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NESBp WP3 Workshop

Mitigation session

30.03.2026 11-12.30 CEST, Gdansk & hybrid

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Mitigation session

- Agenda

11.00	Presentation of task 3.3 on mitigation measures and questionnaire summary mitigation	Marie DAHMEN
11.10	Presentation of the French example Focus on mitigation in MSP	Alain QUENTRIC
11.20	<i>Discussion</i> How does MSP help mitigate potential impacts?	Marie DAHMEN and 2 moderators tbc
12.10	<i>Wrap up:</i> How to integrate mitigation measures in national plans? What should be changed in MSP to make it an effective tool for energy transition and protection of the marine biodiversity?	Marie DAHMEN and 2 moderators tbc

Mitigation session



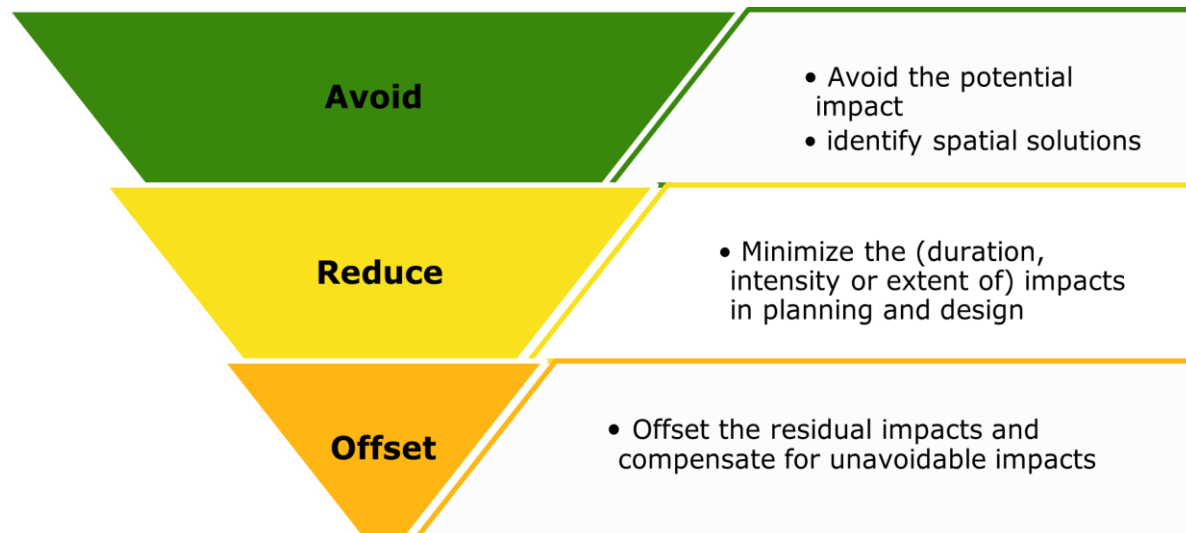
Aim: Overview on mitigation measures on all maritime uses

- Starting point for inventory on mitigation measures:
 - Which sectors can be regulated by MSP?
 - Which impacts of the sectors can be avoided or minimized?
 - Which designations and conditions can be taken up by MSP?

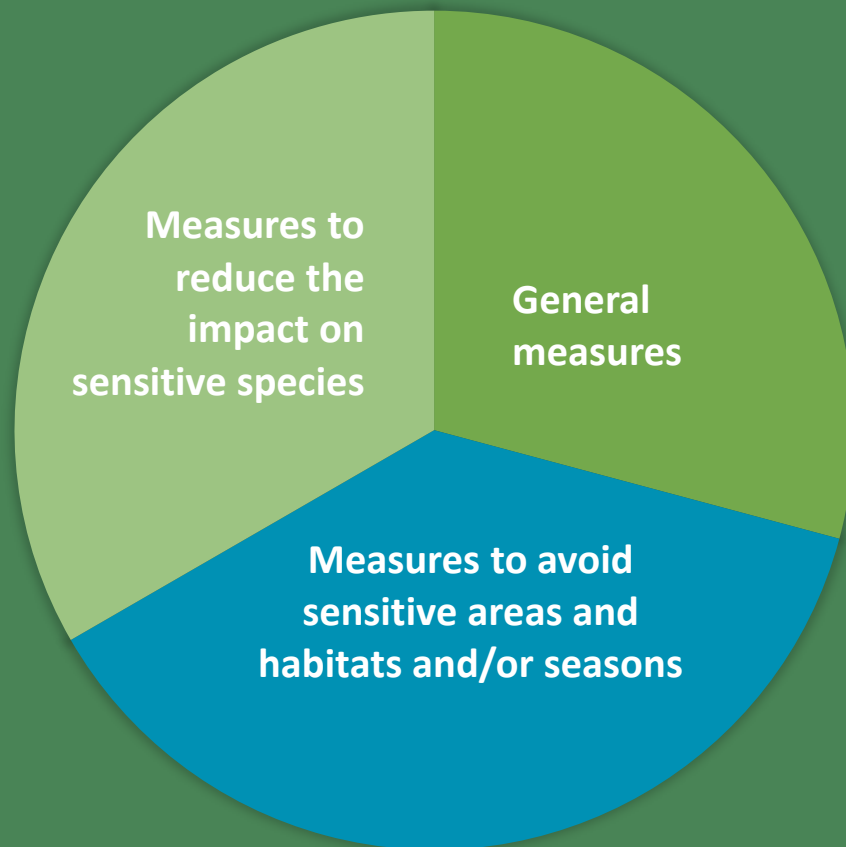
Product: A catalogue of mitigation measures applied in MSP, including identification of gaps, potential measures and research needs

Which type of measures are specified in the MSP?

- Measures to avoid sensitive areas and habitats and/or seasons
 - Through spatial designations = most efficient mitigation
 - Primarily for offshore renewables, cables and pipelines and resource extraction
 - based on sensitivity mapping and/or by strictly avoiding protected areas



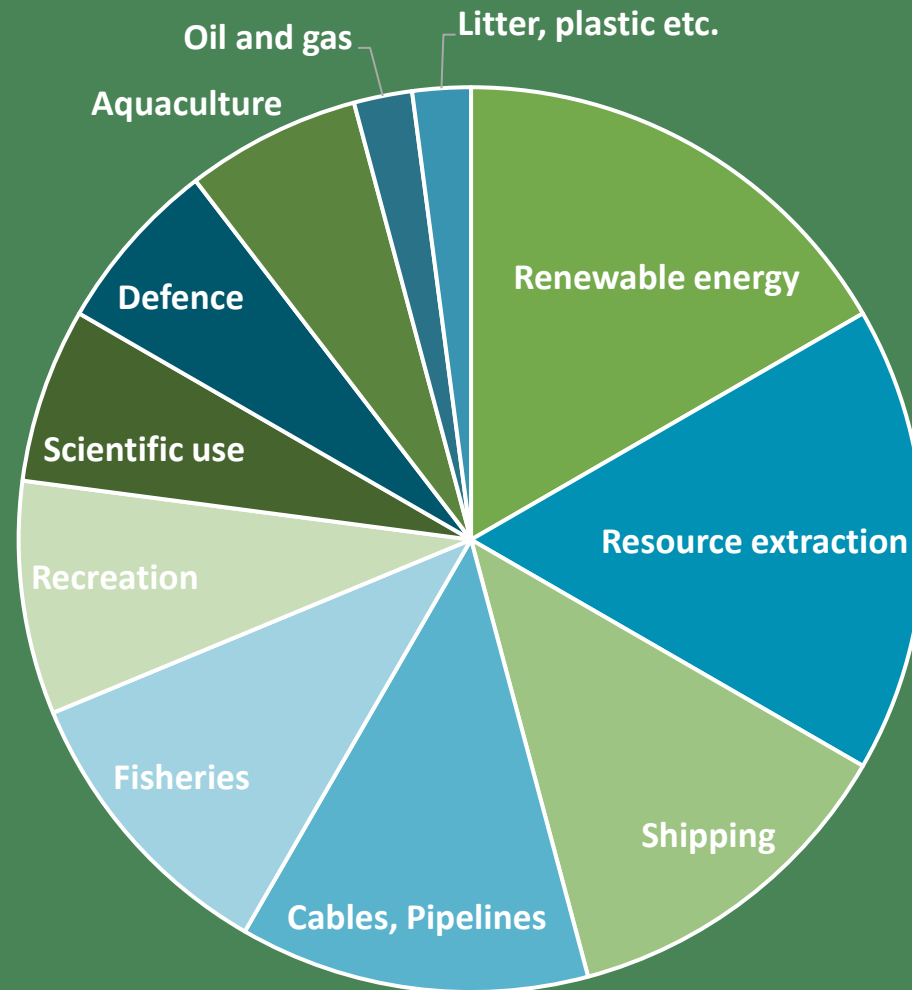
Which type of measures are specified in the MSP?



- 1) measures to **avoid** sensitive areas through designations (plan level) and
- 2) measures to **reduce** impacts through restrictions and conditions
 - plan level (more general) and/or
 - project level (more specific, based on EIA and permit)

Which designations and conditions can be set and regulated by MSP and for which sectors?

For which maritime sectors does your MSP define mitigation measures?



No. of countries = 10

For which maritime sectors does your MSP define mitigation measures?



Renewable energy

- Avoid sensitive areas (based on sensitivity mapping) (SE, FR, PL, DE)
- Avoid sensitive biotopes (limestone and boulders etc.) – OWF not allowed in areas designated for the protection of underwater biotopes (LV)
- Mitigation measures must be assessed and defined at project level through EIA (EE, DK, NL)
- location and design adjustments (SE)
- demand-driven obstacle lighting (SE, DE)
- Reduction of lights of ships (FR)
- noise reduction measures during construction work (SE, DE, PL)
- adaptation of the helicopters flight height (FR)
- bird repellent transmitters (FR)
- Time coordination and seasonal adjustments for construction (SE, DE, PL) (PL: avoid fish spawning and bird migration periods)
- space between turbines lines (FR)

Renewable energy	Measures	Description	Legal basis	Countries
Avoid measures in MSP				
Avoid sensitive areas		Avoid (most) sensitive areas (based on sensitivity mapping/ map of environmental issues) when locating areas for offshore energy		SE, FR, PL, DE (DK, IE, BE, NL, UK)
		Creation of avoidance zones - including different degrees of buffers, e.g. 10 km buffer around SPAs - to limit adverse impacts of construction activities		BE, UK
Avoid sensitive biotopes		To avoid (irreversible) damage to sensitive biotopes, in particular, the biotopes formed in the rocky bottoms (limestone and boulders, as well as mixed bottoms), offshore wind farms are (will) not (be) allowed in areas designated for the protection of underwater biotopes or areas where protected biotopes are found.		LV
		Adverse effects on occurrences of legally protected biotopes § 30 <u>BNatSchG</u> should be avoided	<u>BNatSchG</u>	DE
Avoid sensitive seasons		Time coordination and seasonal restrictions or adjustments for construction, (PL: avoid fish spawning and bird migration periods); (SE: construction, operation and decommissioning phase)		SE, DE, PL
		A threat to the marine environment, in particular adverse impacts on the natural functions of the marine ecosystem, shall be avoided as far as possible. This also includes consideration of species-specific periods that are particularly susceptible to disturbance.	<u>WindSeeG</u>	DE
		Overall time coordination of the construction and installation work: Prevention and reduction of cumulative effects through optimised temporal and spatial coordination of several construction sites. Additionally: Project-specific requirements for coordination with other impulse sound activities (e.g., seismic exploration, explosions) in <u>neighboring areas</u>		DE (England)
		Time coordination and seasonal adjustments for construction, (PL: avoid fish spawning and bird migration periods)		SE, DE, PL

Reduce measures in MSP

Noise reduction during construction	Underwater noise reduction requirements during construction work		SE, DE, PL
Reduced lights	Guidance on a general level for demand-driven obstacle lighting		SE
Reduced impact through layout	Guidance on a general level for location and design adjustments		SE
Reduce collision risk	Adaptation of the helicopters flight height		FR
Best environmental practice	Apply best environmental practice in accordance with international conventions on marine protection and the state of the art in science and technology	OSPAR, HELCOM	DE
Deconstruction	Fixed installations are to be deconstructed at the end of their use.	UNCLOS	DE
Reduce disturbance from maintenance vessels	Definition of regular routes between the coast and the OWF for certain ships in order to reduce disturbance of specific areas used by the marine mammals or seabirds for resting		FR
	Traffic logistics concept required for maintenance vessels; Traffic through MPAs or main distribution areas of divers and harbour porpoises shall be avoided or reduced to a minimum during sensitive seasons		DE

Reduce measures in permits

Measures to reduce impacts	Mitigation measures are often extensive and must be assessed and defined at project level based on the EIA		EE, DK, NL, PL, DE
	The relevant authority determines the necessary mitigating measures in relation to a specific permits and environmental assessments.		DK
Noise reduction during construction	Noise reduction measures during construction work (bubble curtain, vibro-piling etc.)		SE, DE, PL, NL,

Underwater sound threshold	Species-specific thresholds (weighted to hearing frequency). Threshold for PTS must not be exceeded during pile driving. Developers must follow installation guideline.	DK
	Dual threshold of 160 dB SEL5% and 190 dB SPL0 in 750 meters distance from pile driving. For compliance with the SEL threshold the 5 % exceedance level SEL05 is considered. For the L_{p,pk} the peak pressure is considered. The dual criterion is: SEL05 ≤ 160 dB re 1µPa2s L_{p,pk} ≤ 190 dB re 1µPa. Both unweighted.	DE
	164 dB re 1 µPa2s SEL _{ss} at 750 m. sound threshold is determined for each round of windfarm site decisions and may change in the future, for the first 10 piles the threshold may be exceeded by a maximum of 2 dB to allow for fine tuning of the noise mitigation techniques. When an alternative foundation technique is used other than impact piling the threshold is translated to a maximum number of harbour porpoise disturbance days. Exceptions to the noise threshold are also possible for research to alternative techniques but only for a maximum of 3 piles and for 25 minutes for each pile.	NL
	185 dB SPL0-peak at 750 m from pile	BE
	Some permit ask a minimum goal of noise reduction or ask a sound threshold, specific to area and impacted species (two projects, 7 dB sound reduction)	FR
Marine mammal observer		FR, BE, UK
Restrictions for construction work	Time restrictions for pile driving for three OWF. - Allowed from August 1st to October 31 st (Lillebælt Syd). - Not allowed from May 1st to August 31st (Jæmmerland Bugt). - Allowed from April 1st to October 31st.	DK
	seasonal pile driving ban from January 1st to April 30th	BE
	only an area of ≤ 10 % of the German EEZ and of each MPA is allowed to be exposed to noise levels causing disturbance of marine mammals (140 dB SEL), for some MPAs this is reduced to ≤ 1 % (and, only one construction site) during the sensitive months for harbour porpoises. Additionally, the project developer must explain why no alternative, low-noise foundation methods is used	DE
Reduced maintenance traffic	Reduced maintenance traffic, rerouting, or speed limits to reduce negative effects on marine mammals	NL, FR, DE, England
	Taking in account disturbance distances for seals (and birds) on mudflats and sandbanks on route to the windfarm for construction and maintenance vessels	NL
	Keeping sufficient distance to foraging sites (such as intertidal sandbanks) and resting sites of birds during construction and maintenance traffic	NL
	Maximum speed of 10 knots to reduce fatal injury	FR
	Definition of regular routes between the coast and the OWF for certain ships in order to reduce disturbance of specific areas used by seabirds for resting	FR
	Traffic logistics concept required for maintenance vessels; Traffic through MPA "Syttar Outer Reef" or main distribution areas of divers and harbour porpoises shall be avoided or reduced to a minimum during sensitive seasons; traffic as slow as possible	DE
Location and design adjustments	Location and design adjustments	SE, DE, FR, UK, NL
	Space between turbine lines	FR
	a corridor is created placing turbines further apart at a specific section to create a corridor between an N2000 site and the coast (tender Ecowende)	NL
	developers with risks of significant seabird collisions asked to increase 'air gap' above sea level beyond minimum standard for safe navigation, and in high risk cases asked to demonstrate engineering/project feasibility constraints mean that air gap can't be increased.	UK
	higher turbines only a requirement for tender Ecowende (raising tip height of 75% of turbines by 10m), fewer turbines is a requirement for all windfarms through setting a minimum capacity of the turbines to be installed	NL
	Blade painting to increase visibility (tender Ecowende for 7 turbines)	NL
Reduce emissions	Avoid chemical emissions, e.g. anti-fouling paint containing biocides	FR, UK
	tender Ecowende , for all windfarms if sacrificial anodes are used these may consist only of aluminium or magnesium alloys with less than 5% of weight for other metals	NL
Reduced lighting	Demand-driven obstacle lighting	SE, DE, FR
	Flashing lights are prescribed for night-time signage which, in contrast to continuous lighting, reduces the attraction effect. For future OWF further prevention and reduction of light emissions is required, e.g. lighting on demand, selecting suitable lighting intensities, spectra or lighting intervals	DE
	Reduction of lights of ships	FR
Reduce collisions	Bird repellent transmitters	FR

Resource extraction	Measures	Description	Legal basis	Countries
Avoid measures in MSP				
Exclusion of protected areas	Resource extraction (and exploration) not allowed in protected areas			FR, LV, PL
	Resources extractions are forbidden in strong protection areas			FR
	Extraction of mineral resources is not permissible in marine protected areas, which have been created for the protection of biotopes and birds, as well as natural value research areas, which could potentially be assigned the protected status			LV
	The exploration and extraction of aggregates in basin POM.42.O is prohibited until the adoption of the protection plan for the Natura 2000 " <u>Ławica Słupska</u> " site (PLC990001)			PL
Exclusion of sensitive habitats	Guidance to locate extraction away from coast and sensitive, shallow, sunlight-exposed habitats to avoid disrupting sediment dynamics, increasing erosion, and causing impacts on biodiversity and ecosystem services.			SE
Seasonal restriction	Divers (<u>Gavia spec.</u>) should not be adversely affected by sand and gravel extraction in the priority and reservation areas for divers in the period from 1 March to 15 May			DE
Reduce measures in MSP				
Conditions to protect natural values	In case of overlap of the mineral deposit with protected natural objects, the conditions set for the protection of natural values must be taken into account			EE
Low-impact methods	In some basins the exploration, investigation of mineral and fossil resources and extraction from the resources are limited to methods which do not endanger effective spawning and pre-breeding of fry of the commercial fish and consider the necessity to secure proper functioning of spawning grounds.			PL
Reduce measures in permits				
Measures to reduce impacts	Mitigation/compensation as permit conditions on project level			DK, NL, DE
	The relevant authority determines the necessary mitigating measures in relation to a specific permits and environmental assessments.			DK
	Large-scale interventions in the North Sea, such as land reclamation, sand extraction and replenishment, and dredging, require a permit. An EIA is mandatory for this. The consequences of these interventions on biodiversity are mitigated or compensated.			NL

Shipping	Measures	Description	Legal basis	Countries
Avoid measures in MSP				
	Avoid disturbance and collision	Designated shipping routes to reduce collision risk and underwater noise, speed and navigation guidelines near Natura 2000 sites and migration corridors		PL
	Avoid impacts on nature values	Guidance to investigate the re-routing of specific current shipping lanes causing impact on nature values		SE
	Avoid sensitive areas	Anchorage not allowed in marine reserves (with one exception)		BE
Reduce measures in MSP				
	Reduce underwater noise	Implementation of IMO guidelines on reducing underwater noise from commercial shipping.	IMO	NL
	Reduce impact on the environment	Compliance with IMO regulations and international conventions	IMO	DE
	Reduce underwater noise and collision risk	Speed and navigation guidelines near Natura2000 sites and migration corridors		PL
	Reduce emissions	Compliance with the limits for sulphur oxide and nitrogen oxide emissions as part of the International Convention MARPOL	MARPOL	DE
	Sustainability, best environmental practice	Shipping should be conducted sustainably according to best environmental practice and state of the art in science and technology	ROG	DE



Cables, pipelines	Measures	Description	Legal basis	Countries
Avoid measures in MSP				
Avoid sensitive habitats	Avoidance of sensitive habitats and protected areas			DE, PL, EE
	Avoid Natura 2000 sites wherever possible			PL
	Avoid adverse effects on legally protected biotopes by planning and laying cables outside nature reserves		<u>BNatSchG</u>	DE
	When constructing cables and pipelines, it is necessary to exclude significant adverse impacts on protected natural objects and adverse impacts on Natura 2000 network areas			EE
Avoid sensitive seasons	Timing restrictions to protect ecologically important periods			PL
Prevent threats to the marine environment	A threat to the marine environment, in particular adverse impacts on the natural functions of the marine ecosystem, shall be avoided as far as possible.			DE
Reduce measures in MSP				
Spatial mitigation	Minimize the impact by defining corridors			BE, DE
Reduce disturbance	When laying cables, overall temporal coordination must be ensured			DE
	When laying cables, the most non-disruptive laying procedure possible must be chosen			DE
Deconstruction	Fixed installations are to be deconstructed at the end of their use.		UNCLOS	DE
Reduce measures in permits				
Measures to reduce impacts	The relevant authority determines the necessary mitigating measures in relation to a specific permit and environmental assessment.			DK, DE

Fisheries and aquaculture	Measures	Description	Legal basis	Countries
Avoid measures in MSP				
	Avoid sensitive areas	Although MSP doesn't directly regulate fisheries management the plan provides spatial guidance to protect spawning and nursery areas		PL
	Avoid sensitive seasons	Although MSP doesn't directly regulate fisheries management the plan provides seasonal considerations for ecologically sensitive periods		PL
	Exclusion of fisheries	Fishery-free zones within wind farms		DE
Reduce measures in MSP				
	Sustainable management	Fish stocks are to be managed sustainably in order to ensure long-term fishing use		DE
	Low-impact fishing practice	Promotion of fishing practices with reduced seabed impact in vulnerable areas		PL
	Low-impact aquaculture	Only aquaculture allowed that lowers the eutrophication level		BE
		Environmentally friendly species and forms of aquaculture should be chosen		DE
		Use of existing installations to avoid or <u>minimise</u> possible environmental damage		DE

Restrictions for fisheries

- CFP
- Spatial specifications for fisheries difficult because location (distribution / activities) changes

Recreation	Measures	Description	Legal basis	Countries
Avoid measures in MSP				
	Restrictions in sensitive areas	Restrictions in protected and sensitive coastal/marine zones		PL
Reduce measures in MSP				
	Restricted activities	Recreational bottom disturbing fisheries within the Natura 2000-area <u>Vlaamse Banken</u> can only take place in the first nautical mile of the area		BE
Scientific uses	Measures	Description	Legal basis	Countries
Reduce measures in MSP				
	Restricted area use	defined zone for scientific use, but fixed infrastructure within this zone cannot be placed if the bottom disturbance is larger than 0,005% of the total area of the zone.		BE
	Sustainability, best environmental practice	The research is to be carried out taking into consideration sustainability aspects. Best environmental practice in accordance with international conventions on marine protection shall be taken into consideration.		DE

Defence	Measures	Description	Legal basis	Countries
Avoid measures in MSP				
	Avoid sensitive seasons	Military use should not adversely affect the conservation purpose of the priority and reservation areas for divers in the period from 1 March to 15 May (agreement between Federal Armed Forces and the nature conservation authority).		DE
Reduce measures in MSP				
	Reduced impact	It is desirable to have an environmental action plan in place to ensure a minimum of damage to wildlife.		EE
	Mitigation measures	implemented in plans of the Ministry of Defense which are mentioned in the MSP		NL
Oil and gas	Measures	Description	Legal basis	Countries
Reduce measures in MSP				
	Reduce emissions	Reduction of discharges of polluting substances by oil and gas extraction installations		NL

Mitigation session



- Discussion
 - How does MSP help mitigate potential impacts?
 - status quo mitigation measures per sector
 - How to integrate mitigation measures in national plans?
 - which regulation on which level (national plan/permit, EU level)?
 - What should be changed in MSP to make it an effective tool for energy transition and protection of the marine biodiversity?

Priorities for the integration of mitigation measures



Sector	Avoid measures in MSP	Reduce measures in MSP	Reduce measures as permit condition	Legal basis	Restrictions
Shipping					
Renewable Energy					
Cables, Pipelines					
Resource extraction					
Fisheries and aquaculture					
Recreation					
Scientific uses					
Defence					
Oil and gas					
Litter, plastic etc.					



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Basins project

FOCUS ON MITIGATION IN MSP

Presentation of the French example

March 31, 2026, NESBp synthesis workshop

Alan Quentric



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THANK YOU!

