

# **Risk to all or none?**

## **On the impacts of microplastics on ecosystems and societies**

Martin Wagner

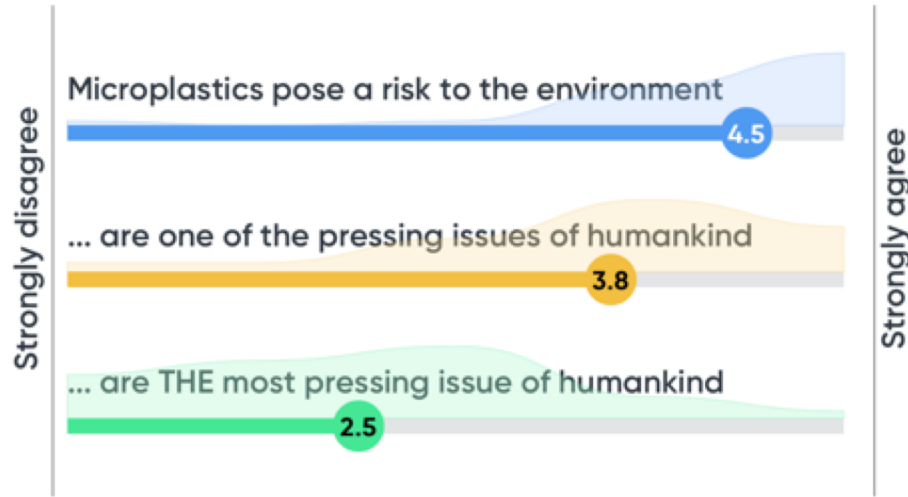
Environmental Toxicology group (ENVITOX)  
NTNU Trondheim, Norway

# Microplastics: Is there a problem?

Go to [www.menti.com](http://www.menti.com) and use the code **86 89 36**

## Do you (dis)agree with the following?

Mentimeter



Slide is not active

56

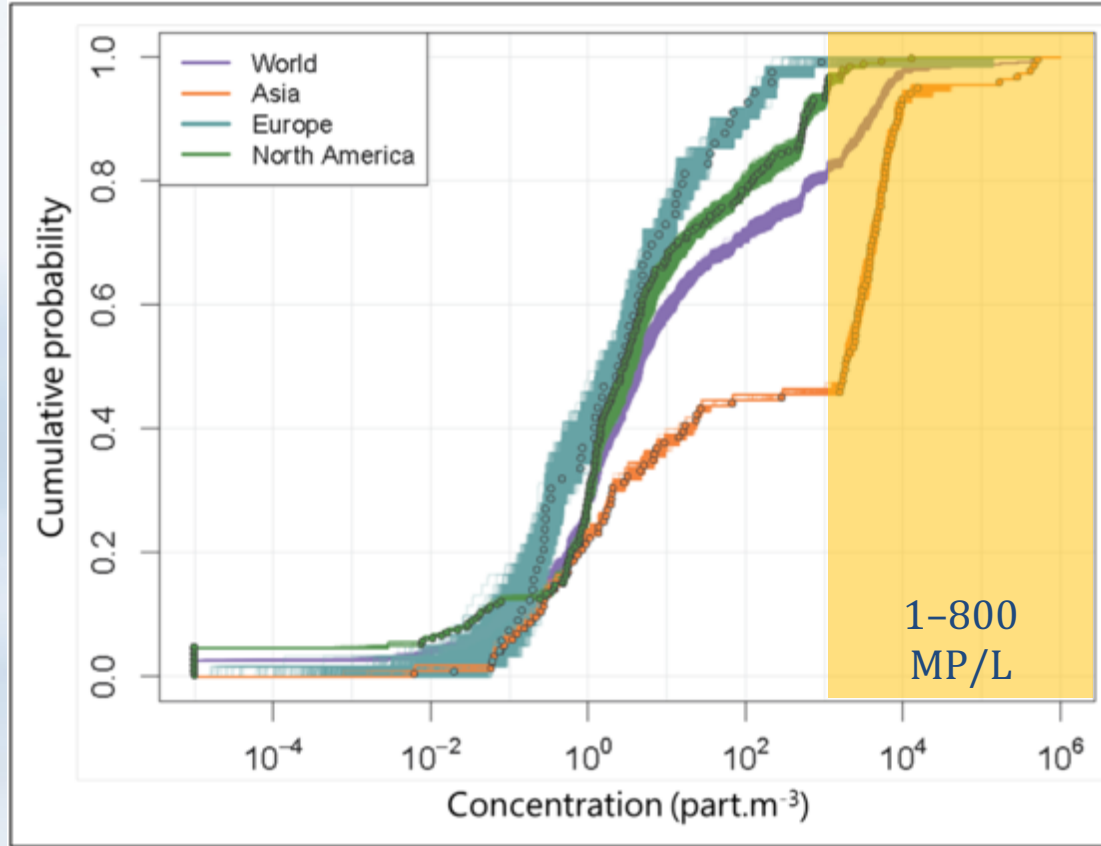
# Disclaimer

# Key messages



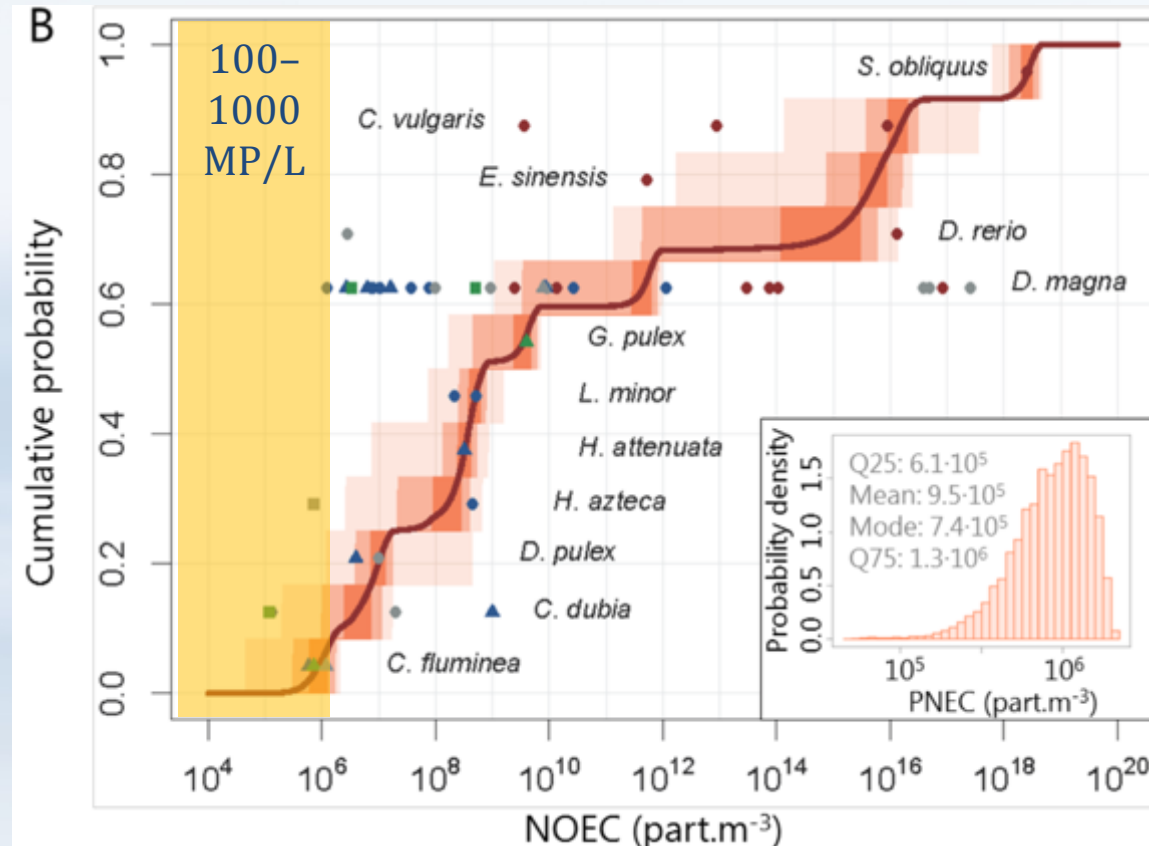


# Environmental risk: Exposure

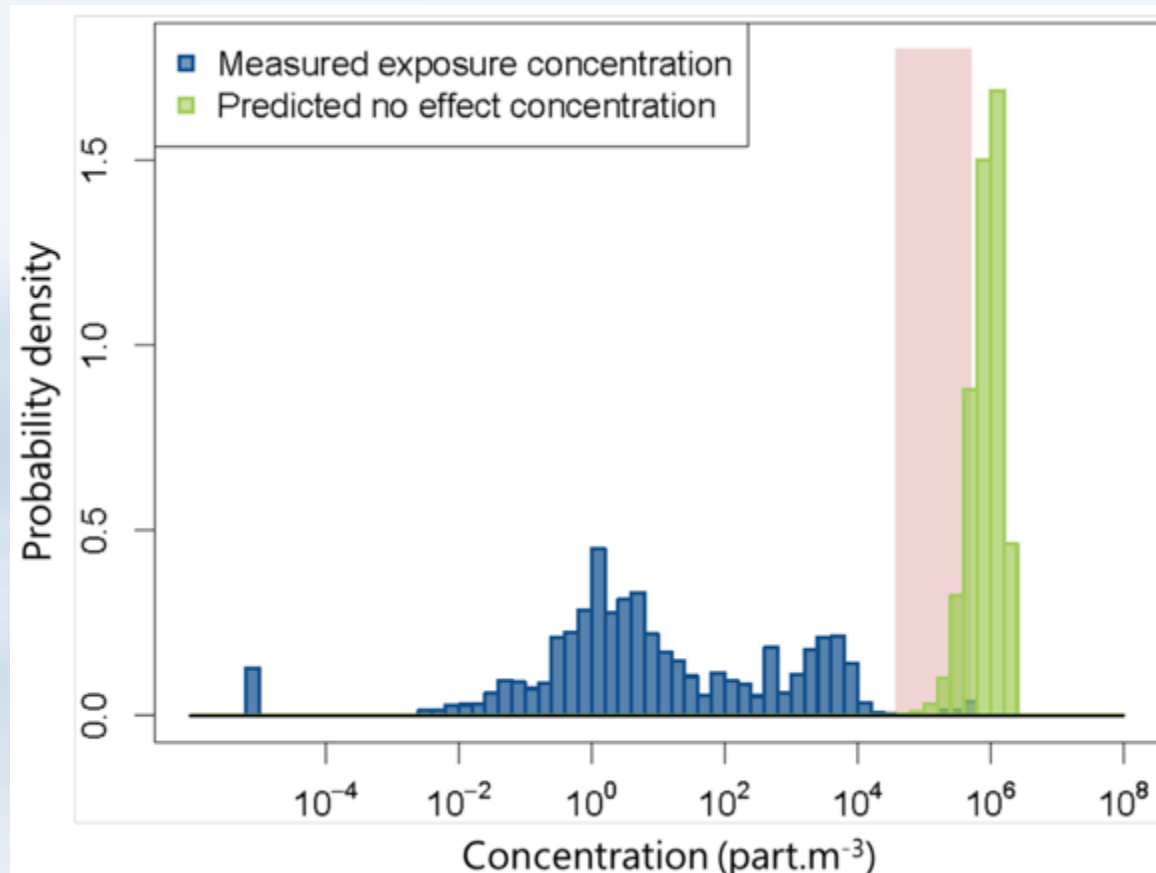


(Adam et al., 2018, Env Toxicol Chem)

# Environmental risk: Hazard



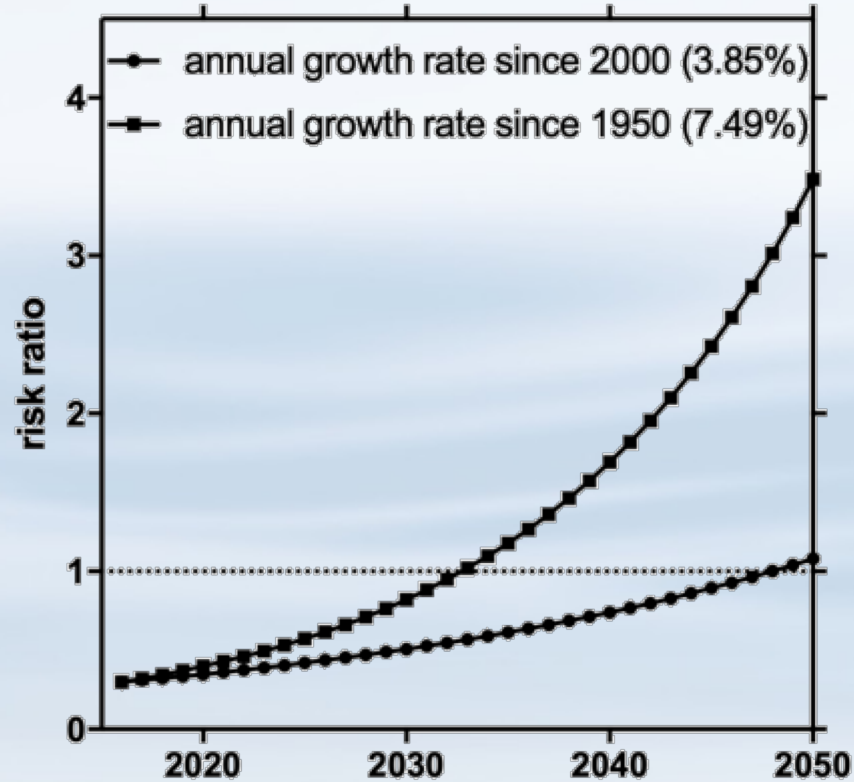
(Adam et al., 2018, Env Toxicol Chem)



(Adam et al., 2018, Env Toxicol Chem)



# Environmental risk: Projection

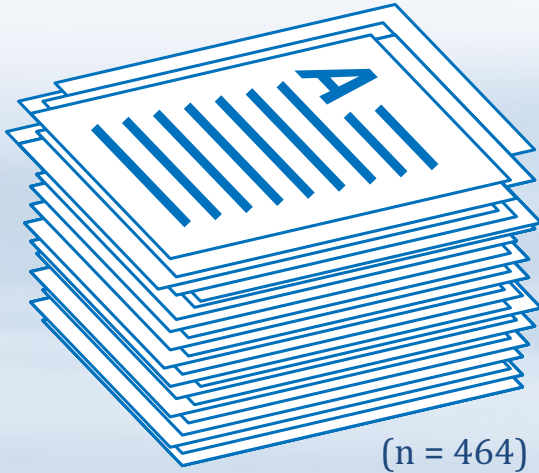


(Backhaus & Wagner, 2018, PeerJ preprint)

# Risk: A matter of perspective?



# Risk framing in science



*“represent a threat”*  
*“pose a risk”*

...

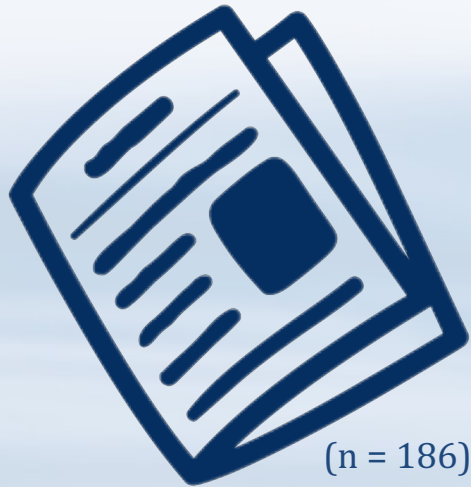


*“may pose a risk”*  
*“it is assumed that”*

...

(Völker, Kramm & Wagner, under review)

# Risk framing in the news



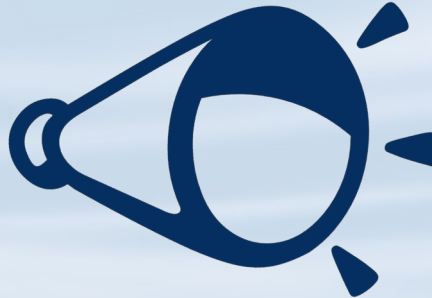
(Völker, Kramm & Wagner, under review)

# A translational issue



„Microplastics **may** be a risk“

Risk = **Probability** of a  
negative outcome



„Microplastics **are** a risk“

Risk = **Uncertainty** of a  
negative outcome

# Societies: Case closed



# Societies: Case closed



74 %



87 %



(Eurobarometer, 2017)



# Societies: It is not only about science!



**Ubiquity**

**Persistence**

**Irreversibility**



**Visibility**

**Aesthetics**

**Morals**

**Societal context**

# Plastic pollution in the Anthropocene



# Concluding thoughts

