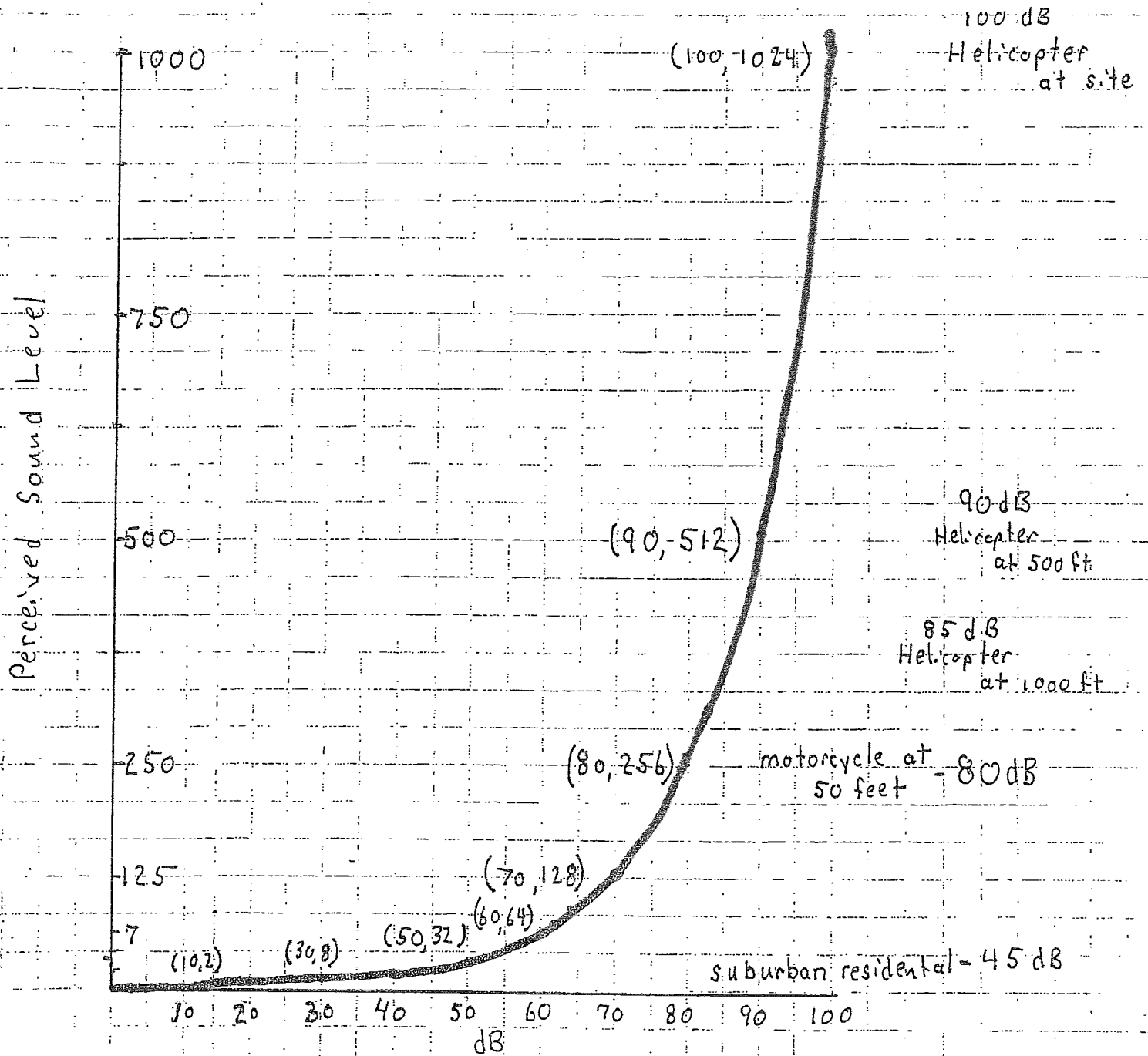


Exhibit E

Sources and Their Effects

Noise Source	Decibel Level	comment
Jet take-off (at 25 meters)	150	Eardrum rupture
Aircraft carrier deck	140	
Military jet aircraft take-off from aircraft carrier with afterburner at 50 ft (130 dB).	130	
Thunderclap, chain saw. Oxygen torch (121 dB).	120	Painful. 32 times as loud as 70 dB.
Steel mill, auto horn at 1 meter. Turbo-fan aircraft at takeoff power at 200 ft (118 dB). Riveting machine (110 dB); live rock music (108 - 114 dB).	110	Average human pain threshold. 16 times as loud as 70 dB.
Jet take-off (at 305 meters), use of outboard motor, power lawn mower, motorcycle, farm tractor, jackhammer, garbage truck. Boeing 707 or DC-8 aircraft at one nautical mile (6080 ft) before landing (106 dB); jet flyover at 1000 feet (103 dB); Bell J-2A helicopter at 100 ft (100 dB).	100	8 times as loud as 70 dB. Serious damage possible in 8 hr exposure
Boeing 737 or DC-9 aircraft at one nautical mile (6080 ft) before landing (97 dB); power mower (96 dB); motorcycle at 25 ft (90 dB). Newspaper press (97 dB).	90	4 times as loud as 70 dB. Likely damage 8 hr exp
Garbage disposal, dishwasher, average factory, freight train (at 15 meters). Car wash at 20 ft (89 dB); propeller plane flyover at 1000 ft (88 dB); diesel truck 40 mph at 50 ft (84 dB); diesel train at 45 mph at 100 ft (83 dB). Food blender (88 dB); milling machine (85 dB); garbage disposal (80 dB).	80	2 times as loud as 70 dB. Possible damage in 8 h exposure.
Passenger car at 65 mph at 25 ft (77 dB); freeway at 50 ft from pavement edge 10 a.m. (76 dB). Living room music (76 dB); radio or TV-audio, vacuum cleaner (70 dB).	70	Arbitrary base of comparison. Upper 70s are annoyingly loud to some people.
Conversation in restaurant, office, background music, Air conditioning unit at 100 ft	60	Half as loud as 70 dB. Fairly quiet
Quiet suburb, conversation at home. Large electrical transformers at 100 ft	50	One-fourth as loud as 70 dB.
Library, bird calls (44 dB); lowest limit of urban ambient sound	40	One-eighth as loud as 70 dB.
Quiet rural area	30	One-sixteenth as loud as 70 dB. Very Quiet
Whisper, rustling leaves	20	
Breathing	10	Barely audible

[modified from <http://www.wenet.net/~hpb/dblevels.html>] on 2/2000. SOURCES: Temple University Department of Civil/Environmental Engineering (www.temple.edu/departments/CETP/environ10.html), and *Federal Agency Review of Selected Airport Noise Analysis Issues*, Federal Interagency Committee on Noise (August 1992). Source of the information is attributed to *Outdoor Noise and the Metropolitan Environment*, M.C. Branch et al., Department of City Planning, City of Los Angeles, 1970.



The perception of sound doubles for every 10 dB increase.

A 70 dB intensity level sounds TWICE as loud as a 60 dB sound.

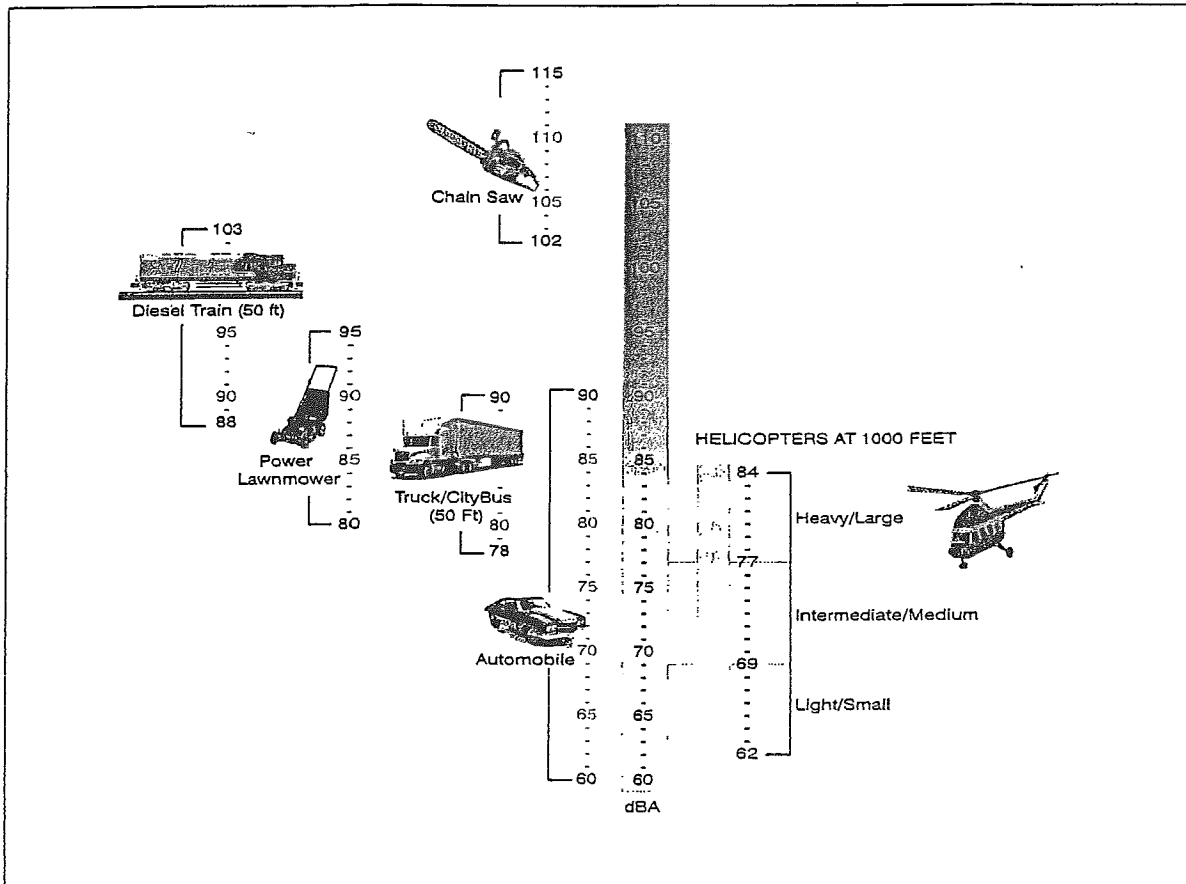
And an 80 dB sound is again TWICE as loud as 70 dB,

90 dB sounds TWICE as loud as an 80 dB

$$B = (10 \text{ dB}) \log \left(\frac{I}{I_0} \right)$$

Figure A2 provides some basis for comparing helicopter sound levels to other familiar sounds. Comparisons are made at representative distances from each sound source.

Figure A2
Comparison of
Sounds



The sound level is, however, only one of the aspects to be considered since the character of the sound - or the impulsive character of the sound - can be equally important. Fortunately, the impulsive character of the sound, as well as the actual level, can be controlled by using noise abatement procedures.



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Sound Level Decibel Loudness Comparison Chart

Environmental Noise	
Weakest sound heard	0dB
Whisper Quiet Library	30dB
Normal conversation (3-5')	60-70dB
Telephone dial tone	80dB
City Traffic (inside car)	85dB
Train whistle at 500', Truck Traffic	90dB
Subway train at 200'	95dB
<i>Level at which sustained exposure may result in hearing loss</i>	<i>90 - 95dB</i>
Power mower at 3'	107dB
Snowmobile, Motorcycle	100dB
Power saw at 3'	110dB
Sandblasting, Loud Rock Concert	115dB
<i>Pain begins</i>	<i>125dB</i>
Pneumatic riveter at 4'	125dB
<i>Even short term exposure can cause permanent damage - Loudest recommended exposure <u>WITH</u> hearing protection</i>	<i>140dB</i>
Jet engine at 100', Gun Blast	140dB
Death of hearing tissue	180dB
Loudest sound possible	194dB
OSHA Daily Permissible Noise Level Exposure	
Hours per day	Sound level
8	90dB
6	92dB
4	95dB
3	97dB
2	100dB
1.5	102dB
1	105dB
.5	110dB
.25 or less	115dB

Perceptions of Increases in Decibel Level	
Imperceptible Change	1dB
Barely Perceptible Change	3dB
Clearly Noticeable Change	5dB
About Twice as Loud	10dB
About Four Times as Loud	20dB
Sound Levels of Music	
Normal piano practice	60 -70dB
Fortissimo Singer, 3'	70dB
Chamber music, small auditorium	75 - 85dB
Piano Fortissimo	84 - 103dB
Violin	82 - 92dB
Cello	85 -111dB
Oboe	95-112dB
Flute	92 -103dB
Piccolo	90 -106dB
Clarinet	85 - 114dB
French horn	90 - 106dB
Trombone	85 - 114dB
Tympani & bass drum	106dB
Walkman on 5/10	94dB
Symphonic music peak	120 - 137dB
Amplifier rock, 4-6'	120dB
Rock music peak	150dB

NOTES:

- One-third of the total power of a 75-piece orchestra comes from the bass drum.
- High frequency sounds of 2-4,000 Hz are the most damaging. The uppermost octave of the piccolo is 2,048-4,096 Hz.
- Aging causes gradual hearing loss, mostly in the high frequencies.
- Speech reception is not seriously impaired until there is about 30 dB loss; by that time severe damage may have occurred.
- Hypertension and various psychological difficulties can be related to noise exposure.
- The incidence of hearing loss in classical musicians has been estimated at 4-43%, in rock musicians 13-30%.

Statistics for the Decibel (Loudness) Comparison Chart were taken from a study by Marshall Chasin , M.Sc., Aud(C), FAAA, Centre for Human Performance & Health, Ontario, Canada. There were some conflicting readings and, in many cases, authors did not specify at what distance the readings were taken or what the musician was actually playing. In general, when there were several readings, the higher one was chosen.

Sound pressure level depending on the distance for point-shaped sound sources

Enter the three gray boxes and you get the amount of attenuation, you can expect with a change in sound source distance, in a free field.

Reference distance r_1 from sound source <input style="width: 80px;" type="text" value="100"/> m or ft	Sound level L_1 at reference distance r_1 <input style="width: 80px;" type="text" value="100"/> dB SPL	The $1/r$ law. There really is no square and no power! Sound pressure.
Another distance r_2 from sound source <input style="width: 80px;" type="text" value="3500"/> m or ft	Sound level L_2 at another distance r_2 <input style="width: 80px;" type="text" value="69.12"/> dB SPL	Sound level difference $\Delta L = L_2 - L_1$ <input style="width: 80px;" type="text" value="-30.88"/> dB
<input style="width: 100px;" type="button" value="calculate"/>		<input style="width: 100px;" type="button" value="reset"/>

$$L_2 = L_1 - 20 \cdot \lg \left(\frac{r_2}{r_1} \right)$$

Given sound levels and calculation of the distance: $r_2 = r_1 \cdot 10^{\left(\frac{L_1 - L_2}{20}\right)}$

The sound level depends on the distance between the sound source and the place of measurement, possibly one ear of a subject.

The sound pressure level L_p in dB without the given distance r to the sound source is really useless. Unfortunately this error (unknown distance) is quite often.

Wilkinson, Sean

From: Lewis.C.Olson@faa.gov
Sent: Tuesday, March 16, 2010 1:26 PM
To: Wilkinson, Sean; mnickl@classicaviation.net
Cc: William.J.Hughes@faa.gov
Subject: Heli-ski operations

As we discussed today via phone, it is my opinion, as an FAA Aviation Safety Inspector in the SLC Flight Standards District Office, the seasonal heli-ski operations conducted in your area are not subject to FAR 157. The primary reason is, nothing is being constructed or deactivated. It has been described to me that the staging area is to and from an existing parking lot and the operator has the permission of the owner to use that land for the purpose of transporting heli-ski personnel to and from that area on a seasonal basis.

I hope this resolves any issues you were concerned about.

Regards,
Lewis C. Olson
Aviation Safety Inspector
Salt Lake City - Flight Standards District Office 1020 North Flyer Way Salt Lake City, UT
84116
PH: (801) 257-5053
FAX: (801) 257-5066

We Value Your Feedback! Flight Standards Service Feedback Form

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Electronic Code of Federal Regulations

e-CFR
TM

e-CFR Data is current as of January 11, 2012

Title 14: Aeronautics and Space

PART 157—NOTICE OF CONSTRUCTION, ALTERATION, ACTIVATION, AND DEACTIVATION OF AIRPORTS

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§ 157.1 Applicability.

This part applies to persons proposing to construct, alter, activate, or deactivate a civil or joint-use (civil/military) airport or to alter the status or use of such an airport. Requirements for persons to notify the Administrator concerning certain airport activities are prescribed in this part. This part does not apply to projects involving:

- (a) An airport subject to conditions of a Federal agreement that requires an approved current airport layout plan to be on file with the Federal Aviation Administration; or
- (b) An airport at which flight operations will be conducted under visual flight rules (VFR) and which is used or intended to be used for a period of less than 30 consecutive days with no more than 10 operations per day.
- (c) The intermittent use of a site that is not an established airport, which is used or intended to be used for less than one year and at which flight operations will be conducted only under VFR. For the purposes of this part, *intermittent use of a site* means:
 - (1) The site is used or is intended to be used for no more than 3 days in any one week; and
 - (2) No more than 10 operations will be conducted in any one day at that site.

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For questions concerning e-CFR programming and delivery issues, email webteam@gpo.gov.

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Exhibit G

Edit Delete Add a File Email

Engineering

Project: Heliport Landing Zone – Timothy Charwood
User: Michael Tuttle
Department: Weber County Engineering Division
Created: 2012-01-17 09:22:08
Modified: 2012-01-17 09:27:48
Approved: Yes

Notes

I have had a chance to review the plan(s) and have the following comment(s):

1. The applicant may want to consult with the DWR to minimize impact on the wildlife. Their land is used for Winter Habitat, and they may not like the additional impact on the wildlife.
2. Any structures built will need to meet the requirements of the Weber County Building Official.
3. A Storm Water Construction Activity Permit is required for any construction that:
 1. disturbs more than 5000 square feet of land surface area, or
 2. consist of the excavation and/or fill of more than 200cubic yards of material, or
 3. requires a building permit for which excavation or fill is a part of the construction, and less than five acres shall apply for a county permit.

I have tried to address all items of concern from the Engineering Department. However, this review does not forego other items of concern that may come to this department's attention during additional reviews or during construction of improvements. If you have any comments or questions concerning this review, feel free to contact me.

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Weber Fire District Review

Project: Heliport Landing Zone - Timothy Charlwood
User: Ted Black
Department: Weber Fire District
Submitted by: Sean Wilkinson
Created: 2012-01-26 14:54:40
Modified: 2012-01-26 14:54:40
Approved: Yes

Notes

After discussion with the Planning Division it is my understanding that the re-fueling operation has been removed from the heliport application.. Therefore, there are no exceptions with the application and it stands approved. No site visit is required due to the refueling operation being removed.

(This review was entered by Sean Wilkinson of the Planning Division at the request of Ted Black after a discussion on Thursday, January 26, 2011, at 2:30 PM. Ted is out of town and does not currently have access to the Miradi System).

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drinking water

Project: Heliport Landing Zone - Timothy Charwood
User: Michelle Cooke
Department: Weber-Morgan Health Department - Drinking Water Division
Created: 2012-02-27 08:19:18
Modified: 2012-02-27 08:19:18
Approved: Yes

Notes

Since the Heliport project has decided not to fuel at this site, the health department does not see any problems at this time.

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GREG BELL
*Lieutenant
Governor*

Office of the Governor

PUBLIC LANDS POLICY COORDINATION OFFICE

KATHLEEN CLARKE
Director

March 1, 2012

Sean Wilkinson
Weber County Planning Division
2380 Washington Blvd., Suite 240
Ogden, UT 84401

Subject: Ogden Valley Helipad Proposal, Weber County
RDCC Project No. 30985

Dear Mr. Wilkinson:

The State of Utah, through the Public Lands Policy Coordination Office (PLPCO), has reviewed this project. Utah Code (Section 63J-4-601, et. seq.) designates PLPCO as the entity responsible to coordinate the review of technical and policy actions that may affect the physical resources of the state, and to facilitate the exchange of information on those actions among federal, state, and local government agencies. As part of this process, PLPCO makes use of the Resource Development Coordinating Committee (RDCC). The RDCC includes representatives from the state agencies that are generally involved or impacted by public lands management.

**Department of Natural Resources
Division of Wildlife Resources**

The project area is located within crucial big game winter range for mule deer, elk, and moose. The project, as currently proposed, locates the helipad less than 300 feet from the boundary of a conservation easement, held by UDWR, and within $\frac{3}{4}$ mile of the UDWR Middle Fork Wildlife Management Area. Neither the flight path nor flight elevations have been identified in the project proposal and UDWR is concerned about the potential impacts on wintering big game animals, including direct disturbance from the helicopters and displacement of wildlife from crucial winter range habitats.

To minimize potential impacts to wildlife, UDWR recommends that the conditional use permit include the following stipulations:

- The helicopters should only use an identified flight-path to allow animals to adjust to the area of disturbance.
- The flight path corridor should minimize the distance of flight over crucial big game winter range as much as possible. UDWR personnel are available to assist Weber County and the applicant to identify a route that will reduce disturbances to big game.

Sean Wilkinson
February 29, 2012
Page 2

- The flight elevation should be a minimum of 500' above the ground surface while over big game winter range. This elevation will reduce noise and visual disturbances to wildlife.
- UDWR recommends that the location of the helipad be moved to a more central location within the property to reduce impacts to the adjacent conservation easement area. If big game animals are disturbed and displaced from this area, they may move to the valley bottom and overwinter on local agricultural fields.
- UDWR recommends a stipulation prohibiting helicopter sightseeing activities over big game winter ranges.

If there are additional questions, please contact Scott Walker (801-476-2776) or Pam Kramer (801-476-2775) in our Ogden office.

The State of Utah appreciates the opportunity to review this proposal and we look forward to working with you on future projects. Please direct any other written questions regarding this correspondence to the Public Lands Policy Coordination Office at the address below, or call Judy Edwards at (801) 537-9023.

Sincerely,



Kathleen Clarke
Director