

Appendix 2. Detection radius, detection area, and correction factors calculated for MDD of different songs and tones detected by four brands of autonomous recording units (ARUs), from listening trials conducted at 20 transects near Calling Lake and Lac La Biche, Alberta, Canada in 2014.

Correction factors are relative to human observers in the field and are calculated using a ratio of ARU to Field Observer detection areas. Values less than 1 indicate a smaller detection area relative to human observers and values greater than 1 indicate greater detection area relative to human observers. Correction factors can be applied to ARU data to standardize survey areas with those of observers in the field.

Sound	Habitat	Maximum Detection Distance (m)					Maximum Detection Area (m ²)					MDD Correction Factor				
		Human	RiverForks	SM2	SM3	Zoom	Human	RiverForks	SM2	SM3	Zoom	Human	RiverForks	SM2	SM3	Zoom
1000Hz	Conifer	913	813	763	563	513	2615867	2073942	1826542	994020	825159	1.0000	0.7928	0.6983	0.3800	0.3154
1000Hz	Deciduous	913	763	763	713	713	2615867	1826542	1826542	1594849	1594849	1.0000	0.6983	0.6983	0.6097	0.6097
1000Hz	Road	1113	1113	913	1013	1013	3888212	3888212	2615867	3220623	3220623	1.0000	1.0000	0.6728	0.8283	0.8283
1414Hz	Conifer	913	763	763	563	463	2615867	1826542	1826542	994020	672006	1.0000	0.6983	0.6983	0.3800	0.2569
1414Hz	Deciduous	813	763	713	713	713	2073942	1826542	1594849	1594849	1594849	1.0000	0.8807	0.7690	0.7690	0.7690
1414Hz	Road	1113	1113	913	1013	1013	3888212	3888212	2615867	3220623	3220623	1.0000	1.0000	0.6728	0.8283	0.8283
2000Hz	Conifer	513	663	613	563	463	825159	1378865	1178588	994020	672006	1.0000	1.6710	1.4283	1.2046	0.8144
2000Hz	Deciduous	763	713	613	713	713	1826542	1594849	1178588	1594849	1594849	1.0000	0.8732	0.6453	0.8732	0.8732
2000Hz	Road	1113	1013	913	1013	913	3888212	3220623	2615867	3220623	2615867	1.0000	0.8283	0.6728	0.8283	0.6728
2828Hz	Conifer	513	613	363	513	413	825159	1178588	412825	825159	534562	1.0000	1.4283	0.5003	1.0000	0.6478
2828Hz	Deciduous	713	763	513	663	663	1594849	1826542	825159	1378865	1378865	1.0000	1.1453	0.5174	0.8646	0.8646
2828Hz	Road	913	1013	813	1013	913	2615867	3220623	2073942	3220623	2615867	1.0000	1.2312	0.7928	1.2312	1.0000
4000Hz	Conifer	413	388	363	388	363	534562	471730	412825	471730	412825	1.0000	0.8825	0.7723	0.8825	0.7723
4000Hz	Deciduous	513	513	388	513	413	825159	825159	471730	825159	534562	1.0000	1.0000	0.5717	1.0000	0.6478
4000Hz	Road	763	813	763	813	713	1826542	2073942	1826542	2073942	1594849	1.0000	1.1354	1.0000	1.1354	0.8732
5656Hz	Conifer	413	313	288	313	313	534562	306796	259672	306796	306796	1.0000	0.5739	0.4858	0.5739	0.5739
5656Hz	Deciduous	338	288	213	363	363	357847	259672	141863	412825	412825	1.0000	0.7257	0.3964	1.1536	1.1536
5656Hz	Road	563	563	513	613	563	994020	994020	825159	1178588	994020	1.0000	1.0000	0.8301	1.1857	1.0000
8000Hz	Conifer	238	188	163	188	188	177205	110447	82958	110447	110447	1.0000	0.6233	0.4681	0.6233	0.6233
8000Hz	Deciduous	188	188	113	163	138	110447	110447	39761	82958	59396	1.0000	1.0000	0.3600	0.7511	0.5378
8000Hz	Road	363	338	188	313	288	412825	357847	110447	306796	259672	1.0000	0.8668	0.2675	0.7432	0.6290
BADO	Conifer	813	463	388	463	363	2073942	672006	471730	672006	412825	1.0000	0.3240	0.2275	0.3240	0.1991
BADO	Deciduous	913	1013	763	513	338	2615867	3220623	1826542	825159	357847	1.0000	1.2312	0.6983	0.3154	0.1368
BADO	Road	1113	763	763	763	663	3888212	1826542	1826542	1826542	1378865	1.0000	0.4698	0.4698	0.4698	0.3546
BAWW	Conifer	263	163	138	213	238	216475	82958	59396	141863	177205	1.0000	0.3832	0.2744	0.6553	0.8186
BAWW	Deciduous	213	213	188	213	163	141863	141863	110447	141863	82958	1.0000	1.0000	0.7785	1.0000	0.5848
BAWW	Road	413	313	313	338	288	534562	306796	306796	357847	259672	1.0000	0.5739	0.5739	0.6694	0.4858
BEKI	Conifer	313	288	238	263	288	306796	259672	177205	216475	259672	1.0000	0.8464	0.5776	0.7056	0.8464
BEKI	Deciduous	263	263	213	213	188	216475	216475	141863	141863	110447	1.0000	1.0000	0.6553	0.6553	0.5102
BEKI	Road	513	463	388	563	513	825159	672006	471730	994020	825159	1.0000	0.8144	0.5717	1.2046	1.0000
BHCO	Conifer	338	313	263	313	313	357847	306796	216475	306796	306796	1.0000	0.8573	0.6049	0.8573	0.8573
BHCO	Deciduous	388	313	213	313	413	471730	306796	141863	306796	534562	1.0000	0.6504	0.3007	0.6504	1.1332
BHCO	Road	663	613	413	663	613	1378865	1178588	534562	1378865	1178588	1.0000	0.8548	0.3877	1.0000	0.8548
BLWA	Conifer	213	238	163	213	238	141863	177205	82958	141863	177205	1.0000	1.2491	0.5848	1.0000	1.2491
BLWA	Deciduous	263	188	138	213	138	216475	110447	59396	141863	59396	1.0000	0.5102	0.2744	0.6553	0.2744
BLWA	Road	463	363	338	388	388	672006	412825	357847	471730	471730	1.0000	0.6143	0.5325	0.7020	0.7020
BOOW	Conifer	813	613	463	563	413	2073942	1178588	672006	994020	534562	1.0000	0.5683	0.3240	0.4793	0.2578

BOOW	Deciduous	763	713	763	563	363	1826542	1594849	1826542	994020	412825	1.0000	0.8732	1.0000	0.5442	0.2260
BOOW	Road	1113	913	813	913	763	3888212	2615867	2073942	2615867	1826542	1.0000	0.6728	0.5334	0.6728	0.4698
CATO	Conifer	413	463	288	338	338	534562	672006	259672	357847	357847	1.0000	1.2571	0.4858	0.6694	0.6694
CATO	Deciduous	663	563	463	563	563	1378865	994020	672006	994020	994020	1.0000	0.7209	0.4874	0.7209	0.7209
CATO	Road	913	813	763	763	663	2615867	2073942	1826542	1826542	1378865	1.0000	0.7928	0.6983	0.6983	0.5271
CCSP	Conifer	338	313	238	288	313	357847	306796	177205	259672	306796	1.0000	0.8573	0.4952	0.7257	0.8573
CCSP	Deciduous	213	213	213	238	188	141863	141863	141863	177205	110447	1.0000	1.0000	1.0000	1.2491	0.7785
CCSP	Road	563	463	413	513	513	994020	672006	534562	825159	825159	1.0000	0.6760	0.5378	0.8301	0.8301
CMWA	Conifer	213	138	113	163	188	141863	59396	39761	82958	110447	1.0000	0.4187	0.2803	0.5848	0.7785
CMWA	Deciduous	213	188	113	113	88	141863	110447	39761	39761	24053	1.0000	0.7785	0.2803	0.2803	0.1696
CMWA	Road	413	263	213	288	263	534562	216475	141863	259672	216475	1.0000	0.4050	0.2654	0.4858	0.4050
CORA	Conifer	363	363	288	313	288	412825	412825	259672	306796	259672	1.0000	1.0000	0.6290	0.7432	0.6290
CORA	Deciduous	663	463	338	413	363	1378865	672006	357847	534562	412825	1.0000	0.4874	0.2595	0.3877	0.2994
CORA	Road	813	813	713	813	713	2073942	2073942	1594849	2073942	1594849	1.0000	1.0000	0.7690	1.0000	0.7690
DEJU	Conifer	388	313	238	313	313	471730	306796	177205	306796	306796	1.0000	0.6504	0.3757	0.6504	0.6504
DEJU	Deciduous	363	288	213	238	263	412825	259672	141863	177205	216475	1.0000	0.6290	0.3436	0.4293	0.5244
DEJU	Road	613	613	463	663	563	1178588	1178588	672006	1378865	994020	1.0000	1.0000	0.5702	1.1699	0.8434
GGOW	Conifer	513	463	463	413	388	825159	672006	672006	534562	471730	1.0000	0.8144	0.8144	0.6478	0.5717
GGOW	Deciduous	763	663	713	463	338	1826542	1378865	1594849	672006	357847	1.0000	0.7549	0.8732	0.3679	0.1959
GGOW	Road	1113	763	813	813	663	3888212	1826542	2073942	2073942	1378865	1.0000	0.4698	0.5334	0.5334	0.3546
LEOW	Conifer	613	338	288	463	338	1178588	357847	259672	672006	357847	1.0000	0.3036	0.2203	0.5702	0.3036
LEOW	Deciduous	913	763	763	388	338	2615867	1826542	1826542	471730	357847	1.0000	0.6983	0.6983	0.1803	0.1368
LEOW	Road	1113	713	763	813	663	3888212	1594849	1826542	2073942	1378865	1.0000	0.4102	0.4698	0.5334	0.3546
LISP	Conifer	338	313	263	313	313	357847	306796	216475	306796	306796	1.0000	0.8573	0.6049	0.8573	0.8573
LISP	Deciduous	363	313	213	363	413	412825	306796	141863	412825	534562	1.0000	0.7432	0.3436	1.0000	1.2949
LISP	Road	663	663	513	663	663	1378865	1378865	825159	1378865	1378865	1.0000	1.0000	0.5984	1.0000	1.0000
NSWO	Conifer	463	813	388	413	388	672006	2073942	471730	534562	471730	1.0000	3.0862	0.7020	0.7955	0.7020
NSWO	Deciduous	763	913	663	563	613	1826542	2615867	1378865	994020	1178588	1.0000	1.4321	0.7549	0.5442	0.6453
NSWO	Road	1013	913	813	813	763	3220623	2615867	2073942	2073942	1826542	1.0000	0.8122	0.6440	0.6440	0.5671
OSFL	Conifer	363	338	288	338	338	412825	357847	259672	357847	357847	1.0000	0.8668	0.6290	0.8668	0.8668
OSFL	Deciduous	563	513	288	463	388	994020	825159	259672	672006	471730	1.0000	0.8301	0.2612	0.6760	0.4746
OSFL	Road	713	713	613	763	713	1594849	1594849	1178588	1826542	1594849	1.0000	1.0000	0.7390	1.1453	1.0000
OVEN	Conifer	338	313	263	313	313	357847	306796	216475	306796	306796	1.0000	0.8573	0.6049	0.8573	0.8573
OVEN	Deciduous	413	238	213	238	213	534562	177205	141863	177205	141863	1.0000	0.3315	0.2654	0.3315	0.2654
OVEN	Road	613	613	513	663	563	1178588	1178588	825159	1378865	994020	1.0000	1.0000	0.7001	1.1699	0.8434
PISI	Conifer	338	288	213	288	288	357847	259672	141863	259672	259672	1.0000	0.7257	0.3964	0.7257	0.7257
PISI	Deciduous	363	288	213	213	213	412825	259672	141863	141863	141863	1.0000	0.6290	0.3436	0.3436	0.3436
PISI	Road	563	513	413	563	513	994020	825159	534562	994020	825159	1.0000	0.8301	0.5378	1.0000	0.8301
RBGR	Conifer	363	363	288	338	338	412825	412825	259672	357847	357847	1.0000	1.0000	0.6290	0.8668	0.8668
RBGR	Deciduous	513	613	388	563	513	825159	1178588	471730	994020	825159	1.0000	1.4283	0.5717	1.2046	1.0000
RBGR	Road	813	813	713	913	763	2073942	2073942	1594849	2615867	1826542	1.0000	1.0000	0.7690	1.2613	0.8807
RBNU	Conifer	413	388	313	388	338	534562	471730	306796	471730	357847	1.0000	0.8825	0.5739	0.8825	0.6694
RBNU	Deciduous	663	563	338	563	513	1378865	994020	357847	994020	825159	1.0000	0.7209	0.2595	0.7209	0.5984
RBNU	Road	813	813	763	813	763	2073942	2073942	1826542	2073942	1826542	1.0000	1.0000	0.8807	1.0000	0.8807
TEWA	Conifer	288	238	138	238	238	259672	177205	59396	177205	177205	1.0000	0.6824	0.2287	0.6824	0.6824
TEWA	Deciduous	238	213	138	213	163	177205	141863	59396	141863	82958	1.0000	0.8006	0.3352	0.8006	0.4681
TEWA	Road	513	388	338	513	413	825159	471730	357847	825159	534562	1.0000	0.5717	0.4337	1.0000	0.6478
WAVI	Conifer	313	313	263	313	313	306796	306796	216475	306796	306796	1.0000	1.0000	0.7056	1.0000	1.0000
WAVI	Deciduous	313	363	238	263	263	306796	412825	177205	216475	216475	1.0000	1.3456	0.5776	0.7056	0.7056
WAVI	Road	613	613	513	663	563	1178588	1178588	825159	1378865	994020	1.0000	1.0000	0.7001	1.1699	0.8434
WETO	Conifer	513	413	288	338	313	825159	534562	259672	357847	306796	1.0000	0.6478	0.3147	0.4337	0.3718
WETO	Deciduous	463	563	363	463	363	672006	994020	412825	672006	412825	1.0000	1.4792	0.6143	1.0000	0.6143
WETO	Road	1013	763	713	813	663	3220623	1826542	1594849	2073942	1378865	1.0000	0.5671	0.4952	0.6440	0.4281
WTSP	Conifer	413	388	313	388	388	534562	471730	306796	471730	471730	1.0000	0.8825	0.5739	0.8825	0.8825

WTSP	Deciduous	613	613	338	463	463	1178588	1178588	357847	672006	672006	1.0000	1.0000	0.3036	0.5702	0.5702
WTSP	Road	813	763	713	813	763	2073942	1826542	1594849	2073942	1826542	1.0000	0.8807	0.7690	1.0000	0.8807
YERA	Conifer	238	213	138	163	188	177205	141863	59396	82958	110447	1.0000	0.8006	0.3352	0.4681	0.6233
YERA	Deciduous	213	138	138	188	213	141863	59396	59396	110447	141863	1.0000	0.4187	0.4187	0.7785	1.0000
YERA	Road	413	388	313	413	363	534562	471730	306796	534562	412825	1.0000	0.8825	0.5739	1.0000	0.7723