

**2003 G-NRUF Report
to the
Canadian Steering Committee on Numbering (CSCN)**

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Issued by:
Canadian Numbering Administrator
SAIC Canada

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1. Purpose of G-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 requires current and prospective Code Holders to submit actual and forecasted annual data regarding their current and prospective future use of Central Office (CO) Codes to the Canadian Numbering Administrator (CNA) on an annual basis.

The CNA has prepared this report in accordance with the Canadian Numbering Resource Utilization Forecast Guideline (C-NRUF) (the Guideline) approved by the Canadian Radio-television and Telecommunications Commission (CRTC) on 7 December 2001 in Decision CRTC 2001-748.

Included as attachments to this report are:

- 2003 G-NRUF Aggregate Results
- Quantity of CNA CO Codes as of 1 January 2003
- Historical G-NRUF Graphs for Canadian NPAs
- CRTC Letter dated 26 March 2003 (see section 7)
- CSCN Letter dated April 9, 2003 (see section 7)

2. High Level Summary

The results from the 2003 G-NRUF are difficult to compare with the 2002 G-NRUF results due to three major factors:

- 1) The assumptions used for the 2003 G-NRUF are different from those used in preceding years.
- 2) The Canadian Central Office Code (NXX) Assignment Guidelines with respect to the allocation of "CNA Codes" (section 3.7) have been changed.
- 3) Various Telecommunications Service Providers (TSPs) have submitted to the CNA a set of data that is quite different from the 2002 data. The CNA has verified the input from various TSPs and the variance from previous years' inputs can be rationalized.

The impacts of each of the above factors will vary from NPA to NPA.

Specific significant changes are listed below:

- NPA 204 Projected Exhaust Date is now forecast for December 2016, which moves the Exhaust Date out by seven (7) years from the 2002 G-NRUF result of November 2009, primarily as a result of decreased

demand in the area. The change in the Canadian Central Office Code (NXX) Assignment Guidelines also had a minor impact.

- NPA 250 Projected Exhaust Date is now forecast for April 2012, which moves the Exhaust Date out by almost three (3) years from the 2002 G-NRUF result of September 2009, as a result of decreased demand in the area and the change in the Canadian Central Office Code (NXX) Assignment Guidelines.
- NPA 403 Projected Exhaust Date is now forecast for July 2014, which moves the Exhaust Date out by four (4) years from the 2002 G-NRUF result of April 2010, as a result of decreased demand in the area and the change in the Canadian Central Office Code (NXX) Assignment Guidelines.
- NPA 416/647 Projected Exhaust Date is now forecast for June 2016, which moves the Exhaust Date out by four (4) years from the 2002 G-NRUF result of August 2012, primarily as a result of decreased demand in the area. The change in the Canadian Central Office Code (NXX) Assignment Guidelines also had an impact.
- NPA 418 Projected Exhaust Date is now forecast for July 2011, which moves the Exhaust Date in by almost two (2) years from the 2002 G-NRUF result of May 2013, primarily as a result of increased forecast demand in the area.
- NPA 514 Projected Exhaust Date is now forecast for July 2007, which moves the Exhaust Date out by over a year from the 2002 G-NRUF result of April 2006, as a result of decreased demand in the area and the change in the Canadian Central Office Code (NXX) Assignment Guidelines.
- NPA 519 Projected Exhaust Date is now forecast for December 2007, which moves the Exhaust Date out by a year from the 2002 G-NRUF result of November 2006, as a result of decreased demand in the area and the change in the Canadian Central Office Code (NXX) Assignment Guidelines.
- NPA 780 Projected Exhaust Date is now forecast for October 2017, which moves the Exhaust Date out by over four (4) years from the 2002 G-NRUF result of July 2013 primarily as a result of decreased demand in the area. The change in the Canadian Central Office Code (NXX) Assignment Guidelines also had a minor impact.
- NPA 905/289 Projected Exhaust Date is now forecast for December 2022, which moves the Exhaust Date out by four (4) years from the 2002 G-NRUF result of June 2018, primarily as a result of decreased demand in

the area. The change in the Canadian Central Office Code (NXX) Assignment Guidelines also had an impact.

- NPAs 613 and 819 Projected Exhaust Dates are difficult to compare with previous G-NRUF/COCUS submissions due to a change in the way the analysis has been conducted. See section 7.1 (CNA Special CO Code Assignment Practices).

NPAs in or entering Relief Planning

NPA	2002 G-NRUF View	2003 G-NRUF View	Remarks
204	Nov. 2009	Dec. 2016	Out of Relief Planning
250	Sep. 2009	Apr. 2012	Out of Relief Planning
514	Apr. 2006	Jul. 2007	NPA 438 Distributed Overlay (24 Sep. 2005)
519	Nov. 2006	Dec. 2007	NPA 226 Distributed Overlay (19 Feb. 2005)
613 ¹	Dec. 2013	Dec. 2012	10-D dialing (4Q 2006)
819 ¹	Nov. 2021	Beyond 2023	10-D dialing (4Q 2006)

¹ This projection is based on Special CO Code Assignment Practices developed by the CNA for the purposes of the 2003 G-NRUF.

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

NPA	LOCATION	2000	2001	2002	2003
204	Manitoba	Jan. 2015	Dec. 2017	Nov. 2009	Dec. 2016
250	BC (Island & Interior)	Jan. 2009	Apr. 2007	Sep. 2009	Apr. 2012
306	Saskatchewan	Dec. 2015	Oct. 2034	Dec. 2021	Beyond 2023
403	S. Alberta	Nov. 2008	Sep. 2008	Apr. 2010	Jul. 2014
416 / 647	Toronto	Apr. 2008	Oct. 2010	Aug. 2012	Jun. 2016
418	N. E. Quebec	Feb. 2011	Aug. 2010	May 2013	Jul. 2011
450	Montreal Fringe	Dec. 2015	May 2017	May 2030	Beyond 2023
506	New Brunswick	May 2020	2052+	Aug. 2047	Beyond 2023
514 / 438	Montreal	Jun. 2004, Apr. 2013	May 2005	Apr. 2006	Jul. 2007, Dec. 2022
519 / 226	S. Ontario	Jan. 2006, Jul. 2020	Jul. 2006	Nov. 2006	Dec. 2007
604	Vancouver area	Jul. 2003	Dec. 2040	Nov. 2021	Beyond 2023
613	Ottawa area	Apr. 2008, 2025	Jul. 2011	Dec. 2013	Dec. 2012
705	N. E. Ontario	Jul. 2019	Sep. 2027	Aug. 2022	May 2022
709	Nfld & Labrador	Sep. 2020	2048+	Jul. 2068	Beyond 2023
778	Vancouver EAS	In-service Nov. 2001	Oct. 2012	Oct. 2021	Beyond 2023
780	N. Alberta	Dec. 2011	May 2012	Jul. 2013	Oct. 2017
807	N.W. Ontario	Beyond forecast	Beyond forecast	Beyond forecast	Beyond 2023
819	N. E. Quebec	Dec. 2017	Jul. 2024	Nov. 2021	Beyond 2023
867	Yukon, NWT, Nunavut	Beyond forecast	Beyond forecast	Beyond forecast	Beyond 2023
902	Nova Scotia & PEI	Jun. 2014	Oct. 2023	Oct. 2013	Dec. 2013
905 / 289	Toronto Fringe	Sep. 2008	May 2011	Jun. 2018	Dec. 2022

4. Schedule of Future NRUF Activities in the Current Year

Due Date	NRUF Type	NRUF Format	NPA(s)
August 15	S-NRUF	As determined by RPC	514
August 15	S-NRUF	Telecom Decision 2002-25	519
August 15	S-NRUF	Format 2 – As determined by RPC	613
August 15	S-NRUF	Format 2 – As determined by RPC	819

5. Summary of Challenges Encountered During the G-NRUF Process

- a) All the parties in the process had difficulty meeting the schedule in accordance with the Guideline (e.g., the numerous CSCN meetings and teleconferences to finalize the 2003 G-NRUF assumptions and methodologies; CSCN desire² to review results prior to release).
- b) Some TSPs continue to remain unaware of the significance and schedule for completing C-NRUFs.
- c) Numerous TSPs and Proposed Competitive Local Exchange Carriers (CLECs) are unaware of the existence and importance of the Canadian Numbering Resource Utilization Forecast Guideline.
- d) Based on questions and submissions to the CNA, TSPs appear to experience trouble understanding and following the instructions that were developed and approved by the CSCN concerning completion and submission of the G-NRUF documentation.
- e) TSPs confuse the differences between a G-NRUF, an R-NRUF, an S-NRUF and the Reserved and Held Report requirements. The request for the 2003 Reserved and Held Telephone Number Report was sent out in November, several weeks prior to the requests for the 2003 C-NRUF data.
- f) The list of Proposed Competitive Local Exchange Carriers on the CRTC website contains incomplete or dated information for certain of the Proposed CLECs.

² Not included in the current version of the C-NRUF Guideline.

- g) Out of the 92 companies, listed in section 8 of this Report, required to complete the G-NRUF, 14 had not responded to the CNA's request by the February 15, 2002 deadline. Of the 14, five were Proposed CLECs, and the remainder were TSPs. Of these, four were assumed to be CLECs that had gone out of business. To date, eight G-NRUFs have not been received, including the data from the four companies that are assumed to have gone out of business. The last 2003 G-NRUF submission received by the CNA was on March 31, 2003.
- h) Six companies missed the February 14, 2003, due date and four companies resubmitted 2003 G-NRUF results after the February 14, 2003, deadline.
- i) 29 companies had problems³ with completion of the C-NRUF forms, submitted the inappropriate form, or missed submission of a form.
- j) The CNA received 2003 G-NRUF data as follows:

Date ⁴	Quantity
December 2002	8
January 2003	24
February Breakdown	
February 3, 2003	1
February 4, 2003	2
February 5, 2003	2
February 7, 2003	2
February 10, 2003	3
February 11, 2003	3
February 12, 2003	10
February 13, 2003	7
February 14, 2003	13
February 17, 2003	1
February 19, 2003	1
February 20, 2003	2
March 2003	5

The above table demonstrates the greatest concentrations of submissions were received on the due date or the two preceding days. It should be noted that the CNA started contacting companies on February 12, 2003, reminding respondents of the C-NRUF submission deadline. The CNA believes that this contact was responsible for generating the majority of activity from those companies that had not yet responded.

³ Not including companies that did not follow submission instructions.

⁴ Date implies the last date if multiple submissions were received from a respondent.

6. Potential Solutions Identified by the CNA to Address G-NRUF Process Issues

- a) There appears to be no serious negative consequence set out for those companies that do not report on time, particularly for those companies that do not expect to apply for a CO Code in the near future. Additionally, there appears to be no serious negative consequence set out for companies that do not forecast accurately. There should be an inducement for the companies to report as accurately as possible, once and on time, in order to ensure that the G-NRUF is meaningful and timely.
- b) Since all of the non-respondents are assumed to be failed CLECs or are proposed CLECs that will not need CO Code assignments, it might be advisable not to request their forecast data in future. The CNA continues to experience difficulty when soliciting information from Proposed CLECs. In most cases these entities have no intention of going into service.

Prior to assignment of a CO Code, a TSP must have submitted an NRUF for the current year. The CNA believes that this requirement would be sufficient to appropriately monitor NPA exhaust, without requiring Proposed CLECs to submit a C-NRUF on an annual basis.

Alternately, the CNA would recommend that prior to being included on the CRTC's Proposed Competitive Local Exchange Carrier list, Proposed CLECs shall submit an initial C-NRUF to the CNA and would be informed that they will be removed from the list for failure to continue to submit C-NRUF data. The CNA should be requested to inform CRTC staff of non-respondents and should request the removal of non-respondents from the Proposed CLEC list.

- c) In accordance with section 3, sub-section 1 and section 4, sub-section 5 of the Guideline, the CNA and the CSCN need to meet early in the fourth quarter of each year to establish the assumptions and methodologies that are to be used in the annual G-NRUF. In addition, the CSCN should revisit the Guideline and insert a requirement for CSCN review of the C-NRUF results provided the CSCN continues to want to review the results. If the Guideline is changed to accommodate a CSCN review, the CSCN should develop a firm schedule for the G-NRUF review process prior to release of the results to NANPA.
- d) Given the review process with CRTC staff and the CSCN, combined with the required April 15 submission date to NANPA, the CNA has found that it has only a period of less than a month to analyse, challenge and produce aggregate G-NRUF results. Assuming that TSPs continue to

submit data on or just prior to the deadline, it is recommended that the deadline be advanced.

- e) The CSCN should strive to increase the participation of smaller TSPs in its activities, such that they are more conversant with the significance of various numbering requirements (e.g., the G-NRUF process, Reserved and Held reports).
- f) The CSCN could revise the Canadian Central Office Code (NXX) Assignment Guidelines to require that Reserved and Held reports be submitted to the CNA during a different timeframe than the annual G-NRUF.
- g) Based on the CNA's discussions with various TSPs, the instructions for completing the G-NRUF documentation need to be simplified and condensed to encourage recipients to read the entire package. The CNA recommends that the G-NRUF instructions be simplified and condensed.
- h) The G-NRUF Guideline establishes the G-NRUF due date, documented discussions take place at the CSCN, and the CNA sends out two requests a month apart, which should be sufficient warning that annual G-NRUF data will be due by a date certain. Based on discussions between the CNA and various TSPs, it would appear that there is too much time between the request for G-NRUF data and the submission date, which allows TSPs to become involved with other projects and to overlook the due date. The CNA recommends a maximum of one month from the date of the initial request to the due date of the G-NRUF.

7. G-NRUF Assumptions

See the attached CRTC letter dated March 26, 2003 and CSCN letter dated April 9, 2003.

7.1 CNA Special CO Code Assignment Practices

For the 2003 G-NRUF the CNA developed, in accordance with Section 2.2 of the Canadian Central Office Code (NXX) Assignment Guidelines, the following Special CO Code Assignment Practices for NPAs 613 and 819.

For this analysis the CNA developed three assignment pools based on the following NPA 613 exchanges:

1. Ottawa Pool includes the following exchanges:

- Brockville
- Carleton Place
- Cornwall
- Kanata Stittsville
- Kingston
- Orleans
- Ottawa Hull
- Perth
- Smiths Falls

2. Belleville Pool includes the following exchanges:

- Belleville
- Picton
- Trenton

3. Pembroke Pool includes the following exchanges:

- Pembroke
- Petawawa
- Renfrew

The Ottawa assignment pool consists of 77 CO Codes that are currently in service in NPA 819 and outside the Greater Ottawa Hull Local 7-digit dialing area. Assignment of these CO Codes for the exchanges listed in the Ottawa Assignment Pool would not result in an increase in the number of Protected CO Codes in NPA 819. Based on the forecasted growth rate, this assignment pool would exhaust in approximately three years.

The Belleville and Pembroke Assignment Pools draw from CO Codes that are currently in service in NPA 819, but Protected in NPA 613, generally in the Greater Ottawa Hull Local 7-digit dialing area. Assignment of these CO Codes

would not result in an increase in the number of Protected CO Codes in NPA 819 and would reduce the number of Protected CO Codes in NPA 613.

Utilization of the Ottawa Assignment Pool has major positive implications on the growth of Protected CO Codes in NPA 819, while the Belleville and Pembroke Assignment Pools have minor positive implications. The exchanges identified in the Ottawa Assignment Pool are the exchanges that have a forecast growth greater than one CO Code over the next six years.

By utilizing the above Assignment Pools, NPA 819 exhaust, assuming CO Code Protection remains, changes from first quarter 2006 until first or second quarter 2008.

This analysis has not considered any impact on the growth of CO Code Protection due to 7–digit dialing into NPA 819 from NPAs 418, 450 or 705 (detailed exchange level data not available) nor potential limiting factors in available CO Code assignment due to these or other potential networking, marketing or tariff problems.

It should be noted that the situation could change if additional tariff/local dialing plans are submitted to the CNA or local dialing plans expand upon the current regions considered in the analysis.

8. G-NRUF Participation List

Company	OCN	Status ⁵
3620221 Canada Inc.	0745	Late
Abitibi-Price Telephone Exchange	8201	Received
Aliant Telecom (Mobility)	329A	Received
Aliant Telecom (NB)	8090	Received
Aliant Telecom (NF)	8085	Received
Aliant Telecom (NS)	8089	Received
Aliant Telecom (PEI)	8087	Received
Amtelecom Inc.	8202	Received
AT&T Canada	8304	Received
Axxent Corp.	4849	Not Received
Bell Canada	8050	Received
Bell Canada	8051	Received
Bell Mobility	6574	Received
Bell West Inc.	2933	Received
Brooke Telecom Co-operative Ltd.	8204	Received
Bruce Municipal Telephone System	8205	Received
C1 Communications	4789	Not Received
Call-Net Communications	8377	Received
CAS Communications Services Ltd. (CAS)	Proposed CLEC	Not Received

⁵ A status of "Late" or "Not Received" implies these respondents missed both the 7 day and 28 day deadlines. A late submission implies that the CNA received the input after the 28th day.

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Company	OCN	Status⁵
Cochrane Public Utilities Commission	8206	Received
COGECO Cable Canada Inc.	4591	Received
CoopTel de telecommunication	8242	Received
CSP Internet Ltd.	Proposed CLEC	Not Received
DACo Telecommunications Inc.	Proposed CLEC	Received
Dryden Municipal Telephone System	8210	Received
Durham Telecom	Proposed CLEC	Not Received
EastLink Limited	4878	Received
ExaTEL Inc.	3147	Received
Execulink Telecom Inc.	8216	Received
Futureway Communications Inc.	4297	Received
Gateway Tel	4349	Not Received
Globalstar	6996	Received
Globility	201A	Received
Gosfield North Communication Co-operative Ltd.	8212	Received
GT Group Telecom Services Corp.	8506	Received
Hay Communications Co-operative Ltd.	8214	Received
Huron Telecommunications Co-operative Ltd.	8215	Received
ISP Telecom	4727	Received
KMTS	8218	Received
La Cie de Telephone de Courcelles Inc.	8208	Received
La Cie de Telephone de Warwick	8243	Received
La Cie de Telephone Nantes inc.	8256	Received
La Compagne de Telephone Upton	8241	Received
La Compagnie de Telephone de Lambton Inc.	8219	Received
La Compagnie de Telephone de St-Victor	8235	Received
La Corporation de Telephone de la Baie (1993)	8236	Received
Lansdowne Rural Telephone Ltd.	8220	Received
Le Telephone de St-Ephrem Inc	8233	Received
Le Telephone de St-Liboire de Bagot Inc.	8234	Received
Managed Network Systems Inc.	2776	Received
Maskatel	8254	Received
MicroCell Connexions	5643	Received
MicroCell Connexions	8820	Received
Mornington Communications Co-operative Ltd.	8223	Received
MTS Communications Inc	8088	Received
Nexicom Telecommunications Inc.	8211	Received
Nexicom Telephones Inc.	8230	Received
Norigen Communications Inc.	4981	Not Received
NORTEC Corporation	Proposed CLEC	Received
North Frontenac Telephone Company	8225	Received
North Renfrew Telephone Company Ltd.	8227	Received
Northern Telephone Ltd.	8228	Received
Northwestel	8092	Received
Northwestel Mobility Inc.	9861	Received
O.N. Tel	8229	Received
Packet-Tel Corp.	Proposed CLEC	Received

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Company	OCN	Status⁵
People's Telephone Company of Forest	8231	Received
Prince Rupert City Telephones	8082	Received
Quadro Communications Co-operative Inc.	8203	Received
RipNET Limited	094A	Received
Rogers AT&T Wireless	8821	Received
Roxborough Telephone Compnay Ltd.	8232	Received
SaskTel	8091	Received
SaskTel Mobility	9868	Received
Sogetel Inc.	8237	Received
Telebec Ltee.	8239	Received
Telephone Guevremont Inc.	8213	Received
Telephone Milot Inc.	8221	Received
TELUS	8084	Received
TELUS	8086	Received
TELUS Integrated Communications	2782	Received
TELUS Mobility	8301	Received
TELUS Mobility	8303	Received
TELUS Mobility	8819	Received
TELUS Quebec	2243	Received
TELUS Quebec	8083	Received
Thunder Bay Telephone	8094	Received
Tuckersmith Communications Co-operative Ltd.	8240	Received
Videotron Telecom (1998) Ltee	8306	Received
Westport Telephone Company Ltd.	8244	Received
Wightman Telephone Ltd.	8245	Received
Zeuter Development Corporation	Proposed CLEC	Not Received

Conclusion

In accordance with Section 4, Item 10 h) of the Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline, the CNA has conducted an assessment, at a total aggregate level, to determine whether the 2003 C-NRUF results are reasonable and the Projected Exhaust Dates for all NPAs are realistic based upon the data submitted by TSPs and the direction provided by the CSCN on April 9, 2003: "The CNA shall assume that six year forecasts from existing TSPs include all known factors that would affect demand, including new technologies."

The CNA notes that the Canadian telecommunications environment continues to go through a period of significant change due to the introduction of competition in local exchange markets and unanticipated social and economic impacts (e.g., high-tech meltdown, September 11, Iraqi conflict). The general trend since the 2002 G-NRUF has been towards the deferral of the Projected Exhaust Dates of almost all NPAs.

The results from the 2003 G-NRUF are difficult to compare with the 2002 G-NRUF results due to three major factors:

- 1) The assumptions used for the 2003 G-NRUF are different from those used in preceding years.
- 2) The Canadian Central Office Code (NXX) Assignment Guidelines with respect to the allocation of "CNA Codes" (section 3.7) have been changed.
- 3) Various TSPs have submitted to the CNA a set of data that is quite different from the 2002 data.

The recent restructuring of the wireline portion of the industry, due to the normalizing of the number of carriers and the downturn in the economy in 2002 and early 2003, has reduced the number of CLECs significantly. Other TSPs have modified their market entry and expansion plans as their market and competitive experience affects their business results. For example, some TSPs have been merged with others over the past twelve months. These factors have decreased the anticipated demand for CO Codes.

As we move forward into the remainder of 2003 and 2004, the CNA expects the telecommunications market to continue to move towards an equilibrium position. However, at this time, there is still the potential for volatility in demand for numbering resources that is difficult to predict based upon more recent events that could adversely impact the Canadian economy and, hence, the telecommunication market (e.g., Severe Acute Respiratory Syndrome, bovine spongiform encephalopathy, Department of Homeland Security (U.S.) increase in national threat level). Due to this uncertainty, there is considerable latitude for determining what is reasonable and realistic. Accordingly, based on this assessment, in the CNA's opinion, the G-NRUF results for this year appear reasonable and the Projected Exhaust Dates for Canadian NPAs are generally realistic.

2003 G–NRUF Aggregate Results

As of January 1

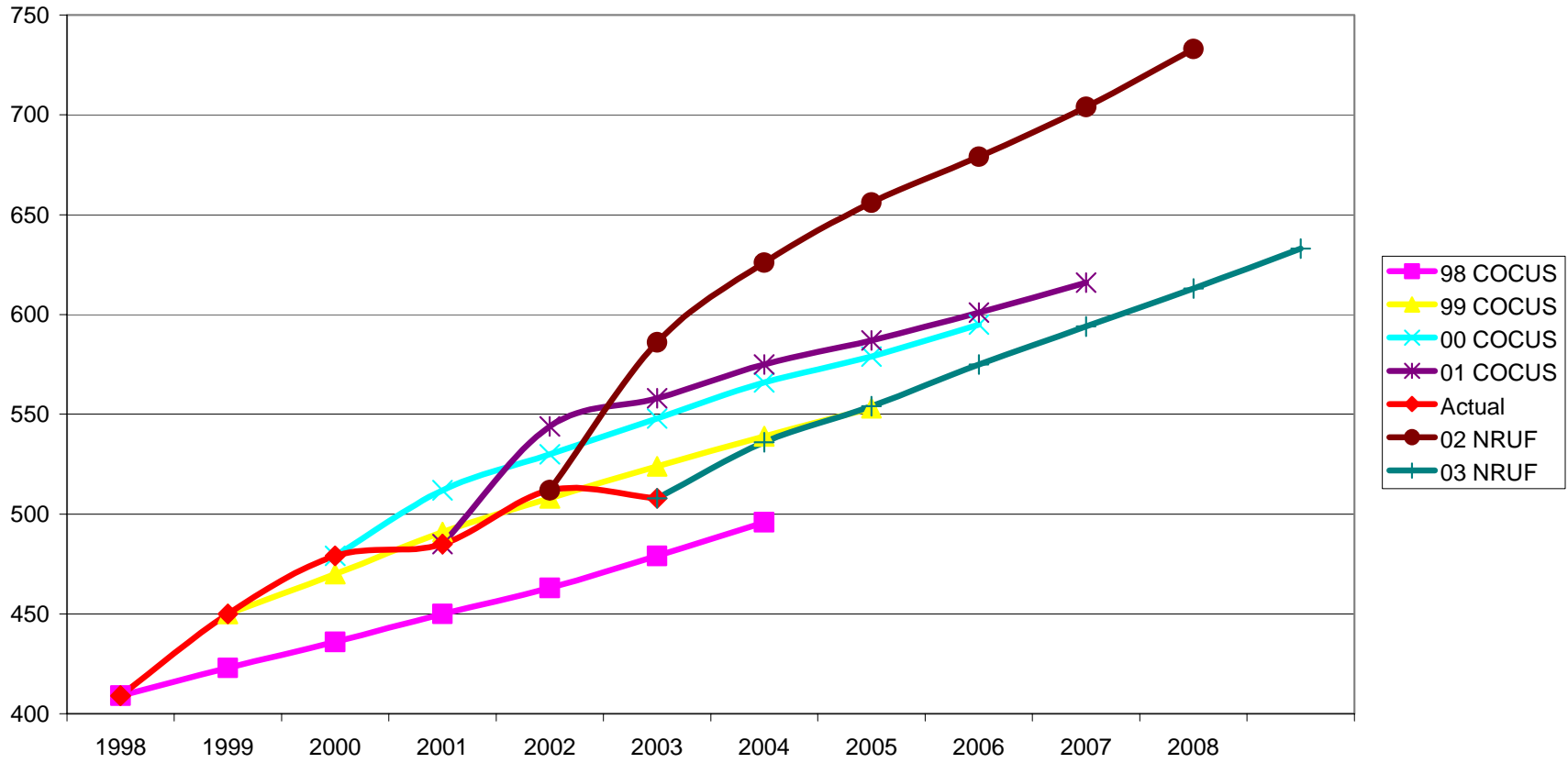
NPA / Years	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
204	508	536	554	575	594	613	633	654	675	696	717	738	759	780	801	843	864	885	906	927	948
250	595	621	647	673	687	705	727	749	771	793	836	858	880	902	924	946	968	990	1012	1034	1056
289 905	742	771	792	837	878	921	959	1005	1051	1097	1143	1189	1235	1281	1327	1373	1419	1465	1511	1557	1603
306	521	529	536	543	549	561	569	577	585	593	601	609	617	625	633	641	649	657	665	673	681
403	521	543	564	586	608	638	667	691	715	739	763	787	832	856	880	904	928	952	976	1000	1024
416 647	844	896	941	1007	1062	1117	1175	1232	1289	1346	1403	1460	1517	1574	1655	1712	1769	1826	1883	1940	1997
418	538	572	599	629	661	691	720	751	782	834	865	896	927	958	989	1020	1051	1082	1113	1144	1175
450	387	410	420	434	451	467	485	501	517	533	549	565	581	597	613	629	645	661	677	693	709
506	267	292	306	321	334	346	360	375	390	405	420	435	450	465	480	495	510	525	540	555	570
514	582	631	671	729	776	838	888	939	990	1041	1092	1143	1194	1245	1296	1347	1398	1449	1500	1551	1602
519	643	686	704	736	768	801	837	868	899	930	961	992	1023	1054	1085	1116	1147	1178	1209	1240	1271
604	579	580	579	583	586	589	590	593	596	599	602	605	608	611	614	617	620	623	626	629	632
613	554	583	594	625	618	647	678	709	740	771	802	854	885	916	947	978	1009	1040	1071	1102	1133
705	414	444	455	473	494	509	533	553	573	593	613	633	653	673	693	713	733	753	773	793	834
709	351	366	375	385	395	405	414	425	436	447	458	469	480	491	502	513	524	535	546	557	568
778	55	77	99	132	172	203	236	266	296	326	356	386	416	446	476	506	536	566	596	626	656
780	487	504	529	549	571	596	616	637	658	679	700	721	742	763	784	828	849	870	891	912	933
807	152	153	156	158	160	162	165	167	169	171	173	175	177	179	181	183	185	187	189	191	193
819	654	682	696	711	483	497	514	551	566	581	596	611	626	641	656	671	686	701	716	731	746
867	175	179	181	182	169	170	172	174	176	178	180	182	184	186	188	190	192	194	196	198	200
902	471	508	541	567	595	626	652	682	712	742	772	802	853	883	913	943	973	1003	1033	1063	1093

Quantity of CNA CO Codes as of 1 January 2003

January 1, 2003

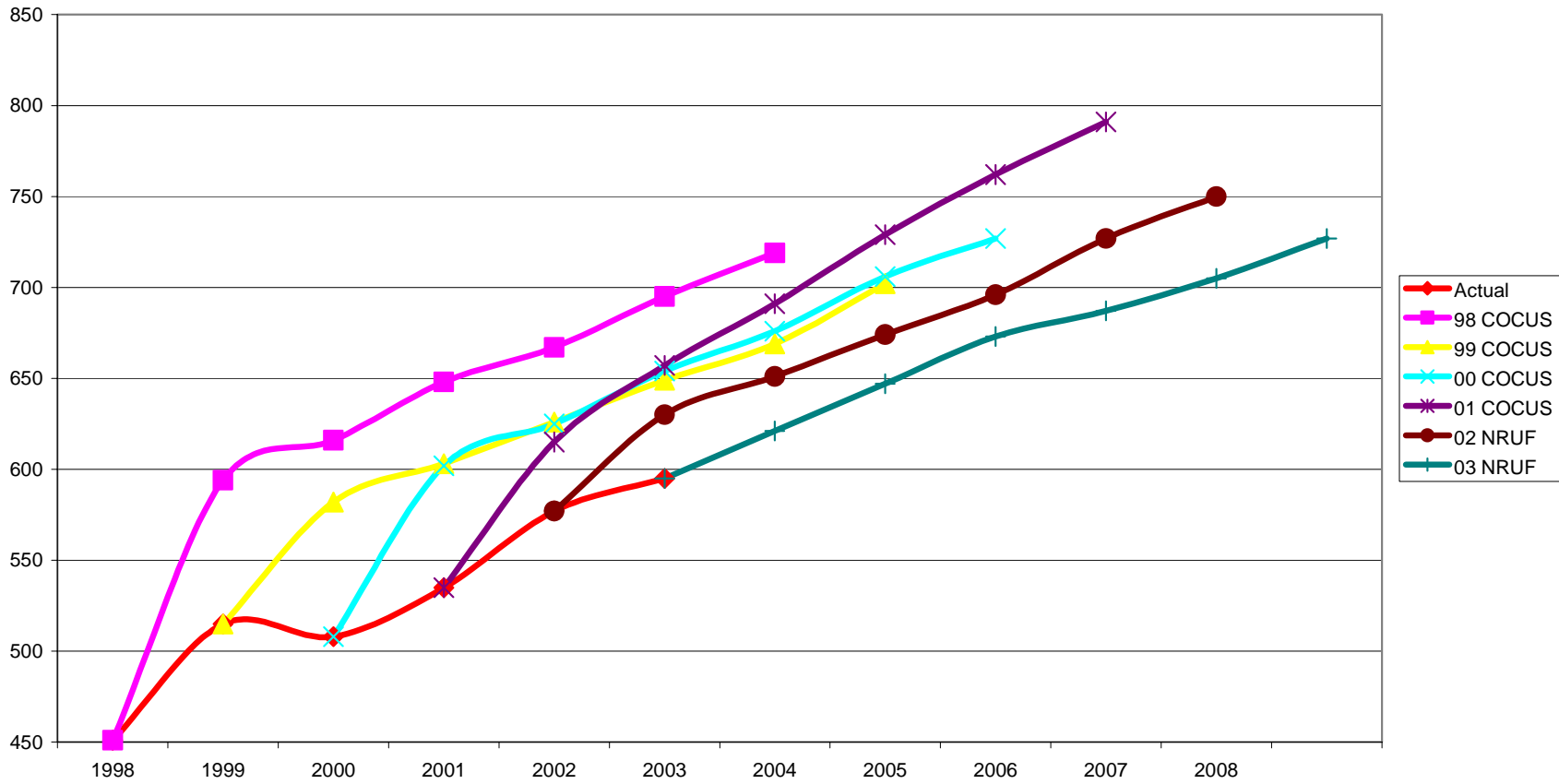
NPAs	204	250	289 905	306	403	416 647	418	450	506	514	519	604	613	705	709	778	780	807	819	867	902
Initial Codes	0	0	30	0	0	9	0	0	0	12	15	4	0	0	0	0	0	0	0	0	0
Protected	0	0	0	0	1	0	0	0	0	0	0	0	5	0	0	0	1	0	0	0	0
N00 Codes	8	8	16	8	8	13	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
N11 Service Codes	8	8	16	8	8	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7
Special Use Codes (555, 950 & 976)	3	3	5	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Industry Plant Test Codes	1	2	4	2	2	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Current NPAs	3	4	16	3	4	7	5	4	3	2	4	4	6	8	3	5	5	3	7	9	2
Future NPAs	3	4	2	0	3	5	2	0	0	3	0	0	7	4	0	0	4	0	0	0	1
911 Misdial Codes (912, 914 & 915)	3	3	0	3	2	0	3	3	3	0	3	0	3	3	3	0	1	3	3	3	3
Special 7 Digit Dialing Codes (310, 610 & 810)	2	2	5	2	2	5	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2
Protected for 7D	0	0	0	0	0	0	0	0	0	0	0	0	63	0	0	0	0	0	231	0	0
Total	31	34	94	29	33	63	33	30	29	40	45	31	107	38	29	28	34	29	264	36	28

NPA 204 Manitoba



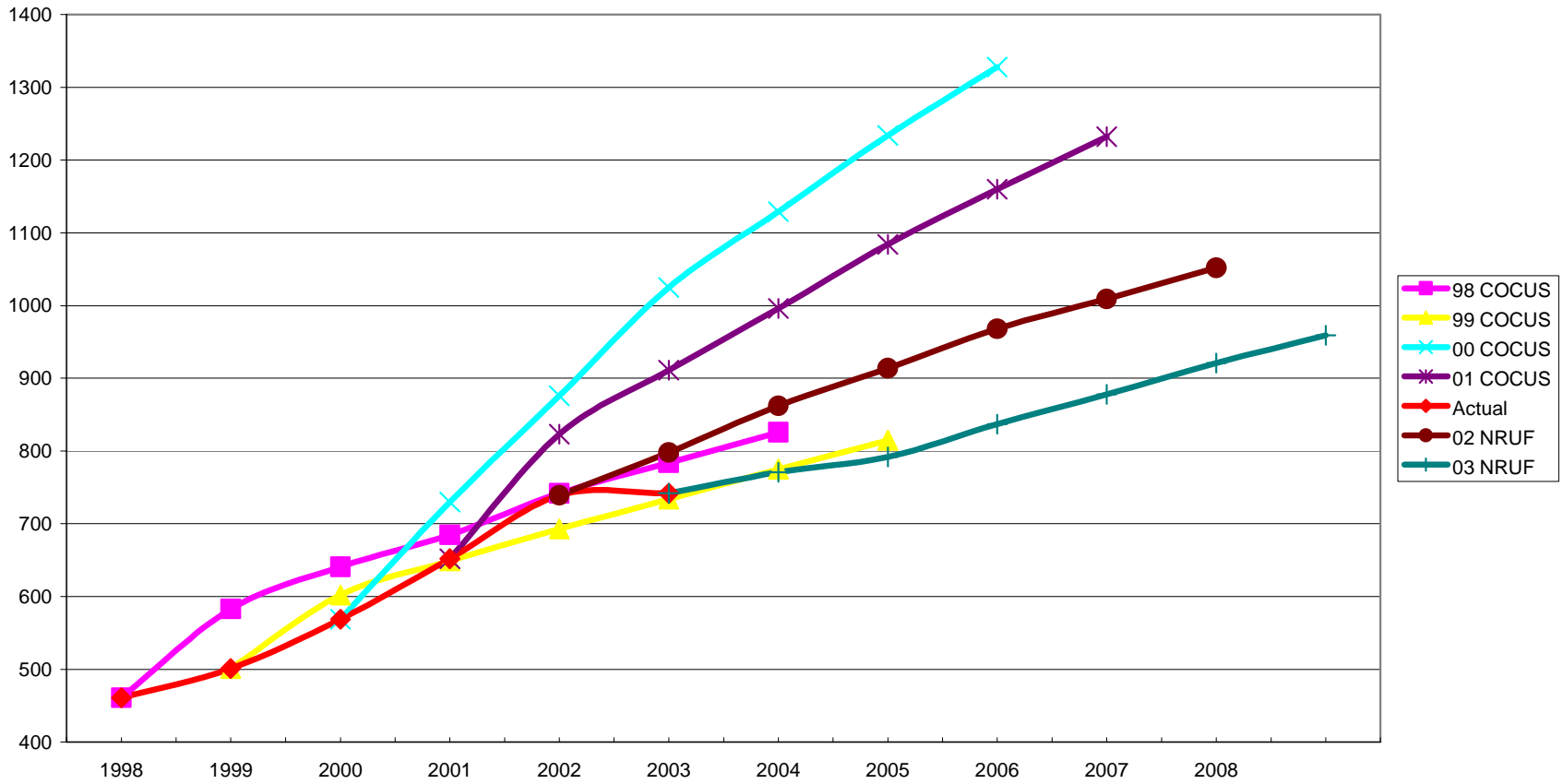
Historical G-NRUF Graphs for Canadian NPAs

NPA 250 British Columbia



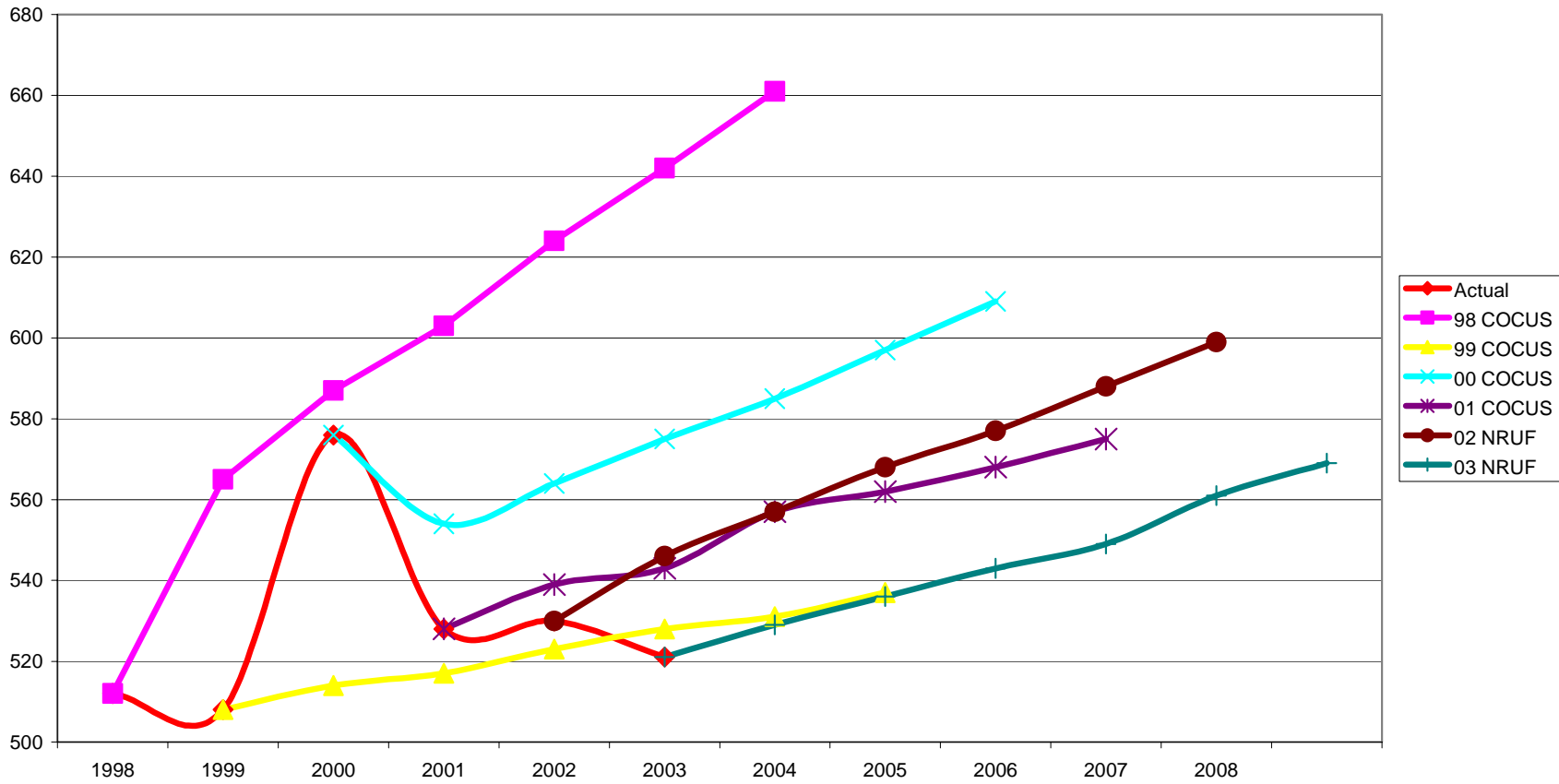
Historical G-NRUF Graphs for Canadian NPAs

NPA 289/905 Ontario



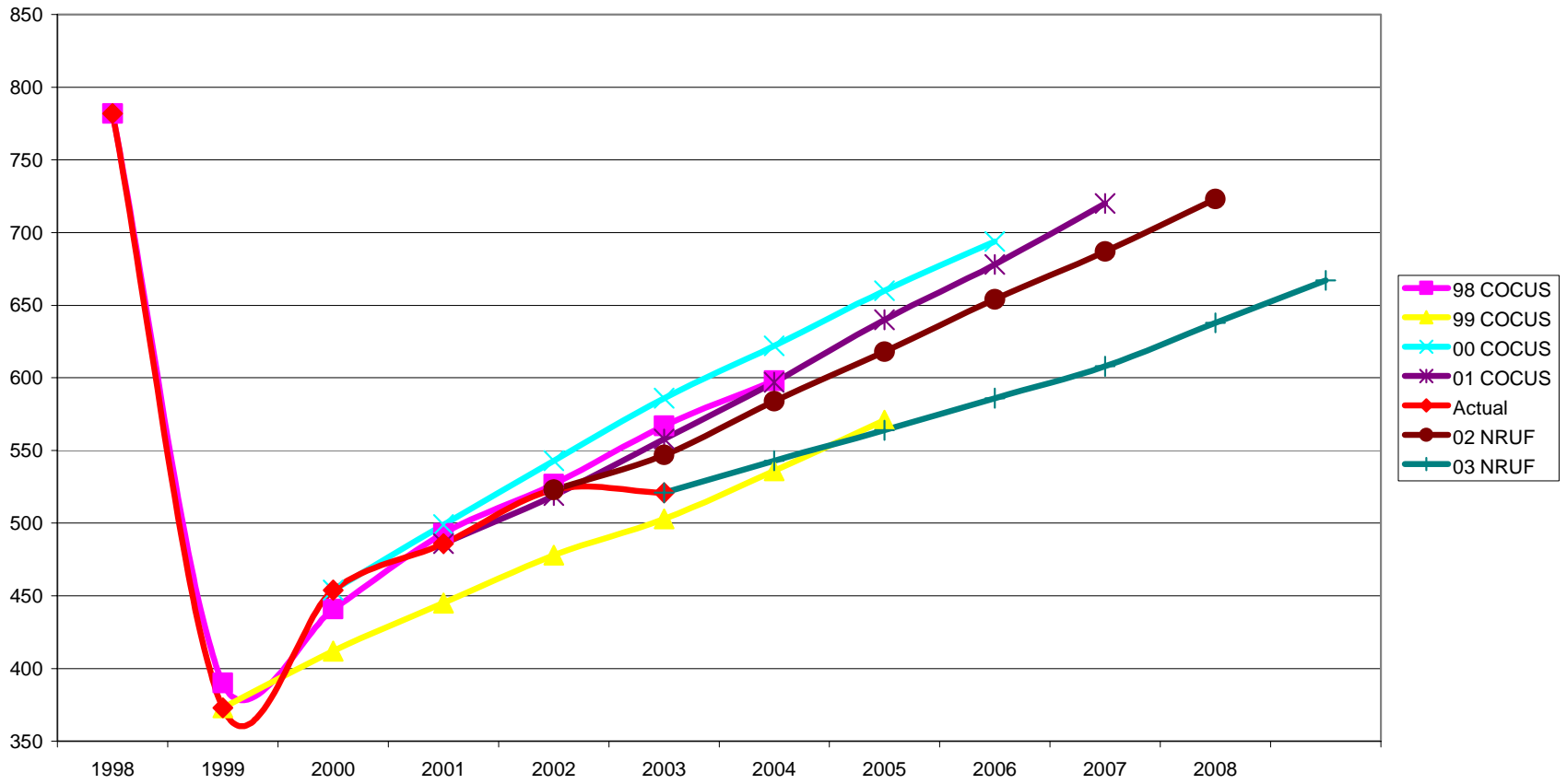
Historical G-NRUF Graphs for Canadian NPAs

NPA 306 Saskatchewan



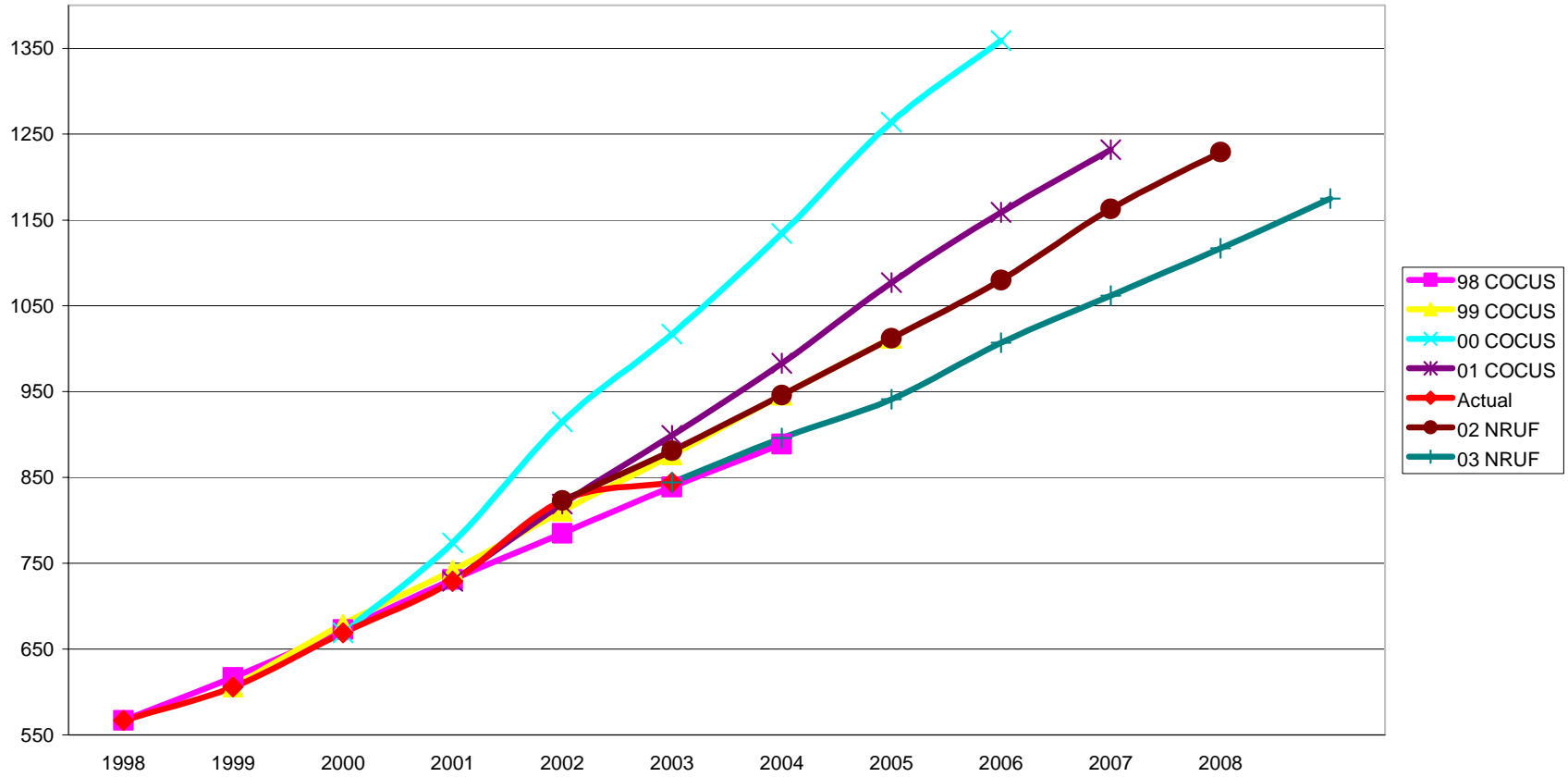
Historical G-NRUF Graphs for Canadian NPAs

NPA 403 Alberta



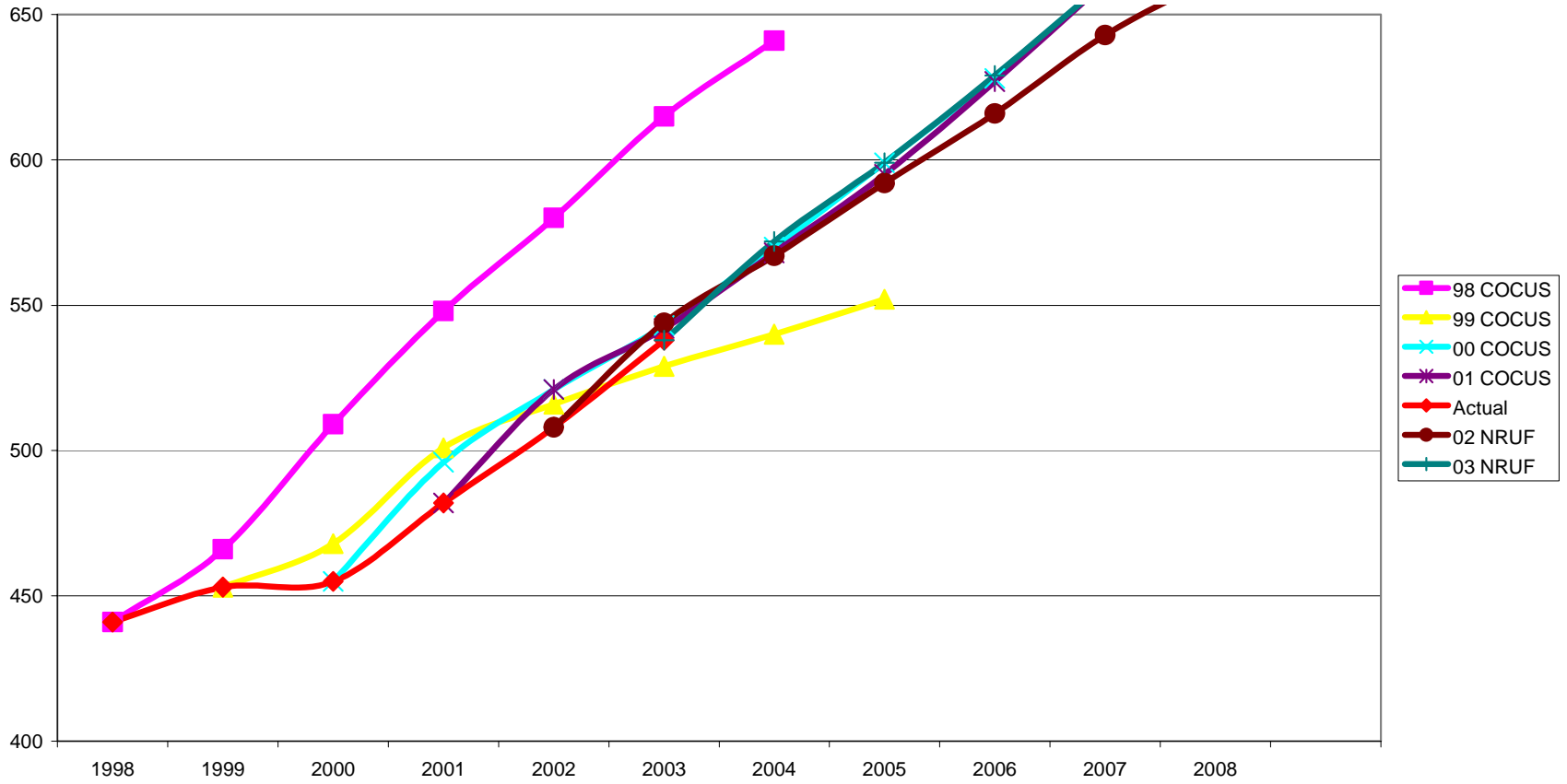
Historical G-NRUF Graphs for Canadian NPAs

NPA 416/647 Ontario



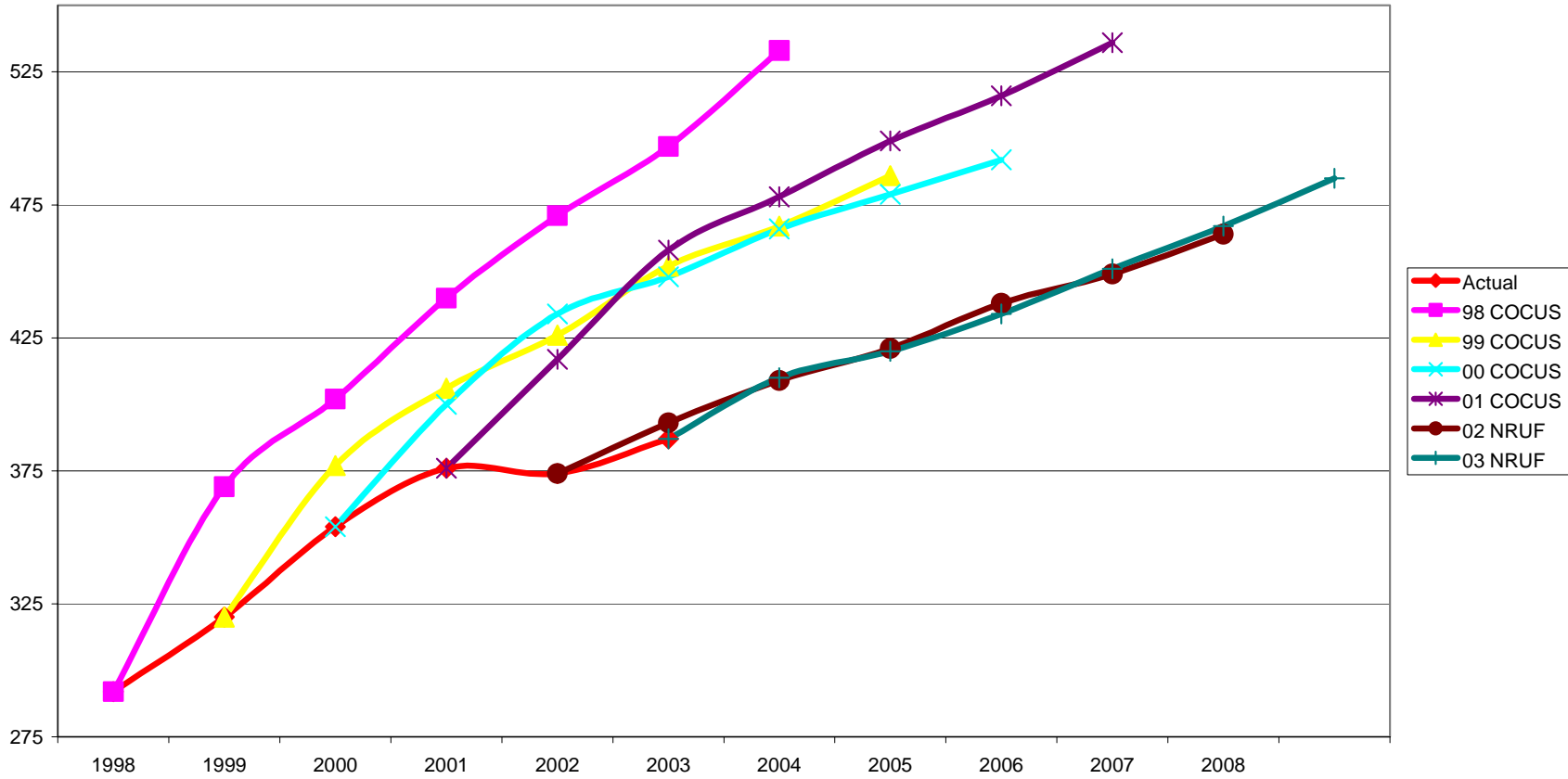
Historical G-NRUF Graphs for Canadian NPAs

NPA 418 Quebec



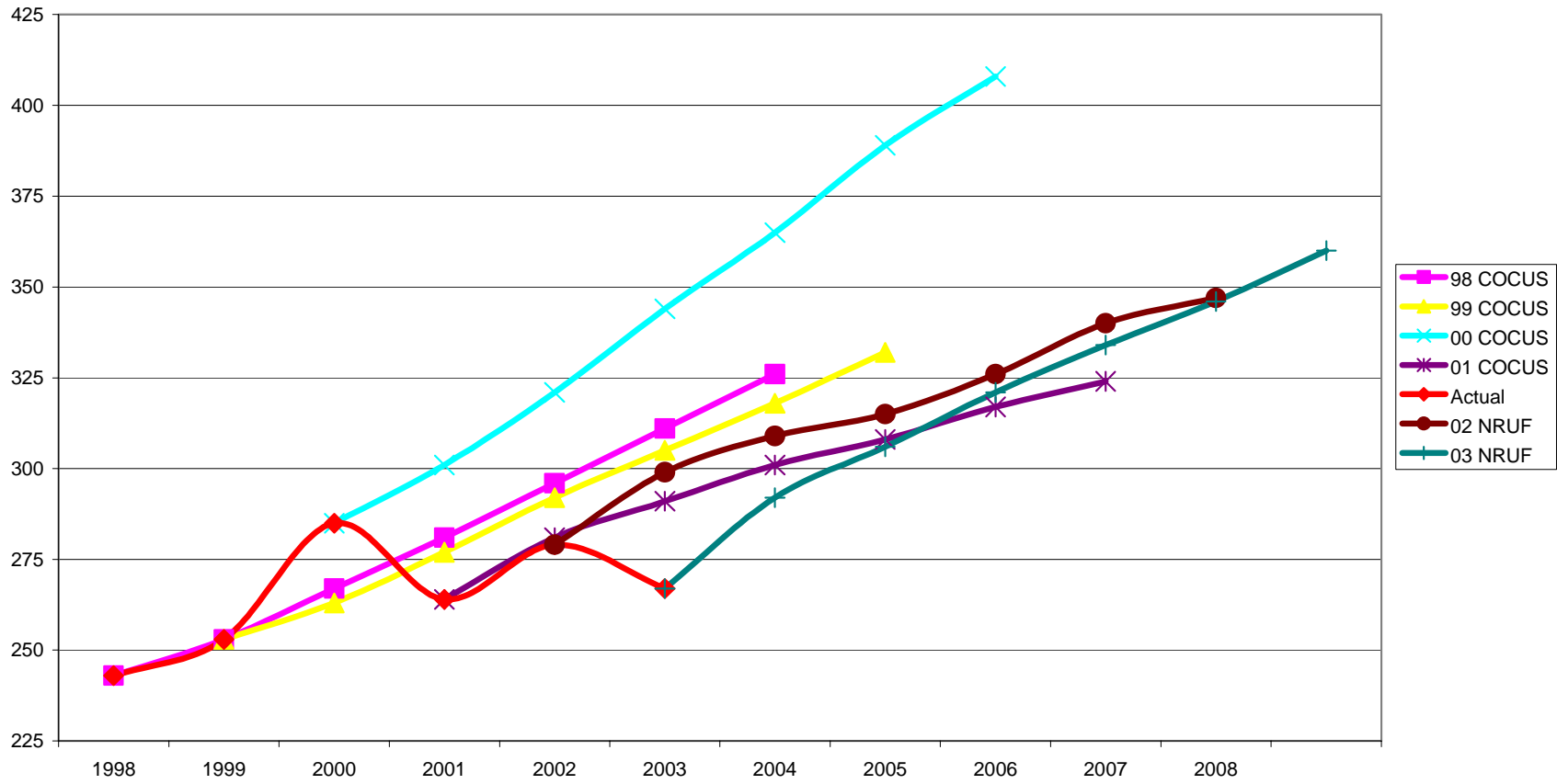
Historical G-NRUF Graphs for Canadian NPAs

NPA 450 Quebec



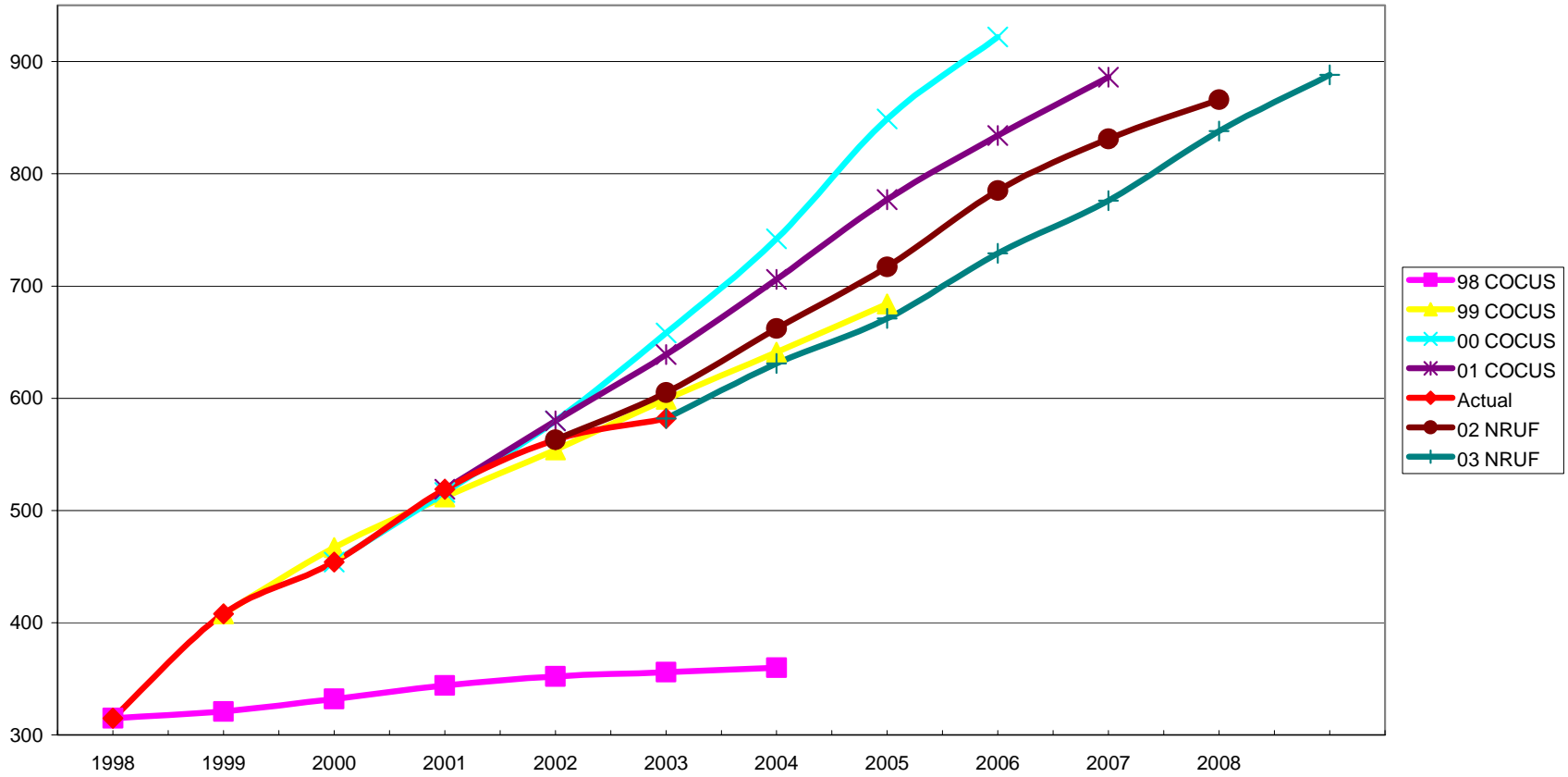
Historical G-NRUF Graphs for Canadian NPAs

NPA 506 New Brunswick



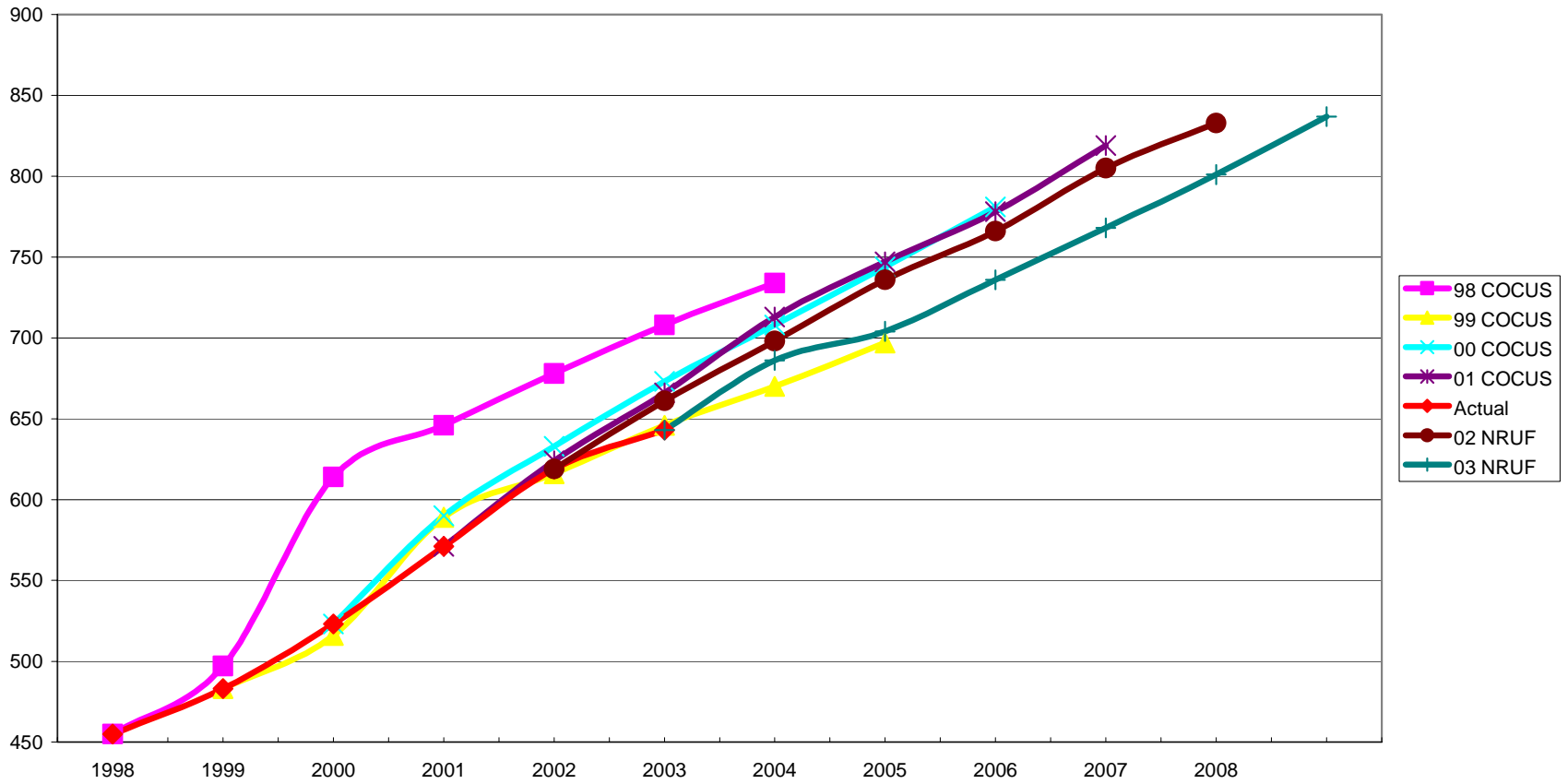
Historical G-NRUF Graphs for Canadian NPAs

NPA 514 Quebec



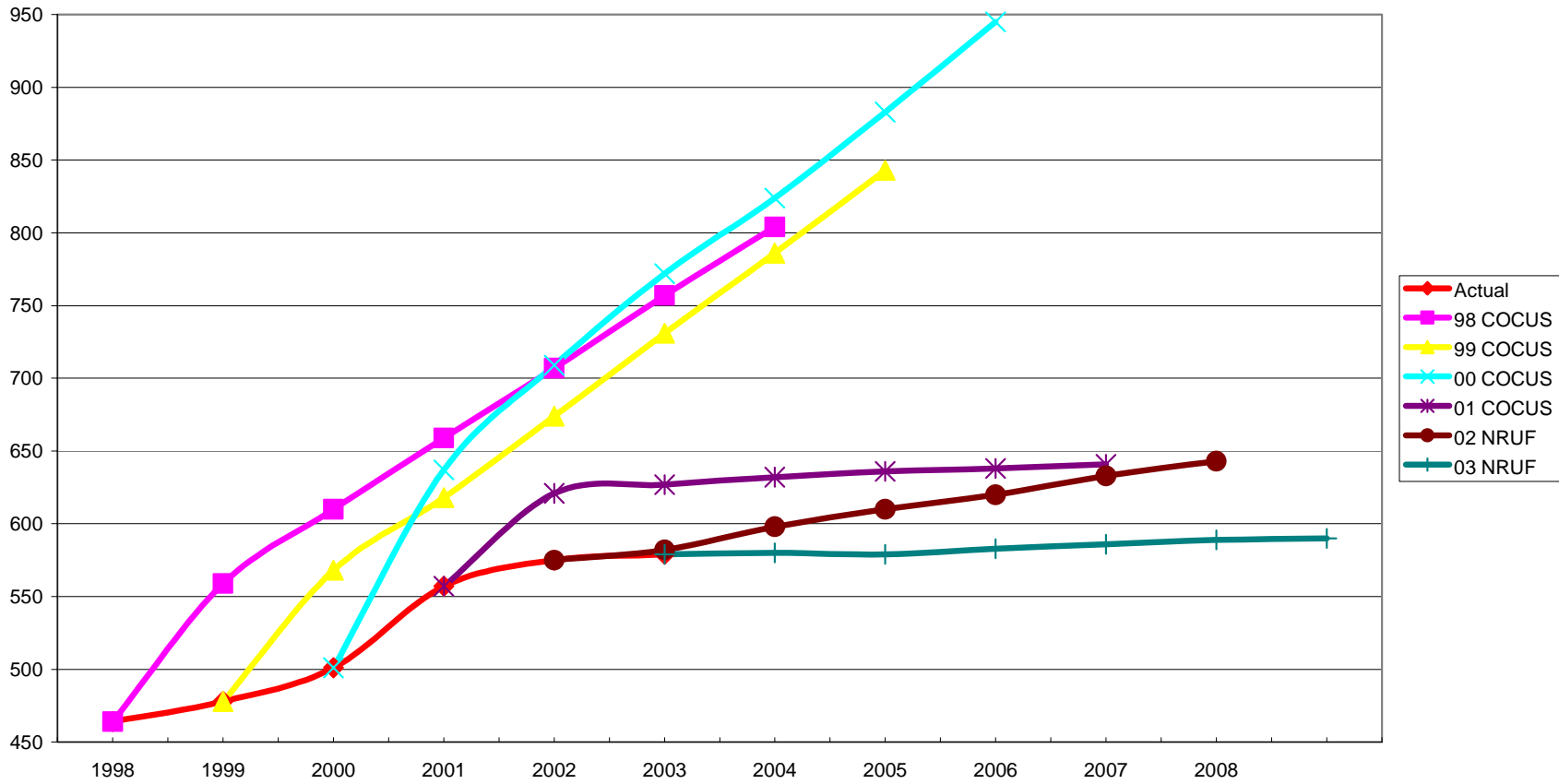
Historical G-NRUF Graphs for Canadian NPAs

NPA 519 Ontario



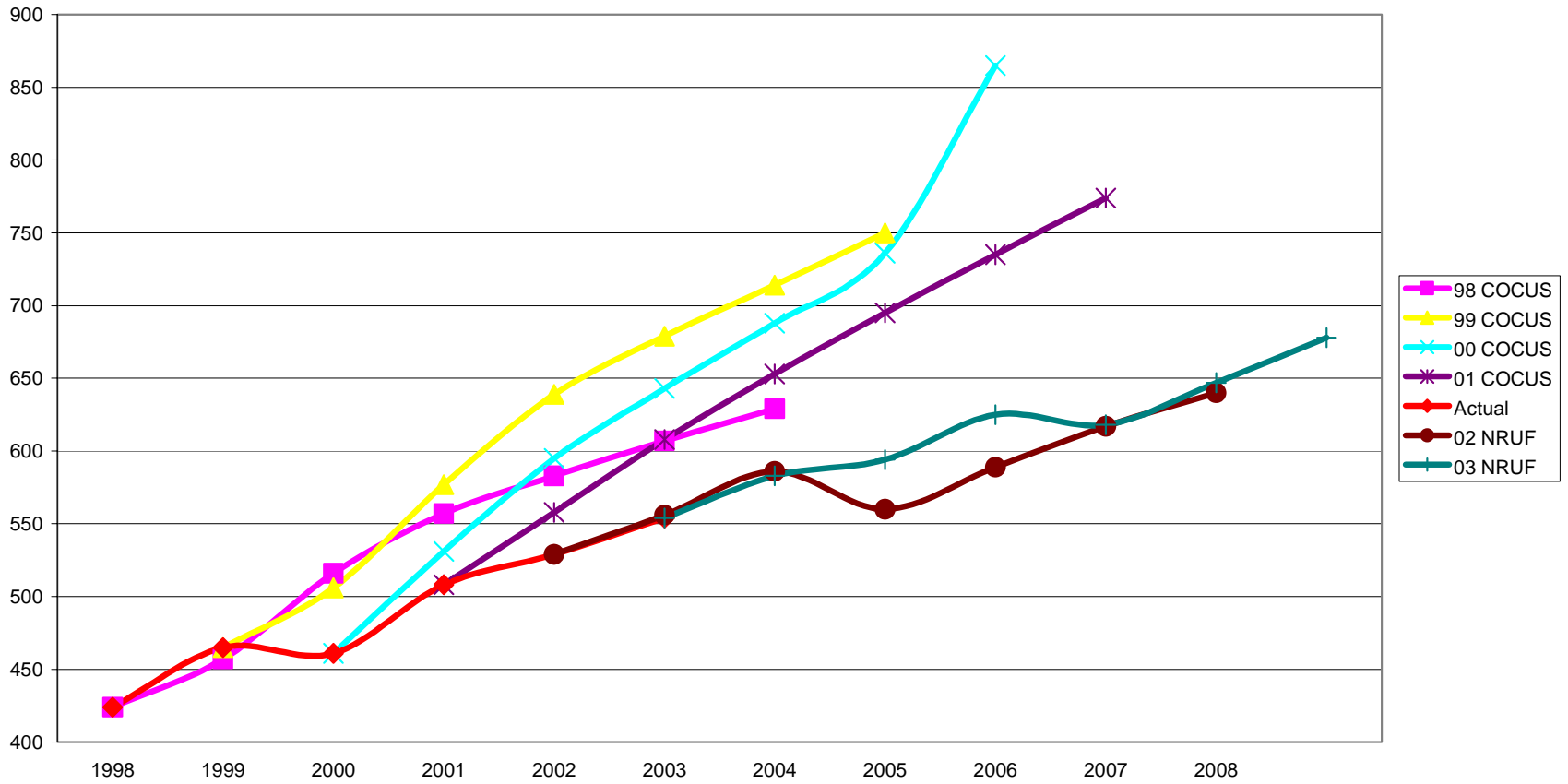
Historical G-NRUF Graphs for Canadian NPAs

NPA 604 British Coubia



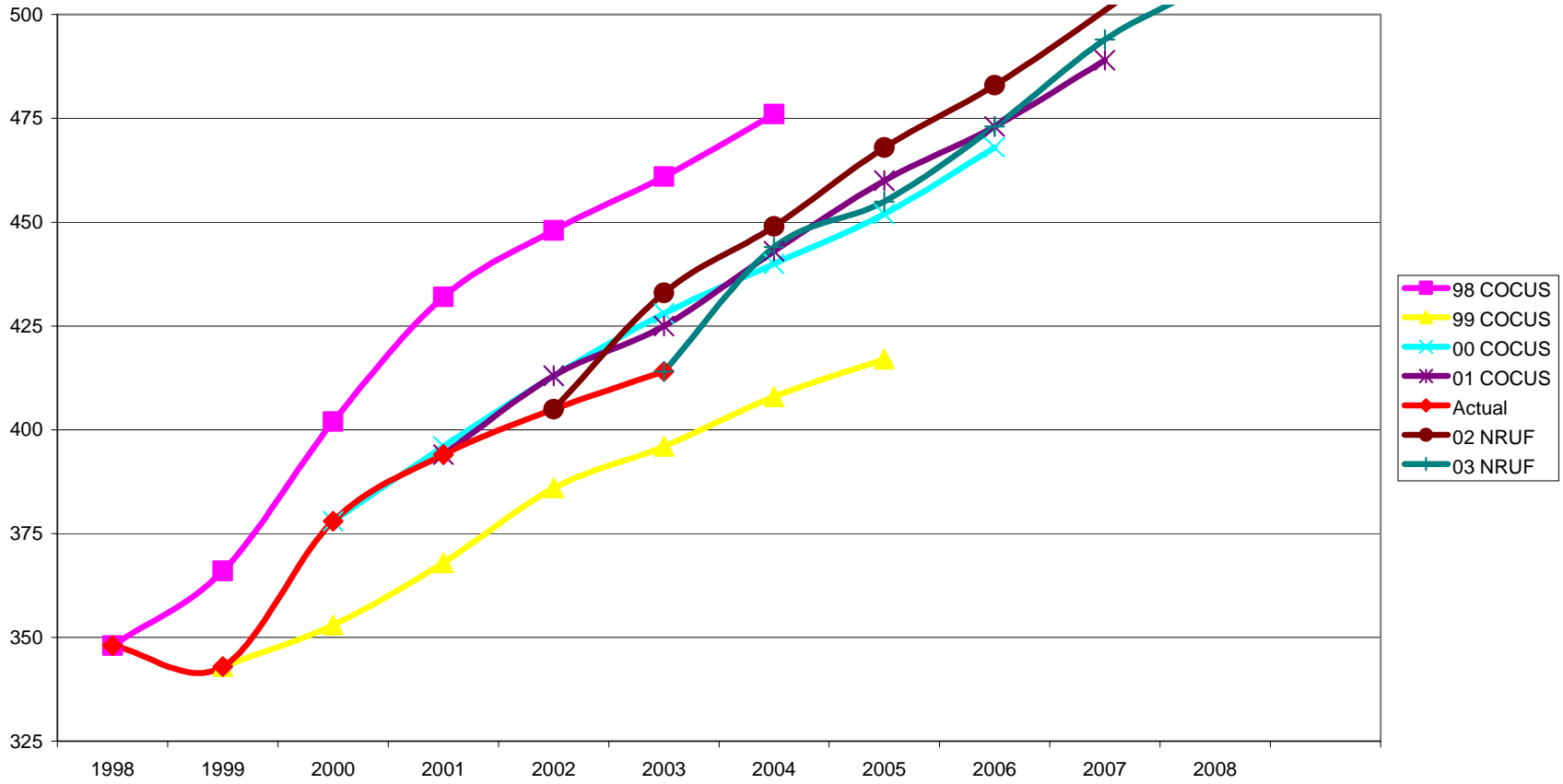
Historical G-NRUF Graphs for Canadian NPAs

NPA 613 Ontario (includes all protected codes)



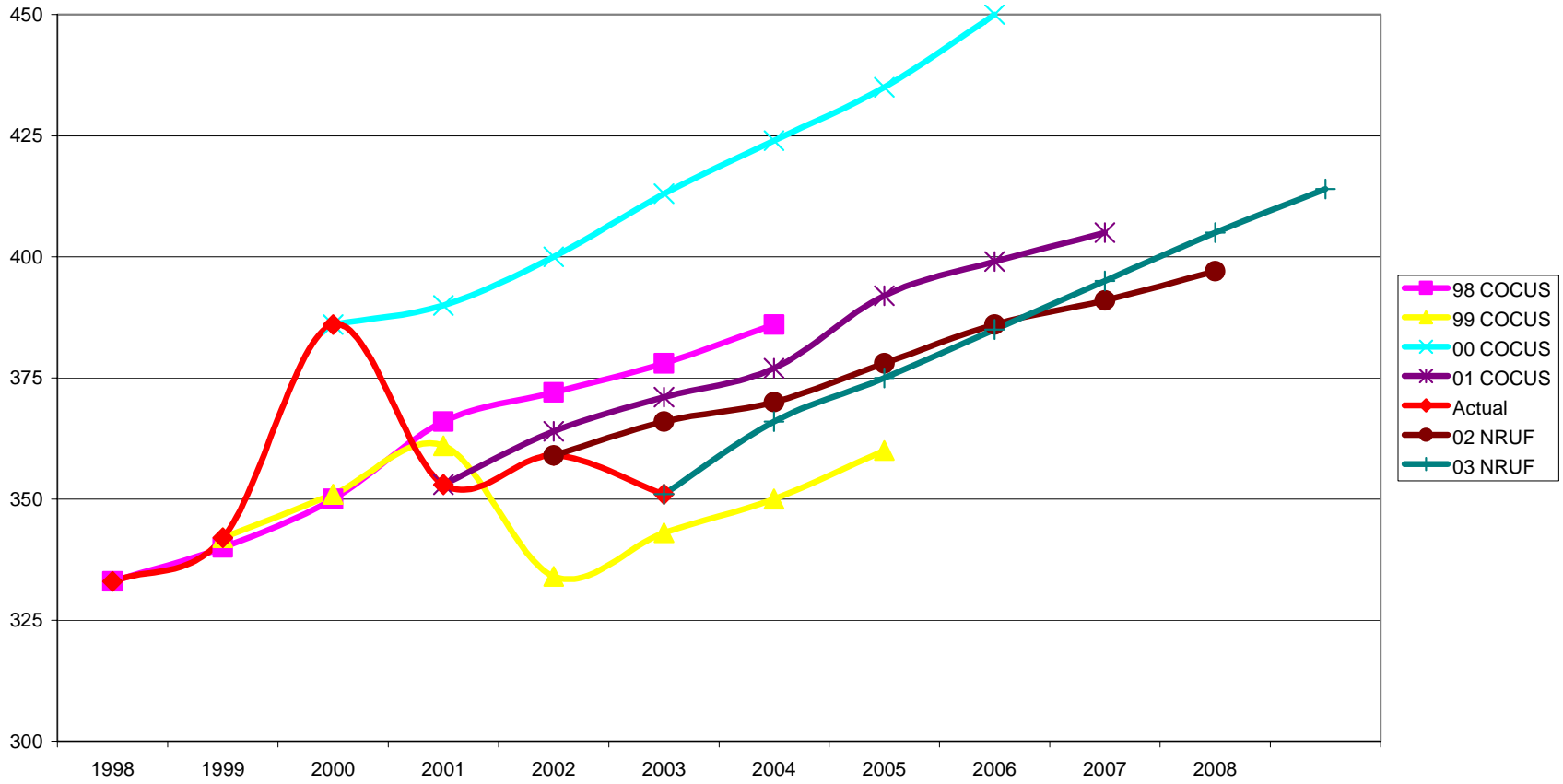
Historical G-NRUF Graphs for Canadian NPAs

NPA 705 Ontario



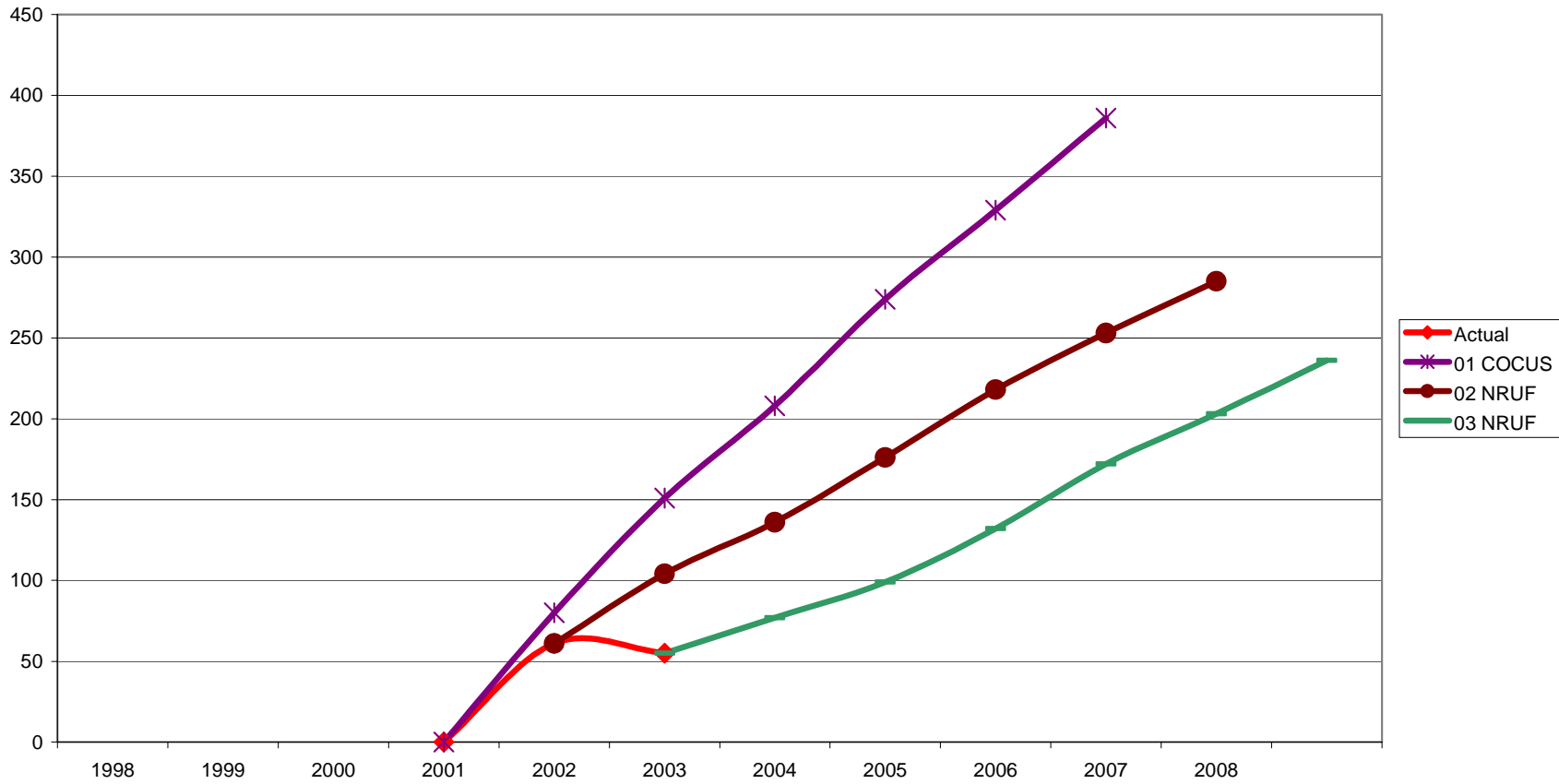
Historical G-NRUF Graphs for Canadian NPAs

NPA 709 Newfoundland



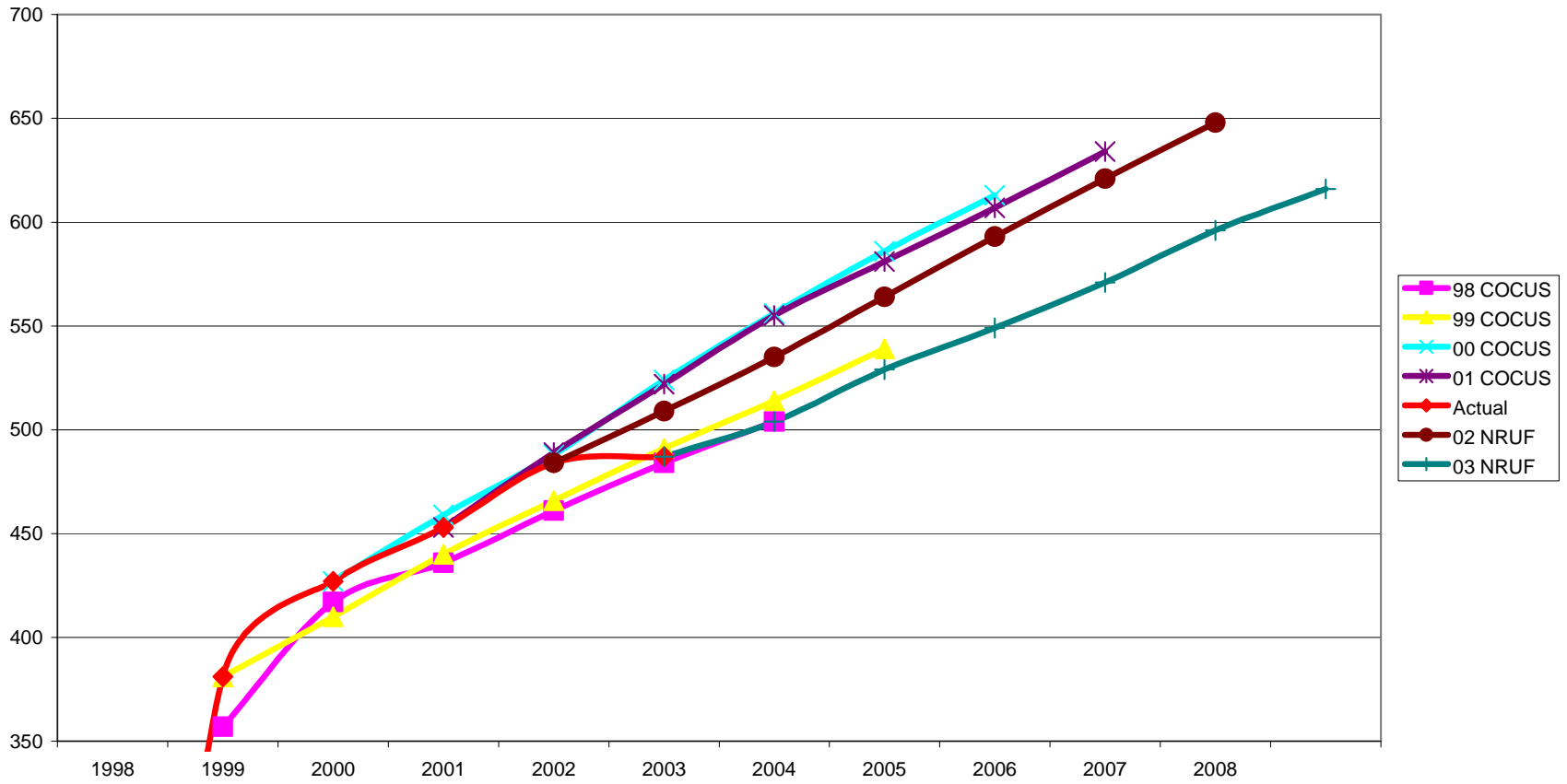
Historical G-NRUF Graphs for Canadian NPAs

NPA 778 British Columbia



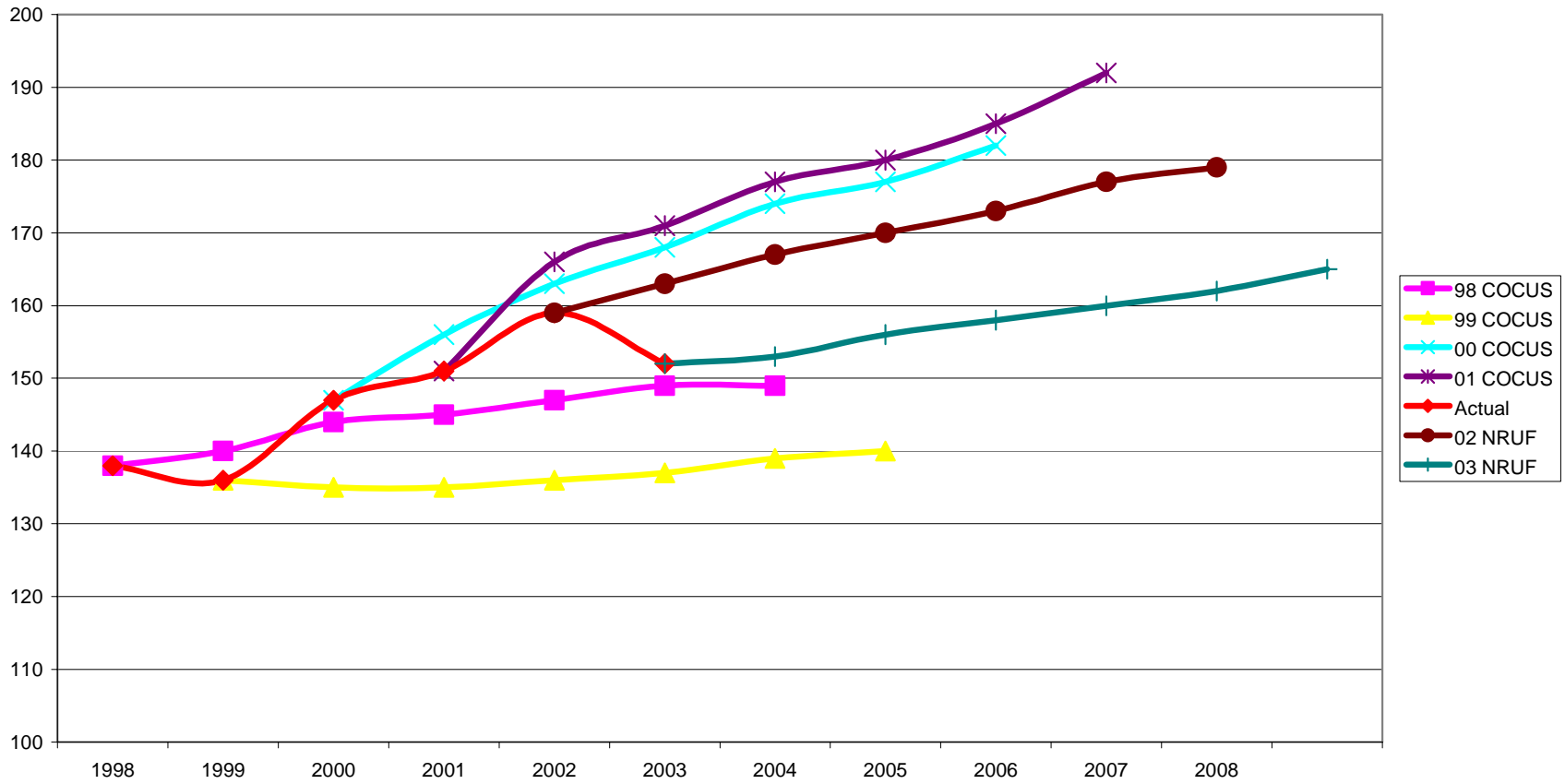
Historical G-NRUF Graphs for Canadian NPAs

NPA 780 Alberta



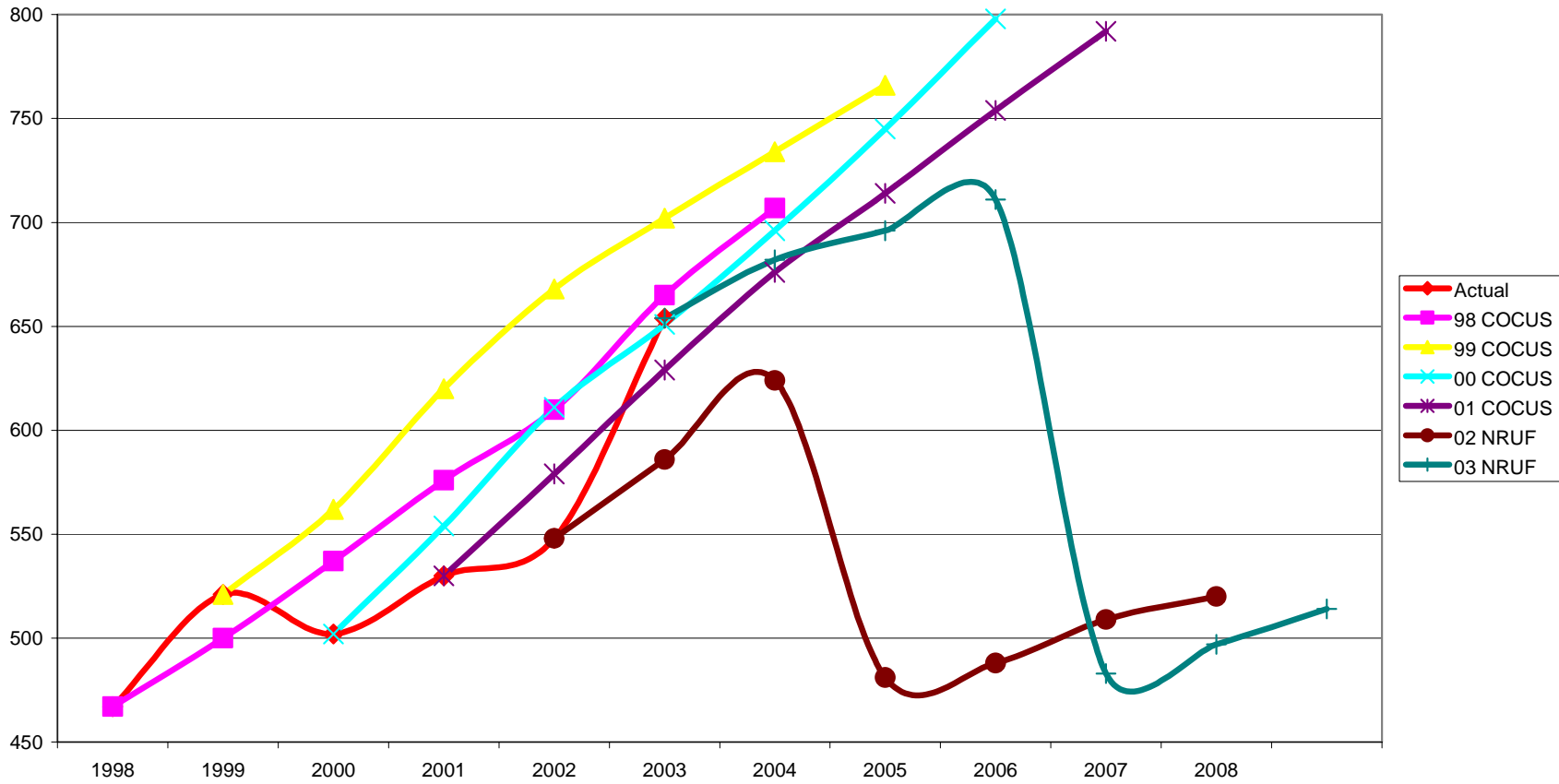
Historical G-NRUF Graphs for Canadian NPAs

NPA 807 Ontario



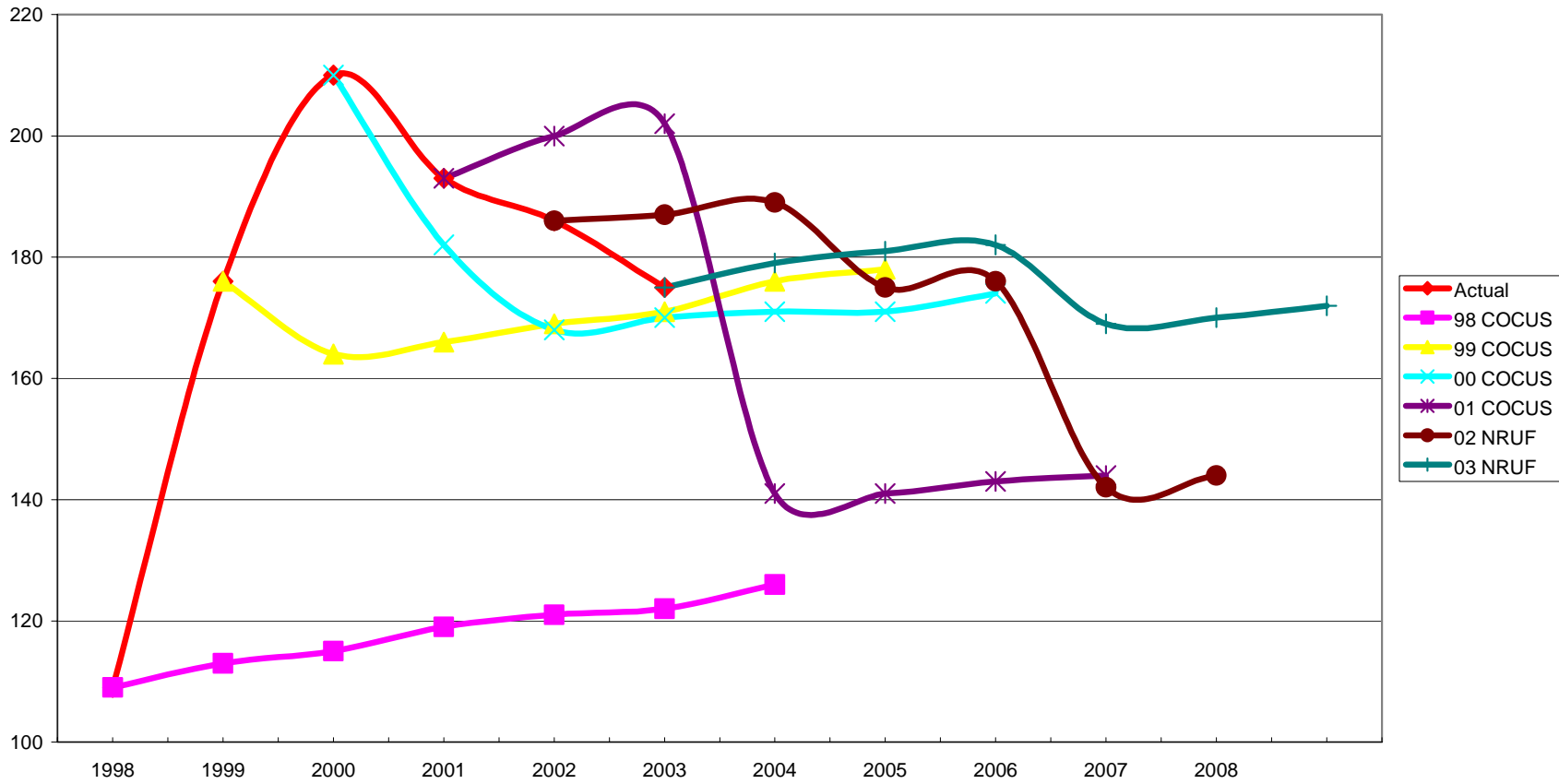
Historical G-NRUF Graphs for Canadian NPAs

NPA 819 Quebec (includes all protected codes)



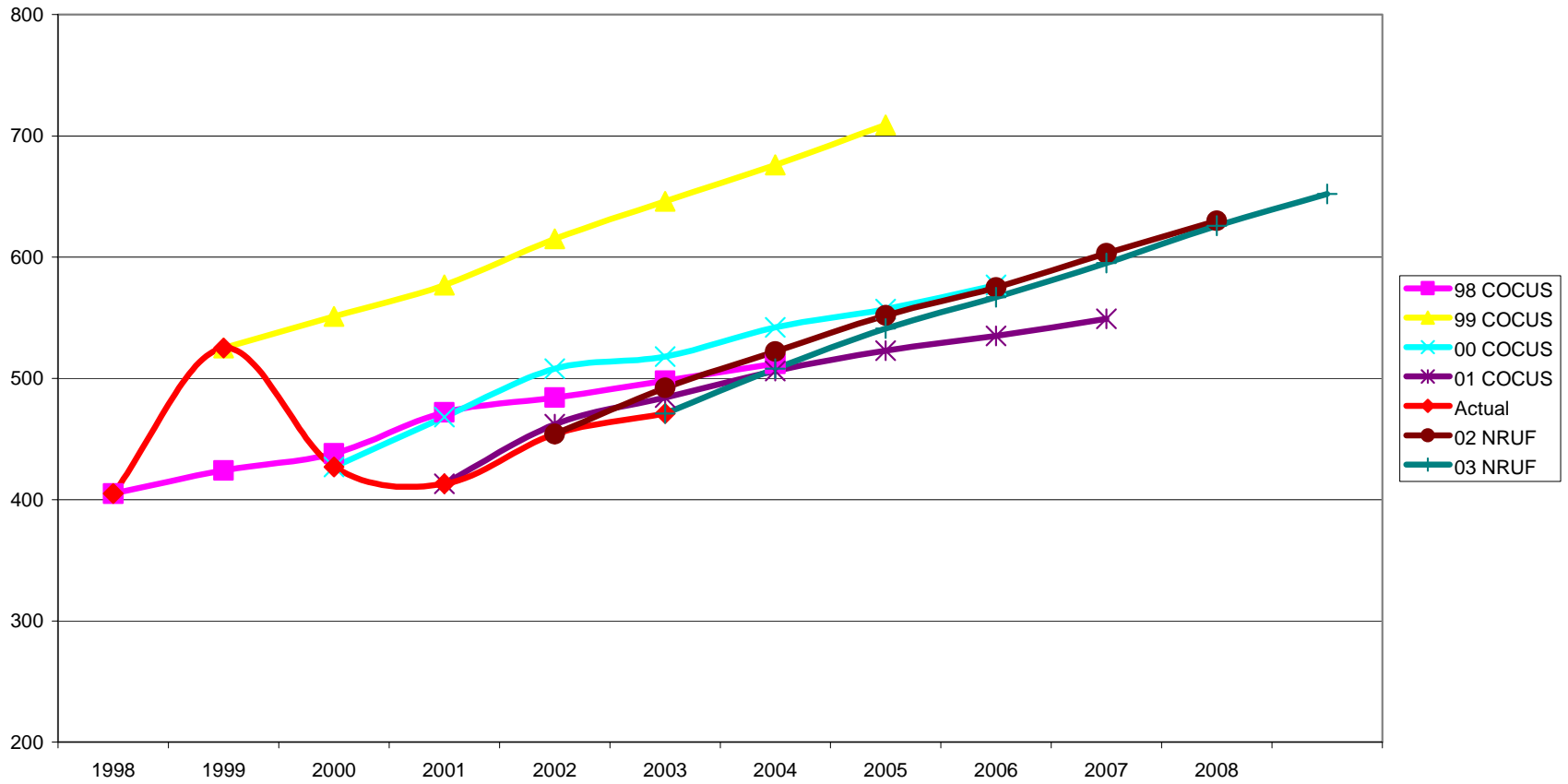
Historical G-NRUF Graphs for Canadian NPAs

NPA 867 NWT/Yukon



Historical G-NRUF Graphs for Canadian NPAs

NPA 902 Nova Scotia/PEI





Conseil de la radiodiffusion et des
télécommunications canadiennes

Les Terrasses de la Chaudière
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Canadian Radio-television and
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Adresse postale/Mailing Address
Ottawa, Ontario
K1A 0N2

26 March 2003

Glenn Pilley
Manager
Canadian Numbering Administrator (CNA)
SAIC Canada
60 Queen Street, Suite 1516
Ottawa, Ontario K1P 5Y7

Re: 2003 G-NRUF Planning Methodology and Assumptions

Dear Mr. Pilley;

At meeting number 65, 25 February 2003, CSCN finalized its guidance on the methodology and assumptions to be used by the CNA in preparing the 2003 G-NRUF reports. The CSCN chair forwarded this guidance to the CNA by letter dated 25 February 2003.

Under Item #2, the CSCN has directed the CNA to make no allowances for any CO code assignments to new unknown entrants, new technologies or other "unforecasted demand" of the sort in the 2002 G-NRUF reports.

My staff and I are very concerned that this lack of allowance for unforecasted demand could be detrimental to the industry and to the public interest. Flexibility is needed in the forecasting process to allow for the advent of competitive entrants, for example, or technology not now on the horizon. I think we could all agree that were number resources to be too scarce to permit entry of a now unforeseen technology because we had not inserted the necessary flexibility in our forecasts, it would be regrettable.

Accordingly, to ensure that there are adequate numbering resources available for these purposes, I ask that the CNA include an allowance for CO code reservations for new unknown entrants, new technologies and other unforecasted demand in the area code exhaust projections.

The number of CO codes to be set aside in each area code is outlined in the attached document. These numbers are to be added to the 2003 data as assigned CO codes and carried forward throughout the 20-year study period with no growth.

Sincerely,

Campbell Laidlaw
Director
Consumer Policy and Numbering Administration

CC: CSCN

Attach.

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10405 Jasper Avenue
Suite 520
Edmonton, AB
(780) 495-3224

ATTACHMENT

2003 G-NRUF NEW ENTRANT SET ASIDE CO CODES

NPA	G-NRUFs	
	2002	2003
204	5	3
250	5	3
306	5	3
403	5	4
416/647	9	6
418	5	3
450	5	5
506	5	3
514	12	6
519	15	10
604	4	2
613	12	7
705	5	5
709	5	2
778	15	2
780	10	4
807	5	2
819	5	2
867	5	2
902	5	3
905/289	28	15

March 5, 2003

CSCN

Canadian Steering Committee on Numbering

Douglas Birdwise
Chair - CSCN
c/o Bell Canada
Room 640 - 160 Elgin Street
Ottawa, Ontario, Canada K1G 3J4
Email: doug.birdwise@bell.ca
Tel: 613-781-4366
Fax: 613-781-1568

9 April 2003

TRANSMITTED ELECTRONICALLY

Glenn Pilley
Manager
Canadian Numbering Administration (CNA)
SAIC Canada
60 Queen Street, Suite 1516
Ottawa, Ontario K1P 5Y7

Subject: CSCN Revised Direction to CNA re: 2003 G-NRUF Methodology and Assumptions

On 25 February 2003, the Canadian Steering Committee on Numbering (CSCN) discussed and agreed to the direction to the CNA with respect to the 2003 G-NRUF Methodology and Assumptions. This direction was sent to the CNA in a letter from the CSCN Chair on 25 February 2003.

Subsequently on 11 March 2003, the CSCN discussed the status of the 2003 G-NRUF with CNA staff and agreed to modify the direction to address certain issues raised by the CNA as well as the timeframe to be used for the projections for NPAs 613 and 819 with protected codes.

On 31 March 2003, the CSCN received a copy of a letter dated 26 March 2003 from CRTC staff addressed to the CNA regarding the 2003 G-NRUF Methodology and Assumptions. In this letter, CRTC staff indicated that they are concerned about the lack of allowance for unforecasted demand for new unknown entrants, new technologies or other unforecasted demand. To address this concern, CRTC staff requested the CNA to include an allowance for CO Code reservations for new unknown entrants, new technologies and other forecasted demand in area code exhaust projections. The CRTC staff letter contains an attachment that provides the quantity of codes that CRTC staff are requesting be added to the 2003 data as assigned CO Codes and carried forward throughout the 20 year study period with no growth. A copy of this CRTC staff letter and attachment was previously provided to the CNA.

On 8 April 2003, the CSCN discussed the draft results of the 2003 G-NRUF distributed by the CNA and agreed to provide additional direction to the CNA regarding the methodology to be used for the forecast for years 7 to 20 of the 20 years G-NRUF forecast.

The attached document contains the collective revised direction titled "CSCN Revised Direction to CNA re: 2003 G-NRUF Methodology and Assumptions 9 April 2003 2003" that the CSCN has provided to the CNA.

Please contact me at 613-781-4366 if you have any questions or want to discuss this matter further.

Sincerely,

Original signed by

Doug Birdwise
CSCN Chair

c.c.: Bill Mason, CRTC
CSCN

att.

Attachment

CSCN Revised Direction to CNA re: 2003 G-NRUF Methodology and Assumptions
9 April 2003

The CSCN submits the following methodology and assumptions to the CNA for the 2003 G-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 January 1, 2003, 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 has not been issued but the CO Code Holder "believes" the code is no longer assigned to them);
 - is a Plant 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 has not been received. In the past some CO Code holder have not counted assigned codes.
2. Prior to 2003, in consultation with the CRTC staff, the CNA established values for each NPA for "New Entrants" which were added to the actual quantity of CO Codes for January 1 of the current year and then carried forward in the forecasts at zero growth. The values for the 2002 G-NRUF were:

NPA	2002 G-NRUF
204	5
250	5
306	5
403	5
416-647	9
418	5
450	5
506	5
514	12
519	15
604	4
613	12
705	5
709	5
778	15
780	10
807	5
819	5
867	5
902	5
905-289	28

Attachment

For 2003 and future years, the CNA should not add quantities for “New Entrants”, or for “Unforecasted Demand” for new TSPs that do not exist today and do not appear on the proposed CLEC list and for impacts on demand created by unforecasted new technologies. The CNA shall assume that six year forecasts from existing TSPs include all known factors that would affect demand, including new technologies.

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 (e.g., CO Codes set aside for initial CO Code Applicants for a 2-year period after implementation of an Overlay), the CNA shall identify and add such quantities to the actual quantity of CO Codes for January 1 of the current year and carry them forward in the forecasts for the specified period of time at zero growth. After the specified period of time expires, the CNA shall place the set aside CO Codes back into the assignment pool. 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. Where the CNA believes, based upon 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 advise the CSCN as to the alternate method it proposes to use. The six year average shall be calculated as follows:

[(Forecasted Quantity of CO Codes in year six) – (Actual Quantity in January 1 of Current Year)]/6

5. For the purposes of the 2003 G-NRUF, the CNA shall assume all of the year 2003 Stranded CO Codes remain assigned as of January 1, 2004, and shall remove all of the 2003 Stranded CO Codes from the January 1, 2005 quantity.
6. The CNA shall provide for each NPA the total quantity of actual and forecasted CO Codes and a breakdown of the quantity of “Unassignable CO Codes” as per section 3.7 of the Canadian Central Office Code (NXX) Assignment Guidelines when the draft aggregate results are released about April 1, 2003, and in the subsequent 2003 G-NRUF Report to the CSCN after the aggregate results are finalized.
7. The CNA shall provide two forecasts each for NPAs 613 and 819, one with protected codes required out to January 1, 2009 and one without protected codes out to January 1 2023.
8. The CNA shall establish the quantity of “Unassignable CO Codes” in accordance with the directions contained in section 3.7 of the Canadian Central Office Code (NXX) Assignment Guidelines approved by the Commission on December 12, 2002. The CNA shall not include current neighbouring U.S. NPAs as “Unassignable CO Codes” in Canadian NPAs.

Attachment

9. The "CNA Codes" and the "Stranded Codes" will not be used in the calculation of the 7 to 20 projection.
10. The CNA shall ignore the proposed CLECs that did not submit NRUF forecasts and shall treat the codes belonging to CLECS no longer in business as stranded.
11. Any year with a large discontinuity will not be included in the calculation for average growth rate, to be used in the 7 to 20 year projection.
12. The CNA should use the ROUND UP function to develop the average number of codes per year to extend the forecast out to 20 years.
13. 10-Digit dialing would likely be required in future NPA Relief and the CNA should assume that overlay relief should be assumed for the purpose of the G-NRUF.
14. The CNA should follow the directions contained in section 3.7 of the Canadian Central Office Code (NXX) Assignment Guidelines with respect to NXXs available for assignment when projecting NPA Exhaust. The CNA should retain all CO Codes equivalent to the 37 NPAs in a special assignment status until such time as the CNA is able to introduce a TIF at the CSCN to address the issue of assignable NXXs.
15. With respect to CO Codes that are due to exhaust approximately in the 2023 timeframe, the CNA should exercise its best judgement in finalizing the forecast for those NPAs.
16. The CNA shall use and forward the results shown in the "S" line for NPAs 819 and 613 in the April 4, 2003 G-NRUF draft results to the NANPA as the official aggregate G-NRUF results to the end of 2006. Commencing 1 January 2007, the CSCN supports the use of the projection without protected CO Codes to be forwarded to NANPA as the official forecast, consistent with Telecom Decision CRTC 2003-10.
17. The CNA shall include only the total NPA 604 results in its report to NANPA.