HIGHLY FLUORINATED SUBSTANCES (PFAS) IN THE BALTIC SEA ENVIRONMENT
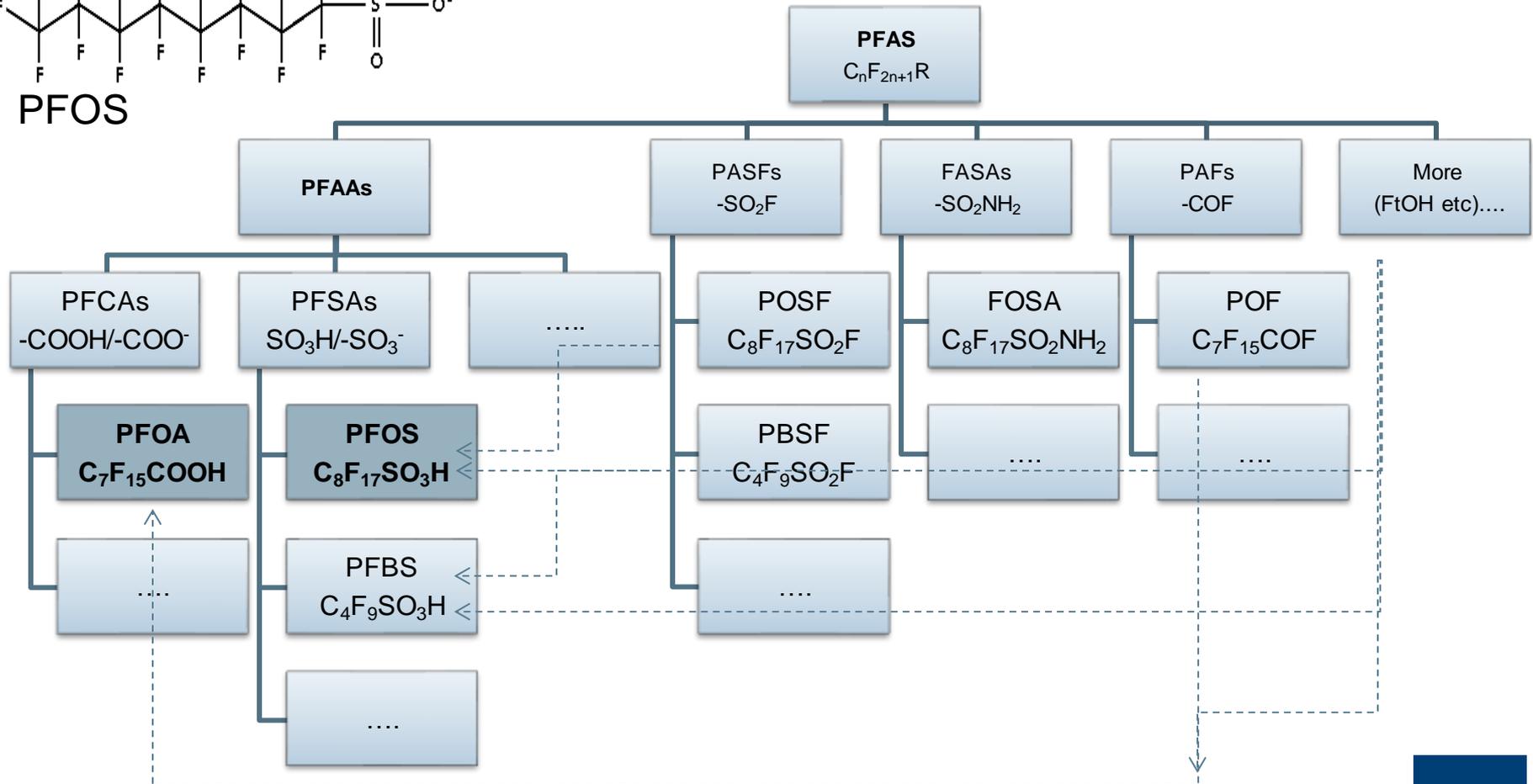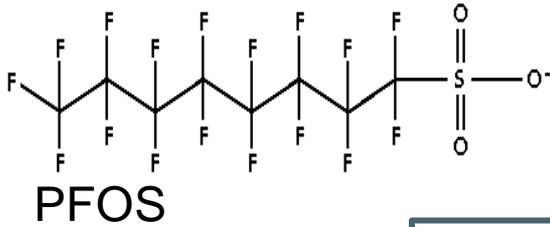
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Environmental Pollutants Unit

PFAS – thousands of substances

PFOS

PFAS
$C_nF_{2n+1}R$

PFAAs

PASFs
$-SO_2F$

FASAs
$-SO_2NH_2$

PAFs
$-COF$

More
(FtOH etc)....

PFCAs
$-COOH/-COO^-$

PFSAs
$SO_3H/-SO_3^-$

.....

POSF
$C_8F_{17}SO_2F$

FOSA
$C_8F_{17}SO_2NH_2$

POF
$C_7F_{15}COF$

PFOA
$C_7F_{15}COOH$

PFOS
$C_8F_{17}SO_3H$

PBSF
$C_4F_9SO_2F$

....

....

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PFBS
$C_4F_9SO_3H$

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NATUR
VÅRDS
VERKET

PFAS
properties and usage

- Temperature resistant
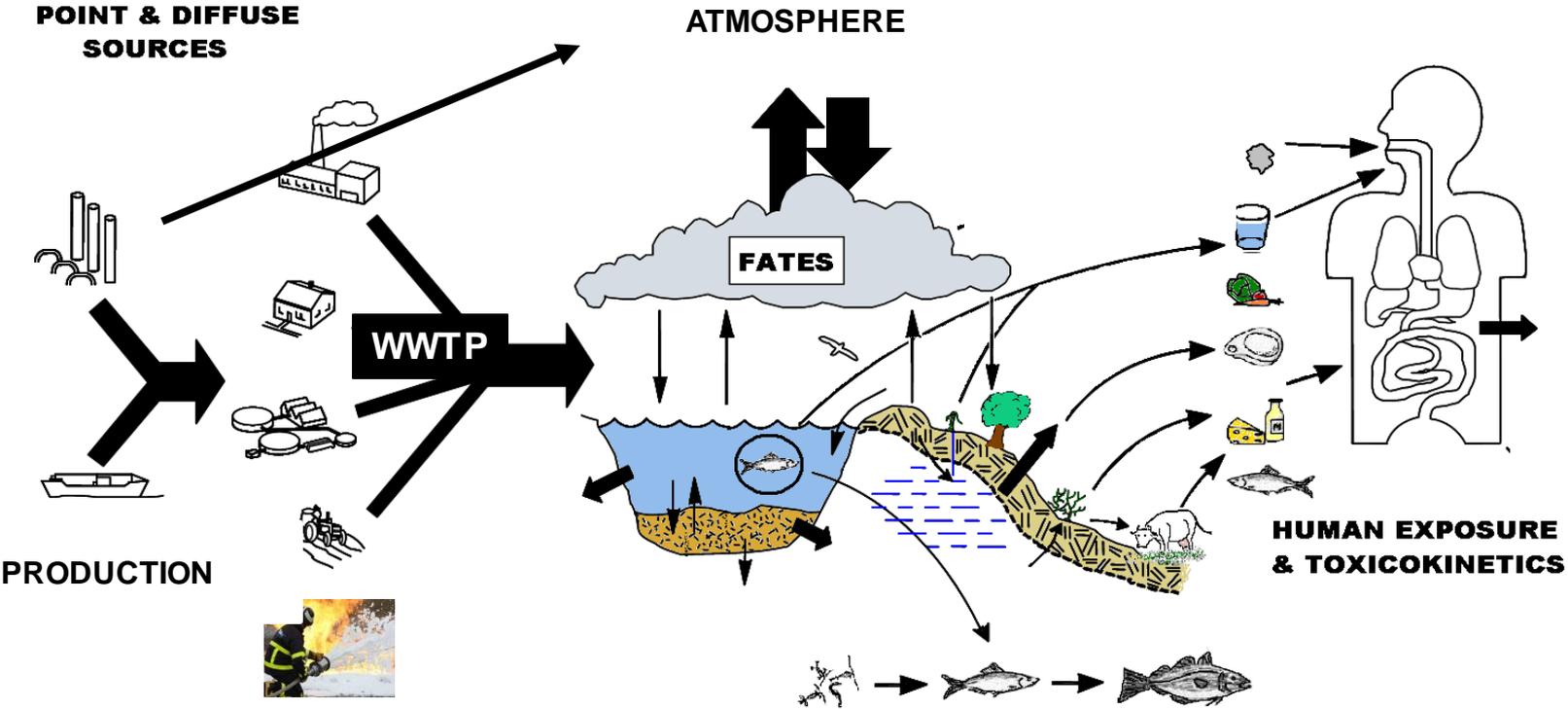- Surfactant
- Water and lipid repellent

- Fire fighting foam
- Ski waxes
- Impregnation of textiles and paper
- Cosmetics
- Detergents

No degradation in soil and water!
➢ Contamiante ground water, surface water and drinking water
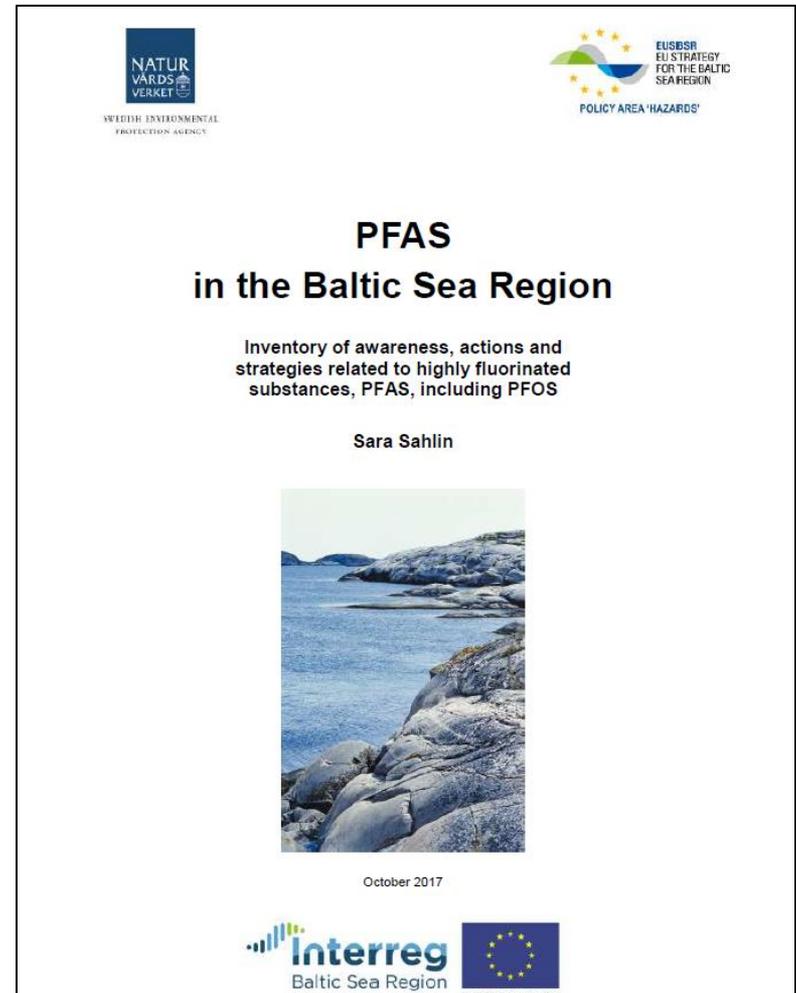➢ Accumulate in the food chain

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PFAS - Fate and exposure

PFAS – Challenges

- Differences in knowledge and awareness within the Baltic Sea region
  - Lack of data

- Many different actors

- Measures
  - How to regulate PFAS?
  - Remediation techniques?

PFAS in the Baltic Sea Region

Inventory of awareness, actions and strategies related to highly fluorinated substances, PFAS, including PFOS

Sara Sahlin

October 2017

Interreg
Baltic Sea Region

PFAS – work in progress in Sweden

National

- Governmental commission to the Swedish EPA – risk assessment of all sites in Sweden which are contaminated from the use of fire fighting foams

- Swedish EPA - Regulatory guidance

    - Environmental and human biomonitoring programmes

- A proposal from the Chemicals Agency to ban the use of fluorinated fire fighting foams for training purposes in Sweden is processed by the Government

- The Swedish National Food Agency has developed national action limit for $PFAS_{11}$ in drinking water

EU

- A proposal from Sweden and Germany to ban the use of long-chain PFCAs (C9-C14) is now being processed by the ECHA

- Sweden has also proposed to the EU Commission and the EU Member States that we need an EU strategy aiming at reducing the use of PFAS

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PFAS – Expectations

- A European strategy on non-toxic environment (NTES) one of the commitments under the 7th European environment action plan – due by the end 2018
- NTES would make EU leader in SAICM discussions
- Inspire progress in safe chemicals magement
- Provide significant environmental health wins
- Improved knowledge and awareness on PFAS, improve, harmonise monitoring & pilot technical solutions