Mr. Travis Moseley
Forest Supervisor
c/o Ciara Cusack
PO Box 288
Cloudcroft, NM 88317

SUBJECT: High Altitude Mountain Environment Training Strategy (HAMETS) Helicopter Operations Project. Comments Process & Environmental Impacts

July 8, 2016

Mr. Moseley,

Thank you for the opportunity to provide comments to the High Altitude Mountain Environment Training Strategy (HAMETS) Helicopter Operations Project.

As Americans we all understand and appreciate the need for our military to provide the quality training necessary to defend our country when the time for deployment arrives. Moreover, we support the need of the Army to provide this training to ensure that our troops are ready and prepared to serve their country.

Our Congress has provided the Department of Defense with over twenty million acres for our solders to use for just this purpose.

We also feel strongly that we can and should be able to ensure that we can achieve military readiness through appropriate training exercises on those twenty million acres while simultaneously honoring the decades of investment that the American public, the U.S. Congress, federal agencies and local residents have made in conservation, recreation, wildlife and habitat, local economies and the quality of life of rural communities in or around the Sacramento Ranger District (hereafter called "LNF-SRD") of the Lincoln National Forest.

I submit the following comments in response to the comments letter from you dated May 18, 2016 (hereafter called "Comments Letter") and hope that they will be considered and influence the nature of the Environmental Impact Statement (EIS) that will need to be prepared in the coming months. In my opinion, a number of issues have not yet been adequately identified or analyzed in the Comments Letter and additional work must be done and incorporated before NEPA requirements have been met and a draft EIS crafted.

I feel that this project will individually and cumulatively have a significant effect on the quality of the human environment. I believe that significant environmental effects are certain. This project warrants an Environmental Impact Statement and full consideration of alternatives. I have supporting documentation (see below).

I am a long time resident in the area affected by the HAMETS project (hereafter called "LNF-HAMETS"). I have a BSEE degree. I am a private pilot, with about 800 hours flight time. I have owned and built aircraft. I am an amateur radio operator, licensed by the FCC and operate a radio station. I am a volunteer firefighter and have over ten years experience with fires and emergency services here in the Lincoln National Forest and surrounding communities. I have extensive experience in business and database management. I own a business in Weed, NM.

> **1. COMMENT:** Based on my review of the HAMETS Project and available data, I request the drafting of an environmental impact statement (EIS) as it is more appropriate for the large scale human impacts in HAMETS.

I have identified my comments by prefacing them with the word "**COMMENT:**" in bold type (there are 61). My discussion of these comments (labeled "Discussion") contains important supporting information and you may add some or all of that supporting information as additional comments. It is all relevant to the LNF-HAMETS.

PROCESS RELATED COMMENTS

1. COMMENT: The Comments Letter comments schedule is overly aggressive with only 30 days allowed for comments and lacking any public meetings in the small mountain communities that are most impacted (Weed, Sacramento, Sunspot). While scoping public meetings are not a requirement under the National Environmental Policy Act, they are commonly incorporated by the U.S. Forest Service and other federal land management agencies when dealing with a significant and potentially controversial proposal such as this one.

2. COMMENT: The Comments Letter does not define the proposed LNF-HAMETS project properly as required by the USFS NEPA Handbook. Critical information is missing. The result is that informed comments are very difficult or impossible. This is wrong and should be corrected. The USFS Handbook (1909.15_10) states, (I quote):

"A proposed action is a proposal by the Forest Service to authorize, recommend, or implement an action to meet a specific purpose and need. All proposed actions have five parts that comprise their whole: who, what, how, where, and when.

WHO is proposing the action?
WHAT is the action being proposed?
HOW will the action be accomplished?
WHERE is the action being proposed?
WHEN is the action being proposed?"

The LNF Forest Supervisor has failed to properly explain and define the "WHAT", "WHERE", "WHEN", and "HOW" as required in the Handbook (see below for specific examples).

3. COMMENT: I ask that the LNF Forest Supervisor reset the 30 day clock, and present stakeholders with complete WHO, WHAT, WHERE, WHEN information. Further that he direct that LNF personnel conduct community information meetings in the affected rural areas (Weed, Sacramento, Sunspot at a minimum). This will help affected stakeholders and will assist the LNF with informed comments.

The Comments Letter and LNF website both fail to provide essential information concerning the LNF-HAMETS Project. In addition, no local meetings in the affected communities of Weed, Sacramento, Sunspot have been conducted for these scoping comments.

The missing critical, "what", "how", "where", and "when" information includes:

a. Locations of landing zones (LZ). The Comments Letter has a postcard size map. The Website has a bigger map but still has no LZ coordinates. The landing zones could be anywhere in a several hundred yard radius. Location information is needed. Location of each landing zone is important for appropriate comments as it affects soil, vegetation, wildlife, recreation, noise, etc.. The LNF Forest Supervisor needs to provide this "WHERE" information in the documents provided to the public..

b. Helicopter types are not mentioned in the Comments Letter. For responsive comments stakeholders need to know which helicopters the Army will fly. Some Army helicopters are very large and noisy and have a large environmental impact (CH-47 for example). The LNF Forest Supervisor needs to provide this "WHAT" information to the stakeholders.

c. The LNF Forest Supervisor must provide flight path information. While the flight path in and out of the Alamogordo airport is generally mentioned (as a noise abatement effort) no other flight ingress / egress paths to the 18 proposed landing zones is discussed. We are left to wonder if each Army pilot picks his own route, or if they all fly the same route or ?? The amount of impact to stakeholders depends on the aircraft, pilot technique, altitude and path. Lower level flight has greater impact than higher level flight. Since the Comments Letter fails to specify these routes or altitudes, the intention must be (and prudence should make us assume) that the Army is allowed to pick any route, with any legal altitude to fly, across any part of Sacramento Ranger District that they choose. It should be obvious that flight path information is important to stakeholders that may live or work under the path, yet none is provided. Also, while the website material indicates that landings will start at 2,000 feet above the ground and descend to land, none of the information supplied in the Comments Letter or Website discusses, or lists, the altitude to be flown during ingress / egress to the landing zones. Again stakeholders along these routes need this information. These two factors affect the noise / vibration / visual disturbance impacts to the Sacramento Ranger District (impacts to users, wildlife, livestock, etc). Without proper data how can we give informed, helpful comments? The LNF Forest Supervisor needs to provide this "WHERE" information.

d. This Comments Letter lacks any information about the length of the proposed permit. A short term 6 months or a year has different ramifications and cumulative effects than a longer one. Stakeholders need to know the intentions of the Army and LNF in order to provide informed comments.

4. COMMENT: The Forest Supervisor has failed to involve the local, adversely affected communities. The USFS Handbook (1909.15_10) states, (I quote):

"Selection of scoping techniques should consider appropriate methods to reach interested and affected parties. For example, a project with potential localized effects to a small community might consider posting fliers at locations where they are likely to be seen.".

Communities affected such as Weed, Sacramento and Sunspot have not been appropriately involved. Affected parties living adjacent to the landing zones have not been informed. The comment period is the shortest possible, legal length. This limits rural stakeholders participation (rural stakeholders lack the communications infrastructure enjoyed by urban areas). The USFS has not shown a good faith effort to inform stakeholders in the rural, affected areas.

5. COMMENT: The USFS Handbook (1909.15_10) further states, (I quote):

"There shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process shall be termed scoping . . ." and "Indicate the relationship between the timing of the preparation of environmental analysis and the agency's tentative planning and decision making schedule."

No such schedule has been promulgated. No such "early and open process" has been made available to the rural affected stakeholders. These affected parties have had limited notice and only 30 days for comments. Contrast this to stakeholders in urban Alamogordo who have been informed and have had meetings with the LNF (and Army) for over three years (FOIA furnished emails). Again I state that the USFS has not shown a good faith effort to inform stakeholders in the rural, affected, LNF-HAMETS areas.

6. COMMENT: In the LNF-HAMETS Plan Solicitation of Comments letter, dated "May 18, 2016" the LNF asserts (under the "BACKGROUND" paragraph) that HAMETS training was conducted in 2012 and (I quote),

“This training was conducted safely and without incident or apparent public disturbance.”.

This statement is disingenuous and shows, yet again, the reluctance of the LNF Forest Supervisor to involve the local communities. The rest of the story is that the LNF failed to notify stakeholders about the “training”. They failed to provide a contact for concerns or complaints (I had low flying helicopters over my house (the guys waved at me) but I had no idea who to contact about the low flight. A neighbor had a laser light pointed at his house by a helicopter while it was using the Weed landing zone.). The LNF failed to coordinate with the Army in these matters. The fact is that the LNF is overflow by many aircraft controlled by numerous government agencies. When a helicopter buzzes a home or camp site or stampedes cattle or horses, who does the public call? The LNF? The Army? The USAF? The German Air Force? The National Guard? The FAA? The USFWS? The NMSGF? The Sheriff? The LNF Supervisor knows these facts, yet provided no notification, no contact information, no announcements, no meetings to inform stakeholders of this “training”. He solicited no feedback. He failed to look for feedback. In fact this poor process shows again that the LNF Supervisor does not want local stakeholder input (otherwise he would have properly solicited it). The LNF / DoD then proceeds to use this self created, “vacuum” of comments to justify that there is “no impact” to the Forest or stakeholders from HAMETS “training”. This lack of transparency and attempt to circumvent the NEPA process is beyond belief. It takes real guts for this level of disingenuousness.

As an illustration of this poor management process and indifference I'll relate to you a local Weed resident's search to find out what was going on. This is during the 2013 “training” held by the LNF and Army. The resident lives in the Sacramento area, just below the Weed Lookout LZ. He was outside when suddenly helicopters flew over. He was over flown (below 2,000 feet in my estimation) while the helicopters landed and took off. He was concerned about apparent laser use from the Army helicopter. He did not know who to contact. He was concerned. He made a video and ask, “Was I Laser Targeted By An Apache Attack Helicopter?” I ask, “Was he?

https://www.youtube.com/watch?v=fRZ05UU2rc0&feature=youtu.be

I encourage the LNF Forest Supervisor to review the video and the resident's comments and concerns on the audio track.

I reiterate, the LNF Forest Supervisor does not want community input, does not want to provide an open, fair, NEPA process. The statement made by the Forest Supervisor, and I quote, ***“This training was conducted safely and without incident or apparent public disturbance.”*** is just plain false and an outright lie in so many ways. Participation was not solicited and public questions and concerns not answered.

7. COMMENT: Is the LNF Forest Supervisor planning to ignore the environmental impacts from noisy overflights of the Forest? Will the LNF-HAMETS ingress / egress flight paths across the LNF-SRD be evaluated for impacts. Or will the LNF Forest Supervisor claim no jurisdiction over airspace? Will the airspace / communications impacts be ignored? If so will he also ignore the impacts of these flight paths and their noise / vibration on the Forest ecosystem below? Will the LNF Forest Supervisor direct that the Army assist in the NEPA process for the HAMETS ingress / egress flights (so they are evaluated)? Or will the environmental impacts of these flight paths just be “overlooked” by the LNF-HAMETS project team?

8. COMMEMT: I ask that the LNF establish a collaborative process and bring in outside assistance (see discussion below) for the HAMETS NEPA process. I believe the NEPA / legal process ahead may be particularly contentious and challenging, given the past, and on going, history of conflict between the USFS / LNF, the local communities most negatively impacted (Sacramento, Weed, Pinon, Sunspot, etc.) and Alamogordo (the fuel supply contract economic impact is significant to Alamogordo and has been in planning with the Army and the LNF for three years (source FOIA)) . These negatively affected communities are within, or adjacent to, the LNF-SRD and in the landing

zone, or fly over areas, of the LNF-HAMETS project. This request is per the document titled “A Citizen’s Guide to the NEPA” 2007, Council on Environmental Quality Executive Office of the President referenced by the USDA and NEPA. I quote that document:

> **“If for some reason, you believe that the process ahead may be particularly contentious or challenging, given a past history of community conflict or deeply divided interests, consider raising with the lead agency the possibility of a collaborative process with outside assistance.”**

I believe the process ahead will best be assisted by outside assistance because the LNF Forest Supervisor has:

a. Forest Supervisor has not honored commitments to hold community meetings in the mountain communities most negatively impacted (Sacramento, Weed, Pinon, Sunspot).

b. LNF Forest Supervisor has refused reschedule canceled meetings, leaving the communities without input and without information, even after the community requested a meeting and offered to help.

c. When security concerns were raised the services of the County Sheriff were offered. The LNF Forest Supervisor still would not schedule a meeting..

d. The LNF Forest Supervisor brought armed federal agents, with assault weapons and body armor, to HAMETS meetings. The Federal agents refused to remove the assault weapons when asked. Such a display of weapons and force can only intimidate and squelch citizen discussion and comments. This ruins the collaborative process. Automatic, AR-16 assault rifles, have no place at a peaceful town meeting that already has adequate security (Sheriff Deputies) and no history of problems.

e. Several other USFS actions that negatively impact local communities / stakeholders are in progress. A significant number of residents of the mountain communities are involved in litigation with the USFS / LNF over these LNF actions.

f. My comments in #6 above show that the LNF is not interested in these community's input, nor in working together to mitigate impacts.

g. The LNF Forest Supervisor failed to contact the residents adjacent to the Weed landing zone even thought this is recommended USFS procedure.

h. Finally the process of HAMETS NEPA to date (the initial “scoping”) has been poorly done. Maybe this is due to incompetence, or maybe it is intentional, in any case the Scoping process has been poor. By itself the poor scoping documentation and short (but legal) comment period could be just indifferent management by the LNF, but when the entire process, and all the problems, are reviewed in context, it seems obvious that the LNF Supervisor has difficulty interacting with the small mountain communities (that are most negatively affected). These communities want to be involved, and have asked for USFS help. They have asked for meetings. They have only silence back from the LNF.

9. COMMENT: The scoping documents provided by the LNF are so incomplete as to be largely unusable (refer to my comment #2 above). No alternatives are offered or discussed. The communities of Weed, Sacramento, Pinon, Sunspot have valuable input concerning alternatives. Since the LNF has failed to provide alternatives and not sought local community input I offer some alternatives (in a one sentence format):

1. Use DoD managed land / airspace rather that LNF land and airspace.
2. Use existing US Army HAMETS facilities (Fort Carson) by scheduling improvements.
3. Have US Army use federal Eminent Domain to condemn land in LZ and flight paths.

4. Use existing High Altitude Army National Guard Aviation Training Site or HAATS (CO).
5. Use simulators.
6. Use NATO treaty (such as the German Air Force uses at Holloman AFB) to fly in Europe/Middle East.
7. Limit flight paths, set minimum altitude at over 5,000 AGL. No LZ near dwelling (5 miles).
8. Use Salinis Peak 8,959 feet elevation), WSMR. Mount poles to simulate trees.
9. Use Hawthorne Army Ammunition Depot, NV, Mt. Grant (11,303). Mount poles to simulate trees.
10. Use Naval Air Weapons Station China Lake, CA (8,900 ft)
11. Use BLM or USFS holdings that do not have interspersed private land and communities.
12. Etc.

10. COMMENT: Finally the LNF-HAMETS project violates every aspect of the Forest Service charter documents. The LNF-HAMETS project violates the current Forest Plan (1986), the Multiple Use and Sustained Yield Act, the Organic Act of June 4, 1897 and the MOU between the Department of Defense (hereafter called "DoD") and the Department of Agriculture of 1988. I have submitted comments under separate cover for this concern.

MY COMMENTS ON PRIEVIOUS NEPA ANALYSIS ERRORS THAT MAY BE AVOIDED

1. COMMENT: Noise is often scientifically measured and those measurements then related to voters complaints (okay, it's called "annoyance" by federal agencies) . That term effectively marginalizes the human impact from noise. Noise causes actual human health damage not just "annoyance". This real physiological damage includes: learning disability in children, hearing loss and cardiovascular damage and more. Studies in the past five years confirm serious human health impacts from noise.

The DoD (and the EPA) uses averages to quantify sound levels and voter "annoyance". This method usually under reports and minimizes noise impacts. An excellent Army report from 2007 (ERDC/CERL SR-07-24, October 2007) illustrates the errors in "average" noise numbers and the adverse impacts those errors can have on both human and wildlife health. I believe this report has a direct bearing on the LNF-HAMETS project as it makes clear that noise averages are often a poor metric. I quote the 2007 Army report:

> "Long-term-average noise level does not adequately guide land use. As an example, 100 events of 142 dB peak pressure level yield an annualized CDNL of 62 dB, which is supposedly suitable for all land uses. However, a peak level of 142 dB is so loud that it would almost certainly cause a strong negative public reaction, and in fact exceeds the 140 dB threshold for human hearing damage (Military Standard [MIL-STD]-1474D; Occupational Safety and Health Administration [OSHA] 1983)."

and,

> "Average noise levels provide no indication of the loudness of individual events to which citizens are exposed."

and,

> "Another difficulty is that impact assessment results depend strongly on the selection of the time period over which the noise is averaged. The method ignores any effect of the timing of noise events; there is no difference between 10,000 noise events spread over 1 year or all occurring in 1 day."

MY COMMENTS ON ENVIRONMENTAL IMPACTS

1. Noise, vibration and Visual Disturbance

a. COMMENT: Noise impacts must be investigated both at the landing zones and in the ingress / egress flight paths. I believe a comprehensive presentation of noise effects for both the landing zones and for the much larger flight ingress and egress routes is essential for understanding of noise, vibration and visual disturbance to the environment. I believe that noise from the LNF-HAMETS project will significantly affect the quality of the human environment including disproportionate health impacts to children, elderly and economically disadvantaged (see Otero County demographics Census Bureau data).

b. COMMENT: Impacts to archaeological resources from noise and vibration must be investigated. The Army has reported damage from helicopter operations (see in "Discussion", below) (see comments under "Archaeological Resources".)

c. COMMENT: The project calls for helicopters to travel together in groups of two or more. The Noise, vibration and Visual Disturbance impact analysis must reflect this. Due to the slow speed and tight grouping of helicopter operations the level of environmental impact will be much greater than if a single aircraft were involved.

d. COMMENT: The cumulative impact from the added noise due to the LNF-HAMETS project must be analyzed. Adding a few more flights without looking at cumulative impacts is poor management and fails NEPA guidelines. The airspace over the LNF-SRD is busy with USAF, German Air Force, Army, civilian, and public service aircraft. Every new addition by a Federal Agency to the number of overflights adds more noise, vibration and visual disturbance. The LNF-HAMETS is such an addition. The cumulative effect must be investigated.

e. COMMENT: Noise, vibration and Visual Disturbance will affect recreation. Both areas under the flight path and areas near landing zones will be affected. For example recreational areas close to Buff Springs will be greatly impacted by noisy, day night helicopter operations. These impacts must be analyzed.

f. COMMENT: Noise impacts human health. Impacts must be analyzed. Including impacts on children.

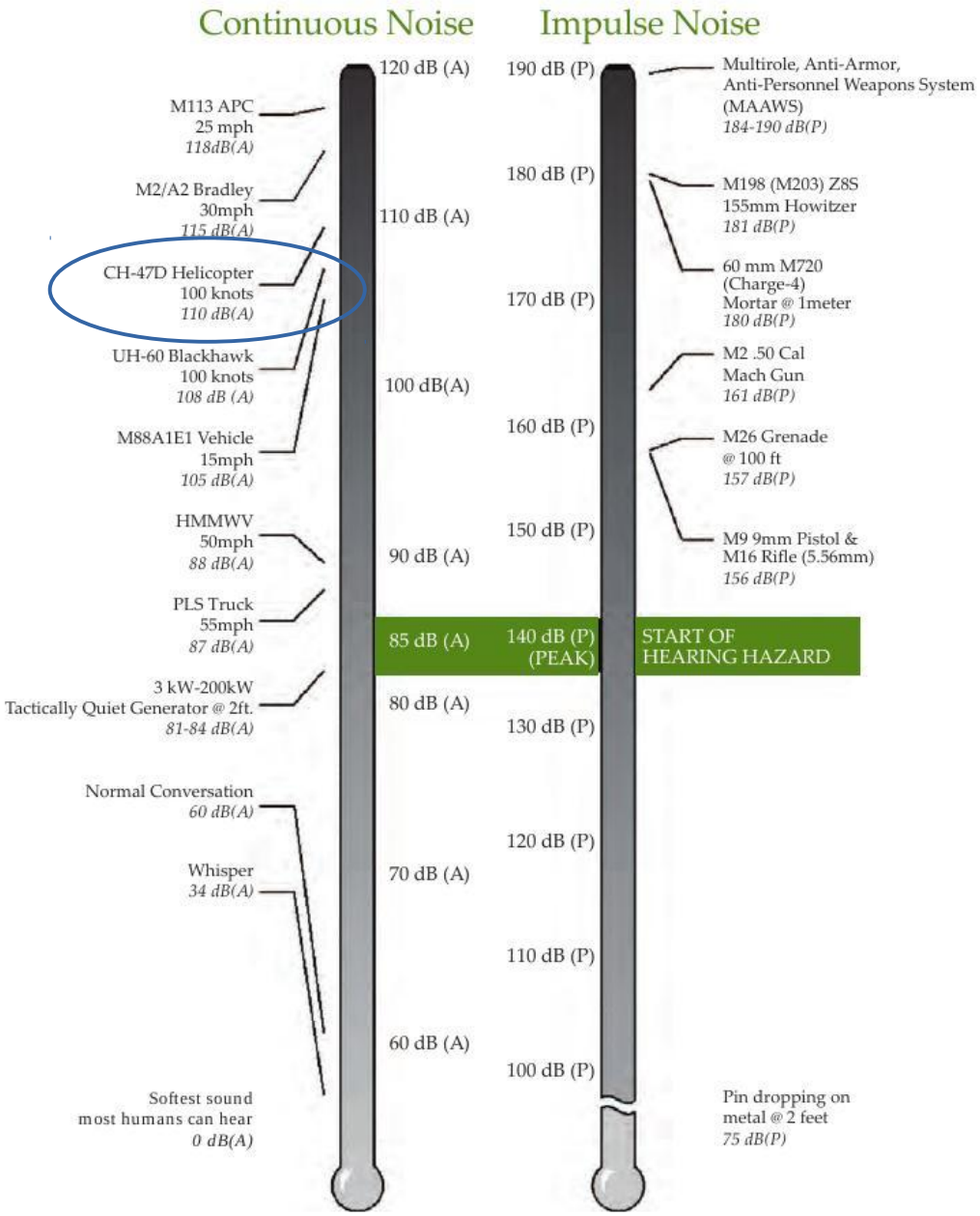
g. COMMENT: The Comments Letter fails to address any visiting Army units use of LNF-HAMETS. Will there be visiting units? How many?

h. COMMENT: No contact for complaints or concerns. The LNF-HAMETS project must include "someone" that will address ongoing stakeholder complaints and concerns. This same someone should be able initiate permit revocation. Permit revocation must be part of the project to insure that the Army honors its commitment rather than "mission first" DoD requirements. Trigger points for revocation / limitation must be set, and published. The Army and the USFS seem to be reluctant to address this issue. This is a human health issue.

i. COMMENT: Noise, vibration, startle affects from rotor craft on livestock (goats, cattle, horses, chickens, turkeys, sheep, Etc.) must be analyzed.

j. COMMENT: Noise, vibration, startle affects from rotor craft on small animals (mice for example) must be analyzed.

Discussion:
These uncertain flight path routings and altitude elements combined with aircraft noise, vibration and visual disturbance affect the LNF Forest environment. The Comments Letter fails to specify routes into the landing zones, routes away from the landing zones (and the exact landing zone location for that matter). With no flight path constrains the environmental impacts are likely widespread and significant. For example, Army pilots may choose to select the exact same route for all flights. This will result in high noise / vibration / visual disturbance in narrow corridors across the LNF-SRD. Keep in mind that the Comments Letter fails to state routing so anything is possible. As a pilot I find that routes are often picked by easy to find landmarks. This leads to one path becoming heavily traveled.



The uncertainty surrounding routing puts the entirety of the Sacramento Ranger District at risk for noise impacts from helicopter overflights. This includes impacts to stakeholders, endangered species, livestock and wildlife.

Noise and vibration affects human health. Noise, vibration and visual disturbance impact areas are important. One key to impact levels is the noise, vibration and visual impacts generated from a specific aircraft. Each aircraft has different characteristics. The Comments Letter fails to identify any Army helicopter types that are to be used in the LNF-HAMETS project. Helicopters produce noise at levels and frequency spectra that are dependent on helicopter airframe, rotor, engine type and model, and operating techniques.

Numerous studies show that noise and vibration impacts wildlife and livestock. Noise impacts the socioeconomics of the LNF-HAMETS affected area. Noise and vibration affects recreation and hunting. In fact there is little Forest use that is not impacted by noise from the LNF-HAMETS project. We need a study to understand the magnitude of the impacts from LNF-HAMETS.

Reviewing the aircraft operated by the Army unit initiating the LNF-HAMETS project (Fort Bliss, 1st Armored Division Combat Aviation Brigade (1 AD CAB)) I find the CH-47 Chinook transport helicopter. This is a large twin engine, twin rotor heavy helicopter and I assume should present the greatest environmental impact to the Forest, Forest users, livestock, wildlife, endangered species, invasive species, etc. It is prudent, given no information otherwise, to assume that the LNF-HAMETS project will utilize the CH-47 as that assumption will offer the best protection to the Forest resources and stakeholders.

The Army CH-47F is a heavy transport helicopter that has a takeoff weight up to 25 tons. Unloaded it weighs in at over 12 tons. It has two turbine engines that produce 9,466 horsepower. It is almost 100 feet long and 18 feet high. It carries over 1,000 gallons of jet fuel internally. It uses 360 gallons of jet fuel per hour. It is a big heavy, noisy machine. Early in the service of the Chinook, noise, especially in the low frequency spectrum was a problem for both aircrew and ground crews. The Army implemented several procedures and modifications to protect the aircrews from hearing damage. Numerous studies have been conducted measuring Chinook noise both inside the aircraft and outside. Below are specific noise impact studies.

The CH-47 Chinook has been studied for noise levels multiple times, as it is very noisy. A few of the studies I referenced are:

1. Army Technical Report USA-CERL TECHNICAL REPORT N-88/04 (AD-A191 059) (1988)
2. USAARL Report No. 96-02 (1995) (Aircrew)
3. FAA-EE-84-7, Noise Measurement Flight Test for Boeing Vertol 234 CH 47-D / September 1984

4. USAHC Readiness through Hearing Loss Prevention, July 2014
5. FAA Report No. FAA-RD-77-57, 11 (April 1977)
6. Etc., Etc., Etc.

With minor variances in these reports the Chinook has 110 dB of noise at 500 ft during overflight and during landing operations. The legal altitude for a helicopter over a home or person may be much lower than 500 feet, 50 feet would be legal for example. A fight of two CH-47 over flying a home or business may generate dangerous levels of noise, vibrations and downdraft. Now picture that event at night. I urge the LNF Forest Supervisor to review the noise data in these reports. They paint a clear picture of the many negative impacts to the LNF-SRD from heavy military helicopter operations.

The US Army Health Command published an informative brochure to help put this noise level into perspective (USAHC “Readiness through Hearing Loss Prevention”, July 2014). I am attaching a chart from that Army publication showing how the CH-47 fits in with other noise sources.

Cardiovascular stress and shortened life expectancy results from noise. Recent, new research has tied aircraft noise to cardiovascular stress and shortened life expectancy. Aircraft noise and health effects is a rapidly

growing area of research worldwide, and there have been many important findings published in recent years. In addition, past scientific studies have tied noise levels, such as found from the CH-47, to negative health impacts for children and elderly. These effects are serious. For example one study indicated a 30% hypertension risk increase per 5 dB(A) noise increase.

These noise impacts will most affect rural Otero County residents, many of whom are elderly and / or economically disadvantaged.

A few health impact reports that I suggest:

1. Cardiovascular effects of environmental noise exposure, 9 March 2014, European Heart Journal
2. Cardiovascular effects of noise Wolfgang Babisch Department of Environmental Hygiene, Federal Environment Agency, Berlin, Germany, 2011
3. Cardiovascular effects of environmental noise: research in Sweden. (National Center for Biotechnology Information)
4. Exposure and Effect Indicators of Environmental Noise, Hartmut Ising, WHO, 2003
5. Aircraft noise associated with hypertension and organ damage, EuroPRevent 2016 presented by Marta Rojek, researcher at Jagiellonian University Medical College in Krakow, Poland.
6. Aircraft noise and health effects: Recent findings CAP 1278 (Civil Aviation Authority GB).
7. Etc., Etc., Etc.

Quoting one study,

> “In conclusion, the results of the present study suggest that chronic exposure to military aircraft noise may be associated with hypertension. The difference in the effects between helicopter and fighter-jet noise implies that different kinds of noise will have different influences on the prevalence of hypertension.” (The Effects of Chronic Exposure to Aircraft Noise on the Prevalence of Hypertension, Hypertension Research (2008)).

Another study, (I quote),

> "noise-based health impacts include sleep deprivation and impacts on cardiovascular and gastrointestinal functions, as well as reduced learning abilities of schoolchildren. These impacts go beyond the quality-of-life annoyances caused when noise disrupts normal daily activities such as speech, sleeping and relaxation." (Natural Resources Defense Council, 1999).

There are scores of studies showing that helicopter noise significantly impacts the human environment. I request that the LNF Forest Supervisor become familiar with current research.

Wildlife impacts. Noise and vibration from helicopter operations across the LNF impacts wildlife. One report discusses raptor response to helicopter activity, (I quote),

> “Whereas some medium-sized diurnal raptors flee from approaching helicopters (Andersen, et al. 1989, Platt 1975, Platt and Tull 1977), others refuse to be flushed from the nest (Pool e 1989), and larger ones sometimes attack helicopter s, presumably in defense against a flying intruder (Mooney 1986, Watson 1993). Variability of response by raptors to disturbance in general is also noted in Awbrey and Bowle s (1990) (although the authors make repeated generalizations concerning “raptors”).” (source: Effects of military noise on wildlife: a literature review, Ronald P. Larkin, USACERL, Illinois Natural History Survey).

Another study states, (I quote),

(Fleischner and Weisberg (1986)) “Reactions of bald eagles to commercial jet flights, although minor (e.g., looking), were twice as likely to occur when the jets passed at a distance of 0.5 mile or less. They also noted that helicopters were four times more likely to cause a reaction than a commercial jet and 20 times more likely to cause a reaction than a propeller plane.”

1999 Delaney study (LNF) of Mexican Spotted Owls considered the impact of a single helicopter, moving at less than 90 miles per hour. The LNF-HAMETS helicopters will be flying at speeds of up to 190 miles per hour and will be flying in packs of two (or more – which will double the intensity of the noise and lengthen the exposure of the noise). Delaney specifically warns against using his study in this circumstance.

DoD has not studied noise vibration, visual disturbance affects on livestock since the 1970s. DoD relies on old studies that are not applicable to the LNF. For example dairy cow studies are often sited as applicable to range cattle. They are not. Helicopter noise has different characteristics than fixed wing aircraft. No studies exist for noise and vibration affects on small animals from rotor aircraft. The missing scientific information concerning helicopters vs western wildlife and livestock means we are guessing at impacts. How can the impact to small animals be ascertained with no information, no studies? This is a bad idea and is likely to cause irreversible harm to Forest resources such as endangered species.

The proposed LZ and ingress / egress routes are over or adjacent to both private holdings and over “Multi-Use” users in the Forest as well as endangered species and species of concern. Many users have livestock and may be mounted on horseback while working in the LNF. Noise is an important issue and must be addressed.

2. Aircraft Operations and Airspace Management and Use.

a. COMMENT: For proper understanding of the airspace impacts an analysis of the airspace use and routes is needed. There is likely a significant effect on the human environment from flight congestion. The cumulative impact to the airspace environment must be analyzed. Adding a few more flights without looking at cumulative impacts is poor and fails NEPA guidelines.

b. COMMENT: The Army and the LNF must monitor performance especially flight altitudes. The Army must honor airspace commitments made with respect to environmental impacts. Helicopters may legally fly at very low altitudes (50' or less above ground level). However, damage to the environment intensifies as the flight level lowers. Without minimum altitude commitments and measurements of the actual altitudes used by Army helicopters the LNF Forest Supervisor, Army Commanders and LNF stakeholders can not judge effectiveness of the LNF-HAMETS plan. Informed adaptive plan / permit changes can not be made.

c. COMMENT: No contact for complaints or concerns (see my comment 1h above). The LNF-HAMETS project must include “someone” that will address ongoing stakeholder complaints and concerns. This same someone should be able initiate permit revocation. Permit revocation must be part of the project to insure that the Army honors its commitment rather than “mission first” DoD requirements. Trigger points for revocation / limitation must be set, and published. The Army and the USFS seem to be reluctant to address this issue. This affects noise impacts, human health, Archaeological resources, etc..

d. COMMENT: The Comments Letter fails to discuss the likely range of LZ / airspace use the Army would need. It fails to include consideration of non-tenant (rotational unit) training at Fort Bliss. Nor does it discuss likely variations in Fort Bliss tenant needs. These impacts must be included.

Discussion:
The airspace affected by the LNF-HAMETS project is presently complex and busy. A glance at the current FAA

Sectional Chart shows SUA, MOA, MTR, IR training routes, restricted airspace, supersonic corridors in the LNF-SRD area.

Altitudes from ground level up have current military use. Civilian and government users also use the airspace. For example USFS Helitack, spotter, air attack, tankers and NMGF aircraft all use the LNF. Even the German Air Force flies through it at 400 knots at 100 feet AGL. Currently military restrictions and activity affects civilian users, emergency medical flights, as well as air fire support. The result is delayed emergency medical, and fire services. Local private air strips and the Timberon Airport are impacted. The LNF-HAMETS project proposes to add a minimum of 662 more flights for 1st Armored Division, Combat Aviation Brigade Home Station (tenant unit) activities. This number is an estimate based on pilots, aircraft available and Army requirements. The May 18, 2016, Comment Letter fails to discuss the likely range of LZ / airspace use that would include consideration of non-tenant (rotational unit) training at Fort Bliss. This missing information is a critical matter. Without discussion of likely Army requirement changes as well as use by visiting "non-tenant" units the estimated number of flights may be grossly underestimated. Similar HAMETS training areas have many non-tenant (visitor) users. For example, at the Fort Carson HAMETS in Colorado the number of annual flights approach 10,000, not 660. This likely underestimating of activity in the LNF-HAMETS affects airspace use for both military and private users. Military users aside, further limits on emergency services are unacceptable to LNF stakeholders and private residents in and adjacent to the LNF-HAMETS project.

Even if (a big "if" based on other HAMETS programs activity levels) the actual Army annual flights in the LNF-HAMETS is exactly 662, the increase in flights is significant and impacts other airspace users. Again an EIS is the bast way to consider environmental factors and gain public input and support.

3. Soil, vegetation and Air

a. COMMENT: Impacts to fragile mountain meadows must be studied and results evaluated. Using the numbers in the Comments Letter each mountain landing zone will have 70 landings or more per year. The helicopters used weigh up to 25 tons. In that case, each wheel assembly will support over 12,000 pounds of weight. The impact of 70 landings a year, at 12,000 pounds per wheel (4 wheels on the landing zone meadow) is significant. Damage to the soil is inevitable and likely not reversible. The Army states, (I quote), "The soils present may be compacted or crushed by the weight of the helicopter.".

b. COMMENT: The Comments Letter fails to address any visiting Army units use of landing zones. We need this information to evaluate the impacts in the landing zone areas.

c. COMMENT: We need accurate landing zone locations to evaluate soil damage potential.

d. COMMENT: These large helicopters create 100+ mph rotor down wash (see source below). The CH-47 helicopter produces downwash velocities of over 110 mph. The impacts to soil (and vegetation) must be studied and evaluated. Landing zones may be used many times each year and systematic exposure to downward and outward 110 mph, high speed, air flow will cause environmental damage to soil and vegetation. This kind of downwash "wind" is not found in nature. 110 mph wind is dangerous. We need an analysis of impacts.

e. COMMENT: Dust and flying debris generated by 100+ mph rotor downwash creates air pollution and an artificial environment around the landing zone. We need an analysis of these impacts.

f. COMMENT: How will the Army access the landing zone in the event of a mechanical breakdown? An emergency medical situation? Will a roadway be cut through the forest? The Army has acknowledged a high accident rate in these kinds of operations. We need an analysis of these impacts.

g. COMMENT: How will the landing zone be accessed in the event of a fire caused by Army operations? Will a roadway be cut through the forest? The Army has acknowledged a high accident rate in these kinds of operations. We need an analysis of these impacts.

Discussion:
Downwash velocities are from US Army source, AD-780 754, HELICOPTER DOWNWASH DATA, Grady W. Leese, et al, Army Engineer Waterways Experiment Station Vicksburg, Mississippi June 1974.

4. Invasive species.

a. COMMENT: The impact from the possible spread of invasive species by LNF-HAMETS must be studied, analyzed and reported.

b. COMMENT: How will the Lincoln National Forest insure that LNF-HAMETS project will not spread invasive species? For example, the Alamogordo airport was exposed to African Rue by DoD military flights. The airport area is now covered by this non-native, invasive species. Invasive species spread has large impacts on the LNF environment. The Army helicopters are refueling at the infected Alamogordo airport. They then fly across the LNF-SRD and land at a landing zone. The potential for spreading invasive species is great both at the landing zone and while in transit. The number of landings will be in the thousands. We need an analysis of these impacts.

c. COMMENT: No contact for complaints or concerns (see my earlier comments). The LNF-HAMETS project must include "someone" that will address ongoing stakeholder complaints and concerns. This same someone should be able initiate permit revocation. Permit revocation must be part of the project to insure that the Army honors its commitment rather than "mission first" DoD requirements. Trigger points for revocation / limitation must be set, and published. The Army and the USFS seem to be reluctant to address this issue. This affects invasive species management.

Discussion:
The cost to the Forest and stakeholders from the spread of invasive species can be very large. The Army must show a plan of prevention including addressing visiting DoD Army units and not just Fort Bliss Aviation. More important they and the LNF must show a monitoring and reporting plan to insure the Army is meeting its commitments and that the actions are effective. DoD must agree to pay for damages. Examples of past performance and military damage are numerous; Puncture vine, native to the Sahara Desert. may have been introduced to North America on the tires of military vehicles and aircraft returning fro m Europe after World War I (Foy et al. 1983). Black rats inadvertently introduced to Midway Island by navy ships during World War II killed the last individuals of the laysan rail. The brown tree snake. native to New Guinea and neighboring areas, was introduced accidentally to the island of Guam in the late 1940s or early 1950s, probably in military shipments of fruit. An arboreal, nocturnal predator on eggs, young, and adult birds, this snake has nearly eliminated native forest bird species. driving six species to extinction and reducing the remaining four species to fewer than a hundred individuals on the main island (Savidge 1987). In Texas and New Mexico. a desert shrub,. African rue, was apparently introduced inadvertently at a World War II airfield. Witchweed and the golden nematode are other pests that are believed to have entered North America on returning military equipment (OTA 1993) and on and on.

Military vehicles, often moved under emergency conditions and with little or no inspection, are a potentially serious carrier of exotics. Such vehicles are often heavily contaminated with mud and plant debris after their use and can spread all manner of contamination.

Permits must be rescinded if DoD or the LNF fails to meet plan. Again public input, especially from affected stakeholders is essential. This can only come from a proper NEPA EIS process and management controls.

4. Safety and Security

a. COMMENT: Landing zones must meet public safety requirements. They must have controlled access. Landing Zones are hazardous to humans, wildlife and livestock. Winds of over 100 mph throw dust, gravel, twigs, limbs, dirt and other debris at high velocity. Helicopters have moving rotors that are dangerous and have killed many people (Google “helicopter rotor death”). Helicopter operations attract people. This “attractive nuisance” kills people. The LNF is a public place, anyone has access. The Army does not control the landing zone area. We need an analysis of these safety impacts and a discussion of mitigation measures. See discussion below.

b. COMMENT: Will landing zones be marked with signage? Will landing zones be fenced? Will landing zones be under control or will anyone be able to wander up to a running helicopter?

c. COMMENT: Fires started from Army use of the landing zones are likely to cause major environmental damage. For example the Scott Able fire started in an area similar to many of the proposed landing sites. The fire risks must be analyzed. Managing risk after a fire event is poor management. The LNF-HAMETS project calls for thousands of landings. The Army has acknowledged a high accident rate in these kinds of operations. We need an analysis of wild fire impacts.

d. COMMENT: Emergency Services access. How will Otero County fire and emergency services access the landing zone in the event of an accident?

e. COMMENT: What additional emergency services resources will be made available to offset the risks from Army operations in the LNF? Fire resources cost money. How will the resources be paid for?

f. COMMENT: In the event of an accident what communications methods are available at the landing zones? The Army must have direct communications with Otero County Emergency Services. Even better would be direct communications between the helicopter unit and emergency services. Minutes count in an emergency situation.

g. COMMENT: In the event of an accident at a landing zone, or in route while in the LNF, what agency will have control of the scene? Will Otero County and the LNF be notified of an incident immediately, in real time, or will it be reported later? Will the US Army defer to Otero County Emergency Services and the Incident Command System? If not how will emergency response be organized? Who will coordinate? In an emergency minutes count. Organizational responsibilities must be predefined. We need an analysis of these emergency services impacts.

h. COMMENT: What provisions are there for security? Military operations are often targets of terrorism. The LNF is accessible to anyone.

i. COMMENT: No contact for complaints or concerns (see my earlier comments). The LNF-HAMETS project must include “someone” that will address ongoing stakeholder complaints and concerns. This same someone should be able initiate permit revocation. Permit revocation must be part of the project to insure that the Army honors its commitment rather thaWe need an analysis of these emergency services impacts.n “mission first” DoD requirements. Trigger points for revocation / limitation must be set, and published. The Army and the USFS seem to be reluctant to address this issue. This is a safety issue.

j. COMMENT: DoD and the LNF must establish flight rules for fire Red Flag days and for Forest Closures. During Red Flag fire conditions any aviation accidents will likely be catastrophic as far as forest fire impact. DoD and the LNF must establish flight rules for these conditions. Actual performance must be measured. Continued DoD violations should result in permit revocation or modification. The LNF-HAMETS project should provide for DoD reimbursement for fire damages resulting from LNF-HAMETS operations. This should include suppression costs as well as losses incurred to private property.

k. COMMENT: Army use of high power lasers / microwave must be limited as they pose a risk to the public. Actual performance must be monitored and a contact provided for public comment (see my comment 1h above).

Discussion:
Downwash velocities are from US Army source, AD-780 754, HELICOPTER DOWNWASH DATA, Grady W. Leese, et al, Army Engineer Waterways Experiment Station Vicksburg, Mississippi June 1974.

Landing zones in the Sacramento Ranger District are located on public land, accessible by all. Children, Boy Scouts, hikers, campers, ranchers all use the landing zones and the areas around them. There is no provision in the LNF-HAMETS to protect these forest users from Army operations.

I have first hand experience with proper landing zone selection and safety elements. Control of the landing zone area is critical. People are attracted to a helicopter landing. Otherwise intelligent people will unthinkingly run (or drive) into a landing zone. Many times they will approach the helicopter with its spinning rotors. Many people have died when contacting the helicopter rotors. Tail rotors are especially dangerous.

People must be kept away from helicopter landing zones while they are in use.

In addition to hazards to humans, wildlife and livestock pose a hazard to the aircraft and aircrew. The reactions form cattle, elk, deer etc are not predictable. They may run away, or they run into the landing zone. Contact with a helicopter rotor will damage the rotor and may cause a catastrophic accident.

Livestock and wildlife must be kept away from helicopter landing zones while they are in use.

The Army has specifically set one of its criteria for LNF-HAMETS as, I quote the Comments Letter,

> "Have a clear area for an HLZ confined by natural features such as trees or terrain."

The pilots approaching such a landing zone will not be able to see into the "confined" trees. Are there people or livestock hidden? They can not know for sure. Once close to ground, or on the ground, they have limited visibility and limited maneuverability to avoid people and hazards.

Even an apparently clear landing zone may quickly become fouled by people or animals. Helicopter pilots have limited visibility (especially to the rear). LZs must be under control while in use.

The US Department of Transportation has a publication that outlines necessary steps to set up a landing zone that insures public safety as well as the safety of the flight crew. This publication is the Aeronautical Information Manual, section, 10−2−3. titled "Landing Zone Safety" (December 2015). The public that uses the LNF should not be forced by the Army / LNF Supervisor into accepting poor safety practices with the resulting risks.

80% of accidents are pilot error (Army statistics). Landing is the most hazardous phase of flight. A CH-47 carries over 1,000 gallons of jet fuel and many hazardous materials. The Army's Combat Readiness/Safety Center reports that in the last decade, 21 helicopters have crashed in Afghanistan where the crew was operating

at 5,000 feet above sea level or higher. Human error was blamed for 17 of those crashes. Crashes / accidents can cause environmental damage including fires. For example this type of high-altitude military training exercise caused a crash in the Mauna Kea Ice Age Natural Area Reserve (Hawaii) in 2003, where an irreplaceable cultural and natural area was damaged. Accidents are likely and must be planned for.

Fire and emergency medical services are not provided by the USFS across the LNF-HAMETS area of operations. Access to some landing zones is limited. Response times by Otero County emergency services is affected by the remote locations, weather (snow for example), roads (or lack of) as well as communications issues. All these factors lead to a possible disaster in the event of a medical emergency or a fire. Army personnel are not the only persons likely to be involved in an emergency from HAMETS. The LNF is open to the public.

A fire will affect all stakeholders. The Scott Able fire ripped through 16,000 acres of prime Owl habitat (and Forest used by thousands). Many of the proposed landing zones are located in the same areas as the Scott Able start. All fires start small, the smallest spark or ember may cause a major disaster in the LNF. Response times are critical.

5. Archaeological Resources

> **a. COMMENT:** Archaeological resources are likely to be impacted by noise and vibration according to a US Army study. The LNF has many historical sites. Some are used by military aviators as flight landmarks (they fly over or close by). Structures such as, but limited to, the Bluewater Lookout Tower (listed on the National Register of Historic Places) may be damaged by noise / vibration from heavy Army helicopter operations. We need an analysis of these impacts.

Discussion:
The Army has reported that heavy military helicopters cause damage to buildings, (I quote),

> "Although noise and vibrations from helicopters can be 30 to 40 times higher than ambient levels, as compared to a high of 60 times ambient for low-flying jet aircraft (King et al., 1988), the duration of noise and vibration is considerably longer from helicopter overflight. Close approach helicopter flights have been demonstrated to damage archaeological architectural structures (USAF, 1992). Similarly, low overflights (50 feet) by heavy helicopters have a high probability of damaging architectural resources (Sutherland, 1990)." (source; McGregor Range Land Withdrawal Legislative Environmental Impact Statement, May 1999).

As I have stated previously, no ingress / egress routes or altitude limits are shown in the LNF-HAMETS Comments Letter. Helicopters may legally fly at 50 feet, and they will. One such flight may damage a historical site.

6. Radio Frequency Spectrum

> **a. COMMENT:** Jamming or interference (deliberate or accidental) of GPS or VHF radio must not occur in an emergency. Radio communications issues may exist due to terrain and USAF activities. In many areas of the LNF cellular communications is not possible. Satellite telephone usually work but are not widely available. The majority of public service communications is by VHF radio. GPS is used to locate emergency scenes and aid emergency service workers. It is critical to aircrew safety and public safety that the DoD (Army / USAF / GAF) coordinate VHF and GPS use with public emergency services. Coordination must be in real time as a delay for the bureaucracies to make phone calls over a several hour time frame is unacceptable. We need an analysis of these emergency services impacts.

b. COMMENT: Radio Spectrum coordination between the DoD, USFS, Otero County, and private FCC license holders is required. What are the impacts to stakeholders?

c. COMMENT: High powered RF and laser emitters pose a public threat. Their use by Army aircraft must be divulged and discussed (see my comment 4k). Laser impacts on stakeholders (and the environment) should be analyzed.

7. Visual and Aesthetic Resources

a. COMMENT: The visual sensitivity impacts associated with LNF-HAMETS is great because the areas involved are areas of high scenic quality and are readily accessible to and used by, large numbers of people. There will be groups of helicopters flying over scenic areas. Impacts must be analyised.

8. Just One of the Eighteen Landing Zones, Weed Lookout Tower (other LZ must be analyzed)

a. COMMENT: Have homeowners and businesses in the affected area (3 miles) been notified by mail about the LNF-HAMETS project? The Weed landing zone is close to both private residences and businesses. I contacted one of the closest residence owners. They knew nothing of the LNF-HAMETS. Why? Stakeholders must be contacted, especially the ones most negatively affected.

b. COMMENT: 6,000 feet away from the Weed LZ is a commercial goat ranch. The negative impacts on wild goats from helicopter flights has been documented. How will the helicopter traffic, night and day, affect this man and his family, his business? Has he been contacted? We need an analysis of impacts, including economic and health for these nearby residents.

b. COMMENT: Will private parties be compensated for damages from the LNF-HAMETS project? Who will pay damages? Who will investigate damage claims? How will claims be made? What specific office (and their contact information) will be responsible?

Discussion:
Landing Zones are not properly defined in the Comments Letter. However two of them are located at old, previously used spots that are identified on maps. One of these is the Weed LZ. It is located next to the community of Sacramento and a short distance from the community of Weed. Neither community has held a USFS sponsored LNF-HAMETS meeting nor have local residents been communicated with by the LNF Forest Supervisor. This violates the USFS Handbook and common sense.

Within a mile of the LNF-HAMETS landing zone at the Weed Lookout there are numerous private residences and businesses. Health, safety, economic, noise impacts from day and night heavy military helicopter operations will be severe for these people. The LNF-HAMETS offers no impact measurements, no mitigation, no damage claim process. There is no way to know the scope of the impacts to these people and their businesses.

Within 6,000 feet of the Weed LZ is a church affiliated camp that serves families, churches and soldiers with PTSD. Helicopter flights are particularly disruptive for these people. The impacts on the local economy have not be analyzed. They must be.

Within one mile there is at least two private residences. One on the approach side and one on the takeoff side of the Weed LZ (with prevailing winds). They will be heavily impacted.

Within three miles there are more than a dozen private residences.

9. Socioeconomic Impacts

a. COMMENT: In rural areas such as those proposed for use by the LNF-HAMETS residents depend heavily on ranching, recreation and tourism. What impacts with the day / night heavy helicopter LNF-HAMETS operations have on these economic engines? Noise, visual disturbance and vibration should be considered and analyzed..

b. COMMENT: What affect will there be on property values? Specifically on those properties adjacent to LZ, but also to include property under the LNF-HAMETS ingress / egress "noise corridors" invasive species corridors.

c. COMMENT: Impact on Astronomy will be significant. There are over one hundred observatories in the area of the LNF-HAMETS project. These observatories monitor the entire spectrum, not just optical. The equipment and process require precise mechanical alignments. They require clear air. Noise, vibration, dust and visual obstruction (by a helicopter for example) have negative impacts on these observatories. These impacts must be analyzed.

d. COMMENT: Astronomers, and their observatories, are attracted to the LNF-SRD area because of the excellent existing environment. When this environment is negatively impacted what will the economic impacts be?

10. Environmental Justice

a. COMMENT: The areas negatively impacted are predominately retired elderly and lower income. The positive economic impacts are predominately in the higher income El Paso and Alamogordo areas. The environmental assessment / EIS must identify if the negative impacts are disproportionately placed on lower income residents.

11. Children's Environmental Health

a. COMMENT: Low levels of noise have been shown to affect children's health and learning. The LNF-HAMETS flight paths may cross over camps, churches, home schools at very low altitudes. Noise levels must be analyzed and compared to current noise research and an evaluation of impacts made.

Thank you again for the opportunity to provide these few comments. With more time, and better information about the project, my neighbors and I could provide even more helpful feedback.

Sincerely,

Walt Coffman
1014 NM Hwy 24
Weed, NM 88354

"We have met the enemy and he is us" – Pogo