

Cruise Report

R/V Dana

Cruise 05/2011

"IBTS 3Q 2011"



Vessel: R/V DANA
Cruise number: 05/11

Cruise dates (planned): 9/8 – 26/8 2011
Cruise name: IBTS 3Q 2011

Port of departure:	Hirtshals	Date:	10 Aug
Port of return:	Hirtshals	Date:	26 Aug
Other ports:	Esbjerg	Date and justification:	18 Aug Scheduled exchange of scientific staff and crew

Participants

Leg 1: Hirtshals - Esbjerg		
Name	Institute	Function and main tasks
Helle Rasmussen	DTU Aqua, Monitoring Hirtshals	Cruise leader, Fish lab
Tom Svoldgaard	DTU Aqua, Monitoring Hirtshals	Technician, Fish lab
Reinhardt Jensen	DTU Aqua, Monitoring Hirtshals	Technician, Fish lab
Flemming Thaarup	DTU Aqua, Monitoring Hirtshals	Technician, Fish lab
Thyge Dyrnesli	DTU Aqua, Marin Services Hirtshals	Technician, CTD, Maintenance
Ronny Sørensen	DTU Aqua, Monitoring Hirtshals	Technician, CTD, Maintenance
Martin Nielsen	Zoological Museum Copenhagen	Student, Fish Lab

Leg 2: Esbjerg - Hirtshals		
Name	Institute	Function and main tasks
Kai Wieland	DTU Aqua, Monitoring Hirtshals	Cruise leader, Fish lab
Stina Hansen	DTU Aqua, Monitoring Charlottenlund	Technician, Fish lab
Tom Svoldgaard	DTU Aqua, Monitoring Hirtshals	Technician, Fish Lab
Jette Sandsted	DTU Aqua, Monitoring Charlottenlund	Technician, Fish lab
Per Christensen	DTU Aqua, Monitoring Charlottenlund	Technician, Fish lab
Ronny Sørensen	DTU Aqua, Monitoring Hirtshals	Technician, CTD, Maintenance

Objectives

The survey is part of the 3rd quarter International Bottom Trawl Survey (IBTS) in the North Sea, which is coordinated by the ICES International Bottom Trawl Survey Working Group and has been conducted with standard fishing gear in the 3rd quarter since 1991.

The IBTS aims to provide ICES assessment and science groups with consistent and standardised data for examining spatial and temporal changes in (a) the distribution and relative abundance of fish and fish assemblages; and (b) of the biological parameters of commercial fish species for stock assessment purposes. The main objectives in the 3rd quarter IBTS are to:

- To determine the distribution and relative abundance of pre-recruits of the main commercial species (cod, haddock, whiting, Norway pout, saithe, herring, sprat, and mackerel) with a view of deriving recruitment indices;
- To monitor changes in the stocks of commercial fish species independently of commercial fisheries data;
- To monitor the distribution and relative abundance of all fish species and selected invertebrates;
- To collect data for the determination of biological parameters for selected species;
- To collect hydrographical and environmental information;

The area to be covered by Denmark with RV Dana in the 3rd quarter 2011 was allocated during the most recent IBTS Working Group meeting. Technical details are described in the current version of the survey manual (ICES 2010: Addendum 1, IBTS Manual – Revision VIII. <http://datras.ices.dk/Documents/Manuals/>).

Itinerary

Departure was delayed by one day due to technical reasons. R/V Dana left Hirtshals on Wednesday 10 August at 18:00 local time and began with the scientific work the next morning. The scientific program was interrupted on Thursday 18 August for the scheduled exchange of scientific staff and crew in Esbjerg. The vessel stayed in the port of Esbjerg that day from 11:15 to 18:00. Good weather conditions prevailed also during the second leg of the survey. R/V Dana returned to Hirtshals on Friday 26 August at 7:00 local time after all the planned work had been accomplished.

Achievements

The working area consisted of 47 ICES statistical rectangles located in IBTS roundfish areas 2, 3, 4, 5, 6 and 7. The following activities were carried out (Fig. 1):

49 valid trawl hauls with GOV 36/47 (chalut á Grande Overture Verticale), 42 hauls with standard groundgear A and 5 hauls with rockhopper groundgear B (see IBTS Manual for specifications)

50 CTD profiles (with oxygen, fluorescence and turbidity)

Continuous recording of surface temperature, salinity and fluorescence along cruise track

Continuous recording of standard meteorological data

Results

The trawl parameters (Net opening and door spread) as monitoring with a Scanmar system were well in the range specified by the IBTS manual (Fig. 2). Sorting and analyses of the trawl catches were conducted as specified according to the IBTS manual. About 65 different species of fish and selected invertebrates were recorded in detail (Tab. 1). Length measurements were made for all of the listed species. Sharks, skates and rays and the listed shellfish species were measured separately by gender (length composition and weight). Single fish data (length, weight, gender) and otoliths were collected for the main commercial species (cod, haddock, whiting, herring, sprat and mackerel) as well as for plaice and monkfish (ICES roundfish area 7) whereas the two IBTS standard species Norway pout and saithe were not present in the catches this time (Tab. 2). The preliminary abundance indices for the main commercial species (Tab. 3) were reported to the coordinator of the 3rd quarter IBTS.

Others

A cruise summary report has been delivered online to

http://seadata.bsh.de/csr/online/V1_index.html.

Date: 29/8-2011

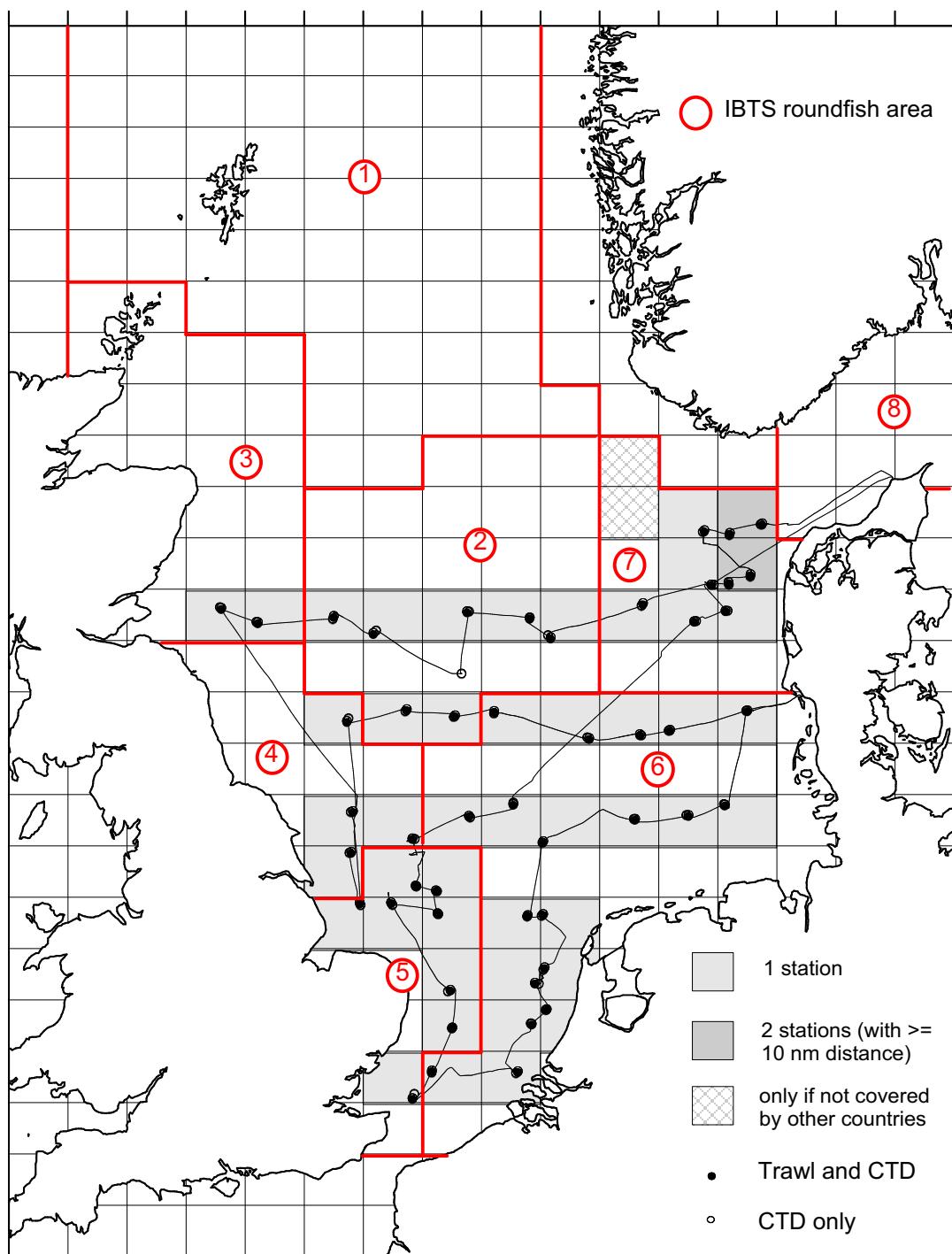


Fig. 1: Survey map with cruise track and sampling locations, Dana 3Q IBTS 2011.

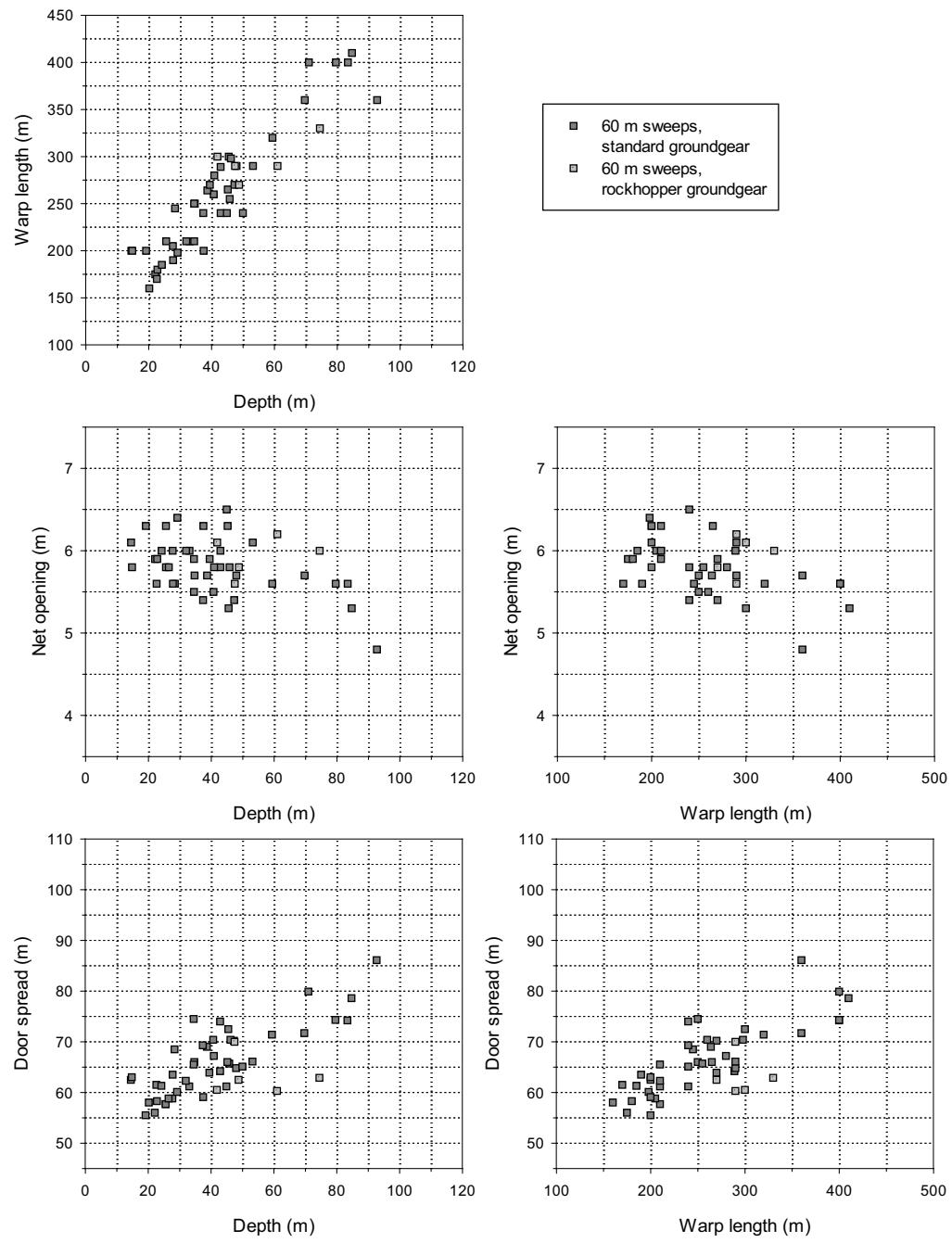


Fig. 2: Net opening and door spread in relation to depth and warp length, Dana 3Q IBTS 2011.

Tab. 1: Species list, Dana 3Q 2011.

Fish		Invertebrates		
Danish name	Latin name	Danish name	Latin name	
Ansjos	<i>Engraulis encrasiculus</i>	*	Hummer (alm.)	Homarus gammarus **
Brisling	<i>Sprattus sprattus</i>	***	Jomfruhummer	Nephrops norvegicus **
Fjæsing	<i>Trachinus draco</i>	*	Taskekrabbe	Cancer pagurus **
Fjæsing lille	<i>Trachinus vipera</i>	*	Troldkrabbe	Lithodes maja *
Fløjfisk (pl)	<i>Callionymus maculatus</i>	*	Hestereje	Crangon crangon -
Flodlampret	<i>Lampetra fluviatilis</i>	*	Reje konge	Pandalus montagui -
Glastunge	<i>Buglossidium luteum</i>	*		
Glyse	<i>Trisopterus minutus</i>	*		Alloteuthis subulata *
Håising	<i>Hippoglossoides platessoides</i>	*	Eledone Blæksprutte	Eledone cirrhosa *
Havbars	<i>Dicentrarchus labrax</i>	*		Loligo forbesii *
Havkvabbe (4tr)	<i>Enchelyopus cimbrius</i>	*		Loligo vulgaris *
Havtække	<i>Lophius piscatorius</i>	***		Todaropsis eblanae *
Hvilling	<i>Merlangius merlangus</i>	***		Illex coindetii *
Ising	<i>Limanda limanda</i>	*		Sepiola atlantica -
Knurhane (grå)	<i>Eutrigla gurnardus</i>	*		
Knurhane (rød)	<i>Trigla lucerna</i>	*		
Kuller	<i>Melanogrammus aeglefinus</i>	***	Stor kammusling	Pecten Maximus -
Kulmule	<i>Merluccius merluccius</i>	***	Jomfru øster	Aquipecten opercularis -
Kutling-sand	<i>Pomatoschistus minutus</i>	*		
Lange	<i>Molva molva</i>	*		
Makrel	<i>Scomber scombrus</i>	***		
Pighvarre	<i>Psetta maxima</i>	***		-: not measured
Rødspætte	<i>Pleuronectes platessa</i>	***		*: Length
Rødtunge	<i>Microstomus kitt</i>	***		**: Length by sex
Sct. peter fisk	<i>Zeus faber</i>	*		***: single fish data (length, weight, sex, maturity and age samples)
Sild	<i>Clupea harengus</i>	***		
Skægtorsk	<i>Trisopterus luscus</i>	*		
Skærising	<i>Glyptocephalus cynoglossus</i>	***		
Skrubbe	<i>Platichthys flesus</i>	*		
Slethvarre	<i>Scophthalmus rhombus</i>	*		
Slimål	<i>Myxine glutinosa</i>	*		
Snippe	<i>Entelurus aequoreus</i>	*		
Sperling	<i>Trisopterus esmarkii</i>	***		
Stavsild	<i>Alosa fallax</i>	*		
Stenbider	<i>Cyclopterus lumpus</i>	*		
Stribet Mulle	<i>Mullus surmuletus</i>	***		
Tobis-hav	<i>Ammodytes marinus</i>	*		
Tobiskonge	<i>Hyperoplus lanceolatus</i>	*		
Tobis-nøgen	<i>Gymnammodytes semisquama</i>	*		
Torsk	<i>Gadus morhua</i>	***		
Tunge	<i>Solea solea</i>	***		
Tungehvarre	<i>Arnoglossus laterna</i>	*		
Ulk	<i>Myoxocephalus scorpius</i>	*		
Ulk-panserulk	<i>Agonus cataphractus</i>	*		
Glathaj	<i>Mustelus mustelus</i>	**		
Rødhaj (smpl)	<i>Scyliorhinus canicula</i>	**		
Stjernehaj	<i>Mustelus asterias</i>	**		
Småplettet rokke	<i>Raja brachyura</i>	**		
Storplettet rokke	<i>Raja montagui</i>	**		
Tærbe	<i>Amblyraja radiata</i>	**		

Tab. 2: Number of single fish data (length, weight, and gender) and samples for ageing, Dana 3Q 2011.

Species	IBTS roundfish area						Total
	2	3	4	5	6	7	
Herring	65	69	124	15	226	158	657
Sprat	26	22	20	28	171	102	369
Cod	33	2	49	23	28	137	272
Haddock	124	79	64	0	0	6	273
Whiting	142	47	120	86	122	93	610
Norway pout	0	0	0	0	0	0	0
Saithe	0	0	0	0	0	0	0
Mackerel	45	36	36	75	116	45	353
Plaice	116	65	111	168	190	180	830
Monkfish	0	0	0	0	0	1	1
						Sum:	3365

Tab. 3: Preliminary abundance indices (number per hour trawling) for IBTS main species, Dana 3Q 2011.

HL: NO:	ST SQ	COD			HADDOCK			WHITING			NORWAY POUT			HERRING			SPRAT			MACKEREL			SAithe			PLAICE					
		0 <18	1 18-37	2+ ≥38	0 <17	1 17-29	2+ ≥30	0 <17	1 17-23	2+ ≥24	0 <13	1 13-15	2+ ≥16	0 <15.5	1 15.5- 22.5	2+ ≥23	0 -	1 <13	2+ ≥13	0 <17	1 17-29	2+ ≥30	0 <22	1 22-32	2+ ≥33	0 <10	1 10-18	2+ ≥19			
1	42F6	0	32	4	0	0	0	312	852	13	0	0	0	242	494	2	981	165	0	42	24	0	0	0	0	0	0	58			
2	41F7	0	12	1	0	0	0	25	642	0	0	0	0	19920	35812	0	31445	3645	0	37	36	0	0	0	0	0	72	413			
3	41F6	0	0	0	0	0	0	90	103	0	0	0	0	2444	7247	0	2191	505	0	2	20	0	0	0	0	0	3	340			
4	37F3	0	0	0	0	0	0	3066	6981	195	0	0	0	30	533	0	1737	410	0	9	27	0	0	0	0	0	7	660			
5	37F2	0	0	0	0	0	0	92	92	0	0	0	0	0	1364	4	618	86	0	92	2	0	0	0	0	0	2	81			
6	37F1	0	14	35	0	2	18	812	14398	1045	0	0	0	10	306	37	1110	21	0	0	2	0	0	0	0	0	0	136			
7	36F1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	382			
8	36F2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	37	193		
9	35F2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82	294		
10	35F1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	94	140		
11	34F2	0	14	14	0	0	0	0	7064	8442	0	0	0	0	22	4	758	6721	0	183	211	0	0	0	0	0	0	0	176		
12	33F2	0	0	8	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	8	4	0	0	0	0	0	8	106		
13	32F2	0	12	44	0	0	0	0	2343	125	2	0	0	0	0	0	0	0	0	0	24	92	0	0	0	0	0	4	26		
14	32F1	0	0	0	0	0	0	29	3667	144	0	0	0	45	0	2	1179	0	0	2	0	0	0	0	0	0	0	19	100		
15	32F3	2	0	0	0	0	0	3313	1712	28	0	0	0	243	14	0	45	2	0	1	0	0	0	0	0	0	46	11			
16	33F3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2896	0	0	0	0	0	0	26	2		
17	33F4	0	0	0	0	0	0	0	4	0	0	0	0	0	4	0	0	0	0	0	274	16	0	0	0	0	0	0	60	32	
18	34F3	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	354	9	0	0	0	0	0	0	140	58	
19	34F4	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77	27		
20	35F4	0	0	0	0	0	0	194	36	0	0	0	0	0	2	0	1066	508	0	70	0	0	0	0	0	0	0	70	130		
21	35F3	0	0	0	0	0	0	86	70	0	0	0	0	0	0	0	888670	3378	0	901	11	0	0	0	0	0	0	0	32	60	
22	37F4	0	0	0	0	0	0	8015	206	2	0	0	0	128	56	0	50503	0	0	2	2	0	0	0	0	0	0	24	210		
23	37F5	0	0	0	0	0	0	0	2336	120	4	0	0	0	580	2	0	1178	0	0	0	0	0	0	0	0	0	46	186		
24	37F6	0	0	0	0	0	0	0	485	101	0	0	0	0	31081	0	0	368246	0	0	16	68	0	0	0	0	0	0	133	290	
25	37F7	0	0	0	0	0	0	0	1711	132	0	0	0	0	26152	0	0	52634	0	0	30	42	0	0	0	0	0	0	32	30	
26	39F7	0	0	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	202	22	0	0	0	0	0	0	16	0	
27	39F6	0	0	0	0	0	0	17972	1229	0	0	0	0	1573	61	0	1704	67	0	0	0	0	0	0	0	0	0	255	938		
28	39F5	0	0	0	0	0	0	651	37	2	0	0	0	208	4886	0	509	48	0	0	0	0	0	0	0	0	0	59	1215		
29	39F4	0	2	0	0	0	0	30	66	0	0	0	0	2	18	2	44	4	0	4	2	0	0	0	0	0	0	98	611		
30	39F3	0	0	0	0	0	0	0	4	14	0	0	0	0	943	10	0	0	0	0	1964	14	0	0	0	0	0	0	56	0	
31	39F2	0	0	0	0	0	0	0	4	86	10	0	0	0	0	10	6	6	102	0	90	4	0	0	0	0	0	0	210	0	
32	39F1	0	0	0	0	0	2	4	8	210	14	0	0	0	4	0	0	0	0	0	2	0	0	0	0	0	0	0	88	0	
33	39F0	0	0	0	0	0	229	446	0	56	1622	0	0	0	441	24281	0	0	2	0	0	0	0	0	0	0	0	0	0	144	0
34	35F0	0	2	14	0	0	0	0	14	240	0	0	0	0	0	4	0	0	0	0	8	4	0	0	0	0	0	0	10	2	
35	36F0	0	8	15	0	0	0	1063	4457	1198	0	0	0	0	449	23	2	0	0	0	597	36	0	0	0	0	0	0	52	120	
36	37F0	0	0	0	0	0	0	2	0	16	291	0	0	0	0	0	0	0	0	0	7227	739	0	0	0	0	0	0	20	686	
37	41E8	0	0	0	0	0	226	90	0	304	56	0	0	0	0	10	32	0	0	0	66	102	0	0	0	0	0	0	0	214	
38	41E9	0	2	2	0	0	219	510	0	1330	638	0	0	0	817	10769	48	3781	0	2	0	0	0	0	0	0	0	0	237		
39	41F0	0	2	2	0	0	19	653	189	34	298	0	0	0	402	5385	0	0	0	4	0	0	0	0	0	0	0	0	46	0	
40	41F1	0	12	0	0	0	76	316	0	1119	999	0	0	0	0	2	0	0	4	0	0	2	14	0	0	0	0	0	0	40	0
41	41F2	0	34	6	0	0	122	272	8	462	225	0	0	0	0	4	6	0	0	0	87	49	0	0	0	0	0	0	0	30	
42	41F3	0	4	2	6	0	8	4	46	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72		
43	41F4	0	0	4	0	0	0	0	30	4	0	0	0	0	6	2	0	0	0	6	0	0	0	0	0	0	0	0	100		
44	41F5	0	2	8	0	0	0	0	300	3848	147	0	0	0	994	6170	0	324	149	0	2	18	0	0	0	0	0	0	322		
45	42F7	0	6	2	0	0	0	0	82	0	0	0	0	0	0	0	0	0	0	0	240	11	0	0	0	0	0	0	0	497	
56	42F7	0	0	2	0	0	0	0	14	298	2	0	0	0	0	0	0	0	0	0	56	0	0	0	0	0	0	0	0	26	717
47	43F6	0	2	0	6	0	0	6	18	4	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
48	43F7	0	0	6	0	0	114	2	0	114	2	0	0	0	0	2	14	0	0	0	0	829	0	0	0	0	0	0	0	0	118
49	43F7	0	1																												