

# How to deal with ecobureaucratic power hampering maritime infrastructure projects



1. The current reality
2. Where is the beef?
3. The sociological process
4. Putting issues into perspective
5. Delivering guilt and ridicule
6. Demanding change
7. Conclusion

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## Megatrends in development of maritime infrastructure

- Ever growing EIA studies
- Increasingly complicated and lengthy permitting processes
- Harmful project delays and expensive permit conditions
- Seasonal restrictions ruining project schedules
- Monitoring programmes extending to basic research



**Are the permitting processes and project conditions proportional to environmental impacts?**



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## Dredging is earth removal in water environment



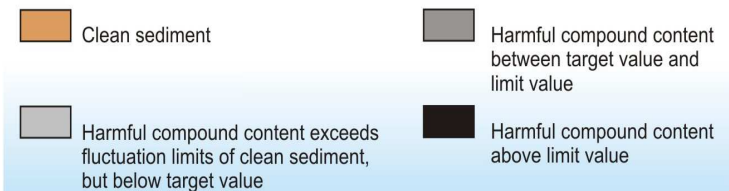
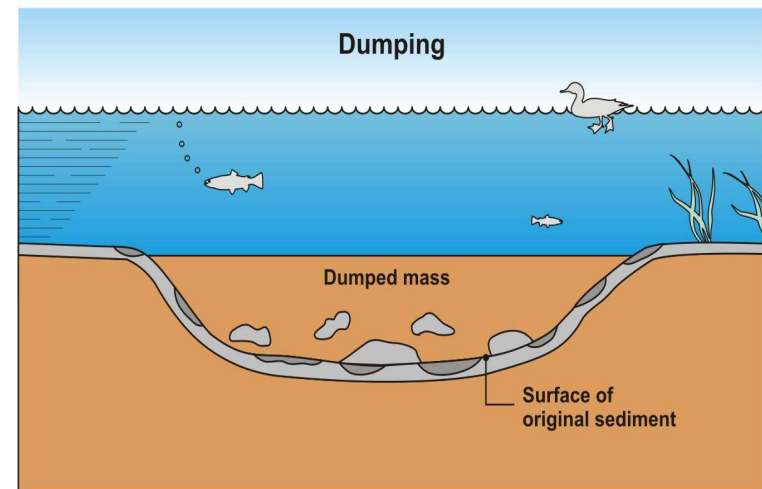
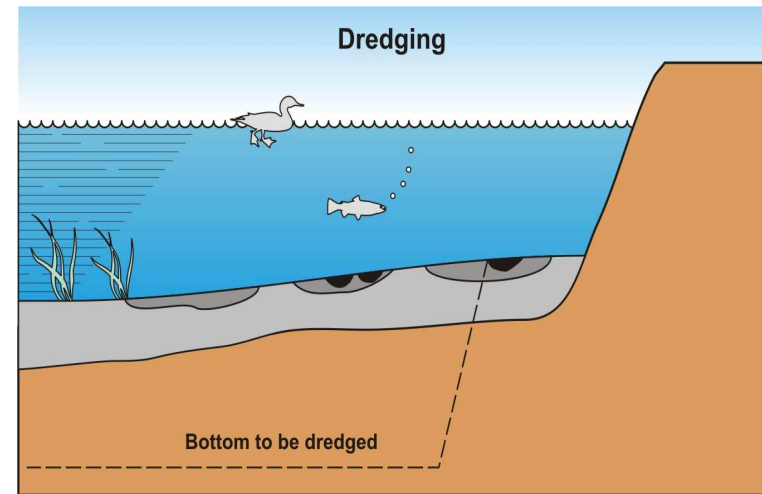
- Dredging volume in Finland is of the order of 2 million m<sup>3</sup>/year
- Environmental impacts of dredging are footprint effect, suspension and release of harmful substances



# The effects of dredging on the bottom

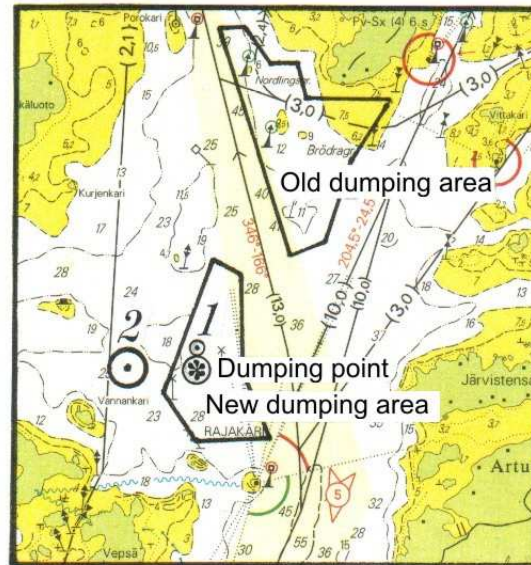
## Conclusions:

- Generally the biologically active bottom layer is cleaned up both in the dredging area and in the dumping area.
- Bottom ecosystem recovers in a few years



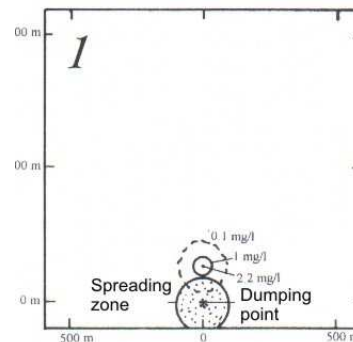
# Suspension

- Up to 5% of sediments suspended
- Up to 5% of sediments suspended at dumping
- Majority of suspended matter settles in the immediate vicinity of operation
- Visible suspension effects generally contained within 200-400m from the point of erection
- The chemical composition of suspended matter is generally similar to or cleaner than the one of particulate matter floating naturally in the water mass
- Dredging operations have generally negligible effects on the areal amount of suspended matter

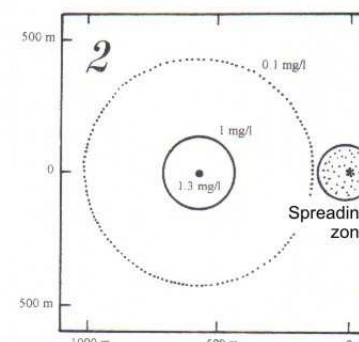


Detectable suspension connected to a dumping event,  
current velocity 0,04m/s  
Scale 1:50 000

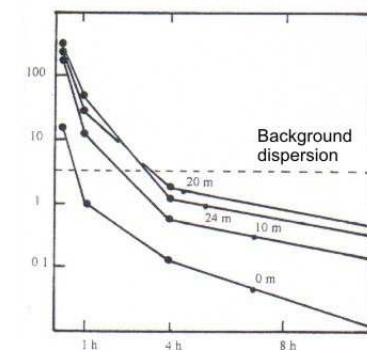
Suspension surface  
1h from dumping



Suspension at bottom  
4 hours from dumping



Maximum concentration  
of suspended matter at  
different depths





# Vuosaari dredging project and tributyltin

**Years of extensive media coverage focusing on**

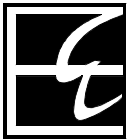
- TBT concentrations up to two orders of magnitude higher than the unofficial limit value
- Permitting drama
- Environmental crime
- TBT harms the reproductive abilities of organisms living in seabed
- Should there be limitations for eating fish from Vuosaari?



## Vuosaari dredging project and tributyltin

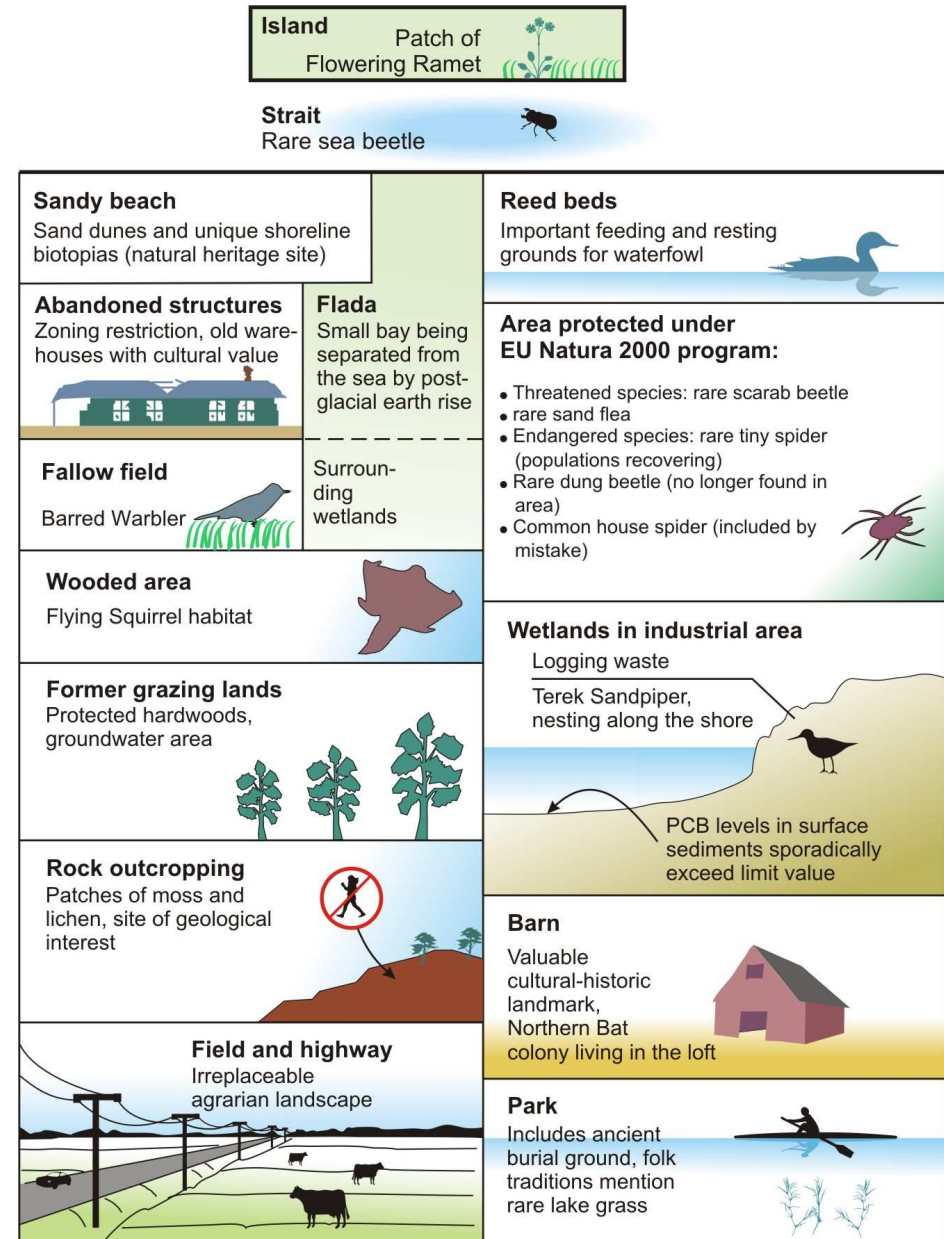
### No attention to the following

- Finland's TBT emissions had been 20 000 kg/year for decades
- The total amount of TBT in Vuosaari sediments was 100 kg of which 10kg would have suspended in a normal dredging operation
- 10kg equals a two month legal release of a traditional ocean liner at the time of dredging
- If a woman weighting 60kg eats 0,5kg of Vuosaari fish every day health hazard is of the same order of magnitude as if she drank a glass of wine once a month



## Problems everywhere

Maritime infrastructure has been developed for hundreds of years. Suddenly a large number of issues has emerged making development complicated, time consuming, expensive and even impossible.





## Where is rationality and justice?

**Answer: This is not about rationality and justice.**

**This is a sociological process  
including following elements:**

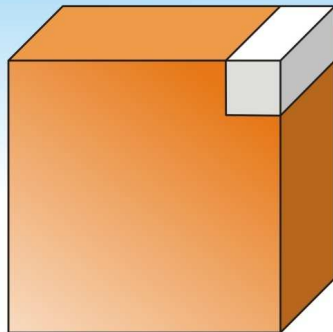
- Fragmentation of decision making in society
- Explosion of ecobureaucratic power
- Collective cognitive dissonance



# Fragmentation of environmental administration

Delivery of guilt and expiation through purification rites

$I = -1000$



$I = -10$

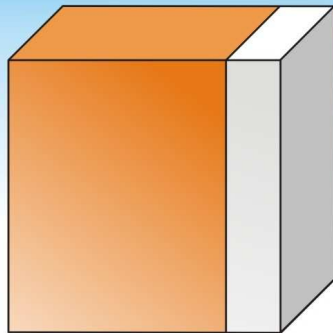


$I = -1$



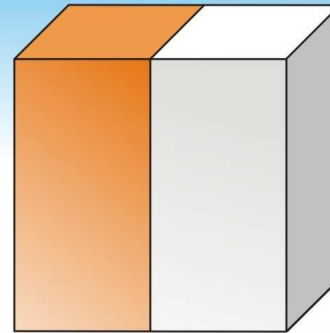
$\Delta I \approx +40$

Sector-specific approach



$\Delta I \approx +200$

Concentrating on most significant problem

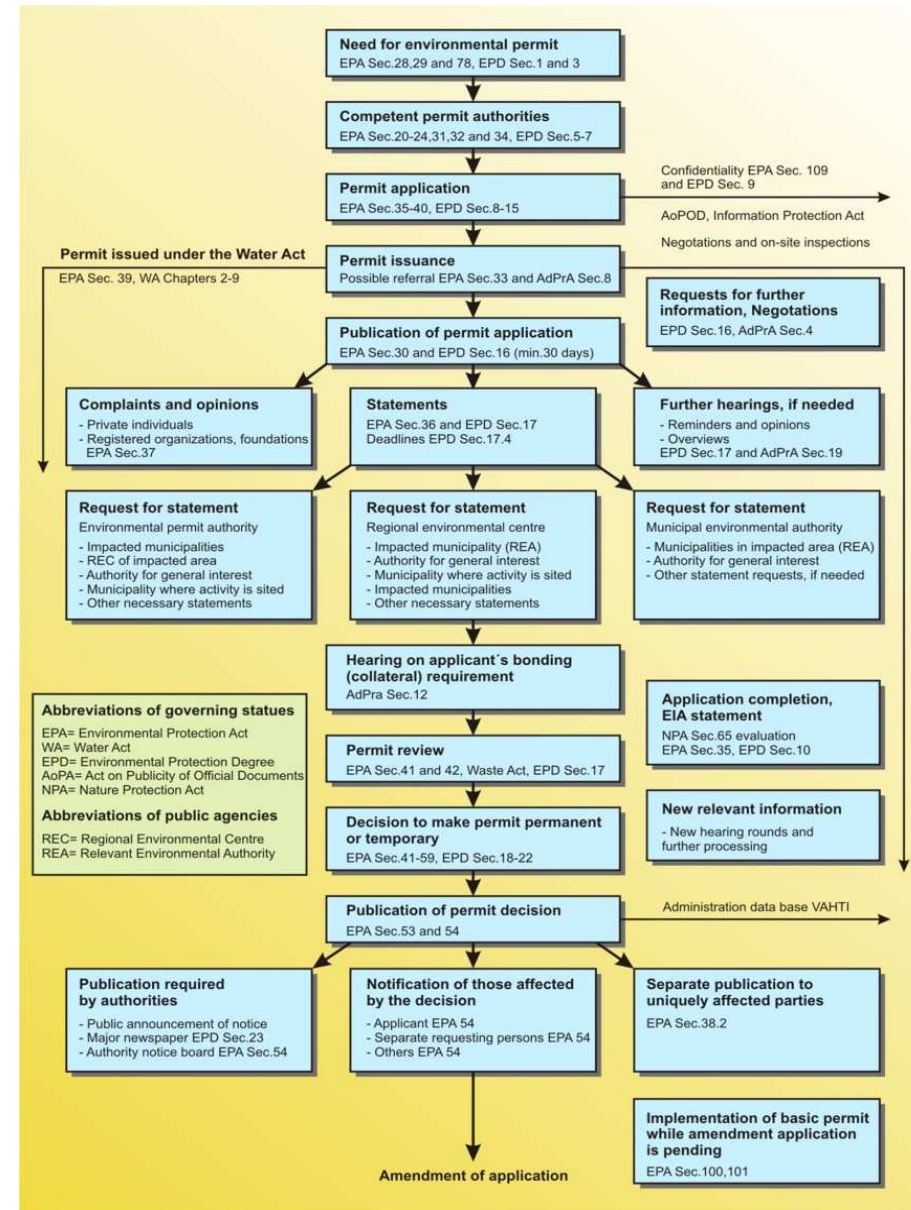


$\Delta I \approx +500$

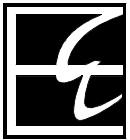
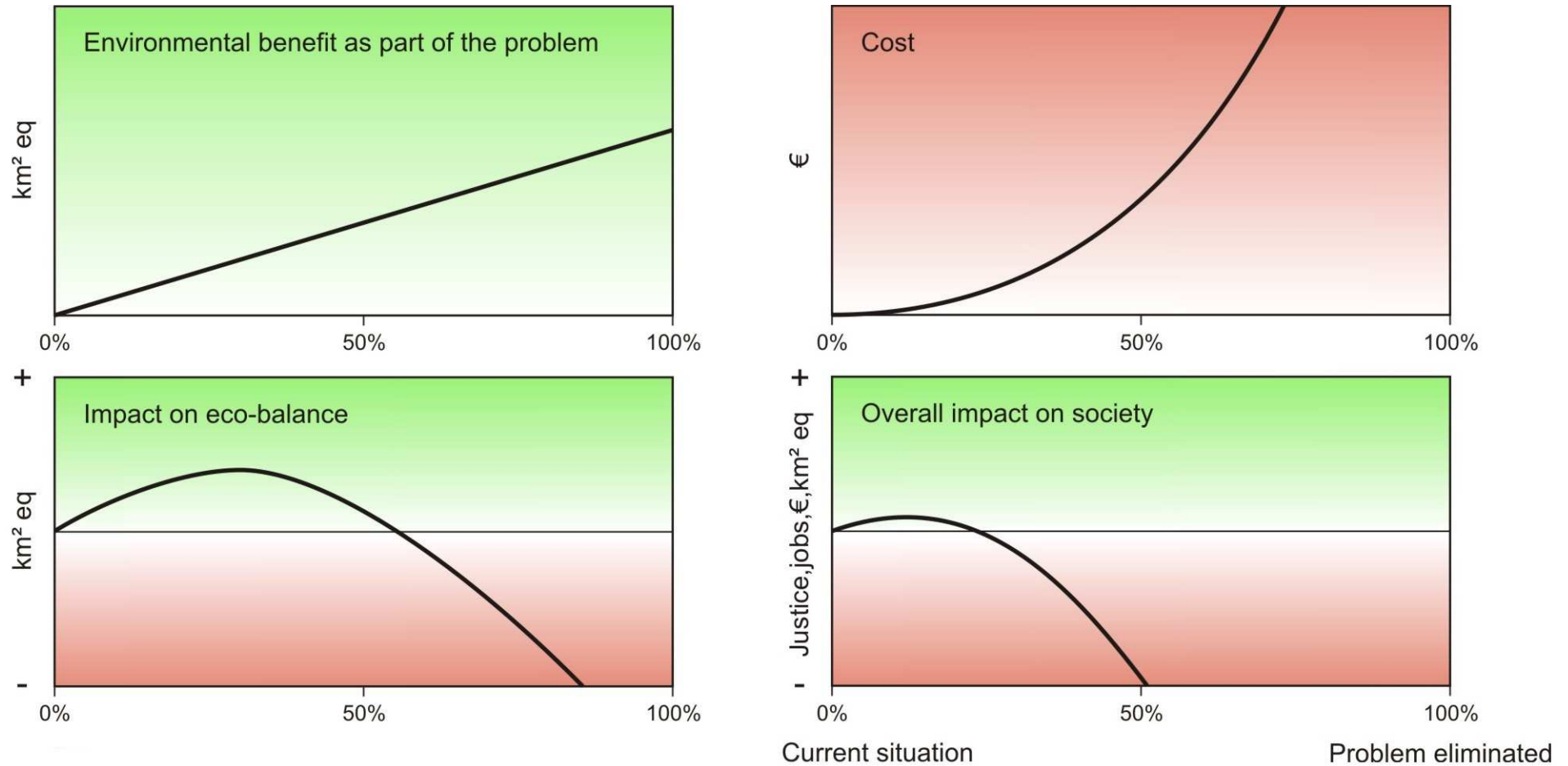


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# The bureaucratic heaven



# Consequence of fragmentation in a society



## Power theory

### **Weber:**

Power is the possibility of imposing one's will upon the behaviour of other people. Mankind is caught up in an eternal struggle for power.



### **Galbraith:**

State bureaucracy has tendency to make the state an instrument of its own purposes. It uses consign power (stick) compensatory power (carrot) and conditional power (possibility to change beliefs) eg in alliance with the media



### **Mao:**

Power grows out of the barrel of the gun



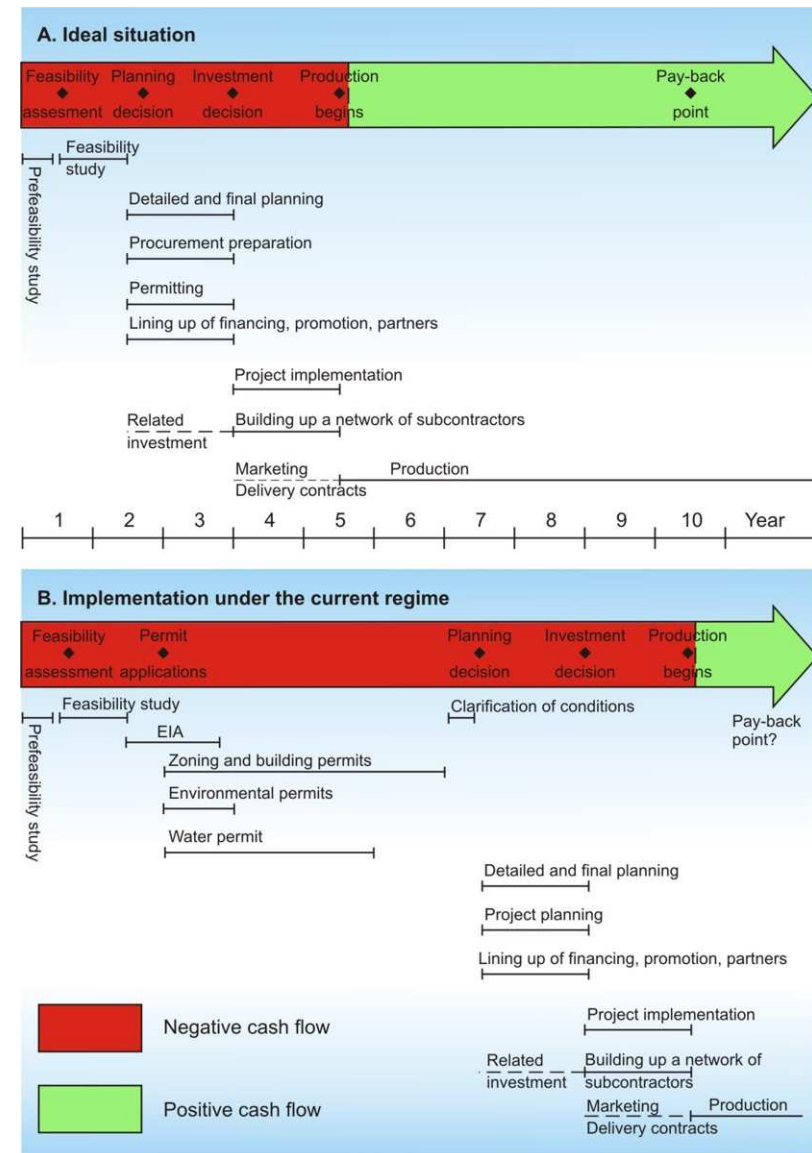
People have a will to power and power corrupts





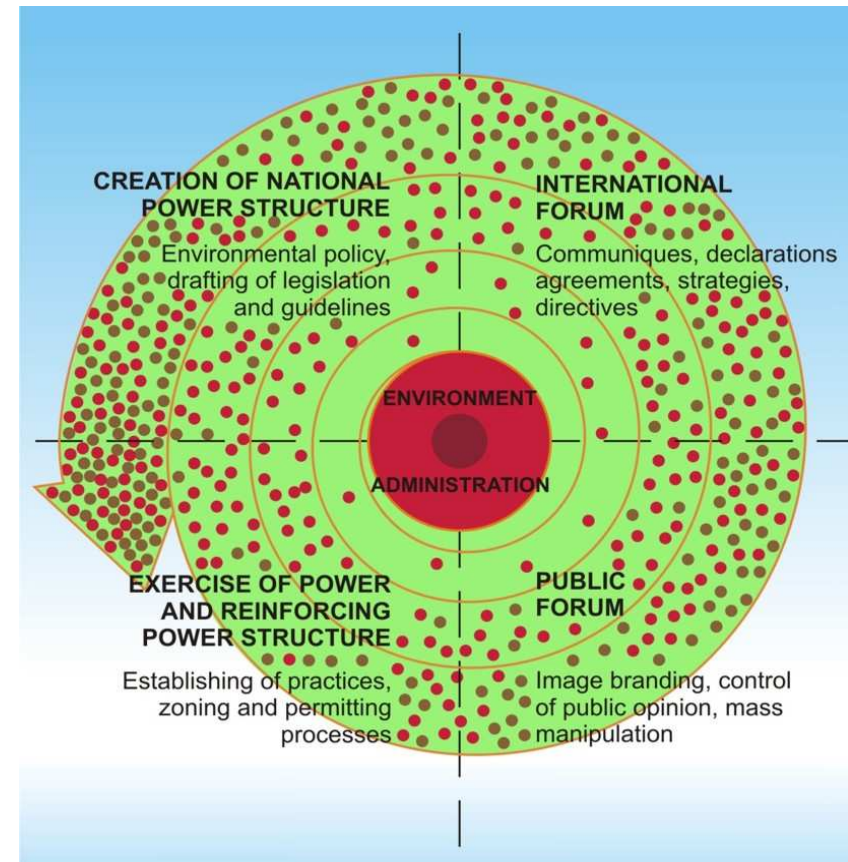
# Implementation of an investment project

Ability to sink investment projects in to a limbo of never ending permitting process is the principal source of ecobureaucratic power.



## Interaction between environmental administration, state research institutes and media

- Environmental administration and politicians struggle for power and resources using classic methods: ideology (sustainable development), unknown threat, delivering guilt, manipulation and hypocrisy
- Many people in the state research institutes have specialized in producing new unknown threats and politically correct phrases for the power structure and media
- Unknown threat, delivering guilt, politically correct hypocrisy and manipulation resonate extremely well in the media. It applies the golden rule of journalism: "Always try to tell the truth but there is no need to tell the whole truth!"



## Explanation based on power theory

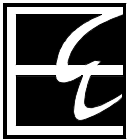
- Scale issues are ignored because rational thinking decreases opportunities to power
- Environmental details like limit values exceeded everywhere within human influence, are power capital for the minister fighting for important party issues with those wanting to promote local projects
- The administration can use the capital to submit administrative subordinates, to finance it's own goals and to create new practices
- Maritime infrastructure is a strategic target since there is money to grab and it is an artery of economy



## Cognitive dissonance

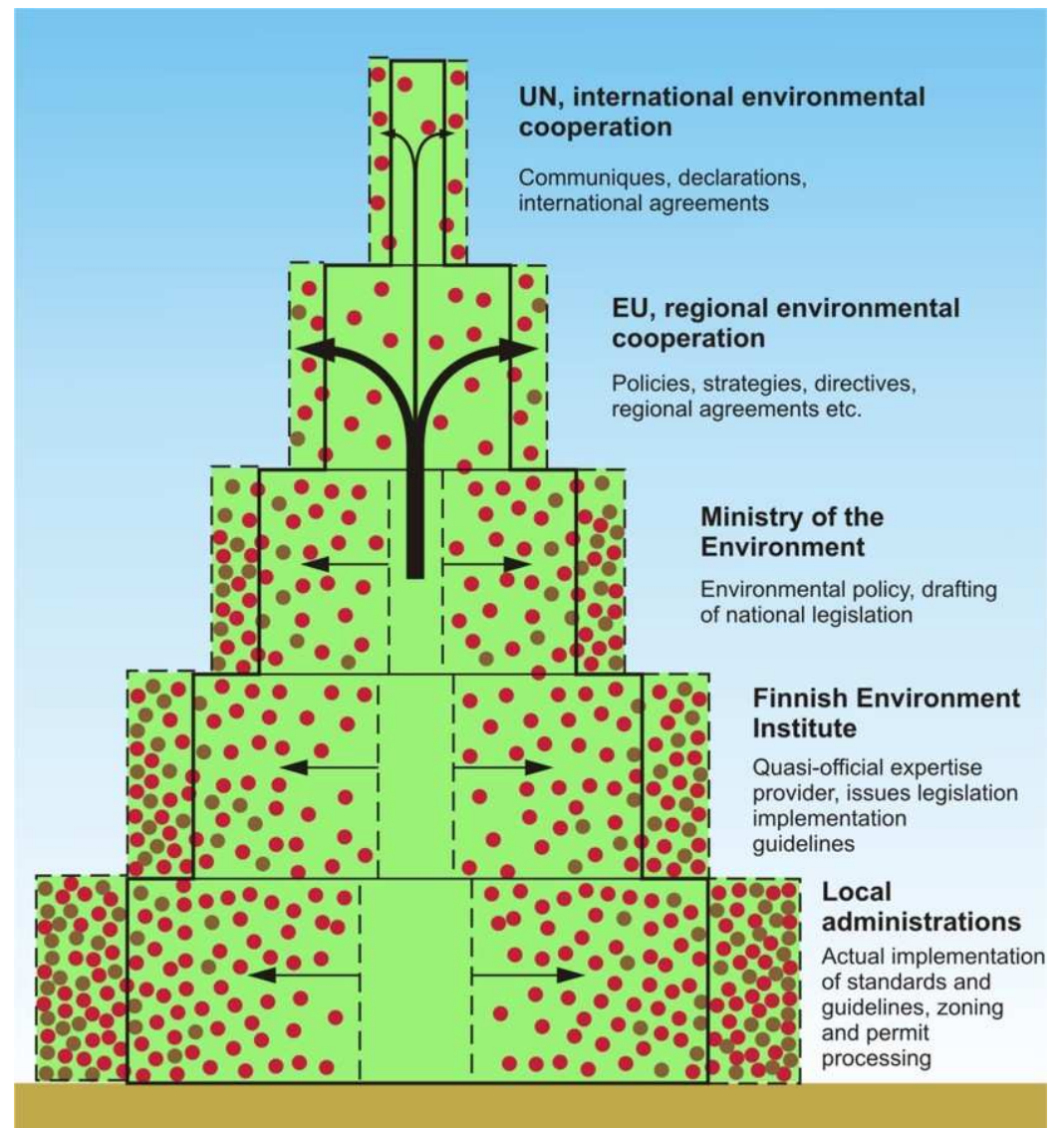
Cognitive dissonance is a state of tension that occurs whenever a person holds two cognitions (ideas, attitudes, beliefs, opinions) that are psychologically inconsistent. Dissonance produces mental discomfort that may be unbearable. It is the process of reducing dissonance that the self justification accelerator steps in.

Shermer, M,  
Scientific American, May 2007





## The growing pyramid of ecobureaucratic power





# PUTTING ISSUES INTO PERSPECTIVE I

## Orders of magnitude in maritime infrastructure projects

<b>Size of Investment</b>		<b>Mass quantity</b>	
Tiny	< 0,1 million euros	Tiny	<1 000 m <sup>3</sup>
Very small	0,1 - 1 million euros	Very small	1 000 - 10 000 m <sup>3</sup>
Small	1 - 10 million euros	Small	10 000 - 100 000 m <sup>3</sup>
Medium size	10 - 100 million euros	Medium size	100 000 - 1 000 000 m <sup>3</sup>
Large	100 - 1000 million euros	Large	1 000 000 - 10 000 000 m <sup>3</sup>
Very large	> 1000 million euros	Very large	>10 000 000 m <sup>3</sup>

<b>Fill or cut area in the bottom</b>		<b>Duration of environmental impact</b>	
Tiny	< 0,1 hectares	Very short	< 1 day
Very small	0,1 - 1 hectares	Short	1 day - 1 month
Small	1 - 10 hectares	Medium	1 month - 1 year
Medium size	10 - 100 hectares	Quite long	1 year - 10 years
Large	100 - 1000 hectares	Long term	10 years - 100 years
Very large	>1000 hectares	Very long term	>100 years

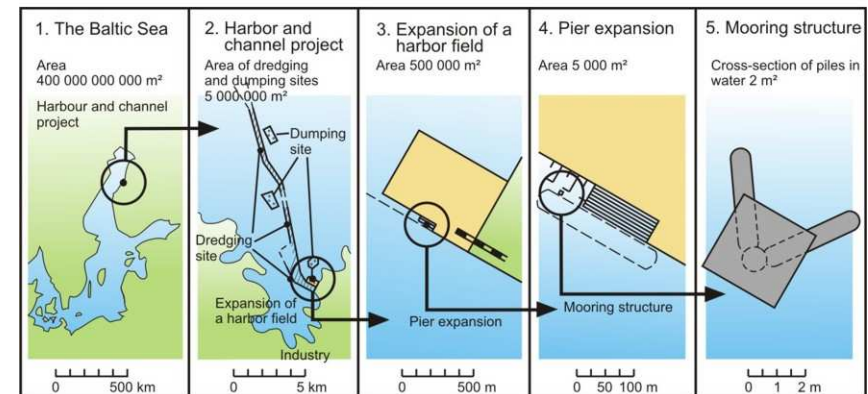
<b>Suspension, sedimentation</b>	<b>Current speed</b>	<b>Erosion on dumping sites</b>
Not detectable	Very weak, < 0,2 m/s	Not detectable
In common range	Weak, 0,2 - 0,5 m/s	Within natural variation
10 x normal	Moderate, 0,5 - 1,0 m/s	Considerably larger than natural
100 x normal	Strong, 1,0 - 3,0 m/s	Significant part of mass will erode
1000 x normal	Very strong, over 3,0 m/s	Major portion of mass will erode

### Average amount of harmful compounds in dredged and dumped mass

Minor (under the target value or the background level at the dumping site)  
 Within the background variation at the dumping site  
 Dirty (over the target value and background concentrations at the dumping site)  
 Polluted (over the limit value)  
 Heavily polluted (one order of magnitude over the limit value)  
 Very heavily polluted (two or more orders of magnitude over the limit value)

### Character of the ecosystem

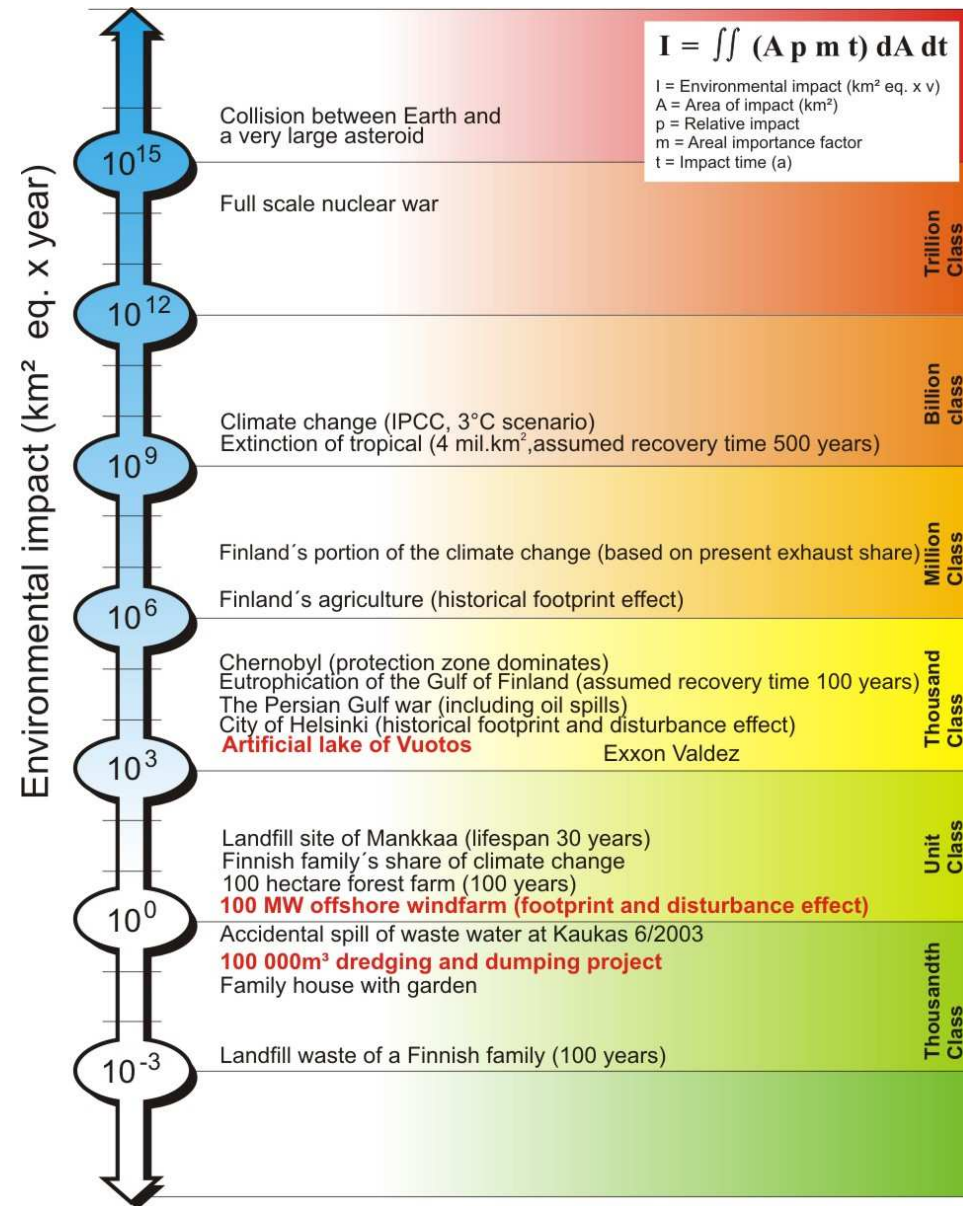
Insignificant (bottom or harbor area, dumping site, poor or spoiled bottom)  
 Ordinary  
 Notable (spawning area, wandering route of the fish)  
 Quite important (protection area)  
 Very important (key area for biodiversity or ecosystem)



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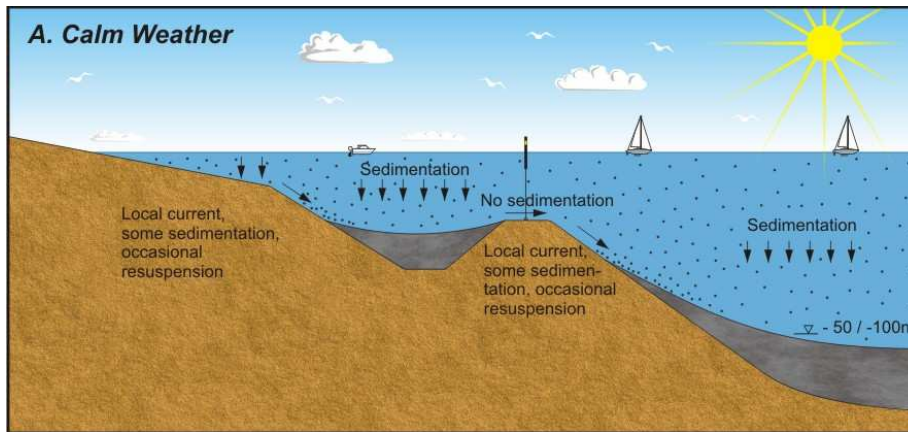
# PUTTING ISSUES INTO PERSPECTIVE II

## Water construction projects in the open ended environmental impact scale

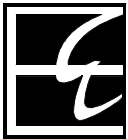
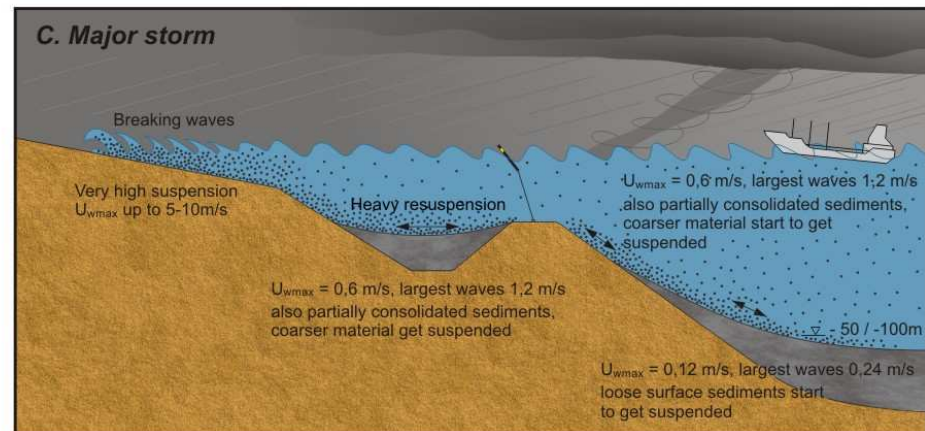
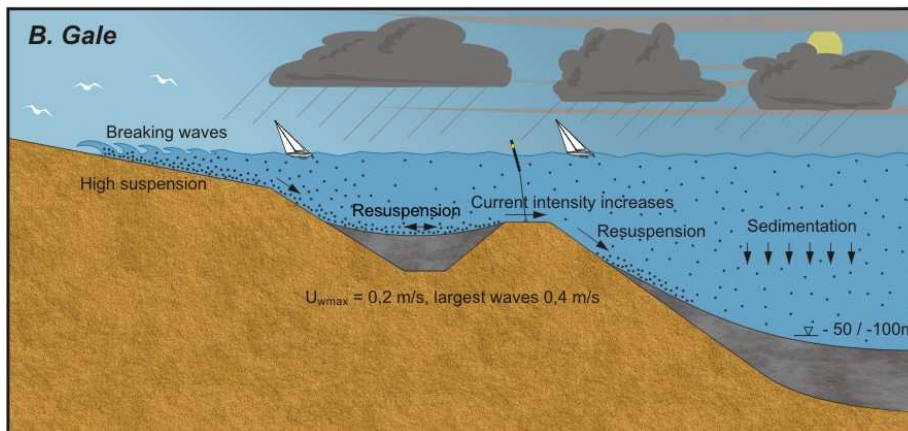


# PUTTING ISSUES INTO PERSPECTIVE III

## Natural suspension and sediment dynamics in the Gulf of Finland



- Area 30 000km<sup>2</sup> volume 1100km<sup>3</sup>, average depth 37m
- Net sedimentation about 10 million tons/year
- Typical suspension 2-4 mg/l, current 5cm/s
- Typical amount of suspension 2 million tons
- Typical suspension stream 200-400 tn/(km x day)
- During major storms suspension increases 10 million tons
- Locally suspension may increase by 2 orders of magnitude, suspension stream by 3 orders of magnitude



## RIDICULING POWER

Jan-Erik Enestam, the former Finnish minister of environment on the administrative guideline for dredging activities

"From the environmental standpoint, the guideline looks to sustainable methods, because we have no other options."



In other words sustainable development is threatened by TBT that is no longer used and is disappearing from the environment through breakdown. For some reason the treat is acute in the specific case when there is a marginal amount of TBT in dredging spoil. What could be behind this apparent insanity?

**Answer: The corruptive nature of power!**



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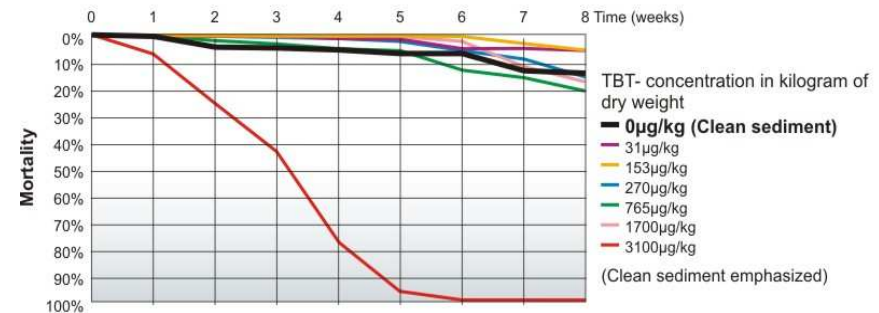
# DELIVERING GUILT

## This is how unemployment is produced!

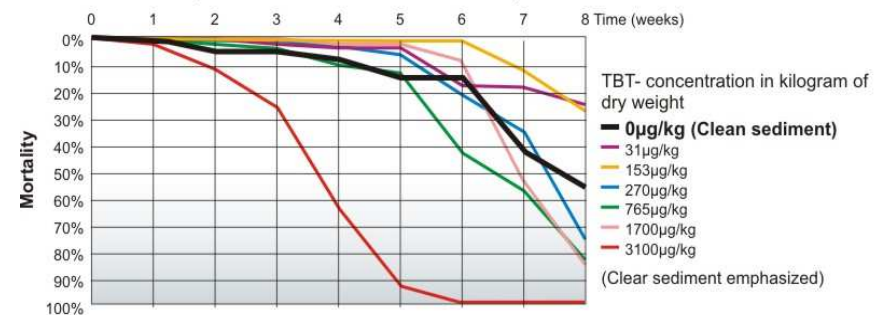
When investment projects are sunk in massive permitting processes using groundless claims, we are pushing jobs and prosperity elsewhere with both hands.

Why is the media filtering and manipulating information for the support of the ecobureaucratic power machine?

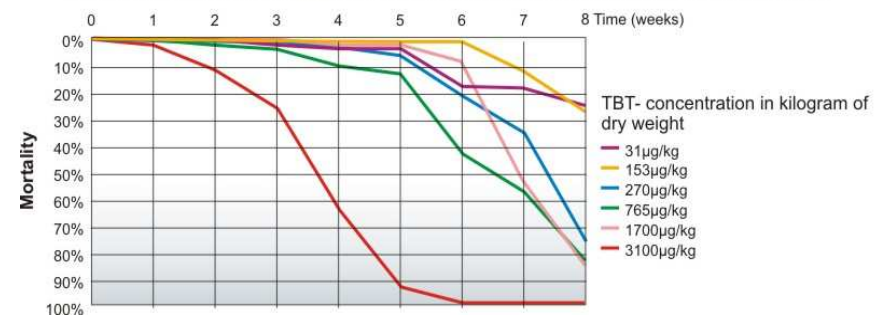
1. Original results of the environmental administration tin study (Vesitalous 4/2006): Tributyltin has in practice no effect on mortality of mussels.



2. Changed results: Chart sent to Helsingin Sanomat. Mortality increased but TBT in dredging mass has no particular effect on mussel mortality.



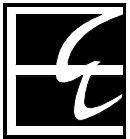
3. Scientific forgery: Chart published by Helsingin Sanomat, mortality curve in clean sediment has been removed. TBT appears to increase mortality even at low concentrations.





## DEMAND CHANGE AND SPICE IT WITH GUILT

- Over regulation and bureaucratic power expansion by the EU are at the core of Europe's social and economic decline. The European parliament and commission must be split. The new entities should be given the responsibility of protecting administrative subordinates from the abuse of EU legislation and the power to overturn bad policies and legislation.
- We can't afford a ministry that is working in an ideological hybris. The ministry of environment must be broken down with its tasks split between other ministries.
- Justice delayed is justice denied. All permitting and zoning processes must go through the permitting and appeals process in one year.
- Bureaucrats should know what the law means. If they are found at the wrong side of the law, they should be punished and the administrative subordinates should be fully compensated.
- Media has huge power in a modern society but it is not accountable for the consequences of filtering and manipulation of facts. Public broadcasting should arrange one hour of primetime media criticism free of journalistic courtesy.



## Conclusions

- The recent difficulties in developing maritime infrastructure are not rational. We are dealing with a huge sociological process.
- Rationality alone is inefficient in dealing with this process. Power sits tight.



- Abuse of power eventually creates a reaction. Now that millions of people are losing their jobs and welfare systems are shaking, people are questioning the basis of governance. If we really want to get our rights back, now is the time to apply methods of power.

