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European Union Network for the
Implementation and Enforcement
of Environmental Law

Surface Water Case

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Environmental Liability Directive (ELD)

PILOT WORKSHOP

Ministry of the Environment and Energy

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DISCLAIMER

The following CASE STUDY have been freely inspired by real cases, however the real cases have been modified and adapted to training purposes. Hence, the following CASE STUDY must be considered as virtual case.



What do you see in the images?

ANY SIMILAR EXPERIENCES ?

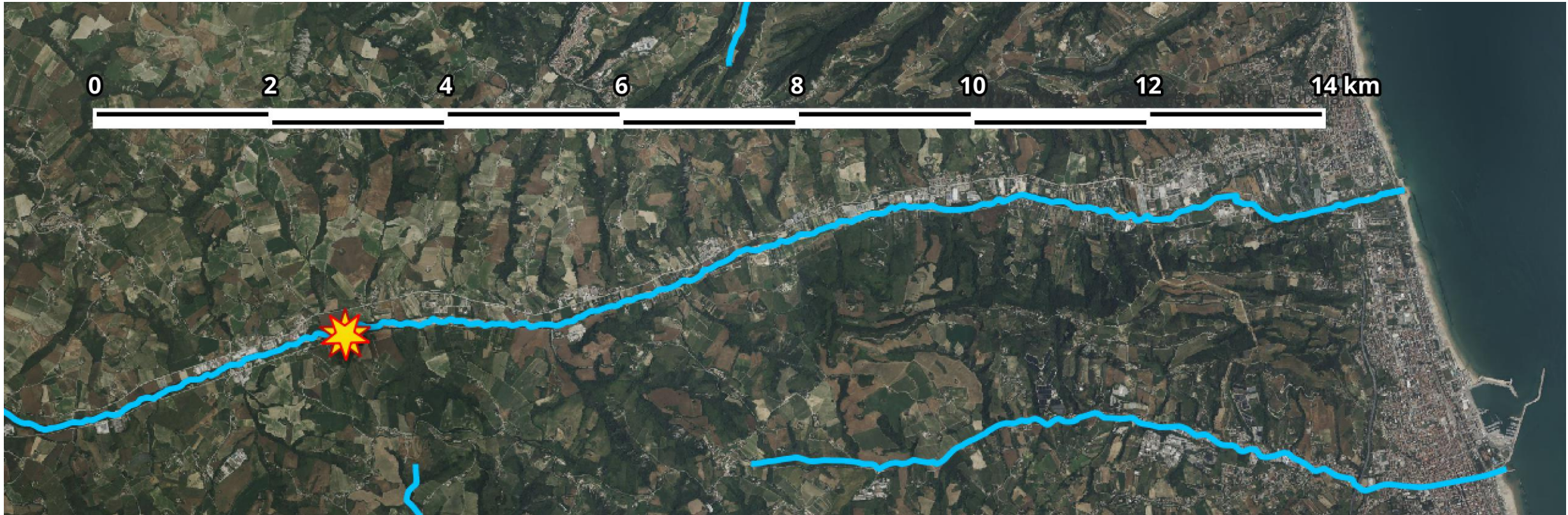
Screening of the Case

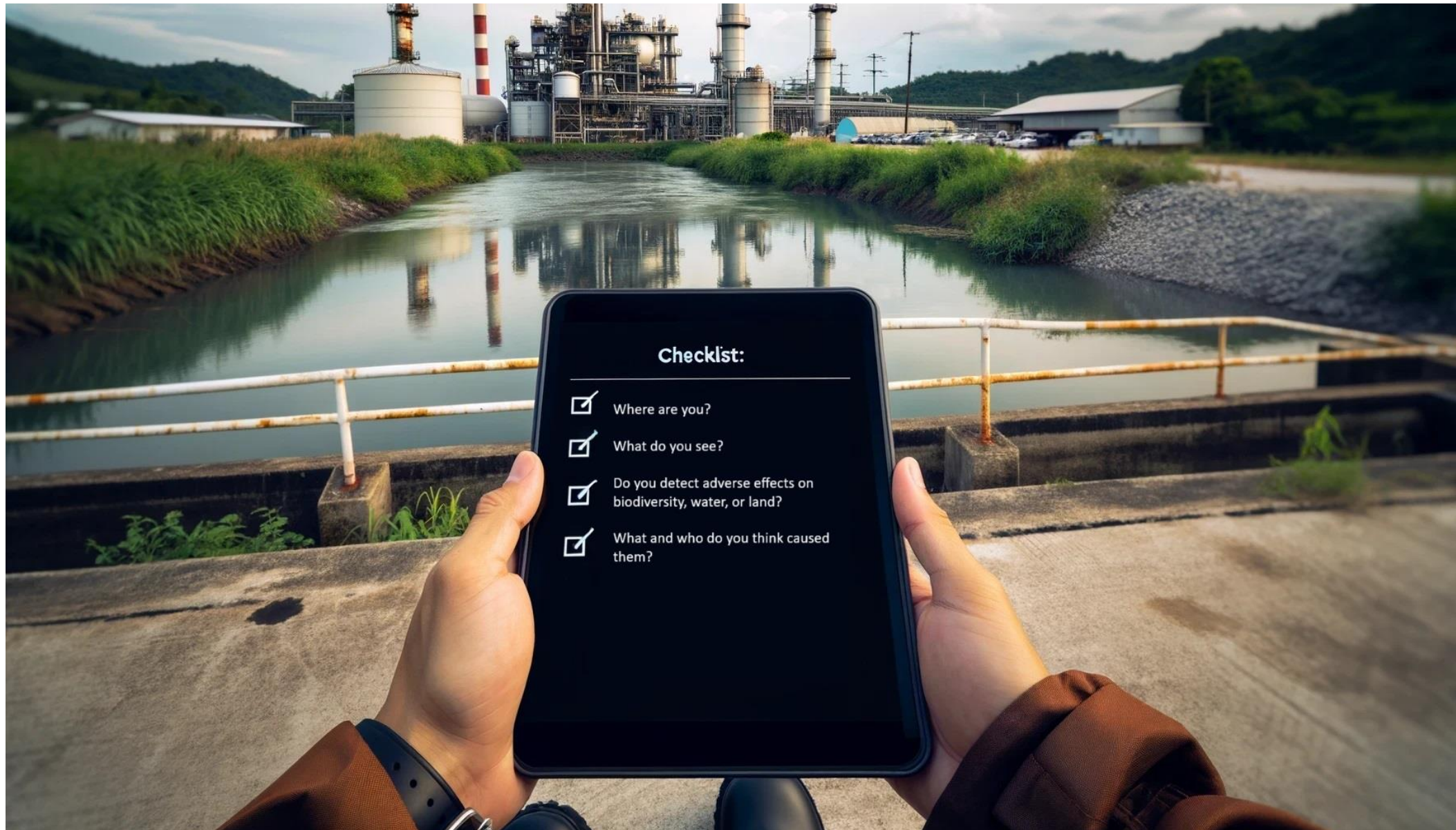






What should the inspector do?





STEP 1: Where we are? What we see?

STEP 2: Verify the ELD applicability and damage factors/adverse effects

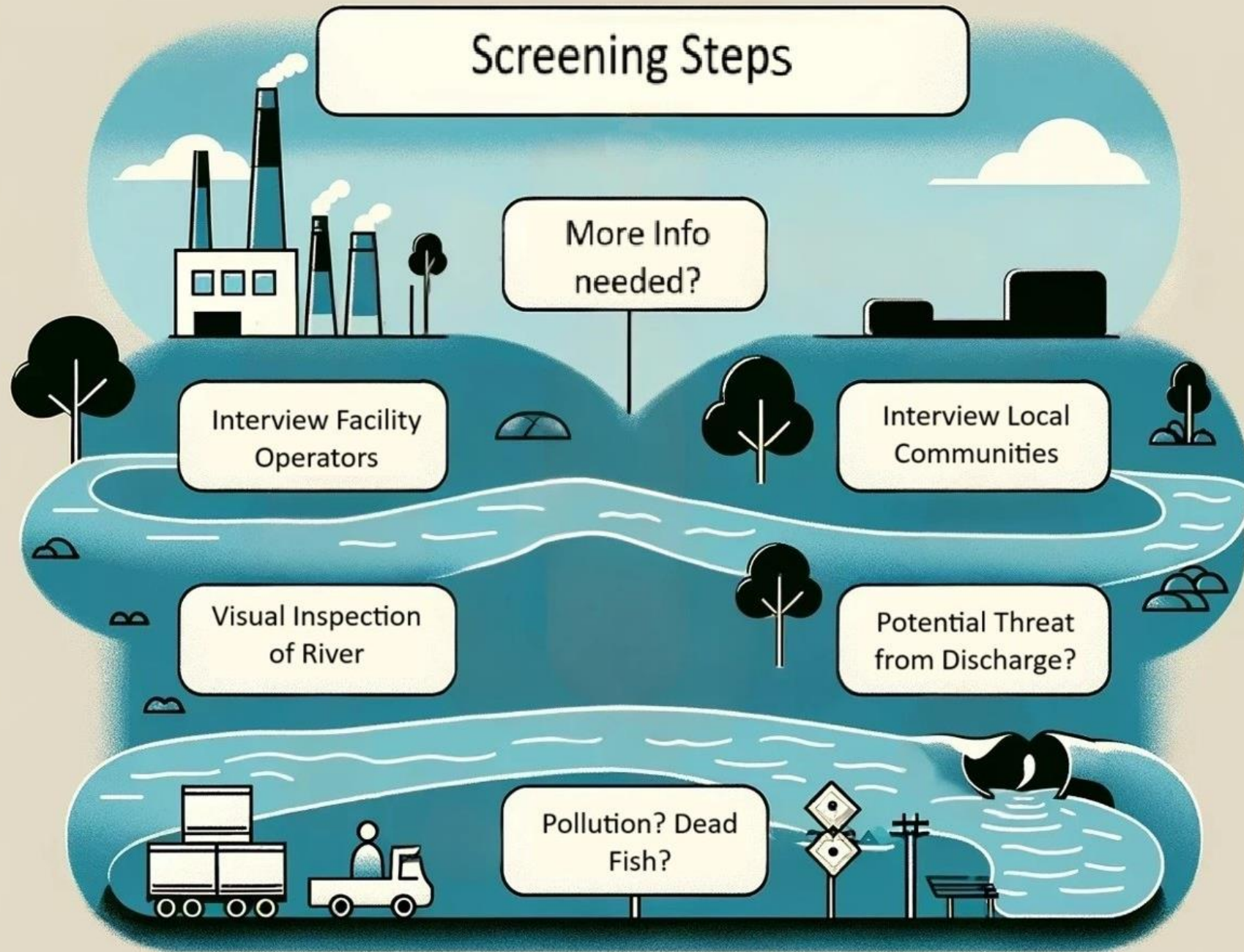
How can I collect information for the screening?

- **ACTIONS:**

- VISUAL INSPECTION OF THE RIVER (WATER BODY IDENTIFIED UNDER WFD) FOR SIGNS OF POLLUTION (DISCOLORATION, DEAD FISH, QUANTITY & DURATION OF DISCHARGES, ETC.)
- PRELIMINARY REVIEW OF FACILITY RECORDS FOR CHEMICAL DISCHARGE (OF CHEMICALS ABLE TO AFFECT CHEMICAL AND ECOLOGICAL STATUS)
- DISCUSS WITH THE FACILITY OPERATORS
- COLLECT SAMPLES FROM DISCHARGE POINT & DOWNSTREAM LOCATIONS

- **OUTCOME:**

- INDICATIONS OF POSSIBLE CONTAMINATION – POSSIBLE FURTHER EXAMINATION





(Q.1, Q.2, Q.3 on Slido)

Screening check list



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☰ Active poll

0 👤



Q.1 - Which is the natural resource?

a) Groundwater

☐ 0%

b) Inland surface water

☐ 0%

c) Land

☐ 0%

d) Biodiversity

☐ 0%



Q.2 - What occurrence have you seen?

a) Large scale spillage of hazardous substances

☐ 0%

b) Colour anomaly of water

☐ 0%

c) Large scale fish kill

☐ 0%

d) Prolonged discharge of untreated wastewater

☐ 0%

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Q.3 - Is the urban wastewater treatment plant an activity listed in ELD Annex III?

a) Yes

☐ 0%

b) No

☐ 0%

c) I don't know

☐ 0%



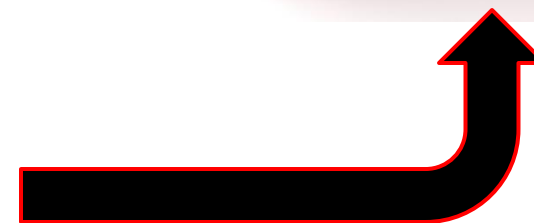
Discovery of an occurrence
during an inspection

SCREENING



POTENTIAL
ELD CASE

ELD
COMPETENT AUTHORITY



Q.4 on Slido





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ELD expert/authority:

"I received the SCREENING results:

- Colour anomaly of inland surface water
- Caused by the discharge of municipal wastewater treatment plant (activity in ELD Annex III)
- Exceeding of the discharge limit values
- Likely adverse effects on chemical/ecological status of surface water body

Q.4 - And now? What should I do?"

a) Order some remedial measures

☐ 0%

b) Assess damage by conducting an evaluation of chemical and ecological status of river

☐ 0%

c) Check if more data and information is needed

☐ 0%

d) There is no evidence of damage, it's not my matter

☐ 0%



TAKE YOUR DECISION BY FOLLOWING THESE “STEPS”

CAED approach to the evaluation of submitted cases

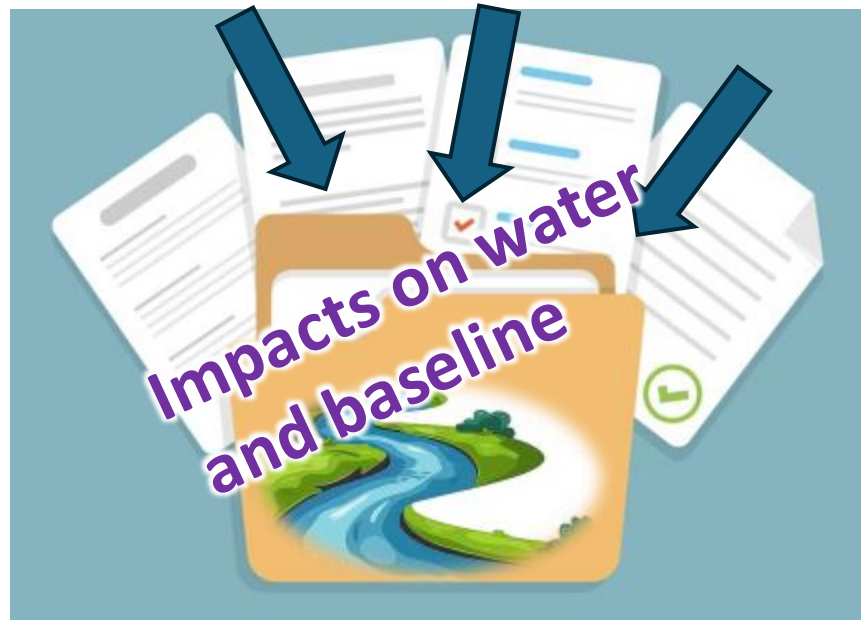
- Examination of the case
- Identification of relevant data you have
- Missing information you need
- Look or ask for them

CLUES DETERMINATION

“I’m pretty sure that there is a damage”

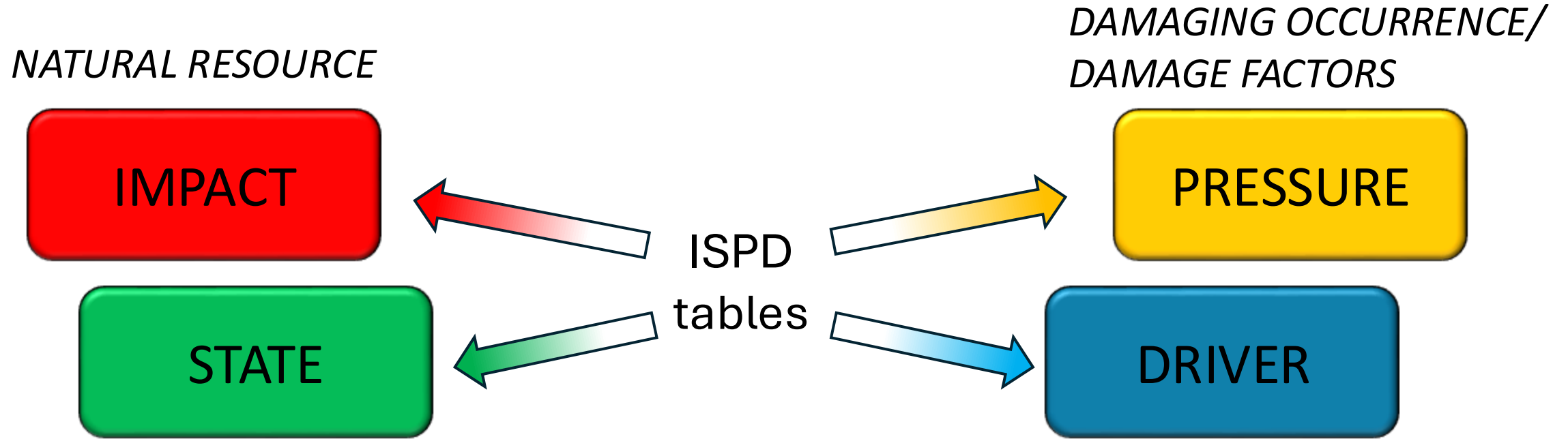
- Start an accurate assessment to confirm the damage (on-site visits, measurements, monitoring, analysis, ...)

FILL THE “CASE FILE” WITH AS MUCH DATA/INFORMATION AS POSSIBLE



LINK THEM TOGETHER
...AND TRY TO FIND CLUES OF
DAMAGE

CAED PRACTICAL TABLES CAN GUIDE YOUR SEARCH FOR THE DATA AND INFORMATION YOU NEED TO DETERMINE CLUES



In the Practical Tables you find:

INDICATORS

list of parameters that may require data/information

DESCRIPTIONS

set of drop-down lists of results for each indicator

Q.5 on Slido





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IMPACT

existence of any adverse effects on the chemical status

existence of any adverse effects on the ecological status

relevance, reliability and quality of data / information on adverse effects

STATE

Baseline conditions

Baseline anthropogenic/
natural pressure level

Q.5 - How can you get information on this?

a) Consult classification and data under Water Framework Directive

☐ 0%

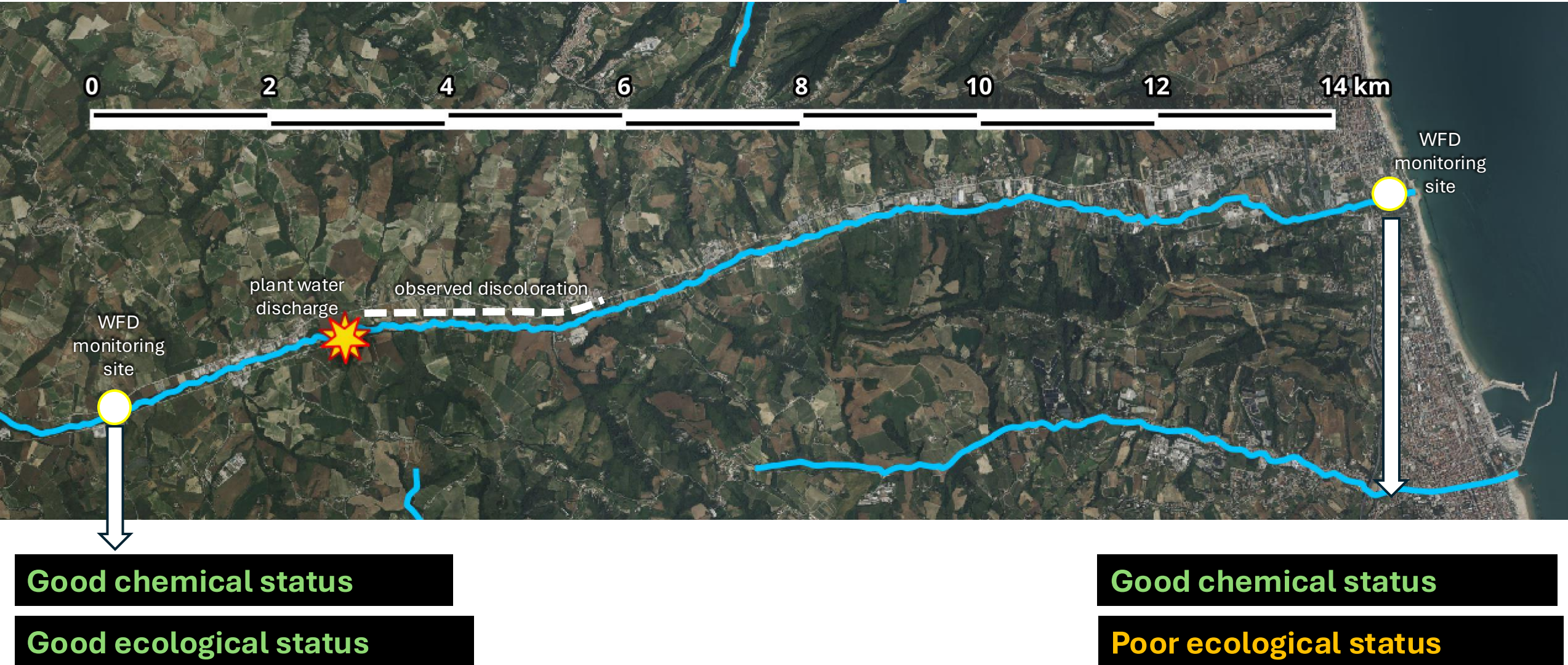
b) Check any previous water investigations at the site

☐ 0%

c) Determine water quality upstream and downstream of the discharge

☐ 0%

Data and information from the implementation of the WFD



Q.6 on Slido





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Q.6 - What do you think?

- a) There is a worsening of ecological status, so there are “clues” of damage
☐ 0%
- b) Data from downstream WFD monitoring site not representative of water discharge impact
☐ 0%
- c) Data from upstream WFD monitoring site may be useful to describe baseline
☐ 0%

Data and information from other sources

Previous on-site investigation/inspection

- Low quality of macroinvertebrates 1 km downstream the discharge, good upstream (1 sampling conducted a few months before)
- Frequent exceeding of the discharge limits
- Frequent malfunctioning of the plant equipment

Complaints to local authorities

- Many issues reported by local people (water discoloration, algal bloom, bad smell)

Competent authorities for the permit issuance

- Project to increase the treatment capacity approved but not yet implemented

Q.7, Q.8 on Slido





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Q.7 - Which items describe the “IMPACT” on water (select more than one option)

upstream (1 sampling conducted a few months before)

☐ 0%

2. Frequent exceeding of the discharge limits

☐ 0%

3. Frequent malfunctioning of the plant equipment

☐ 0%

4. Many issues reported by locals (water discoloration, algal bloom, bad smell)

☐ 0%

5. Project to increase the treatment capacity approved but not yet implemented

☐ 0%



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- 1 sample of macroinvertebrates reveals the worsening a macroinvertebrate population
- Visual feedback on likely alteration of the physico-chemical condition (no analytical data)
- No accurate data on baseline “chemical” or “ecological” condition of surface waters downstream

Q.8 - What can we deduce?

- a) “evidence” of water damage
☐ 0%
- b) “clues” of water damage
☐ 0%
- c) Signs of water changes, unclear if 'significant adverse effects'
☐ 0%
- d) I don't know
☐ 0%

In this case, the information about the natural resource alone is not enough to determine if there are clues or evidence of damage.

To move forward, it's essential to assess the type of event (DAMAGE FACTORS and DAMAGING OCCURRENCES), and then decide whether to collect additional information

IMPACT

STATE



- 1 sample of macroinvertebrates reveals the worsening a macroinvertebrate population
- Visual feedback on likely alteration of the physico-chemical condition (no analytical data)
- No accurate data on baseline “chemical” or “ecological” condition of surface waters downstream

Data suggest occasional severe impacts on surface waters but no accurate data on adverse effects

PRESSURE

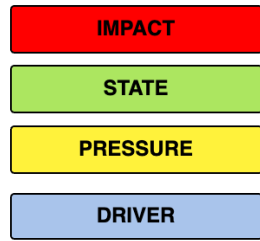
DRIVER



- Frequent irregular discharge (continuous?)
- Poor effectiveness of the treatment process
- Structural issues of the treatment plant

POOR DATA ON SIGNIFICANT ADVERSE EFFECT MAY BE COMPENSATED BY SIGNIFICANT ELEMENTS CHARACTERIZING THE DAMAGE FACTORS/OCCURRENCE

1. ISPD TABLES OF INDICATORS AND GROUPS OF INDICATORS (OBJECTIVES)



Possible values for indicators and group of indicators:
 1) Favourable to the identification of the clue
 2) Unfavourable to the identification of the clue
 3) Auxiliary data/information
 4) Not available data/information
 5) Not relevant data/information

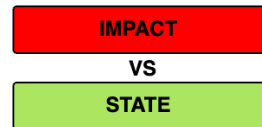
2. INTERIM JUDGEMENT FOR EACH ISPD COMPONENT

Data/information to identify clues of damage NOT SUFFICIENT

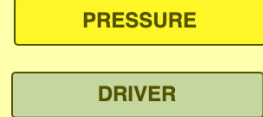
CLUES of environmental damage NOT IDENTIFIABLE

CLUES of environmental damage IDENTIFIABLE

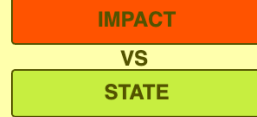
3. IDENTIFICATION OF CLUES OF ENVIRONMENTAL DAMAGE



CLUES of NATURAL RESOURCE
CNR)



+



CLUES of DAMAGING OCCURRENCE and DAMAGE FACTORS
+ NATURAL RESOURCE
(CD+CNR)

Candidate case of damage

“Clues of damage” justify further efforts to confirm the occurrence of the environmental damage

“Measure the Damage”

- Evaluate deterioration compared to the baseline
- Define the extent of the affected area of water

i.e.: design and implement monitoring of the river to study the ecological status (biological and physical element)





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Thanks for your attention

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