

2002-2010 Long Range Phragmites Study Location: Danvers: Osram Sylvania

Massachusetts Audubon Society, Endicott Center

Transect 0

Clay Soil under peat

2004 Duff and Essex Aggie 9/21/04

2011 Duff & HRMS

of plants=8

SPECIES

1=Present (D= Dead)

2005 Duff & Essex Aggie 9/26/05

9 Species

2008 Duff and HRMS

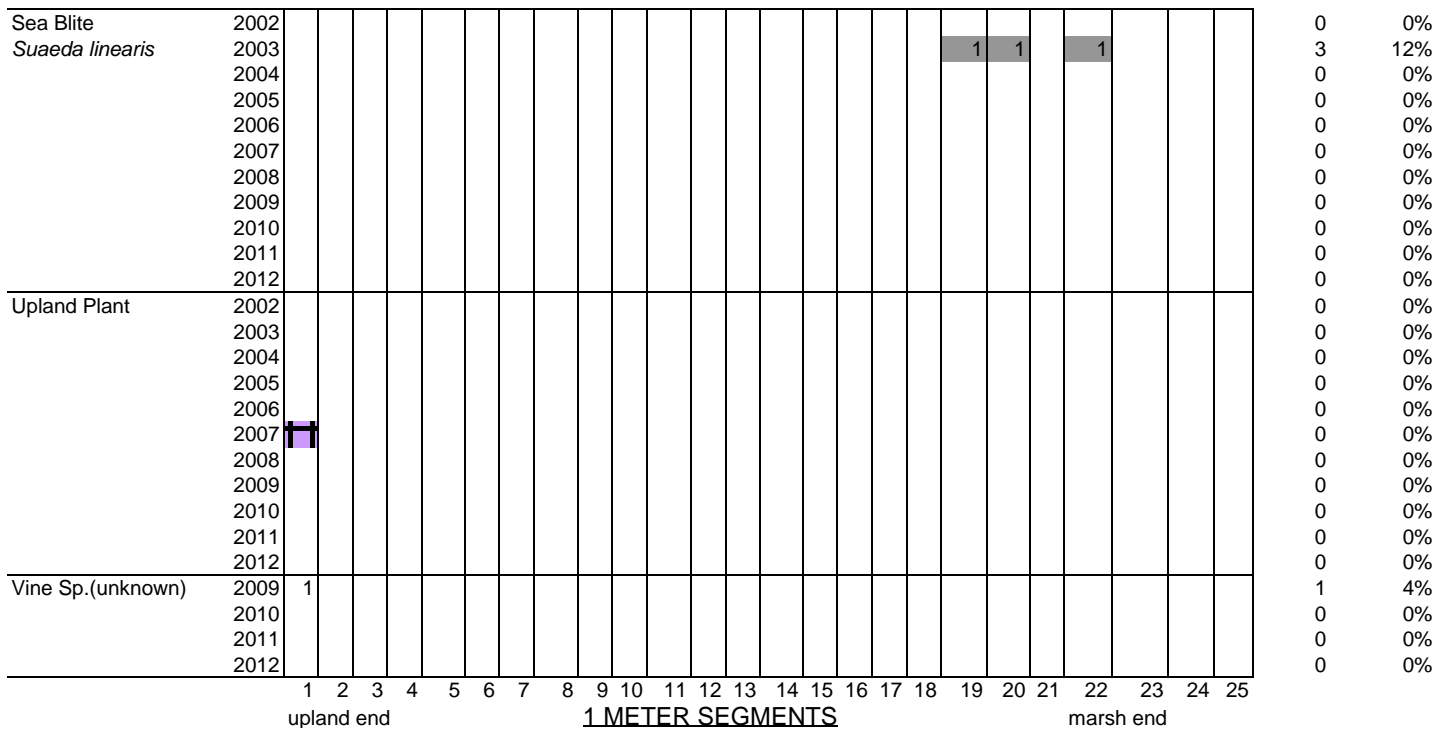
?= Late in season identificatio

2009 Hodsdon & HRMS

2010 Duff & HRMS

of intervals present in

		1 METER SEGMENTS																										
		upland end												marsh end														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	# of intervals present in	% frequency
Phragmites <i>Phragmites australis</i>	2002	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						19	76%
	2003	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				21	84%
	2004	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23	92%
	2005	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24	96%
	2006	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25	100%
	2007	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24	96%
	2008	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25	100%
	2009	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25	100%
	2010	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25	100%
	2011	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25	100%
	2012																										0	0%
	Saltmarsh Hay <i>Spartina patens</i>	2002			1		1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	80%
2003												1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	56%	
2004												1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	56%	
2005												1	1	1	1	1	1	1	1	1	1	1	1	1	1	8	32%	
2006												1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	60%	
2007													1	1												4	16%	
2008																	1	1								2	8%	
2009																											0	0%
2010																				1	1	1	1	1	1	1	7	28%
2011																				1	1		1	1	1	1	6	24%
2012																											0	0%
Seaside Goldenrod <i>Solidago sempervirens</i>		2002											1		1	1	1	1	1	1	1	1	1	1	1	1	13	52%
	2003												1	1	1	1	1	1	1	1	1	1	1	1	1	10	40%	
	2004																			1					1	1	5	20%
	2005														1			1		1		1	1	1	1	6	24%	
	2006																										0	0%
	2007																										0	0%
	2008																										0	0%
	2009																										0	0%
	2010																										0	0%
	2011																										0	0%
	2012																										0	0%
	Spikegrass <i>Distichlis spicata</i>	2002					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19	76%
2003										1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	60%	
2004										1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	64%	
2005												1	1	1	1	1	1	1	1	1	1	1	1	1	1	13	52%	
2006													1	1	1	1	1	1	1	1	1	1	1	1	1	12	48%	
2007														1	1	1	1	1	1	1	1	1	1	1	1	11	44%	
2008															1	1	1	1	1	1	1	1	1	1	1	11	44%	
2009																		1	1	1	1	1	1	1	1	9	36%	
2010																							1	1	1	3	12%	
2011																											0	0%
2012																											0	0%



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 Location: Danvers: Osram Sylvania

1 METER SEGMENTS
 Transect 1 - distribution of species

Danvers: Osram Sylvania Meter 0 is at transect 0 meter 19.


Location: Danvers, Osram Sylvania

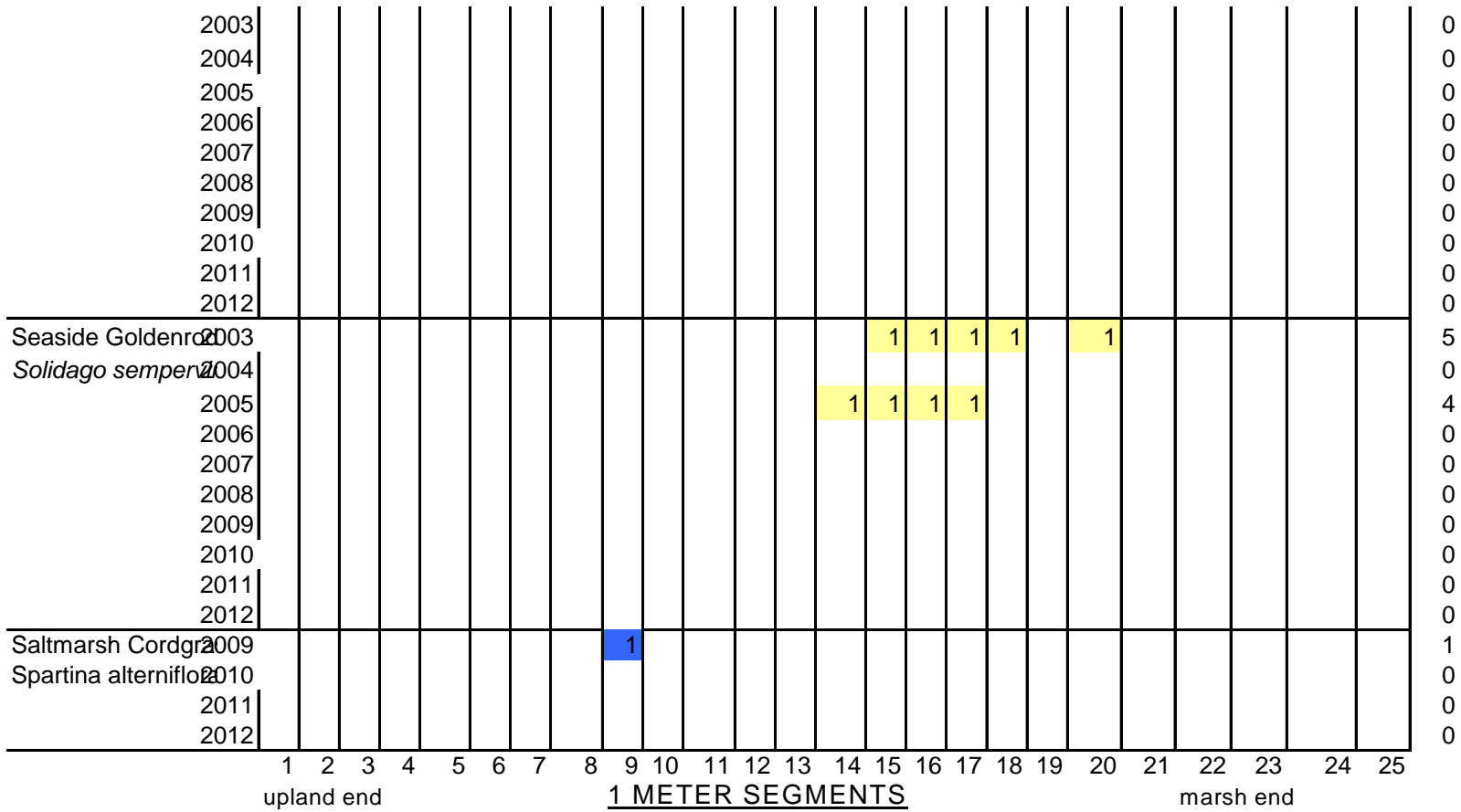
Transect 1

Long Range Phragmites 1998 12/7/98 Duff
 MassAudubonSMS 1999 8/25/99 Duff & Mowry 2004 Duff and Essex Aggie 9/21 08 Duff and HRMS
Clay Soil under peat 2000 11/7/00 Duff 2005 Duff and Essex Aggie 9/26 09 Duff & HRMS
SPECIES 2001 12/27/01 Duff 2006 Duff 10/3 10 Duff & HRMS

1=Present upland end 1 METER SEGMENTS marsh end 2011 Duff & HRMS
 ?= Late in season ident

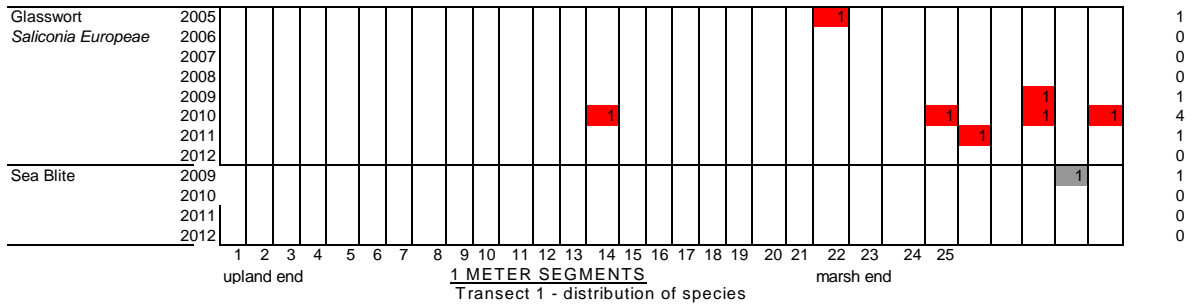
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	# of
Phragmites S 1998	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				1	1	1					17
<i>Phragmites australis</i> 1998	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				18
1999	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				15
2000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				10
2001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				15
2002	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				14
2003	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				13
2004	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				19
2005	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				11
2006	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				16
2007	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				14
2008	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
2009	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
2010	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
2011	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
2012																										0
Saltmarsh Hay S 1998																										0
<i>Spartina patens</i> 1998					1	1	1	1	1	1		1										1	1	1	1	10
1999																										0
2000																					1	1	1	1	1	6
2001					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
2002	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24
2003					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18
2004	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23
2005	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25
2006		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
2007		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23
2008	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
2009	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25
2010		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23
2011		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23

 is immature



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1 METER SEGMENTS
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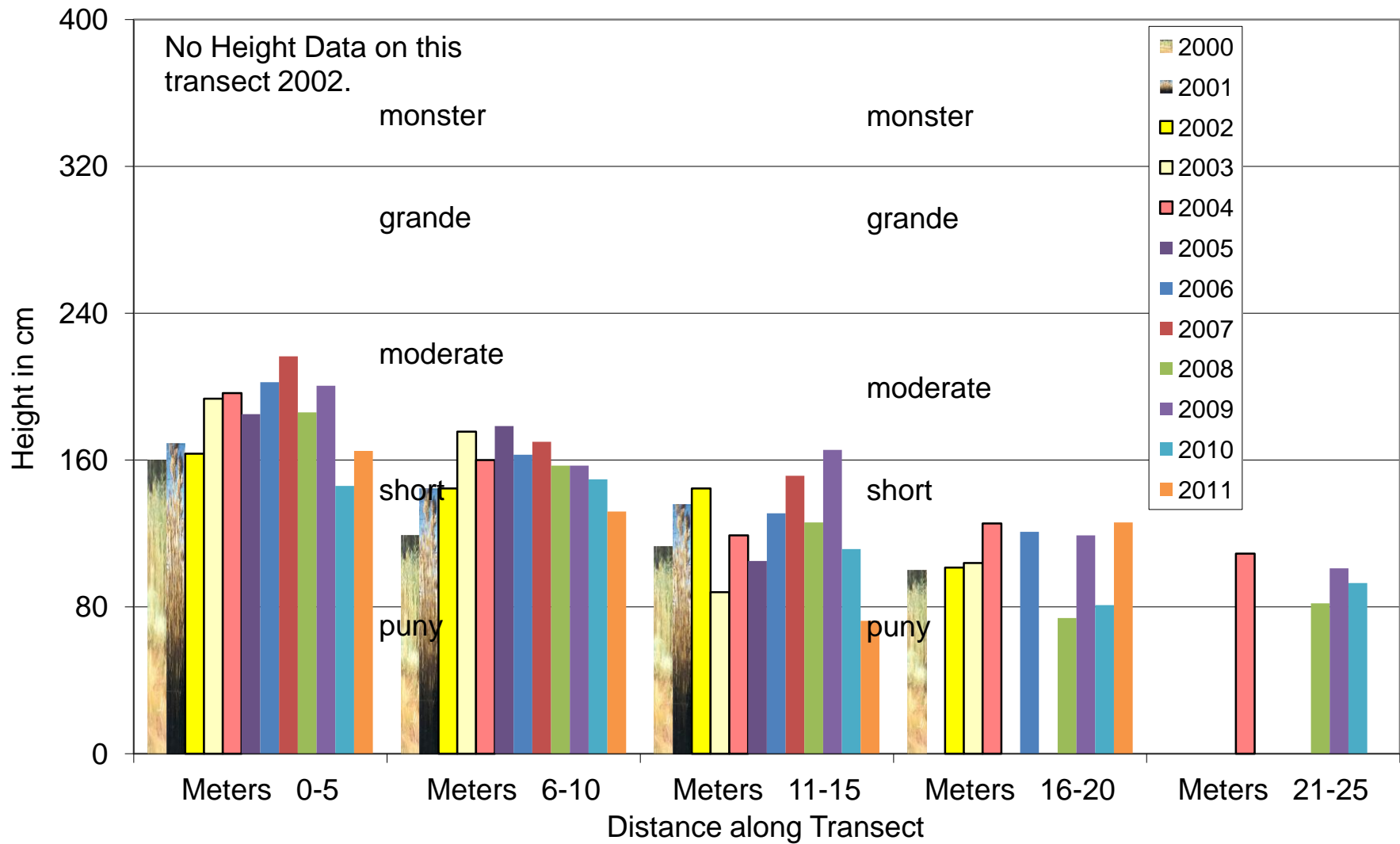


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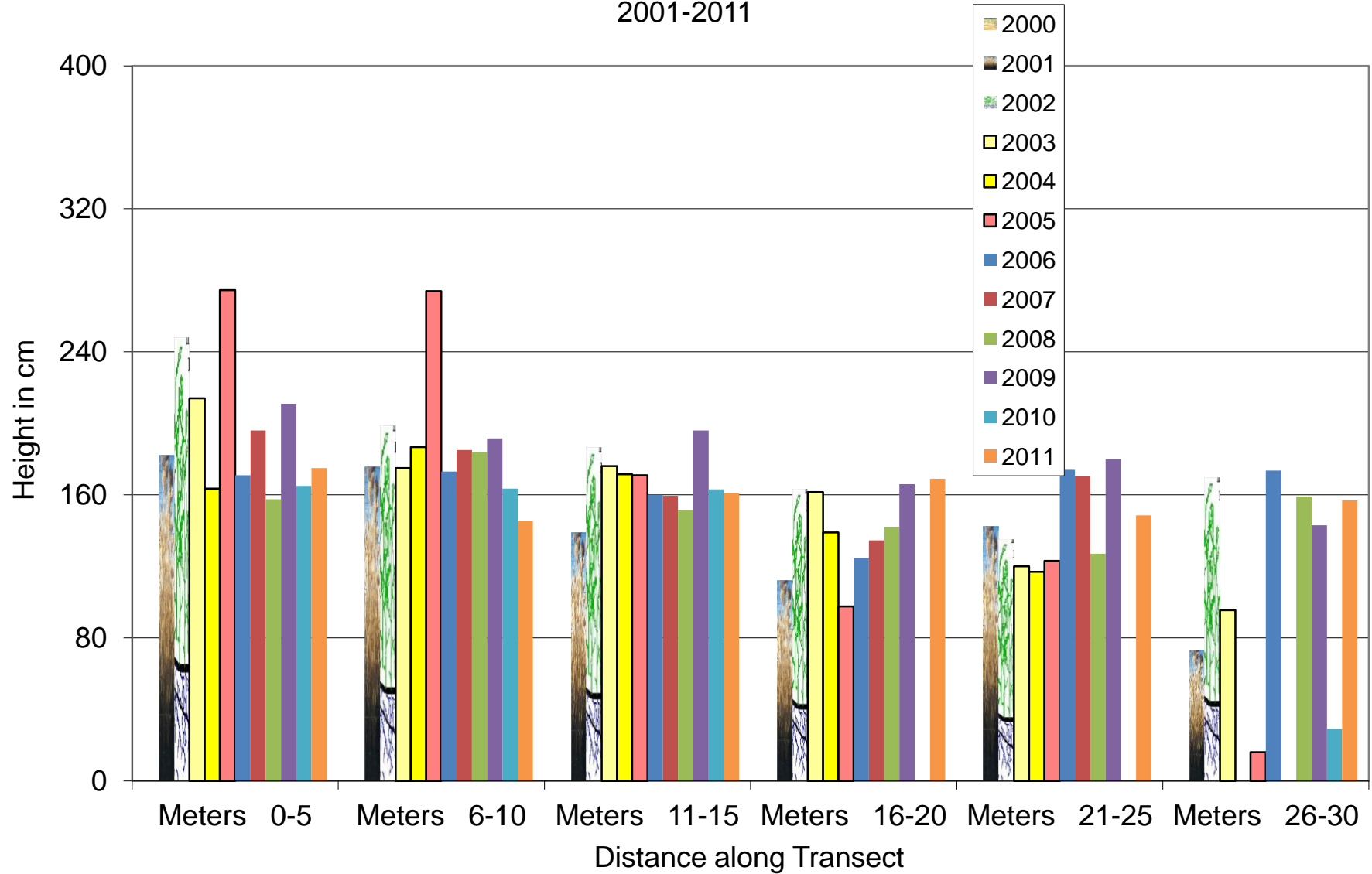
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1 METER SEGMENTS
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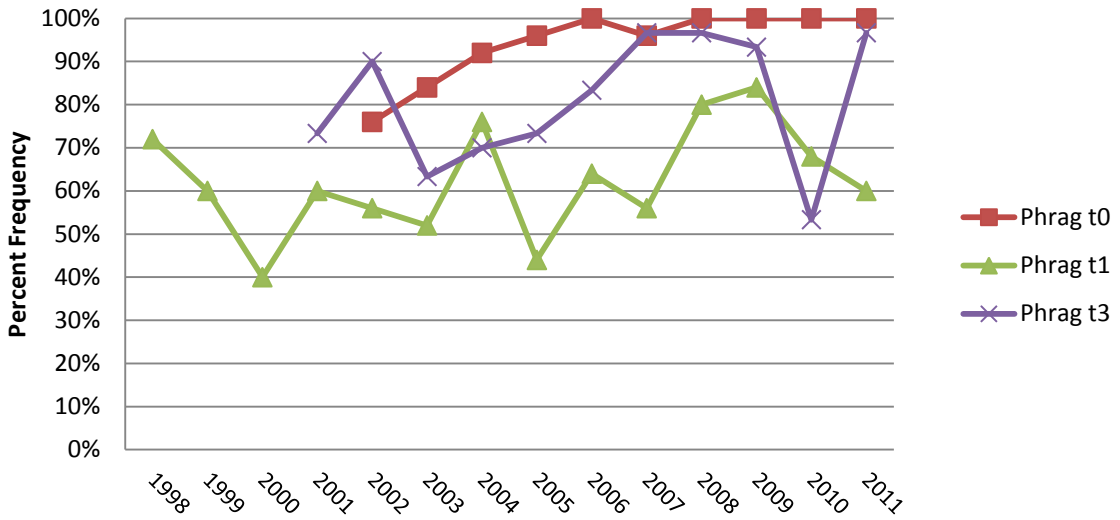
Average *Phragmites* Heights, Transect 1, Osram Sylvania, Danvers
2000-2011



Average *Phragmites* Heights, Transect 3, Osram Sylvania, Danvers
2001-2011



Phragmites Danvers



Salt Marsh Hay Danvers

