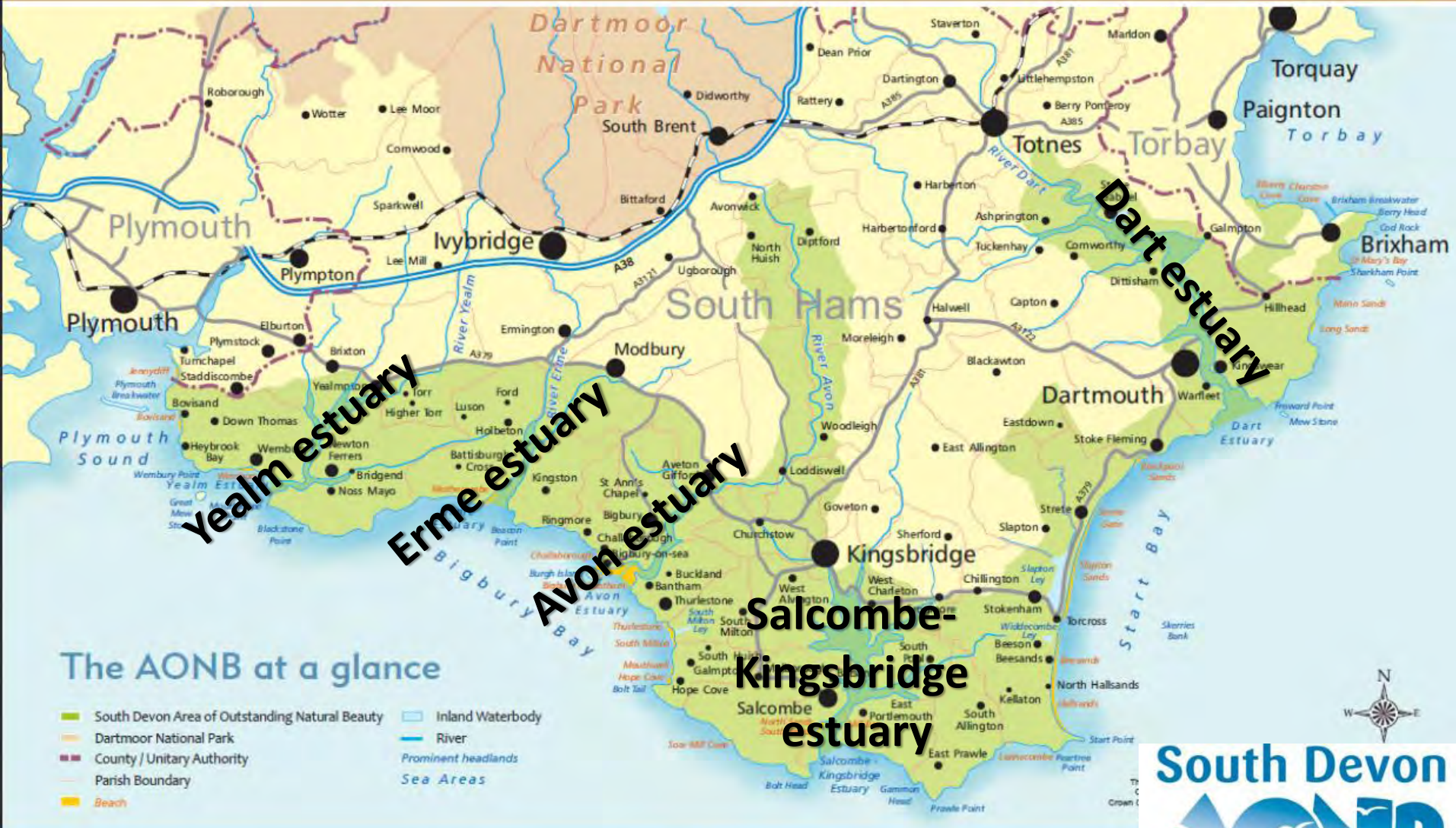


Estuaries Partnership

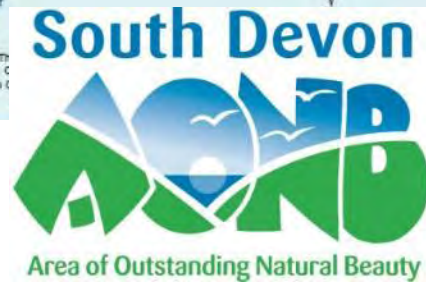
Encouraging sustainable use and enjoyment

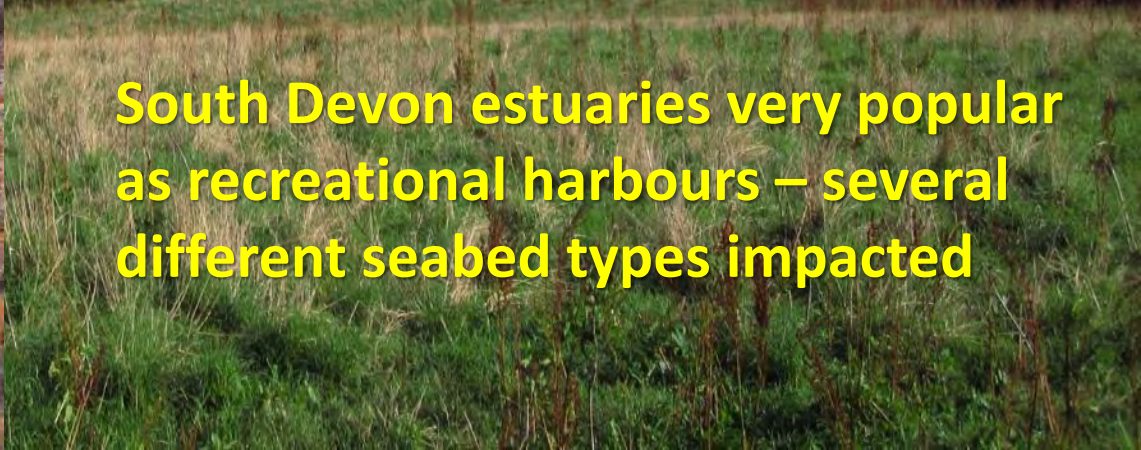


The South Devon Area of Outstanding Natural Beauty



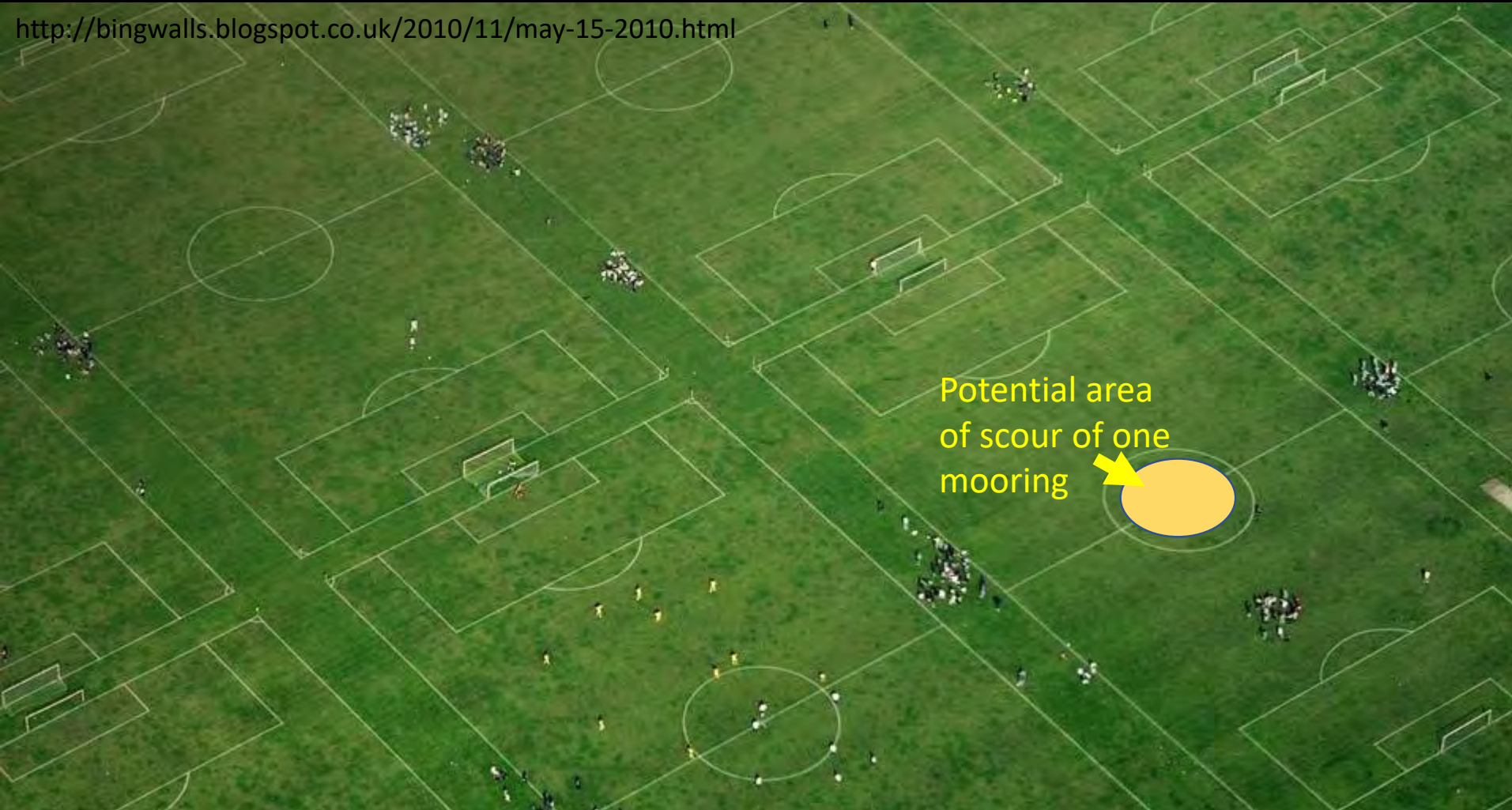
www.SouthDevonAONB.org.uk





South Devon estuaries very popular as recreational harbours – several different seabed types impacted

<http://bingwalls.blogspot.co.uk/2010/11/may-15-2010.html>

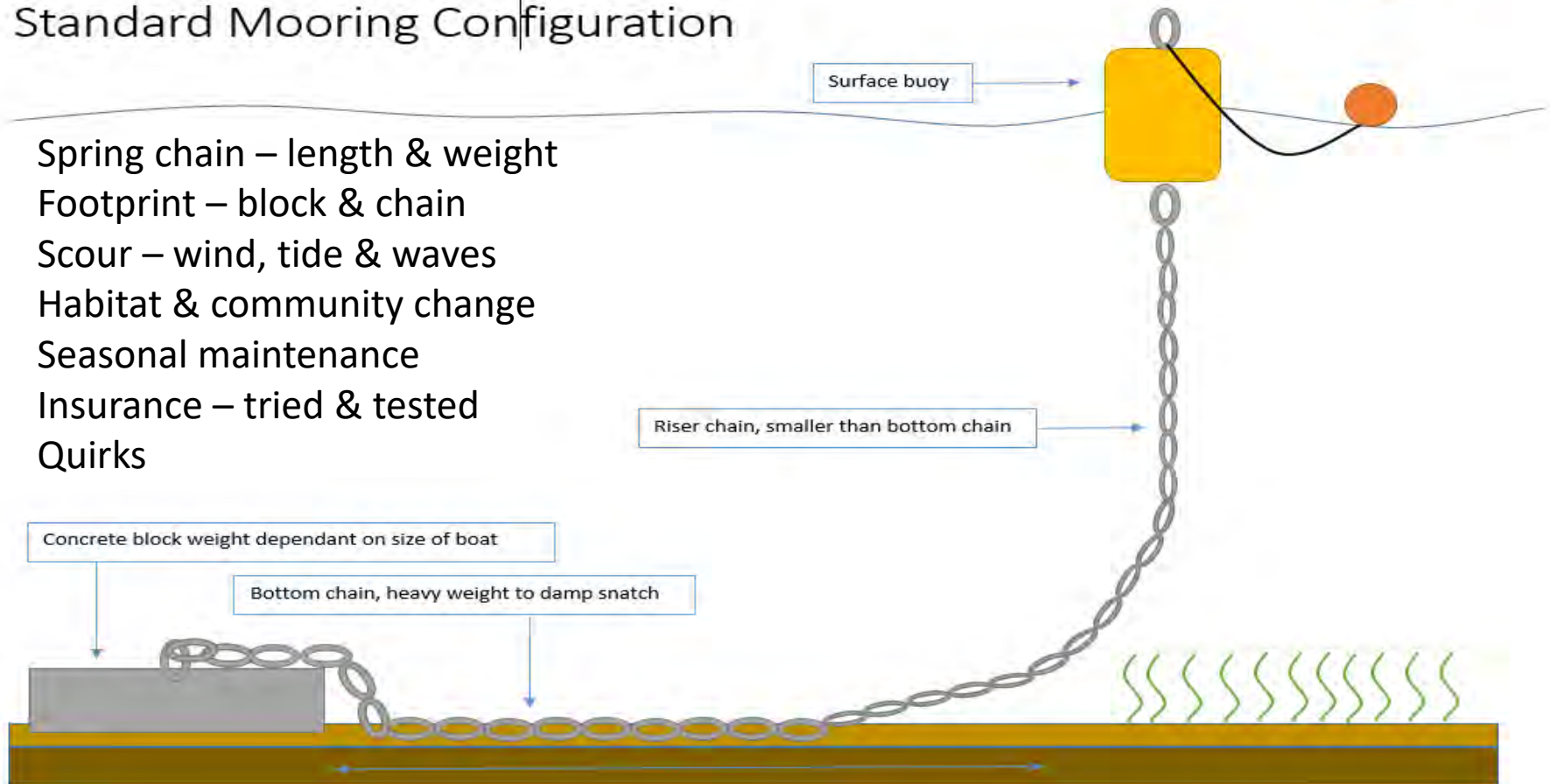


Impact is cumulative, just 35 deep water moorings
scour an area of ca. one football pitch



Standard Mooring Configuration

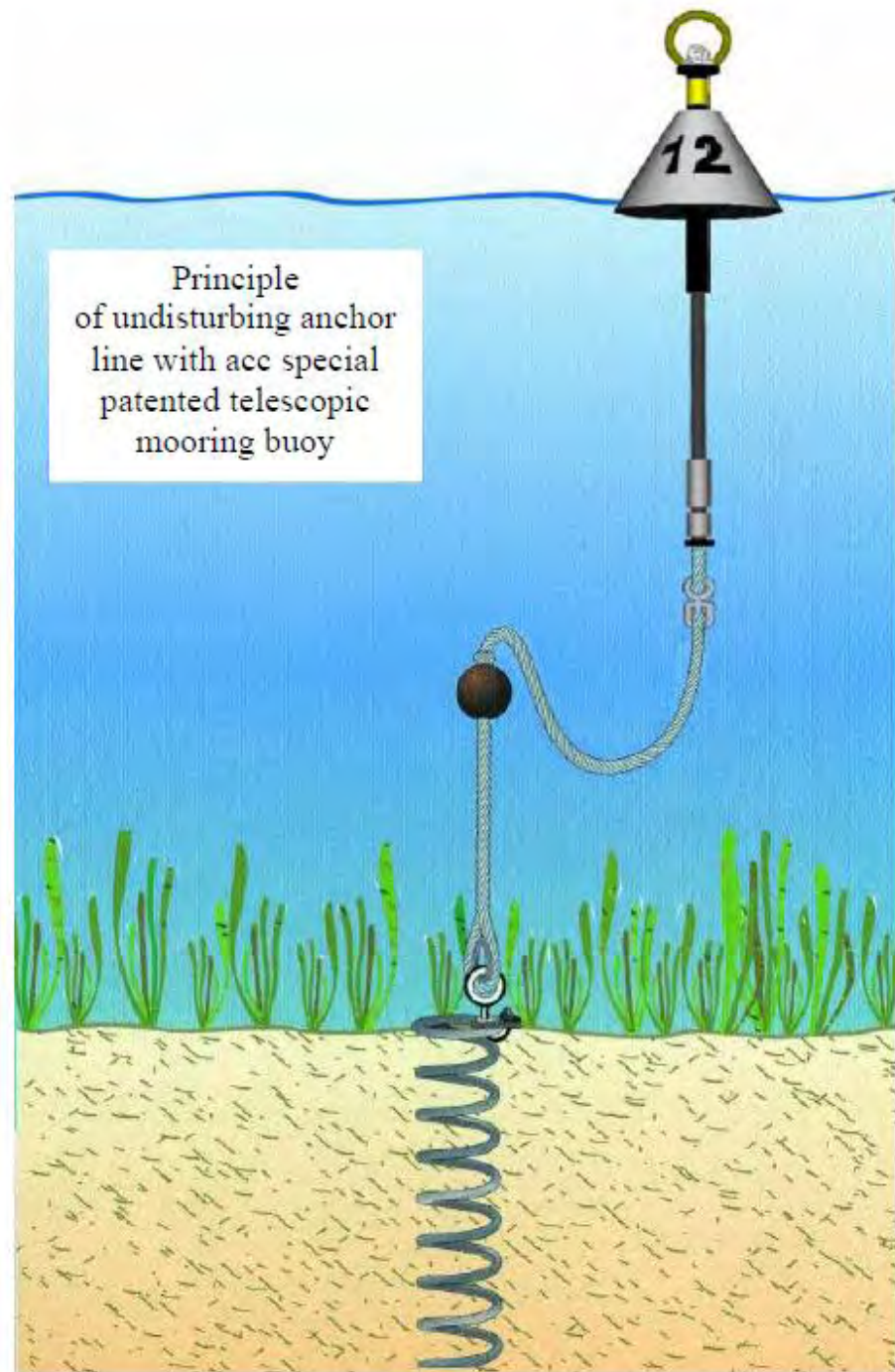
- Spring chain – length & weight
- Footprint – block & chain
- Scour – wind, tide & waves
- Habitat & community change
- Seasonal maintenance
- Insurance – tried & tested
- Quirks



MANAGEMENT GUIDE FOR MARINE
PROTECTED AREAS OF THE
MEDITERRANEAN SEA

PERMANENT
ECOLOGICAL
MOORINGS

Still available @
www.bit.ly/2yf6jGz



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Portable Mooring System

A simple light-weight, portable and efficient 'mooring anchor' that won't damage the environment.



**SELF INSTALL AND
REMOVE IN MINUTES**

IDEAL TEMPORARY MOORINGS IN PEAK SEASON

For Individual Boat Owners

- **Model: 240.64.850**

Suitable for smaller vessels to 6M, installed and removed by the owner in shallow water. Provides up to 2500lbs deadweight.

For Yacht Clubs, Marinas and Local Councils

- **Model: 380.100.850**

Suitable for larger vessels to 12M in deeper water. Best installed by mooring contractor. Provides up to 4000lbs deadweight.

Designed, owned & Made in Australia.

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being introduced by Parks Victoria



Seaflex[®] BUOY

The Seaflex buoy tackles every strain

The Seaflex buoy is a ready-for-use mooring device that provides safe mooring in limited marina spaces. A boat moored to a Seaflex buoy demands less security distance and stays in position regardless of tide and wave movements.

The Seaflex hawser is made of a homogeneous rubber core, armed with a specially braided cord. The unique construction gives a progressive resistance that dampens motion from the water and works as a secure shock absorber even in the harshest weather conditions.

FORGET ANNUAL INSPECTIONS

The rubber hawsers will never be subject to damaging UV rays. Fittings and shackles in stainless steel fight corrosion and deterioration and an age resistant polyester rope has the capacity to handle immense amounts of strain and stress. A Seaflex buoy demands minimal maintenance and successfully reduces the need for inspection.

Light in handling - Seaflex mooring buoy is easily handled by one person



THE ENVIRONMENTAL MOORING

Seaflex is 100% environmentally safe and avoids disturbing sensitive sea bed vegetation. The great flexibility of Seaflex is extended even further through its capacity to adapt to extensive water fluctuations.

BOAT LENGTH	SEAFLEX	ROPE Ø	ANCHOR EYELET Ø	BOTTOM ANCHOR weight
20 ft	1 020	3/4 in	5/8 in	2200 lbs
27 ft	2 020	3/4 in	5/8 in	4400 lbs
33 ft	3 020	1 in	3/4 in	6600 lbs
47 ft	4 020	1 in	3/4 in	8800 lbs



COUNTER-BALANCE
Keeps the buoy in steady vertical position

CONTINUOUS POLYESTER ROPE
Together with Seaflex, the length of the rope has to correspond to at least the water levels at high tide

FLOAT
An added guarantee to avoid bottom drag
Integrated thimble and stainless steel fittings

SEAFLEX rubber hawsers

Stainless steel shackle

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Chain moorings disrupt the development of eelgrass.

Jason Hale, a biologist with the University of Florida's Institute of Food and Agricultural Sciences on sea grass:

"There are about a half dozen functions that scientist credit to sea grass," Hale said, "One of them is habitat, a place to hide or live or forage. Another is food for a variety of marine creatures. And sea grasses help improve the water clarity by filtering particles from the water around them."

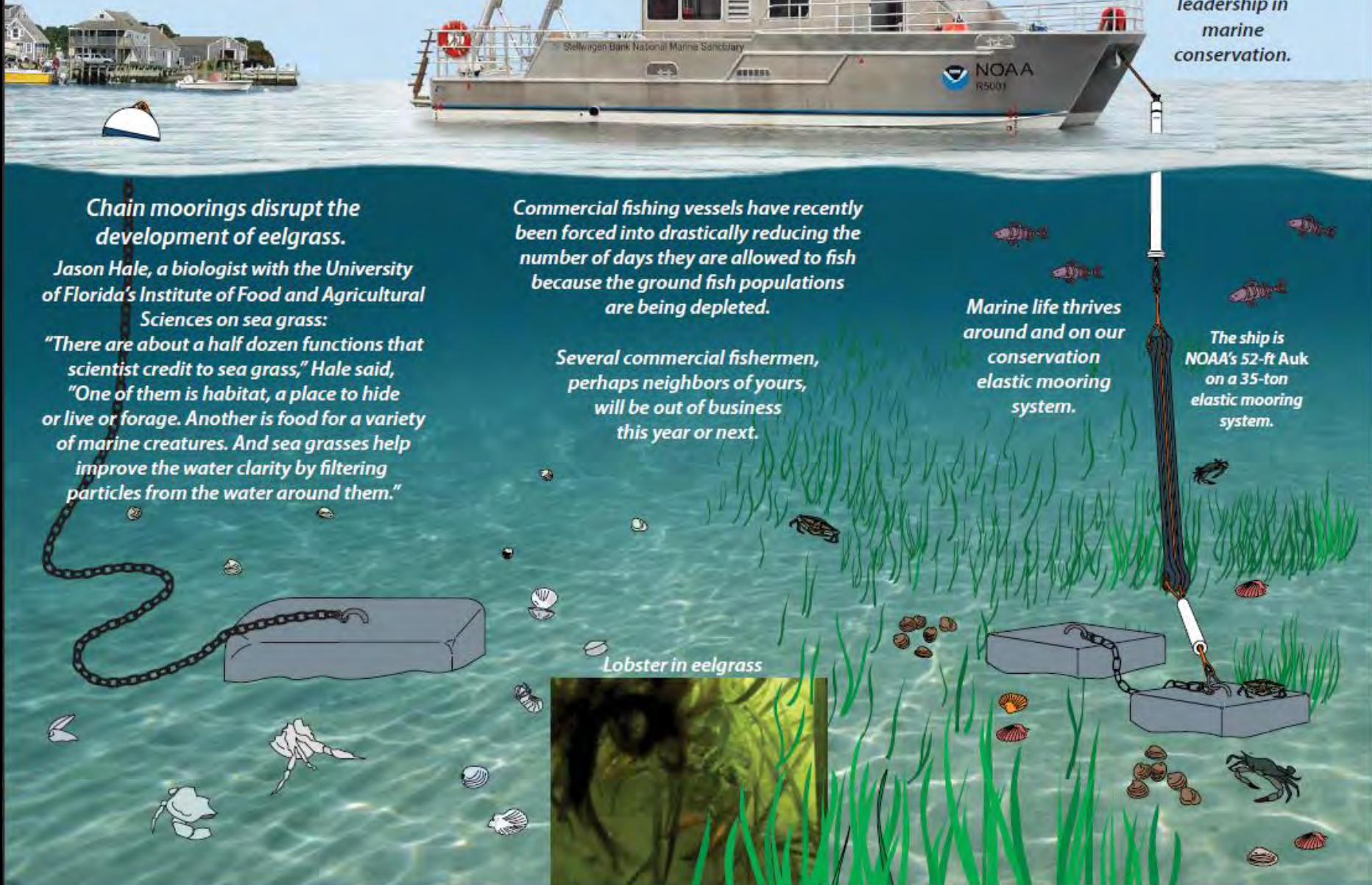
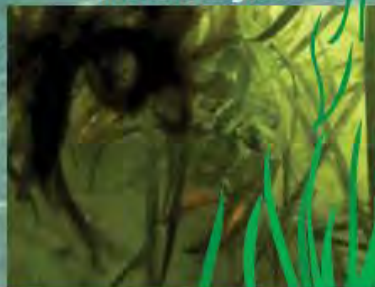
Commercial fishing vessels have recently been forced into drastically reducing the number of days they are allowed to fish because the ground fish populations are being depleted.

Several commercial fishermen, perhaps neighbors of yours, will be out of business this year or next.

Marine life thrives around and on our conservation elastic mooring system.

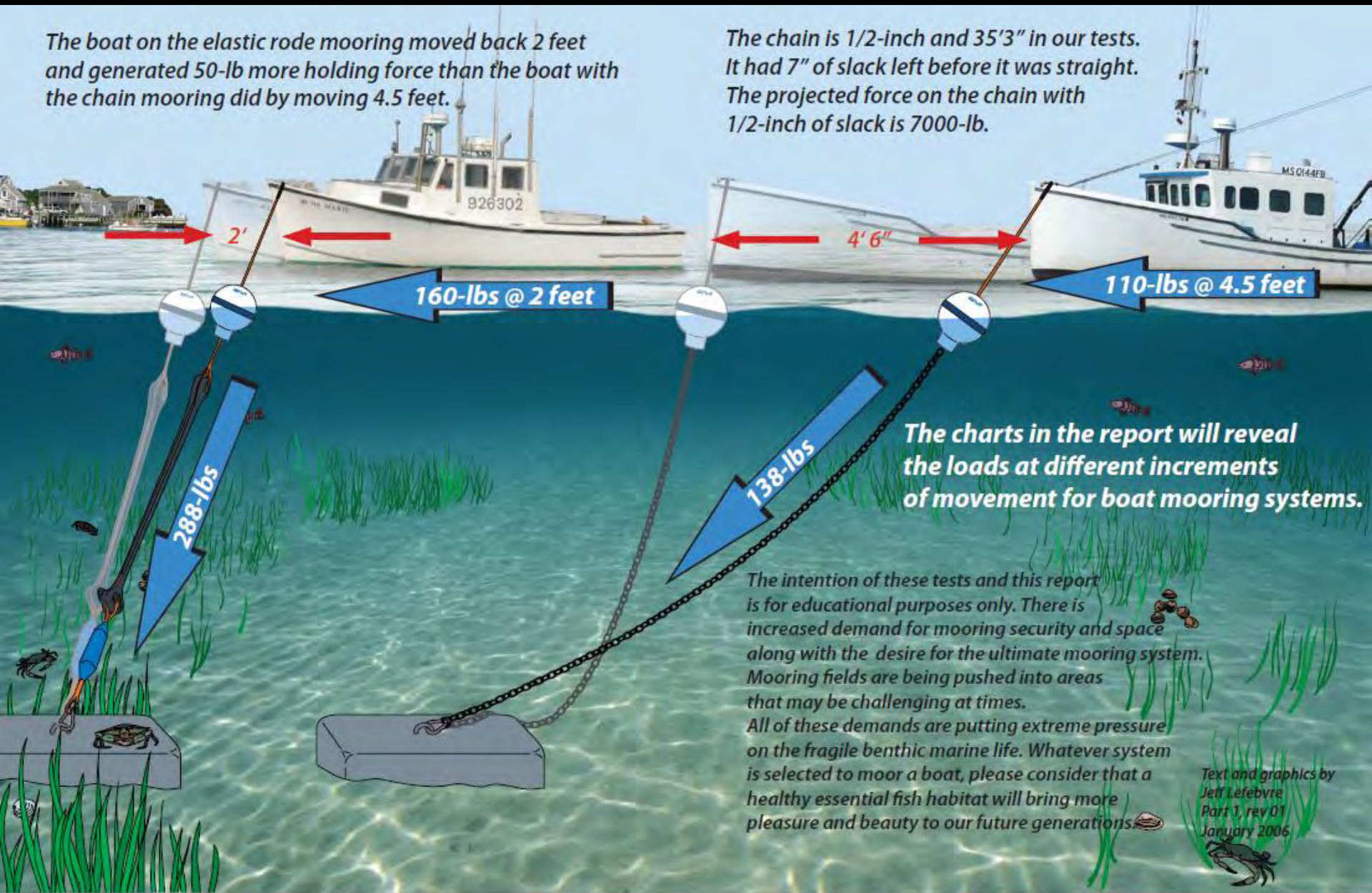
The ship is NOAA's 52-ft Auk on a 35-ton elastic mooring system.

Lobster in eelgrass



The boat on the elastic rode mooring moved back 2 feet and generated 50-lb more holding force than the boat with the chain mooring did by moving 4.5 feet.

The chain is 1/2-inch and 35'3" in our tests. It had 7" of slack left before it was straight. The projected force on the chain with 1/2-inch of slack is 7000-lb.



The charts in the report will reveal the loads at different increments of movement for boat mooring systems.

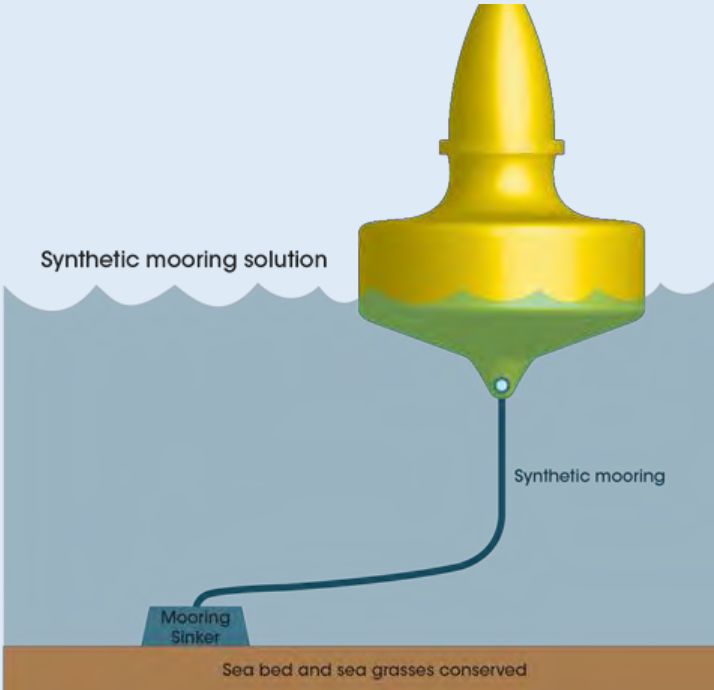
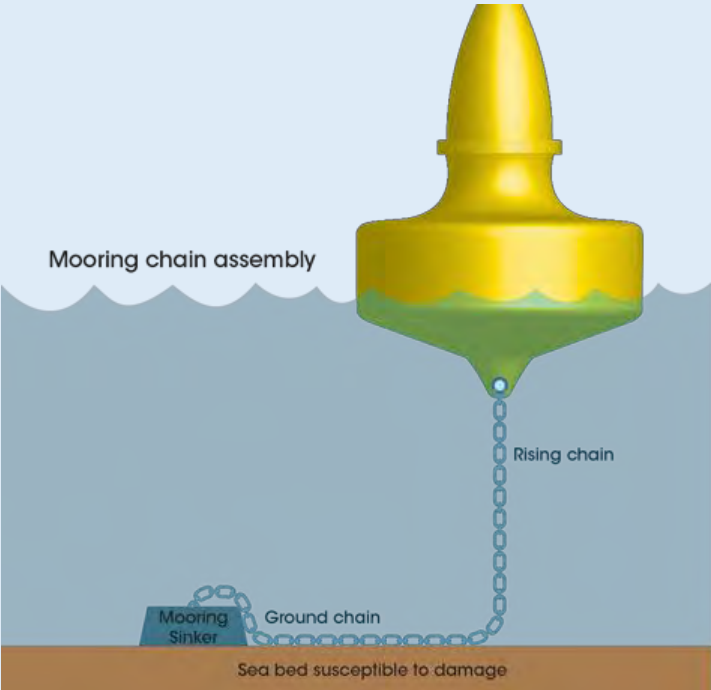
The intention of these tests and this report is for educational purposes only. There is increased demand for mooring security and space along with the desire for the ultimate mooring system. Mooring fields are being pushed into areas that may be challenging at times. All of these demands are putting extreme pressure on the fragile benthic marine life. Whatever system is selected to moor a boat, please consider that a healthy essential fish habitat will bring more pleasure and beauty to our future generations.

Text and graphics by
Jeff Lefebvre
Part 1, rev 01
January 2006



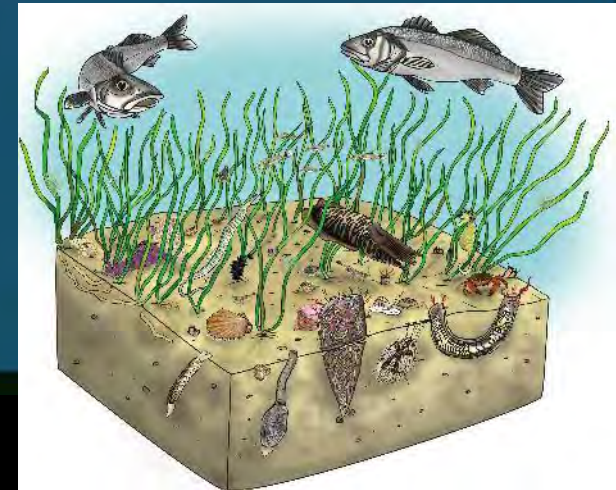
Sealite Synthetic Mooring Solutions

Configuration





Salcombe 'seafront' – darker areas are seagrass – note scour

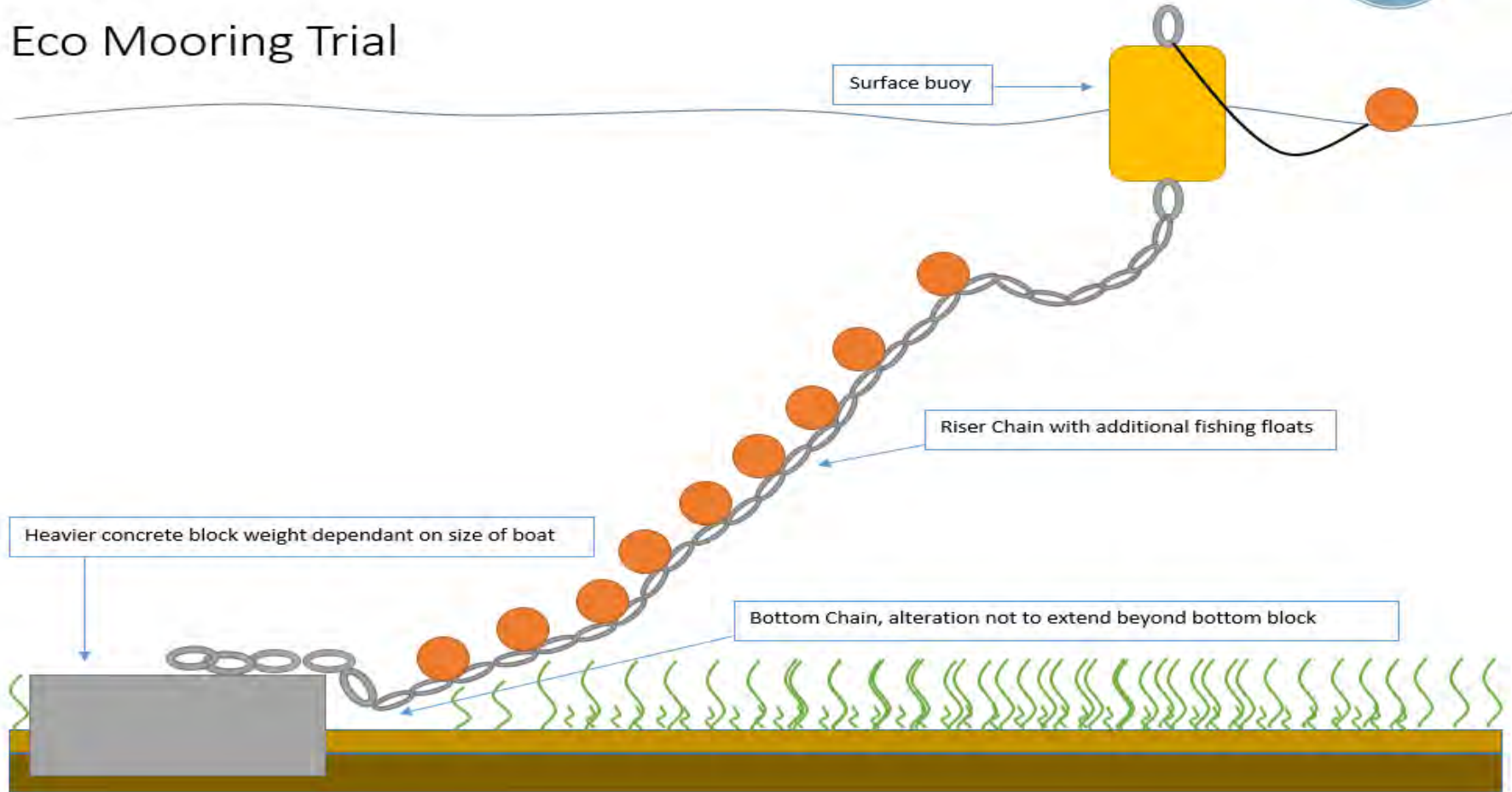


Salcombe Harbour EcoMooring



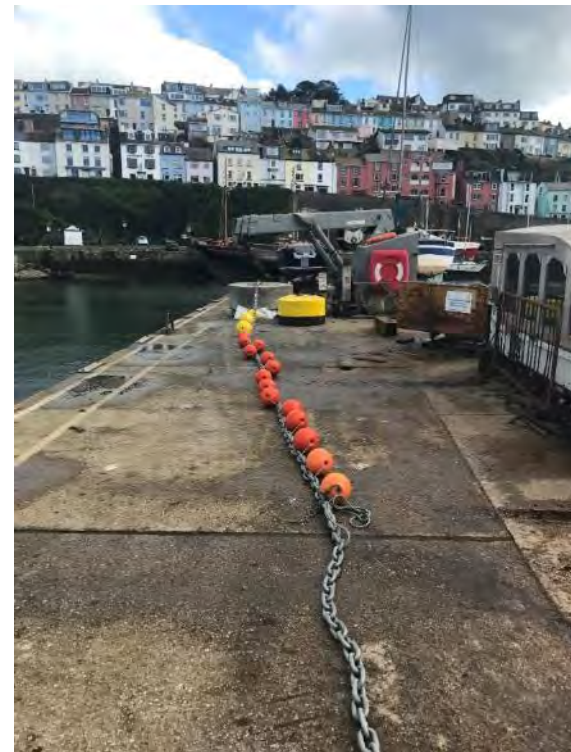


Eco Mooring Trial



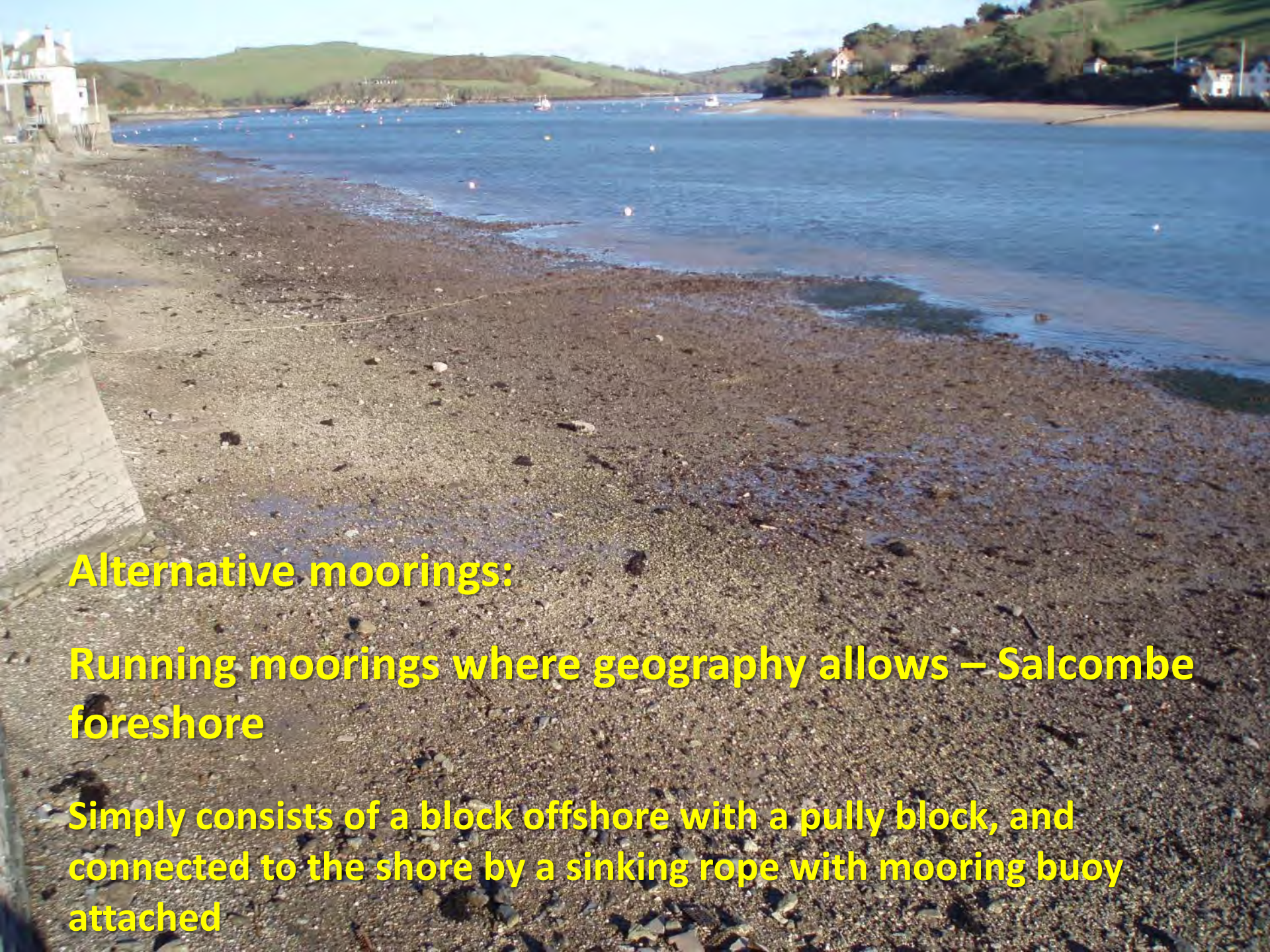
Rough configuration being tested by Babcock for the holding capacity

Cawsands Trial



... even chain moorings may only be as reliable as the block, Here an old engine block

... Brixham



Alternative moorings:

Running moorings where geography allows – Salcombe foreshore

Simply consists of a block offshore with a pulley block, and connected to the shore by a sinking rope with mooring buoy attached

Pontoons held in place by piles (finite footprint) – can offer other eco-facilities such as waste management reception – some customers prefer – issue of seabed shading not investigated

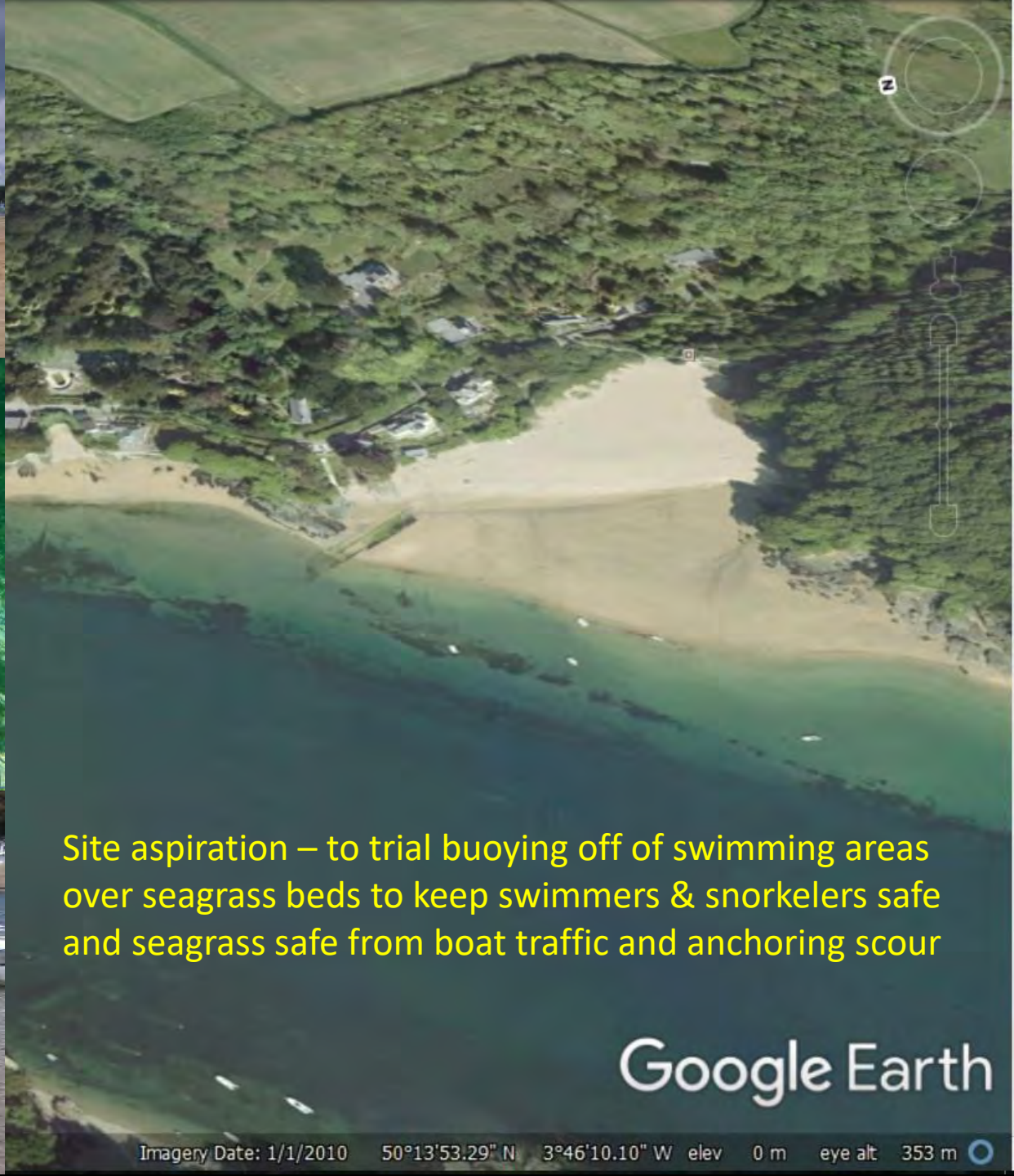


Pontoons may be appropriate in drying situations too



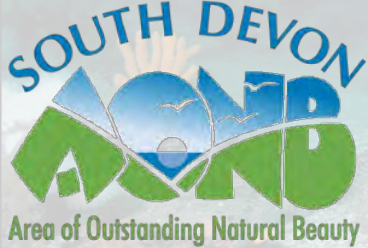
Footprint impact of the pontoon floats appears to be very limited – after several weeks of pontoons shown below only diatoms and hydrobia snails seemed to be visibly missing from the mudflat community laid on by the floats (pers obs).





Site aspiration – to trial buoing off of swimming areas over seagrass beds to keep swimmers & snorkelers safe and seagrass safe from boat traffic and anchoring scour

Google Earth



Estuaries Partnership

Encouraging sustainable use and enjoyment



Nigel.Mortimer@SouthDevonAONB.org.uk



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