

**Report for January 2024 G- & R-NRUF – Canadian NPAs  
to the  
Canadian Steering Committee on Numbering (CSCN)**

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Issued by:  
Canadian Numbering Administrator  
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## 1. Purpose of G- & R-NRUF

The purpose of the General Numbering Resource Utilization Forecast (G-NRUF) is to provide an annual forecast to aid in projecting Numbering Plan Area (NPA) and North American Numbering Plan (NANP) exhaust. The G-NRUF process requires current and prospective Central Office (CO) Code Holders to submit actual and forecast annual data regarding their current and future use of CO Codes to the Canadian Numbering Administrator (CNA) on an annual basis.

In accordance with the *Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline* (the Guideline), approved by the Canadian Radio-television and Telecommunications Commission (CRTC) in Telecom Decision CRTC 2015-166 dated 29 April 2015:

When an NPA is entering the timeframe for NPA Relief Planning (e.g., within or about 72 months before the Projected Exhaust Date), an initial R-NRUF is conducted to obtain actual and forecast annual data at the Exchange Area level of detail. The purpose of the initial R-NRUF is to validate the Projected Exhaust Date for an exhausting NPA, and to provide the CNA with detailed information to be used to identify a potential Relief Date and to prepare the Initial Planning Document as outlined in the *Canadian NPA Relief Planning Guideline*. Typically, the initial R-NRUF will utilize Format 2 in Appendix A. In general, the CNA will conduct the initial R-NRUF when needed; however, the CNA should attempt to choose dates for the initial and subsequent R-NRUFs that will coincide with the annual G-NRUF and mid-year R/S-NRUF dates (e.g., as of January 1 and July 1 each year).

Subsequent R-NRUFs will be conducted semi-annually to monitor CO Code forecast changes prior to implementing relief. These R-NRUFs shall be conducted until three months of when relief is implemented, or until they are replaced by S-NRUFs or J-NRUFs.

Based on the January 2024 NRUF results, the CNA determined that the following NPAs continue to be in the relief planning window:

- 236/250/604/672/778; and
- 416/437/647.

NPAs 249/683/705, 289/365/742/905, 343/613/753, 367/418/581, 368/403/587/780/825 and 782/902 are in the 6-year relief planning window based on the *Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline, Version 5.1*.

On 11 June 2021, CRTC staff agreed that future R-NRUFs should be performed at the area code level of detail where multiple area codes serve the same geographic area.

The CNA has prepared this report in accordance with the Guideline.

Included as attachments to this report are:

- 2024 G- & R-NRUF Aggregate Results and the Quantity of CNA CO Codes as of 1 January 2024;
- Geographic CO Code Growth – Actuals, Forecasts & Error;
- Historical January NRUF Graphs for Canadian NPAs; and,

- CSCN Letter dated 15 December 2023 providing direction to the CNA re: the 2024 Numbering Resource Utilization Forecast (2023 NRUF) Methodology and Assumptions.

## 2. High Level Summary

On 30 October 2023, the CNA received a letter from the CRTC Secretary General (<https://crtc.gc.ca/eng/archive/2023/lt231115a.htm>) limiting the assignments and forecast of CO Codes based on the NRUF forecasts submitted for the July 2023 NRUF or earlier. As a result, the CNA was not expecting any Projected Exhaust Dates (PEDs) to advance during the six year forecast period.

Based on the letter, the CNA also requested that all current and prospective CO Code Holders submit 2 versions of their forecast:

- i. Form 1 where CO Code Holders could not exceed their July 2023 forecast; and
- ii. Form 2 where CO Code Holders could forecast without being restricted by their previous forecasts.

As a result of the Secretary General's letter, the CNA was not expecting any PEDs to advance during the six year forecast period in the Form 1 version of the January 2024 G- & R-NRUF, however the PED in some NPAs was delayed compared to the 2023 NRUF. The following are some of the factors that are impacting these forecasts:

- 1) The letter from the CRTC Secretary General limiting assignments and forecasts impacted the Form 1 version;
- 2) Some TSPs reducing their forecasts in an effort to conserve numbering resources.

NPA complexes that are forecast to exhaust within 36 months are considered to be in the Relief Planning window in accordance with the [Canadian NPA Relief Planning Guideline](#) and NPA complexes that are forecast to exhaust in less than 72 months are considered to be in the R-NRUF window in accordance with the [Canadian Numbering Resource Utilization Forecast \(C-NRUF\) Guideline](#). The following table shows those NPA complexes in the Relief Planning and R-NRUF windows with the latest PEDs. Additionally the previous PED from 2023 is included:

NPA Complex	2023 NRUF PED	January 2024 NRUF PED	Remarks
236/250/257/604/672/778	Nov-2025	Jan-26	Relief <b>24 May 2025</b> iaw Telecom Decision CRTC 2023-135. Approved NPA - 257
249/683/705	Jun-2029	Dec-2029	R-NRUF Window
289/365/742/905	Jul-2028	Oct-2028	R-NRUF Window
343/613/753	Mar-2029	Jun-2029	R-NRUF Window
367/418/581	Jun-2027	May-2028	R-NRUF Window
368/403/587/780/825	Apr-2028	May-2029	R-NRUF Window
416/437/647/942	Dec-2025	Feb-2026	Relief <b>26 April 2025</b> iaw Telecom Decision CRTC 2023-135. Approved NPA – 942
782/902	Feb-2028	Mar-2029	R-NRUF Window

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The following table compares the Form 1 and Form 2 PEDs of the next exhaust date for all 18 NPA Complexes:

NPA Complex	January 2024 Form 1 PED	January 2024 Form 2 PED	Months Difference
204/431/584	Sep-2036	May-2035	16
226/382/519/548	Jun-2032	Nov-2031	7
236/250/257/604/672/778	Jan-26	Nov-25	2
249/683/705	Dec-2029	Sep-2029	3
263/438/514	Mar-2034	Aug-2033	7
289/365/742/905	Oct-2028	Jun-2028	4
306/474/639	Aug-2036	Dec-2034	20
343/613/753	Jun-2029	Aug-2028	10
354/450/579	May-2037	Apr-2036	13
367/418/581	May-2028	Jul-2027	10
368/403/587/780/825	May-2029	Jun-2028	11
416/437/647/942	Feb-2026	Sep-2025	5
428/506	Oct-2044	Sep-2043	13
468/819/873	Jun-2036	Jan-2035	17
709/879		Dec-2024	
782/902	Mar-2029	Jun-2028	9
807	Apr-2045	Sep-2044	7
867	Beyond 2045	Beyond 2045	

In most NPA Complexes, the exhaust date advanced in the Form 2 results compared to the Form 1 results because CO Code Holders' forecasts were not limited by the provisions of the Secretary General's letter.

**3. Current and Past G-NRUF Projected Exhaust Dates**

NPA	Location	2020	2021	2022	2023	2024*
204/431	Manitoba	Jan-25	Apr-24	Nov-23	Oct-32	Sep-36
		Mar-38	Feb-35	Aug-34		
226/519/548	S. Ontario	Jan-28	Jul-24	Mar-25	May-24	
			Sep-34	Feb-33	Jun-30	Jun-32
				Dec-40	Jul-37	Nov-39
					Sep-44	
236/250/604/672/778	BC	Oct-26	Feb-27	Mar-27	Dec-25	Jan-26
		Mar-34	Oct-33	Nov-34	Nov-30	Feb-31
		Aug-41	Jun-40		Sep-38	Mar-39
249/683/705	N. E. Ontario	Apr-26	Apr-23	Oct-23	Jan-29	Dec-29
			Apr-31	May-32	Nov-40	Nov-41
			Jul-42			
263/438/514	Montreal	Mar-26	Jul-24	Mar-24		

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NPA	Location	2020	2021	2022	2023	2024*
			Dec-36	Jun-35	Sep-33	Mar-34
289/365/742/905	Toronto Fringe	Mar-23	Sep-22		Oct-28	Oct-28
		Jul-33	Mar-30	May-29	Aug-36	Jan-36
			Jul-39	Jan-38	Feb-44	Sep-43
306/474/639	Saskatchewan	Jan-22	May-22			
		Sep-37	Jul-35	Jan-38	Sep-32	Sep-32
					Jun-44	Jun-44
343/613/753	Ottawa area	Jun-25	Oct-22	Jun-23	Apr-29	Jun-29
		Oct-38	May-32	Oct-33	Jan-39	Oct-42
354/450/579	Montreal Fringe	Jun-24	Oct-24	Sep-23	Aug-24	
		Jul-38	Oct-37	Apr-46	Feb-37	May-37
367/418/581	N. E. Quebec	Feb-33	Mar-28	Jul-33	Jun-27	May-29
					Apr-35	Jun-42
			Aug-37		Apr-44	
368/403/587/780/825	Alberta	Dec-22	Jan-23	Aug-22	Jun-28	May-29
		Mar-30	Feb-30	Feb-28	Jul-37	Sep-38
		Sep-37	Mar-41	Jun-38		
416/437/647	Toronto	Jan-25	Jul-26	Mar-26	Nov-25	Feb-26
					May-33	Mar-34
		Jul-35	Mar-38	Jul-35	Oct-41	Dec-43
428/506	New Brunswick	Mar-24	Jan-24	Oct-24	Jul-24	
					Aug-44	Oct-24
468/819/873	N. W. Quebec	Oct-25	Jul-25	Jul-23	Jun-32	Jun-36
				Jul-34	Feb-43	
709	Nfld & Labrador	Aug-23	Mar-24	Sep-26	Dec-24	
782/902	Nova Scotia & PEI	Apr-34	Nov-33	Nov-29	Feb-28	Mar-29
807	N.W. Ontario	Beyond 2041	Beyond 2042	Beyond 2043	Aug-40	Apr-45
867	Yukon, NWT, Nunavut	Beyond 2041	Beyond 2042	Beyond 2043	Beyond 2044	Beyond 2045

\*Note: The 2024 PEDs are based on the Form 1 results which were impacted by the Letter from the CRTC Secretary General.

#### 4. R-NRUF – High Level Summary

The results from the January 2024 R-NRUF are different from the July 2023 R-NRUF results due to some TSPs submitting updated data. The CNA has verified the input from TSPs and the variance from previous inputs can be rationalized.

The NRUF results were reviewed by the CSCN and RPCs during a joint conference call held on 11 April 2024.

**NPA 236/250/604/672/778**

NRUF data, including the most recent results, is summarized in the following chart.

<b>NPA 236/250/604/672/778 Summary of Projected Exhaust Dates</b>			
<b>NPA</b>	<b>Type of C-NRUF</b>	<b>Date of Publication</b>	<b>Projected Exhaust Date</b>
236/250/604/672/778	January 2021 G-NRUF	23 February 2021	February 2027
236/250/604/672/778	July 2021 R-NRUF	19 August 2021	April 2027
236/250/604/672/778	January 2022 R-NRUF	1 March 2022	March 2027
236/250/604/672/778	July 2022 R-NRUF	16 September 2022	July 2026
236/250/604/672/778	January 2023 R-NRUF	29 March 2023	December 2025
236/250/604/672/778	July 2023 R-NRUF	18 August 2023	November 2025
236/250/604/672/778	January 2024 R-NRUF	28 March 2024	January 2026

**NPA 249/683/705**

NRUF data, including the most recent results, is summarized in the following chart.

<b>NPA 249/683/705 Summary of Projected Exhaust Dates</b>			
<b>NPA</b>	<b>Type of C-NRUF</b>	<b>Date of Publication</b>	<b>Projected Exhaust Date</b>
249/683/705	January 2023 G-NRUF	29 March 2023	January 2029
249/683/705	July 2023 R-NRUF	18 August 2023	June 2029
249/683/705	January 2024 R-NRUF	28 March 2024	December 2029

**NPA 289/365/742/905**

NRUF data, including the most recent results, is summarized in the following chart.

<b>NPA 249/683/705 Summary of Projected Exhaust Dates</b>			
<b>NPA</b>	<b>Type of C-NRUF</b>	<b>Date of Publication</b>	<b>Projected Exhaust Date</b>
289/365/742/905	January 2023 G-NRUF	29 March 2023	October 2028
289/365/742/905	July 2023 R-NRUF	18 August 2023	July 2028
289/365/742/905	January 2024 R-NRUF	28 March 2024	October 2028

**NPA 343/613/753**

NRUF data, including the most recent results, is summarized in the following chart.

<b>NPA 343/613/753 Summary of Projected Exhaust Dates</b>			
<b>NPA</b>	<b>Type of C-NRUF</b>	<b>Date of Publication</b>	<b>Projected Exhaust Date</b>
343/613/753	January 2023 G-NRUF	29 March 2023	April 2029
343/613/753	July 2023 R-NRUF	18 August 2023	March 2029
343/613/753	January 2024 R-NRUF	28 March 2024	June 2029

**NPA 367/418/581**

NRUF data, including the most recent results, is summarized in the following chart.

<b>NPA 367/418/581 Summary of Projected Exhaust Dates</b>			
<b>NPA</b>	<b>Type of C-NRUF</b>	<b>Date of Publication</b>	<b>Projected Exhaust Date</b>
367/418/581	January 2023 G-NRUF	29 March 2023	June 2027
367/418/581	July 2023 R-NRUF	18 August 2023	June 2027
367/418/581	January 2024 R-NRUF	28 March 2024	May 2028

**NPA 368/403/587/780/825**

NRUF data, including the most recent results, is summarized in the following chart.

<b>NPA 403/587/780/825 Summary of Projected Exhaust Dates</b>			
<b>NPA</b>	<b>Type of C-NRUF</b>	<b>Date of Publication</b>	<b>Projected Exhaust Date</b>
368/403/587/780/825	January 2023 G-NRUF	29 March 2023	June 2028
368/403/587/780/825	July 2023 R-NRUF	18 August 2023	April 2028
368/403/587/780/825	January 2024 R-NRUF	28 March 2024	May 2029

**NPA 416/437/647**

NRUF data, including the most recent results, is summarized in the following chart.

<b>NPA 416/437/647 Summary of Projected Exhaust Dates</b>			
<b>NPA</b>	<b>Type of C-NRUF</b>	<b>Date of Publication</b>	<b>Projected Exhaust Date</b>
416/437/647	January 2019 G-NRUF	26 March 2019	January 2024
416/437/647	July 2019 R-NRUF	20 September 2019	June 2025
416/437/647	January 2020 G-NRUF	24 March 2020	January 2025
416/437/647	July 2020 R-NRUF	18 August 2020	November 2025
416/437/647	January 2021 R-NRUF	23 February 2021	July 2026
416/437/647	July 2021 R-NRUF	19 August 2021	November 2025
416/437/647	January 2022 R-NRUF	1 March 2022	March 2026
416/437/647	July 2022 R-NRUF	16 September 2022	November 2026
416/437/647	January 2023 R-NRUF	29 March 2023	November 2025
416/437/647	July 2023 R-NRUF	18 August 2023	December 2025
416/437/647	January 2024 R-NRUF	28 March 2024	February 2026

**NPA 782/902**

NRUF data, including the most recent results, is summarized in the following chart.

<b>NPA 782/902 Summary of Projected Exhaust Dates</b>			
<b>NPA</b>	<b>Type of C-NRUF</b>	<b>Date of Publication</b>	<b>Projected Exhaust Date</b>
782/902	January 2023 G-NRUF	29 March 2023	February 2028
782/902	July 2023 R-NRUF	18 August 2023	February 2028
782/902	January 2024 R-NRUF	28 March 2024	March 2029

**NPA 622 (Non-Geo)**

NRUF data, including the most recent results, is summarized in the following chart.

<b>NPA 622 Summary of Projected Exhaust Dates</b>			
<b>NPA (Non-Geo)</b>	<b>Type of C-NRUF</b>	<b>Date of Publication</b>	<b>Projected Exhaust Date</b>
622	January 2023 G-NRUF	29 March 2023	May 2024
622	July 2023 R-NRUF	18 August 2023	September 2023
622	January 2024 R-NRUF	28 March 2024	January 2024

**5. Schedule of Future NRUF Activities in the Current Year**

<b>Due Date</b>	<b>NRUF Type</b>	<b>NRUF Format</b>	<b>NPA(s)</b>
28 July	R-NRUF	NPA level, Form 1 & 2	236/250/257/604/672/778
28 July	R-NRUF	NPA level, Form 1 & 2	249/683/705
28 July	R-NRUF	NPA level, Form 1 & 2	289/365/742/905
28 July	R-NRUF	NPA level, Form 1 & 2	343/613/753
28 July	R-NRUF	NPA level, Form 1 & 2	367/418/581
28 July	R-NRUF	NPA level, Form 1 & 2	368/403/587/780/825
28 July	R-NRUF	NPA level, Form 1 & 2	416/437/647/942
28 July	R-NRUF	NPA level, Form 1 & 2	782/902

**6. Summary of Challenges Encountered during the G- & R-NRUF Process**

- a) The biggest challenge was making sure all companies completed both Form 1 and Form 2 correctly;
- b) Several companies did not submit their NRUF until after the due date, despite reminder emails. Some companies even failed to submit their forecasts within 7 days after the due date but all submissions were eventually received; and
- c) Getting companies to resubmit their Form 1 forecast because the values they submitted exceeded their July 2023 forecasts.



## 7. Potential Solutions Identified by the CNA to Address NRUF Process Issues

- a) The CNA strives to instill the importance of an accurate forecast to TSPs, highlighting the consequences of inaccurate forecasting to both the industry and the public. Until the industry makes accurate forecasting a priority in the allocation of appropriate resources, the CNA believes that the forecasts will remain unpredictable.
- b) The CSCN should strive to increase the participation of TSPs in its activities, such that they are more conversant with the significance of various numbering requirements (e.g., the C-NRUF process, relief planning).
- c) Given the volatility of the forecast and the extra work required by the RPCs to constantly adjust Relief Implementation Schedules, the CNA suggests that the RPCs consider recommending in their Planning Documents and Relief Implementation Plans that once the initial Relief Implementation Date is established, this date would not be advanced, however could be delayed in extenuating circumstances. This would allow for better forecasting, budgeting plans and allocation of resources within a given time frame as well as providing a consistent message to the public.

## 8. G-NRUF Assumptions

The assumptions used for the January 2024 G-NRUF are the assumptions that were provided on 15 December 2023 via letter to the CNA by the CSCN for conducting the January 2024 NRUF.

Item 4 of the letter states, in part:

Where the CNA believes, based on its analysis of past growth and NRUF forecast data for an NPA, that the six-year forecast average annual growth may not be the best methodology for that NPA for projecting growth beyond the six-year forecast period, the CNA shall seek guidance from CRTC staff and will advise the CSCN of the alternative method used.

In this instance, the CNA compared the average forecast growth for the next five years, the average growth for the next six years and average historical growth for the past five years. Generally, the lowest number resulting from these calculations was the one used to identify the PED for each NPA.

## 9. Conclusion

In accordance with Section 4, Item 6 h) of the *Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline*, the CNA has conducted assessments, sought clarification and/or explanation from various TSPs to reconcile 2023 growth with current and historical forecasts to determine whether the January 2024 NRUF results are reasonable and the Projected Exhaust Dates for all NPAs are realistic.

Based on the data and explanations provided by TSPs in response to the CNA's questions, the NRUF results appear reasonable and the Projected Exhaust Dates for Canadian NPAs are generally realistic.

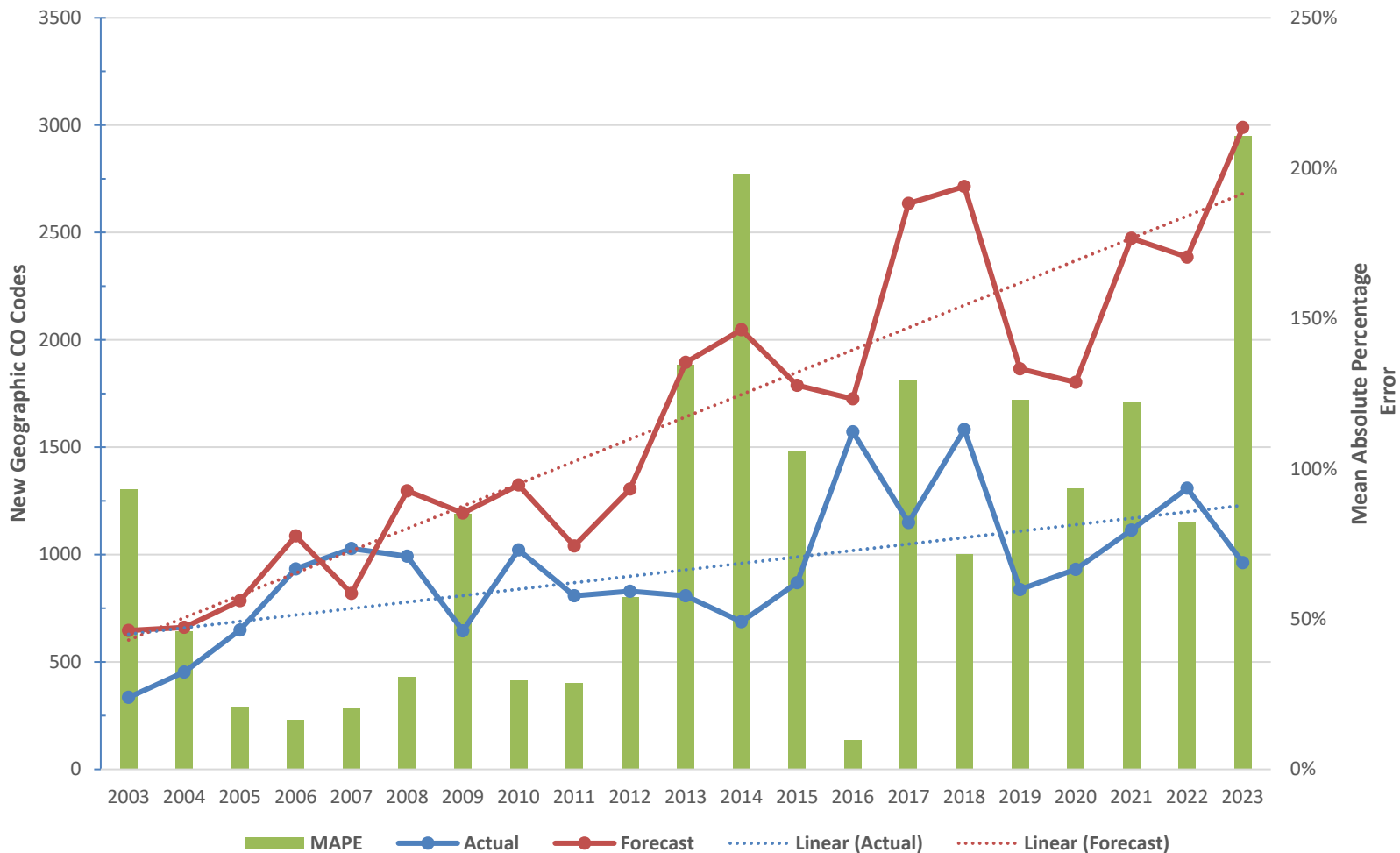
January 2024 G- & R- NRUF Aggregate Results

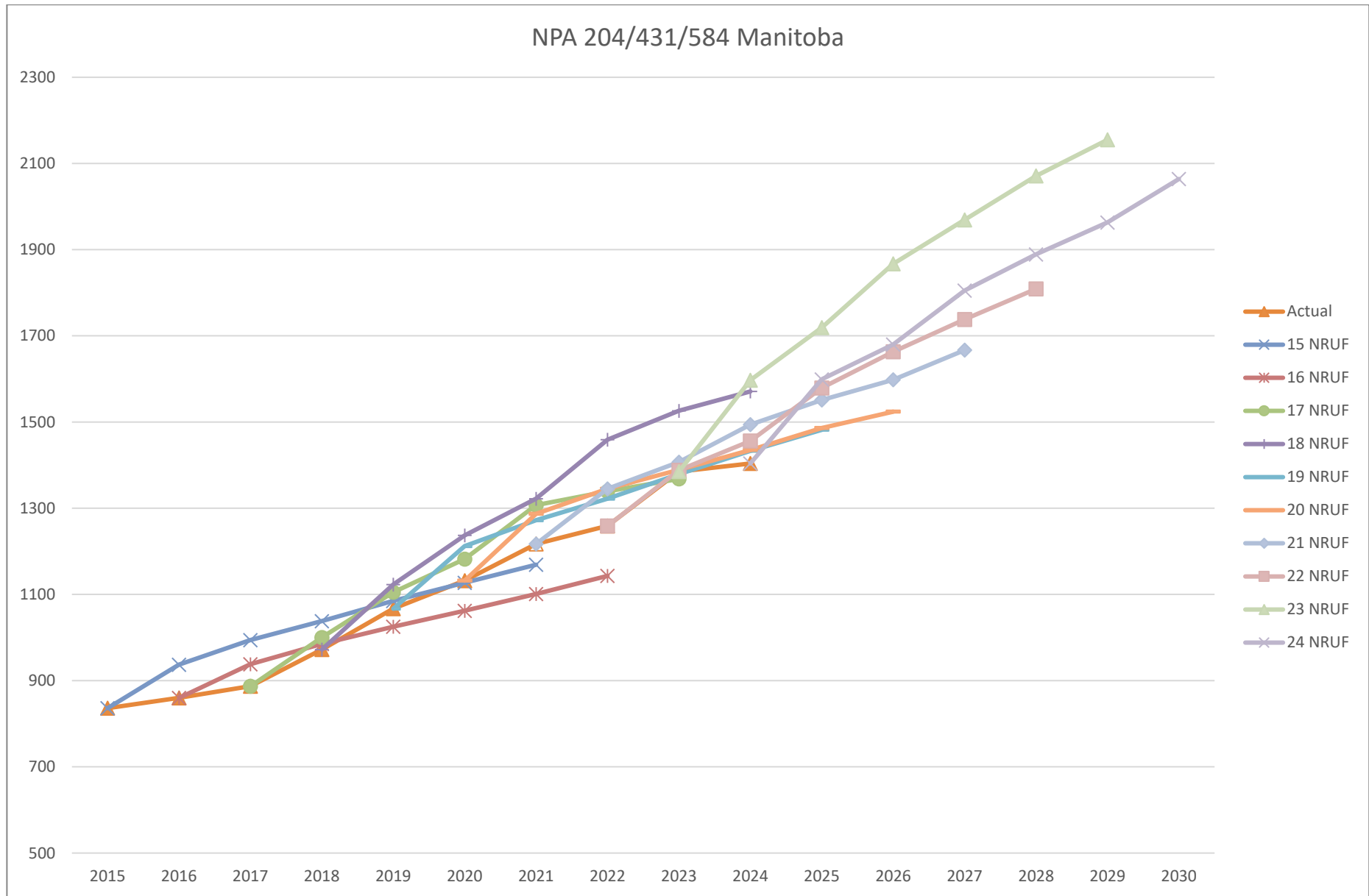
Geographic NPAs																							
As of January 1																							
NPA / Years	2024-01-01	2025-01-01	2026-01-01	2027-01-01	2028-01-01	2029-01-01	2030-01-01	2031-01-01	2032-01-01	2033-01-01	2034-01-01	2035-01-01	2036-01-01	2037-01-01	2038-01-01	2039-01-01	2040-01-01	2041-01-01	2042-01-01	2043-01-01	2044-01-01	2045-01-01	2046-01-01
204/431/584	1404	1599	1680	1805	1889	1963	2064	2114	2164	2214	2264	2314	2364	2429	2479	2529	2579	2629	2679	2729	2779	2829	2879
226/382/519/548	2157	2403	2560	2680	2773	2857	2943	3049	3155	3275	3381	3487	3593	3699	3805	3911	4040	4146	4252	4358	4464	4570	4676
236/250/257/604/672/778	3399	3789	3986	4190	4361	4503	4691	4787	4907	5003	5099	5195	5291	5387	5483	5579	5700	5796	5892	5988	6084	6180	6276
249/683/705	1454	1741	1905	2010	2117	2264	2426	2491	2566	2621	2686	2751	2816	2881	2946	3011	3076	3141	3239	3304	3369	3434	3499
263/438/514	1464	1624	1740	1846	1952	2052	2179	2231	2283	2335	2387	2447	2499	2551	2603	2655	2707	2759	2811	2863	2915	2967	3019
289/365/742/905	2410	2726	2867	2984	3124	3258	3398	3498	3598	3698	3798	3898	3998	4129	4229	4329	4429	4529	4629	4729	4861	4961	5061
306/474/639	1676	1786	1854	1921	1965	2009	2063	2114	2165	2216	2267	2318	2369	2434	2485	2536	2587	2638	2689	2740	2791	2842	2893
343/613/753	1549	1837	1992	2122	2248	2363	2458	2516	2574	2632	2690	2748	2806	2864	2922	2980	3038	3096	3154	3243	3301	3359	3417
354/450/579	1496	1623	1700	1802	1896	1959	2009	2062	2115	2168	2221	2274	2327	2380	2444	2497	2550	2603	2656	2709	2762	2815	2868
367/418/581	1722	1978	2139	2253	2366	2467	2566	2617	2668	2719	2770	2821	2872	2923	2974	3025	3076	3127	3178	3229	3280	3331	3382
368/403/587/780/825	3192	3419	3590	3741	3838	3956	4103	4183	4263	4343	4423	4503	4583	4663	4743	4848	4928	5008	5088	5168	5248	5328	5408
416/437/647/942	2115	2292	2389	2522	2633	2748	2865	2945	3025	3105	3185	3283	3363	3443	3523	3603	3683	3763	3843	3923	4026	4106	4186
428/506	737	819	910	970	1035	1083	1200	1227	1254	1281	1308	1335	1362	1389	1416	1443	1470	1497	1524	1551	1578	1627	1654
468/819/873	1518	1683	1779	1848	1905	1975	2019	2078	2137	2196	2255	2314	2373	2449	2508	2567	2626	2685	2744	2803	2862	2921	2980
709/879	637	777	823	886	939	986	1074	1088	1102	1116	1130	1144	1158	1172	1186	1200	1214	1228	1242	1256	1270	1284	1298
782/902	1236	1336	1394	1464	1525	1582	1680	1729	1778	1827	1876	1925	1974	2023	2072	2121	2170	2219	2268	2317	2366	2436	2485
807	307	404	452	487	524	561	601	614	627	640	653	666	679	692	705	718	731	744	757	770	783	796	809
867	277	325	350	384	421	449	472	478	484	490	496	502	508	514	520	526	532	538	544	550	556	562	568
Total Codes*	28750	32161	34110	35915	37511	39035	40811	41821	42855	43879	44889	45925	46935	48022	49043	50078	51136	52146	53189	54230	55295	56348	57358
2024 Forecast Growth	3411	1949	1805	1596	1524	1776	1010	1034	1024	1010	1036	1010	1087	1021	1035	1058	1010	1043	1041	1065	1053	1010	
NPA / Years	2024-01-01	2025-01-01	2026-01-01	2027-01-01	2028-01-01	2029-01-01	2030-01-01	2031-01-01	2032-01-01	2033-01-01	2034-01-01	2035-01-01	2036-01-01	2037-01-01	2038-01-01	2039-01-01	2040-01-01	2041-01-01	2042-01-01	2043-01-01	2044-01-01	2045-01-01	2046-01-01
* Includes Admin. Codes																							

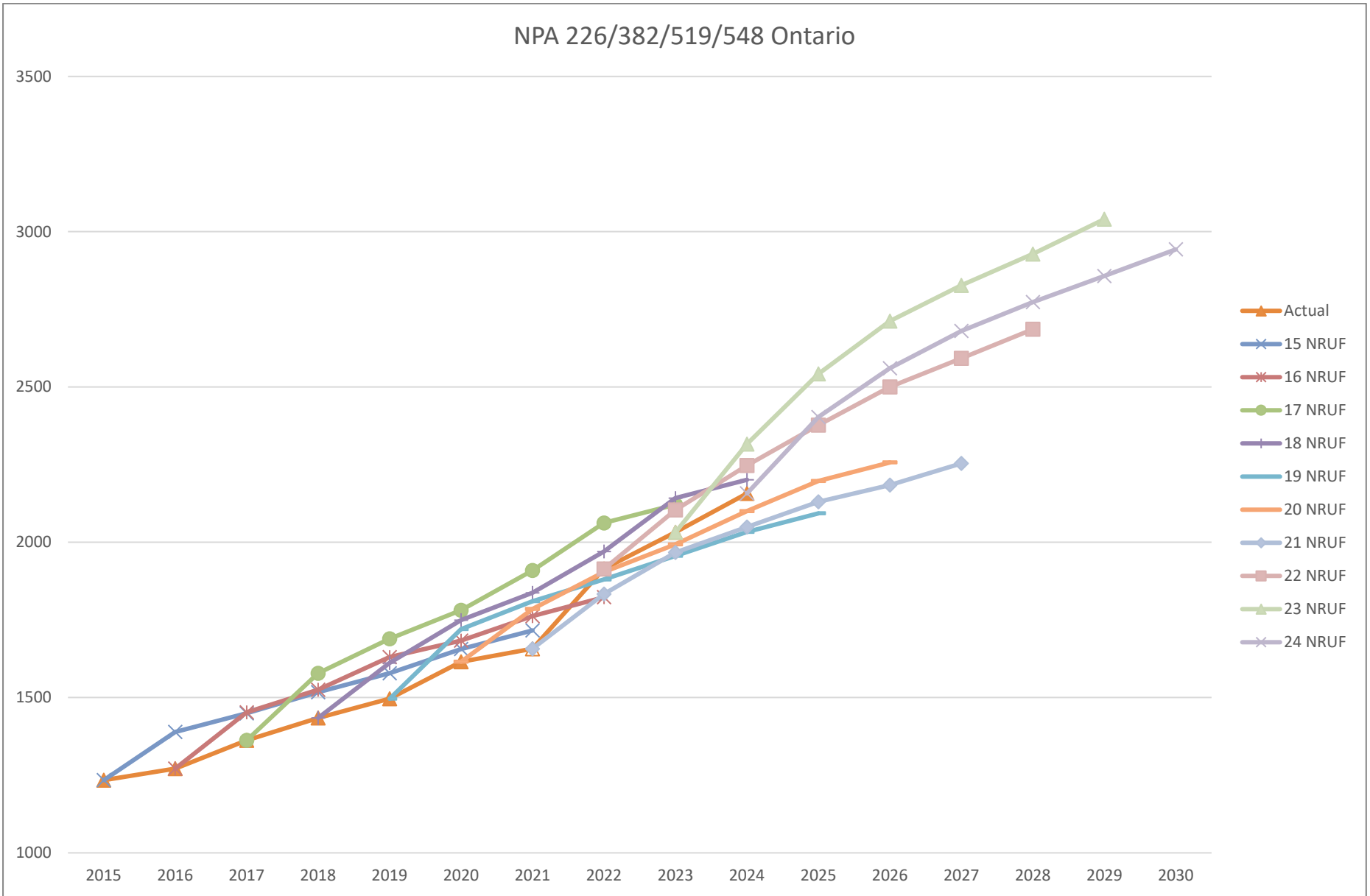
  

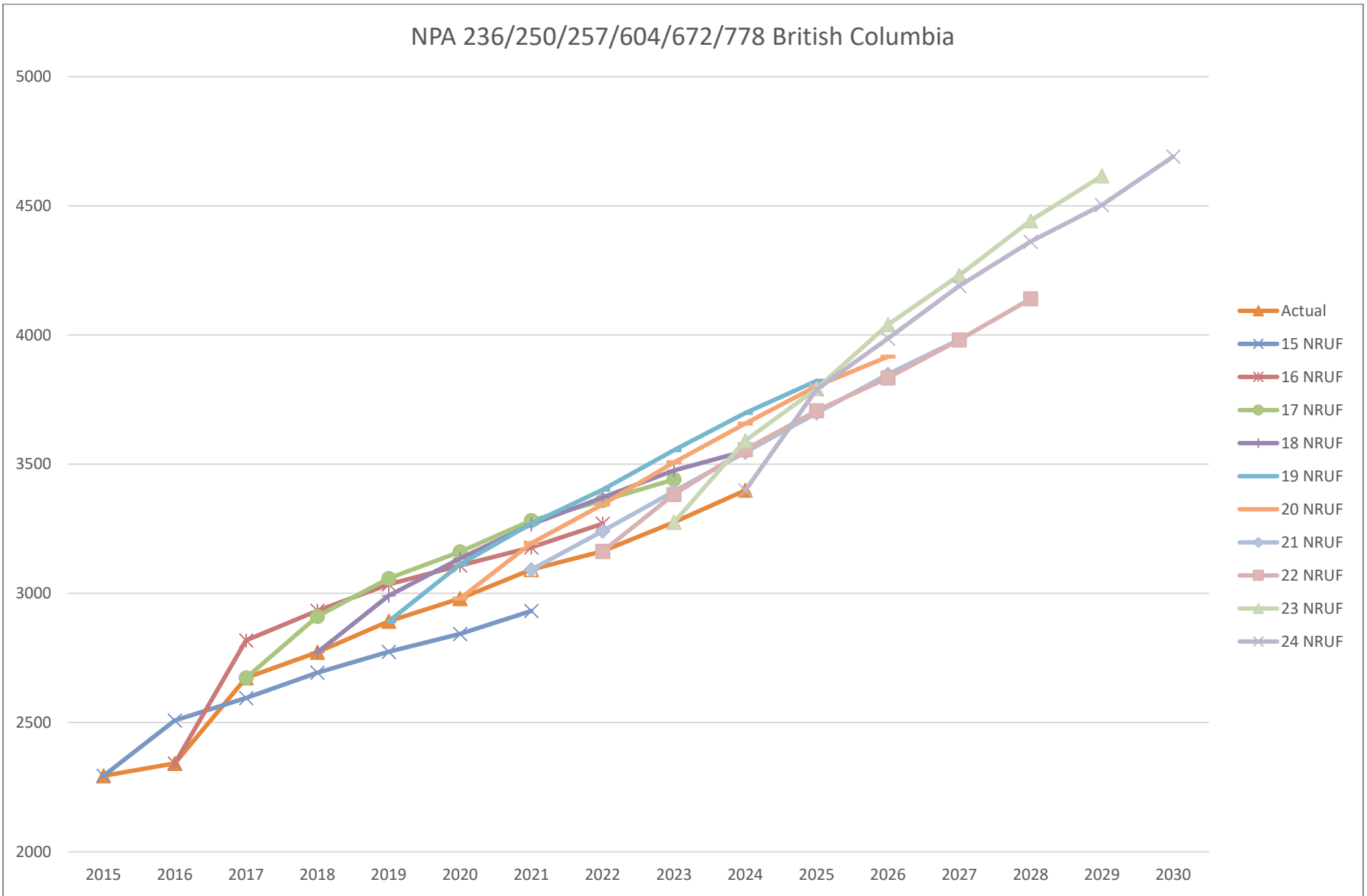
Non-Geographic NPAs																							
As of January 1																							
NPA / Years	2024-01-01	2025-01-01	2026-01-01	2027-01-01	2028-01-01	2029-01-01	2030-01-01	2031-01-01	2032-01-01	2033-01-01	2034-01-01	2035-01-01	2036-01-01	2037-01-01	2038-01-01	2039-01-01	2040-01-01	2041-01-01	2042-01-01	2043-01-01	2044-01-01	2045-01-01	2046-01-01
600	17	17	17	17	17	17	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
622/633	748	1375	1859	2555	3018	3483	4189	4763	5337	5911	6485	7059	7633	8207	8781	9355	9929	10503	11077	11651	12225	12799	13373
9YY	27	27	27	27	27	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
NPA / Years	2024-01-01	2025-01-01	2026-01-01	2027-01-01	2028-01-01	2029-01-01	2030-01-01	2031-01-01	2032-01-01	2033-01-01	2034-01-01	2035-01-01	2036-01-01	2037-01-01	2038-01-01	2039-01-01	2040-01-01	2041-01-01	2042-01-01	2043-01-01	2044-01-01	2045-01-01	2046-01-01

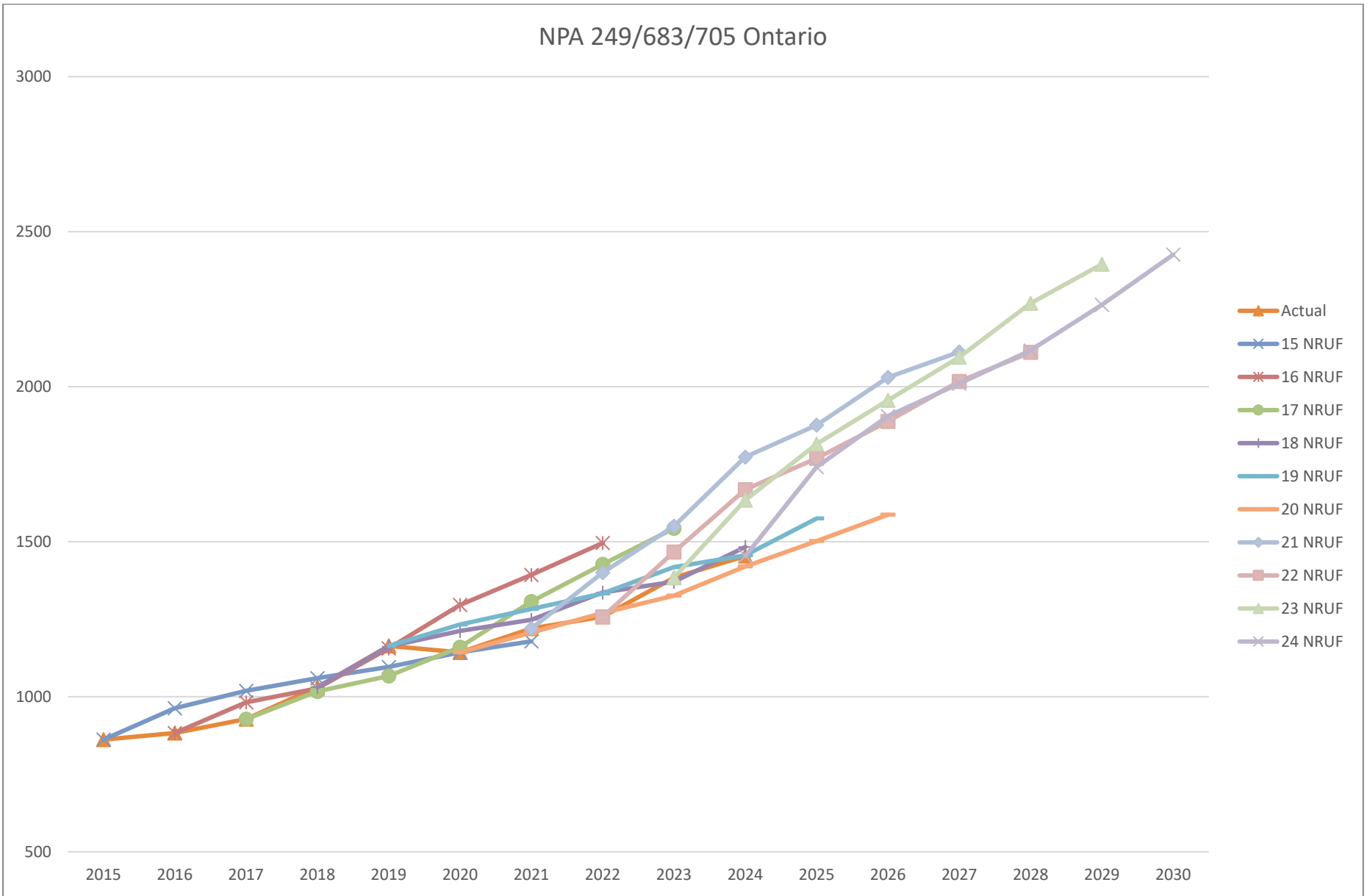
### Geographic CO Code Growth - Actuals, Forecasts & Error

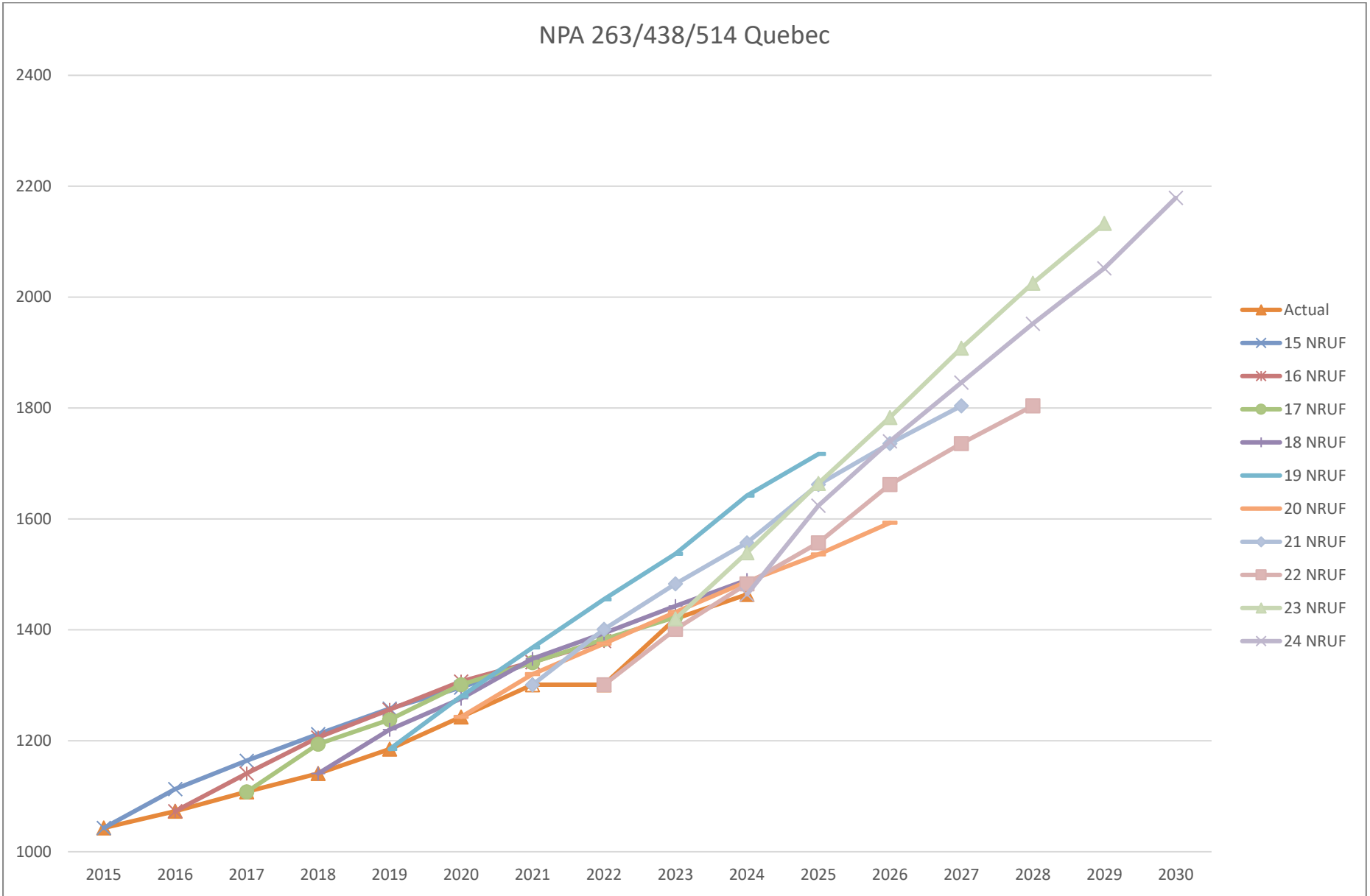




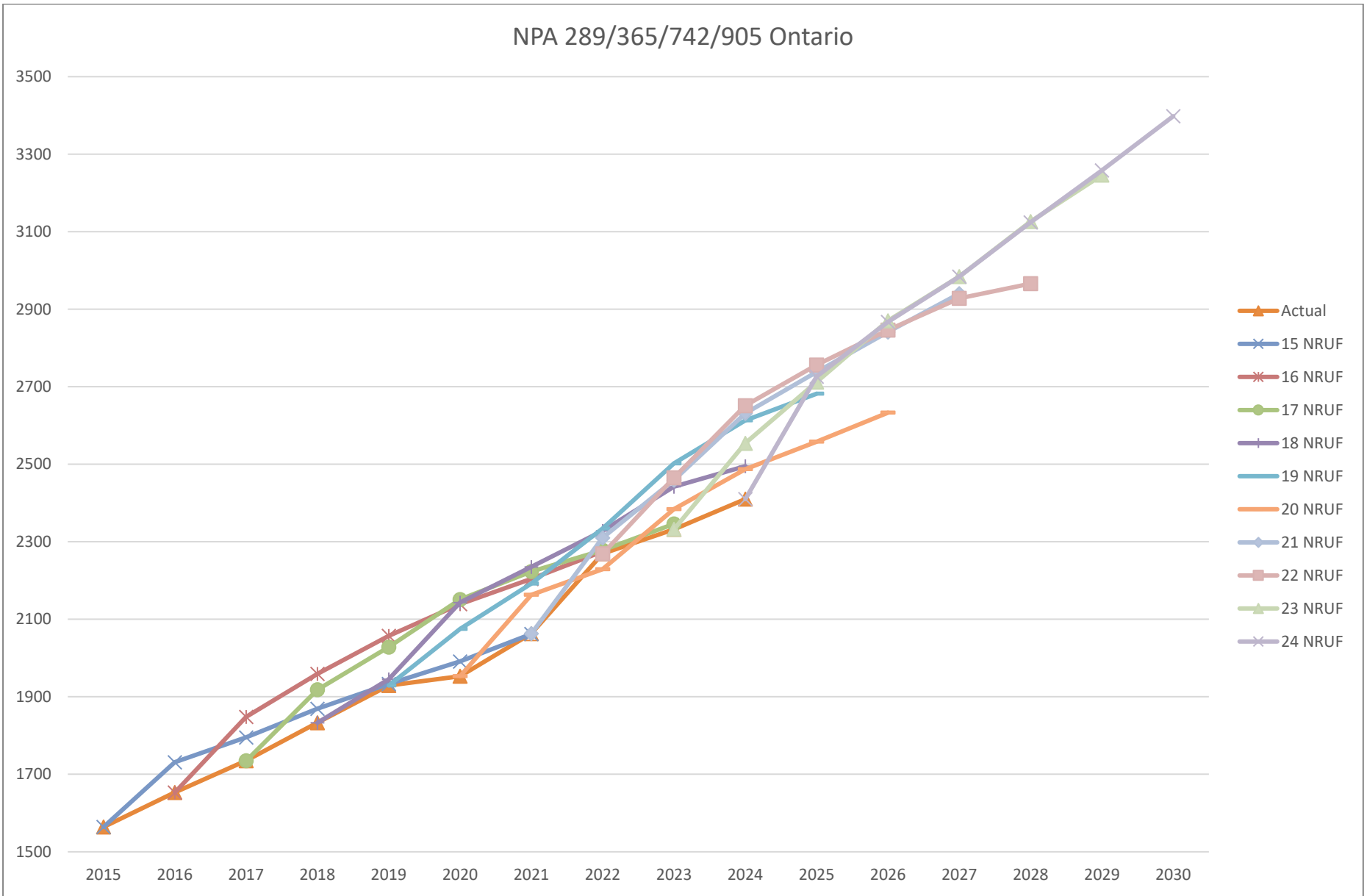


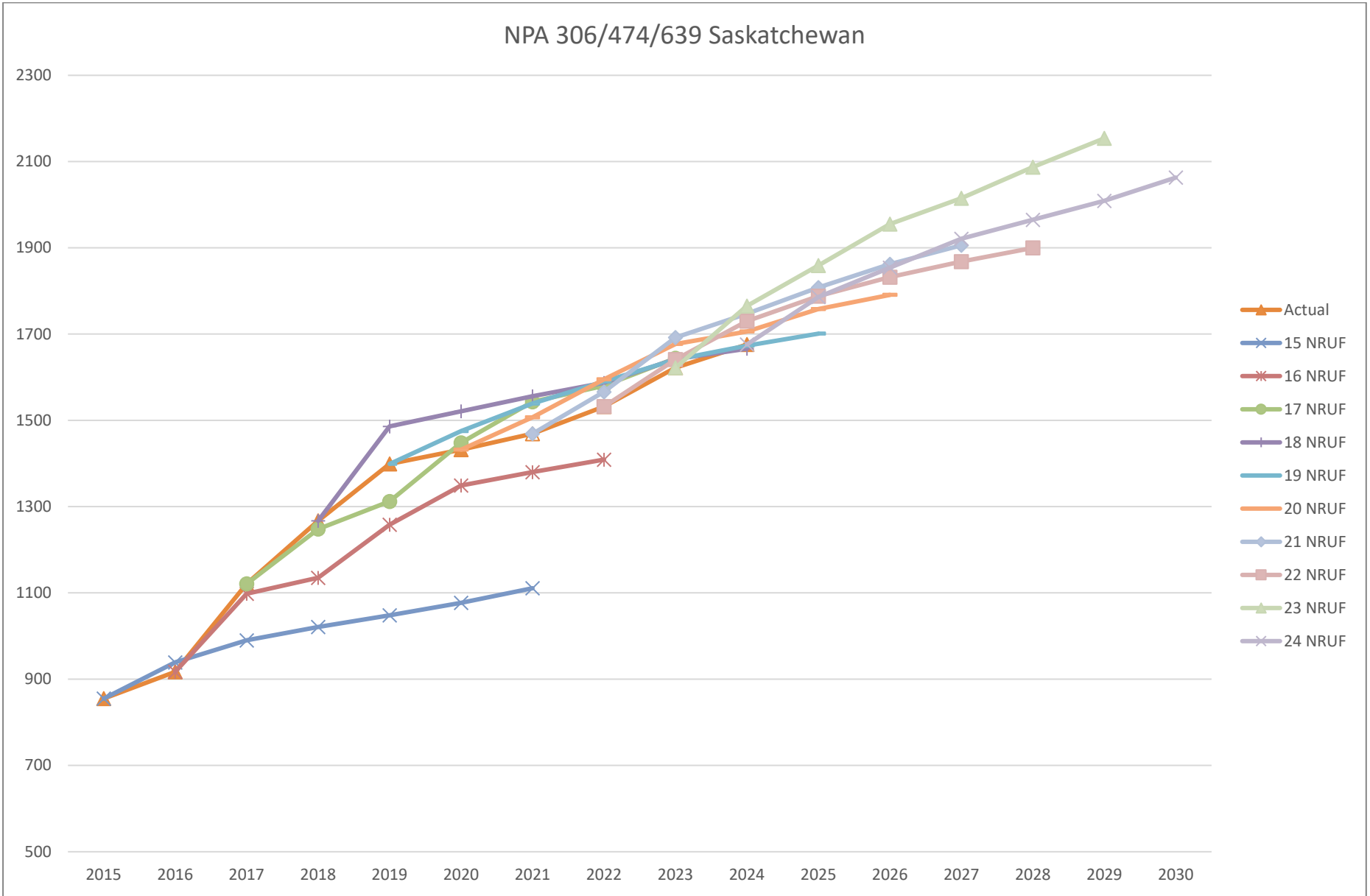


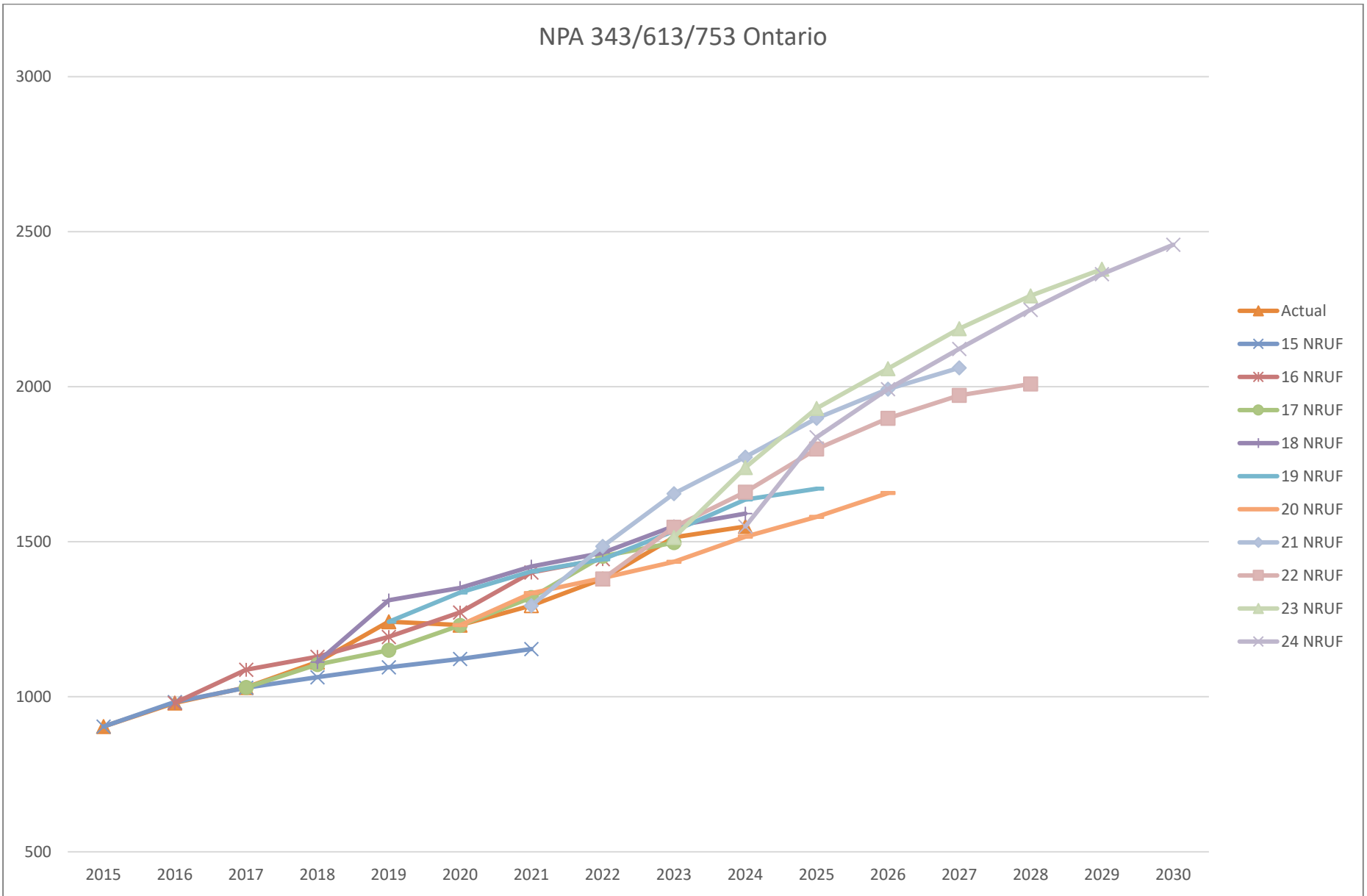


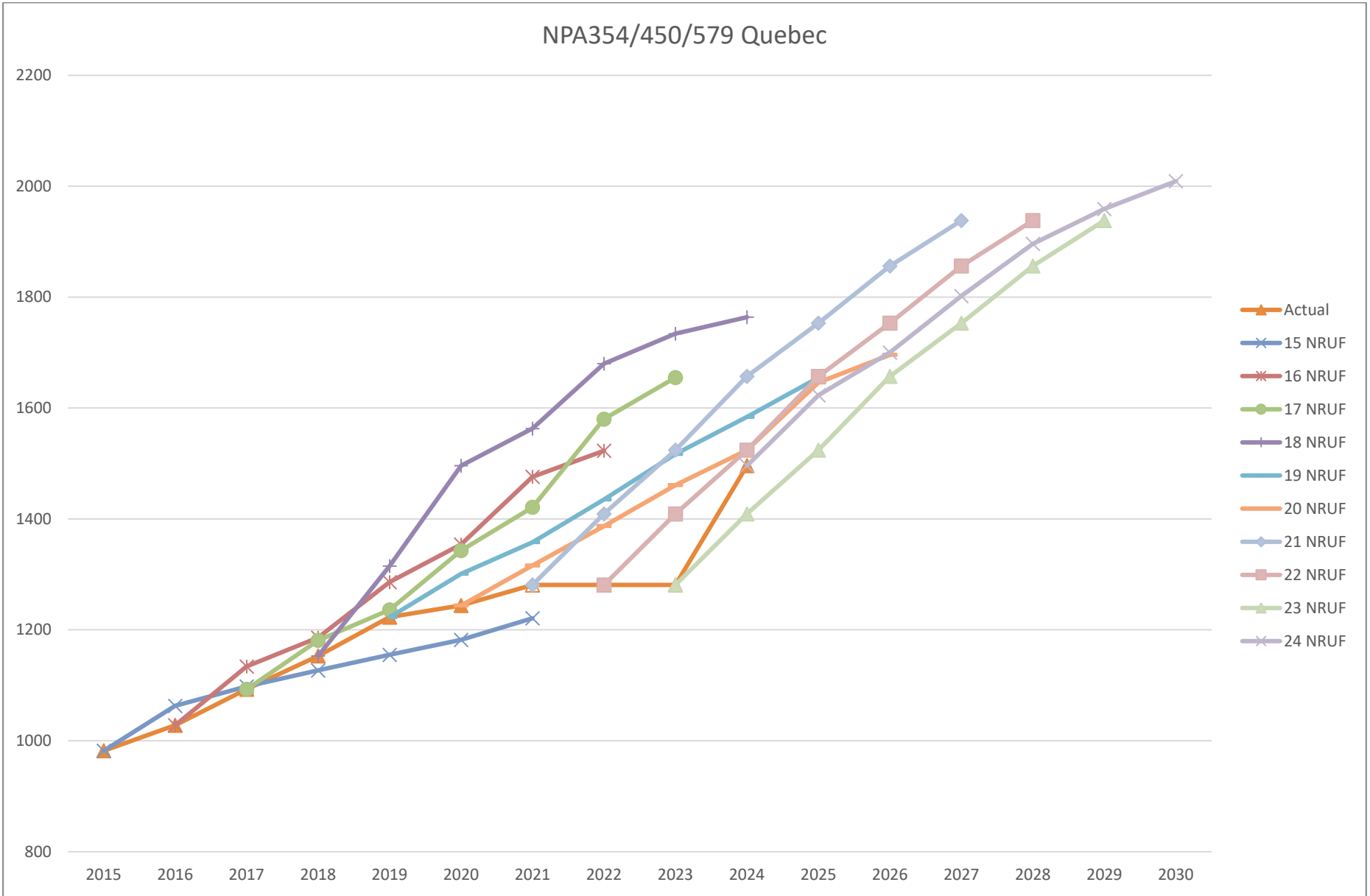


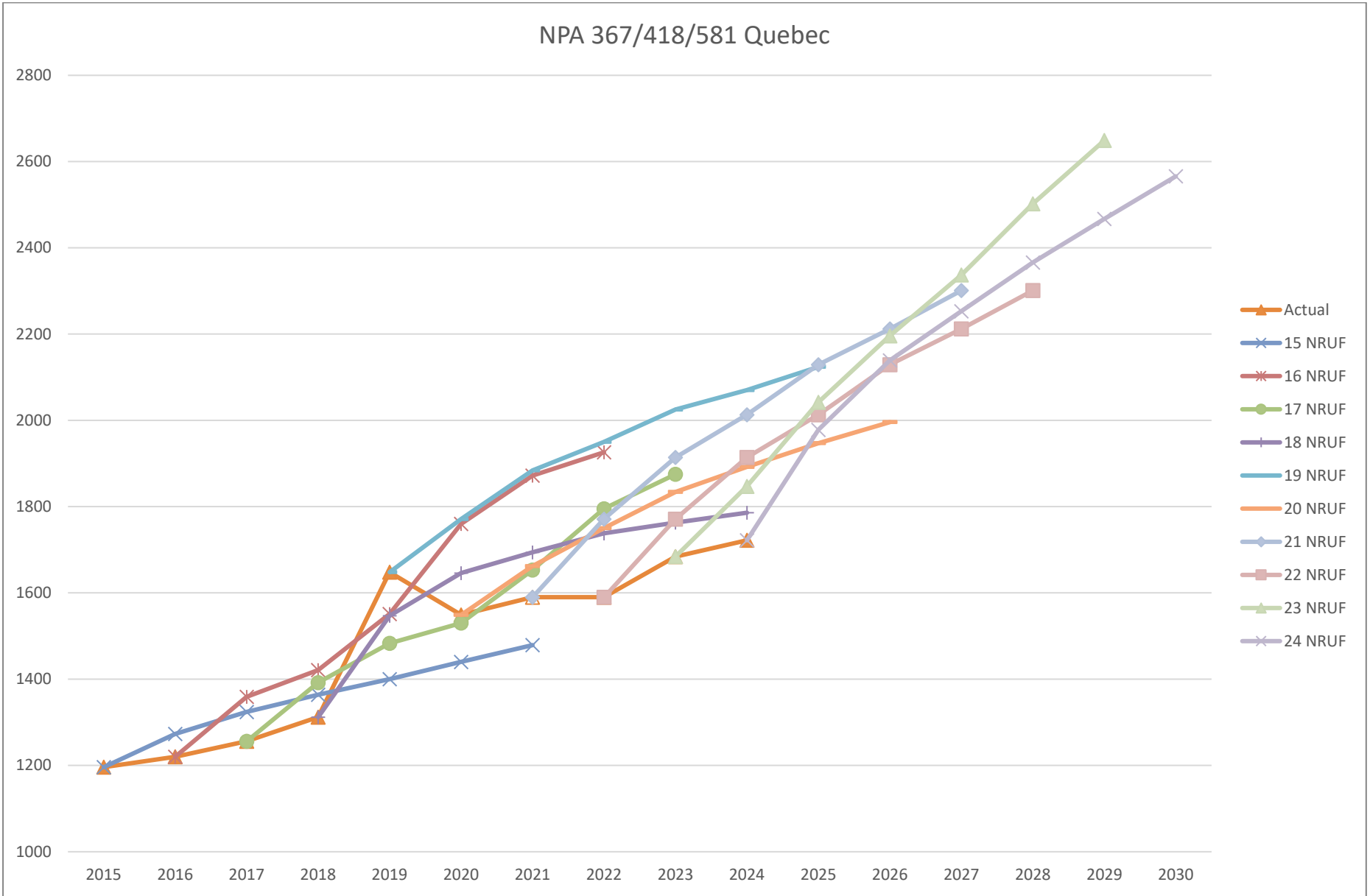


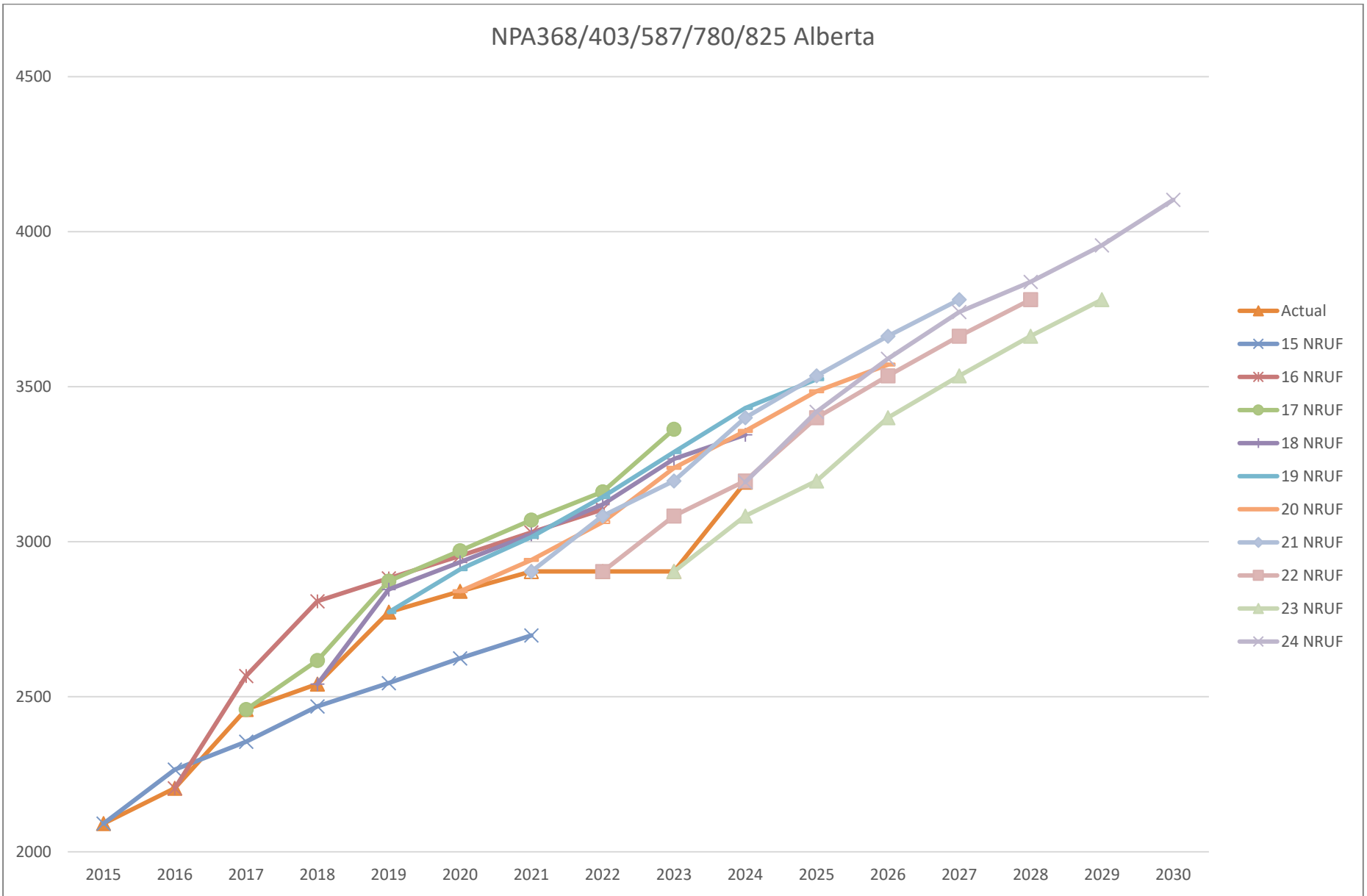


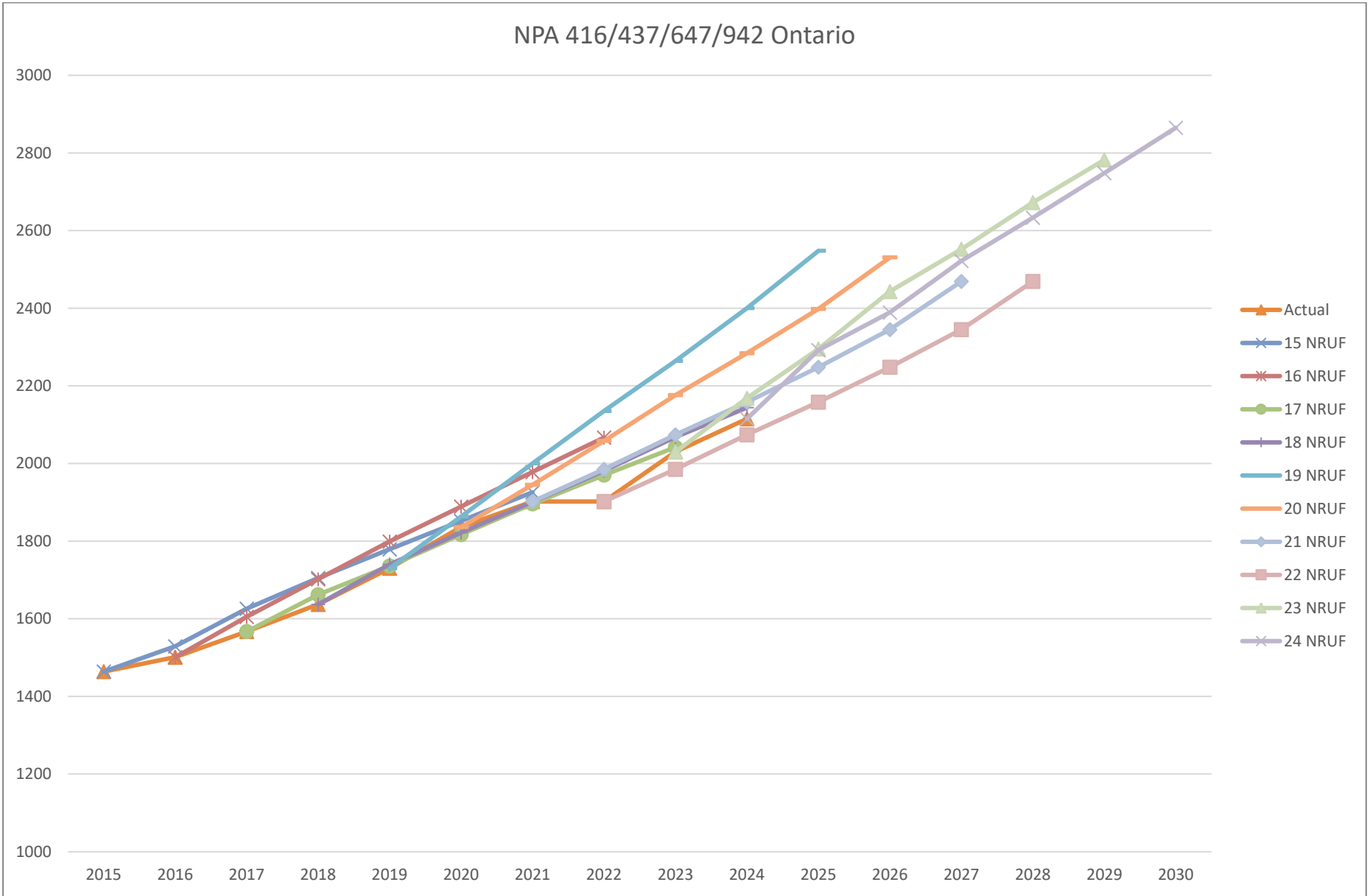


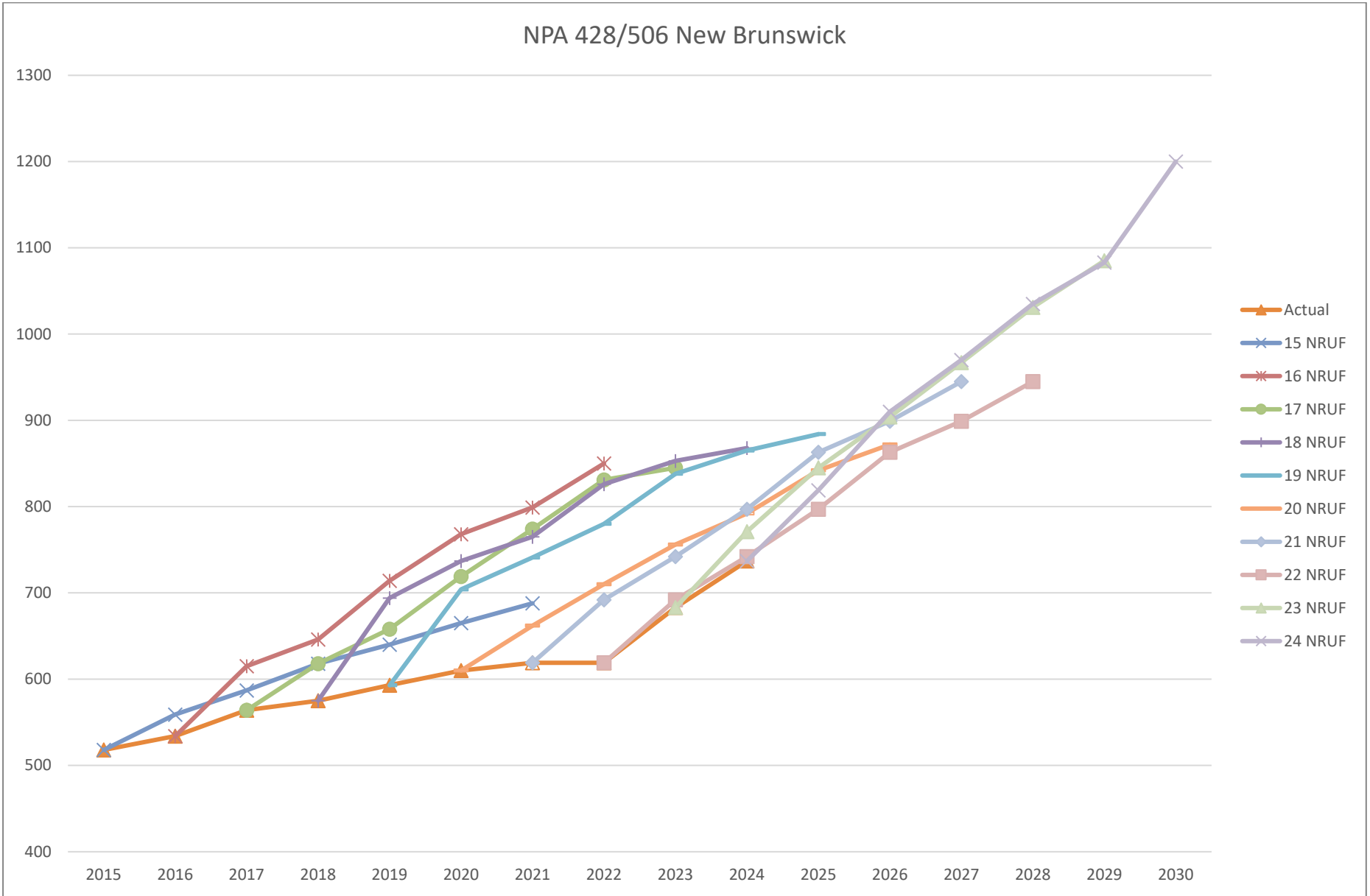




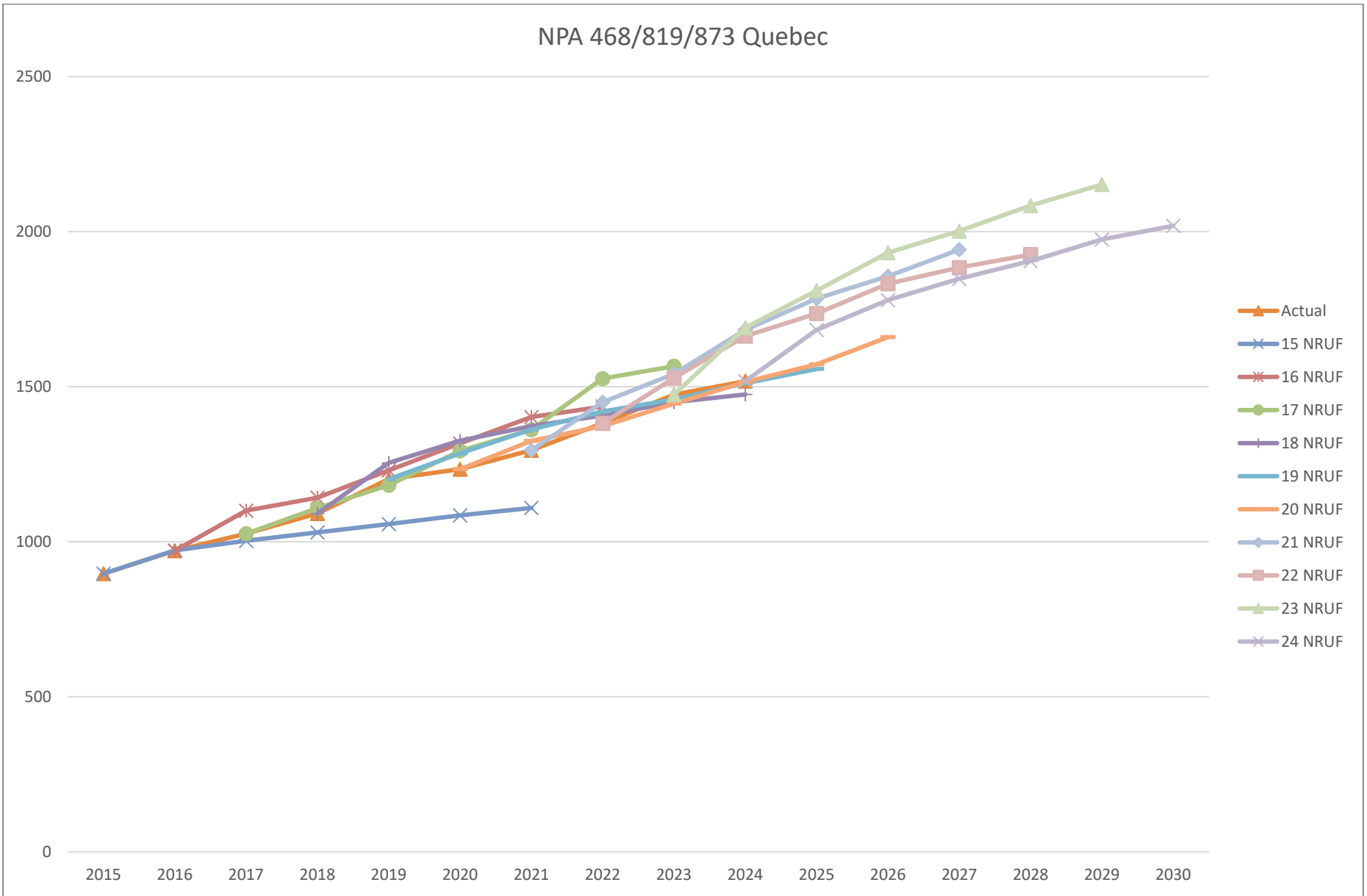


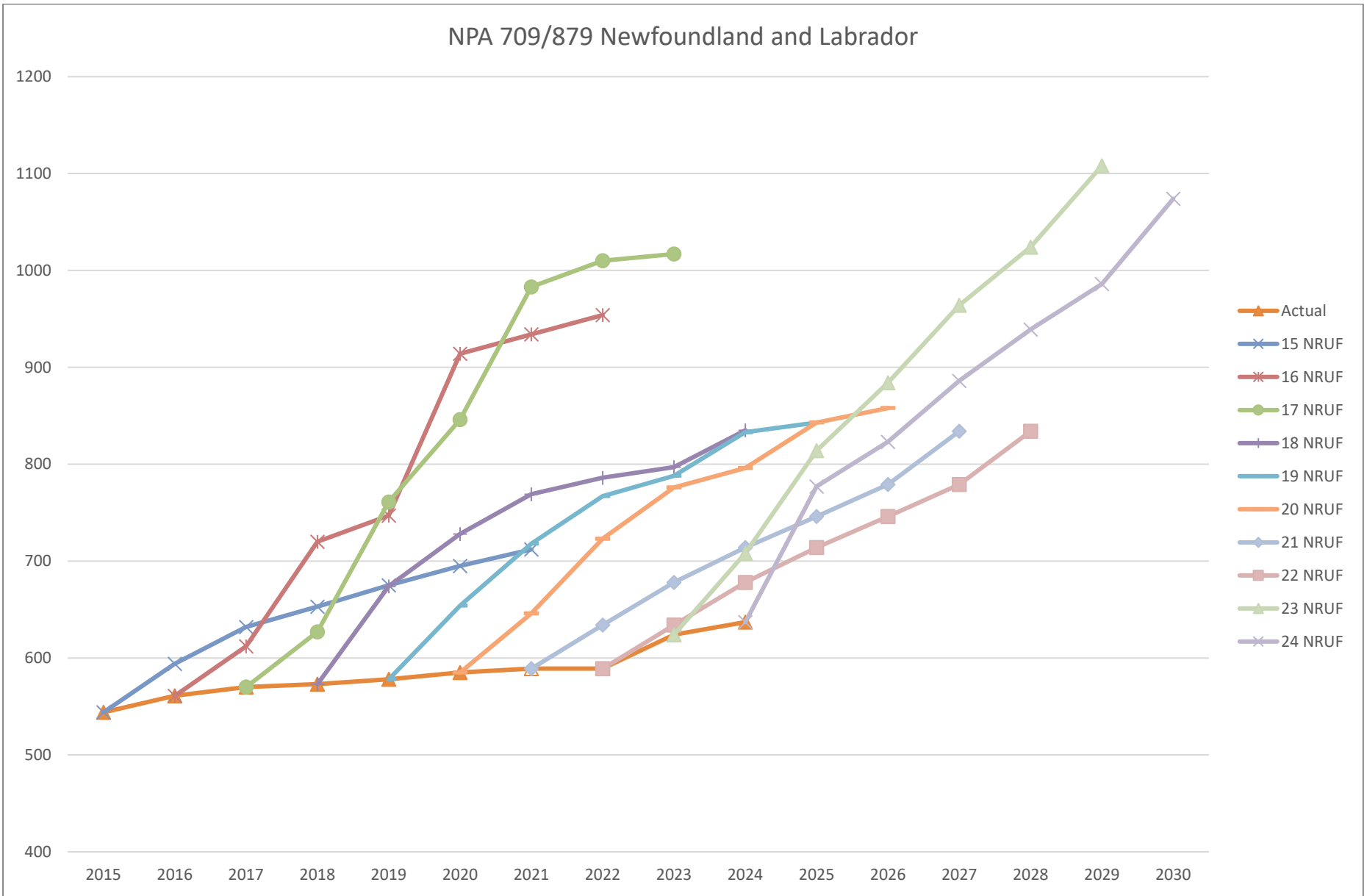


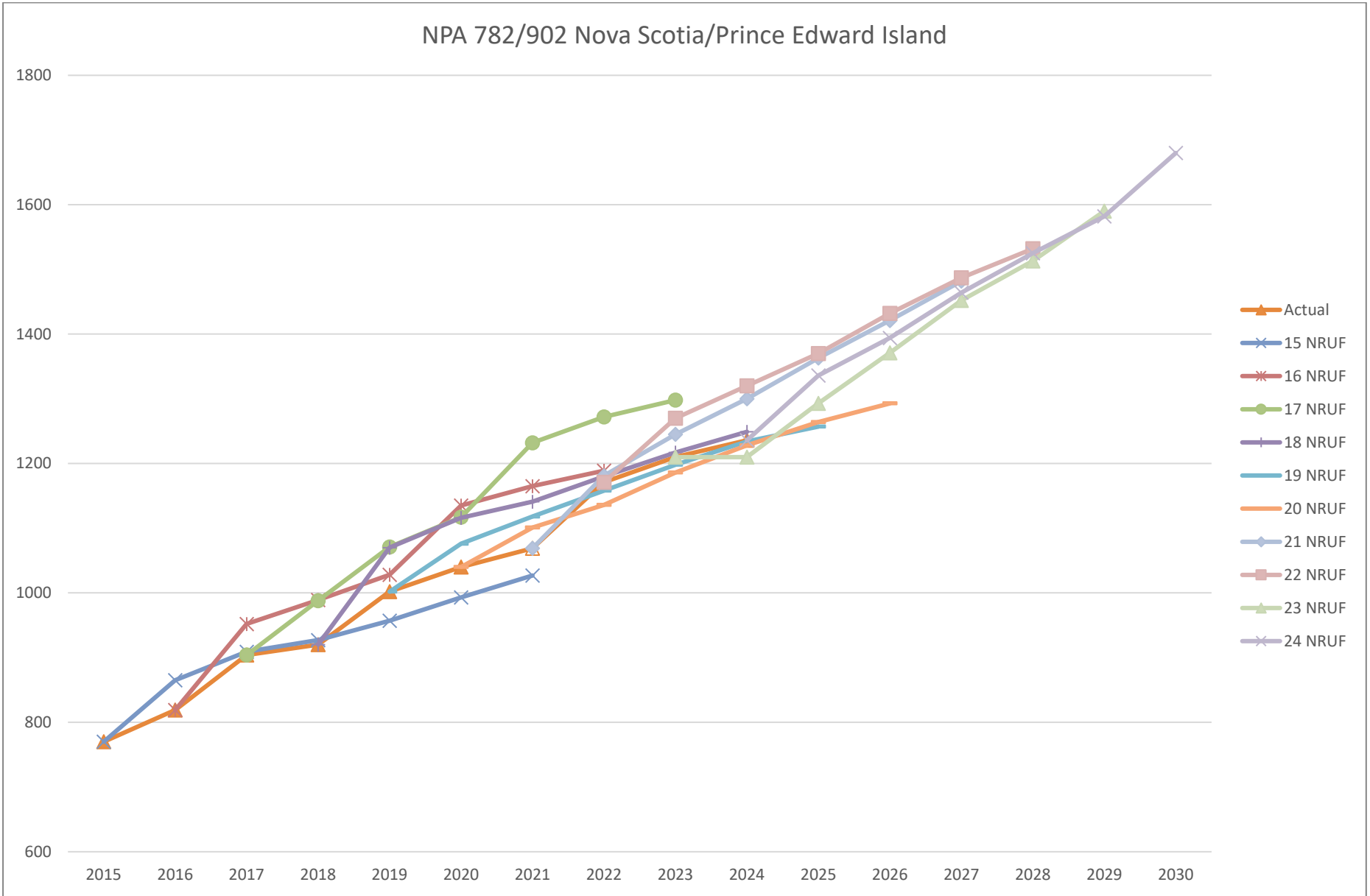


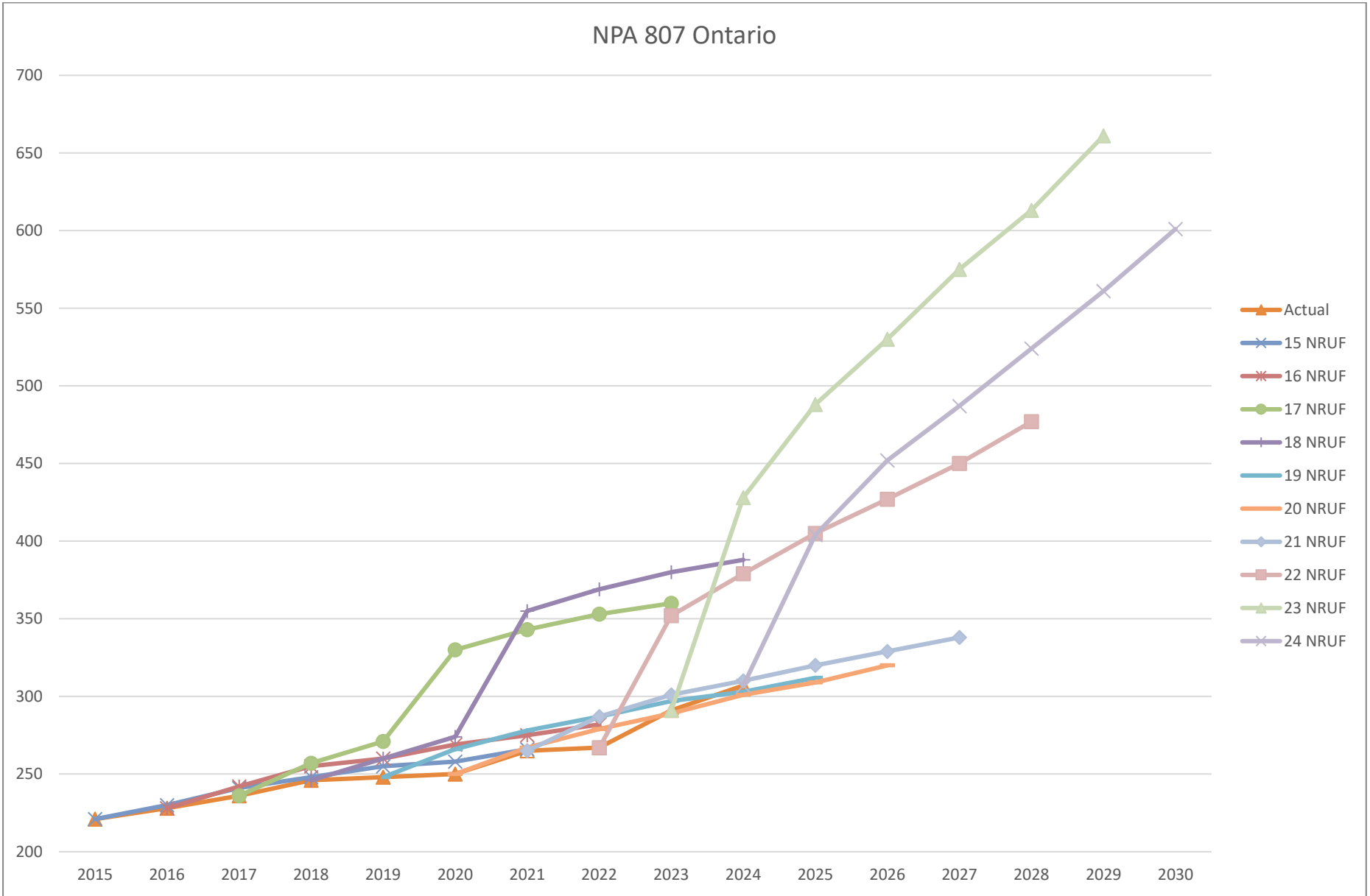


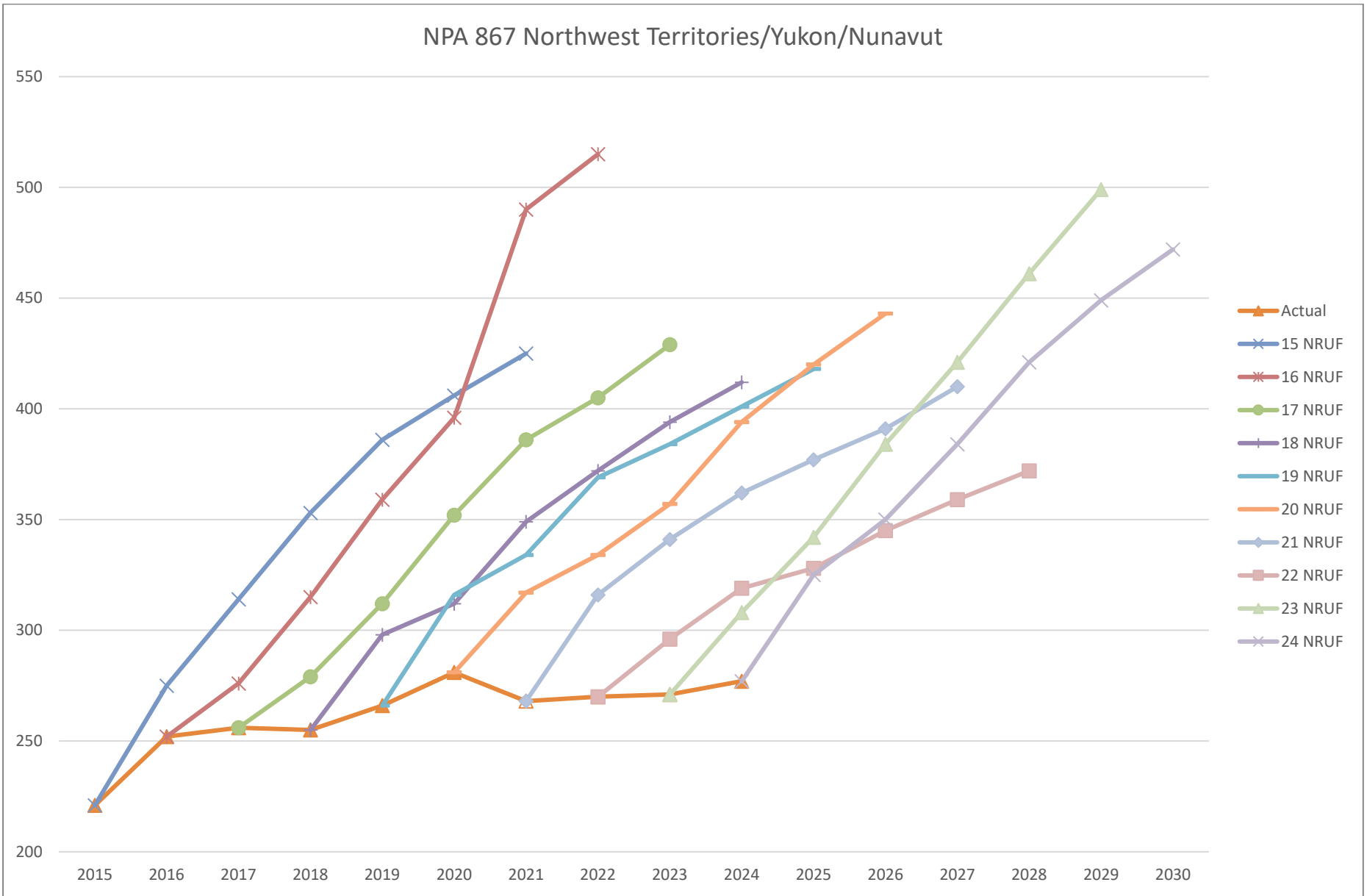














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## Canadian Steering Committee on Numbering

15 December 2023

**TRANSMITTED ELECTRONICALLY**

Kelly T. Walsh  
CNA Program Manager  
Canadian Numbering Administrator (CNA)  
COMsolve Inc.  
150 Isabella St., Suite 605  
Ottawa, Ontario K1S 1V7

**Subject: CSCN Direction to Canadian Numbering Administrator (CNA) re: the 2024 Numbering Resource Utilization Forecast (2024 NRUF) Methodology and Assumptions**

On 21 November 2023, the Canadian Steering Committee on Numbering (CSCN) discussed and agreed to the direction for the CNA with respect to the 2024 NRUF Methodology and Assumptions.

The attached document contains the direction titled "CSCN Direction to CNA re: the 2024 NRUF Methodology and Assumptions, 15 December 2023".

Sincerely,

***Original signed by***

Kelly T. Walsh  
CSCN Chair

c.c.: Étienne Robelin – CRTC staff  
Alexander Pittman – CRTC staff  
Michel Murray – CRTC staff

Attachment

**CSCN Direction to CNA re: the 2024 NRUF Methodology and Assumptions  
15 December 2023**

**The CSCN submits the following methodology and assumptions to the CNA for  
the 2024 Numbering Resource Utilization Forecast (NRUF).**

1. If there is a discrepancy between the CNA records and those submitted by the CO Code Holder with respect to the quantities of actual CO Codes assigned and reserved as of 1 January 2024, the CNA will attempt to rectify the discrepancy. However, if the discrepancy cannot be resolved, the quantity of CO Codes appearing in the CNA's records will be used. The CO Code Holder and the CNA should attempt to resolve the discrepancy before the next NRUF is conducted.

This problem has generally occurred when a CO Code:

- is still "being recovered" (i.e., a Part 3 Form has not been issued but the CO Code Holder believes the CNA has recovered the CO Code);
  - is a test code (i.e., legacy, NPA Relief, industry plant test codes and Appendix D temporary plant test codes); or
  - has been assigned and a Part 4 Form has not been received. In the past some CO Code Holders have not counted assigned codes.
2. CRTC staff instructed the CNA to reserve a number of CO Codes to be used for new unknown entrants, new technologies and other unforecast demand. The CSCN recommends that the quantities identified by CRTC staff should be carried forward to the 2024 NRUF, except in NPAs where pools of CO Codes have been established for initial CO Code assignments, in which case the allowance for unforecast demand should only be included for forecast years following the dissolution of the pool for initial CO Code assignments as noted in the table below.

<b>CRTC Staff Allowance for Unforecast Demand based on CRTC staff letter, dated 16 Oct 2007 (<a href="http://cnac.ca/NRUF/NRUF.htm">http://cnac.ca/NRUF/NRUF.htm</a>)</b>	
<b>NPA</b>	<b>Quantity of CO Codes</b>
204/431	3
226/519/548	5
236/250/604/672/778	7
249/705	5
289/365/905	7
306/639	3
343/613	7
367/418/581	3
403/587/780/825	7
416/437/647	6
438/514	6
450/579	5
506	3
709	2
782/902	3
807	2
819/873	2
867	2

Where a Notice of Consultation (NoC) is currently in effect in an NPA complex, the number of CO Codes listed under “Quantity of CO Codes” in the table above is superceded by any quantities specified in the related NoC. That number may be further impacted by recent CO Code assignments from the new entrant pools.

<b>CRTC Staff Allowance for Unforecast Demand based on NoC</b>				
<b>NPA</b>	<b>Quantity of CO Codes</b>	<b>Relief year (est. = estimated)</b>	<b>Allowance to be excluded from forecast total quantities prior to the year below (= year after the dissolution of the pool, which is 2 years after relief)</b>	<b>CRTC Telecom Decision or Notice establishing pool of CO Codes for initial CO Code assignments</b>
506	7	est. 2023	est. 2026	Notice 2016-206
709	2	TBD (see Telecom Decision CRTC 2021-13)	2 years after Relief Date	Notice 2016-205

The quantities of CO Codes in the above tables should be carried forward for the 20-year study period with no growth.

3. Where the CRTC has ordered or an RPC has recommended that quantities of CO Codes be set aside for a specified period of time for assignment to initial CO Code Applicants for a 2-year period after implementation of an Overlay, the CNA shall add such quantities to the actual quantity of CO Codes for 1 January of the current year and carry them forward in the forecasts until the Relief Date, since these set-aside CO Codes are unassignable from the date of the Decision until immediately prior to the Relief Date, after which they become assignable (with limitations). The CNA should exclude such set-aside CO Codes from the calculation of annual growth rates.
4. Future projections beyond the six-year forecast period will be calculated using linear extrapolation and the average annual growth in quantity of CO Codes for the six year forecast period, excluding any extraordinary factors such as returns or reclamations of large quantities of CO Codes and Codes identified in item 3 above that would create an unreasonable projected future growth rate. Where the CNA believes, based on its analysis of past growth and NRUF forecast data for an NPA, that the six-year forecast average annual growth may not be the best methodology for that NPA for projecting growth beyond the six-year forecast period, the CNA shall seek guidance from CRTC staff and will advise the CSCN of the alternative method used. The six-year average growth of CO Codes per year shall be calculated as follows and rounded to one decimal point at a maximum (e.g., 5.14 rounds down to 5.1; 5.15 rounds up to 5.2):

$$\text{6 Year Average Growth of CO Codes per Year} = \frac{[(\text{Forecast Quantity of CO Codes in year six}) - (\text{Actual Quantity in 1 January of Current Year})]}{6}$$

When extending the forecast from 7 to 20 years, the CNA should use the six year forecast average annual growth, calculated to one decimal point, to develop the 1 January quantity of CO Codes for each year (e.g., in year seven



100+5.4=105.4 rounds up to 106; in year eight 105.4+5.4=110.8 rounds up to 111).

5. The CNA shall provide for each NPA the total quantity of actual and forecast CO Codes and a breakdown of the quantity of “Unassignable CO Codes” as per section 3.7 of the CRTC-approved *Canadian Central Office Code (NXX) Assignment Guideline*, or as otherwise directed in writing by CRTC staff when the draft aggregate results are released, and in the subsequent 2024 NRUF Report to the CSCN after the aggregate results are finalized.
6. The “Administrative Codes” and “Stranded CO Codes” shall not be used in the calculation of the average annual future growth used for the 7- to 20-year projection.
7. The CNA shall not add or include any demand for CO Codes for proposed CLECs that did not submit NRUF forecasts, other than the demand that is already allowed for in the quantity of CO Codes for unforecast demand specified by CRTC staff.
8. For the purpose of the NRUF the CNA should assume that the Overlay Method will be used for future NPA Reliefs unless CRTC staff advises otherwise.

With respect to NPAs that are due to exhaust approximately in the 2044 timeframe, the CNA should exercise its best judgment in finalizing the forecast for those NPAs.