DDT – Fifty years since Silent Spring

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Presented by: Peter Pärt, EEA
DDT - an efficient insecticide

Paul H. Müller

Nobel Prize in Physiology or Medicine 1948
DDT
(The “mother” of Environmental Toxicology)

Dichloro-diphenyl-trichloro-ethane
“Silent Spring”

Rachel Carson
(1907-1964)
Silent Spring raised awareness of the presence of the negative impact of DDT in the environment.

Søren Jensen

1964 --- A Swedish researcher of Danish origin, Dr. Søren Jensen, was trying to study DDT levels in human blood when a mysterious group of chemical compounds kept recurring in his samples, interfering with his analyses. The compound was found in both wildlife and human samples from as early as 1935, before DDT was introduced. He finally identified the compound as a polychlorinated bisphenol or PCB.
DDT and PCB

- Lipid- or fat soluble

- Persistent – resistant to degradation

- Bioaccumulating – concentration in the body increases over time

- Biomagnifying – concentration increases along the food chain. Top predators have the highest levels

- Reprotoxic, immunotoxic in wildlife

- Declining population – almost extinction in top predators (white tailed sea eagle, peregrine falcon, kestrel, otters, seals, whales, dolphins

- Human burdens high in Arctic populations
Save us!

- Peregrine falcon
- Seal
- Dolphin
- Kestrel
- European otter

DDT ban Europe (EU): 1981
PCB ban Europe (EU): 1985
PCB, UNEP Stockholm Convention on POPs: 2001
DDT use today

Only permitted for malaria prophylaxis
(UNEP Stockholm Convention)
Indoor Residual Spraying (IRS)
DDT effects in humans

- Breast cancer
- Endomtertrial cancer
- Male reproductive effects
- Testicular tumors
- Diabetes
- Infertility
- Neurodevelopmental effects
- Immune effects
DDT today

Cost/benefit analysis

DDT still the most effective tool to control malaria
DDT still made more good than bad for our lives and the environment

It opened our eyes!

Thank you!