Appendix C
Noise Level Recordings

Noise Level Recordings

Noise levels from areas near the Project were recorded by Mark Greenig of CH2M HILL on June 12, 2013 between 8:30 a.m. and 10:30 a.m. using an Ono Sokki LA-221 Sound Level Meter. The weather was clear with occasional breezes. The Project powerhouse was releasing between 11 and 12 cubic feet per second (cfs) of water into the Project tailrace. The release of water creates the bulk of the noise (the "hum") associated with the Project powerhouse.

To provide some context related to the decibel readings that were collected, the following was obtained from the Center of Hearing and Communication website. It provides examples of the decibel levels of commonly heard sounds.

Points of Reference of Common Sounds - measured in dBA (or decibels)

- 0—The softest sound a person can hear with normal hearing
- 10—normal breathing
- 20—whispering at 5 feet
- 30—soft whisper
- 50—rainfall
- 60—normal conversation
- 110—shouting in ear
- 120—thunder

(Source: Center of Hearing and Communication; accessed at http://www.chchearing.org/noise-center-home/facts-noise/common-environmental-noise-levels.)

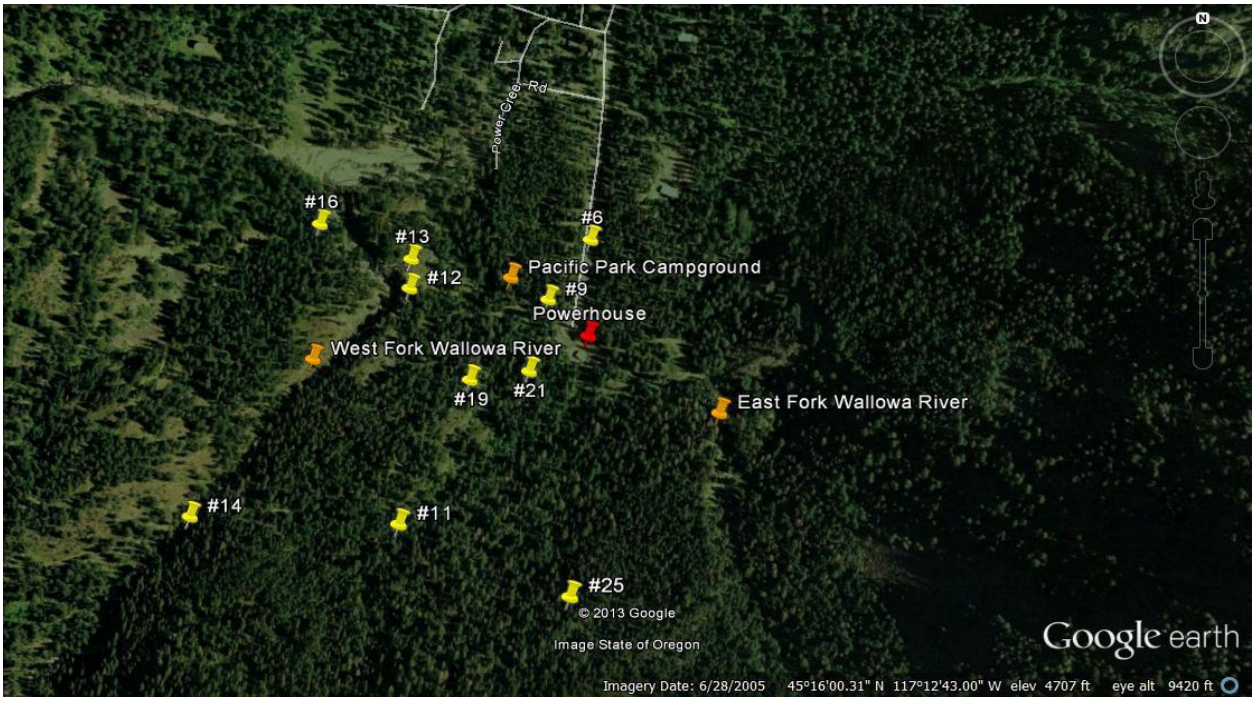

Figure 1: Locations of Noise Readings

Noise Readings Near Wallowa Falls Hydroelectric Project				
Location #	**Location Description**	**dba**	**Project Heard?**	**Notes**
Wallowa Lake Highway north of Project				
1	Next to Project powerhouse fence	69	Yes	Sound of water released from Project (the "hum" of water being released, which is the "sound" of the Project Power plant) very audible.
2	25 feet from fence	65	Yes	Same as above.
3	50 feet from fence	61	Yes	Less than above.
4	100 feet from fence	55	Yes	Less than above. Could hear flowing water from other sources (probably the East Fork of the Wallowa River [East Fork] and Project tailraces [tailraces]), but sound of Project powerhouse water release most audible sound (unless vehicles drive by).
5	200 feet from fence	51	Somewhat	Sound of flowing water (West and East Forks) and Project tailraces started to compete with Project powerhouse water release for listening attention.
6	400 feet from fence (see Figure 1)	51	Barely	The sound of flowing water was clearly heard from this location, and Project powerhouse water release barely heard.
Pacific Park Campground				
7	Entry gate	64	Yes	Mix of sounds from Project powerhouse water release and flowing water from tailraces.
8	Entry road and eastern bypassed reach	70	Barely	Flowing water of tailraces was very audible sound, and Project powerhouse water release was barely heard.
9	Bottom of slope near start of social trail. Approximately 260 feet from Project powerhouse (see Figure 1)	54	Yes	Sound from Project powerhouse water release was more audible than flowing water of bypassed reach.
Trails west of Project powerhouse				
10	Social trail – intersection with other social trail	49	Yes	Could hear Project powerhouse water release (and other sounds), but the sound was somewhat muted in this location surrounded by forest.
11	Approximately midpoint to ridgeline trail	46	Somewhat	Much of noise from Project powerhouse muffled by forest.
12	Intersection of hillside social trail with ridgeline social trail – approximately 0.15 mile from Project powerhouse	57	Barely	Flowing water from West Fork was most audible sound and could barely hear Project powerhouse water release.
13	Flat area east of overlook on "knob" at north end of ridge. Approximately 0.14 mile from Project powerhouse (see Figure 1)	55	Yes	Terrain blocked much sound from West Fork and Project powerhouse water release could be clearly heard.

Noise Readings Near Wallowa Falls Hydroelectric Project				
Location #	**Location Description**	**dba**	**Project Heard?**	**Notes**
14	On top of overlook.	55	No	West Fork most audible and could not hear Project powerhouse water release.
15	West Fork Trail bridge over West Fork	75	No	Very high flows of West Fork were clearly heard, and could not hear Project powerhouse water release.
16	Chief Joseph Mountain Trail	36	No	Middle of thick forest, no wind, was no perceptible sound from flowing water or the Project powerhouse water release.
17	First Chief Joseph Trail overlook area - approximately 0.25 mile from Project powerhouse (see Figure 1)	51	Barely	Location where could first hear Project powerhouse water release from the trail, but West Fork most noticeable sound.
18	Chief Joseph Trail – near where trail turns to BC Creek	59	No	Could hear West Fork and BC Falls but not Project powerhouse water release.
Connection trail between West Fork and Wallowa Lake Trailhead area that passes through PacifiCorp land.				
19	Intersection of ridge trail and connection trail – approximately 0.9 mile from Project powerhouse (see Figure 1)	47	Yes	Sound from Project powerhouse water release was more noticeable than the sound of the West Fork.
20	Immediately southwest of, and almost in sight of, Project powerhouse - approximately 250 feet from Project powerhouse (see Figure 1)	51	Yes	Sound from Project powerhouse water release was clearly heard, and sound from Project powerhouse generator could be heard.
21	Immediately east of Project powerhouse.	48	Yes	Both sounds described above could be heard.
East Fork Trail				
22	Within sight of powerhouse	48	Yes	Sounds of Project powerhouse water release and East Fork were heard about evenly.
23	Intersection of trail and forebay access road	48	Yes	Same as above.
24	Overlook of East Fork	48	No	East Fork clearly heard, and Project powerhouse water release not heard.
25	On switchback facing north – approximately 0.21 mile from Project powerhouse (see Figure 1).	46	Yes	Could hear both Project powerhouse water release and East Fork.