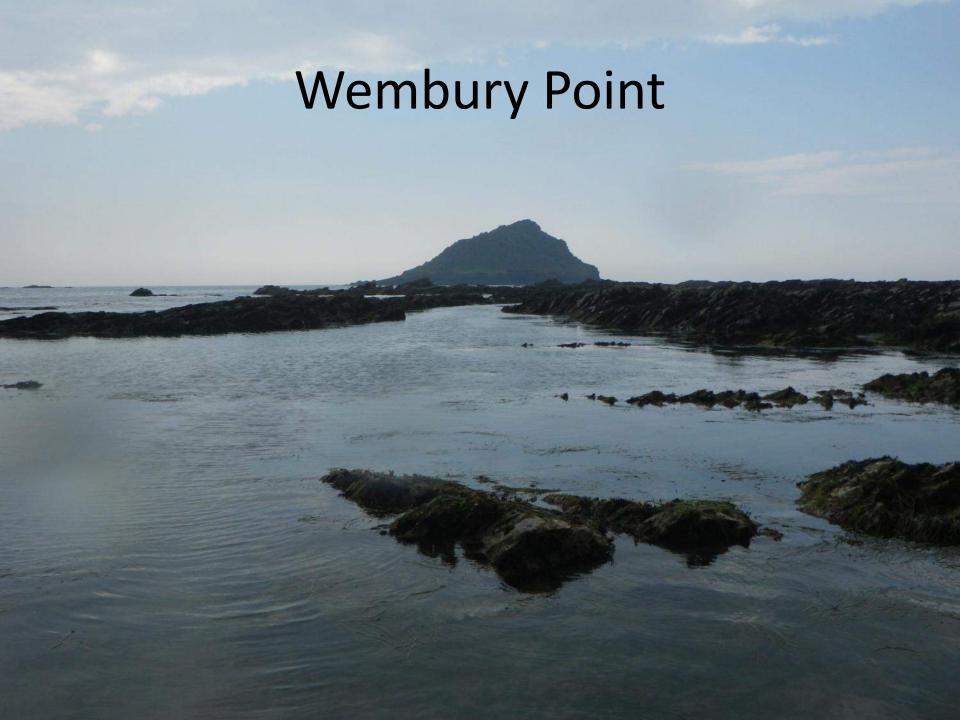
Monitoring the development and success of Scyliorhinus stellaris, Nursehound eggcases in situ

John Hepburn

with help from the Shark Trust



Project Aims

- When do nursehounds lay their eggs?
- How long do they take to hatch?
- What is the success rate, and what affects it (eg substrate, fertility, temperature, wave action, season, predation)?

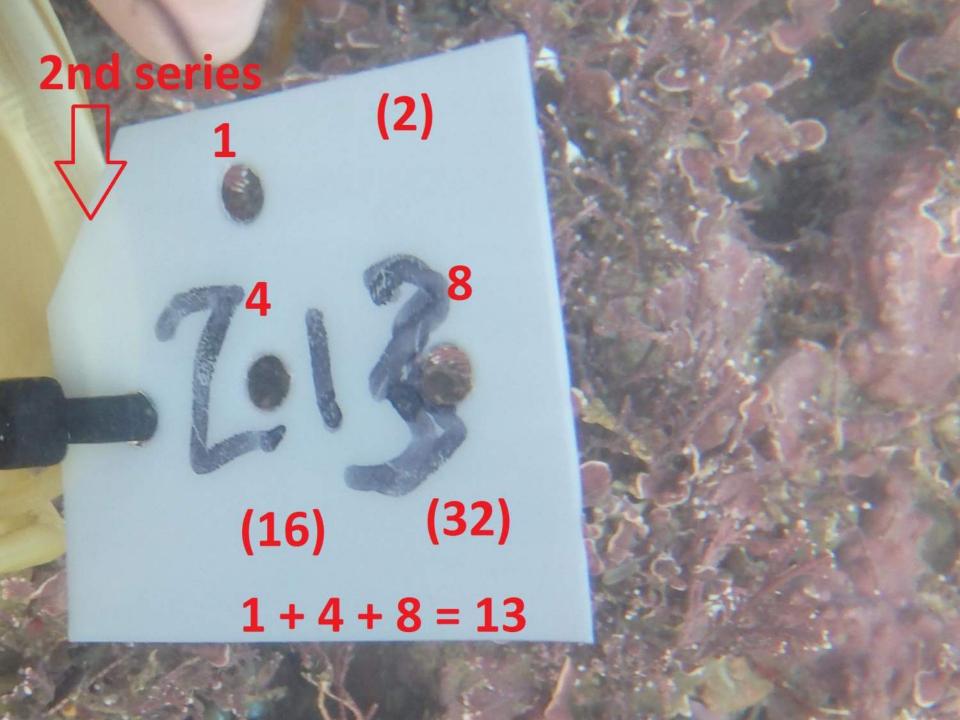
Bonus: recovering any stranded tagged cases would indicate the distance eggcases might travel from laying sites.







When do nursehounds lay their eggs? Find a friend Get geared up Get in the water Find, tag and photograph (inc GPS) eggcases



- Pasearch
- Find a friend
- Get geared up
- Get in the water
- Find, tag and photograph (inc GPS) eggcases
- Record results

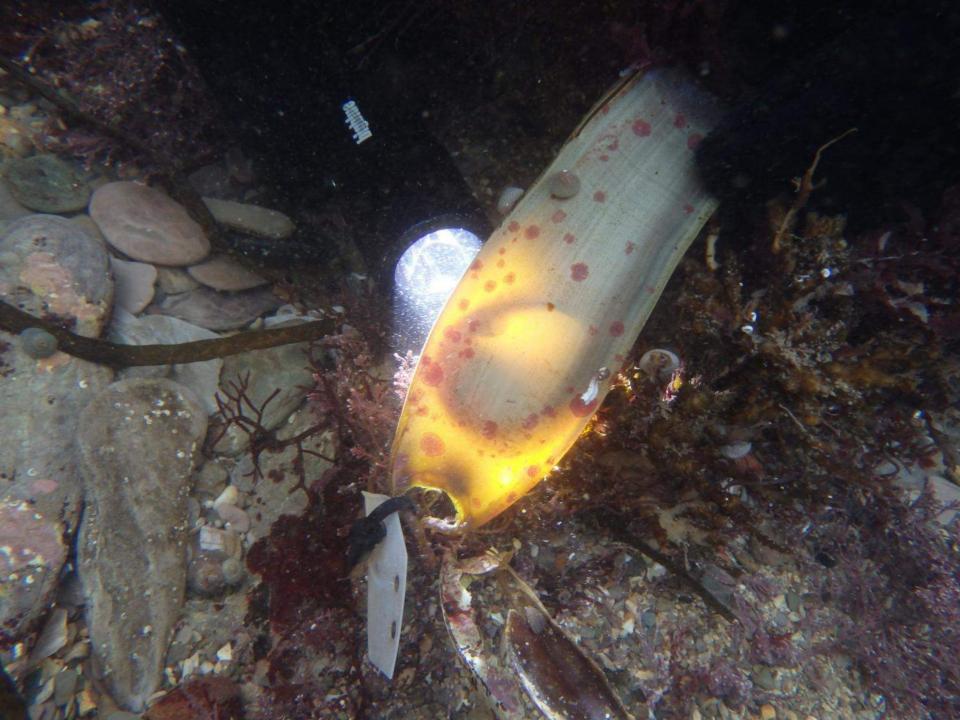
- Find a friend
- Get geared up
- Get in the water
 - Find, tag and photograph (inc GPS) eggcases
 - Record results
 - Record environmental data

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	2014				1	2	4	5	1	. 4	3	4	4
	2015	3	3	2	1	4	3	6	2	. 2	2	1	2
	2016	1	. 4	. 3	2								
	Average	2	3.5	2.5	1.3	3	3.5	5.5	1.5	3	2.5	2.5	3

How long do they take to hatch?

- Find a friend
- Get geared up
- Get in the water
- Find, <u>assess</u> and photograph (inc x-ray) eggcases
- Record results, calculate lay-hatch interval
- Record environmental data









How long do they take to hatch? Assumptions

- All eggcases found
- All eggcases likely to hatch
- Possible to see inside
- Easy to tell when hatched
- No mistakes

How long do they take to hatch? Assumptions

- eggcases found
- All eggcase—likely to hatch
- Possible to see inc.
- Easy to tell when hatched
- Mo mistakes
- Distractions from nudibranchs, crabs, 15 spine sticklebacks etc
- Hazards from static fishing gear

How long do they take to hatch?

Tag #	160	159	156	157	155	136a	118	107b	112	113	140	200	147	119	133	107a	136b	126	127	144	138	162	131	123
Min																								
days	0	89	89	89	89	14	73	146	89	115	150	101	209	190	235	175	255	271	251	265	298	312	355	311
Max																								
days	144	117	117	117	144	255	204	175	252	233	210	282	284	311	284	356	284	300	355	355	325	340	406	456
Mid																								
	72	103	103	103	117	135	139	161	171	174	180	192	247	251	260	266	270	286	303	310	312	326	381	384

Average = 218 days

What is the success rate, and what affects it?

- Difficult!
- Predation?
- Only eggs laid on Cystoceira tamariscafolia hatch.
- Storm survival good.







Impact

- Protocols can be shared with anyone else with access to similar sites.
- Nursehounds "Near Threatened" but declining in the Mediterranean.
- This research may inform knowledge of population dynamics and catch management.

Thank You

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