

Communication in Difficult Times

by Catherine Haug

Presenter: Edmund Fitzgerald

Edmund provided a comprehensive handout ([Communication Discussion](#)), so this summary will only include additional information from my notes, including questions and discussion from the audience. He also provided two informational handouts from the web:

- [National Association for Amateur Radio: About Amateur Radio](#), which includes sections on “Where do I start?,” “What amateur Radio licenses are available?,” “How do I prepare for the license exam?,” and “What do I need to bring to an exam session?”
- [Homeland Security: Preparedness](#)

Edmund’s presentation was in three parts:

1. The Collapse
2. Current Emergency Services
3. Communication between Citizens for Short, Mid and Long-Term

followed by a general discussion.

The Collapse of Civilization & Peak Oil

Our current way of life is not sustainable. Edmund estimates we have between 20 and 50 years before this collapse to complete. There are three generally accepted interrelated factors responsible for this collapse: peak oil (and peak everything), global climate change, and overpopulation. Edmund focused on the first of these: Peak Oil.

One of the biggest impacts of peak oil will be loss of power and consequently, loss of our current methods of communication.

Question: How long until it is 1830 again:

Edmund's Response: Perhaps 15 years.

Question: Why we are not pumping more oil?

Edmund's Response: While there are untapped sources of oil, all the easy ones (i.e., inexpensive) have already been tapped and most (75%) are in depletion, or already depleted. The sources remaining, such as tar sands require as much or more energy to extract than the energy they yield. This concept is known as EROEI (Energy Return on Energy Investment).

The questioner wanted to pursue the political implications of the questions, but Edmund refused to go there.

Question: What about hi-tech energy production, such as algae and bio-mass?

Edmund's Response: an EROEI of about 3:1 is desirable; less is not worth it, and so far all hi-tech solutions he has studied are much less than 3:1, and some are negative.

Question: What about solar?

Edmund's Response: You can get about one kilowatt of power per square meter. This can be focused this some, but it is not practical to sustain our current energy needs with solar (considering conversion efficiency, and depletion of resources for solar equipment).

However, for those fortunate enough to invest in solar for their own limited use, solar is definitely a solution at least until the panels fail. Right now the price has gone down for PV (photo-voltaic) cells, so it's a good time to invest. Also purchase a small battery pack. This will provide for basic needs.

See also [ESP: Home and Ranch Files](#) (scroll down to Solar) for other solar ideas.

Question: Hand pumps for wells?

Edmund's Response: Yes, hand pumps can be used for water. Cistern pumps will generally lift up to 20 feet; Deep well pumps can lift up to 300 feet. Refer to ESP file: [The Essentialist: Hand Pump Suppliers](#). See also [Home and Ranch Files](#) and scroll down to 'Pumps.;" or scroll down to Water Conservation for rainwater catchment and graywater ideas.

Comment from audience: Kids are not learning cursive writing in schools; they simply text and type. (The implied concern: what will they do when they can no longer use the cell phones and computers? and what can we do about it?)

Current Emergency Services

Current methods focus on communication between or initiated by responders; there has been no serious consideration for citizen-to-citizen communication.

Another problem with the current situation is that emergencies are assumed to be short term, whereas the collapse will be a long term emergency.

Catherine's Note: See also [Community Preparedness](#) for some other thoughts on dealing with emergencies. I would like to see our ESP community take a leadership role in addressing preparedness for our Bigfork community.

Communication between Citizens for Short, Mid and Long-Term

Most of this discussion centered around HAM or Amateur Radio. Edmund strongly suggests every household invest in a small radio and get a license to operate it.

The technician-class license allows use of VHF and UHF frequencies which can transmit from Bigfork to Plains and possibly to Missoula. The sets cost about \$120 new or \$60 used, with about 2 weeks of home study before taking the exam. Morse code is no longer a requirement. There is no monthly fee for use of the frequency.

HAM communication is public - anyone can listen in - so you should not conduct private conversations with this system.

If you want to learn more, contact the **Flathead Valley Amateur Radio Club** (FVARC). They meet every third Thursday at the United Way Conference Room (west side of the old Gateway Mall building, outside entrance. Meeting time is 7:30 PM. See also their website: www.fvarc.org/.

Question: Are other networks, besides HAM (which is a significant investment for some), that can be used for local communication; for example, wires between boxes with lights and buzzers?

Response: Yes, wires can be strung from home to home [provided the wire is available] for use with Morse code or other signaling methods. Old army field phones can transmit over a single wire for about a mile. Back-fence networks and centralized kiosks are other options.

Question: What about the "Skip Phenomenon."

Edmund's Response: Higher level licenses allow use of higher frequency bands, and can allow you to talk/listen around the world. Radio waves bounce off earth in a skipping fashion, which allows the wave to go around the globe. You can listen to foreign broadcasts if you get this type of license and invest in the equipment. Cost is \$500 and up for new, \$200 and up for used.

Question: Is the equipment tube or solid state?

Edmund's Response: Both.