Introduction: Observatory Mesa Natural Area provides a buffer between developed and developing residential lands and undeveloped forest properties. It serves as “neighborhoods” for downtown Flagstaff, Cheshire, Linwood, and Coconino Estates neighborhoods. Subsequently, Observatory Mesa Natural Area receives substantial recreational use due to its proximity to the above-mentioned neighborhoods and the downtown area. Additionally, the property is heavily used by the broader Flagstaff community and is showing the effects of unmanaged recreation and public use, including visible signs of deterioration and degradation, including a proliferation in user-created trails, off-road vehicle damage, and trail width expansion.

The conservation easement limits public use to those that do not materially degrade the conservation values of the property. Therefore, there is a focus on providing passive recreational uses within the Natural Area (Table 13). If you are interested in using the property for a use that is not included in Table 5, contact the Open Space Program at NaturalAreas@flagstaffaz.gov.

Table 13: Permitted and Prohibited Recreational Uses of Observatory Mesa Natural Area.	
Permitted Uses	Prohibited Uses
Cross Country Skiing	Campfires
Driving on Designated Roads	Camping
Geocaching	Fuelwood Collection (except with permit)
Hiking/Running	Off-Road Driving
Horseback Riding	
Hunting (with permit)	
Large-Scale Activities/Events (with permit)	
Mountain Biking	
Nature Study/Environmental Education	
Snow Shoeing	
Wildlife Watching	

This section of the Plan focuses on public access, recreational use, roads, easements and leases, education and research, and facility development within the Natural Area.

4.4.1 Access Management

Summary of Current Conditions: There are motorized and non-motorized access points to Observatory Mesa Natural Area.

- Authorized, legal motorized access points include:
 - Forest Service roads that are designated as “Open” under the Travel Management Rule (Figure 12). As of 2016, this includes:

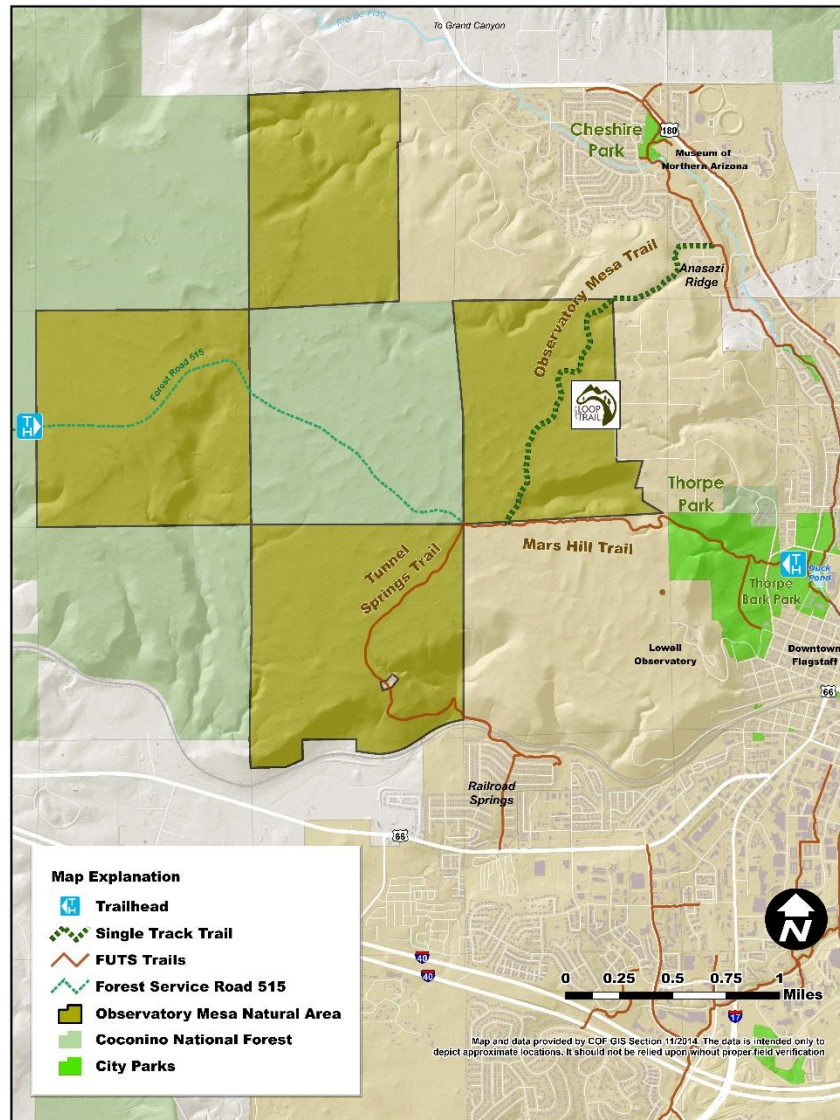


Figure 13: Official trail system on Observatory Mesa, comprising non-motorized access from the Mars Hill, Tunnel Springs, and Observatory Mesa trails.

Management Goal: Legally-designated open space properties will be managed to ensure reasonable public access for motorized and non-motorized recreational activities within the framework of the Arizona State Parks conservation easement.

Management Policies: General access management policies are outlined in Chapter 2.3.1 of this plan.

Planned Management Actions: In addition to the planned management actions regarding access management (Chapter 2.3.1), the following actions are planned within the Natural Area.

- Investigate potential for implementing a speed limit along A-1 Mountain Road.

4.4.2 Recreational Use

Summary of Current Conditions: Observatory Mesa Natural Area is a day use area and overnight uses, including camping, are strictly prohibited. A broad array of recreational day activities are currently available on the property, including hiking, bicycling, horseback riding, cross-country skiing, and snow shoeing. At the time of publication of this Plan, there were three designated, authorized trails within the Natural Area (Figure 13), although a comprehensive survey of the property identified a significant number of user-created, unauthorized trails traversing the property (Figure 14).

- The Observatory Mesa Trail is a component of the Flagstaff Loop Trail, which was established in partnership with Coconino County. There is a 20-foot-wide trail easement. It is a natural surface, single track trail. The right-of-way is for public non-motorized access only, including hikers and bicyclists. Coconino County is responsible for maintaining the trail.
- The Tunnel Springs and Mars Hill Trails are popular segments of the Flagstaff Urban Trail System. These trails are surfaced with “FUTS mix”, comprising of cinders, dirt, and other aggregates. These trails are used for non-motorized forms of recreation, including hiking and bicycling. Authorized vehicles can traverse the trail using vehicles. The City of Flagstaff Parks Department is responsible for maintaining the trail.

Additionally, Observatory Mesa Natural Area is within Arizona Game and Fish Department game management unit 11M, a metropolitan hunting unit. Hunting opportunities remain available in the Natural Area, including archery. Rifle hunting and the discharge of firearms is prohibited throughout the entire property given its location within City limits. Big game archery-only hunting is allowed in all four sections of Observatory Mesa Natural Area. Hunting of any kind is not permitted within ¼ mile of an occupied residence, building, or trailhead within Flagstaff City limits. See Table 11 (Chapter 4.2.4) for additional information about hunting regulations on Observatory Mesa.

Management Goal: Observatory Mesa Natural Area will be managed to provide a wide array of developed and dispersed day-use recreational opportunities.

Management Policies: In addition to the general management policies regarding recreational use outlined in Chapter 2.3.2, the following management policies apply to Observatory Mesa Natural Area.

- Permit large-scale special events, upon receipt of a Special Event Permit via the City of Flagstaff Office of Community Events.

- Permit motor vehicle use on Forest Service roads designated as “open” for public use under the most recent Travel Management Rule.

Planned Management Actions: In addition to the general planned management actions regarding recreational use (Chapter 2.3.2), the following actions are planned for the Natural Area.

- Establish a Trail System Plan for the Natural Area, in partnership with adjacent landowners, state/federal agencies, local organizations, and other stakeholders.
- Host at least one stakeholder meeting each year to provide a platform to discuss management considerations, improvement projects, and the status of the property.

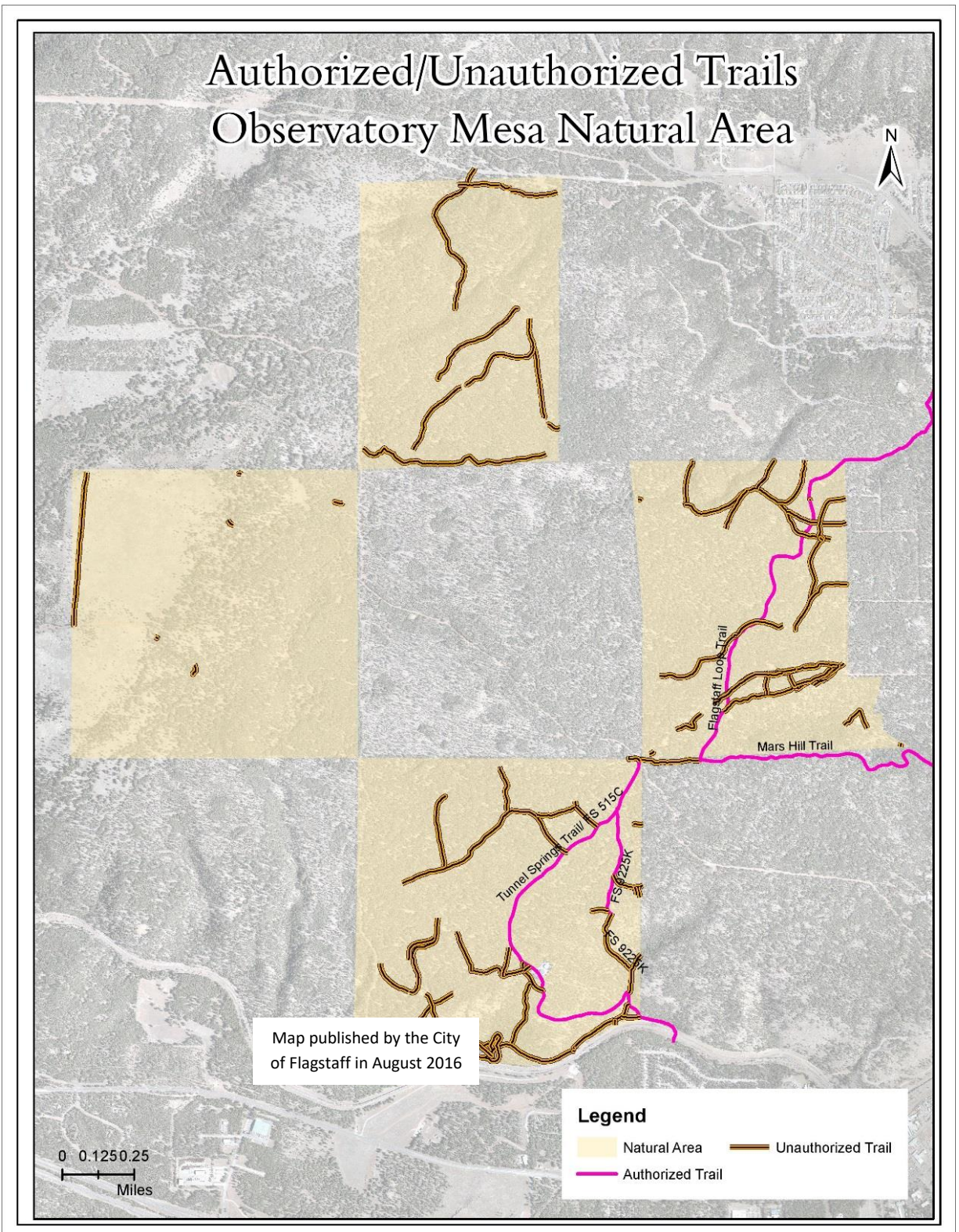


Figure 14: Authorized trails included in the official Trail System Plan and unauthorized, user-created trails on Observatory Mesa Natural Area, as identified in a field survey conducted in August 2016.

4.4.3 Roads

Summary of Current Conditions: The Forest Service holds easements for a number of roads on the property, many of which have been closed to public motorized use as part of the Travel Management Rule (TMR) process. Due to resource constraints, these “closed” roads are not signed or physically blocked off and visitors are required to reference an updated Travel Management Map to know if roads are “open” or “closed” to public use. Decommissioning closed Forest Service roads by physically blocking them generally requires approval through the National Environmental Policy Act planning process of the Coconino National Forest. This process is not necessary for decommissioning roads not included in the Forest Service network.

Unmanaged public use has resulted in a maze of unofficial roads (Figure 15) that are often unnecessary and lead to dead ends. Some of these are causing erosion, destroying wildlife habitat, and facilitating illegal dumping.

Based on the 2011 Coconino National Forest Travel Management decision, motorized retrieval of big game is limited to Forest Service roads that are designated as “open” under the Travel Management Rule. Travelling cross country to retrieve game is expressly prohibited under the Arizona Game and Fish Department hunting regulations. More information about hunting on Observatory Mesa can be found in Chapter 4.2.4 of this Plan.

Management Goal: Observatory Mesa will be managed to reduce motorized travel on unauthorized and “closed” roads.

Management Policies: In addition to the general road management policies outlined in Chapter 2.3.3, the following policies apply to the management of roads within Observatory Mesa Natural Area.

- Permit motorized travel on Forest Service roads that are designated as “open” under the most recent Travel Management Rule

Planned Management Actions: In addition to the general road management actions outlined in Chapter 2.3.3, the following actions are planned for the Natural Area.

- Coordinate with the Coconino National Forest to officially “close” Forest Service roads 515A and 515D on the property through the Travel Management Rule process.
- Coordinate with the Coconino National Forest to physically block off or sign Forest Service roads that have been designated as “closed” to public use through the Travel Management Rule.

Roads within Observatory Mesa Natural Area

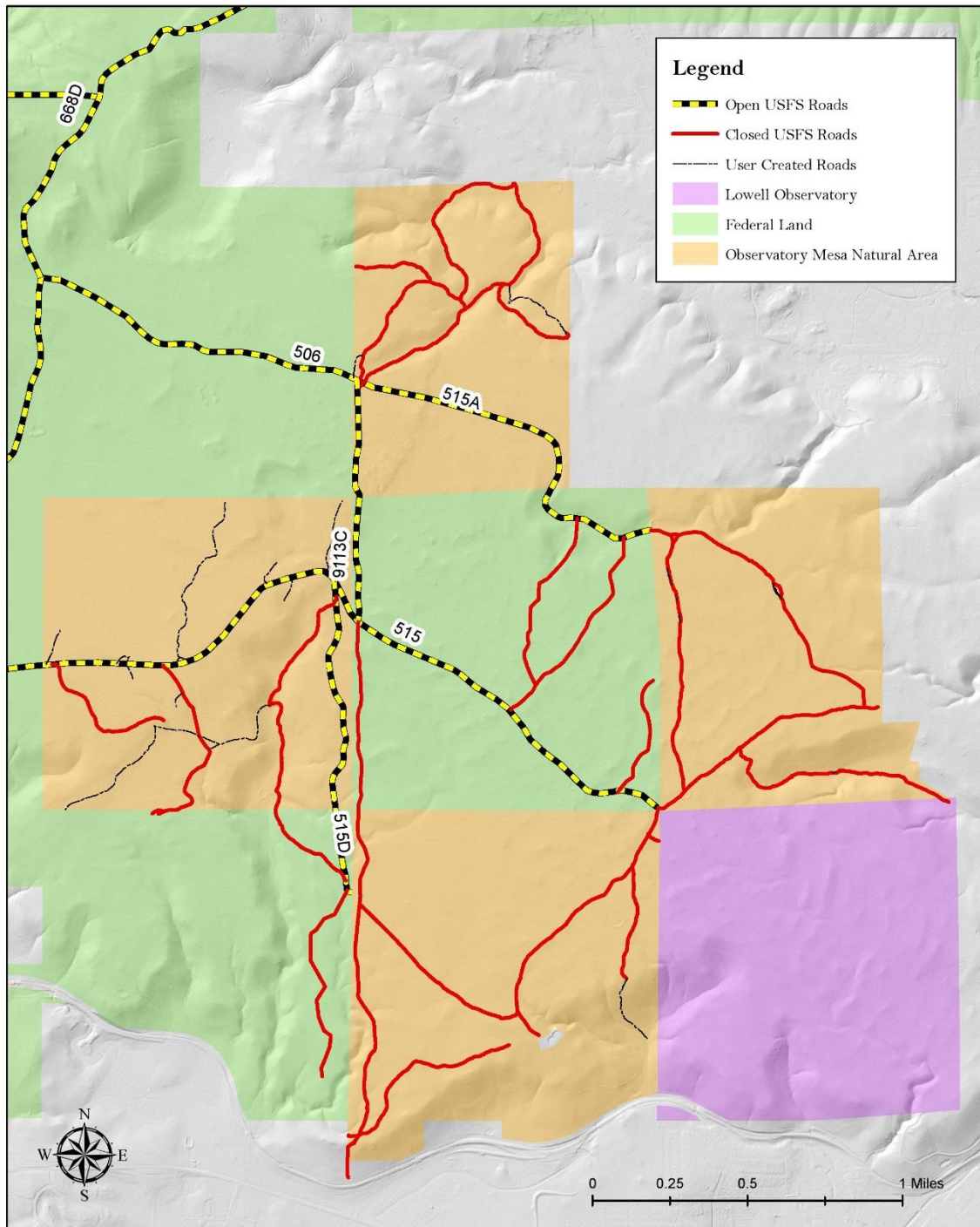


Figure 15: Road network on Observatory Mesa Natural Area, including Forest Service and unauthorized roads. Note: not all Forest Service roads depicted on this map are open for public use, given recent updates to the Travel Management Rule.

4.4.4 Easements and Leases

Summary of Current Conditions: A number of entities hold easements and/or leases within Observatory Mesa Natural Area. The City of Flagstaff inherited these easements and leases from the Arizona State Land Department as part of the acquisition process and is now responsible for managing these uses.

Table 14: Perpetual, non-perpetual, and expired easements and leases within Observatory Mesa Natural Area.				
Number	Holder	Use	Issue Date	Expiration Date
PERPETUAL				
16-88092	Flagstaff Holdings, LLC.	Public Roadway	11/6/1986	perpetual
16-1857	El Paso Gas	Pipelines, a Road, and Power Lines	1/12/1960	perpetual
61-85609	USDA Forest Service	Road Easement	1/18/1983	perpetual
16-84074	Westridge Property Owners Association	Road Easement	10/26/1982	perpetual
16-112295	Coconino County	Flagstaff Loop Trail (non-motorized recreation trail)	4/28/2009	perpetual
16-106903	City of Flagstaff	Non-motorized public access trail	3/14/2003	perpetual
9-2736	City of Flagstaff	Water Pipeline	6/7/1993	perpetual
9-002915	ADOT	Road Easement	10/27/1961	perpetual
16-8715	Gore and Associates		7/19/1984	perpetual
16-106903	City of Flagstaff	Non-motorized public access trail	3/14/2003	perpetual
16-105739	City of Flagstaff	Non-exclusive access road and a non-motorized public access trail within ROW	6/8/2000	perpetual
09-97816	Burlington Northern Santa Fe Railroad	Railroad Easement	6/18/1993	perpetual
107-001953	Arizona Public Service	Electric Easement	1/12/1957	perpetual
18-2090	Arizona Public Service	Electric Power Line	2/19/1959	perpetual
71-2430	Qwest Corporation	Communication Line	3/21/1960	perpetual
16-105208	City of Flagstaff	Detention Basin and Berm	1/18/2002	perpetual
NON-PERPETUAL				
14-88604	Transwestern Pipeline Company, LLC.	Gas Transmission Line	7/16/1992	7/15/2042

14-105737	City of Flagstaff	Water Transmission Line	6/5/2000	6/7/2050
18-108445	Arizona Snowbowl Resort	Reclaimed Water Pipeline	8/18/2005	8/17/2015*
EXPIRED				
18-100352	Flagstaff Holdings, LLC.	Access Road	10/19/2004	10/18/2014
18-52063	Arizona Public Service	Electric Distribution Line	8/24/2006	5/23/2016
*Note: The City of Flagstaff granted Arizona Snowbowl Resort a Temporary Easement Agreement, expiring 6/25/17.				

Management Goal: Manage Observatory Mesa for non-consumptive, sustainable uses.

Management Policies and Actions: General management policies and actions regarding easements and leases on legally-designated open space properties are outlined in Chapter 2.3.4 of this plan.

4.4.5 Education and Research

Summary of Current Conditions: Since the 1990s, Observatory Mesa has been an outdoor classroom for students in northern Arizona. The abundance of astronomical viewing opportunities has provided extensive educational use of this area by Lowell Observatory and local schools.

Additionally, Northern Arizona University (NAU) professors have conducted biological studies of wildlife on the Mesa and a number of NAU classes visit the property to learn about land management and forestry practices, especially with the recent Flagstaff Watershed Protection Project treatments on the property. Individuals and organizations wishing to complete research and/or monitoring projects on Observatory Mesa are required to complete an “Open Space Research Permit” application for the Open Space Program to review (Appendix H). Research projects are acceptable uses of Observatory Mesa Natural Area as long as they are non-destructive in nature and don’t conflict with the conservation values or management goals or objectives for the property.

Lastly, the Lowell Observatory was established on the edge of the Mesa overlooking Flagstaff in 1892. The Observatory was granted Section 17, which is immediately adjacent to the Natural Area, to manage and conduct observational activities and protect the Mesa from development that would adversely affect its research. Preserving Observatory Mesa Natural Area was very important to preserve the dark skies that enable ongoing astronomical research and education at Lowell Observatory.

Management Goal: Observatory Mesa Natural Area will be managed to provide diverse educational and research opportunities.

Management Policies and Actions: General management policies and actions associated with managing educational and research opportunities within legally-designated open space properties are outlined in Chapter 2.3.5 of this plan.

4.4.6 Facility Development

Summary of Current Conditions: Current facilities on Observatory Mesa include 3 designated trails (Observatory Mesa Trail, Mars Hill Trail, and Tunnel Springs Trail) and a network of Forest Service Roads (see Chapters 4.4.2 and 4.4.3 for more information about roads and trails on Observatory Mesa).

In August 2016, the Open Space Program mapped facilities on the property to develop a baseline understanding of what facilities exist on the property and their condition. The inventory involved collecting GPS-points for fence lines, trails (user-created and legal), roads (user-created, “closed”, and “open”), tanks, cattle guards, gates, trash piles, transient encampments, and signs (Figure 17).

A portion of the boundary has been fenced to effectively manage cattle on the adjacent Forest Service pastures and serve the benefit of keeping cattle off of the property. Given that the fencing was fabricated by multiple entities, it is not standardized and there is a mixture of barbed and wooden fencing in varying condition throughout the property (Figure 16). This fencing is owned and maintained by multiple organizations, including the City of Flagstaff, Coconino National Forest, and the grazing permittee.

Additionally, a number of gates, signs, and kiosks have been installed on the property (Figure 17), some of which need to be improved, updated, or removed.

Management Goal: Observatory Mesa Natural Area will be managed to provide facilities that enhance visitor’s experience according to the requirements of the Arizona State Parks conservation easement and available funding.

Management Policies: General management policies associated with managing facility development within legally-designated open space properties are outlined in Chapter 2.3.6 of this plan.

Planned Management Actions: In addition to the general management actions associated with facility development (Chapter 2.3.6), the following actions are planned for the Natural Area.

- Construct a small parking area along Forest Service road 515 at the western boundary of Section 12.
- Investigate potential locations for parking areas that access the north and/or east sides of the Natural Area.
- Repair and/or construct fencing along boundaries of Section 12 and Section 18 to exclude cattle from City-owned property.
- Coordinate with Forest Service to conduct boundary surveys of the property.

Observatory Mesa Natural Area Infrastructure

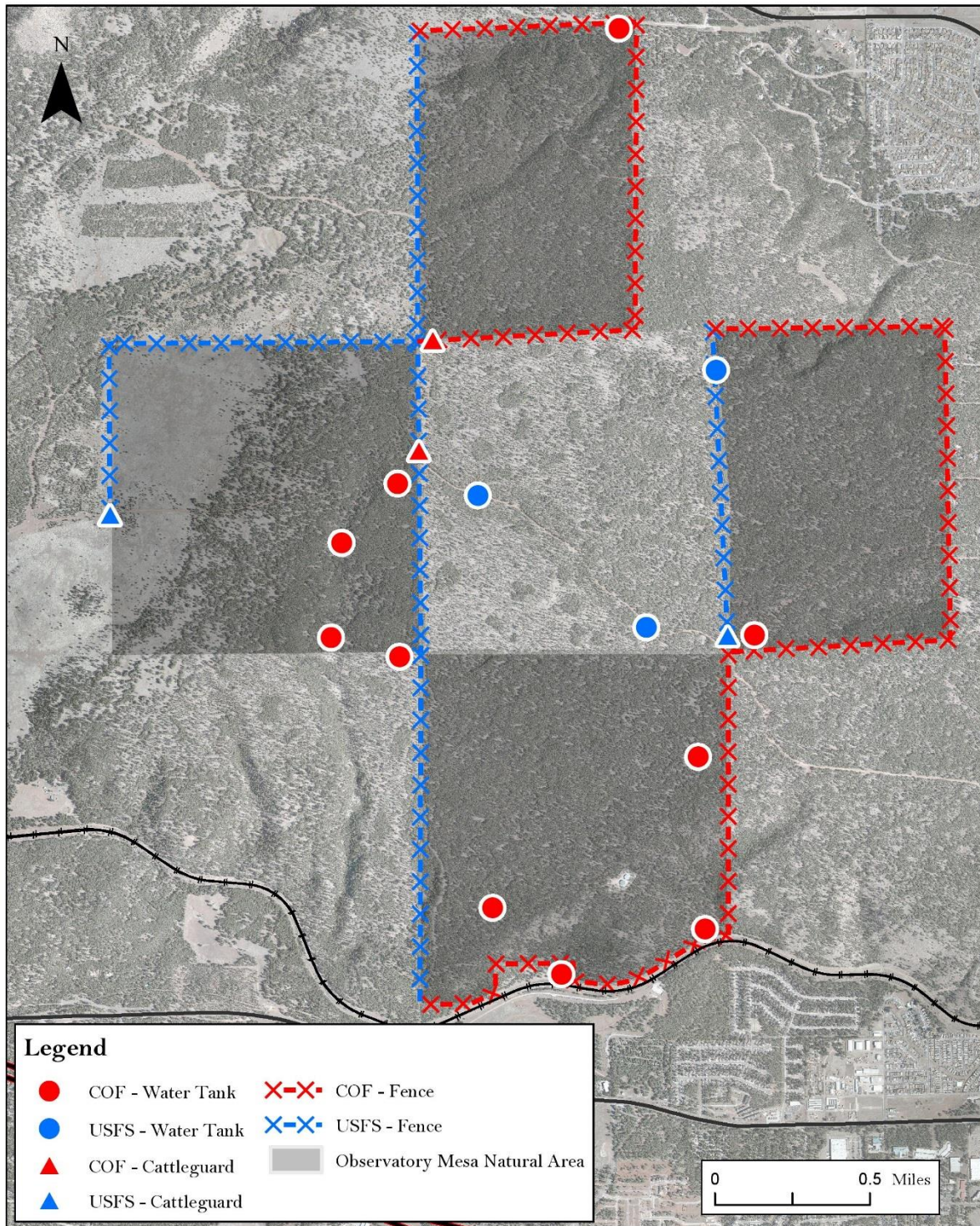


Figure 16: Boundary fencing locations (both Forest Service and City of Flagstaff) on Observatory Mesa Natural Area.

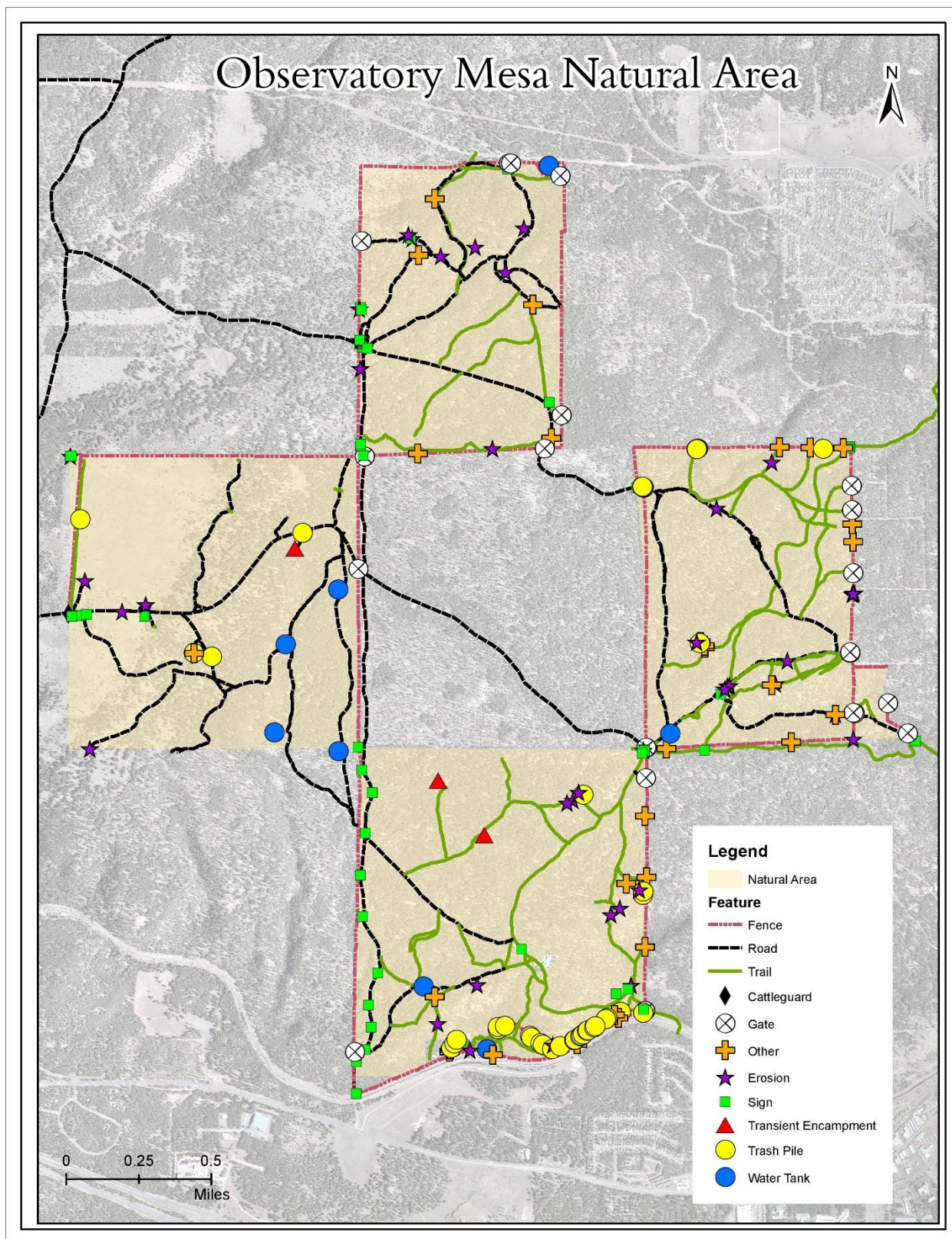


Figure 17: Infrastructure on Observatory Mesa Natural Area, as of August 2016. It is important to note that some of this infrastructure is owned, managed, and maintained by the Coconino National Forest.

4.5 Priority Action Plan

Provided below is a summary of priority actions that will be taken related to the expansion, development, and management of the Natural Area. It is anticipated that this Priority Action Plan will be updated every two years. The biannual review will be conducted in advance of the City of Flagstaff's budget development process. Modifications to the plan will be made to reflect existing conditions at the time of each update.

Table 15: Priority Action Plan – Facility Development

Action:	Responsibility:	Implementation Date:	Estimated Financial Requirement:
Design, construct, and install welcome kiosks at key entrance points.	City of Flagstaff	Fall 2017	\$3,000
Decommission extraneous trails not designated as part of planned trail system.	City of Flagstaff	Fall 2018	\$30,000
Establish parking area along Forest Service road 515 at western boundary of Section 12.	City of Flagstaff	Fall 2017	\$5,000
Install larger Game Unit 11M signage along major trails and at primary access points.	City of Flagstaff	Summer 2017	\$1,000
Install regulatory signs along trails.	City of Flagstaff	Summer 2018	\$5,000
Install boundary signage along the perimeter of the Natural Area.	City of Flagstaff	Summer 2017	\$2,500
Design and install educational and interpretive signage along trails.	City of Flagstaff	Summer 2018	\$15,000
Decommission and revegetate illegal roads within the Area.	City of Flagstaff	Summer 2018	\$50,000

Develop a trail system plan for hiking, biking, and equine trails of varying intensity.	City of Flagstaff	Summer 2017	\$3,500
Develop trail maintenance schedules and standards.	City of Flagstaff	Summer 2017	\$0
Utilize volunteers and partner organizations to complete area monitoring and trail maintenance.	City of Flagstaff	On-going/monthly	\$0
Clearly mark designated trails and roads within the property.	City of Flagstaff	Summer 2018	\$5,000
Install dog waste bag dispenser at primary access points.	City of Flagstaff	Summer 2017	\$2,000
Investigate potential of developing additional parking and access points in partnership with adjacent landowners.	City of Flagstaff	Summer 2017	unknown
Investigate potential of moving Westridge gate 50 feet west to create a formal parking area.	City of Flagstaff	Summer 2017	unknown
Install boulders and physical barriers to block illegal vehicle access at entrance points.	City of Flagstaff	Summer 2017	\$5,000
Install “No Camping” signs along Mars Hill Trail	City of Flagstaff	Summer 2017	\$750
Maintain and improve wildlife-friendly fencing to reduce cattle trespass onto City property	City of Flagstaff	Summer 2018	\$15,000

Table 16: Priority Action Plan – Resource Management

Action:	Responsibility:	Implementation Date:	Estimated Financial Requirement:
Develop and maintain plant and animal species observation database.	City of Flagstaff and volunteers	On-going	\$0
Coordinate with Flagstaff Fire Department to complete forest health improvement projects.	City of Flagstaff	Variable	\$0
Conduct noxious plant surveys and maintain map of occurrence locations.	City of Flagstaff	On-going	\$5,000 per annum
Monitor insect and disease occurrences.	City of Flagstaff	On-going	\$0
Update photo-monitoring program with new photographs from established monitoring stations.	City of Flagstaff	Annually	\$0
Conduct wildlife surveys for game, non-game, endangered, and special-status species.	City of Flagstaff with AZGFD assistance	Summer 2017 and then as needed	\$3,500
Conduct vegetation inventory surveys.	City of Flagstaff	As needed	Unknown
Coordinate with Forest Service to conduct boundary surveys of property.	Coconino National Forest	Summer 2018	\$0
Formalize inter-agency agreements related to wildland fire management.	City of Flagstaff	On-going	\$0
Secure sustainable funding for ongoing, appropriate maintenance.	City of Flagstaff	Summer 2018	\$30,000 per annum
Establish permanent position dedicated to open space management and maintenance.	City of Flagstaff	Summer 2017	\$80,000 per annum

Investigate potential for establishing speed limit along A-1 Mountain Road	City of Flagstaff	Summer 2017	unknown
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Table 17: Priority Action Plan - Partnerships

Action:	Responsibility:	Implementation Date:	Estimated Financial Requirement:
Establish internal City of Flagstaff task force with representatives from Flagstaff Fire Department, Police Department, Parks, Planning, Real Estate, etc.	City of Flagstaff	Quarterly Meetings	\$0
Coordinate with community partners to remove invasive weeds.	City of Flagstaff with volunteers	As needed	\$500
Establish formal Volunteer/Docent Program at the Natural Area.	City of Flagstaff	Summer 2018	\$2,500
Conduct bi-annual Observatory Mesa Stakeholder Group meetings.	City of Flagstaff	Bi-Annual Meetings (Spring and Fall)	\$0
Provide science programs for visitors (e.g. forest ecology, plants, astronomy, and wildlife).	City of Flagstaff and partner organizations	Summer 2018	\$3,000
Confirm existing agreements and/or establish new agreements with AZGFD regarding annual mammal and reptile/amphibian surveys.	City of Flagstaff	As needed.	\$0
Conduct meetings with Northern Arizona University representatives regarding on-site natural resource research work.	City of Flagstaff	Annually	\$0

Establish informal agreements with private organizations and volunteer groups related to completing annual bird surveys.	City of Flagstaff	Update/renew annually	\$0
Incorporate trails into Community Stewards program for adoption and stewardship.	City of Flagstaff	Summer 2017	\$0
Establish a partnership with Arizona Game and Fish Department to develop a Watchable Wildlife program.	City of Flagstaff	Summer 2017	\$0

McMillan Mesa Natural Area Management Recommendations

Open Space Specialist, Robert
Wallace

November 12th, 2019



Discussion Topics

- Background
- Management Goals
- Management Chapter Organization

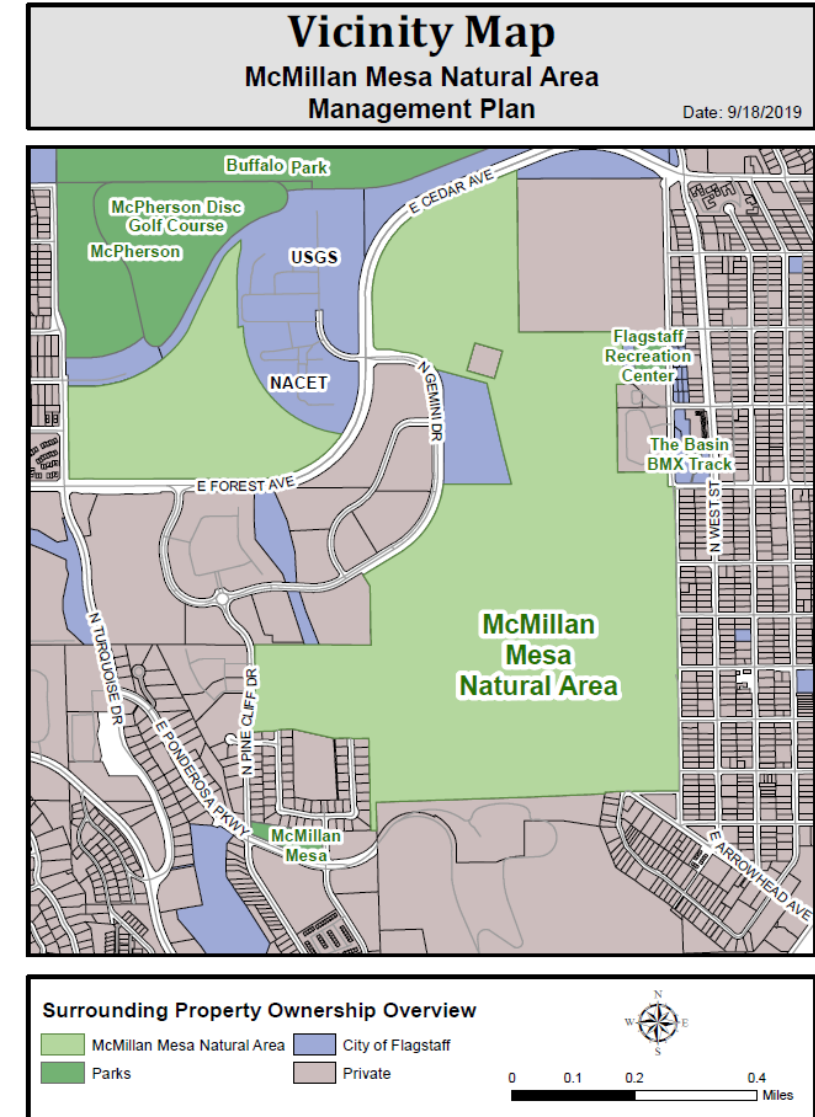




Property Background



- **1959:** The City traded land in the Inner Basin the parcels of McMillan Mesa and Buffalo Park
- **2016:** Proposition 413 protected McMillan Mesa as open space
- **2018:** The City Council approved the McMillan Mesa Natural Area major plan amendment (Resolution Number 2018-50)
- **2018:** Resolution went into effective
- **2019:** Rezone application started however the rezone requires a cultural study, which is not funded
- **2020:** Request Funding for cultural survey





Management Goals

1. Ecosystem health
2. Cultural resources
3. Wildlife populations
4. Sustainable public use
5. Partnerships





Management Organization

1. Property Overview
2. Natural Resources
 - Water Resources
 - Vegetative Resources
 - Forest and Grassland Health
 - Wildlife Resources
3. Cultural and Historic Resources
4. Public Use
 - Access Management
 - Recreational Use
 - Roads
 - Easements and Leases
 - Education and Research
 - Facility Development
5. Priority Action List





Natural Resources - Water Resources

- **Current Conditions:**

- Very little designated floodplain/floodway
- Steep eastern slope has drainage and erosion issues as a result of runoff

- **Management Goal:**

- Maintain or improve surface and ground water quality, surface water flow, ground water levels, and overall watershed health

- **Management Policies:**

- Manage forest resources, stabilize soils, minimize erosion

- **Potential Improvements/Projects:**

- Drainage facility at the bottom of the eastern hill near Coconino High School/Izabel Street
- Work with Flagstaff Urban Trails System staff to ensure continuous maintenance of the FUTS drainage control structures



Natural Resources - Vegetative Resources



- **Current Conditions:**

- Grassland habitat with significant biodiversity in grasses, forbs, cacti, and shrubs
- Significant populations of invasive weeds (Scotch thistle, diffuse knapweed, toadflax)
- Sensitive plant species within/surrounding the property – need to survey

- **Management Goal:**

- Restore and enhance the native plant communities present on the site while also reducing invasive species populations.

- **Management Policies:**

- Prohibit livestock grazing, consider sensitive plant species in planning projects, reduce invasive weed populations

- **Potential Improvements/Projects:**

- Invasive species survey, mapping, and mitigation
- Native plant walk and brochure
- Monitor recreation to prevent and mitigate the formation of unauthorized trails



Natural Resources - Forest & Grassland Health

- **Current Conditions:**

- Grassland habitat with significant understory biodiversity
- Small treed areas – eastern slope and northwest portion of the parcel

- **Management Goal:**

- Actively managed to achieve forest and grassland structures resilient to wildfire and resistant to other disturbances

- **Management Policies:**

- Establish heterogeneous forest structure, reduce the risk of wildfire
- Protect the grassland from tree encroachment
- Implement thinning and broadcast burning operations based on input and in partnership with the Flagstaff Fire Department

- **Potential Improvements/Projects:**

- Survey treed areas to guide stewardship needs
- Maintain existing grassland



Natural Resources - Wildlife Resources

- **Current Conditions:**

- Lots of diversity in habitats – grassland, rocky outcrops, treed areas
- Human/Wildlife conflicts need to be mitigated
- Game Management Unit 11M - all hunting (including archery) is not permitted within McMillan Mesa Natural Area. Due to its status as Municipal Park
- Special status species identified within and surrounding the Natural Area

- **Management Goal:**

- Maintain and enhance a diversity of habitats that support native wildlife species. Emphasis will be placed on the protection of rare habitat types and special-status species

- **Management Policies:**

- Protect rocky outcrops, protect prairie dog colonies, maintain diversity in wildlife habitats

- **Potential Improvements/Projects:**

- Identify ways to reduce conflicts between humans and wildlife e.g. additional signs along Cedar, motion triggered signs
- Work with partners to maintain sensitive wildlife species



Cultural and Historical Resources

- **Current Conditions:**

- Cultural resources: petroglyphs, grinding slicks, lithic scatter
- Historic resources: Beale Wagon Road

- **Management Goal:**

- Preserve, protect, and interpret the cultural and historic resources

- **Management Policies:**

- Avoid conflicts with historic and cultural resources, monitor resource conditions

- **Potential Improvements/Projects:**

- Complete a cultural survey of the Natural Area to identify cultural resource locations.
- Consider developing interpretive materials e.g. Beale Wagon Road, Knob Hill Ranger Station, Forest Service land exchange



Public Use

Permitted and Prohibited Recreational Uses of McMillan Mesa Natural Area

Permitted Uses	Prohibited Uses
Cross Country Skiing	Campfires
Geocaching	Camping
Hiking/Running	Fuelwood Collection (except with permit)
Stargazing	Off Highway Vehicles/Driving
Snow Shoeing	Hunting/Firearm Use
Mountain Biking	Flying model aircraft, such as drones, airplanes, or rockets. (except with permit)
Nature Study/Environmental Education	Horseback riding
Wildlife Watching	Large-Scale Activities/Events (except with express written approval from the Open Space Program)



Public Use - Access Management

- **Current Conditions:**

- Parking and non-motorized access opportunities (FUTS trails, major roads, public transit)
- Parking available at Buffalo Park – 45 spaces; maintained by Parks

- **Management Goal:**

- Ensure reasonable public access for parking and non-motorized recreational activities

- **Management Policies:**

- Consider impacts to adjacent neighborhoods when planning additional access

- **Potential Improvements/Projects:**

- Investigate additional parking opportunities; design orientation kiosk for access points
- Assess trail system and identify areas for improvement
- Investigate opportunities to work with FUTS to achieve accessible and/or ADA compliant access and trails
- Work with BASIS to resolve issues related parking at N Manzanita Way and N Hemlock Way



Public Use - Recreational Use

- **Current Conditions:**

- Significant existing trail system throughout the property (FUTS and AZ Trail)

- **Management Goal:**

- Provide a wide variety of developed and dispersed day-use recreational opportunities

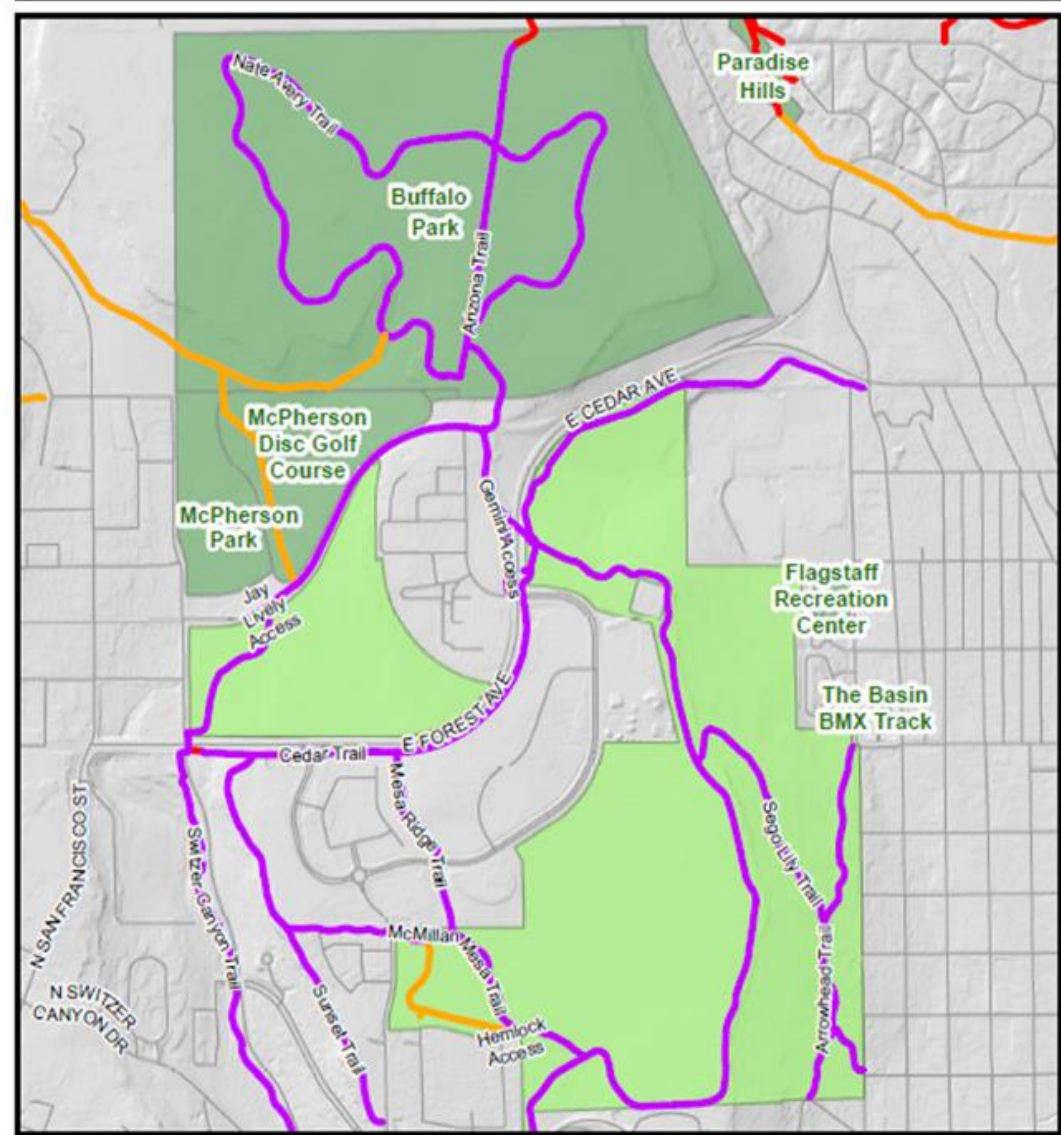
- **Management Policies:**

- Limit developed recreation opportunities to preserve the scenic resources
- Manage dispersed recreation to minimize soil compaction and impacts to wildlife forage
- Dogs on leash

- **Potential Improvements/Projects:**

- Develop interpretive signs; realign portion of Cedar Trail; decommission user-created trails; modify some trails to be ADA compliant

Public Use - Recreational Use



McMillan Mesa Natural Area Trails

- Planned
- Existing
- Future
- McMillan Mesa Natural Area
- Flagstaff Parks



0 0.2 0.4
Miles



Public Use - Roads

- **Current Conditions:**

- Major roads surrounding the property but no roads within it

- **Management Goal:**

- Reduce motorized travel within these properties

- **Management Policies:**

- FUTS available for City vehicles to complete administrative uses
- Prohibit vehicles within the property/eliminate unauthorized vehicle trespass

- **Potential Improvements/Projects:**

- Natural barriers to block off unauthorized access points
- Work with APS to restore soil and vegetation surrounding their parcel



Public Use - Easement and Leases

- **Current Conditions:**

- City holds utility easements for water infrastructure for surrounding neighborhoods (e.g. water lines, valves)

- **Management Goal:**

- Manage for non-consumptive, sustainable uses

- **Management Policies:**

- City Water Services Department retains access to their easement areas for maintenance, improvements, etc.
- Renew non-perpetual easements that do not impact conservation values
- Use existing easements and reservations to the extent practical
- Prohibit commercial or industrial uses

- **Potential Improvements/Projects:**

- Ensure that ground-disturbing activities associated with easements and leases are coordinated with the Open Space Program



Public Use - Education and Research

- **Current Conditions:**

- Unknown whether the property is used for educational opportunities or research
- Adjacent to BASIS and Coconino High School – potential to use as an outdoor classroom

- **Management Goal:**

- Provide diverse educational and research opportunities

- **Management Policies:**

- Include property in “Education and Research Permit” process

- **Potential Improvements/Projects:**

- Partner with adjacent schools and local organizations to provide educational and research opportunities for their classrooms



Public Use – Facilities Development

- **Current Conditions:**

- Extensive FUTS trail network and associated infrastructure (trail signs, trash cans)

- **Management Goal:**

- Provide facilities that enhance visitor's experience

- **Management Policies:**

- Cluster facilities to areas that are already developed to reduce impacts to the interior portion of the property

- **Potential Improvements/Projects:**

- Investigate the need for an additional parking area and/or bathroom facilities
- Install additional signage (trail signs, directional signs, kiosks, interpretive signs)



Priority Action List – McMillan Mesa

Action	Estimated Cost	Funding Source
Conduct a cultural survey of the property	\$17,500	FY 2021 budget process.
McMillan Mesa Natural Area Enhancements	\$250,000	Funding has not been identified for this project.
Expansion of Experiential Educational Curriculum for FUSD Teachers	\$25,000	Funding has not been identified for this project.
Invasive plant management	\$12,500	Currently not funded.

Moving Forward

Staff will return to City Council to formally adopt the Chapter into the Legally Designated Open Space Management Plan

- Provides a philosophical framework for managing McMillan Mesa
- Prioritizes improvement project
- Identifies needed maintenance



Questions?

Robert Wallace

Robert.Wallace@flagstaffaz.gov
928-213-2154



Chapter 5: McMillan Mesa Natural Area

5.1 Property Overview

The topography of McMillan Mesa was shaped by periods of tectonic scale geologic change in the western United States over the last 65 million years in north-central Arizona. Rapid uplift associated with the rise of the Colorado Plateau began around 5 million years ago and continues to occur. More recent and localized fracturing, faulting, and uplift is also likely related to volcanism in the surrounding San Francisco Volcanic Field. McMillan Mesa was formed when a vent near Woody Ridge erupted during a volcanic period about 6 million years ago. Thick basalt flows spread across surface outcrops of red Moenkopi sandstone, slowly eroding into the weathered malpais we see today.

Much of what is now McMillan Mesa was a component of US Forest Service holdings in the Flagstaff area. The City traded land in the Inner Basin of the San Francisco Peaks to the Forest Service for large parcels on McMillan Mesa and what is now Buffalo Park. The area is named after Thomas McMillan, one of the earliest Flagstaff area settlers, who owned land near what is now Cheshire and the Museum of Northern Arizona. He was a prominent citizen in the Flagstaff community and an early Coconino County Supervisor.

Community members and local organizations have advocated for preservation of the greater McMillan Mesa area for decades. Through the years, various agencies have proposed plans and concepts for the property, but there was not consensus about what the primary use of the property should be (e.g. active park land, passive open space, or other forms of development). These plans have ranged from building golf courses and other types of development, to preserving the entire property with a “do nothing” mentality.

The City Council adopted the McMillan Mesa Village Specific Plan in 1992 and the McMillan Mesa Master Plan in 2002. The Flagstaff 2030 Regional Plan acknowledged the ongoing community conversation regarding the conservation values of the Mesa and designated portions of the City parcels on the Mesa north of Forest Avenue as “Employment,” southwest as “Future Suburban,” and areas outside of Buffalo Park as “Area in White” – a designation that does not bind those parcels to any specific use.

On November 8, 2016, approximately 86% of Flagstaff voters voted in favor of Proposition 413 – Campaign for a Greater Buffalo Park. This proposition restricted the use of approximately 300 acres of City-owned property on McMillan Mesa to public open space and passive recreation (Initiative Number 2016-02). The results of the election were canvassed and approved by Resolution Number 2016-38 on November 28, 2016. The preservation of these lands was enacted through the voter initiative process and therefore, can only be amended by the City Council if the proposed amendment furthers the original purpose of Proposition 413. Any substantive changes that do not further the purpose would have to go back to the voters. This provides the highest level of protection available.

The land affected by Proposition 413 is currently zoned as Public Facilities and Rural Residential (as of March 2019), both of which permit “Outdoor Public Uses, General” and “Passive Recreation” as allowed uses (Zoning Code 10-40.30.030 and 10-40.30.060). Therefore, the City can plan and develop trails, trailheads, parking, and other amenities consistent with the initiative. According to the Ordinance, the City cannot sell the land or

permit any of the other allowed uses under Public Facilities and Rural Residential, and therefore it is protected as de facto conservation land given the development limitations.

Even though the current zoning allows for the passive recreation uses required by the proposition, the City Council directed staff to amend the Regional Plan and Zoning Code to reflect the outcomes of Proposition 413. The City Council approved the McMillan Mesa Natural Area major plan amendment (Resolution Number 2018-50) on Tuesday, October 16th, 2018. The resolution amended the Flagstaff Regional Plan 2030 by amending the Future Growth Illustration (Maps 21 and 22) and the Road Network Illustration (Map 25) to make the land use and road network designations consistent with the McMillan Mesa Natural Area. It also clarified the extent of surrounding land uses on City property, corrected mapping errors, and established an effective date. The resolution went into effective on November 15, 2018.

The 317.90 -acre McMillan Mesa Natural Area is primarily surrounded by private parcels, designated City-park land (McPherson Park and Buffalo Park), and other City-owned properties. Surrounding neighborhoods and parcels include to the west, Switzer Mesa, McMillan Mesa Village, Stone Ridge and Hospital Hill, to the north, the USGS and NACET Business Park, east are Shadow Mountain, Grandview Homes, and Sunnyside, and south lies the San Francisco de Asis Roman Catholic Parish property (Figure 1&2: Neighborhood maps near McMillan Mesa Natural Area). Subsequently, the expansive conservation land preserves “neighborhoods,” which are open spaces near residents’ homes where people may relax and enjoy a variety of outdoor activities, as defined by the Flagstaff Area Open Spaces and Greenways Plan in additional detail, Section 1, pages 21-22. The protected conservation land provides neighborhood opportunities and serves as a natural environment buffer for the adjacent neighborhoods. Of the neighborhoods near McMillan Mesa, Sunnyside - Census Tract 3, is identified as Title VI, low-income area. Executive Order 12898 focuses attention on Title VI by providing that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” Thus, the protection of McMillan Mesa is an important success in social justice, providing access to natural settings that help support better health, environment, and equitable access.

The preservation of the McMillan Mesa Natural Area is presented with a number of land management challenges. Population growth and related surrounding development creates the most immediate impacts. Arizona is the fourth fastest growing state in the U.S. based on projected percent change in population size from 1995 to 2025 (U.S. Census Bureau 2016a). The population estimate of Flagstaff was an approximated 70,320 in July 2015, with a 6.4% increase since April 2010 (U.S. Census Bureau 2016b). Population growth and development have greatly affected the Natural Area’s wildlife habitat, viewshed, night sky, sound pollution, vegetation, and the human experience. With growth, increased use impacts the fragile characteristics of the ecosystem, ecological succession and soil development.

Climate change creates another veritable administrative demand. Coconino County has been experiencing climate changes. Average temperatures have been rising, particularly in the last 30 years (Climate Profile, City of Flagstaff, 2018). The region is likely to see fewer cold days and more hot days in the coming decades. Annual average temperatures could rise even more than the global average—possibly more than 10° F higher than the long-term average in the region (Climate Profile, City of Flagstaff, 2018). Based on the examination of Flagstaff and Coconino County’s historic and projected climate, there is a clear warming trend. Although natural variability will always exist, meaning some years will be warmer and some colder, the overall trend is

toward warmer temperatures; in particular, low temperatures are not, and will not be, as low as in the past. Although there are no clear trends in precipitation, the warmer temperatures will contribute to an overall drying trend. The implications of these changes for Flagstaff have create vulnerabilities in maintaining ecosystems and are discussed in climate vulnerability assessment process.

McMillan Mesa Natural Area consists of portions of 5 separate parcels within sections 10, 11, 14, and 15:

- 107-01-001B: 152-acre parcel southeast of Gemini Drive and the “cinder pit” parcel.
- 101-28-007C: 19-acre parcel immediately north of the “Horseshoe Neighborhood”.
- 110-08-001G: the southwest portion of this parcel bounded by USGS facility, Switzer Canyon Trail, Forest Avenue, and North Turquoise Drive.
- 109-02-001S: the southern portion of this 107-acre parcel bounded by Forest Avenue, Coconino High School, the “cinder pit”, and the APS powerline.
- 107-01-001F: 2 acres, located southeast of Gemini drive.

Along with the 5 parcels indicated above the Regional Plan amendment included the following parcels as Parks/Conservation Land to be managed for the benefit of the community.

- 101-37-002J and 107-01-001G: City-owned parcels less than 0.09 acres in size, adjacent to 107-01-001F, which were not included in Proposition 413; however, the parcel is too small to be used for other purposes, unless combined with an adjacent parcel.

Vicinity Map

McMillan Mesa Natural Area Management Plan

Date: 11/5/2019

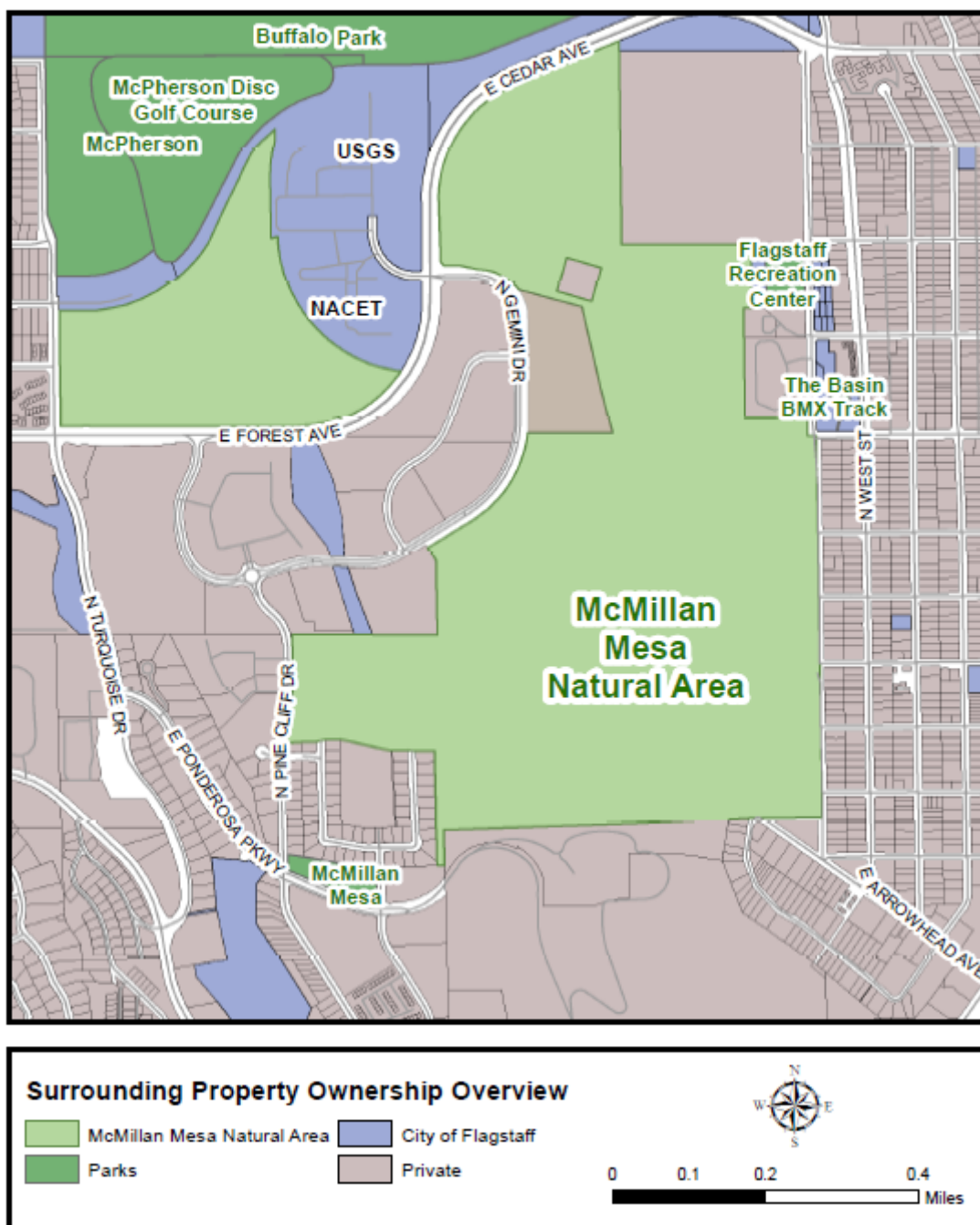


Figure 1: McMillan Mesa Natural Are Vicinity

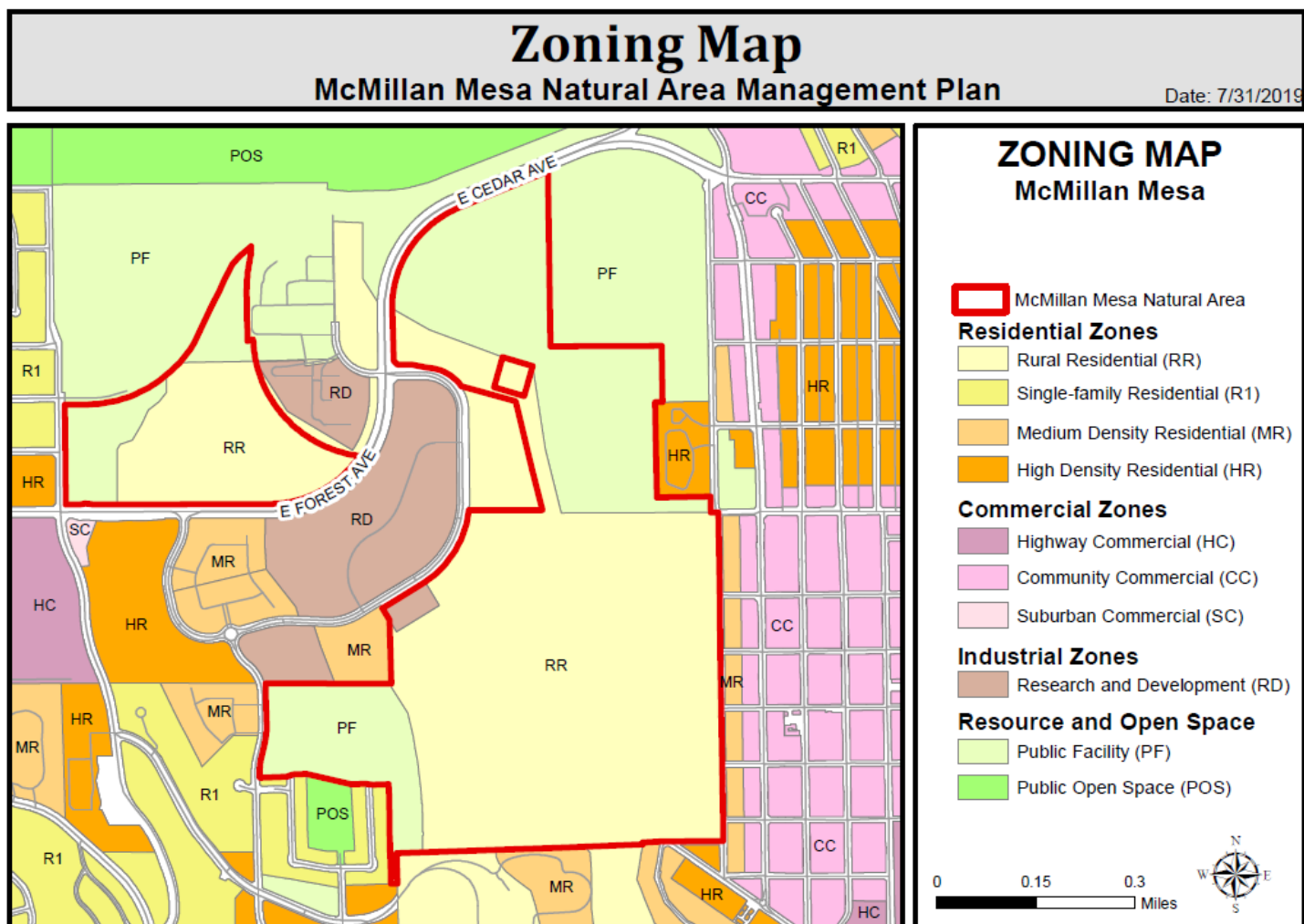


Figure 2: Zoning designations for McMillan Mesa Natural Area and the surrounding vicinity as of 2018.

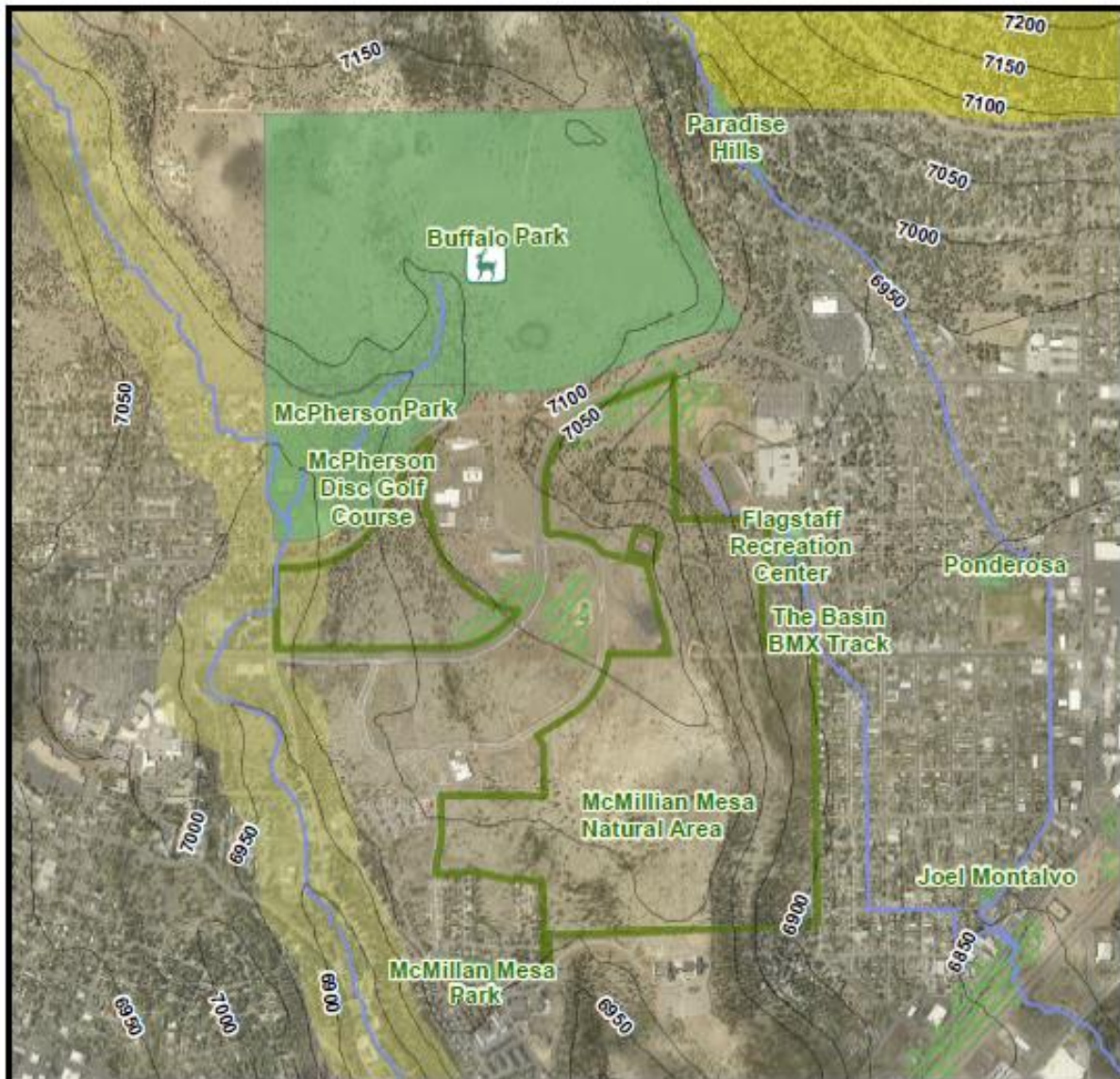
5.2 Natural Resources

Central to the overall management of McMillan Mesa Natural Area is the effective management of its natural resources. The water, wildlife, vegetation and geologic resources are important factors that supported permanent preservation of the property, and subsequently need to be managed and maintained appropriately to ensure they are not damaged. To ensure the protection of the biological, physical, and visual resources, specific management goals, policies, and actions have been identified.

Natural Resources

McMillan Mesa Natural Area Management Plan

Date: 7/31/2019



McMillan Mesa Natural Area - Natural Resources

- | | | |
|--|---|---|
|  McMillan Mesa Natural Area |  Riparian Vegetation |  Wildlife Linkages |
|  Watchable Wildlife Areas |  Prairie Dog Burrows |  Tributaries |

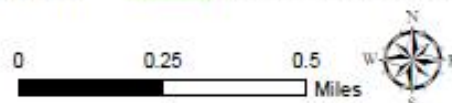


Figure 3: Significant Natural Resources: wildlife, vegetation, and hydrology.

5.2.1 Water Resources

Summary of Current Conditions:

McMillan Mesa Natural Area does not encompass significant above-ground water resources. The property has very little designated floodplain and/or floodway (Figure 4), which are designated waterways that are regulated by the federal government and have strict requirements associated with any type of development, including trail development. A recent well-siting study completed for the City in 2018 provided reconnaissance-level information regarding active recharge on the mesa itself. Geophysical survey results suggest that recharge is likely occurring on the flanks of the mesa, and not necessarily within the Natural Area parcels.

However, steep, forested slopes on the eastern edge of the Natural Area create opportunity for erosion as a result of runoff. This slope is soft and rain events often result in sediment and mud running off of the property. Drainage facilities at the bottom of the hill, west of Izabel Street, would capture and retain sediment, preventing it from flowing onto the street or adjacent FUTS trail.

Recent research on the North American Monsoon points to changes that may affect Coconino County and Flagstaff. Warmer temperatures have expanded and intensified the North American monsoon ridge, resulting in fewer storms across Arizona during the peak of the monsoon season (late-July to mid-August) (Climate Profile, City of Flagstaff, 2018). This generally has led to a decline in seasonal precipitation totals during the last 30 years (1980–2010) (Climate Profile, City of Flagstaff, 2018). Though there have been fewer storms, the most extreme storms have become more intense (as measured by amount of precipitation and wind gusts). This change could lead to increased erosion and potential flooding. Though designated floodplain are rare on the property, any shallow ephemeral wetlands, even localized spring snow-melt ponds are especially important in maintaining ecosystem health and biodiversity. These can support sedges, wildflowers, insects, and provide water for wildlife. They are a primary area for protection.

Management Goal: Similar to all legally designated open space, McMillan Mesa Natural Area will be managed to maintain or improve surface and ground water quality, surface water flow, ground water levels, and overall watershed health.

Management Policies: In addition to the general management policies guiding water resource management (outlined in Chapter 2.1.1), the following policies apply to the management of water resources within McMillan Mesa Natural Area:

- Manage forest resources related to water resources (e.g. intercepting precipitation, stabilizing soils, and minimizing erosion).
- Support the City Parks Section to investigate possible solutions and the feasibility of designing a project for preventing wildlife crossings on Forest/Cedar Avenue that are related to the maintenance or improvement of surface water features to the north of Cedar Avenue in Buffalo Park.

Planned Management Actions: In addition to the general management actions guiding water resource management (outlined in Chapter 2.1.1), the following actions are planned within McMillan Mesa Natural Area:

- Work with City Stormwater Section to determine the need for stormwater treatments at the north end of N Hemlock Way.
- Work with Flagstaff Urban Trails System staff to ensure continuous maintenance of the FUTS drainage control structures within the natural area.
- Work with partners to assess possibility of implementing a revegetation plan on the eastern edge of the Natural Area where runoff occurs. This slope is soft and rain events often result in sediment and mud running off of the property.
- Provide support to City Stormwater Section to determine the necessity and feasibility of constructing and maintaining a drainage basin near Izabel Street to capture and retain runoff from the slope.
- Provide support to Stormwater to assess the necessity and benefits of drainage facilities at the bottom of the hill, west of Izabel Street to capture and retain sediment, to prevent it from flowing onto the street or adjacent FUTS trail.

DRAFT

Floodplains

McMillan Mesa Natural Area Management Plan

Date: 7/31/2019

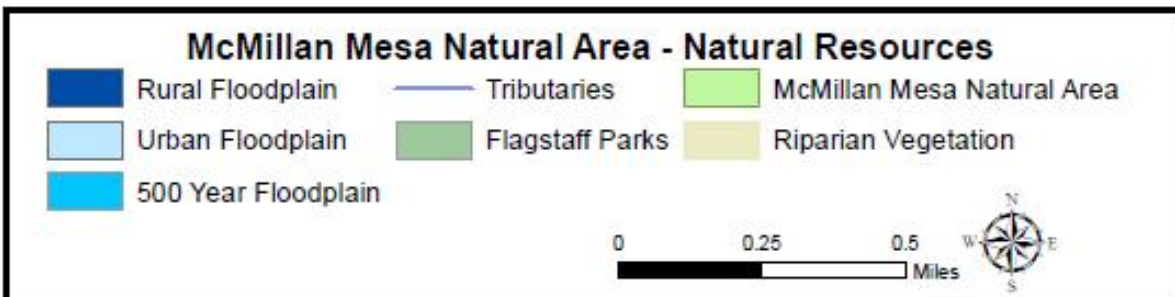
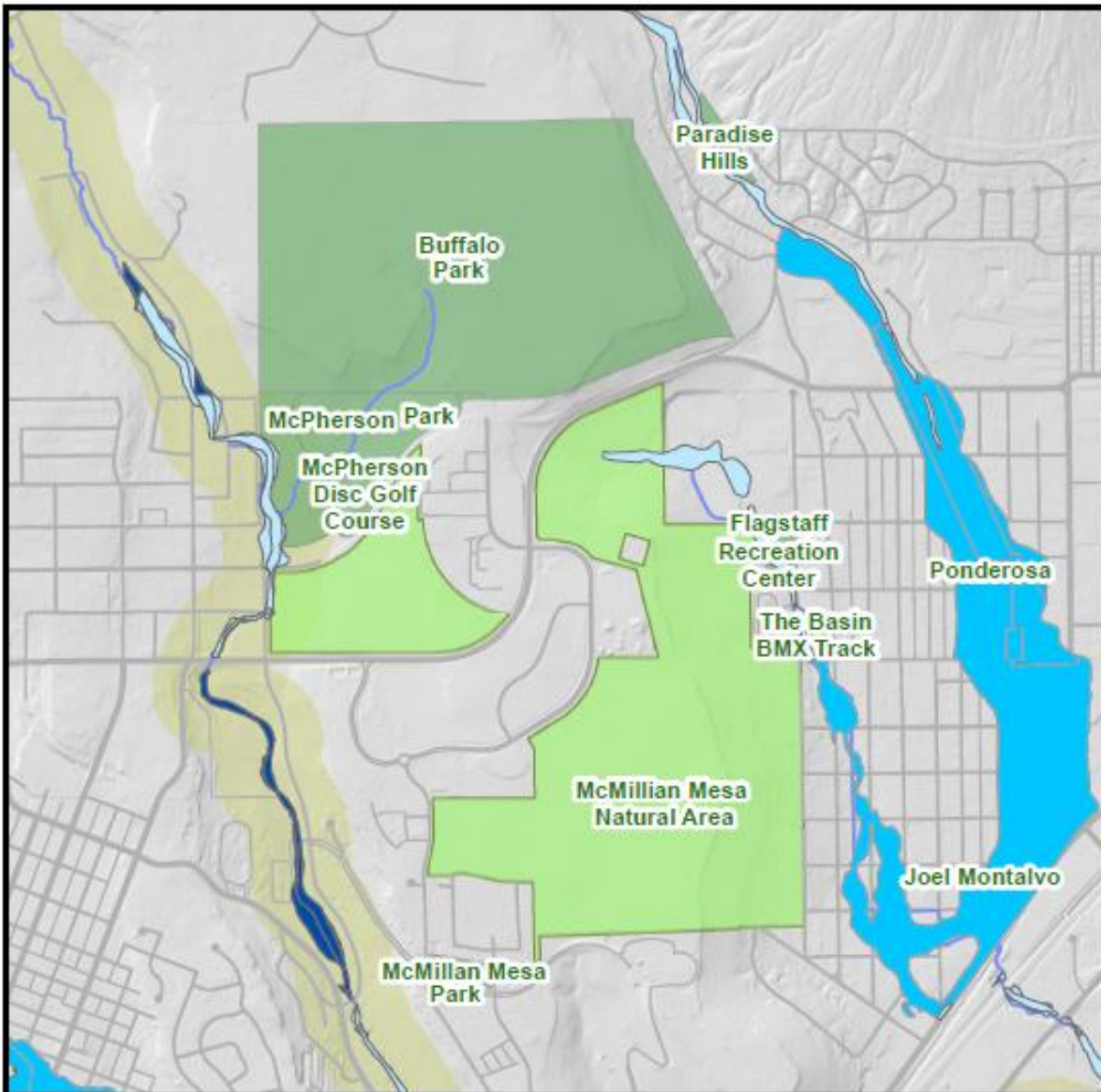


Figure 4: Designated floodplain within the vicinity of McMillan Mesa Natural Area.

5.2.2 Vegetative Resources

Summary of Current Conditions:

The 300-acre McMillan Mesa Natural Area, in conjunction with the adjacent 215-acre Buffalo Park, preserves one of the last intact native grasslands within the City. The primary vegetation type is Arizona fescue/mountain muhly and the associated habitat type is montane meadow grassland. There are small patches of overstory comprised of ponderosa pine (*Pinus ponderosa*), Gambel oak (*Quercus gambelii*), and alligator juniper (*Juniperus deppeana*), but a significant amount of the vegetative biodiversity exists as native grasses, shrubs, cacti, and wildflowers. Some of the primary species include: muttongrass (*Poa fendleriana*), blue grama (*Bouteloua gracilis*), Arizona fescue (*Festuca arizonica*), black dropseed (*Sporobolus interruptus*), low rabbitbrush (*Chrysothamnus viscidiflorus*), Wood's rose (*Rosa woodsii*), wax currant (*Ribes cereum*), Indian paintbrush (*Casteilleja spp.*), buckwheat (*Fagopyrum esculentum*), and common sunflower (*Helianthus annus*). Grasses, forbs, and shrubs provide important forage, cover, fawning, and nesting sites for the wildlife that use the area, thus contributing to the wildlife habitat of the Natural Area.

Vegetation plays a key role in the stability of soils. Efforts to maintain native plant populations should be a priority. Some erosion may result from natural runoff, yet when plants are damaged or void from terrain erosion greatly increases. The Terrestrial Ecosystem Survey classifies the soils within the Natural Area as a combination of rocky basalt and black cinder. The rocky basalt ecosystem type is described as rocky basalt surface soils with loam surface soils and clay loam subsoils. The black cinder ecosystem type is described as a dry, nitrogen-poor, sand-gravel, volcanic cinder soil. Results from the Well Siting Study (2018) suggest that these soil types are wide-spread across the mesa with no evident areas where recharge of surface water to the C aquifer is occurring. The geophysical information suggests conductive material occurs within the upper 100 feet of land surface, which is likely clay, a mix of rock and clay, or the fine-grained Moenkopi Formation. Soil development is very slow in the arid environment, particularly the weathering of basaltic parent material on young landforms.

Soil stability is susceptible to land use patterns such as recreation. McMillan Mesa is likely more durable to some degree of recreational activity in comparison to younger volcanic features in the San Francisco Volcanic Field, although it's vulnerable to compaction, unauthorized trails, and erosion on slopes. Barren areas are anticipated to develop in heavily used areas from pedestrian activity. Unregulated recreation will exacerbate erosion and soil loss and increase the presence of invasive plants.

The rocky outcrops and escarpments within the Natural Area support a number of species that do not occur elsewhere, including: side-oats grama (*Bouteloua curtipendula*), claret cup cactus (*Echinocereus triglochidiatus*), Apache plume (*Fallugia paradoxa*), mock pennyroyal (*Hedeoma oblongifolium*), pincushion cactus (*Mammillaria microcarpa*), and Arizona grape (*Vitis arizonica*).

There are also significant populations of invasive plants within the Natural Area. Invasive plants are aggressive spreaders and/or prolific reproducers, which can adapt to a variety of conditions and have few natural controls in their new habitat. The animals, birds, insects, and fungi that controlled them in their native habitat are absent. They are difficult to control or eliminate once established. Invasive plants currently found within McMillan Mesa include, Scotch thistle (*Onopordum acanthium*), Diffuse knapweed (*Centaurea diffusa*),

Dalmation toadflax (*Linaria dalmatica*), and Cheatgrass (*Bromus tectorum*). Additionally, squirreltail (*Elymus elymoides*) and western wheatgrass (*Pascopyrum smithii*) have become more prevalent within the Natural Area over the past decade. These are aggressive, invasive, drought-tolerant grasses with a strong potential to dominate the grassland ecosystem.

Invasive plant infestations reduce biodiversity by crowding out native vegetation, compete for resources, create monocultures, degrade wildlife habitat, and affect recreational use. Trails and other use impacts can result in the spread of invasive plants. Surveying the property for invasive plants and developing a Weed Management Plan are priorities. Special attention should be given to areas of disturbance.

Climate change can result in ecosystem transitions. Average temperatures in Coconino County have been rising since about the mid-1980s (Climate Profile, City of Flagstaff, 2018). Almost all years since 1985 have had average annual temperatures above the long-term average (Climate Profile, City of Flagstaff, 2018). Minimum temperatures, which manifest as days not being as cold and as fewer cold days per year, are largely driving the upward trend in temperatures. These trends are projected to continue into the future. Scenarios for Coconino County indicate that average temperatures could be 5° F above the current average (52.3° F) by 2050 and more than 10° F above the current average by the year 2100 (Climate Profile, City of Flagstaff, 2018). Climate trends are causing changes in vegetative cover. Invasive plants are spread in a variety of ways, but wind and the disturbance associated with adjacent development are the primary sources of invasive weeds on the Mesa.

The State of Arizona, U.S. Forest Service, and other land management organizations have identified multiple special status plant species within a 5-mile radius of McMillan Mesa Natural Area (Table 1).

Common Name	Latin name	Identification agency	Likelihood of occurrence	Notes
Schultz Rough Whitlow grass (rough draba)	<i>Draba asprella</i> var. <i>stelligera</i>	None	Low	The nearest collection is near NAU campus.
Flagstaff false pennyroyal	<i>Hedeoma diffusa</i>	USFS, State	Low	Needs limestone soil. The nearest locations are near Little America and NAU campus.
Hairy clematis	<i>Clematis hirsutissima</i>	USFS, State	Low	Rio de Flag (south of Little America) and an some old collections with labels saying "between Museum and Flagstaff."
Mountain hollyfern	<i>Polystichum scopulinum</i>	None	Low	On Mt. Elden
Ebony spleenwort	<i>Asplenium platyneuron</i>	None	Low	No locations nearby
Rusby's milkvetch	<i>Astragalus rusbyi</i>	USFS	Low	Endemic species limited to San Francisco Peaks volcanic field. Nearest locations near

				Museum of Northern AZ and Mt. Elden.
Fendler's sandwort	Eremogone fendleri	None	Unknown	Fairly common species with no special status. Collected on Observatory Mesa.
Northern maidenhair fern	Adiantum pedatum = A. aleuticum	None	Low	Nearest collection is Mt. Elden
Utah bladderfern	Cystopteris utahensis	None	Low	Mt. Elden
Mogollon columbine	Aquilegia desertorum	State	Low	Collections on Rio de Flag south of Little America) and on Mt. Elden
Green death camas	Zigadenus virens	State	Low	No collections within 5 miles of site
Flagstaff beardtongue	Penstemon nudiflorus	USFS	Low	Possibly near Turquoise Drive.
Seashore cactus	Opuntia martiniana	None	Low	Not collected in our area.
Intermountain rubberweed	Hymenoxys helenioides	None	Low	Closest collection is in Hart Prairie area.

*None = no state or federal status.

Management Goal: McMillan Mesa Natural Area will be managed to maintain native plant communities present on the site by focusing efforts to control and/or reduce invasive species populations, as indicated in chapter 2.1.2.

Management Policies: In addition to the general management policies guiding vegetative resource management (outlined in Chapter 2.1.2), the following policies apply to the management of vegetative resources within McMillan Mesa Natural Area:

- Survey for sensitive plant species within the footprint of ground disturbing activities. If sensitive plant species are present, design projects to ensure these plants are protected.

Planned Management Actions: In addition to the general management actions planned for managing vegetative resources outlined in Chapter 2.1.2, the following actions are planned for McMillan Mesa Natural Area.

- Investigate the need to produce a self-guided brochure/native plant walk to introduce visitors to the native flora of the Mesa.
- Work with San Francisco Peak Weed Management Area to survey the property for invasive weeds and develop an Invasive Weed Management Plan specific for the property.
- Work to secure funding to manage non-native plant populations (e.g. Invasive Plant Grant from Arizona Department of Forestry and Fire Management).
- Coordinate with adjacent private landowners to treat any invasive weeds on their properties.
- Survey the property for rare and sensitive plant species to establish a baseline condition.

- Restore the vegetative community to support a balance of grasses to provide food and cover for wildlife such as ground nesting birds and prairie dogs throughout the year.

5.2.3 Forest and Grassland Health

Summary of Current Conditions:

The Natural Area consists primarily of a large open grassland. The City plans to protect this grassland from tree encroachment, which can affect water and nutrient cycling, impact soil integrity, and affect wildlife habitat.

The slope along the eastern edge of the parcel (dropping off into Coconino High School and Izabel Street) and the northwest portion of the Natural Area (between NACET/USGS and North Turquoise Drive) consists of overstory vegetation. The primary tree species include Gambel oak (*Quercus gambelii*), ponderosa pine (*Pinus ponderosa*), alligator juniper (*Juniperus deppeana*). These trees provide cover for the elk, deer, and other mammals that use the area and habitat for nesting songbirds.

The Flagstaff Fire Department (FFD) is responsible for implementing any forest health improvement projects, monitoring local conditions and determining whether the City will implement fire restrictions, and responding to any fire activity within the property. The FFD has a policy to immediately suppress all wildfires and ignitions within City limits, which includes the Natural Area.

The FFD has conducted broadcast burning operations within the Natural Area in the past. The FFD also hand thinned the area during the mid-2000s to reduce small diameter trees and understory ladder fuels.

The Natural Area is bisected by several trails (see 6.4.2 Recreational Use). Trails can act as a firebreak, causing a gap in the vegetation to act as a barrier to slow or stop the progress of wildfire and could be used to hopefully reduce the size of a wildfire. General goals include maximizing the health of the Natural Area through implementation of thinning and broadcast burning operations. Properly maintained trails could be useful to conducting fire operations and could offset the cost of completing work.

Management Goal: Legally-designated open space will be actively managed to achieve forest and grassland structures that are resilient to wildfire and resistant to other disturbances, while continuing to provide ecosystem services to the surrounding community.

Management Policies: In addition to the general management policies guiding forest and grassland health management (outlined in Chapter 2.1.3), the following policies apply to the management of forest health resources within McMillan Mesa Natural Area:

- Protect the grassland from tree encroachment through hand thinning and/or broadcast burning.
- Work to plan and implement thinning and broadcast burning operations as the need arises, based on input and in partnership with the Flagstaff Fire Department.

Planned Management Actions: In addition to the general management actions planned for managing forest and grassland health (outlined in Chapter 2.1.3), the following actions are planned for McMillan Mesa Natural Area:

- Establish photo monitoring points to track forest and grassland structure over time, including the spread of alligator juniper through the area grassland.
- Investigate incorporating adjacent parcels of privately-deed restricted dedicated open space held (e.g. Area between N Manzanita Way and N Hemlock Way, parcel: 10128007F) into the McMillan Mesa Natural Area to improve management and maintenance of healthy grassland conditions.

5.2.4 Wildlife Resources

Summary of Current Conditions:

A variety of wildlife habitats within McMillan Mesa Natural Area and the adjacent Buffalo Park, support resident and migratory species. These habitats include grasslands, ephemeral wetlands (within Buffalo Park), ponderosa pine woodlands, and pine/oak woodlands, although the primary wildlife habitat is montane meadow grassland. This is an at-risk habitat type in the southwest region.

Wildlife is one of the features that draws public use of the area, which includes a resident herd of mule deer and flocks of mountain bluebirds. The Gambel oaks and wax currants also provide good habitat for skunks, foxes, porcupines inhabiting the area.

Although the Natural Area provides habitat for mule deer and other species of wildlife, Forest Avenue and expanding development to the south limit its utility as a wildlife corridor and pose a risk to wildlife trying to move through the area. Wildlife can become “bottlenecked” in the southern portions of the Natural Area without a clear path back to appropriate habitat.

Additionally, Forest/Cedar serves as an obstacle for wildlife seeking forage within the grassy meadows of the Natural Area. There have been multiple collisions between vehicles and deer along Cedar/Forest within the vicinity of McMillan Mesa Natural Area.

Rocky outcrops are fairly common in the Natural Area and provide unique cover and habitat for small mammals and reptiles. It is an important goal to minimize ground disturbance to these features, especially considering that they are specifically identified for their conservation value in the 2030 Regional Plan.

McMillan Mesa Natural Area is within Game Management Unit 11M. As of the 2018 Arizona Hunting Regulations, all hunting (including archery) is not permitted within McMillan Mesa Natural Area. This is due to its status as Municipal Park. The Arizona Game and Fish Commission has exempted some Municipal and County Parks from hunting because of the user conflicts that can arise (explanation in Arizona Game and Fish, pamphlet SB 1334). McMillan Mesa Natural Area is an example of a park where surrounding land ownership and current recreational use is not very compatible with hunting. However, the authority to regulate hunting lies solely with the Arizona Game and Fish Commission under ARS Title 17 (except for Tribal and National Park lands). Hunting Regulations are updated annually, including those for Unit 11M, by the Commission and they should be consulted to obtain the most updated regulations in future years. If hunting regulations were changed or McMillan Mesa was no longer identified as Municipal Park the prohibition of all forms of hunting within the McMillan Mesa Natural Area could change. Firearm use is not permitted within City Limits at any time.

There are not any known, systematic wildlife surveys within the Natural Area. A 2017 query of the

Environmental Review Tool (Arizona Game and Fish Department) revealed a number of federally listed or sensitive species that are documented to occur within a 5-mile radius of the Natural Area. These species may use the Natural Area at some point during their life cycle.

Table 2: Special status animal species identified within a 5-mile radius of McMillan Mesa Natural Area.			
Common Name	Latin Name	Identification Agency	Likelihood of Occurrence (per AZ Game and Fish Dept.)
Greater short-horned lizard	<i>Phrynosoma hernandesi</i>	unknown	High
Allen's lappet-browed bat	<i>Idionycteris phyllotis</i>	FWS, USFS, BLM	Seasonal use possible
Bald eagle	<i>Haliaeetus leucocephalus</i>	FWS, USFS, BLM, State	Occasional use possible
Northern goshawk	<i>Accipiter gentilis</i>	FWS, USFS, BLM, State	High
Big brown bat	<i>ptesicus fuscus</i>	State	High
Many-lined skink	<i>plestiodon multivirgatus</i>	unknown	High
Peregrine falcon	<i>Falco peregrinus anatum</i>	FWS, USFS, BLM, State	Occasional use possible
Arizona myotis	<i>Myotis occultus</i>	FWS, BLM	Occasional use possible
Arizona (Mountain) treefrog	<i>hyla wrightorum</i>	State	Occasional use possible
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	FWS, State	Occasional use possible
Gunnison's Prairie Dog	<i>Cynomys gunnisoni</i>	USFS, State	Documented occupancy

Gunnison's Prairie Dog. There are multiple Gunnison's prairie dog (*Cynomys gunnisoni*) colonies and burrows within the Natural Area, suggesting a sizable population (Figure 9). Gunnison's prairie dog is native to the shortgrass and mid-grass prairies, grass-shrub habitats in low valleys, and subalpine mountain meadows of the Colorado Plateau. Gunnison's prairie dogs are considered to be a keystone species for grassland ecosystems in the Southwest. They create habitat, provide food, and help keep the soil and plant communities healthy. In addition, their burrowing helps to aerate the soil, add organic matter, and help to increase water penetration. The species has experienced significant habitat loss due to urban expansion, grassland conversion, and development. Additionally, prairie dog populations are susceptible to sylvatic plague, a flea-transmitted disease, which has had devastating mortality impacts on colonies throughout the region and can potentially result in the loss of the colony when it arises. The U.S. Fish and Wildlife Service was petitioned to list the Gunnison's Prairie Dog as an endangered or threatened species, under the Endangered Species Act, 16 U.S.C. § 1531 *et Seq.*, and to designate critical habitat. A 12-month review, published by the Service in November of 2013, chose to state that listing either *C. g. gunnisoni* or *C. g. zuniensis* or both was not warranted at that time. The Arizona Game and Fish Department lists the Gunnison's prairie dog nongame mammal. Overall, due to the

sensitive nature of the species, and because threats against Gunnison's prairie dogs reverberate throughout the prairie dog ecosystem and greater environment, risks to the species need to be minimized.

American Kestrel. A resident population of American Kestrels (*Falco sparverius*) have been identified on the Mesa. Although the American Kestrel is relatively abundant in North America, count data from the USGS Breeding Bird Survey indicates that the North American breeding population is experiencing long-term, gradual, but sustained declines. Between 1966 and 2015 populations declined by about 50%. Current declines are related to continued clearing of land and the falling of the standing dead trees that birds depend on for nest sites. Nesting sites are further reduced by so-called "clean" farming practices, which remove hedgerows, trees, and brush from farmland. Pesticide use also affects kestrel survival rates. A larger problem with pesticides is that they destroy the insects, spiders, and other prey on which the birds depend. Exposure to pesticides and other pollutants can also reduce clutch sizes and hatching success. High levels of traffic disturbance and human development surrounding nesting sites are found to increase stress hormones that can lead to reproductive failure. Among successful nests, however, nestlings do not typically experience a higher stress response to environmental human disturbance, suggesting that they can tolerate some degree of human activity near the nest.

Management Goal: Legally-designated open space will be managed to maintain and enhance a diversity of habitats that support native wildlife species. Emphasis will be placed on the protection of rare habitat types and special-status species.

Management Policies: In addition to the general management policies guiding wildlife resource management (outlined in Chapter 2.1.4), the following policies apply to managing wildlife resources within McMillan Mesa Natural Area:

- Design infrastructure so that it does not fragment, or significantly alter wildlife habitat and movement (e.g. wildlife friendly fencing).
- Consider options to enhance wildlife habitat to protect native species especially special-status species with non-intrusive habitat improvement projects (e.g. nest platforms, and bat boxes).
- Minimize ground disturbance to rocky outcrops.
- Construct and maintain trail systems and infrastructure to minimize erosion and disturbance to sensitive wildlife.
- Take comment and work with the Conservation Study Forum, Arizona Game and Fish Department, and City Parks Section to come up with possible solutions to prevent wildlife crossings on Forest/Cedar Avenue.
- Prairie dog policies (survey and translocation requirements for large-scale ground disturbing activities)
 - Survey and map colonies on entire Natural Area in partnership with local organizations (e.g. Habitat Harmony).
 - Monitor the incidence of plague throughout the Natural Area.
 - When plague is detected, implement the following actions: 1) work with the Arizona Game and Fish Department to notify the public 2) increase monitoring effort to identify extent of outbreak 3) where and when appropriate and feasible, implement mitigation measures such as dusting burrows to kill fleas.

Planned Management Actions: In addition to the general management actions planned for managing wildlife resources (outlined in Chapter 2.1.4), the following actions are planned for McMillan Mesa Natural Area:

- Investigate installing infrastructure along Forest/Cedar Avenues to alert drivers when an elk is in the area (e.g. motion censored alert system that is triggered when a collared animal is in the area)
- Investigate installing additional signs along Forest/Cedar Avenues to minimize wildlife collisions in coordination with Arizona Game and Fish Department.
- Work with partners to maintain sensitive wildlife species.

5.3. Cultural and Historic Resources

Summary of Current Conditions:

There are multiple evidences of cultural and historic resources within, and surrounding McMillan Mesa Natural Area. Formal archaeological surveys have been completed within some of the Natural Area. One at the request of Design Master Homes, Inc. was completed on a 13-acre portion of Sec. 15, T21, R73, in August of 1976. In 1980, in preparation of the land exchange between the City and Coconino National Forest, another was preformed to ensure no effect to cultural resources. During the survey remnants of the Knob Hill Ranger Station was identified, and an archaeological site consisting of approximately 70 to 100 lithic flakes. Another survey, as part of the Gemini Parkway Study, was conducted by the Museum of Northern Arizona in October 1984, recording fifteen archaeological sites, ten prehistoric sites dating primarily to the early eleventh century and five historic sites that dated from the early 1930s to 1957.

These studies have uncovered multiple cultural resources, including petroglyph panels which may be of Cohonina or Northern Sinagua origin. There are also evidences of grinding slicks in the area around this petroglyph panel. Additionally, a lithic scatter of approximately 70-100 flakes was located in the area, but was deemed to be ineligible for the National Register of Historic Places by the Coconino National Forest and State Historic Preservation Office in 1981.

Additionally, the Beale Wagon Road (also known as the Beale Camel Road or 35th Parallel Route) travelled through the area. The 35th Parallel Route was surveyed in 1851 by Lorenzo Sitgreaves and company, for a wagon road; and again, by Amiel Weeks Whipple in 1853, this time for feasibility of a railroad. Edward Fitzgerald Beale and company were commissioned (famously using camels) by the government to physically build a wagon road along this route in 1857/1858. The Beale Wagon Road provided cross-country wagon travel along the 35th parallel as a means of connecting Fort Defiance in Ohio to the Mohave Trail in California. This was a primary access road until the 1880s, when the transcontinental railroad was built through northern Arizona, providing a better form of travel.

The wagon road often exists as an eroded trough across the land, cut by the hooves of thousands of animals and the iron-rimmed wheels of many wagons and stagecoaches. Portions of Cedar Avenue seem to follow the alignment of the Beale Wagon Road, and a portion of the Road travelled through the northern portion of the McMillan Mesa Natural Area that is west of NACET and USGS and east of McPherson Park.

The portion of the Beale Wagon Road through the Petrified Forest National Park was listed on the National Register of Historic Places in 1977 given its significance to discovery, settlement, and transportation. The

Coconino National Forest manages the roadway on their property as eligible for listing on the National Register of Historic Places.

A malpais/red sandstone quarry was located at the southern tip of McMillan Mesa. Although not located within the boundary of the Natural Area, the quarry provides historical context for the area and Flagstaff's history. This rock was used to build many of the historic structures in that area of town. Other quarries were located closer to downtown.

Management Goal: Legally-designated open space will be managed to preserve, protect, and interpret the cultural and historic resources present on the property.

Management Policies: In addition to the general management policies guiding cultural and historic resource management (outlined in Chapter 2.2), the following policies apply specifically to managing cultural and historic resources within McMillan Mesa Natural Area:

- Identify cultural resources to ensure no facility and/or improvements come in conflict with the preservation of resources.

Planned Management Actions: In addition to the general management actions planned for managing cultural and historic resources (outlined in Chapter 2.2), the following actions are planned for McMillan Mesa Natural Area:

- Complete a cultural survey of the Natural Area to identify cultural resource locations.
- Consider developing interpretive materials for the Beale Wagon Road, Knob Hill Ranger Station, Forest Service land exchange, etc.

5.4 Public Use

McMillan Mesa Natural Area is open year-round to varying levels of public use. The Natural Area is managed to provide passive outdoor recreational and educational opportunities, including hiking, snow shoeing, wildlife watching, and nature study/environmental education, in addition to others. Though the Natural Area is closed to overnight camping, star gazing and night walking are permitted. Motorized travel is prohibited within the property in order to protect the unique conservation values, except on official designated streets.

The Open Space Program believes that research and education are important uses of legally-designated open space. If interested in using McMillan Mesa as a test site for a research project or other educational program or project, please contact the Open Space Program at NaturalAreas@flagstaffaz.gov.

Table 3: Permitted and Prohibited Recreational Uses of McMillan Mesa Natural Area	
Permitted Uses	Prohibited Uses
Cross Country Skiing	Campfires
Geocaching	Camping
Hiking/Running	Fuelwood collection (except with permit)
Snow Shoeing	Off highway vehicles/driving
Mountain Biking	Hunting
Nature Study/Environmental Education	Firearm use

Wildlife Watching	Flying model aircraft, such as drones, airplanes, or rockets. (except with permit)
Stargazing	Large-scale activities/events (except with express written approval from the Open Space Specialist)
	Horseback riding

This chapter outlines the management goal, policies, and actions identified for managing public access, recreational use, roads, easements and leases, education and research, and facilities within legally-designated open space.

5.4.1 Access Management

Summary of Current Conditions:

There are significant opportunities for non-motorized access to McMillan Mesa Natural Area via FUTS trails from surrounding neighborhoods, including Switzer Ridge/Mesa, McMillan Mesa Village, and Sunnyside. Many of these trails traverse the Natural Area, cross Forest/Cedar Avenue, and continue into Buffalo Park.

There are a number of roads that provide motorized access adjacent to the Natural Area, including Gemini Road, Forest Avenue, Cedar Avenue, and Pine Cliff Drive. However, the only existing designated public parking area is located at the entrance to Buffalo Park on Gemini Road. Currently, the Buffalo Park parking area has approximately 45 parking spaces, year-round bathroom facilities, and water during seasonal allowance. The parking area is managed and maintained by the Parks Department.

Public transportation to the Natural Area exists via NAIPTAs Blue Line. As of December 2018, NAIPTA operates six bus stops along Forest/Cedar Avenue and Gemini Road to provide access for individuals wanting to visit McMillan Mesa Natural Area.

Management Goal: Legally-designated open space will be managed to ensure reasonable public access for non-motorized recreational activities.

Management Policies: In addition to the general policies guiding public access to legally-designated open space (outlined in Chapter 2.3.1.), the following policies apply to managing public access to McMillan Mesa Natural Area.

- Consider impacts associated with neighborhood versus public access when planning access points for the Natural Area.
- Utilize FUTS trails and other ROWs to access and complete administrative tasks (e.g. maintaining recreational and utility infrastructure).
- Limit motorized access to administrative activities.

Planned Management Actions: In addition to the general management actions planned for managing public access to legally-designated open space (outlined in Chapter 2.3.1), the following actions are planned for McMillan Mesa Natural Area.

- Work with Parks to investigate the possibilities of maintaining and/or improving the Buffalo Park parking lot to accommodate users of both Buffalo Park and McMillan Mesa.
- Investigate opportunities to create parking between the Arizona Trail bridge and N Gemini Road, north of E Forest/E Cedar Avenue (part of parcel: 11008001G).
- Investigate the potential of constructing an additional pedestrian bridge across Forest Avenue near Turquoise Drive to connect the north side of Forest Avenue (Buffalo Park/McPherson Park) to McMillan Mesa Natural Area. This would create a number of loop trail opportunities, enhancing opportunities for running and biking events (e.g. 3K, 5K, 10K loops). While this recommendation is not presently included in the current FUTS Master Plan, it will be incorporated into future FUTS Master Plans for consideration.
- Finalize Beale Trail alignment to enhance non-motorized access from the northwest, as outlined in the FUTS Master Plan.
- Investigate opportunities to work with FUTS to achieve accessible and/or ADA compliant access and trails.
- Evaluate unauthorized access points from Izabel St and determine management direction.
- Investigate opportunities with adjacent landowners (e.g. BASIS, San Francisco de Asis Catholic Church, NACET, USGS) to provide public parking for the Natural Area, possibly via formalizing one of the informal parking areas that exist at the end of N Manzanita Way or N Hemlock Way in close coordination and partnership with the local neighborhood.
- Work with BASIS to discourage parking at N Manzanita Way and N Hemlock Way that is not related to the use of the natural area.

5.4.2 Recreational Use

Summary of Current Conditions:

The Natural Area receives a significant amount of public use from Flagstaff residents and visitors. Trails from surrounding neighborhoods and additional access allows visitors to participate in activities including, hiking, jogging, bike riding, cross-country skiing, snow-shoeing, and wildlife watching (Table 2 -- Permitted and Prohibited Recreational Uses of McMillan Mesa Natural Area). The Natural Area, combined with the adjacent Buffalo Park, provides visitors a sense of peace and quiet within the City center.

One of the two primary goals of the Campaign for a Greater Buffalo Park effort was preserving opportunities to recreate within the urban environment and establish a buffer of natural communities for adjacent neighborhoods. The Open Spaces and Greenways Plan define this type of space as, “Neighborhoods”. These are open spaces near residents’ homes which provide easily accessible places where people can remove themselves from urban environments to relax, enjoy a variety of outdoor activities, and spend time alone or with family and friends. These places have trees, grasses, and rolling landforms that improve the beauty of developed areas by softening urban edges and adding natural features. People using Neighborhoods can feel that they are in the woods, because they see forest vegetation and see and hear wildlife, without leaving the community. Neighborhoods help maintain the character of the Flagstaff community.

The second primary goal of the Campaign for a Greater Buffalo Park effort was preserving the expansive viewsheds of the San Francisco Peaks. Views of the peaks and other visually prominent features express the

true nature of the city. These ‘mountain town’ views are important in maintaining the character of the city, create a health environment to spend time in, and stimulate communities economic wellbeing.

Prior to the Natural Area’s preservation most use occurred here by default rather than under planned management. With increasing numbers of people using the Neighborwoods a more managed condition is necessary. Increased neighborhood involvement and stewardship can help create and maintain the natural character and facilities of this category.

Population growth, development, and use have affected the Natural Area’s wildlife habitat, viewshed, night sky, sound pollution, vegetation, and human experience. Furthermore, studies have shown that natural resources rely upon the larger, surrounding area to support their life cycles and most parks and natural areas are not large enough to encompass self-contained ecosystems for the resources found within their boundaries. This is especially true for the McMillan Mesa Natural Area as it is surrounded by urban development.

Existing Trails:

- **Arrowhead Trail** - This trail is included in the Adopt-A-FUTS program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.
- **Arizona Trail** - A portion of the 800-mile trail that traverses from the Mexico to Utah borders is located on the property. A 30-foot-wide trail easement was established with neighboring landowners, including the San Francisco De Asis Roman Catholic Parish. The Flagstaff passage runs north and south through the middle of Flagstaff, starting south of town and traveling over McMillan Mesa and through Buffalo Park. This section of the Arizona Trail is a maintained walking trail with an improved surface of mostly gravel. The trail is for public access, including hikers and bicyclists, and is included in the FUTS system. The trail is maintained by the City Parks Department and Arizona Trail Stewards. Any modifications to the Arizona Trail requires coordination with the Arizona Trail Association and FUTS staff.
- **Cedar Trail** - A pedestrian/commuter trail that is parallel to Cedar Avenue but buffered from the road by a band of “open space”. It crosses over McMillan Mesa along the south side of Cedar and Forest Avenues from Turquoise Drive to West Street. Going over the Mesa means there are steady and at times very steep climbs from both ends of the trail. Approximately half of the trail is concrete (the portion west of pedestrian bridge), while the other half is constructed with an aggregate material (the portion east of pedestrian bridge). The trail is part of the Flagstaff Urban Trail System (FUTS) and is maintained by the City Parks Department. FUTS trails are non-motorized, shared-use pathways utilized by bicyclists, walkers, hikers, and runners for recreation and transportation. This trail is included in the Adopt-A-FUTS program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.
- **McMillan Mesa Trail** - A recreational FUTS trail traveling east-west across McMillan Mesa Natural Area, connecting the Sunset Trail just west of the Natural Area to the Arizona Trail within the eastern portion of the Natural Area. Given that the trail is part of the FUTS system, it is maintained by the City Parks Department. FUTS trails are non-motorized, shared-use pathways utilized by bicyclists, walkers, hikers, and runners for recreation and transportation. This trail is included in the Adopt-A-FUTS

program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.

- **Mesa Ridge Trail** - A recreational 0.3-mile recreational FUTS trail connecting Cedar Trail to McMillan Mesa Trail. The trail is constructed with aggregate material and is relatively flat with very little elevation change. Given that the trail is part of the FUTS system, it is maintained by the City Parks Department. FUTS trails are non-motorized, shared-use pathways utilized by bicyclists, walkers, hikers, and runners for recreation and transportation. This trail is included in the Adopt-A-FUTS program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.
- **Sego Lily Trail** - This unpaved, 0.64-mile trail climbs the east slope of McMillan Mesa, and provides access to open space between Izabel St/Sixth Ave and the Arizona Trail. It is especially important to providing access for the Sunnyside neighborhood. This trail is included in the Adopt-A-FUTS program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.
- **Sunset Trail** - A connector trail along the top of the cliff at the west edge of McMillan Mesa. There may be a future opportunity to bridge Cedar Avenue to continue the trail north to the Switzer Canyon Trail. The existing portion is 0.60 miles, with 0.14 miles planned, for a total length of 0.74 miles.
- **Switzer Canyon Trail** - A recreational FUTS trail located on an old road bed that was the previous alignment for Cedar Avenue. When Forest Avenue was built over McMillan Mesa, this section of Cedar Avenue was abandoned and converted into a trail. When complete, this trail will allow users to travel from downtown Flagstaff to Buffalo Park while crossing only two major streets. The portion of Switzer Canyon Trail north of Forest Avenue is an aggregate-surfaced trail, while the portion of the trail south of Forest Avenue is concrete. Construction of the missing segment, which is outside the boundary of McMillan Mesa Natural Area, from Terrace Avenue to Switzer Canyon Road, is anticipated in 2019. Given that the trail is part of the FUTS system, it is maintained by the City Parks Department. FUTS trails are non-motorized, shared-use pathways utilized by bicyclists, walkers, hikers, and runners for recreation and transportation. This trail is included in the Adopt-A-FUTS program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.

The Flagstaff Urban Trails System's master plan can be viewed at:

<https://flagstaff.maps.arcgis.com/apps/MapJournal/index.html?appid=89039c5951ef48079218d8d46de3d4fb>

Planned Trails:

- **Quarry Trail** - This trail will follow the forest hillside on the southwest corner of McMillan Mesa, from the Arizona Trail to the Switzer Canyon Trail. Upon completion, total length will be 0.85 miles. The east end of the trail overlooks an historic quarry, which is the source of the iconic red Moenkopi sandstone used in numerous buildings in Flagstaff and elsewhere.

The following forms of recreational use are incompatible with resource preservation goals of the McMillan Mesa Natural Area. Though equestrian use is permitted within the general legally designated open space

policies (Except on FUTS trails), the McMillan Mesa is surrounded by development and does not have adequate access for horses. The majority of the trails within the Natural Area are part of the Flagstaff Urban Trail System on which equestrian traffic is prohibited. A portion of the FUTS, designated as the Arizona Trail, passes through the Natural Area. Since horses are not allowed on FUTS this section of the Arizona Trail is not open for equestrian traffic; however, the Arizona Trail bypass, around the east end of town, is open to equestrian users. Mountain biking on trails is permitted in the Natural Area; however, Downhill biking, a genre of mountain biking practiced on steep, rough terrain that often features off trail travel, jumps, drops, boulder hopping, and other obstacles is prohibited. Flying model aircraft, such as drones, airplanes, or rockets is prohibited within the Natural Area except with permit, per 8-11-001-0008.

Management Goal: Legally-designated open space will be managed to provide a wide variety of developed and dispersed day-use recreational opportunities.

Management Policies: In addition to the general policies guiding recreational use of legally-designated open space (outlined in Chapter 2.3.2.), the following policies apply to managing recreational use of McMillan Mesa Natural Area.

- Limit developed recreation opportunities to preserve the scenic resources.
- Provide accessible recreational opportunities within current trails.
- Manage dispersed recreation to minimize soil compaction and impacts to wildlife forage.

Planned Management Actions: In addition to the general management actions planned for managing recreational use of legally-designated open space (outlined in Chapter 2.3.2), the following actions are planned for McMillan Mesa Natural Area:

- Investigate options to realign the steep section of the Cedar Trail to enhance public safety.
- Calculate existing unauthorized trail alignments for inclusion/exclusion in the trail system as connector trails to the existing FUTS network.
- Investigate need for design and installation of interpretive signs throughout the Natural Area describing the ecological importance of grasslands and forest succession of the Natural Area.
- Design and construct ADA compliant trails within the Natural Area.

Trail Map

McMillan Mesa Natural Area Management Plan

Date: 7/31/2019

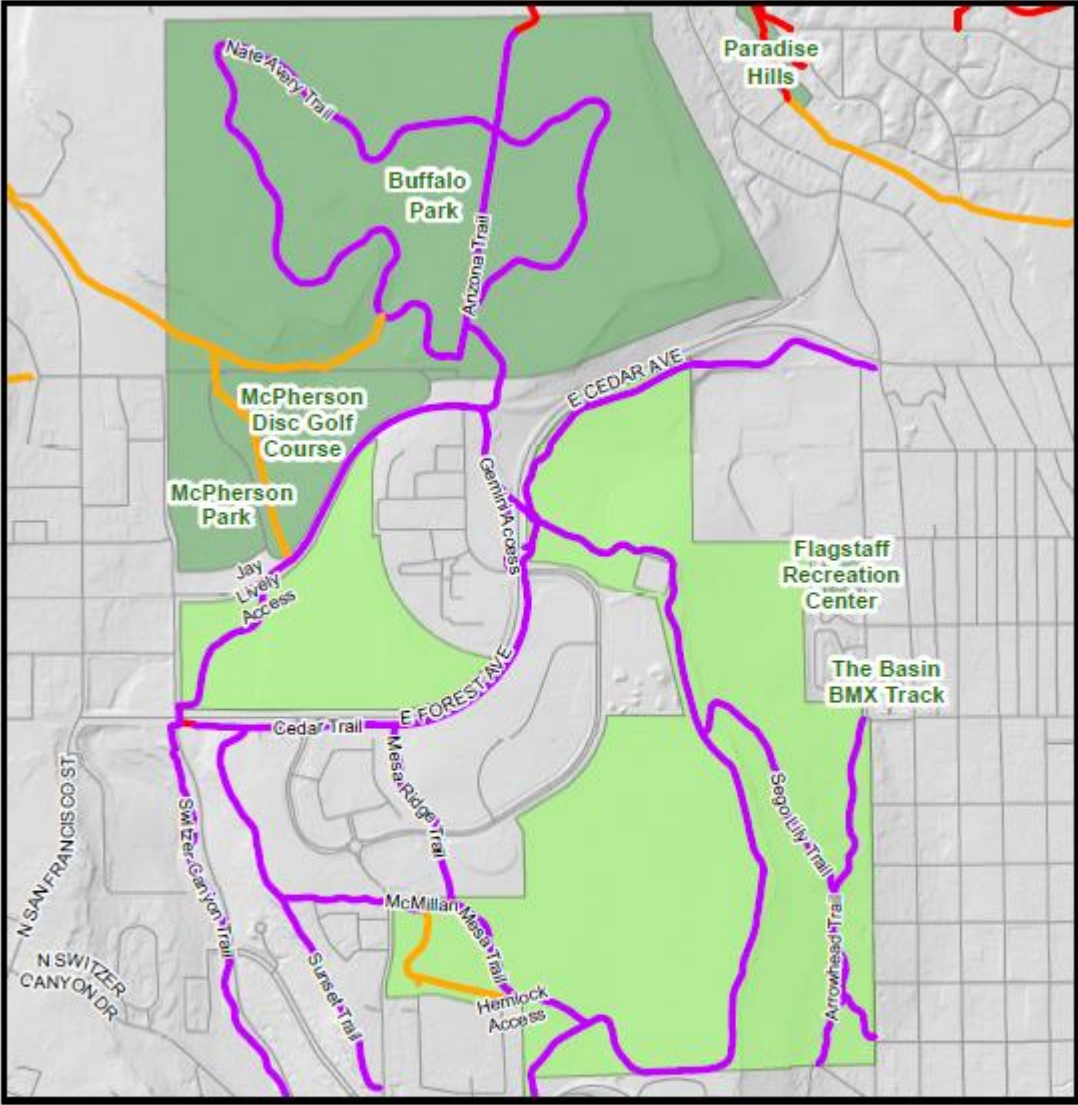


Figure 10: Existing and Planned Trails within the Vicinity of McMillan Mesa Natural Area.

5.4.3 Roads

Summary of Current Conditions:

McMillan Mesa Natural Area is a roadless property. There are multiple roadways surrounding the property and within the vicinity including: Forest Avenue, Cedar Avenue, Turquoise Drive, Pine Cliff Drive, Gemini Drive, Izabel Street, Apple Way, Hemlock Way, and Manzanita Way. All of these streets are managed and maintained by the City of Flagstaff Streets Department.

The Natural Area is a non-motorized recreational area. The City and its contractors are able to use FUTS trail alignments and other ROWs for motorized access throughout the Natural Area for administrative purposes (e.g. maintaining infrastructure).

Management Goal: Legally-designated open space will be managed to reduce motorized travel within these properties.

Management Policies: In addition to the general policies guiding road management in Chapter 2.3.3, the following policies apply to the management of roads within the vicinity of McMillan Mesa Natural Area:

- Investigate additional signage along Cedar Avenue and Forest Avenue alerting drivers about the wildlife in the area.
- Utilize FUTS trails and other ROWs to access and complete administrative tasks (e.g. maintaining recreational and utility infrastructure).
- Roads already developed for utility access should be managed to minimize disturbance to native vegetation and prevent the spread of invasive plants.
- Roads no longer needed should be decommissioned and restored when appropriate.

Planned Management Actions: In addition to the general management actions planned for managing roads outlined in Chapter 2.3.3, the following policies apply to the management of roads within the vicinity of McMillan Mesa Natural Area:

- Consider installation of boundary signs in appropriate areas to educate the public about the non-motorized regulations.
- Work with APS to restore soil and vegetation surrounding their parcel.

5.4.4 Easements and Leases

Summary of Current Conditions:

There are existing easements within and adjacent to the Natural Area, as well as utilities that cross the Natural Area that do not have easements. Many easements are under current roads. Given the amount of private and residential development surrounding the Natural Area, existing infrastructure are primarily for utilities and water infrastructure (including water lines and water valves), which the City of Flagstaff holds rights to.

Existing waterlines that run through the McMillan Mesa Natural Area will need to be accessed for work. City Water Services will work with Open Space to ensure that Natural Area is properly managed and restored to open space standards in the event of any impacts. Per City of Flagstaff engineering standards and city code no

infrastructure (buildings, bathrooms, fences, walls, etc.) can be built on top of or within 10 feet of a public water main.

Given that this property has been under City ownership since trading for it in 1959 from the National Forest Service there may be utilities crossing the property that do not have easements, as it would have been unnecessary for the City to obtain an easement from itself at the time. All existing utilities are required to be managed to prevent or minimize impacts and to fully restore any effects from operations. This requires the use of appropriate tools and the development of management strategies to limit impacts and restore impacts to Open Space standards.

In 1969, the City established a scenic easement over much of the greater McMillan Mesa area to protect the natural features of the property (Ordinance 744, 1969). This easement covered a majority of the Natural Area boundary, including Buffalo Park and much of the private property to the southwest. The scenic easement was abandoned in 1992 through Ordinance 1783. The next iteration of this type of protection is the Specific McMillan Mesa Area Plan (<https://www.flagstaff.az.gov/1344/Completed-Area-Plans>), which set height restrictions specific for every Tract, including a 45 foot maximum building height.

Future development on private parcels on McMillan Mesa (outside of the Natural Area boundary) will tie in with existing water utility infrastructure. The City does not anticipate needing to construct or install additional water lines in the area but does need to ensure access for maintenance of existing infrastructure.

When the veteran facility is constructed it will be necessary for the City to investigate alternatives to complete the project without ground disturbance in the protected Natural Area. Additionally, there is a planned gravity sewer line in which one of the proposed alternatives could cross through the northwestern section of the Natural Area. Alternative solutions will need to be considered by the City to prevent impacts to the Natural Area.

To meet future access needs Open Space will encourage all easement access through any existing easements. New easement requests, including access to existing utilities that do not have easements, will be reviewed by Open Space staff and if found appropriate will be forwarded to the Flagstaff City Council for approval and adoption of the appropriate ordinance. This includes all projects not directly related to the management of the Natural Area. Furthermore, any projects approved that could alter the McMillan Mesa Natural Area will need to provide solutions that restore the property to an improved condition. Projects directly related to the administration of the Natural Area, such as facility improvements or resource management, will be reviewed by Open Space staff. If the task is found appropriate for the management of the property, a project plan addressing potential and unintended changes to ensure the property is fully restored at the completion of the project, must be finished before implementation can occur.

Management Goal: Manage legally-designated open space for non-consumptive, sustainable uses.

Management Policies: In addition to the general policies applicable to managing easements and leases in Chapter 2.3.4, the following policies apply to managing easements and leases within McMillan Mesa Natural Area:

- City Water Services Department are to retain access to their easement areas for maintenance and improvements to their water infrastructure.

- Encourage future utilities to be below ground to protect the scenic values of the property, while minimizing other impacts. This requires the use of appropriate tools and the development of management strategies to limit impacts and restore the area to Open Space standards, in many circumstances requiring multi-year commitments.
- Use existing easements and reservations to the extent practical.
- Address new and existing utilities to prevent or minimize visual impacts, noise pollution, light pollution, ground disturbance, vegetation disturbance, interference with wildlife, conflicts with approved recreation, and other environmental impacts.

Planned Management Actions: In addition to the general management actions planned for managing easements and leases in Chapter 2.3.4, the following actions are planned for McMillan Mesa Natural Area:

- Ensure that ground-disturbing activities associated with easements and leases are coordinated with the Open Space Program to preserve resources and improve the condition of the Natural Area.

5.4.5 Education and Research

Summary of Current Conditions:

The abundance of educational opportunities in the immediate area is a testament to the educational and research opportunities available within the McMillan Mesa Natural Area. Since 1990 the Flagstaff Festival of Science has worked to connect and inspire the citizens of Northern Arizona, with the wonders of science and the joy of scientific discovery. In partnership, the City of Flagstaff utilizes Buffalo Park as an outdoor classroom, using the space to host astronomy programs and night sky viewings. Throughout the year, a number of additional events are hosted in the area including, Lights Out Flagstaff and Arizona Trail Days.

McMillan Mesa's preservation is an important contribution to education. Development, agriculture, and other land use practices have taken a heavy toll on grasslands, fragmenting them into isolated islands and reducing their extent. Noss et al. (1995), who reviewed and summarized estimated habitat loss, degradation, and fragmentation in natural ecosystems across the United States, classified grasslands and shrublands as "critically endangered ecosystems"—ecosystems which have declined by more than 98%. The Nature Conservancy estimates that shrub encroachment has affected over 35,200 km² (8.7 million acres) of grasslands nationwide.

McMillan Mesa's urban location and proximity to educational institutions make it a good fit for the biological studies of species, environmental investigations, and opportunities to visit the property to learn about land management and urban planning. Coconino High School is within close proximity to the northeast, BASIS Flagstaff Charter School to the east, and the Montessori Charter School of Flagstaff to the south. Also, within walking distance is the Peak School, Killip Elementary School, and Pine Forest Charter School.

Individuals and organizations wishing to complete research and/or monitoring projects on McMillan Mesa are required to complete an "Open Space Research Permit" application for the Open Space Program to review (Appendix H). Research projects are acceptable uses of McMillan Mesa Natural Area as long as they are non-destructive in nature and don't conflict with the conservation values or management goals or objectives for the property.

Management Goal: Legally-designated open space properties will be managed to provide diverse educational and research opportunities.

Management Policies: Policies applicable to managing education and research opportunities within McMillan Mesa Natural Area are outlined in Chapter 2.3.5.

Planned Management Actions: In addition to the general management actions planned for managing education and research in Chapter 2.3.5, the following actions are planned for managing education and research within McMillan Mesa Natural Area:

- Collaborate with adjacent schools (Coconino High School, BASIS Flagstaff Charter School, Montessori Charter School of Flagstaff) to use the Natural Area as an outdoor classroom for their students.

5.4.6 Facility Development

Summary of Current Conditions:

Because of the fragile characteristics of soil, the construction of facilities can have a negative impact on ecological succession, native plant populations, and soil retention and development. Facility development should avoid construction on steep terrain and ecologically sensitive areas. Locations with well-established native plant populations should be avoided for facility and infrastructure development, as they stabilize the soil and form organic matter important as soil nutrients. Facilities result in greater soil compaction and reduced water infiltration, while persistent foot traffic along steep slopes can exacerbate erosion rates.

McMillan Mesa is important for dark night sky preservation. The City was recognized as the world's first International Dark Sky City on October 24, 2001, for its pioneering work in the development and implementation of lighting codes that balance the need to preserve Flagstaff's dark sky resource with the need for safe lighting practices. The purpose of this division is to help assure that dark skies remain a resource to be enjoyed by the Flagstaff community and its visitors, and to provide safe and efficient outdoor lighting regulations that protect Flagstaff's dark skies from careless and wasteful lighting practices. Dark starry nights, like natural landscapes, forests, clean water, wildlife, and clear unpolluted air, are valued in many ways by the residents of this community, and they provide the natural resource upon which our world-renowned astronomical industry depends. Any facilities developed in the Natural Area need to be aligned with night sky City code 10.50.70.

Current facilities within McMillan Mesa Natural Area are primarily focused on the extensive FUTS trail network within the area, including trail signs and other trail-related infrastructure (e.g. trash cans, benches). During the McMillan Mesa usage survey Open Space received over 400 responses. Overall most people indicated that they prefer developments/improvements be minimized and that the property be kept as natural as possible. The majority of responses indicated that infrastructure such as signage, trails, parking and restrooms be minimal, and that emphasis be placed on maintaining the health and preservation of the ecosystem.

Management Goal: Legally-designated open space will be managed to provide facilities that enhance visitor's experience.

Management Policies: In addition to the general policies applicable to developing facilities in Chapter 2.3.6, the following policies apply to developing facilities within McMillan Mesa Natural Area:

- Focus and cluster facilities to areas that are already developed (e.g. along Gemini, near Apple, by USGS) to reduce impacts to the interior portion of the Mesa.
- Design facilities with colors and materials that blend in with the landscape.

Planned Management Actions: In addition to the general management actions planned for developing facilities in Chapter 2.3.6, the following actions are planned for developing facilities within McMillan Mesa Natural Area:

- Where needed design and install minimal signage, such as boundary signs, regulatory signage, trail signs, directional signs, orientation kiosks, and interpretive signs for key locations in the Natural Area.
- Investigate the need for benches throughout the Natural Area to encourage passive use of the property.
- Investigate opportunities to work with FUTS to improve some trails to achieve accessible compliant access and trails.
- Investigate need for recycling and trash facilities and opportunities to partner with Parks to provide at the primary trailhead.
- Investigate need for bathroom facilities and opportunities to partner with Parks to provide portable toilets.
- Investigate providing equitable access:
 - Work with Parks to investigate possibilities to provide and maintain some parking at the Buffalo Park parking lot to accommodate users of both Buffalo Park and McMillan Mesa.
 - Investigate opportunities to create parking between the Arizona Trail bridge and N Gemini Road, north of E Forest/E Cedar Avenue (part of parcel: 11008001G).
 - Investigate opportunities with adjacent landowners (e.g. BASIS, San Francisco de Asis Catholic Church, NACET, USGS) to provide public parking for the Natural Area, possibly via formalizing one of the Informal parking areas that exist at the end of N Manzanita Way or N Hemlock Way in close coordination and partnership with the local neighborhood.
- Investigate the potential of constructing an additional pedestrian bridge across Forest Avenue near Turquoise Drive to connect the north side of Forest Avenue (Buffalo Park/McPherson Park) to McMillan Mesa Natural Area. This would create a number of loop trail opportunities, enhancing opportunities for running and biking events (e.g. 3K, 5K, 10K loops). While this recommendation is not presently included in the current FUTS Master Plan, it will be incorporated into future FUTS Master Plans for consideration.

5.5 Priority Action Plan

Table 4: Priority Action Plan – Facility Development

Action:	Responsibility:	Potential Implementation Date:	Estimated Financial Requirement:
Decommission and revegetate unauthorized trails and roads not designated as part of planned trail system.	City of Flagstaff	Summer 2020	\$10,000

Investigate opportunity to install a welcome sign on Arizona Trail bridge.	City of Flagstaff	Summer 2020	\$5,000
Work with FUTS to complete the trail plan.	City of Flagstaff	Summer 2021	\$10,000
Investigate better connectivity of trails between Buffalo Park and McMillan Mesa.	City of Flagstaff	Summer 2021	\$5,000
Design and install map dispersal stations at orientation kiosks	City of Flagstaff	Summer 2021	\$7,000
Utilize volunteers and partner organizations to complete area monitoring and trail maintenance.	City of Flagstaff	on-going/monthly	\$0
Install minimal interpretive signage in key locations.	City of Flagstaff	Summer 2021	\$5,000
Install minimal orientation kiosks in key locations.	City of Flagstaff	Summer 2021	\$5,000
Install minimal trail orientation signage.	City of Flagstaff	Spring 2020	\$1,000
Investigate potential partnering opportunities to provide some parking access.	City of Flagstaff	Summer 2020	\$50,000
Investigate partnership with Parks to maintain trash and recycling receptacles at primary trailhead.	City of Flagstaff	on-going/monthly	\$5,000
Investigate potential partnership with Parks to install "pit" toilets at primary trailhead.	City of Flagstaff	Summer 2021	\$100,000
Install dog waste bag dispenser at primary access points.	City of Flagstaff	Summer 2020	\$2,000

Table 5: Priority Action Plan – Resource Management

Action:	Responsibility:	Potential Implementation Date:	Estimated Financial Requirement:
Conduct noxious plant surveys and maintain map of occurrence locations.	City of Flagstaff and volunteers	On-going	\$3,000 per annum
Coordinate with Flagstaff Fire Department and Arizona State Forestry to complete forest health improvement projects.	City of Flagstaff	Variable	\$0
Treat invasive weeds biannually.	City of Flagstaff	Bi-Annually	\$3,000 per annum
Establish cultural resource baseline documentation.	City of Flagstaff, with volunteers	Winter 2019	Unknown
Secure sustainable funding for ongoing, appropriate maintenance.	City of Flagstaff	Summer 2020	\$30,000/year
Survey the property for user-created (unauthorized) roads and trails.	City of Flagstaff	Summer 2020	\$3,500
Develop trail maintenance standards and schedules.	City of Flagstaff	Summer 2020	\$0
Develop and maintain plant and animal species observation database.	City of Flagstaff and volunteers	On-going	\$0
Monitor insect and disease occurrences.	City of Flagstaff	On-going	\$0
Conduct wildlife surveys for endangered and special-status species.	City of Flagstaff with AZGFD assistance	Summer 2021 and then as needed	\$5,000

Conduct reptile and amphibian surveys.	AGFD with volunteer assistance	Summer 2021	Unknown
Utilize volunteers and partner organizations to conduct trash clean ups.	City of Flagstaff	On-going	\$0

Table 6: Priority Action Plan – Partnerships

Action:	Responsibility:	Potential Implementation Date:	Estimated Financial Requirement:
Amend the Regional Plan and Zoning Code to reflect the outcomes of Proposition 413.	City of Flagstaff, Planning and Development	Completed	\$0
Establish formal Volunteer/Docent Program for the Natural area.	City of Flagstaff	Completed, On-going	\$0
Manage Site Stewards Program in partnership with Arizona State Parks.	City of Flagstaff	On-going	\$0
Confirm existing agreements and/or establish new agreements with AZGFD regarding annual mammal and reptile/amphibian surveys.	City of Flagstaff	As needed	\$0
Conduct meeting with Northern Arizona University representatives regarding on-site natural resource research work.	City of Flagstaff	Annual	\$500 per annum
Establish informal agreements with private organizations and volunteer groups related to annual bird surveys.	City of Flagstaff	Update/renew annually	\$0
Document rock art and other cultural resources.	City of Flagstaff with volunteers	Winter 2019	Unknown
Maintain communication with adjacent landowners regarding projects and events at the Preserve.	City of Flagstaff	On-going	\$200 per annum

Chapter 5: McMillan Mesa Natural Area

5.1 Property Overview

The topography of McMillan Mesa was shaped by periods of tectonic scale geologic change in the western United States over the last 65 million years in north-central Arizona. Rapid uplift associated with the rise of the Colorado Plateau began around 5 million years ago and continues to occur. More recent and localized fracturing, faulting, and uplift is also likely related to volcanism in the surrounding San Francisco Volcanic Field. McMillan Mesa was formed when a vent near Woody Ridge erupted during a volcanic period about 6 million years ago. Thick basalt flows spread across surface outcrops of red Moenkopi sandstone, slowly eroding into the weathered malpais we see today.

Much of what is now McMillan Mesa was a component of US Forest Service holdings in the Flagstaff area. The City traded land in the Inner Basin of the San Francisco Peaks to the Forest Service for large parcels on McMillan Mesa and what is now Buffalo Park. The area is named after Thomas McMillan, one of the earliest Flagstaff area settlers, who owned land near what is now Cheshire and the Museum of Northern Arizona. He was a prominent citizen in the Flagstaff community and an early Coconino County Supervisor.

Community members and local organizations have advocated for preservation of the greater McMillan Mesa area for decades. Through the years, various agencies have proposed plans and concepts for the property, but there was not consensus about what the primary use of the property should be (e.g. active park land, passive open space, or other forms of development). These plans have ranged from building golf courses and other types of development, to preserving the entire property with a “do nothing” mentality.

The City Council adopted the McMillan Mesa Village Specific Plan in 1992 and the McMillan Mesa Master Plan in 2002. The Flagstaff 2030 Regional Plan acknowledged the ongoing community conversation regarding the conservation values of the Mesa and designated portions of the City parcels on the Mesa north of Forest Avenue as “Employment,” southwest as “Future Suburban,” and areas outside of Buffalo Park as “Area in White” – a designation that does not bind those parcels to any specific use.

On November 8, 2016, approximately 86% of Flagstaff voters voted in favor of Proposition 413 – Campaign for a Greater Buffalo Park. This proposition restricted the use of approximately 300 acres of City-owned property on McMillan Mesa to public open space and passive recreation (Initiative Number 2016-02). The results of the election were canvassed and approved by Resolution Number 2016-38 on November 28, 2016. The preservation of these lands was enacted through the voter initiative process and therefore, can only be amended by the City Council if the proposed amendment furthers the original purpose of Proposition 413. Any substantive changes that do not further the purpose would have to go back to the voters. This provides the highest level of protection available.

The land affected by Proposition 413 is currently zoned as Public Facilities and Rural Residential (as of March 2019), both of which permit “Outdoor Public Uses, General” and “Passive Recreation” as allowed uses (Zoning Code 10-40.30.030 and 10-40.30.060). Therefore, the City can plan and develop trails, trailheads, parking, and other amenities consistent with the initiative. According to the Ordinance, the City cannot sell the land or

permit any of the other allowed uses under Public Facilities and Rural Residential, and therefore it is protected as de facto conservation land given the development limitations.

Even though the current zoning allows for the passive recreation uses required by the proposition, the City Council directed staff to amend the Regional Plan and Zoning Code to reflect the outcomes of Proposition 413. The City Council approved the McMillan Mesa Natural Area major plan amendment (Resolution Number 2018-50) on Tuesday, October 16th, 2018. The resolution amended the Flagstaff Regional Plan 2030 by amending the Future Growth Illustration (Maps 21 and 22) and the Road Network Illustration (Map 25) to make the land use and road network designations consistent with the McMillan Mesa Natural Area. It also clarified the extent of surrounding land uses on City property, corrected mapping errors, and established an effective date. The resolution went into effective on November 15, 2018.

The 317.90 -acre McMillan Mesa Natural Area is primarily surrounded by private parcels, designated City-park land (McPherson Park and Buffalo Park), and other City-owned properties. Surrounding neighborhoods and parcels include to the west, Switzer Mesa, McMillan Mesa Village, Stone Ridge and Hospital Hill, to the north, the USGS and NACET Business Park, east are Shadow Mountain, Grandview Homes, and Sunnyside, and south lies the San Francisco de Asis Roman Catholic Parish property (Figure 1&2: Neighborhood maps near McMillan Mesa Natural Area). Subsequently, the expansive conservation land preserves “neighborhoods,” which are open spaces near residents’ homes where people may relax and enjoy a variety of outdoor activities, as defined by the Flagstaff Area Open Spaces and Greenways Plan in additional detail, Section 1, pages 21-22. The protected conservation land provides neighborhoods opportunities and serves as a natural environment buffer for the adjacent neighborhoods. Of the neighborhoods near McMillan Mesa, Sunnyside - Census Tract 3, is identified as Title VI, low-income area. Executive Order 12898 focuses attention on Title VI by providing that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” Thus, the protection of McMillan Mesa is an important success in social justice, providing access to natural settings that help support better health, environment, and equitable access.

The preservation of the McMillan Mesa Natural Area is presented with a number of land management challenges. Population growth and related surrounding development creates the most immediate impacts. Arizona is the fourth fastest growing state in the U.S. based on projected percent change in population size from 1995 to 2025 (U.S. Census Bureau 2016a). The population estimate of Flagstaff was an approximated 70,320 in July 2015, with a 6.4% increase since April 2010 (U.S. Census Bureau 2016b). Population growth and development have greatly affected the Natural Area’s wildlife habitat, viewshed, night sky, sound pollution, vegetation, and the human experience. With growth, increased use impacts the fragile characteristics of the ecosystem, ecological succession and soil development.

Climate change creates another veritable administrative demand. Coconino County has been experiencing climate changes. Average temperatures have been rising, particularly in the last 30 years (Climate Profile, City of Flagstaff, 2018). The region is likely to see fewer cold days and more hot days in the coming decades. Annual average temperatures could rise even more than the global average—possibly more than 10° F higher than the long-term average in the region (Climate Profile, City of Flagstaff, 2018). Based on the examination of Flagstaff and Coconino County’s historic and projected climate, there is a clear warming trend. Although natural variability will always exist, meaning some years will be warmer and some colder, the overall trend is

toward warmer temperatures; in particular, low temperatures are not, and will not be, as low as in the past. Although there are no clear trends in precipitation, the warmer temperatures will contribute to an overall drying trend. The implications of these changes for Flagstaff have create vulnerabilities in maintaining ecosystems and are discussed in climate vulnerability assessment process.

McMillan Mesa Natural Area consists of portions of 5 separate parcels within sections 10, 11, 14, and 15:

- 107-01-001B: 152-acre parcel southeast of Gemini Drive and the “cinder pit” parcel.
- 101-28-007C: 19-acre parcel immediately north of the “Horseshoe Neighborhood”.
- 110-08-001G: the southwest portion of this parcel bounded by USGS facility, Switzer Canyon Trail, Forest Avenue, and North Turquoise Drive.
- 109-02-001S: the southern portion of this 107-acre parcel bounded by Forest Avenue, Coconino High School, the “cinder pit”, and the APS powerline.
- 107-01-001F: 2 acres, located southeast of Gemini drive.

Along with the 5 parcels indicated above the Regional Plan amendment included the following parcels as Parks/Conservation Land to be managed for the benefit of the community.

- 101-37-002J and 107-01-001G: City-owned parcels less than 0.09 acres in size, adjacent to 107-01-001F, which were not included in Proposition 413; however, the parcel is too small to be used for other purposes, unless combined with an adjacent parcel.

Vicinity Map

McMillan Mesa Natural Area Management Plan

Date: 11/5/2019

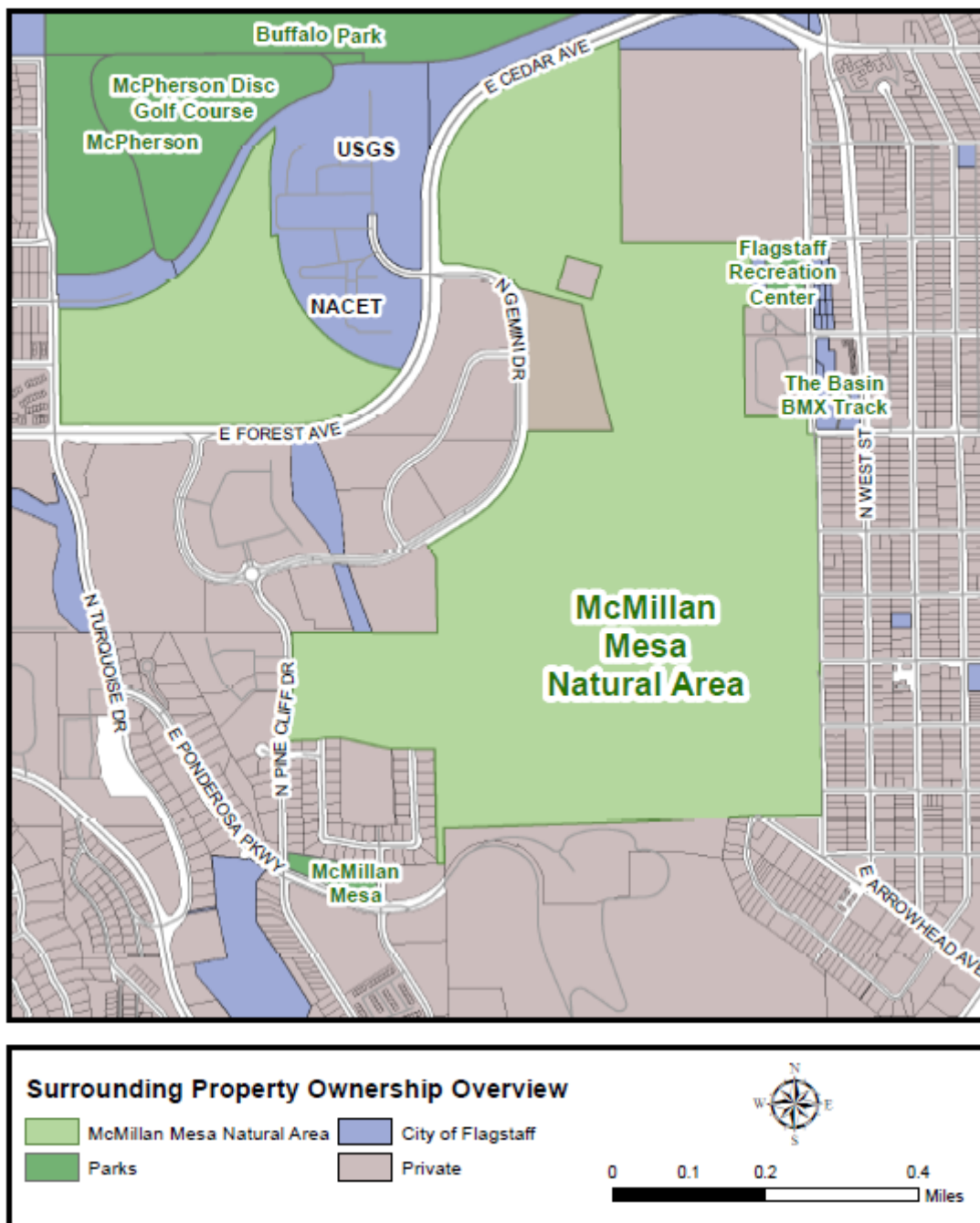


Figure 1: McMillan Mesa Natural Are Vicinity

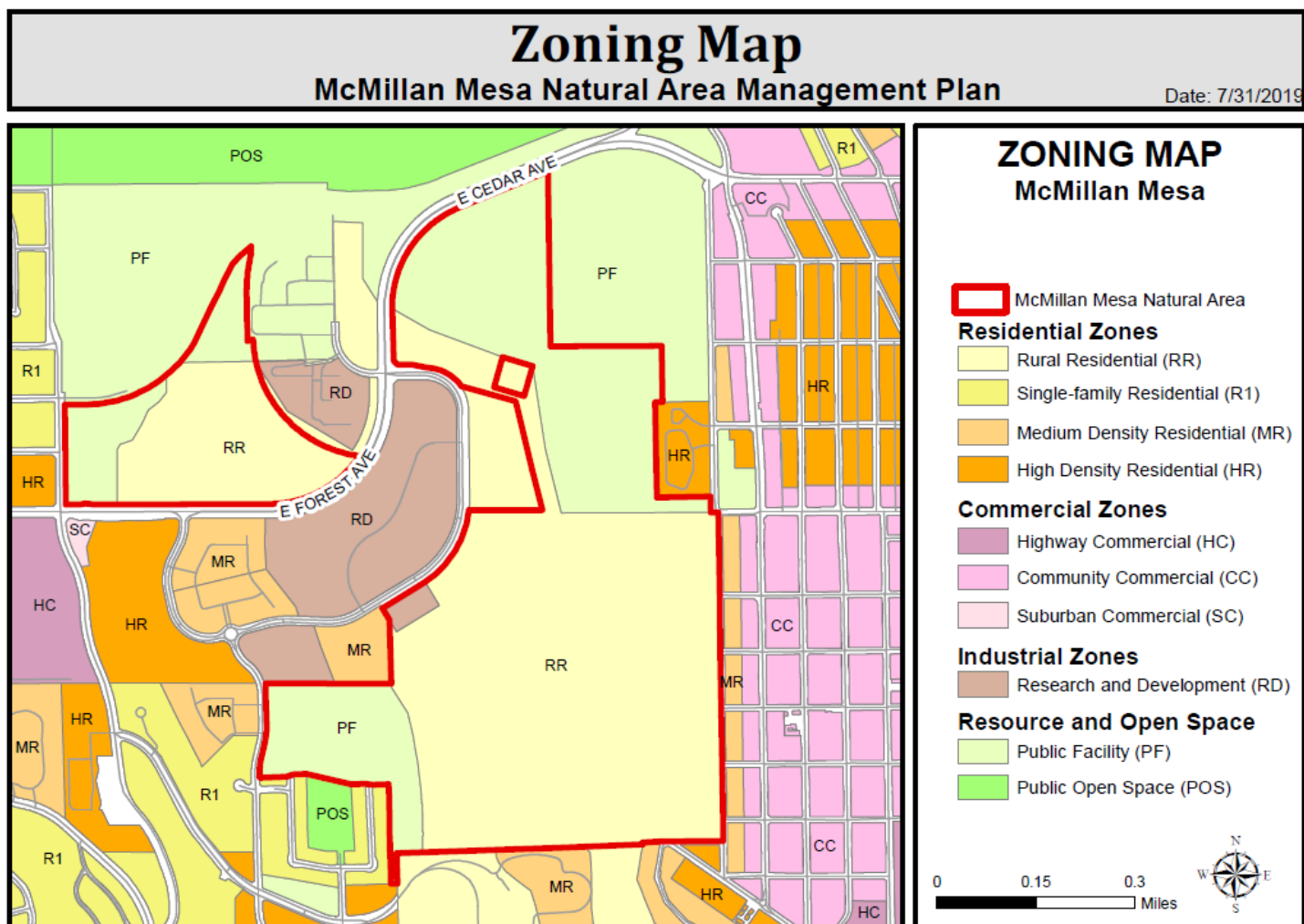


Figure 2: Zoning designations for McMillan Mesa Natural Area and the surrounding vicinity as of 2018.

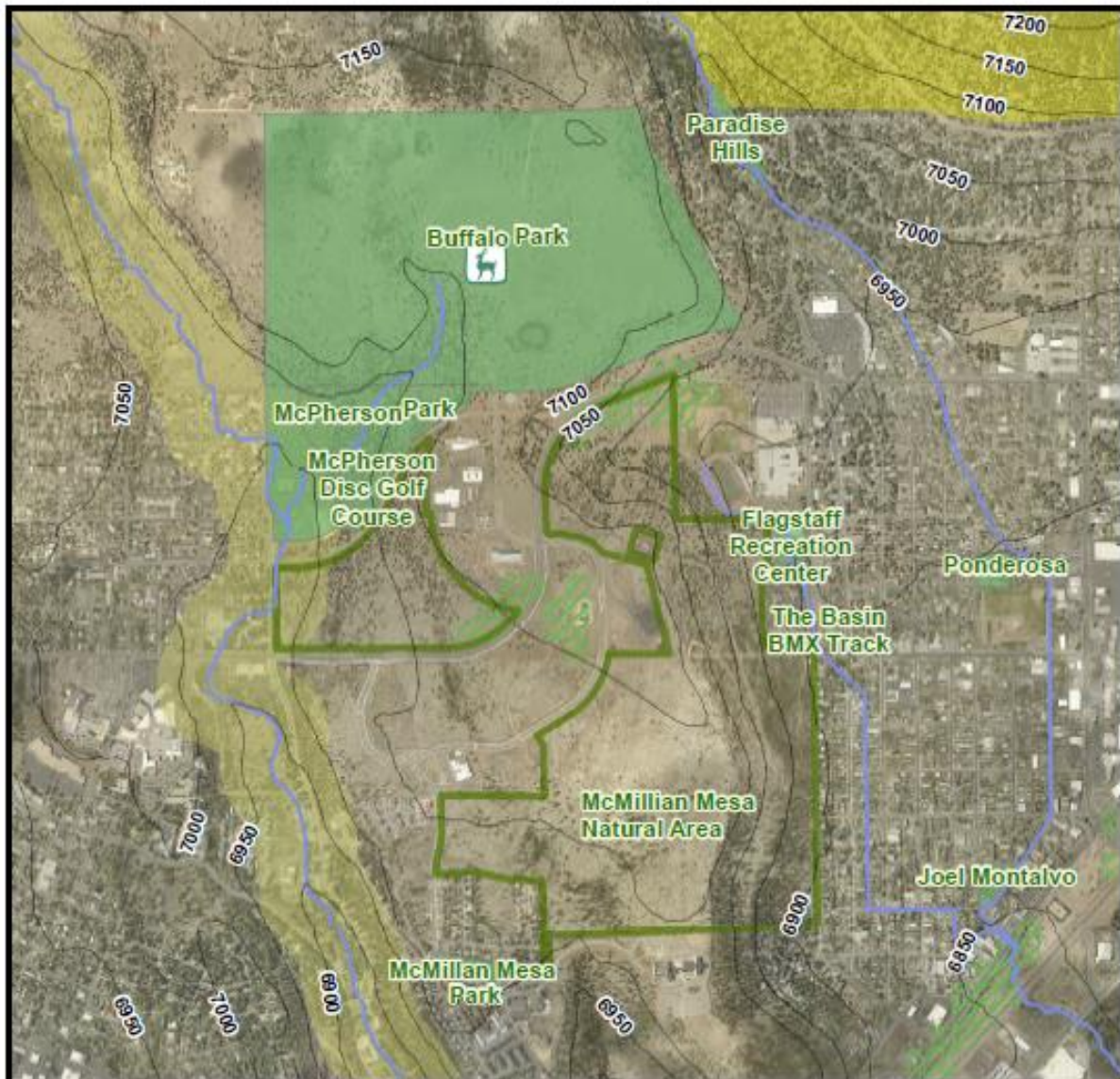
5.2 Natural Resources

Central to the overall management of McMillan Mesa Natural Area is the effective management of its natural resources. The water, wildlife, vegetation and geologic resources are important factors that supported permanent preservation of the property, and subsequently need to be managed and maintained appropriately to ensure they are not damaged. To ensure the protection of the biological, physical, and visual resources, specific management goals, policies, and actions have been identified.

Natural Resources

McMillan Mesa Natural Area Management Plan

Date: 7/31/2019



McMillan Mesa Natural Area - Natural Resources

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|--|---|---|
|  McMillan Mesa Natural Area |  Riparian Vegetation |  Wildlife Linkages |
|  Watchable Wildlife Areas |  Prairie Dog Burrows |  Tributaries |

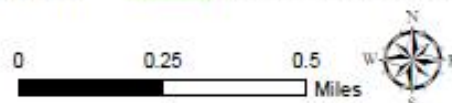


Figure 3: Significant Natural Resources: wildlife, vegetation, and hydrology.

5.2.1 Water Resources

Summary of Current Conditions:

McMillan Mesa Natural Area does not encompass significant above-ground water resources. The property has very little designated floodplain and/or floodway (Figure 4), which are designated waterways that are regulated by the federal government and have strict requirements associated with any type of development, including trail development. A recent well-siting study completed for the City in 2018 provided reconnaissance-level information regarding active recharge on the mesa itself. Geophysical survey results suggest that recharge is likely occurring on the flanks of the mesa, and not necessarily within the Natural Area parcels.

However, steep, forested slopes on the eastern edge of the Natural Area create opportunity for erosion as a result of runoff. This slope is soft and rain events often result in sediment and mud running off of the property. Drainage facilities at the bottom of the hill, west of Izabel Street, would capture and retain sediment, preventing it from flowing onto the street or adjacent FUTS trail.

Recent research on the North American Monsoon points to changes that may affect Coconino County and Flagstaff. Warmer temperatures have expanded and intensified the North American monsoon ridge, resulting in fewer storms across Arizona during the peak of the monsoon season (late-July to mid-August) (Climate Profile, City of Flagstaff, 2018). This generally has led to a decline in seasonal precipitation totals during the last 30 years (1980–2010) (Climate Profile, City of Flagstaff, 2018). Though there have been fewer storms, the most extreme storms have become more intense (as measured by amount of precipitation and wind gusts). This change could lead to increased erosion and potential flooding. Though designated floodplain are rare on the property, any shallow ephemeral wetlands, even localized spring snow-melt ponds are especially important in maintaining ecosystem health and biodiversity. These can support sedges, wildflowers, insects, and provide water for wildlife. They are a primary area for protection.

Management Goal: Similar to all legally designated open space, McMillan Mesa Natural Area will be managed to maintain or improve surface and ground water quality, surface water flow, ground water levels, and overall watershed health.

Management Policies: In addition to the general management policies guiding water resource management (outlined in Chapter 2.1.1), the following policies apply to the management of water resources within McMillan Mesa Natural Area:

- Manage forest resources related to water resources (e.g. intercepting precipitation, stabilizing soils, and minimizing erosion).
- Support the City Parks Section to investigate possible solutions and the feasibility of designing a project for preventing wildlife crossings on Forest/Cedar Avenue that are related to the maintenance or improvement of surface water features to the north of Cedar Avenue in Buffalo Park.

Planned Management Actions: In addition to the general management actions guiding water resource management (outlined in Chapter 2.1.1), the following actions are planned within McMillan Mesa Natural Area:

- Work with City Stormwater Section to determine the need for stormwater treatments at the north end of N Hemlock Way.
- Work with Flagstaff Urban Trails System staff to ensure continuous maintenance of the FUTS drainage control structures within the natural area.
- Work with partners to assess possibility of implementing a revegetation plan on the eastern edge of the Natural Area where runoff occurs. This slope is soft and rain events often result in sediment and mud running off of the property.
- Provide support to City Stormwater Section to determine the necessity and feasibility of constructing and maintaining a drainage basin near Izabel Street to capture and retain runoff from the slope.
- Provide support to Stormwater to assess the necessity and benefits of drainage facilities at the bottom of the hill, west of Izabel Street to capture and retain sediment, to prevent it from flowing onto the street or adjacent FUTS trail.

DRAFT

Floodplains

McMillan Mesa Natural Area Management Plan

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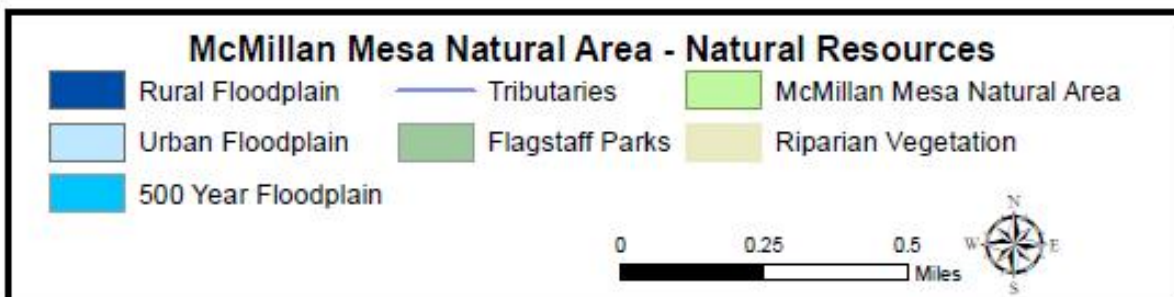
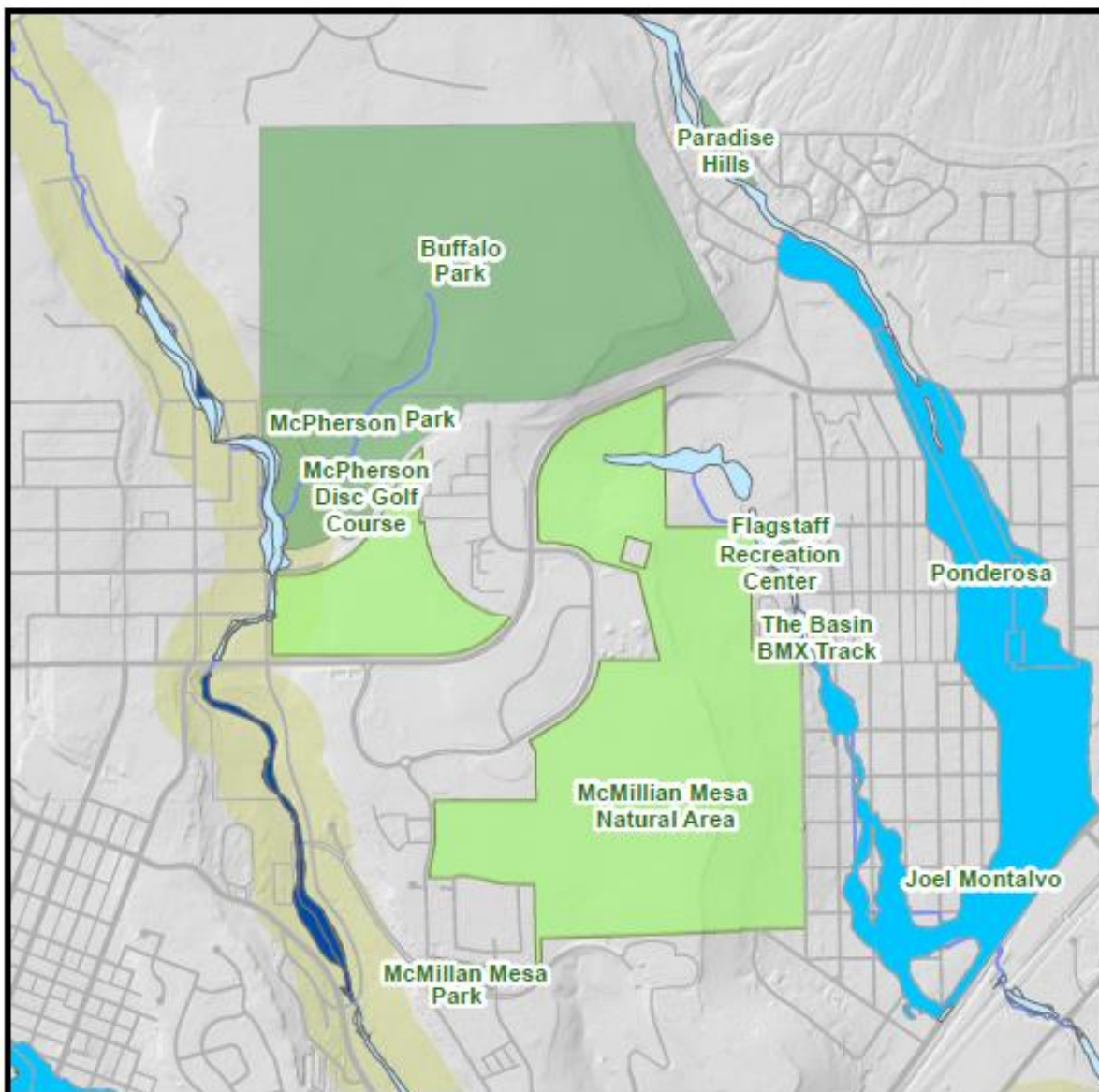


Figure 4: Designated floodplain within the vicinity of McMillan Mesa Natural Area.

5.2.2 Vegetative Resources

Summary of Current Conditions:

The 300-acre McMillan Mesa Natural Area, in conjunction with the adjacent 215-acre Buffalo Park, preserves one of the last intact native grasslands within the City. The primary vegetation type is Arizona fescue/mountain muhly and the associated habitat type is montane meadow grassland. There are small patches of overstory comprised of ponderosa pine (*Pinus ponderosa*), Gambel oak (*Quercus gambelii*), and alligator juniper (*Juniperus deppeana*), but a significant amount of the vegetative biodiversity exists as native grasses, shrubs, cacti, and wildflowers. Some of the primary species include: muttongrass (*Poa fendleriana*), blue grama (*Bouteloua gracilis*), Arizona fescue (*Festuca arizonica*), black dropseed (*Sporobolus interruptus*), low rabbitbrush (*Chrysothamnus viscidiflorus*), Wood's rose (*Rosa woodsii*), wax currant (*Ribes cereum*), Indian paintbrush (*Casteilleja spp.*), buckwheat (*Fagopyrum esculentum*), and common sunflower (*Helianthus annus*). Grasses, forbs, and shrubs provide important forage, cover, fawning, and nesting sites for the wildlife that use the area, thus contributing to the wildlife habitat of the Natural Area.

Vegetation plays a key role in the stability of soils. Efforts to maintain native plant populations should be a priority. Some erosion may result from natural runoff, yet when plants are damaged or void from terrain erosion greatly increases. The Terrestrial Ecosystem Survey classifies the soils within the Natural Area as a combination of rocky basalt and black cinder. The rocky basalt ecosystem type is described as rocky basalt surface soils with loam surface soils and clay loam subsoils. The black cinder ecosystem type is described as a dry, nitrogen-poor, sand-gravel, volcanic cinder soil. Results from the Well Siting Study (2018) suggest that these soil types are wide-spread across the mesa with no evident areas where recharge of surface water to the C aquifer is occurring. The geophysical information suggests conductive material occurs within the upper 100 feet of land surface, which is likely clay, a mix of rock and clay, or the fine-grained Moenkopi Formation. Soil development is very slow in the arid environment, particularly the weathering of basaltic parent material on young landforms.

Soil stability is susceptible to land use patterns such as recreation. McMillan Mesa is likely more durable to some degree of recreational activity in comparison to younger volcanic features in the San Francisco Volcanic Field, although it's vulnerable to compaction, unauthorized trails, and erosion on slopes. Barren areas are anticipated to develop in heavily used areas from pedestrian activity. Unregulated recreation will exacerbate erosion and soil loss and increase the presence of invasive plants.

The rocky outcrops and escarpments within the Natural Area support a number of species that do not occur elsewhere, including: side-oats grama (*Bouteloua curtipendula*), claret cup cactus (*Echinocereus triglochidiatus*), Apache plume (*Fallugia paradoxa*), mock pennyroyal (*Hedeoma oblongifolium*), pincushion cactus (*Mammillaria microcarpa*), and Arizona grape (*Vitis arizonica*).

There are also significant populations of invasive plants within the Natural Area. Invasive plants are aggressive spreaders and/or prolific reproducers, which can adapt to a variety of conditions and have few natural controls in their new habitat. The animals, birds, insects, and fungi that controlled them in their native habitat are absent. They are difficult to control or eliminate once established. Invasive plants currently found within McMillan Mesa include, Scotch thistle (*Onopordum acanthium*), Diffuse knapweed (*Centaurea diffusa*),

Dalmation toadflax (*Linaria dalmatica*), and Cheatgrass (*Bromus tectorum*). Additionally, squirreltail (*Elymus elymoides*) and western wheatgrass (*Pascopyrum smithii*) have become more prevalent within the Natural Area over the past decade. These are aggressive, invasive, drought-tolerant grasses with a strong potential to dominate the grassland ecosystem.

Invasive plant infestations reduce biodiversity by crowding out native vegetation, compete for resources, create monocultures, degrade wildlife habitat, and affect recreational use. Trails and other use impacts can result in the spread of invasive plants. Surveying the property for invasive plants and developing a Weed Management Plan are priorities. Special attention should be given to areas of disturbance.

Climate change can result in ecosystem transitions. Average temperatures in Coconino County have been rising since about the mid-1980s (Climate Profile, City of Flagstaff, 2018). Almost all years since 1985 have had average annual temperatures above the long-term average (Climate Profile, City of Flagstaff, 2018). Minimum temperatures, which manifest as days not being as cold and as fewer cold days per year, are largely driving the upward trend in temperatures. These trends are projected to continue into the future. Scenarios for Coconino County indicate that average temperatures could be 5° F above the current average (52.3° F) by 2050 and more than 10° F above the current average by the year 2100 (Climate Profile, City of Flagstaff, 2018). Climate trends are causing changes in vegetative cover. Invasive plants are spread in a variety of ways, but wind and the disturbance associated with adjacent development are the primary sources of invasive weeds on the Mesa.

The State of Arizona, U.S. Forest Service, and other land management organizations have identified multiple special status plant species within a 5-mile radius of McMillan Mesa Natural Area (Table 1).

Common Name	Latin name	Identification agency	Likelihood of occurrence	Notes
Schultz Rough Whitlow grass (rough draba)	<i>Draba asprella</i> var. <i>stelligera</i>	None	Low	The nearest collection is near NAU campus.
Flagstaff false pennyroyal	<i>Hedeoma diffusa</i>	USFS, State	Low	Needs limestone soil. The nearest locations are near Little America and NAU campus.
Hairy clematis	<i>Clematis hirsutissima</i>	USFS, State	Low	Rio de Flag (south of Little America) and an some old collections with labels saying "between Museum and Flagstaff."
Mountain hollyfern	<i>Polystichum scopulinum</i>	None	Low	On Mt. Elden
Ebony spleenwort	<i>Asplenium platyneuron</i>	None	Low	No locations nearby
Rusby's milkvetch	<i>Astragalus rusbyi</i>	USFS	Low	Endemic species limited to San Francisco Peaks volcanic field. Nearest locations near

				Museum of Northern AZ and Mt. Elden.
Fendler's sandwort	Eremogone fendleri	None	Unknown	Fairly common species with no special status. Collected on Observatory Mesa.
Northern maidenhair fern	Adiantum pedatum = A. aleuticum	None	Low	Nearest collection is Mt. Elden
Utah bladderfern	Cystopteris utahensis	None	Low	Mt. Elden
Mogollon columbine	Aquilegia desertorum	State	Low	Collections on Rio de Flag south of Little America) and on Mt. Elden
Green death camas	Zigadenus virens	State	Low	No collections within 5 miles of site
Flagstaff beardtongue	Penstemon nudiflorus	USFS	Low	Possibly near Turquoise Drive.
Seashore cactus	Opuntia martiniana	None	Low	Not collected in our area.
Intermountain rubberweed	Hymenoxys helenioides	None	Low	Closest collection is in Hart Prairie area.

*None = no state or federal status.

Management Goal: McMillan Mesa Natural Area will be managed to maintain native plant communities present on the site by focusing efforts to control and/or reduce invasive species populations, as indicated in chapter 2.1.2.

Management Policies: In addition to the general management policies guiding vegetative resource management (outlined in Chapter 2.1.2), the following policies apply to the management of vegetative resources within McMillan Mesa Natural Area:

- Survey for sensitive plant species within the footprint of ground disturbing activities. If sensitive plant species are present, design projects to ensure these plants are protected.

Planned Management Actions: In addition to the general management actions planned for managing vegetative resources outlined in Chapter 2.1.2, the following actions are planned for McMillan Mesa Natural Area.

- Investigate the need to produce a self-guided brochure/native plant walk to introduce visitors to the native flora of the Mesa.
- Work with San Francisco Peak Weed Management Area to survey the property for invasive weeds and develop an Invasive Weed Management Plan specific for the property.
- Work to secure funding to manage non-native plant populations (e.g. Invasive Plant Grant from Arizona Department of Forestry and Fire Management).
- Coordinate with adjacent private landowners to treat any invasive weeds on their properties.
- Survey the property for rare and sensitive plant species to establish a baseline condition.

- Restore the vegetative community to support a balance of grasses to provide food and cover for wildlife such as ground nesting birds and prairie dogs throughout the year.

5.2.3 Forest and Grassland Health

Summary of Current Conditions:

The Natural Area consists primarily of a large open grassland. The City plans to protect this grassland from tree encroachment, which can affect water and nutrient cycling, impact soil integrity, and affect wildlife habitat.

The slope along the eastern edge of the parcel (dropping off into Coconino High School and Izabel Street) and the northwest portion of the Natural Area (between NACET/USGS and North Turquoise Drive) consists of overstory vegetation. The primary tree species include Gambel oak (*Quercus gambelii*), ponderosa pine (*Pinus ponderosa*), alligator juniper (*Juniperus deppeana*). These trees provide cover for the elk, deer, and other mammals that use the area and habitat for nesting songbirds.

The Flagstaff Fire Department (FFD) is responsible for implementing any forest health improvement projects, monitoring local conditions and determining whether the City will implement fire restrictions, and responding to any fire activity within the property. The FFD has a policy to immediately suppress all wildfires and ignitions within City limits, which includes the Natural Area.

The FFD has conducted broadcast burning operations within the Natural Area in the past. The FFD also hand thinned the area during the mid-2000s to reduce small diameter trees and understory ladder fuels.

The Natural Area is bisected by several trails (see 6.4.2 Recreational Use). Trails can act as a firebreak, causing a gap in the vegetation to act as a barrier to slow or stop the progress of wildfire and could be used to hopefully reduce the size of a wildfire. General goals include maximizing the health of the Natural Area through implementation of thinning and broadcast burning operations. Properly maintained trails could be useful to conducting fire operations and could offset the cost of completing work.

Management Goal: Legally-designated open space will be actively managed to achieve forest and grassland structures that are resilient to wildfire and resistant to other disturbances, while continuing to provide ecosystem services to the surrounding community.

Management Policies: In addition to the general management policies guiding forest and grassland health management (outlined in Chapter 2.1.3), the following policies apply to the management of forest health resources within McMillan Mesa Natural Area:

- Protect the grassland from tree encroachment through hand thinning and/or broadcast burning.
- Work to plan and implement thinning and broadcast burning operations as the need arises, based on input and in partnership with the Flagstaff Fire Department.

Planned Management Actions: In addition to the general management actions planned for managing forest and grassland health (outlined in Chapter 2.1.3), the following actions are planned for McMillan Mesa Natural Area:

- Establish photo monitoring points to track forest and grassland structure over time, including the spread of alligator juniper through the area grassland.
- Investigate incorporating adjacent parcels of privately-deed restricted dedicated open space held (e.g. Area between N Manzanita Way and N Hemlock Way, parcel: 10128007F) into the McMillan Mesa Natural Area to improve management and maintenance of healthy grassland conditions.

5.2.4 Wildlife Resources

Summary of Current Conditions:

A variety of wildlife habitats within McMillan Mesa Natural Area and the adjacent Buffalo Park, support resident and migratory species. These habitats include grasslands, ephemeral wetlands (within Buffalo Park), ponderosa pine woodlands, and pine/oak woodlands, although the primary wildlife habitat is montane meadow grassland. This is an at-risk habitat type in the southwest region.

Wildlife is one of the features that draws public use of the area, which includes a resident herd of mule deer and flocks of mountain bluebirds. The Gambel oaks and wax currants also provide good habitat for skunks, foxes, porcupines inhabiting the area.

Although the Natural Area provides habitat for mule deer and other species of wildlife, Forest Avenue and expanding development to the south limit its utility as a wildlife corridor and pose a risk to wildlife trying to move through the area. Wildlife can become “bottlenecked” in the southern portions of the Natural Area without a clear path back to appropriate habitat.

Additionally, Forest/Cedar serves as an obstacle for wildlife seeking forage within the grassy meadows of the Natural Area. There have been multiple collisions between vehicles and deer along Cedar/Forest within the vicinity of McMillan Mesa Natural Area.

Rocky outcrops are fairly common in the Natural Area and provide unique cover and habitat for small mammals and reptiles. It is an important goal to minimize ground disturbance to these features, especially considering that they are specifically identified for their conservation value in the 2030 Regional Plan.

McMillan Mesa Natural Area is within Game Management Unit 11M. As of the 2018 Arizona Hunting Regulations, all hunting (including archery) is not permitted within McMillan Mesa Natural Area. This is due to its status as Municipal Park. The Arizona Game and Fish Commission has exempted some Municipal and County Parks from hunting because of the user conflicts that can arise (explanation in Arizona Game and Fish, pamphlet SB 1334). McMillan Mesa Natural Area is an example of a park where surrounding land ownership and current recreational use is not very compatible with hunting. However, the authority to regulate hunting lies solely with the Arizona Game and Fish Commission under ARS Title 17 (except for Tribal and National Park lands). Hunting Regulations are updated annually, including those for Unit 11M, by the Commission and they should be consulted to obtain the most updated regulations in future years. If hunting regulations were changed or McMillan Mesa was no longer identified as Municipal Park the prohibition of all forms of hunting within the McMillan Mesa Natural Area could change. Firearm use is not permitted within City Limits at any time.

There are not any known, systematic wildlife surveys within the Natural Area. A 2017 query of the

Environmental Review Tool (Arizona Game and Fish Department) revealed a number of federally listed or sensitive species that are documented to occur within a 5-mile radius of the Natural Area. These species may use the Natural Area at some point during their life cycle.

Table 2: Special status animal species identified within a 5-mile radius of McMillan Mesa Natural Area.

Common Name	Latin Name	Identification Agency	Likelihood of Occurrence (per AZ Game and Fish Dept.)
Greater short-horned lizard	<i>Phrynosoma hernandesi</i>	unknown	High
Allen's lappet-browed bat	<i>Idionycteris phyllotis</i>	FWS, USFS, BLM	Seasonal use possible
Bald eagle	<i>Haliaeetus leucocephalus</i>	FWS, USFS, BLM, State	Occasional use possible
Northern goshawk	<i>Accipiter gentilis</i>	FWS, USFS, BLM, State	High
Big brown bat	<i>ptesicus fuscus</i>	State	High
Many-lined skink	<i>plestiodon multivirgatus</i>	unknown	High
Peregrine falcon	<i>Falco peregrinus anatum</i>	FWS, USFS, BLM, State	Occasional use possible
Arizona myotis	<i>Myotis occultus</i>	FWS, BLM	Occasional use possible
Arizona (Mountain) treefrog	<i>hyla wrightorum</i>	State	Occasional use possible
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	FWS, State	Occasional use possible
Gunnison's Prairie Dog	<i>Cynomys gunnisoni</i>	USFS, State	Documented occupancy

Gunnison's Prairie Dog. There are multiple Gunnison's prairie dog (*Cynomys gunnisoni*) colonies and burrows within the Natural Area, suggesting a sizable population (Figure 9). Gunnison's prairie dog is native to the shortgrass and mid-grass prairies, grass-shrub habitats in low valleys, and subalpine mountain meadows of the Colorado Plateau. Gunnison's prairie dogs are considered to be a keystone species for grassland ecosystems in the Southwest. They create habitat, provide food, and help keep the soil and plant communities healthy. In addition, their burrowing helps to aerate the soil, add organic matter, and help to increase water penetration. The species has experienced significant habitat loss due to urban expansion, grassland conversion, and development. Additionally, prairie dog populations are susceptible to sylvatic plague, a flea-transmitted disease, which has had devastating mortality impacts on colonies throughout the region and can potentially result in the loss of the colony when it arises. The U.S. Fish and Wildlife Service was petitioned to list the Gunnison's Prairie Dog as an endangered or threatened species, under the Endangered Species Act, 16 U.S.C. § 1531 *et Seq.*, and to designate critical habitat. A 12-month review, published by the Service in November of 2013, chose to state that listing either *C. g. gunnisoni* or *C. g. zuniensis* or both was not warranted at that time. The Arizona Game and Fish Department lists the Gunnison's prairie dog nongame mammal. Overall, due to the

sensitive nature of the species, and because threats against Gunnison's prairie dogs reverberate throughout the prairie dog ecosystem and greater environment, risks to the species need to be minimized.

American Kestrel. A resident population of American Kestrels (*Falco sparverius*) have been identified on the Mesa. Although the American Kestrel is relatively abundant in North America, count data from the USGS Breeding Bird Survey indicates that the North American breeding population is experiencing long-term, gradual, but sustained declines. Between 1966 and 2015 populations declined by about 50%. Current declines are related to continued clearing of land and the falling of the standing dead trees that birds depend on for nest sites. Nesting sites are further reduced by so-called "clean" farming practices, which remove hedgerows, trees, and brush from farmland. Pesticide use also affects kestrel survival rates. A larger problem with pesticides is that they destroy the insects, spiders, and other prey on which the birds depend. Exposure to pesticides and other pollutants can also reduce clutch sizes and hatching success. High levels of traffic disturbance and human development surrounding nesting sites are found to increase stress hormones that can lead to reproductive failure. Among successful nests, however, nestlings do not typically experience a higher stress response to environmental human disturbance, suggesting that they can tolerate some degree of human activity near the nest.

Management Goal: Legally-designated open space will be managed to maintain and enhance a diversity of habitats that support native wildlife species. Emphasis will be placed on the protection of rare habitat types and special-status species.

Management Policies: In addition to the general management policies guiding wildlife resource management (outlined in Chapter 2.1.4), the following policies apply to managing wildlife resources within McMillan Mesa Natural Area:

- Design infrastructure so that it does not fragment, or significantly alter wildlife habitat and movement (e.g. wildlife friendly fencing).
- Consider options to enhance wildlife habitat to protect native species especially special-status species with non-intrusive habitat improvement projects (e.g. nest platforms, and bat boxes).
- Minimize ground disturbance to rocky outcrops.
- Construct and maintain trail systems and infrastructure to minimize erosion and disturbance to sensitive wildlife.
- Take comment and work with the Conservation Study Forum, Arizona Game and Fish Department, and City Parks Section to come up with possible solutions to prevent wildlife crossings on Forest/Cedar Avenue.
- Prairie dog policies (survey and translocation requirements for large-scale ground disturbing activities)
 - Survey and map colonies on entire Natural Area in partnership with local organizations (e.g. Habitat Harmony).
 - Monitor the incidence of plague throughout the Natural Area.
 - When plague is detected, implement the following actions: 1) work with the Arizona Game and Fish Department to notify the public 2) increase monitoring effort to identify extent of outbreak 3) where and when appropriate and feasible, implement mitigation measures such as dusting burrows to kill fleas.

Planned Management Actions: In addition to the general management actions planned for managing wildlife resources (outlined in Chapter 2.1.4), the following actions are planned for McMillan Mesa Natural Area:

- Investigate installing infrastructure along Forest/Cedar Avenues to alert drivers when an elk is in the area (e.g. motion censored alert system that is triggered when a collared animal is in the area)
- Investigate installing additional signs along Forest/Cedar Avenues to minimize wildlife collisions in coordination with Arizona Game and Fish Department.
- Work with partners to maintain sensitive wildlife species.

5.3. Cultural and Historic Resources

Summary of Current Conditions:

There are multiple evidences of cultural and historic resources within, and surrounding McMillan Mesa Natural Area. Formal archaeological surveys have been completed within some of the Natural Area. One at the request of Design Master Homes, Inc. was completed on a 13-acre portion of Sec. 15, T21, R73, in August of 1976. In 1980, in preparation of the land exchange between the City and Coconino National Forest, another was preformed to ensure no effect to cultural resources. During the survey remnants of the Knob Hill Ranger Station was identified, and an archaeological site consisting of approximately 70 to 100 lithic flakes. Another survey, as part of the Gemini Parkway Study, was conducted by the Museum of Northern Arizona in October 1984, recording fifteen archaeological sites, ten prehistoric sites dating primarily to the early eleventh century and five historic sites that dated from the early 1930s to 1957.

These studies have uncovered multiple cultural resources, including petroglyph panels which may be of Cohonina or Northern Sinagua origin. There are also evidences of grinding slicks in the area around this petroglyph panel. Additionally, a lithic scatter of approximately 70-100 flakes was located in the area, but was deemed to be ineligible for the National Register of Historic Places by the Coconino National Forest and State Historic Preservation Office in 1981.

Additionally, the Beale Wagon Road (also known as the Beale Camel Road or 35th Parallel Route) travelled through the area. The 35th Parallel Route was surveyed in 1851 by Lorenzo Sitgreaves and company, for a wagon road; and again, by Amiel Weeks Whipple in 1853, this time for feasibility of a railroad. Edward Fitzgerald Beale and company were commissioned (famously using camels) by the government to physically build a wagon road along this route in 1857/1858. The Beale Wagon Road provided cross-country wagon travel along the 35th parallel as a means of connecting Fort Defiance in Ohio to the Mohave Trail in California. This was a primary access road until the 1880s, when the transcontinental railroad was built through northern Arizona, providing a better form of travel.

The wagon road often exists as an eroded trough across the land, cut by the hooves of thousands of animals and the iron-rimmed wheels of many wagons and stagecoaches. Portions of Cedar Avenue seem to follow the alignment of the Beale Wagon Road, and a portion of the Road travelled through the northern portion of the McMillan Mesa Natural Area that is west of NACET and USGS and east of McPherson Park.

The portion of the Beale Wagon Road through the Petrified Forest National Park was listed on the National Register of Historic Places in 1977 given its significance to discovery, settlement, and transportation. The

Coconino National Forest manages the roadway on their property as eligible for listing on the National Register of Historic Places.

A malpais/red sandstone quarry was located at the southern tip of McMillan Mesa. Although not located within the boundary of the Natural Area, the quarry provides historical context for the area and Flagstaff's history. This rock was used to build many of the historic structures in that area of town. Other quarries were located closer to downtown.

Management Goal: Legally-designated open space will be managed to preserve, protect, and interpret the cultural and historic resources present on the property.

Management Policies: In addition to the general management policies guiding cultural and historic resource management (outlined in Chapter 2.2), the following policies apply specifically to managing cultural and historic resources within McMillan Mesa Natural Area:

- Identify cultural resources to ensure no facility and/or improvements come in conflict with the preservation of resources.

Planned Management Actions: In addition to the general management actions planned for managing cultural and historic resources (outlined in Chapter 2.2), the following actions are planned for McMillan Mesa Natural Area:

- Complete a cultural survey of the Natural Area to identify cultural resource locations.
- Consider developing interpretive materials for the Beale Wagon Road, Knob Hill Ranger Station, Forest Service land exchange, etc.

5.4 Public Use

McMillan Mesa Natural Area is open year-round to varying levels of public use. The Natural Area is managed to provide passive outdoor recreational and educational opportunities, including hiking, snow shoeing, wildlife watching, and nature study/environmental education, in addition to others. Though the Natural Area is closed to overnight camping, star gazing and night walking are permitted. Motorized travel is prohibited within the property in order to protect the unique conservation values, except on official designated streets.

The Open Space Program believes that research and education are important uses of legally-designated open space. If interested in using McMillan Mesa as a test site for a research project or other educational program or project, please contact the Open Space Program at NaturalAreas@flagstaffaz.gov.

Table 3: Permitted and Prohibited Recreational Uses of McMillan Mesa Natural Area	
Permitted Uses	Prohibited Uses
Cross Country Skiing	Campfires
Geocaching	Camping
Hiking/Running	Fuelwood collection (except with permit)
Snow Shoeing	Off highway vehicles/driving
Mountain Biking	Hunting
Nature Study/Environmental Education	Firearm use

Wildlife Watching	Flying model aircraft, such as drones, airplanes, or rockets. (except with permit)
Stargazing	Large-scale activities/events (except with express written approval from the Open Space Specialist)
	Horseback riding

This chapter outlines the management goal, policies, and actions identified for managing public access, recreational use, roads, easements and leases, education and research, and facilities within legally-designated open space.

5.4.1 Access Management

Summary of Current Conditions:

There are significant opportunities for non-motorized access to McMillan Mesa Natural Area via FUTS trails from surrounding neighborhoods, including Switzer Ridge/Mesa, McMillan Mesa Village, and Sunnyside. Many of these trails traverse the Natural Area, cross Forest/Cedar Avenue, and continue into Buffalo Park.

There are a number of roads that provide motorized access adjacent to the Natural Area, including Gemini Road, Forest Avenue, Cedar Avenue, and Pine Cliff Drive. However, the only existing designated public parking area is located at the entrance to Buffalo Park on Gemini Road. Currently, the Buffalo Park parking area has approximately 45 parking spaces, year-round bathroom facilities, and water during seasonal allowance. The parking area is managed and maintained by the Parks Department.

Public transportation to the Natural Area exists via NAIPTAs Blue Line. As of December 2018, NAIPTA operates six bus stops along Forest/Cedar Avenue and Gemini Road to provide access for individuals wanting to visit McMillan Mesa Natural Area.

Management Goal: Legally-designated open space will be managed to ensure reasonable public access for non-motorized recreational activities.

Management Policies: In addition to the general policies guiding public access to legally-designated open space (outlined in Chapter 2.3.1.), the following policies apply to managing public access to McMillan Mesa Natural Area.

- Consider impacts associated with neighborhood versus public access when planning access points for the Natural Area.
- Utilize FUTS trails and other ROWs to access and complete administrative tasks (e.g. maintaining recreational and utility infrastructure).
- Limit motorized access to administrative activities.

Planned Management Actions: In addition to the general management actions planned for managing public access to legally-designated open space (outlined in Chapter 2.3.1), the following actions are planned for McMillan Mesa Natural Area.

- Work with Parks to investigate the possibilities of maintaining and/or improving the Buffalo Park parking lot to accommodate users of both Buffalo Park and McMillan Mesa.
- Investigate opportunities to create parking between the Arizona Trail bridge and N Gemini Road, north of E Forest/E Cedar Avenue (part of parcel: 11008001G).
- Investigate the potential of constructing an additional pedestrian bridge across Forest Avenue near Turquoise Drive to connect the north side of Forest Avenue (Buffalo Park/McPherson Park) to McMillan Mesa Natural Area. This would create a number of loop trail opportunities, enhancing opportunities for running and biking events (e.g. 3K, 5K, 10K loops). While this recommendation is not presently included in the current FUTS Master Plan, it will be incorporated into future FUTS Master Plans for consideration.
- Finalize Beale Trail alignment to enhance non-motorized access from the northwest, as outlined in the FUTS Master Plan.
- Investigate opportunities to work with FUTS to achieve accessible and/or ADA compliant access and trails.
- Evaluate unauthorized access points from Izabel St and determine management direction.
- Investigate opportunities with adjacent landowners (e.g. BASIS, San Francisco de Asis Catholic Church, NACET, USGS) to provide public parking for the Natural Area, possibly via formalizing one of the informal parking areas that exist at the end of N Manzanita Way or N Hemlock Way in close coordination and partnership with the local neighborhood.
- Work with BASIS to discourage parking at N Manzanita Way and N Hemlock Way that is not related to the use of the natural area.

5.4.2 Recreational Use

Summary of Current Conditions:

The Natural Area receives a significant amount of public use from Flagstaff residents and visitors. Trails from surrounding neighborhoods and additional access allows visitors to participate in activities including, hiking, jogging, bike riding, cross-country skiing, snow-shoeing, and wildlife watching (Table 2 -- Permitted and Prohibited Recreational Uses of McMillan Mesa Natural Area). The Natural Area, combined with the adjacent Buffalo Park, provides visitors a sense of peace and quiet within the City center.

One of the two primary goals of the Campaign for a Greater Buffalo Park effort was preserving opportunities to recreate within the urban environment and establish a buffer of natural communities for adjacent neighborhoods. The Open Spaces and Greenways Plan define this type of space as, “Neighborhoods”. These are open spaces near residents’ homes which provide easily accessible places where people can remove themselves from urban environments to relax, enjoy a variety of outdoor activities, and spend time alone or with family and friends. These places have trees, grasses, and rolling landforms that improve the beauty of developed areas by softening urban edges and adding natural features. People using Neighborhoods can feel that they are in the woods, because they see forest vegetation and see and hear wildlife, without leaving the community. Neighborhoods help maintain the character of the Flagstaff community.

The second primary goal of the Campaign for a Greater Buffalo Park effort was preserving the expansive viewsheds of the San Francisco Peaks. Views of the peaks and other visually prominent features express the

true nature of the city. These ‘mountain town’ views are important in maintaining the character of the city, create a health environment to spend time in, and stimulate communities economic wellbeing.

Prior to the Natural Area’s preservation most use occurred here by default rather than under planned management. With increasing numbers of people using the Neighborwoods a more managed condition is necessary. Increased neighborhood involvement and stewardship can help create and maintain the natural character and facilities of this category.

Population growth, development, and use have affected the Natural Area’s wildlife habitat, viewshed, night sky, sound pollution, vegetation, and human experience. Furthermore, studies have shown that natural resources rely upon the larger, surrounding area to support their life cycles and most parks and natural areas are not large enough to encompass self-contained ecosystems for the resources found within their boundaries. This is especially true for the McMillan Mesa Natural Area as it is surrounded by urban development.

Existing Trails:

- **Arrowhead Trail** - This trail is included in the Adopt-A-FUTS program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.
- **Arizona Trail** - A portion of the 800-mile trail that traverses from the Mexico to Utah borders is located on the property. A 30-foot-wide trail easement was established with neighboring landowners, including the San Francisco De Asis Roman Catholic Parish. The Flagstaff passage runs north and south through the middle of Flagstaff, starting south of town and traveling over McMillan Mesa and through Buffalo Park. This section of the Arizona Trail is a maintained walking trail with an improved surface of mostly gravel. The trail is for public access, including hikers and bicyclists, and is included in the FUTS system. The trail is maintained by the City Parks Department and Arizona Trail Stewards. Any modifications to the Arizona Trail requires coordination with the Arizona Trail Association and FUTS staff.
- **Cedar Trail** - A pedestrian/commuter trail that is parallel to Cedar Avenue but buffered from the road by a band of “open space”. It crosses over McMillan Mesa along the south side of Cedar and Forest Avenues from Turquoise Drive to West Street. Going over the Mesa means there are steady and at times very steep climbs from both ends of the trail. Approximately half of the trail is concrete (the portion west of pedestrian bridge), while the other half is constructed with an aggregate material (the portion east of pedestrian bridge). The trail is part of the Flagstaff Urban Trail System (FUTS) and is maintained by the City Parks Department. FUTS trails are non-motorized, shared-use pathways utilized by bicyclists, walkers, hikers, and runners for recreation and transportation. This trail is included in the Adopt-A-FUTS program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.
- **McMillan Mesa Trail** - A recreational FUTS trail traveling east-west across McMillan Mesa Natural Area, connecting the Sunset Trail just west of the Natural Area to the Arizona Trail within the eastern portion of the Natural Area. Given that the trail is part of the FUTS system, it is maintained by the City Parks Department. FUTS trails are non-motorized, shared-use pathways utilized by bicyclists, walkers, hikers, and runners for recreation and transportation. This trail is included in the Adopt-A-FUTS

program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.

- **Mesa Ridge Trail** - A recreational 0.3-mile recreational FUTS trail connecting Cedar Trail to McMillan Mesa Trail. The trail is constructed with aggregate material and is relatively flat with very little elevation change. Given that the trail is part of the FUTS system, it is maintained by the City Parks Department. FUTS trails are non-motorized, shared-use pathways utilized by bicyclists, walkers, hikers, and runners for recreation and transportation. This trail is included in the Adopt-A-FUTS program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.
- **Sego Lily Trail** - This unpaved, 0.64-mile trail climbs the east slope of McMillan Mesa, and provides access to open space between Izabel St/Sixth Ave and the Arizona Trail. It is especially important to providing access for the Sunnyside neighborhood. This trail is included in the Adopt-A-FUTS program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.
- **Sunset Trail** - A connector trail along the top of the cliff at the west edge of McMillan Mesa. There may be a future opportunity to bridge Cedar Avenue to continue the trail north to the Switzer Canyon Trail. The existing portion is 0.60 miles, with 0.14 miles planned, for a total length of 0.74 miles.
- **Switzer Canyon Trail** - A recreational FUTS trail located on an old road bed that was the previous alignment for Cedar Avenue. When Forest Avenue was built over McMillan Mesa, this section of Cedar Avenue was abandoned and converted into a trail. When complete, this trail will allow users to travel from downtown Flagstaff to Buffalo Park while crossing only two major streets. The portion of Switzer Canyon Trail north of Forest Avenue is an aggregate-surfaced trail, while the portion of the trail south of Forest Avenue is concrete. Construction of the missing segment, which is outside the boundary of McMillan Mesa Natural Area, from Terrace Avenue to Switzer Canyon Road, is anticipated in 2019. Given that the trail is part of the FUTS system, it is maintained by the City Parks Department. FUTS trails are non-motorized, shared-use pathways utilized by bicyclists, walkers, hikers, and runners for recreation and transportation. This trail is included in the Adopt-A-FUTS program, which allows community groups and individuals to adopt a trail section by committing to perform 3 cleanups per year. The Adopt-A-FUTS program is managed by the Community Stewards program within the Sustainability Section of the City.

The Flagstaff Urban Trails System's master plan can be viewed at:

<https://flagstaff.maps.arcgis.com/apps/MapJournal/index.html?appid=89039c5951ef48079218d8d46de3d4fb>

Planned Trails:

- **Quarry Trail** - This trail will follow the forest hillside on the southwest corner of McMillan Mesa, from the Arizona Trail to the Switzer Canyon Trail. Upon completion, total length will be 0.85 miles. The east end of the trail overlooks an historic quarry, which is the source of the iconic red Moenkopi sandstone used in numerous buildings in Flagstaff and elsewhere.

The following forms of recreational use are incompatible with resource preservation goals of the McMillan Mesa Natural Area. Though equestrian use is permitted within the general legally designated open space

policies (Except on FUTS trails), the McMillan Mesa is surrounded by development and does not have adequate access for horses. The majority of the trails within the Natural Area are part of the Flagstaff Urban Trail System on which equestrian traffic is prohibited. A portion of the FUTS, designated as the Arizona Trail, passes through the Natural Area. Since horses are not allowed on FUTS this section of the Arizona Trail is not open for equestrian traffic; however, the Arizona Trail bypass, around the east end of town, is open to equestrian users. Mountain biking on trails is permitted in the Natural Area; however, Downhill biking, a genre of mountain biking practiced on steep, rough terrain that often features off trail travel, jumps, drops, boulder hopping, and other obstacles is prohibited. Flying model aircraft, such as drones, airplanes, or rockets is prohibited within the Natural Area except with permit, per 8-11-001-0008.

Management Goal: Legally-designated open space will be managed to provide a wide variety of developed and dispersed day-use recreational opportunities.

Management Policies: In addition to the general policies guiding recreational use of legally-designated open space (outlined in Chapter 2.3.2.), the following policies apply to managing recreational use of McMillan Mesa Natural Area.

- Limit developed recreation opportunities to preserve the scenic resources.
- Provide accessible recreational opportunities within current trails.
- Manage dispersed recreation to minimize soil compaction and impacts to wildlife forage.

Planned Management Actions: In addition to the general management actions planned for managing recreational use of legally-designated open space (outlined in Chapter 2.3.2), the following actions are planned for McMillan Mesa Natural Area:

- Investigate options to realign the steep section of the Cedar Trail to enhance public safety.
- Calculate existing unauthorized trail alignments for inclusion/exclusion in the trail system as connector trails to the existing FUTS network.
- Investigate need for design and installation of interpretive signs throughout the Natural Area describing the ecological importance of grasslands and forest succession of the Natural Area.
- Design and construct ADA compliant trails within the Natural Area.

Trail Map

McMillan Mesa Natural Area Management Plan

Date: 7/31/2019

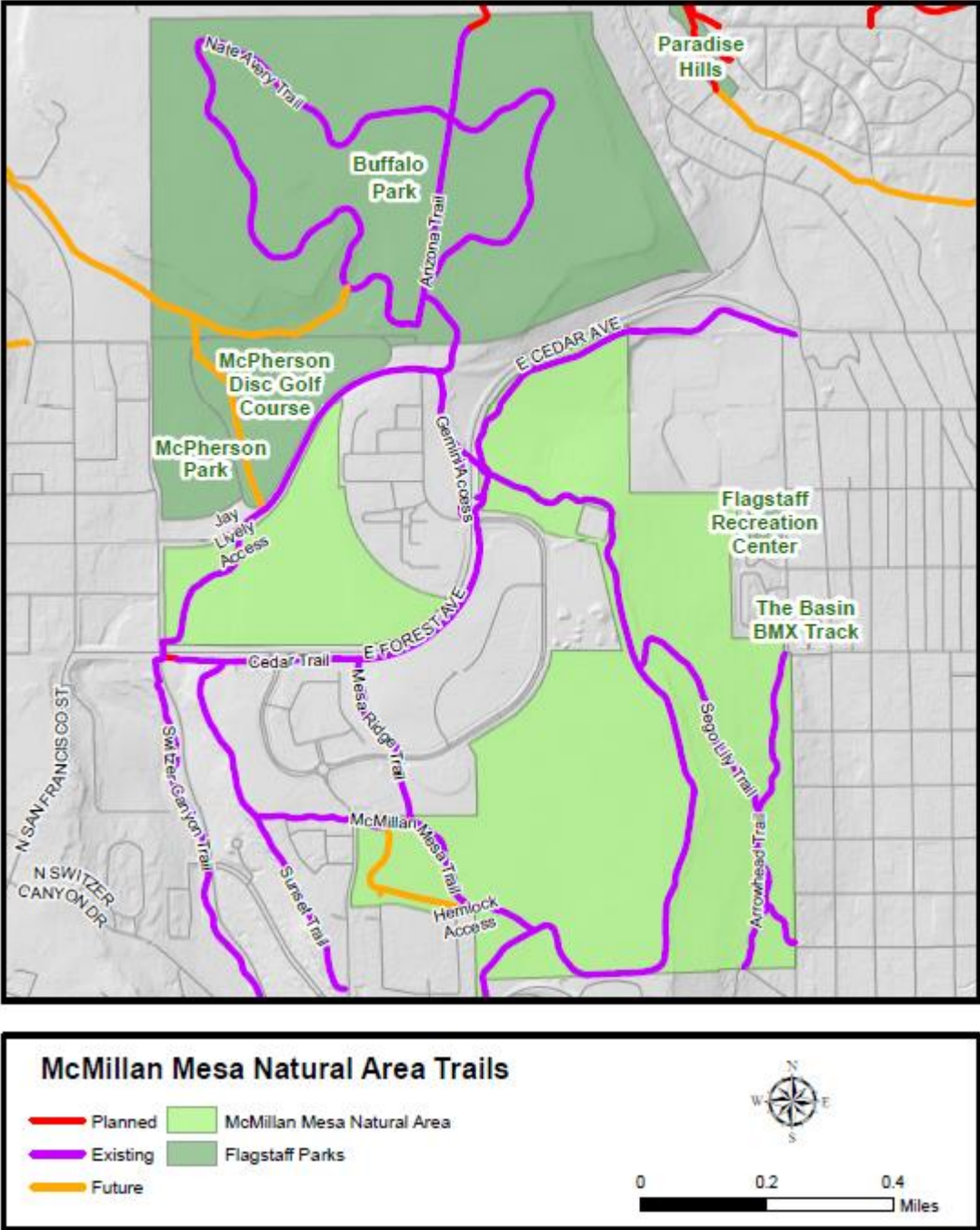


Figure 10: Existing and Planned Trails within the Vicinity of McMillan Mesa Natural Area.

5.4.3 Roads

Summary of Current Conditions:

McMillan Mesa Natural Area is a roadless property. There are multiple roadways surrounding the property and within the vicinity including: Forest Avenue, Cedar Avenue, Turquoise Drive, Pine Cliff Drive, Gemini Drive, Izabel Street, Apple Way, Hemlock Way, and Manzanita Way. All of these streets are managed and maintained by the City of Flagstaff Streets Department.

The Natural Area is a non-motorized recreational area. The City and its contractors are able to use FUTS trail alignments and other ROWs for motorized access throughout the Natural Area for administrative purposes (e.g. maintaining infrastructure).

Management Goal: Legally-designated open space will be managed to reduce motorized travel within these properties.

Management Policies: In addition to the general policies guiding road management in Chapter 2.3.3, the following policies apply to the management of roads within the vicinity of McMillan Mesa Natural Area:

- Investigate additional signage along Cedar Avenue and Forest Avenue alerting drivers about the wildlife in the area.
- Utilize FUTS trails and other ROWs to access and complete administrative tasks (e.g. maintaining recreational and utility infrastructure).
- Roads already developed for utility access should be managed to minimize disturbance to native vegetation and prevent the spread of invasive plants.
- Roads no longer needed should be decommissioned and restored when appropriate.

Planned Management Actions: In addition to the general management actions planned for managing roads outlined in Chapter 2.3.3, the following policies apply to the management of roads within the vicinity of McMillan Mesa Natural Area:

- Consider installation of boundary signs in appropriate areas to educate the public about the non-motorized regulations.
- Work with APS to restore soil and vegetation surrounding their parcel.

5.4.4 Easements and Leases

Summary of Current Conditions:

There are existing easements within and adjacent to the Natural Area, as well as utilities that cross the Natural Area that do not have easements. Many easements are under current roads. Given the amount of private and residential development surrounding the Natural Area, existing infrastructure are primarily for utilities and water infrastructure (including water lines and water valves), which the City of Flagstaff holds rights to.

Existing waterlines that run through the McMillan Mesa Natural Area will need to be accessed for work. City Water Services will work with Open Space to ensure that Natural Area is properly managed and restored to open space standards in the event of any impacts. Per City of Flagstaff engineering standards and city code no

infrastructure (buildings, bathrooms, fences, walls, etc.) can be built on top of or within 10 feet of a public water main.

Given that this property has been under City ownership since trading for it in 1959 from the National Forest Service there may be utilities crossing the property that do not have easements, as it would have been unnecessary for the City to obtain an easement from itself at the time. All existing utilities are required to be managed to prevent or minimize impacts and to fully restore any effects from operations. This requires the use of appropriate tools and the development of management strategies to limit impacts and restore impacts to Open Space standards.

In 1969, the City established a scenic easement over much of the greater McMillan Mesa area to protect the natural features of the property (Ordinance 744, 1969). This easement covered a majority of the Natural Area boundary, including Buffalo Park and much of the private property to the southwest. The scenic easement was abandoned in 1992 through Ordinance 1783. The next iteration of this type of protection is the Specific McMillan Mesa Area Plan (<https://www.flagstaff.az.gov/1344/Completed-Area-Plans>), which set height restrictions specific for every Tract, including a 45 foot maximum building height.

Future development on private parcels on McMillan Mesa (outside of the Natural Area boundary) will tie in with existing water utility infrastructure. The City does not anticipate needing to construct or install additional water lines in the area but does need to ensure access for maintenance of existing infrastructure.

When the veteran facility is constructed it will be necessary for the City to investigate alternatives to complete the project without ground disturbance in the protected Natural Area. Additionally, there is a planned gravity sewer line in which one of the proposed alternatives could cross through the northwestern section of the Natural Area. Alternative solutions will need to be considered by the City to prevent impacts to the Natural Area.

To meet future access needs Open Space will encourage all easement access through any existing easements. New easement requests, including access to existing utilities that do not have easements, will be reviewed by Open Space staff and if found appropriate will be forwarded to the Flagstaff City Council for approval and adoption of the appropriate ordinance. This includes all projects not directly related to the management of the Natural Area. Furthermore, any projects approved that could alter the McMillan Mesa Natural Area will need to provide solutions that restore the property to an improved condition. Projects directly related to the administration of the Natural Area, such as facility improvements or resource management, will be reviewed by Open Space staff. If the task is found appropriate for the management of the property, a project plan addressing potential and unintended changes to ensure the property is fully restored at the completion of the project, must be finished before implementation can occur.

Management Goal: Manage legally-designated open space for non-consumptive, sustainable uses.

Management Policies: In addition to the general policies applicable to managing easements and leases in Chapter 2.3.4, the following policies apply to managing easements and leases within McMillan Mesa Natural Area:

- City Water Services Department are to retain access to their easement areas for maintenance and improvements to their water infrastructure.

- Encourage future utilities to be below ground to protect the scenic values of the property, while minimizing other impacts. This requires the use of appropriate tools and the development of management strategies to limit impacts and restore the area to Open Space standards, in many circumstances requiring multi-year commitments.
- Use existing easements and reservations to the extent practical.
- Address new and existing utilities to prevent or minimize visual impacts, noise pollution, light pollution, ground disturbance, vegetation disturbance, interference with wildlife, conflicts with approved recreation, and other environmental impacts.

Planned Management Actions: In addition to the general management actions planned for managing easements and leases in Chapter 2.3.4, the following actions are planned for McMillan Mesa Natural Area:

- Ensure that ground-disturbing activities associated with easements and leases are coordinated with the Open Space Program to preserve resources and improve the condition of the Natural Area.

5.4.5 Education and Research

Summary of Current Conditions:

The abundance of educational opportunities in the immediate area is a testament to the educational and research opportunities available within the McMillan Mesa Natural Area. Since 1990 the Flagstaff Festival of Science has worked to connect and inspire the citizens of Northern Arizona, with the wonders of science and the joy of scientific discovery. In partnership, the City of Flagstaff utilizes Buffalo Park as an outdoor classroom, using the space to host astronomy programs and night sky viewings. Throughout the year, a number of additional events are hosted in the area including, Lights Out Flagstaff and Arizona Trail Days.

McMillan Mesa's preservation is an important contribution to education. Development, agriculture, and other land use practices have taken a heavy toll on grasslands, fragmenting them into isolated islands and reducing their extent. Noss et al. (1995), who reviewed and summarized estimated habitat loss, degradation, and fragmentation in natural ecosystems across the United States, classified grasslands and shrublands as "critically endangered ecosystems"—ecosystems which have declined by more than 98%. The Nature Conservancy estimates that shrub encroachment has affected over 35,200 km² (8.7 million acres) of grasslands nationwide.

McMillan Mesa's urban location and proximity to educational institutions make it a good fit for the biological studies of species, environmental investigations, and opportunities to visit the property to learn about land management and urban planning. Coconino High School is within close proximity to the northeast, BASIS Flagstaff Charter School to the east, and the Montessori Charter School of Flagstaff to the south. Also, within walking distance is the Peak School, Killip Elementary School, and Pine Forest Charter School.

Individuals and organizations wishing to complete research and/or monitoring projects on McMillan Mesa are required to complete an "Open Space Research Permit" application for the Open Space Program to review (Appendix H). Research projects are acceptable uses of McMillan Mesa Natural Area as long as they are non-destructive in nature and don't conflict with the conservation values or management goals or objectives for the property.

Management Goal: Legally-designated open space properties will be managed to provide diverse educational and research opportunities.

Management Policies: Policies applicable to managing education and research opportunities within McMillan Mesa Natural Area are outlined in Chapter 2.3.5.

Planned Management Actions: In addition to the general management actions planned for managing education and research in Chapter 2.3.5, the following actions are planned for managing education and research within McMillan Mesa Natural Area:

- Collaborate with adjacent schools (Coconino High School, BASIS Flagstaff Charter School, Montessori Charter School of Flagstaff) to use the Natural Area as an outdoor classroom for their students.

5.4.6 Facility Development

Summary of Current Conditions:

Because of the fragile characteristics of soil, the construction of facilities can have a negative impact on ecological succession, native plant populations, and soil retention and development. Facility development should avoid construction on steep terrain and ecologically sensitive areas. Locations with well-established native plant populations should be avoided for facility and infrastructure development, as they stabilize the soil and form organic matter important as soil nutrients. Facilities result in greater soil compaction and reduced water infiltration, while persistent foot traffic along steep slopes can exacerbate erosion rates.

McMillan Mesa is important for dark night sky preservation. The City was recognized as the world's first International Dark Sky City on October 24, 2001, for its pioneering work in the development and implementation of lighting codes that balance the need to preserve Flagstaff's dark sky resource with the need for safe lighting practices. The purpose of this division is to help assure that dark skies remain a resource to be enjoyed by the Flagstaff community and its visitors, and to provide safe and efficient outdoor lighting regulations that protect Flagstaff's dark skies from careless and wasteful lighting practices. Dark starry nights, like natural landscapes, forests, clean water, wildlife, and clear unpolluted air, are valued in many ways by the residents of this community, and they provide the natural resource upon which our world-renowned astronomical industry depends. Any facilities developed in the Natural Area need to be aligned with night sky City code 10.50.70.

Current facilities within McMillan Mesa Natural Area are primarily focused on the extensive FUTS trail network within the area, including trail signs and other trail-related infrastructure (e.g. trash cans, benches). During the McMillan Mesa usage survey Open Space received over 400 responses. Overall most people indicated that they prefer developments/improvements be minimized and that the property be kept as natural as possible. The majority of responses indicated that infrastructure such as signage, trails, parking and restrooms be minimal, and that emphasis be placed on maintaining the health and preservation of the ecosystem.

Management Goal: Legally-designated open space will be managed to provide facilities that enhance visitor's experience.

Management Policies: In addition to the general policies applicable to developing facilities in Chapter 2.3.6, the following policies apply to developing facilities within McMillan Mesa Natural Area:

- Focus and cluster facilities to areas that are already developed (e.g. along Gemini, near Apple, by USGS) to reduce impacts to the interior portion of the Mesa.
- Design facilities with colors and materials that blend in with the landscape.

Planned Management Actions: In addition to the general management actions planned for developing facilities in Chapter 2.3.6, the following actions are planned for developing facilities within McMillan Mesa Natural Area:

- Where needed design and install minimal signage, such as boundary signs, regulatory signage, trail signs, directional signs, orientation kiosks, and interpretive signs for key locations in the Natural Area.
- Investigate the need for benches throughout the Natural Area to encourage passive use of the property.
- Investigate opportunities to work with FUTS to improve some trails to achieve accessible compliant access and trails.
- Investigate need for recycling and trash facilities and opportunities to partner with Parks to provide at the primary trailhead.
- Investigate need for bathroom facilities and opportunities to partner with Parks to provide portable toilets.
- Investigate providing equitable access:
 - Work with Parks to investigate possibilities to provide and maintain some parking at the Buffalo Park parking lot to accommodate users of both Buffalo Park and McMillan Mesa.
 - Investigate opportunities to create parking between the Arizona Trail bridge and N Gemini Road, north of E Forest/E Cedar Avenue (part of parcel: 11008001G).
 - Investigate opportunities with adjacent landowners (e.g. BASIS, San Francisco de Asis Catholic Church, NACET, USGS) to provide public parking for the Natural Area, possibly via formalizing one of the Informal parking areas that exist at the end of N Manzanita Way or N Hemlock Way in close coordination and partnership with the local neighborhood.
- Investigate the potential of constructing an additional pedestrian bridge across Forest Avenue near Turquoise Drive to connect the north side of Forest Avenue (Buffalo Park/McPherson Park) to McMillan Mesa Natural Area. This would create a number of loop trail opportunities, enhancing opportunities for running and biking events (e.g. 3K, 5K, 10K loops). While this recommendation is not presently included in the current FUTS Master Plan, it will be incorporated into future FUTS Master Plans for consideration.

5.5 Priority Action Plan

Table 4: Priority Action Plan – Facility Development

Action:	Responsibility:	Potential Implementation Date:	Estimated Financial Requirement:
Decommission and revegetate unauthorized trails and roads not designated as part of planned trail system.	City of Flagstaff	Summer 2020	\$10,000

Investigate opportunity to install a welcome sign on Arizona Trail bridge.	City of Flagstaff	Summer 2020	\$5,000
Work with FUTS to complete the trail plan.	City of Flagstaff	Summer 2021	\$10,000
Investigate better connectivity of trails between Buffalo Park and McMillan Mesa.	City of Flagstaff	Summer 2021	\$5,000
Design and install map dispersal stations at orientation kiosks	City of Flagstaff	Summer 2021	\$7,000
Utilize volunteers and partner organizations to complete area monitoring and trail maintenance.	City of Flagstaff	on-going/monthly	\$0
Install minimal interpretive signage in key locations.	City of Flagstaff	Summer 2021	\$5,000
Install minimal orientation kiosks in key locations.	City of Flagstaff	Summer 2021	\$5,000
Install minimal trail orientation signage.	City of Flagstaff	Spring 2020	\$1,000
Investigate potential partnering opportunities to provide some parking access.	City of Flagstaff	Summer 2020	\$50,000
Investigate partnership with Parks to maintain trash and recycling receptacles at primary trailhead.	City of Flagstaff	on-going/monthly	\$5,000
Investigate potential partnership with Parks to install "pit" toilets at primary trailhead.	City of Flagstaff	Summer 2021	\$100,000
Install dog waste bag dispenser at primary access points.	City of Flagstaff	Summer 2020	\$2,000

Table 5: Priority Action Plan – Resource Management

Action:	Responsibility:	Potential Implementation Date:	Estimated Financial Requirement:
Conduct noxious plant surveys and maintain map of occurrence locations.	City of Flagstaff and volunteers	On-going	\$3,000 per annum
Coordinate with Flagstaff Fire Department and Arizona State Forestry to complete forest health improvement projects.	City of Flagstaff	Variable	\$0
Treat invasive weeds biannually.	City of Flagstaff	Bi-Annually	\$3,000 per annum
Establish cultural resource baseline documentation.	City of Flagstaff, with volunteers	Winter 2019	Unknown
Secure sustainable funding for ongoing, appropriate maintenance.	City of Flagstaff	Summer 2020	\$30,000/year
Survey the property for user-created (unauthorized) roads and trails.	City of Flagstaff	Summer 2020	\$3,500
Develop trail maintenance standards and schedules.	City of Flagstaff	Summer 2020	\$0
Develop and maintain plant and animal species observation database.	City of Flagstaff and volunteers	On-going	\$0
Monitor insect and disease occurrences.	City of Flagstaff	On-going	\$0
Conduct wildlife surveys for endangered and special-status species.	City of Flagstaff with AZGFD assistance	Summer 2021 and then as needed	\$5,000

Conduct reptile and amphibian surveys.	AGFD with volunteer assistance	Summer 2021	Unknown
Utilize volunteers and partner organizations to conduct trash clean ups.	City of Flagstaff	On-going	\$0

Table 6: Priority Action Plan – Partnerships

Action:	Responsibility:	Potential Implementation Date:	Estimated Financial Requirement:
Amend the Regional Plan and Zoning Code to reflect the outcomes of Proposition 413.	City of Flagstaff, Planning and Development	Completed	\$0
Establish formal Volunteer/Docent Program for the Natural area.	City of Flagstaff	Completed, On-going	\$0
Manage Site Stewards Program in partnership with Arizona State Parks.	City of Flagstaff	On-going	\$0
Confirm existing agreements and/or establish new agreements with AZGFD regarding annual mammal and reptile/amphibian surveys.	City of Flagstaff	As needed	\$0
Conduct meeting with Northern Arizona University representatives regarding on-site natural resource research work.	City of Flagstaff	Annual	\$500 per annum
Establish informal agreements with private organizations and volunteer groups related to annual bird surveys.	City of Flagstaff	Update/renew annually	\$0
Document rock art and other cultural resources.	City of Flagstaff with volunteers	Winter 2019	Unknown
Maintain communication with adjacent landowners regarding projects and events at the Preserve.	City of Flagstaff	On-going	\$200 per annum

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To: The Honorable Mayor and Council
From: Sterling Solomon, City Attorney
Date: 11/07/2019
Meeting Date: 11/12/2019



TITLE

Discussion of Potential City Council Flag Policy

STAFF RECOMMENDED ACTION:

Discussion.

EXECUTIVE SUMMARY:

The City does not have a policy regarding the display of flags at City facilities. The City Council may establish a policy regarding the display of: (1) the United States Flag, (2) the Arizona State Flag, (3) the POW-MIA Flag; (4) the display of the City of Flagstaff Flag (City Flag), and (5) on a temporary pole at City Hall, the display of commemorative flags.

In potentially adopting a flag policy, the City Council has the option to declare that the City's flagpoles (permanent or temporary) are not intended to serve as a forum for free expression of the public, but rather for the display of Federal, State, the POW-MIA Flag, the City Flag, and a maximum of two commemorative flags per month. In doing so, the City Council could display on a temporary pole one commemorative flag per month, but in no event would the City Council display more than two commemorative flags per month (to be displayed separately - the first commemorative flag for the first half of the month, and the second commemorative flag for the second half of the month), for the ensuing year as determined by the City Council. Authorization by the City Council to display commemorative flags under such a policy would occur in one annual resolution only of the City Council to be considered and potentially adopted in January of each year as an expression of the City's official sentiments.

INFORMATION:

Please see executive summary above.

Attachments: Possible City Flag Policy

CITY OF FLAGSTAFF, ARIZONA
PROPOSED CITY COUNCIL POLICY ON THE DISPLAY OF FLAGS

PURPOSE

The purpose of this policy is to provide procedural guidance for the display of flags at City facilities.

POLICY

I. Standards

Flags shall be displayed in accordance with Federal and State statutes, including, but not limited to United States Code, Title 4, Chapter 1; and, Arizona Revised Statutes §§ 41-852; 38-449, and this policy.

II. Procedures

A. Federal and State

1. The United States Flag and the Arizona State Flag shall be displayed as required by law and in accordance with this policy.
2. No other flag shall be placed above the United States Flag.
3. Flags shall be displayed during operating hours and beyond if illuminated during darkness on all days and nights when the City is open for business, upon or in front of all City facilities equipped for flag display.
4. The Flag of the City of Flagstaff may also be displayed from time to time.
5. Flags shall not be displayed during inclement weather. However, all-weather flags may be displayed on a twenty-four (24) hour basis as long as they are illuminated during darkness, aside from commemorative flags.

B. POW/MIA Flag

1. The POW/MIA Flag is a nationally recognized flag, created in 1971 and recognized by an act of Congress through the adoption of U.S. Public Law 101-355, to represent concern of individuals who are identified as prisoners of war or missing in action. The POW-MIA Flag has become a symbol of commitment to achieving the fullest possible accounting for those in the future who may become prisoners of war, missing in action, or otherwise unaccounted for as a result of hostile action.

2. In accordance with the Arizona State law, the POW/MIA flag shall continue to be displayed at City Hall. The POW/MIA flag may also be displayed at other City facilities in accordance with State Law.

C. Commemorative Flags

1. Commemorative flags may be displayed only as authorized by an annual resolution of the City Council and as an expression of the City's official sentiments.
2. Commemorative flags shall be displayed for a period of time that is reasonable or customary for the subject that is to be commemorated, but no longer than thirty day (30) continuous days.
3. Commemorative flags shall be displayed at City Hall, exclusively on a temporary pole.
4. The City will not display a commemorative flag based on a request from a third party, nor will the City use its flagpoles to sponsor the expression of a third party.

D. Display of Flags

Flags shall be displayed as follows: The United States Flag shall be displayed in the first position of honor. The Arizona State Flag shall be placed in the second position of honor. The POW/MIA Flag shall be displayed in the third position of honor. The City of Flagstaff Flag, if displayed, shall be placed in the fourth position of honor.

Commemorative flags shall be displayed on a temporary pole on the front lawn of City Hall.