

Emerging Contaminants In The Environment and Potential Human Health Effects: By Dr. Barbara Hartley Grimes 8/07

Endocrine Disrupting Chemicals (EDCs) – Those Chemicals That Have Hormonal Effects (mimic or block hormones)

- **EPA – What are Endocrine Disrupters?**

(includes policy, assessments, etc...)

<http://www.epa.gov/scipoly/oscpendo/>

Overview and Timeline

<http://www.epa.gov/scipoly/oscpendo/pubs/edspoverview/index.htm>

- **USGS – FACTS On EDCs and ASSESSMENT USGS**

<http://toxics.usgs.gov/pubs/FS-027-02/>

(NAWQA) http://water.usgs.gov/nawqa/nawqa_home.html

CERC <http://www.cerc.cr.usgs.gov/endocrine/summary.html>

What is in our wastewater and where does it go?

<http://toxics.usgs.gov/highlights/whatsin.html>

- **WORLD HEALTH ORGANIZATION GLOBAL ASSESSMENT of the state-of-the-science of ENDOCRINE DISRUPTERS . Scientific Explanation and Overview as of 2002**

http://www.who.int/pcs/emerg_site/edc/global_edc_TOC.htm

<http://www.who.int/ceh/risks/cehemerging2/en/>

- **TULANE UNIVERSITY**

Environmental Estrogens and Other Hormones: Center for Bioenvironmental Research Updates and Current Status <http://e.hormone.tulane.edu/>

- **CANADIAN WEB REFERENCES – Overview, Explanation, Significant Wildlife Effects**

Canadian – Wildlife and Endocrine Disruption: Water Quality Research Journal of Canada Vol. 36(2): 169-346 (2001). Theme issue: Endocrine Disruption

<http://www.wwfcanada.org/satellite/hormone-disruptors/science/frameset.html>

EDC LISTS

<http://www.wwfcanada.org/satellite/hormone-disruptors/science/frameset.html>

- **WORLD WILDLIFE FEDERATION**

WWF : Toxics Program : Endocrine Chemicals Overview, Wildlife Evidence

<http://worldwildlife.org/toxics/pubs/causesforconcern.pdf>

Personal Care Products & Pharmaceuticals (PPCPs)

These Emerging Contaminants include personal care products such as fragrances, insect repellants and pharmaceuticals such as over the counter and prescription medications. These have been found in surface waters and drinking water. The potential effects are

unknown, but listed are significant and current overviews, explanation, and relevance – for example antibiotic resistance

EPA WEB SITES:

<http://www.epa.gov/esd/chemistry/pharma/speaking.htm>
<http://www.epa.gov/esd/chemistry/pharma/>
<http://www.epa.gov/esd/chemistry/ppcp/relevant.htm>
<http://www.epa.gov/esd/chemistry/pharma/overview.htm>

North Eastern Water Science Forum

Portland Maine August 8 – 9 2007 Northeast Water Science Forum

Pharmaceuticals and Personal Care Products: State of the Science
August 8 - 9, 2007, Holiday Inn by the Bay, Portland, Maine

<http://www.neiwpsc.org/ppcpconference/>

REFERENCE LIBRARIES :

- **GLOBAL EDC INVENTORY (GEDRI) List Cross referenced of Research and Global knowledge (status) on EDCs**
<http://www.epa.gov/endocrine/>
- **NORMAN Network of Reference Laboratories for Monitoring of Emerging Environmental Pollutants**
http://www.norman-network.com/index_php.php?module=public/about_us/home

OTHER BOOKS AND REFERENCES

:In Lay terms – excellent book written by scientist and environmental journalists Our Stolen Future by Dr. Theo Colborn , Dianne Dumanoski, Dr. John Peterson Myers. Dutton, Penguin Books(NY), 1996 (ISBN 0-525-93982-2) Paperback version, Plume/Penguin, 1997.

Sample of Environmental Occurrence Endocrine Disrupting Chemicals in a Source Water. J. AWWA 2000: Volume 92 (8):52-58

Scientific Review Paper McLachlan, J. A. 2001. Environmental Signaling: What Embryos and Evolution Teach Us about Endocrine Disrupting Chemicals. Endocrine Reviews Volume 22(3):319-341

Landmark field documented study. **Published online before print May 21, 2007, 10.1073/pnas.0609568104** PNAS | May 22, 2007 | vol. 104 | no. 21 | 8897-8901

BIOLOGICAL SCIENCES / ENVIRONMENTAL SCIENCES

Collapse of a fish population after exposure to a synthetic estrogen

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Kenneth H. Mills^{*}, Vince P. Palace^{*},
Robert E. Evans^{*}, James M. Lazorchak[†],
and Robert W. Flick[†]

Within the ranges of municipal plant wastewater. This was produced with synthetic estrogens. Documents species' sensitivities. *A copy of the article is available on the Proceedings of the National Academy of Sciences/ website at

www.pnas.org/cgi/reprint/104/21/8897?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=minnow&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT

<http://www.pnas.org/cgi/reprint/104/21/8897?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=minnow&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT>. Additional

information about the report is available from the 22 May *The Globe & Mail*/ Martin Mittelstaedt article,

www.theglobeandmail.com/servlet/story/RTGAM.20070522.wfish22/BNStory/lifeFamily/

<http://www.theglobeandmail.com/servlet/story/RTGAM.20070522.wfish22/BNStory/lifeFamily/>, or the 21 May *ScienceNOW*/ Erik Stokstad article, <http://sciencenow.sciencemag.org/cgi/content/full/2007/521/1>*

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Suggested citation:

Giorgino, M.J., Rasmussen, R.B., and Pfeifle, C.M., 2007, Occurrence of organic wastewater compounds in selected surface-water supplies, Triangle Area of North Carolina, 2002–2005: U.S. Geological Survey Scientific Investigations Report 2007–5054, 28 p., available online at <http://pubs.water.usgs.gov/sir2007-5054>