

Conducting a Shelf Time Study

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Conducting a Shelf Time Study

This document describes how to conduct a shelf time study. It explains the use of two forms: the “Shelf Time Data Chart” and the “Months Since Last Circulation Table.” A shelf time study provides data that can be used to identify and estimate the size of a library’s active or core collection. It enables an analysis using the most reliable indicator of likely future demand by library users: the length of time since an item was last checked out.

Why Conduct a Study?

A shelf time study investigates the distribution of the length of time that items in library collections sit on the shelf before they are checked out again. This pattern can be used to identify and estimate the size of the active, or core collection of the library. The time since the previous circulation of an item is the most useful indicator of future demand. The longer an item sits on the shelf, the less likely it will circulate in the future. Items with a low probability of future circulation are prime candidates for weeding.

Shelf Time Study Overview

To conduct a shelf time study, choose the collections to be surveyed, decide on a sampling method and sample size, and use the *Shelf Time Data Chart* and *Months Since Last Circulation Table* to record the data and calculate the results.

Choosing Collections to Survey: Although a single study can be conducted for all the holdings of a library, the patterns of previous circulation may vary by major collections. If time allows, conduct separate studies for distinct library collections such as adult fiction, adult nonfiction, juvenile fiction, juvenile nonfiction, picture books,

and videos. A shelf time study can also be useful in determining the characteristics of fiction genres and nonfiction subject areas.

Determining the Sample: Conduct the study using a sample of items that are **currently in circulation**. This gives the most accurate picture of patron demand. Draw the sample from items as they are checked out, as they are returned, or from the file of items currently checked out.

Take care to ensure that the sample is random, with an equal probability for any checked out item in the category to appear in the sample. In practice, satisfactory results may be obtained by recording the shelf time for each consecutive item in the category as it is checked out or returned.

Because you will be calculating the length of time since the last previous circulation, you must be able to find the previous date of circulation for each item. For manual circulation systems this is ordinarily available from the previous date due stamped on the book card or date due slip in the item. If you have an automated circulation system, you may need to use a different survey method.

Examine a minimum of 125 items in circulation from any format or classification you study. If you are studying an entire collection rather than its subdivisions, use a sample of at least 400 items. If the same item is checked out more than once during the sample period, count it each time.

Shelf Time Data Chart: Use the *Shelf Time Data Chart* to record the months since last circulation and to calculate the results.

Months Since Last Circulation Table: Use the *Months Since Last Circulation Table* to calculate elapsed months for entry on the *Shelf Time Data Chart*. This is a universal monthly table that can be customized for the year of the survey. Customize the table by filling in the appropriate years in the “Year of Previous Circulation” row at the top of each relevant month. Enter the current year in the “Current” column, then enter the previous ten years in reverse order in the columns to the right.

Recording the Data

Use the forms to calculate and record the elapsed months for the items in the sample. For each item:

- 1) Find the month of the last previous circulation in the circulation record for that item.
- 2) Using the *Months Since Last Circulation Table*, look up this “Month of Previous Circulation” in the first column of the table.
- 3) Go to the column for the “Year of Previous Circulation” to the right. The number in the cell where the month and year intersect equals the elapsed months since the previous circulation.
- 4) Using the *Shelf Time Data Chart*, find the “Months Since Last Circulation” in

the first column, then make a hash mark in the corresponding “Hash Mark for Each Item” cell.

Calculating the Results

When the sample is complete, total the hash marks for each month and calculate the cumulative totals and percents.

Interpreting the Shelf Time Study

A core collection can be conservatively defined as that portion of a collection that meets 95% of the recorded public demand for the collection. This study provides a simple indicator, the Months Since Last Circulation, that reliably identifies whether an item is part of the core collection. An item whose Months Since Last circulation is outside the date corresponding to the 95% cumulative percentage (known as the ***Cut-Off Date***) is also outside the core for that collection.

For weeding purposes, the cumulative percent is an estimate of what percent of the active collection would be retained, if all items not circulated since the corresponding cut-off date were weeded. For most public libraries, a cut-off date ranging from 12 to 24 months will retain 95% to 99% of the collection likely to be used. In practice, shelf time cut-off dates are ordinarily rounded out to the nearest year.

Estimating the Size of the Core Collection

You can use the information about the shelf time cut-off date to estimate the size of the core collection for the category studied. Knowing the size of a core collection can be useful in forecasting the effects of a weeding project, in budget planning, and in estimating the long term resources and shelf space required for a collection.

You can easily estimate the size of the core collection using information provided automatically by many automated circulation systems. You can also obtain an estimate manually if the information is not available from an automated system.

Automated Method: Many automated systems produce a report that will tell you how many items in a category have not circulated since a specified cut-off date. Run this report using the cut-off date from your shelf time study. To obtain an estimate of the core collection size, subtract the number of items identified as outside the core collection from the total number of items in the category.

Manual Method: If you do not have automated circulation records, or if your system does not support a cut-off date report, you can still estimate the number of items in the core collection.

- 1) Take a random sample of items in the category that are sitting on the shelf (at least 125 items).
- 2) Record the shelf time pattern for the items in the shelf sample.
- 3) **Using the original shelf time cut-off date** obtained from the sample of items in circulation, determine the percentage

of items in the shelf sample that are outside the core collection.

- 4) Multiply that percentage times the total number of items in the category that are not checked out. This provides an estimate of the number of items in the category that are outside the core collection.
- 5) Subtract that estimate from the total number of items in the category to obtain an estimated core collection size.

Reporting the Results

If you use this procedure to identify characteristics of your core collections, please consider sending a filled-out copy of this form to Roy Kenagy (rjkenagy@netins.net). Your feedback will help improve the process and develop practical guidelines for weeding and collection management.

For Further Information

This procedure is based on weeding methods recommended by Stanley J. Slote. For more detailed information, including alternative survey designs, see: Stanley J. Slote, *Weeding Library Collections*, 4th edition, Libraries Unlimited, 1997.

Occasionally the shelf time study results for particular libraries are useful as anonymous examples in workshops, articles, or other public presentations. Please consider giving permission for the use of your library's data as an anonymous example.

- It's okay to use the shelf time results from my library as an anonymous example in public presentations.*
- Please don't use the shelf time results from my library as an example in public presentations.*

Shelf Time Data Chart

Library Grimes	Collection Picture Books	Date 6/94
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Months Since Last Circulation	Hash Mark for Each Item	Number of Items	Cumulative Items	Cumulative Percent
0	✓✓✓✓ ✓✓✓✓	162	162	34%
1	✓✓✓✓ ✓✓✓✓	183	345	73%
2	✓✓✓✓ ✓✓✓✓ ✓✓✓✓ ✓✓✓✓ ✓✓✓✓ ✓✓✓✓ ✓✓✓✓ ✓✓✓✓ ✓✓✓✓ ✓✓✓✓ ✓✓✓✓ ✓✓	42	387	82%
3	✓✓✓✓ ✓✓✓✓ ✓✓✓✓ ✓✓✓✓ ✓	21	408	87%
4	✓✓✓✓ ✓✓✓✓ ✓✓✓	13	421	89%
5	✓✓✓	3	424	90%
6	✓✓✓✓ ✓✓✓✓	10	434	92%
7	✓✓✓✓ ✓✓✓	8	442	94%
8	✓✓✓✓ ✓	6	448	96%
9	✓✓✓✓	4	452	96%
10	✓✓	2	454	96%
11	✓✓✓✓	5	459	97%
12	✓	1	460	98%

Shelf Time Data Chart

Months Since Last Circulation	Hash Mark for Each Item	Number of Items	Cumulative Items	Cumulative Percent
13	✓✓✓	3	463	98%
14				
15	✓✓	2	465	99%
16	✓	1	466	99%
17	✓	1	467	99%
18				
19				
20	✓✓	2	469	100%
21				
22	✓	1	470	100%
23				
24				
25				
26				
27				
28				
29				
30				
31	✓	1	471	100%
32		<i>Total Sample Complete at 31 Months</i>		
33				
34				
35				
36				
37				
38				
39				

Months Since Last Circulation Table

Month of current circulation: May

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	5	17	29	41	53	65	77	89	101	113
November	~	6	18	30	42	54	66	78	90	102	114
October	~	7	19	31	43	55	67	79	91	103	115
September	~	8	20	32	44	56	68	80	92	104	116
August	~	9	21	33	45	57	69	81	93	105	117
July	~	10	22	34	46	58	70	82	94	106	118
June	~	11	23	35	47	59	71	83	95	107	119
May	0	12	24	36	48	60	72	84	96	108	120
April	1	13	25	37	49	61	73	85	97	109	121
March	2	14	26	38	50	62	74	86	98	110	122
February	3	15	27	39	51	63	75	87	99	111	123
January	4	16	28	40	52	64	76	88	100	112	124

Month of current circulation: June 1994

Month of Previous Circulation	Year of Previous Circulation										
	Current 94	93	92	91	90	89	88	87	86	85	84
December	~	6	18	30	42	54	66	78	90	102	114
November	~	7	19	31	43	55	67	79	91	103	115
October	~	8	20	32	44	56	68	80	92	104	116
September	~	9	21	33	45	57	69	81	93	105	117
August	~	10	22	34	46	58	70	82	94	106	118
July	~	11	23	35	47	59	71	83	95	107	119
June	0	12	24	36	48	60	72	84	96	108	120
May	1	13	25	37	49	61	73	85	97	109	121
April	2	14	26	38	50	62	74	86	98	110	122
March	3	15	27	39	51	63	75	87	99	111	123
February	4	16	28	40	52	64	76	88	100	112	124
January	5	17	29	41	53	65	77	89	101	113	12

Shelf Time Data Chart

Library	Collection	Date
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Months Since Last Circulation	Hash Mark for Each Item	Number of Items	Cumulative Items	Cumulative Percent
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Shelf Time Data Chart

Months Since Last Circulation	Hash Mark for Each Item	Number of Items	Cumulative Items	Cumulative Percent
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				

Shelf Time Data Chart

Months Since Last Circulation	Hash Mark for Each Item	Number of Items	Cumulative Items	Cumulative Percent
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				
61-72 (6 yrs)				
73-84 (7 yrs)				
85-96 (8 yrs)				
97-108 (9 yrs)				
109-120 (10 yrs)				
121+ (10+ yrs)				

Months Since Last Circulation Table

Month of current circulation: January

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	1	13	25	37	49	61	73	85	97	109
November	~	2	14	26	38	50	62	74	86	98	110
October	~	3	15	27	39	51	63	75	87	99	111
September	~	4	16	28	40	52	64	76	88	100	112
August	~	5	17	29	41	53	65	77	89	101	113
July	~	6	18	30	42	54	66	78	90	102	114
June	~	7	19	31	43	55	67	79	91	103	115
May	~	8	20	32	44	56	68	80	92	104	116
April	~	9	21	33	45	57	69	81	93	105	117
March	~	10	22	34	46	58	70	82	94	106	118
February	~	11	23	35	47	59	71	83	95	107	119
January	0	12	24	36	48	60	72	84	96	108	120

Month of current circulation: February

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	2	14	26	38	50	62	74	86	98	110
November	~	3	15	27	39	51	63	75	87	99	111
October	~	4	16	28	40	52	64	76	88	100	112
September	~	5	17	29	41	53	65	77	89	101	113
August	~	6	18	30	42	54	66	78	90	102	114
July	~	7	19	31	43	55	67	79	91	103	115
June	~	8	20	32	44	56	68	80	92	104	116
May	~	9	21	33	45	57	69	81	93	105	117
April	~	10	22	34	46	58	70	82	94	106	118
March	~	11	23	35	47	59	71	83	95	107	119
February	0	12	24	36	48	60	72	84	96	108	120
January	1	13	25	37	49	61	73	85	97	109	121

Months Since Last Circulation Table

Month of current circulation: March

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	3	15	27	39	51	63	75	87	99	111
November	~	4	16	28	40	52	64	76	88	100	112
October	~	5	17	29	41	53	65	77	89	101	113
September	~	6	18	30	42	54	66	78	90	102	114
August	~	7	19	31	43	55	67	79	91	103	115
July	~	8	20	32	44	56	68	80	92	104	116
June	~	9	21	33	45	57	69	81	93	105	117
May	~	10	22	34	46	58	70	82	94	106	118
April	~	11	23	35	47	59	71	83	95	107	119
March	0	12	24	36	48	60	72	84	96	108	120
February	1	13	25	37	49	61	73	85	97	109	121
January	2	14	26	38	50	62	74	86	98	110	122

Month of current circulation: April

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	4	16	28	40	52	64	76	88	100	112
November	~	5	17	29	41	53	65	77	89	101	113
October	~	6	18	30	42	54	66	78	90	102	114
September	~	7	19	31	43	55	67	79	91	103	115
August	~	8	20	32	44	56	68	80	92	104	116
July	~	9	21	33	45	57	69	81	93	105	117
June	~	10	22	34	46	58	70	82	94	106	118
May	~	11	23	35	47	59	71	83	95	107	119
April	0	12	24	36	48	60	72	84	96	108	120
March	1	13	25	37	49	61	73	85	97	109	121
February	2	14	26	38	50	62	74	86	98	110	122
January	3	15	27	39	51	63	75	87	99	111	123

Months Since Last Circulation Table

Month of current circulation: May

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	5	17	29	41	53	65	77	89	101	113
November	~	6	18	30	42	54	66	78	90	102	114
October	~	7	19	31	43	55	67	79	91	103	115
September	~	8	20	32	44	56	68	80	92	104	116
August	~	9	21	33	45	57	69	81	93	105	117
July	~	10	22	34	46	58	70	82	94	106	118
June	~	11	23	35	47	59	71	83	95	107	119
May	0	12	24	36	48	60	72	84	96	108	120
April	1	13	25	37	49	61	73	85	97	109	121
March	2	14	26	38	50	62	74	86	98	110	122
February	3	15	27	39	51	63	75	87	99	111	123
January	4	16	28	40	52	64	76	88	100	112	124

Month of current circulation: June

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	6	18	30	42	54	66	78	90	102	114
November	~	7	19	31	43	55	67	79	91	103	115
October	~	8	20	32	44	56	68	80	92	104	116
September	~	9	21	33	45	57	69	81	93	105	117
August	~	10	22	34	46	58	70	82	94	106	118
July	~	11	23	35	47	59	71	83	95	107	119
June	0	12	24	36	48	60	72	84	96	108	120
May	1	13	25	37	49	61	73	85	97	109	121
April	2	14	26	38	50	62	74	86	98	110	122
March	3	15	27	39	51	63	75	87	99	111	123
February	4	16	28	40	52	64	76	88	100	112	124
January	5	17	29	41	53	65	77	89	101	113	125

Months Since Last Circulation Table

Month of current circulation: **July**

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	7	19	31	43	55	67	79	91	103	115
November	~	8	20	32	44	56	68	80	92	104	116
October	~	9	21	33	45	57	69	81	93	105	117
September	~	10	22	34	46	58	70	82	94	106	118
August	~	11	23	35	47	59	71	83	95	107	119
July	0	12	24	36	48	60	72	84	96	108	120
June	1	13	25	37	49	61	73	85	97	109	121
May	2	14	26	38	50	62	74	86	98	110	122
April	3	15	27	39	51	63	75	87	99	111	123
March	4	16	28	40	52	64	76	88	100	112	124
February	5	17	29	41	53	65	77	89	101	113	125
January	6	18	30	42	54	66	78	90	102	114	126

Month of current circulation: **August**

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	8	20	32	44	56	68	80	92	104	116
November	~	9	21	33	45	57	69	81	93	105	117
October	~	10	22	34	46	58	70	82	94	106	118
September	~	11	23	35	47	59	71	83	95	107	119
August	0	12	24	36	48	60	72	84	96	108	120
July	1	13	25	37	49	61	73	85	97	109	121
June	2	14	26	38	50	62	74	86	98	110	122
May	3	15	27	39	51	63	75	87	99	111	123
April	4	16	28	40	52	64	76	88	100	112	124
March	5	17	29	41	53	65	77	89	101	113	125
February	6	18	30	42	54	66	78	90	102	114	126
January	7	19	31	43	55	67	79	91	103	115	127

Months Since Last Circulation Table

Month of current circulation: September

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	9	21	33	45	57	69	81	93	105	117
November	~	10	22	34	46	58	70	82	94	106	118
October	~	11	23	35	47	59	71	83	95	107	119
September	0	12	24	36	48	60	72	84	96	108	120
August	1	13	25	37	49	61	73	85	97	109	121
July	2	14	26	38	50	62	74	86	98	110	122
June	3	15	27	39	51	63	75	87	99	111	123
May	4	16	28	40	52	64	76	88	100	112	124
April	5	17	29	41	53	65	77	89	101	113	125
March	6	18	30	42	54	66	78	90	102	114	126
February	7	19	31	43	55	67	79	91	103	115	127
January	8	20	32	44	56	68	80	92	104	116	128

Month of current circulation: October

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	10	22	34	46	58	70	82	94	106	118
November	~	11	23	35	47	59	71	83	95	107	119
October	0	12	24	36	48	60	72	84	96	108	120
September	1	13	25	37	49	61	73	85	97	109	121
August	2	14	26	38	50	62	74	86	98	110	122
July	3	15	27	39	51	63	75	87	99	111	123
June	4	16	28	40	52	64	76	88	100	112	124
May	5	17	29	41	53	65	77	89	101	113	125
April	6	18	30	42	54	66	78	90	102	114	126
March	7	19	31	43	55	67	79	91	103	115	127
February	8	20	32	44	56	68	80	92	104	116	128
January	9	21	33	45	57	69	81	93	105	117	129

Months Since Last Circulation Table

Month of current circulation: November

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	~	11	23	35	47	59	71	83	95	107	119
November	0	12	24	36	48	60	72	84	96	108	120
October	1	13	25	37	49	61	73	85	97	109	121
September	2	14	26	38	50	62	74	86	98	110	122
August	3	15	27	39	51	63	75	87	99	111	123
July	4	16	28	40	52	64	76	88	100	112	124
June	5	17	29	41	53	65	77	89	101	113	125
May	6	18	30	42	54	66	78	90	102	114	126
April	7	19	31	43	55	67	79	91	103	115	127
March	8	20	32	44	56	68	80	92	104	116	128
February	9	21	33	45	57	69	81	93	105	117	129
January	10	22	34	46	58	70	82	94	106	118	130

Month of current circulation: December

Month of Previous Circulation	Year of Previous Circulation										
	Current	-1.	-2	-3	-4	-5	-6	-7	-8	-9	-10
December	0	12	24	36	48	60	72	84	96	108	120
November	1	13	25	37	49	61	73	85	97	109	121
October	2	14	26	38	50	62	74	86	98	110	122
September	3	15	27	39	51	63	75	87	99	111	123
August	4	16	28	40	52	64	76	88	100	112	124
July	5	17	29	41	53	65	77	89	101	113	125
June	6	18	30	42	54	66	78	90	102	114	126
May	7	19	31	43	55	67	79	91	103	115	127
April	8	20	32	44	56	68	80	92	104	116	128
March	9	21	33	45	57	69	81	93	105	117	129
February	10	22	34	46	58	70	82	94	106	118	130
January	11	23	35	47	59	71	83	95	107	119	131