



# STATE LAW LIBRARY AUGUSTA, MAINE

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#### **APPENDIX 1**

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		Unorg.	Warden H	Estimate	Burning					1995
	Civil	Ter. (1)	Barr	els	Frequency	"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Androscoggin	Auburn			1	7		0	0	23,652	
Androscoggin	Durham		100	12	1	1	0	1	2,939	96995
Androscoggin	Greene		40		1	0	1		4,001	107988
Androscoggin	Leeds		60	2	1	0	1	1	1,810	18305
Androscoggin	Lewiston		0	0		1	1	0	37,373	1378020
Androscoggin	Lisbon		45	0	1	0	1	0	9,344	
Androscoggin	Livermore		. 20	2	1	0	1	0	2,086	54686
Androscoggin	Livermore Falis		30	12	3		1	1	3,461	
Androscoggin	Mechanic Falls		5		1	0	1	0	2,961	54275
Androscoggin	Minot		8		0.75	0	0	1	1,870	
Androscoggin	Poland		12		1	· 0	1	0	4,423	220516
Androscoggin	Sabattus		15	0	1	0	1	0	3,890	240537
Androscoggin	Turner		50		2	0	1	0	4,758	107986
Androscoggin	Wales		20	0	1	0	0	1	1,314	
Subtotal Androscoggin			405	29		2	10		103,882	
Aroostook	Allagash		25		1	Ō	0	1	337	16262
Aroostook	Amity		6	0	1	0	0	0	198	
Aroostook	Ashland		60	5	2	0	1	0	1,593	114473
Aroostook	Bancroft		. 0	0	0	1	0	0	68	
Aroostook	Blaine		250	0	7	0	0	0	788	
Aroostook	Bridgewater		51	0	7	0	1	0	651	
Aroostook	Caribou		0	30	2	0	0	1	9,067	
Aroostook	Cary Plt	1	0	0		1	0	0	235	
Aroostook	Castle Hill		0	0	0	0	0	1	459	
Aroostook	Caswell		5		1	0	0	1	392	
Aroostook	Chapman THE TILE 14 TILE 15		0	0	0	0	0	1	433	
Aroostook/Piscataguis/ Somerset	T11R16, T12R12, T12R13,									
(15)	T12R14, T12R15, T13R12	1	6	2	1	0	0	0		
Aroostook	Connor		• 4		2	0	0	0		
Aroostook	Crystal		5	3	1	0	1	0	319	15839
Aroostook	Cyr PH TOP16 TEP10 TE18	1	· 4		1	0	0	1	132	
	T8R17, T8R16, T7R19, T7R18.									, · ·
Aroostook/Somerset	T7R17, T7R16	1	6		0.1	0	0	0		
Aroostook	Dyer Brook		3		2	0	1	0	241	12703
Aroostook	Eagle Lake		10		0.5	0	1	1	863	
Aroostook	Easton		45	2	1	0	0	1	1,321	65433
Aroostook	Eiqlatation		10	0	7	0	0	0		· · · · · · · · · · · · · · · · · · ·
Aroostook	Fort Fairfield		75	5	1	0	0	1	4,026	103948

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		Unorg.	Warden I	Estimate	Burning		· · · · · · · · · · · · · · · · · · ·			1995
	Civil	Ter. (1)	Barı	rels	Frequency	"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Aroostook	Fort Kent		60	0	1	0	0	1	4,280	244907
Aroostook	Frenchville		30	0	1	0	1	0	1,320	75184
Aroostook	Garfield Plt	1	12	· 1	0.75	0	1	0	95	5399
Aroostook	Glenwood Plt	1	0	0	0	1	0	0	7	
Aroostook	Grand Isle		15		. 1	0	1		556	1
Aroostook	Hamlin.		5		1	0	1	Tri-communit	195	
Aroostook	Hammond		0	0	0	·	1	0	92	10168
Aroostook	Haynesville		0	0	0	1	0	Ō	244	,
Aroostook	Hersey		8	0	1	0	0	1	69	
Aroostook	Hodgdon		40	. 4	2	0	0	0	1,312	
Aroostook	Houlton		0	0	0	1	1	0	6,804	57494
Aroostook	Island Falls		10	0	5	0	1	0	908	46891
Aroostook	Limestone		50	0	. 2	0	· 0	1	5,522	
Aroostook	Linneus		0	3	2	0	0	0	. 844	, 0
Aroostook	Littleton		50	0	3	0	1	0	963	30064
Aroostook	Ludlow		8		1	0	ō	0	438	, 9930
Aroostook	Macwahoc Plt	1	0	0	0	1	0	1	118	9179
Aroostook	Madawaska		35	0	1	0	1	0	4,780	/
Aroostook	Mapleton		. 10	0	1	0	0	1	1,916	,
Aroostook	Mars Hill		120		7	0	1	0	1,705	62586
Aroostook	Masardis	2	10	0	1	0	0	1	302	29404
Aroostook	Merrill		6	2	2	0	1	0	294	,
Aroostook	Monticello		38	0	1	0	1	0	873	
Aroostook	Moro Plt		4	0	2	0	. 0	0	40	2255
Aroostook	Nashville Plt		0	0	0	1	1	0	42	
Aroostook	New Canada		6	1	2	0	. 0	0	255	15545
Aroostook	New Limerick		18	0	7	0	0	0	534	29099
Aroostook	New Sweden		30		2	0	0	1	693	
Aroostook	Oakfield		30	20	3	0	1	0	855	
Aroostook	Orient		50	10	1	0	1	0	155	
Aroostook	Oxbow Plt	1	6	0	2	0	0	1	65	
Aroostook	Perham		5	0	2	0	0	1	402	. 11080
Aroostook	Portage Lake					0	1	1	438	28979
Aroostook	Presque Isle		0	0	0	0	1	1	10,079	296102
Aroostook	Reed Plt	1	0	0	0	1	0	0	303	,
Aroostook	Sherman Mills		60		1	0	1	0		
Aroostook	Smyrna		35		1	0	0	1	398	;
Aroostook	St. Agatha		1	15	1	0	0	0	916	71926

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	Civil	Ter. (1)	Bar	rels	Frequency	"MTCS"	Transfer		Population	Solid waste
• County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Aroostook	St. Francis		50		1	0	1	1	657	
Aroostook	St. John Plt	1	15		1	0	0	1	264	15968
Aroostook	Stockholm		0	0	0	0	0	1	284	
Aroostook	Van Buren		300	0	0	0	1	1	2,877	
Aroostook	Wade		5	0	1	0	0	0	247	
Aroostook	Wallagrass Plt	1	0	0	0	0	1	0	581	
Aroostook	Washburn		15	0	1	1	0	Ó	1,948	
Aroostook	Westfield	•	18	0	2	0	0	0	587	
Aroostook	Westmanland		2	0	1	· 0	0	1	70	
Aroostook	Weston		0	0	0	0	1	0	207	. 19117
Aroostook	Winterville Plt	.1	14	0	1	0	1	0	212	
Aroostook	Woodland		10	0	2	. 0	0	1	1,465	44983
Aroostook	UO: T16R4	1	10	0	· 1	0	0	0		
Aroostook	UO: T16R5	1	0	0	0	0	0	0		
Aroostook	UO: T17R3	1	30	0	1	0	0	0		
Aroostook	UO: T17R4	1	10	0	1	0	0	0		
Aroostook	<b>VO2RT1TR2</b> R7, T11R11,	1	12	0	1	0	0	0		
Aroostook	T14R 10, 105489, 105488, 1064887	1	5	0	0.25	0	0	0		
Aroostook	T16R6	1	0	0	0	0	0	0		
Aroostook	VORT33R58R14R619R5R5	1	0	0	0	0	0	0		
Aroostook	E450Rh4f of T12R16, T13R16,	1	2	0	2	0	0	0		
Aroostook	T14B16 TOP7 TOP10 TOP0	1	3	0	2	0	0	0		
	T8R8, T8R7.5, T8R6.25, Oxbow									
Aroostook/Penobscot/Piscataquis	PID: T9R4, T9R5, T10R4, T11R4,	1	2	2	4	0	0	0		
Aroostook	Susen Papi BRO, T15R9, North	1	0	0	0	0	0	0		
Aroostook	half of T14R5	· 1	0	0	0	0	0	0		· · · · · ·
SUBTOTAL Aroostook			1,820	105		9	28		79,334	
Cumberland	Baldwin		8	Ō	0.5	0	1	1	1,316	
Cumberland	Bridgton		65	1	1	0	1	0	4,213	
Cumberland	Brunswick		1	· 0	0.25	1	0	1	20,255	378711
Cumberland	Cape Elizabeth		0	1	0.1	0	1	1	8,685	392102
Cumberland	Casco		0	0	0	0	1	1	3,321	
Cumberland	Cumberland		0	0	0	1	1	1	6,124	495616
Cumberland	Falmouth		0	0	0	1	I	1	8,208	230005
Cumberland	Freeport		15	2	1	1	1	0	6,917	281398
Cumberland	Gorham		20	2	1	0	1	0	12,954	210936
Cumberland	Gray		10	1	1	0	1	0	6,530	266383
Cumberland	Harpswell		· 100	0	4	0	1	0	4,886	230326

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	Civil	Ter. (1)	Bai	rrels	Frequency	"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Cumberland	Harrison		10	0	0.5	0	1	0	1,937	142285
Cumberland	Long Island		0	0	0	1	1	0	190	
Cumberland	Naples		10	0	0.5	0	1	1	3,118	244409
Cumberland	New Gloucester		24	0	1	0	1	1	4,391	164520
Cumberland	North Yarmouth		0	0	0	1	0	1	2,701	
Cumberland	Portland		0	0	0	1	0	1	63,733	
Cumberland	Pownal		6	0	1	1	0	1	1,268	
Cumberland	Raymond		8	0	1	1	0	1	3,649	247216
Cumberland	Scarborough		0	0	0	1	0	1	13,211	700696
Cumberland	Sebago		0	0	0	0	1	0	1,359	96000
Cumberland	South Portland		0	0	0	1	1	1	23,055	1157359
Cumberland	Standish		0	0	0	0	1	1	8,130	431373
Cumberland	Westbrook		0	0	. 0	1	0	1	15,838	
Cumberland	Windham		40	0	2	0	0	1	13,830	122283
Cumberland	Yarmouth		0	0	0	0	1	0	8,190	394818
SUBTOTAL Cumberland			317	7		12	18		248,009	
Franklin	Avon		15	0	1	0	0	0	554	
Franklin	Carthage		5	0	1	0	1	0	465	
Franklin	Carrabassett Valley		0	0	0	0	1	0		113324
Franklin	Chesterville		50	0	2	1	1	0	1,100	49189
Franklin	Coplin Plt	1	0	0	0	0	1	0	119	
Franklin	Dallas Plt	1	10	0	1	0	0	0	159	32843
Franklin	Eustis		0	3	1	0	1	0	632	63243
Franklin	Farmington		170	0	1	0	1	1	7,320	26970
Franklin	Freeman		2	0	1	0	0	1		
Franklin	Industry		10	0	1	0	0	1	739	11988
Franklin	Jay	1	2	0	0	1	1	0	5,123	495868
Franklin	Kingfield		50	0	1	0	1	0	1,186	
Franklin	Madrid		10	0	1	0	0	0	175	5195
Franklin	New Sharon		30	30	1	1	0	1	1,302	
Franklin	New Vineyard		50	0	0.5	0	0	1	731	6026
Franklin	Perkin Twp	1	0	0	0	0	0	1		
Franklin	Phillips		3	Ō	7	0	1	0	1,198	83348
Franklin	Rangeley		25	0	0	0	1	0	1,087	21954
Franklin	Rangeley Plt	1	10	0	0.5	0	1	0	105	
Franklin	Salem		20	0	1	0	0	0		
Franklin	Sandy River Plt	1	3	0	1	0	1	0	64	27045
Franklin	Davis Twp/ Stetsontown	1	6	0	0.25	0	0	0		

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	Civil	Ter. (1)	Bar	rels	Frequency	"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Franklin	Strong (N.Freeman)		100	0	1	0	1	0	1,327	8313
Franklin	Temple		0	3	0.25	1	0	0	586	
Franklin	UO: Washington Twp	1	0	0	0	0	0	1		
Franklin	Weld		5	0	1	0	1	0	433	27998
Franklin	Wellon Reddingron, Long, Mt.		0	0	. 0	0	1	0	4,290	
Franklin	Alagsta Thy seven Ponds, King &	1	6	0	0.25	· 0	0	0		
Franklin	BudhusTwasBig W Twps.;	1	1	0	1	1	0	0		
Franklin/Somerset	Standish Academy	1	20	2	1	0	1	0		
SUBTOTAL Franklin			603	38		5	16	_	28,695	
Hancock	Amhearst .	•	6	0	0.25	1	0	1	230	
Hancock	Aurora		0	0	0	1	0	0	79	
Hancock	Bar Harbor		0	0	0	0	1	1	4,698	457981
Hancock	Blue Hill		3	0	. 0	0	• 1	0	2,013	95386
Hancock	Brooklin		6	0	1	0	1	0	786	
Hancock	Brooksville		0	0	0	0	1	1	769	
Hancock	Bucksport		0	20	1	0	1	0	4,892	295525
Hancock	Castine		0	0	0	1	1	1	1,170	52314
Hancock	Cranberry Isles	2	45	0	2	0		1	200	
Hancock	Dedham		. 0	0	0	1	0	1	1,245	32889
Hancock	Deer Isle	2	6	0		0	1	0	1,839	124000
Hancock	Eastbrook		0	1		0	1	0	296	
Hancock	Ellsworth					1	1	1	6,277	450221
Hancock	Franklin		3	0	0.25	0	1	1	1,229	
Hancock	Frenchboro	2	30	0	· 1	0	1	1		2611
Hancock	Gouldsboro		0	0	0	1	0	1	2,065	120938
Hancock	Great Pond		0	0	. 0	1	0	0	61	0
Hancock	Hancock		0	· 0	1	1	1	0	1,826	
Hancock	Lamoine		0	0	0	0	1	0	1,366	59947
Hancock	Mariaville		3	1	1	0	1	1	289	38688
Hancock	Mount Desert	2	0	0	0	1	0	1	2,032	210905
Hancock	Orland		0	1		0	1	0	1,909	52204
Hancock	Osborn		0	0	0	1	0	0	78	
Hancock	Otis		0	0	0	0	1	0	359	
Hancock	Penobscot		10	0	0	0	1	1	1,125	57330
Hancock	Sedgwick		25			0	0	0	903	
Hancock	Sorrento		0	0	0	1	0	0	302	15701
Hancock	Southwest Harbor		1	1	1	0	1	1	2,095	
Hancock	Stonington		1	0	1	0	1	1	1,266	

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······································	Civil	Ter. (1)	Barr	els	Frequency	"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Hancock	Sullivan		10	2	1		1	0	1,166	30453
Hancock	Surry		25			0	1	0	1,044	47694
Hancock	Swans Island	2	6		1	0	0	0	358	40395
Hancock	Tremont		7		1	0	1	0	1,449	
Hancock	Trenton		5	0	1	. 0	1	1	1,117	101062
Hancock	UO: Twp 16, 9, 10, 7		30		1					
Hancock	UO: T8		10	5	0.5	0	0	1		
Hancock	Verona								537	
Hancock	Waltham		0	Ø	0	1	0	1	296	
Hancock	Winter Harbor		6	0	2	0	0	0	1,245	25846
Hancock	UO: towns		0	0	0	0	0	· 1		10582
SUBTOTAL Hancock			238	31		12	23		48,611	
Kennebec	Albion		3	0	. 3	1	0	1	1,777	
Kennebec	Augusta		0	0	Ø	1	1	0	20,384	
Kennebec	Belgrade		50	6	1	0	1	0	2,607	64723
Kennebec	Benton		25	2	1	0	0	0	2,352	539396
Kennebec	Chelsea	· ·	35	5	1	0	0	0	2,543	147120
Kennebec	China		1	0	5	0	1	0	3,906	121302
Kennebec	Clinton		0	0	1	0	1	0	3,422	27500
Kennebec	Farmingdale		25	0	2	0	0	0	2,981	154696
Kennebec	Fayette		20	2	0.33	0	1	1	915	
Kennebec	Gardiner		25	0	5	0	0	1	6,788	31369
Kennebec	Hallowell		. 0	0	0	0	0	0	2,595	
Kennebec	Litchfield		20	2	1	0	0	0	2,768	79846
Kennebec	Manchester		17	0	0.25	0	0	1	2,159	
Kennebec	Monmouth		0	0	0	0	1	0	3,492	7690
Kennebec	Mt. Vernon		0	1	0.25	• 0	1	0	1,482	
Kennebec	Oakland		4	0	1	0	1	0	5,966	
Kennebec	Pittston		30	3	5	0	0	0	2,492	
Kennebec	Randolph		75	3	3	σ	0	1	2,012	254182
Kennebec	Readfield		0	0	0	0	1	0	2,197	25662
Kennebec	Rome		24	1	1	0	0	1	808	
Kennebec	Sidney	•	0	1	0	0	1	0	2,881	130631
Kennebec	Vassalboro		10	0	7	0	1	0	3,913	
Kennebec	Vienna		0	0	0	1	0	0	454	·
Kennebec	Waterville		0	0	0	1	1	1	16,584	128327
Kennebec	Wayne		2	0	1	0	0	0	1,101	
Kennebec	West Gardiner		2	0	2	. 0	1	0	2,593	

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County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Kennebec	Windsor		0	0	0	0	1	1	2,017	66135
Kennebec	Winslow		0	0	0	0	1	1	7,942	16542
Kennebec	Winthrop		0	1	0.25	0	1	0	6,096	77283
SUBTOTAL Kennebec			368	27		4	16		117,227	292852
Knox	Appleton		0	30	1	0	1	0	1,155	311737
Knox	Camden		1	0	0.25	0	1	0	4,929	
Knox	Cushing		0	. 3	2	0	1	0	1,039	22890
Knox	Friendship		4	0	1	0	1	0	1,137	282595
Knox	Норе		6	1	2	0	1	0	1,107	40461
Knox	Isle Au Haut								52	45184
Knox	Matinicus Isle Plt	2	50	0	2	0	0	1	73	47652
Knox	North Haven		3	0	1	0	1	1	330	
Knox	Owls Head		3	0	1	0	1	0	1,613	
Knox	Rockland		3	0	0.1	0	1	1	7,761	42995
Knox	Rockport		2	0	1	0	1	0	2,906	
Knox	St. George		6	0	1	0	1	0	2,327	678315
Knox	S. Thomaston		5	0	1	0	1	1	1,269	
Knox	Thomaston		0	8	Unknown	0	1	1	3,453	214035
Knox	Union		150	2	1	0	1	1	2,121	
Knox	Vinalhaven	2	20	0	2	0	1	0	1,112	
Knox	Warren		50	6	2	0	1	0	3,432	42259
Knox	Washington		20	2	1	0	1	0	1,258	175310
SUBTOTAL Knox			323	52		0	16		37,074	108869
Lincoln	Alna		6	0	1	0	0	0	603	
Lincoln	Boothbay		2	0	1	0	1	0	2,566	
Lincoln	Boothbay Harbor		0	0	0	0	0	0	2,214	20420
Lincoln	Bremen		0	0	0		0	1	639	
Lincoln	Bristol		2	0	1	0	1	0	2,247	
Lincoln	Damariscotta		0	. 2	1	0	1	0	1,866	<u> </u>
Lincoln	Dresden		10	0	1	0	0	0	1,442	
Lincoln	Edgecomb		4	0	1	0	0	1	1,031	
Lincoln	Hibberts Gore		3	0	1		0	0		
Lincoln	Jefferson		15	0	2		1	0	2,243	
Lincoln	Monhegan Plt	12	25	3	2	0	0	1	85	
Lincoln	Newcastle		3	1	1	0	1	1	1,584	
Lincoln	Nobleboro		3	0	1	0	1	0	1,554	
Lincoln	Somerville		12	0	1		1	1	482	
Lincoln	South Bristol		4	0	0.5	0	1	0	789	

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[		Unorg.	Warden	Estimate	Burning					1995
	Civil	Ter. (1)	Bai	rrels	Frequency	"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Lincoln	Southport		1	0	1	0	0	1	622	
Lincoln	Waldoboro		40	0	2	0	1	· 1	4,823	126603
Lincoln	Westport		0	0	0	0	0	0	696	
Lincoln	Whitefield		8	1	4	0	0	1	2,029	5834
Lincoln	Wiscasset		2	0	1	0	1	0	3,507	
SUBTOTAL Lincoln	Parmachene, Uper Cupsuptic,		140	7		0	10		31,022	
Oxford	Buchards Town C., C. Surplus,	1	6	0	0.25	0	0	0		
Oxford	Grafton	1	0	0	0	0	· 0	1		
Oxford	UO: Albany Twp	1	3		1	0	1	0		
Oxford	Andover		4	0	3	0	1	0	. 946	
Oxford	Batchelders Grant		0	0	0	0	1	0		
Oxford	Bethel		12	0	1	0	1	0	2,362	
Oxford	Brownfield		9	0	0.75	0	1	0	1,092	
Oxford	Buckfield		6	0	1	0	· 1	0	1,669	
Oxford	Byron		3	0	0.25	0	0	0	108	65640
Oxford	Canton		25	0	2	0	1	0	967	104358
Oxford	Denmark		10	0	1	0	. 1	0	890	11203
Oxford	Dixfield		5	0	1	0	0	1	2,568	33690
Oxford	Fryeburg		35	0	1	0	1	0	2,993	152027
Oxford	Gilead		3	0	1	0	1	0	209	119465
Oxford	Greenwood		5	0	1	0	1	1	712	211665
Oxford	Hanover		2	0	1	0	1	0	. 282	
Oxford	Hartford		25		3	0	1	1	771	
Oxford	Hebron		5	0	1	0	1	0	924	18076
Oxford	Hiram		20	0	1	0	1	0	1,316	39738
Oxford	Lincoln Plt	1	3	0	0.25	0	1	0	37	
Oxford	Lovell		3	2	1	. 0	1	0	890	90000
Oxford	Magalloway Plt								41	6609
Oxford	Mexico		20	1	1	1	1	1	3,091	93546
Oxford	Milton Plantation	1	0	0	0	0	0	1		
Oxford	Newry		5	0	1	0	1	0	329	186636
Oxford	Norway		12	0	3	0	1	0	4,675	
Oxford	Otisfield		0	0	0	0	1	. 0	1,169	99741
Oxford	Oxford		25	2	1	0	1	0	3,794	227000
Oxford	Paris								4,469	78034
Oxford	Peru		12	0	0.1	. 0	0	1	1,605	170667
Oxford	Porter		12	. 0	1	0	1	0	1,391	
Oxford	Riley Township	1	0	0	0	0	0	1		

Appendix 1A: Page 8

		Unorg.	Warden I	Estimate	Burning					1995
	Civil	Тег. (1)	Barr	els	Frequency	"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Oxford	Roxbury		10	0	3	1	0	1	433	78787
Oxford	Rumford		0	0	0	1	1	0	6,883	
Oxford	South Paris		25	0	1	0	1	0		
Oxford	Stoneham		6	0	1	0	1	0	215	426376
Oxford	Stow		30	0	1	0	0	1	282	
Oxford	Sumner		0	0	0		1	0	782	
Oxford	Sweden		4	2	1	1	0	0	228	
Oxford	Upton		0	0	0	0	1	0	69	
Oxford	Waterford		0	0	0	0	1	0	1,433	48226
Oxford	West Paris		5	0	0.25	0	1	0	1,565	
Oxford	Woodstock		1	1	0.25	0	1	1	1,244	213785
SUBTOTAL Oxford			351	8		4	31		52,434	59519
Penobscot	Alton		0	0	0	1	0	0	804	59557
Penobscot	Argyle Township	1	0	0	0	0	0	1		
Penobscot	Bangor		0	0	0	1	0	1	32,437	
Penobscot	Bradford		12	0	1	0	1	0	1,194	
Penobscot	Bradley		0	0	0	1	0	1	1,116	1856753
Penobscot	Brewer		0	0	0	1	1	1	9,050	32500
Penobscot	Burlington		0	0	0	0	1	0	364	
Penobscot	Carmel		0	0	0	1	0	1	2,038	333750
Penobscot	Carroll Plt	1	0	0	0	1	0	1	187	
Penobscot	Charleston		15	0	1	0	1	0	1,282	
Penobscot	Chester		0	0	5	1	0	1	428	
Penobscot	Clifton		0	0	0	1	0	1	650	44991
Penobscot	Corinna		100	0	7	0	1	0	2,091	
Penobscot	Corinth		. 5	1	2	0	1	0	2,349	23197
Penobscot	Dexter		100	0	1	0	1	1	4,253	135414
Penobscot	Dixmont		31	0	no idea	0	1	0	1,033	62429
Penobscot	Drew Plt	1	0	0	. 0	0	0	1	46	310115
Penobscot	East Millinockett		0	0	0	1	1	0	2,057	
Penobscot	Eddington		0	0	0	1	0	1	2,057	
Penobscot	Edinburg		0	0	0	1	0	1	106	170858
Penobscot	Enfield		0	0	0	1	1	0	1,512	39715
Penobscot	Etna		7	0	0.25	1	0	1	1,012	
Penobscot	Exeter		50	0	7	0	1	0	906	114551
Penobscot	Garland		50	0	7	0	1	0	1,224	
Penobscot	Great Pond						· · ·			
	Glenburn		0	0	0	1	0	1	3,410	À

		Unorg.	Warden	Estimate	Burning					1995
	Civil	Ter. (1)	Bar	rels	Frequency	"MTCS"	Transfer		Population	Solid waste
• County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Penobscot	Greenbush		0	0	0	1	0	0	1,349	
Penobscot	Hampden		0	8	1	0	1	1	6,378	150614
Penobscot	Hermon		0	0	0	1	0	1	4,003	
Penobscot	Holden		0	0	0	1	0	1	3,007	186765
Penobscot	Howland		5	0		0	1	1	1,423	185858
Penobscot	Hudson		20	0	0.1	0	1	1	1,138	129564
Penobscot	Kenduskeag		3	0	0.1	1	0	1	1,324	71315
Penobscot	Kingman		0	0	0	1	0	0		31607
Penobscot	Lagrange		0	0	0	1	0	1	586	17000
Penobscot	Lakeville		2	1	1	0	0	1	41	
Penobscot	Lee		6	0	1	0	1	0	883	
Penobscot	Levant		1	1		1	0	1	1,809	
Penobscot	Lincoln		. 15	25	0.1	0	1	0	5,752	45303
Penobscot	Lowell		2	0	1	0	0	1	264	63933
Penobscot	Mattawamkeag		2	0	0.25	1	0	1	865	439302
Penobscot	Maxfield		0	0	0	1	0	1	90	12000
Penobscot	Medway		0	0	0	0	1	0	1,876	40091
Penobscot	Milford		0	0	0	0	1	1	3,068	
Penobscot	Millinocket		0	0	0	1	1	0	6,615	
Penobscot	Mt. Chase		0	0	0	1	0	0	238	
Penobscot	Newburgh		0	0	0	1	0	0	1,400	
Penobscot	Newport		20	0	1	0	1	1	. 3,009	
Penobscot	Old Town		0	0	0	1	1	1	8,185	
Penobscot	Orono		0	0	0	0	0	1	9,185	159907
Penobscot	Orrington		0	0	0	1	0	1	3,382	500626
Penobscot	Passadumkeag		0	0	0	1	0	1	438	278203
Penobscot	Patten		50	1	1	0	0	1	1,174	
Penobscot	Plymouth		0	0	0	1	0	1	1,182	4
Penobscot	Seboeis Plt		3	0	0.25	1	0	1	38	70568
Penobscot	Springfield		0	0	0	1	. 1	1	424	49317
Penobscot	Stacyville		20	0	1	0	0	1	458	2600
Penobscot	Stetson		75	0	7		1	0	880	
Penobscot	Veazie		0	0	0	1	0	1	1,739	
Penobscot	Webster Plt	1	2	0	7	0	1	0	98	29829
Penobscot	Winn		2	0	0.1	1	1	0	486	
Penobscot	WORSININEP, TIR7 NWP, T3R1		0	0	0	0	0	1	216	3540
Penobscot	NBPP	1	0	0	0	0	0	0		
Penobscot	UO: Indian Isl. Reserve		. 0	0	0	1	0	0	504	

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		Unorg.	Warden	Estimate	Burning					1995
	Civil	Ter. (1)	Bar	rels	Frequency	"MTCS"	Transfer		Population	Solid waste
County	HO- Prentice Division TSND	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
	T5R1ND, T6ND, T6R1, T8R3,									
Penobscot/Hancock/Washington	T8R4, Kossuth	1	20	0	1	1	0	0		
Penobscot	UQ: Township, 32MD, S. T.2	1	0	0	0	0	0	0		
	Indian Pur Soldiertown Twp.									
Penobscot/Piscatiquis	Grindstone Twp., TAR7WELS	1	30	0	1	. 0	0	1		
SUBTOTAL Penobscot	* ·		648	37		36	26		145,114	
Piscataquis	Abbot					0			673	
Piscataquis	Atkinson		0	9	1	0	0	0	347	
Piscataquis	Barnard Plt									21900
Piscataquis	Beaver Cove		10		0.25	0	0	1	102	0
Piscataquis	Bowerbank								71	
Piscataquis	Brownville		0	0	. 0	1	1	0	1,533	
Piscataquis	Dover-Foxcroft								4,627	
Piscataquis	Greenville		12	0	2	1	0	1	1,858	64732
Piscataquis	Guilford		3	4	0.1	1	0	1	1,700	
Piscataquis	Kingsbury Plt								13	208032
Piscataquis	Lake View Plt								24	
Piscataquis	Medford		4	0	1	1	0	0	196	2000
Piscataquis	Milo		12	0	1	1	1	1	2,578	
Piscataquis	Monson		15	0	1	0	1	0	728	
Piscataquis	Parkman								783	
Piscataquis	Sangerville								1,377	41841
Piscataquis	Sebec		8	0	2	0	0	1	553	
Piscataquis	Striey, T2 R12, T1R13, T1 R12,		0	0	0	0	0	0	263	
Piscataquis	T1R11, TAR11, TXR14	1	30	0	0.25	0	1	1		
Piscataquis	Wellington		30	0	1	0	1	0		
Piscataquis	Williamsburg									
Piscataquis	William Total , T7R9, T7R10,	-	0	10	1	0	1	0	168	
Piscataquis	WBRihlantic, Little Squaw Twp.,	1	100	20	0.5	0	1	0		
Piscataquis	Greenville, Blanchard Twp.	1	20	5	0.5	0	0	0		
Piscataquis	V9R1T7R9R14, T9R15, T10R11,	1	15	0	2	0	. 0	0	•	
Piscataquis	T4RR5,4T4T14, T4R13, T4R12,	1	. 2	2	1	0	0	1		
Piscataquis	TAB11, Chesuncook Twp 5018	1	20	0	0.25	0	0	0		
	T5R19, T5R20, T6R17, T6R18									
Piscataquis/Somerset	T6R16	1	6	0	2	0	0	1	· ·	
SUBTOTAL Piscataquis			287	50	· ·	5	6		17,594	
Sagadahoc	Arrowsic		1	0	1	1	0	· 0		

		Unorg.	Warden E	stimate	Burning					1995
	Civil	Ter. (1)	Barr	els	Frequency	"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	· 07/01/94	expenditure
Sagadahoc	Bath		2	0	0	1	· 0	1	9,533	
Sagadahoc	Bowdoin		50	0	1	0	1	0	2,311	
Sagadahoc	Bowdoinham		6	0	0	. 0	1	0	2,374	
Sagadahoc	Georgetown		2	0	1	0	1	0	898	
Sagadahoc	Phippsburg		30	0	0.5	0	1	0	1,920	84632
Sagadahoc	Richmond		0	0	0	0	1	1	3,086	47731
Sagadahoc	Topsham		35	0	3	0	1	0	9,012	
Sagadahoc	West Bath		12	1	1	1	1	1	1,698	9136
Sagadahoc	Woolwich		2	0	1	0	0	1	2,551	209890
SUBTOTAL Sagadahoc	Enchanted Twp., Johnson Mtn.		140	1		3	7		33,383	
Somerset/Franklin	Comma, Exeter, Newport,	1	0	0	0	0	0	0	63	152762
Somerset	Hartland	1	10	0	0.25	0	0	0		
Somerset	Anson		30	0	2	0	0	1	2,443	
Somerset	Athens		15	0	0.5	0	1	0	902	
Somerset	Bingham		10	2	2	0	1	0	1,197	96963
Somerset	Brighton Plt	1	25	0	1	0	1	0	91	
Somerset	Cambridge		. 80	0	7		1	0	506	190662
Somerset	Canaan		50	0	1	0	0	1	1,822	
Somerset	Caratunk		12	0	1	0	0	1	103	6074
Somerset	Concord		2	0	1	0	1	0		
Somerset	Cornville		30	3	. 0.5	0	1	0	1,006	
Somerset	UO: Dead River Township	1	0	0	0	0	0	1		
Somerset	Dennistown Plt								31	
Somerset	Detroit		20	0	1	1	0	0	807	
Somerset	Embden	•	5	0	1	0	0	1	659	
Somerset	Fairfield		25	2	1	0	0	0	6,888	31000
Somerset	Harmony		80	1	7	0	1	0	854	
Somerset	Hartland		100	0	7	0	1	0	1,866	42314
Somerset	Highland Plt	. 1	9	0	1	0	0	1	35	
Somerset	Jackman		20	3	0	0	1	0	934	
Somerset	Lexington		28	0	1	· 0	0	0		
Somerset	Madison		10	0	1	· 0	0	1	4,753	93198
Somerset	Mercer		35	2	1	0	1	0	602	
Somerset	Moose River		· 0	8	1	0	0	1	225	162236
Somerset	Moscow		10	0	0.25	0	1	0	593	
Somerset	New Portland		15	0	3	0	0	1	785	
Somerset	Norridgewock		3	0		0	1	0	3,235	39732
Somerset	Palmyra		0	0	. 0	1	0	0	1,936	

[		Unorg.	Warden I	Estimate	Burning					1995
	Civil	Ter. (1)	Barı	els	Frequency	"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Somerset	Pittsfield		100	0	1		1	1	4,395	0
Somerset	Pleasant Ridge		0	0	0	1	1	0	90	64694
Somerset	Ripley		40	0	7	0	0	1	444	
Somerset	Skowhegan		60	0	1	0	1	0	9,126	
Somerset	Smithfield		0	12	unknown	0	0	1	884	
Somerset	Solon		30	10	· 1	0	1	1	922	502184
Somerset	St. Albans		50	0	1		0	1	1,782	30430
Somerset	Starks		12	0	1	0	0	0	527	
Somerset	The Forks Plt	1	0	0	0	0	0	1	31	
Somerset	West Forks Plt	1	0	0	0	0	0	1		
Somerset									6,259	12276
SUBTOTAL Somerset			916	43		3	16		56,796	
Waldo	Belfast		100	5	2	0	1	0		
Waldo	Belmont		30	10	1	1	0	1	746	
Waldo	Brooks		0	5	0.5	0	1	0	964	98668
Waldo	Burnham		7	1	2	0	1	0	1,045	
Waldo	Frankfort								1,089	-
Waldo	Freedom		12	1		1	0	1	652	48100
Waldo	Islesboro	2	30	2	1	0	1	0	638	27347
Waldo	Jackson		0	12	0.25	0	1	0	445	
Waldo .	Knox		35	15	1	1	1	0	739	350658
Waldo	Liberty		15	0	5	0	0	1	846	
Waldo	Lincolnville	į	6	0		0	1	0	2,023	21074
Waldo	Monroe		50	0	2	0	1	1	869	
Waldo	Montville		35	0	unknown	0	1	1	967	91973
Waldo	Morrill		10	10	0	1	0	1	727	22566
Waldo	Northport		6	2	1	1	1	1	1,345	
Waldo	Palermo		30	1	1		1	0	1,102	18166
Waldo	Prospect	1	0	0	0	1	0	0	556	
Waldo	Searsmont		20	10	1	0	1	0	1,051	
Waldo	Searsport		30	0	1	0	1	0	2,704	20000
Waldo	Stockton Springs		0	0	0	1	0	1	1,435	14486
Waldo	Swanville		75	10	5	0	1	0	1,199	60316
Waldo	Thorndike		10	0	3	1	0	0	752	
Waldo	Troy								860	
Waldo	Unity		1	0	Business only	0	1	1	1,944	16152
Waldo	Waldo		30	10	1	1	0	0	692	
Waldo	Winterport		0	0	0	0	1	0	3,353	45804
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		Unorg.	Warden H	Estimate	Burning					1995
	Civil	Ter. (1)	Barr	els	Frequency	"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
SUBTOTAL Waldo			532	94		9	16		28,743	
Washington	Addison		0	50	2	0	1	0		
Washington	Alexander		0	30	2	0	0	1	490	
Washington	Baileyville		0	. 0	0	1	1	1	2,070	43052
Washington	Baring	1	0	0	0	1	0	0	285	
Washington	Beals		10	0	2	0	1	0	681	188509
Washington	Beddington		0	0	0	0	0	1	44	·
Washington	Calais		50	0	1	1	1	1	4,127	1
Washington	Centerville		2	0	1	0	1	0	28	
Washington	Charlotte								279	174043
Washington	Cherryfield		0	0		0	1	0	1,207	·
Washington	Codyville Plt	1	15	0	1		1	0	36	0
Washington	Columbia		25	0	· 4	0	1	0	446	69418
Washington	Columbia Falls		20	0	2	0	1	0	558	
Washington	Cooper		6	0	1	0	0	1	123	21353
Washington	Crawford		11	0	3	1	0	1	92	
Washington	Cutler		6	0	1	0	0	1	822	4672
Washington	Danforth		12	0	0.1	0	1	0	714	i
Washington	Deblois		1	0	0.1	0	0	1	72	
Washington	Dennysville		10	0		0	0	0	360	
Washington	East Machias		4	0	1	0	0	1	1,258	5824
Washington	Eastport		10	0	1	Ó	0		1,889	
Washington	UO: Grand Lake Stream Plt	1	0	0	0.1	0	1	0	165	
Washington	Harrington		0	0	0	1	0	1	914	
Washington	UO: Indian Twp Reserve	1	4		2	1	1		636	
Washington	Jonesboro		20	0	1	0	1	0	604	
Washington	Jonesport		50	0	1	0	1	0	1,527	
Washington	Lubec		20	1	1	0	0	1	1,786	
Washington	Machias		33	0	2		1	1	2,672	
Washington	Machiasport		8	0	1	0	0	0	1,182	
Washington	Marshfield		15	0	2		0	0	465	12143
Washington	Meddybemps		2	0	2	0	0	1	135	45000
Washington	Milbridge		0	. 0	0	1	0	0	1,316	5
Washington	Northfield		0	0	0	0	0	0	93	
Washington	Pembroke		35	0	1	0	0	1	833	6
Washington	Реггу		20	0	1	0	0	0	780	
Washington	Pleasant Pt Res.								570	33000
Washington	Princeton		0	0	0		1	0	1,048	28402

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	Civil	Ter. (1)	Bar	rels	Frequency	"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
Washington	Robbinston		4	0	2	0	0	1	505	42146
Washington	Roque Bluffs		12	0	2		1	0	228	
Washington	Steuben		0	0	0		· 0	1	1,126	
Washington	Talmadge		0	0	. 0	1	0	1	60	
Washington	ForestieBrookton,Codyville, No		3	0	0.25	0	1	1	239	42647
Washington	21 &Fowler Twps.,	1	50	2	1	0	1	0		
Washington	Vanceboro		10	2	0.1		1	0	188	22130
Washington	Waite		0	0	0	1	0	1	122	
Washington	Wesley		0	0	. 0	1	0	0	145	23000
Washington	Whiting		0	0	0	1	0	0	408	
Washington	Whitneyville								243	
Washington	UO: Twp. 18 & 19 MD	1	3	0	7	0	. 0	0		
Washington	UO: Eunardis Martion, Trescott	1	0	0	· 0	0	0	1		· .
Washington	DopsT18ED, T19ED, T25MD,	1	0	0	0	1	0	0		
Washington	T31MD, T14ED	1	20	0	1	0	1	0		
SUBTOTAL Washington			491	85		11	20		33,571	ul
York	Acton		0	0	0		1	0	· · · · · · · · · · · · · · · · · · ·	
York	Alfred		· 6	0	1	0	1	0	2,350	
York	Arundel		200	3	0.25	0	1	0	2,738	175513
York	Berwick		2	0	0.25	0	1	0	6,407	123805
York	Biddeford		25	3	0.5	1	0	0	20,341	46646
York	Buxton		0	0	0	1	1	1	6,876	302516
York	Cornish		10	1	1	1	0	0	1,193	
York	Dayton		2	0	1	1	0	1	1,318	
York	Eliot		0	0	0	0	1	0	5,317	
York	Hollis		.0	0	0	1	0	1	3,641	
York	Kennebunk		0	. 0	0	1	1	0	9,053	191476
York	Kennebunkport		0	0	0	1	1	1	3,348	207503
York	Kittery		0	0	0	1	1	1	9,406	
York	Lebanon		0	0	. 0	0	1	0	4,438	
York	Limerick		2	0	0.25	1	1	1	1,755	559439
York	Limington		10	0	0.25	1	1	1	2,842	
York	Lyman		41	0	2	0	1	1	3,406	
York	Newfield		0	0	0	0	1	1	1,057	140523
York	North Berwick		6	0	0	0	1	0	3,917	
York	Ogunquit		0	0	0	0	1	0	934	
York	Old Orchard Beach		0	0	0	1	1	1	7,861	168049
York	Parsonsfield		2	0	1	1	0	1	1,467	580995

		Unorg.	Warden	Warden Estimate						1995
	Civil	Ter. (1)	Bar	Barrels		"MTCS"	Transfer		Population	Solid waste
County	Division	Island (2)	open	closed	(per week)	(prohibited)	Station	Other	07/01/94	expenditure
York	Saco		0	0	0	1	1	1	15,602	
York	Sanford		0	0	0	1	1	1	20,279	122268
York	Shapleigh		0	0	0	0	1	0	2,051	710851
York	South Berwick		0	0	0	0	1	0	6,389	1068524
York	Waterboro		0	0	0	0	1	0	5,062	143792
York	Wells		4	0	1	0	1	0	7,728	178569
York	York		0	0	0	1	1	0	10,036	
SUBTOTAL York			310	7		15	24		166,812	544069
STATE TOTALS			7,889	621		130	283		1,228,301	1368765
Sources: 1990 Population from d	ecennial U.S. Census, 1994 Popula	<u>tion Estimated</u>	by Maine Depa	rtment of Hum	an Services,					
Bureau of Health, Office of Data,	Research and Vital Statistics									
1997 Dept. of Conservation Fores	st Fire Div. Survey of Local fire Wa	<u>rdens</u>								
Maine Municipal Association Sol	lid Waste Expenditure Data									



ANGUS S. KING, JR.

STATE OF MAINE DEPARTMENT OF CONSERVATION 22 STATE HOUSE STATION AUGUSTA, MAINE 04333-0022

RONALD B. LOVAGLIO

DATE: November 14, 1997 T0 : All Towns FROM: Tom Parent, State Supervisor Forest Fire Control SUBJ.: Law Changes Affecting Open Burning

There were a number of new laws that were enacted during the past legislative session which directly affect statewide open burning activities. Enclosed with this letter is a brochure that summarizes changes to open burning statutes. Forest Rangers will be providing the Town Forest Fire Warden with many more copies of the brochure as a supplement to the incinerator burning permits that are issued in your town.

Earlier this summer, survey data was collected to assess the extent of incinerator use in each municipality. Based on this survey, we have attached a list of municipalities that we believe have a tax supported trash collection service under the new definition described below. If your town is on this list, it means that no incinerator permits can be issued within your town. If you believe that our determination is in error, or if you have specific questions about how the law applies to your town, please contact your local Forest Ranger or call the state Forest Fire Control office at 287-4990.

Following is a recap and further clarification of the key points of the new laws and how these changes will affect the issuance of burning permits:

1) The type of outdoor incinerators which require a fire permit is expanded. Fire permits are now required for stove like or fully enclosed incinerators which have a stack or stove pipe, in addition to the regular barrel or open type incinerators. The fire safety standards used for inspecting and approving incinerators now apply to all incinerators, open or enclosed. Residential incinerators larger than 15 cubic feet (about 120 gallons) require a DEP air emission license in addition to a fire permit.

2) Only towns that do not have a municipal trash collection service are allowed to issue fire permits for incinerators. An exception exists for towns that have a municipal trash collection service where there are no provisions for accepting or recycling legally burnable materials as described in item #3 below.

3) Items which can be burned in incinerators are limited to leaves, grass, wood, paper, cardboard and other wood products. The previous statute allowed the burning of up to 10% by volume of man made products. Such materials are no longer legal to burn in incinerators.

4) The definition of a trash collection service has been expanded. A town is deemed to have a trash collection service if the town

- a) provides a municipally operated or contracted door to door trash collection service or
- b) has contracted for door to door trash collection on behalf of its residents, even if no tax dollars are being used to pay for the service or
- c) has an ordinance which requires door to door trash collection by individuals.

5) For the issuance of incinerator permits, the new law authorizes consideration of a person's prior convictions of incinerator use laws. If there is knowledge that an individual has been convicted of violating laws relating to the use of incinerators, we are not required to issue a fire permit, even if permits are being issued to others.

6) Municipal code enforcement officers now have the right to enforce the open burning statutes. This provision of the law is limited, since code enforcement officers can not usually bring a party to a district or superior court. Code enforcement officers, however, can participate in the immediate handling of a law enforcement situation and Forest Rangers or other law enforcement officers can do the follow-up work through the court.

These laws became effective Sept. 19, 1997. However, with the enactment of any new law of this type, there needs to be a transition period for educating the general public and implementing new procedures. It is our intent to use the remainder of 1997 as a transition period. Full enforcement of the law changes will take place starting January of 1998. In this way, you will not have to rescind or modify existing incinerator permits, some of which may be good until the end of the year. If you have any questions or specific needs, please do not hesitate to contact your local Forest Ranger, our state office at 287-4990 or the DEP Air Quality Bureau office at 287-2437.

Towns With Municipal Trash Collection

County	Civil Division	Barre	els		County	Civil Division	Barrels	
		open	closed				open	closed
Androscoggin	Durham	100	12		Penobscot	Kingman	0	0
Androscoggin	Lewiston	0	0		Penobscot	Lagrange	0	0
Aroostook	Bancroft	0	0		Penobscot	Levant	1	1
Aroostook	Cary Plt	0	0		Penobscot	Mattawamkeag	2	0
Aroostook	Glenwood Plt	0	0		Penobscot	Maxfield	0	0
Aroostook	Haynesville	0	0		Penobscot	Millinocket	0	0
Aroostook	Houlton	0	0		Penobscot	Mt. Chase	0	0
Aroostook	Macwahoc Plt	0	0		Penobscot	Newburgh	0	0
Aroostook	Nashville Plt	0	0		Penobscot	Old Town	0	0
Aroostook	Reed Plt	0	0		Penobscot	Orrington	0	0
Aroostook	Washburn	15	0		Penobscot	Passadumkeag	0	0
Cumberland	Brunswick	1	0		Penobscot	Plymouth	0	0
Cumberland	Cumberland		0		Penobscot	Seboeis Plt	3	0
Cumberland	Falmouth	0	0		Penobscot	Springfield	0	0
Cumberland	Freeport	15	2		Penobscot	Veazie	0	0
Cumberland	Long Island		0		Penohscot	Winn	2	0
Cumberland	North Yarmouth		0		Penobscot	Indian Isl. Reserve		0
Cumberland	Portland		0		Piscataquis	Brownville	- 0	0
Cumberland	Poural	6			Discataquis	Greenville	12	0
Cumberland	Doumond	- 0			Diseataquis	Cuilford	12	0
Cumberland	Raymond	8			Piscataquis	Guinoru		4
Cumberland	Scarborough	0	0		Piscataquis	Mediord	4	0
Cumberland	South Portland	0	0		Piscataquis	Milo	12	0
Cumberland	Westbrook	0	0		Sagadahoc	Arrowsic	1	0
Franklin	Chesterville	50	0		Sagadahoc	Bath	2	0
Franklin	Jay	2	0		Sagadahoc	West Bath	12	1
Franklin	New Sharon	30	30		Somerset	Detroit	20	0
Franklin	Temple	0	3		Somerset	Palmyra	0	0
Hancock	Amhearst	6	0		Somerset	Pleasant Ridge	0	0
Hancock	Aurora	0	0		Waldo	Belmont	30	10
Hancock	Castine	• 0	0		Waldo	Freedom	12	1
Hancock	Dedham	0	0		Waldo	Knox	35	15
Hancock	Ellsworth			İ	Waldo	Morrill	10	10
Hancock	Gouldsboro	0	0		Waldo	Northport	6	2
Hancock	Great Pond		0		Waldo	Prospect	0	0
Hancock	Hancock	0	0		Waldo	Stockton Springs	0	0
Hancock	Mount Desert		0		Waldo	Thorndike	10	0
Hancock	Osborn				Waldo	Waldo	30	10
Hancock	Sorrento		0		Washington	Indian Township	4	0
Hancock	Waltham				Washington	Railevville	<u> </u>	0
Vennebec	Albion			<u> </u>	Washington	Baring		0
Vannehec	Augusto	<u>ار ا</u>			Washington	Calais	50	0
Kennebee	Augusta	<u> </u>			Washington	Catals	11	0
Kennebec	Vienna	<u>ا</u> ب ا	0		Washington	Crawioru		0
Kennebec	Waterville		<u> </u>		Washington	Harrington	<u> </u>	0
Oxtora	Mexico	20			Washington	Milbridge	<u> </u>	0
Oxford	Roxbury	10	0		Washington	Talmadge	0	0
Oxford	Rumford	0	0		Washington	Waite	0	0
Oxford	Sweden	4	2		Washington	Wesley	0	0
Penobscot	Alton	0	0		Washington	Whiting	0	0
Penobscot	Bangor	0	0		Washington	Indian Twp Reserve	4	
Penobscot	Bradley	0	0		York	Biddeford	25	3
Penobscot	Brewer	0	0		York	Buxton	0	0
Penobscot	Carmel	0	0		York	Cornish	10	1
Penobscot	Carroll Plt	0	0		York	Dayton	2	0
Penobscot	Chester	0	0		York	Hollis	0	0
Penobscot	Clifton	0	0	1	York	Kennebunk	0	0
Penobscot	East Millinockett		0		York	Kennebunkport	0	0
Penobscot	Eddington			l	Vork	Kitterv		0
Penobscot	Fdinhurg				Vork	Limerick	$\frac{1}{2}$	- 0
Penahscot	Enfield				Vork	1 imington	10	Ŭ 0
Danabecot	Etna				Vork	Old Orchard Beach	10	
Denebreet	Glanhum	<u> </u>			Vork	Did Orchaid Deach		
Periodscot	Greenburn		0		Verl	Parsonstielu	- 4	0
Penobscoi	Greenbush	<u> </u>			Y огк	Saco	<u> </u>	0
Penobscol	Hermon		<u> </u>	<b>}_</b>	Y ОГК	Santoro	<u> </u>	<u> </u>
Penobscot	Holden	0	0		YORK	YORK	0	0
Penobscot	Kenduskeag	1 3	0	1	1	1		

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Towns with	Ordinances	Prohibiting	Backyard	Burning
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		Warden	Estimate	Burning	
	Civil	Bar	rels	Frequency	"MTCS"
County	Division	open	closed	ER WEE	prohibited
Aroostook	Nashville Plt	0	0	0	1
Aroostook	Presque Isle	0	0	. 0	0
Aroostook	Stockholm	0	0	0	0
Aroostook	Van Buren	300	. 0	0	0
Cumberland	Bridgton	65	1	. 1	0
Cumberland	Cape Elizabeth	0	· 1	0.1	0
Cumberland	Casco	0	0	.0	0
Cumberland	Cumberland	0	0	0	1
Cumberland	Falmouth	0	0	0	. 1
Cumberland	Freeport	15	2	1	1
Cumberland	Gray	10	1	1	0
Cumberland	Harrison	10	0	0.5	0
Cumberland	North Yarmouth	0	0	0	1
Cumberland	Portland	0	0	0	1
Cumberland	Pownal	6	0	1	1
Cumberland	Scarborough	0	0	0	1
Cumberland	South Portland	0	0	0	1
Cumberland	Windham	40	0	2	0
Cumberland	Yarmouth	0	0	0	0
Franklin	Jay	2	0	0	1
Franklin	Strong (N.Freeman)	100	0	1	0
Franklin	Wilton	0	0	0	0
Kennebec	Mt. Vernon	0	1	0.25	0
Kennebec	Readfield	0	0	0	0
Kennebec	Windsor	0	0	0	0
Lincoln	Westport	0	0	0	0
Oxford	Otisfield	0	0	0	0
Penobscot	Old Town	0	0	0	1
Penobscot	Orrington	0	0	0	1
Sagadahoc	Arrowsic	1	0	1	1
York	Hollis	0	0	0	1
York	Limington	10	0	0.25	1
York	Lyman	41	0	2	0
York	Newfield	0	0	. 0	0
York	Ogunquit	0	0	0	0
York	Waterboro	0	0	0	0

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
Androscoggin	Auburn			1	incinerators should not be allowed where municipal pick-up is available
			Econ./cult./		
Androscoggin	Durham		inconvenient	0	Would like to see incinerators banned.
Androscoggin	Greene		Inconv.	0	w/regard to air qal. incin should be done away w/.
Androscoggin	Leeds		eco/cultural/ inconv	0	we've had no problems
Androscoggin	Lewiston	L		0	
			habit/cultural/		Impose further restrictions on open burning: telephone before & after; limit to certain times of day;
Androscoggin	Lisbon		inconv	1	w/ consideration to local situations & conditions.
Androscoggin	Livermore		cultural/inconv	1	promote recycling, not burning.
					In the town of Lisbon Falls, incinerators have been a pain in the butt since separating of trash was
w.					established. We have several 55 gal drums being operated from time to time that do not meet code,
Androscoggin	Livermore Falls		cult/inconv	0	and most in hidden areas.
Androscoggin	Mechanic Falls		eco/cultural	1	
Androscoggin	Minot		eco/inconv	0	No complaints to date.
Androscoggin	Poland		inconv	1	Incinerators should be banned; the odors are offensive.
					Incinerators should be banned. They are hard to regulate especially the type of materials being
Androscoggin	Sabattus		habit/inconv	1	burned.
Androscoggin	Turner		eco/inconv	0	There are too many rules and regulations concerning trash pickup and disposing of as it is.
Androscoggin	Wales		inconvenience	1	ban incin. burning.
Aroostook	Allagash		cultural/habit	0	0
Aroostook	Amity		economic	1	0
Aroostook	Ashland		Inconvenience	0	There are far more complaints on residential incinerators than on incinerators used by a business.
Aroostook	Bancroft		0	1	0
Aroostook	Blaine		eco/habit	0	0
					Do away with the stinking polluting sickening undesirable hum barrels. A state id needed, so town
Aroostook	Bridgewater		eco/inconv/ habit	0	wardens will not get persecuted trying to enact and enforce the above mentioned desire.
			incon/wood & paper		Incinerators are used illegally, but hate to see people lose there rights. Permits should be issued after
Aroostook	Caribou		only	1	inspection hands on only.
		······································			It is unfair to regulate incinerators in towns with tax funded garbage collection and not in towns
					where individuals pay to have it disposed of. The cost remains the same for the disposal in one way
Aroostook	Cary Plt	1	economic	0	or the other.
Aroostook	Castle Hill			0	0
Aroostook	Caswell	· ·	inconv/econ	1	. 0
Aroostook	Chapman			0	0
Aroostook/Piscataguis/	T12R15.	·····			
Somerset (15)	T13R12	1	Inconvenience	1	I think incinerators back here are a good idea. However I am finding non-burnables being burned.

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
					Incinerators are used illegally but hate to see people lose there rights. Permit should be issued after
Aroostook	Connor		economic/habit	1	inspection hands on only.
			economic/habit/inco		
Aroostook	Crystal		n <b>v</b>	0	Does not want to see incinerators banned.
Aroostook	<b>CyRP</b> , T7R18,	1	economic	0	We have few incinerators being used, I feel we have enough law abide by.
Aroostook/Som	T7R17, T7R16	1	Cultural/inconv	1	0
Aroostook	Dyer Brook		Economic	0	0
Aroostook	Eagle Lake		Inconvenience	0	We noticed we are receiving more complaints on nuisance fires.
			Economic/		
Aroostook	Easton		inconv/habit	0	0
·					
Aroostook	Eiqlatation		Econ/ Inconv/ habit	0	0
Aroostook	Fort Fairfield		Econ/Inconv	0	
Aroostook	Fort Kent		Cultural/habits	0	0
Aroostook	Frenchville		Inconv	1	0
					Citizens deserve the right to burn the appropriate materials, such as paper and cardboard. There are
Aroostook	Garfield Plt	1	Inconv	0	enough laws and regulations now.
Aroostook	Glenwood Plt	. 1	- 0	0	0
			Econ/T.S.		
Aroostook	Grand Isle		temporarily closed	0	Let the decision be made at the local level and not by bureaucrats, we're fine as we are.
Aroostook	Hamlin		Habits	0	0
Aroostook	Hammond	-	0	0	0
Aroostook	Haynesville		0	0	0
Aroostook	Hersey		econ./incon	0	0
Aroostook	Hodgdon		Economic	1	0
Aroostook	Houlton			1	0
Aroostook	Island Falls		Economic/inconv	0	0
					No household trash to be burned. All incinerators should be outlawed. Incinerators are a non-stop
Aroostook	Limestone		Habits	1	problem,,, burning illegal more hassle than it's worth.
Aroostook	Linneus		Economic	0	0
Aroostook	Littleton	-	Econ/inconv	0	ban it totally.
Aroostook	Ludlow		Economic	0	0.
Aroostook	Macwahoc Plt	1	0	0	. 0
Aroostook	Madawaska		Habits	1	0
Aroostook	Mapleton		0	0	. 0
Aroostook	Mars Hill		Economic/incon	1	0
			Economic/habit/inco		
Aroostook	Masardis	2	nv	0	0
Aroostook	Merrill		Inconv	1	0

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
			Economic/Inconv/ha		
Aroostook	Monticello		bit	0	0
Aroostook	Moro Plt		habit	1	0
			no burn barrels		
Aroostook	Nashville Plt		allowed	0	0
Aroostook	New Canada		habit, inconvenience	0	no problems w/ incin.
			Economic/		
Aroostook	New Limerick		habits/inconv	0	0
Aroostook	New Sweden		Habits	1	0
Aroostook	Oakfield		Economic	0	I think that Forestry should not be in law enforcement.
			Cleaning around		
Aroostook	Orient		yard	0	Satisfied w/ permit
			Economic/habit/redu		
		•	ces amount to		
Aroostook	Oxbow Plt	I	transfer station	0	<u> </u>
Aroostook	Perham		0	1	0
Aroostook	Portage Lake			0	
Aroostook	Presque Isle		0	0	Fire chief doesn't issue any incinerator permits in Pl
Aroostook	Reed Plt	1	0	0	Town has a tax supported garbage collection.
Aroostook	Sherman Mills		inconvenient	0	0
Aroostook	Smyrna		Economic/ inconv	1	
Aroostook	St. Agatha		Economic	1	Ban incinerators completely, recycle more.
			Cultural/habit/ TS		
Aroostook	St. Francis		closed	0	0
Aroostook	St. John Plt	1	Cultural/habit	0	0
Aroostook	Stockholm		0	0	Town warden does not issue permits for incinerators
Aroostook	Van Buren	· .	Economic/ Cultural	0	We passed a new law as of 6/1/97. No more incinerators in Van Buren.
Aroostook	Wade		Economic/habit	1	0
Aroostook	Wallagrass Plt	1	0	0	Town doesn't allow burn barrels
Aroostook	Washburn		Inconv/ fireplace	1	Do not believe it is really working with restrictions in place.
			Economic habit		
Aroostook	Westfield		inconven	0	0
Aroostook	Westmanland		Inconvenience	0	0
Aroostook	Weston		Yard clean-up	0	Satisfied w/ permit
Aroostook	Winterville Plt	1	Habits/Inconv	0	. 0
Aroostook	Woodland		Economic/habit	1	. 0
Aroostook	UO: T16R4	1	Inconv/econ	1	Most residents pay for private collection. No complaints. Eliminate barrels.
Aroostook	UO: T16R5	1	0	0	Square Lake camp owners pay for private collection or take trash home.

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
Aroostook	UO: T17R3	1	Economic/ inconv.		New Brunswick camp owners burn trash@ VanBuren b/c customs will not let trash in Canada. Complaints common. Eliminate barrels.
			Economic/habit/inco		
Aroostook	UO: T17R4	1	nv.	1	We issue permits, explain what can be burned but continue to receive complaints. Eliminate barrels
			Economic/ Habits/		
Aroostook	VQRT17R5	1	inconv	1	Few complaints, over the years rural community, eliminate burn barrels to cut down on pollutants.
	T11R10, T11R9,				In unorganized towns this is sometimes the only option, especially for logging camps and sporting
Aroostook	T13R8, T16R8,	1	Inconv	0	camps.
Aroostook	<b>U6</b> R <b>f</b> 13R5,	1	Habits	0	0
Aroostook	T14R53T15R5	1	Habits	1	0
	T19R12,				
Aroostook	T12R16.	1	Economic/ distance	0	. 0
	T13R16,				
Aroostook	TiR8148R7.5.	1	Economic/ distance	0	0
Aroostook/Penobscot/Pis	T8R6.25, Oxbow		Economic/		
cataquis	P#0R4, T11R4,	1	inconvenience	0	0
Aroostook	Squary, Panrihyp.	1	0	0	0
Aroostook	half of T14R5	1	. 0	0	0
Cumberland	Baldwin		Cultural/Inconv	1	Recycling center is located in one of the stores in town to take papers, etc. it is owned by the 3 towns.
Cumberland	Bridgton		Cultural/Inconv	1	Town charges for building demolition.
Cumberland	Brunswick		habits	0	Ban incinerators
Cumberland	Cape Elizabeth		Economic	1	0
Cumberland	Casco		· 0	0	Transfer station takes care of most trash
Cumberland	Cumberland		Cultural/Inconv	1	0
Cumberland	Falmouth		Cultural/Habit	. 1	0
Cumberland	Freeport		Habits	0	Would prefer not to have incinerators at all in town.
Cumberland	Gorham		Economic/ Inconv	1	0
Cumberland	Gray		Habits	0	Incinerators are difficult to regulate.
Cumberland	Harpswell	:	Ecos/Inconv	0	·· 0
Cumberland	Harrison		Cultural/Inconv	1	· 0
Cumberland	Long Island		Habit/Inconv	1	0
Cumberland	Naples		Cultural/Inconv	1	Dump will take leaves, brush, etc. in the Bulky Waste site.
Cumberland	New Gloucester		Inconv	1	0
Cumberland	North Yarmouth		0	0	Incinerators create a nuisance, and they create offensive odors.
Cumberland	Portland		Cultural/habit	1	0
Cumberland	Pownal		Reduce paper/ cardboard that is set out at curb.	1	0

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	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
Cumberland	Raymond		Cultural/habit	0	Increase funding to hire additional forest rangers for stricter enforcement and better coverage.
Cumberland	Scarborough		0	1	Do not want any incinerators
	0.1				The station will not take Darch James Term deep house his making with illegal downing
Cumberland	Sebago			1	Transfer station will not take Brush, leaves. Town does have a big problem with filegal dumping.
Cumberland	South Portland		Economic		
Cumberland	Standish		0		
Cumberland	Westbrook		Cultural/Habit	<u> </u>	Not in favor of any incinerators at all.
Cumberland	Windham		Economic/Habit	0	People are not reliable as to what they burn in the barrel.
Cumberland	Yarmouth		· 0	0	Yarmouth has a town ordinance that prohibits incinerators.
Franklin	Avon		Habit/Inconv	0	
Franklin	Carthbassett		Habit/Inconv	1	People live too far from dump
Franklin	Valley		0	0	Open burning of trash in incinerators should be banned in organized towns.
Franklin	Chesterville		Inconvenience	1	
Franklin	Coplin Plt	1	0	1	
Franklin	Dallas Plt	1	Inconvenience	0	
Franklin	Eustis		Inconvenience	1	
Franklin	Farmington		Economic/ Inconv	0	People still need to be educated as to what can be burned.
Franklin	Freeman		Recycle	1	
Franklin	Industry		Economic/ Inconv	1	Prevailing winds towards neighbors even over 100".
Franklin	Jay		Habits	0	Town of Jay has banned all incinerators.
Franklin	Kingfield		Inconvenience	0	Only allow in areas of no trash collection or transfer site available.
Franklin	Madrid		Economic/Inconv	0	
			Economic/Inconv/ha		
Franklin	New Sharon		bit	l o	Wind will carry smoke regardless of setback
Franklin	New Vinevard		Inconvenience	1	· · · · · · · · · · · · · · · · · · ·
Franklin	Perkin Twp	1	0	1	
Franklin	Phillips		Inconvenience		
			Cultural/habit/		
Franklin	Rangelev		Inconvenience	0	Would be in favor of doing away with incinerators in residential areas.
			Cultural/habits/Inco		
Franklin	Rangeley Plf	1	nven	1	
			habita/		
Franklin	Salem		Inconvenience	1	Would like to see them banned.
Franklin	Sandy River Pit	1	Economic/ Inconven	0	
Franklin	Stetsontown	1	Habit/Inconven	0	
Franklin	(N.Freeman)		Economic/ Inconv	1	Banned in towns the size of Strong
Franklin	DempWashington		Habits	0	All incinerators should be banned statewide.
Franklin	Twn	1	0	1	
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	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
Franklin	Weld		Inconvenience	0	Incinerators are a viable alternative to trash disposal in rural areas.
Franklin	WilterMt. Abrm.		Inconvenience	0	Wilton voted to stop the incinerators. No more burning in a barrel.
Franklin	Forpts, King &	1	Inconvenience	0	0
Franklin	BanklowhTwps.	1	Inconvenience	1	0
Franklin/Somerset	Academy	1	Economic/ Inconv	0	0
Hancock	Amhearst		Habit/Inconv	0	0
Hancock	Aurora		0	. 0	Should prohibit the use of incinerators.
Hancock	Bar Harbor		0	0	More problems in rural areas. Just as soon do away with in big town like this
Hancock	Blue Hill		Habits/inconv.	0	burn oil, fishnets, etc.
100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100			Economic/habit/inco		
Hancock	Brooklin		n	0	Fishing gear, nets are a big problem. Make recycling more attractive.
Hancock	Brooksville		Economic /Inconv	0	
					I don't think they should be allowed. People burn most anything in them. Get people to compost
Hancock	Bucksport		Habits	· 1	more.
Hancock	Castine		0	0	0
Hancock	Cranberry Isles	2	Economic/habit	0	Hard to do differently on an island.
Hancock	Dedham		0	0	0
					Most incinerators in town are out back of someone's house all without a permit, we don't ever know
Hancock	Deer Isle	2	Economic/Habits	0	about them.
Hancock	Eastbrook		Habits	1	0
Hancock	Ellsworth		0	0	May be 6 hidden incin.
Hancock	Franklin		habit, inconvenience		
			no other options on		
Hancock	Frenchboro	2	an island	0	Need a way to get trash off - Need an additional ferry or round trip ferry.
Hancock	Gouldsboro		0	0	Don't want burn barrels or incinerators in the town of Gouldsboro Maine.
Hancock	Great Pond		0	0	
			Economic/ Inconv/		
Hancock	Hancock		privacy	1	0
Hancock	Lamoine		Inconvenience	0	
Hancock	Mariaville		Inconvenience		People burn garbage, not just paper & twigs
Hancock	Mount Desert	2	Ö	0	I think incinerators should cease to exist. They serve no good purpose. Nuisance.
Hancock	Orland		0	0	0
Hancock	Osborn		0	- 1	0
Hancock	Otis		0	0	0
Hancock	Penobscot		Cultural/Habits/fun	0	People burn stuff they shouldn't. Incinerators are a nuisance
			Economic/		They are a problem People throw stuff anywhere. Should be able to dispose of tires, etc @ TS. Old
Hancock	Sedgwick		Habits/Incon	I	furniture a problem.
Hancock	Sorrento		0	0	0

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
	Southwest		Economic/		
Hancock	Harbor		Inconv/scrap wood	0	Limit what they can burn, no plastic. We need alternative way to get rid of. Don't allow.
Hancock	Stonington		Cultural/Habits	0	My income as town warden should go up. Need to do something about tires.
			Economic/		Setback better to be near residence because people sometimes do not pay close attention to the barrel:
Hancock	Sullivan		Habits/"Way of life"	0	someone may see fire sooner if closer.
			Inconvenience/Habit		
Hancock	Surry		s	0	Tires and furniture one big problem.
			People hum in		
			stoves or firenlaces		
Hancock	Swans Island	,	& at dump	0	0
Hancock	Tremont		Economic/ Inconv	1	We have a lot of unique people and situations. People love to hum in hot dry weather
Hancock	Trenton		Economic/Inconv	1	Everything fine don't hug me
Thereover	LIO: Turn 16.0		Economic/aut of		Hencock County, is responsible for some of this area and contracts with different track removal
Hancock	10. 1 wp 10, 9,		staters	0	companies. Other ares are private pick-up
Hancock			Uabita	0	
Hancock	Verona			0	
Hancock	Waltham				
Hancock	Winter Harbor		Economia	0	
Hancock	Winter Harbor		Economic	1	
Напсоск	UO: towns				
					There is confusion with the public on whether an incinerator permit is needed, how & what to burn,
Kennebec	Albion		Economic/ Inconv		where you can get a permit.
Kennebec	Augusta		Economic	0	
Kennebec	Belgrade		Inconv/ Economic	<u> </u>	
Kennebec	Benton		Inconvenience	1	0
Kennebec	Chelsea		Eco/ Inconvenience	0	0
Kennebec	China		Habits	0	Would like to see incinerators done away with.
Kennebec	Clinton		Small camp fires	1	0
Kennebec	Farmingdale		Eco/Habits	1	0
			Economic/		
Kennebec	Fayette		Cultural/Inconv	0	economically favorable to citizens to keep incinerators under direction of fire chief/town warden
Kennebec	Gardiner		Economic	1	Incinerators should be banned.
Kennebec	Hallowell		Economic	0	I feel no burning should be allowed.
Kennebec	Litchfield		Habits	0	0
Kennebec	Manchester		Eco/Cultural	1	0
Kennebec	Monmouth		habits	1	Need a law to stop incinerator burning.

	Civil	Unorg. (1)	Comments	Setback	Comments
. County	Division	Island (2)	(WHY?)	Desirable?	(General)
			construction	-	
Kennebec	Mt. Vernon		material	0	incin. not allowed, contractor an exception
Kennebec	Oakland		Cultural/Habits	1	Would like to see all incinerators done away with.
			Habits/		
		-	Inconvenient/ "Need		no complaints from neighbors; have had a few fires due to incinerators - would like to see things stay
Kennebec	Pittston		to burn"	1	the same in my town.
					People use wood stoves and fireplaces more and more, also need to do something about the enclosed
Kennebec	Randolph	<u> </u>	Economic/ Habits	1	type incinerators. The town wardens need more help and power enforcing the laws.
					I do not permit incinerators. When I find them I demand they be shut down, none of the assistant
Kennebec	Readfield		Cultural/Habits	1	wardens write permits for them.
Kennebec	Rome		Inconvenience	1	·0
Kennebec	Sidney		Economic	0	0
Kennebec	Vassalboro		Habits/ Inconvenient	1	0
Kennebec	Vienna		0	0	0
Kennebec	Waterville		Habits	0	Restrict barrel use.
Kennebec	Wayne		Cultural/habits	0	0
Kennebec	West Gardiner		Habits	1	0
Kennebec	Windsor		Economic	0	Winsor has banned incin. Most towns are charging per bag fees for trash.
Kennebec	Winslow		0	0	0
Kennebec	Winthrop		Cultural/Habits	1	A standard commercial made incinerator.
Knox	Appleton		Economic /Inconv	1	I think at this time we are over regulated and also under staffed for enforcement
Knox	Camden		Inconvenience	1	0
Knox	Cushing		Economic	0	0
Knox	Friendship		Eco/Inconv	0	, 0
Knox	Hope		Eco/Inconv	1	\$1.00 vehicle sticker for 1 year to dump at transfer station.
Knox	Isle Au Haut				
	Matinicus Isle		Eco/Cultural/		
Knox	Plt	2	Inconv	0	0
					When town landfill is closed in fall 1997- people may have to start paying per bag disposal fees, if
Knox	North Haven		Habit/Inconv	0	this happens, incinerator numbers will probable rise
					I would just as soon see no incinerators used because I frequently have complaints about smell and
Knox	Owls Head		Cultural/inconv	1	types of materials burned not controllable
			Economic/Save		
Knox	Rockland		quarry space.	1	0
			Cultural/Habit/		
Knox	Rockport		Inconv	0	0
			Economic/ Inconv/		
Knox	St. George		privacy	1	. 0

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
Knox	S. Thomaston		Economic	1	0
Knox	Thomaston		Cultural/Habits	0	0
					Sometimes what people burn can be smelled for more than 100 feet. Health concerns - people don't
			Economic/Cult/		know or refuse to obey laws on what they can and can't burn (ie plastic milk jugs, cardboard with
Knox	Union		Inconv	1	plastic coating, etc)
Knox	Vinalhaven	2	Economic/ Habits	0	The closer people burn to a residence, the more apt they are to monitor the fire.
				•	Setbacks would be a fire safety addition in the rural areas, but would be a restriction in the village
Knox	Warren		Economic	0	areas where buildings are closer.
Knox	Washington		Economic/ Inconv	0	Make the public aware of what they cannot burn.
Lincoln	Alna		Inconvenient	1	. 0
Lincoln	Boothbay		Habits	1	0
Lincoln	Boothbay Harbor		0	0	0
Lincoln	Bremen		Inconvenient	. 0	After giving a permit out, after a while they would be in bad shape, it was hard to keep up with.
Lincoln	Bristol		Inconvenient	1	Wish the state would do away with allowing incinerators.
Lincoln	Damariscotta		Habits	0	0
Lincoln	Dresden		Economic/Habits	0	. 0
					Our incinerators are mostly elderly with no transportation, cannot afford trash pick-up by commercial
Lincoln	Edgecomb		Economic/Inconv	1	hauler.
			Economic/		
Lincoln	Hibberts Gore		Habits/Inconv	1	0
Lincoln	Jefferson		Economic /Inconv	1	0
Lincoln	Monhegan Plt	12	Economic	1	Because of the extreme expense of sending the trash off the island
Lincoln	Newcastle		Habits/Inconv	1	All incinerators in back yards should be discontinued.
Lincoln	Nobleboro		Habits	0	0
Lincoln	Somerville		Economic/ Habits	0	0
			Economic/ Cultural/		х.
			Habits/		
Lincoln	South Bristol		Inconvenience	0	0
Lincoln	Southport		Inconvenience	1	Neighbor complaints because of smell is the biggest problem.
Lincoln	Waldoboro		inconvenience	0	The further from the residence, the less that people would monitor the fire.
Lincoln	Westport		Ö	0	Chief does not issue permits.
Lincoln	Whitefield		Economic/ Inconv	1	There are incinerators around that don't have permits. Takes too long to answer a complaint at night.
Lincoln	Wier Sartsuptic,		Habits	1	0
Oxford	Bichardstowp. C.,	1	habit/Inconv	0	0
	C. Surplus,				Barrel burning has generated too many complaints in organized towns and should be eliminated, or
Oxford	<b>Coft</b> ottbany	1	0	1	limited to rural towns where transfer station access is difficult.
Oxford	Тwp	1	Economic/ Habits	1	0
Oxford	Andover		Habits/Inconv	0	Should go away due to the products people are burning.
	Civil	Unorg. (1)	Comments	Setback	Comments
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County	Batc Rixleion	Island (2)	(WHY?)	Desirable?	(General)
Oxford	Grant		0	0	0
Oxford	Bethel		habit/Inconv	0	0
Oxford	Brownfield		Cultural/Inconv	1	0
			trying to save tax		Need to have people more aware of the laws, and need to address the issueof people of burning
Oxford	Buckfield		dollars	1	without a permit.
Oxford	Byron		Cultural/Habits	0	0
					The strict disposal regulations that are already in place are influencing people to do more back yard
Oxford	Canton		Inconvenience	1	burning.
Oxford	Denmark		Cultural/Inconv	1	Town charges for demolition debris.
Oxford	Dixfield		Inconvenience.	1	Amount of uncombusted material escaping barrels. Inspections are not always done.
			Cultural/ get rid of		
			material TS won't		Transfer Station takes brush & leaves and other combustible, a fee per bag is charged and a fee is
Oxford	Fryeburg		take	1	charged for brush & demolition.
Oxford	Gilead		Economic/ Habits	1	0
Oxford	Greenwood		Habits/Inconv	1	Should not be allowed to burn in incinerators.
Oxford	Hanover		Economic/habit	1	0
			Economic/habit/Inco		
Oxford	Hartford		nv/ fun	0	Instead of barrels have like a stove type of deal.
Oxford	Hebron		Cultural/habits	1	0
•			Cultural/Habit/	•	
Oxford	Hiram		Incon	1	Transfer station does not take leaves, brush, demolition or anything other than household trash.
			Cultural/Habit/		
Oxford	Lincoln Plt	1	Incon	0	0
					Allowing incinerators to burn household waste saves the town money by not having to handle or haul
Oxford	Lovell		Cultural/Inconv	1	this waste.
Oxford	Magalloway Plt		YY 1 1. 7		
Oxford	Metroep		Habits/Inconv	0	Should be up to the town,
Oxford	Plantation	1	0		0
Oxford	Newry	· ·	Habits/Inconv	1	0
Oxford	Norway		Habits	1	Incinerator should be custom built - no barrels.
					Transfer station will accept anything and bulky waste goes to Naples-Casco transfer station. Town
Oxford	Otisfield		0	1	Warden does not issue incinerator permits.
Oxford	Oxford		Eco/Inconv	0	0
Oxford	Paris		÷ .		
Oxford	Peru		Inconvenience	0	0
	<b>D</b> .		, .		Transfer station only takes brush/leaves only per year. Town of Porter ordinance does not allow
Oxford	Porter		Inconvenience		purning in village limits.
Oxford	Riley Lownship	I	0		0
Oxford	Roxbury		Habits	0	0
Oxford	Rumford		0	0	0

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
Oxford	South Paris		Inconvenience	1	0
Oxford	Stoneham		Habits	1	. 0
			Economic/Habit		Town will pick up 3, 30 gallon bags per household, with \$1.00 sticker each bag. Stickers are
Oxford	Stow		Incon	1	purchased at the Stow Town Hall.
Oxford	Sumner		0	0	0
Oxford	Sweden		Economic/ Habits	1	0
Oxford	Upton		0	1	
Oxford	Waterford		0	0	0
Oxford	West Paris		Habits/Inconv	1	
Oxford	Woodstock		Inconvenience	0	No problems with incinerators
Penobscot	Alton		0	1	0
Penobscot	Argyle Township	1	0	0	0
Penobscot	Bangor		0	0	0
Penobscot	Bradford		habit, inconvenience, transfer station is inconsistent		Need a better system and citizen education
Penobscot	Bradley		0	0	
Penobscot	Brewer		0	0	I andfill open 2 days/week for household items
Penobscot	Burlington		0	0	Would rather no incinerators were allowed
Penohscot	Carmel		0	1	
1 01003001	Carnet		0	0	Incinerators would out, down on the bulk and tenness going to landfille or other dispared erests loss
Penobscot	Carroll Plt	. 1	0	0	cost to town.
Penobscot	Charleston		Economic	0	The transfer station is now accepting fewer recyclable - no paperboard or some kinds of plastics. People are unhappy at paying to dispose these as well.
Penobscot	Chester		Licensed crematory for veterinary purpose (Chester Animal Hospital)	1	Since curbside pick-up has been in place - trash burning has ceased.
Penobscot	Clifton	·	0	0	Recycle
				-	
Penobscot	Corinna		Econ/habit/ Inconv	1	0
Penobscot	Corinth		Inconvenient	. 0	If you can burn paperboard at home, why bother going to a transfer station.
Penobscot	Dexter		Eco/Cult/Habit/Inco nv	1	. 0
Penobscot	Dixmont		Economics	0	paying disposal fee on new tires, refrig, etc., Then paying again local to get rid of it, that's paying twice.
Penobscot	Drew Plt	1	0	. 0	0
Penobscot	East Millinockett		0	1	0

· · · ·	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
Penobscot	Eddington		Not allowed to burn	0	0
Penobscot	Edinburg		0	0	
Penobscot	Enfield		0	0	0
Penobscot	Etna		economic, habit	1	0
Penobscot	Exeter		Eco/Cult/hab/ Incon	1	Some want to keep incinerators.
Penobscot	Garland		Eco/hab/inconv	1	0
Penobscot	Great Pond				
	Glenburn		0	0	. 0
Penobscot	Greenbush		Eco/Cult/hab/ Incon	1	0
					The State banned burning of dumps, why not backyard incinerators? The fire has been moved from
Penobscot	Hampden		Habits	0	one area per town to many.
Penobscot	Hermon		0	0	0
Penobscot	Holden		0	0	Holden is pretty good, worked in setting this up. Concern is testing areas.
					I don't feel there should be any open incinerator burning of trash at all. People are too lazy to bring
Penobscot	Howland		Eco/Habits/ Inconv	0	their garbage to the dump. Then they're too lazy to watch it in their own burn barrel.
Penobscot	Hudson		Eco/Habits Inconv	0	I believe that if incinerators were not allowed we would have more roadside dumps.
Penobscot	Kenduskeag		Habits	1	Eliminate them because people use them for other than designated material.
Penobscot	Kingman		0	0	· ·
Penobscot	Lagrange		0	0	0
Penobscot	Lakeville		Habits	1	0
Penobscot	Lee		Inconvenience	1	0
Penobscot	Levant		Habits/Inconv	1	0
					· · · · · · · · · · · · · · · · · · ·
					most of the incinerator use is during the spring when cleaning yards is done. There are no people
Penobscot	Lincoln		Habits/inconv	0	using incinerators to burn trash nor household items. He feels they are used for woody material only.
Penobscot	Lowell		habit	1	· ·
Penobscot	Mattawamkeag		Inconvenience	1	All incinerators to have screens to prevent fires
Penobscot	Maxfield				
Penobscot	Medway		0	0	They should be banned.
-			burning brush &		
Penobscot	Milford		leaves	0	
Penobscot	Millinocket				
Penobscot	Mt. Chase		privacy	0	Towns with municipal trash collection should be allowed to burn incinerators.
Penobscot	Newburgh			0	
Penobscot	Newport		Habits	0	Most of town does not want incinerators.

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
			]		We don't allow leaf burning as the city will pick them up. Leaf burning always ends up with
Penobscot	Old Town		0	1	complaints from neighbors. If burning is allowed, who will police what is burned?
Penobscot	Orono		Inconvenience	0	0
Penobscot	Orrington		0	0	Loose trash is sometimes a problem. PERC is in our town, so the trash blows off the trucks.
Penobscot	Passadumkeag		0	0	
Penobscot	Patten		Inconv/Cost	0	0
Penobscot	Plymouth			1	Incinerators should not be used at all
Penobscot	Seboeis Plt		Eco/Cultural/Habit	0	0
Penobscot	Springfield		0	1	0
Penobscot	Stacyville		Inconvenience	0	0
Penobscot	Stetson		Eco/Cultural Inconv	1	0
Penobscot	Veazie		0	1	. 0
Penobscot	Webster Plt	1	Economic	1	0
Penobscot	Winn		Habits	1	0
Penobscot	Wagdville 7		0	1	. 0
	NWP, T3R1				Set backs should be enforced - I feel it would reduce the complaints from neighbors about nuisance
Penobscot	NOPAndian Isl.	. 1	0	· 1	fires.
Penobscot	RSRETNED, TOND,				
Penobscot/Hancock/	T6R1, T8R3,				If setback was 100' problems could arise by fires escaping and going unnoticed for longer periods of
Washington	T8R4, Kossuth	1	Economic/Habits	0	time.
	UO: Township				Hancock County Clerks office was advised that the County has had no request for services in the area
Penobscot	32MD	1	0	0	of T-32. I believe it is up to individual camp owners to dispose of their trash.
Penobscot/Piscatiquis	TAR7WELS	1	Habits/Inconv	1	0
Piscataquis	Abbot				
Piscataquis	Atkinson		Inconvenience	1	0
Piscataquis	Barnard Plt				
Piscataquis	Beaver Cove		habit	1	incin. no problem
Piscataquis	Bowerbank				
Piscataquis	Brownville		Habits	1	Change to getting a permit every time the person burns whether in an incinerator or not.
Piscataquis	Dover-Foxcroft				
Piscataquis	Greenville		Habits/Inconv	1	- 0
			Habits		
Piscataquis	Guilford		Inconvenience	1	
Piscataquis	Kingsbury Plt				
Piscataquis	Lake View Plt				3
			Cutting down		
Piscataquis	Medford		volume	0	Should do away with them, fire hazard to my town.

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
Piscataquis	Milo		Econ/Habits	1	People do not keep them up to the law and should be stopped.
Piscataquis	Monson		Economic/ Inconv	1	Problem smoke(neighbors)
Piscataquis	Parkman				
Piscataquis	Sangerville				
Piscataquis	Sebec		Economic /Inconv	0	Most people comply with Forestry Regs & burn after 5 pm.
Piscataquis	Shipley T2 R12		0	1	0
	T1R13, T1 R12,		Lack of proper		
	TIRII, TARII,		facilities close to		Unorganized territories have a need for incinerators because if people couldn't burn I think we would
Piscataquis	TXR14	1	camps.	0	find more garbage in the woods.
Piscataquis	Wellington		Economics /Inconv	1	Make sure they save so they won't get their building on fire or somebody else.
Piscataquis	Williamsburg		1		
Piscataquis	Willimantic		Inconveneince	1	0
	T4R9, T5R9,				I believe that incinerators should be banned. I feel we have a health problem as well as a fire hazard
	T6R9, T7R9,				across the State. People should only burn pulp and paper products. See a Town Warden or Fire
Piscataquis	TWBLOGEBRAIle,	1	Economic/ Habits	1	Ranger if they want to burn.
Piscataquis	Blanchard Twp.	1	Economic/ Inconv	1	I fee that incinerators can be dangerous.
			No service in the		
Piscataquis	V9R137R9R14.	- 1	area	0	0
	T9R15, T10R11,		Economic/ reduce		
Piscataquis	<b>T48R</b> 14	1	amount	0	0
	Chesuncook		Economic/hab/		
Piscataquis	Tym18, T5R19.	1	inconv	0	0
	T5R20, T6R17,				Most of the incinerators are located at remote lodges and campgrounds that burn paper and cardboard
Piscataquis/Somerset	T6R18, T6R16	1	Inconvenience	0	to reduce amount of garbage to be hauled out.
		•		•	
Sagadahoc	Arrowsic		Inconvenience	1	Town Warden does not issue permits, other than the one he issued before he knew that he could not.
Sagadahoc	Bath		0	1	Incinerators should be banned.
Sagadahoc	Bowdoin		Inconvenience	0	Eliminate them. Fire calls regarding incinerators are time-consuming and a nuisance.
		:			Fire Chief states he does not to have a problem, I have got complaints and found incinerators burning
Sagadahoc	Bowdoinham		0	0	w/no permit - fire chief advised if he checked one he has to check all.
			Economic/		
			Cultural/Older		
			person, hard to get		Would hate to see people that are allowed to burn and do so safely not be allowed to burn, however
Sagadahoc	Georgetown		to dump	1	there should be strict rules.
Sagadahoc	Phippsburg		Cultural/habits	0	. 0
Sagadahoc	Richmond		0	0	Town passed an ordinance not to allow incinerators.
Sagadahoc	Topsham		Economic/ Inconv	1	Creates a nuisance for neighbors by producing toxic smoke, and offensive odors.
Sagadahoc	West Bath		Economic/ Habits	0	Incinerators should be banned. They are a nuisance and an inconvenience.
Sagadahoc	Woolwich		Inconvenience	1	0

	Civil	Unorg. (1)	Comments	Setback	Comments
County	John Dinininn.	Island (2)	(WHY?)	Desirable?	(General)
Somerset/Franklin	Ewinna, Exeter,	1	. 0	1	0
	Newport,		Cultural/Inconvenie		
Somerset	Hartland	1	nce	1	0
Somerset	Anson		Economic/ Habits	· 1	0
Somerset	Athens		Habits/Inconv	1	Ban open incinerators - Regulate enclosed ones.
Somerset	Bingham		Habits/inconv	1	Should be banned
			Cultural/		
Somerset	Brighton Plt	1	Inconvenience	0	0
Somerset	Cambridge		1	0	
			Habits/		
Somerset	Canaan		Inconvenience	0	Not in favor of banning incinerators.
			Cultural/Habits/Inco		
Somerset	Caratunk		nv	1	0
Somerset	Concord		Habits	1	Should be banned.
		· · · · · · · · · · · · · · · · · · ·	Habits/Inconvenienc		
Somerset	Cornville		e	0	Ban incinerators altogether - or make incinerators highly restricted.
					Incinerators should be banned in organized towns or only allowed in Towns of under 2,000 residents.
	UO: Dead River		Economic		UT could continue to allow incinerators under current laws, plus a set back req. from an abutting
Somerset	Township	1	/Inconvenience	1	landowners.
Somerset	Dennistown Pit				
			Economic/		
Somerset	Detroit		Habits/Inconv	1	. 0
Somerset	Embden		Cultural/Inconv	1	0
Somerset	Fairfield		Inconvenience	1	0
			Economic/		
Somerset	Harmony		Habits/Inconv	1	0
			Economic/Habit/Inc		
Somerset	Hartland		onv	1	0
Somerset	Highland Plt	. 1	Economic/ Inconv	1	0
			Economic/ habits		
Somerset	Jackman		/Inconv	0	Burning food items and plastics, smoking up neighbors houses.
			Economic/Habit/Inc		
Somerset	Lexington		onv	· 1	Restrict to rural areas.
Somerset	Madison		Habits	1	0
Somerset	Mercer		Inconvenience/econ.	1	Would like to see incinerators banned.
Somerset	Moose River		Economic	0	0
			Cultural/Inconvenie	1	
Somerset	Moscow		nce	1	0
Somerset	New Portland		Inconvenience	1	0

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
Somerset	Norridgewock		Inconvenience	1	Incinerators should be banned completely.
Somerset	Palmyra		0	1	0
			Habits/		
Somerset	Pittsfield		Inconvenience	1	Most of town would vote to get rid of incinerators.
Somerset	Pleasant Ridge		0	0	0
			Economics/		
Somerset	Ripley		Habits/Inconv	1	0
					I think incinerators should be banned completely, no exceptions, incinerators generate a large number
	· ·		Habits/		of complaints. People are not separating trash and continue to burn plastics and any other material
Somerset	Skowhegan		Inconvenience	1	that will burn.
Somerset	Smithfield		Economic	0	0
Somerset	Solon		Cultural/Habits	1	0
			Eco/Cultural		
Somerset	St. Albans		/Inconv.	1	0
					Starks residents pay a per bag fee to dispose of their garbage. Incinerators allow them to keep the cost
Somerset	Starks		Economic	1	to a minimum.
Somerset	The Forks Plt	1	1 0 1		0
Somerset	West Forks Plt	1	0	1	Setback is a good step.
Somerset					
		-	Economic/		
Waldo	Belfast		Inconvenience	0	0
1m.			Cultural/		
Waldo	Belmont		Inconvenience/ lazy	1	We have a few burn barrels in town that are mostly hidden from sight.
Waldo	Brooks		Inconvenience	1	0
			Economic/		
Waldo	Burnham		Habits/Inconv	1	Do away with the incinerators all together. Headaches for us all.
Waldo	Frankfort				
			Economic/ Town		
			office hours not		
Waldo	Freedom		convenient		
Waldo	Islesboro	2	Economic	1	. 0
			Cultural/		
Waldo	Jackson		Inconvenience	1	Setback would be desirable, however it would be impossible to enforce.
			Eco/Cultural/		
Waldo	Knox		Inconv	0	· 0
			Eco/Cultural/		
			Habits/ fascination		
Waldo	Liberty	}	w/fire	1	Excessive amount of pollutants, general lack of compliance with regulations.

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
Waldo	Lincolnville		Habits/ Inconvenience	1	I would like to see them banned.
			Economic/		
Waldo	Monroe		Habits/Inconv	1	Small lot size.
Waldo	Montville		Economic	1	\$1.00 per bag sticker
			Habits/Inconvenienc		In town with trash pick-up that should have bulk trash day more often, at town hall/garage. People
Waldo	Morrill		e	1	wait too long for large debris to get picked up.
Waldo	Northport		Inconvenience	0	No incinerators - nuisance to neighborhood.
Waldo	Palermo		econ, inconvenience	0	
Waldo	Prospect		Habits/Would rather burn some material than throw it out.	0	Should be allowed.
Waldo	Searsmont		Economic/habits /Inconv	1	\$1.00 per bag sticker
			Economic/ Cheap &		
Waldo	Searsport		lazy:		·
Waldo	Stockton Springs		Economic	1	0
Waldo	Swanville		Economic/ habits	0	\$1.00 per bag sticker
Waldo	Thorndike		eco/habits	0	
Waldo	Troy				
Waldo	Unity		Economic	0	As far as Unity Fire Dept. stands, as long as the law stays the same, and anyone burning can be summoned to court, it appears to be working in the Town of Unity.
Waldo	Waldo		Economic/ habits	0	\$2.00 per bag charge
Waldo	Winterport		Habits	. 1	No matter how sincere the property owner is, the basic requirements falter after a short time in use. I do not want incinerator permits offered in this area.
Washington	Addison		Economic	1	0
Washington	Alexander		Economic/ Inconvenience	1	. 0
Washington	Baileyville		0	0	I don't think they should be allowed under any circumstances.
Washington	Baring	1	0	1	No burning within 100' of any dwelling would be helpful.
Washington	Beals .		Habits	0	0
Washington	Beddington		0	1	The major objective for transfer station is to promote recycling. I don't feel the need for incinerators. The State closed open burning dumps to stop the pollution from open burning.
Washington	Calais		Habits/laziness toward recycling	0	They should be banned.
Washington	Centerville		habits/always have had them	0	0

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
Washington	Charlotte				0
Washington	Cherryfield			0	
Washington	Codyville Plt	1	Habits	1	0
Washington	Columbia		Economic /Habits	1	0
			Because they can &		
Washington	Columbia Falls		keep trash private	1	0
Washington	Cooper		Economic	1	No problems in Cooper
Washington	Crawford		Economic/ inconv	0	0
			Economic/		Incinerators should be kept close enough to the residence so they can be carefully watched and
Washington	Cutler		Habits/Inconv	0	reached with a garden hose.
			Cultural/		Should be banned when there are alternatives. Often don't meet safety standards a few weeks after
Washington	Danforth		Inconvenience	1	installation.
Washington	Deblois		Economic /inconv	1	0
Washington	Dennysville		inconv		0
Washington	East Machias		Inconvenience	0	0
Washington	Eastport		inconvenient	0	
	UO: Grand Lake				Should be rare occasions and special circumstances (i.e.) isolate and remote camp under very safe
Washington	Stream Plt	1	Habits	1	conditions.
Washington	Harrington		0	0	0
	UO: Indian Twp				
Washington	Reserve	1	tradition., laziness,	1	should not be allowed, except in rare circumstances; no plastic burning
Washington	Jonesboro		0	0	. 0
Washington	Jonesport		Habits	1	Most who have incinerators are out by themselves.
			Economic/		
Washington	Lubec		Inconvenience	0	0
Washington	Machias		Economic /inconv	1	0
Washington	Machiasport		Economic	0	0
Washington	Marshfield		Economic/ inconv	1	0
Washington	Meddybemps		Economic/	0	Satisfied by current requirements.
Washington	Milbridge		0	1	. 0
Washington	Northfield		0	1	No problems here.
Washington	Pembroke		Economic	0	0
Washington	Perry		Economic	0	0
Washington	Pleasant Pt Res.				
Washington	Princeton		. 0	1	0
Washington	Robbinston		Inconvenience	1	No problems
			Economic/ saves		
· · · · ·			money on transfer	· ·	
Washington	Roque Bluffs		fee	0	0

	Civil	Unorg. (1)	Comments	Setback	Comments
County	Division	Island (2)	(WHY?)	Desirable?	(General)
			Habits		
Washington	Steuben		inconvenience	1	They should not be allowed if town has trash pick-up or transfer station.
Washington	Talmadge			1	Should be banned unless for hardship.
Washington	Tepsteld1		tradition	1	
Washington	&Fowler Twps.,	1	Economic/Habit	1	With the exception of remote camps without wood stoves and other rare instances.
Washington	Vanceboro		Habits	0	Should not allow them, no smelly trash & plastics.
Washington	Waite		0	0	Should be banned, cause problems with neighbors, etc. no plastic.
Washington	Wesley		0	1	I discourage their use in Westey.
Washington	Whiting		0	0	0
Washington	Whitneyville				0
	UO: Twp. 18 &		National Security		
Washington	LOMDwp 29, 30,	1	(Air Force Base)	0	This type of decision (incinerators, set back) would be best made by each town.
Washington	Marion, Trescott	I	0	0	
Washington	UCPST18ED,	1	0	0	0
	T19ED, T25MD,				
Washington	T31MD, T14ED	1	Inconvenience	1	Burning plastic & rubber products is the greatest problem. This is what should be banned entirely.
York	Acton		0	0	Do away with incinerators, however town needs to provide better way to dispose of burnables.
York	Alfred		Inconvenience	1	
			Economics/ Town		
York	Arundel		charges \$1.00 per #	1	If recycling is free - should not be able to burn.
York	Berwick		Inconvenience	1	Do away with all together.
			habits/Inconvenienc		
York	Biddeford		e	0	0
York	Buxton		0	0	0
			Cultural - Trash		
			pickup will not take		
York	Cornish		all refuse	1	Brush, leaves, are not taken, nor is demolition.
York	Dayton		Economic	1	Do away with incinerator permits.
York	Eliot		0	1	Do not lessen - could be more stringent.
York	Hollis		Habits	1	0
York	Kennebunk		0	1	0
York	Kennebunkport			1	0
York	Kittery		Cultural/habits	1	0
York	Lebanon		0	1	Do away with incinerators all together.
York	Limerick		Inconvenience	1	0
York	Limington		Inconvenience	1	Transfer station provides place for brush, roofing materials and demolition debris. Brush is chipped not hurned at town owned site
LOIK	12 mm Brown	1	I meeting on termentee	1 1	not curred at to the other site.

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	Civil	Unorg. (1)	Comments	Setback	Comments	
County	Division	Island (2)	(WHY?)	Desirable?	(General)	
			Economic/			
York	Lyman		habits/inconv	1	Do away with incinerators all together.	
York	Newfield		0	0	Town does not issue permits for incinerators.	
	-		Economic/			
York	North Berwick		habits/Inconv	1	Highlight rules on permits and make more stringent.	
York	Oguonultard		0	1	0	
York	Beach		Cultural/habits	1	0	
York	Parsonsfield		Cultural/ material that pickup would not take	1	Town has recycling truck that comes every 2 weeks to pick up paper, etc, People get permits to burn 1 things, such as old boards and brush as there is no other way to get rid of it.	
York	Saco		0	1	. 0	
York	Sanford	-	Economic	0	For the most part people in general should not be allowed to burn freely, at will, or without regulations.	
York	Shapleigh		0	1	Regulations and set standards.	
York	South Berwick		0	1	No incinerators at all.	
York	Waterboro		. 0	1	Stiff laws and regulations needed.	
York	Wells		Habits	1	0	
York	York		. 0	1	0	
Sources: 1997 Dept. of	Conservation Fores	t Fire Div. Survey	v of Local fire Warden	IS		

### **APPENDIX 2**

### THE IMPACT OF BACKYARD BURNING EMISSIONS

- 2A. Results from and ISCST3 Screening Modeling Analysis of Open Burning of Household Waste
- 2B. Description of Health Effects Ascribed to Pollutants of Concern

# **Results from an ISCST3 Screening Modeling Analysis of Open Burning of Household Waste**

**Executive Summary** 

December 30, 1997

# **Maine Department of Environmental Protection**

**Bureau of Air Quality** 

#### 1.0 <u>Introduction</u>

A screening modeling analysis was performed by Tom Downs (DEP-BAQ Chief Meteorologist) for the open burning of household waste in backyard 55-gallon barrels. A recent EPA<sup>1</sup> study that evaluated emissions from the open burning of household waste in barrels was used to help define modeling scenario emission rates, exit temperatures and exit velocities. The results of this modeling analysis should only be used to help identify the potential health risks involved when open burning occurs.

#### **1.1 Definitions**

Listed in this section are definitions of air dispersion modeling terminology used in order for the reader to have a better understanding of the results in this report.

- SHORT TERM AVERAGING PERIOD Short term averaging periods in modeling analyses are averaging periods less than or equal to 24-hours.
- CONCENTRATION (IMPACT) Concentrations (impacts) in this modeling analysis are defined as the total micrograms (0.000001 g) per cubic meter ( $\mu$ g/m<sup>3</sup>) in the averaging period chosen. In this study 15-minute and 1-hour averaging period concentrations were calculated by the model and the contribution to the respective 24-hour averaging period MAAQS, NAAQS or IAG were calculated by the DEP meteorologist (see Section 3.0).
- SCREENING MODEL An air dispersion model designed to screen out various operating scenarios before a more refined model is used. Screening models are designed to overpredict receptor concentrations because real time meteorological conditions are not used.
- CONSERVATIVE MODELING ANALYSIS A modeling analysis designed to overpredict maximum concentrations. Typical overpredictions occur because screening modeling techniques were used, emission rates were overestimated, exit velocities were underestimated or background concentrations were overestimated.
- **RECEPTOR** Location where an air dispersion model calculates concentrations and depositions. Receptors are generally located at local ground level elevations except for flagpole receptors which are located at a specific elevation above local ground level. Typical flagpole receptors are located at building windows, air intakes of buildings, bridges and, as in this study, at heights of human inhalation (See Figures A and B).

- **PLUME CENTERLINE** The plume centerline is where the highest modeled concentration of pollutants at a given distance are located. Notice in Figure B that high terrain surrounding the burn barrel is a factor in causing high impacts at nearby receptors.
- STABILITY In meteorology this term refers to the ability of a parcel of air to move vertically in the atmosphere defined in terms of Pasqill-Guifford Classes. There are basically three types of stability, unstable (Classes A & B) where a plume would look like a rope looping up and down, neutral (Class D) where a plume would look like a cone getting wider with distance and stable (Classes E & F) where the plume would remain intact with little vertical dispersion.
- STEADY STATE CONDITIONS Steady state means that meteorological conditions are constant with time. In other words, wind speed, wind direction, temperature, stability and mixing heights are constant in the smallest (15-minute) modeling averaging period. As shown in Figures A and B, in this study the model assumes the worst case scenario, that the wind conditions are constant for 15-minutes and the child (3-ft flagpole receptor) or adult (5 ft. flagpole receptor) stand in place for 15-minutes (steady state conditions) breathing in pollutants of the plume from burn barrel. (Note: Both screening and refined modeling analysis assume steady state conditions for each 15-minute period, therefore results are not expected to be much different for the 15-minute period concentrations.)

#### **1.2** Modeling Limitations

As noted in federal modeling guidance<sup>3</sup> studies have shown that "models are more reliable for estimating longer time-averaged concentrations than for estimating short-term concentrations at specific locations; and the models are reasonably reliable in estimating the magnitude of highest concentrations occurring sometime, somewhere within an area. Errors in highest estimated concentrations of  $\pm 10$  to 40 percent are found to be typical, however, estimates of concentrations that occur at a specific time and site, are poorly correlated with actually observed concentrations are much less reliable." However, at this time modeling is the best way to estimate impacts without setting up a very costly (time and money) array of monitors at the site.

#### FIGURE A: VIEW OF FLAT TERRAIN RECEPTOR LOCATIONS



FIGURE B: VIEW OF VARIABLE TERRAIN RECEPTOR LOCATIONS



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#### 2.0 Modeling Methodology and Inputs

#### 2.1. Model Selection

The current versions of SCREEN3 and Industrial Source Complex Short Term Dispersion Model<sup>3</sup> (ISCST3) were the only models considered for this study. Both models are considered by both regulatory agencies and the regulated community as being the standard "workhorse" regulatory models for screening and sequential "refined" modeling analyses. ISCST3 was chosen for the study because only the ISCST3 model can handle variable emission scenarios and 15-minute averaging period impacts which were required for this study.

The ISCST3 model contains four (4) input and option pathways, Control, Source, Receptor and Meteorology. The following sections will describe all inputs and options used for each pathway as well as any assumptions used.

#### 2.2. <u>Modeling Options</u>

The ISCST3 Control pathway is where the user selects how the model will be run, which algorithms will be used, how terrain will be modeled, what pollutant is being modeled and what averaging periods will be used. The following is a listing and description of the most important Control pathway options chosen for this study:

- **MODELOPT** MODELOPT is where modeling options are input. Options chosen point the model to specific algorithms that must be included in the model calculations. For this study the DEFAULT, CONC and RURAL modeling options were chosen. The DEFAULT option implements the following regulatory default options recommended by EPA when modeling for compliance with ambient air quality standards:
  - use stack-tip downwash;
  - use buoyancy induced dispersion;
  - use final plume rise;
  - use the calms processing routines (not applicable for this study);
  - use upper-bound concentration estimates for sources influenced by building downwash from super-squat buildings (not applicable for this study):
  - use default wind profile exponents in Table 1; and
  - use default vertical potential temperature gradients in Table 1.

Pasquill	Rural	Rural
Stability	Wind Profile	Temperature Gradient
Category	Exponent	(°K/m)
Α	0.07	0.0
В	0.07	0.0
С	0.10	0.0
D ·	0.15	0.0
Е	0.35	0.02
F	0.55	0.035

Table 1. Default Parameters

The CONC option was selected to specify that only concentration values will be calculated. No dry or wet deposition values will be calculated.

The RURAL option was selected because the entire state is considered rural for regulatory modeling purposes and open burning occurs more often in rural areas of the state. The rural option specifies that rural Pasquill-Gifford dispersion parameters will be used.

- **TERRHGTS** TERRHGTS is where the user specifies how terrain will be treated in the model algorithms. The FLAT terrain height option was chosen for this study which specifies that a default terrain height of 0.0 meters is used for the entire modeling regime. Flat terrain was chosen because this study is not location specific. In reality, terrain within 150 meters of the source of open burning may be flat in some cases or highly variable in others. Future location specific studies should include actual terrain elevations for each receptor.
- **FLAGPOLE** FLAGPOLE is where the user specifies how high above the terrain all receptors will be located. Because the height of the 55gallon barrel is only 2.9 feet above ground level (AGL) it is expected that significant low level concentration gradients will occur for open burning. Therefore, flagpole receptors of 0 feet, 3 feet and 5 feet AGL were chosen for this study to represent the potential range of human exposure to pollutants from open burning (see Figures A and B).
- AVERTIME AVERTIME is where the user defines the averaging times to be modeled. For this study, 1-hour and 4-hour averaging periods were chosen. Because meteorological inputs (see Section 2.5) were 15-minute averages, the 1-hour and 4-hour averaging periods will translate into 15-minute and 1-hour output averaging periods.

#### 2.3. <u>Source Pathway</u>

The Source pathway defines the source information. The following is a listing and description of the most important Source pathway options chosen for this study:

- LOCATION LOCATION is where the source identifications, source types (point, area, volume or open pit) and source locations are identified. The POINT source type option was used because the 55-gallon barrel can be characterized as a stack or point source. The four test burns (Test 1 avid recycler, Test 2 avid recycler, Test 4 non-recycler and Test 5 non-recycler), as defined in the EPA <sup>1</sup> study, were chosen to be modeled.
- SRCPARAM SRCPARAM is where the stack parameters were identified. For all sources in this study, a typical 55-gallon barrel height and inside diameter was used and is listed in Table 2.
- **HOUREMIS** HOUREMIS is where variable emission rates were specified. Table 2 lists the variable emission rates, exit temperatures and exit velocities used in the modeling study. Emission rates of all pollutants and average barrel exit temperatures for each 15-minute period were estimated from the continuous emission monitoring (CEM) data in Appendix B of the EPA<sup>1</sup> study. See Table 3 and Table 4 (EPA<sup>1</sup> study Table 2-2 and Table 3-1) for the type and mass of waste being burned in each test.

Some assumptions had to be made to determine the barrel exit velocities for each 15-minute period. For the 15-minute period with the highest emission rate it was assumed that the exit flow rate from the barrel was equal to the  $(1603-1642 \text{ ft}^3/\text{m})$  inflow rate of the EPA<sup>1</sup> study air handling system, therefore the exit velocity for that 15 minute time period was modeled at 3.0 m/s. The three other 15 minute time period exit velocities were then assumed to be the respective period emission rate divided by the highest 15-minute emission rate times 3.0 m/s.

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Demol Demol Mere Demol Demol										
	_	Barrel	Barrel		Mass	Barrel	Barrel	Barrel		
	Burning	Height	Inside	Mass	Burn	Exit	Exit	Exit		
TEST #	Period	AGL	Diameter	Burned*	Rate	Temp*	Temp	Velocity		
	(min.)	(m)	(m)	(lb.)	(g/sec)	(°C)	(°F)	(m/s)		
Test 1 Sta	Test 1 Starting Mass = $12.58 \text{ kg}$ 60-minute Mass $4.26 \text{ kg}^*$									
	0 - 15 ·	0.8826	0.5715	6.53	3.29	100	373	2.33		
Avid	15 - 30	0.8826	0.5715	8.40	4.23	230	503	3.00		
Recycler	30 - 45	0.8826	0.5715	3.40	1.71	133	406	1.21		
	45 - 60	0.8826	0.5715	0.00	0.00	85	358	0.00		
Test 2 Sta	arting Mass	= 13.60	kg 60-minu	te Mass 4.4	5 kg <sup>*</sup>					
	0 - 15	0.8826	0.5715	9.77	4.93	213	487	3.00		
Avid	15 - 30	0.8826	0.5715	8.00	4.03	398	672	2.46		
Recycler	30 - 45	0.8826	0.5715	1.80	0.91	209	482	0.55		
	45 - 60	0.8826	0.5715	0:60	0.30	114	387	0.18		
Test 4 Sta	arting Mass	= 6.79  k	g 60-minut	e Mass 3.08	kg*					
	0 - 15	0.8826	0.5715	8.16	4.11	232	505	3.00		
Non	15 - 30	0.8826	0.5715	0.00	0.00	107	380	0.00		
Recycler	30 - 45	0.8826	0.5715	0.00	0.00	55	329	0.00		
	45 - 60	0.8826	0.5715	0.00	0.00	48	321	0.00		
Test 5 Sta	arting Mass	= 9.15 k	g 60-minut	e Mass 5.08	kg*					
	0 - 15	0.8826	0.5715	7.18	3.62	352	625	3.00		
Non	15 - 30	0.8826	0.5715	1.00	0.50	107	380	0.42		
Recycler	30 - 45	0.8826	0.5715	0.20	0.10	61	334	0.08		
	45 - 60	0.8826	0.5715	0.60	0.30	54	327	0.25		

**Table 2. Emission Parameters** 

Notes:

EPA<sup>1</sup> Appendix B Continuous Emission Monitoring Data

numbers in parentileses represent mass percent of those components=									
Test No.	1	2	4	5					
	Avid	Avid	Non-	Non-					
	Recycler	Recycler	Recycler	Recycler					
PAPER									
Newspaper, books and office paper	374.6 (3.3)	374.6 (3.3)	2231.7 (32.8)	2231.6 (32.8)					
Magazines and junk mail			755.2 (11.1)	755.2 (11.1)					
Corrugated cardboard and kraft paper			517.1 (7.6)	517.1 (7.6)					
Paperboard, milk cartons and drink boxes	7019.4 (61.9)	7019.5 (61.9)	700.8 (10.3)	700.8 (10.3)					
PLASTIC RESIN <sup>b</sup>									
PET #1 (bottle bill)			40.8 (0.6)	40.7 (0.6)					
HDPE: #2, LDPE #4, and PP #5	1180.0 (10.4)	1179.6 (10.4)	449.1 (6.6)	449.1 (6.6)					
PVC: #3	510.9 (4.5)	511.0 (4.5)	13.6 (0.2)	13.6 (0.2)					
PS: #6	34.2 (0.3)	34.0 (0.3)	6.8 (0.1)	6.8 (0.1)					
Mixed #7	34.2 (0.3)	34.1 (0.3)	6.8 (0.1)	6.8 (0.1)					
FOOD WASTE			387.9 (5.7)	387.7 (5.7)					
TEXTILE/LEATHER			251.8 (3.7)	251.7 (3.7)					
WOOD (treated/untreated	419.6 (3.7)	419.3 (3.7)	74.8 (1.1)	74.7 (1.1)					
GLASS/CERAMICS									
Bottles/jars (bottle bill)			660.1 (9.7)	660.5 (9.7)					
Ceramics (broken plates and cups)	782.7 (6.9)	782.6 (6.9)	27.4 (0.4)	27.3 (0.4)					
METAL - FERROUS									
Iron-cans	453.6 (4.0)	453.9 (4.0)	496.6 (7.3)	496.4 (7.3)					
NON-FERROUS									
Aluminum - cans	113.6 (1.0)	113.8 (1.0)	115.7 (1.7)	115.4 (1.7)					
Other non-iron	419.5 (1.0)	419.8 (1.0)	74.8 (1.1)	74.6 (1.1)					
TOTAL	11.342 kg	11.342 kg	6.811 kg	6.811 kg					
	= 25.0  lb	= 25.0  lb	= 15.0 lb	= 15.0 lb					

#### <u>Table 3 (EPA<sup>1</sup> Table 2-2):</u> Composition of material used on each test day, grams; numbers in parentheses represent mass percent of those components<sup>a</sup>

<sup>a</sup> - Test 3 was a blank with no household waste present

<sup>b</sup> - PET = polyethylene terephthalate; HDPE = high density polyethylene; LDPE = low-density polyethylene; PP = polypropylene; PVC = polyvinyl chloride; and PS = polystyrene.

Test	Test	Start Mass	Final Mass	Mass Burned	Amt. Burned	Duration
No.	Conditions	_(kg)	(kg)	. (kg)	(%)	(min)
1	Avid Recycler	12.4	4.4	8.1	65.3	77
2	Avid Recycler	13.6	4.4	9.2	68.1	83
3	Hut Blank	0.0	0.0	0.0		92
4	Non-Recycler	6.4	3.1	3.3	51.6	62
5	Non-Recycler	8.8	4.7	4.1	46.6	91

Table 4 (EPA<sup>1</sup> Table 3-1): Mass of waste burned during testing

#### 2.4. <u>Receptors</u>

A polar receptor grid was chosen for this study. Radials at  $5^{\circ}$  increments were located from  $0^{\circ}$  to  $50^{\circ}$  with respect to the direction of the plume centerline. Receptors along each radial were located from 1 to 500 meters from the source of open burning at 1 meter increments from 1 to 10 meters from the source, 5 meter increments from 10 to 60 meters from the source, 10 meter increments from 60 to 100 meters from the source and 50 meter increments from 100 to 500 meters from the source.

#### 2.5. <u>Meteorology</u>

Standard 54 hourly screening meteorological conditions listed in Table 5 were used. These conditions are also listed in MEDEP-BAQ regulations Table 3-1 of Chapter 115 Appendix A. In order to simulate 15-minute averaging periods, each meteorological condition was repeated for each 15-minute period in an hour resulting in 216 meteorological conditions in the modeling analysis.

Stability		10-m Wind Speed (m/s)											
Class	1	1.5	2	2.5	3	3.5	4	4.5	5	8	10	15	20
Α	*	*	*	*	*								
В	*	*	*	*	*	*	*	*	*				
С	*	*	*	*	*	*	*	*	*	*	*		
D	*	*	*	*	*	*	*	*	*	*	*	*	*
Е	*	*	*	*	*	*	*	*	*				
F	*	*	*	*	*	*	*					1	1

 Table 5: Standard ISCST3 Screening Meteorology

Notes: Ambient temperature of 293° Kelvin must be used.

A mixing height of 5000 meters for all stability classes must be used.

#### 3.0 Results

Maximum impact results from the ISCST3 screening analysis are shown in Table 6. Note the strong concentration gradients from the flagpole height of ground level to 5 feet AGL with maximum impacts at the 5 foot level for all open burning cases. Highest impacts occurred at the closest receptor distance (1-meter) from the source of open burning in neutral stability (Class D) with windy (5.0-20.0 m/s) conditions for Test 1, Test 2 and Test 4 open burning cases. Highest impacts occurred at the closest receptor distance from the source of open burning in neutral stability (Class D) with windy (5.0-20.0 m/s) conditions for Test 1, Test 2 and Test 4 open burning cases. Highest impacts occurred at the closest receptor distance from the source of open burning in neutral stability (Class D) with lighter wind (2.0-3.5 m/s) conditions for the Test 5 open burning case.

Test #	Maximum	Receptor	Flagpole		Wind
Averaging	Impact	Distance	Height	Stability	Speed
Period	(µg/m³)	(m)	(ft)	Class*	(m/s)
Test 1 15-minute	89,676	5	0	D	20
	2,017,236	1	3	D	8
	3,134,422	1	5	D	5
Test 2 15-minute	302,219	1 ·	0	D	20.0
	1,509,868	1	3	D	20.0
	4,008,417	11	5	D	15.0
Test 4 15-minute	25,365	10	0	D	20.0
	582,796	1	3	D	20.0
	2,664,109	11	5	D	15.0
Test 5 15-minute	443,270	1	0	D	15.0
	1,783,725	1	3	D	3.5
	1,991,354	1	5	D	2.0
Test 1 1-hour	43,255	5	0	D	20.0
	551,684	1	3	D	10.0
	783,606	1	5	D	5.0
Test 2 1-hour	76,952	1	0	D	20.0
	394,328	1	3	D	20.0
	1,367,234	1	5	D	15.0
Test 4 1-hour	6,341	10	0	D	20.0
	145,699	1	3	D	20.0
	666,027	1	5	D	15.0
Test 5 1-hour	179,513	1	0	D	20.0
	445,931	1	3	D	3.5
	497,839	1	5	D	2.0

Table 6 ISCST3 Total Emissions Maximum Impacts

Note:

Stability class D is neutral stability

Maximum impacts at all receptors located within 500 meters of the source of open burning occurred with neutral stability and decreasing wind speeds as the receptor distance increased, as shown in Figures 1 and 2 for 15-minute and 1-hour averaging times respectively.



Figure 1



Figure 2

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EXCEL spreadsheets were used to convert total emission impacts to specific pollutant impacts for the 15-minute and 1-hour averaging periods. Table 7 lists the EPA<sup>1</sup> study emission factor estimates in terms of grams of a specific pollutant per kilogram of total mass being burned. Using these factors, specific pollutant impacts were calculated and listed in Table 8. Notice in Table 8 that recycling does not always reduce the impact of a pollutant and in one case recycling dramatically increases the ground level 1-hour concentration of HCL from 321  $\mu$ g/m<sup>3</sup> to 2571  $\mu$ g/m<sup>3</sup>. Of the pollutants chosen only PM<sub>10</sub>, and PM<sub>2.5</sub>, Lead (Pb) and Chromium (Cr) have an enforceable Maine Ambient Air Quality Standard (MAAQS) or National Ambient Air Quality Standard (NAAQS). Maine's Interim Ambient Air Guidelines (IAAG's) listed in Table 5 are unenforceable at this time but are still listed to show the potential health risks. Results in Table 8 show potential health risks from PM<sub>10</sub>, PM<sub>2.5</sub>, polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/PCDF), Pb, Benzene and Toluene.

	Test 1	Test 2	Test 4	Test 5
	estimated	estimated	estimated	estimated
	emissions	emissions	emissions	emissions
Pollutant	(g/kg)	(g/kg)	(g/kg)	(g/kg)
fine particulate matter $(\mathbf{PM}_{-}, \mathbf{r})$	6.93	3.58	20.07	14.8
particulate matter $10\mu m (PM_{10})$	7.46	4.18	21.28	16.23
volatile organic compounds (VOCs)	8.289	3.825	23.663	13.67
semivolatile organic compounds (SVOCs)	0.1401	0.3582	0.7069	0.49
hydrogen chloride (HCL)	3.281	4.508	0.4814	0.08636
hydrogen cyanide (HCN)	0.2382	0.1615	0.7277	0.2083
PCDD/PCDF	4.93E-04	4.62E-05	5.23E-05	3.63E-05
Benzene	1.068	0.378	1.765	0.708
polycyclic aromatic hydrocarbons (PAHs)	0.02351	0.02444	0.08236	0.04971
aldehydes & ketones	0.218	0.0689	3.958	1.629
polychlorinated biphenyls (PCBs)	1.0077E-03	9.287E-04	3.0845E-03	2.625E-03
Lead (Pb)	4.09E-04	2.566E-03	7.52E-04	2.2E-04
Chromium (Cr)	2.37E-04	2.08E-04	<2.28E-04	1.76E-04
Acetone	0.234	0.139	1.346	0.529
Chloromethane	0.138	0.136	0.263	0.116
Ethyl benzene	0.138	0.051	0.422	0.116
Naphthalene	0.15	0.053	0.262	0.11
Styrene	0.465	0.176	1.21	0.259
Toluene	0.409	0.128	0.625	0.326

Table 7. Estimated<sup>1</sup> Pollutant Emissions per kg of Waste Burned

		Test 1	Test 2	Test 4	Test 5	Short
		Maximum	Maximum	Maximum	Maximum	Term
	Avo	Imnact*	Imnact*	Imnact*	Imnact*	Standards*
Pollutant	Period	$(ug/m^3)$	$(\mu g/m^3)$	$(\mu g/m^3)$	$(\mu g/m^3)$	$(\mu g/m^3)$
PMa s	15 min	21722	14350	53/60	20472	65
2.5	1.hr	5430	4895	13367	7368	05 24-hr NAAOS
PM10	15-min	23383	16755	<u>15507</u> 56602	32320	150
10	1.5-mm	5846	5715	14173	8080	24-hr MAAOS
VOC	15-min	25981	15332	<u>63041</u>	27222	
	13 him 1-hr	6495	5230	15760	6805	
SVOC	15-min	439	1436	1883	976	
	1.5-mm 1-hr	110	490	471	244	
HCL	15-min	10284	6045	1283	172	
	1-hr	2571	2062	32.1	43	
HCN	15-min	747	647	1939	415	
	13 mm	187	221	485	104	
Total	15-min	1 55	0.19	0.14	0.07	3.5E-06
PCDD/PCDF	1-hr	$\frac{1.55}{0.39}$	0.06	0.03	0.02	24-hr dioxin
	1	0102	0.00	0.05	0.02	and Furan
						IAAG
Benzene	15-min	3348	1515	<u>4702</u>	1410	450
	<u>l-hr</u>	837	517	<u>1176</u>	352	24-hr IAAG
РАН	15-min	74	98	<u>219</u>	99	
	<u>l-hr</u>	18	33	<u>55</u>	25	
Aldehydes & ketones	15-min	683	276	<u>10545</u>	3244	
Retories	1-hr	171	94	<u>2636</u>	811	
РСВ	15-min	3.2	3.7	<u>8.2</u>	5.2	
	<u>l-hr</u>	0.8	1.3	<u>2.1</u>	1.3	
Lead (Pb)	15-min	1.3	<u>10.3</u>	2.0	0.4	1.5
	<u>1-hr</u>	0.3	<u>3.5</u>	0.5	0.1	24-hr MAAQS
Chromium (Cr)	15-min	<u>0.74</u>	0.83	0.61	0.35	0.3
	<u>1-hr</u>	<u>0.19</u>	0.28	0.15	0.09	24-hr MAAQS
Acetone	15-min	733	557	<u>3586</u>	1053	3500
	1-hr	183	190	<u>896</u>	263	24-hr IAAG
Chloromethane	15-min	433	545	<u>701</u>	231	
	1-hr	108	186	<u>175</u>	58	
Ethyl benzene	15-min	433	204	<u>1124</u>	231	54000
	1-hr	108	70	<u>281</u>	58	15-min IAAG
Naphthalene	15-min	470	212	<u>698</u>	219	7900
	1-hr	118	72	<u>174</u>	55	15-min IAAG
Styrene	15-min	1458	705	<u>3224</u>	516	43000
	<u>1-hr</u>	364	241	<u>806</u>	129	15-min IAAG
Toluene	15-min	1282	513	<u>1665</u>	649	260
	1-hr	320	175	<u>416</u>	162	24-hr IAAG

**Table 8 ISCST3 Maximum Impacts for Specific Pollutants** 

Notes:

MAAQS Maine Ambient Air Quality Standards in MEDEP-BAQ regulations Chapter 110

IAAG Maine Interim Ambient Air Guidelines not in MEDEP-BAQ regulations

NAAQS National Ambient Air Quality Standard

Maximum impacts occurred with 5 foot flagpole receptors for all test burns

It is difficult to see in Table 8 if a 15-minute or 1-hour impact will result in a violation of a 24-hour MAAQS, NAAQS or IAAG's. Table 9 was created to answer that question. To compare 15-minute and 1-hour impacts to 24-hour standards it was conservatively assumed that impacts were negligible for the remaining 23 hours and 45 minutes and 23 hours, respectively. The 15-minute impacts were divided by 96 and the 1-hour impacts were divided by 24 resulting in a 24-hour impact contribution. Background concentrations were then added to the resulting 24-hour impacts and then compared with standards. The 24hour  $PM_{10}$  background concentration range used in Table 9 was calculated by MEDEP-BAQ Field Services from various regional urban/rural sites in the state of Maine. The 24-hour PM<sub>2.5</sub> background concentration range used in Table 9 was assumed to be 60% of the 24-hour  $PM_{10}$  background concentration as shown in the Husar<sup>2</sup> CAPITA study. Results show that without background concentrations, the maximum 24-hour impact contribution from just 15-minutes of open burning was 4 times the 24-hour  $PM_{10}$  MAAQS, 8.5 times the 24-hour PM<sub>2.5</sub> NAAQS and 10% of the 24-hour Pb MAAQS. Results also show that just 15-minutes of open burning results in PCDD/PCDF impacts that are 3.5 orders of magnitude higher than the non enforceable 24-hour PCDD/PCDF IAAG. Benzene and Toluene impacts from just 15-minutes of open burning resulted in 11% and 7% of the respective non enforceable IAAG.

The next question to be answered is how far from the source of open burning are there potential health risks. Figure 3, Figure 4 and Figure 5 show that the 15-minute dose of  $PM_{10}$  from open burning will drop below the 24-hour  $PM_{10}$  MAAQS at the 3-meter (~10 ft) distance and Figure 6, Figure 7 and Figure 8 show that the 15-minute dose of  $PM_{2.5}$  from open burning will drop below the 24-hour  $PM_{2.5}$  NAAQS at the 5-meter (~16 ft) distance (note that receptors located within 20° from the plume centerline will also result in violations near the source of open burning). Figure 9, Figure 10 and Figure 11 show that the 15-minute dose of PCDD/PCDF from open burning is still almost twice the 24-hour IAAG for dioxins and furans at the 500 meter (~1640 ft) distance. As you approach the source of open burning the zone of potential health risks from PCDD/PCDF emissions expands out to a maximum of 50° from the plume centerline.

	Time	Contribution		<u> </u>	
Pollutant	Period	to 24-hour		Total	24-Hour
Time Period/	Impact	Impact	Background	Impact	Standards
Test #	$(\mu g/m^3)$	$(\mu g/m^3)$	$(\mu g/m^3)$	$(\mu g/m^3)$	$(\mu g/m^3)$
$PM_{10}$ 15-min.	<u>(7.8 2</u>			<u> </u>	<u>v:8</u>
Test #1	23383	244	35 - 77	279 - 321	150*
Test #2	16755	175	35 - 77	210 - 252	150*
Test #4	56692	591	35 - 77	<u>626 - 668</u>	150*
Test #5	32320	337	35 - 77	<u> 279</u> - <u>414</u>	150*
PM <sub>10</sub> 1-hour		-			
Test #1	5846	<u>244</u>	35 - 77	<u>279</u> - <u>321</u>	150*
Test #2	5715	<u>238</u>	35 - 77	<u> 273 - 315</u>	150*
Test #4	14173	<u>591</u>	35 - 77	<u>626 - 668</u>	150*
Test #5	8080	<u>337</u>	35 - 77	<u> 372 - 414</u>	150*
PM <sub>2.5</sub> 15-min					
Test #1	21722	226	21 - 46	<u>247</u> - <u>272</u>	<b>65</b> **
Test #2	14350	<u>149</u>	21 - 46	<u> 170 - 195</u>	<b>65</b> **
Test #4	53469	<u>557</u>	21 - 46	<u>578 - 603</u>	65**
Test #5	29472	<u>307</u>	21 - 46	<u> 328 - 353</u>	65**
PM <sub>2.5</sub> 1-hour					
Test #1	5430	<u>226</u>	21 - 46	<u>247</u> - <u>272</u>	<b>65</b> **
Test #2	4895	<u>204</u>	21 - 46	<u>225</u> - <u>250</u>	65**
Test #4	13367	<u>557</u>	21 - 46	<u>578 - 603</u>	65 <sup>**</sup>
Test #5	7368	<u>307</u>	21 - 46	<u> 328 - 353</u>	<b>65</b> **
Lead (Pb)					
Max 15-minute	10.3	0.11	na	0.11	1.5*
Max 1-hour	3.5	0.15	na	0.15	1.5*
PCDD/PCDF		•			
Max 15-minute	1.55	<u>0.016</u>	na	<u>0.016</u>	3.5E-06@
Max 1-hour	0.386	<u>0.016</u>	na	<u>0.016</u>	3.5E-06@
Benzene					
Max 15-minute	4702	49	na	49	<b>450</b> @
Max 1-hour	1176	49	na	49	450@
Toluene					
Max 15-minute	1665	17	na	17	260@
Max 1-hour	416	17	na	17	260@

Table 9. Open Burning Contributions to 24-hour PM<sub>2.5</sub> and PM<sub>10</sub> Impacts

Notes:

\* Maine Ambient Air Quality Standards in MEDEP-BAQ regulations Chapter 110
 \*\* National Ambient Air Quality Standard.

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 $PM_{2.5}/PM_{10}$  background concentration ratio of  $0.60^2$ 

 Maine Interim Ambient Air Guidelines (IAAG) for dioxins and furans not in MEDEP-BAQ regulations

na Not available



Figure 3



Figure 4

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Figure 5







Figure 7



Figure 8


Figure 9



Figure 10



Figure 11

### 4.0 <u>Conclusions</u>

ISCST3 screening and refined modeling of various types of open burning scenarios for typical recycler and non-recycler household waste in 55-gallon barrels shows that there are potential health risks from  $PM_{2.5}$  and  $PM_{10}$  emissions. Just 15-minutes of open burning results in violations of the 24-hour  $PM_{10}$  MAAQS and 24-hour  $PM_{2.5}$  NAAQS. The highest modeled impacts were located at flagpole receptors within a few feet of the source of open burning especially in windy conditions at levels around 2.7 times the 24-hour  $PM_{10}$  MAAQS and 5.8 times the 24-hour  $PM_{2.5}$  NAAQS. (Keep in mind that inhalation of these levels only would occur if a person stayed in place directly under the plume centerline for 15 consecutive minutes!) Results of this modeling study have shown the potential for health risks within 26 feet of the source of open burning from just 15-minutes of  $PM_{2.5}$  and  $PM_{10}$  emissions, however, if open burning occurs for many hours in a day, then the potential health risk zone would expand further from the burn barrel.

Open burning regulations should not be based on PCDD/PCDF 15-minute emissions modeling because the 24-hour IAG for dioxins and furans is currently unenforceable by the DEP Air Bureau and because the 24-hour dioxin and furan IAG is really meant to be a long term exposure standard. Therefore any summary of impacts from PCDD/PCDF emissions are excluded from the conclusions of this modeling project.

Factors that should be kept in mind when determining where open burning should occur include the following:

- Ambient Air MEDEP-BAQ Chapter 116 defines where ambient air quality standards shall be met. Interpretation of the definition of "production area" in that regulation includes areas inside the fence line of the owner of the property where open burning will occur. Therefore, the closest receptor that can be used in a regulatory modeling analysis is at the fenceline of that property. In this study, that means that a 15-minute exposure to  $PM_{2.5}$  and  $PM_{10}$  emissions from open burning will not result in a violation of the respective 24-hour MAAQS if the burn barrel is further than 26 feet from the fenceline. The longer open burning occurs, the further the barrel has to be away from the fenceline to avoid violations of any MAAQS.
- **Terrain** The best location for open burning is on the highest terrain possible in the area to lower the potential health risks. By placing the burn barrel on higher terrain, the plume centerline ends up further away from receptors and thus lowers the impacts to those receptors.

- Nearby Buildings Avoid locations of open burning near buildings where the plume can get caught in the cavity region of the building. In addition to higher impacts in the cavity region, the impacts can be brought into the buildings through air intakes and open windows.
- **Open Burning Duration** The potential health risk zone grows with time. Therefore, avoid long periods of open burning.
- Meteorology at the time of open burning When giving permits for open burning, meteorological factors should be taken into consideration. Open burning should be avoided where meteorological conditions are predicted to bring the plume toward sensitive areas or when air stagnation occurs.

### 5.0 <u>References</u>

- <sup>1</sup> USEPA Control Technology Center, <u>Evaluation of Emissions From The</u> <u>Open Burning Of Household Waste In Barrels</u>, EPA-600/R-97-134 a & b, November 1997.
- <sup>2</sup> Husar, Rudolf B., <u>Ambient Concentrations of Particulate Matter</u>, (prepared for EPA's PM-Criteria Document), Center for Air Pollution Impact and Trend Analysis (CAPITA), Washington University St. Louis, MO 63130-4899, March 8, 1995
- <sup>3</sup> USEPA OAQPS <u>Users Guide for the ISC3 Dispersion Models</u>, Research Triangle Park, North Carolina, 1995 revised

### APPENDIX

An ISCST3 refined modeling analysis that was performed by Tom Downs (DEP-BAQ Chief Meteorologist) for the open burning of household waste in backyard 55-gallon barrels is summarized in this appendix. This analysis was performed to fine tune the screening results with real time meteorological data and to answer the following questions:

- What time of day is it predicted that high impacts will occur?
- How far and at what magnitude from the burn barrel does a 15-minute dose of pollutants from the open burning of household waste cause potential health risks?

The refined modeling methodology and inputs were the same as in Section 2.0 of this report except for the Meteorology (Section 2.5). In addition, because short term MAAQS and NAAQS standards allow for one violation in a year, the high second high impacts at each receptor can now be used to compare with standards for each year of meteorological data. For the refined ISCST3 modeling analysis an acceptable regulatory 5-year hourly meteorological database was used. The primary wind data was collected at a height of 13 meters at the Bangor DEP meteorological site during the 5-year period 1985-1989. Bangor FAA wind data was used to fill in missing Bangor DEP wind data. Bangor FAA surface temperature data was used. Hourly cloud cover, ceiling height and surface wind speed data also from the Bangor FAA were used to calculate stability. Hourly mixing heights were derived from Caribou NWS surface and upper air data.

Results of ISCST3 refined modeling are shown in Table A. As was done in the screening analysis, it was conservatively assumed that impacts were negligible for the remaining 23 hours and 45 minutes to compare high second high (HSH) 15-minute impacts to 24-hour standards. The HSH 15-minute impacts were divided by 96 resulting in a 24-hour impact contribution. Background concentrations were then added to the resulting 24-hour impacts and then compared with standards. Comparing the refined modeling results in Table A with screening modeling results in Table 9 of this report you can see higher and lower impacts for the various Tests and pollutants. Impacts were mainly different because more meteorological conditions were used in the refined analysis.

	P		<u>Flaght</u>	ne Kele	prois			
	MAX	Dist.	Distance					
Pollutant	24-hour	from	to	Wind		Back-	Total	24-Hr
Time Period/	Impact	Barrel	Compliance	Speed	Time	ground	Impact	Stds
Test #	$(\mu g/m^3)$	(m)	(ft)	(m/s)	of Day	$(\mu g/m^3)$	$(\mu g/m^3)$	$(\mu g/m^3)$
PM <sub>10</sub> 15-min.								
Test #1	403	1	10	10.3	1 pm	35 - 77	<u>438 - 480</u>	150*
Test #2	144	1	7	15.4	1 pm	35 - 77	179 -221	150*
Test #4	323	1	13	14.9	<u>10 am</u>	<u> 35 - 77</u>	358 - 400	150*
Test #5	358	1	10	3.1+	5 am+	35 - 77	393 - 435	150*
PM <sub>2.5</sub> 15-min								
Test #1	375	1	20	10.3	1 pm	21 - 46	<u> 396 - 421</u>	65**
Test #2	124	1	13	15.4	1 pm	21 - 46	145 - 170	65**
Test #4	304	1	26	14.9	10 am	21 - 46	325 - 350	65**
Test #5	327	1	20	3.1+	5 am+	21 - 46	348 - 373	65**
PCDD/PCDF	15-min							
Test #1	2.7E-02	1	>1640 <sup>a</sup>	10.3	1 pm	na	<u>2.7E-02</u>	3.5E-06@
Test #2	1.6E-03	1	148	15.4	1 pm	na	1.6E-03	3.5E-06@
Test #4	7.9E-04	1	148	14.9	10 am	na	7.9E-04	3.5E-06@
Test #5	8.0E-04	1	82	3.1+	5 am+	na	8.0E-04	3.5E-06@
Lead (Pb) 15-1	min							
Test #1	2.2E-02	1	na	10.3	1 pm	na	<u>2.2E-02</u>	1.5*
Test #2	8.9E-02	1	na	15.4	1 pm	na	8.9E-02	1.5*
Test #4	1.1E-02	1	na	14.9	10 am	na	1.1E-02	1.5*
Test #5	4.9E-03	1	na	3.1+	5 am+	na '	4.9E-03	1.5*
Chromium (C	r) 15-min							
Test #1	1.3E-02	1	na	10.3	1 pm	na	<u>1.3E-02</u>	0.3*
Test #2	7.2E-03	1	na	15.4	1 pm	na	7.2E-03	0.3*
Test #4	3.5E-03	1	na	14.9	10 am	na	3.5E-03	0.3*
Test #5	3.9E-03	1	na	3.1+	5 am+	na	3.9E-03	0.3*
Benzene 15-mi	in							
Test #1	58	1	na	10.3	1 pm	na	<u>58</u>	450@
Test #2	13	1	na	15.4	1 pm	na	13	450@
Test #4	27	1	na	14.9	10 am	na	27	450@
Test #5	16	1	na	3.1+	5 am+	na	16	450@
Toluene 15-mi	n							
Test #1	22 ·	1	na	10.3	1 pm	na	22	260@
Test #2	4	1	na	15.4	1 pm	na	4	260@
Test #4	10	1	na	14.9	10 am	na	10	260@
Test #5	7	1	na	3.1+	5 am+	na	7	260@

### Table A. ISCST3 Refined Modeling Open Burning Results Using 5 ft Flagnole Recentors

Notes:

Maine Ambient Air Quality Standards in MEDEP-BAQ regulations Chapter 110 \*\*

National Ambient Air Quality Standard. •

;

 $PM_{2.5}/PM_{10}$  background concentration ratio of  $0.60^2$ Maine Interim Ambient Air Guidelines (IAAG) not in MEDEP-BAQ regulations @

Not applicable na

+ Also occurred at 10 pm with 3.1m/s wind speed

a Impact at 1640 ft (500 m) is 6.67e-06  $\mu$ g/m<sup>3</sup>

### Table B Maximum Impact Meteorology

				WIND	WIND		STABILITY	MIXING
				DIRECTION	SPEED	TEMP	CLASS	HEIGHT
YEAR	MONTH	DAY	HOUR	(deg)	(m/s)_	(°F)	(1-6)	(m) · .
85	4	17	10	316.0000	14.9188	34	4	1495.1
85	4	17	13	310.0000	15.4332	38	4	1555.8
86	8	19	5	010.0000	3.0866	66	4	660.6
88	6	6	13	296.0000	10.2888	73	4	1942.8
89	8	20	22	195.0000	3.0866	66	4	1147.8

Here's the final results from the ISCST3 refined modeling of open burning of household waste:

- Without background concentrations, the maximum 24-hour impact contribution from just 15-minutes of open burning was 270% of the 24-hour  $PM_{10}$  MAAQS. With background, potential health risks from just a 15-minute dose of  $PM_{10}$  emissions from open burning will occur within 13 feet of the source of open burning.
- Without background concentrations, the maximum 24-hour impact contribution from just 15-minutes of open burning was 580% of the 24-hour  $PM_{2.5}$  NAAQS. With background, potential health risks from just a 15-minute dose of  $PM_{2.5}$  emissions from open burning will occur within 26 feet of the source of open burning.
- Without background concentrations, the maximum 24-hour impact contribution from just 15-minutes of open burning was 1.5% of the 24-hour Pb MAAQS.
- Without background concentrations, the maximum 24-hour impact contribution from just 15-minutes of open burning was 770,000% of the **non enforceable 24-hour dioxin and furan IAAG**. For the Test #1 open burning scenario, just 15-minutes of open burning results in PCDD/PCDF impacts that are 190% of the non enforceable 24-hour dioxin and furan IAAG at a distance of 500 meters (1640 feet). The zone of potential health risks reduces to within 148 feet of the source of open burning for the other three test cases.
- Without background concentrations, the maximum 24-hour impact contribution from just 15-minutes of open burning was 13% of the non enforceable 24-hour Benzene IAAG.
- Without background concentrations, the maximum 24-hour impact contribution from just 15-minutes of open burning was 8.5% of the non enforceable 24-hour Toluene IAAG.

## Chromium

- Chromium (VI) compounds are much more toxic than chromium (III) compounds.
- Chromium (III) is an essential element in humans, with a daily intake of 50 to 200 µg/d recommended for an adult. The body can detoxify some amount of chromium VI to chromium III.
- The respiratory tract is the major target organ for both chromium (VI) and chromium (III) toxicity, for acute (short-term) and chronic (long-term) inhalation exposures. The effects seem to be similar, although chromium (III) is less toxic. Dypsnea, coughing, and wheezing were reported from a case of acute exposure to chromium (VI), while perforations and ulcerations of the septum, bronchitis, decreased pulmonary function, pneumonia, and other respiratory effects have been noted from chronic exposure.
- The Reference Dose (RfD) for chromium (VI) is 0.005 mg/kg/d<sup>a</sup> and the RfD for chromium (III) is 1 mg/kg/d. The U.S. Environmental Protection Agency (EPA) estimates that consumption of these doses or less over a lifetime would not likely result in the occurrence of chronic noncancer effects.<sup>b</sup>
- The Reference Concentrations (RfC) for chromium (III) and chromium (VI) are under review by EPA.
- Limited human studies suggest that chromium (VI) exposure may be associated with complications during pregnancy and childbirth, while animal studies have not reported reproductive effects from inhalation exposure to chromium (VI). Oral animal studies have reported developmental and reproductive effects in mice from chromium (VI) exposure.

• Human studies have clearly established that inhaled chromium is a human carcinogen, resulting in an **increased risk of lung cancer**. Animal studies have shown chromium VI to cause lung tumors via inhalation exposure. EPA has classified chromium (VI) as a Group A, **human carcinogen of high carcinogenic hazard**, with a  $1/\text{ED}_{10}$  value of 390 per (mg/kg)/d<sup>c</sup> and an inhalation unit risk estimate of  $1.2 \times 10^{-2} (\mu g/m^3)^{-1}$ . EPA has classified chromium (III) as a Group D, **not classifiable as to carcinogenicity in humans**.

- <sup>a</sup> Milligrams per kilogram per day is one way to measure the amount of the contaminant that is consumed in food.
- <sup>b</sup> The RfD is not a direct estimator of risk but rather a reference point to gauge the potential effects. Exceedance of the RfD does not imply that an adverse health effect would necessarily occur. As the amount and frequency of exposures exceeding the RfD increase, the probability of adverse health effects also increases.
- <sup>c</sup> The 1/ED<sub>10</sub> value is a measure of the carcinogenic potency of a chemical. The value reported here has been proposed in the hazard ranking of hazardous air pollutants in EPA's proposed rulemaking (Section 112(g) of the Clean Air Act, April 1994).

## Mercury

- Mercury exists in three forms: elemental mercury, inorganic mercury compounds (primarily mercuric chloride), and organic mercury (primarily methyl mercury). All forms of mercury are quite toxic, and each form exhibits different health effects.
- Acute (short-term) exposure to high levels of elemental mercury and methyl mercury in humans results in central nervous system (CNS) effects such as hallucinations and delirium (elemental mercury) and blindness, deafness, and impaired level of consciousness (methyl mercury). Effects on the gastrointestinal tract and respiratory system have also been noted in humans from acute inhalation exposure to elemental mercury.
- Chronic (long-term) exposure to elemental mercury and methyl mercury in humans also affects the **central nervous system.** Effects such as erethism (increased excitability), irritability, excessive shyness, and a tremor have been noted from elemental mercury exposure, and symptoms such as paresthesia (a sensation of pricking on the skin), blurred vision, malaise, speech difficulties, and constriction of the visual field from methyl mercury exposure. The major effect from chronic exposure to inorganic mercury is **kidney damage**.
- The Reference Concentration (RfC) for elemental mercury is 0.0003 mg/m<sup>3</sup>.<sup>a</sup> The U.S. Environmental Protection Agency (EPA) estimates that inhalation of this concentration or less, over a lifetime, would not likely result in the occurrence of chronic noncancer effects.<sup>b</sup>
- The Reference Dose (RfD) for methyl mercury is 0.0003 mg/kg/d.<sup>c</sup> EPA estimates that consumption of this dose or less, over a lifetime, would not likely result in the occurrence of chronic noncancer effects.
- Methyl mercury exposure, via the oral route, exhibits significant developmental effects. Infants born to women who ingested high levels of methyl mercury exhibited mental retardation, ataxia, constriction of the visual field, blindness, and cerebral palsy.
- Human studies are inconclusive regarding elemental mercury and cancer, and no human studies are available on the carcinogenic effects of methyl mercury. EPA has classified inorganic mercury and methyl mercury as Group C, possible human carcinogens, and elemental mercury as Group D, not classifiable as to human carcinogenicity.
- <sup>a</sup> Milligrams per cubic meter is the unit of measurement for chemicals in air.
- <sup>b</sup> The RfC is not a direct estimator of risk but rather a reference point to gauge the potential effects. Exceedance of the RfC does not imply that an adverse health effect would necessarily occur. As the amount and frequency of exposures exceeding the RfC increase, the probability of adverse health effects also increases.
- <sup>°</sup> Milligrams per kilogram per day is one way to measure the amount of the contaminant consumed in food.

## Benzene

- Acute (short-term) inhalation exposure to benzene may cause drowsiness, dizziness, headaches, and unconsciousness in humans. These symptoms stop when the
- exposure ceases. Death may result from exposure to very high levels of benzene. Ingestion of large amounts of benzene may result in vomiting, dizziness, convulsions, and death in humans. Exposure to benzene liquid and vapor may irritate the skin, eyes, and upper respiratory tract. Animals acutely exposed show anemia, bone marrow cell depression, and immunologic effects from inhalation and oral exposure.
  - Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Toxicity to the humoral and cellular immune systems has also been seen.
  - The Reference Concentration (RfC) and Reference Dose (RfD) for benzene are under review by the U.S. Environmental Protection Agency (EPA).
  - Menstrual disorders and a decreased size of ovaries have been observed in women occupationally exposed to high levels of benzene. Adverse effects on the fetus, including low birth weight, delayed bone formation, and bone marrow damage, have been observed from exposure of pregnant animals to benzene by inhalation.
  - Increased incidence of leukemia (cancer of the tissues that form white blood cells) have been observed in humans occupationally exposed to benzene. EPA has classified benzene as a Group A, known human carcinogen of medium carcinogenic hazard, with a 1/ED10 value of 0.27 per (mg/kg)/d<sup>a</sup> and an inhalation unit risk estimate of 8.3  $\times$  10-6 (µg/m3)-1.

<sup>a</sup> The 1/ED10 value is a measure of the carcinogenic potency of a chemical. The value reported here has been proposed in the hazard ranking of hazardous air pollutants in EPA's proposed rulemaking (Section 112(g) of the Clean Air Act, April 1994).

## Hydrochloric acid

- Hydrochloric acid is corrosive to the eyes, skin, and mucous membranes. Acute (short-term) inhalation exposure may cause coughing, hoarseness, inflammation and ulceration of the respiratory tract, chest pain, and pulmonary edema in humans. Acute oral exposure may cause corrosion of the mucous membranes, esophagus, and stomach, with nausea, vomiting, and diarrhea reported.
- Dermal contact may produce severe burns, ulceration, and scarring.
- Chronic (long-term) occupational exposure to hydrochloric acid has been reported to cause gastritis, chronic bronchitis, dermatitis, and photosensitization in workers. Prolonged exposure to low concentrations may also cause dental discoloration and erosion.
- The Reference Concentration (RfC) for hydrochloric acid is 0.007 mg/m3.<sup>a</sup> The U.S. Environmental Protection Agency (EPA) estimates that inhalation of this concentration or less over a lifetime would not likely result in the occurrence of chronic, noncancer effects.<sup>b</sup>
- EPA has not established a Reference Dose (RfD) for hydrochloric acid.
- No information is available on the reproductive or developmental effects of hydrochloric acid in humans. In rats exposed to hydrochloric acid by inhalation, severe dyspnea, cyanosis, and altered estrus cycles have been reported in dams, and increased fetal mortality and decreased fetal weight have been reported in the offspring.
- No information is available on the carcinogenic effects of hydrochloric acid in humans. In one study, no carcinogenic response was observed in rats exposed via inhalation. EPA has not classified hydrochloric acid with respect to potential carcinogenicity.

<sup>a</sup> Milligrams per cubic meter is unit of measurement for chemicals in air.

<sup>b</sup> The RfC is not a direct estimator of risk but rather a reference point to gauge the potential effects. Exceedance of the RfC does not imply

that an adverse health effect would necessarily occur. As the amount and frequency of exposures exceeding the RfC increase, the

probability of adverse health effects also increases.

## PAHs

- No information is available on the acute (short-term) effects of polycyclic organic matter in humans. Animal studies have reported enzyme alterations in the mucosa of the gastrointestinal tract and increases in liver weight from acute oral exposure to several of the polycyclic aromatic hydrocarbons (PAHs).
- Chronic (long-term) exposure to benzo(*a*)pyrene in humans has resulted in dermatitis, photosensitization in sunlight, irritation of the eyes, and cataracts. Animal studies have reported effects on the blood and liver from oral exposure to benzo(*a*)pyrene and effects on the immune system from dermal exposure to benzo(*a*)pyrene.
- The U.S. Environmental Protection Agency (EPA) has not established a Reference Dose (RfD) or a Reference Concentration (RfC) for polycyclic organic matter or for benzo(*a*)pyrene.
- No information is available on the reproductive or developmental effects of polycyclic organic matter in humans. Animal studies have reported that benzo(a)pyrene, via oral exposure, causes reproductive effects, including a reduced incidence of pregnancy and decreased fertility, and developmental effects such as reduced viability of litters and reduced mean pup weights.
- Cancer is the major concern from exposure to polycyclic organic matter. Epidemiologic studies have reported an increase in lung cancer in humans exposed to coke oven emissions, roofing tar emissions, and cigarette smoke; all of these mixtures contain PAHs. Animal studies have reported respiratory tract tumors from inhalation exposure to benzo(a)pyrene and forestomach tumors, leukemia, and lung tumors from oral exposure to benzo(a)pyrene. EPA has classified benzo(a)pyrene as a Group B2, probable human carcinogen of medium carcinogenic hazard, with a 1/ED<sub>10</sub> value of 54 per (mg/kg)d<sup>a</sup> and an oral unit risk estimate of 2.1 × 10<sup>-4</sup> (µg/L)<sup>-1</sup>.
- <sup>a</sup> The 1/ED<sub>10</sub> value is a measure of the carcinogenic potency of a chemical. The value reported here has been proposed in the hazard ranking of hazardous air pollutants in EPA's proposed rulemaking (Section 112(g) of the Clean Air Act, April 1994).



United States Environmental Protection

Agency Office of Air & Radiation Office of Air Quality Planning & Standards



FACT SHEET

April 3, 1997

### HEALTH AND ENVIRONMENTAL EFFECTS OF PARTICULATE MATTER

### Why are We Concerned About Particulate Matter?

- Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Course particles (larger than 2.5 microns) come from windblown dust, grinding operations, etc. Fine particles (less than 2.5 microns) come from fuel combustion, agricultural burning, woodstoves, etc.
- These fine particles are so small that several thousand of them could fit on the period at the end of this sentence.
  - They are of health concern because they easily lodge in the deepest recesses of the lungs.
- A battery of scientific studies have linked particulate matter, especially fine particles (alone or in combination with other air pollutants), with a series of significant health problems, including:
  - Premature death;
  - Respiratory related hospital admissions and emergency room visits;
  - Aggravated asthma;
  - Acute respiratory symptoms, including severe chest pain, gasping, and aggravated coughing;
  - chronic bronchitis;
  - decreased lung function which can be experienced as shortness of breath; and
  - work and school absences.

### Who is Most at Risk from Exposure to Fine Particles?

- The Elderly:
  - Studies estimate that tens of thousands of elderly people die prematurely each year as a result of exposure to ambient levels of fine particles.
  - Studies also indicate that fine particles cause thousands of hospital admissions each year. Many of these are elderly people who are suffering from lung or heart disease.
- Children:
  - The average adult breathes 13,000 liters of air per day. Children breathe 50 percent more air per pound of body weight than adults.
  - Because children's respiratory systems are still developing, they are more susceptible than healthy adults to environmental threats.
  - Exposure to fine particles causes increased frequency in childhood illnesses, which are of concern both in the short run, as well as for the future development of healthy lungs

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Health and Environmental Effects of Particula...

in the affected children.

- Fine particles are also associated with increased respiratory symptoms in children, including aggravated coughing and difficulty or pain in breathing. These can result in school absences and limitations in normal childhood activities.
- Asthmatics and Asthmatic Children:
  - Asthma is a growing threat. Fourteen Americans die every day from asthma, a rate three times greater than just 20 years ago. Children make up 25 percent of the population, but comprise 40 percent of all asthma cases.
  - Breathing fine particles, alone or in combination with other pollutants, can aggravate asthma, causing greater use of medication and resulting in more medical treatment and hospital visits.
- Adults with Preexisting Heart or Lung Disease:
  - Breathing fine particles can also adversely affect individuals with heart disease, emphysema, chronic bronchitis, etc., causing increased medical treatment, more hospital admissions and emergency room visits, and premature death.

### How do Particulate Matter and Fine Particles Affect the Environment?

- The same fine particles linked to serious health effects are also a major cause of visibility impairment in many parts of the U.S.
- In many parts of the U.S. the visual range has been cut by over 70%. In the east the current range is only 14-24 miles vs. a natural range of 90 miles. In the west, the current range is 33-90 miles vs. a natural range of 140 miles.
- Fine particles can remain suspended in the air and travel long distances. For example, a puff of exhaust from a forklift in Los Angeles can end up over the Grand Canyon, where one-third of the haze comes from Southern California. Emissions from a Los Angeles oil refinery can form particles that in a few days will help affect visibility in the Rocky Mountain National Park. Twenty percent of the problem on dirtiest days in that Park are attributed to Los Angeles-generated smog.
- Airborne particles can also cause soiling and damage to materials.

### What Improvements Would Result from EPA's Proposed New Standards?

- EPA's proposed new standards would provide increased health protection from the following effects:
  - About 15,000 lives each year will be saved, especially among the elderly and those with existing heart and lung diseases.
  - Reduced risk of hospital admissions, over 9,000 fewer admissions each year, and many more fewer emergency room visits, especially in the elderly and those with existing heart and lung diseases.
  - Reduced risk of symptoms associated with chronic bronchitis, approximately 60,000 fewer cases each year.
  - Reduced risk of respiratory symptoms in children, over 250,000 fewer incidences each year of symptoms such as aggravated coughing and difficult or painful breathing.
  - Reduced risk of aggravation of asthma, over 250,000 fewer incidences each year, in children and adults with asthma.
  - Reduced risks of more frequent childhood illnesses.

Health and Environmental Effects of Particula...

- The Clean Air Act established special protection for visibility in certain national parks and wilderness areas. In response, EPA is developing a "regional haze" program intended to ensure all parts of the country make continued progress toward the national visibility goal of "no manmade impairment."
- New standards that EPA is now proposing, together with the "regional haze" program under development, will protect against visibility impairment and soiling and material damage effects.

### **Background: What is Particulate Matter and What are Fine Particles?**

- Particulate matter originates from a variety of sources, including diesel trucks, power plants, wood stoves and industrial processes. The chemical and physical composition of these various particles vary widely. While individual particles can not be seen with the naked eye, collectively they can appear as black soot, dust clouds, or grey hazes.
- Those particles that are less than 2.5 microns in diameter are known as "fine" particles; those larger than 2.5 microns are known as "coarse" particles. Fine particles result from fuel combustion (from motor vehicles, power generation, industrial facilities), residential fireplaces and wood stoves and agricultural burning. Fine particles can also be formed in the atmosphere from gases such as sulfur dioxide, nitrogen oxides, and volatile organic compounds. Coarse particles are generally emitted from sources such as windblown dust, vehicles traveling on unpaved roads, materials handling, and crushing and grinding operations.
- EPA's current national air quality standard focuses on small particles less than 10 microns in diameter (known as "PM- 10"). Ten microns is approximately one seventh the diameter of a human hair.
- EPA's current PM-10 standards are 150 micrograms/cubic meter for 24 hours and 50 micrograms/cubic meter for an annual average.
- Prior to 1987 EPA's standards regulated all size particles ("total suspended particulates"), including those larger than 10 microns. By 1987 research had shown that the particles of greatest health concern were those equal to or less than 10 microns that can penetrate into sensitive regions of the respiratory tract.
- Since the standards were last revised, a large number of significant new studies have been published on the health effects of particulate matter. Recent health effects studies suggest that adverse public health effects such as premature deaths and increased morbidity in children and other sensitive populations have been associated with exposure to particle levels well below the existing standard.

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### **APPENDIX 3**

### MAINE'S RECYCLING/SOLID WASTE MANAGEMENT INFRASTRUCTURE

- 3A. Maine Municipal Recycling Rates: 1995 & 1996
- 3B. Listing of Cities and Towns Reporting in Regions
- 3C. Burn Barrel vs. Recycling Rate Chart

# MAINE MUNICIPAL RECYCLING RATES: 1995 1996 1996 1996 1995 1995 1990 Adjusted\* County\*\* Adjusted\* County\*\* Popu

	· · · · · · · · · · · · · · · · · · ·	Adjusted*	County**	Adjusted*	County**	Population
	Civil	Recycling	Adjusted	Recycling	Adjusted	U.S.
County	Division	Rate	Recycling	Rate	Recycling	Census
			Rate		Rate	
	· · · · · · · · · · · · · · · · · · ·					
Key to Ab	breviations:					
	* includes bottle bill -	- backyard co	omposting cr	edits		
	** Does not include pla	antations and	townships			200 Ann
	NR= Nonreporting					
Androscoggin	Auburn	25		29		24309
Androscoggin	Durham	35		37		2842
Androscoggin	Greene	31		29		3661
Androscoggin	Leeds	20		32		1669
Androscoggin	Lewiston	53		33		39757
Androscoggin	Lisbon	61		34		9457
Androscoggin	Livermore	33		35		1950
Androscoggin	Livermore Falls	38		36		3455
Androscoggin	Mechanic Falls	37		37		2919
Androscoggin	Minot	NR		38		1664
Androscoggin	Poland	NR		39		4342
Androscoggin	Sabattus	43		• 40		3696
Androscoggin	Turner	42		41		4315
Androscoggin	Wales	49		42		1223
<b>Average Andros</b>	scoggin		33.3		26.5	105259
Aroostook	Allagash	30		0		359
Aroostook	Amity	37		35		186
Aroostook	Ashland	49		37		1542
Aroostook	Bancroft	0		0		66
Aroostook	Blaine	30		29		784
Aroostook	Bridgewater	35		49		647
Aroostook	Caribou	30		29		9415
Aroostook	Cary Plt	30	· · ·	29		
Aroostook	Castle Hill	41		41		449
Aroostook	Caswell	30		29		408
Aroostook	Chapman	41		41		422
Aroostook/Pisc	Clayton Lake Patrol	NR				
Aroostook	Connor	30		29		
Aroostook	Crystal	37		37		303
Aroostook	Cyr Plt	30		29		
Aroostook	Dyer Brook	37		37		243
Aroostook	Eagle Lake	30		29		942
Aroostook	Easton	30		29	· · · · · · · · · · · · · · · · · · ·	1291
Aroostook	Fort Fairfield	30		29		3998
Aroostook	Fort Kent	37		39		4268
Aroostook	Frenchville	37		39		1338
Aroostook	Garfield Plt	49		42	·····	
Aroostook	Glenwood Plt	NR		NR		
Aroostook	Grand Isle	30		29		558
Aroostook	Hamlin	30		29	e	204
Aroostook	Hammond	37		35		93

		1996	1996	1995	1995	1990
		Adjusted*	County**	Adjusted*	County**	Population
10000 000000 00° 000. **	Civil	Recycling	Adjusted	Recycling	Adjusted	U.S.
County	Division	Rate	Recycling	Rate	Recycling	Census
•	-		Rate		Rate	
Aroostook	Haynesville	NR	·	NR		243
Aroostook	Hersey	37		35		69
Aroostook	Hodgdon	30		29		1257
Aroostook	Houlton	30		NR		6613
Aroostook	Island Falls	37		35		897
Aroostook	Limestone	30		29		9922
Aroostook	Linneus	30		29		810
Aroostook	Littleton	26		17		956
Aroostook	Ludlow	30		29		430
Aroostook	Macwahoc Plt	NR		NR		
Aroostook	Madawaska	37		39		4803
Aroostook	Mapleton	41		39		1853
Aroostook	Mars Hill	37		44		1760
Aroostook	Masardis	49		42		305
Aroostook	Merrill	37		35		296
Aroostook	Monticello	30		29		872
Aroostook	Moro Plt	NR		NR		
Aroostook	Nashville Plt	30		29		
Aroostook	New Canada	30		29		253
Aroostook	New Limerick	37		35		524
Aroostook	New Sweden	30		29		715
Aroostook	Oakfield	30		29		846
Aroostook	Orient	. 20		12		157
Aroostook	Oxbow Plt	49		42		
Aroostook	Perham	41		. 39		395
Aroostook	Portage Lake	NR		NR		445
Aroostook	Presque Isle	41		39		10550
Aroostook	Reed Plt	NR		NR		
Aroostook	Sherman Mills	52		39		1027
Aroostook	Smyrna	37		35		378
Aroostook	St. Agatha	37		39		. 919
Aroostook	St. Francis	NR		NR		683
Aroostook	St. John Plt	NR		NR		
Aroostook	Stockholm	30		29		286
Aroostook	Van Buren	NR		NR		3045
Aroostook	Wade	41		.39		243
Aroostook	Wallagrass Plt	30		29		
Aroostook	Washburn	41		39	:	1880
Aroostook	Westfield	NR		NR		589
Aroostook	Westmanland	30		29		72
Aroostook	Weston	20				207
Aroostook	Winterville Plt	30		29		
Aroostook	Woodland	30		29		1402
Average Aroos	took		36		28.4	83218
Cumberland	Baldwin	35		32		1219
Cumberland	Bridgton	35		32		4307

	· · · · · · · · · · · · · · · · · · ·	1996	1996	1995	1995	1990
		Adjusted*	County**	Adjusted*	County**	Population
	Civil	Recycling	Adjusted	Recycling	Adjusted	U.S.
County	Division	Rate	Recycling	Rate	Recycling	Census
			Rate		Rate	
Cumberland	Brunswick	. 37		39		20906
Cumberland	Cape Elizabeth	35		32		8854
Cumberland	Casco	35		32		3018
Cumberland	Cumberland	35		32		5836
Cumberland	Falmouth	35		32		7610
Cumberland	Freeport	35		32		6905
Cumberland	Gorham	35		32		11856
Cumberland	Gray	35		32		5904
Cumberland	Harpswell	49		. 43		5012
Cumberland	Harrison	35		32		1951
Cumberland	Long Island	24		27		201
Cumberland	Naples	35		32		2860
Cumberland	New Gloucester	38		38		3916
Cumberland	North Yarmouth	35		32		2429
Cumberland	Portland	35		32		64157
Cumberland	Pownal	35		32		1262
Cumberland	Raymond	51		NR		3311
Cumberland	Scarborough	35		32		12518
Cumberland	Sebago	35		32		1259
Cumberland	South Portland	35		32		23163
Cumberland	Standish	35		32		7678
Cumberland	Westbrook	35		32		16121
Cumberland	Windham	35		32		13020
Cumberland	Yarmouth	35		32		7862
Average Cumb	perland		36.09		31.5	243135
Franklin	Avon	34		32		559
Franklin	Carthage	-48		39		325
Franklin	Carrabassett Valley	NR		NR		458
Franklin	Chesterville	23		46		1012
Franklin	Dallas Plt	35		37		
Franklin	Eustis	39		35		616
Franklin	Farmington	48		45		7436
Franklin	Freeman	INR		NR		
Franklin	Industry	32		65		685
Franklin	Jay	53		54		5080
Franklin	Kingfield	37		56		1114
Franklin	Madrid	34		32	·	178
Franklin	New Sharon			NK 50		11/5
Franklin	Devloin T			50		661
Franklin	philling		<u>.</u>			1140
r ranklin	Prinips	34		32	i	1148
Franklin	Rangeley	35	L	- 37		1003
Franklin	Kangeley Pit	<u>35</u>		37 ND		103
r ranklin	Salem	INK		INK		<u> </u>
Franklin	Sandy Kiver Pit					64
Franklin	Davis Twp/ Stetsontow	35				· · ·

### MAINE MUNICIPAL RECYCLING RATES: 1995 1996 1996 1996 1995 1990 1995 Adjusted\* County\*\* Adjusted\* County\*\* Population Civil Recycling Adjusted Recycling Adjusted U.S. County Division Rate Recycling Rate Recycling Census Rate Rate Franklin Strong (N.Freeman) 23 NR 1217 Franklin 30 25 560 Temple Franklin Washington Twp Franklin Weld 37 31 430 4242 Franklin Wilton 46 53 28126 Average Franklin 36.83 33.2 25 24 226 Hancock Amherst Hancock 25 24 82 Aurora Hancock Bar Harbor 38 40 4443 1941 Hancock Blue Hill NR 31 NR Hancock Brooklin 31 785 NR NR 760 Hancock Brooksville Hancock 43 37 4825 Bucksport NR NR Hancock Castine 1161 Hancock 189 Cranberry Isles 43 Hancock Dedham 15 NR 1229 Hancock Deer Isle 25 23 1829 Hancock Eastbrook NR NR 289 Hancock Ellsworth 40 5975 28 Hancock Franklin 35 34 1141 Hancock 41 Frenchboro 54 1986 Hancock Gouldsboro 35 34 59 Hancock Great Pond 25 24 59 Hancock Hancock 32 24 1757 Hancock Lamoine 26 24 1311 Hancock Mariaville 11 NR 270 Hancock Mount Desert 34 34 1899 Hancock Orland 43 1805 25 Hancock 24 72 Osborn Hancock Otis 18 22 355 Hancock Penobscot 21 36 1131 Hancock NR NR 905 Sedgwick Hancock 24 295 Sorrento Hancock Southwest Harbor 38 1952 31 Hancock Stonington 14 25 1252

32

43

22

25

35

23

40

NR

24

31

31

21

11

24

34

25.2

43

NR

NR

28.87

1118

1004

348

1324

1060

515

276

1157

46785

1736

21325

Hancock

Hancock

Hancock

Hancock

Hancock

Hancock

Hancock

Hancock

Kennebec

Kennebec

Average Hancock

Sullivan

Tremont

Trenton

Verona

Albion

Augusta

Waltham

Winter Harbor

Swans Island

Surry

	MAINE MUNICIPAL	RECYCLING	RATES:	1995 1996
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	ŀ	1996	1996	1995	1995	1990
		Adjusted*	County**	Adjusted*	County**	Population
	Civil	Recycling	Adjusted	Recycling	Adjusted	U.S.
County	Division	Rate	Recycling	Rate	Recycling	Census
			Rate	·	Rate	
					·	·····
Kennebec	Belgrade	39	1	39		2375
Kennebec	Benton	NR		NR	·····	2312
Kennebec	Chelsea	40			43	2497
Kennebec	China	NR		NR		3713
Kennebec	Clinton	NR		NR		3332
Kennebec	Farmingdale	40			43	2918
Kennebec	Fayette	NR		NR		855
Kennebec	Gardiner	40			43	6746
Kennebec	Hallowell	40			43	2534
Kennebec	Litchfield	30		18		2650
Kennebec	Manchëster	40			43	2099
Kennebec	Monmouth	49		· ·	46	3353
Kennebec	Mt. Vernon	28		33		1362
Kennebec	Oakland	31		28		5595
Kennebec	Pittston	40			43	2444
Kennebec	Randolph	40			43	1949
Kennebec	Readfield	35			39	2033
Kennebec	Rome	21		27		758
Kennebec	Sidney	42		44		2593
Kennebec	Vassalboro			NR		3679
Kennebec	Vienna	38		40		417
Kennebec	Waterville	27			37	17173
Kennebec	Wayne	35			39	1029
Kennebec	West Gardiner	37		42		2531
Kennebec	Windsor			. 25		1895
Kennebec	Winslow				37	7997
Kennebec	Winthrop	60		27		5968
Average Ken	nebec		37.05		30.2	115868
Knox	Appleton	39			41	1069
Knox	Camden	33			29	5060
Knox	Cushing				48	. 988
Knox	Friendship				48	1099
Knox	Норе	33			29	1017
Knox	Isle Au Haut	39		53		. 46
Knox	Matinicus Isle Plt	<u>NR</u>		NR		
Knox	North Haven	48		48		332
Knox	Owls Head	18			20	1574
Knox	Rockland	51		42		7972
Knox	Rockport	33			29	2261
Knox	St. George	27		25		2854
Knox	S. Thomaston	18	·		20	1227
Knox	Thomaston	18			20	3306
Knox	Union	39	l	<u> </u>	41	1989
Knox	Vinalhaven	59		NR		1072
Knox	Warren	43		49		3192
Knox	Washington	39			41	1185

	MAINE MUNIC	IPAL RECYC	LING RATE	ES: 1995 1	996	
		1996	1996	1995	1995	1990
		Adjusted*	County**	Adjusted*	County**	Population
	Civil	Recycling	Adjusted	Recycling	Adjusted	U.S.
County	Division	Rate	Recycling	Rate	Recycling	Census
			Rate		Rate	
Average Knox			34.93		34.29	36243
Lincoln	Alna	46	,		44	571
Lincoln	Boothbay	63			35	2648
Lincoln	Boothbay Harbor	63			35	2347
Lincoln	Bremen	35			29	674
Lincoln	Bristol	47			42	2326
Lincoln	Damariscotta	35			29	1811
Lincoln	Dresden	73			40	1332
Lincoln	Edgecomb	63			35	993
Lincoln	Jefferson	35			29	2111
Lincoln	Monhegan Plt					
Lincoln	Newcastle	35			29	1538
Lincoln	Nobleboro	35			29	1455
Lincoln	Somerville	39			41	458
Lincoln	South Bristol	47			42	825
Lincoln	Southport	63			35	645
Lincoln	Waldoboro	41			48	4601
Lincoln	Westport	46			44	663
Lincoln	Whitefield	40		NR		1931
Lincoln	Wiscasset	46			44	3339
Average Linco	ln		47.33		35	30268
Oxford	Andover			27		953
Oxford	Bethel	40			36	2329
Oxford	Brownfield	40			36	1034
Oxford	Buckfield	33			35	1566
Oxford	Byron	36			30	111

645 Linc Linc 601 Linc 663 931 Linc Line 339 268 Aver 953 Oxfo 329 Oxfo 034 Oxfo Oxfo 566 Oxfo 111 Oxford 40 36 951 Canton Oxford Denmark 40 36 855 30 2574 Oxford Dixfield 36 Oxford Fryeburg 36 37 2968 Oxford 40 36 ·204 Gilead 40 36 Oxford Greenwood 689 272 40 36 Oxford Hanover 36 14 722 Oxford Hartford Oxford 40 36 Hebron 878 Oxford Hiram NR NR 1260 Oxford Lincoln Plt 40 36 44 29 Oxford Lovell 888 Oxford Mexico 36 30 3344 Oxford Newry 40 36 316 Oxford Norway 40 36 4754 40 36 Oxford Otisfield 1136 73 Oxford Oxford 46 3705 Paris Oxford 40 36 4492 Oxford 36 30 Peru 1541 NR Oxford NR 1301 Porter

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		1996	1996	1995	1995	1990
		Adjusted*	County**	Adjusted*	County**	Population
	Civil	Recycling	Adjusted	Recycling	Adjusted	U.S.
County	Division	Rate	Recycling	Rate	Recycling	Census
			Rate		Rate	
Oxford	Riley Township		Ĩ			
Oxford	Roxbury	36			30	437
Oxford	Rumford	36			30	7078
Oxford	Stoneham	40			36	224
Oxford	Stow				29	283
Oxford	Sumner	33			35	761
Oxford	Sweden				29	222
Oxford	Upton	27	1		36	70
Oxford	Waterford	40			36	1299
Oxford	West Paris	48		34		1514
Oxford	Woodstock	40			36	1194
Average Oxfo	ord		38.8		33.2	51925
Penobscot	Alton			44		771
Penobscot	Bangor	44		48		33181
Penobscot	Bradford	32			44	1103
Penobscot	Bradley	· 23		19		1136
Penobscot	Brewer			36	· ·	9021
Penobscot	Burlington				23	360
Penobscot	Carmel	NR		NR		1906
Penobscot	Carroll Plt					
Penobscot	Charleston	32			44	1187
Penobscot	Chester					442
Penobscot	Clifton	23		20		607
Penobscot	Corinna				44	2196
Penobscot	Corinth	32			44	2177
Penobscot	Dexter				44	4419
Penobscot	Dixmont	-38		35		1007
Penobscot	East Millinockett	53		53		2166
Penobscot	Eddington	17		15		1947
Penobscot	Edinburg	NR		12		107
Penobscot	Enfield	NR		14		1476
Penobscot	Etna	NR		NR		977
Penobscot	Exeter				44	937
Penobscot	Garland	NR		NR		1064
Penobscot	Great Pond		1		. 24	
······································	Glenburn			NR		3198
Penobscot	Greenbush	19		25		1309
Penobscot	Hampden	53	1	17	İ	5974
Penobscot	Hermon	33		23		3755
Penobscot	Holden	31		24		2952
Penobscot	Howland	48		61	1	1435
Penobscot	Hudson			46		1048
Penobscot	Kenduskeag			11		1234
Penobscot	Lagrange	11				557
Penobscot	Lakeville	18				45
Penohscot	Lee	15	T	16		832

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		1996	1996	1995	1995	1990
		Adjusted*	County**	Adjusted*	County**	Population
	Civil	Recycling	Adjusted	Recycling	Adjusted	U.S.
County	Division	Rate	Recycling	Rate	Recycling	Census
			Rate	-	Rate	
Penobscot	Levant	16		19		1627
Penobscot	Lincoln	34		38		5587
Penobscot	Lowell					267
Penobscot	Mattawamkeag	28		20		830
Penobscot	Maxfield					86
Penobscot	Medway	30			39	1922
Penobscot	Milford	49		38		2884
Penobscot	Millinocket	55		49		6956
Penobscot	Mt. Chase	37			35	254
Penobscot	Newburgh			50		1317
Penobscot	Newport	53		47		3036
Penobscot	Old Town	55		45		8317
Penobscot	Orono	44		40		10573
Penobscot	Orrington	NR		23		3309
Penobscot	Passadumkeag	38		38		428
Penobscot	Patten	37			35	1256
Penobscot	Plymouth	18		27		1152
Penobscot	Seboeis Plt					40
Penobscot	Springfield	10		NR		406
Penobscot	Stacyville	52			44	480
Penobscot	Stetson	35		41		847
Penobscot	Veazie	40		37		1633
Penobscot	Webster Plt					
Penobscot	Winn	30		30		479
Penobscot	Woodville	30			39	215
Penobscot	Indian Isl. Reserve	NR .		NR		476
<b>Average Peno</b>	bscot		33.69		26.9	144903
Piscataquis	Abbot	49		54		677
Piscataquis	Atkinson	44			54	332
Piscataquis	Barnard Plt	44			54	
Piscataquis	Beaver Cove	27			NR	104
Piscataquis	Bowerbank	44			54	72
Piscataquis	Brownville	9		16		1506
Piscataquis	Dover-Foxcroft	44			- 54	4657
Piscataquis	Greenville	27			NR	1884
Piscataquis	Guilford	16		NR		1710
Piscataquis	Medford			30		194
Piscataquis	Milo	NR		NR		2600
Piscataquis	Monson	33			37	744
Piscataquis	Parkman	43		30		790
Piscataquis	Sangerville	44	ŀ		54	1398
Piscataquis	Sebec	44			54	554
Piscataquis	Shirley	27			. 37	271
Piscataquis	Wellington				33	270
Piscataquis	Williamsburg	NR		NR		
Piscataquis	Willimantic	39	н. — — — — — — — — — — — — — — — — — — —	33		170

		1996	1996	1995	1995	1990
· · · · · · · · · · · · · · · · · · ·		Adjusted*	County**	Adjusted*	County**	Population
	Civil	Recveling	Adjusted	Recycling	Adjusted	U.S.
County	Division	Rate	Recycling	Rate	Recycling	Census
			Rate		Rate	
		-				
Average Pisca	ntaquis		35.6	<u> </u>	31.2	17933
Sagadahoc	Arrowsic	42		43		498
Sagadahoc	Bath	38		30		9799
Sagadahoc	Bowdoin	35		33		2207
Sagadahoc	Bowdoinham	61		39		2192
Sagadahoc	Georgetown	NR		NR		914
Sagadahoc	Phippsburg	NR		NR		1815
Sagadahoc	Richmond	34		27		3072
Sagadahoc	Topsham	56		60		8746
Sagadahoc	West Bath	44		NR		1716
Sagadahoc	Woolwich	46			44	2570
Average Saga	dahoc		44.5		27.6	33529
Somerset	Anson	24		26		2382
Somerset	Athens	NR		NR		897
Somerset	Bingham	33		32		1230
Somerset	Brighton Plt					94
Somerset	Cambridge	48		55	······································	490
Somerset	Canaan	28		25		1636
Somerset	Caratunk	18			NR	98
Somerset	Concord					
Somerset	Cornville	42		34		1008
Somerset	Dead River Township					
Somerset	Dennistown Plt	40			41	32
Somerset	Detroit	28		33		751
Somerset	Embden	NR		NR		659
Somerset	Fairfield				37	6718
Somerset	Harmony	25			. 33	838
Somerset	Hartland				41	1806
Somerset	Highland Plt					38
Somerset	Jackman	40			41	920
Somerset	Lexington	37			56	
Somerset	Madison	31		NR		4725
Somerset	Mercer	37		34		593
Somerset	Moose River	40			41	233
Somerset	Moscow	30		28		608
Somerset	New Portland	37			56	. 789
Somerset	Norridgewock	27		28		3105
Somerset	Palmyra	37		40		1867
Somerset	Pittsfield	41			43	4190
Somerset	Pleasant Ridge					91
Somerset	Ripley				44	445
Somerset	Skowhegan	44		45		1724
Somerset	Smithfield	16		15		8725
Somerset	Solon	19		18		865
Somerset	St. Albans				44	916
Somerset	Starks	27		22		508

		1996	1996	1995	1995	1990
		Adjusted*	County**	Adjusted*	County**	Population
	Civil	Recveling	Adjusted	Recycling	Adjusted	U.S.
County	Division	Rate	Recycling	Rate	Recycling	Census
			Rate		Rate	
Somerset	The Forks Plt			NR		
Somerset	West Forks Plt			NR		
Average Some	rset		32.57		31.4	48981
Waldo	Belfast	28		33		6355
Waldo	Belmont	24		NR		652
Waldo	Brooks	33		54		900
Waldo	Burnham	19		32		961
Waldo	Frankfort	13		9		1020
Waldo	Freedom	36		29		593
Waldo	Islesboro	31		33		579
Waldo	Jackson	34		35		415
Waldo	Knox	34		33		681
Waldo	Liberty '	39			41	790
Waldo	Lincolnville	33			29	1809
Waldo	Monroe	25		21		802
Waldo	Montville	34		42		877
Waldo	Morrill			42		644
Waldo	Northport	11		15		1201
Waldo	Palermo	39			41	1021
Waldo	Prospect	NR		NR		542
Waldo	Searsmont	15		20		938
Waldo	Searsport			16	. <u></u>	2603
Waldo	Stockton Springs	43		28		1383
Waldo	Swanville	NR		NR		1130
Waldo	Thorndike			28		702
Waldo	Troy	35		41		802
Waldo	Unity	31		40		1817
Waldo	Waldo	NR		NR		626
Waldo	Winterport	29		27		3175
Average Wald	0		29		26.5	33018
Washington	Addison	20			33	1114
Washington	Alexander	14			22	478
Washington	Baileyville	14			22	2031
Washington	Baring	14				275
Washington	Beals	20			33	667
Washington	Beddington					43
Washington	Calais					3963
Washington	Centerville	20			33	30
washington	Charlotte		ļ	<u>_</u>		271
wasnington		33				. 1183
wasnington	Coalyville Pit					427
wasnington	Columbia Columbia	20		ļ	33	437
Washington	Columbia Falls	20		<u> </u>	33	552
washington	Crowford	14			18	124
Washington	Cutler	14	· · · · · · · · · · · · · · · · · · ·		10	770
r v ashingtun		1	1	1	1 10	1 ///

		1996	1996	1995	1995	1990
		Adjusted*	County**	Adjusted*	County**	Population
	Civil	Recycling	Adjusted	Recycling	Adjusted	U.S.
County	Division	Rate	Recycling	Rate	Recycling	Census
			Rate		Rate	
Washington	Danforth	26	 	<u> </u>	28	710
Washington	Deblois			· · · · ·		73
Washington	Dennysville	14			18	355
Washington	East Machias	14			18	1218
Washington	Eastport	NR		12	-	1965
Washington	Grand Lake Stream Plt	14			22	
Washington	Harrington	33		1	34	893
Washington	Indian Twp Reserve	21		22		585
Washington	Jonesboro	20			. 33	1525
Washington	Jonesport	20			33	1853
Washington	Lubec	25		26		1853
Washington	Machias	36			NR	2569
Washington	Machiasport	11		NR		1166
Washington	Marshfield	36			NR	461
Washington	Meddybemps	14			18	133
Washington	Milbridge	15				1305
Washington	Northfield	14			18	99
Washington	Pembroke	14			18	852
Washington	Perry	14			18	758
Washington	Pleasant Pt Res.	NR		NR		572
Washington	Princeton	NR		NR		973
Washington	Robbinston	14			18	495
Washington	Roque Bluffs	36			NR	234
Washington	Steuben	17		17		1084
Washington	Talmadge	14			18	62
Washington	Topsfield	. 14			22	235
Washington	Vanceboro	NR		NR		237
Washington	Waite	14			22	124
Washington	Wesley	14			18	142
Washington	Whiting	. 14			18	329
Washington	Whitneyville	36			NR	266
Average Washington			19.38		15.86	35162
York	Acton	16		23		1727
York	Alfred	35		24		2238
York	Arundel			28		2669
York	Berwick			26		5995
York	Biddeford	41		40		20710
York	Buxton	44		28		6494
York	Cornish	NR		NR		1178
York	Dayton	21		19		. 1197
York	Eliot	41		44		5329
York	Hollis	35			32	3573
York	Kennebunk	-28		29		8004
York	Kennebunkport	28		21		3356
York	Kittery	41	,	41		9372
York	Lebanon	34		33		4263

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		1996	1996	1995	1995	1990
		Adjusted*	County**	Adjusted*	County**	Population
	Civil	Recycling	Adjusted	Recycling	Adjusted	U.S.
County	Division	Rate	Recycling	Rate	Recycling	Census
			Rate		Rate	
York	Limerick	NR		NR		1688
York	Limington	35			32	2796
York	Lyman	35			32	3390
York	Newfield			15		1042
York	North Berwick	21		20		3793
York	Ogunquit				32	974
York	Old Orchard Beach	27		NR		7789
York	Parsonsfield	NR		NR		1472
York	Saco			41		15181
York	Sanford	26		25		20463
York	Shapleigh	44		20		1911
York	South Berwick	44		37		5877
York	Waterboro	35			32	4510
York	Wells	62		59		7778
York	York	NR		NR		9818
Average York			34.65		25.2	164587
State Municipal Average Adjusted Recycling Rate			34.8		27.2	

### **Cities and Towns Reporting in Regions 1996**

Aroostook Valley Solid Waste Disposal District: Ashland, Masardis, Garfield Plantation, Oxbow Plantation Baileyville Region: Baileyville, Alexander, Topsfield, Grand Lake Stream, Baring, Crawford, Waite, Talmadge Boothbay Region: Boothbay, Boothbay Harbor, Edgecomb, Southport Bristol Region: Bristol, South Bristol Buckfield Region: Buckfield, Sumner Bucksport Region: Bucksport, Orland Camden Region: Camden, Hope, Lincolnville, Rockport CaratunkRegion: Caratunk, The Forks, West Forks Central Penobscot Solid Waste Facility: Corinth, Bradford, Charleston, Lamoine Coastal Recycling: Franklin, Gouldsboro, Hancock, Harrington, Sorrento, Sullivan, Winter Harbor, Cherryfield Dover-Foxcroft Region: Dover-Foxcroft, Atkinson, Sangerville, Sebec, Barnard, Bowerbank Frenchboro Region: Frenchboro, Long Island Greenville Region: Greenville, Shirley, Beaver Cove, unorganized Territories, Big Squaw, Little Squaw, Hartford's Point Harmony Region: Harmony, Wellington Hatch Hill Region: Augusta, Chelsea, Farmingdale, Gardiner, Hallowell, Manchester, Pittston, Randolph, Whitefield Houlton Region: Houlton, Hodgdon, Ludlow, Linneus, Monticello, Oakfield Jackman Region: Jackman, Dennistown, Moose River Kingfield Region: Kingfield, New Portland, Lexington Lovell Region: Lovell, Sweden, Stow Machias Region: Machias, Whitneyville, Marshfield, Roque Bluffs Marion Township: Robbinson, Perry, Pembroke, Charlotte, Cooper, Meddybemps, Wesley, Northfield, Dennysville, Whiting, Cutler, East Machias Medway Region: Medway, Woodville Mid-Coast Recycling: Camden, Rockport, Hope, Lincolnville Mid-Maine Solid Waste Association: Dexter, Corinna, St. Albans, Exeter, Ripley Monmouth Region: Monmouth, Wales Monson Region: Monson, Blanchard, Ellitottsville Mount Desert Region: Mount Desert, Sommesville, Northeast Harbor, Otter Creek, Seal Harbor Nobleboro Region: Nobleboro, Jefferson, Bremen, Damariscotta, Newcastle Northern Aroostook Regional Incinerator Facility: Frenchville, Fort Kent, Madawaska, St. Agatha Northern Kathadin Valley: Amity, Crystal, Dyer Brook, Hammond, Hersey, Island Falls, Merrill, Mt. Chase, New Limerick, Patten, Smyrna North Oxford Region Byron, Dixfield, Mexico, Peru, Roxbury, Rumford Oxford Region: Bethel, Brownfield, Canton, Denmark, Gilead, Greenwood, Hanover, Hartford, Hebron, Newry, Norway, Paris, Otisfield, Stoneham, Upton, Waterford, Woodstock, Lincoln Plantation Phillips Region: Phillips, Avon, Madrid Pleasant River Solid Waste Disposal District: Addison, Beals, Centerville, Columbia, Columbia Falls, Jonesboro, Jonesport Presque Isle Region: Presque Isle, Washburn, Perham, Chapman, Castle Hill, Mapleton, Wade, Squa Pan Lake Rangeley Region: Rangeley, Stetson Township, Davistown, Redington, Township E, Dallas Plantation Readfield Region: Readfield, Wayne Regional Waste Systems: Baldwin, Bridgton, Cape Elizabeth, Casco, Cumberland, Falmouth, Freeport, Gorham, Gray, Harrison, Hollis, Limington, Lyme, North Yarmouth, Ogunguit, Portland, Pownal, Scarborough, South Portland, Waterboro, Windham, Yarmouth Sherman Region: Sherman, Stacyville, Benedicta, Silver Ridge Thomaston Region: Thomaston, Owl's Head, South Thomaston Tri-Community Recycling & Solid Waste: Caribou, Wallgrass, Limestone, Cary Plantation, Caswell, Stockholm, New Sweden, Easton, Westmanland, Woodland, Hamlin, Connor, T16R4, Blaine, Eagle Lake, Nashville Plantation, New Canada, Portage Lake, Allagash, Grand Isle, T15 R6, T15R14, Winterville Plantation, Cyr Plantation Tri-County: Appleton, Liberty, Palermo, Somerville, Union, Washington Union River Joint Solid Waste Management District: Aurora, Amherst, Great Pond, Osborn, Waltham Waldoboro Region: Waldoboro, Friendship, Cushing Wilton Region: Wilton, Washington Township, Perkins Township

witton Region: witton, wasnington Township, Perkins Township

Wiscasset Region: Wiscasset, Woolwich, Westport, Alna

Appendix 3B: Page 1



### **Burn Barrel Influence on Recycling Rate**

This chart show that no clear correlation exists between recyling rates and burn barrels Appendix 3C: Page 1

### **APPENDIX 4**

### **1997 BACKYARD TRASH BURNING STUDY PARTICIPANTS**

4A. Backyard Burning Study Group

### **1997 BACKYARD TRASH BURNING STUDY GROUP**

Maine Bureau of State Planning Collin Therrein Kirk Goddard

Maine Department of Conservation Bureau of Forestry Tom Parent

Maine Department of Environmental Protection Bureau of Air Quality Deb Avalone-King Jim Brooks Jeff Crawford Judy Landers

Maine Department of Human Services Bureau of Health Andy Smith

Maine Lung Association Norm Anderson

Maine Municipal Association Jeff Herman

### Maine State Legislatos Representative Tom Bull Representative June Meres Representative Paul Volenik Senator Sharon Treat