Appendix 2. Summary of development feature distribution within 100 metres of survey stations within full dataset of 284 point count stations and sub-sample dataset of 157 point count stations included in Dark-eyed Junco (*Junco hyemalis*) and Palm Warbler (*Setophaga palmarum*) occurrence models.

Potential point-count sampling sites were identified following a stratified random selection procedure. Potential sampling stations were placed randomly across the study area between 0 and 6 km from permanent development features. The locations were spaced a minimum of 300 m apart (greater than the average detection radius for most songbird species) in attempt to maintain independence between sites (Matsuoka et al. 2012). Sampled survey sites were selected from the potential stations with a stratified random selection procedure using imagery of current development and observer judgement in the field. Observers attempted to select survey routes that achieved a balanced sample size of point-counts across different development feature types (Table A2.2), total development feature intensity (Table A2.1), and given distance from permanent development features (Table A2.1) – which represent the greatest intensity of SAGD development features within the study area. Skilled observers visited a total of 284 sites during the breeding season between June 4 and July 1, 2014, however we focused our analysis on 157 of these sites, that: (1) contained a minimum of 20% lowland habitat within 100 m of the survey site; and (2) were within the extent of available high-resolution habitat data. The following tables summarize achieved sample distribution for each development feature type within the full dataset and the sites included in the analyses. Mean and range of development feature amount (total and by feature type) was similar in the full dataset and the sub-sample dataset (Figure A2.1).

Table A2.1 Count of survey stations across different classes of (a) total development feature intensity (% area) within 100 m of survey stations and (b) distance from permanent roads within the full dataset and sub-sample dataset included in Dark-eyed Junco (*Junco hyemalis*) and Palm Warbler (*Setophaga palmarum*) occurrence models.

(a) Count of stations for different classes of total area of development within 100 m

Count of stations	**Percent area total development (all features) within 100 m**							
	0 %	>0 to 10%	>10 to 20%	>20 to 30%	>30 to 40%	>40 to 50%	>50%	Total
Full dataset	18	17	8	58	29	13	14	157
Model dataset	66	29	18	96	36	18	21	284

(b) Count of stations for different classes of distance from permanent roads

Count of stations	Distance of station from permanent roads							
	0-500m	>500-1000m	>1000-1500m	>1500-2000m	>2000-2500m	>2500m-3000m	>3000m	Total
Full dataset	73	33	22	12	7	6	4	157
Model dataset	103	42	28	18	18	19	56	284

Table A2.2 Mean ($\bar{X}$) and standard deviation (std) of amount (% area) of lowland habitat and different development feature types within the full dataset and sub-sample dataset included in Dark-eyed Junco (*Junco hyemalis*) and Palm Warbler (*Setophaga palmarum*) occurrence models.

% Area	**Lowland**		**Total development**		**Permanent polygonal**		**Permanent liner**		**Wellsite**		**Wide Linear**		**Seismic**	
	$\bar{X}$	std	$\bar{X}$	std	$\bar{X}$	std	$\bar{X}$	std	$\bar{X}$	std	$\bar{X}$	std		
Full dataset	56.2	32.3	22.0	19.3	3.2	13.9	2.4	7.8	1.7	5.3	3.7	7.7	10.9	10.7
Model dataset	68.1	19.1	25.8	17.3	2.9	11.4	2.7	8.3	2.1	5.3	4.2	6.9	13.9	10.2

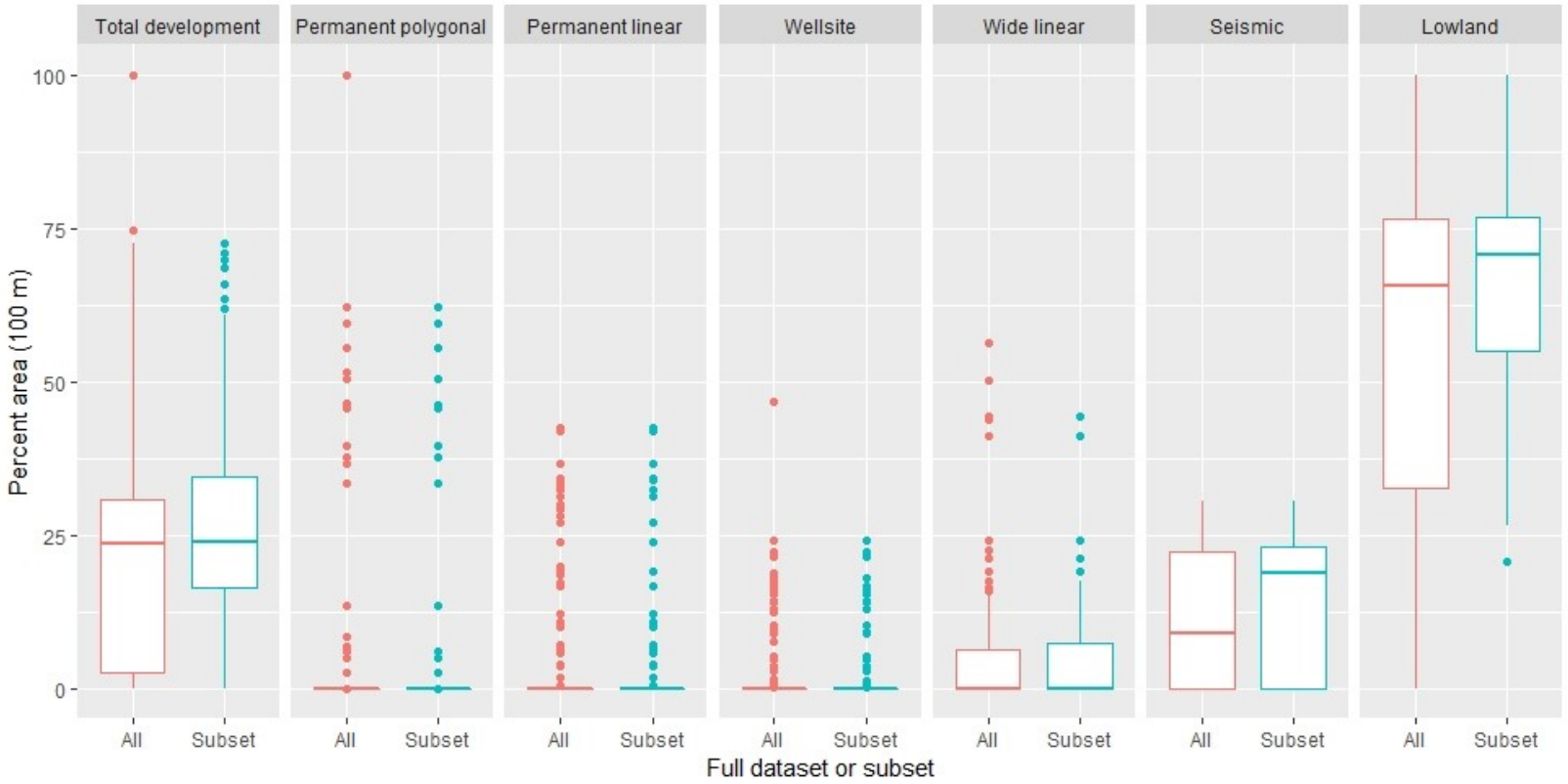

Figure A2.1 Mean and range of percent area for different development feature types, total development, and lowland habitat within 100 m of survey stations in the full dataset of 284 point counts (All) and the sub-sample dataset of 157 point counts (Subset) included in Dark-eyed Junco (*Junco hyemalis*) and Palm Warbler (*Setophaga palmarum*) occurrence models.