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## ***WESTFJORDS WINTER BIRD SURVEY***

*FINAL REPORT: 2022-2023*

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December 2023

NV nr. 34-23

Frontpage picture. Various gull species in Bolungarvík, photo taken in January 2023 by Cristian Gallo.

Forsíðumynd: Ýmsar mávategundir í Bolungarvík, mynd tekin í janúar 2023 af Cristian Gallo.

 <b>NÁTTÚRUSTOFA VESTFJARÐA</b>		<b>Month-Year/ Mán- ár:</b> December-2023
<b>Report/Skýrsla nr:</b> NV nr. 34-23	<b>Work number/Verknúmer:</b> 413	<b>Distribution/Dreifing:</b> <input checked="" type="checkbox"/> Open/Opin <input type="checkbox"/> Closed until/Lokuð til: <input type="checkbox"/> Háð leyfi verkkaupa
<b>Pages/Blaðsiður:</b> 13	<b>Work stage/Verkstig:</b> Final report/Lokaskýrsla	
<b>Title/ Heiti skýrslu:</b> Westfjords winter bird survey. Final report 2022-2023.		<b>Worked for/Unnið fyrir:</b> Icelandic Ministry of Environment, Energy and Climate (URN)/ Umhverfis-, orku- og loftslagsráðuneytið
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<b>ABSTRACT/ÚTDRATTUR</b> <p>Birds have been consistently counted during winter in some areas of the Westfjords region since 2002. From year 2021-22 researchers at NAVE have consistently counted birds in Patreksfjörður, Tálknafjörður, Bíldudalur, Dýrafjörður, Öfundarfjörður, Súgandafjörður, Skutulsfjörður, Álftafjörður, Skötufjörður, and in Bolungarvík. All birds are counted from a car using a Carl Zeiss Diascope (85T*FL) or binoculars. All data collected during these counts has been submitted to Icelandic Natural History Institute and can be found on their website. Results of the counts from 2010-2022 for 5 species listed in the red list of Icelandic birds are presented in this report. This species is Great black-backed gull (<i>Larus marinus</i>), Glaucous gull (<i>Larus hyperboreus</i>), Common raven (<i>Corvus corax</i>), Common eider (<i>Somateria mollissima</i>) and Long-tailed duck (<i>Clangula hyemalis</i>).</p> <p>Fuglar hafa verið markvisst taldir yfir vetrartíma á ýmsum svæðum Vestfjarða síðan 2002. Markast það af því hve erfitt hefur verið að manna sum svæðin með sjálfboðaliðum sem hafa nægilega þekkingu. Frá árinu 2021-22 hefur fuglafræðingur Náttúrustofunnar talið fugla á Patreksfirði, Tálknafirði, Bíldudal, Dýrafirði, Öfundarfirði, Súgandafirði, Skutulsfirði, Álftafirði, Skötufirði og í Bolungarvík. Öll þau gögn sem safnað hefur verið í þessum talningum hafa verið send til Náttúrufræðistofnunar Íslands (NÍ) og hafa verið birt á heimasíðu þeirra. Hér eru einungis birtar niðurstöður talninga, árána 2010-2022, þeirra fimm tegunda sem eru á valista NÍ. Þetta eru tegundirnar svartbakur (<i>Larus marinus</i>), hvítmáfur (<i>Larus hyperboreus</i>), hrafn (<i>Corvus corax</i>), æðarfugl (<i>Somateria mollissima</i>) og hávella (<i>Clangula hyemalis</i>). Allir fuglar voru taldir frá bíl og þegar NAVE taldi var notast við tvenns konar sjónauka, Carl Zeiss Diascope (85T*FL) og handsjónauka.</p>		
<b>Signature of project manager/Undirskrift verkefnastjóra:</b> 		<b>Reviewed By/Yfirfarið Af:</b> Sigurður Halldór Árnason

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## INTRODUCTION

This study is part of the project, "Bird Monitoring in the Westfjords" ("Fuglavöktun á Vestfjörðum"), funded by the Icelandic Ministry of Environment, Energy, and Climate (URN). In 2019, Náttúrustofa Vestfjarða (NAVE) secured funding directly from URN, specifically allocated towards monitoring birds in the Westfjords. This funding originates from an older contract between NAVE and URN (2009), which stems from the initiative "Strengthening Rural Communities in the Westfjords" ("Sérstakra Byggðaaðgerða á Vestfjörðum 2009"). The project, "Bird Monitoring in the Westfjords," includes monitoring the Glaucous gull (*Larus hyperboreus*), seabirds in Látrabjarg and Hælavíkurbjarg, the Arctic tern (*Sterna paradisaea*) throughout the Westfjords, the black Guillemot (*Cephus grille*) on the island of Vigur, and birds in the Westfjords during winter. This report specifically focuses on bird counts during winter in the Westfjords.

Bird counts during winter in Iceland have been conducted since 1952. Náttúrufræðistofnun (NÍ) oversees data collection nationwide, while NAVE is responsible for counts in most parts of the Westfjords region. The primary aim is to gather data on the number and distribution of birds in the area during the winter season. Counts are standardized and can be used for long-term monitoring of specific populations.

## METHODOLOGY

Birds have been consistently counted during winter in some areas of the Westfjords region since 2002, although not in all areas. The methods used in this study are the same as those employed for the last few decades. All birds are counted from a car using a Carl Zeiss Diascope (85T\*FL) or binoculars. During the winters of 2021-22 and 2022-23, researchers at NAVE counted birds in Patreksfjörður, Tálknafjörður, Bíldudalur, Dýrafjörður, Önundarfjörður, Súgandafjörður, Skutulsfjörður, Álftafjörður, Skötufjörður, and in Bolungarvík. Hestfjörður was also included in the count in 2022-23. Volunteers counted in Steingrímsfjörður, Reykhólar, Berufjörður, and Þorskafjörður. Since daylight hours are reduced during winter, counting started around 11:00 am and ended around 15:30 pm, with one fjord counted per day, except for Tálknafjörður and Bíldudalur, and Skötufjörður and Hestfjörður, which were counted on the same day (Figure 1-2).



Figure 1. Areas counted in the northern part of the Westfjords.



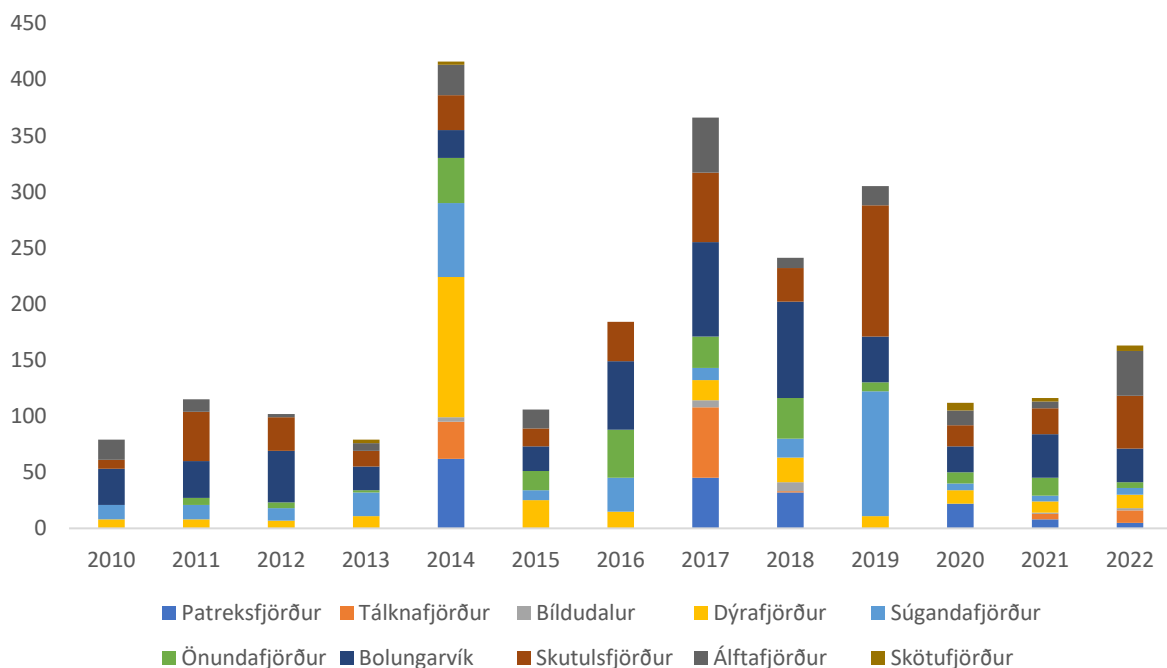
Figure 2. Areas counted in the southern part of the Westfjords.

## RESULTS

All data collected during these counts has been submitted to NÍ and can be found on their website <https://www.ni.is/is/vetrarfuglatalningar-nidurstodur>. Results of the counts of birds listed as Endangered (EN) species, such as the Great black-backed gull (*Larus marinus*) and Glaucous gull (*Larus hyperboreus*), or Vulnerable (VU) species, such as Common raven (*Corvus corax*), Common eider (*Somateria mollissima*), or Near Threatened (NT) species like the Long-tailed duck (*Clangula hyemalis*), according to the Red List of NÍ (NÍ, October 2023), are presented in Table 1. Below, we briefly describe the population trends for these species.

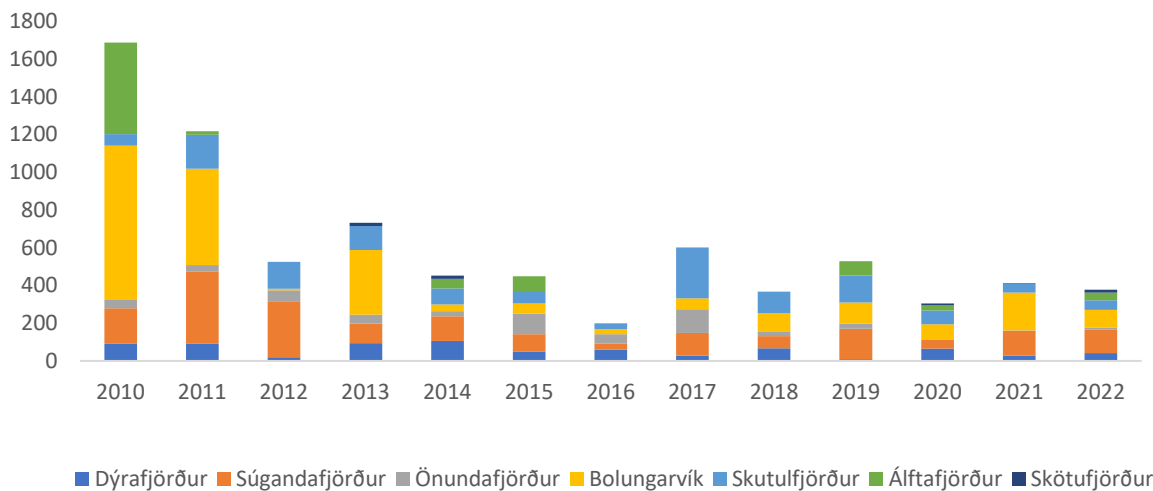
As mentioned in the methods section, not all locations were counted each year, so this must be considered when interpreting the results. For example, Skötufjörður was counted in 2013-2014 and then from 2020. In the southern part of the Westfjords, Patreksfjörður, Tálknafjörður, and Bíldudalur were counted in the years 2014, 2017, and 2018, but Patreksfjörður was also counted in 2020. From 2021, all areas were continuously counted by researchers at NAVE.

The number of individuals of Great black-backed gulls counted in the region fluctuated greatly during the period 2010-2022. The number of individuals was stable from 2010-2013; however, in 2014, the number increased significantly, going from less than 100 individuals to over 400. A drastic drop occurred in 2015 (~100), with the number of individuals counted slowly increasing until 2019 (>300), where we again see a drop the following year (~100). For the period 2020-2022, the number of individuals has steadily increased from roughly 100 to greater than 150 (Figure 3).



**Figure 3.** Numbers of Great black-backed gulls counted during the winter bird count in the Westfjords over the time-period 2010-2022. Skötufjörður is missing data for years 2010-2012 and 2015-2019, Patreksfjörður is missing data for years 2010-2013 and for 2015-2016 and 2019. Tálknafjörður and Bíldudalur are missing data for years 2010-2013, 2015-2016, and 2019-2020.

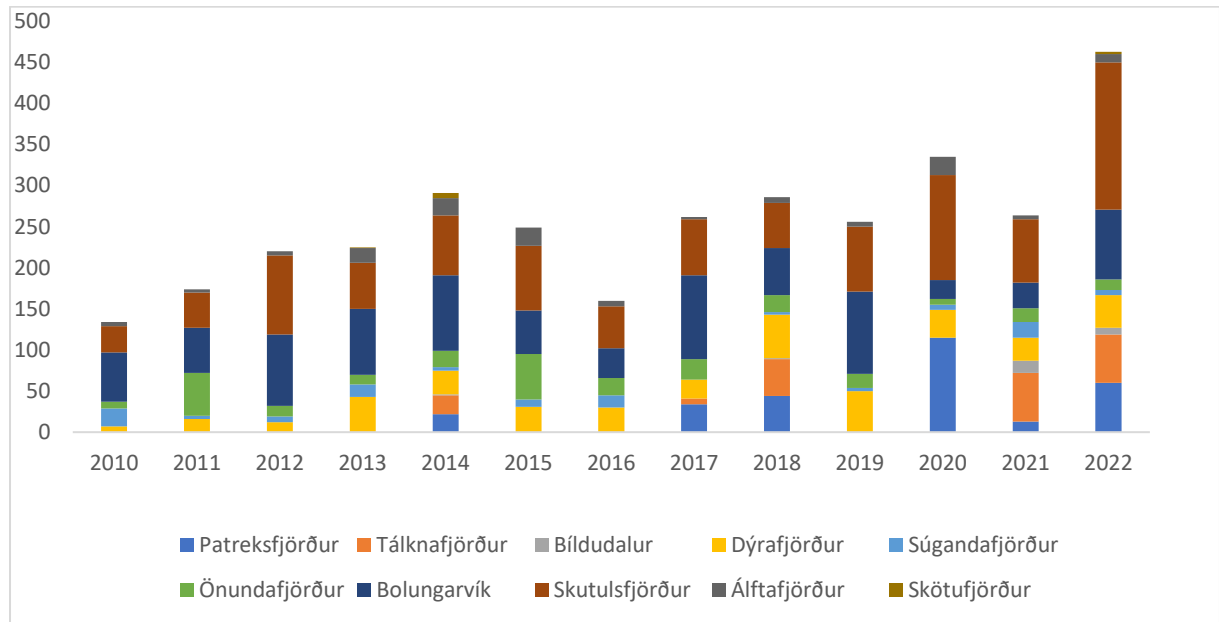
The number of Glaucous gulls that were counted decreased substantially from 2010-2012 (>1,600 to <600 respectively), after which the number counted was relatively consistent (Figure 4). It must be noted that the number of Glaucous gulls counted in Álftafjörður in 2010 may be skewed due to possible misclassification of the Iceland gull (*Larus glaucoides*) as Glaucous gull. This is because the count in Álftafjörður that year was conducted by volunteers, and distinguishing between the two gulls may be challenging for a person with limited experience in gull identification. Moreover, it must also be noted that data are missing for Glaucous gull counts from three locations in the southern Westfjords (Patreksfjörður, Tálknafjörður, and Bíldudalur), which are therefore not shown in the picture. One should therefore be cautious when comparing total numbers between years when looking at Figure 4.



**Figure 4.** Numbers of Glaucous gulls counted during the winter bird count in the northern Westfjords over the time-period 2010-2022. Skötufjörður is missing data for years 2010-2012 and 2015-2019.

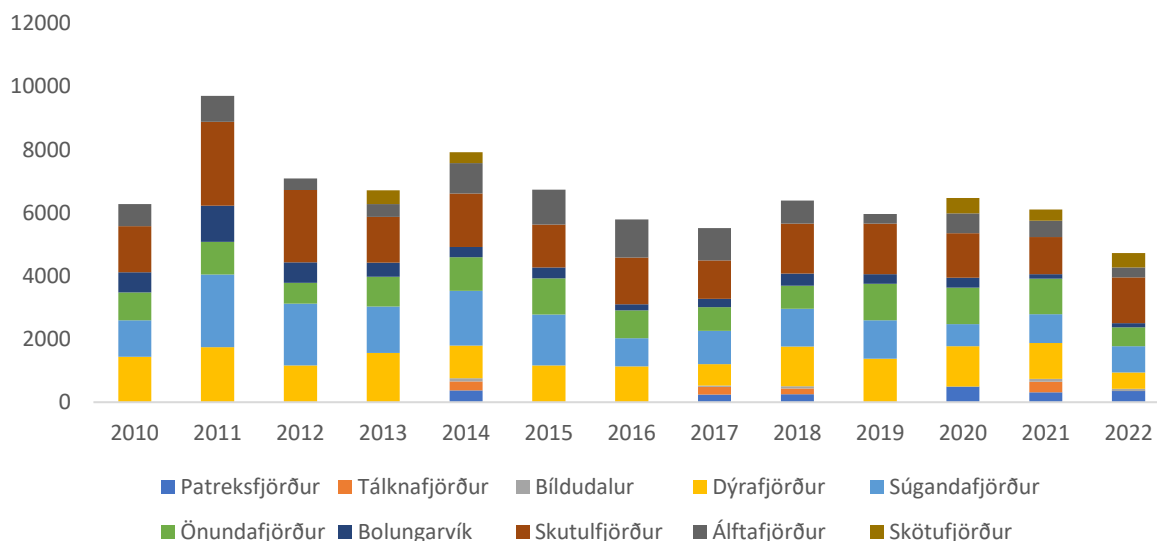
The number of Common ravens counted in the region shows an overall increasing trend despite localized variability, with the total number counted increasing from roughly 150 in 2010 to over 450 in 2022 (Figure 5). This includes a substantial increase in number counted between 2021 and 2022 (~250 to ~450 respectively), specifically in Skutulsfjörður, Súgandafjörður and Bolungarvík.





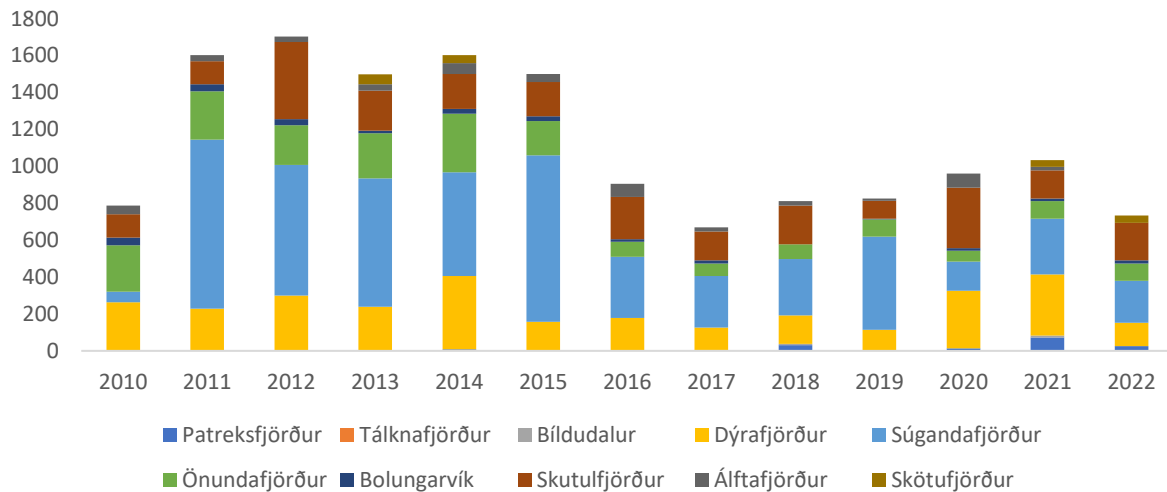
**Figure 5.** Numbers of Common ravens counted during the winter bird count in the Westfjords over the time-period 2010-2022.

The number of Common eiders counted is overall also stable between years despite some slight fluctuations in numbers in certain locations. The year 2011 has the highest count out of all the years with around 10 thousand Eiders counted (Figure 6). The Common eider is by far the most numerous out of all the birds included in the winter bird count in the Westfjords (NÍ, October 2023). Looking at the total numbers for the region from 2020-2022, we seem to see an overall decreasing trend, with 2022 having the lowest count in the whole series despite having three more fjords in the count than there were from 2010-2013.



**Figure 6.** Numbers of Common eiders counted during the winter bird count in the Westfjords over the time-period 2010-2022. Skötufjörður is missing data for years 2010-2012 and 2015-2019, Patreksfjörður is missing data for years 2010-2013 and for 2015-2016 and 2019-2020.

Counts of Long-tailed ducks indicate a decrease in the winter population size over the last ten years (>1,500 in 2011 down to <1,000 in 2022), specifically and especially in Súgandafjörður (917 in 2011 down to 228 in 2022) and Öndarfjörður (261 in 2011 down to 94 in 2022). It should be noted that the low numbers obtained in Súgandafjörður in 2010 can likely be attributed to the fact that only one of three counting locations was surveyed. These locations happen to be the locations which had the highest abundance in subsequent years (Figure 7).



**Figure 7.** Numbers of Long-tailed ducks counted during the winter bird count in the Westfjords over the time-period 2010-2022. Skötufjörður is missing data for years 2010-2012 and 2015-2019, Patreksfjörður is missing data for years 2010-2013 and for 2015-2016 and 2019. Tálknafjörður and Bíldudalur are missing data for years 2010- 2013, 2015-2016 and 2019-2020.

**Table 1.** Results from counts of five species found in the red list of the Icelandic Institute of Natural History. PAT for Patreksfjörður, TÁL for Tálknafjörður, BÍL for Bíldudalur, DÝR for Dýrafjörður, SÚG for Súgandafjörður, ÖNU for Öndarfjörður, BOL for Bolungarvík, SKU for Skutulsfjörður, ÁLF for Álftafjörður and SKÖ for Skötufjörður.

	PAT	TÁL	BÍL	DÝR	SÚG	ÖNU	BOL	SKU	ÁLF	SKÖ
<b>SVARTBAKUR</b>										
2010				8	13	0	32	8	18	
2011				8	13	6	33	44	11	
2012				7	11	5	46	30	3	
2013				11	21	2	21	14	7	3
2014	62	33	4	125	66	40	25	31	27	3
2015				25	9	17	22	16	17	
2016				15	30	43	61	35		
2017	45	63	6	18	11	28	84	62	49	
2018	32	1	8	22	17	36	86	30	9	
2019				11	111	8	41	117	17	
2020	22			12	6	10	23	19	13	7
2021	8	5	1	10	5	16	39	23	6	3
2022	5	11	2	12	6	5	30	47	40	5
<b>HVÍTMÁFUR</b>										
2010				90	189	47	815	61	486	
2011				90	382	37	510	180	18	
2012				19	294	61	8	143	0	
2013				94	103	48	343	128	0	16
2014				106	131	27	35	86	51	16
2015				48	94	108	54	66	79	
2016				60	32	49	28	30	0	
2017				28	121	125	58	269	0	
2018				67	64	26	96	114	0	
2019				9	162	27	111	143	77	
2020				65	47	2	81	72	28	10
2021	16	6	6	28	132	2	200	46	0	3
2022	71	4	36	41	125	12	92	51	41	16

	PAT	TÁL	BÍL	DÝR	SÚG	ÖNU	BOL	SKU	ÁLF	SKÖ
<b>HRAFN</b>										
2010				7	22	8	60	32	5	
2011				16	4	52	55	43	4	
2012				12	7	13	87	96	5	
2013				43	15	12	80	56	18	1
2014	22	23	1	29	4	20	92	73	21	6
2015				31	9	55	53	79	22	
2016				30	15	21	36	51	7	
2017	34	7		23		25	102	68	3	
2018	44	45	1	53	3	21	57	55	7	
2019				50	4	17	100	79	6	
2020	115			34	6	7	23	128	22	
2021	13	59	15	28	19	17	31	77	5	
2022	60	59	8	40	6	13	85	179	10	3
<b>ÆÐARFUGL</b>										
2010				1441	1152	882	635	1461	701	
2011				1745	2298	1037	1142	2662	815	
2012				1167	1950	663	648	2294	365	
2013				1562	1467	943	449	1451	401	436
2014	375	278	110	1029	1730	1073	322	1688	966	344
2015				1169	1603	1153	337	1367	1098	
2016				1137	890	880	198	1478	1202	
2017	246	240	36	679	1058	755	259	1218	1024	
2018	251	183	74	1258	1197	725	389	1575	736	
2019				1375	1217	1160	305	1601	299	
2020	500			1268	704	1161	308	1413	626	486
2021	317	331	88	1134	917	1127	144	1172	521	353
2022	351	7	71	513	828	601	136	1444	315	461
<b>HÁVELLA</b>										
2010				264	56	252	42	126	47	
2011				228	917	261	38	125	33	
2012				300	708	215	33	418	29	
2013				239	695	246	14	217	34	53
2014	9			397	561	319	26	188	60	43
2015				158	902	186	26	185	43	
2016				179	331	81	15	229	71	
2017	5			121	279	69	17	155	24	
2018	31		6	155	305	80		210	24	
2019				115	504	94	4	96	13	
2020	13			313	157	59	15	328	75	
2021	72		11	332	301	95	15	153	18	37
2022	26			126	228	94	16	203		40

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