Introduction

- Forestry workers may have noise exposure originating from the use of heavy equipment, power saws, and other devices. A NIOSH time-weighted average (TWA) of 90.2 +/- 5.1 dBA (with the highest exposure levels originating from unbelling chokers on landings and chain saws) has been documented in forestry workers. Particularly those forest workers with vibration-induced white finger, a condition caused by operating vibrating machinery, and those with advancing age may be more vulnerable to NIHL. Forestry and wildlife management students participating in hunting, target shooting, agriculture, and other practices with potentially harmful noise levels may also have differences in noise exposure than other young adults. This population of students was chosen due to their potential risk of noise exposure specific to their occupational training and recreational activities. Once graduated these college students will likely be working in the forestry and wildlife management fields.

Purpose:

- To examine noise exposure and to evaluate hearing health choices of students taking forestry and wildlife management courses.
- To examine student participation in fifteen types of activities with potentially hazardous noise levels along with the frequency of HPDs use in all conditions and perception of changes in their hearing following these activities.
- To provide insight into students’ reasoning behind HPDs non-use.
Methods

A survey was given to 344 college students in forestry and wildlife management courses at West Virginia University.

Participants were asked to complete a researcher-generated survey containing questions related to habits, self perceptions, and knowledge about hearing loss, hearing health, noise exposure, and hearing conservation.

<table>
<thead>
<tr>
<th>Forestry and Wildlife Management Courses Surveyed</th>
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<tr>
<td>FOR 140-Natural Resources</td>
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<tr>
<td>FOR 320-Elements of Silviculture</td>
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<tr>
<td>WMAN 275-Introduction to Wildlife and Fisheries</td>
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<td>WMAN 224-Vertebrate Natural History</td>
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<td>WMAN 421-Renewable Resources: Policy/Government</td>
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<td>WMAN 100-The Tradition of Hunting</td>
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Demographics

Demographics (n=344)

- Mean Age: 20.8
- Gender Distributions:
  - Female: 25.3%
    - Mean Age: 21.1 (18-33)
  - Male: 74.7%
    - Mean Age: 20.8 (18-36)
- College Rank:
  - Freshman: 23.2%
  - Sophomore: 19.1%
  - Junior: 27.8%
  - Senior: 27.0%
  - Graduate: 2.3%
- Ethnicity:
  - Hispanic: 1.2%
  - African-American: 0.6%
  - Caucasian: 93.9%
  - American Indian/Alaskan Native: 1.5%
  - Other: 0.9%
  - Biracial: 1.5%

Results

The most frequent activities included mowing lawns (88.6%), frequenting bars or restaurants with loud music (87.1%), and using an iPod/MP3 player (83.7%).

Many students also reported target shooting (69.3%), ATV/4wheeler/motorcycle riding (67.8%), hunting (64.5%), as well as other activities such as use of chainsaws (58.9%), farm equipment (50.8%), and machinery (48.5%).

The use of hearing protection was most common during target shooting (70%), while using a chainsaw (47.1%), and while engaging in machinery use (34.4%).
Results

- Of those students who did report wearing HPDs, 51.6% used foam plugs/flange plugs and 25.2% wore earmuffs, resulting in the most common responses.

- The most frequently reported reason for HPD non-use was that students felt that HPDs were “not needed” (33.4%).

- Additional reasons for non-use of HPDs included: unable to hear environmental sounds (23.2%), comfort (21.4%), and hassle (21.4%).

- 76% of students reported education about hearing health, hearing preservation, and importance of wearing HPDs in potentially hazardous levels of noise.

Discussion: Noise Exposure

- Almost all of the forestry and wildlife management students report participation in activities with potential exposure to excessive noise levels such as lawn mowing, target shooting, ATV/motorcycle riding, and hunting.

- Over half also report using chainsaws and farm equipment.

- Music exposure (restaurants, iPods, and concerts) is also very common in this population.

- For most activities the majority of students do not use HPDs (with the exception of target shooting).

- Given the reported activities and lack of HPD use, the surveyed students are likely at risk for noise-induced hearing loss.

- The majority of students did report perception of decreased hearing after concert attendance, but not for other activities in which they participate.
Discussion: Education

• Most of the surveyed students reported some previous education on the importance of hearing health, hearing preservation, and wearing HPDs in potentially hazardous levels of noise.

• Less than half report education in high school, junior high school, or elementary school and very few report education in college.

• Increased efforts are needed to provide hearing health information in school systems and colleges/universities throughout the country.

Select References

