



Survey & Diagnosis of fish diseases in 2014

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Survey & Diagnosis of listed fish diseases in the European Community 2014

An Annual questionnaire

1. General data
2. Epidemiological data
3. Laboratory data, NRL and regional laboratories

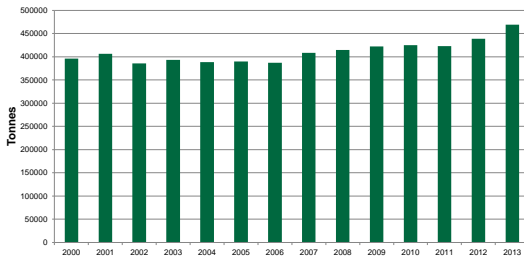


Status on implementation of the aquatic animal health surveillance legislation

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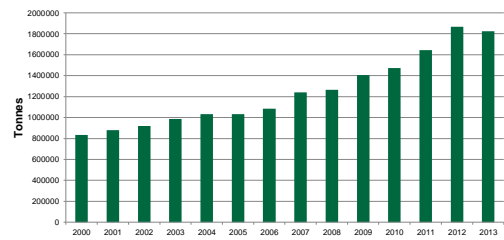
Total production of fish in aquaculture in Europe Fresh water 2000-2013



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Total production of fish in aquaculture in Europe Marine water 2000-2013



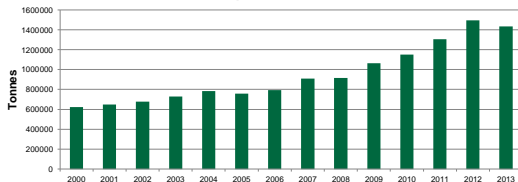
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Production 2000 to 2013

(<http://www.fao.org/figis>)

Atlantic salmon production 2000 to 2013

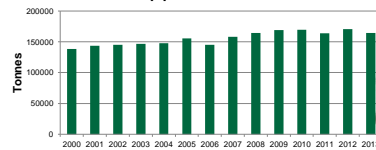


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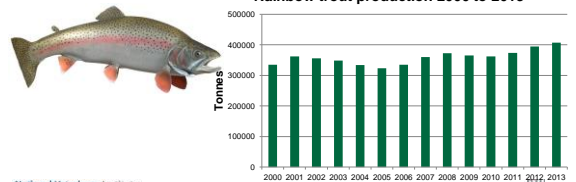
Common carp production 2000 to 2013



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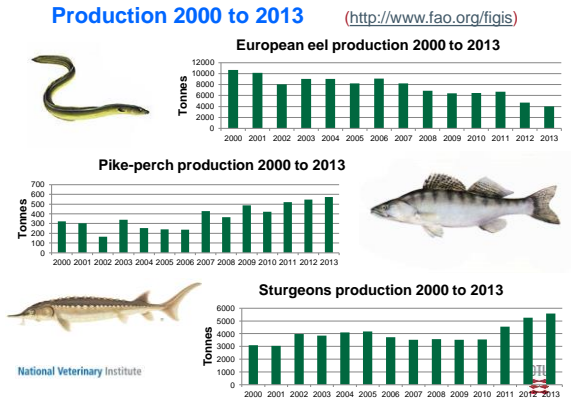
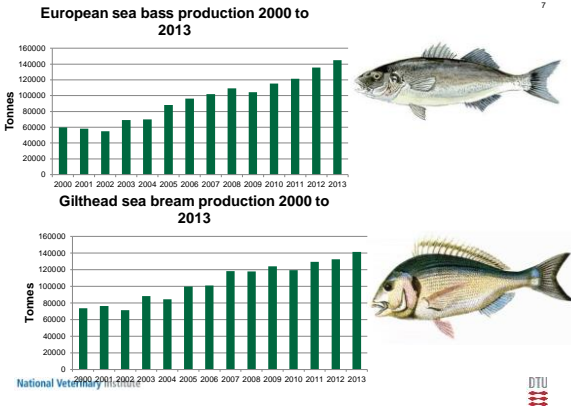
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Rainbow trout production 2000 to 2013



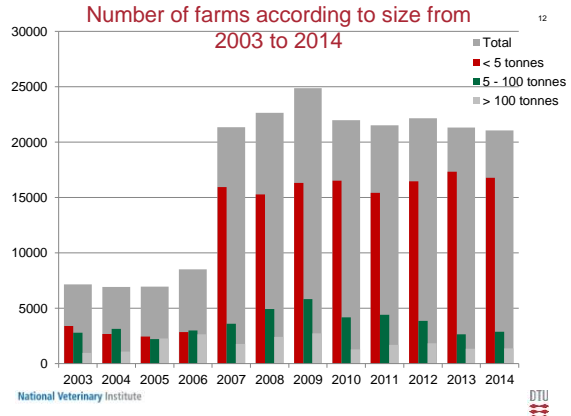
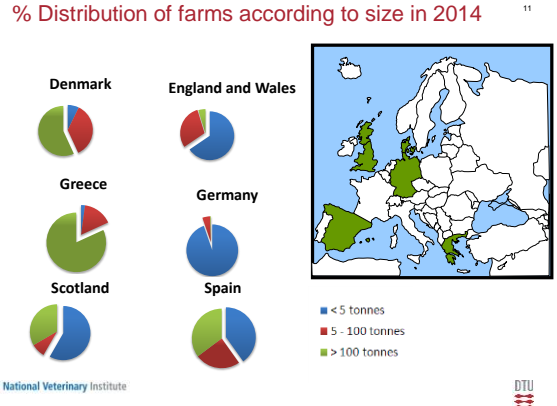
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General data, whole country or region

1. Number of fish farms within country/region, according to size of production (tonnes fish/year) ? No farm data in FIGIS
2. According to fish species
3. Categorisation according to Council Directive 2006/88
4. Number of fish farms surveyed for other diseases
5. Do you have active or passive surveillance for these diseases



Number of fish farms within country/region, according to fish species in the **Northem European countries 2014**

1.2 Number of fish farms within country/region, according to fish species										
	Rainbow trout	Atlantic Salmon	Other salmonids	Carp	Eel	Flatfish	Seabream / Seabass	Other marine spp.	Other freshwater spp.	Total
Denmark	172	5	54	6	8	1	1	2	7	256
Finland	235	41	400	21					230	927
Ireland	11	41	3	1					2	58
Sweden	115	6	64	1	1				11	198
England and Wales	164	30	131	130	4	1	1	1	128	590
Scotland	45	361	41	4		5	1	101	3	561
Northern Ireland	17	4	5	5					3	34
Iceland	12	13	30			2		5	2	64
Norway	All salmonids are reported as Atlantic salmon	1221	All salmonids are reported as Atlantic salmon		Included in other marine spp.	Included in other marine spp.		105		1326
Faroe Islands		35								35
Total	771	1757	728	168	13	9	3	214	386	4048

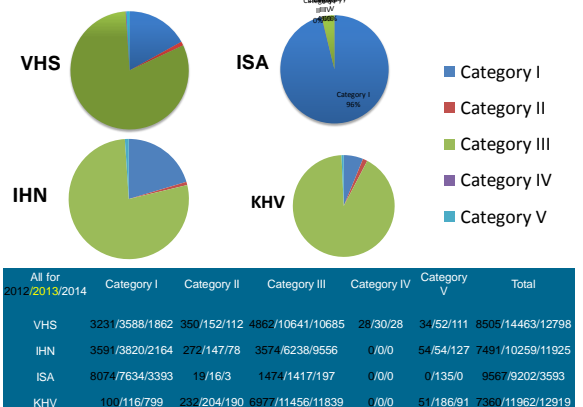
Number of fish farms within country/region, according to fish species in the **Continental European countries 2014**

1.2 Number of fish farms within country/region, according to fish species										
	Rainbow trout	Atlantic Salmon	Other salmonids	Carp	Eel	Flatfish	Seabream / Seabass	Other marine spp.	Other freshwater spp.	Total
Austria										
Belgium	43	1	40	6					6	96
Czech Republic	188	2	287	1461	6				1090	3034
Estonia	21	1	3	4	3				1	42
France	600	16	112	358	11	4	18	17	486	1622
Germany	4185	14	1286	6232	154	6	11	19	3905	15812
Hungary	4			223					17	244
Latvia	45	5	30	75	1				10	166
Lithuania	3			19	2				10	34
Netherlands	45		1	2	8	3			< 80	59
Poland	601			3483					358	4442
Slovakia	81			88						169
Switzerland	209		139						9	357
Total	6025	39	1898	11951	185	13	29	37	5900	26077

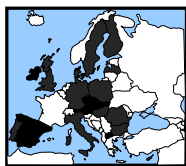
Number of fish farms within country/region, according to fish species in the **Mediterranean European countries 2014**

1.2 Number of fish farms within country/region, according to fish species										
	Rainbow trout	Atlantic Salmon	Other salmonids	Carp	Eel	Flatfish	Seabream / Seabass	Other marine spp.	Other freshwater spp.	Total
Bulgaria	78			431				1	5	515
Cyprus	7						9	2	2	20
Greece	62		2	7	4		340		3	418
Italy	310		260	63	83		117	not available	68	901
Portugal	26			1		5	82			114
Romania	78		55	386		1			345	865
Slovenia	100		54	86			1		83	324
Spain	86	7	31	4	2	48	80	52	23	333
Croatia	25	6		22		1	29	4		87
Turkey										
Bosnia and Herzegovina	30		30	7			2	1		70
Kosovo										
Albania										
Serbia	52			55						107
Rep. of Macedonia	45		15	45					5	110
Total	899	13	444	1107	89	55	660	60	534	3861

Distribution in categories according to diseases in Europe in 2014



Countries surveyed for **SVC** 2014¹⁷



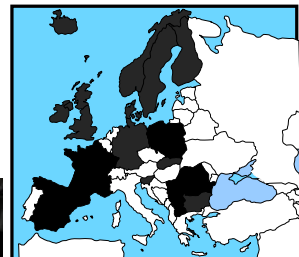
Country	Number of fish farms involved 2012/2013	SVC Programme based on:	Number of fish farms involved 2014
Bulgaria	104/97	National programme	128
Czech Republic	?	Research survey	1461
Denmark	6/6	Fishfarms: national surveillance, passive, active and targeted. Outlet: stores and private garden ponds. no	6
Finland	2/20	National EU	23
Germany	61/109	27 x regional programmes based on clinical routine check, 15 x active control based on clinical routine check	121
Hungary	133/156	National surveillance programme	156
Ireland	/1	National surveillance (active sampling). Involves one farm plus samples from put & take fisheries when available.	1
Italy	Not available		Not available
Latvia	/1	Passive surveillance	
Poland	30/30	National survey	30 farms twice per year
Portugal	1/1	Active surveillance	1
Romania	27/27	National surveillance and/or industry financed	18
Slovakia	87/77	National surveillance financed by NRL for fish diseases	56
Spain	?	Regional Programme	
Sweden	1/4	national programmes	4
England and Wales	157/143	National Programme under Article 43 of Council Directive 2006/68/EC	138
Scotland	3/1	National surveillance - based on inspections (active surveillance) regional SVC programme (additional guarantees)	1 in 2013 (3 in programme)
Northern Ireland	2/2		2
Rep. of Macedonia	7/8	National (passive) surveillance	8

21 of 38 countries including 1.986 farms with SVC programs



Countries surveyed for **BKD** 2014

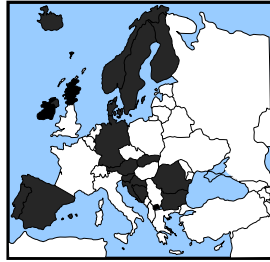
18 countries with BKD program involving 2289 farms. Especially salmon farming countries



Countries surveyed for IPN 2013

19

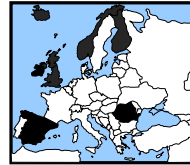
18 countries with IPN program involving 1.723 farms. Listed disease in some countries like Switzerland and Sweden. Mainly broodstock farms included in programs like in Denmark



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Countries surveyed for Gyrodactylus salaris 2014

20



9/39 countries with 374 farms has a *G. salaris* program



Country	Numbers of fish farms involved in 2011/2012	Gyrodactylus salaris	
		Programme based on:	Number of fish farms involved in 2013
Finland	Regional survey of wild fish and at the only one farm at Barents Sea catchment.	Regional survey (watercourses running into the Barents Sea). More farms are examined in the connection with export/research (these farms are situated in the Baltic Sea catchment, where <i>G. salaris</i> is endemic).	Regional survey of wild fish and at the only one farm at Barents Sea catchment.
Ireland	All salmonid farms, five river catchments 150/140	National surveillance (active sampling of FW salmonids farms plus rivers (4 rivers 18 sampled in 2013).	18
Romania	?	Industry financed	5
Spain	?	Regional Government	
England and Wales	189/175	National Programme under Article 43 of Council Directive 2006/88/EC	172
Scotland	84/89	National surveillance - based on inspections (active surveillance)	74 in 2013 (151 in programme)
Northern Ireland	8/21	regional GS programme (additional guarantees)	22
Iceland	5/5	National surveillance based on inspections (passive surveillance) and microscopical survey, in farms rearing wild salmon fingerlings released back to salmon rivers	5
Norway	93/89	List 3. National surveillance programme, wild Atlantic salmon in rivers	89 farms (and 65 rivers)

2. Epidemiological data

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- Number of fish farms **considered to be infected**
- Number of fish farms with susceptible species that are **considered to be free**
- Number of fish farms with susceptible species for which the infection status of the following diseases **is unknown**:



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2. Epidemiological data

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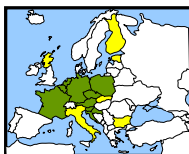
- Other fish diseases than VHS, IHN, SVC, KHV or ISA?
- Is there an **increase or decrease in the number of fish farms infected** with listed diseases compared to previous years ?
- Is there a general increase or decrease in the **severity of infections** with listed diseases compared to previous years ?

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Number of salmonid farms considered to be infected with VHS in Europe, 63 of 7.341 farms

23



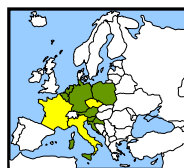
Country	Total number of farms/positive		
	2012	2013	2014
Austria		1319/4	84/3
Belgium	97/2	92/2	90/2
Bulgaria	336/2		81/0
Czech Republic		1625/5	982/12
Croatia		99/1	22/3
Estonia			22/0
Finland	816/26		479/6
France	?	1633/10	/2
Germany	13735/8	12973/11	1073/12
Italy			561/2
Netherlands	151/5	151/5	41/5
Poland	3982/6	3656/8	598/9
Slovakia	168/1		147/0
Slovenia	305/7	301/6	151/7
Scotland	429/4		

- 52 farms in 2013
- 63 farms in 2014 considered VHSV positive in Europe!
- 11 countries reported VHS infected farms (9 in 2013)

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Number of trout farms considered to be infected with IHN in Europe, 62 of 6.021 farms

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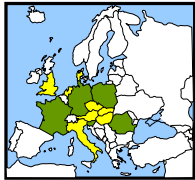


Country	Total number of farms/positive		
	2012	2013	2014
Austria		1319/2	/1
Belgium	97/2	92/1	90/1
Czech republic			
Croatia		99/1	303/4
France			1622/1
Germany	13735/6	12973/5	15812/11
Italy	562/2		901/1
Netherlands	151/8	151/8	59/8
Poland	3982/10	3656/10	4442/3
Slovenia	305/29	301/27	321/28

- 54 farms in 2013
- 62 farms in 2014 considered IHN positive in Europe!

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Number of fish farms considered to be infected with KHV in Europe, 37 of 7.516 farms 25

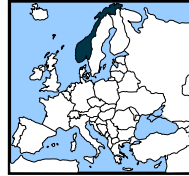


Country	Total number of farms/positive		
	2012	2013	2014
Austria			38/1
Czech Rep.			1462/0
Denmark	327/1		6/0
Estonia			3
France		1633/2	-/1
Germany	13735/33	12973/30	1001/11
Hungary	275/2		164/2
Italy	562/1		
Poland	3982/8	3656/3	3478/5
Slovenia	305/14	301/14	135/14
Romania		99/1	385/1

37 farms in 2014 considered KHV positive in Europe. (50 in 2013)
9 countries reported KHV in 2014

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Number of fish farms considered to be infected with ISA in Europe 26



End of 2014 3 of 1.193 farms reported ISA positive in Norway and 1 of 39 farms in Faroes

No ISA positive 31.12. 2013

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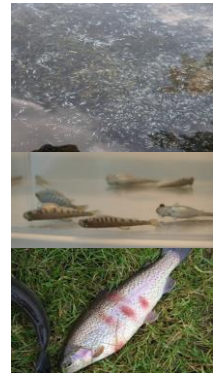


Other diseases problems in Rainbow trout 27

Bulgaria	Yersinia ruckeri , Aeromonas hydrophila , Myxobacteriosis
Estonia	Aeromonas hydrophila - fish gills become the mucus pus, the final of the intestinal tract becomes inflamed.
Finland	IPN genotype 2 in inland fish farms
Germany	IPN Flexibacter/Flavobacter sp. read mouth disease furunculosis
Poland	Yersinia ruckeri , Aeromonas hydrophila , Aeromonas salmonicida subsp. salmonicida , Pseudomonas fluorescens , Shewanella putrefaciens , Flavobacterium psychrophilum . Parasites invasions caused by: Ichthyophthirius multifiliis , Ichtybodo necator
Romania	yersiniosis , furunculosis
Spain	IPN , SDV , RTFS , Saprolegniosis
Sweden	F. psychrophilum
England and Wales	Red mark syndrome
Croatia	RTFS , Red mark syndrome
Rep. of Macedonia	Yersiniosis , Furunculosis , RTFS , Bacterial Gill Disease , Columnaris Disease , Saprolegniosis

Other diseases problems in Rainbow trout Emerging disease? 28

- Infectious pancreatic necrosis
- Sleeping Disease (SAV-2)
- Red mark syndrome
- Gill diseases/ gut inflammation



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Other diseases problems in Carp 29



KHV
CEV
Aeromonas

Very few remarks on disease problems

Belgium	Carp	As last year, mortalities in pond. Identification of KHV , SVC and even tuberculosis .
Italy	Carp	First confirmed case of CEV
Latvia	Cyprinidae	Aeromonosis

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Other diseases problems in Atlantic salmon 30

- Sea lice
- Pancreas disease (PD)
- Infectious pancreatic necrosis (IPN)
- Heart and skeletal muscle inflammation (HSMI)
- Cardiomyopathy syndrome (CMS)
- Amoebic gill disease (AGD)
- Moritella



Ireland	Amoebic gill disease
Scotland	AGD, ERM, CMS, HSMI, IPN, PD, PKD, winter ulcer disease, Vibriosis.
Norway	Sea lice, pancreas disease, infectious pancreatic necrosis, heart and skeletal muscle inflammation, cardiomyopathy syndrome, amoebic gill disease, Moritella
Faroe Islands	CMS

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Other diseases problems in other non-salmonids

Few comments.

- Nodavirus infection in Sea Bass
- AngHV-1 in Eel
- Ranavirus in catfish



Greece	Seabass	VNN/VER
Hungary	Ameiurus nebulosus	ranavirus
Netherlands	eel, Anguilla anguilla	2 x AngHV1 with typical symptoms

Is there an increase or decrease in the number of fish farms infected with listed diseases compared to previous years? I

- Decrease in number of VHS, IHN and KHV infected farms in **Austria** and decrease in severity!
- No VHS any more in **Estonia**
- **Czech Republic** Increase with 9 VHS outbreaks and 4 IHN outbreaks
- **Finland** 28 farms under eradication program. No new VHS cases in 2013 or 2014!
- **Germany**: No changes in most states but some experienced increases and some decreases, including dobbeltinfections with VHS and IHN.
- **Netherlands**: Decrease no VHS or IHN outbreaks reported

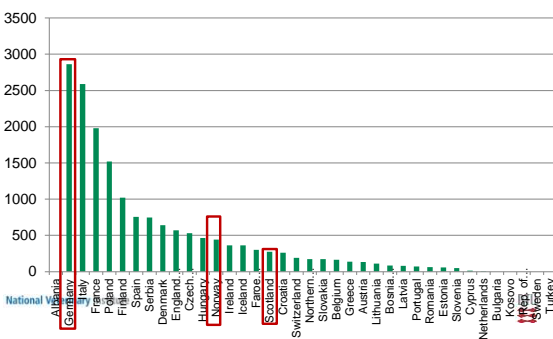
Is there an increase or decrease in the number of fish farms infected with listed diseases compared to previous years? II

- **England & Wales**: The major cause of concern in the UK trout sector is the emergence of skin conditions in rainbow trout which, which whilst may not cause in significantly increased mortality, result in economic losses to fish farmers due to high level of rejections at processing or rejections for restocking recreational fisheries.
- **Scotland**: Decrease in farms infected with VHS - all sites have depopulated and fallowed (virus isolated from wrasse held on sites for biological control).
- **Croatia**: Yes, after outbreak of VHS on the single farm, and IHN on the other, the diseases have spread to another farms; finally there are 3 VHS infected farms and 4 IHN infected farms

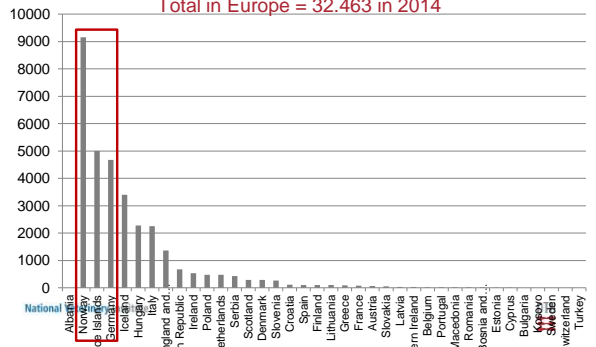
Is there an increase or decrease in the number of fish farms infected with listed diseases compared to previous years? III

- **Norway**: List 3: PD increase from 100 cases in 2013 to 142 cases in 2014.
- **Faroe Islands**: Yes. For the first time since the ISA epidemic 10 years ago one farming site was tested positive for a ISAV-HPRdel. But no clinic was observed and the site was emptied within 2 weeks
- **Switzerland**: In contrast to 2013 (0) in 2014 one case of VHS was detected. In one farm IHN was found compared to two infected farms in the previous year.

No. of samples tested by cell cultivation. Steady decrease³⁵
 Total in Europe = 20.266 fish samples 2013
 Total in Europe = 17.204 fish samples 2014



No of samples tested by PCR or other direct methods without cell cultivation. Steady increase³⁶
 Total in Europe = 24.430 in 2013
 Total in Europe = 32.463 in 2014



Conclusion on S&D 2014

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- No increase in marine production, 2012-2013 and very stable fresh water production.
- Few changes from 2013 to 2014.
- Unfortunately some Member states did not reply in full
- IHN resolved in Hungary
- VHS and IHN in Croatia
- Eradication program for VHS in Finland, no outbreaks in 2013 and 2014
- Still several ISA outbreaks in Norway with 3 infected farms 31.12.2014!
- 1 ISA-deleted I Faroe Islands without clinics
- Skin distress a major problem in RT production

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2014

- This year, thanks to Niccolò raw data are included in the folder this year.
- All data can be retrieved from our web site:

WWW.EURL-Fish.EU

In "Surveillance and diagnosis"

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Thank you for all the significant work, efforts and time used for compiling these data!!

Thank you for your attention!



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