



UNIVERSITÀ  
DEGLI STUDI DI TRIESTE

# LAUREA MAGISTRALE IN SCIENZE PER L'AMBIENTE MARINO E COSTIERO

Biologia ed Ecologia della Pesca

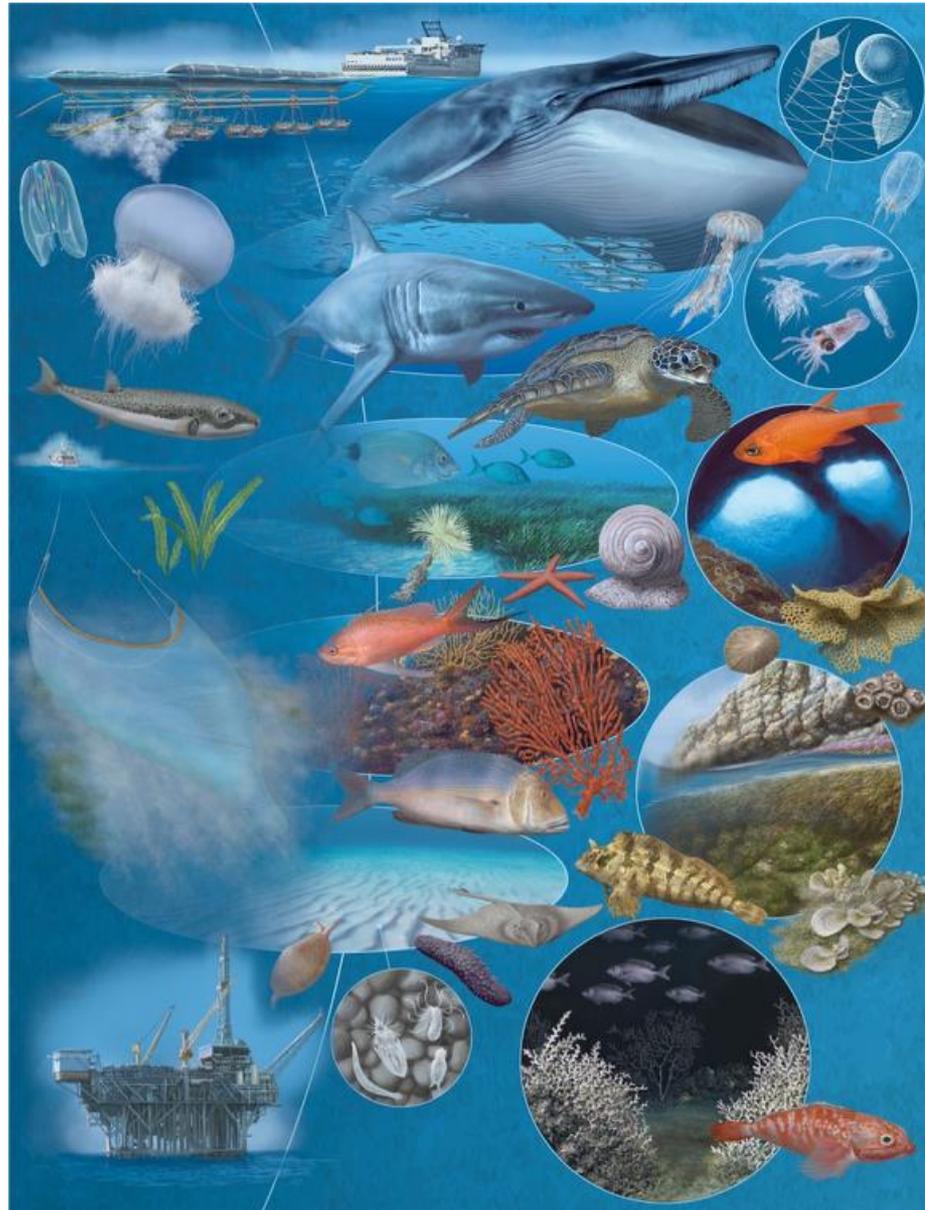
***Risorse ittiche e pesca  
sostenibile***

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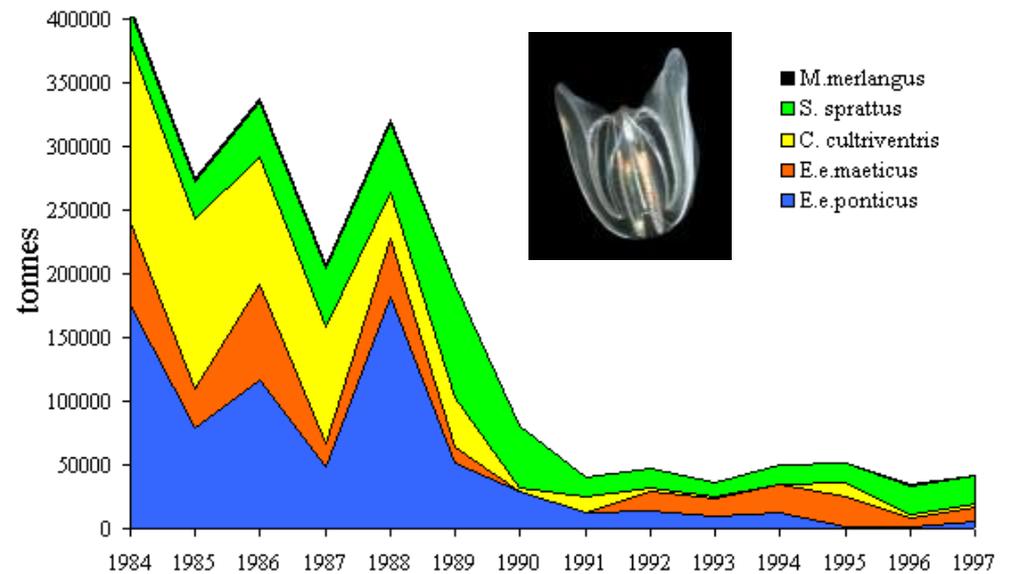
# The Marine Strategy Framework Directive

1. Biological diversity 	2. Non-indigenous species 	3. Population of commercial fish/shellfish 	4. Elements of marine food webs 
5. Eutrophication 	6. Sea floor integrity 	7. Alteration of hydrographical conditions 	8. Concentrations of contaminants 
Good Environmental Status	9. Contaminants in fish/seafood for human consumption 	10. Marine litter 	11. Introduction of energy including underwater noise 

# 1. Biodiversity is maintained



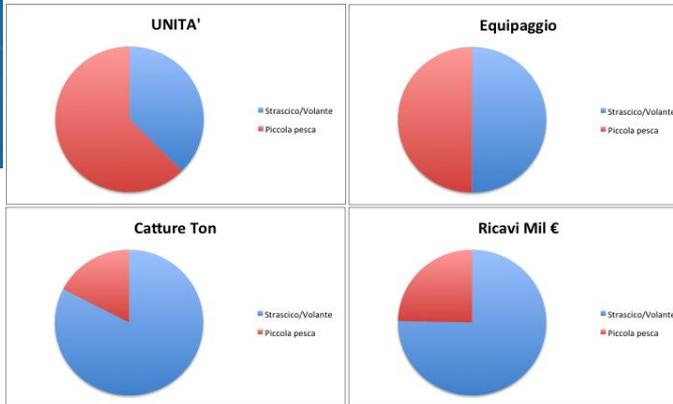
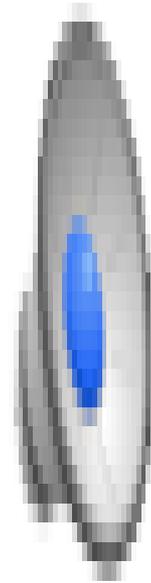
## 2.NIS do not adversely alter the ecosystem



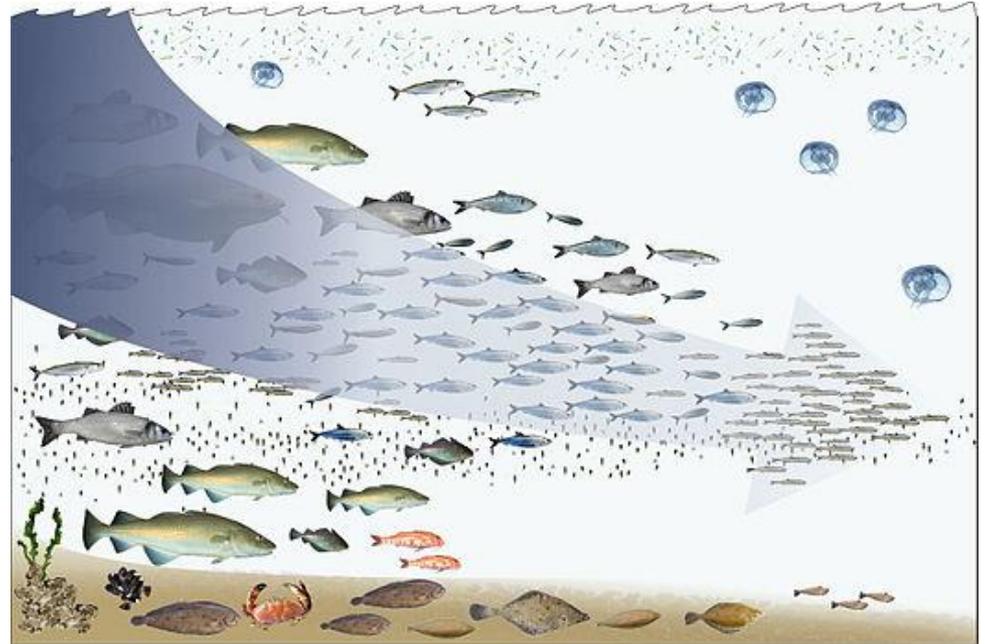
# 3. The populations of commercial fish are healthy



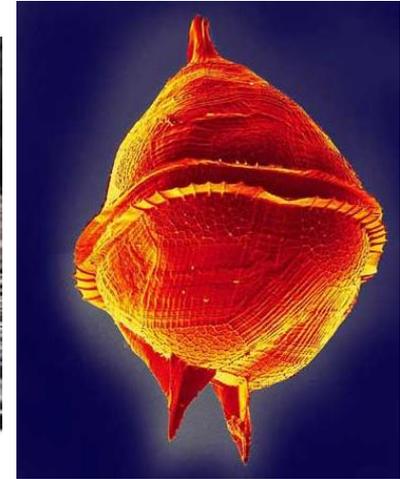
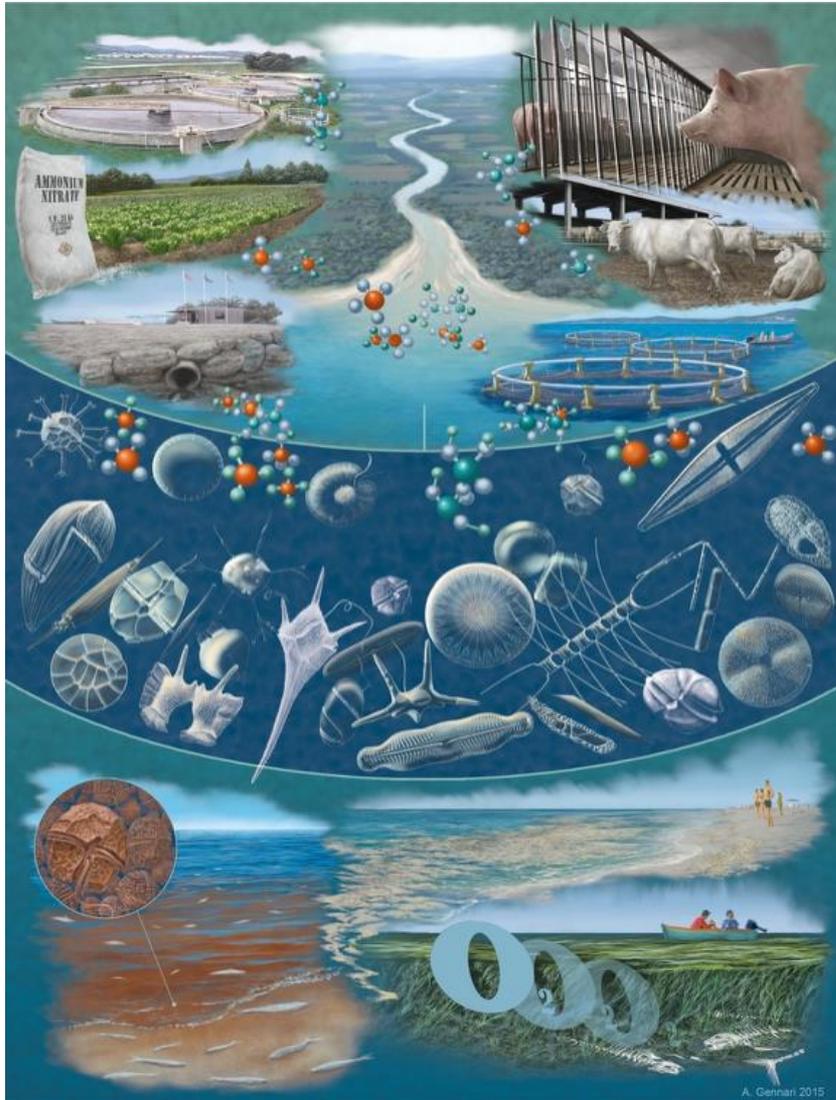
FISHERY	LARGE SCALE 	SMALL SCALE 
<b>BENEFITS</b>	<b>LARGE SCALE</b>	<b>SMALL SCALE</b>
Subsidies	\$\$\$\$\$ 25-27 billion	\$ 5-7 billion
Number of fishers employed	 about 12 million	 over 12 million
Annual catch for human consumption	 about 30 million t	 same: about 30 million t
Annual catch reduced to fishmeal and oils	 35 million t	 Almost none
Annual fuel oil consumption	 about 37 million t	 about 5 million t
Catch per tonne of fuel consumed	 =  1-2 t	 =  4-8 t
Fish and other sea life discarded at sea	 8-20 million tonnes	 Very little



# 4. Elements of food webs ensure long-term abundance and reproduction

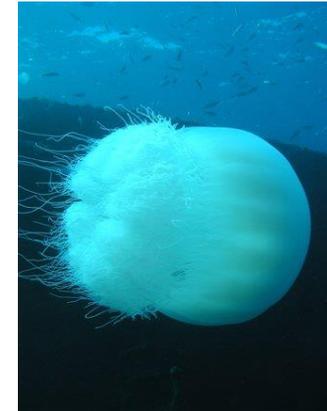
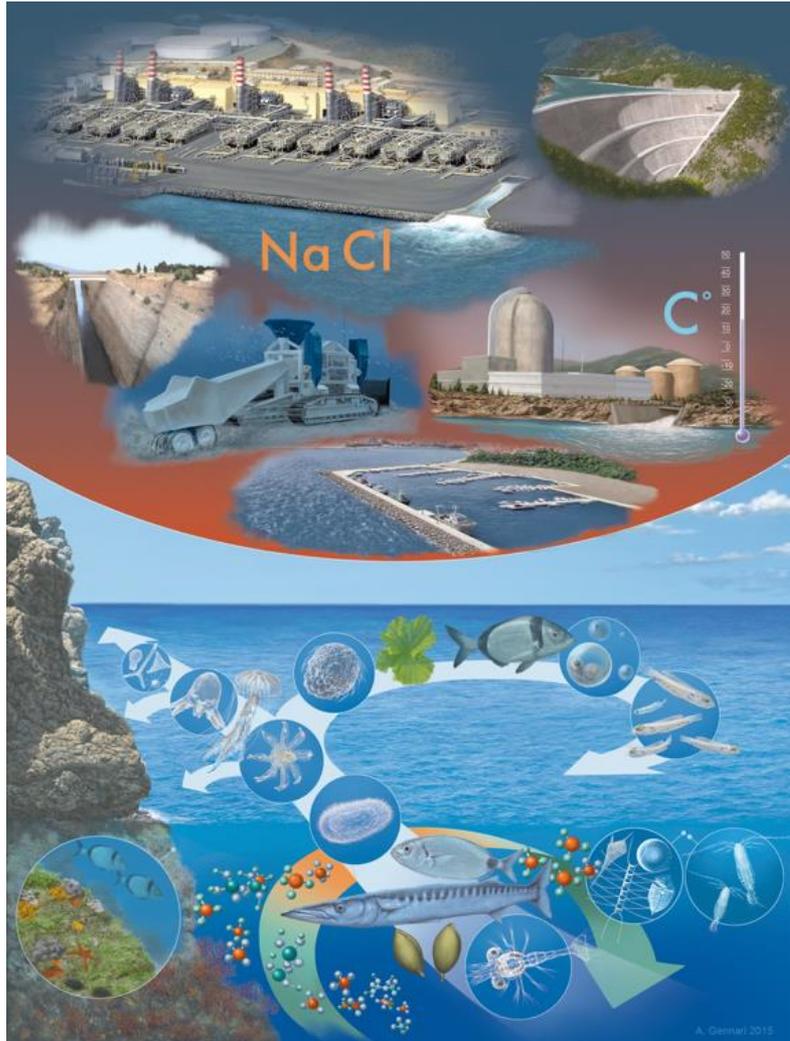


# 5. Eutrophication is minimised





# 7. Permanent alteration of hydrographical conditions does not adversely affect the ecosystems



*Rhopilema nomadica*



*Pomatomus saltatrix*

**ATTENZIONE! Il pesce palla maculato è tossico e non va mangiato!**

Il pesce palla maculato, *Lagocephalus scleratus*, è entrato nel Mediterraneo attraverso il Canale di Suez. È un pesce tropicale che si è diffuso in Italia, colonizzando buona parte del bacino orientale e attualmente in espansione geografica. La sua presenza in acque italiane è stata registrata per la prima volta nel 2015, nel Golfo di Lampedusa. Da allora, oltre alle spiagge di cattura in Sicilia, si è sparsa in Adriatico ed in Spagna. Si stima che fra i pescatori si tratti di pesci che per la presenza di anchele e curetti nel dorso.

**Molto rara** **Occasionale** **Comune**

La tossina presente nella pelle propria e che si può inalare.

**Il pesce palla maculato è tossico e non va mangiato!**

Il pesce palla maculato è tossico e non va mangiato. Per questo, nel territorio della commercializzazione, si riconosce facilmente per la presenza di anchele e curetti nel dorso. È una specie potenzialmente catturabile in quelle zone in cui è presente.

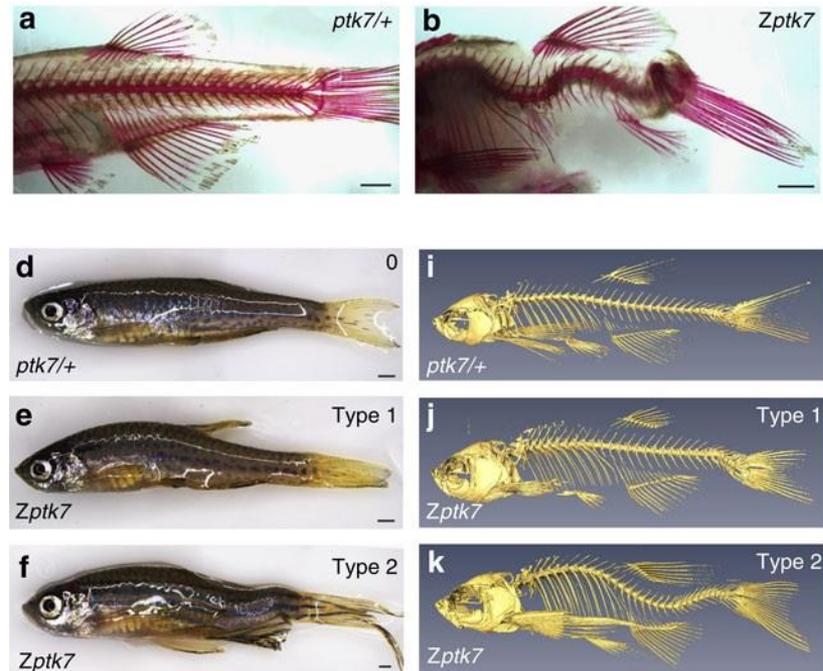
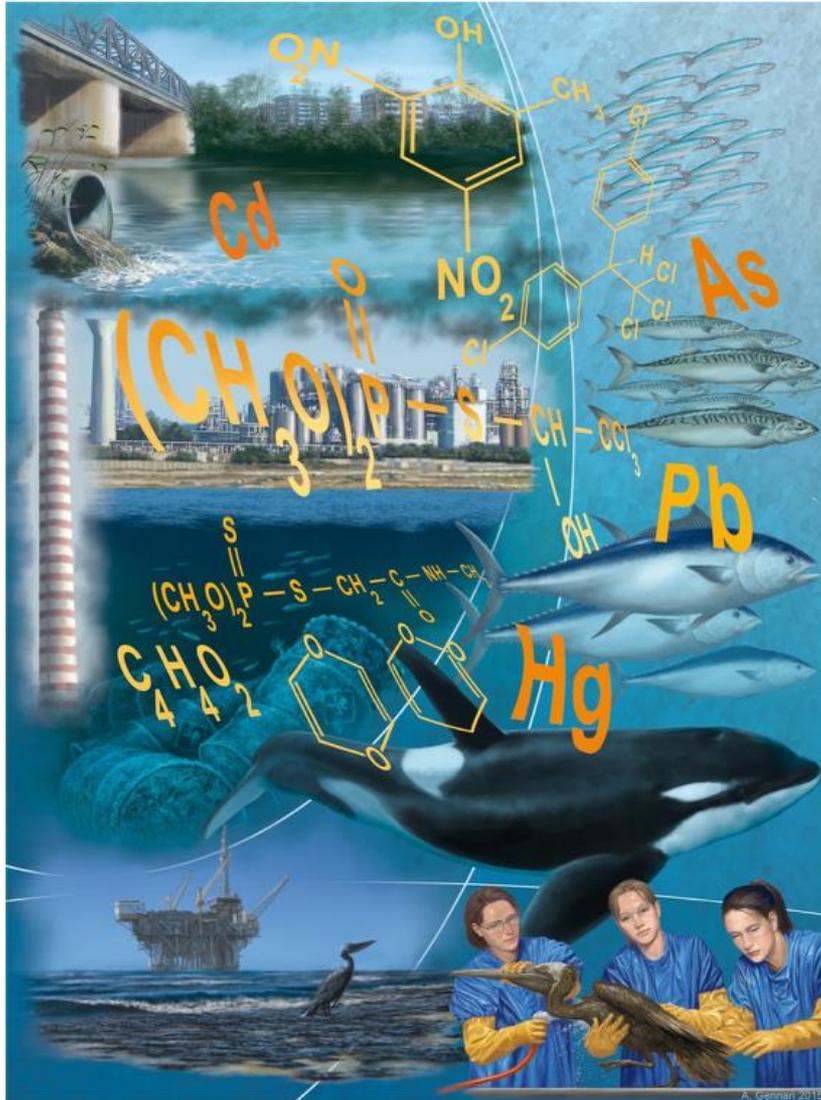
**HA CATTURATO UN PESCE PALLA?**

- SEPARARLO DALLE ALTRE CATTURE
- EVITARE IL CONSUMO
- FARE LA FOTOFISSIONE
- SEGNALARE LA CATTURA E L'OSSERVAZIONE

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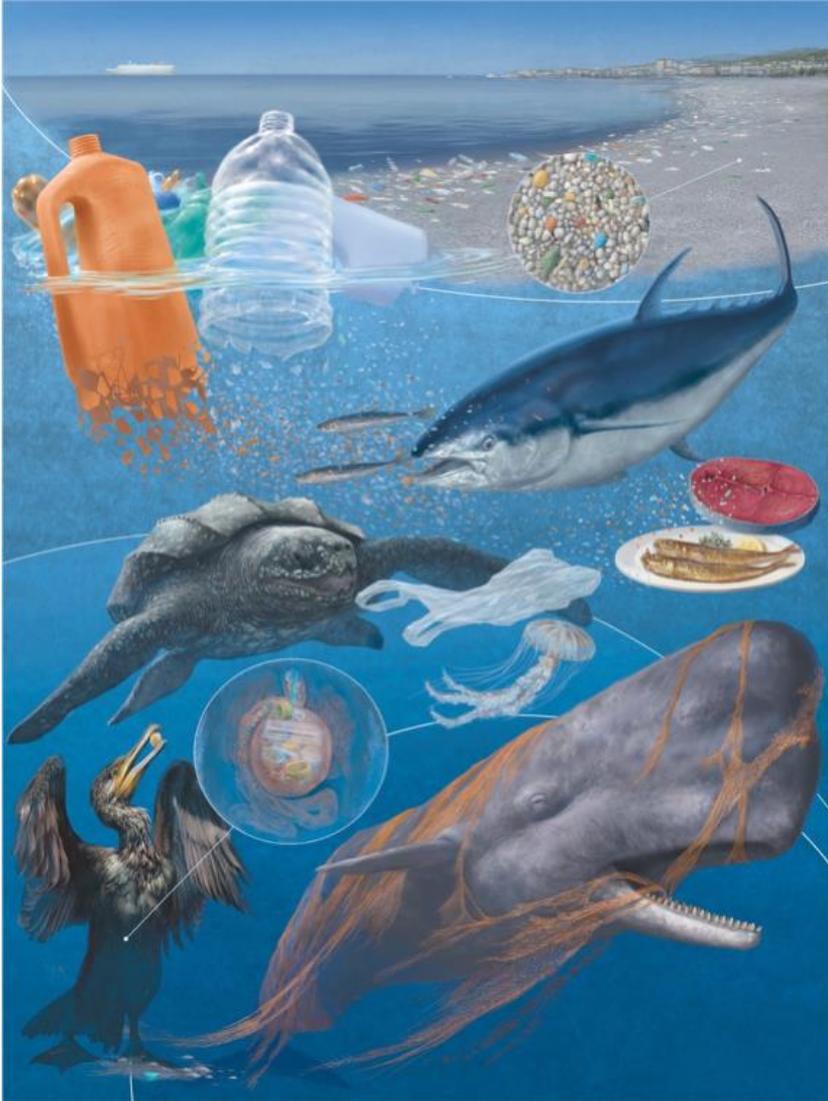
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# 8. Concentrations of contaminants give no effects



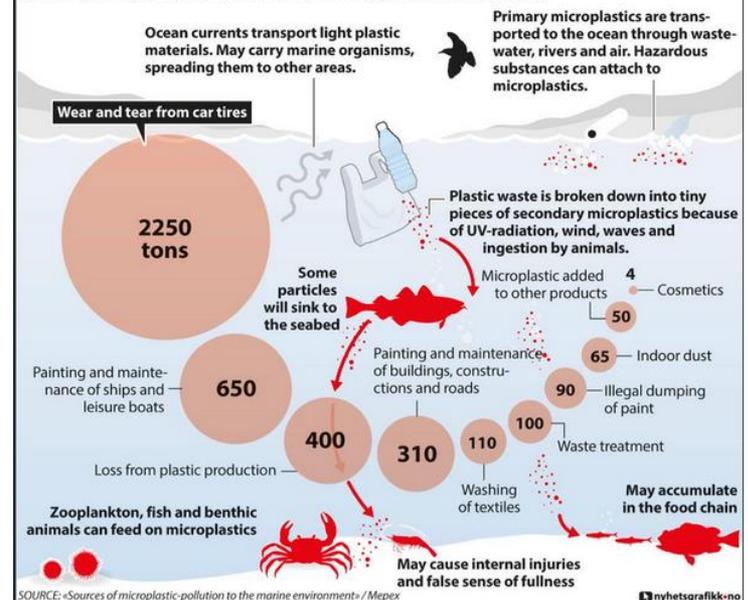


# 10. Marine litter does not cause harm



## We are filling our oceans with microplastics

Approximately 8000 tons of primary microplastics are generated annually in Norway. About half will end up in the ocean. If 8000 tons of microplastics were dumped in downtown Bergen, its citizens would stand knee deep in microplastics. The main source of microplastic waste is car tires.



# 11. Introduction of energy (including underwater noise) does not adversely affect the ecosystems

