# COCONINO
# JOINT LAND USE STUDY

## JOINT COUNCIL MEETING
## 06.04.2018

# TODAY'S AGENDA

Opening Remarks & Introductions

Your JLUS & Community Survey Results

Installation Overview & Regional Context

JLUS Issues & Draft Strategies

Questions

# YOUR JLUS

# WHAT IS A JLUS?

- Cooperative effort between military and surrounding jurisdictions
- Initiated upon military nomination and supported by data describing military missions and operations
- Its process promotes open, continuous dialogue
- Its product serves as comprehensive strategic plan to promote compatible development

130 Completed JLUS
(as of September 2016)

# MORE ABOUT A JLUS

## A JLUS **does not**...

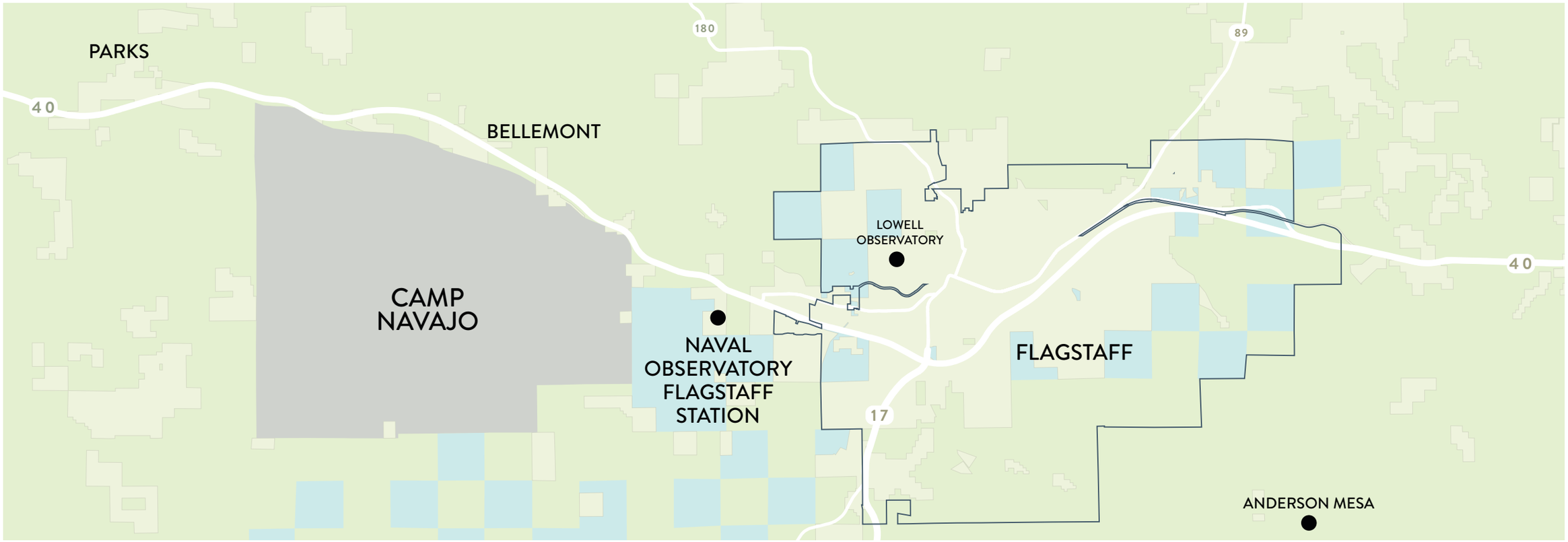
- Directly change any land-use decisions or requirements
- Authorize or evaluate any new military or community activities
- Evaluate individual projects or actions

## A JLUS **does**...

- Seek to maintain compatible development
- Result from a collaborative process
- Create a body of work that supports informed decision making and directs ongoing efforts

# YOUR JLUS: STUDY AREA

- Installations: Camp Navajo& Naval Observatory Flagstaff Station (NOFS)
- City of Flagstaff
- Communities of Bellemont & Parks
- Coconino & Kaibab National Forests
- Navajo, Hopi, and San Juan Southern Paiute Tribes Sacred Lands



# YOUR JLUS: OVERSIGHT

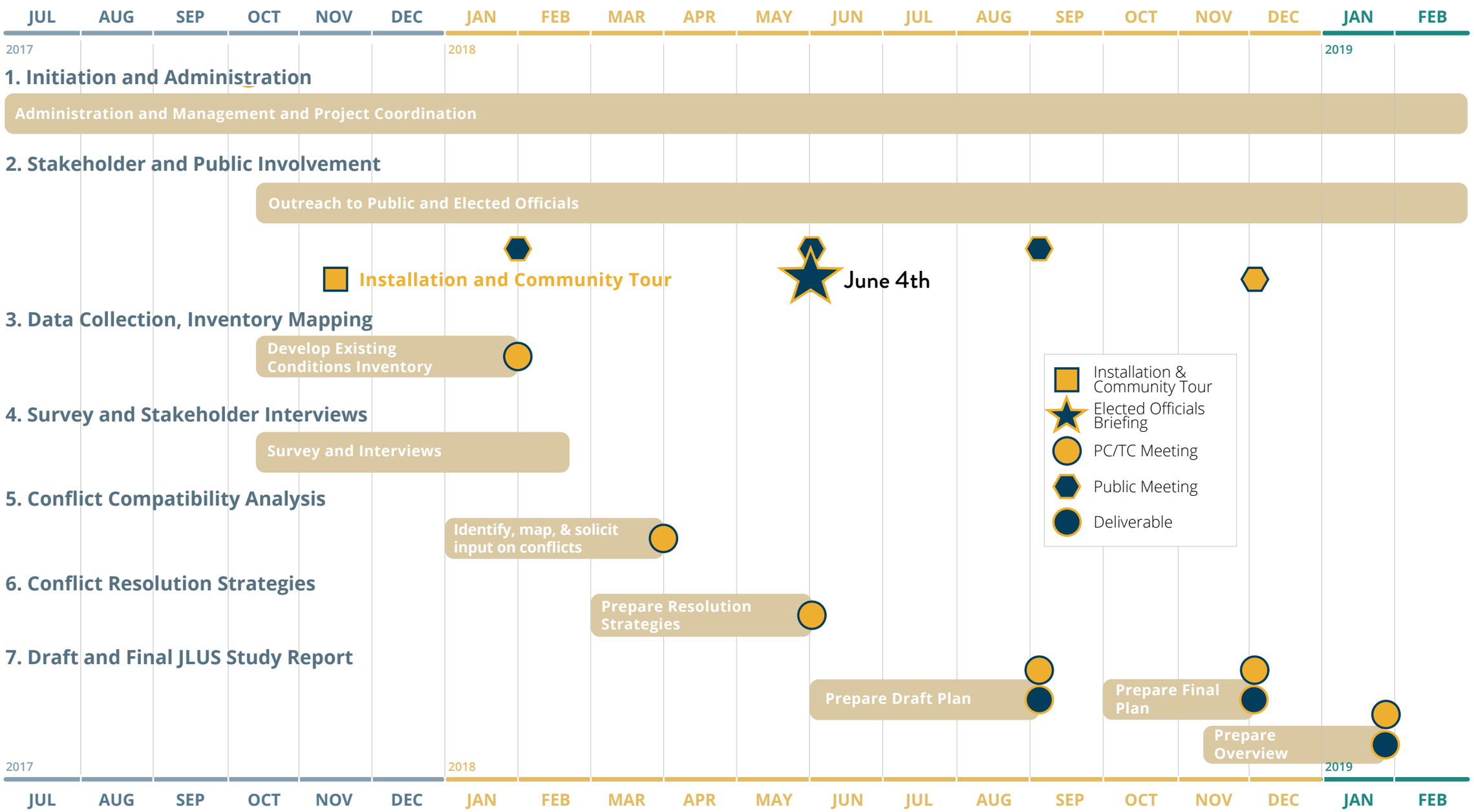
## Policy Committee (PC)

- Jim Allen, Northern Arizona University (NAU) School of Forestry
- Lisa Atkins, Arizona (AZ) State Land Department
- Art Babbott, Coconino County Board of Supervisors
- Celia Barotz, City of Flagstaff
- Russell Begaye, Navajo Nation
- Walter Crutchfield, Vintage Partners
- Coral Evans, City of Flagstaff
- Colonel Ray Garcia, Arizona National Guard-Camp Navajo
- Hannah Griscom, AZ Game and Fish Department
- Jeff Hall, Lowell Observatory
- Herman G. Honanie, Hopi Tribe
- Melanie Lashlee, Parks Area
- Dani Lawrence, Northern AZ Association of Realtors
- Virgil Macklin, Flagstaff Meadows Homeowners Association (HOA), Retired Camp Navajo
- Audra Merrick, AZ Department of Transportation (ADOT)
- Mike Nesbitt, Jonesco Trucking
- Heather Provencio, U.S. Forest Service (USFS) Kaibab National Forest
- Phil Reap, WL Gore and Associates, Inc.
- Matt Ryan, Coconino County
- Rebecca Seeger, AZ Governor's Military Affairs Commission
- John Stigmon, Economic Collaborative of Northern AZ (ECoNA)
- Laura Jo West, USFS Coconino National Forest

## Technical Committee (TC)

- Mitchell Arbin, Navajo Nation
- Jay Christelman, Coconino County Community Development
- Dorenda Coleman, Arizona National Guard
- Mary Beth Dreusike, U.S. Naval Observatory
- Sue Farley, USFS Kaibab National Forest
- Dan Folke, Community Development, City of Flagstaff
- Danelle Harrison, Williams Ranger District
- Lee Luedeker, AZ Game and Fish Department
- Chris Luginbuhl, Dark Skies Coalition
- Jess McNeely, Coconino County Community Development
- Dr. Paul Shankland, U.S. Naval Observatory Flagstaff Station
- Hannah Telle, Arizona National Guard-Camp Navajo
- Mike Townsend, Coconino County, County Manager's Office

# WORK PLAN


JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB
2017
2018
2019
1. Initiation and Administration
Administration and Management and Project Coordination
2. Stakeholder and Public Involvement
Outreach to Public and Elected Officials
Installation and Community Tour
June 4th
3. Data Collection, Inventory Mapping
Develop Existing Conditions Inventory
4. Survey and Stakeholder Interviews
Survey and Interviews
5. Conflict Compatibility Analysis
Identify, map, & solicit input on conflicts
6. Conflict Resolution Strategies
Prepare Resolution Strategies
7. Draft and Final JLUS Study Report
Prepare Draft Plan
Prepare Final Plan
Prepare Overview
Installation & Community Tour
Elected Officials Briefing
PC/TC Meeting
Public Meeting
Deliverable

# MAJOR ACTIVITIES

- » Installation Tours
- » 40 Stakeholder Interviews
- » Community Meeting #1 in Bellemont
- » Four PC/TC Meetings
- » Community Survey (123 Responses)

## KEY STAKEHOLDER INTERVIEWS

### INSTALLATIONS
Camp Navajo
Naval Observatory Flagstaff Station

### CITIES & COUNTIES
Coconino County
City of Flagstaff
Town of Parks

### INSTITUTIONS
Northern Arizona University
Ecological Restoration Institute
Lowell Observatory

### BUSINESSES
ECoNA
Jonesco Trucking
TSS Consulting
Vintage Partners
WL Gore

### STATE AGENCIES
Arizona Department of Transportation
Arizona Game and Fish
Arizona Department of Environmental Quality
Arizona Commerce Authority
Arizona State Land Department
Military Affairs Commission

### TRIBES
Hopi
Navajo

### NATURAL RESOURCES
Kaibab National Forest
The Nature Conservancy
Trust for Public Land

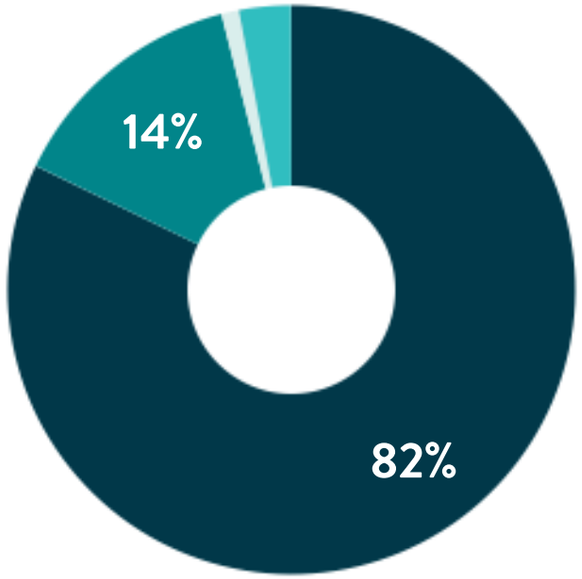
### GROUPS
Dark Skies Coalition

# COMMUNITY SURVEY RESULTS

# SURVEY KEY POINTS

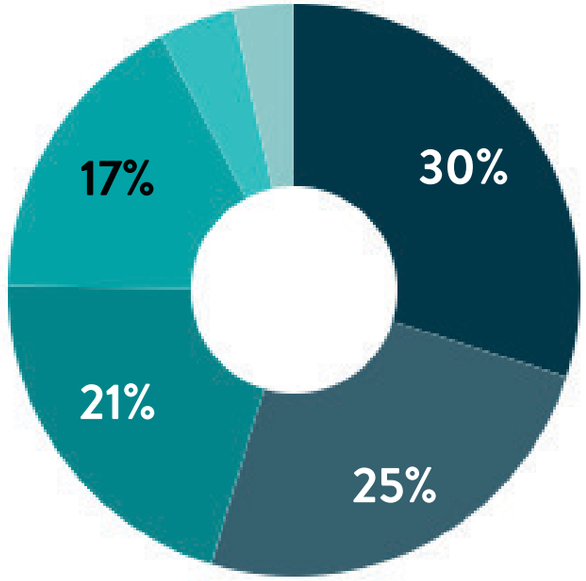
## Respondent Demographic

### Where do you live?



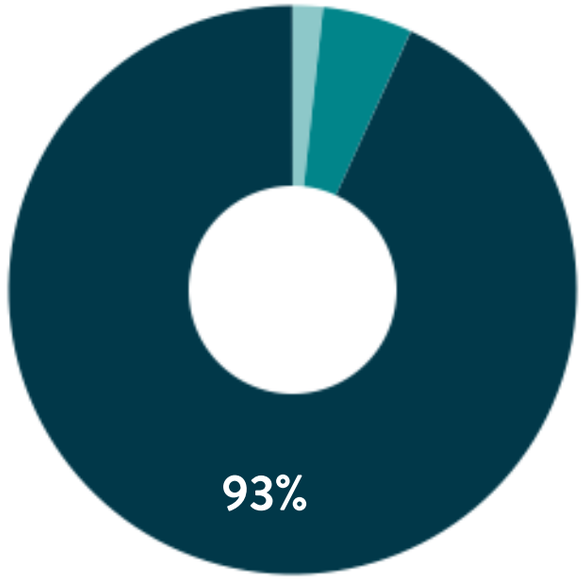

- Flagstaff
- Parks
- Bellemont
- Williams

### How long have you lived in the area?




- > 20 yrs
- 6-10 yrs
- 11-20 yrs
- <1 yr
- 1-5 yrs
- N/A

### Currently employed by Camp Navajo or NOFS?

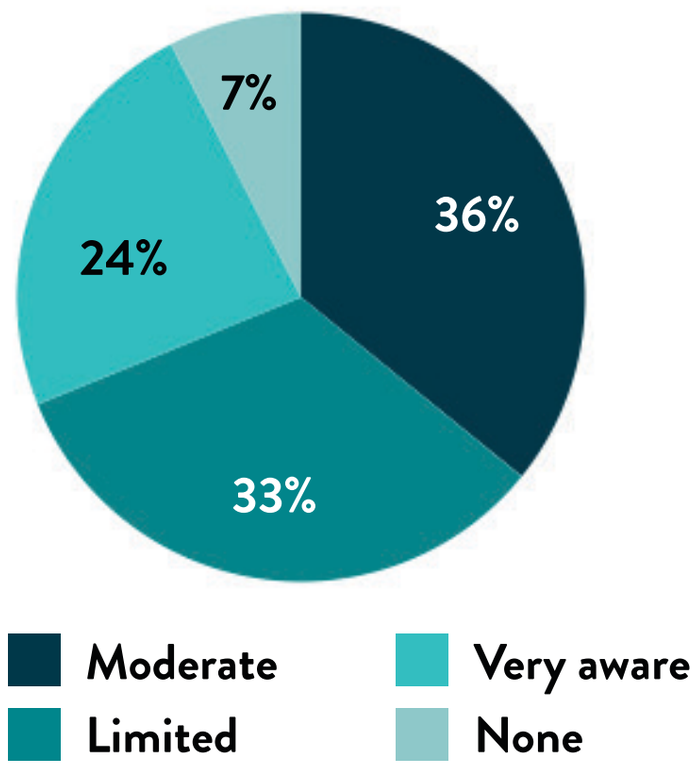



- No
- Camp Navajo
- NOFS

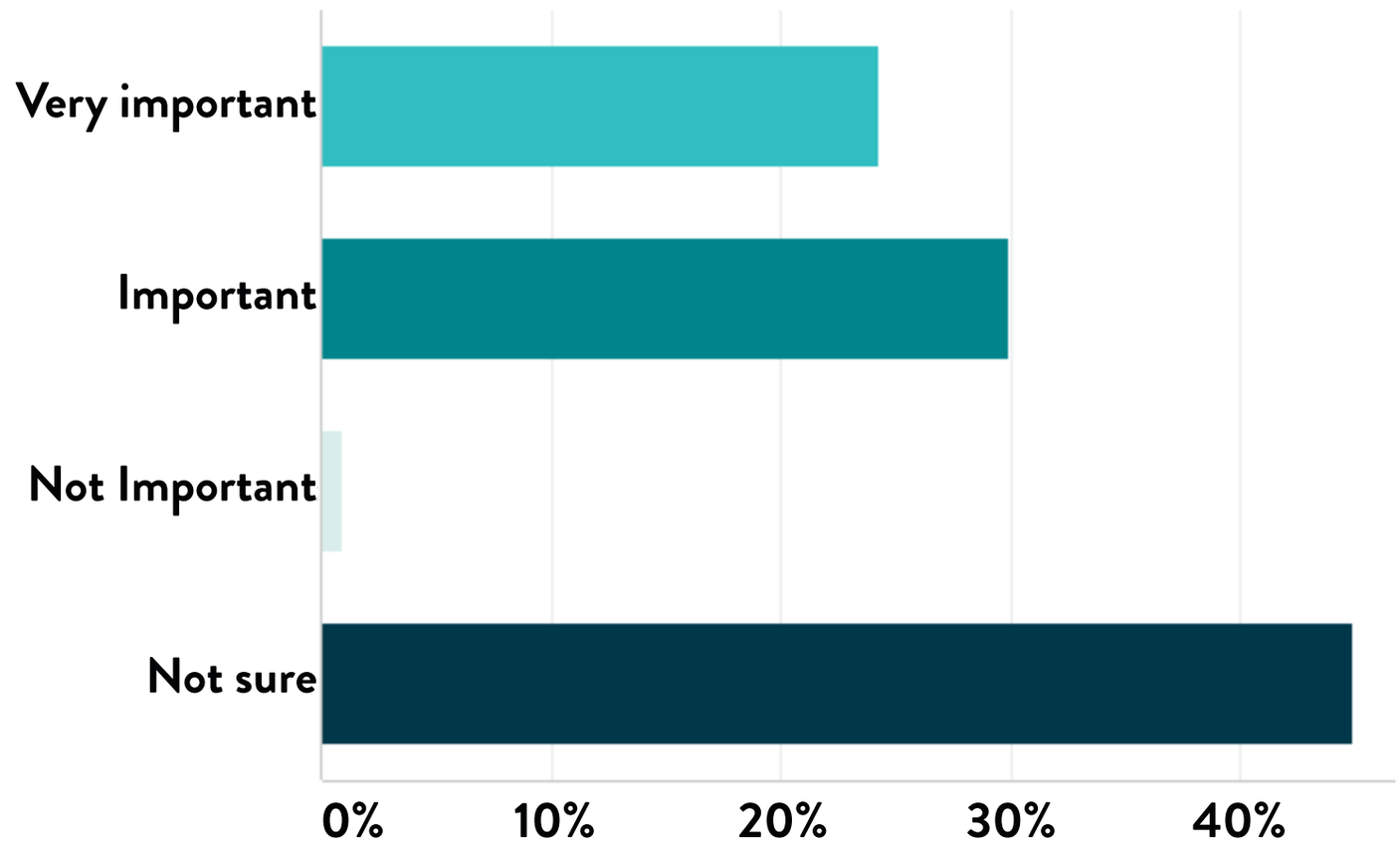
# SURVEY KEY POINTS

## Camp Navajo Awareness & Importance

### Awareness of Camp Navajo




### Perception of importance of Camp Navajo's mission and purpose

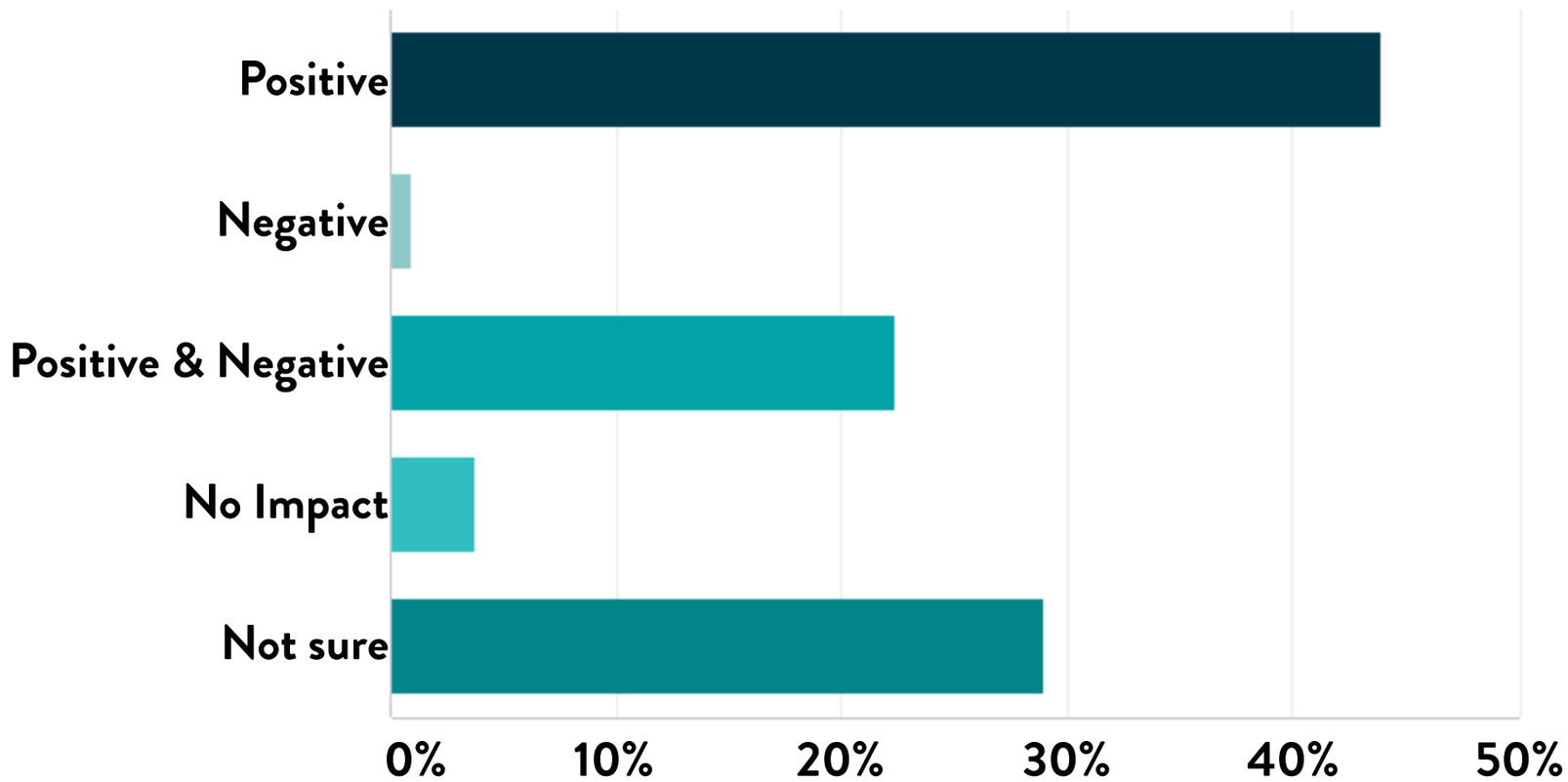


# SURVEY KEY POINTS

**Camp Navajo Perceived Economic Impact**

» 44% believe Camp Navajo has a positive impact on the local economy

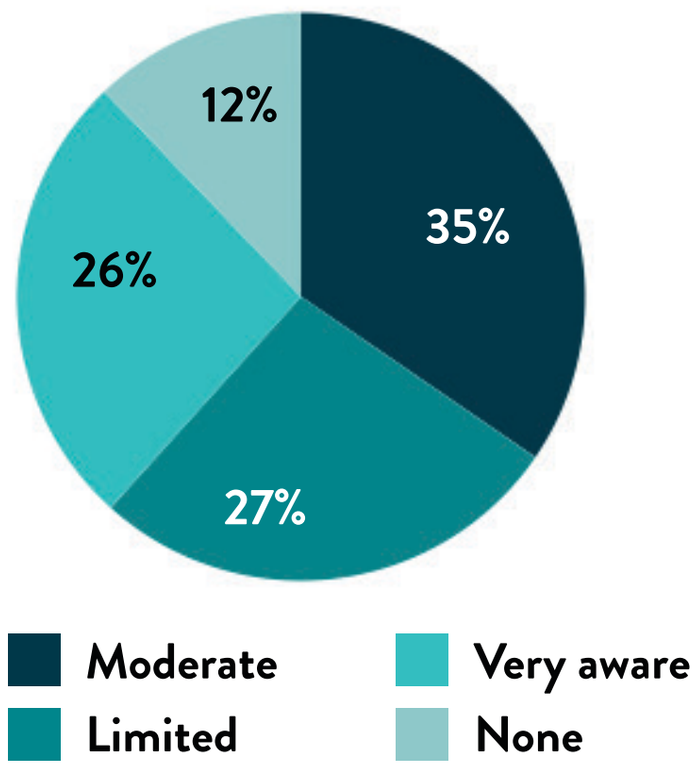
» 29% are unsure of Camp Navajo's impact on the local economy



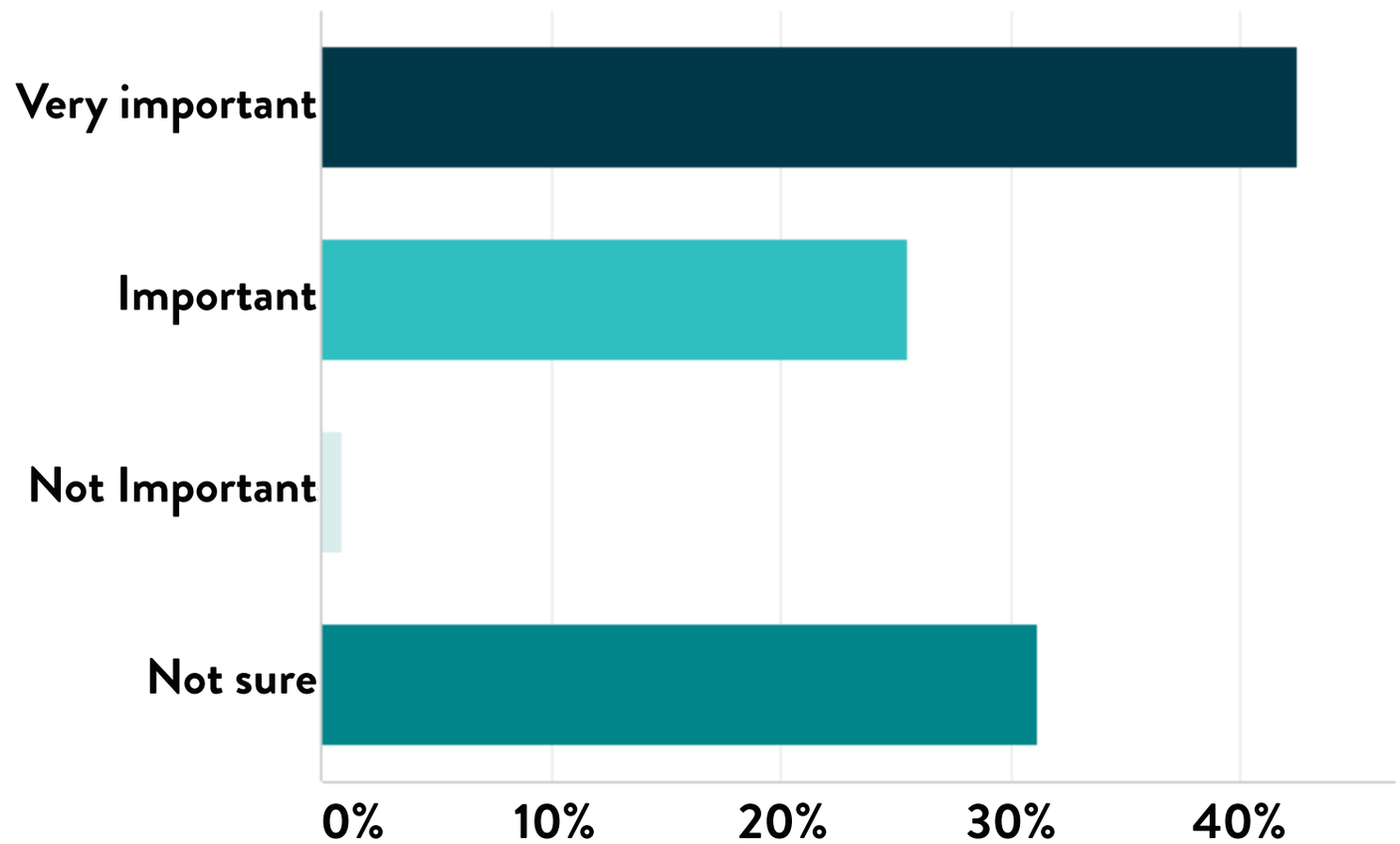
# SURVEY KEY POINTS

## NOFS Awareness & Importance

### Awareness of NOFS




### Perception of importance of NOFS mission and purpose

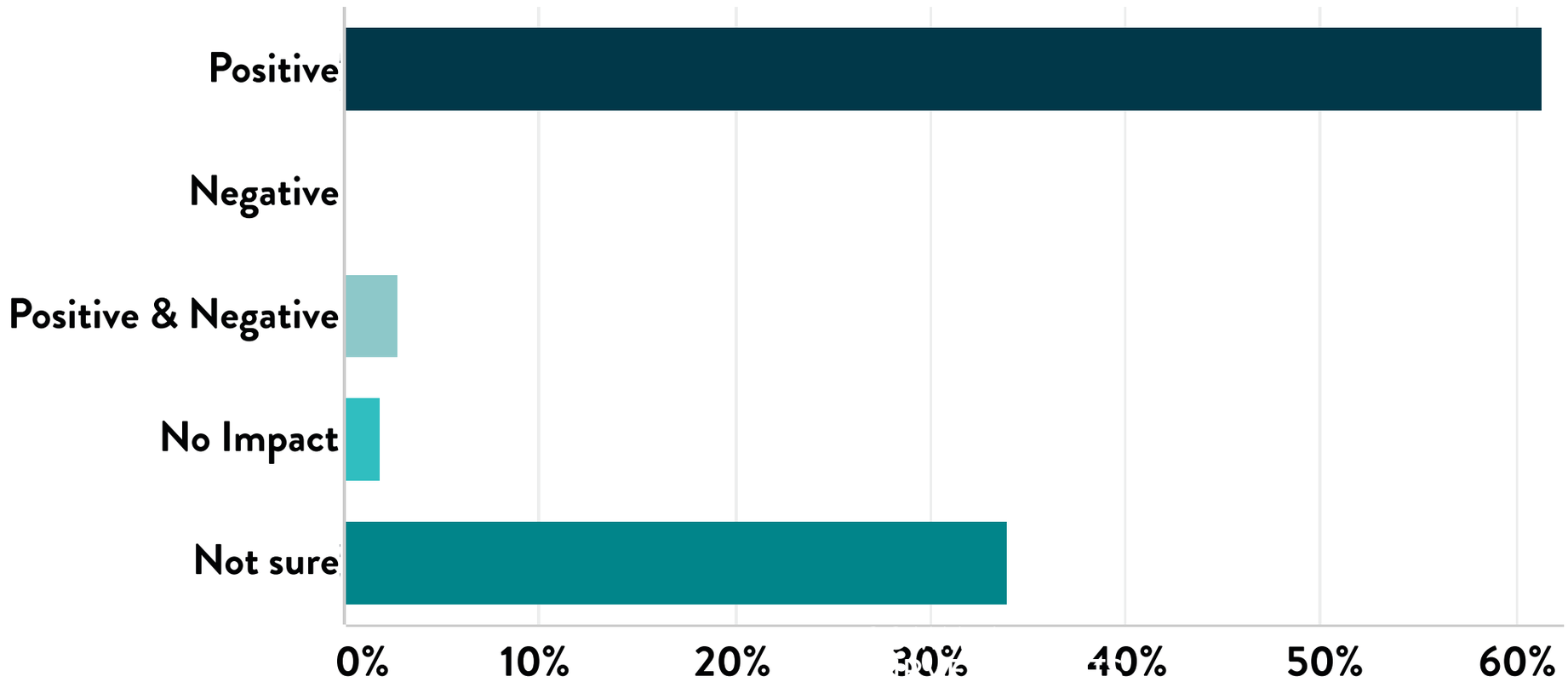


# SURVEY KEY POINTS

**NOFS Perceived Economic Impact**

» 61% believe NOFS has a positive impact on the local economy

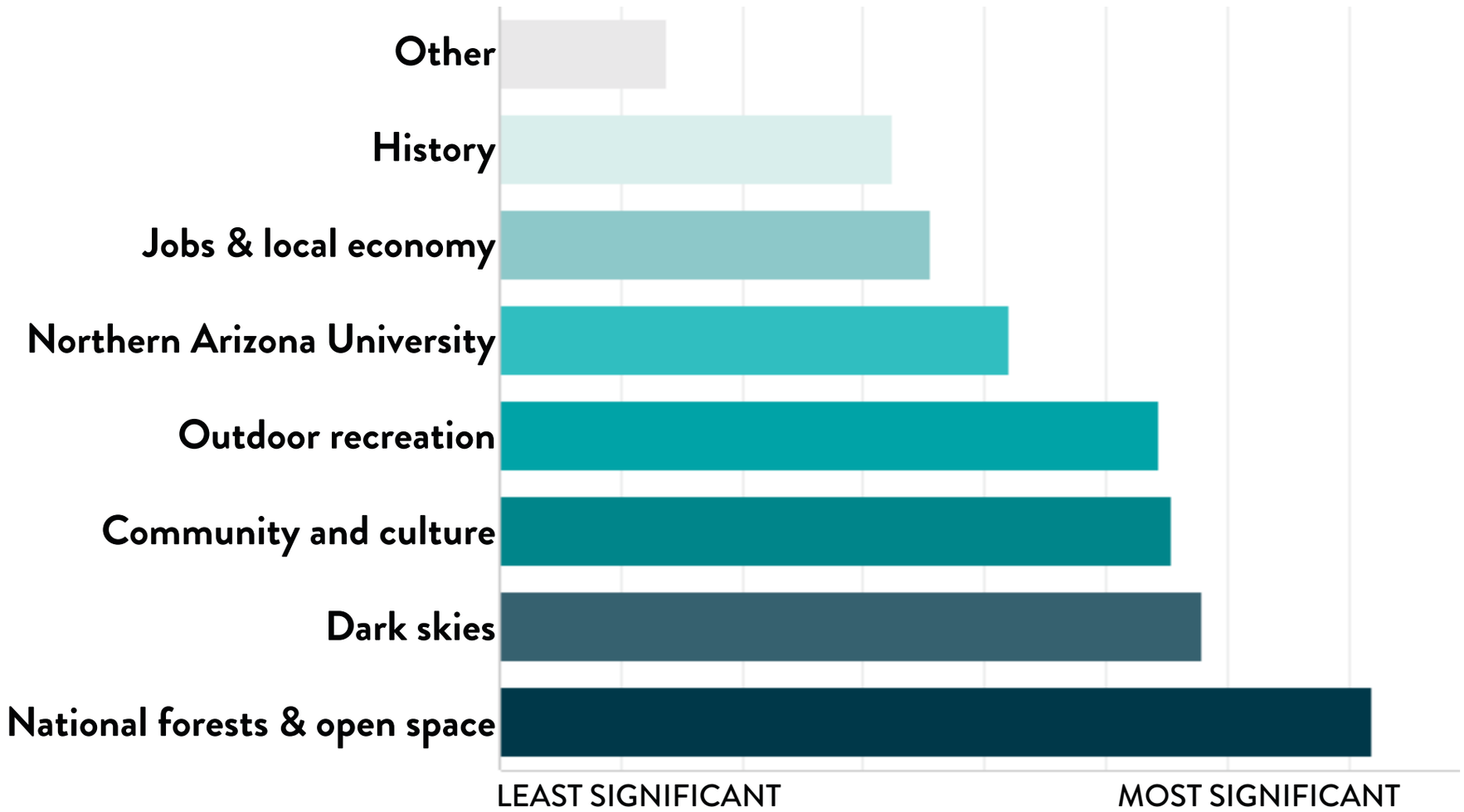
» 34% are unsure of NOFS impact on the local economy



# SURVEY KEY POINTS

## Region's Most Significant Asset

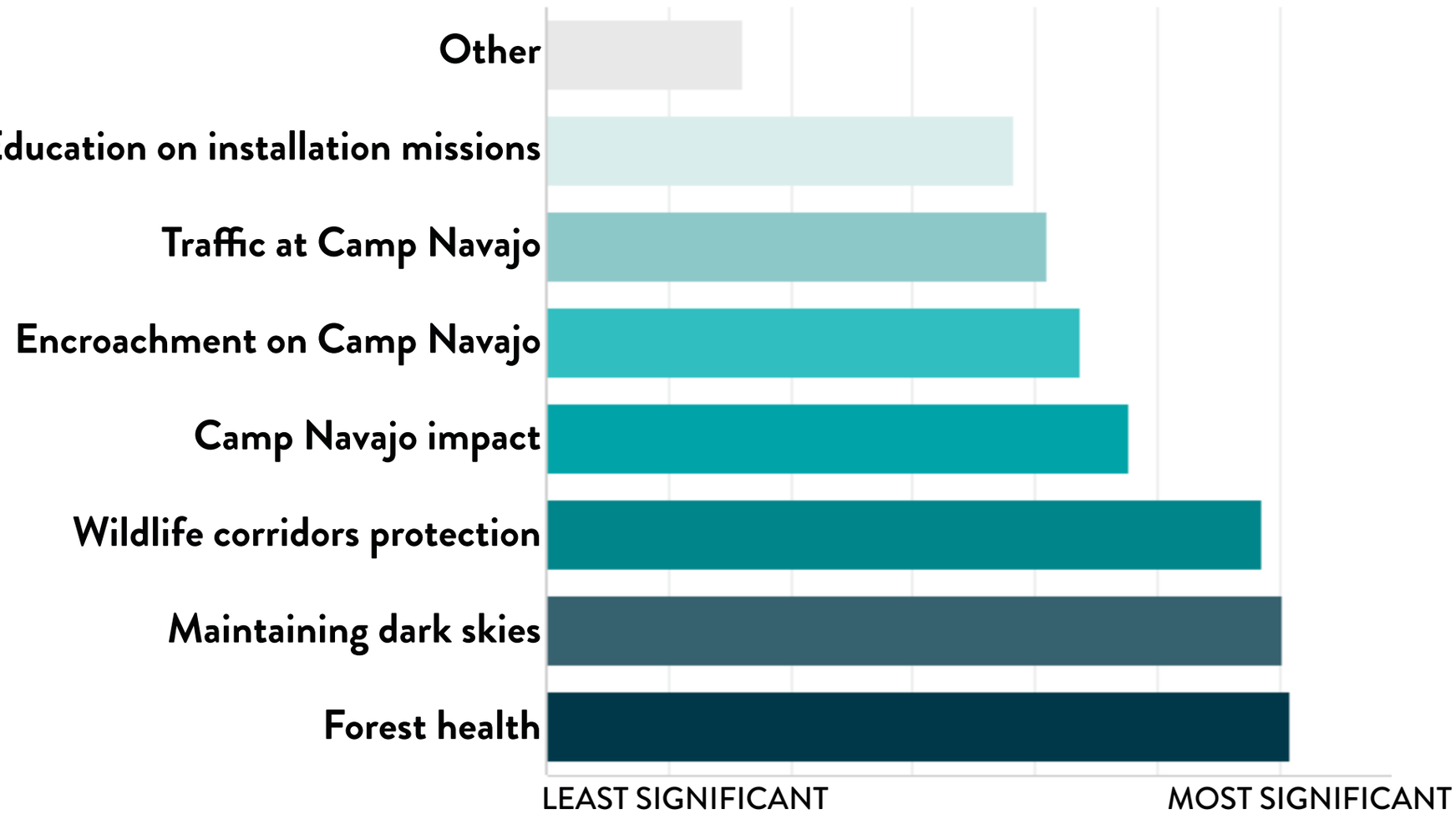
» National forests and open space polled as the region's most significant assets, with dark skies, community and culture, and outdoor recreation following close behind.



# SURVEY KEY POINTS

## Important Topics to Address in JLUS

» Environmental health topics such as forest health and wildlife corridors, in addition to dark skies, ranked as the top three rated topics respondents felt most important to address.



# INSTALLATION REVIEW

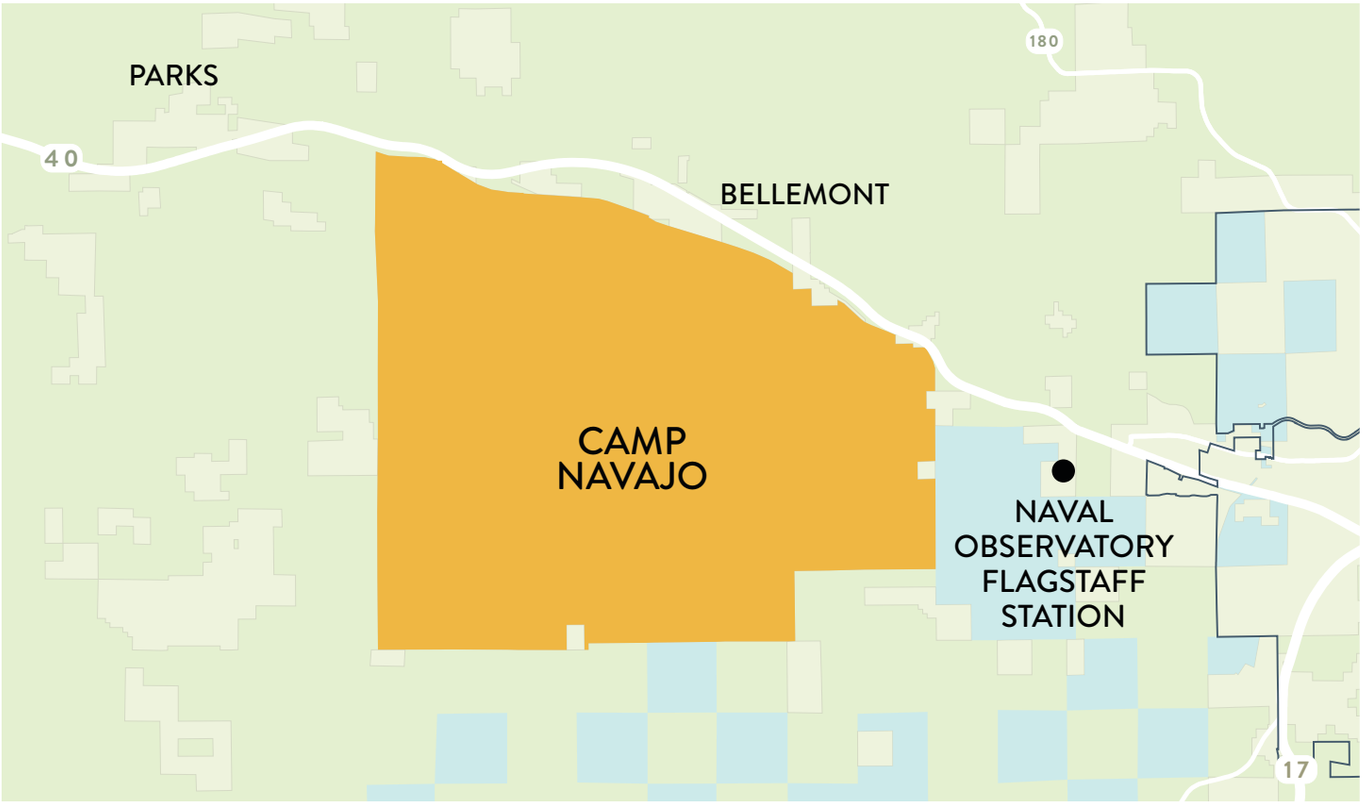
# CAMP NAVAJO

## History

- 28,431 acre base established in 1942

## Current Operations

- Crucial high-altitude Federal and International joint use military training
- US and International munitions storage



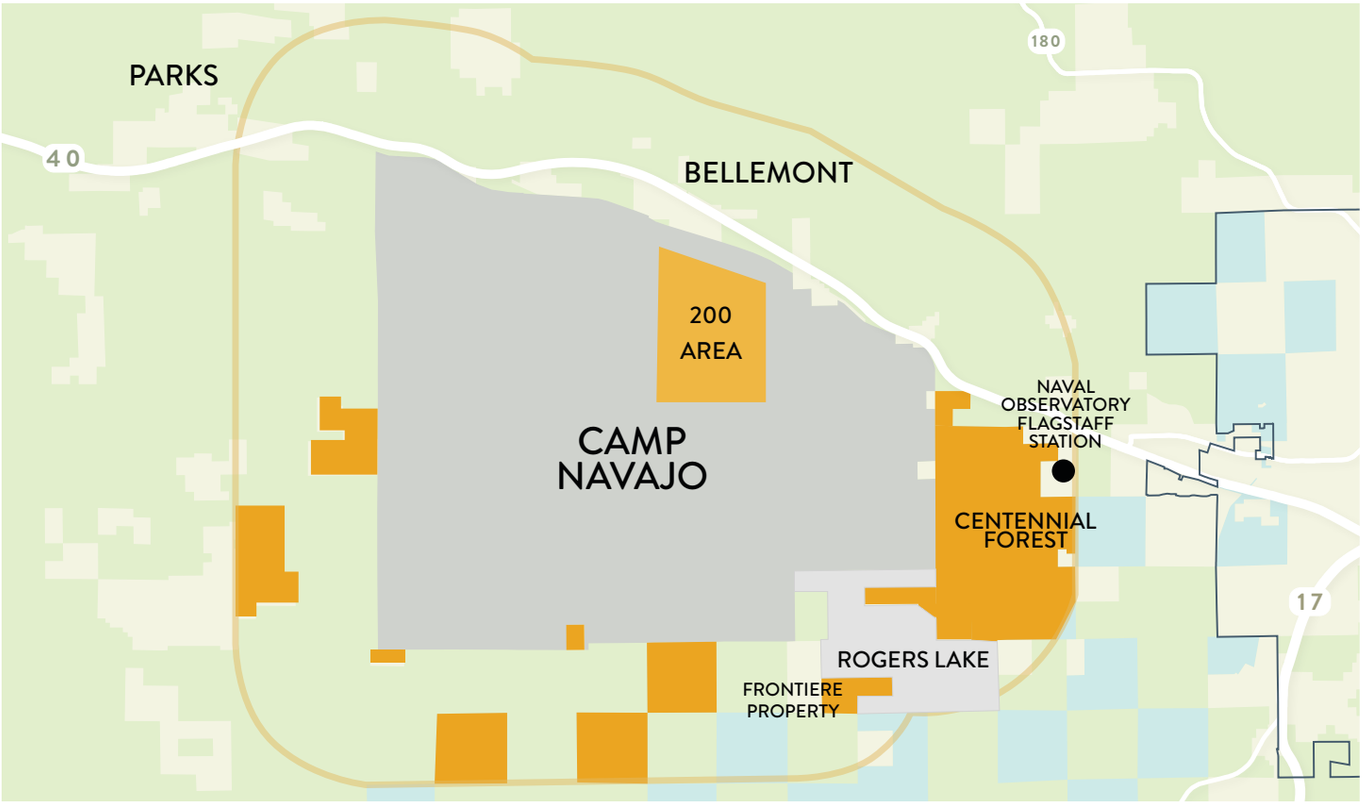
# CAMP NAVAJO: KEY FACTS

## Army Compatible Use Buffer (ACUB) Program

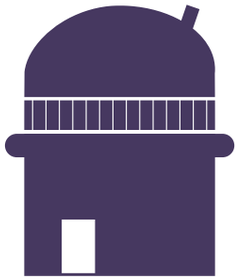
- 9,714 acres identified and prioritized
- Intended to restrict encroachment
- High priority areas include Centennial Forest and the Frontiere Property

## 200 Area Development

- Actively seeking to revitalize on-base commercial and industrial development in “200 Area”
- Potential site for oriented strand board (OSB) or biomass plant



# NOFS

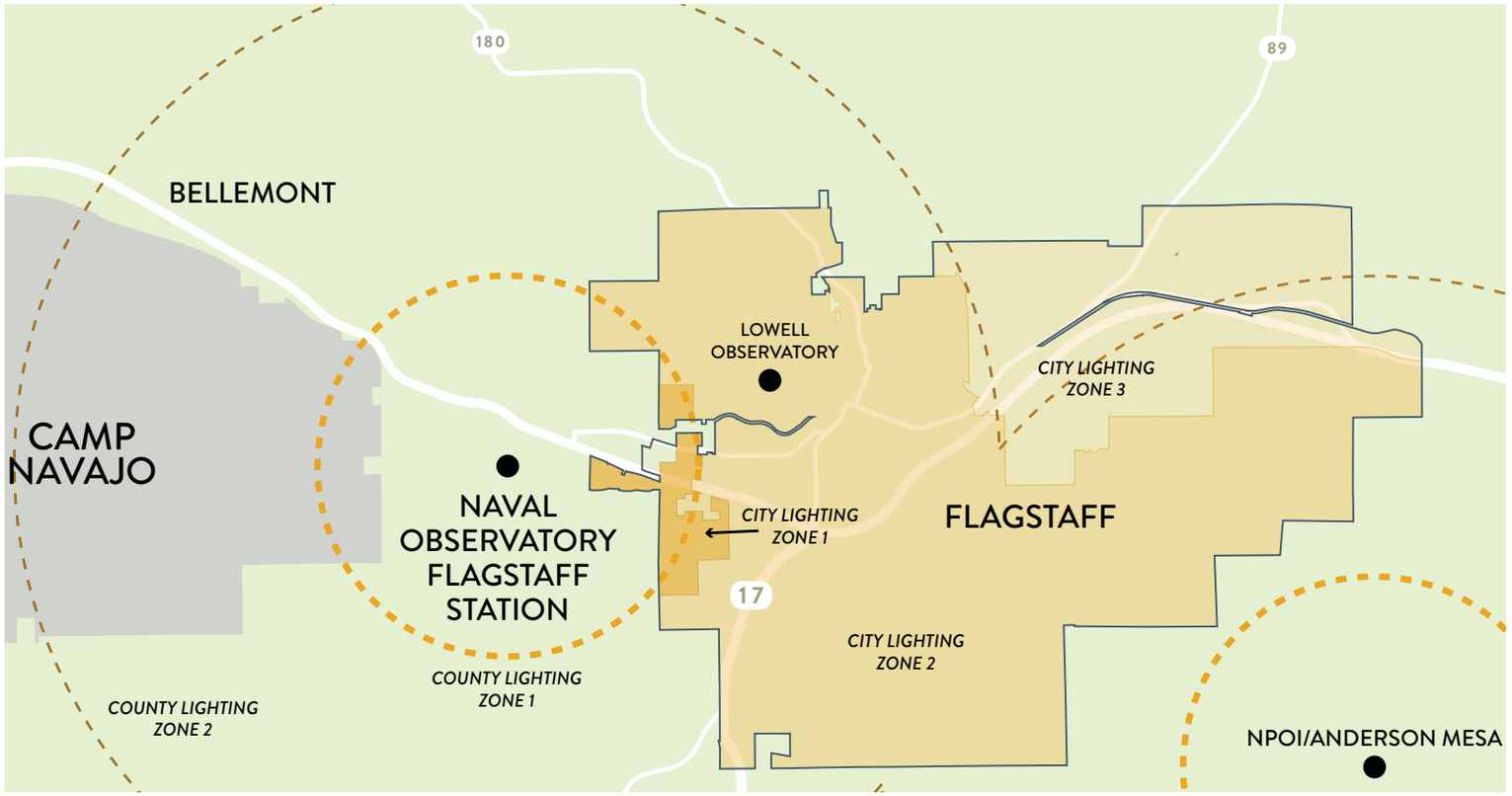


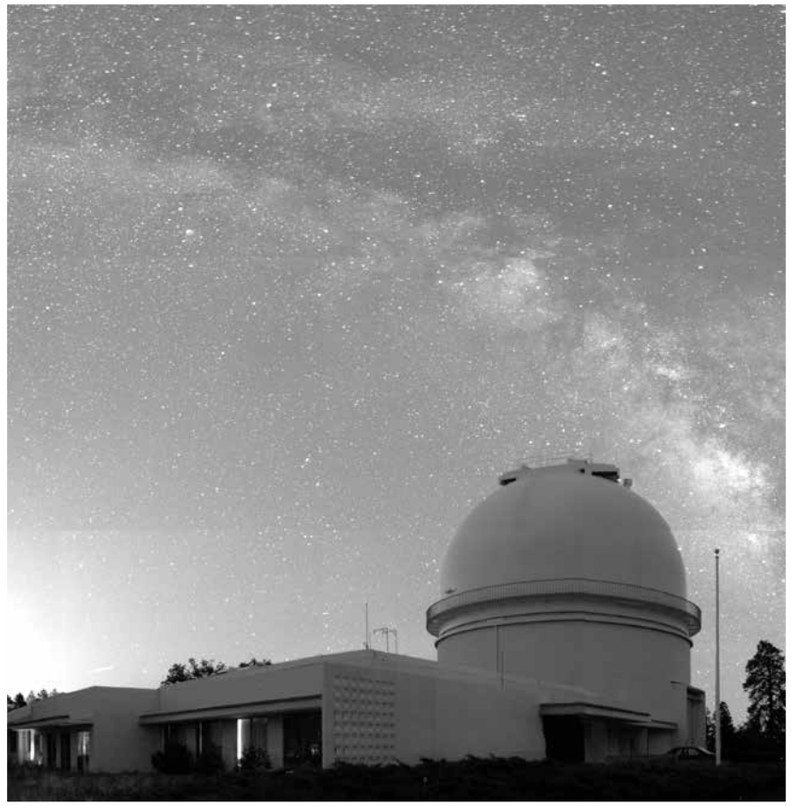
## Mission

- Research and tracking of celestial bodies, earth motion, and time; critically important for navigation, military operations planning, scientific research, etc.

## Current Operations

- Main campus west of Flagstaff
- Operates five telescopes including the Navy Precision Optical Interferometer (NPOI), operated with Lowell Observatory at Anderson Mesa, 20 miles southeast of Flagstaff
- Potential telescope to be relocated to Volunteer Mountain on Camp Navajo from Hawaii



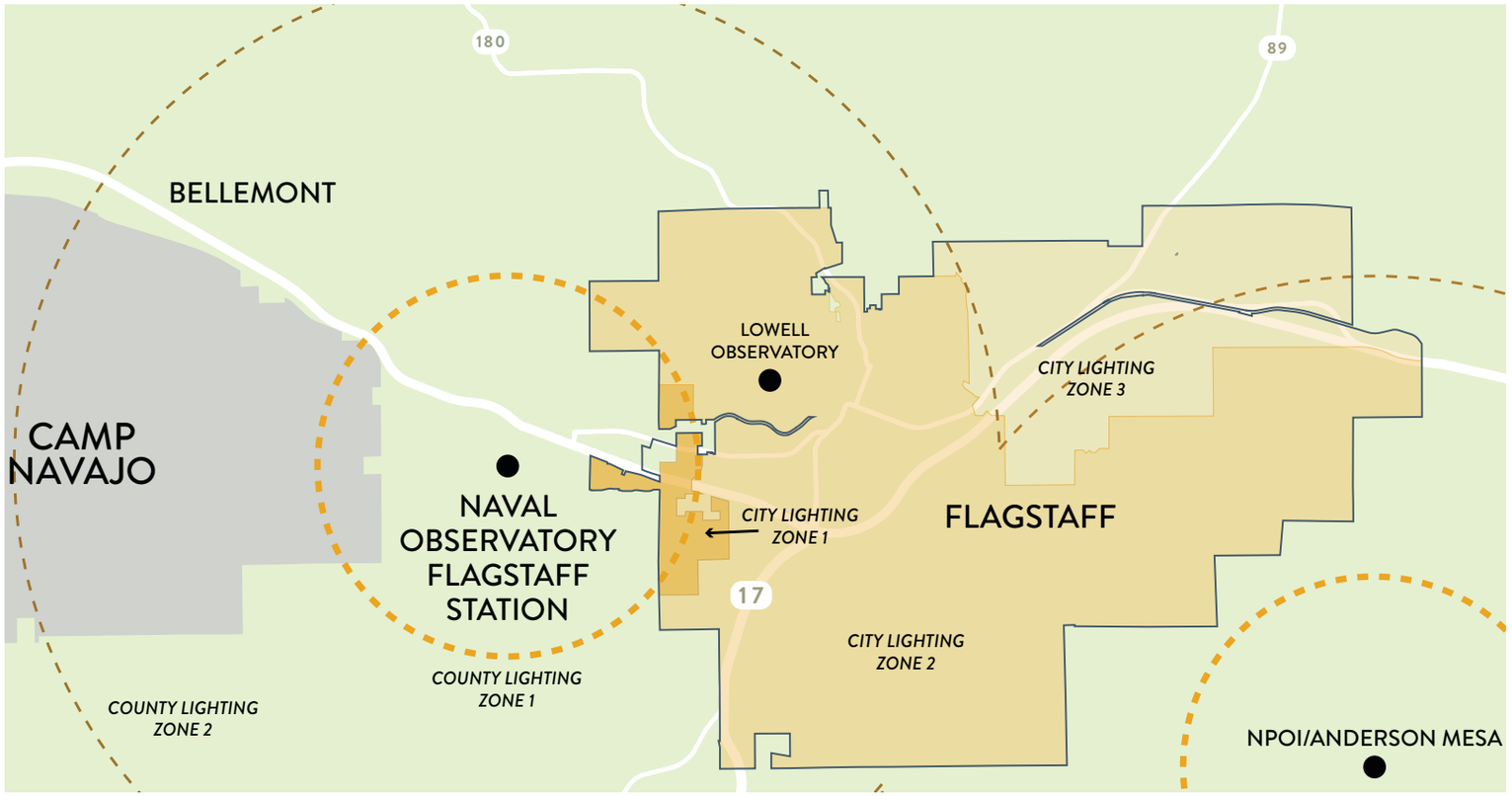
# NOFS: KEY FACTS

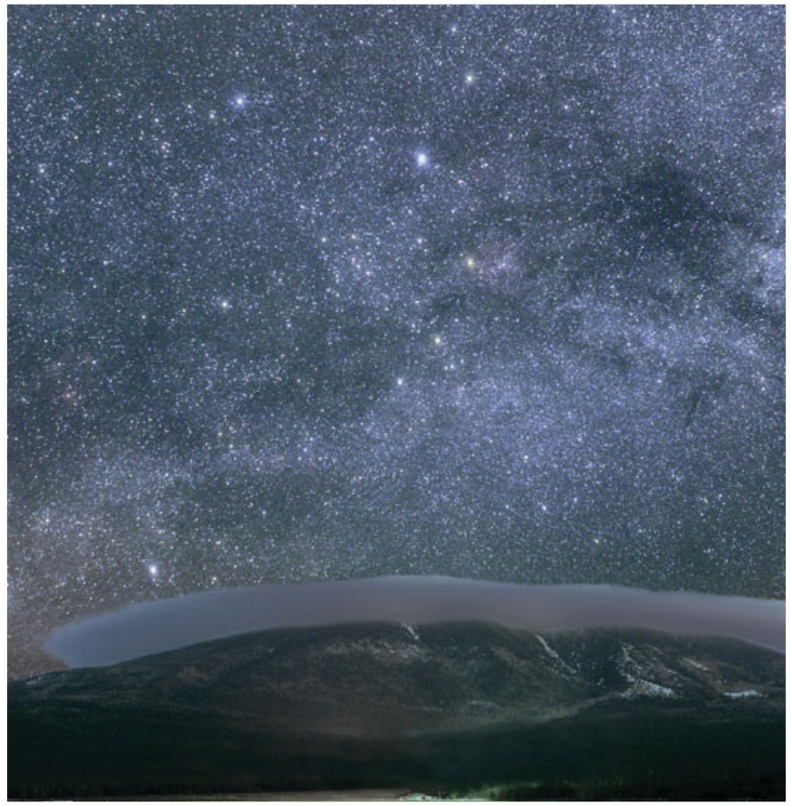
## Sensitive Equipment

- Mission extremely sensitive to light pollution
- Some telescopes are also sensitive to heat and particulates

## Recent Studies

- NOFS Mission Compatibility Light Pollution Study (Light Pollution Study) (December 2017)
- Street Lighting for Enhancing Dark Skies (SLEDS) Study (began 2015)



# REGIONAL CONTEXT

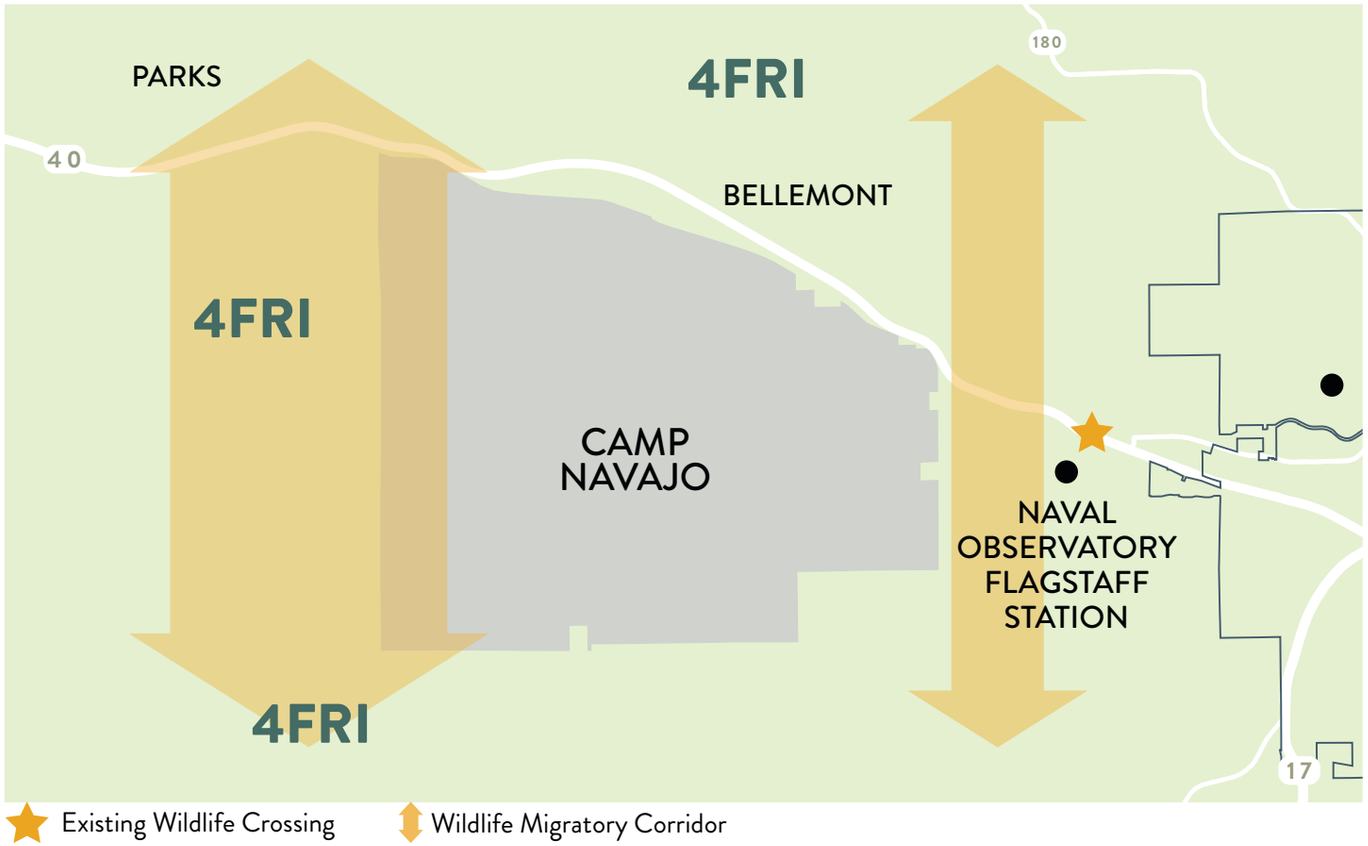
# REGIONAL CONTEXT: **FORESTS & WILDLIFE**

## Forests

- Most land surrounding installations is part of Kaibab or Coconino National Forest (USFS)
- Significant risk for catastrophic wildfire, traditional Ponderosa pine forests = 6-60 trees/acre; current forests = 250-1000 trees/acre,
- The Four Forest Restoration Initiative (4FRI) is an effort to restore forest ecosystems on four area forests (Coconino, Kaibab, Apache-Sitgreaves, and Tonto)

## Wildlife

- There are important wildlife corridors near on both installations and crossing I-40



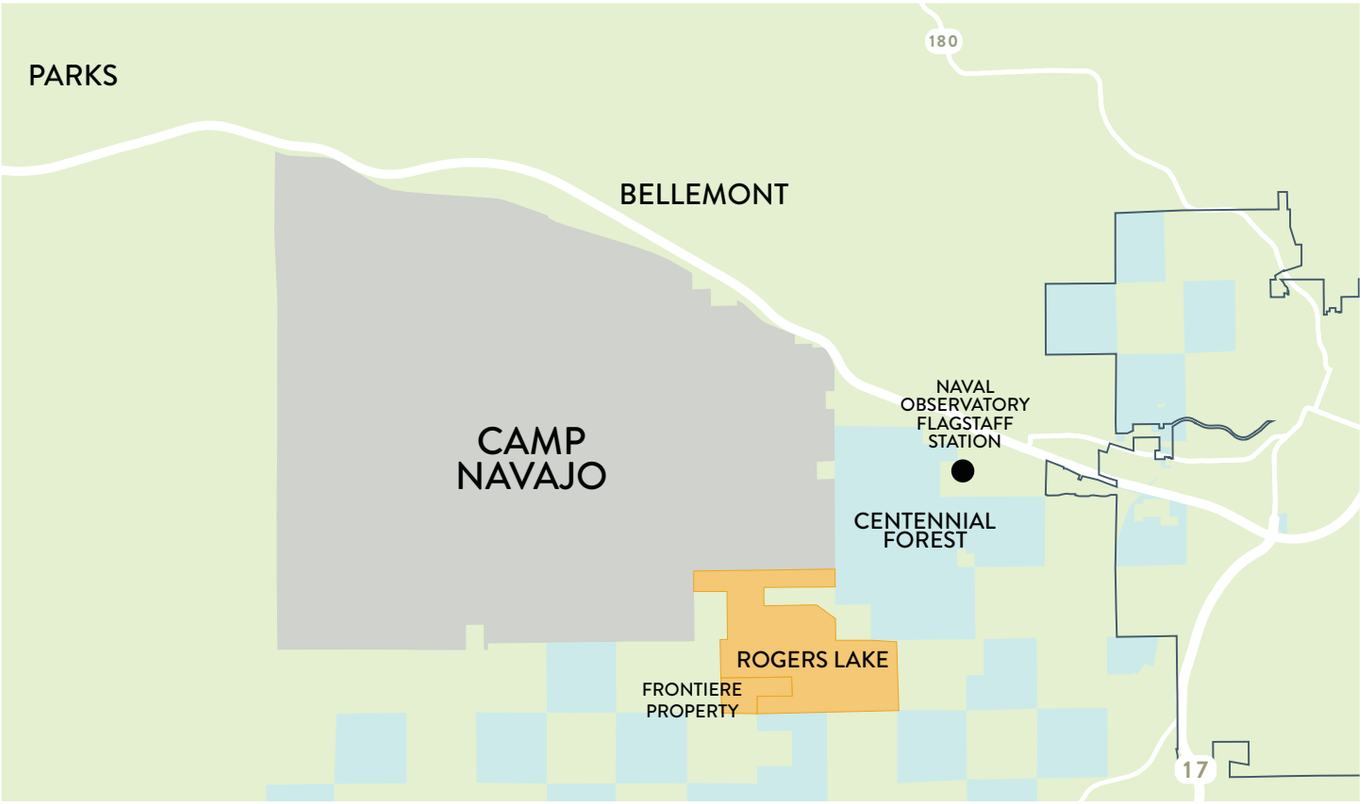
# REGIONAL CONTEXT: **CONSERVATION**

## State Trust Land

- Land held in trust to generate revenue for beneficiaries, the largest being Arizona's K-12 education
- Aside from USFS, Arizona State Land Department is largest landholder surrounding installations
- Includes Centennial Forest, a critical research forest managed by Northern Arizona University (NAU)

## Other Relevant Land Conservation Initiatives

- Rogers Lake County Natural Area
- Frontiere Property



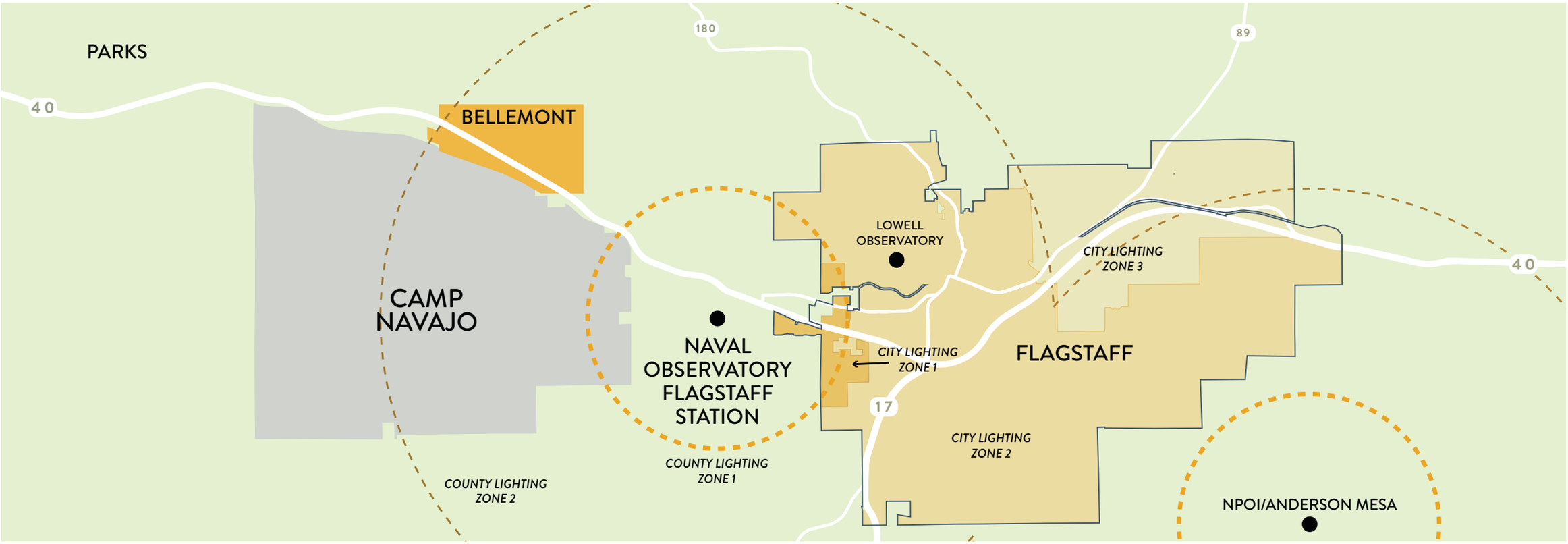
# REGIONAL CONTEXT: **LIGHTING & DEVELOPMENT**

## Lighting

- Flagstaff and County Lighting Zones 1 and 2 focus on telescope locations at NOFS and Lowell

## Development

- Many types of development, including activity centers are planned for the west side of Flagstaff
- The Bellemont Area Plan is being updated; housing, commercial, and industrial development is planned for the area



# JLUS ISSUES

# DARK SKIES

## Lighting Technology Shift

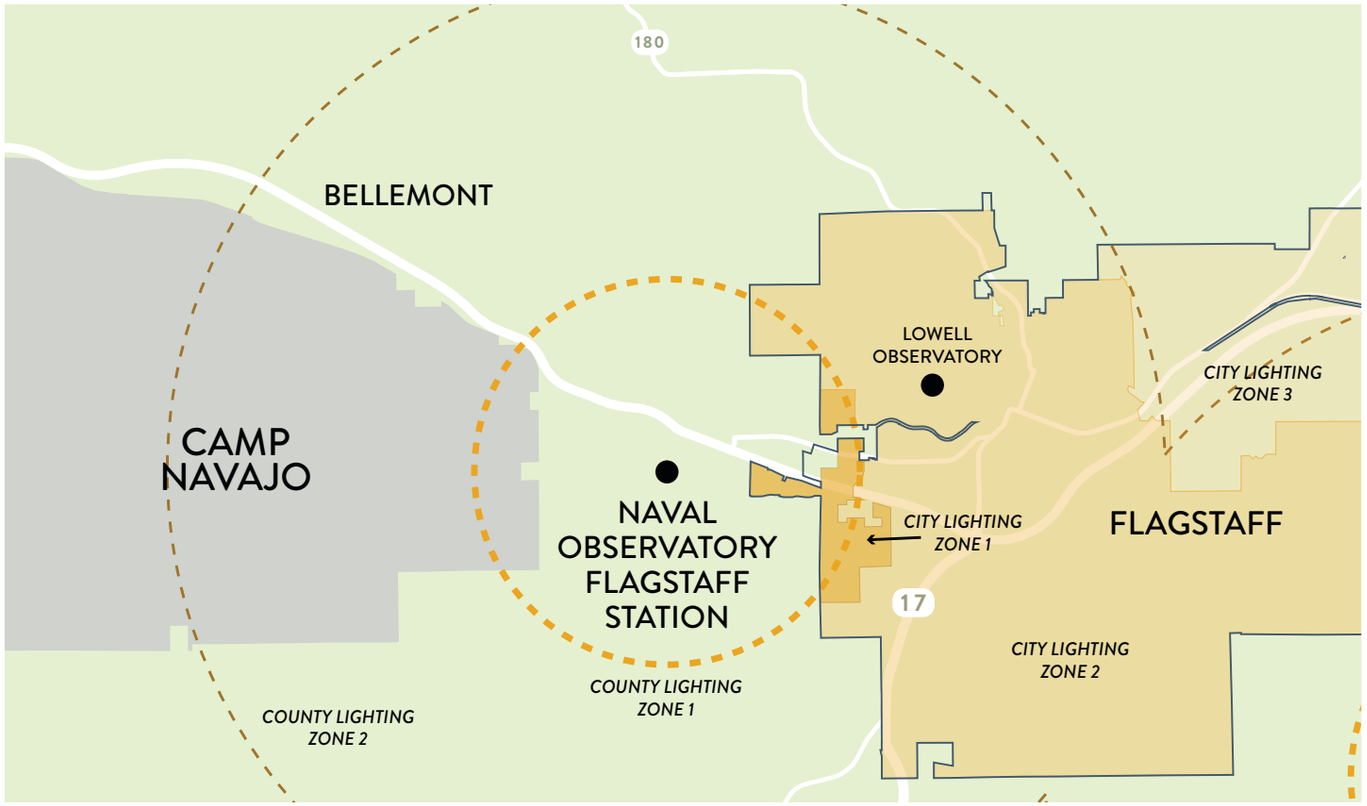
- Codes are meant for outdated lighting technology; multiple issues surrounding shift to LEDs

## Lack of Adherence to Lighting Code

- No plan to monitor or enforce lighting compliance

## Particulate and Thermal Impact on Visibility

- Potential industrial development emissions and wildfires reduce air quality and limit visibility
- Heat from industrial sites can produce thermal plumes, potentially distorting telescope accuracy



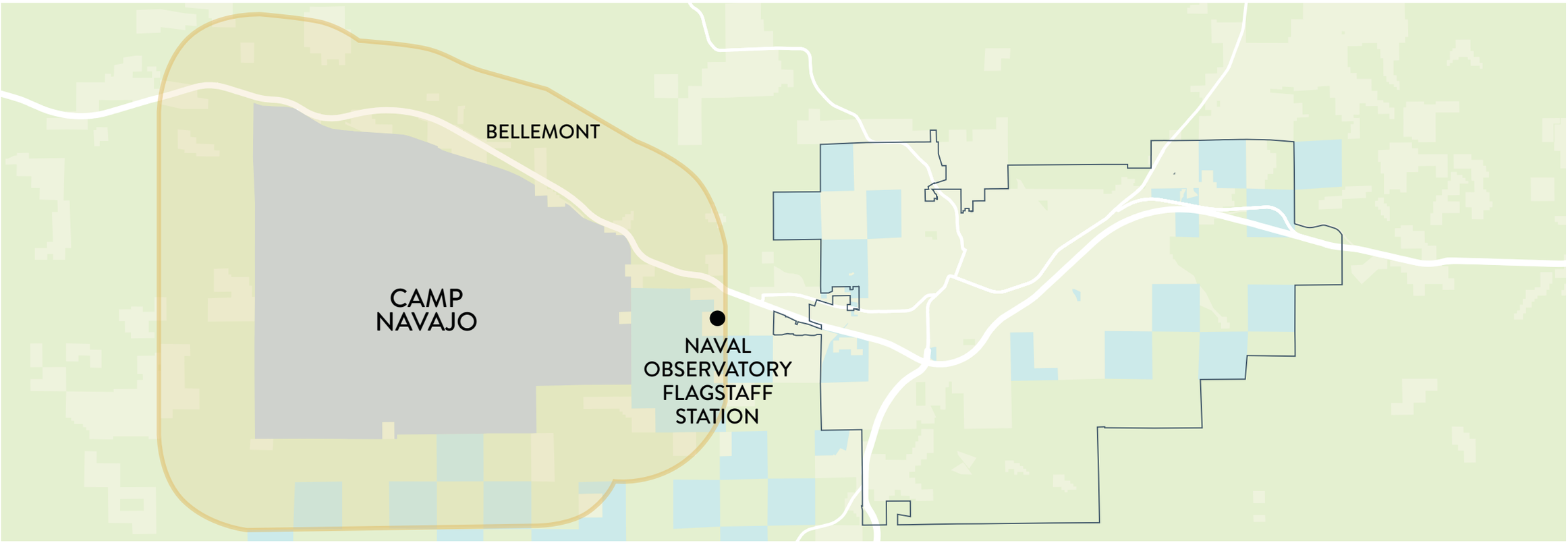
# LAND USE

## Development in ACUB

- Development of land surrounding Camp Navajo could increase complaints about military operations
- Potential increased trespassing is a safety risk

## Impact to Bellemont Area Circulation and Transportation

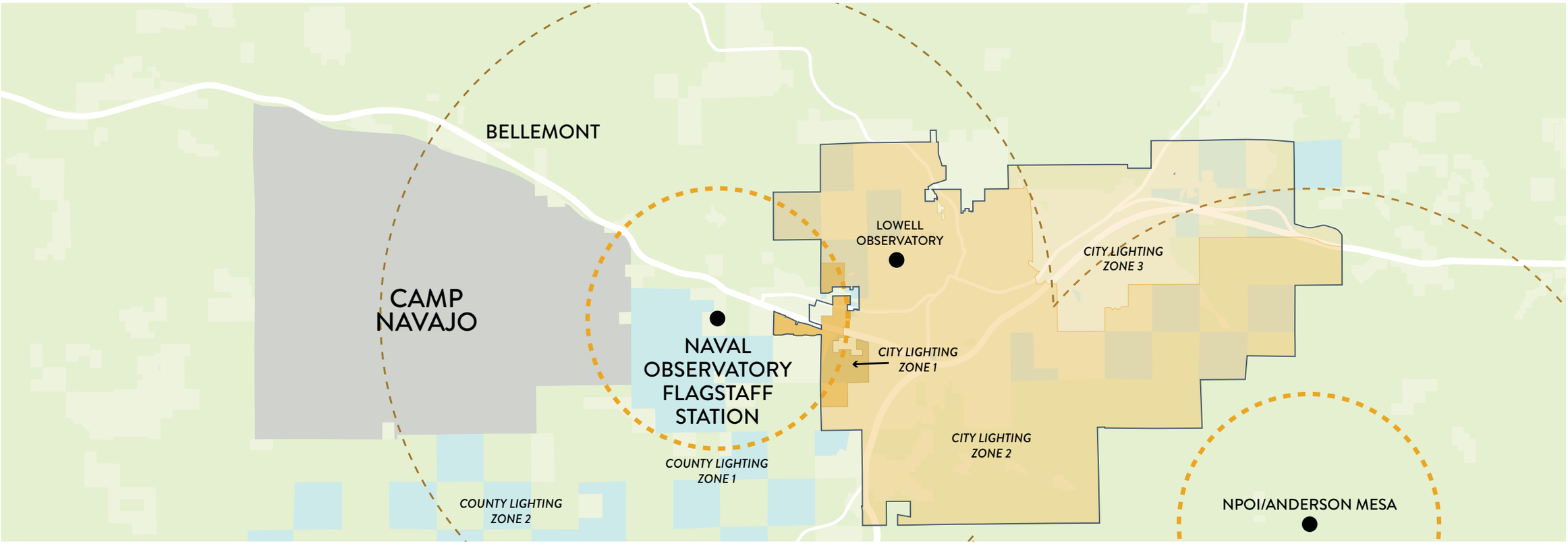
- Future development on and around Camp Navajo will strain congested circulation in Bellemont



# LAND USE

## Development in Lighting Zones

- According to the Light Pollution Study, brightening of skies 10% over current conditions is not compatible with the NOFS mission
- Study assumed no development on USFS and State Trust lands; sale of these lands is a significant concern
- As southeast Flagstaff continues to develop, NPOI and other operations at Anderson Mesa could be negatively affected



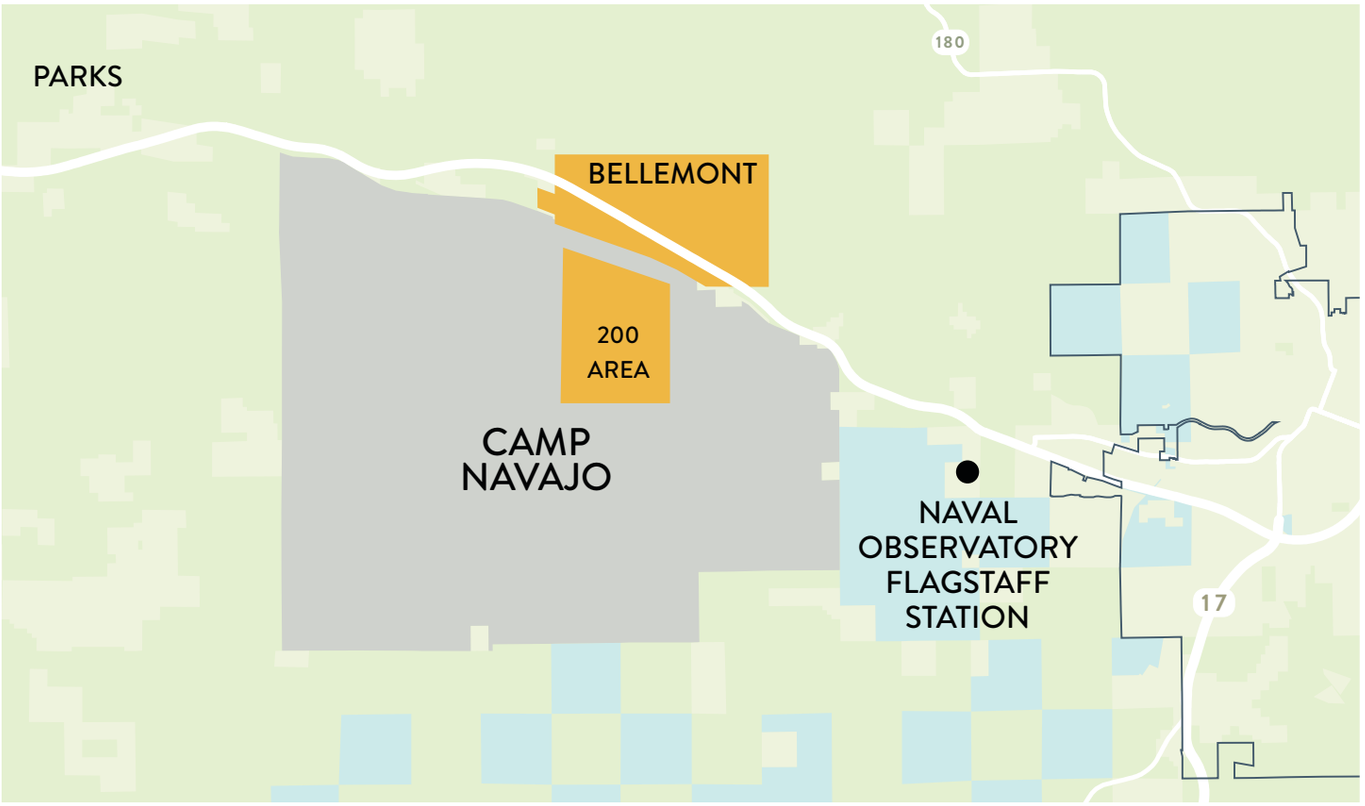
# ENVIRONMENTAL HEALTH

## Forest Health

- Dense forests are a risk for wildfire and disease and pull water from aquifers and streams

## Affect of Development on Air and Water Quality

- There is concern that industrial development on Camp Navajo could impact air or water quality or strain area water supplies



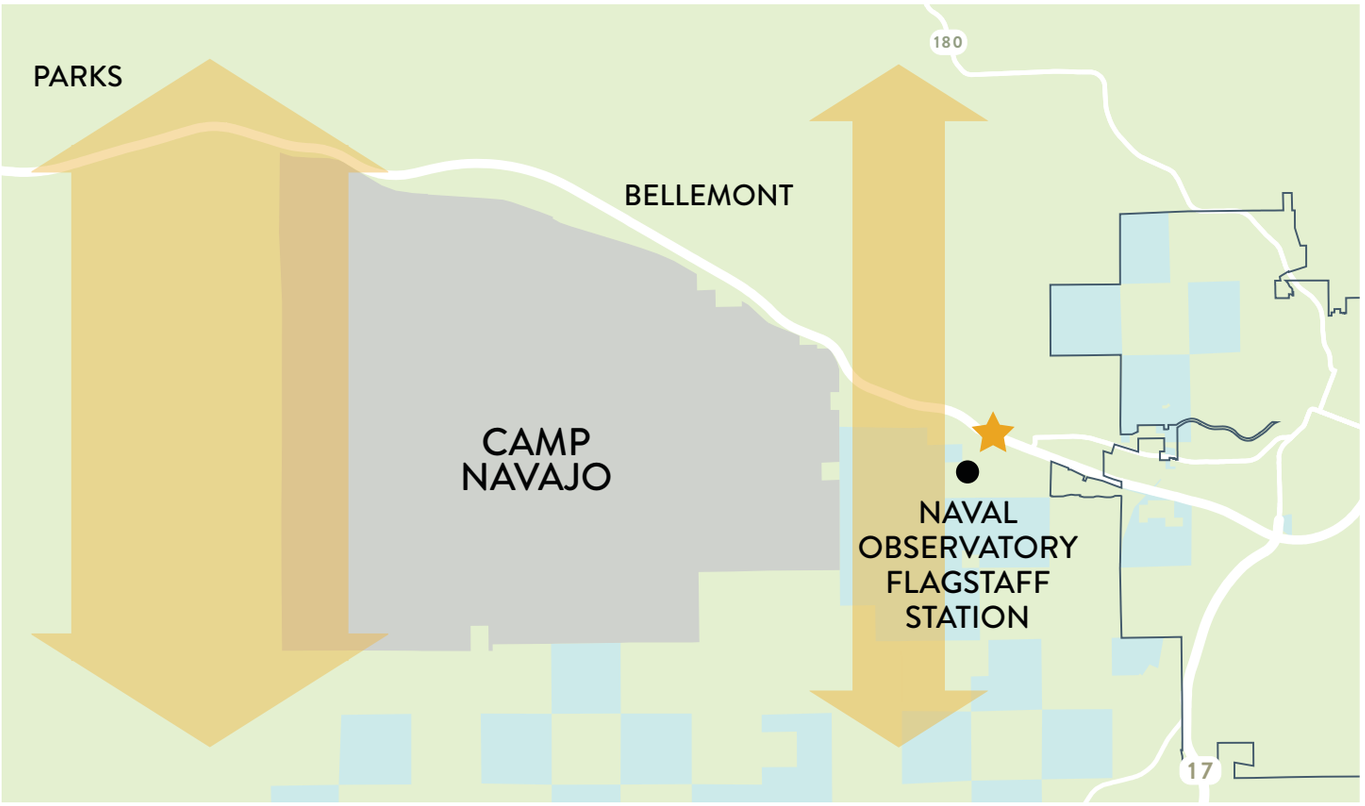
# ENVIRONMENTAL HEALTH

## Wildfire & Disaster Hazard

- Poor forest health increases the risk of catastrophic wildfire, related natural disasters, and wildfire crossing Camp Navajo borders

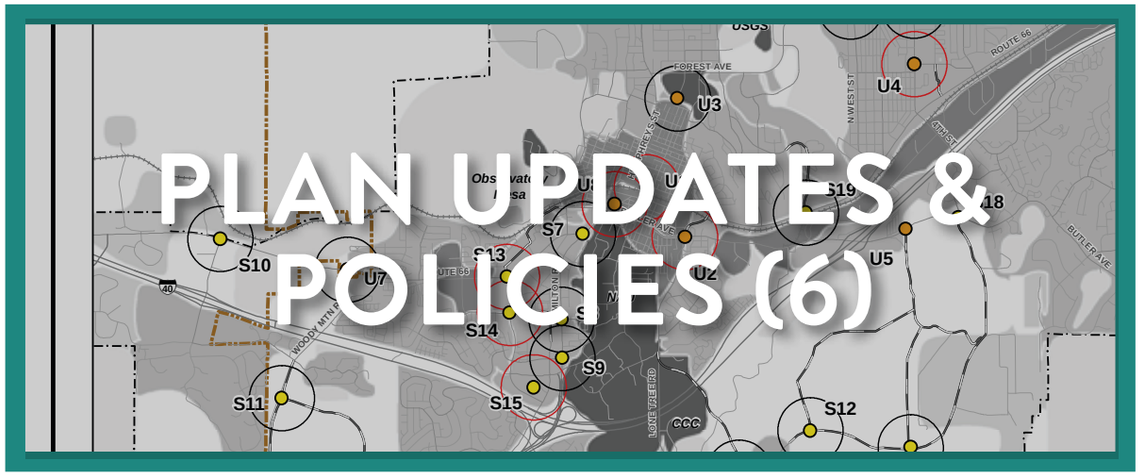
## Fragmented Wildlife Migratory Corridors

- The conversion of forested land would fragment wildlife migratory corridors and negatively impact health



# DRAFT STRATEGIES

# DRAFT STRATEGY CATEGORIES



# COORDINATION

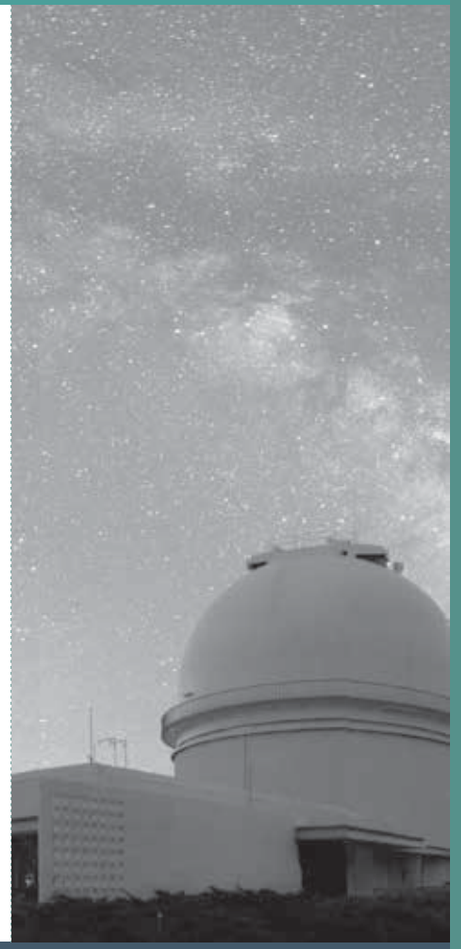
## GENERAL

1. **Add NOFS and Camp Navajo to pre-application, public hearing, board of supervisors, and meeting agenda registry (notification lists) for City & County planning departments.**

2. **Coordinate with NOFS and Camp Navajo as key stakeholders in updates of regional, comprehensive, activity center, and other plans in the study area.**

3. **Establish a JLUS Implementation Committee to oversee progress on recommended strategies.**

## DARK SKIES



1. **Establish an Outdoor Lighting Committee that meets regularly to help oversee:**
   - » Lighting code updates (approval process, code writing, communication/outreach, etc.)
   - » PR campaign as outlined in Dark Sky Education strategy #1
   - » Ongoing information sharing between local observatories, City and County permitting, and code enforcement staff, so this occurs independent of individuals in particular positions
   - » Complete development and ongoing updates of a dark-sky-compliant fixture list and design guidance for homeowners and developers. List to be posted and disseminated as part of Dark Sky Education strategy #1

2. **Invite NOFS representatives to participate in relevant City of Flagstaff's biweekly intra-divisional staff (IDS) meetings to discuss ongoing development permits and activities with City department heads and local service providers.**

3. **Ensure continued coordination/communication between the USFS, Camp Navajo, and NOFS regarding lighting and thermal impacts of prescribed burns on mission.**

4. Designate a local Navy contact to serve as the military's mission advocate and dark sky expert. (Flagstaff Community Planning Liaison Officer)

5. Coordinate with ADOT to design and implement transition to dark sky compliant lighting within study area.

# COORDINATION

## FOREST MANAGEMENT

1. **Recognizing the potential value of developing a Biomass and/or OSB Plant on Camp Navajo to advance forest health, contribute to local economy, and return productive use to Camp Navajo's 200 Area, coordinate to:**
   - » Study potential extent of and ability to mitigate for air quality and thermal impact on NOFS mission
   - » Build a proactive, robust framework to address air quality, water quantity and quality, and traffic impacts in the area
   - » Work with ADEQ to identify opportunities to leverage environmental analysis, outreach, and permitting process to increase knowledge of local aquifer health
   - » Explore options to utilize sustainable practices such as installing a closed-loop reclaimed water system

## TRANSPORTATION

1. **To support development of an appropriately-sized interchange bridge in Bellemont:**
   - » Prepare and submit a PC authorized letter to the governor to reconsider current bridge replacement plans and advocate for a 5-lane configuration with provisions for pedestrian/bicycle facilities.
   - » If State project does not include these improvements; continue to advocate for and identify funding for multi-modal improvements to the interchange bridge.
2. ADOT to coordinate with City/County, NOFS, Camp Navajo, and stakeholders during project planning and design within the study area to ensure projects incorporate dark sky lighting, enhance wildlife crossings, and support planned development.

# EDUCATION

## MILITARY INSTALLATIONS

1. Coordinate with County/City to develop materials and an outreach strategy to inform land owners, realtors, and planners regarding existing and future Camp Navajo operations and potential noise impacts.

2. Work with AZ legislature to amend Arizona Revised Statutes Article 7, 28-8481 & 28-8484 regarding military impact notification to property owners to include all military installations in Arizona.

## DARK SKIES

1. **Develop and execute a PR campaign to increase awareness and encourage action that could include:**
   - » Developing web-based and other resources to assist public with dark-sky compliant lighting implementation, include FAQs, and build awareness/encourage replication of regional best practices and successes
   - » Creating dark sky brochures for City and County staff to share with project applicants
   - » Posting and advertising the dark-sky-compliant fixtures, brands, and design guidance developed in strategy #8 to assist suppliers, developers, and the public in meeting standards.

2. Develop and staff ongoing dark skies education, that could include:
   - » Convening an education series for elected officials, local leadership, staff, and community
   - » Providing periodic trainings for developers, realtors, design and building professionals, and homeowners to provide guidance
   - » Creating/training volunteer Dark Sky Ambassadors to outreach and educate

## FOREST HEALTH

1. Develop materials and outreach plan to educate community on the importance of forest thinning and address sensitivity around “healthy” forest image.

# PLAN UPDATES & POLICIES

## GENERAL

1. **Adopt goals and policies to best protect the missions of Camp Navajo and NOFS in the County's and City's Comprehensive Plan updates.**

## DARK SKIES

1. **Support adoption of the draft dark skies goals and policies in the Bellemont Area Plan.**
2. **Support City in preparation of specific plans for Flagstaff's west-side activity centers designated in the Regional Plan (at a minimum S10, U7, and S11) and collaborate with NOFS and Camp Navajo as key stakeholders.**
3. Add a Camp Navajo policy to be compatible with City/County Zone 1 lighting code changes and future updates (e.g., code changes related to Mission Compatibility Light Pollution Study and SLEDS) and recommend U.S. Army Corps of Engineers adopt this policy related to future 200 Area development and through Camp Navajo its access roads.

## ENVIRONMENTAL HEALTH

1. Incorporate wildlife corridors into planning documents, paying special attention to the wildland-urban interface.

## TRANSPORTATION

1. **Update the 2015 Bellemont Access Management & Multimodal Study to include potential growth as part of Camp Navajo and adjacent properties on the south side of I-40 while doing so as Zone 1 dark sky compliant.**

# CODE UPDATES & ENFORCEMENT

## COUNTY ZONING CODE

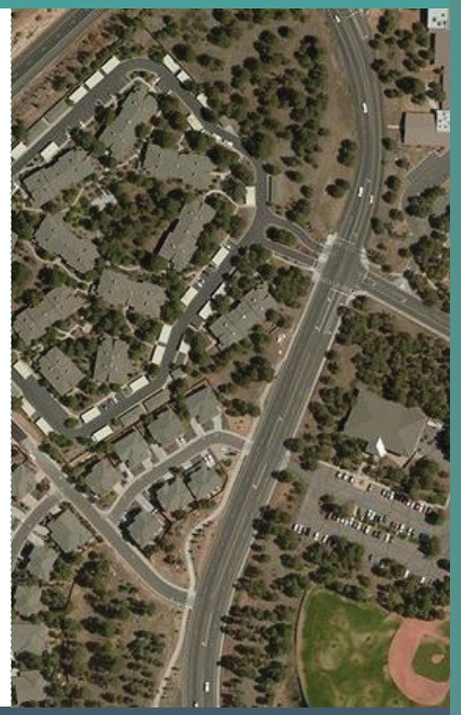
1. **Create a Military Protection Overlay (MPO) zone in the County to integrate special lot size minimums and other use restrictions in designated ACUB priority lands and key properties within close proximity to NOFS.**

2. Create a Resource Protection Overlay (RPO) zone in the County, similar to Flagstaff's that integrates tree protection provisions supporting forest health and the dark sky.

## CITY & COUNTY ZONING CODE

1. **Continue to move toward City and County adoption of recommendations regarding dark sky-friendly lighting in the public right of way from the SLEDS Study.**

2. Develop and expand upon policies to encourage compliance with dark-sky standards, such as:
   - » Implementing additional incentive-based programs within zoning to encourage designs that go beyond dark sky compliance.
   - » Developing a fast track permitting program for applicants demonstrating dark sky development qualifications.

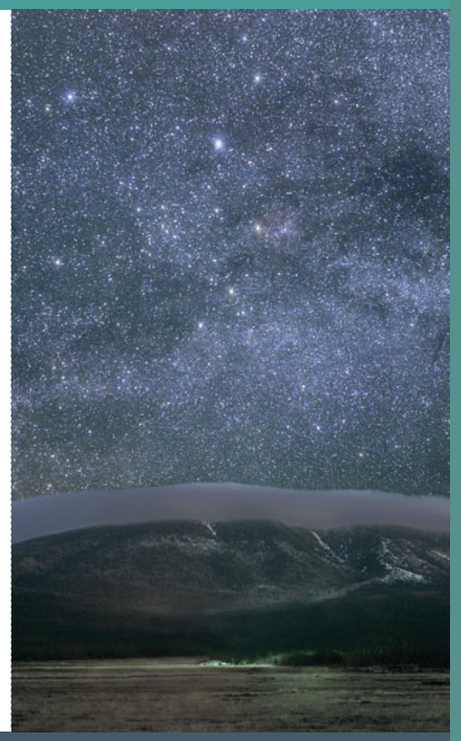


# CODE UPDATES & ENFORCEMENT

## CITY & COUNTY LIGHTING CODE

1. **Adopt Lighting Code Updates:**
   - » Update design standards to encourage/require overhang or canopy-mounting for outdoor lighting in Lighting Zone 1
   - » Extend City lighting zone 2 to cover all of existing zone 3
   - » Modernize measurement of absolute lumens
   - » Update residential roadway lighting requirements (consider making roadway lighting optional or eliminating requirement)
   - » Align residential average use standard (consider allowing up to 10,000 lumens installed if average annual usage does not exceed 1,500 lumens)

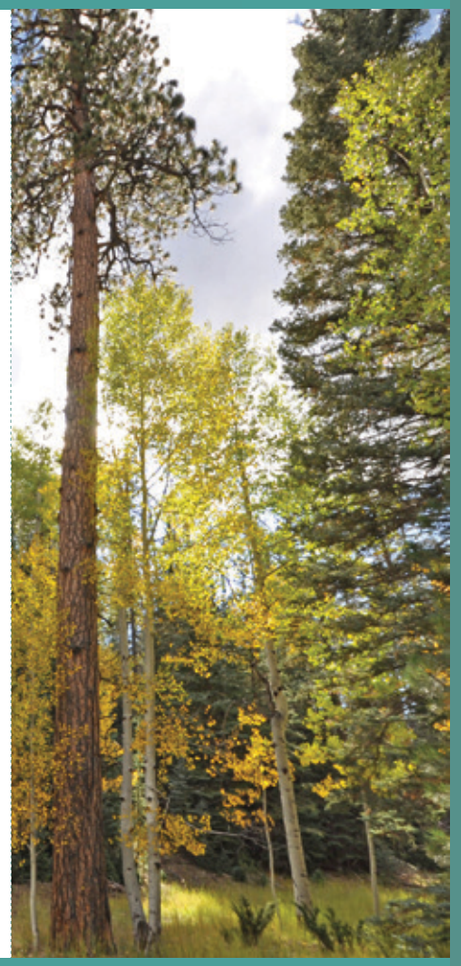
## ENFORCEMENT



1. **Fund a joint Coconino County and City of Flagstaff lighting specialist/dark skies position for education/enforcement.**
2. **Establish baseline database of non-conforming lights. Establish a program / work plan to review problem parcels and update annually.**
3. **Develop enforcement policies to bring non-conforming uses into compliance with dark-sky standards. These could include:**
   - » Establishing a process to assure retrofits are compliant.
   - » Establishing a notification and fines system for non-compliance.

# LAND CONSERVATION

## GENERAL



1. **Continue to pursue grant funding to conserve critical private land in study area:**
   - » Continue to pursue ACUB & REPI program funding and partnerships to conserve priority parcels
   - » Continue to coordinate with Trust for Public Land, the Nature Conservancy, and other NGOs to seek funding opportunities and expertise for priority parcel acquisition and conservation easements
   - » Explore partnering with the USDA National Resources Conservation Service
2. **Establish a Conservation Committee to oversee coordination with AZ State Land Department (ASLD) and assess feasibility and advance one or more of the following:**
   - » Continue to advocate and educate re: the importance to NOFS and Camp Navajo mission of conservation of Centennial Forest and other ASLD study area parcels
   - » Explore amending state constitution to make potential land swaps for military protection more feasible
   - » Explore opportunity to reinvigorate the Arizona Protection Initiative (API), designate critical parcels for conservation, and fund acquisition of Centennial Forest and/or other priority parcels (potentially using REPI/ACUB funds)
   - » Identify and pursue other opportunities to protect critical parcels

## MILITARY INSTALLATIONS

1. Work with AZ legislature to revitalize the Military Installation Fund by: a) completing a statewide prioritization of parcels and b) granting authority of Military Affairs Commission to make offers on land. Explore partnering with the National Resources Conservation Service.

# FOREST MANAGEMENT

## GENERAL

1. **Update Camp Navajo's safety management practices to include wildfire aversion measures if not already included. Set up a system to communicate to trainees/visitors.**

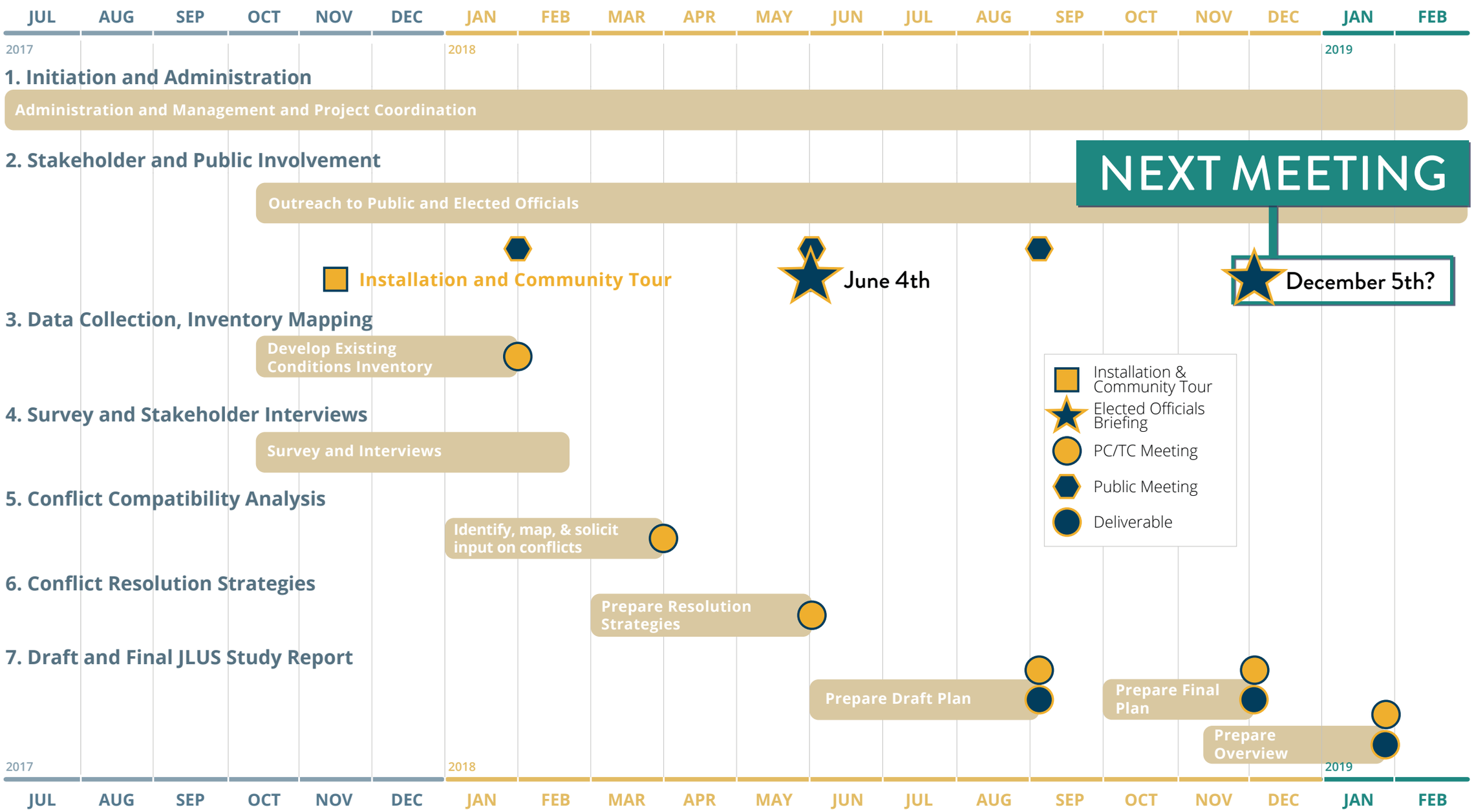
2. Fund and add County Forest Health Coordinator position to work with the USFS to identify and coordinate efforts to manage high-priority disaster risk areas.

3. Create fire containment line around Camp Navajo and NOFS to protect the base from catastrophic forest fires.

4. Pilot one or more of the following to advance forest management practices in the study area:
   - » Explore the opportunity to expand forest thinning contracts in the study area to include private lands
   - » Utilize "hot shot" crews or forestry students to assist with forest thinning
   - » Explore opportunity for Camp Navajo to offer forest management (thinning, prescribed burns, etc.) training or services to neighboring properties

# NEXT STEPS

# NEXT STEPS


JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB
2017
2018
2019
1. Initiation and Administration
Administration and Management and Project Coordination
2. Stakeholder and Public Involvement
Outreach to Public and Elected Officials
NEXT MEETING
Installation and Community Tour
June 4th
December 5th?
3. Data Collection, Inventory Mapping
Develop Existing Conditions Inventory
4. Survey and Stakeholder Interviews
Survey and Interviews
5. Conflict Compatibility Analysis
Identify, map, & solicit input on conflicts
6. Conflict Resolution Strategies
Prepare Resolution Strategies
7. Draft and Final JLUS Study Report
Prepare Draft Plan
Prepare Final Plan
Prepare Overview
Installation & Community Tour
Elected Officials Briefing
PC/TC Meeting
Public Meeting
Deliverable

# THANK YOU

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www.surveymonkey.com/r/COCONINOJLUS