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1.0 PROJECT SCOPE

1.1 Background

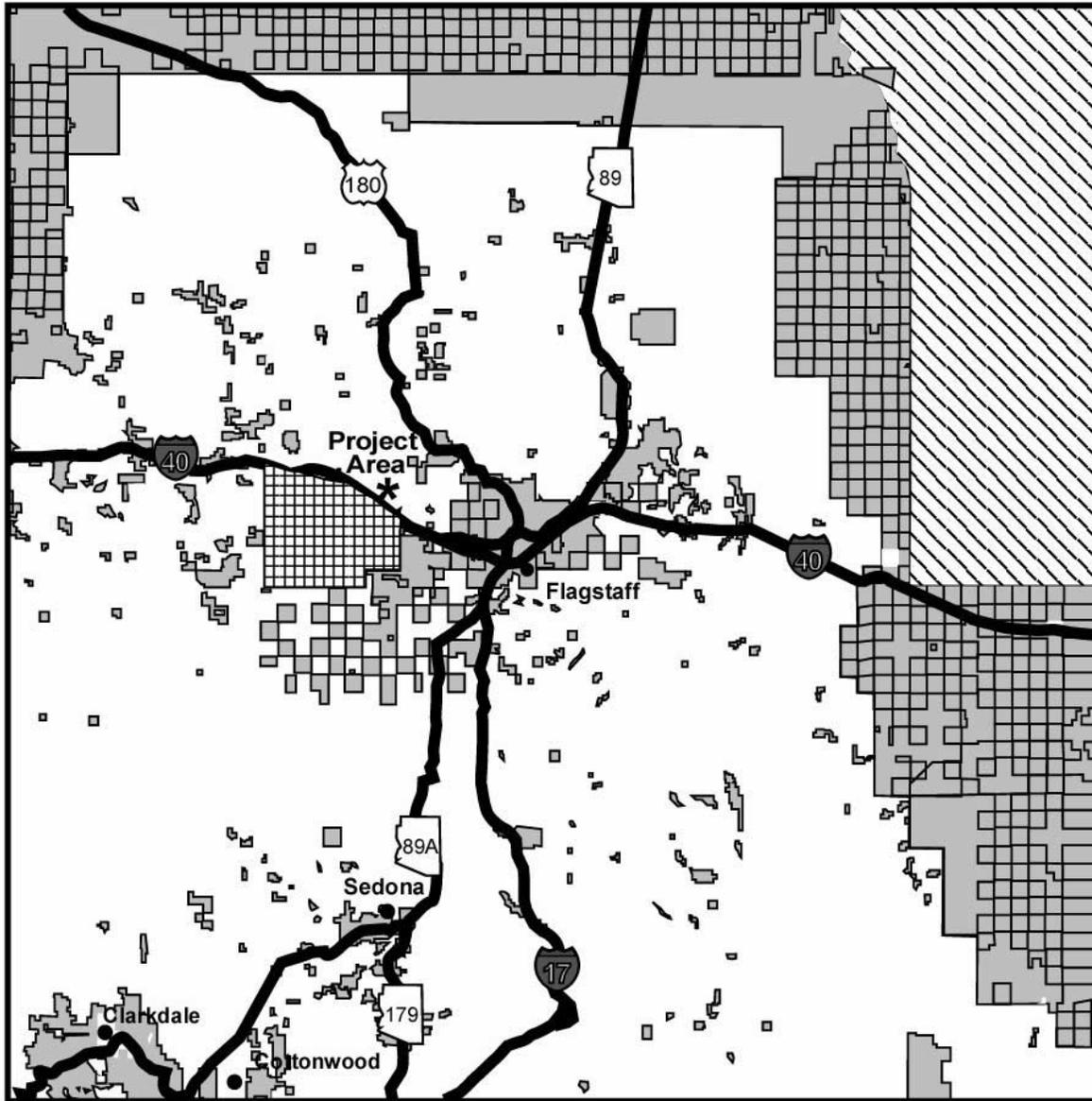
Public interest in developing a formal shooting range in the Flagstaff area began in 1968 when the McCulough Range near Lower Lake Mary, four miles southeast of Flagstaff, closed. Interest heightened in 1994 with the closure of the Flagstaff Trap and Skeet Club Range and the loss of the Flagstaff Archers Range at Fort Tuthill. The Arizona Game and Fish Department (Department) began discussions with the Coconino National Forest (CNF) and local shooting and archery groups in 1995 to find a suitable location for a shooting range facility. The result of the study was an identification of three potential sites (referred to as Garland Prairie, Cochrane Hill, and Bellemont), all of which are located on National Forest System land.

The Department, in cooperation with the CNF, issued a scoping document in March of 1996 that proposed to construct a shooting range at either the Bellemont or Cochrane Hill location. The document indicated that the Department would exchange lands with the Forest Service to acquire title to the land needed for the shooting range facility. It also specified a need for interim special use authorization(s) to allow construction to take place prior to completion of the exchange. The National Environmental Policy Act (NEPA) process was initiated by the issuance of this scoping document to the public. The NEPA process was put on hold in October of 1996, until it was determined that a land exchange between the Department and the Forest Service was feasible. When the NEPA process resumed in September 1998, additional opportunity for public comment, specifically on the Bellemont location, was provided by CNF through a new scoping document.

This Environmental Assessment will be available for a 30-day public comment period. The CNF Forest Supervisor, who is responsible for making a decision, will review comments.

1.2 Purpose And Need For Action

Flagstaff is the largest city in Arizona without a public shooting facility. Shooting enthusiasts and law enforcement agencies have to either travel to cities that have shooting facilities or use local areas such as cinder pits, hillsides, and stock tank berms. The lack of a shooting facility has resulted in dispersed and unregulated shooting in and around Flagstaff. The public and CNF have expressed concern with this dispersed and unregulated shooting. Without a range facility, unsafe conditions would continue, and firearm-training needs would not be met. Although some level of dispersed shooting would continue, the availability of a safe, convenient range would reduce much of this activity. The proposed range would provide recreational shooting opportunities in a safe environment. The Arizona Department of Public Safety as well as the Department believes that the development of shooting ranges in Arizona have generally increased safety by reducing problems with indiscriminate shooting.



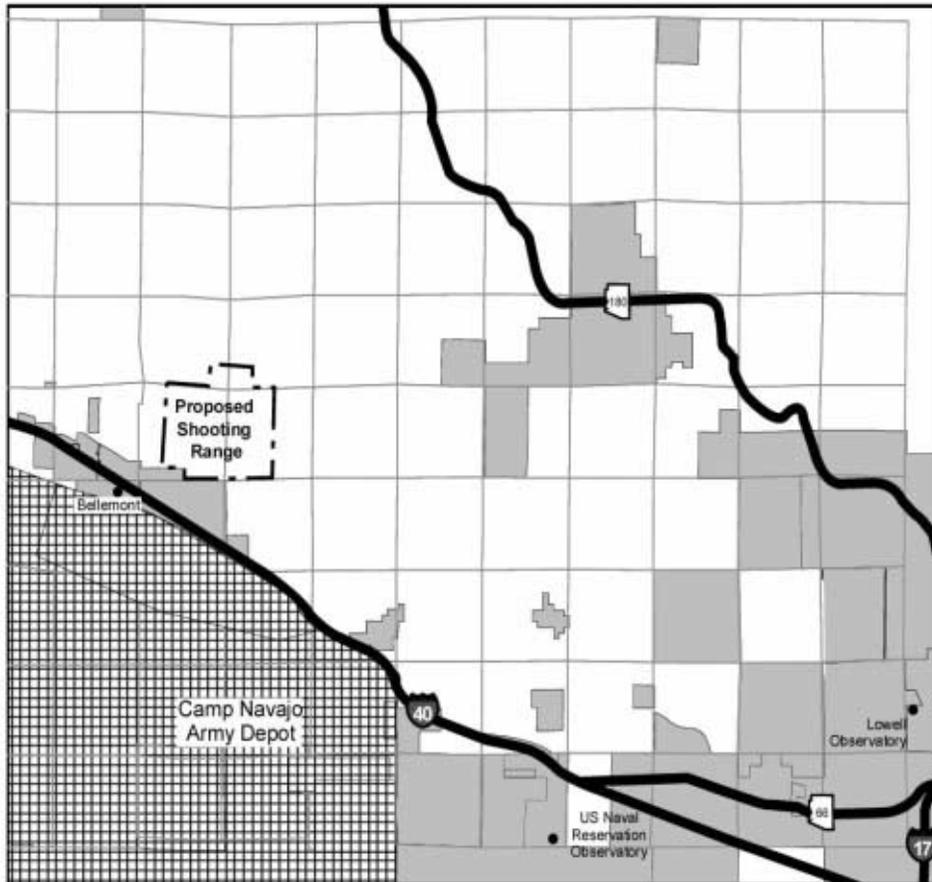
Key

-  Private Land/Non-National Forest Land*
-  Navajo Nation
-  Camp Navajo Army Depot
-  National Forest

* Non-National Forest Land includes lands managed by Arizona State Land Department, Bureau of Land Management, and National Park Service.



Figure 1. Project Location



Key

- - Proposed Range Boundary
- National Forest
- ▨ Camp Navajo Army Depot
- Private Land/Non-National Forest Land*

* Non-National Forest Land includes lands managed by Arizona State Land Department and Bureau of Land Management.

Figure 2. Project Vicinity



Many special interest groups including Arizona State Trapshooting Association, Prescott Trap & Skeet Club Inc., Arizona State Rifle and Pistol Association, and Flagstaff Trap and Skeet Club have voiced their support for a shooting facility. In 1995, the Flagstaff Trap and Skeet Club initiated a petition titled “Flagstaff Needs a Place to Shoot!” that was signed by 409 people. Several state and local agencies including the Arizona State Land Department, Arizona Department of Public Safety, City of Flagstaff Police Department, and the Coconino County Sheriff’s Department are also supporting a public shooting facility for the Flagstaff area. The Coconino County Board of Supervisors passed two resolutions in support of a regional shooting facility in the vicinity of Flagstaff (Coconino County Resolution #95-51 and #2000-12). The Arizona Game and Fish Commission (Commission) and the Department are supportive of public shooting ranges in Arizona. The Commission has a policy that directs the Department to actively pursue the development of ranges in population areas lacking such facilities, or those with demonstrated needs.

1.3 Proposed Action

The proposed action is to allow the Department to construct and operate a high-quality shooting facility of a caliber appropriate to attract regional, national, and international events consistent with size limitations of the range in Northern Arizona. The facility would provide a regulated public shooting venue, as well as provide a safe training area for law enforcement agencies and hunter education classes. The proposal is to develop a public and law enforcement shooting facility on approximately 860 acres of National Forest land on the CNF near Bellemont, Arizona (Figures 1 and 2).

All proposed components of the shooting range facility are described below. The first five ranges described are the priority for the initial construction phase. Development of the ultimate shooting range facility would occur over time with implementation of future phases dependent on public demand and funding availability.

1.3.1 Sight-in Range

This range would provide facilities for general public rifle sight-in and shooting, and hunter safety training. The Sight-in Range would allow for firing of a variety of firearms with a range length of 220 yards (200 yard long maximum shooting distance). Firing benches and a rangemaster’s booth would also be associated with this facility. A firing line cover will provide shade for the shooter and some sound attenuation. Ten-foot tall interior berms and a 20-foot tall earth backstop would be constructed. The entire range area would be cleared of trees.

1.3.2 Trap and Skeet Range

Trap and skeet shooting is the sport of shooting at clay pigeons (targets in disk shape) thrown into the air. This sport provides practice for bird hunting by having targets simulate birds flying through the air in addition

to recreational shooting. Shooting activity would occur in an open area at the dual purpose Trap and Skeet Range. These two shooting activities cannot occur simultaneously on one field. For trap shooting, the target is thrown within a 45-degree arc from a trap house which stands approximately 2 feet tall and is located 16 to 27 yards in front of the shooter. Skeet involves single or double targets thrown from 15-foot tall and 8-foot tall skeet houses on opposite sides of the field. There would be twelve shooting fields (two of which are combination trap and skeet fields) set along a semi-circle between the two skeet houses. Some clearing of trees would be necessary to construct this range.

1.3.3 Pistol Range

This range would be 60 yards (55 yard long maximum shooting distance) in length. A firing line cover will provide shade for the shooter and some sound attenuation. A 20-foot tall earth backstop and 20-foot tall side berms would be constructed at this range. The entire range area would be cleared of vegetation.

1.3.4 Target Archery Range

Archers would shoot at stationary known distance targets. The entire range area would be cleared of vegetation. This range would extend 75 yards, with a 60-yard long maximum shooting distance.

1.3.5 Field Archery Range

This range would require minimal clearing, if any. Archers would walk along a trail and shoot at stationary targets placed at various distances off the trail in a natural setting.

1.3.6 Silhouette Range

The Silhouette Range would require clearing trees along the line of sight to a set of stationary targets. Four stations with lengths of approximately 240, 350, 440, and 550, would be constructed. The range would accommodate the typical silhouette targets, such as chickens, pigs, turkeys, and rams. A 20-foot tall backstop berm would be located behind each station and 12-foot sound berm would be constructed behind the firing line to reduce sound.

1.3.7 High Power Rifle Range

This range is proposed to be either 1020 yards long (1000 yard long maximum shooting distance) or 620 yards long (600 yard long maximum shooting distance) depending on the alternative being considered. No shade canopy would be used at the High Power Rifle Range. A series of raised earth pads would be constructed along this range to allow for firing at various distances. A 12-foot tall berm would be

constructed behind the firing line to reduce sound, and the earth backstop would be 20 feet tall. The entire range area would be cleared of trees.

1.3.8 Action Shooting Range

At the Action Shooting Range, shooters would use bays to simulate exercises similar to law enforcement training, including shooting within a 180-degree arc. Either four action shooting bays or a single bay would be included, depending on the selected alternative. Twenty-foot tall earth backstops on three-sides of each bay would be included. The entire range area would be cleared of vegetation.

1.3.9 Law Enforcement Range

This range would be constructed similarly to the Action Shooting Range or combined with the Action and/or Pistol Shooting Range, depending on the alternative being considered.

1.3.10 Sporting Clays Range

This activity occurs in a natural setting with no overhead shade canopy. Minimal clearing of vegetation would occur. Participants would follow a trail from station to station and fire through natural vegetation at moving targets. A 2- to 4-foot firing box at each station would restrict the firing area. The gun barrel would be inserted into the firing box prior to taking the shot at the moving target. Targets would mimic the movement of various game animals (rabbits, dove, ducks, etc.).

1.3.11 Fencing

The entire perimeter of the approximately 860 acre shooting facility would be fenced with four-strand wire using the Department's Standard Big Game Fencing Guidelines to allow movement of wildlife through the shooting facility. Warning signs would be attached directly to the fence at 100-foot intervals to alert the public to the location of the shooting facility and that the area was closed to public entry except on designated routes. Limited brush clearing may be required for construction of this perimeter fence. Minor removal of trees is anticipated for fence construction.

1.3.12 Caretaker Trailer Pad and Gate

A trailer pad and associated utilities for a resident caretaker would be required at a location along the access road to the shooting facility. A gate would also be constructed across the entrance to the shooting facility to restrict entry when the facility is closed to the public.

1.3.13 Utilities, Parking, Roads, and Future Support Facilities

Electric power would be provided to the facility by means of above ground electrical lines on power poles. Water would be trucked in and stored in on-site above ground storage tanks. One tank is estimated to be 2,500 gallons with a smaller water storage tank at the caretaker pad depending on the type of trailer used at that location. Wastewater would be handled in modular waste vaults using a vault and haul system for off-site treatment and disposal. Telephone service to the shooting facility would be provided using cellular telephones. Roads and parking areas would be gravel. When funding is available and need is demonstrated, asphalt paving, additional parking areas, toilets, storage and maintenance facilities, a clubhouse and/or scoring building and shade awnings may be added. The agency currently owning the facility would be responsible for NEPA compliance on any proposed upgrades.

1.3.14 Firearms

Rifles using conventional rifle ammunition would be allowed on the Sight-in Range, High Power Rifle Range, Action Shooting Range, Silhouette Range, and Law Enforcement Range. If allowed, use of 12.7 X 99 mm cartridges (also known as .50 caliber Browning Machine Gun cartridges) would be restricted to the High Power Rifle Range. Pistols firing conventional pistol ammunition would be allowed on the Sight-in Range, Pistol Range, Action Shooting Range and Law Enforcement Range. Shotguns up to 10 gauge would be allowed on Trap and Skeet Range, Sporting Clays Range, Sight-in Range, Action Shooting Range, and Law Enforcement Range. The Target Archery Range and Field Archery Range would allow all bows and crossbows.

The Department would reserve the right to restrict certain types of projectiles, including but not limited to armor piercing, incendiary, tracer, or 12.7 x 99 mm. Restrictions would be based on target and/or backstop limitations or the results of range performance evaluations once the shooting facility is in operation.

1.3.15 Hours of Operation

The shooting facility hours of operation are currently planned for 7:00 a.m. to sunset, seven days a week, year-round. However, night shoots may occur a maximum of two nights per week, and would end by 10:00 p.m. Weather conditions, daylight, level of range use, or range administration may reduce the planned hours.

1.3.16 Shooting Facility Capacity

The shooting facilities described above reflect what the ultimate plan for the facility would contain. Development of the ultimate plan for the shooting facility would occur over time. Each range can only

accommodate a specific number of shooters at the specified number of shooting positions at any one time (see Table 3). The following estimates of the maximum number of shooters that can be accommodated per day are based on the number of shooting positions at each range and the estimated average length of time shooters stay at a position or range.

Table 1 Shooters Per Day	
RANGE	MAXIMUM NUMBER PER DAY
Sight-In Range	333
Trap & Skeet Range	1,200
Pistol Range	167
Target Archery Range	200
Field Archery Range	400 (Alt B)
Field Archery Range	800 (Alt C)
Silhouette Range	48
High Power Rifle Range	100
Action Shooting Range	200 (Alt B)
Action Shooting Range	100 (Alt C)
Sporting Clays Range	320

Facility Maximum Shooters Per Day	Alternative B	2,968
	Alternative C	3,268

At full build-out, it is estimated that a maximum capacity of 1,050 shooters could be accommodated at the shooting facility at any one point in time because of limited parking and physical space restrictions. This maximum capacity at one time could be maintained because as shooters arrive at the facility, others will depart as they complete their intended activity. Parking for approximately 350 vehicles would be provided and located in association with each of the ranges.

The maximum number of people at one time would be equal to the shooters, spectators, and facility staff. This number is expected to be only slightly more than the number of shooters (1,050). Most shooting sports have low spectator attendance. At full build-out and under large event conditions, overflow parking to accommodate approximately 100 additional vehicles for range personnel and spectators will be provided on the High Power Rifle range.

1.3.17 Implementation

The long-term objective is to exchange this area to the Department. The Department's eventual acquisition of National Forest lands would occur as part of a land exchange process based on equal value of the State and Federal lands. The Department would be giving up parcels of commission-owned properties to the U.S. Forest Service (USFS) in order to acquire this land for a shooting facility. However, because land exchanges often take many years, in the interim the Forest Service will evaluate the issuance of special use

authorizations in order to begin construction. Until and if a land exchange is completed, the Forest Plan will be updated to reflect allocation to this use.

Phased Construction - The proposed shooting facilities would be constructed in an undetermined number of phases. The initial phase would include perimeter fencing, access roadways and some ranges, such as the Sight-In, Target Archery, and Field Archery Ranges. Given the existing level of interest in trap and skeet shooting in the Flagstaff area, the next facility to be constructed would be part or all of the Trap and Skeet Range. The final firearms range to be constructed in the first phase would be the Pistol Range, located adjacent to the Sight-In Range. The completion date of the first phase is dependent on funding availability. Construction of additional ranges as depicted in the total build-out concept plan (Figures 7 and 9) would be dependent on funding availability, demonstrated need, and user support.

1.4 Decision To Be Made

The CNF Supervisor is the deciding official. The decision to be made is whether or not to amend the CNF Land Management Plan (LMP) to allocate approximately 860 acres of National Forest System lands for shooting facility purposes. If the Forest Supervisor chooses an action or build alternative, approximately 860 acres of National Forest System land needed for shooting facility purposes would be identified as land potentially available for exchange out of Forest Service ownership (base-for-exchange). Designation as base-for-exchange will facilitate the ownership transfer to the Commission. A separate NEPA analysis will be conducted for the land exchange when the CNF and Commission have developed an acceptable land exchange package. The decision would also determine if issuance of interim special use authorization(s) for construction of some or all of the shooting range improvements is in the public interest.

1.5 Forest Plan Direction

The CNF's LMP Standards and Guidelines state that "Government Agencies with permanent or long-term, high investment use of Forest Land will generally be required to acquire the land for such uses as landfills, airports, and sewage facilities. Exceptions will be made only when it is clearly the overriding public interest (page 79, CNF LMP)." A shooting facility is a long-term, high investment type facility that fits this category of use and should, according to Forest Plan direction, ultimately be located on non-federal land. The proposed action is following the LMP's direction by identifying the project area as base-for-exchange, which will facilitate the transfer of ownership to the Commission.

1.6 Issues And Measures

During the scoping process, four issues were identified. These are described below along with the evaluation criteria used to measure issue resolution.

1.6.1 Noise/Sound

Description of Issue. Property owners adjacent to the proposed facility are concerned about the noise associated with the proposed facility. This noise issue reflects both the relative sound pressure level created by the shooting of firearms and the impulse (intermittent) quality or characteristics of the firearm sound created by a shooting facility. There is also concern that when multiple firearms are being shot from the various ranges, the sound level would magnify.

Evaluation Measures. National Rifle Association's (NRA) not-to-exceed maximum sound level design goal that is more restrictive than the U.S. Department of Housing and Urban Development (HUD) guidelines for residential areas.

1.6.2 Property Values

Description of Issue. Some adjacent property owners have expressed concerns that the development of a shooting facility at the proposed location would substantially reduce the value of their property because of firearm sound, safety, and health hazard concerns.

Evaluation Measures. Market analysis.

1.6.3 Public Health Hazards

Description of Issue. The potential health hazards from contamination of the surface and ground water from lead, arsenic, and antimony were expressed as concerns associated with the construction of the proposed shooting facility at the Bellemont location.

Evaluation Measures. Analysis of soil and drainage characteristics, and location's run-off potential.

1.6.4 Public Safety

Description of Issue. Operation of a shooting facility could pose public safety problems from errant bullets.

Evaluation Measures. Adherence to National Rifle Association design and operational recommendations for shooting ranges.

1.7 Project Location

The area selected for the proposed action is located within the CNF near Bellemont, Arizona, (Figure 3). It is located on the north side of Interstate 40 (I-40) and approximately 0.5 miles east of the I-40/Bellemont

Interchange located at milepost (MP) 186. The Bellemont location lies east of Forest Service Road 171 and south of Forest Service Road 222A within Township 22 North, Range 5 East, Section 25 and 36, and Township 22 North, Range 6 East, Sections 30 and 31.

1.8 Further NEPA Analysis Needed

An environmental analysis for the future land exchange proposal would be needed to identify additional information about the non-Federal exchange lands. The analysis on the non-Federal lands would incorporate information from this environmental assessment relative to the Federal exchange lands. The land exchange analysis would result in a decision on whether or not to complete a land exchange.

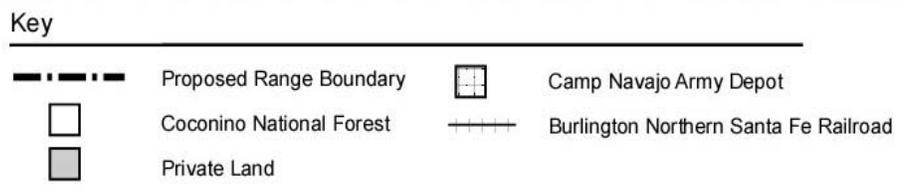
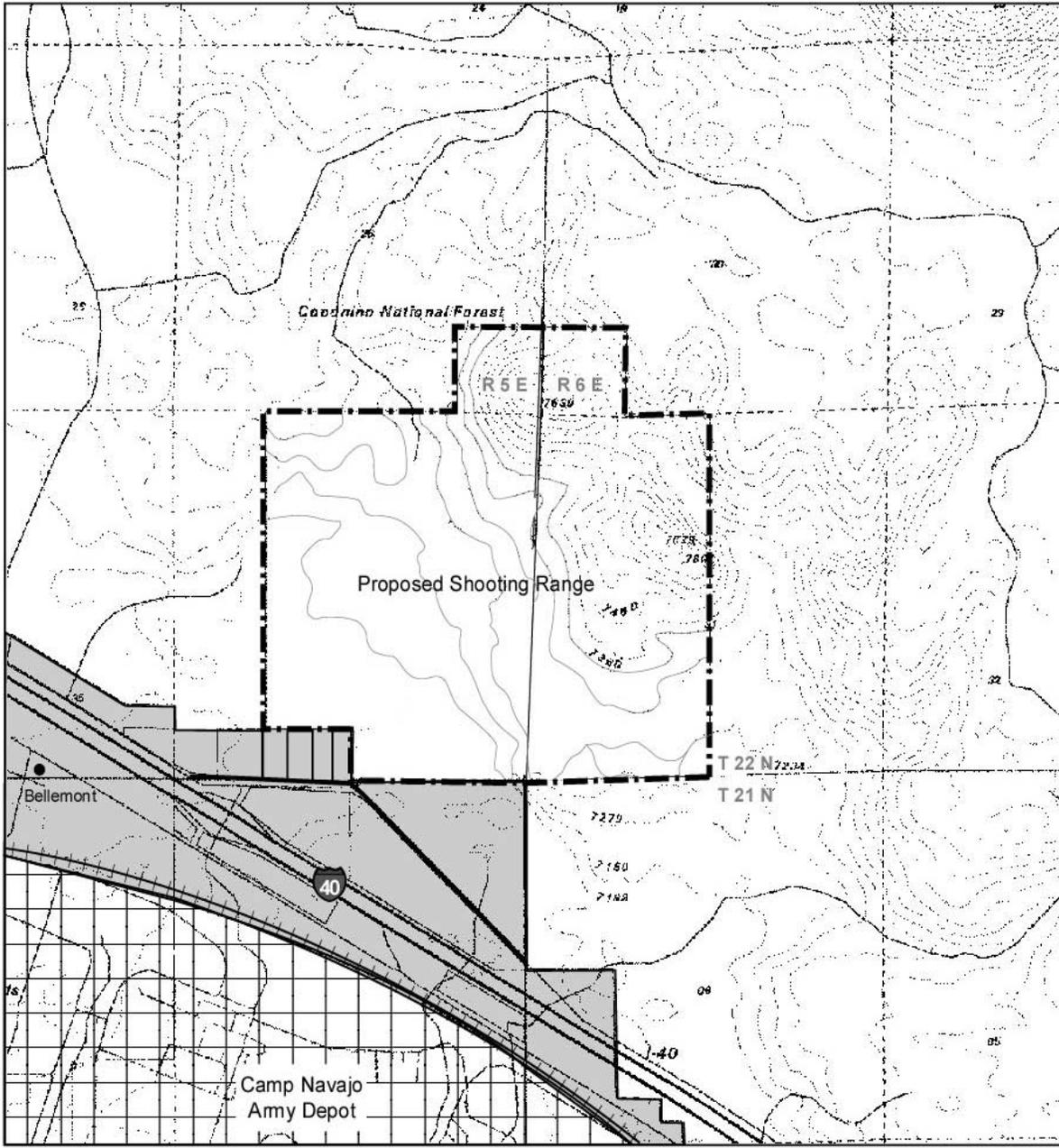


Figure 3. Belmont Site



2.0 ALTERNATIVES

2.1 Alternative Development

The Department, with assistance from the Northern Arizona Shooting Range Development Committee, has evaluated numerous potential shooting facility locations over the past five years.

Table 1 lists the criteria used to evaluate potential shooting facility locations. Each location was ranked based on these criteria. No location met all of the listed criteria. However, the criterion that the recommended shooting facility location must avoid the creation of a new inholding within National Forest land boundaries was met by the action alternatives.

Table 2. Shooting Facility Location Criteria
<ul style="list-style-type: none">• Located within 25 miles of Flagstaff• Buffer area of 0.5 miles between range locations and adjacent property.• Located on or near a major highway.• Flat terrain - north shooting direction preferred.• 100 acres minimum size.• Suitable down-range safety area.• Utilities (electricity and telephone) nearby.• Environmentally compatible and socially survivable.• No surface water within or adjacent to location.• Backstop terrain feature.• Mitigates conflicting user groups.• Consistent with Forest Plan and Forest Service Policy

State Trust Lands were not considered during the potential location selection process for two main reasons. The first one is there is not enough funding to successfully purchase lands and the second relates to the competition with other bidders. The Commission is required to purchase State Trust lands at public auction the same as any other registered auction bidder. The actual cost of a parcel would be dependent on the bidding process. There would be the possibility that another interested party could out bid the Commission during the public auction process, because the Commission establishes a price cap for parcels before the auction begins. The Commission has been involved in a previous situation where they have been outbid and not been able to acquire the property. (Gene Sturla pers. comm)

2.2 Alternatives Dropped From Detail Study

In 1995, the Northern Arizona Shooting Range Development Committee considered several initial locations, on both private and Forest Service lands, such as Camp Navajo Army Depot, Blow-out Tank, Pitman Valley,

Rogers Lake, Walker Hill, Williams, Garland Prairie, Cochrane Hill, A-1 Burn, and Bellemont. Additional information on the initial locations is available in the Project Record available at the CNF's Supervisor's office. (Project Record Document (PRD) #'s 17, 34, 37, 44)

The military was also approached about developing a public shooting facility within Camp Navajo in 1995 and 2000. Public access to the installation would be inconsistent with the National Guard's primary military mission. The establishment of additional shooting ranges would be inconsistent with the Camp's ongoing effort to clean up past lead contamination sites. Any permanent changes or improvements to the infrastructure at Camp Navajo are subject to the Department of the Army approval, who can also terminate the use of Camp Navajo as a National Guard training area. All of these reasons contributed to the denial by the Commander. (PRD #22, 524)

Three locations, Garland Prairie, Cochrane Hill, and Bellemont, were determined to have potential for development and were evaluated in further detail. (PRD #51) Garland Prairie is located within the Kaibab National Forest, adjacent to the western boundary of the Camp Navajo Army Depot. The safety zone for the Garland Prairie location would be partly within Camp Navajo. Because there would be the potential for rounds to enter Camp Navajo, which would potentially limit military use of the area, the military did not support Garland Prairie as a public shooting facility.

The Cochrane Hill location, adjacent to Leupp Road within the CNF, met the physical requirements for a suitable facility. The CNF, however, identified several significant prehistoric sites that would have been impacted if a shooting facility had been constructed at Cochrane Hill. This site was ruled out because of the adverse impact to cultural resources, the very high cost of archaeological data recovery, plus the Cochrane Hill location would also create a new inholding on National Forest lands. The third location, at Bellemont, was identified as the most feasible of the three locations evaluated in 1995.

The Commission requested in March of 1999 that the Department staff and CNF evaluate other feasible alternatives than the Bellemont location based on issues and concerns raised by adjacent landowners. In May 1999, sites were evaluated as potential shooting range facility locations sites, some of which represented a re-evaluation of sites considered in 1995 by the Northern Arizona Shooting Range Development Committee. Over the 5-year project planning period, a total of twenty-one different locations were evaluated (refer to Figure 4 and Table 2). More detailed information on these locations is available in the Project Record. (PRD #54, #300) The Commission directed the Department in May of 1999 to further investigate three of these locations, Maroon Crater, Padre North, and Pitman Valley, while continuing to examine the Bellemont location. Upon further investigation, two of the locations (Maroon Crater and Padre North) contained substantial prehistoric cultural values that made them undesirable for development as a shooting facility because of the adverse impacts to cultural resources and the very high cost of



- Key
- * Potential Range Locations
 - (---) 25 - Mile Radius from Flagstaff

Figure 4. Potential Shooting Range Locations



Table 3. Reasons for Elimination of Potential Shooting Facility Locations	
LOCATION	REASONS FOR ELIMINATION
Angell	No backstop; no utilities; drainage issues.
Blow-out Tank	No backstop; high wildlife conflicts; Forest Service inholding; no utilities.
Camp Navajo	Minimal unoccupied land; potential to compromise mission of military facility; access to a public shooting facility could be closed without warning by military commander.
Cochrane Hill	High cultural resource conflicts; Forest Service inholding, no utilities.
Garland Prairie	Wildlife and adjacent residential property conflicts; no backstop; Camp Navajo Army Depot conflict; no utilities.
Kelly Canyon Pit	No backstop; water quality issues; high wildlife conflicts; no utilities; adjacent residential property conflicts; Forest Service inholding.
Maroon Crater	High cultural resource conflicts; No utilities; potential conflict with hang gliders; adjacent residential property conflicts.
Padre	High cultural resource conflicts; limited backstop height; potential Forest Service conflicts.
Padre North	High cultural resource conflicts; no utilities; no backstop.
Pinnacle Crater	Off Highway Vehicle user conflict; Forest Service inholding.
Pitman Valley	Beyond 25-mile radius of Flagstaff; high wildlife conflicts; private landowner unwilling to sell. Forest Service inholding;
Raymond Ranch Wildlife Area	Potential access problems; no power source nearby; beyond 25-mile radius of Flagstaff; possible hunter user conflicts.
Riordan Pit	Limited shooting range capability; adjacent residential and proposed theme park land use conflicts; potential Forest Service inholding
Rogers Lake	High wildlife conflicts; potential wildlife refuge
Saddle Mountain	High wildlife and users conflicts; potential Native American sacred site; no utilities; Forest Service inholding.
Summit Pit	Forest Service in holding; within Forest Service/National Park Service proposed special management area.
Walker Hill	Access problems; Forest Service inholding.
Williams	Limited backstop height; potential lead contamination concern; location size inadequate; beyond 25-mile radius of Flagstaff.
Winona NE	High cultural issues; Forest Service inholding.
Winona Pit	No utilities; high cultural resource conflicts; Forest Service inholding.

archaeological data recovery. The third location, Pitman Valley, is currently an 80-acre privately owned inholding surrounded by the Kaibab National Forest. Kaibab National Forest lands would be needed for an additional safety zone. The Pitman Valley location was eliminated from further consideration because the private landowner indicated that they had no interest in selling their property. (PRD # 301) National Forest lands adjacent to the private land were also examined. However, biological resources near the location were determined to be incompatible with shooting facility activities. (PRD # 309)

Based on this additional location evaluation, the Bellemont area was again identified as the most feasible location for a shooting facility. The Department evaluated various placements of ranges within the Bellemont location and determined that the northeastern portion of the Bellemont location would provide a greater level of safety because of surrounding topographic features, avoid cultural resource sites, and mitigate grazing permit issues than the western portion of the location.

A preliminary conceptual plan of the proposed shooting facility at the Bellemont location (representing the proposed action) accompanied the September 1998 scoping letter (Figure 5). The letter described a conceptual plan displaying the facilities the Department envisioned. The exact location of the ranges and other support facilities changed. During the analysis process, 1998 preliminary conceptual plan evolved into the two action alternatives evaluated in this document and the 1998 concept was dropped from further analysis.

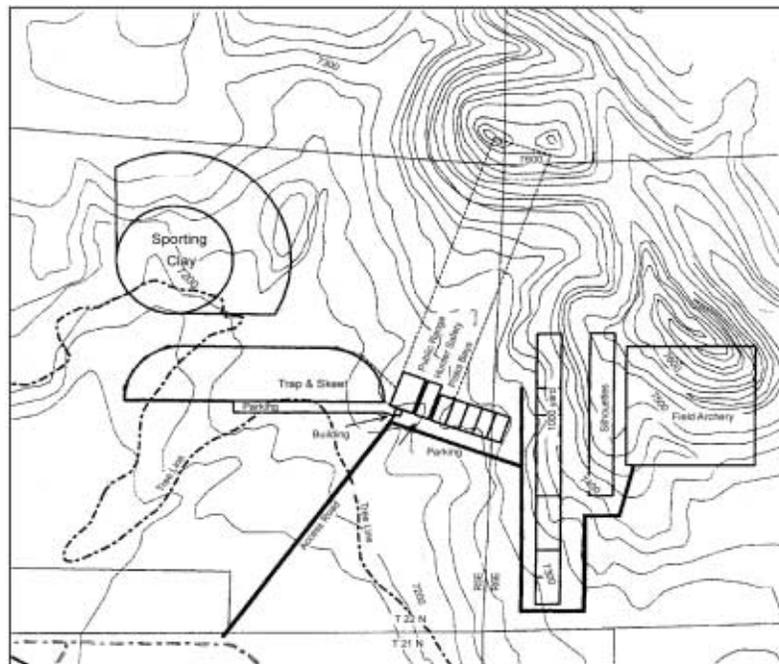


Figure 5. 1998 Preliminary Conceptual Plan



2.3 Alternatives Considered In Detail

The no action alternative and two action alternatives for the Bellemont location are considered in detail. These alternatives are described below.

2.3.1 Alternative A

In Alternative A, no action would be taken by the Forest Service to provide a formal public shooting facility in northern Arizona at this time. The shooting public and law enforcement agencies would continue to travel to cities that have shooting facilities, use local cinder pits, or use dispersed public lands in the Flagstaff vicinity. This alternative would not address safety issues related to dispersed and unregulated shooting occurring in and around Flagstaff, nor would it address the expressed public desire for a range.

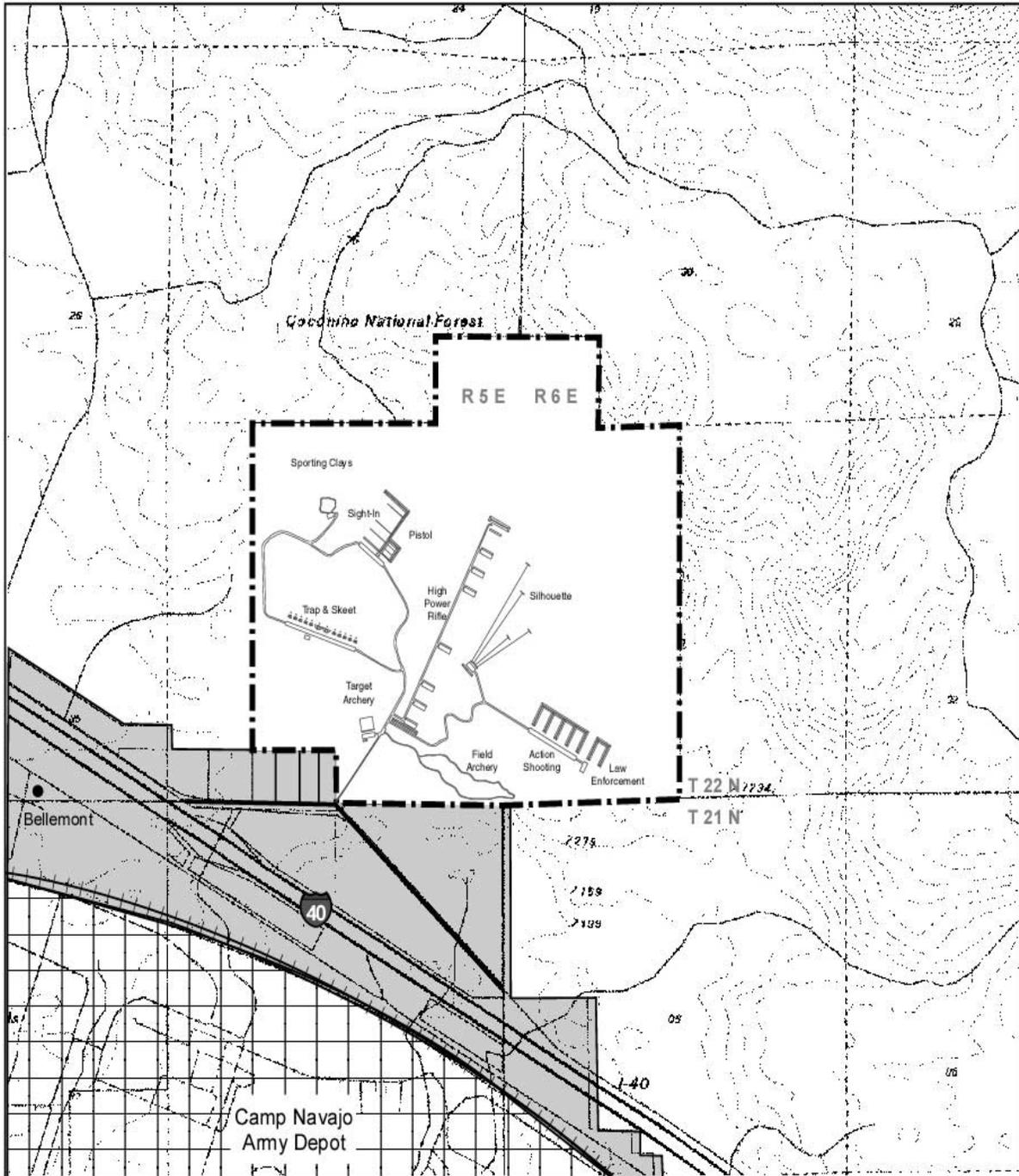
2.3.2 Alternative B

Alternative B would involve the construction, maintenance, and operation of a public shooting facility on approximately 860 acres. Shooting facilities at full build-out would ultimately include the following:

- Sight-In
- Trap and Skeet
- Pistol
- Target Archery
- Field Archery
- Silhouette
- 1,000-yard High Power Rifle
- Action Shooting
- Law Enforcement
- Sporting Clays

A caretaker's residence, storage buildings, parking areas, restrooms, and water tanks would also be developed. Approximately 76 acres of forested land would be cleared for the facilities. The shooting facility hours of operation are currently planned for seven days per week from 7:00 a.m. to sunset. However, night shoots may occur a maximum of two nights per week and would end by 10:00 p.m. Weather conditions, daylight, level of range use, or range administration limitations may reduce the planned hours.

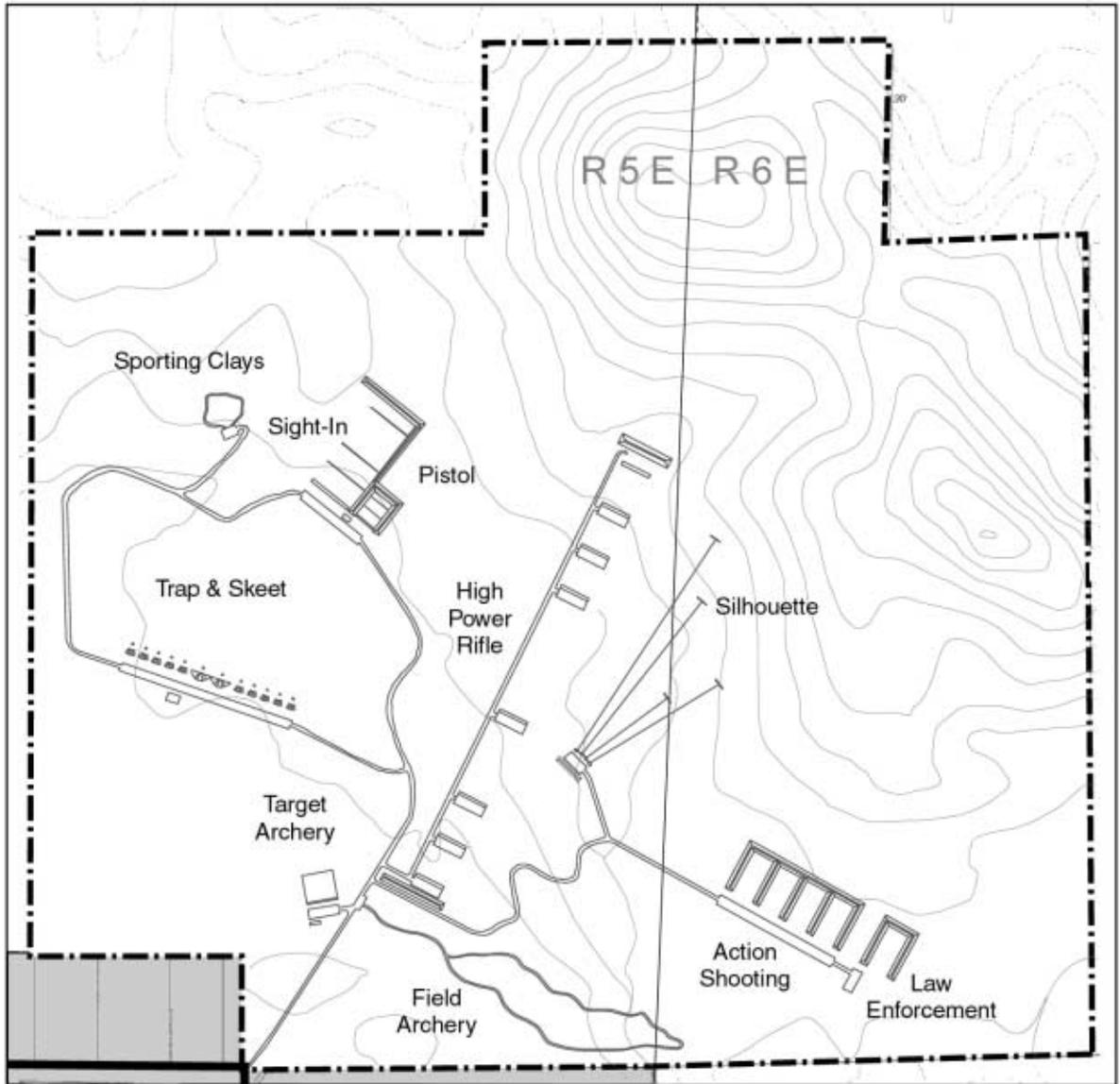
Access to the facility would be from the south. The precise location is dependent on a land survey to identify which parties the Department would need to acquire easements from. It appears that access will be possible from the Coconino County frontage road (old Route 66 adjacent to I-40) across USFS land to the shooting facility. However, the exact location of the frontage road within the right-of-way has not been determined. Should a survey indicate there is insufficient space for an access road, adjacent private property landowners have shown a willingness to provide access across their land. (PRD# 559) The entire shooting facility would be fenced with boundary and internal fences for safety. Gates would be placed in the peripheral fence to allow for livestock to cross the southern portion of the facility. Figures 6 and 7 illustrate the conceptual layout of this alternative's facilities, and the relationship to I-40 and adjacent private land parcels.



Key

- | | | | |
|---|--------------------------|---|---------------------------------------|
|  | Proposed Range Boundary |  | Camp Navajo Army Depot |
|  | Coconino National Forest |  | Burlington Northern Santa Fe Railroad |
|  | Private Land | | |

6. Alternative B Site Location



Key

-  Proposed Range Boundary
-  Coconino National Forest
-  Private Land

Figure 7. Alternative B. Conceptual Range Layout



2.3.3 Alternative C

Alternative C would also involve the construction, maintenance, and operation of an approximately 860-acre public shooting facility. This alternative was developed to address adjacent landowner concerns with sound/noise. In summary, some shooting activities were moved further away from private land and one range was shortened. The Law Enforcement Range is eliminated as a separate range. Law enforcement training would occur at the Pistol and/or Action Shooting Ranges that are located adjacent to the Sight-In Range. Firearm activities associated with the Action Shooting Range would be located 0.6 miles from the nearest potential residential private property as compared to 0.1 mile in Alternative B. Another difference between Alternative B and Alternative C is that the length of the High Power Rifle Range would be 600 yards instead of 1,000 yards. The shortening of the High Power Rifle Range moved the firing line to 0.4 miles from the nearest potential residential private land. Field and Target Archery Ranges are located near private property. Other differences are noted in Table 3. Approximately 55 acres of forested land would be cleared for the Alternative C facilities. Figures 8 and 9 illustrate the conceptual layout of this alternative's facilities and relationship to I-40 and adjacent private land parcels.

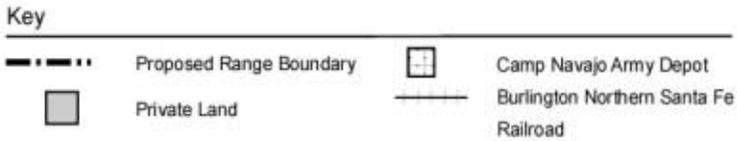
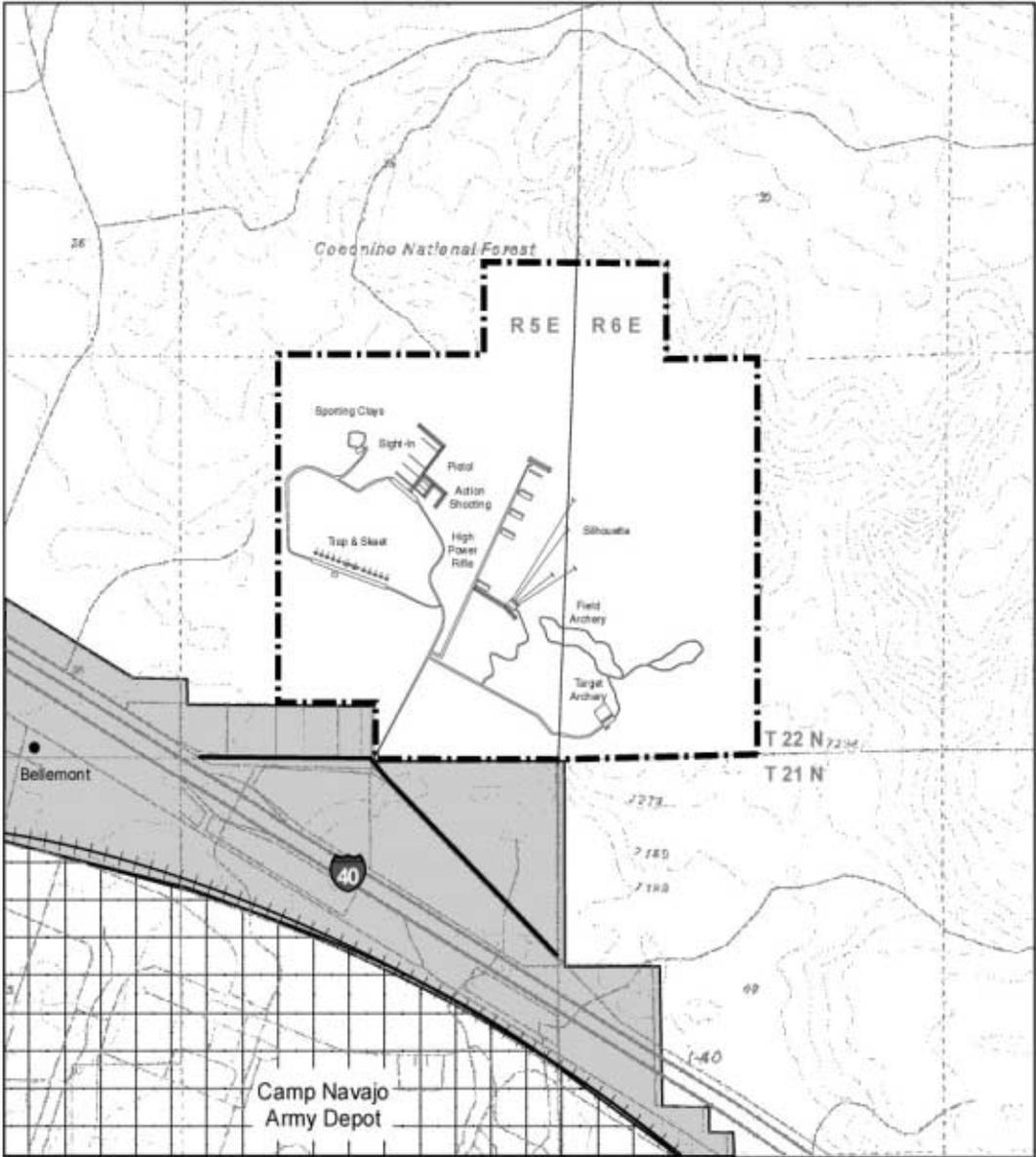
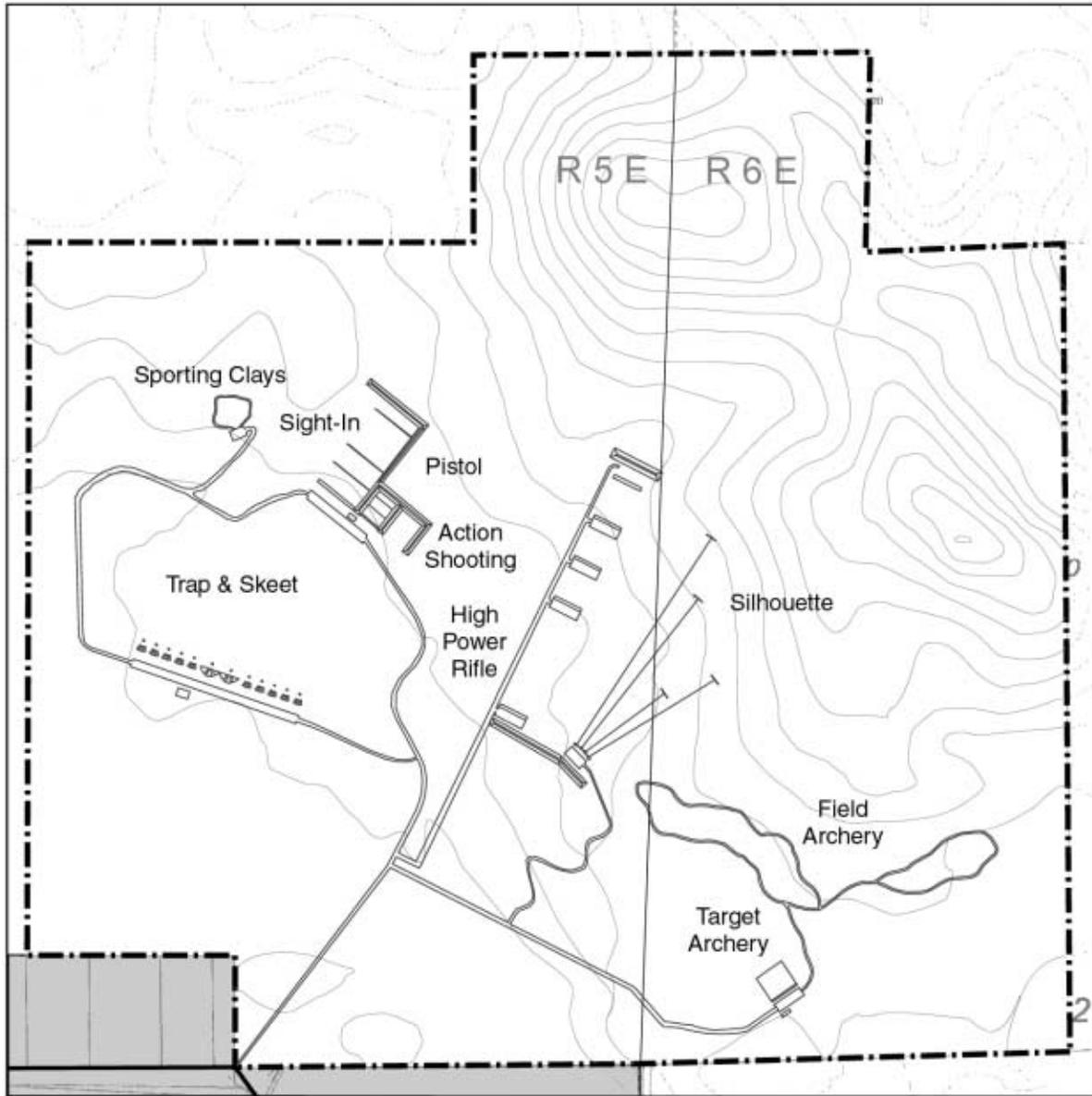


Figure 8. Alternative C Site Location





Key

-  Proposed Range Boundary
-  Coconino National Forest
-  Private Land

Figure 9. Alternative C Conceptual Range Layout



Table 3. Alternatives B and C Facility Comparison		
Range Type	Alternative B	Alternative C
Sight-in Range*	50 shooting positions. Located north of Trap & Skeet Range. 10-foot interior berms and 20-foot backstop. 0.7 miles from residentially zoned private property.	Same as Alternative B.
Trap and Skeet Range †*	Located approximately 0.4 mile North of residentially zoned private property. View of range partially obscured by trees. Shooting positions consists of 12 trap fields, 2 of which are combination trap or skeet fields.	Same as Alternative B.
Pistol Range*	Range with 20-foot earth backstops and 20-foot side berms to allow for use as combination Pistol/Law Enforcement/Action Shooting Range until separate ranges are constructed. Estimated 0.6 mile northeast of residentially zoned private property. 25 shooting positions.	Same as Alternative B except the Pistol Range would be used for Law Enforcement training indefinitely. Estimated 0.6 mile northeast of residentially zoned private property. Same number of shooting positions as Alternative B. High level of administrative scheduling.
Target Archery Range*	Located south of Trap and Skeet Range and 0.2 miles from residentially zoned private property. 20 shooting positions.	Located South of Field Archery Range (estimated 0.05 mile northeast of residentially zoned private property) Same number of shooting positions as Alternative B.
Field Archery Range*	Located south of Silhouette Range. 0.2 miles from residentially zoned private property. 10 shooting positions.	Located east of Silhouette Range (same area used for Action Shooting and Law Enforcement in Alternative B). 0.1 miles from residentially zoned private property. 20 shooting positions.
Silhouette Range	East of High Power Rifle Range. Estimated 0.3 mile northeast of residentially zoned private property. 20-foot tall backstop berms behind each range and a 12-foot sound reduction berm. 12 shooting positions.	Same as Alternative B.
High Power Rifle Range	1000-yard shooting length with 12-foot tall sound reduction berm and 20-foot earth backstop. Estimated 0.2 mile north of residentially zoned private property. 25 shooting positions.	600-yard shooting length with same sound reduction and earth backstop as Alternative B. Estimated 0.4 mile north of residentially zoned private property. Same number of shooting positions as Alternative B.
Action Shooting Range	Four Action Shooting Bays located southeast of the Silhouette Range with 20-foot earth backstops on three sides. Estimated 0.1 mile northeast of residentially zoned private property. 4 shooting bays.	One Action Shooting Bay with 20-foot earth backstops on three sides. Located adjacent to the Pistol Range. Estimated 0.6 miles north of residentially zoned private property. One shooting bay. Used for Law Enforcement Training indefinitely. High level of administrative scheduling.
Law Enforcement Range	Located east of Action Shooting Range. Estimated 0.1 mile northeast of residentially zoned private property. 15 shooting positions.	Law Enforcement Range eliminated. Law Enforcement training would occur at the Action and Pistol Range.
Sporting Clays Range	Located north of Trap and Skeet Range. 0.8 miles from residentially zoned private property. 8 shooting positions.	Same as Alternative B.

† = The Trap and Skeet Range would be a multi-purpose range, and Trap events would not occur simultaneously on the same field as Skeet events.

* = Proposed for Phase I construction for both alternatives.

2.4 Design Features Considered But Not Included In The Action Alternatives

Over the years an array of design methods and construction materials have been developed to improve the health and safety of the shooting range environment. In most cases, these features are dependent on the type of range being built, geographic location, topographic features and economic considerations. The proposed Belmont Shooting Facility would incorporate the best available range design technologies consistent with their appropriate application, function, and economic feasibility as they relate to this particular location. The following elements were considered but not included in the design.

2.4.1 Shooting Sheds/Firing Line Covers

Safety - Shooting sheds are designed to restrict the angles at which a shooter may fire, reducing the chance for stray bullets. Shooting sheds increase the health risk of lead exposure to shooters and range personnel from breathing stagnant air at the firing lines and typically require mechanical cross ventilation to move the air. Shooting sheds exacerbate the sound pressures experienced by the shooter. With appropriate administrative and operational procedures, along with optimizing range orientations that direct shooting away from populated areas and toward higher terrain, and the construction of safety berms, shooting sheds would likely add little to public safety at this location.

Sound – Shooting sheds and firing line covers may also be designed to attenuate sound. With the appropriate structure design and insulation sounds created by the discharging of firearms may be reduced. Firing line covers are planned for the Sight-in and the Pistol Ranges. Other ranges are not currently planned for such covers because shooters using those ranges are at various shooting positions.

2.4.2 Overhead Safety Baffles

Overhead safety baffles are used specifically for projectile containment in the target area and are usually implemented in ranges at which there is an extremely limited safety zone. They function by not allowing a projectile to escape at an angle greater than that necessary to hit the backstop. The selection criteria for a shooting facility in Northern Arizona emphasized geographic and topographic features that would eliminate the necessity for overhead baffles. Range orientations at the proposed shooting facility would optimize two hillside features in addition to earthen backstops to contain fired projectiles. These hillsides would be included in the proposed land exchange.

2.4.3 Barrier/Berms/Walls

The construction of barriers, berms, or walls surrounding this facility was not seriously considered. The shooting range facility location, orientation of the individual ranges, and large acreage of the facility all are factors to help ameliorate safety and noise concerns for adjacent land owners. Sound berms will be built to

the south of the two firearm ranges closest to private land, the High Power Rifle and Silhouette Ranges. The construction of sound barriers needs to be close to the source of the sound in order to affect the greatest amount of sound attenuation.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the present conditions within the proposed location and presents the potential changes that can be expected from implementing the alternatives. The alternatives include Alternative A, no action, and Alternatives B and C, the two action alternatives. Descriptions of the existing biological resources, visual quality, water resources, cultural resources, soils, air, recreation, livestock management, and dispersed shooting activities are provided to establish baseline conditions for evaluating the environmental consequences of the alternatives. In addition, the environmental consequences of the four issues (noise/sound, property values, health hazards, and safety) that were identified during the scoping process are addressed for each alternative.

3.1 Noise/Sound

Affected Environment. The NRA Range Source Book recognizes that noise complaints may occur when residences are within one-half mile of a range that does not incorporate sound suppression devices. Our experience is that some nearby residents complain about noise/sound from a shooting facility. Concern was expressed during the scoping process, that when multiple firearms are being shot from the various ranges, the sound level would magnify or increase. The multiple firing of firearms at the various ranges would increase the duration of the sound, not the loudness of the sound.

At the Sabino Canyon Shooting Range on the Coronado National Forest there have been some complaints about noise. Residents are within 0.13 to 0.25 mile of the actual firing line. Landowners of currently zoned residential property located near this proposed shooting facility have expressed similar concerns regarding this proposal. Currently the closest residences to the proposed firearms activities are employee trailers located at the Bellemont truck stop, approximately 0.4 mile southwest of the proposed Trap and Skeet Range firing line in both Alternatives B and C. Residentially zoned property is located adjacent to the southern boundary of the proposed range facility. The current owner has indicated his intent to develop residential housing on this location.

Sound is technically defined as the variation or change in atmospheric pressure. Noise is unwanted sound and has a connotation of unpleasantness. The determination of what sounds are considered to be noise is a personal judgment of annoyance based on the intensity, duration, time of day, and number of times the event takes place. Sound measurements are based on sound pressure levels expressed in decibel units.

A higher decibel level of sound generally correlates with people's judgment of the annoyance of the sound. Table 4 indicates the decibel range for common sounds. Noise concerns as expressed in the scoping process relate to the potential loudness as well as the impulse characteristics of the sound created by firearms.

Table 4. Typical Sound Levels	
SOUND	LEVEL

Major generators of sound in the vicinity of the proposed location include I-40, the Burlington Northern Santa Fe Railroad line, the Bellemont Truck Stop, and the Camp Navajo Army Depot. The average daily traffic volumes on this segment of I-40 in 1997 were 12,559 vehicles, with 23% truck traffic based on information from the Arizona Department of Transportation. The projected traffic volumes for the year 2012 are estimated to be 20,222 vehicles with the same percentage of truck traffic. Medium and heavy trucks generate sound levels ranging from 84 to 88 dBA¹ (based on the measure of the sound 50 feet away from the source). Train traffic generates sound levels ranging from 88 to 98 dBA measured 50 feet from the source. According to the Burlington Northern Santa Fe Railroad, a minimum of 100 trains crosses the Bellemont Train Station daily. (PRD# 562.1)

Camp Navajo Army Depot's facilities include a firing range and an aircraft (helicopter) area. Use of the facilities is primarily during the summer months (June through October). Their firing range is located in the northwestern area of Camp Navajo within 3.5 miles of the Bellemont location and is used for small arms. Firearms are limited to those under .50 caliber. Up to 100 helicopters enter and exit the aircraft area over a 30-day period during the year. Each helicopter has a total air space time of approximately three minutes over the facility. Helicopters generate sound levels from 65 to 92 dBA at 500 feet from the source.

1 - dBA refers to the sound levels measured in decibels on the A-scale of a sound meter. A-weighting of decibels is related to how the human ear responds to

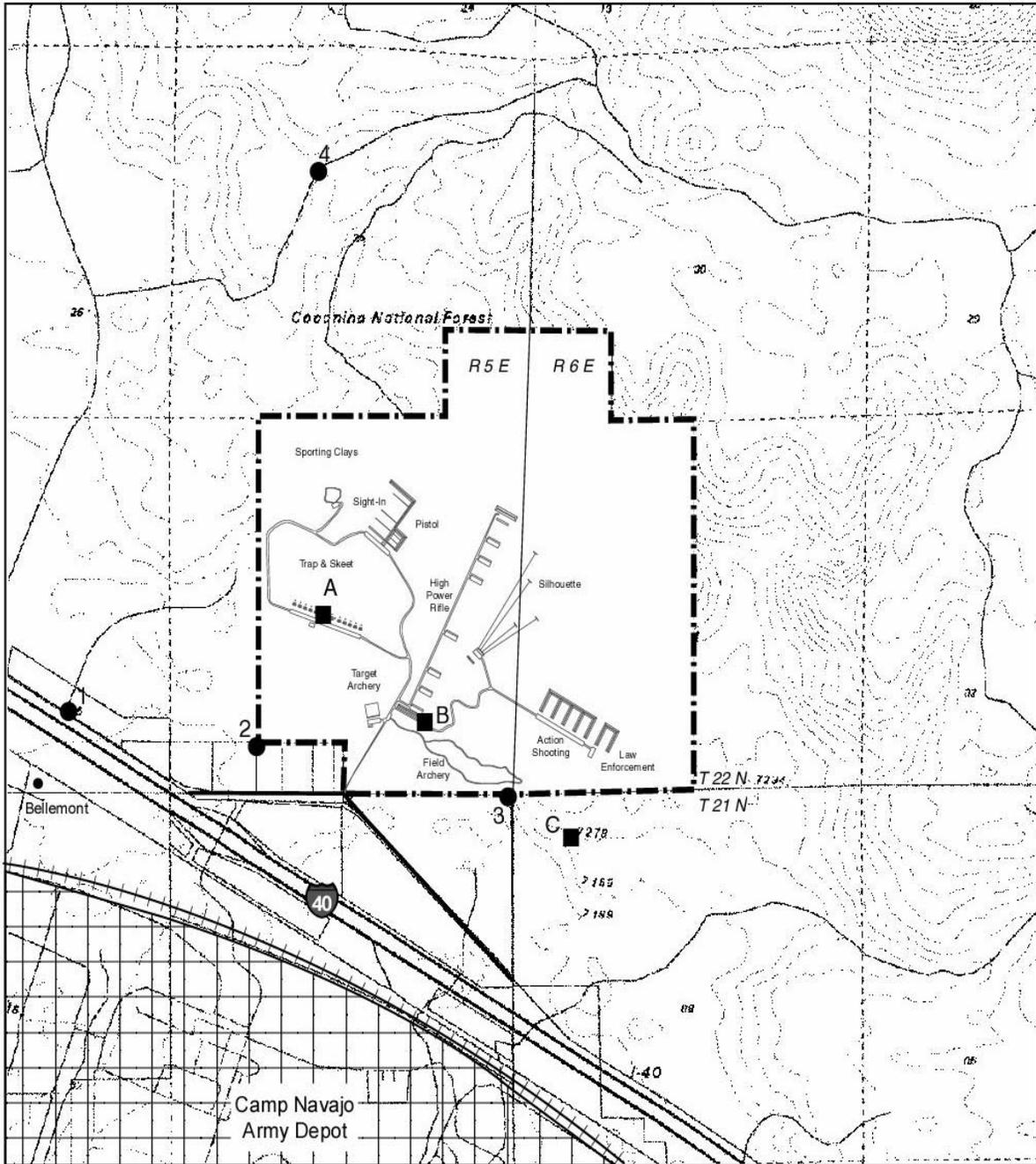
Explosive detonations are restricted to “Emergency Detonations Only.” Since 1996, the explosive detonations at the base have been limited to five pounds net weight.

There are no Coconino County, State of Arizona, or nationally recognized sound regulations that apply to shooting facilities. The NRA uses a not-to-exceed maximum sound level design goal of 65 dBA measured with “fast” response² for shooting facilities. The HUD standard for residential areas is 65 dBA that is based on a day-night average sound level measured on “slow” response. The NRA design goal is more restrictive for two reasons: (1) a day-night average would give a lower decibel value since the shooting facility would not be open 24 hours a day; and (2) “fast” response measurements more accurately records the impulse type sound levels generated by firearms.

A sound analysis was undertaken in December 1998 to measure sound pressure levels at four different locations from three different firearm firing locations from firearms that may be typically used at the proposed ranges (refer to Figure 10 and Table 5). The firing locations approximate the initial location of firing lines (Figure 5) at the three ranges closest to private land. The firearm fired from Firing Location A was the 12 gauge, 30 inch barrel shotgun. From Firing Location B, the .30-'06 Springfield rifle, 7mm Remington Magnum rifle, and .50 caliber Browning Machine Gun were fired. The .44 Remington Magnum pistol, 12 gauge 18-inch barrel shotgun, and .50 caliber muzzle loading rifle were fired from Firing Location C.

different frequencies.

2 - A “fast” response refers to the number of readings per second taken by the sound level meter. If the sound level meter is set at the “slow” response measurement, one reading per second is taken. At the “fast” response setting, eight readings per second are taken. The “fast” response more accurately records the level of sound created by impulse type sources such as the shooting of firearms.



Key

- | | | | |
|--|--------------------------|--|---------------------------------------|
| | Proposed Range Boundary | | Camp Navajo Army Depot |
| | Firearm Firing Location | | Burlington Northern Santa Fe Railroad |
| | Sound Measuring Location | | |

Figure 10. Sound Measuring Locations in Relation to Alternative B



Table 5. Sound Analysis					
Sound Measuring Location	Typical Ambient Sound Level	Maximum Ambient Sound Level	Firearm Type*	Firing Location	Sound Level Maximum dBA
1	59 - 62 dBA	71 dBA			
2	50 - 53 dBA	--			
3	46 - 49 dBA	63 dBA			
4	36-37 dBA	59 dBA			

*Note: Firearm #1: 12 gauge 30 inch barrel shotgun
 Firearm #2: .30-'06 Springfield rifle
 Firearm #3: 7mm Remington Magnum rifle
 Firearm #4: .50 Browning Machine Gun
 Firearm #5: .44 Remington Magnum pistol
 Firearm #6: 12 gauge 18-inch barrel shotgun
 Firearm #7: .50 caliber muzzle loading rifle

Environmental Consequences - Alternative A. The sound levels generated adjacent to the proposed location would increase if the I-40 traffic volumes, train frequency, and activities at Camp Navajo increase. Future development of the private lands adjacent to the proposed Bellemont location may also increase sound levels. The sound generated from the interstate and railway would also continue during nighttime hours (10:00 p.m. to 7:00 a.m.) when people are generally more annoyed by noise.

Environmental Consequences - Alternative B. All sound level measurements from the various firing locations in Alternative B were below the NRA sound goal (and HUD standard for a residential housing environment) of 65 dBA except for the .50 caliber Browning Machine Gun fired from Firing Location B, measured at Sound Measuring Location #3. The sound levels from the seven firearms were either barely audible or not audible at sound measuring location 1. At Sound Measuring Location #2, only the .50 caliber Browning Machine Gun was clearly heard (59 dBA); the other firearms were either barely audible or not audible from this location. At Sound Measuring Location #3, all firearms were clearly heard but only the .50 caliber Browning Machine Gun exceeded the NRA sound level goal. At Sound Measuring Location #3, the machine gun was recorded at 68 dBA, or three decibels³ above the NRA sound level goal. At Sound Measuring location #4, the sounds from the firearms discharged from Firing Locations A and B were audible yet below the NRA sound goal, and those fired from Firing Location C were barely audible.

The impulse (intermittent) type sound characteristic of firearms would be audible at Sound Measuring Location #2 from Firing Location C from the .50 caliber Browning Machine Gun, at Sound Measuring Location #3 from all firing positions and firearms, and at Sound Measuring Location #4 from Firing Locations A and B. However, from Sound Measuring Location #1, Sound Measuring Location #2 (except for the .50 caliber Browning Machine Gun), and Sound Measuring Location #4 from Firing Location C, the impulse sound from the shooting activities would be either not audible or barely audible.

A 12-foot berm would be constructed behind the High Power Rifle Range that would reduce the sound level from 68 dBA to 63.5, below the NRA sound goal for all firearms. Unlike the continuous noise created by the interstate and railway throughout the day and night time, the hours of operation of the proposed Bellemont Shooting Facility is currently planned to be between 7:00 a.m. to sunset, seven days a week. However, night shoots may occur a maximum of two nights per week and would end by 10:00 p.m. It is expected that night shoots would not be held at the Field Archery Range, Silhouette Range, High Power Rifle Range, or Sporting Clays Range. The closest firearm shooting ranges to potential residential private property in Alternative B are the Law Enforcement and Action Shooting Ranges at 0.1 miles north.

3 - A one-decibel sound pressure level change is almost imperceptible. A three-decibel sound pressure level change is classified as just perceptible. A five-decibel change is considered clearly noticeable.

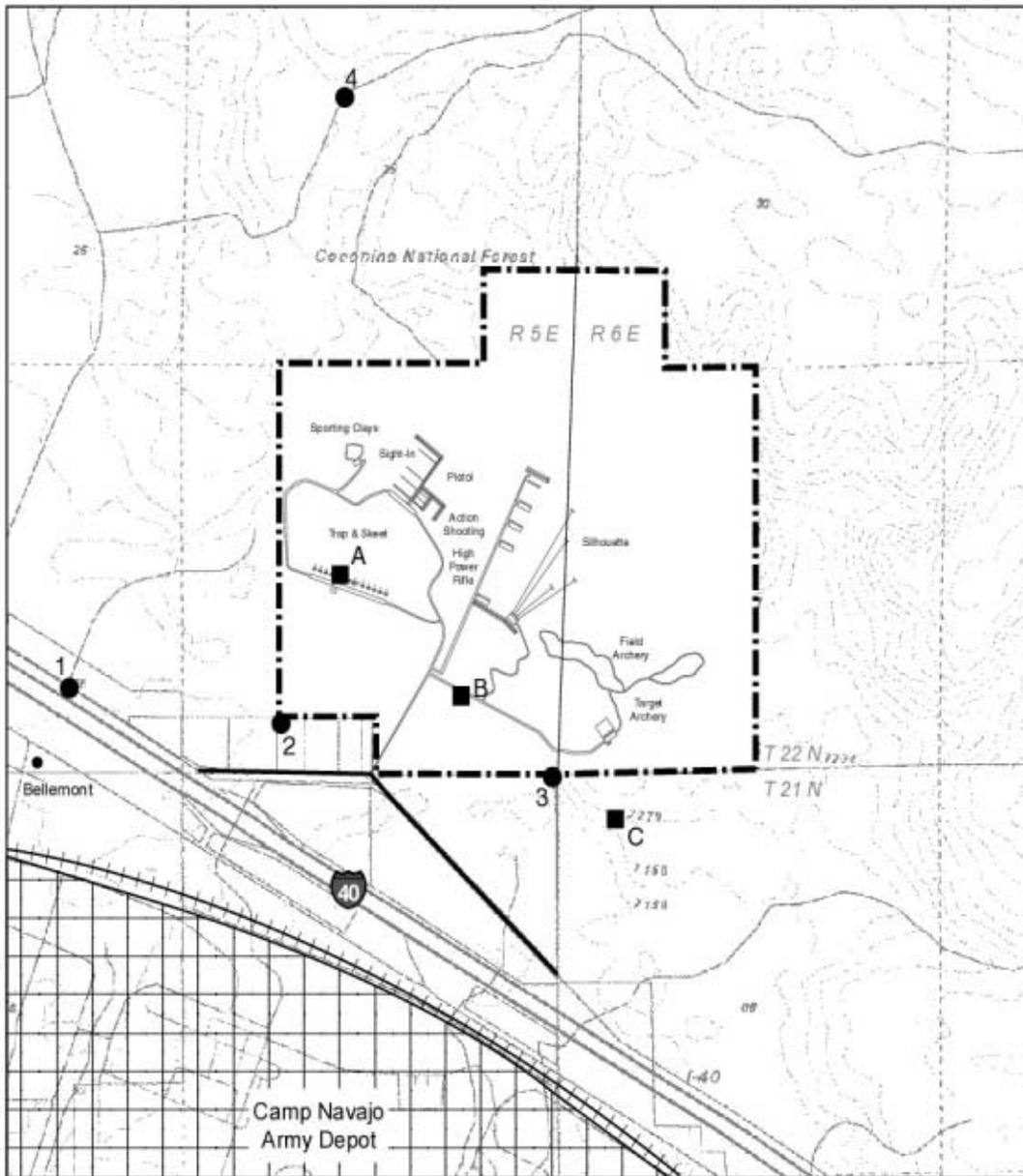
The nearest firearms shooting activities for Alternative B (and C) would be approximately 0.4 mile (approximately 2,100 feet) from the nearest existing residential housing. For Alternative B the nearest firearms shooting activities from adjacent residentially zoned property would be located approximately 430 feet away

Explosives would be used during the construction of the proposed shooting range facility to heave and crack rock that heavy equipment could not move. Low velocity explosives would be used which would produce a muffled “thump” sound. There would be no need to notify existing property owners because the sound level would be low and the location of the earth-moving activity would be more than a 0.5-mile from existing occupied buildings.

Environmental Consequences - Alternative C. Moving the High Power Rifle and Action Shooting firing positions away from potential residential zoned property would provide an additional buffer area from firearms activities. In Alternative C, the High Power Rifle Range would be shortened by 400 yards, which would move the firing line approximately 0.2 miles further north of the nearest potential residential private property and would result in a sound reading of 65.7 dBA for the .50 caliber Browning Machine Gun (refer to Figure 11). The Action Shooting Range would be moved to approximately 0.6 miles northeast of the nearest private property potentially zoned residential as compared to 0.1 mile in Alternative B.

With the exception of the .50 caliber Browning Machine Gun, all firearms sound levels would fall below the 65 decibel NRA sound goal in Alternative C. Although sound readings for the .50 caliber Browning Machine Gun would be lower in this alternative (65.7 dBA from a 68 dBA level in Alternative B), firing of this firearm would still exceed NRA sound goal by 0.7 dBA. To mitigate sound for both action alternatives, a 12-foot berm would be constructed at the High Power Rifle Range. The sound for Alternative C would be reduced from 65.7 dBA to 62.7 dBA at the perimeter of the proposed location, which would be below the NRA sound goal for all firearms. For Alternative B the sound would be reduced from 68 dBA to 63.5 dBA. There is no perceptible difference between Alternative B and C because the less than 1 dBA difference between Alternative B sound level at 63.5 dBA and Alternative C’s level at 62.7 dBA is classified as “almost imperceptible”. (PRD#’s 211, 424, 539)

In comparison to Alternative B, the impulse sound would be heard from Firing Location A at all sound measuring locations in Alternative C. There would be no change from Alternative B in terms of audible impulse sound heard from the listening locations. Firing Location C was not relevant in Alternative C because the Action Shooting Range would be moved north of the High Power Rifle Range and the archery ranges would be located in this portion of the facility. The closest firearm shooting ranges to potential residential private property in Alternative C is the Silhouette Range at about 0.3 miles north and the High Power Rifle and Trap and Skeet Ranges at approximately 0.4 miles north.



Key

- Proposed Range Boundary
- Camp Navajo Army Depot
- A Firearm Firing Location
- Burlington Northern Santa Fe Railroad
- 1 Sound Measuring Location

Figure 11. Sound Measuring Locations in Relation to Alternative C



3.2 Property Values/Land Use/Zoning

Affected Environment. The proposed shooting facility lies within an unincorporated area of Coconino County. Existing adjacent land uses south and west of the potential facility include commercial (Bellemont Truck Stop and Restaurant), transportation corridors (I-40 and Northern Burlington Santa Fe Railroad), and military (Camp Navajo Army Depot) uses. The only existing residential uses nearby are two employee mobile homes at the Bellemont Truck Stop and approximately 10 residences at the Haven of Rest Mobile Home Park. Within a 0.5-mile of the proposed shooting facility there are 12 private parcels and nine different property owners.

According to the Draft Flagstaff Area Regional Land Use and Transportation Plan (November 1999), part of the proposed facility lies outside the Bellemont Rural Growth Boundaries (RGB). The RGB establishes lands in unincorporated areas of the county that are suitable for rural development. According to the County, the boundaries of the RGB have since been revised to include the current boundaries of the proposed shooting facility.

The current Land Use Plan for the adjacent non-forest service lands are shown in Figure 12 is based on the Coconino County's Bellemont Area Plan. Current County zoning for the adjacent private lands are commercial heavy (CH-10000), multiple family residential (RM-10/A), and general (G). Since the adoption of the Bellemont Area Plan in the mid-1980's, the area has been zoned to Planned Community; which allows for more site-specific land uses, such as residential (maximum density of ten units per acre), mobile home park, commercial, and industrial. The Bellemont Area Plan states that significant residential development using septic systems is not recommended due to soil limitations, specifically high shrink-swell potential and slow permeability rate.

The proposed public shooting facility lies within Zone II of the established Astronomical Zones according to the Coconino County lighting requirements. Zone II encompasses all areas more than 2.5 miles yet less than 7 miles from the Lowell Observatory on Anderson Mesa and the U.S. Naval Observatory, and Riordan Crater.

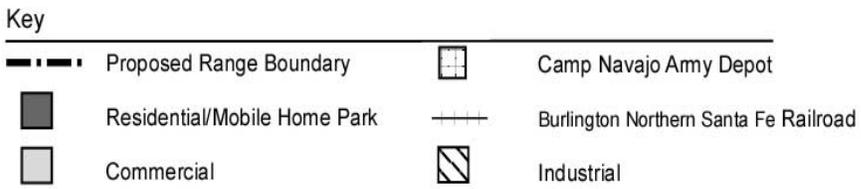
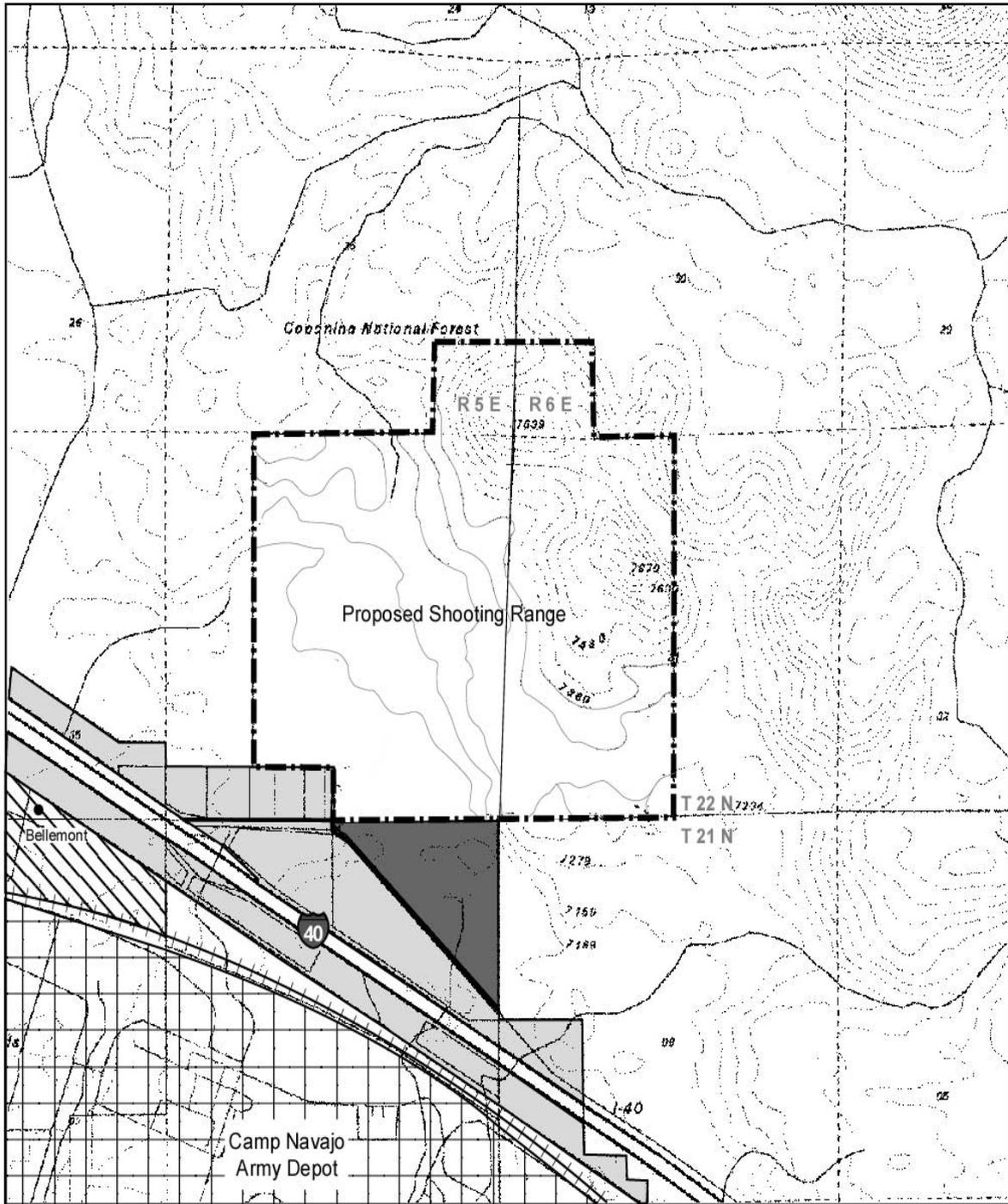


Figure 12 Belmont Area Plan Proposed Land Use

Environmental Consequences - Alternative A. In the No Action Alternative and in accordance with the Coconino County's Bellemont Area Plan, land would develop primarily as a commercial area with some possible residential/mobile home park uses. Problems associated with the use of standard septic systems in this area would require the installation and use of alternative effluent disposal systems for any development.

Environmental Consequences - Alternatives B and C. A market analysis was completed in June 2000 to evaluate the potential changes in property market values that may result from the construction of a shooting facility at the Bellemont location. A comparison was made between sales of property located near or adjacent to outdoor shooting facilities with the sale of similar properties located away from these facilities. The market analysis concluded that all things considered, the proposed shooting facility would not likely have an adverse impact on the market value of the adjacent private property. (PRD# 532) A review by the USFS Arizona Zone Appraiser affirmed the methods and conclusions of the market analysis. (PRD# 541)

The proposed shooting facility would conform to all relevant Coconino County ordinances including lighting, signage, access, and run-off and sedimentation control requirements. The proposed shooting facility would meet the Astronomical Zone II lighting restrictions even though the facility would be classified as an outdoor recreation facility and not subject to the 50,000 lumens per net acre limitations of the ordinance. The facility would not be open after 10:00 p.m. and would therefore meet the Zone II requirements of no illumination after 11:00 p.m. Lights at the caretaker's residence and for security purposes would meet Zone II requirements through lumen restrictions, filters, and/or shields as necessary.

3.3 Health Hazards

Affected Environment. During the scoping process, concerns were expressed regarding the potential contamination of surface and ground water from lead, arsenic, and antimony from bullets and petrochemicals from clay target debris. There is no designated 100-year floodplain or high water table within the boundaries the proposed location according to the County's Bellemont Area Plan. Depth to ground water is 20 feet or greater below the surface. The County has identified a portion of the proposed shooting facility as subject to periodic ponding and flooding. During soil testing completed in August of 1998, the ambient concentration of lead was found to be very low, and there was no detection of ambient arsenic.

There are four movement pathways whereby lead deposited on firing ranges may cause a risk to human health. These pathways are:

- as airborne dirt particles
- as waterborne particulates in storm runoff
- in solution in storm runoff
- in solution in ground water. (PRD# 573)

If significant concentrations of lead or arsenic reach ground water that is consumed by people, then a variety of health problems could occur. Airborne lead may be a result of the shooting activity itself, or may settle on the soil in the firing areas and be later transported by wind and dust movement. Lead may be inhaled or ingested from contaminated surfaces. Lead in the body can cause serious damage the brain and peripheral nervous system, the cardiovascular system, and the kidneys. Exposure to high concentrations of lead can cause retardation, convulsions, coma, and sometimes death. Children under the age of 6 are especially susceptible to lead poisoning due to neurological development during these years. Even low levels are known to slow a child's normal development and cause learning and behavioral problems. Other investigations report long-lasting impacts on children's intelligence, motor control, hearing, and emotional development. (PRD #s 568, 569.1, 571)

The four major factors influencing the movement of particulate or dissolved lead through soil media are intensity and frequency of rainfall, soil pH, soil permeability, and soil type (classification). According to *Lead Mobility at Shooting Ranges*⁴, studies published to date indicate a general lack of lead mobility under most environmental conditions. In portions of the eastern United States which experience high rainfall (frequently measured in feet) and which have acidic, sandy soils, low in organic matter, lead movement can amount to several inches per year. However, experience at shooting facilities in locations with relatively low rainfall (all of Arizona), and neutral to alkaline clay soils, shows that lead has not penetrated beyond the top 6 to 12 inches of the soil (Lorin Kramer and Dr. Stuart Cohen, PhD.; personal communication to Arizona Game and Fish Department). At the Jordan Shooting Range, a closed facility on the Coconino National Forest, soil sampling indicated that, even after 40 years of operation, lead concentrations decreased to near natural levels at depths between 6 to 12 inches below ground surface, indicating that infiltration of lead contamination into the subsurface has been limited. Lead concentrations that exceeded the Residential Arizona Health Based /Guidance Levels (HBGLs) of 400 mg/kg were limited to the upper six inches of soil. The Arizona Department of Environmental Quality requires cleanup of sites that exceed the established HBGL for the type of property use.⁵ No lead management actions were ever implemented on the Jordan Range. The Forest Service is now cleaning up this site for compliance with environmental laws at an estimated cost of \$250,000. Because the costs for removal of lead concentrations that exceed regulatory limits can be enormous, Forest Service policy now requires shooting facilities to actively manage lead by managing lead accumulation, migration, and movement off-site.

Environmental Consequences - Alternative A. Under the No Action Alternative, there may be some minimal contribution of lead and arsenic to the location from dispersed shooting activities. However, because of the

4 - Sporting Arms and Ammunition Manufacturers Institute. *Lead Mobility at Shooting Ranges*. Newtown, CT. 1995

5 - CDM Federal Programs Corporation. *Final Report - Removal Site Investigation and Engineering Evaluation/Cost Analysis for the Jordan Road Shooting Range*. October 31, 1997.

location's neutral to alkaline soil characteristics, the potential to transform lead and arsenic to forms that would be a hazardous material concern would be very low.

Environmental Consequences - Alternatives B and C. At the firearm shooting ranges, bullets and shot would be fired onto the shot fall zones or backstops and left there for considerable time. Bullets and shot are primarily composed of lead that is of greatest toxicological concern, and to a lesser extent, arsenic. Oxidation or extensive weathering requires the presence of acidic soil. Under acidic soil conditions, lead and arsenic are converted to more soluble compounds that could be carried off-site by run-off flows. However, on-site soil testing indicates there would be minimal potential for arsenic and lead migration due to the neutral to alkaline nature of the existing soils, which tend to minimize lead and arsenic solubility. Mobility of lead and arsenic is minimized further in the presence of clay, which is found in the subsoil. Based on recommendations from the Best Management Practices Plan for the Proposed Multipurpose Shooting Range at Bellemont, AZ. (PRD# 434), effective lead management practices would be implemented including range layout considerations, surface water runoff controls (filtered channels and detention basins), use of soil amendments, soil testing, and lead recycling.

The Department would have a lead recovery and recycling program to remove lead that has built up on all of the firearm ranges, with the exception of the Sporting Clay Range. Lead recovery will not remove all of the lead deposited on the site, especially the small lead dust particles deposited near the firing line. Lead recovery and recycling are two distinct processes, both of which are components of lead management at shooting ranges. Lead recovery involves picking up spent shot or bullets, usually by excavating the surface soil containing the lead, and separating the lead from other material. This is usually done with a series of screens, with the first screen catching sticks, rocks, and other material larger than the shot or bullets, and a smaller screen that catches the lead and lets soil particles pass through. Current lead recovery methods usually do not recover all the lead, but can recover a large percentage. Lead recycling involves taking lead that has been used for one purpose and reprocessing it so it can be used again in another way. This usually requires separating all foreign material, melting the lead and removing any impurities, and preparing it for sale to a company that will use it to manufacture a new product. Lead recovery is essentially a mining operation that recovers only the deposits of lead that have economical value. Lead may also be present on the shooting facility when it may not be economically feasible to recover. Between recovery and recycling operations the continued use of a range re-introduces lead into the environment. Additional lead management actions may need to be considered, such as soil amendments and more intensive monitoring. (PRD# 563)

Lead recycling would be scheduled when enough lead has accumulated to make the recovery process economically feasible. The lead recycling program would further minimize the potential for these contaminants to oxidize and migrate to surface and groundwater. The frequency of recycling would depend

on the amount of use of the range. On larger range operations, recycling of lead may occur every three to five years. The recovery of lead from backstops of the rifle and pistol ranges would occur over time as feasible. Lead management practices would also mitigate for potential impacts from antimony and any other heavy metal associated with ammunition.

The design of the backstops and the shot fall zones at the shooting facility would contain the majority of the bullets and shot, reducing potential lead accumulation within the "safety zone area" (that portion within the approximately 860-acre facility which is located outside of the 585-acre shotfall/range area). Generally, bullets and shot would be retained within the 585-acre area that contains all ranges and shot fall zones. Therefore, "safety zone areas" should not receive any substantial accumulation of lead. Due to restrictive management of access once the shooting facility is constructed, safety zone areas would most likely not accumulate substantially more lead than the area currently receives from dispersed shooting activities.

Lead management at the Sporting Clays Range is more difficult because of the terrain and vegetation. No lead recovery would take place at this range. However, there would be minimal potential for lead run-off since the location's existing soil properties (neutral to alkaline soils) tend to minimize solubility of lead and arsenic. Management actions would encourage the use of non-toxic shot and projectiles such as steel or tungsten, as they become available and affordable for the shooter.

A soil monitoring program would be implemented on the shooting facilities. Soil would be analyzed for pH and to determine if lead or arsenic have migrated beyond the surface of the soil. Based on recommendations from the Best Management Practices Plan for the Proposed Multipurpose Shooting Range at Bellemont, AZ, (PRD# 434) additional soil analyses would occur after the 4th year of operation. The Department is waiting 4 years to test based on the expected low overall usage of the shooting facility in the initial years of operation. Subsequent soil analyses would be conducted dependent on the amount of use a specific range receives. Frequency of the soil analysis will be at least 4 years on the heaviest used range(s). As specified in Forest Service Interim Directive 2709.11, section 41.46e, paragraph 3(b), soil monitoring will occur at least every ten years on all ranges by a qualified environmental inspector. Soil monitoring will occur at the locations most likely to contain heaviest lead concentrations, such as the firing line, backstops, and shot fall zones. Based on the results of the soil survey, additional amendments may be added to the soil to increase pH and/or to maintain lead and arsenic in the first few inches of the soil.

Airborn lead can also be evident, especially at heavily used firing lines. It is expected that there would be minimal potential for airborne lead to affect visitors, staff, or nearby residents because of the northeast direction of the prevailing winds. However, shooting facility staff would be monitored for blood lead levels according to established OSHA standards. Monitoring staff is an early detection program. Any lead

accumulation in humans would be expected to first appear in staff because of they experience the longest duration of exposures. All applicable OSHA regulations will be followed for staff and visitors.

Concerns during the scoping process were also raised about the petroleum or coal tar pitch used in clay targets. The pitch contains polynuclear aromatic hydrocarbons (PNAs) that are considered hazardous substances. The U.S. Environmental Protection Agency's threshold for PNAs range from 290 to 10,000 parts per million depending on the compound in which they are bound. The concentration of PNAs in clay targets is approximately 1,000 parts per million (0.1%). PNAs are relatively immobile in the environment since their solubility in water is very low. In addition, PNAs typically bind to soil and remain immobile. Therefore, broken targets would not pose a health problem to the environment. Use of biodegradable clay targets would be encouraged as they become available and affordable.

To further contain any potential contaminants on-site, a grassed channel would be constructed at the base of the Trap and Skeet Range (and at the Action Shooting Range in Alternative B) to trap sediment and any storm water run-off. The run-off from the grassed channel would be diverted to a detention basin that would contain any potential lead and any other contaminants. Topsoil would be stripped and stockpiled for reuse on the ranges after grading is complete. Topsoil placed on the Trap and Skeet Range would be amended to initially raise the pH level to enhance soil structure and further minimize lead solubility.

3.4 Safety

Affected Environment. During the scoping process, concern was expressed that errant rounds from the operation of a shooting facility could pose public safety problems. There are many people who regularly target shoot on National Forest land at informal, non-designated locations such as cinder pits and hillsides. Dispersed shooting activities occur at various cinder pits. Specifically the Riordan Pit approximately 4 miles away and another pit at Wing Mountain approximately 3 miles away. This area is open for hunting using various types of firearms. Unregulated shooting activity is more likely to produce errant rounds due to the lack of administrative control or at an area not created for shooting, such as a cinder pit where rocks could cause deflections.

Environmental Consequences - Alternative A. With the No Action Alternative, the dispersed shooting activities would continue, creating safety issues, conflicts with adjacent private property owners, resource management problems, and would continue to contribute minimal amounts of lead and arsenic wherever shooting occurs. The potential public safety problems from dispersed shooting activities' errant bullets are considered to be much higher than if a regulated facility is available to the public to provide a safe controlled shooting environment.

Environmental Consequences - Alternatives B and C. Development of a public shooting facility may reduce potential public safety problems from dispersed shooting activities' errant bullets, and would provide a regulated, safe and controlled shooting environment for the public. Information provided by the Department on the Ben Avery Shooting Facility (BASF) located in Phoenix, Arizona estimates that approximately three million rounds are being fired on the facility every year. Since 1995, there has been only one confirmed case of a projectile leaving BASF. The proposed facility at Bellemont would have line safety officers and rangemasters to control shooters, enforce safety protocols, and manage use.

The proposed shooting facility would be designed and constructed to meet the safety recommendations as outlined in the 1998 NRA's *The Range Source Book: A Guide to Planning and Construction*. The entire perimeter of the shooting facility would be fenced with warning signs attached directly to the fence at 100-foot intervals to alert the public to the location of the shooting facility and that the area is closed to public entry except on designated routes. Earthen berms would be created at the end of the shooting ranges to stop and retain projectiles; this is commonly referred to as a backstop. The front sides of the backstops would be free of rocks and other debris to a depth of 24 inches to minimize deflection of projectiles. However, it is possible for a projectile to be deflected over the backstop. In addition, some of the projectiles striking the ground between the shooter and the earth backstop may deflect over the backstop. Safety zone areas for the deflected projectiles would be designated behind the earth backstops. The safety zone area contains a topographic feature approximately 300 feet in elevation above the proposed ranges that would serve as a natural backstop to further contain projectiles within the 860-acre area. Any deflected projectiles passing over a backstop should run out of momentum and fall to earth in the safety zone area. The potential for a deflected or an accidental errant projectile leaving the approximately 860-acre area is no greater than the potential of the same type incident occurring with no shooting facility on this location. For the pistol and rifle ranges, a safety program would be conducted by the operators of the facility to educate the range users in the correct procedure for handling and firing their firearms so that the projectiles enter the earth backstop.

The proposed shooting facility does not include a backstop sufficient to contain all rounds from a 12.7 x 99 mm cartridge (also known as .50 caliber Browning Machine Gun cartridge). The Department would reserve the right to restrict certain types of projectiles, including but not limited to armor piercing, incendiary, tracer, or 12.7 x 99 mm. Restrictions would be based on target and/or backstop limitations or the results of specific shooting facility's performance evaluations once the facility are in operation.

3.5 Biological Resources

The following section addresses the various aspects of biological resources associated with the proposed location including vegetation, noxious weeds, CNF's Management Areas and Management Indicator

Species, special status species (Threatened and Endangered Species, Forest Service sensitive species), general wildlife and habitat, and A-1 Quiet Area.

3.5.1 Vegetation

The proposed location is composed of two major vegetation types:

Ponderosa Pine - Understory range conditions within this vegetation type are poor to fair, meaning there is very little forage available, mainly due to shading by the ponderosa pine. Approximately 770 acres of the proposed location contains ponderosa pine vegetation, consisting of predominately dense poletimber (VSS 3) with scattered occasional large yellow pines. Livestock and wildlife use this habitat for grazing.

Mountain Meadow - Approximately 90 acres consists of meadow habitat. Vegetation includes mostly blue grama and snakeweed. Livestock and wildlife use the meadow habitat for grazing.

Environmental Consequences - Alternative A. Alternative A would result in conditions similar to what occurs presently. Livestock would continue to be managed according to the current Allotment Management Plan and wildlife would continue to use the meadow and pine habitats for forage.

Environmental Consequences - Alternatives B and C. Alternatives B and C would involve vegetation clearing, primarily in the pine forest (76 acres of pine forest in Alternative B and 55 acres in Alternative C). Livestock would be excluded from grazing the shooting facility and it is anticipated that wildlife use of the active shooting ranges would be reduced. Some portions of the proposed facility would still be used by wildlife, particularly when there are low amounts or no shooting occurring.

3.5.2 Noxious Weeds

Affected Environment. Noxious weeds (invasive non-native plants) have been observed within and adjacent to the proposed location. Small areas of Dalmatian toadflax (*Linaria dalmatica*) and bull thistle (*Cirsium vulgare*) are scattered within the location. Patches of bull thistle are also common just outside the proposed location to the north and east along roads and areas disturbed from past timber harvesting.

Environmental Consequences - Alternative A. Noxious weeds would continue to occupy the area with a slow increase in weed patch size. Other management activities would follow the Forest Strategic Weed Plan to minimize spread of noxious weeds.

Environmental Consequences - Alternatives B and C. A noxious weed risk assessment has been prepared by the CNF. (PRD#565) There would be the potential for the spread of noxious weeds on the facility. Construction equipment may spread seed from existing plants to disturbed ground. Even if the equipment

does not enter weed patches, seeds may blow into ground disturbed by construction and establish. Construction equipment may transport seeds of other noxious weeds from other places, resulting in new infestations. Once the shooting facility is open, human use may spread noxious weeds by seeds attached to clothing or vehicles. A noxious weed management plan for the construction phase and in the shooting facility's operating plan would be required to control the spread of noxious weeds in either alternative. The construction phase noxious weed management plan would include such measures as pre-construction surveys for noxious weeds; cleaning equipment before entering National Forest lands; avoiding noxious weed plants when possible; pre-construction eradication using approved CNF methods; and cleaning equipment prior to leaving the location. Noxious weed management specifications in the operating plan would include conducting annual surveys and submitting reports, as well as controlling weeds using approved CNF methods.

3.5.3 Management Areas and Management Indicator Species

Affected Environment. The Forest Service's goals and objectives are achieved by applying management direction for resources and activities on specific units of land. These units of land are called "management areas" (MA's). The proposed location lies within four MA's: MA-3: Ponderosa Pine and Mixed Conifer Less than 40% Slopes; MA-4: Ponderosa Pine and Mixed Conifer Greater than 40% Slopes; MA-6: Unproductive Timber Land; and MA-9: Mountain Grassland. Within each MA, wildlife management indicator species (MIS) are intended to reflect ecosystem health. The ecosystems represented in the proposed location's MA's include ponderosa pine and mountain grassland. MIS for these ecosystems include pronghorn antelope, elk, mule deer, northern goshawk, pygmy nuthatch, Abert's squirrel, red squirrel, hairy woodpecker, turkey, and Mexican spotted owl. Although there are concerns regarding potential impacts to pronghorn, no substantial impacts are expected to occur to any other MIS. (PRD# 564)

Pronghorn currently use Bellemont Flat during the spring, summer, and fall. Accounts of historical Yavapai-Apache pronghorn hunts in the Bellemont Flat to Government Mountain area document large numbers of pronghorn were once here. (PRD# 390) Pronghorn are diminishing throughout the state. One of the major impacts has been habitat loss from development on grasslands. Additional factors influencing pronghorn numbers and distribution include: (1) fragmentation of populations by human-made barriers (pasture fencing and right-of-way fences along major transportation corridors such as paved highways and railroads); (2) climatic effects on vegetation; (3) predator effects on fawn survival; and (4) degradation of grasslands due to fire suppression that has resulted in tree invasion. Modeling of pronghorn survey data indicates a low but stable pronghorn population in the Department's Game Management Unit 7 that includes the project area. (PRD# 574) Pronghorn habitat is in a downward trend in this local area. (Rick Miller, personal communication).

Environmental Consequences - Alternative A. Alternative A would not affect the population viability of any MIS species. Cumulative effects to pronghorn habitat from other activities would continue on CNF, state, and private lands. Development of grasslands in private ownership, fragmentation of habitat by human-made barriers, and habitat degradation by tree invasion of grasslands would continue to negatively effect pronghorn habitat in the Department's Game Management Unit 7. In the Bellemont Flat area, existing commercial development and transportation corridors are impacting approximately 340 of the 730 acres of pronghorn habitat.

Environmental Consequences - Alternatives B and C. Alternatives B and C could contribute to viability concerns with the small group of pronghorn using the Bellemont Flat portion of Unit 7. Alternatives B and C would have equal impacts on this species. Approximately 118 acres of pronghorn habitat would be lost within the proposed location, approximately 273 acres of adjacent pronghorn habitat would be impacted by sound and human activity, and Thompson and Marvin Tanks would be affected. Facility development (human activity and fences) would fragment pronghorn habitat located to the east at Marvin Tank from habitat to the west at Brannigan Flat. The Arizona Game and Fish Department's big game fencing specifications would be used for construction of boundary and internal fences to allow movement of pronghorn and other wildlife through the shooting facility. However, pronghorn, unlike deer and elk, are not mobile at night. Therefore, pronghorn movement across this location may be substantially reduced to daylight periods when the facility is closed. Eventually all pronghorn movement across Bellemont Flat could be eliminated when adjacent private lands are developed.

Alternatives B and C represent direct and indirect habitat loss that would contribute to the existing decline of available pronghorn habitat. All 730 acres of pronghorn habitat in the Bellemont Flat area would be impacted (340 acres currently being impacted and an additional 390 acres impacted by either action alternative). Cumulative effects to pronghorn habitat in Game Management Unit 7 from other activities would continue on National Forest, state, and private lands, including development of grasslands in private ownership, fragmentation of habitat by human-made barriers, and habitat degradation by tree invasion of grasslands. Cumulative effects may push this stable population in Game Management Unit 7 into a decline.

Off-site pronghorn habitat improvement projects would occur to mitigate the direct and indirect impacts to pronghorn habitat as a result of this project. Mitigation will occur in nearby areas used by the same small herd of pronghorn associated with Bellemont Flat and affected by the shooting facility. Implementation of the following projects will be the responsibility of the Department:

- Reconstruction and/or improvement of a nearby water source, A-1 Lake, to mitigate disturbance at Marvin and Thompson tanks.

- Restoration of nearby grasslands in the forested area surrounding the project vicinity. Pronghorn habitat will be improved by removing tree invasion from 390 acres located within Brannigan Flat located west of the facility, Government Prairie near Wild Bill Hill to the north, and scattered meadows between those two locations. Most trees that have invaded the grassland are less than 5" in diameter, with some trees up to 9". A few young trees have achieved 16" in diameter but are short in stature due to the open growing conditions. All trees 16" and less in diameter will be removed by an agra-axe (mechanized shears) or other mechanical methods.

3.5.4 Special Status Species

Special status species include both federally listed threatened and endangered species and CNF sensitive species. The potential environmental consequences for the special status species that have suitable or potential habitat within or near the location that may be impacted are described below. Information on these and other special status species are provided in the Project Record. (PRD# 339, 411, 564)

3.5.4.1 Threatened or Endangered Species

Affected Environment. No federally threatened or endangered species breed within the proposed location. A prairie dog town in Bellemont Flat provides potential habitat for the black-footed ferret (*Mustela nigripes*), an endangered species. Surveys have determined that no black-footed ferrets occupy the location. The bald eagle, a federally threatened species, can occasionally be seen foraging at the proposed shooting facility during the winter.

Environmental Consequences - Alternative A. No federally threatened or endangered species would be affected by this alternative.

Environmental Consequences - Alternative B. Potential habitat for the black-footed ferret may be impacted by activities that affect prairie dogs or their mound and tunnel systems. All facilities would avoid the prairie dog town. However, the Target Archery Range would be near (approximately 100 feet from) the prairie dog town. Adequate land area is available to avoid the prairie dog town. An on-site review of staking prior to any construction activities would occur to ensure avoidance of the prairie dog town. Alternative B would not affect bald eagles.

Construction of the access road into the proposed shooting facility would occur near prairie dog mounds located on private and CNF lands. Information necessary to determine if the prairie dog mounds can be completely avoided, such as road design, on the ground staking of road location, and property boundaries, is not available. Because potential black-footed ferret habitat might be impacted, consultation with the U.S. Fish and Wildlife Service (Service) was completed. The Service reviewed the project and concurred that

this project may affect but is not likely to adversely affect the black-footed ferret. Additional ferret surveys would be required prior to construction.

Environmental Consequences - Alternative C. All shooting facilities would avoid the prairie dog town by at least 1,000 feet. However, construction of the access road into the proposed shooting facility would occur near prairie dog mounds located on private and CNF lands. Information necessary to determine if the prairie dog mounds can be completely avoided, such as road design, on the ground staking of road location, and property boundaries, is not available. Because potential black-footed ferret habitat might be impacted, consultation with the U.S. Fish and Wildlife Service was completed. The Service reviewed the project and concurred that this project may affect but is not likely to adversely affect the black-footed ferret. Additional ferret surveys would be required prior to construction. Alternative C would not affect bald eagles.

3.5.4.2 Forest Service Sensitive Species

Affected Environment. Suitable habitat is present for three Forest Service Sensitive Species. These species include Navajo Mountain Mexican vole, American peregrine falcon, and the northern goshawk. No impacts are expected to occur to the American peregrine falcon or northern goshawk. (PRD# 339, 564) Only the Navajo Mountain Mexican vole habitat description is provided here.

The Navajo Mountain Mexican vole (*Microtus mexicanus navaho*) is found in grassy or dry, grass-form vegetation in association with coniferous forests. Other species of voles, which are not listed as sensitive, may also occur in this habitat type. No surveys for the Navajo Mountain Mexican vole have been conducted specifically within the facility boundaries. However, the tracks and runways of some type of vole were observed in Bellemont Flat during snow track surveys for black-footed ferrets. This analysis assumes that the vole inhabiting the area is the Navajo Mountain Mexican vole. Potential Navajo Mountain Mexican vole habitat is present within the grassland of Bellemont Flat and sparse stands of ponderosa pine that support a grassy understory. Habitat for this species on the CNF includes 10,000 acres of mountain grassland in addition to an unknown number of acres of small openings and sparse canopy ponderosa pine stands. Small openings in ponderosa pine currently are declining because of fire suppression and the resulting increased canopy cover.

Environmental Consequences - Alternative A. There would be no impact to the Navajo Mountain Mexican vole, American peregrine falcon, or northern goshawk under this alternative.

Environmental Consequences - Alternative B. Of the three Forest Service Sensitive Species, only the vole would be impacted by this alternative. For the vole, an estimated 56 acres of habitat would be permanently lost. Individual animals may be crushed by equipment during construction. Voles would continue to be

present within the facility and surrounding areas where tall grassy vegetation occurs. The off-site pronghorn mitigation could also have short-term effects of crushing individual animals. However, 390 acres of habitat would be improved for the vole. Therefore, loss of individual voles from facility construction and off-site mitigation combined with loss of vole habitat from construction would not cause a population viability concern.

Environmental Consequences - Alternative C. An estimated 31 acres of habitat would be permanently lost for the Navajo Mountain Mexican vole. Individual animals may be crushed by equipment during construction. Voles would continue to be present within the shooting facility and surrounding areas where tall grassy vegetation occurs. The off-site pronghorn mitigation could also have short-term effects of crushing individual animals, however 390 acres of habitat would be improved for the vole. Therefore, loss of individual voles from facility construction and off-site mitigation combined with loss of vole habitat from construction would not cause a population viability concern.

3.5.5 General Wildlife and Habitat

Affected Environment. Other big and small game species known to use the area besides pronghorn include elk, deer, bear, turkey, and Abert's squirrel. A variety of nongame species such as songbirds, rodents, prairie dogs, bats, and raptors use the meadow and ponderosa pine habitats within the proposed facility. Water is well distributed throughout the area, and the meadow offers foraging habitat for grazing animals. However, adjacent disturbances caused by roadways and development lessens the wildlife use from what might otherwise be expected.

Environmental Consequences - Alternative A. Alternative A would result in conditions similar to what occurs presently. Wildlife would continue to use the meadow and pine habitats.

Environmental Consequences - Alternatives B and C. Alternatives B and C would involve vegetation clearing, primarily in the pine forest, resulting in a net loss of forest habitat for species associated with ponderosa pine forests. In addition, the open meadow habitat would be fragmented. Increased human activity and associated disturbance is also anticipated and would reduce wildlife use. Portions of the shooting facility such as the safety areas would still be used by wildlife, particularly when there are low amounts or no shooting occurring. Alternative B would have a slightly greater impact on wildlife dependent on forested habitats. This alternative proposes to clear a total of 76 acres of ponderosa pine habitat, 22 acres more than proposed for Alternative C. The Department's big game fencing specifications would be used for construction of boundary and internal fences to allow movement of wildlife through the shooting facility. Mitigation measures for the loss of pronghorn habitat will also provide improved habitat for animals that use grasslands.

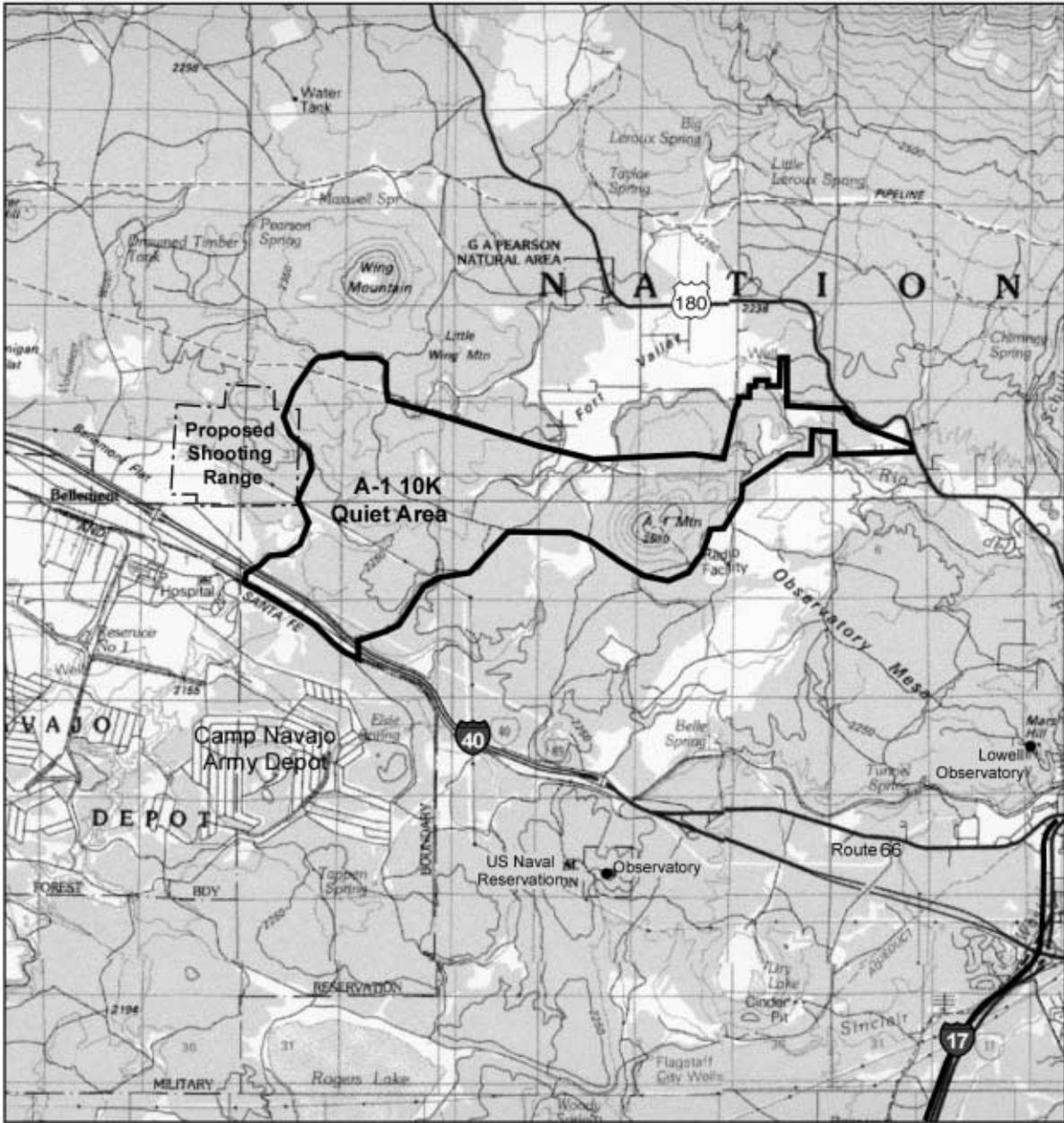
Visitors to the shooting range may use the surrounding CNF lands for associated recreational activities such as picnicking, camping, nature watching, and scenic driving. Disturbance from these activities could cause temporary displacement of species sensitive to human activity such as pronghorn, deer, elk, turkey, and raptors.

3.5.6 A-1 Quiet Area

Affected Environment. The A-1 Ecosystem Management Plan designated the A-1 Quiet Area within and adjacent to the proposed shooting facility (refer to Figure 13). The purpose of the Quiet Area was to provide an area of reduced motorized activity to maintain populations of wildlife species sensitive to human disturbance. The portion of the Quiet Area adjacent to the shooting facility was designated for elimination of roads. The remainder of the Quiet Area is managed for reduced disturbance through a reduction in the number of roads. The surrounding area, particularly to the east of A-1 Mountain, is receiving increasing recreational use that has adversely affected some wildlife species. Approximately 30 acres of the Quiet Area falls within the approximately 860-acre shooting facility.

Environmental Consequences - Alternative A. There would be no effect on the A-1 Quiet Area under the No Action Alternative.

Environmental Consequences - Alternatives B and C. The effectiveness of the Quiet Area would be reduced on its western boundary and in approximately 30 acres within the shooting range. The effect along the western boundary will be variable based on the level of shooting occurring on the facility, but animals could avoid an area up to one-quarter mile from the facility boundary. No facilities would be constructed nor would shooting activities associated with the facility occur within the designated Quiet Area. The 30 acres of the A-1 Quiet Area is located in the safety zone for the High Power Rifle and Silhouette Ranges. Wildlife sensitive to sound and human activity would shift use away from the shooting range, concentrating more on the interior of the Quiet Area. Species most likely to be affected include turkey, deer, elk, pronghorn, and raptors. Topography would screen some of the sound effects. Alternative B would have slightly greater effects to the A-1 Quiet Area due to the proximity of firearm ranges to the boundary (the Action Shooting and Law Enforcement Ranges in Alternative B vs. Target and Field Archery Ranges in Alternative C).



Key

— A-1 Quiet Area Boundary



Figure 13. A-1 Quiet Area

3.6 Soils

Affected Environment. The proposed location is composed of the Broliar-Sponseller association according to the General Soil Map of Coconino County (USDA, SCS, 1972). These soils are located on high basaltic plateaus and mesas, have a high available water capacity, slow to moderately slow permeability rate (water is not readily transmitted through the soils when saturated), and moderate to high shrink-swell potential (soil contracts when dry and expands when wet). This soil association has clay loam subsoils with basalt bedrock at a depth of approximately 30 to 60 inches. The location soils exhibit limited runoff potential, except during intense storms.

Environmental Consequences - Alternative A. Under this alternative, impacts to soils resulting from grading and vegetation clearing associated with development would not occur on Forest Service lands. There would be no additional impact to soils in the No Action Alternative. Livestock grazing would continue.

Environmental Consequences - Alternatives B and C. Construction of the maintained facilities, roads, and parking areas would increase the potential for soil erosion because of the removal of vegetation and disturbance of the soils. However, the existing vegetation and high organic matter would provide for effective erosion and surface run-off control during the common (one- to two- year) storm events in the areas outside of the developed facilities. Alternative B would disturb 22 more acres of National Forest lands than Alternative C. County ordinances requiring control of run-off and sedimentation would mitigate long-term impacts to soils. Disturbed areas would be seeded with native grasses and/or forbs approved by CNF to control soil erosion. However, in high foot traffic areas such as trails between ranges, seeding may not be appropriate. Success of the revegetation efforts would be dependent on weather and precipitation.

3.7 Water Resources

Affected Environment. There are no perennial (year- round flowing) waterbodies, intermittent drainages, or wetlands on site; or are there any stream headwaters in close proximity. The closest perennial stream is Oak Creek, located approximately 15 miles to the south of the proposed location. Run-off from the proposed shooting facility is limited except during intense storms or rapid snowmelt because of the very porous, cobbly, and stony soil. Wet meadow conditions occur in the low-lying areas during the spring and summer rains in the southern portion of the Bellemont location.

The proposed location is located within the Plateau uplands water province. The major aquifers are the Coconino and limestone aquifers. The depth to the shallow Coconino aquifer is approximately 1,500 feet below the surface. A perched water table in the Bellemont area produces ground water and may be encountered at a depth of 20 to 150 feet below the surface. There are several wells producing ground

water from the perched aquifer, including one located at the Bellemont Truck Stop and two located southwest of the truck stop on the Burlington Northern Santa Fe Railroad right-of-way (all three wells are 150-200 feet deep). In addition, a well is located at Camp Navajo Army Depot, along with other domestic users farther along I-40. The closest residences to the proposed boundary include two located within about ¼ mile west (at the Bellemont truck stop) and approximately 10 at the Haven of Rest Mobil Home Park located approximately ½ mile southeast. Specific well registration information and location documentation is provided by the Arizona Department of Water Resources is located in the project record. (PRD # 581) The extent of this perched aquifer or the direction of flow has not been defined, but it is generally thought to extend southward to the Camp Navajo Army Depot where it discharges as springs.

Environmental Consequences - Alternative A. Minimal impacts to water resources may presently occur due to the livestock and/or wildlife use. Impacts to water resources in the No Action Alternative would be considered insignificant.

Environmental Consequences - Alternatives B. There is the slight potential for soil erosion from high velocities of run-off during rare intense storms such as the 100-year storm event. The Trap and Skeet Range is located in a relatively flat area. However, the slope increases toward the northeast. The area impacted by shooting activities may be prone to flooding during intense storm events. Runoff carrying sediment and lead shots may be deposited on the relative flat area of the Trap and Skeet Range. Runoff would be contained using a grassed channel and detention basin that would trap water and sediment. Grading would occur at the Trap and Skeet Range to allow for water and lead shot from an intense storm to be captured in the grassed channel and flow into the detention basin. During intense storm events, lead shot could be washed down from the Sporting Clays and the shot fall zone of the Trap and Skeet Range into the channel and detention basin.

The berms and backstops of the Sight-In and Pistol Ranges may contain most of the recoverable lead deposited within these ranges. In Alternative B, the Action Shooting Range and Law Enforcement Range would also have a grassed channel in front of the backstops. Runoff from this channel would be piped into a second detention basin that would trap water and sediment. Grading would occur to allow for water and lead shot from an intense storm to be captured in the grassed channel and flow into the detention basin. The Action Shooting Range and Law Enforcement Range would have grassed drainage channels in front of the backstops. Run-off from these drainage channels would be piped into a second detention basin. The detention basins would prevent run-off from leaving the proposed facility, except in very major storm events.

Potable water would be trucked into the shooting facility and stored in above ground storage tanks. The maximum capacity of the primary water storage tank is estimated to be 2,500 gallons with a smaller water

storage tank located near the caretaker pad. Water would be acquired from a local commercial source. There are currently no plans to drill a well for the shooting facility.

The development of the public shooting facility would have to meet Coconino County Flood Control District and Coconino County regulations and ordinances. Alternative B would have minimal impact on water resources inherent to the location.

Environmental Consequences - Alternative C. Environmental consequence associated with Alternative C would be similar to Alternative B with one exception. The detention basin and grassed channel located for the Action Shooting and Law Enforcement Range of Alternative B would not be required for Alternative C. Instead of having 5 shooting bays (Alternative B Figure 7), there would only be one located adjacent to the Sight-in/Pistol Ranges. See Figure 9 for the specific location. Alternative C would have minimal impact on water resources inherent to the location.

3.8 Air

Affected Environment. The Bellemont location is in an area currently classified as attainment, and therefore complies with all national ambient air quality standards for carbon monoxide, particulate matter (PM₁₀), and ozone.

Environmental Consequences - Alternative A. Minor effects on air quality associated with livestock movement activities and travel on the dirt frontage road would continue.

Environmental Consequences - Alternatives B and C. Some temporary deterioration of air quality may be expected due to the operation of construction equipment. However, this would be a localized condition that will be discontinued when the facilities are completed. Fugitive dust generated from construction activities would be controlled in accordance with local rules or ordinances. Minor effects on air quality associated with livestock movement activities would continue.

Recent traffic counts indicate an average volume of approximately 60 trips per day (one vehicle traveling either direction) currently occur along the county frontage road between dawn and dusk. The interstate's frontage road runs adjacent to the southern boundary of the proposed shooting facility and would be the primary access to the property. This road currently is gravel surfaced. The National Shooting Sports Foundation has conducted extensive research into economically viable shooting facility planning and sizing. As a result they have prepared guidelines that provide methodology for estimating the number of facility users based on tributary areas and populations. Using this methodology and making several assumptions on population and use patterns, it was determined the facility would generate approximately 132 to 192 additional trips per day (one vehicle traveling either direction) when full build-out is achieved. Traffic

generation would be notably less at initial startup. For the first three to five years, depending on funding and construction phasing, approximately 25% to 50% of the full build-out level is anticipated (approximately 33-96 trips per day). Additionally, at full build-out, peak event traffic could reach 700 trips in one day.

Access to the entrance of the facility is on a road under county jurisdiction, therefore the Department would be subject to any county requirements regarding use of that road, including dust abatement. The road system within the facility will be subject to Forest Service specifications. Initially, traffic numbers are expected to be low and dust may not be a problem, as the prevailing winds would carry most of the dust away from the nearest private property. However, dust may detract from the experience of facility users. The Forest Service will consider the level of use and levels of dust generation to determine if and when dust abatement will be required. Complaints from neighbors or local concerned parties (such as the Naval Observatory which requires clear skies) will also be an indication that dust abatement will need to be implemented on roads. Dust abatement will also be important in minimizing the possibility of airborne transportation of lead dust.

3.9 Recreation

Affected Environment. The Forest Service uses the Recreation Opportunity Spectrum (ROS) to provide a framework for defining and rating classes of outdoor recreation environments, activities, and experience opportunities. The system's premise is that recreation users choose a specific setting for a particular activity or set of activities to have a desired experience. Six settings or classes have been delineated ranging from pristine undisturbed landscapes to areas heavily impacted by human presence. The ROS class designations for the proposed location are Rural and Urban. A Rural classification is an area where the natural environment is culturally modified, the interactions between users may be high, and access is for individual intensified motorized use. An Urban designation reflects a developed area where there is high level of interaction between large numbers of users, and access is also intensified motorized use. The Rural and Urban ROS classification reflects the presence of the adjacent interstate corridor, railway, military operations, and commercial facilities. Current recreation uses include dispersed camping, firewood gathering, shooting, and hunting.

Environmental Consequences - Alternative A. In the future, the private land adjacent to the proposed location may become more developed with residential and additional commercial businesses. Dispersed camping, shooting, hunting, and other non-consumptive recreational uses would continue. Firewood gathering would also continue.

Environmental Consequences - Alternatives B and C. The implementation of either of the action alternatives would not change the existing ROS classifications. However, all recreational activities other

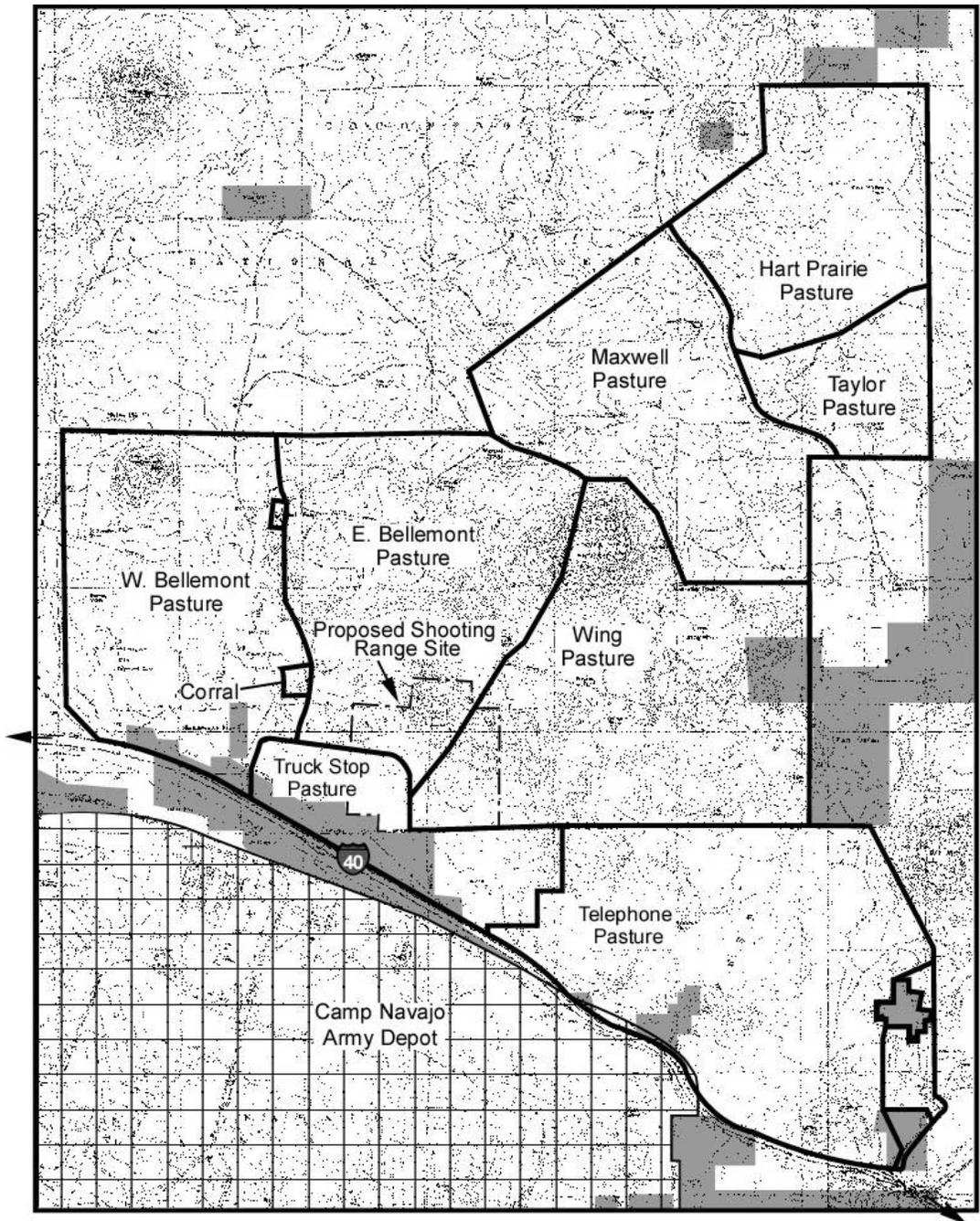
than firearm and archery shooting activities would cease within the designated limits of the facility. The presence of the facilities would be consistent with the current ROS classifications. Indirect effects could result from increased camping and other recreation use pressure associated with the shooting facility activities that would potentially impact adjacent private and National Forest lands. This additional use pressure would be most prominent during large shooting events.

3.10 Livestock Management

Affected Environment. A portion of the Maxwell Springs Grazing Allotment under a term grazing authorization lies within the proposed facility boundary (refer to Figure 14). The allotment currently is operated in an eight pasture deferred rotation system. The permitted number of livestock on the Maxwell Springs Allotment is 285 head of cattle, and the season of use is from June 1 through October 31. The pasture deferred rotation system means that each pasture is used for a portion of the grazing season, then rested until the next seasons use. The sequence of the pastures is reversed every other year so that the same pastures are not grazed at the same time of the year for two consecutive years.

Each year livestock are trucked from winter allotments and off-loaded in the Camp Two Flat Corral, which is approximately one mile northwest of the proposed shooting facility. The grazing sequence, due to pasture configuration and the corral location, always starts and ends in the Truck Stop Pasture. Part of the shooting facility is located in the Truck Stop Pasture.

Environmental Consequences - Alternative A. There would be no change in the management of the allotment if this facility is not built. Future cumulative effects may occur if the currently un-fenced private lands remain unfenced. Livestock graze the private land when they are in the Truck Stop Pasture. Arizona's open range law requires private landowners to fence out livestock. Development of this private land (if and when this occurs) would remove available forage and increase conflicts between private landowners and ranchers. Common complaints in this type of situations may include livestock consumption and trampling of flowers and gardens. Livestock would still be able to graze the CNF land within the Truck Stop Pasture and move through the area to the adjacent pasture. This would occur with or without the shooting facility.



- Key
-  Camp Navajo Army Depot
 -  Coconino National Forest
 -  Private Land

Figure 14. Maxwell Springs Grazing Allotment's Pasture Locations.



Environmental Consequences - Alternatives B and C. Construction of the shooting facility would result in the loss of forage equivalent to what could be consumed by 6% of the 285 permitted number of livestock. This equates to 17 animals. With proper management, the allotment could handle this reduction in foraging availability for 17 animals with no negative impacts on vegetation or habitat because current range capacity exceeds the total number of permitted livestock. Less than 4% of the total allotment acreage would be impacted by the construction of the proposed shooting facility. Although the capacity would be reduced to some degree, the effects would not be detrimental to the permittee because the total permitted number of livestock would not be reduced as a result of this project.

The proposed shooting facility is located in a place on the allotment that the livestock pass through two or more times per year. The perimeter fence of the shooting facility would block livestock movement to the remainder of the Truck Stop Pasture. Therefore, continued livestock movement throughout the Truck Stop Pasture and into adjacent pastures is dependent on livestock movement across the proposed shooting facility.

Cattle movement across the project area would be accommodated as part of the shooting facility operating plan. Gates would be installed in the fence surrounding the shooting facility and a 100-foot livestock driveway designated. It is estimated that the livestock driveway would only be used 2-6 times per year. Use of the driveway would be coordinated with the U.S. Forest Service, the livestock permittee, and Arizona Game and Fish Department so that safety, allotment scheduling, and shooting facility use would not be substantially affected. Maintenance of the perimeter fence for the shooting facility would be the responsibility of the Department.

3.11 Visual Quality

Affected Environment. The Forest Service established a Visual Management System (VMS) that identifies the visual characteristics of the land and defines objectives to manage visual resources. The VMS process has recently been replaced by the Scenery Management System (December 1996), which is being incorporated into the respective Forest Management Plans. Since the specific components of the Scenery Management System (SMS) have not yet been inventoried and mapped for this area, the VMS is being used to evaluate effects.

Visual Quality Objectives (VQOs) are assigned to the landscape to describe the degree of acceptable alteration permitted in the natural landscape. The VQO classifications are Preservation, Retention, Partial Retention, Modification, and Maximum Modification. Preservation allows for ecological changes only, while

at the other end of the spectrum is Maximum Modification that allows for landscape changes to dominate the natural landscape character.

The VQO's are Retention and Partial Retention, dependant on the distance from the interstate. Areas of Retention are those areas within 0.5 miles of Interstate 40. Under Retention, management activities are not visually evident to the casual visitor, and may only repeat form, line, color, and texture that are frequently found in the characteristic landscape. Partial Retention provides for management activities that may be evident, but must remain visually subordinate to the characteristic landscape. Evidence of any proposed activities should be reduced to meet this VQO within one year following site disturbance. The evaluation of the impact of the proposed improvements is based upon the degree of change from the present condition to the ultimate build-out of the shooting facility.

The majority of the ranges are located on a southwest facing, forested hillside. The location's landscape elements are common to the vicinity and consist of ponderosa pines forming the backdrop to an open grassy area. The level of naturalness is considered to be high, reflecting the general lack of constructed features. Large, relatively dense stands of ponderosa pine trees located on the majority of the area provide a relatively high visual absorption capability within the forested area. Visual absorption capability refers to a landscape's ability to absorb changes to the visual environment. Views from and to the proposed ranges include the small commercial area associated with the I-40/Bellefont Traffic Interchange, the truck stop, Camp Navajo Army Depot facilities, the railroad, and vehicular traffic along the interstate.

Environmental Consequences - Alternative A. Under the no action alternative, the approximately 860 acres of National Forest lands would continue to meet the Retention and Partial Retention VQOs.

Environmental Consequences - Alternative B. The level of naturalness would be notably lowered with the construction of the shooting facilities including roads, parking lots, overhead shade canopies, buildings, care taker trailer, overhead utility poles, and above ground water tanks. The Target Archery Range and parking area, a portion of the Field Archery Range, the parking area and shade canopies associated with the Trap and Skeet and High Power Rifle Ranges, and fencing would also be readily visible from the interstate and commercial area. These facilities would modify the existing character of the area and would be visually evident to the visitor. Alternative B would not meet the Retention and Partial Retention VQOs, and would instead meet the conditions of the Modification VQO that would allow for landscape changes to dominate the natural character. Approximately 89 and 114 acres would change from Retention and Partial Retention, respectively, to Modification or 24 percent of the entire location would change VQO classification.

To help minimize the visual impact, all structures visible from the interstate and commercial area would be constructed using materials and surface treatments that would blend with the surroundings, especially

avoiding reflective, metallic materials. Fence posts and gates would be painted a dark color to blend with the surrounding setting. The parking lots and structures visible from the interstate and commercial area would also be screened by the planting of ponderosa pine trees in a pattern to mimic the existing spacing and line of trees. The clearing limits would be irregular (or feathered), and staked by the construction contractor for approval by the CNF prior to the start of clearing. Straight clearing lines would be avoided where possible by leaving selected clumps of vegetation near the edge of the clearing limit. The location of facilities would be done to minimize scenic impact. The CNF would approve the site plan, planting and tree removal plans, and materials prior to any construction activities.

Environmental Consequences - Alternative C. The level of naturalness would be notably lowered with the construction of the facilities including roads, parking lots, overhead shade canopies, buildings, care taker trailer, overhead utility poles, and water tank. The parking area and shade canopies associated with the Trap And Skeet Range and perimeter fencing would be readily visible from the interstate and commercial area. The shooting facilities would further modify the existing character and would be visually evident to the forest visitor. However, there would be less visual impact with Alternative C when compared to Alternative B because fewer facilities would be visible from the interstate and commercial area. There are no facilities proposed within the Retention area and the Retention VQO would be met. Alternative C would not meet the Partial Retention VQO, and would instead meet the conditions of the Modification. Approximately 91 acres would change from Partial Retention to Modification or approximately 11 percent of the entire area would change VQO classification

In order to mitigate visual impacts, the measures outlined in Alternative B would also be incorporated in Alternative C.

3.12 Cultural Resources

Affected Environment. Two cultural resource surveys were undertaken within the proposed location in July of 1998 and November of 1999. Four prehistoric cultural sites consisting of lithic scatters and one historic railroad segment were recorded within the proposed shooting facility and have been determined to be eligible for inclusion on the National Register of Historic Places (NRHP) under criterion "d". In addition, seven artifact scatters were located on the proposed facility. The prehistoric sites and scatters may have the potential, as a group, to provide important information regarding prehistoric trade and land use patterns.

Federal regulations state that resources are eligible that "possess integrity of location, design, setting, materials, workmanship, feeling and association, and ... (d) that have yielded or may likely yield information important in history or prehistory." The CNF has notified and consulted with the State Historic Preservation Office (SHPO) on the proposed project.

Environmental Consequences - Alternative A. No impacts would occur to cultural resources on National Forest lands under this alternative, other than from continued livestock grazing and recreational activities.

Environmental Consequences - Alternatives B and C. The five eligible NRHP sites cannot be avoided with the implementation of either alternative. In addition, the seven artifact scatters may be affected. All sites will be excavated and removed from the area, and then analyzed using accepted archeological methodologies. It is not expected that extensive cultural resources, such as foundations or lodges, will be discovered during excavation. A Memorandum of Agreement (Agreement) has been developed among the CNF, Commission, the Hopi Tribe, Yavapai-Apache Nation, and the SHPO regarding the archaeological sites within the proposed facility. The Agreement specifies how mitigating actions would be coordinated between the CNF, Department, the SHPO, the Hopi Tribe, and the Yavapai-Apache Nation. It ensures that archeological data would be recovered from the project area prior to any activities impacting these sites.

Off site pronghorn mitigation measures in nearby grasslands such as Brannigan Flat, Walker Hill meadow, and the Wild Bill Hill area were evaluated for possible impacts to cultural impacts. We reviewed existing cultural resource survey information for these areas and observed equipment performing similar work on the Kaibab National Forest. It is possible to avoid sites with this type of activity. All necessary surveys, clearances, and site marking will occur prior to on the ground disturbance to ensure no impacts occur to cultural resources.

3.13 Unregulated Shooting Activity

Affected Environment. Currently there are many people who regularly target shoot on National Forest land at informal, nondesignated sites such as cinder pits and hillsides. This situation is creating safety issues, conflicts with adjacent private property owners, resource management problems, and potential hazardous materials issues. In addition, local law enforcement agencies have had to travel to other cities or use these unregulated shooting areas for firearms training activities.

Environmental Consequences - Alternative A. As population and recreation demands increase in the future, dispersed and unregulated shooting activity would continue and expand into other areas on National Forest land. Without a shooting facility, unsafe conditions would continue. The private property conflicts, resource management problems, and hazardous materials issues may not be addressed and would most likely increase in magnitude. A foreseeable action the Forest Service is analyzing, the A-1 Cinder Pit Rehabilitation. The EA will be coming out shortly and one of the potential outcomes is to close the pit to shooting.

Environmental Consequences - Alternatives B and C. Although some level of dispersed shooting would continue, the availability of a safe, convenient facility would reduce much of this concern. The proposed facility would provide safe recreational shooting opportunities in a controlled environment. The facility would meet existing and future shooting recreation and education demands. Management practices would minimize migration of hazardous materials and enforce safety protocols. Some of the cinder pits currently used for shooting will likely be closed to these types of uses once the proposed public shooting facility at Bellemont is constructed. A foreseeable action the Forest Service is analyzing, the A-1 Cinder Pit Rehabilitation. The EA will be coming out shortly and one of the potential outcomes is to close the pit to shooting.

3.14 Firearm And Archery Special Use Authorizations

Affected Environment. Since 1998, there has been an annual average of 10 shooting events authorized on the Peaks and Mormon Lake District under special use authorizations. These ten events generally include some of the following groups: Arizona Bowhunters, Arizona Shoot to Retrieve/Flag Bird Dog Association; Flagstaff Archers; Phoenix Retrievers Club; Rough Country Bowhunters; Mazatazal Mountain Muzzle Loaders; Flagstaff Shooting Association; Copper State Hunting Retriever Club; Arizona Cowboy Shooters Association; Powder Horn Clan, Flagstaff Police Department, and Arizona Air Gunners. Requests for shooting events authorization on the nearby Williams/Chalendar Ranger Districts are minimal, resulting in the issuance of only 1 authorization in 2000. However, the event was later cancelled.

Environmental Consequences - Alternative A. Currently authorized events would continue as approved for 2000. Requests for future shooting events will be evaluated on a case-by-case situation. Generally, permits will be approved only for the Perry Lake Pit on the Mormon Lake Ranger District. Eventually, it is possible that no shooting events would be authorized on the Peaks and Mormon Lake Ranger Districts because of liability concerns about safety. This concern stems from using areas on the National Forest that are not specifically constructed for this type of use.

Environmental Consequences - Alternatives B and C. The use of the Bellemont facility by any organization for events would be coordinated with the Department and would be accommodated consistent with the size limitations of the range.

Archery and shooting events previously authorized on the CNF under special use authorization would be referred to the proposed shooting facility for possible accommodation. However, not all events would be able to be accommodated at the facility. Requests for special use authorizations to accommodate participants on adjacent Forest Service acreage would be evaluated on a case-by-case basis.

3.15 Title VI/Environmental Justice

Title VI of the Civil Rights Act of 1964 and related statutes assure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of Race, Color, National Origin, Age, Sex, and Disability. Executive Order 12898 on Environmental Justice directs that programs, policies, and activities not have a disproportionately high and adverse human health and environmental effect on minority and low-income populations. The proposed shooting facility would be located on National Forest lands. Property owners adjacent to the proposed location have not been identified as minority or low-income. Therefore, the project is not anticipated to have any disproportionately high and adverse effects on these populations.

3.16 National Forest Management Act Findings

The proposed action is not consistent with the Coconino Forest Land and Resource Management Plan. The Department's intent is to exchange lands with the Forest Service and acquire title to the land needed for the shooting range facility. The Forest Supervisor will decide if the no action alternative or either of the action alternatives best meets the greatest public need.

4.0 CONSULTATION AND COORDINATION

Public Contacts

- Mailing of Scoping Letter 9/29/98 on Preliminary Concept to 644 names (PRD# 181)
- Public comments received October 1998 – December 1998 (PRD# 182)
- Public comments received January 1999 – December 1999 (PRD# 222)
- Public comments received January 2000 – July 2000 (PRD# 425)

Other Agencies, Local Governments, and Tribal Contacts

- Advisory Council on Historic Preservation
- Arizona Game and Fish Commission
- Arizona Game and Fish Department
- Arizona State Historic Preservation Office
- Coconino County Board of Supervisors
- Coconino County Planning
- Coconino County Public Works
- Environmental Protection Agency
- Havasupai Tribe
- Hopi Tribe
- Navajo Nation
- Pueblo of Zuni
- San Juan Southern Paiute Tribe
- U.S. Fish and Wildlife Service
- Yavapai-Apache Tribe
- Yavapai-Prescott Tribe
- Hualapai Tribe

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APPENDIX A - MITIGATION MEASURES

The following Design/Construction and Management Action Mitigation Measures apply to both action alternatives, unless otherwise noted.

Design/Construction Mitigation Measures:

1. A 12-foot berm would be constructed behind the High Power Rifle Range to reduce the sound level at the perimeter of the proposed facility below the NRA sound goal of not-to-exceed maximum sound level of 65 dBA measured with “fast” response for all firearms.
2. A 12-foot berm would be constructed behind the Silhouette Range to reduce the sound level.
3. The proposed shooting facility would conform to relevant Coconino County’s ordinances to the extent necessary including lighting, signage, access, and run-off and sedimentation control requirements.
4. Soil would be amended on the Trap and Skeet Range by increasing pH to between 6.5 and 8.5 to enhance soil structure and further minimize lead and arsenic solubility.
5. Topsoil would be stripped and stockpiled for reuse on the ranges after grading is complete.
6. The front sides of the earth backstop would be free of rocks and other debris to a depth of 24 inches.
7. A grassed channel would be constructed at the base of the Trap and Skeet Range (and at the Action Shooting/Law Enforcement Ranges in Alternative B) to trap sediment and any storm water run-off. The run-off from the grassed channel would be piped to a detention basin(s).
8. All structures visible from the Interstate 40 and the commercial area at the interchange would be constructed using materials and surface treatments that would blend with the surroundings, especially avoiding reflective, metallic materials. Fence posts and gates would be painted a dark color (or left to rust) to blend with the surrounding setting. Parking lots and any other structures visible from the interstate or commercial area would be screened by the planting of ponderosa pine trees in a pattern to mimic the existing spacing and line of trees. The clearing limits would be irregular (or feathered), and staked by the construction contractor for approval by the CNF prior to the start of clearing. Straight clearing lines would be avoided where possible by leaving selected clumps of vegetation near the edge of the clearing limit. Facilities would be located to minimize scenic impact. The CNF would authorize the site plan, planting and tree removal plans, and materials prior to any construction activities.
9. The Arizona Game and Fish Department's big game fencing specifications would be used for construction of boundary and internal fences to allow movement of wildlife through the shooting facility. The boundary fence would be signed at 100-foot intervals, advising of the shooting facility location and that the area is closed to public entry except on designated routes.

10. Disturbed areas would be seeded with native grasses and/or forbs approved by the CNF to control soil erosion.
11. A noxious weed strategy for the construction phase and the shooting range facility's special use authorization(s) operating plan would be required to control the spread of noxious weeds. The construction phase strategy would include such measures as pre-construction surveys for noxious weeds; cleaning equipment before entering National Forest lands; avoiding noxious weed plants when possible; pre-construction eradication using approved Coconino National Forest (CNF) methods; and cleaning equipment prior to leaving the location. Noxious weed specifications in the special use authorization(s) operating plan would include conducting annual surveys and submitting reports, as well as controlling weeds using approved CNF methods.
12. An on-site review of staking prior to any construction activities would occur to ensure avoidance of the prairie dog town.
13. Additional ferret surveys would be required prior to construction.
14. The Memorandum of Agreement (Agreement) among the CNF, Arizona Game and Fish Commission, Hopi Tribe, Yavapai-Apache Nation, and State Historic Preservation Office regarding archeological data recovery of the sites within the proposed shooting facility would be adhered to.
15. Reconstruction and/or improvement of A-1 Lake to mitigate disturbance at Marvin and Thompson tanks.
16. Restoration of 390 acres of grassland by removing tree invasion within Brannigan Flat, Government Prairie, and scattered meadows between those two locations.

Management Action Mitigation Measures:

1. A sound-monitoring program would be implemented. As the various phases of the range are constructed and begin operation, additional sound testing would be performed to confirm the values predicted in the original sound study. If the operational results exceed the predicted levels, additional mitigation measures may be developed and implemented.
2. A lead recovery program would be instituted on the shooting ranges with the exception of the Sporting Clays Range. The frequency of the program would depend on the amount of use on the range. Recycling will occur when economically feasible.
3. A soil-monitoring program would be implemented on the shooting ranges. Soil would be analyzed for pH and to determine if lead or arsenic have migrated beyond the surface of the soil. Soil analyses would occur after the 4th year of operation. Subsequent soil analyses would be conducted dependent on the amount of use a range receives. It will be at least every 4 years on the range with the highest use. All firearm ranges will be sampled at a minimum of every ten years. Based on the results of the soil monitoring, additional amendments may be added to the soil to increase pH and/or to maintain lead and arsenic in the first few inches of the soil.
4. Permanent shooting range staff would be monitored for blood lead levels according to OSHA standards.
5. Encourage the use of non-toxic shot and projectiles such as steel or tungsten, as they become available and affordable.
6. Encourage the use of biodegradable clay targets as they become available and affordable.
7. Restrictions on certain types of projectiles, including but not limited to armor piercing, incendiary, tracer, or 12.7 x 99 mm would be based on target and/or backstop limitations or the results of the range performance evaluations once the shooting facility is in operation.
8. The proposed range facility would have line safety officers and rangemasters to control shooters, enforce safety protocols, and manage use.
9. The proposed facility will be closed to public entry except on designated routes.
10. Cattle movement across the facility boundaries would be accommodated as part of the shooting range operating plan. Gates would be installed in the fence surrounding the shooting range and an approximately 100-foot livestock driveway would be designated. It is estimated that the livestock driveway would only be used 2 to 6 times per year. Use of the driveway would be coordinated with the U.S. Forest Service, the livestock permittee, and Arizona Game and Fish Department so that safety, allotment scheduling, and shooting facility use would not be substantially affected.

APPENDIX B - Forest Plan Amendment

As a result of this analysis, there would be replacement pages created for the Forest Plan to accompany the Decision Notice if one of the action alternatives is selected. Please remember that this MA will only exist as long as the land remains under Forest Service jurisdiction. What follows is a brief summary of how the Forest Plan would change.

Create a new Management Area for the Bellemont Shooting Facility – MA 30

- MA 30 would contain the management direction from this EA and the Decision Notice for the management of the shooting range under special use authorization to the Arizona Game and Fish Department.
- MA 30 would be identified as base-for-exchange land in preparation for a land exchange with the Arizona Game and Fish Department.
- MA 30 would have an administrative closure for all other forest uses, except as outlined in the management direction.
- The VQO classification will be adjusted to meet the selected alternative.
- Adjust other MA's acreages – reduce MA 3, MA 4, MA9, and MA6 to reflect the creation of a new MA.