COASTWATCH EUROPE SHORE SURVEY 2019
Sept 15th to Oct 15th

5 step SUMMARY: more detail in GUIDE NOTES on www.coastwatch.org

1. FIND AND BOOK YOUR SURVEY AREA - 2 options to do that:

   OPTION 1: DIY - all on line
   Go to www.coastwatch.org and follow survey booking instructions with map to choose your 500m survey unit(s). Copy the unique code that pops up when you click on a s.u. on the map into the survey form question A1. Take a photo or screen shot of the map with code.

   OPTION 2: Contact Coastwatch
   Contact Coastwatch regional or national coordination – (see bottom of page) to help you find a suitable area to book. Indicate if you are a new volunteer, want to join others, &/or do training.

2. MATERIALS CHECK LIST before going out to do your fieldwork:

   1. Shore Survey form, 1 per 500m survey unit (s.u.)
   2. Map: screenshot on phone, printed or sketch.
   3. Guide Notes & species ID poster (on paper or phone)
   4. Biros (2 colours to facilitate a 2nd survey)
   5. Phone (if smart phone see planning below)

   OPTIONAL/WHERE RELEVANT
   Nitrate test kits for fresh water inflow testing (request from coordinator)
   Phone apps: Micro Litter App, River Obstacle and Eeyeonwater
   Useful: A bag with camera, clip board, Hankies, hair tie, raingear, container like Greek yogurt bucket with lid for special finds or sample. Thermometer &/or pH sticks for more inflow data.

3. PLAN YOUR SURVEY

   • Plan survey to start an hour before low tide. Use a tide table or Google: Low tide at (nearby town) or check www.bit.do/easytide
   • Print online survey form or get a hard copy from Coastwatch coordinator and download guide notes and ID posters to your phone.
   • Take the map of the survey area (photographed in step 1 or printed screenshot for viewing on your phone when out).
   • Allow enough time ~ 30 min. for a simple straight dune site or promenade, an hour for a complex shore with streams.

4. SURVEY

   • Complete the survey form while checking the shore from edge of hinterland to low water. Use apps where relevant if you can.
   • NB - Note the tide on arrival and if it is starting to come in, start at low water – especially with extra biodiversity questions.
   • Take pictures of key findings and if concerned or immediate action is needed, call Coastwatch coordination or relevant authority.

5. BACK HOME

   • Input your results online while its fresh in your mind by going to www.coastwatch.org/europe/survey/ or post your survey forms.
   • If you used our micro litter or other apps and wanted to avoid using up data, go to a Wi-Fi hotspot and send your results now.
   • You can submit pictures on coastwatch.org/europe/send-your-pictures/ or by emailing them to survey@coastwatch.org.
   • If you want to post query material or photos on CD: Coastwatch, Civil & Env. Engineering, TCD, Dublin 2. Ireland.

HEALTH AND SAFETY

• Tell someone where you are going. Survey in pairs or groups.
• Check the weather to avoid storms, high waves and heavy swells.
• Wear suitable boots/water shoes; bring raingear & layers of clothes.
• Survey where it’s safe. Avoid walking over wet rocks and onto soft mud (most inner estuary sites) where you could sink or get cut off.

SHORTCUTS

• Complete most of page 1 before going out.
• Share questions (e.g. counts) between surveyors.
• Do two adjacent survey sites on 1 form. Use two different colour biros on the one questionnaire (1/survey unit) to save paper and time.

Contacts/Queries: Regional coordinators are listed on: www.coastwatch.org
Coastwatch office: Trinity College Dublin 00353 (0)1 896 2599 and survey@coastwatch.org
International and urgent Karin Dubsky 00353 (0)86 8111 684 and kdubsky@tcd.ie
Mapping/Data Handling Queries: Ángel Duarte survey@coastwatch.org

THIS SURVEY FORM IS ORGANISED IN THEMATIC SECTIONS

<table>
<thead>
<tr>
<th>Section</th>
<th>Covering</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Surveyors, Area Designation &amp; Access to the Shore</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>Hinterland, Inflows (water draining from land) and Sewage Pollution</td>
<td>2</td>
</tr>
<tr>
<td>C, D</td>
<td>Splash zone, Intertidal, Animals and Plants</td>
<td>3</td>
</tr>
<tr>
<td>E</td>
<td>Litter and micro litter (+ litter app option) Oil and Tar</td>
<td>4</td>
</tr>
<tr>
<td>F</td>
<td>Overall shore looks, shore cleaning, Notes and Threats</td>
<td>5</td>
</tr>
<tr>
<td>Extra: Biodiversity &amp;Use</td>
<td>Biodiversity and shore use specific for your country or region</td>
<td>6</td>
</tr>
</tbody>
</table>
A Background information on the 500 m survey unit & surveyor(s) 

A1 Country code  County code  Block code  Unit code 

www.coastwatch.org/europe/map/ 

A2 Name of survey unit or area 
Map name  Local name if different &/or landmark 

A3 Name and address of surveyor(s)/school/group 
Name (Please write very clearly!) 
Address (Please give your address, phone and email only if you agree to be contacted by Coastwatch) 
Telephone  Email 

A4 Date of survey 
Day  Month  Year 

A5 How well do you know this site? 
☐ Well  ☐ A little  ☐ Here on 1st or 2nd visit 

A6 From present knowledge - is this unit (or part of) an officially designated area? 
☐ Yes  ☐ No  ☐ Don’t know 

A7 If yes, tick which nature &/or human use designations/permits apply: 
☐ (UNESCO) Biosphere Reserve  ☐ ‘Bathing Water’ 
☐ RAMSAR Site  ☐ ‘Shellfish Production Area’ 
☐ Natura 2000 site (SPA, cSAC or SAC)  Access for vehicles (on shore parking, route to fields) 
☐ National Park  ☐ Other use right or designation (sea weed harvest, boat slip) 
☐ Other Nature designation………………………….. 

A8 Is there public access to your coastal unit from land down to high water? 
☐ by vehicle  Also please tick if:  ☐ Access is marked private or prohibited. 
☐ by foot  ☐ Partially inaccessible. 
☐ by wheelchair  ☐ Inaccessible. Your report ends here, or note how you overcame the access problem 

Any comment  questions A 7 or 8 

……………………………………………………………………………………………………………………………………..
B Land and Inflows

B1  What is the immediate hinterland (first 500 m) mainly devoted to?  (Tick up to 5 boxes)

- Farmland: Intensive grazing
- Farmland: Tillage, horticulture
- Farmland: Rough grazing
- Park, woodland, forest
- Dunes
- Wetland (bog, marsh, lagoon)
- Rock or other bare natural sediment
- Village or town residential
- Tourist resort
- Waste tip/dump (official and unofficial)
- Industry, commercial area, or power station
- Transport: □ road  □ train  □ carpark  □ harbour
- Construction site
- Other: please state: (e.g. golf course)

B2  Please count all inflows into your s.u. as you walk. Give details of up to 4 inflows in the order encountered. If there are more than 4, choose the most important in terms of potential pollution impact.

<table>
<thead>
<tr>
<th>Information on inflows as encountered - or important ones:</th>
<th>Inflow 1</th>
<th>Inflow 2</th>
<th>Inflow 3</th>
<th>Inflow 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: 'P' for Pipe, 'S' for Seepage, 'D' for Drain, storm drain or irrigation canal, 'R' for River, stream. Add name for R if known.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflow Size: S (Small), M (Medium) or L (Large)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ if found please</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal life in/on water (and add F if you see live Fish)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A bad smell from the inflow</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discolour/scum/froth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dead Fish - if yes, add a count/estimate and photograph</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Waste/litter (not sewage litter) dumped or washed down</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanitary litter &amp;/or visible sewage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filamentous algae &amp;/or sewage fungus. Add B if blanketing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil, petrol or diesel</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Invasive Alien Species - 'W' for water or 'B' for banks around the inflow (for IAS name see Coastwatch IAS poster)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If you have access to test kits, please test inflow fresh water and record results here:

- Did you detect Nitrite (NO₂)? If tested, please circle + yes or – no. + or - + or - + or - + or -
- Nitrate (mg/l NO₃) levels (read result 1 min. after dip test)
- Inflow Water temperature (please use your own thermometer)
- How acidic or basic is the water? The pH is:

The Total Number of Inflows counted in the survey unit was: [ ]

Include intermittently active inflows like storm drains

B3  If you know the survey unit well, please estimate frequency of sewage pollution incidents
(This is focusing on water of your survey unit. Think of advice if a visitor was to swim or eat shellfish here)

- Never
- Rare
- Occasional
- Frequent
- Usual
- Seasonal

Notes on B2 or B3: ..............................................................................................................................................
C SPLASH ZONE (The shoreline from mean high water up to land - spring high watermark)

C1 Indicate the approximate width of splash zone. (Tick several widths if area is not uniform)

- 0-1m
- 1-5m
- 5-50m
- 50-250m
- > 250m (estimate with big steps)

C2 What did you find in your splash zone? (Tick up to five boxes)

- Salt Marsh
- Sand, Gravel, Stones
- Reed Bed
- Natural Rock/boulder
- Dune
- Cliff
- Building Construction (not erosion control)
- Hard erosion control (walls, rock armour)
- Soft erosion control (man-made e.g. bank)
- Other (e.g. washed up maerl, bog or field)

D INTERTIDAL (From low to high water) + see Extra Questions end page

D1 Estimate the average width of the intertidal area at low tide. (If width varies, tick all that apply)

- < 5m
- 5-50m
- 50-250m
- > 250m

D2 What is the intertidal surface composed of: (Tick max. four boxes)

- Solid rock
- Boulders (>20cm ø)
- Gravel (0.2 – 20cm ø)
- Sand
- Silt or mud
- Other (e.g. maerl, peat, walls, infill)

D3 Which of the plants and seaweeds did you find in the intertidal&/or splashzone? Check ID poster/notes extra seaweed and seagrass info and project ideas are available on www.coastwatch.org

- Glasswort (Salicornia)
- Cord grass (Spartina)
- Sea grass (Zostera) growing swept up
- Other of note: ...........................................
  Brown and/or red seaweed growing
  Green seaweed: patches or thin band
  Green seaweed: carpet cover or thick mats
  Dislodged decaying seaweeds of any kind

D4 Any new or recent species of animal, plant, or seaweed which appeared in this area?

- Yes
- No
- Don’t know
  Name or note? .................................................................
  If yes, it could be climate change related species move, or an Invasive Alien Species (IAS - see Poster)

D5 Indicate which of the animals listed below you found alive or dead – see ID notes

<table>
<thead>
<tr>
<th>Animal</th>
<th>Alive</th>
<th>Dead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jellyfish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sea anemone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worms + casts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molluscs/seashells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(empty shells = dead)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barnacles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crabs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sea urchins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starfish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal</td>
<td>Alive</td>
<td>Count (or estimate)</td>
</tr>
<tr>
<td>Seabirds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seabirds with oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dolphins or Whales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rats</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If you found large numbers of live/dead animals (incl. live shellfish) washed up here today or recently, let us know what you saw and when in D5 note above. Coastwatch is researching causes of mass stranding of small animals and ways to help them survive.
E LITTER, WASTE AND POLLUTION (at all shore levels)

E1 Tick major item(s) found on your survey unit anywhere from start of hinterland to water
Give any extra information in F6, take pictures if possible and note location if this requires follow up work.

| Landfill Materials (e.g. concrete, rubble, debris from sea defences, demolition…) |
| Abandoned Vehicles, Girders, Machines |
| Household furnishings (e.g. beds, carpets, pieces of furniture etc.) |
| Dumped household refuse in bags or piles of rubbish |
| Ship wreck, or parts of ship wreckage |
| Tyres. Please count if more than 1 → |
| Aquaculture trestles and other large abandoned aquaculture gear |
| Other. Please specify……………………………………………………………………………………………………. |

E2 LITTER Count: Drinks containers and other items found anywhere on the shore.
If there is too much to count, please estimate. If you didn’t have time to count mark NC.

<table>
<thead>
<tr>
<th>Drinks Containers:</th>
<th>Count</th>
<th>Drinks &amp; Other Litter</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic Bottles</td>
<td></td>
<td>Bottle Lids</td>
<td></td>
</tr>
<tr>
<td>Metal Cans</td>
<td></td>
<td>Wet Wipes</td>
<td></td>
</tr>
<tr>
<td>Glass Bottles</td>
<td></td>
<td>Plastic Shopping Bags</td>
<td></td>
</tr>
<tr>
<td>Cartons/Tetra pack</td>
<td></td>
<td>Other*</td>
<td></td>
</tr>
</tbody>
</table>

*Look out for plastic straws, balloon sticks, cutlery, plates & polystyrene cups - see single use plastics directive.

E3 Tick which of the following items of general litter or pollution you found on your unit.

- Fishing or aquaculture gear; tick source(s) → Traps  Nets  Aquaculture  Angling
- Rope and String
- Hard Plastic containers like crates, buckets
- Foamed Polystyrene items or pieces (beads → E4)
- Sanitary waste, cotton buds, condoms, nappies
- Medical Waste - syringes, plasters …
- Container(s) of hazardous but not medical substance (e.g. chemical drums empty or full)
- Other plastics (not any of above, e.g. crisps)
- Tar, oil, petrol. If found, describe in F6. If action needed, contact & Coastwatch.
- Geotextiles (new question see ID notes)
- Textiles, shoes, gloves and clothing
- Paper, cardboard and worked wood
- Food, fish waste and bones
- Faeces - mammal (e.g. dog, human)
- Glass (not drinks), including light bulbs
- Cans (not drinks), including sprays
- Other (balloons, plastic cutlery, dog poo bag)…

E4 Micro litter pilot: Is there an area where you see tiny litter threads, bits, polystyrene beads?

- Yes  No  If yes, please use the Coastwatch micro litter app which puts photo & location on line.
  or describe: ……………………………………………………………………………………………………………………………………………………………………………………………………………………

E5 Looking back, which area was most littered? If several, tick more than one.

- Splash zone  Tide mark  Intertidal  Sea

Was that litter: accumulating in area(s) or was it spread more or less evenly?

THANK YOU!!! All the nasty litter stuff done. Onward to the last page of the main questionnaire …
GENERAL OBSERVATIONS

F1 Has recent weather made the appearance of your coastal unit change?
   ☐ Yes, looks cleaner than usual  ☐ No, recent weather is insignificant
   ☐ Yes, looks worse than usual  ☐ Don’t know

If there are other reasons for changed appearance, please note space at F6 below.

F2 Has the shore been cleaned within the last week?
   ☐ Yes  ☐ No  ☐ Don’t know

F3 Is there any planned change of character (positive or negative) which is imminent for this coastal unit? (If ‘yes’ describe in F6)
   ☐ Yes  ☐ No  ☐ Don’t know

F4 Tick if you have evidence of a serious risk and/or imminent planned change for the worse from any of the threats/activities listed below to your s.u. or adjacent sea/land.

   ACTION: In case of threat which requires immediate action, call relevant authority or Coastwatch.

   ☐ Erosion  ☐ Water pollution by  ☐ Sewage
   ☐ Flooding  ☐ Recreational abuse  ☐ Oil
   ☐ Mining/quarrying  ☐ Aquaculture  ☐ Agricultural or industrial farming
   ☐ Construction/sealing  ☐ Invasive Alien Species (IAS)  ☐ Industrial pollution
   ☐ Dumping, tipping, infill  ☐ Loss of Biodiversity  ☐ Other ...........................................

F5 Is there something or things you really like or love about this survey unit? Tell us:

F6 Comments or observations:

Thank you so much for all your work! If interested, there is more: Extra Nature & shore use questions PTO
A harbour questionnaire and a seaweed pilot useful for biology and geography class are also on our website.
Please submit results (ideally online) as soon as possible and no later than October 20th.

Data return, comment and queries? Go to www.coastwatch.org or your regional coordinator, send an email to survey@coastwatch.org or if urgent Karin kdubsky@coastwatch.org 00353 (0)86 8111 684.
### Biodiversity – just a few important members of 3 groups which may be found on your shore:

#### I. Worms: note if you see worms, their casts, reefs or large patches with lots of:

<table>
<thead>
<tr>
<th>Worms (other add in bottom box)</th>
<th>Found?</th>
<th>Comment (Amounts/ noteworthy change)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lug worm (* Arenicola*) casts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(at all shore levels)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honeycomb (<em>Sabellaria</em>) reef</td>
<td></td>
<td></td>
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<tr>
<td>(Mid-Low shore levels)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sand mason (<em>Lanice</em>) bed &amp;/or casts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(low shore and shallow sand/shingle pools)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### II. Sea shells: A small selection to focus on - see new *Coastwatch Seashell poster* for ID these and more.

<table>
<thead>
<tr>
<th>Sea shells and eggs</th>
<th>Alive</th>
<th>Dead (empty shell)</th>
<th>Describe your find. (e.g. large mussel bed, or tiny mussel spat in a few cracks on rocks, Gigas oyster stuck to rocks …)</th>
<th>Photo or speciment for ID?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mussel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Native oyster</td>
<td></td>
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<tr>
<td><strong>Gigas oyster</strong></td>
<td></td>
<td></td>
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<tr>
<td>Cockle</td>
<td></td>
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<tr>
<td>Razor shell</td>
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<tr>
<td>Limpet</td>
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</tr>
<tr>
<td><strong>Slipper limpet</strong></td>
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<tr>
<td>Dogwhelk</td>
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<tr>
<td>Shellfish eggs</td>
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<tr>
<td>Other:</td>
<td></td>
<td></td>
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</tbody>
</table>

#### III. Fish: photos to help identify species of fish and fish egg cases are extra welcome. See guide notes on ways to find them.

Did you see fish?  ☐ No  ☐ Yes  - If you identified please note: ………………………………………………………………………

Count/estimate: _______ What shape?  streamline  □  flatfish  □  eel-like  □

If you know this place, did you see fish here before?  ☐ No  ☐ Yes ………………………………………………………………………

Did you find any fish egg case(s)?  ☐ No  ☐ Yes  if yes please estimate count: _______ collect/photo

### Harvesting from the sea

Do you see or know of aquaculture, collecting for home use, or commercial harvesting? (Add if other)

<table>
<thead>
<tr>
<th>Aquaculture</th>
<th>Harvesting</th>
<th>Commercial Harvesting</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seaweed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mussel</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Oyster</td>
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<td></td>
<td></td>
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<tr>
<td>Periwinkle</td>
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<td></td>
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<tr>
<td>Crab</td>
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<td></td>
<td></td>
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<tr>
<td>Lobster</td>
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<td></td>
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<tr>
<td>Fish</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other:</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Governments are preparing Maritime Spatial Plans (MSP) now.** Does your survey area have important intertidal or submerged features (Nature, archaeology, etc) or traditional use to be marked in our MSP?