

# Dealing with Uncertainty

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1. Don't wait to be confronted. Acknowledge uncertainty up-front.
  2. Put bounds on uncertainty. What range of possibilities is credible?
  3. Clarify that you are more certain about some things than others.
  4. Explain what you have done or are doing to reduce the uncertainty.
  5. If the remaining uncertainty is very small or very difficult to reduce further, say so. Don't over-promise.
  6. Explain conservativeness.
  7. Report everyone's estimates – even environmentalists' – not just yours.
  8. Don't hide behind uncertainty. If it's more than likely that the problem is real, despite lingering QA/QC problems, say so.
  9. Don't perpetuate uncertainty. If there are ways to answer the question that you should be pursuing, say so.
  10. *Never* say “there is no evidence of “X” when you haven't done the study that tests the possibility.
  11. Stress that finding out for sure may be less important than taking appropriate precautions now.
  12. Acknowledge that people disagree about what to do in the face of uncertainty.
  13. Get people involved in reducing uncertainty themselves.
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For more about my take on this issue, see:

- Quantitative Risk Communication: Explaining the Data (1994) – <http://www.vimeo.com/20676915>
- Trust Us, We're Experts (Mar 2001) – [www.psandman.com/col/trustus.htm](http://www.psandman.com/col/trustus.htm)
- Sound Science (Sep 2001) – [www.psandman.com/col/soundsci.htm](http://www.psandman.com/col/soundsci.htm)
- Yellow Flags: The Acid Test of Transparency (Apr 2002) – [www.psandman.com/col/yellow.htm](http://www.psandman.com/col/yellow.htm)
- Silicone breast implants (Aug 2002) – [www.psandman.com/gst2002.htm#rogene](http://www.psandman.com/gst2002.htm#rogene)
- Acknowledging Uncertainty (Nov 2004) – [www.psandman.com/col/uncertain.htm](http://www.psandman.com/col/uncertain.htm)
- Talking about uncertainty when hazard levels are unclear (Feb 2010) – [www.psandman.com/gst2010.htm#uncertainty](http://www.psandman.com/gst2010.htm#uncertainty)
- Explaining and Proclaiming Uncertainty: Risk Communication Lessons from Germany's Deadly *E. coli* Outbreak (Aug 2011) – [www.psandman.com/col/GermanEcoli.htm](http://www.psandman.com/col/GermanEcoli.htm)

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