


Effektbasera metodik för sediment.
Erfarenheter från studier i förorenade områden.

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Undersökning av sediment 


- Halter av misstänkta kemiska föreningar analyseras
- Liten kunskap om substansernas biotillgänglighet
- Mätning av giftighet med levande organismer kan vara ett bra komplement

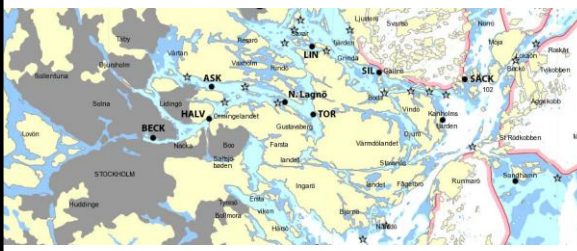
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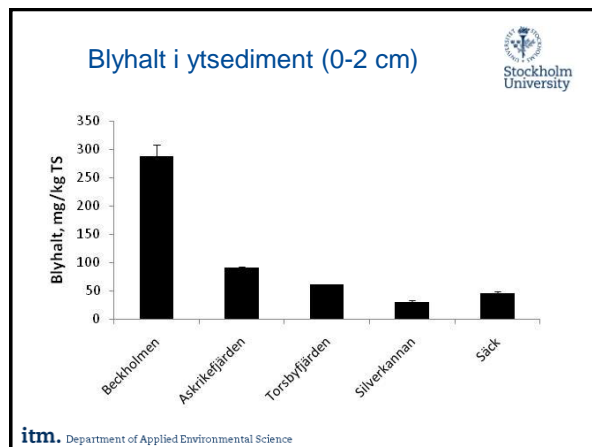
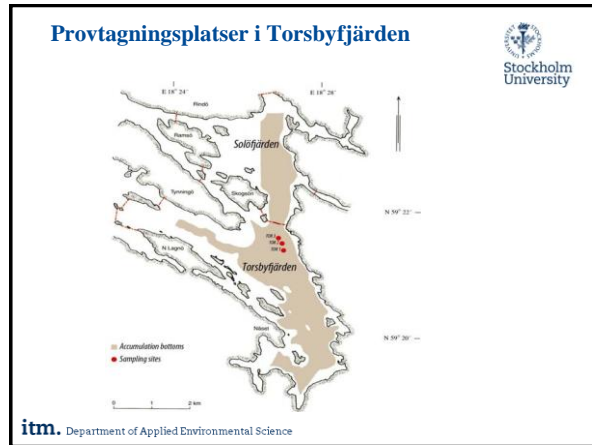
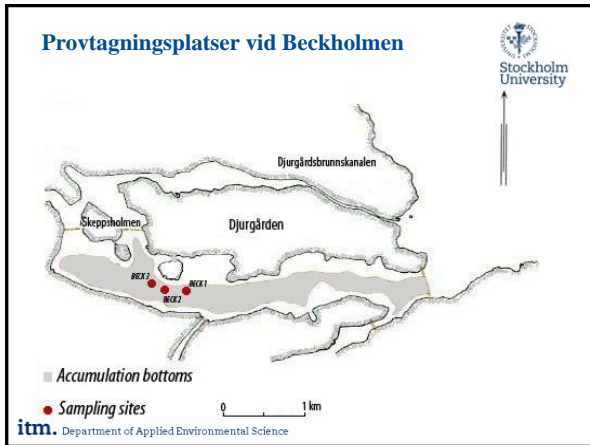
Undersökningar i en Stockholmsgradient

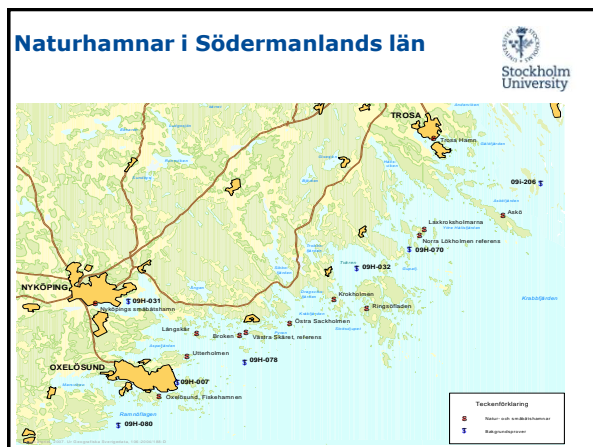
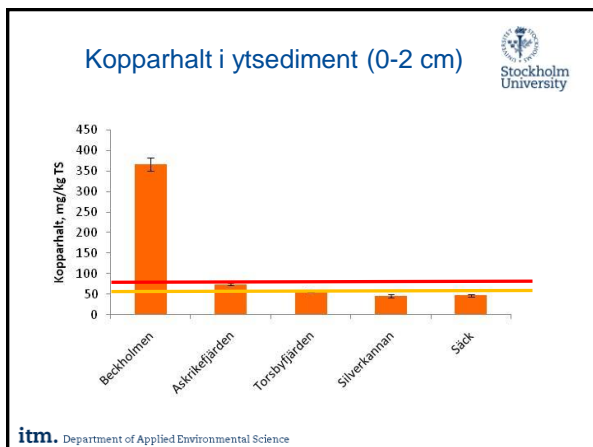
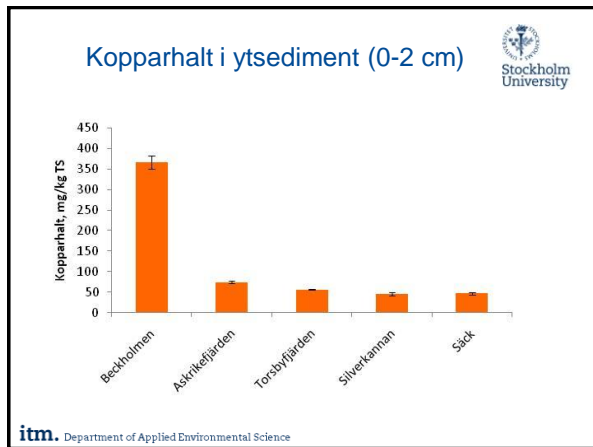
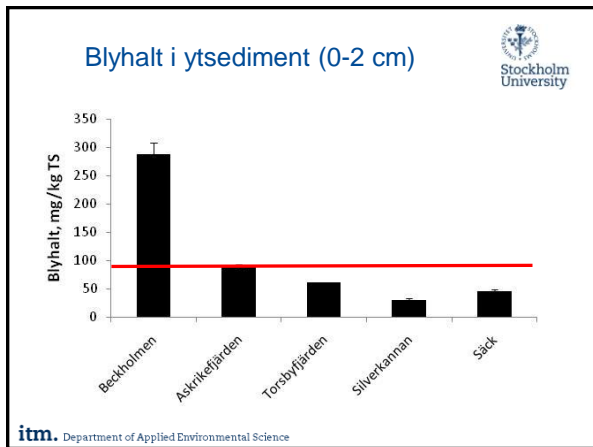
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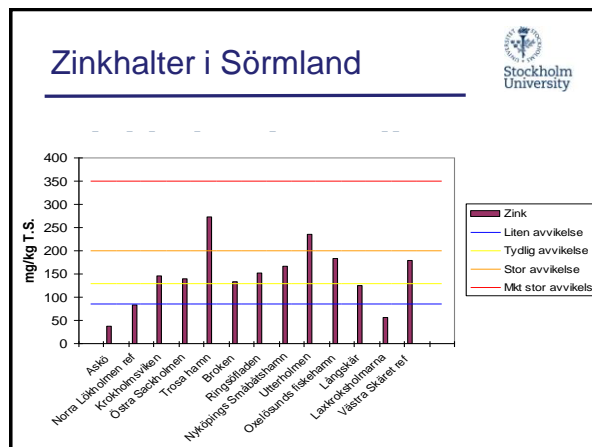
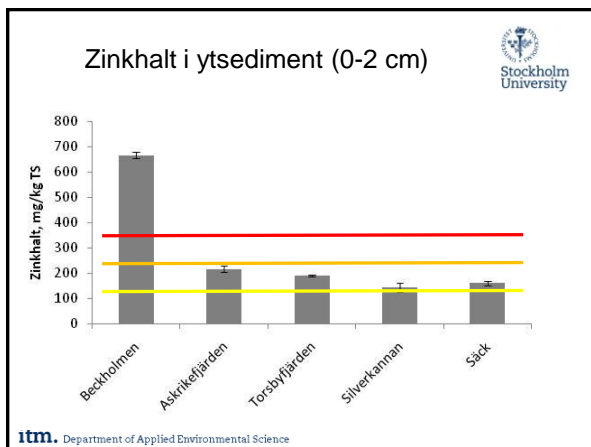
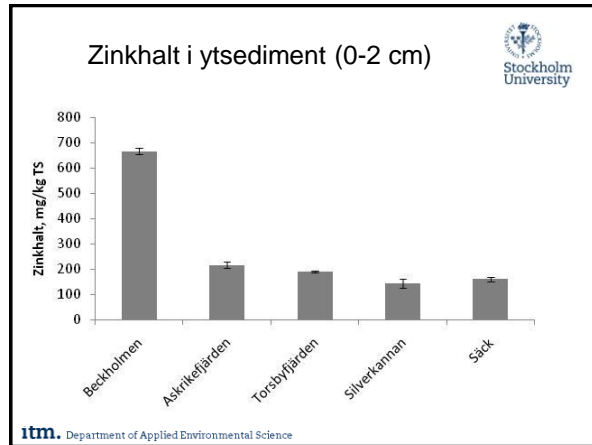
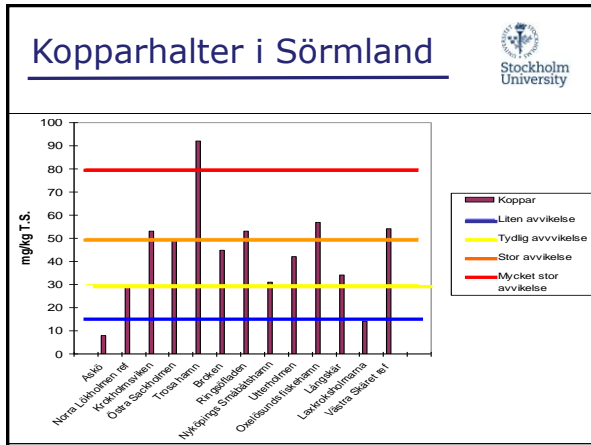
Provtagningsstationer 

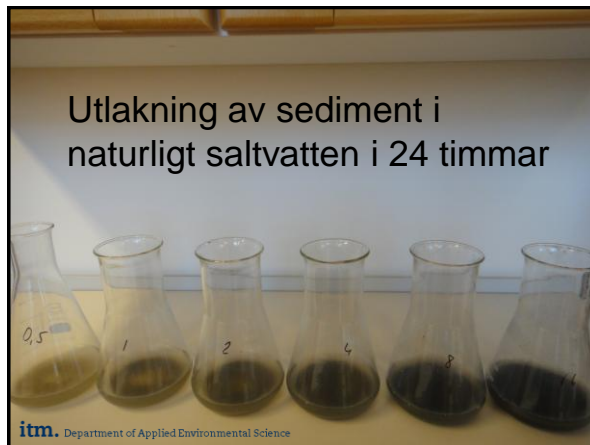
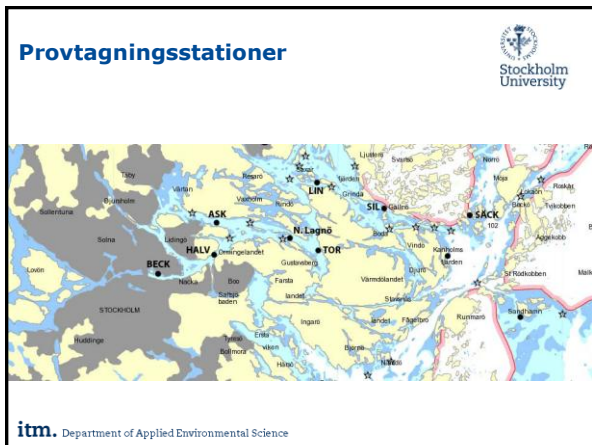


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Vilka sediment/volymförhållanden
bör man ha?

Hur lång utlakningstid är lämplig?

Omrörning under utlakning eller
inte?



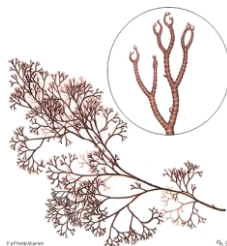
Ska man filtrera proverna eller
inte?

Vilken filterstorlek är lämplig?

Ceramium tenuicorne (Ullsleke)



- Röd makroalg
- Vanlig art i tempererade vatten på både norra och södra halvklotet.
- Ca 1 dm stor
- Vanligaste rödalgen i Östersjön och vanlig på västkusten

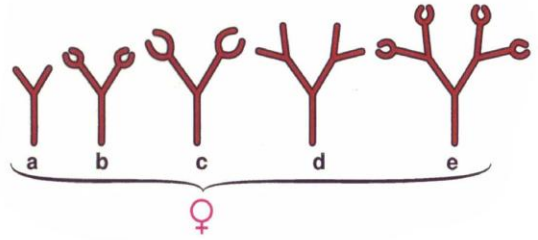


Rödalgan *Ceramium tenuicorne* (Ullsleke)

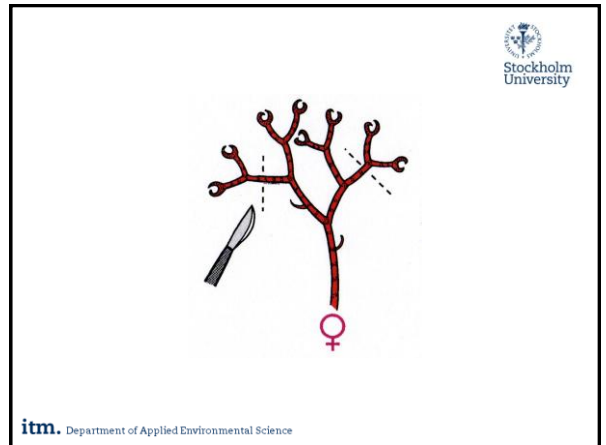
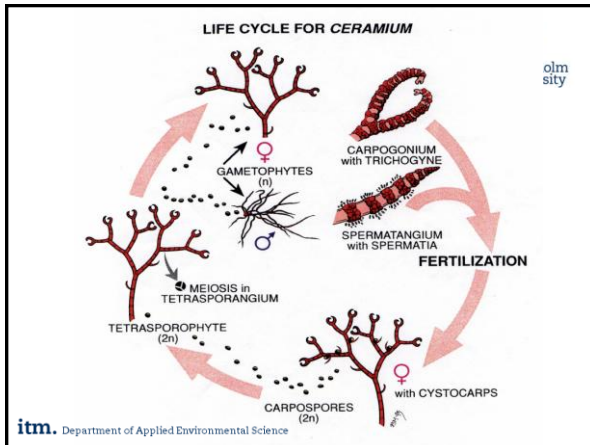


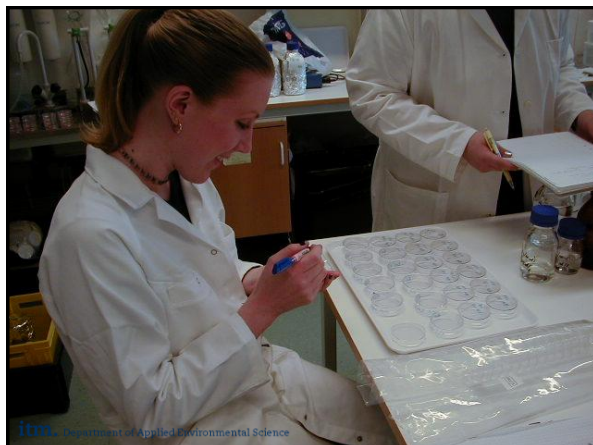
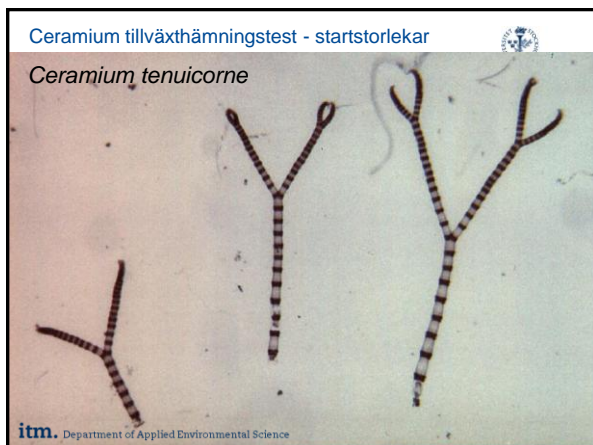
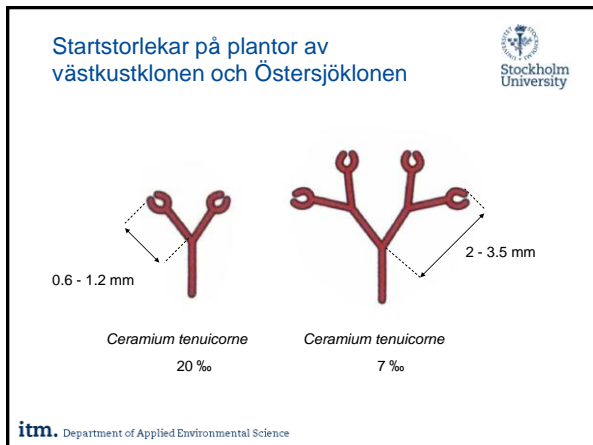
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Växtsätt hos honplantor av rödalgan *Ceramium tenuicorne*



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Ceramium tillväxthämningstest

2 algtoppar tillsätts varje replikat

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4 replikat/testkoncentration

Testpetriskålarna placeras slumpmässigt på en bricka och exponeras under 1 vecka.

Testförhållanden

Dygnsrytm: 14 tim ljus/10 tim mörker
 Ljusintensitet: $70 \pm 10 \mu\text{mol} \times \text{m}^{-2} \times \text{s}^{-1}$
 Temperatur: $22 \pm 2 \text{ }^\circ\text{C}$
 Salthalt: 3 – 30 ‰

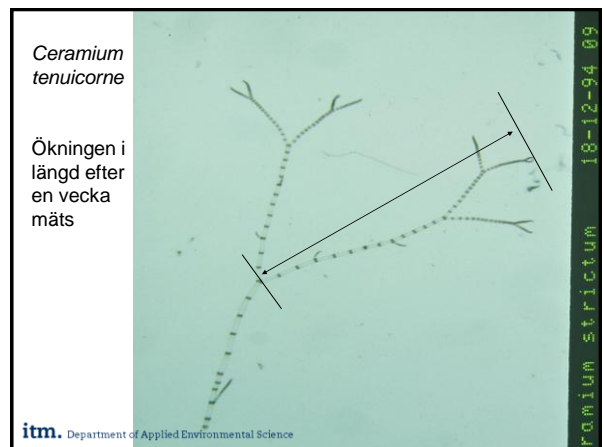
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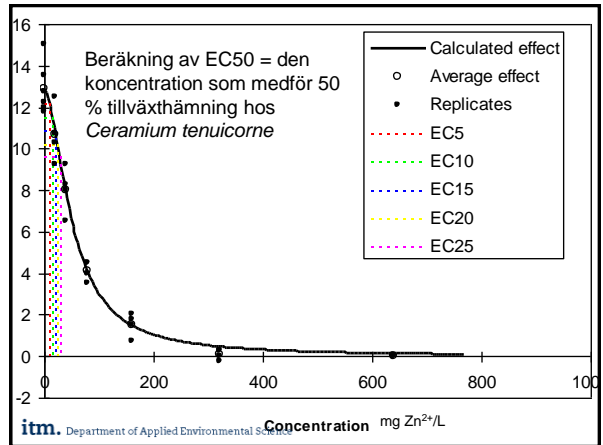


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Bestämning av längd efter 7 dagars växt

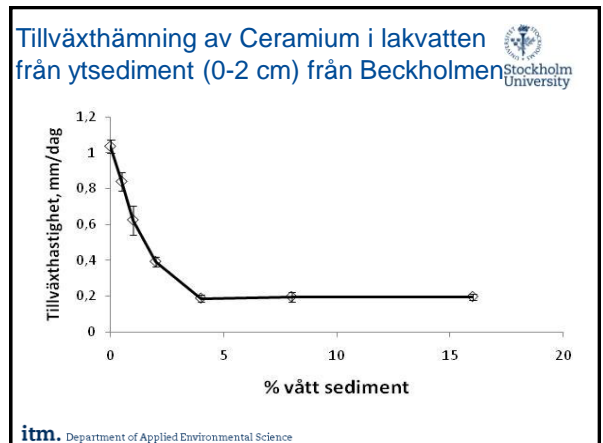
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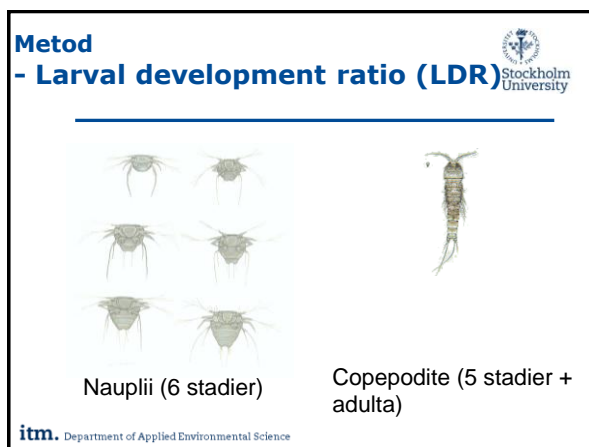
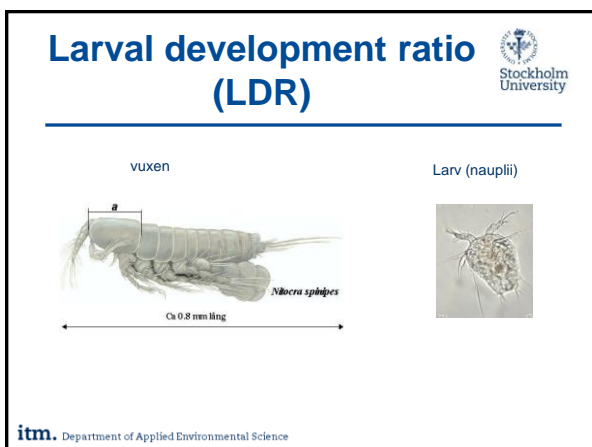
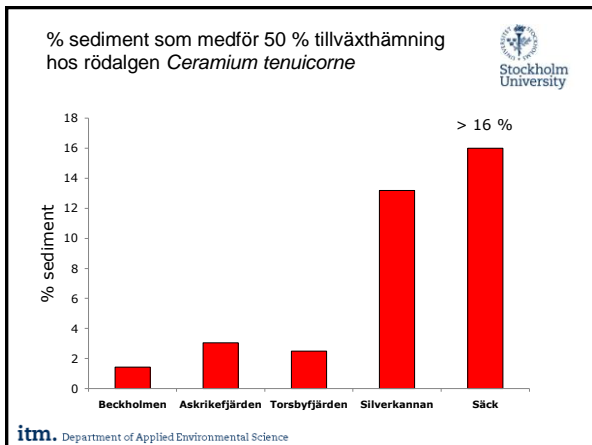


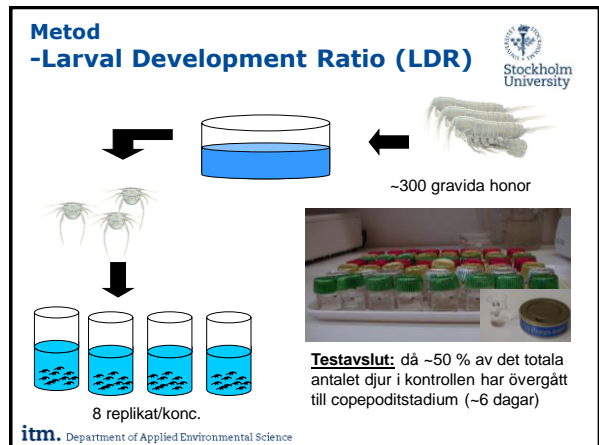
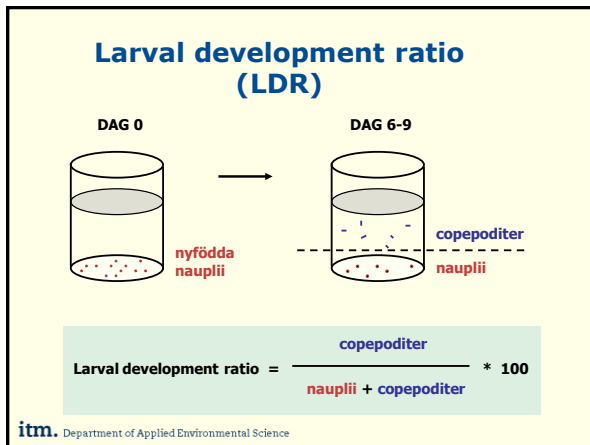


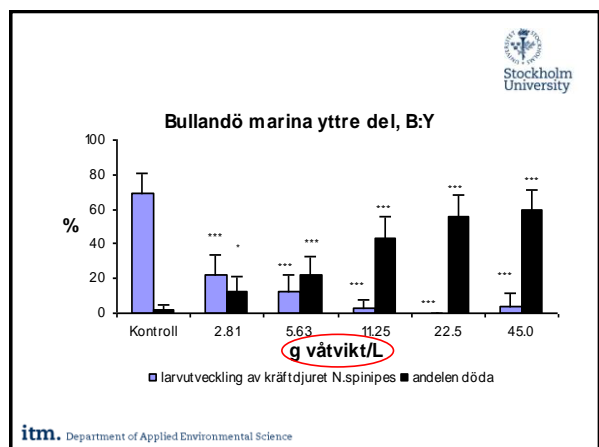
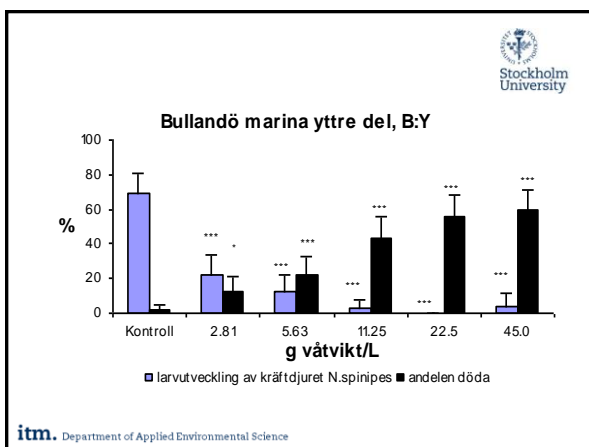
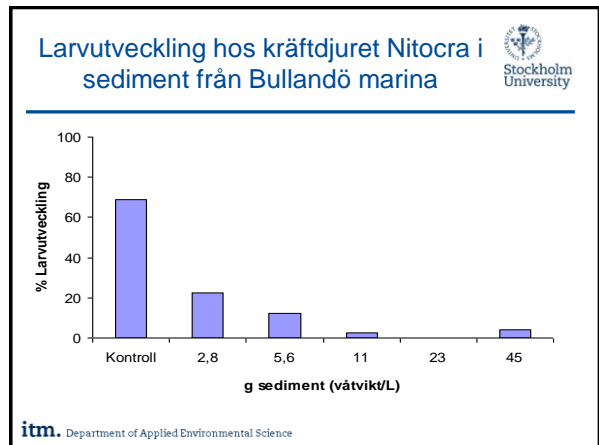
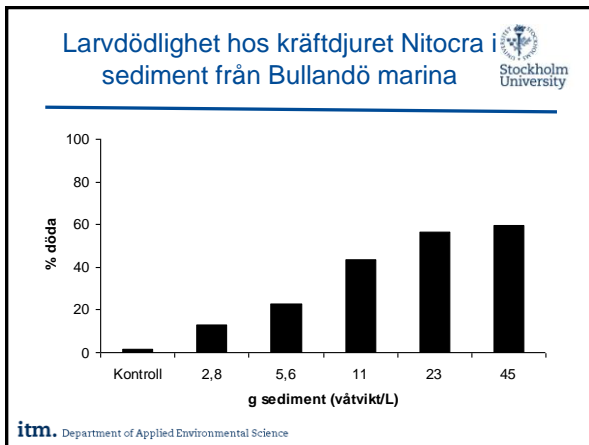
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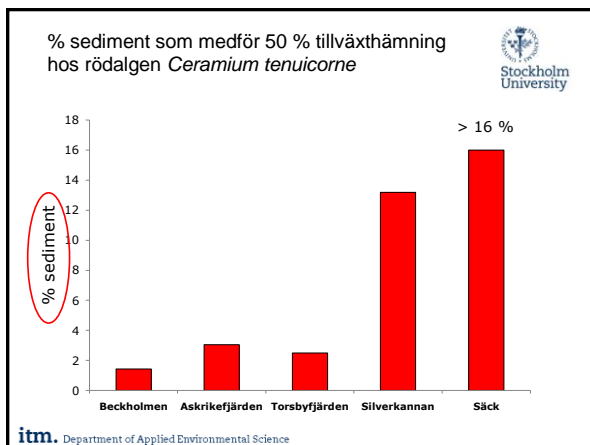
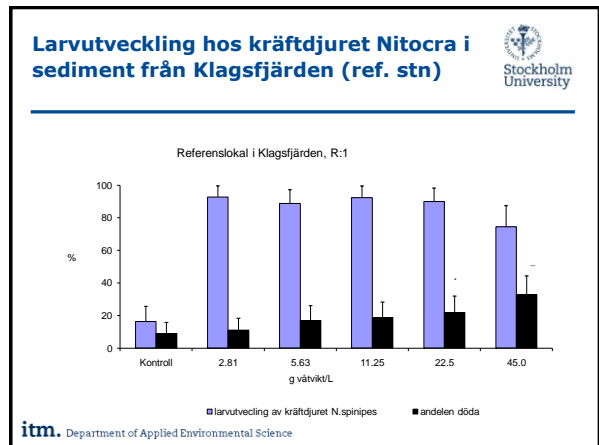
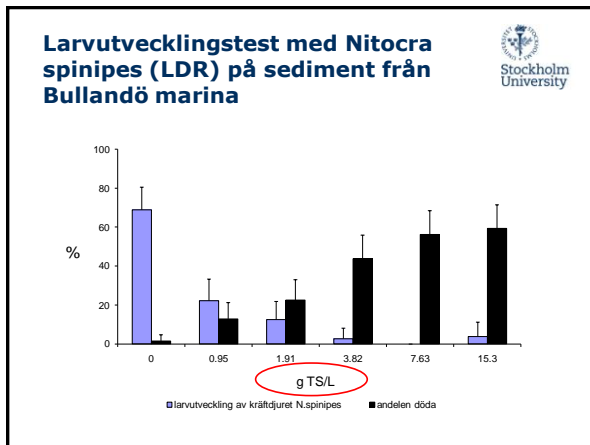
Ceramium tillväxthämningstest blev färdig som en ISO-standard, i maj 2010, ISO 10710.











Biological and chemical characterization of harbour sediments from the Stockholm area.

Eklund, B, Elfström, M., Gallego, I., Bengtsson, B-E., Breitholtz, M.
 J soils Sediments, 2010, 10:127-141

Stockholm University



Halter av substanser brukar anges som:

mg / kg torrt sediment

Hur ska man bäst presentera effektdata?



Effekt hos en organism bör anges som den mängd sediment som medför en 50 %-ig effekt per:

- g vått sediment/L
- g torrt sediment/L
- Organiskt material/L
- Procentandel sediment
- Annat sätt?

Finns det bättre sätt att testa sediment?

