

From: [BrownScott, Jennifer](#)
To: [Thomas, Sue](#)
Subject: Fwd: [EXTERNAL] 2017 Dungeness Bay Herring Spawn
Date: Monday, April 2, 2018 4:47:41 PM
Attachments: [2017DungenessBayHerring.pdf](#)
[Dung2017.xlsx](#)

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~~Dungeness NWR~Protection Island NWR~San Juan Islands NWR~~
~~Copolis NWR~Flattery Rocks NWR~Quillayute Needles NWR~~

----- Forwarded message -----

From: Lindquist, Adam P (DFW) <Adam.Lindquist@dfw.wa.gov>
Date: Mon, Apr 2, 2018 at 4:30 PM
Subject: [EXTERNAL] 2017 Dungeness Bay Herring Spawn
To: "jennifer_brownscott@fws.gov" <jennifer_brownscott@fws.gov>
Cc: "Dionne, Phillip E (DFW)" <Phillip.Dionne@dfw.wa.gov>

Hi Jennifer,

Phill Dionne forwarded me your request for info on Herring spawn in Dungeness Bay in 2017.
See attached map and .xlsx data.

Let me know if you have any questions.

-Adam

Adam Lindquist

Forage Fish Biologist

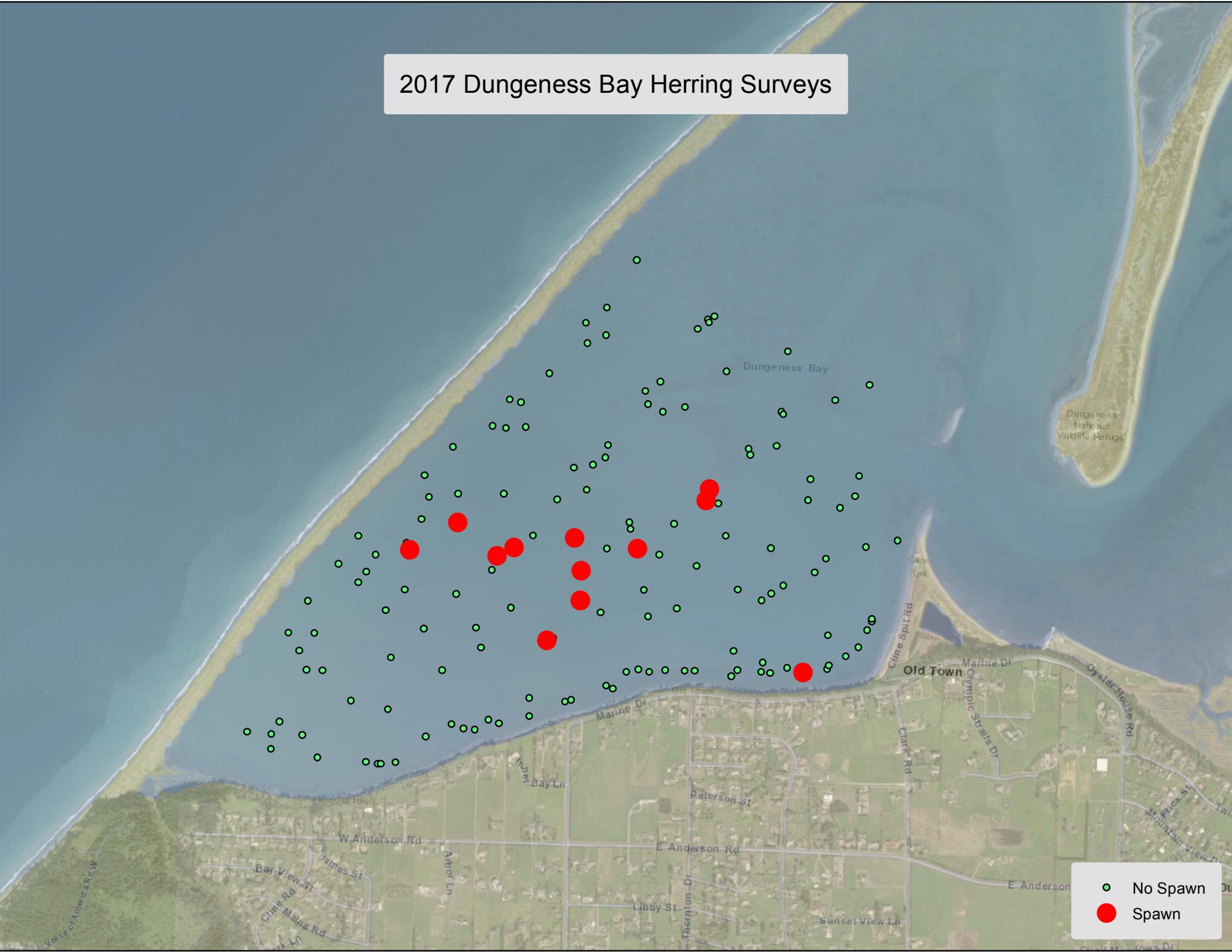
Washington Dept. of Fish and Wildlife

1111 Washington ST SE

Olympia, WA 98501

360-902-2704

2017 Dungeness Bay Herring Surveys



- No Spawn
- Spawn

Area	2017Herrin	Comments	2017Herrin Station	Nur Location	Start Depth	End Depth	Spawn Inte
Dungeness	2/23/2017	1 station vl	Thu Feb 23 1	Latitude:48 10	8		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 2	Latitude:48 9	10		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 3	Latitude:48 10	7		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 4	Latitude:48 9	6		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 5	Latitude:48 11	9		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 6	Latitude:48 12	10		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 7	Latitude:48 10	9		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 8	Latitude:48 13	12		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 9	Latitude:48 13	13		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 10	Latitude:48 13	13		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 11	Latitude:48 13	13		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 12	Latitude:48 15	12		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 13	Latitude:48 15	14		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 14	Latitude:48 15	13		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 15	Latitude:48 15	14		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 16	Latitude:48 14	13		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 17	Latitude:48 13	14		VL
Dungeness	2/23/2017	1 station vl	Thu Feb 23 18	Latitude:48 14	13		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 19	Latitude:48 14	13		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 20	Latitude:48 13	12		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 21	Latitude:48 13	12		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 22	Latitude:48 13	13		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 23	Latitude:48 13	12		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 24	Latitude:48 10	9		NP
Dungeness	2/23/2017	1 station vl	Thu Feb 23 25	Latitude:48 8	6		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 1	Latitude:48 5	7		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 2	Latitude:48 8	4		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 3	Latitude:48 8	6		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 4	Latitude:48 7	6		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 5	Latitude:48 7	6		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 6	Latitude:48 7	6		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 7	Latitude:48 7	6		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 8	Latitude:48 8	8		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 9	Latitude:48 10	10		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 10	Latitude:48 10	10		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 11	Latitude:48 11	11		VL
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 12	Latitude:48 11	11		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 13	Latitude:48 10	10		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 14	Latitude:48 9	9		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 15	Latitude:48 7	9		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 16	Latitude:48 10	8		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 17	Latitude:48 10	10		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 18	Latitude:48 10	11		VL
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 19	Latitude:48 11	11		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 20	Latitude:48 11	11		NP
Dungeness	2/13/2017	5 stations c	Mon Feb 1: 21	Latitude:48 11	11		NP

Dungeness 2/13/2017	5 stations c Mon Feb 1: 22	Latitude:48 11	10	VL
Dungeness 2/13/2017	5 stations c Mon Feb 1: 22	Latitude:48 11	10	VL
Dungeness 2/13/2017	5 stations c Mon Feb 1: 23	Latitude:48 11	6	VL
Dungeness 2/13/2017	5 stations c Mon Feb 1: 24	Latitude:48 9	9	VL
Dungeness 2/13/2017	5 stations c Mon Feb 1: 25	Latitude:48 15	12	NP
Dungeness 2/13/2017	5 stations c Mon Feb 1: 26	Latitude:48 5	5	NP
Dungeness 2/13/2017	5 stations c Mon Feb 1: 27	Latitude:48 8	9	NP
Dungeness 2/13/2017	5 stations c Mon Feb 1: 28	Latitude:48 12	12	NP
Dungeness 2/13/2017	5 stations c Mon Feb 1: 29	Latitude:48 11	11	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 1	Latitude:48 11	10	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 2	Latitude:48 11	9	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 3	Latitude:48 8	7	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 4	Latitude:48 9	8	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 5	Latitude:48 9	7	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 6	Latitude:48 8	7	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 7	Latitude:48 7	6	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 8	Latitude:48 10	10	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 9	Latitude:48 11	10	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 10	Latitude:48 10	10	VL
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 11	Latitude:48 10	10	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 12	Latitude:48 11	12	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 13	Latitude:48 10	10	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 14	Latitude:48 12	12	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 15	Latitude:48 13	12	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 16	Latitude:48 5	4	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 17	Latitude:48 9	7	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 18	Latitude:48 10	8	VL
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 19	Latitude:48 9	9	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 20	Latitude:48 9	7	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 21	Latitude:48 10	10	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 22	Latitude:48 11	10	VL
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 23	Latitude:48 10	9	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 24	Latitude:48 10	10	VL
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 25	Latitude:48 10	9	NP
Dungeness 2/1/2017	Spawn!! 4\ Wed Feb 0: 26	Latitude:48 7	6	VL
Dungeness 1/26/2017	Thu Jan 26 1	Latitude:48 12	10	NP
Dungeness 1/26/2017	Thu Jan 26 2	Latitude:48 12	7	NP
Dungeness 1/26/2017	Thu Jan 26 3	Latitude:48 10	9	NP
Dungeness 1/26/2017	Thu Jan 26 4	Latitude:48 10	9	NP
Dungeness 1/26/2017	Thu Jan 26 5	Latitude:48 10	9	NP
Dungeness 1/26/2017	Thu Jan 26 6	Latitude:48 11	11	NP
Dungeness 1/26/2017	Thu Jan 26 7	Latitude:48 13	12	NP
Dungeness 1/26/2017	Thu Jan 26 8	Latitude:48 12	11	NP
Dungeness 1/26/2017	Thu Jan 26 9	Latitude:48 13	13	NP
Dungeness 1/26/2017	Thu Jan 26 10	Latitude:48 13	12	NP
Dungeness 1/26/2017	Thu Jan 26 11	Latitude:48 13	11	NP
Dungeness 1/26/2017	Thu Jan 26 12	Latitude:48 8	7	NP

Dungeness 1/26/2017	Thu Jan 26 13	Latitude:48 13	12	NP
Dungeness 1/26/2017	Thu Jan 26 14	Latitude:48 10	7	NP
Dungeness 1/26/2017	Thu Jan 26 15	Latitude:48 14	13	NP
Dungeness 1/26/2017	Thu Jan 26 16	Latitude:48 14	13	NP
Dungeness 1/26/2017	Thu Jan 26 17	Latitude:48 14	14	NP
Dungeness 1/26/2017	Thu Jan 26 18	Latitude:48 14	13	NP
Dungeness 1/26/2017	Thu Jan 26 19	Latitude:48 14	14	NP
Dungeness 1/26/2017	Thu Jan 26 20	Latitude:48 15	14	NP
Dungeness 1/26/2017	Thu Jan 26 21	Latitude:48 16	15	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 1	Latitude:48 5	5	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 2	Latitude:48 7	6	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 3	Latitude:48 7	6	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 4	Latitude:48 5	3	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 5	Latitude:48 5	3	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 6	Latitude:48 5	3	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 7	Latitude:48 5	3	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 8	Latitude:48 8	8	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 9	Latitude:48 8	8	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 10	Latitude:48 8	8	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 11	Latitude:48 9	9	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 12	Latitude:48 8	8	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 13	Latitude:48 8	7	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 14	Latitude:48 7	6	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 15	Latitude:48 7	7	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 16	Latitude:48 8	8	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 17	Latitude:48 8	8	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 18	Latitude:48 8	8	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 19	Latitude:48 9	9	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 20	Latitude:48 9	9	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 21	Latitude:48 9	8	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 22	Latitude:48 6	6	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 23	Latitude:48 4	3	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 24	Latitude:48 7	6	NP
Dungeness 3/15/2017 Nospawn	Thu Mar 16 25	Latitude:48 10	10	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 01	Latitude:48 8	9	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 02	Latitude:48 8	7	VL
Dungeness 3/6/2017 Millard roc	Mon Mar 03	Latitude:48 9	8	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 04	Latitude:48 7	6	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 05	Latitude:48 8	7	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 06	Latitude:48 8	6	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 07	Latitude:48 7	6	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 08	Latitude:48 8	7	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 09	Latitude:48 10	10	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 010	Latitude:48 12	12	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 011	Latitude:48 12	12	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 012	Latitude:48 12	12	NP
Dungeness 3/6/2017 Millard roc	Mon Mar 013	Latitude:48 12	12	NP

Dungeness 3/6/2017	Millard roc Mon Mar 014	Latitude:48 10	10	NP
Dungeness 3/6/2017	Millard roc Mon Mar 015	Latitude:48 11	10	NP
Dungeness 3/6/2017	Millard roc Mon Mar 016	Latitude:48 9	8	NP
Dungeness 3/6/2017	Millard roc Mon Mar 017	Latitude:48 11	11	NP
Dungeness 3/6/2017	Millard roc Mon Mar 018	Latitude:48 12	12	NP
Dungeness 3/6/2017	Millard roc Mon Mar 019	Latitude:48 12	12	NP
Dungeness 3/6/2017	Millard roc Mon Mar 020	Latitude:48 12	12	NP
Dungeness 3/6/2017	Millard roc Mon Mar 021	Latitude:48 12	12	NP
Dungeness 3/6/2017	Millard roc Mon Mar 022	Latitude:48 12	12	NP
Dungeness 3/6/2017	Millard roc Mon Mar 023	Latitude:48 14	13	NP
Dungeness 3/6/2017	Millard roc Mon Mar 024	Latitude:48 7	6	NP

Spawn	Fact	Yards	Tons	Eel Grass	Agardhiella	Gracillario	Ahnfeltia	Alaria	Botryoglos:
				NP	NP	X	NP	NP	NP
				NP	X	X	NP	NP	NP
				X	NP	X	NP	NP	NP
				X	NP	X	NP	NP	NP
				NP	NP	X	NP	NP	NP
				NP	X	X	NP	NP	NP
				NP	NP	NP	NP	NP	NP
				NP	NP	X	NP	NP	NP
				NP	NP	X	NP	NP	NP
				X	NP	NP	NP	NP	NP
				NP	NP	X	NP	NP	X
				X	NP	NP	NP	NP	NP
				X	NP	X	NP	NP	NP
				NP	NP	NP	NP	NP	NP
				NP	NP	NP	NP	NP	NP
				X	NP	X	NP	NP	NP
0.024432	435.3333	10.63598		NP	VL	VL	NP	NP	VL
				X	NP	X	NP	NP	NP
				X	NP	NP	NP	NP	NP
				X	NP	X	NP	NP	NP
				X	NP	X	NP	NP	NP
				X	NP	X	NP	NP	NP
				NP	NP	X	NP	NP	NP
				X	NP	NP	NP	NP	NP
				X	NP	NP	NP	NP	NP
				NP	NP	X	NP	NP	NP
				X	NP	X	NP	NP	NP
				X	NP	X	NP	NP	NP
				X	NP	X	NP	NP	NP
				X	NP	X	NP	NP	NP
				NP	NP	X	NP	NP	NP
				NP	NP	X	NP	NP	NP
				NP	NP	X	NP	NP	NP
				NP	NP	NP	NP	NP	NP
				NP	NP	X	NP	NP	NP
0.024432	560.6667	13.6981		VL	NP	VL	NP	NP	NP
				X	NP	NP	NP	NP	NP
				X	NP	NP	NP	NP	NP
				NP	NP	NP	NP	NP	NP
				NP	NP	X	NP	NP	NP
				X	NP	X	NP	NP	NP
				X	NP	X	NP	NP	NP
0.024432	604.6667	14.7731		VL	NP	VL	NP	NP	NP
				X	NP	X	NP	NP	NP
				X	NP	X	NP	NP	NP
				NP	NP	X	NP	NP	NP

X	NP	X	NP	NP	NP
NP	NP	NP	NP	NP	NP
X	NP	NP	NP	NP	NP
X	NP	X	NP	NP	NP
NP	NP	X	NP	NP	NP
X	X	X	NP	NP	NP
NP	NP	NP	NP	NP	NP
X	NP	X	NP	NP	NP
X	NP	X	NP	NP	NP
X	NP	X	NP	NP	NP
X	NP	X	NP	NP	NP

Rhodymen	Sargassum	Ulva	Urospora	Worm Tubi	Add New V	Other Vege	Other Vege	Terrestrial
NP	NP	NP	NP	NP	No		NP	NP
NP	NP	NP	NP	NP	No		NP	NP
NP	NP	NP	NP	NP	No		NP	NP
NP	NP	NP	NP	NP	No		NP	NP
NP	NP	X	NP	NP	No		NP	NP
NP	NP	X	NP	NP	No		NP	NP
NP	NP	NP	NP	NP	No		NP	NP
NP	NP	NP	NP	NP	No		NP	NP
NP	NP	NP	NP	NP	No		NP	X
NP	NP	X	NP	NP	No		NP	NP
NP	NP	NP	NP	NP	No		NP	NP
NP	NP	NP	NP	NP	No		NP	NP
NP	NP	NP	NP	NP	No		NP	NP
X	NP	X	NP	NP	No		NP	NP
NP	NP	X	NP	NP	No		NP	NP
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NP	NP	NP	NP	NP	No		NP	NP
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NP	NP	X	NP	NP	No		NP	NP
NP	NP	NP	NP	NP	No		NP	NP
NP	NP	NP	NP	NP	No		NP	X
NP	NP	NP	NP	NP	No		NP	NP
NP	NP	VL	NP	NP	No		NP	NP
NP	NP	X	NP	NP	No		NP	NP
NP	NP	X	NP	NP	No		NP	NP
X	NP	NP	NP	NP	No		NP	NP

NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	X
NP	NP	NP	NP	NP	No	NP	X
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NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
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NP	NP	X	NP	X	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	VL	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	X
NP	NP	VL	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	VL	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	X
NP	NP	NP	NP	NP	No	NP	X
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP

NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	X
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	X
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	X	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	X
NP	NP	NP	NP	NP	No	NP	X
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP

NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	X
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	NP	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	NP
NP	NP	X	NP	NP	No	NP	X
NP	NP	NP	NP	NP	No	NP	NP

Man Made Vegetation	Eyed Eggs	Percent M _c Sampled	2017Herrir Mammals/ Photo(s)	o Latitude
NP	Yes	No		48.1513020
NP	Yes	No		48.1506070
NP	Yes	No		48.1504080
NP	Yes	No		48.1494130
NP	Yes	No		48.1484390
NP	Yes	No		48.1473240
NP	No	No		48.1476170
NP	Yes	No		48.1500520
NP	Yes	No		48.1505060
NP	Yes	No		48.1514960
NP	Yes	No		48.1524650
NP	Yes	No		48.1522930
NP	Yes	No		48.1528380
NP	Yes	No		48.1543410
NP	No	No		48.1542110
NP	Yes	No		48.1538930
NP	Yes	Yes	H2017_1634	48.1543130
NP	Yes	No		48.1555840
NP	Yes	No		48.1539990
NP	Yes	No		48.1569480
NP	Yes	No		48.1584410
NP	Yes	No		48.1567790
NP	Yes	No		48.1555080
NP	Yes	No		48.1570070
NP	Yes	No		48.1595170
NP	Yes	No		48.1520930
NP	Yes	No		48.1506070
NP	Yes	No		48.1504550
NP	Yes	No		48.1504100
NP	Yes	No		48.1498850
NP	Yes	No		48.1486250
NP	Yes	No		48.1472800
NP	Yes	No		48.1484580
NP	No	No		48.1511730
NP	Yes	No		48.1532880
NP	Yes	Yes	H2017_1603	48.1537840
NP	Yes	No		48.1555360
NP	Yes	No		48.1576200
NP	Yes	No		48.1604850
NP	Yes	No		48.1611570
NP	Yes	No		48.1584450
NP	Yes	No		48.1557880
NP	Yes	No		48.1539660
NP	Yes	No		48.1525090
NP	Yes	No		48.1519410
NP	Yes	No		48.1508990

NP	Yes	Yes	H2017_1602	48.1524280
NP	Yes	Yes	H2017_1602	48.1524280
NP	Yes	No		48.1540520
NP	Yes	No		48.1555810
NP	Yes	No		48.1573030
NP	Yes	No		48.1587420
NP	Yes	No		48.1564790
NP	Yes	No		48.1539470
NP	Yes	No		48.1526210
NP	Yes	No		48.1516240
NP	Yes	No		48.1510590
NP	Yes	No		48.1504040
NP	Yes	No		48.1494360
NP	Yes	No		48.1481630
NP	Yes	No		48.1474180
NP	Yes	No		48.1481150
NP	Yes	No		48.1491670
NP	Yes	No		48.1501840
NP	Yes	Yes	H2017_1651	48.1511880
NP	Yes	No		48.1520160
NP	Yes	No		48.1529230
NP	Yes	No		48.1535100
NP	Yes	No		48.1554960
NP	Yes	No		48.1583510
NP	Yes	No		48.1583800
NP	Yes	No		48.1564360
NP	Yes	Yes	H2017_1652	48.1546770
NP	Yes	No		48.1536060
NP	Yes	No		48.1521420
NP	Yes	No		48.1525730
NP	Yes	No		48.1536850
NP	Yes	No		48.1521460
NP	Yes	Yes	H2017_1653	48.1533190
NP	Yes	No		48.1546460
NP	Yes	No		48.1559300
NP	Yes	No		48.1510080
NP	Yes	No		48.1504830
NP	Yes	No		48.1503170
NP	Yes	No		48.1487380
NP	Yes	No		48.1472870
NP	Yes	No		48.1480670
NP	No	No		48.1511610
NP	Yes	No		48.1541550
NP	Yes	No		48.1560520
NP	Yes	No		48.1583670
NP	Yes	No		48.1608320
NP	Yes	No		48.1627830

NP	Yes	No		48.1610630
NP	Yes	No		48.1582290
NP	Yes	No		48.1548430
NP	Yes	No		48.1535730
NP	Yes	No		48.1540340
NP	Yes	No		48.1535850
NP	Yes	No		48.1530880
NP	Yes	No		48.1556980
NP	Yes	No		48.1582690
NP	Yes	No		48.1521700
NP	Yes	No		48.1507220
NP	Yes	No		48.1507370
NP	Yes	No		48.1504200
NP	Yes	No		48.1497880
NP	Yes	No		48.1488750
NP	Yes	No		48.1485590
NP	No	No		48.1489420
NP	No	No		48.1500470
NP	Yes	No		48.1530780
NP	Yes	No		48.1554040
NP	Yes	No		48.1576270
NP	Yes	No		48.1592690
NP	Yes	No		48.1613110
NP	No	No		48.1609680
NP	No	No		48.1591360
NP	Yes	No		48.1571490
NP	Yes	No		48.1554620
NP	Yes	No		48.1532630
NP	No	No		48.1520850
NP	No	No		48.1548430
NP	Yes	No		48.1571950
NP	Yes	No		48.1601780
NP	No	No		48.1592370
NP	Yes	No		48.1558580
NP	Yes	No		48.1518300
NP	Yes	Yes	H2017_1650	48.1504700
NP	Yes	No		48.1504270
NP	Yes	No		48.1502910
NP	Yes	No		48.1503390
NP	Yes	No		48.1493500
NP	Yes	No		48.1484220
NP	Yes	No		48.1473500
NP	Yes	No		48.1480820
NP	Yes	No		48.1506270
NP	Yes	No		48.1527480
NP	Yes	No		48.1547270
NP	No	No		48.1575660

NP	Yes	No	48.1602270
NP	Yes	No	48.1607630
NP	Yes	No	48.1588260
NP	Yes	No	48.1565550
NP	Yes	No	48.1543440
NP	Yes	No	48.1514170
NP	Yes	No	48.1512630
NP	Yes	No	48.1528130
NP	Yes	No	48.1545310
NP	Yes	No	48.1563300
NP	Yes	No	48.1545660

Longitude	Water Qua	2017Herrin Tap to scar	2017Herrin Enter Age	Age Units	Age (hrs)	Age
-123.1538720						
-123.1570560						
-123.1625630						
-123.1667680						
-123.1716100						
-123.1759690						
-123.1802640						
-123.1787900						
-123.1749810						
-123.1711840						
-123.1666040						
-123.1621480						
-123.1578920						
-123.1536670						
-123.1579860						
-123.1630120						
-123.1668720	365	H2017_16	10	Days	240	10 Days
-123.1701290						
-123.1744560						
-123.1725040						
-123.1700130						
-123.1655930						
-123.1604160						
-123.1590420						
-123.1602380						
-123.1533100						
-123.1552360						
-123.1582150						
-123.1616770						
-123.1652020						
-123.1700020						
-123.1754280						
-123.1799290						
-123.1784850						
-123.1775110						
-123.1742980	389	H2017_16	1	Days	24	1 Days
-123.1722030						
-123.1692430						
-123.1657430						
-123.1608800						
-123.1637390						
-123.1663940						
-123.1695870						
-123.1721300						
-123.1752960						
-123.1709290						

-123.1665170	386	H2017_16C10	Hours	10	10 Hours
-123.1665170	383	H2017_16C3	Days	72	3 Days
-123.1640110					
-123.1609780					
-123.1578720					
-123.1552940					
-123.1540960					
-123.1554710					
-123.1583040					
-123.1552560					
-123.1595170					
-123.1637910					
-123.1686730					
-123.1732880					
-123.1781600					
-123.1813720					
-123.1767220					
-123.1726540					
-123.1679720	407	H2017_16C3	Days	72	3 Days
-123.1634130					
-123.1594210					
-123.1559670					
-123.1548990					
-123.1577000					
-123.1620600					
-123.1670140					
-123.1721830	404	H2017_16C4	Days	96	4 Days
-123.1758260					
-123.1788250					
-123.1744730					
-123.1703580					
-123.1696280					
-123.1665190	413	H2017_16C2	Days	48	2 Days
-123.1643420					
-123.1608470					
-123.1544140					
-123.1593150					
-123.1643230					
-123.1704810					
-123.1752790					
-123.1802690					
-123.1796480					
-123.1766510					
-123.1737460					
-123.1695030					
-123.1666720					
-123.1644840					

-123.1611640
-123.1630670
-123.1644000
-123.1701610
-123.1653780
-123.1613150
-123.1573560
-123.1563680
-123.1576200
-123.1533060
-123.1551880
-123.1581700
-123.1612440
-123.1649180
-123.1686400
-123.1721390
-123.1750400
-123.1780660
-123.1762350
-123.1735080
-123.1707430
-123.1682470
-123.1657490
-123.1611100
-123.1632240
-123.1654920
-123.1677230
-123.1705560
-123.1655740
-123.1623840
-123.1591260
-123.1574950
-123.1537580
-123.1542490
-123.1535010
-123.1563490
-123.1578140
-123.1595670
-123.1632890
-123.1670410
-123.1710830
-123.1746170
-123.1788830
-123.1791430
-123.1765740
-123.1738140
-123.1701260

371

H2017_1656

Days

144

6 Days

-123.1665750
-123.1616190
-123.1638880
-123.1661420
-123.1687460
-123.1735460
-123.1676790
-123.1636550
-123.1600360
-123.1562920
-123.1522550

Vegetation Comments

Grac 2 to 2.5 coil, dark eyes with tiny silver pupal

Eg Cap, poorly fixed

Hyd 50% A few cells, other eggs 3 days
Hyd 3/4 coil, 50%

Grac 3/4 coil

Eg 7/8 coil

Grac Yolk plug

Grac 1.5 coil white eyes