



# Upper Simonette 1

Run Scenarios in database with Individual Blocks

Select Scenario: USi\_1 [Run Scenario] [Return to Main]

Simulate Each Unit From 1984 for 200 years with 1 year time steps

Watershed Area, km<sup>2</sup>: 190.7 Total Area Cut, ha: 12783.8 Percent Watershed Cut: 67.1%

Appropriate Forest and Unit Group: GRANDE PRAIRIE G3 TO G7 Yield Data Selection: Forest Unit Stations Region: New England/Boreal

Watershed Yield Data Source: simonette river near goodwin revised j... Year Progress

Statistic AVG Period 1970-1998 Yld, mm 150.2 Area, km<sup>2</sup> 5050

Precipitation Data Source: GRANDE CACHE Units Progress

Statistic AVG Period 1985-1995 Annual Ppt. mm: 590.4

Cut Block Details: frmRunScenarios, Individual Blocks [Table View]

Annual Harvest Data, Operational Unit

Cut, ha 163.7 Year Cut 1984

# Blks 1 Blk Size, ha 171.2

Aspect EW Block Elev, m 1398.0

Regeneration Sp CONIFEROUS

Basal Area Func WS FAIR BA

Tree Height Func WS FAIR TH

Surrounding Stand Data

Stand Species CONIFEROUS

Stand BA 32.0 Stand TH 13.0

Regional (Base) Silvicultural Data

Base BA 30.0 Years To Base BA 140

Base TH, m 20.0 Years To Base TH 170

Record: 1 of 718

Results Scenario USi\_1

Year	Yield, mm	%
1983	0.0	0.0%
1984	3.1	2.1%
1985	7.5	5.0%
1986	10.6	7.1%
1987	13.1	8.7%
1988	20.2	13.4%
1989	24.2	16.1%
1990	22.7	15.1%
1991	21.6	14.4%
1992	21.8	14.5%
1993	24.9	16.6%
1994	25.9	17.3%
1995	25.7	17.1%
1996	25.8	17.2%
1997	25.7	17.1%
1998	25.4	16.9%

Record: 1

MAX Yield Increase, mm 29.9 Calibration value 0.935

MAX Percent Increase 19.9% Base Yield, mm 150.2

Year of MAX 2021 Precipitation, mm 590.4

Scenario Name: USi\_1 Region: New England/Boreal

[Save Yield Data] [ECA Mature Ba] [ECA Max Yld] [Max Day's Analysis] [Peak Flow Analysis] [Return]

USi\_1 ECA based on Maximum Water Yield Increase

Year	Eca, ha	Eca, %
1983	0.0	0.0%
1984	400.4	3.1%
1985	950.0	7.4%
1986	1305.5	10.2%
1987	1682.2	13.2%
1988	2673.1	20.9%
1989	3210.4	25.1%
1990	3026.1	23.7%
1991	2858.4	22.4%
1992	2885.7	22.6%
1993	3350.6	26.2%
1994	3503.7	27.4%
1995	3469.4	27.1%
1996	3472.4	27.2%
1997	3456.9	27.0%
1998	3404.1	26.6%
1999	3326.8	26.0%
2000	3413.7	26.7%
2001	3689.8	28.9%
2002	3649.8	28.6%
2003	3447.9	27.0%
2004	3222.9	25.2%
2005	3123.1	24.4%

Maximum Eca, ha 3949.3 Max Eca, % 30.9%

Year of max Eca 2021

Scenario: USi\_1 Region: New England/Boreal

[About Eca Max Yield] [Save Data to Excel] [Return]

Maximum day's flow results with scenario USi\_1

Predicted Annual Day's Maximum Flow and Yield

Recurrence Interval	Without Harvest		With Harvest			
	Flow m <sup>3</sup> /s	Yield mm	Flow m <sup>3</sup> /s	Yield mm	Change m <sup>3</sup> /s	Percent Increase
2 Years	14.2	6.4	17.2	7.8	3.08	21.7%
5 Years	26.1	11.8	31.8	14.4	5.72	21.9%
10 Years	34.2	15.5	41.8	18.9	7.61	22.2%
20 Years	41.9	19.0	50.5	22.9	8.54	20.4%
50 Years	51.6	23.4	60.1	27.3	8.54	16.5%
100 Years	58.6	26.6	67.2	30.4	8.54	14.6%

Area Harvested, km<sup>2</sup>: 127.8 67.1%

Watershed Area, km<sup>2</sup>: 190.7

Peak Year 2020

Area Harvested, km<sup>2</sup>: 127.8 67.1%

Watershed Area, km<sup>2</sup>: 190.7

Peak Flow Function: GRANDE PRAIRIE G3 TO G7

[About Peak Flows] [Save Data To Excel] [Return to Results]

# Upper Simonette 2

Run Scenarios in database with Individual Blocks

Select Scenario: **USI\_2** Run Scenario Return to Main

Simulate Each Unit From **1986** for **200** years with **1** year time steps

Watershed Area, km<sup>2</sup>: **80.9** Total Area Cut, ha: **4764.9** Percent Watershed Cut: **58.9%**

Appropriate Forest and Unit Group: **GRANDE PRAIRIE G3 TO G7** Forest Unit Stations: **New England/Boreal**

Watershed Yield Data Source: **simonette river near goodwin revised j** Year Progress

Statistic: **AVG** Period: **1970-1998** Yld, mm: **150.2** Area, km<sup>2</sup>: **5050**

Precipitation Data Source: **GRANDE CACHE** Units Progress

Statistic: **AVG** Period: **1985-1995** Annual Ppt, mm: **590.4**

Cut Block Details: **frmRunScenarios, Individual Blocks** Table View

Annual Harvest Data, Operational Unit

Cut, ha: **71.9** Year Cut: **1986**

# Blks: **1** Blk Size, ha: **71.9**

Aspect: **EW** Block Elev, m: **1426.0**

Regeneration Sp: **CONIFEROUS**

Basal Area Func: **LPP FAIR BA**

Tree Height Func: **LPP FAIR TH**

Surrounding Stand Data

Stand Species: **CONIFEROUS**

Stand BA: **32.0** Stand TH: **13.0**

Regional (Base) Silvicultural Data

Base BA: **35.0** Years To Base BA: **130**

Base TH, m: **20.0** Years To Base TH: **160**

Record: 1 of 412

Results Scenario USI\_2

Year	Yield, mm	%
1985	0.0	0.0%
1986	2.6	1.8%
1987	6.1	4.1%
1988	4.4	2.9%
1989	5.1	3.4%
1990	11.9	7.9%
1991	13.0	8.7%
1992	11.5	7.7%
1993	18.1	12.1%
1994	20.6	13.7%
1995	18.4	12.2%
1996	18.4	12.3%
1997	18.2	12.1%
1998	17.9	11.9%
1999	17.6	11.7%
2000	18.9	12.6%

MAX Yield Increase, mm: **30.8** Calibration value: **0.935**

MAX Percent Increase: **20.5%** Base Yield, mm: **150.2**

Year of MAX: **2022** Precipitation, mm: **590.4**

Scenario Name: **USI\_2** Region: **New England/Boreal**

Save Yield Data ECA Mature Ba ECA Max Yld Max Day's Analysis Peak Flow Analysis Return

USI\_2 ECA based on Maximum Water Yield Increase

Year	Eca, ha	Eca, %
1985	0.0	0.0%
1986	159.2	3.3%
1987	368.7	7.7%
1988	267.6	5.6%
1989	305.2	6.4%
1990	699.7	14.7%
1991	756.1	15.9%
1992	671.1	14.1%
1993	1057.9	22.2%
1994	1190.6	25.0%
1995	1064.5	22.3%
1996	1071.1	22.5%
1997	1054.3	22.1%
1998	1037.9	21.8%
1999	1018.6	21.4%
2000	1097.9	23.0%
2001	1066.1	22.4%
2002	1091.6	22.9%
2003	1042.7	21.9%
2004	988.1	20.7%
2005	926.8	19.5%
2006	886.6	18.6%
2007	1007.0	21.1%

Maximum Eca, ha: **1684.1** Max Eca, %: **35.3%**

Year of max Eca: **2022**

Scenario: **USI\_2** Region: **New England/Boreal**

About Eca Max Yield Save Data to Excel Return

Maximum day's flow results with scenario USI\_2

Predicted Annual Day's Maximum Flow and Yield

Recurrence Interval	Without Harvest		With Harvest			
	Flow m <sup>3</sup> /s	Yield mm	Flow m <sup>3</sup> /s	Yield mm	Change m <sup>3</sup> /s	Percent Increase
2 Years	6.0	6.4	7.5	8.0	1.47	24.4%
5 Years	11.0	11.8	13.8	14.7	2.72	24.6%
10 Years	14.3	15.3	17.5	18.7	3.15	22.0%
20 Years	17.5	18.7	20.6	22.0	3.15	18.0%
50 Years	21.4	22.9	24.5	26.2	3.15	14.7%
100 Years	24.2	25.9	27.4	29.3	3.15	13.0%

Area Harvested, km<sup>2</sup>: **47.6** 58.9%

Watershed Area, km<sup>2</sup>: **80.9**

Peak Year: **2021**

Time Course of Maximum Day's Flow

Peak Flow Function: **GRANDE PRAIRIE G3 TO G7**

About Peak Flows Save Data To Excel Return to Results

# Upper Simonette 3

Run Scenarios in database with Individual Blocks

Select Scenario: **USI\_3** Run Scenario Return to Main

Simulate Each Unit From **1990** for **200** years with **1** year time steps

Watershed Area, km²: **41.2** Total Area Cut, ha: **2167.4** Percent Watershed Cut: **52.6%**

Appropriate Forest and Unit Group: **GRANDE PRAIRIE G3 TO G7** Yield Data Selection: **Forest Unit Stations** Region: **New England/Boreal**

Watershed Yield Data Source: **simonette river near goodwin revised j** Year Progress

Statistic **AVG** Period **1970-1998** Yld, mm **150.2** Area, km² **5050**

Precipitation Data Source: **GRANDE CACHE** Units Progress

Statistic **AVG** Period **1985-1995** Annual Ppt. mm: **590.4**

Cut Block Details: **frmRunScenarios, Individual Blocks** Table View

Annual Harvest Data, Operational Unit

Cut, ha **5.5** Year Cut **1990**

# Blks **1** Blk Size, ha **5.5**

Aspect **EW** Block Elev, m **1312.0**

Regeneration Sp **CONIFEROUS**

Basal Area Func **LPP FAIR BA**

Tree Height Func **LPP FAIR TH**

Surrounding Stand Data

Stand Species **CONIFEROUS**

Stand BA **37.5** Stand TH **10.0**

Regional (Base) Silvicultural Data

Base BA **35.0** Years To Base BA **130**

Base TH, m **20.0** Years To Base TH **160**

Record: **14** of 212

Results Scenario USI\_3

Year	Yield, mm	%
1988	0.0	0.0%
1990	3.3	2.2%
1991	6.8	4.6%
1992	4.9	3.2%
1993	8.2	5.4%
1994	9.1	6.1%
1995	15.1	10.0%
1996	19.9	13.2%
1997	18.4	12.3%
1998	16.8	11.2%
1999	16.5	11.0%
2000	16.4	10.9%
2001	16.3	10.8%
2002	16.1	10.7%
2003	21.5	14.3%
2004	19.7	13.1%

MAX Yield Increase, mm **24.3** Calibration value **0.947**

MAX Percent Increase **16.2%** Base Yield, mm **150.3**

Year of MAX **2027** Precipitation, mm **590.4**

Scenario Name: **USI\_3** Region: **New England/Boreal**

Save Yield Data ECA Mature Ba ECA Max Yld Max Day's Analysis Peak Flow Analysis Return

USI\_3 ECA based on Maximum Water Yield Increase

Year	Eca, ha	Eca, %
1988	0.0	0.0%
1990	99.0	4.6%
1991	207.4	9.6%
1992	147.7	6.8%
1993	239.7	11.1%
1994	259.9	12.0%
1995	429.1	19.8%
1996	566.6	26.1%
1997	527.4	24.3%
1998	480.1	22.2%
1999	471.9	21.8%
2000	470.0	21.7%
2001	465.0	21.5%
2002	461.0	21.3%
2003	618.0	28.5%
2004	563.6	26.0%
2005	521.5	24.1%
2006	498.5	23.0%
2007	516.0	23.8%
2008	475.1	21.9%
2009	468.3	21.6%
2010	482.5	22.3%
2011	490.5	22.6%

Maximum Eca, ha **681.3** Max Eca, % **31.4%**

Year of max Eca **2027**

Scenario: **USI\_3** Region: **New England/Boreal**

About Eca Max Yield Save Data to Excel Return

Maximum day's flow results with scenario USI\_3

Predicted Annual Day's Maximum Flow and Yield

Recurrence Interval	Without Harvest		With Harvest		Change m³/s	Percent Increase
	Flow m³/s	Yield mm	Flow m³/s	Yield mm		
2 Years	3.1	6.5	3.7	7.8	0.63	20.5%
5 Years	5.6	11.8	6.8	14.2	1.16	20.7%
10 Years	7.2	15.2	8.5	17.9	1.30	18.0%
20 Years	8.8	18.4	10.1	21.2	1.30	14.8%
50 Years	10.7	22.4	12.0	25.2	1.30	12.2%
100 Years	12.1	25.4	13.4	28.1	1.30	10.8%

Area Harvested, km²: **21.7** 52.6%

Watershed Area, km²: **41.2** Displayed Above

Time Course of Maximum Day's Flow

Peak Year **2026**

Peak Flow Function: **GRANDE PRAIRIE G3 TO G7**

About Peak Flows Save Data To Excel Return to Results

# Smoky 1

Run Scenarios in database with Individual Blocks

Select Scenario: **Sm\_1** [Run Scenario] [Return to Main]

Simulate Each Unit From **1987** for **200** years with **1** year time steps

Watershed Area, km<sup>2</sup>: **72.6** Total Area Cut, ha: **4750.7** Percent Watershed Cut: **65.4%**

Appropriate Forest and Unit Group: **GRANDE PRAIRIE G3 TO G7** Yield Data Selection: **Forest Unit Stations** Region: **New England/Boreal**

Watershed Yield Data Source: **Muskeg River near Grande Cache** Year Progress

Statistic **AVG** Period **1972-2003** Yld, mm: **226.4** Area, km<sup>2</sup>: **706**

Precipitation Data Source: **GRANDE CACHE** Units Progress

Statistic **AVG** Period **1985-1995** Annual Ppt, mm: **590.4**

Cut Block Details: **frmRunScenarios, Individual Blocks** [Table View]

Annual Harvest Data, Operational Unit

Cut, ha: **0.2** Year Cut: **1987**

# Blks: **1** Blk Size, ha: **15.5**

Aspect: **S** Block Elev, m: **1505.0**

Regeneration Sp: **CONIFEROUS**

Basal Area Func: **LPP FAIR BA**

Tree Height Func: **LPP FAIR TH**

Surrounding Stand Data

Stand Species: **CONIFEROUS**

Stand BA: **40.5** Stand TH: **13.0**

Regional (Base) Silvicultural Data

Base BA: **35.0** Years To Base BA: **130**

Base TH, m: **20.0** Years To Base TH: **160**

Record: 14

Results Scenario Sm\_1

Year	Yield, mm	%
1986	0.0	0.0%
1987	0.0	0.0%
1988	0.0	0.0%
1989	0.0	0.0%
1990	0.0	0.0%
1991	0.0	0.0%
1992	0.0	0.0%
1993	0.0	0.0%
1994	0.0	0.0%
1995	0.0	0.0%
1996	0.0	0.0%
1997	0.0	0.0%
1998	0.2	0.1%
1999	8.6	3.8%
2000	10.5	4.6%
2001	11.5	5.1%

Record: 14

MAX Yield Increase, mm: **25.0** Calibration value: **1.064**

MAX Percent Increase: **11.1%** Base Yield, mm: **226.4**

Scenario Name: **Sm\_1** Year of MAX: **2021** Precipitation, mm: **590.4**

Region: **New England/Boreal**

Save Yield Data | ECA Mature Ba | ECA Max Yld | Max Day's Analysis | Peak Flow Analysis | Return

Sm\_1 ECA based on Maximum Water Yield Increase

Year	Eca, ha	Eca, %
1986	0.0	0.0%
1987	0.2	0.0%
1988	0.6	0.0%
1989	0.7	0.0%
1990	0.6	0.0%
1991	0.7	0.0%
1992	0.6	0.0%
1993	0.7	0.0%
1994	0.7	0.0%
1995	0.7	0.0%
1996	0.7	0.0%
1997	0.7	0.0%
1998	9.3	0.2%
1999	452.6	9.5%
2000	544.2	11.5%
2001	594.6	12.5%
2002	769.4	16.2%
2003	681.5	14.3%
2004	684.3	14.4%
2005	650.8	13.7%
2006	644.4	13.6%
2007	651.5	13.7%
2008	694.2	14.6%

Maximum Eca, ha: **1338.2** Max Eca, %: **28.2%**

Year of max Eca: **2021**

Scenario: **Sm\_1** Region: **New England/Boreal**

About Eca Max Yield | Save Data to Excel | Return

Maximum day's flow results with scenario Sm\_1

Predicted Annual Day's Maximum Flow and Yield

Recurrence Interval	Without Harvest		With Harvest			
	Flow m <sup>3</sup> /s	Yield mm	Flow m <sup>3</sup> /s	Yield mm	Change m <sup>3</sup> /s	Percent Increase
2 Years	5.4	6.4	6.4	7.7	1.02	18.8%
5 Years	9.9	11.8	11.8	14.0	1.88	19.0%
10 Years	12.9	15.3	15.4	18.3	2.49	19.4%
20 Years	15.7	18.6	18.7	22.3	3.07	19.6%
50 Years	19.2	22.8	22.3	26.6	3.17	16.6%
100 Years	21.7	25.8	24.9	29.6	3.17	14.6%

Area Harvested, km<sup>2</sup>: **47.5** 65.4%

Watershed Area, km<sup>2</sup>: **72.6**

Peak Flow Function: **GRANDE PRAIRIE G3 TO G7**

Time Course of Maximum Day's Flow

Peak Year: **2020**

About Peak Flows | Save Data To Excel | Return to Results

# Smoky 2

Run Scenarios in database with Individual Blocks

Select Scenario: **Sm\_2** [Run Scenario] [Return to Main]

Simulate Each Unit From **1982** for **200** years with **1** year time steps

Watershed Area, km<sup>2</sup>: **119.4** Total Area Cut, ha: **6687.3** Percent Watershed Cut: **56.0%**

Appropriate Forest and Unit Group: **GRANDE PRAIRIE G3 TO G7** Yield Data Selection: **Forest Unit Stations** Region: **New England/Boreal**

Watershed Yield Data Source: **Muskeg River near Grande Cache** Year Progress: **1972-2003** Yld, mm: **226.4** Area, km<sup>2</sup>: **706**

Precipitation Data Source: **GRANDE CACHE** Units Progress: **1985-1995** Annual Ppt. mm: **590.4**

Cut Block Details: **frmRunScenarios, Individual Blocks** [Table View]

Annual Harvest Data, Operational Unit

Cut, ha	10.3	Year Cut	1982
# Blks	1	Blk Size, ha	69.6
Aspect	EW	Block Elev, m	1435.0
Regeneration Sp	CONIFEROUS	Surrounding Stand Data	
Basal Area Func	WS FAIR BA	Stand Species	CONIFEROUS
Tree Height Func	WS FAIR TH	Stand BA	28.8
		Stand TH	10.0
		Regional (Base) Silvicultural Data	
		Base BA	30.0
		Years To Base BA	140
		Base TH, m	20.0
		Years To Base TH	170

Record: 1 of 359

Results Scenario Sm\_2

Year	Yield, mm	%
1981	0.0	0.0%
1982	0.3	0.2%
1983	2.8	1.2%
1984	6.6	2.9%
1985	9.8	4.3%
1986	14.7	6.5%
1987	20.4	9.0%
1988	29.6	13.1%
1989	29.3	12.9%
1990	29.5	13.0%
1991	29.1	12.9%
1992	29.1	12.8%
1993	29.0	12.8%
1994	29.1	12.9%
1995	29.3	12.9%
1996	29.5	13.0%

MAX Yield Increase, mm: **37.8** Calibration value: **1.067**

MAX Percent Increase: **16.7%** Base Yield, mm: **226.4**

Year of MAX: **2003** Precipitation, mm: **590.4**

Scenario Name: **Sm\_2** Region: **New England/Boreal**

[Save Yield Data] [ECA Mature Ba] [ECA Max Yld] [Max Day's Analysis] [Peak Flow Analysis] [Return]

Sm\_2 ICA based on Maximum Water Yield Increase

Year	Eca, ha	Eca, %
1981	0.0	0.0%
1982	28.3	0.4%
1983	204.9	3.1%
1984	498.9	7.5%
1985	727.4	10.9%
1986	1078.5	16.1%
1987	1493.8	22.3%
1988	2273.7	34.0%
1989	2222.1	33.2%
1990	2237.3	33.5%
1991	2203.1	32.9%
1992	2195.0	32.8%
1993	2185.7	32.7%
1994	2191.4	32.8%
1995	2206.8	33.0%
1996	2223.5	33.2%
1997	2239.0	33.5%
1998	2561.0	38.3%
1999	2522.4	37.7%
2000	2531.8	37.9%
2001	2565.7	38.4%
2002	2695.8	40.3%
2003	2820.1	42.2%

Maximum Eca, ha: **2820.1** Max Eca, %: **42.2%**

Year of max Eca: **2003**

Scenario: **Sm\_2** Region: **New England/Boreal**

[About Eca Max Yield] [Save Data to Excel] [Return]

Maximum day's flow results with scenario Sm\_2

Recurrence Interval	Without Harvest		With Harvest			
	Flow m <sup>3</sup> /s	Yield mm	Flow m <sup>3</sup> /s	Yield mm	Change m <sup>3</sup> /s	Percent Increase
2 Years	8.9	6.4	11.3	8.2	2.40	27.0%
5 Years	16.3	11.8	20.7	15.0	4.37	26.8%
10 Years	21.3	15.4	25.7	18.6	4.37	20.5%
20 Years	26.0	18.8	30.4	22.0	4.37	16.8%
50 Years	31.9	23.1	36.3	26.3	4.37	13.7%
100 Years	36.2	26.2	40.6	29.4	4.37	12.1%

Area Harvested, km<sup>2</sup>: **66.9** 56.0% [←] [2002] [→]

Watershed Area, km<sup>2</sup>: **119.4** [Displayed Above]

Peak Flow Function: **GRANDE PRAIRIE G3 TO G7** [About Peak Flows] [Save Data To Excel] [Return to Results]

Increased Max Day's Flow, %

Peak Year 2002

# Lower Smoky 3

Run Scenarios in database with Individual Blocks

Select Scenario: **LSm\_3** [Run Scenario] [Return to Main]

Simulate Each Unit From **1989** for **200** years with **1** year time steps

Watershed Area, km<sup>2</sup>: **74.1** Total Area Cut, ha: **3985.1** Percent Watershed Cut: **53.8%**

Appropriate Forest and Unit Group: **WHITECOURT ALL UNITS** Yield Data Selection: **Forest Unit Stations** Region: **New England/Boreal**

Watershed Yield Data Source: **WASKAHIGAN RIVER NEAR THE MOU** Year Progress

Statistic **AVG** Period **1968-1998** Yld. mm **149.8** Area, km<sup>2</sup> **1040**

Precipitation Data Source: **FOX CREEK RS** Units Progress

Statistic **AVG** Period **1966-1998** Annual Ppt. mm: **542.1**

Cut Block Details: **frmRunScenarios, Individual Blocks** Table View

Annual Harvest Data, Operational Unit

Cut, ha **20.1** Year Cut **1989**

# Blks **1** Blk Size, ha **21.1**

Aspect **S** Block Elev. m **1364.0**

Regeneration Sp **CONIFEROUS**

Basal Area Func **LPP FAIR BA**

Tree Height Func **LPP FAIR TH**

Surrounding Stand Data

Stand Species **CONIFEROUS**

Stand BA **32.0** Stand TH **13.0**

Regional (Base) Silvicultural Data

Base BA **35.0** Years To Base BA **130**

Base TH, m **20.0** Years To Base TH **160**

Record: 1 of 330

Results Scenario LSm\_3

Year	Yield, mm	%
1988	0.0	0.0%
1989	0.4	0.3%
1990	0.5	0.3%
1991	3.8	2.6%
1992	2.7	1.8%
1993	5.4	3.6%
1994	8.0	5.4%
1995	13.3	8.9%
1996	18.4	12.3%
1997	17.4	11.6%
1998	16.0	10.7%
1999	15.7	10.5%
2000	18.9	12.6%
2001	23.3	15.6%
2002	21.2	14.1%
2003	21.5	14.3%

MAX Yield Increase, mm **23.4** Calibration value **1.032**

MAX Percent Increase **15.6%** Base Yield, mm **149.8**

Year of MAX **2027** Precipitation, mm **542.1**

Scenario Name: **LSm\_3** Region: **New England/Boreal**

Save Yield Data | ECA Mature Ba | ECA Max Yld | Max Day's Analysis | Peak Flow Analysis | Return

LSm\_3 ECA based on Maximum Water Yield Increase

Year	Eca, ha	Eca, %
1988	0.0	0.0%
1989	20.1	0.5%
1990	25.2	0.6%
1991	202.2	5.1%
1992	143.5	3.6%
1993	282.5	7.1%
1994	426.1	10.7%
1995	690.2	17.3%
1996	942.1	23.6%
1997	884.7	22.2%
1998	816.3	20.5%
1999	804.6	20.2%
2000	957.0	24.0%
2001	1193.9	30.0%
2002	1079.3	27.1%
2003	1067.7	27.3%
2004	1052.3	26.4%
2005	1028.3	25.8%
2006	993.5	24.9%
2007	1013.5	25.4%
2008	1040.6	26.1%
2009	1010.0	25.3%
2010	1129.5	28.3%

Maximum Eca, ha **1193.9** Max Eca, % **30.0%**

Year of max Eca **2001**

Scenario: **LSm\_3** Region: **New England/Boreal**

About Eca Max Yield | Save Data to Excel | Return

Maximum day's flow results with scenario LSm\_3

Predicted Annual Day's Maximum Flow and Yield

Recurrence Interval	Without Harvest		With Harvest			
	Flow m <sup>3</sup> /s	Yield mm	Flow m <sup>3</sup> /s	Yield mm	Change m <sup>3</sup> /s	Percent Increase
2 Years	3.6	4.2	4.4	5.2	0.84	23.4%
5 Years	6.6	7.7	8.2	9.6	1.56	23.6%
10 Years	8.7	10.1	10.7	12.5	2.08	23.9%
20 Years	10.6	12.3	13.0	15.1	2.38	22.5%
50 Years	13.0	15.2	15.4	17.9	2.38	18.3%
100 Years	14.7	17.2	17.1	20.0	2.38	16.1%

Area Harvested, km<sup>2</sup>: **39.9** 53.8%

Watershed Area, km<sup>2</sup>: **74.1**

Peak Year **2026**

Time Course of Maximum Day's Flow

Peak Year **2026**

Peak Flow Function: **WHITECOURT ALL UNITS**

About Peak Flows | Save Data To Excel | Return to Results

# Smoky 4

Run Scenarios in database with Individual Blocks

Select Scenario: **Sm\_4** Run Scenario Return to Main

Simulate Each Unit From **2008** for **200** years with **1** year time steps

Watershed Area, km<sup>2</sup>: **145.6** Total Area Cut, ha: **3573.0** Percent Watershed Cut: **24.5%**

Appropriate Forest and Unit Group: **GRANDE PRAIRIE G3 TO G7** Yield Data Selection: **Forest Unit Stations** Region: **New England/Boreal**

Watershed Yield Data Source: **Muskeg River near Grande Cache** Year Progress

Statistic **AVG** Period **1972-2003** Yld, mm: **226.4** Area, km<sup>2</sup>: **706**

Precipitation Data Source: **GRANDE CACHE** Units Progress

Statistic **AVG** Period **1985-1995** Annual Ppt, mm: **590.4**

Cut Block Details: **frmRunScenarios, Individual Blocks** Table View

Annual Harvest Data, Operational Unit

Cut, ha	37.2	Year Cut	2008
# Blks	1	Blk Size, ha	46.9
Aspect	S	Block Elev, m	1682.0
Regeneration Sp	CONIFEROUS		
Basal Area Func	LPP FAIR BA		
Tree Height Func	LPP FAIR TH		

Surrounding Stand Data

Stand Species	CONIFEROUS
Stand BA	40.5
Stand TH	13.0

Regional (Base) Silvicultural Data

Base BA	35.0	Years To Base BA	130
Base TH, m	20.0	Years To Base TH	160

Record: 14 of 195

Results Scenario Sm\_4

Year	Yield, mm	%
2007	0.0	0.0%
2008	0.4	0.2%
2009	0.3	0.1%
2010	0.4	0.2%
2011	0.4	0.2%
2012	0.5	0.2%
2013	0.9	0.4%
2014	1.0	0.4%
2015	0.8	0.4%
2016	1.6	0.7%
2017	1.4	0.6%
2018	1.5	0.6%
2019	2.2	1.0%
2020	2.3	1.0%
2021	3.9	1.7%
2022	4.9	2.2%

Record: 14

MAX Yield Increase, mm: **10.0** Calibration value: **1.128**  
 MAX Percent Increase: **4.4%** Base Yield, mm: **226.5**  
 Year of MAX: **2076** Precipitation, mm: **590.4**

Scenario Name: **Sm\_4** Region: **New England/Boreal**

Save Yield Data ECA Mature BA ECA Max Yld Max Day's Analysis Peak Flow Analysis Return

Sm\_4 ECA based on Maximum Water Yield Increase

Year	Eca, ha	Eca, %
2007	0.0	0.0%
2008	38.3	1.1%
2009	26.9	0.8%
2010	36.4	1.0%
2011	34.8	1.0%
2012	50.4	1.4%
2013	87.5	2.4%
2014	93.3	2.6%
2015	80.1	2.2%
2016	160.3	4.5%
2017	134.1	3.8%
2018	141.3	4.0%
2019	218.6	6.1%
2020	238.8	6.7%
2021	399.8	11.2%
2022	490.3	13.7%
2023	633.2	17.7%
2024	620.7	17.4%
2025	627.0	17.5%
2026	731.3	20.5%
2027	851.8	23.8%
2028	773.0	21.6%
2029	731.0	20.5%

Maximum Eca, ha: **950.3** Max Eca, %: **26.6%**  
 Year of max Eca: **2061**

Scenario: **Sm\_4** Region: **New England/Boreal**

About Eca Max Yield Save Data to Excel Return

Maximum day's flow results with scenario Sm\_4

Predicted Annual Day's Maximum Flow and Yield

Recurrence Interval	Without Harvest		With Harvest			
	Flow m <sup>3</sup> /s	Yield mm	Flow m <sup>3</sup> /s	Yield mm	Change m <sup>3</sup> /s	Percent Increase
2 Years	10.8	6.4	11.6	6.9	0.74	6.8%
5 Years	19.9	11.8	21.3	12.6	1.37	6.9%
10 Years	26.0	15.4	27.9	16.5	1.83	7.0%
20 Years	31.8	18.9	33.9	20.1	2.02	6.4%
50 Years	39.1	23.2	41.1	24.4	2.02	5.2%
100 Years	44.4	26.4	46.4	27.6	2.02	4.6%

Area Harvested, km<sup>2</sup>: **35.7** 24.5% Watershed Area, km<sup>2</sup>: **145.6**

Time Course of Maximum Day's Flow

Peak Year: **2075**

Area Harvested, km<sup>2</sup>: **35.7** Watershed Area, km<sup>2</sup>: **145.6** Displayed Above

Peak Flow Function: **GRANDE PRAIRIE G3 TO G7** About Peak Flows Save Data To Excel Return to Results





## Reference 4 Water Yield Responses and Decadal Water Yield Increases









































