



Recent Noise Sensitivity Study

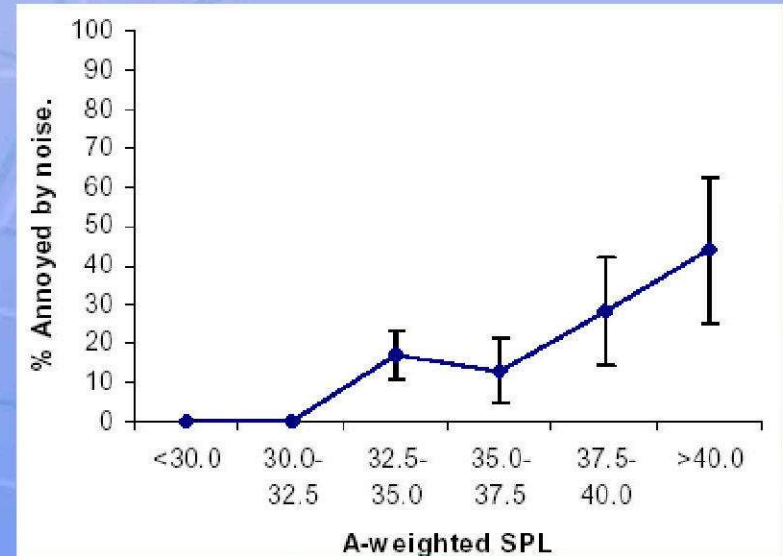
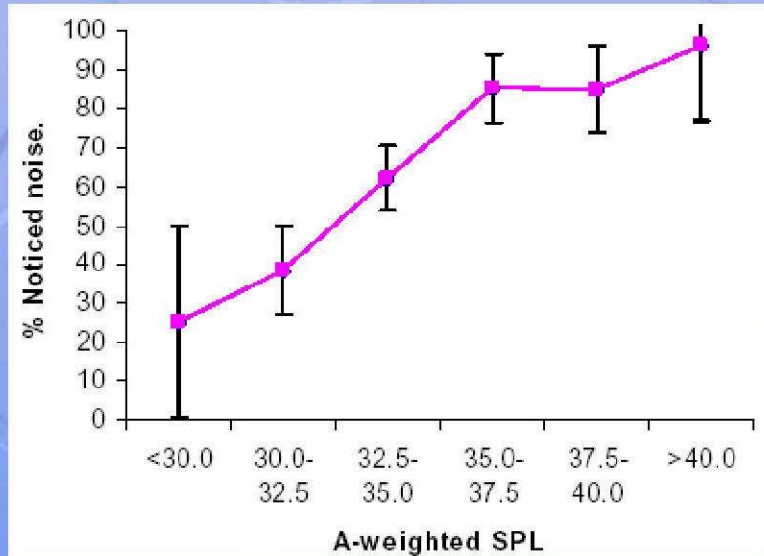
- Pederson and Waye, 2005
- 518 people in rural setting
- A-weighted SPL estimated from Swedish EPA guidelines
- Respondents divided into six SPL levels
- Results
 - Annoyance increases with noise levels
 - Factors other than noise levels also strongly affect annoyance





Perception and Annoyance

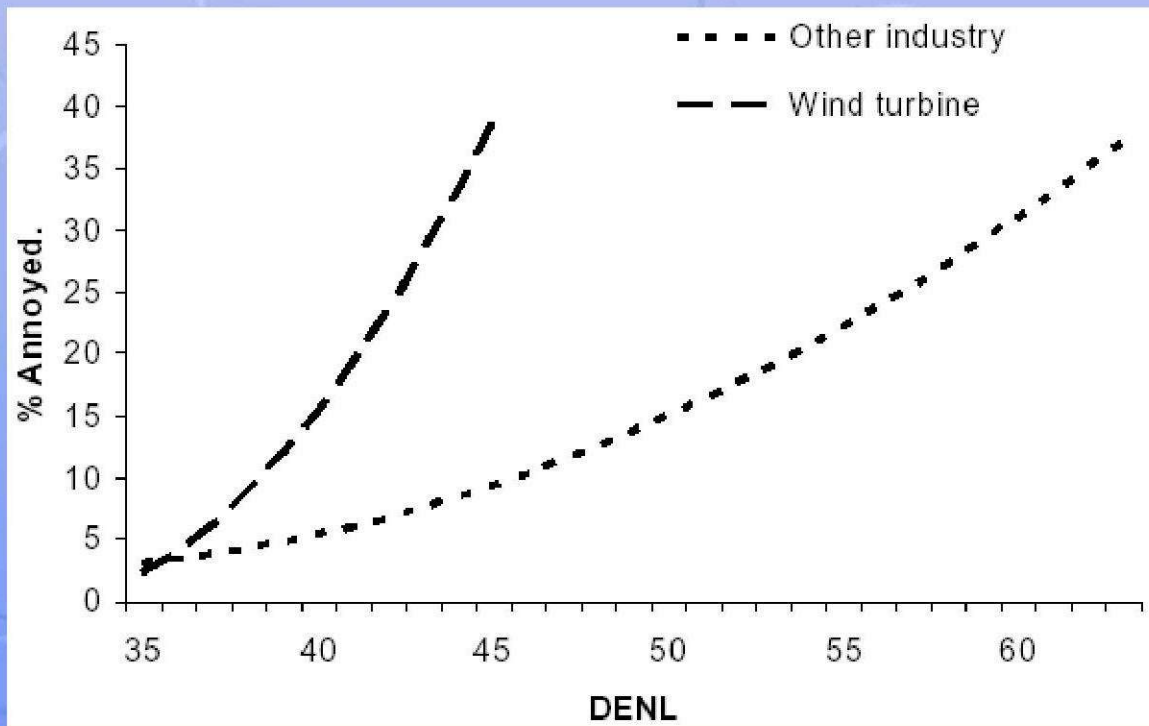
- More noise -> more perception of noise
- More noise -> higher percentage of respondents annoyed





Annoyance Sensitivity

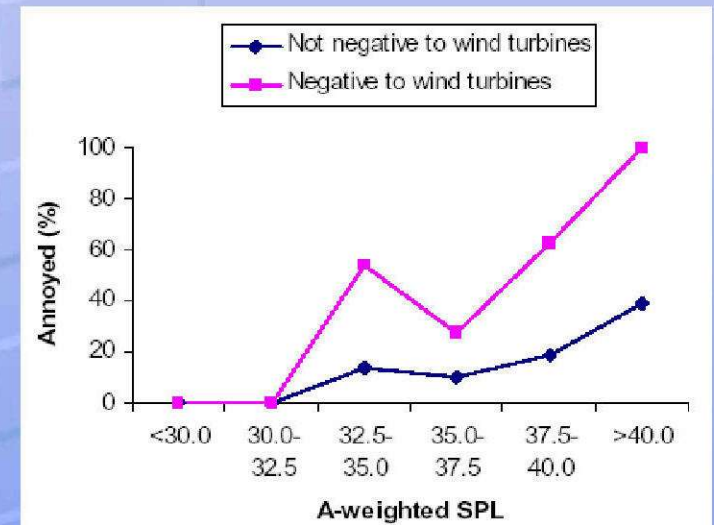
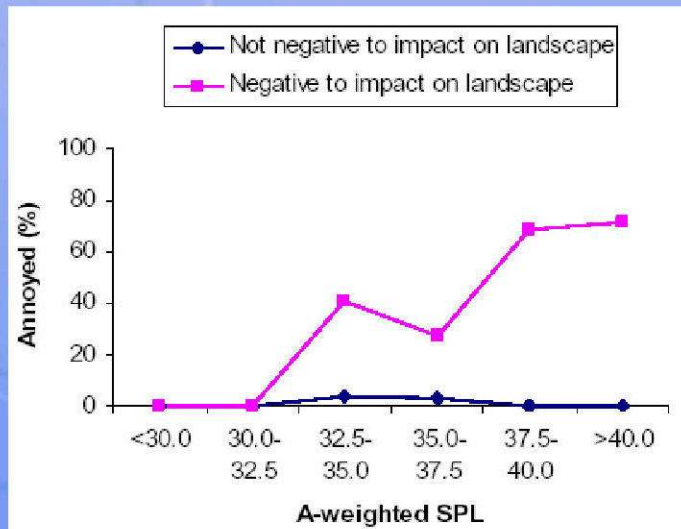
- DENL = metric estimating over-all 24 hour noise levels
- Annoyance increases more rapidly than other stationary industrial noise sources





Attitudes and Annoyance - I

- Annoyance greater when respondents had
 - Increased noise sensitivity
 - Negative attitudes toward turbines
 - Negative attitudes toward turbine impact on landscape





Attitudes and Annoyance - II

- Annoyance greater when respondents:
 - Saw the countryside as a place for peace and quiet as opposed to a place with important economic activities
 - Felt a lack of control over project
 - Felt a sense of being subjected to injustice
- Some of these factors can be influenced in the planning process





Noise Perception Conclusions

- Perceptions of annoyance from wind turbine noise are a function of
 - Noise levels
 - Attitudes toward other aspects of wind power
- Annoyance from wind turbine noise increases more rapidly, as the sound level increases, than for other industrial noise sources
- Careful work at the planning stage may help mitigate some noise concerns

Full text available at: www.ceere.org/rerl/publications/published/