

Persistent Organic Pollutants, POPs

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Persistent Organic Pollutants, POPs



- **Intentionally formed compounds**
 - Pesticides
 - Pharmaceuticals
 - Chemicals
- **Unintentionally formed compounds**
 - By-products
 - Transformation and degradation products
 - Combustion residues, exhaust gases



Persistent Organic Pollutants, POPs



- **Intentionally formed compounds**
 - Hexachlorobutadiene, PCBs, PCNs, Pentachlorobenzene, SCCP
 - Polyfluorinated compounds (PFOS)
 - Brominated flame retardants
 - Pesticides
 - DDT, Aldrin, Chlordane, Clordecone, Dieldrin, Endrine, HCH, Heptachlor, Hexachlorobenzene, Mirex, Toxaphene



Persistent Organic Pollutants, POPs



- **Unintentionally formed compounds**
 - Dioxins
 - PAHs
 - Hexachlorobenzene
 - PCBs
 - Brominated dioxins
 - Etc.

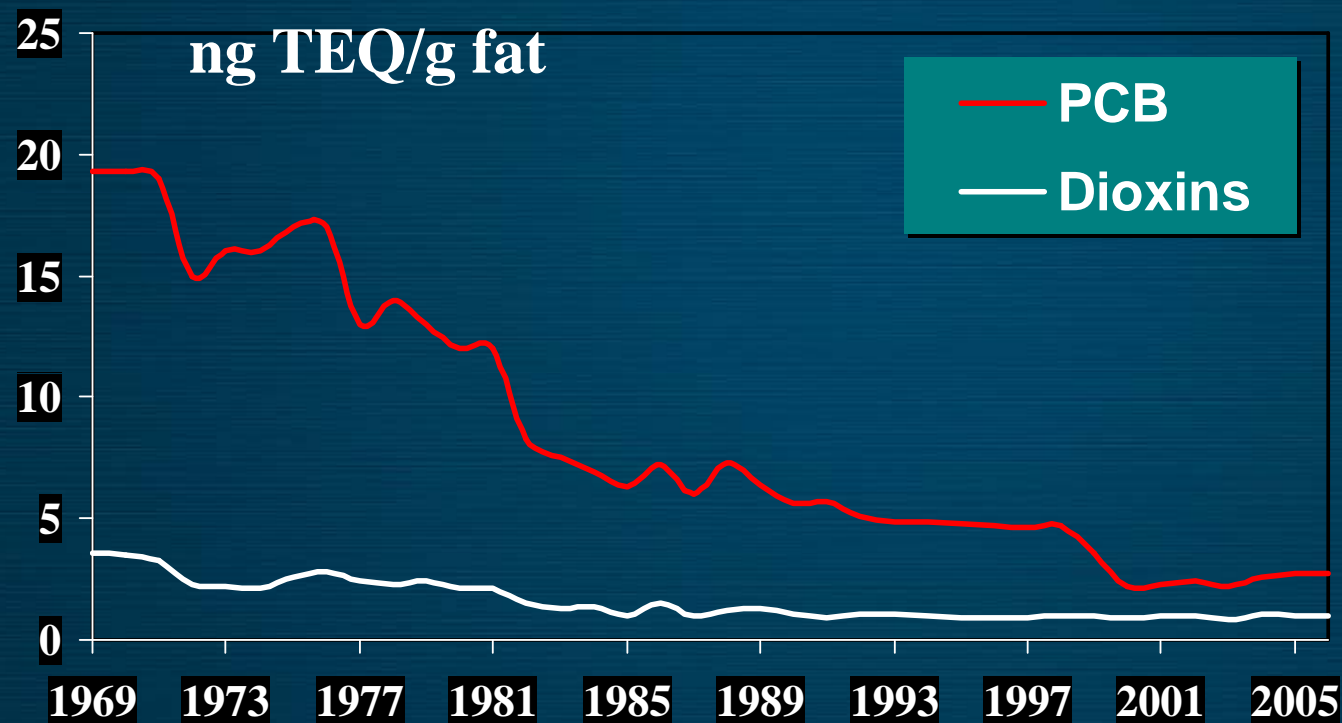


Consequences of high persistancy

- Remains in the environment for decades or more
- Distributed not only locally but also over long distances
- Eventually accumulated in certain compartments in the environment
- Long exposure times
- Also effective actions will only slowly lead to improvements

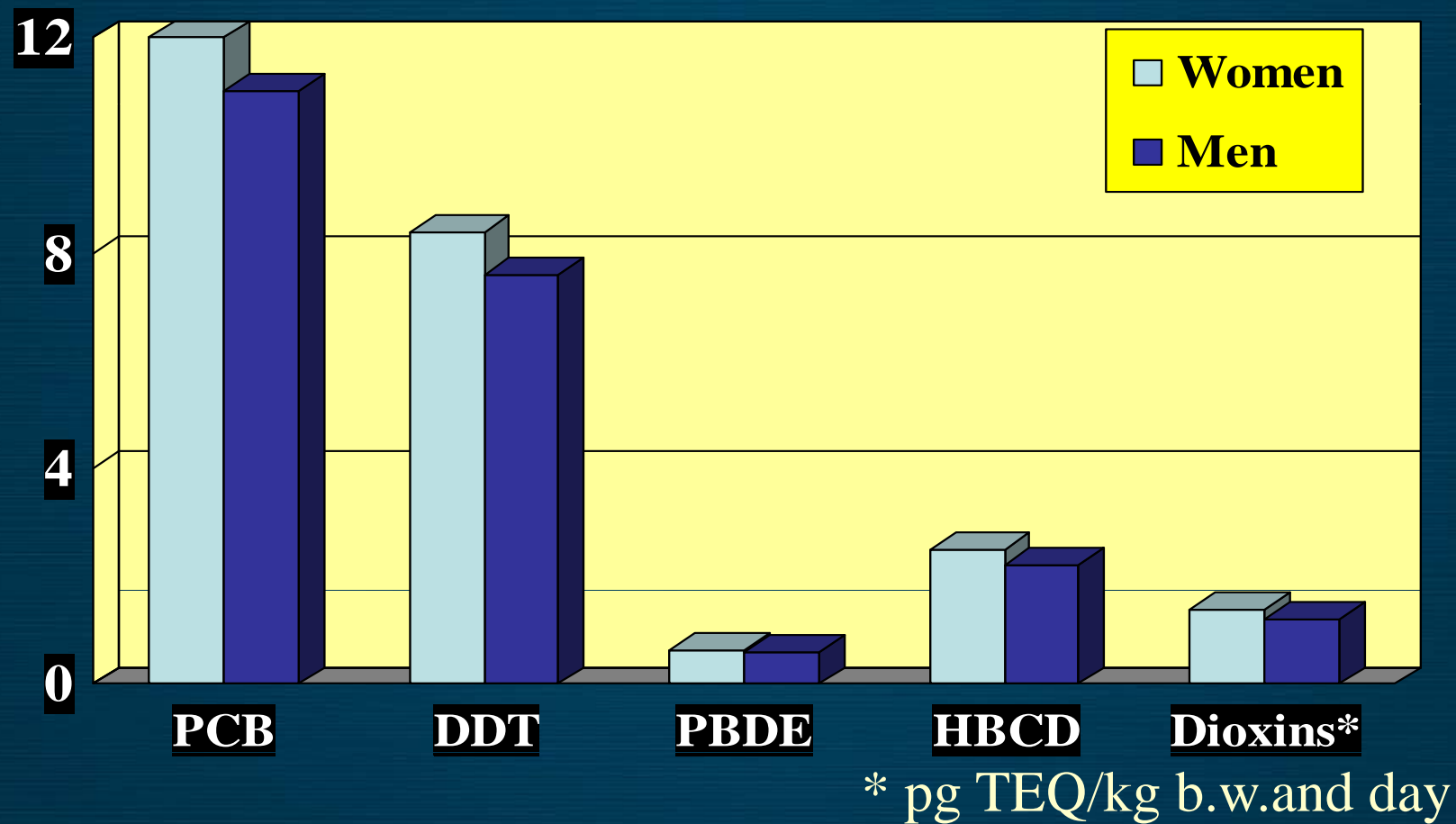


Dioxins and PCBs in Guillemot



Alimentary exposure POPs,

ng/kg b.w. and day

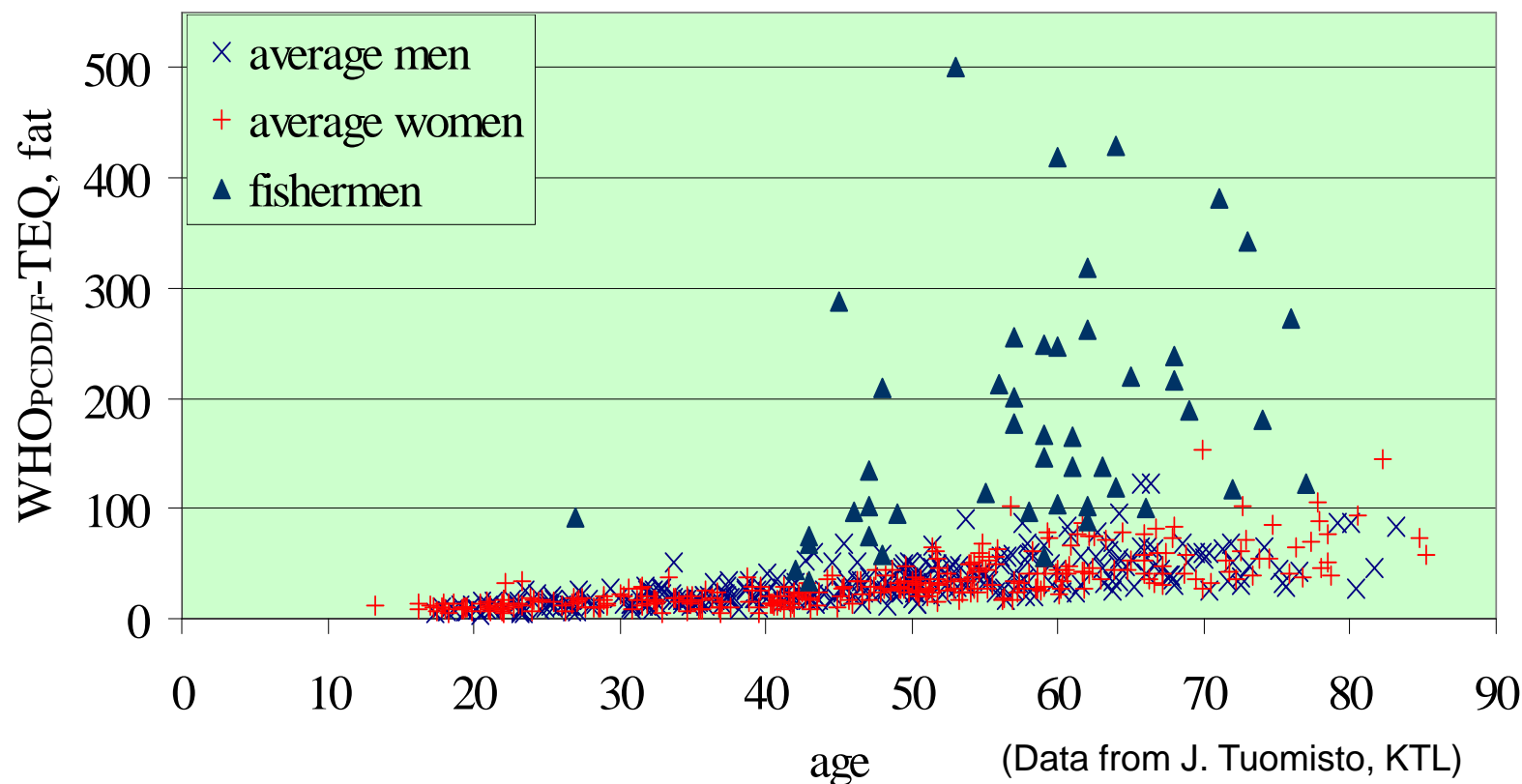


Important factors for POPs burden

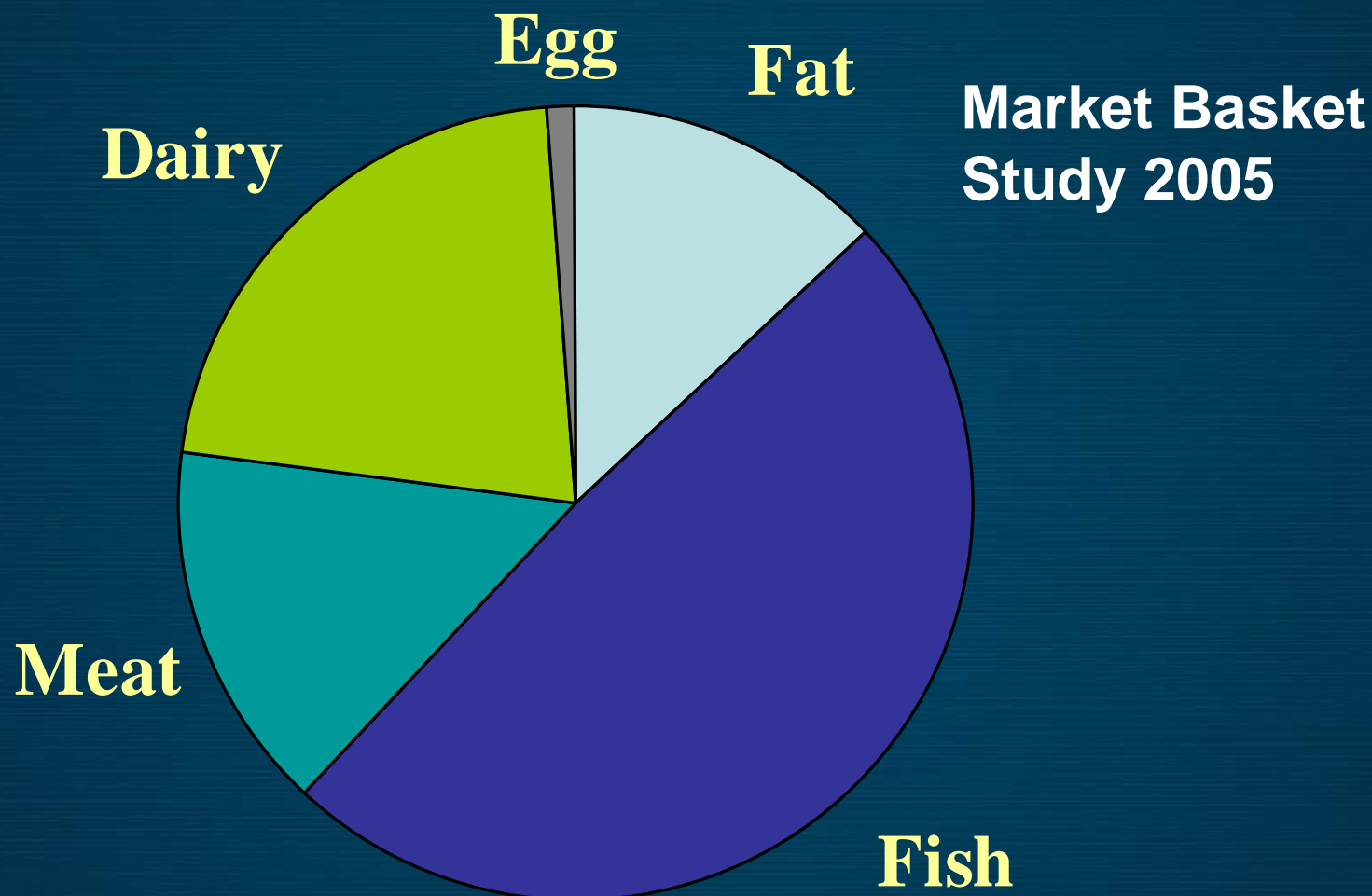
- Age
- Sex
- Dietary habits
- Occupation
- Site of residence
- Local environmental contamination

Dioxin concentrations in fishermen and in average population in Finland

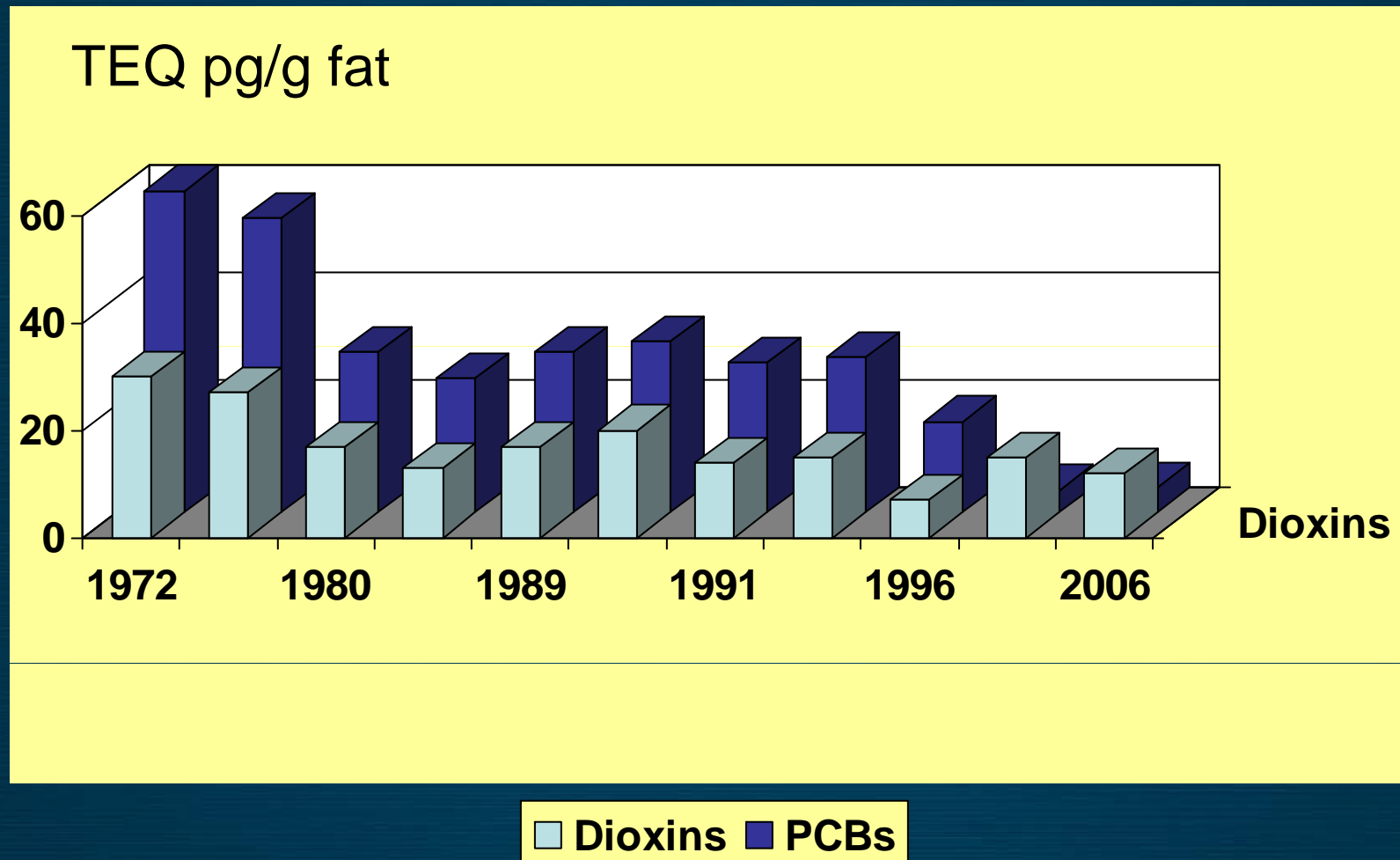
In Finland at the end of 1990's, fishermen versus average population



Contribution of different food groups to intake of dioxins and dioxin-like PCBs



Dioxins and PCBs in Swedish breast milk



Conclusions

- **Many compounds with POP characteristics are ubiquitous in the environment. Temporal trends important**
- **POPs in the environment will more or less rapidly also occur in food and feed**
- **Environmental protection improves food and feed quality**



Thank you for your attention

