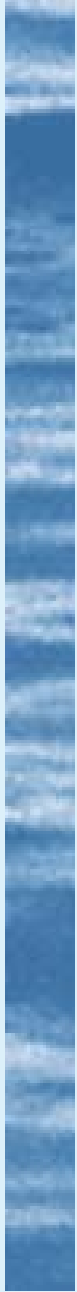


Status of pesticide monitoring in surface water within the WFD

*Susanne Boutrup,
NERI, Denmark*



- 
- Pesticides in the Water Framework Directive – generally
 - Pesticide monitoring in Denmark according to the Water Framework Directive



WFD-monitoring

- Surveillance monitoring
 - Overall surface water status
 - Monitoring of pesticides discharged/discharged in significant amounts
- Operational monitoring
 - Water being at risk of failing the objectives
 - Monitoring of pesticides discharged/discharged in significant amounts
- Investigative monitoring
 - Water failing the objectives
 - Monitoring to ascertain the causes of failing to achieve the objectives





Discharged in "significant" amounts

Quantities that could compromise the achievement of one of the Directive's objectives

(Common Implementation Strategy for the Water Framework Directive, Guidance document no. 7)



Matrix selection

- Water as matrix for compliance assessment
- Analyses on suspended particulate matter can be chosen
- Biota or sediment more relevant as matrix for some substances for trend monitoring
- Justification by technical and expert judgement



Pesticides in WFD

- Pesticides on the list of priority substances
- Pesticides as "other pollutants"
 - Different frequencies
 - EQS in daughter directive for priority substances are on their way



WFD-pesticides in national monitoring programmes

- Pesticides included in the monitoring programme
- Pesticides that have previously been included
- Pesticides without any monitoring data



WFD-pesticides in NOVA-2003 and NOVANA

	NOVA-2003	NOVANA
Alachlor	-	-
Atrazine	x	x
Chlorfenvinphos	-	-
Chlorpyrifos	-	-
Diuron	x	x
Endosulfan	x	-
Hexachlorbenzen	x	x
Hexachlorcyklohexan	x	x
Isoproturon	x	x
Simazine	x	x
Trifluralin	x	-



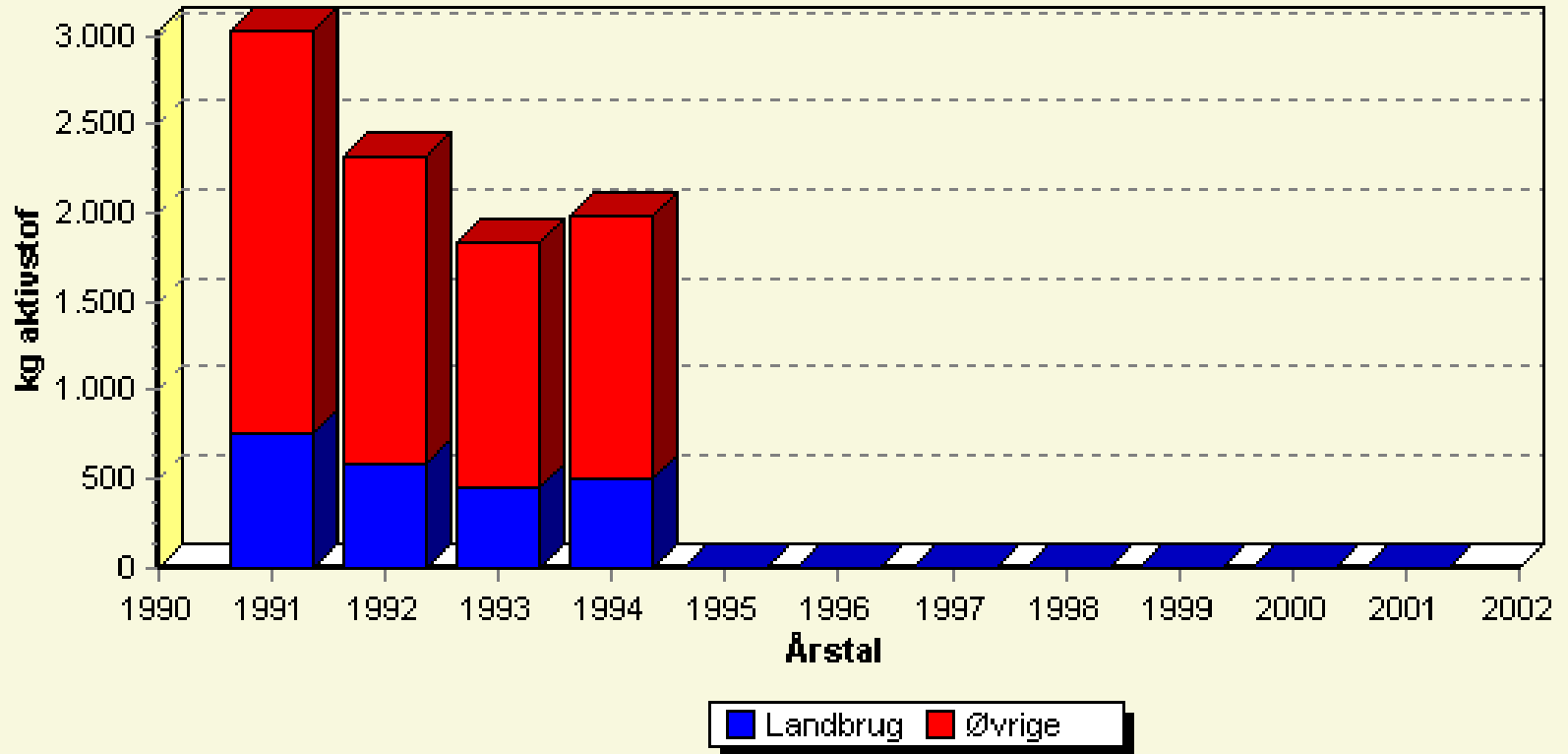
Endosulfan

- Watercourses:
 - 143 analyses from 4 big watercourses in 2000-2003
 - no findings
- Lakes
 - no monitoring (6 analyses from 1 lake, no finding)

(detection limit: 0,01 µg/l)



Solgte mængder i Danmark



Sold amounts of endosulfan in Denmark in 1991-2005

Kilde: Miljøstyrelsen bekæmpelsesmiddelstatistik



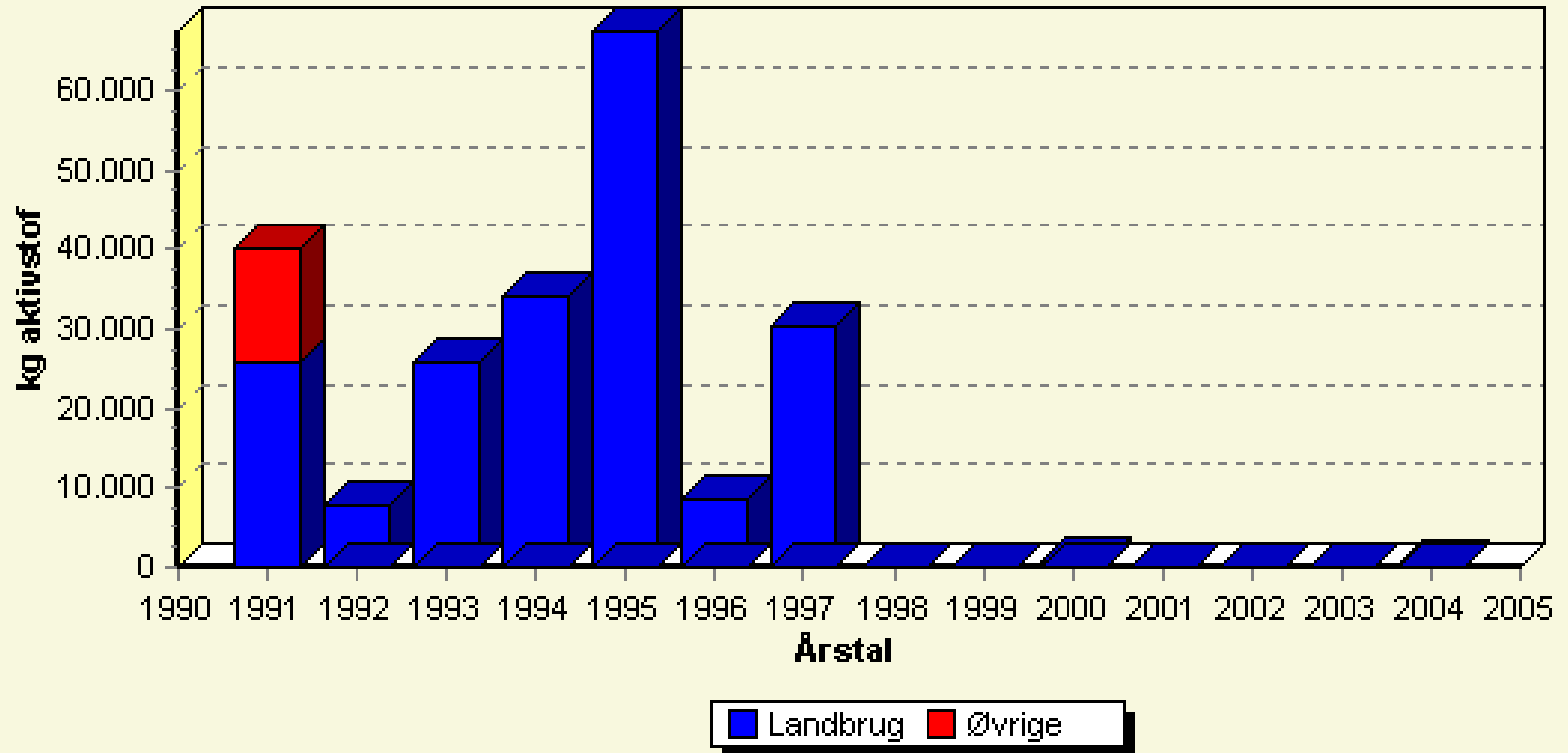
Trifluralin

- Watercourses:
 - 912 analyses from 33 watercourses in 2000-2003
 - 4 findings in 3 watercourses
- Lakes
 - 95 analyses from 8 lakes in 2001 and 2003
 - no findings

(detection limit: 0,01 µg/l)



Solgte mængder i Danmark



Sold amounts of trifluralin in Denmark in 1991-2005

Kilde: Miljøstyrelsen bekæmpelsesmiddelstatistik



WFD-pesticides with no monitoring data

- Alachlor
- Chlorfenvinphos
- Chlorpyrifos

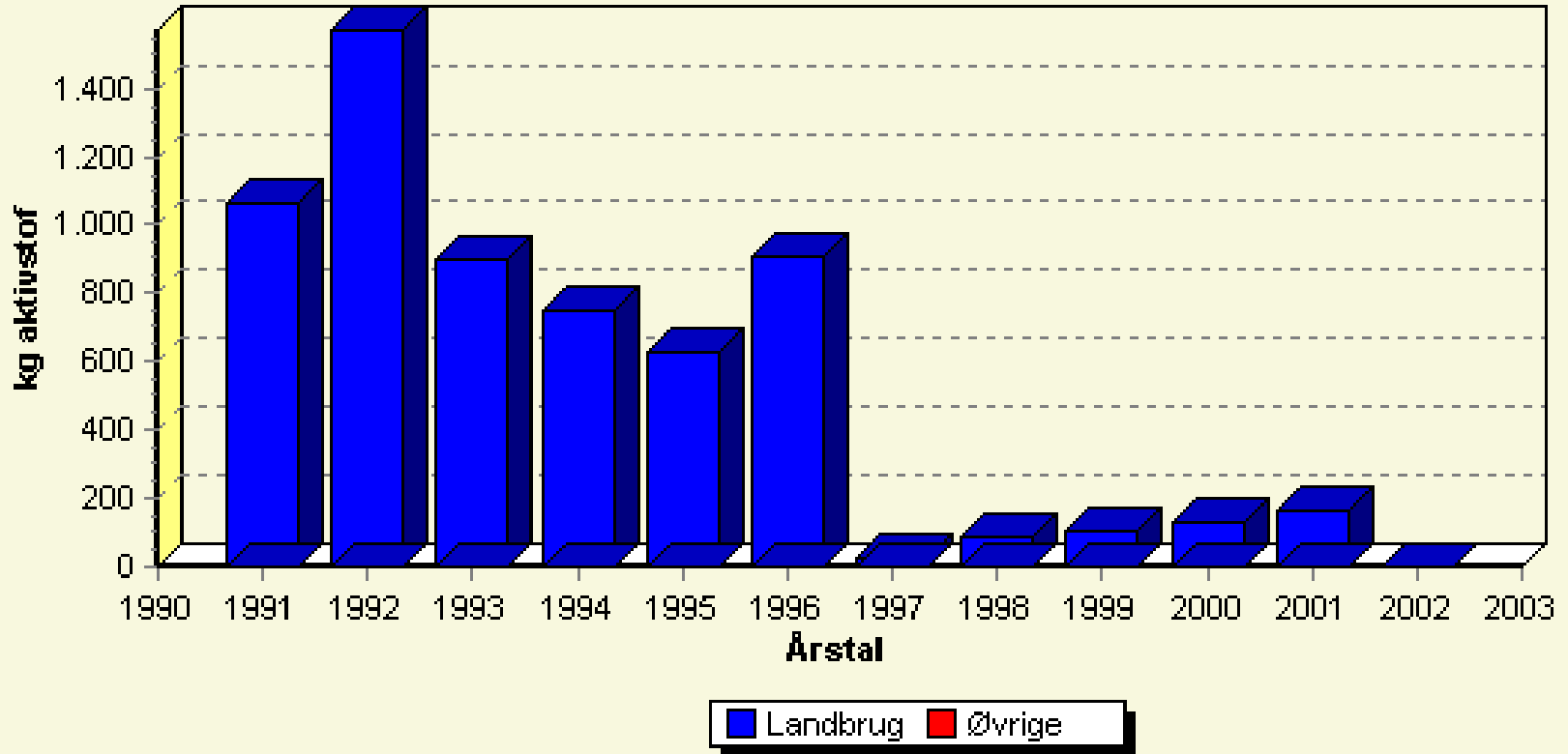


Alachlor

- Used in DK 1970-1987
- Total used amount: 116.036 kg
- No data on surface water monitoring
- Groundwater monitoring: no finding



Solgte mængder i Danmark

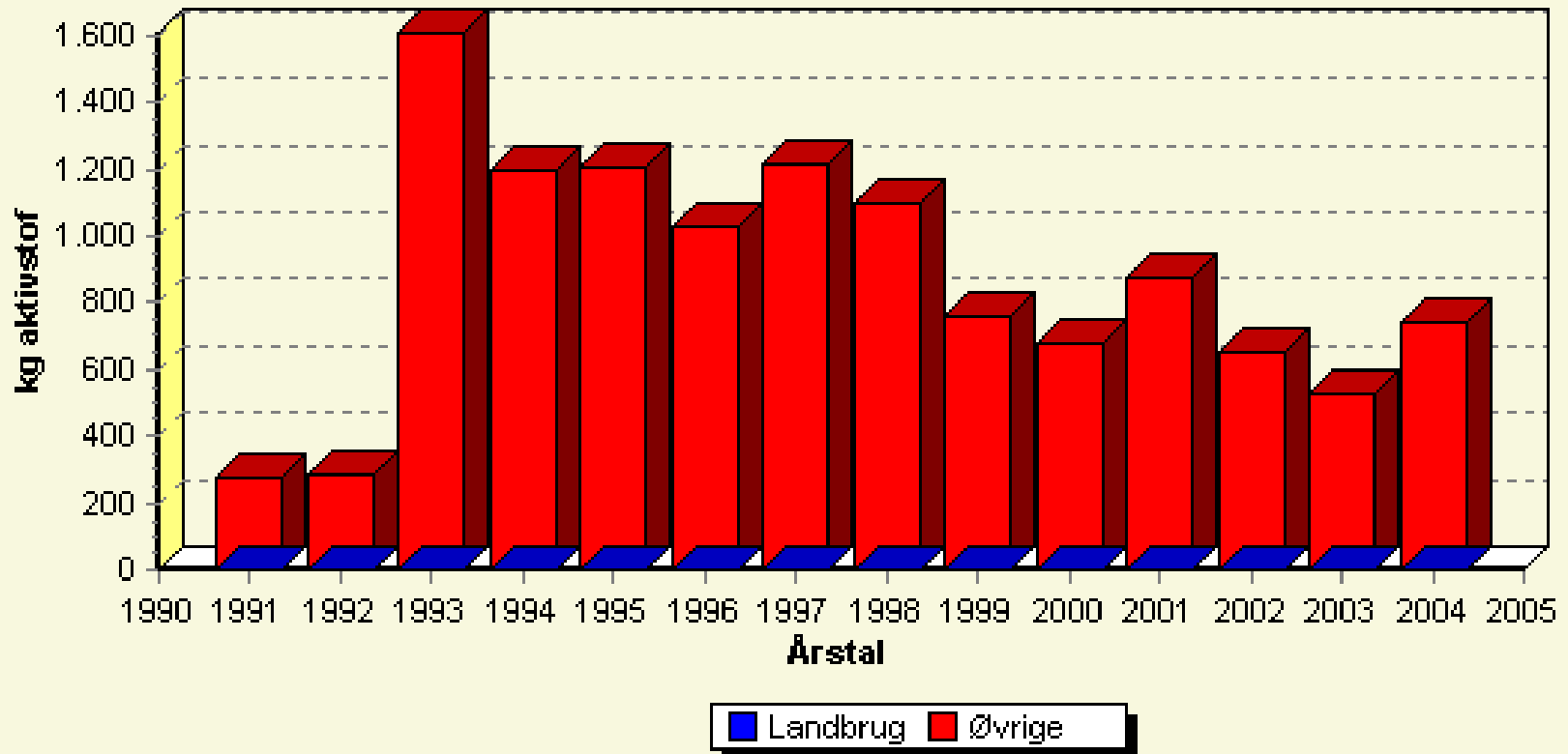


Sold amounts of chlorfenvinphos in Denmark in 1991-2003

Kilde: Miljøstyrelsen bekæmpelsesmiddelstatistik



Solgte mængder i Danmark



Sold amounts of chlorpyrifos in Denmark in 1991-2005

Kilde: Miljøstyrelsen bekæmpelsesmiddelstatistik



Conclusion

- "Justify on the basis of technical knowledge and expert judgement" that further monitoring of trifluralin and endosulfan is not relevant
- Screening investigation on chlorfenvinphos and chlorpyrifos and maybe alachlor is needed
- Monitoring of other WFD-pesticides in NOVANA

