

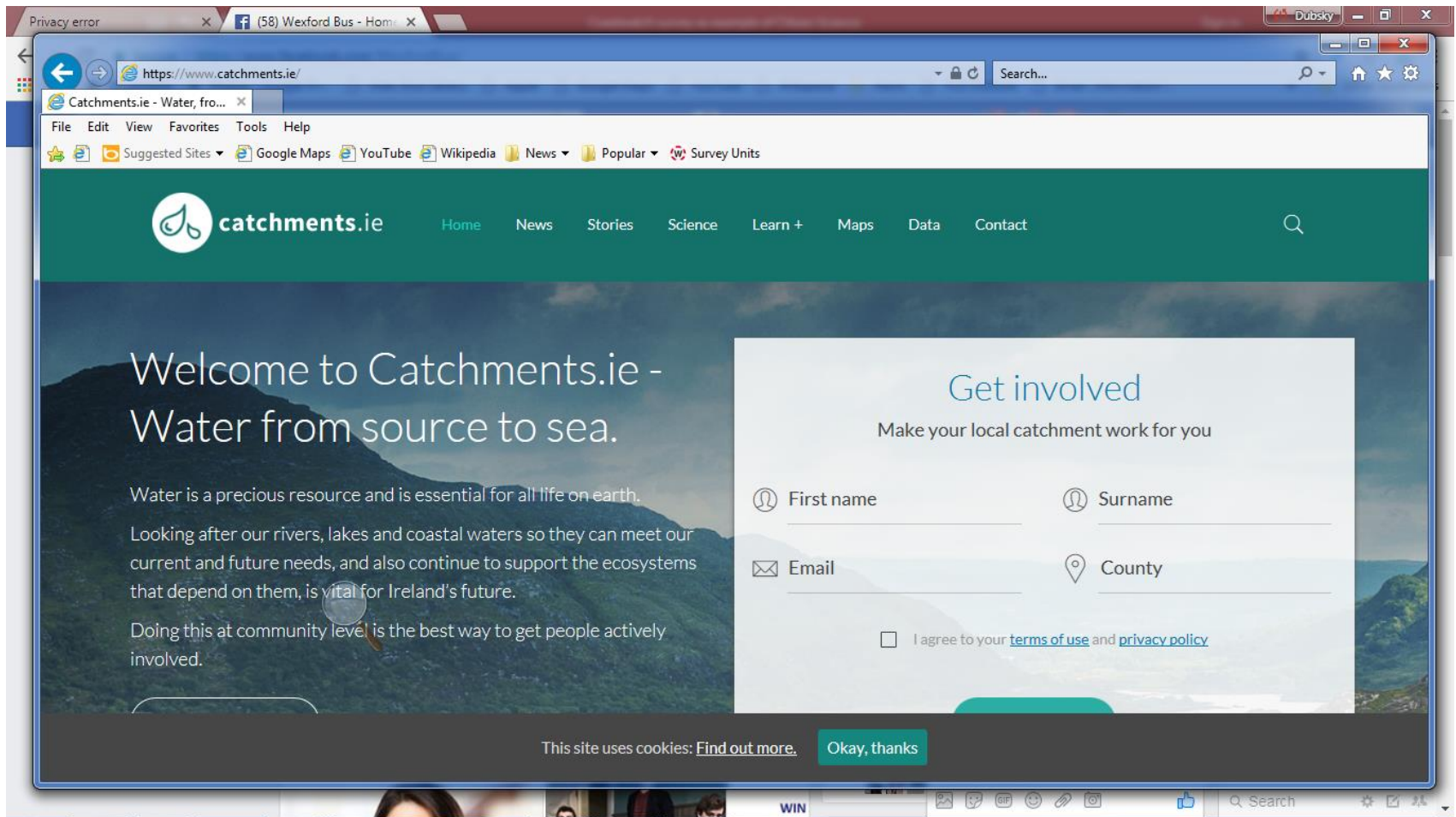


Informed Public Participation in Water management And how you might achieve it

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Aarhus Convention + Water Law + People



TRAINING EPA

Taxonomic composition (presence of disturbance sensitive taxa)

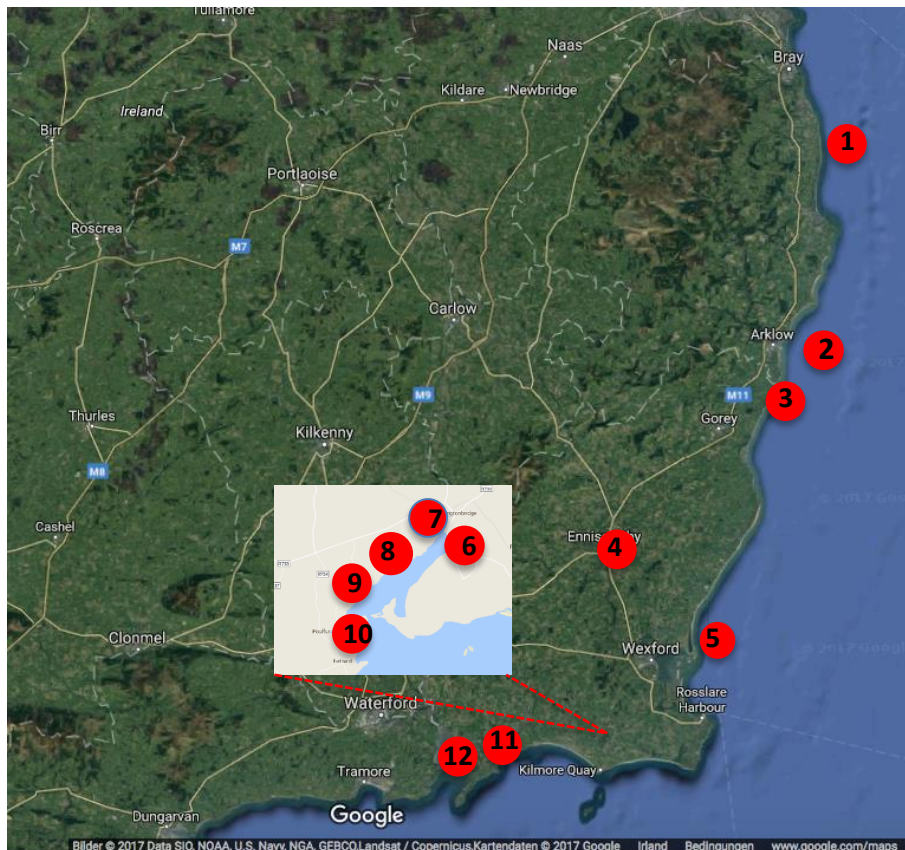
Abundance, determined by seagrass shoot density

Abundance, measured by seagrass bed spatial extent



FLAG stream project 2017

Public Participation in Information gathering, protection, restoration



Lead Contact Point in Stream group

Wicklow

1 Newcastle Stream (Ian Calder)

Wexford

2 Dooroge Stream (Cathy Lee)

3 Ballymoney Stream (Paul Dubsky)

4 Gally Stream (Dion/Elizabeth Masgonty)

5 Farnogue Stream (Danny Forde)

6 Dane's castle Stream (Noirin Cummins)

7 Clonmines stream (John Cullen)

8 Talaught Stream (Kathleen Kinsella/Jack Roe)

9 Colclough Stream (Alan Ryan)

10 The Pond Stream (Liam Ryan)

11 Duncannon Stream (Walter Foley)

Waterford

12 Douglas Stream (Paddy Houlihan)

DunLaoghaire (**Outside pilot area**):

Shanganagh river

Ballymoney Stream Sampling Points





How Communities Can Restore Small Streams

27 August, 10:30am - 2pm

Water Heritage Day
Sunday, 27th August, 2017

National Heritage Park

Co. Wexford

Water Heritage Day
Sunday, 27th August, 2017

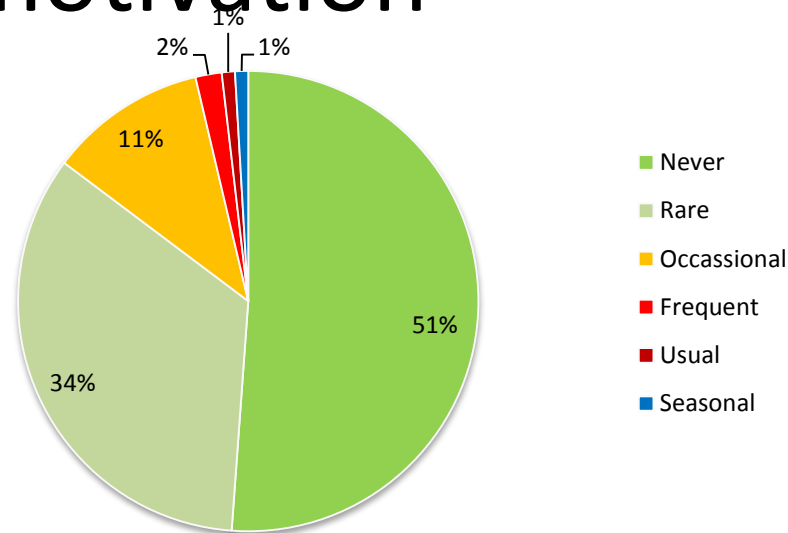


Citizen -Volunteer

with/without mission

1. finds & records information using skill and effort
 2. May have local and traditional Knowledge
- If doing work gratis - Citizen gives time and effort for reasons
 - gains extra skills, employability, gains extra insight, meet others
 - contributes to a bigger/clearer picture and better governance
 - focussed: address specific problem

e.g. Sewage indicators – high motivation



When it came to the question about what was the usual situation regarding sewage pollution in the areas surveyed, over a third of the volunteers admitted that they didn't know. Slightly more than 38 per cent reported that there was no sewage problem at all and, of the rest, 15 per cent said there were "occasional sightings", 4.5 per cent said the sightings were "frequent" while 6.7 per cent described the condition of the coast in their areas as "usually contaminated." Even more disturbingly, some of these areas correlate with the availability of edible shellfish.



ry litter which has significantly reduced but still found in this survey. Photo Marlene Bean.



Concerns

Fascinating, ugly, frightening, beautiful .. all in the eye of the beholder. Fact – it's a jellyfish.

Climate Change

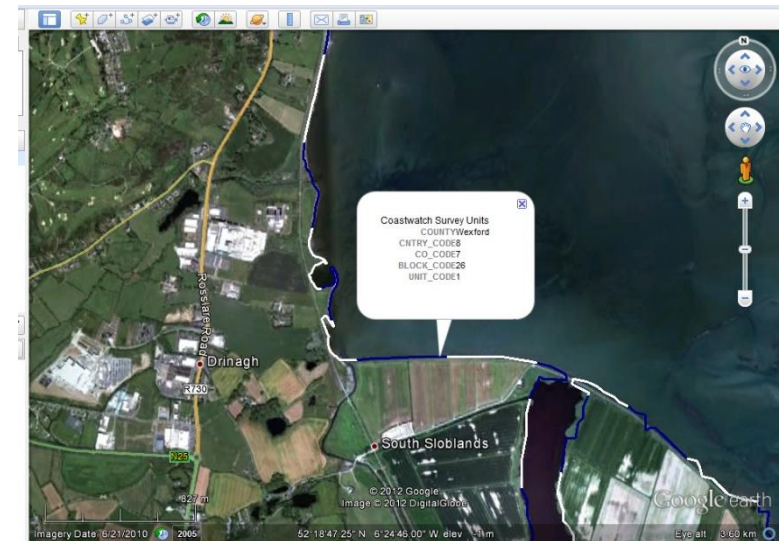


Coastwatch old method with new twist

The Irish Times - Thursday, September 17, 1987 - Page 11

THE IRISH TIMES

This page shows the article as it originally appeared in the newspaper. The article itself can be read on the following page.





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Inflows by type, size and quality parameters



Honeycomb worms: wau factor, pride 'I found it',
- motivation to do more and protect the site



Feed Back and Follow up

Types of feedback:

Early engagement: Provide draft questionnaire for comment

Feed back local survey results (+ - names) and ask authority to respond
e.g. Louth clean ups

Action to address problems and threats: -

Local level: a ranked list from citizen leading, to Coastwatch leading

- Encourage surveyors to act – give link to law, other relevant information
- Guide how, training, – v suitable for groups
- Some direct Coastwatch involvement – e.g. set up meeting with officials
- Proxy for citizen – suitable where surveyor is vulnerable

National and international Level :

Plastic bag tax, Hi cone material change, law changes - e.g. In Ireland the SI on wetlands protection.



THANK YOU



COASTWATCH EUROPE
Value, Protection and Management



Coastwatch Europe
Civil & Environmental Engineering
Trinity College Dublin
College Green, Dublin 2
Rep. of Ireland

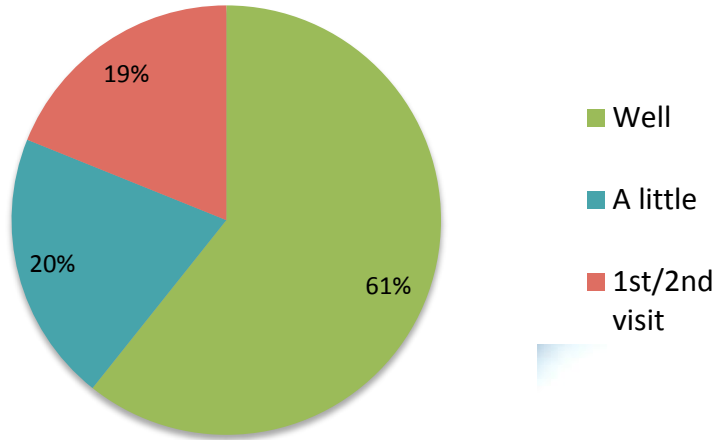
Tel ++ 353 86 8111 684
Mail kdubsky@tcd.ie
Web www.coastwatch.org

Authority/Scientists

- brings the system for the citizen .
- -provides training and materials
- Cleans/pools the citizen data
-
- KEY: How is information is used
- Contributes to a bigger clearer picture and informs follow up?

Familiarity with survey area:

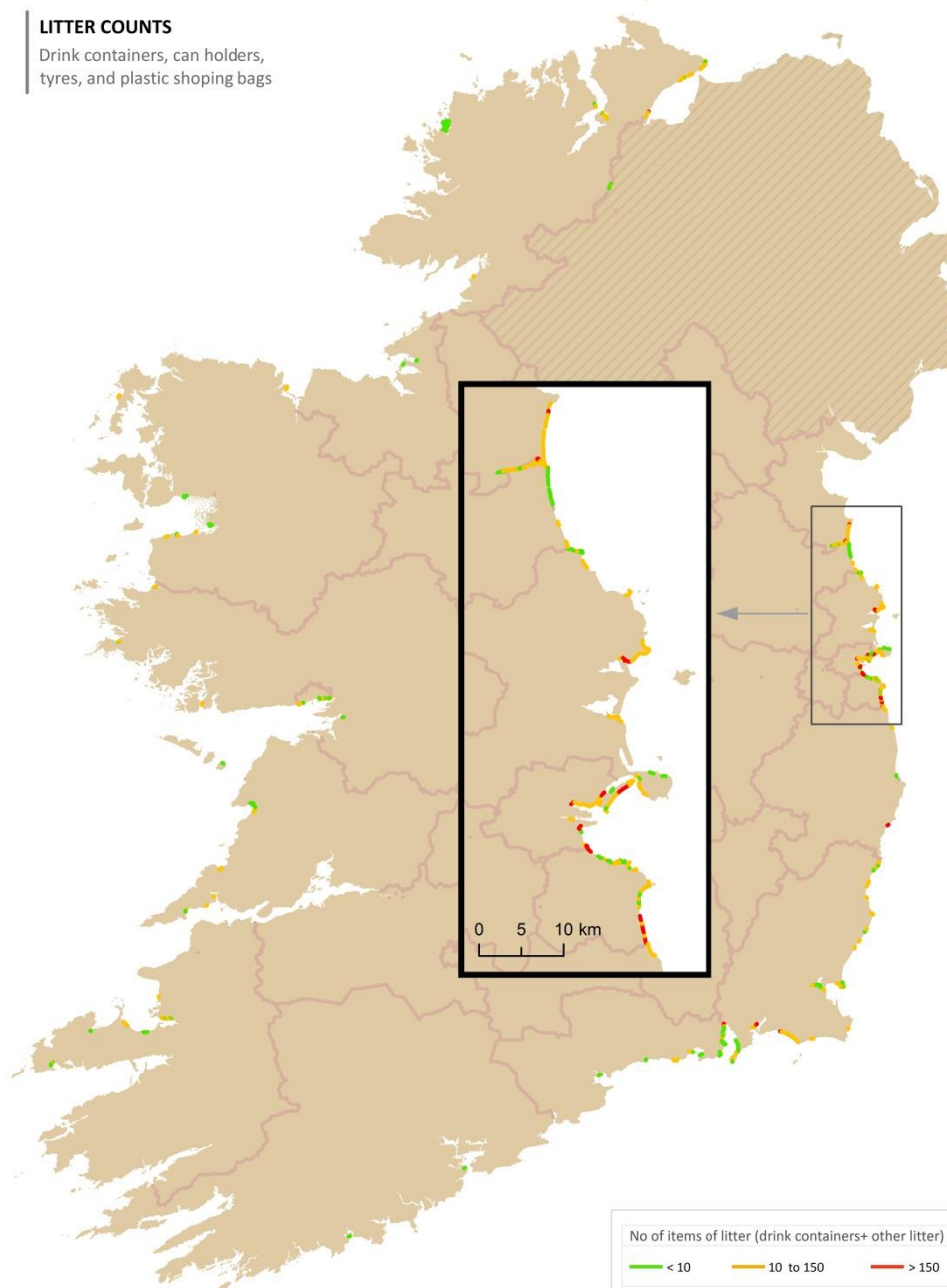
Most surveyors knew the area they surveyed well.



LITTER COUNTS

Drink containers, can holders,
tyres, and plastic shopping bags

LITTER COUNTS MAP



0 20 40 km

WGS 1984. UTM Zone 29N.

Present questionnaire content

1. International Base questionnaire

+

- Test kits (N, pH, temp - inflow water quality)
- Extras National /Regional Biodiversity/shore use
- Extra pilots become part of the main survey is proven

Sum= Observations, Tests, Knowledge -
today's observation in time context.

Observations may be

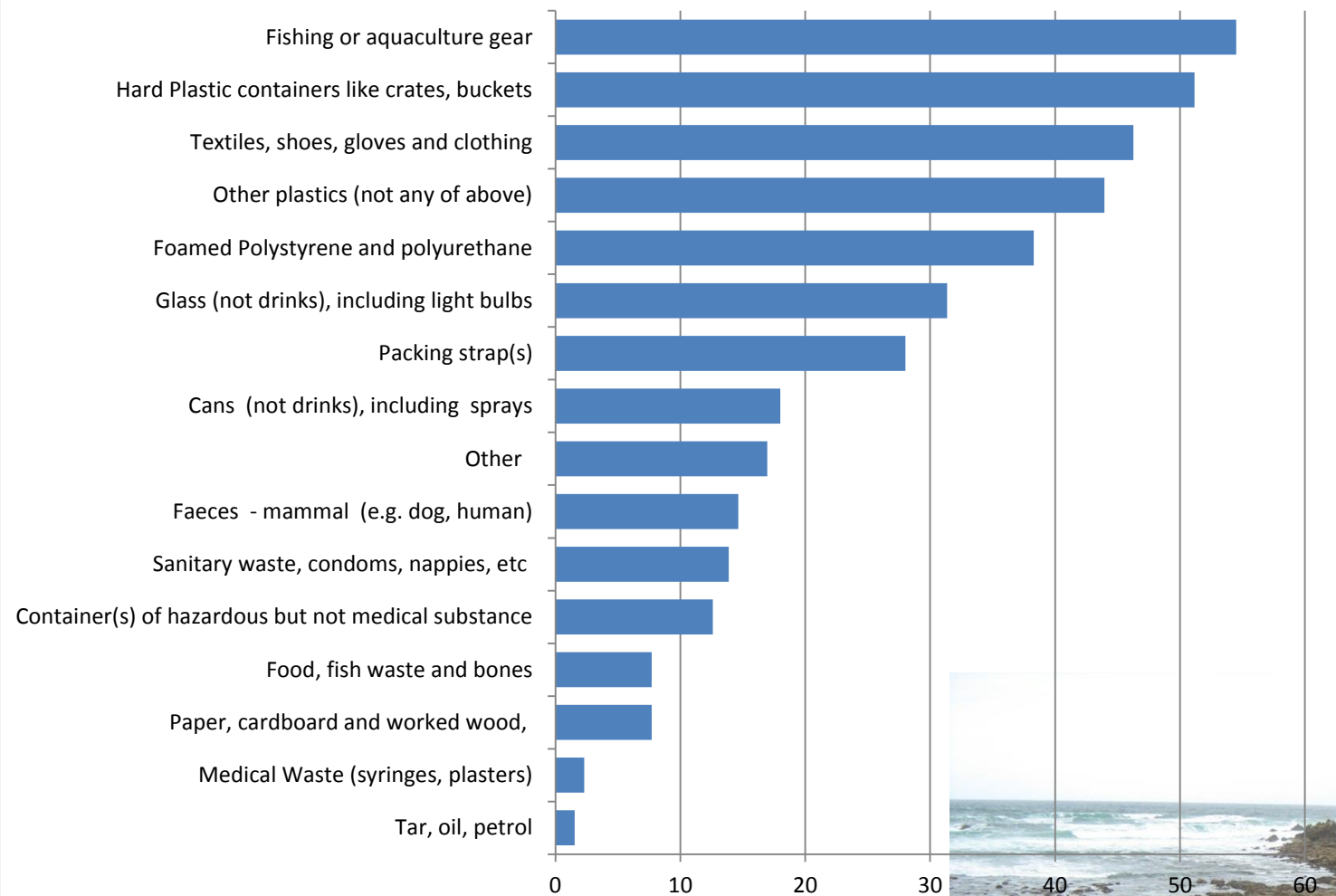


stable v transitory

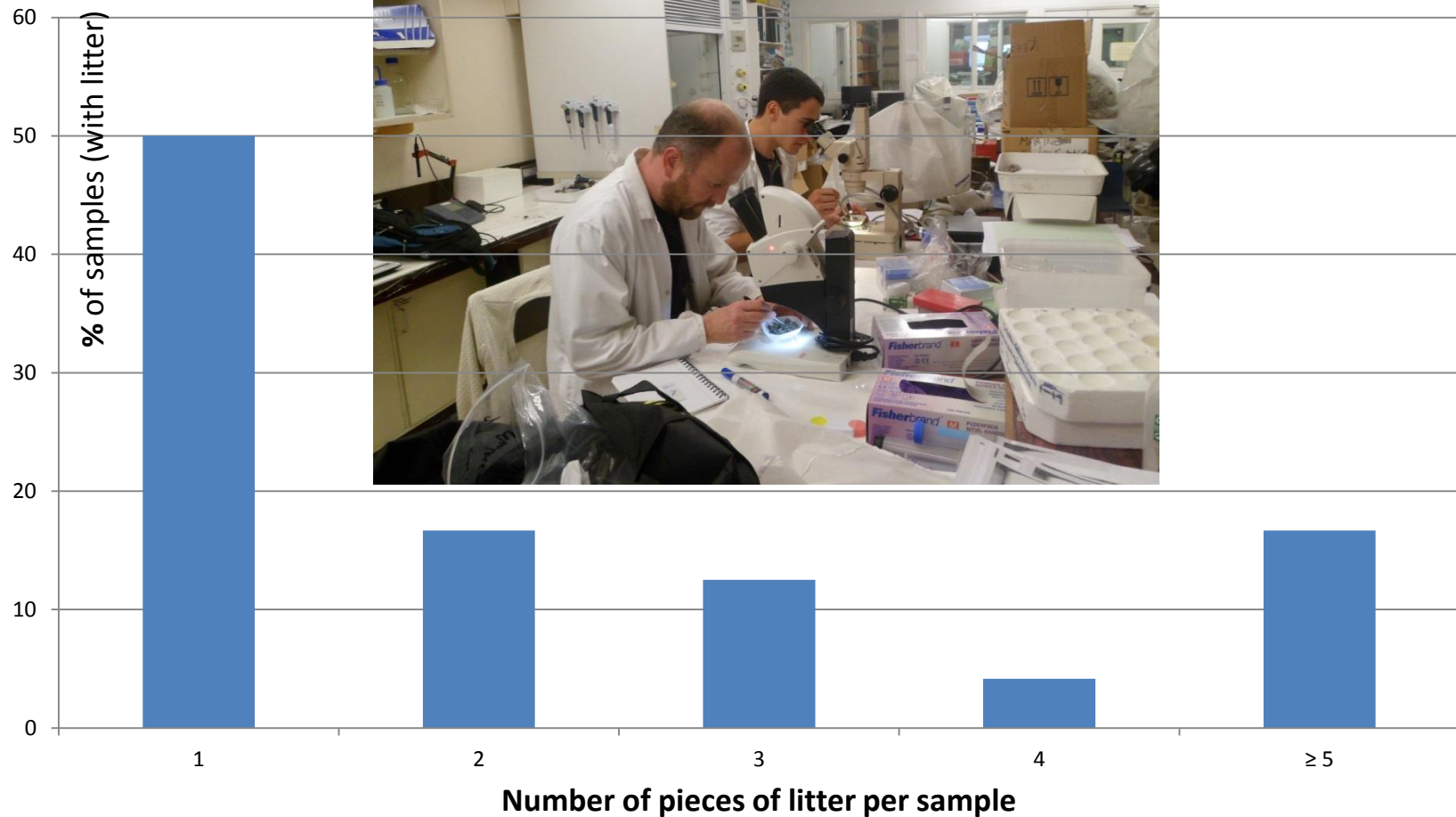


SMALL LITTER

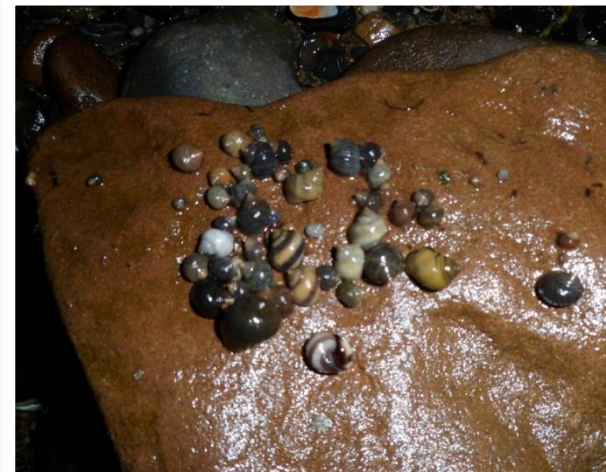
Coastwatch 2013 Irl
Percentage of survey
units with litter.



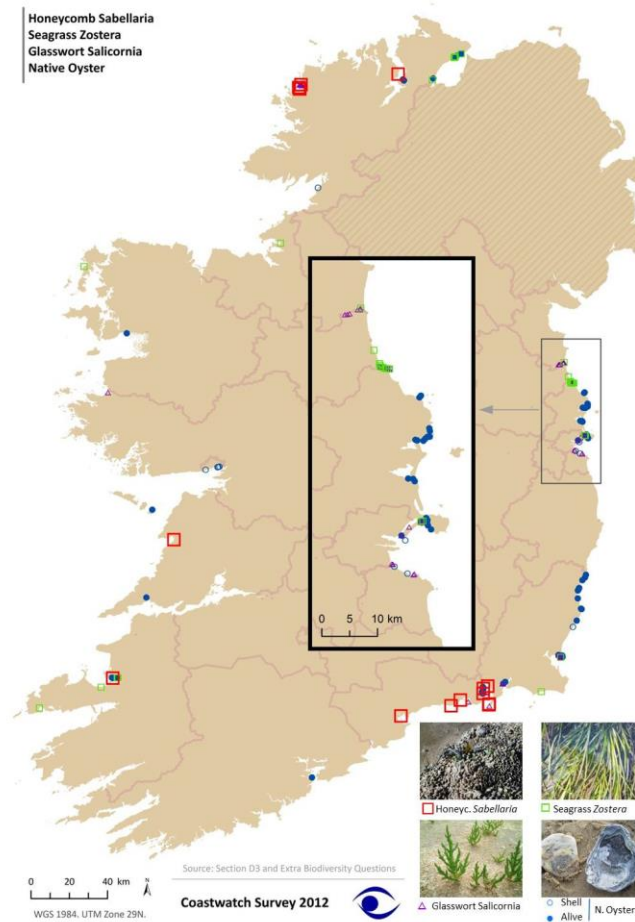
Micro litter sample analyses



Special, 'Never Knew' & Indicators



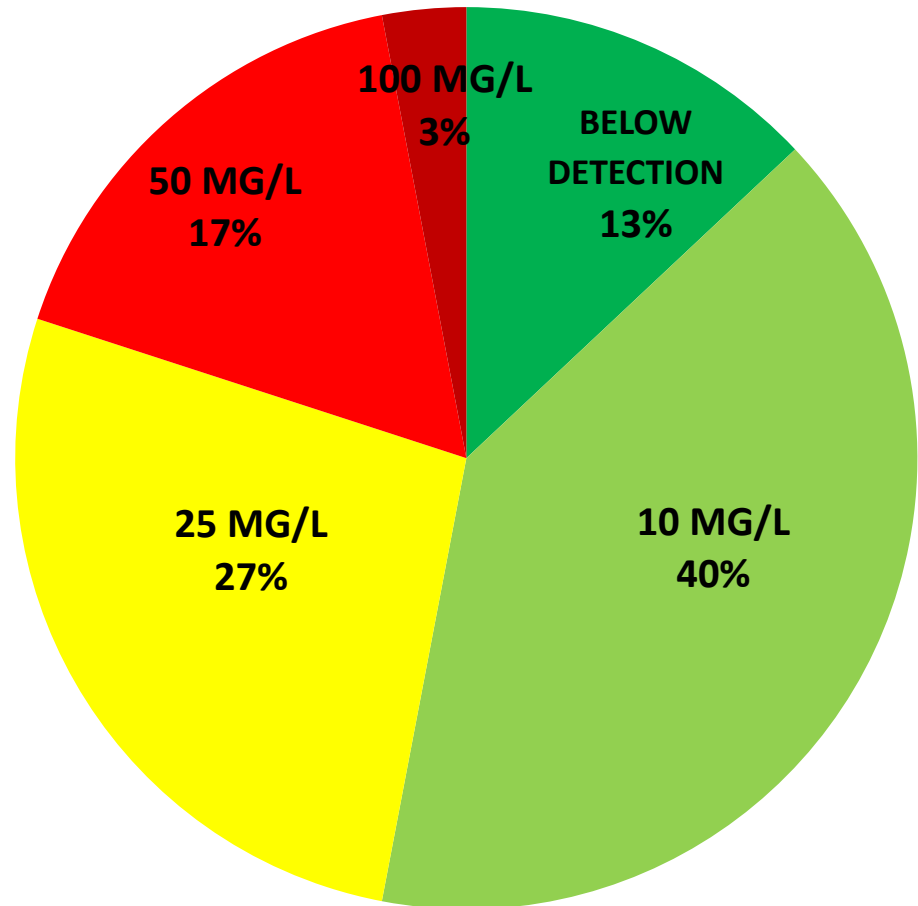
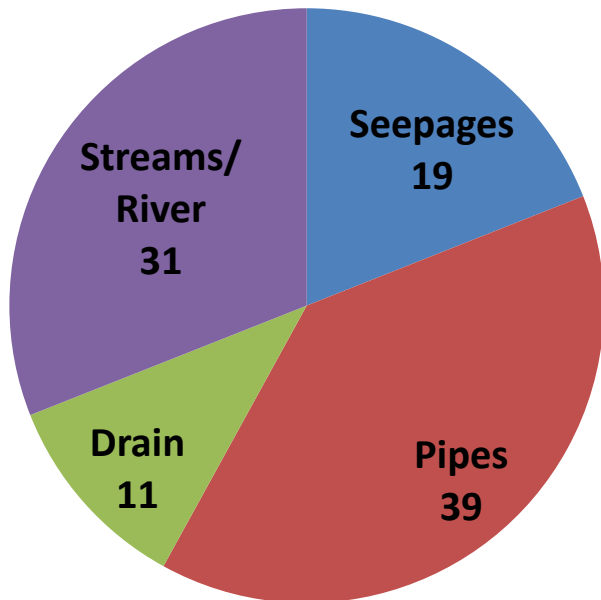
Mapping select results



Inflow tests Results

Nitrate levels

100 tests



Further Work: SEAGRASS EXAMPLE

Coastwatchers record presence of seagrass and seaweeds in annual Coastwatch surveys

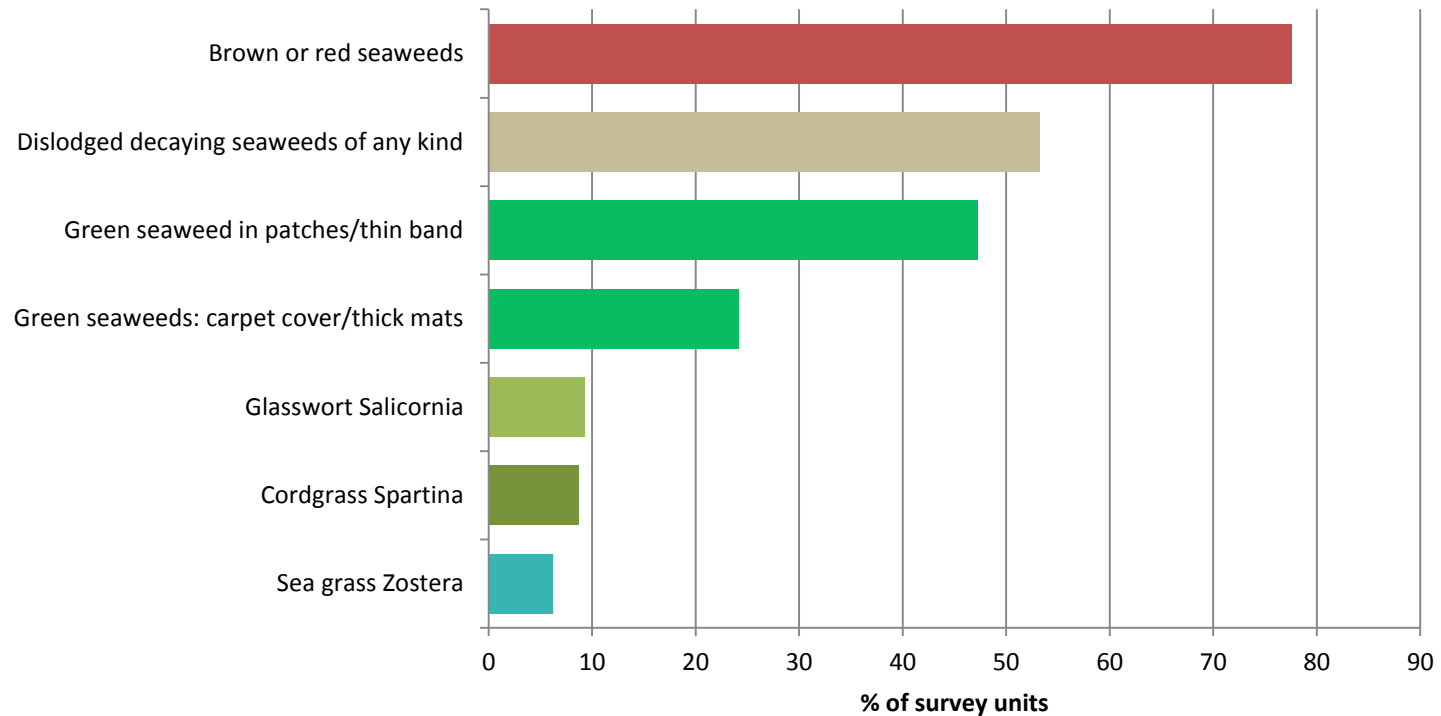
- **Sea grass habitats are valuable and fragile.**
- About one third of the Coastwatch seagrass reports are outside the officially monitored areas.

Few people know the grass and thus

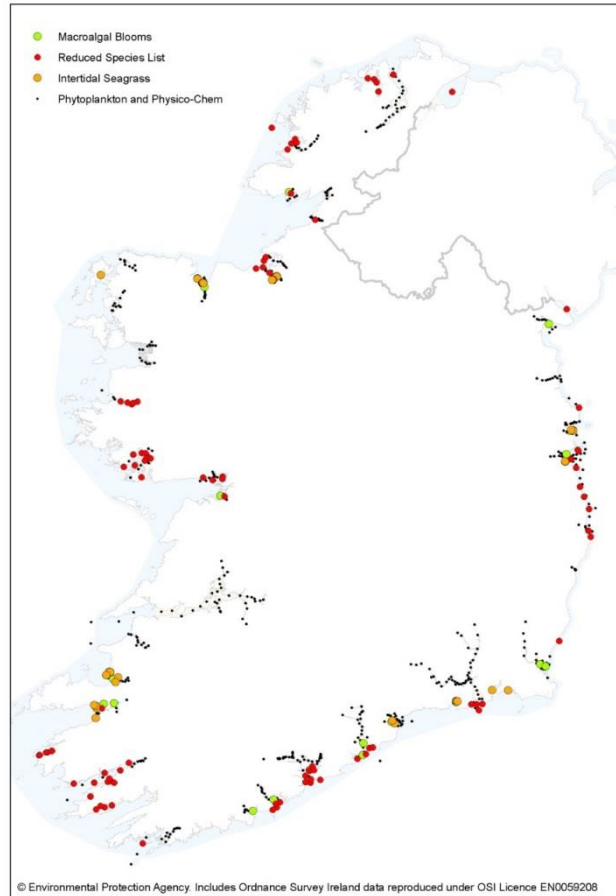
1. Results may not be reliable
2. Seagrass beds are vulnerable to accidental damage . If not known even more vulnerable!

Plant/Seaweed groups

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Sea GRASS



Map of sea grass and
sea weed monitoring
from EPA Robert Wilkes.

- Sea Grass is officially monitored by government agencies.
- **The EPA** surveys intertidal beds and links results to ecological water quality under the wfd
The **NPWS** monitors select sublittoral *Zostera* beds in protected sites.

SEAGRASSES and WFD

- Seagrasses are disturbance sensitive (Short & Wyllie-Echeverria, 1996)
- Their presence, health and abundance are used to indicate a water body's classification as being at good or higher status



Seagrass and MSFD

Official Reporting Sheet for Habitats

Marine Inst. RS08A-02_Habitats Zostera Beds 15th April 2013

- **Information gaps- Explain how this will be addressed and by when**

Zostera beds in the Irish assessment area have only been studied in a quantitative manner in the intertidal and **the current extent and condition of sublittoral beds in Ireland's assessment area is unknown.** The scale of natural variability of Zostera beds and their communities is also currently unknown. The benthic communities of Zostera are inherently variable and the effect of the presence of Zostera on the associated fauna is not well understood.

Information gaps may be addressed by **establishing a regular monitoring program to map benthic communities** as a first step towards developing indicators for GES. An extension of the habitat mapping program used for Zostera for reporting under the Habitats Directive at conservation sites to include more quantitative data, and some manipulative studies, may be the most appropriate means to monitor these habitats. Zostera beds form a habitat complex with surrounding habitats, with many shared species, attributes and processes. Future monitoring should continue to address Zostera beds at the ecosystem scale to properly understand the processes and natural variability in these habitats.

What are the FUTURE Threats to Zostera?

(RS08A-02_Habitats – Zostera beds)

- Physical damage (abrasion)
- Input of organic matter
- Selective extraction of species



ALL VITALLY IMPORTANT FOR COASTAL PLANNING, DECISION MAKING ON FISHERIES LIKE MUSSEL BOTTOM CULTURE etc.

The nature of likely future pressures on this habitat is unknown. Increased abrasion intensity due to fishing and shellfish aquaculture vessel movements near this habitat may occur. Increased development in the coastal zone may result in additional smothering pressure.

The future status of this habitat is very dependent on good water quality. Input of organic matter from WWTP is decreasing but may increase from aquaculture sources if an expansion of the industry occurs.

The selective extraction of species pressure may increase in the future.

What the Government MSFD feedback (RS08A-02_Habitats) didn't say:

- Anything on **public participation**
- An actual plan as to how the data will be gathered - initially and ongoing monitoring.

A Coastwatch discussion point:

1. Will the seagrass beds they don't know about be found and protected?
2. Can citizen science be useful in this case?

Results: Tramore Back Strand Around the Dump





Tramore



- Return of intertidal *Zostera noltii* at the dump edge.
- *Zostera marina* in the tidal channel running parallel to the dump.
- Noticeable *Z. marina* waste along the tideline.
- Black blades in both intertidal and sublittoral





(1) During the main survey (autumn 2014)

(2) – **Scoping: ask surveyors:**

- who wants to do more detailed observations on water transparency, colour & phytoplankton

Explain relevance and what it might involve.

- **Testing:**

- pilot questions and possibly as a pilot school module

THEN:

OFFICIAL PILOT SITES With long term monitoring data

Also to consider: -

(2) Focussed **priority sites and users** who are to benefit most - **>apps**

(3) More frequent monitoring- School &/or college teachers - a module

(4) Real walk in citizen observatory where you can observe and log findings



Oiled Birds

A vvvvvvvvvery great rarity: 1dead and 2 live in one
(Donegal) s.u.

If what the citizen is to look for is too infrequent, satisfaction goes down.



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National and international Level :

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WHAT WE NEED TO DO FOR THE FLOURISHING OF CITIZEN SCIENCE

- GUIDELINES ON CITIZEN OBSERVATORIES
- Cooperation with citizens
- How to create win-win
- Warnings how to avoid using/abusing citizens.
- A Citizen complaint system with means to address privacy, data mining?

This needs to be produced and published asap

If citizens don't trust and don't engage
it wont work!





Karin Dubsky Coastwatch Europe Trinity College Dublin

The Coastwatch Survey - Engaging Citizens

