



# Endangered species of inshore waters

ECOLOGY, THREATS AND SUGGESTED MANAGEMENT ACTIONS

MEDAC working group on recreational fisheries

# The species



# The ecology – *Dicentrarchus labrax*



<b>Nursery grounds</b>	Inshore and brackish waters
<b>Spawning grounds</b>	Inshore waters (salinity), One big female with several males
<b>Migrations</b>	Euryhaline (temperature),
<b>Breeding season</b>	Winter (temperature)
<b>Main habitats</b>	Coastal and brackish waters.
<b>Other</b>	Differences Atlantic – Med, Aggregations of adults, Gonochoric

# The ecology – *Sparus aurata*



## Nursery grounds

Inshore waters (big protected sandy bays)

## Spawning grounds

Inshore waters

## Migrations

Brackish waters (summer)

## Breeding season

October – December, big shoals

## Main habitats

Inshore waters (all habitats) until 150m

## Other

Aggregations (winter high pressures), Hermaphrodite (first male)

# The ecology – *Dentex dentex*



## Nursery grounds

Shallow rocky habitats and Posidonia

## Spawning grounds

Near the coast

## Migrations

Thermocline and food

## Breeding season

March – May (aggregations)

## Main habitats

Hard bottoms (up to 200m)

## Other

Gonochoric

# The ecology – *Epinephelus marginatus*



<b>Nursery grounds</b>	Inshore roky waters, tidal pools and <a href="#">Posidonia meadows?</a>
<b>Spawning grounds</b>	Rocky bottoms (littoral and circalittoral area). Aggregations.
<b>Migrations</b>	Demersal, benthic and littoral (temperature, feeding) up to 120m
<b>Breeding season</b>	June to August
<b>Main habitats</b>	Rocky bottoms and <a href="#">Posidonia?</a>
<b>Other</b>	Hermaphrodite (first female)

# The ecology – *Sciaena umbra*



<b>Nursery grounds</b>	Inshore and estuarine
<b>Spawning grounds</b>	Mouth of estuaries?
<b>Migrations</b>	Sedentary, strong site-fidelity
<b>Breeding season</b>	May-July
<b>Main habitats</b>	Rocky coast, estuaries?

# The ecology – *Umbrina cirrosa*



## Nursery grounds

Coastal and sandy bottoms

## Spawning grounds

Sandy bottoms

## Migrations

Demersal, benthic and littoral (0-100m)

## Breeding season

Spring and summer

## Main habitats

Littoral waters (rocky, sandy, seagrass)

## Other

Juveniles gregarious, adults solitary or small groups

# Threats and management suggestions



Threats - External	Threats - Fisheries
Antropization (ports?)	MLS
Loss of brackish water habitats	Commercial in estuaries
Great stormy episodes	Unknown RF catches
Climate change (sex ratios)	Stakeholders knowledge about vulnerability
Lack of knowledge	MLS and bag limits
Escapes from aquaculture	Reclusion from lagoon aquaculture
Volume freshwater into sea	Large spawners (commercial)
	Illegal sales
	Lack of specific management

# Threats and management suggestions



## Management suggestions

Stock assessment (including RF)

All catches registered

MCRS (40 cm)

Specific management measures (commercial and RF)

Increase controls (capacity training RF)

Closed season (spawning)

Harmonize regulations sea and freshwater

Estuaries banned to commercial and passive gears

Minimum distance from the shore to commercial gears

Increase research

Avoid aquaculture escapes

Educational programs species (commercial and RF)

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# Threats and management suggestions



Threats - External	Threats - Fisheries
Depletion of feeding resources	MLS
Loss of brackish water habitats	Big aggregations (purse seines)
Escapes from aquaculture	Lack of knowledge ecology
Volume freshwater into sea	Stakeholders knowledge about vulnerability
	MLS and bag limits
	Lack of specific management
	Overfishing

# Threats and management suggestions



## Management suggestions

Stock assessment (including RF)

All catches registered

MCRS

Specific management measures (commercial and RF)

Increase controls (capacity training RF)

Closed season (spawning)

Ban to purse seines and TAC in coastal lagoons

Estuaries banned to commercial and passive gears

Minimum distance from the shore to commercial gears

Increase research

Avoid aquaculture escapes

Educational programs species (commercial and RF)

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# Threats and management suggestions



Threats - External	Threats - Fisheries
	MLS
	Compliance with regulations (RF)
	Big aggregations (trawlers and morunas)
	Large spawners with alive bait (commercial and RF)
	Illegal sales
	Overfishing (30-50% declines)

# Threats and management suggestions



## Management suggestions

Stock assessment (including RF)

All catches registered

MCRS

Specific management measures (commercial and RF)

Increase controls (capacity training RF)

Closed season (spawning)

Avoid or reduce commercial catches of big aggregations

Avoid alive bait

Review RF gears during spawning

Increase research

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Educational programs species (commercial and RF)

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# Threats and management suggestions



Threats - External	Threats - Fisheries
Virus	MLS
	Lack of effective management (spearfishing, angling and small-scale)
	Unknown RF catches
	Stakeholders knowledge about vulnerability
	Illegal sales
	Overfishing (50 - 95% decline)

# Threats and management suggestions



## Management suggestions

Stock assessment (including RF)

All catches registered

MCRS (50 cm)

Specific management measures (commercial and RF)

Increase controls (capacity training RF)

Closed season (spawning)

Avoid or reduce commercial catches of big aggregations

Nursery habitats protected (juveniles)

Increase research

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Educational programs species (commercial and RF)

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# Threats and management suggestions



Threats - External	Threats - Fisheries
Antropization	Set MLS
Loss of Posidonia habitats and ports construction	Overfishing (declines up 67%), mainly spearfishing and trammel nets
Lack of knowledge	Unknown RF catches
	Stakeholders knowledge about vulnerability
	Lack of specific management

# Threats and management suggestions



## Management suggestions

Stock assessment (including RF)

All catches registered

MCRS

Specific management measures (commercial and RF)

Increase controls (capacity training RF)

Closed season (spawning)

Nursery habitats protected (juveniles)

Increase research

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Educational programs species (commercial and RF)

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# Threats and management suggestions



Threats - External	Threats - Fisheries
Antropization (estuaries, ports, beaches)	MLS
Lack of knowledge	Commercial in estuaries
	Overfishing (declines 67%)
	Stakeholders knowledge about vulnerability
	MLS and bag limits
	Lack of specific management

# Threats and management suggestions



## Management suggestions

Stock assessment (including RF)

All catches registered

MCRS

Specific management measures (commercial and RF)

Increase controls (capacity training RF)

Closed season (spawning)

Estuaries banned to commercial and passive gears

Increase research

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Educational programs species (commercial and RF)

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# Working plan 2017-2018 proposal

Recreational fisheries and science in the Mediterranean	
<b>What do we have</b>	a) Compile existing papers on RF (Med or marine related)
	b) Identify scientists working on RF
	c) Identify existing platforms for knowledge exchange
	Classify type of information about papers compiled and assess validity (currently useful, flaws...)
<b>What is lacking</b>	Identify research needs for Mediterranean RF

Thank you and good 2018 work!