

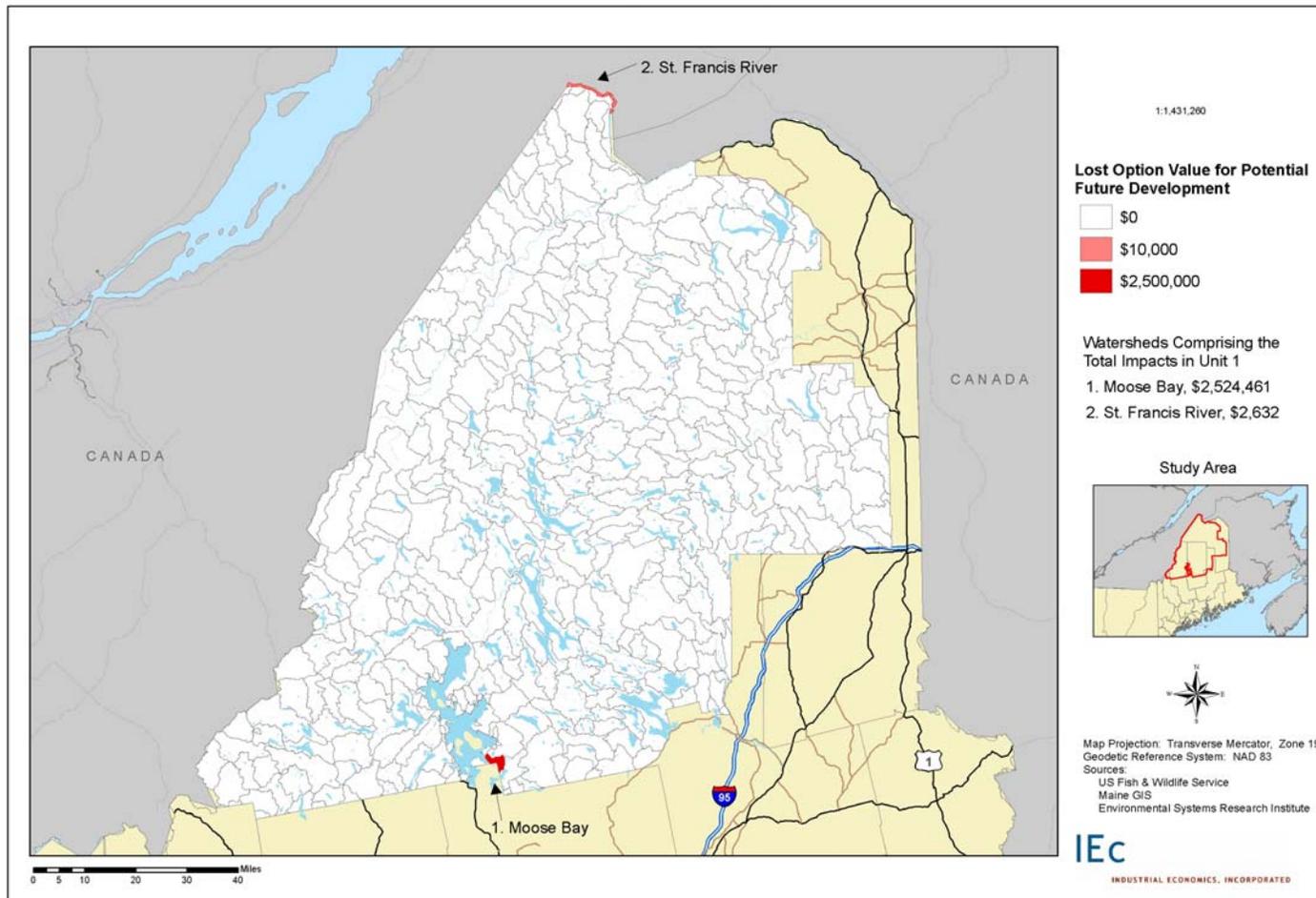
APPENDIX G | DEVELOPMENT IMPACTS BY WATERSHED

EXHIBIT G-1: POTENTIAL IMPACTS BY WATERSHED TO DEVELOPMENT ACTIVITIES IN UNIT 1: MAINE

WATERSHED NAME*	WATERSHED AREA (ACRES)	DEVELOPED ACRES	PERCENT DEVELOPED	DEVELOPABLE ACRES	PERCENT TOTAL FUTURE DEVELOPMENT	LOST FUTURE DEVELOPMENT (ACRES)	VALUE OF LOST FUTURE DEVELOPMENT
EXISTING DEVELOPMENT EXCEEDS 15 PERCENT OF TOTAL WATERSHED							
Moose Bay	6,183	932	15.1%	112	16.9%	112	\$2,524,461
EXISTING PLUS FORECAST DEVELOPMENT EXCEEDS 15 PERCENT OF TOTAL WATERSHED							
St. Francis River	217	13	6.2%	19	15.1%	0.12	\$2,632
TOTAL							\$2,527,093

Notes: The remaining 345 watersheds in Unit 1 are not forecast to experience development impacts. Developable acres identified in this table include undeveloped lands that are amenable to future development as determined by available zoning or land use planning information. Impacts to development activities in this analysis are the lost option value for future new development in lynx habitat.

EXHIBIT G-2: DISTRIBUTION OF DEVELOPMENT IMPACTS BY WATERSHED IN UNIT 1¹



¹ GIS Source Data: 12-Digit Hydrological Unit Codes for Maine, "WBDME6_A" [Shapefile]. (2004). Augusta ME: Maine Office of Geographic Information Systems (MEGIS). Available: <http://megis.maine.gov/catalog/> [September 5, 2006]; Proposed Critical Habitat for Canada Lynx, "mech_prop" [Shapefile]. U.S. Fish and Wildlife Service, Received November 16, 2005.

EXHIBIT G-3: POTENTIAL IMPACTS BY WATERSHED TO DEVELOPMENT ACTIVITIES IN UNIT 2: MINNESOTA

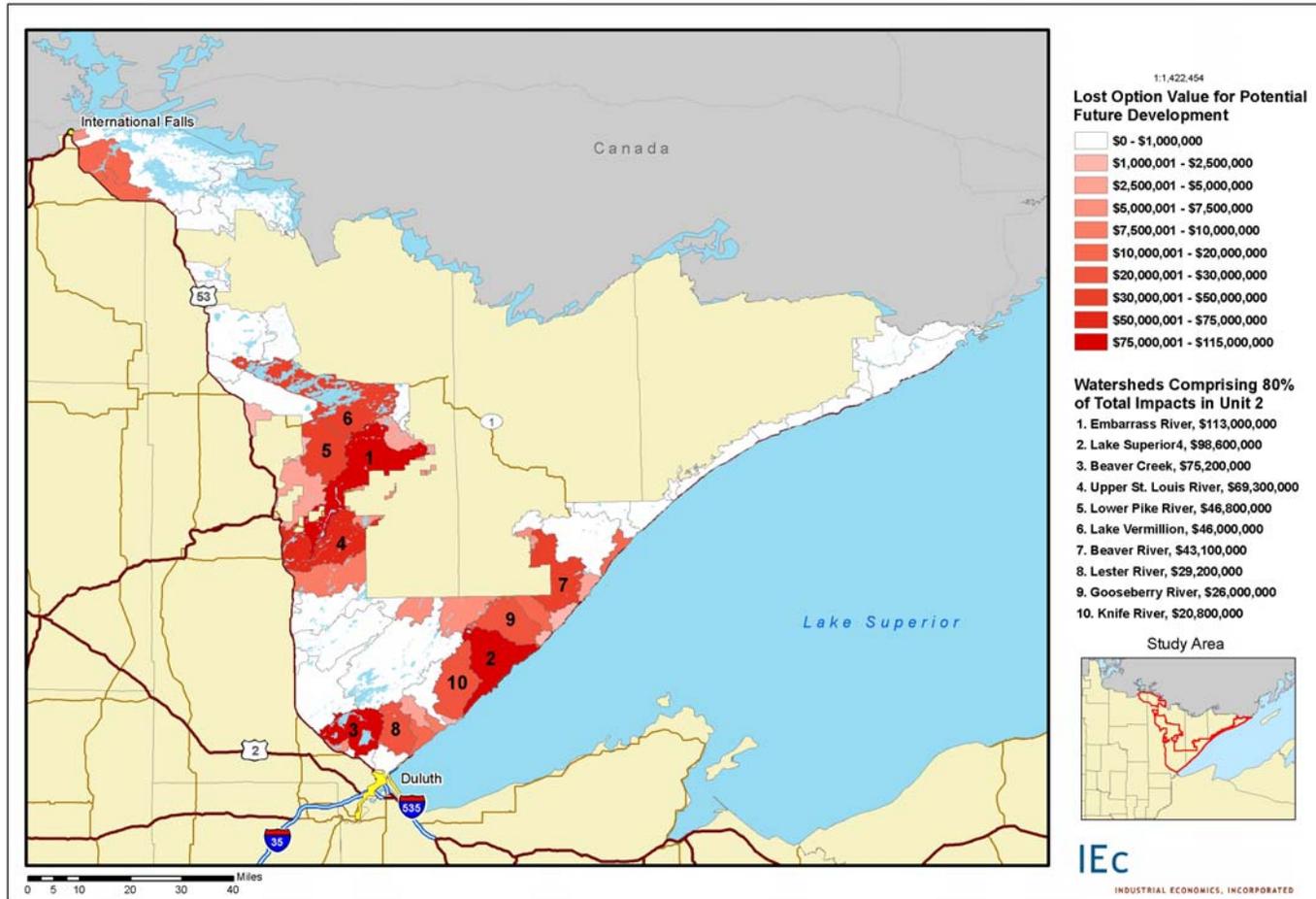
WATERSHED	WATERSHED AREA (ACRES)	DEVELOPED ACRES	PERCENT DEVELOPED	DEVELOPABLE ACRES	PERCENT TOTAL FUTURE DEVELOPMENT	LOST FUTURE DEVELOPMENT (ACRES)	VALUE OF LOST FUTURE DEVELOPMENT (LOW)	VALUE OF LOST FUTURE DEVELOPMENT (HIGH)
EXISTING DEVELOPMENT EXCEEDS 15 PERCENT OF TOTAL WATERSHED								
Lake Superior*	65,907	10,575	16.0%	34,637	68.6%	34,636.84	\$98,576,451	\$98,576,451
Beaver Creek	41,331	11,139	27.0%	22,429	81.2%	22,428.94	\$75,238,569	\$75,238,569
Lester River	33,137	12,800	38.6%	10,255	69.6%	10,255.20	\$29,186,307	\$29,186,307
Talmadge River	10,486	3,334	31.8%	4,883	78.4%	4,883.16	\$13,897,486	\$13,897,486
Little Marais River	9,873	3,554	36.0%	4,273	79.3%	4,273.20	\$12,161,533	\$12,161,533
Lake Superior*	4,870	1,336	27.4%	2,864	86.2%	2,864.35	\$8,151,949	\$8,151,949
White Pine River	3,389	1,575	46.5%	1,467	89.7%	1,466.88	\$5,263,688	\$5,263,688
Lake Superior*	8,511	3,127	36.7%	1,471	54.0%	1,471.07	\$4,186,667	\$4,186,667
Lake Superior*	3,532	1,000	28.3%	854	52.5%	854.15	\$2,430,902	\$2,430,902
Little Sucker River	2,315	1,408	60.8%	723	92.0%	722.61	\$2,056,548	\$2,056,548
Lake Superior*	8,702	1,487	17.1%	705	25.2%	705.26	\$2,007,176	\$2,007,176
EXISTING PLUS FORECAST DEVELOPMENT EXCEEDS 15 PERCENT OF TOTAL WATERSHED								
Embarrass River	97,888	0	0.0%	51,532	52.6%	36,848.93	\$104,872,060	\$112,593,748
Upper St. Louis River	72,125	0	0.0%	31,326	43.4%	20,507.52	\$58,364,410	\$69,271,685
Lower Pike River	51,840	0	0.0%	24,141	46.6%	16,364.66	\$46,573,832	\$46,768,649
Lake Vermillion	87,178	0	0.0%	19,132	21.9%	6,055.05	\$17,232,667	\$45,998,268
Beaver River	56,836	366	0.6%	23,315	41.7%	15,155.22	\$43,131,754	\$43,131,754
Gooseberry River	46,137	0	0.0%	16,035	34.8%	9,114.90	\$25,940,996	\$25,940,996
Knife River	53,925	577	1.1%	14,832	28.6%	7,320.07	\$20,832,910	\$20,832,910
East Rat Root River	18,751	0	0.0%	9,002	48.0%	6,189.70	\$17,615,878	\$17,615,878
Split Rock River	16,857	0	0.0%	8,144	48.3%	5,614.96	\$15,980,177	\$15,980,177
Rat Root River	36,630	0	0.0%	10,329	28.2%	4,834.71	\$13,759,593	\$14,547,562
Mud Hen Creek	47,821	0	0.0%	9,282	19.4%	2,109.20	\$6,002,793	\$7,715,809
Rainy River	3,300	0	0.0%	3,082	93.4%	2,587.37	\$7,363,668	\$7,381,984
Upper Cloquet River	56,513	0	0.0%	10,934	19.3%	2,457.47	\$6,993,967	\$6,993,967

WATERSHED	WATERSHED AREA (ACRES)	DEVELOPED ACRES	PERCENT DEVELOPED	DEVELOPABLE ACRES	PERCENT TOTAL FUTURE DEVELOPMENT	LOST FUTURE DEVELOPMENT (ACRES)	VALUE OF LOST FUTURE DEVELOPMENT (LOW)	VALUE OF LOST FUTURE DEVELOPMENT (HIGH)
Partridge River	8,935	0	0.0%	3,266	36.6%	1,925.56	\$5,480,130	\$6,768,894
South Fork Kawishiwi River	19,251	0	0.0%	4,152	21.6%	1,264.84	\$3,599,746	\$3,599,746
French River	12,481	100	0.8%	3,022	25.0%	1,249.15	\$3,555,083	\$3,555,083
Upper Pike River	39,131	0	0.0%	7,085	18.1%	1,215.28	\$3,458,684	\$3,458,684
South Branch Little Fork R.	14,613	0	0.0%	2,890	19.8%	698.27	\$1,987,263	\$1,987,263
Two Rivers	1,441	0	0.0%	663	46.0%	446.96	\$1,272,041	\$1,272,041
Lower Whiteface River	8,300	0	0.0%	1,549	18.7%	304.39	\$866,305	\$866,305
TOTAL							\$658,041,236	\$709,438,682

Notes: The remaining 34 watersheds in Unit 2 are not forecast to experience development impacts. Developable acres identified in this table include undeveloped lands that are amenable to future development as determined by available zoning or land use planning information. Impacts to development activities in this analysis are the lost option value for future new development in lynx habitat.

* These five watersheds are all names "Lake Superior" but are identified as separate watersheds with distinct hydrologic unit codes (HUCs).

EXHIBIT G-4: DISTRIBUTION OF DEVELOPMENT IMPACTS BY WATERSHED IN UNIT 2²



² GIS Source Data: 11-Digit Hydrological Unit Codes for Minnesota, "NRCWS99" [Shapefile]. (1999). St. Paul, Minnesota: Minnesota Land Management Information Center (LMIC) Available: ftp://ftp.lmic.state.mn.us/pub/data/phys_biol/water/nrcsws99.exe [December 20, 2005]; Proposed Critical Habitat for Canada Lynx, "mnch_prop" [Shapefile]. U.S. Fish and Wildlife Service, Received November 16, 2005.

EXHIBIT G-5: POTENTIAL IMPACTS BY WATERSHED TO DEVELOPMENT ACTIVITIES IN UNIT 3: MONTANA

WATERSHED	WATERSHED AREA (ACRES)	DEVELOPED ACRES	PERCENT DEVELOPED	DEVELOPABLE ACRES	PERCENT TOTAL FUTURE DEVELOPMENT	LOST FUTURE DEVELOPMENT (ACRES)	COST OF LOST FUTURE DEVELOPMENT (LOW)	COST OF LOST FUTURE DEVELOPMENT (HIGH)
EXISTING DEVELOPMENT EXCEEDS 15 PERCENT OF TOTAL WATERSHED								
Trail Creek	6,632	1,399	21.1%	1,330	41.1%	1,330	\$10,431,756	\$10,431,756
Humbug Creek	12,129	3,100	25.6%	2,701	47.8%	2,701	\$6,456,277	\$6,456,277
Headwaters Swan River	2,023	358	17.7%	33	19.3%	33	\$3,168,668	\$3,168,668
Lower Nevada Creek	26,540	6,408	24.1%	18,372	93.4%	18,372	\$2,048,596	\$2,048,596
Blackfoot River-Prospects	19,230	4,535	23.6%	10,129	76.3%	10,129	\$1,572,401	\$1,572,401
Poorman Creek	2,040	641	31.4%	113	37.0%	113	\$936,693	\$936,693
Morrell Creek	922	246	26.6%	455	76.0%	455	\$904,802	\$904,802
Upper Good Creek	535	202	37.8%	132	62.5%	132	\$668,306	\$668,306
Middle Logan Creek	2,050	489	23.9%	327	39.8%	327	\$660,951	\$660,951
Beaver Creek	2,743	736	26.9%	282	37.1%	282	\$628,154	\$628,154
Keep Cool Creek	9,380	1,877	20.0%	1,851	39.7%	1,851	\$597,273	\$597,273
Cottonwood Creek	11,976	2,937	24.5%	4,109	58.8%	4,109	\$592,510	\$592,510
Lower Landers Fork	10,074	1,692	16.8%	83	17.6%	83	\$580,828	\$580,828
Grant Creek	2,595	578	22.3%	393	37.4%	393	\$578,578	\$578,578
Hogum Creek	715	364	50.9%	143	70.9%	143	\$518,102	\$518,102
Holland Lake	1,149	437	38.0%	14	39.2%	14	\$512,676	\$512,676
Clark Fork River-Drummond	8,412	2,027	24.1%	3,505	65.8%	3,505	\$447,935	\$447,935
Edna Creek	2,413	618	25.6%	124	30.8%	124	\$443,355	\$443,355
Dick Creek	11,440	2,293	20.0%	2,343	40.5%	2,343	\$427,160	\$427,160
Blackfoot River-Lower Warren Creek	19,346	4,769	24.6%	5,642	53.8%	5,642	\$387,079	\$387,079
Rock Creek	12,519	2,188	17.5%	3,573	46.0%	3,573	\$386,048	\$386,048
Lincoln Creek	1,880	458	24.3%	272	38.8%	272	\$375,636	\$375,636
Lower Monture Creek	11,172	3,128	28.0%	3,675	60.9%	3,675	\$367,972	\$367,972

WATERSHED	WATERSHED AREA (ACRES)	DEVELOPED ACRES	PERCENT DEVELOPED	DEVELOPABLE ACRES	PERCENT TOTAL FUTURE DEVELOPMENT	LOST FUTURE DEVELOPMENT (ACRES)	COST OF LOST FUTURE DEVELOPMENT (LOW)	COST OF LOST FUTURE DEVELOPMENT (HIGH)
Threemile Creek	9,622	1,696	17.6%	3,984	59.0%	3,984	\$357,609	\$357,609
Lower Ashley Creek	2,552	547	21.4%	37	22.9%	37	\$345,203	\$345,203
North Fork Blackfoot River-Evans Lake	18,639	3,363	18.0%	4,963	44.7%	4,963	\$301,085	\$301,085
Snowshoe Creek	8,026	2,504	31.2%	4,167	83.1%	4,167	\$283,855	\$283,855
Middle Nevada Creek	10,037	1,696	16.9%	2,896	45.8%	2,896	\$246,717	\$246,717
Tepee Creek	452	105	23.1%	63	37.0%	63	\$221,735	\$221,735
Swan River-Condon	6,179	1,779	28.8%	45	29.5%	45	\$195,021	\$195,021
Moose Creek	553	259	46.9%	24	51.2%	24	\$167,744	\$167,744
Upper Canyon Creek	2,752	877	31.9%	480	49.3%	480	\$163,476	\$163,476
Goat Creek	4,834	1,149	23.8%	33	24.5%	33	\$157,380	\$157,380
Flathead River-Rose Creek	188	161	85.8%	11	91.5%	11	\$154,752	\$154,752
Sheppard Creek	1,315	419	31.8%	126	41.5%	126	\$153,334	\$153,334
Upper Clearwater River	2,010	340	16.9%	189	26.3%	189	\$151,320	\$151,320
Blackfoot River-Anaconda Creek	5,676	1,463	25.8%	300	31.1%	300	\$105,439	\$105,439
Upper Finley Creek	933	228	24.4%	56	30.4%	56	\$84,561	\$84,561
Arrastra Creek	3,816	1,001	26.2%	120	29.4%	120	\$83,700	\$83,700
Lower South Fork Two Medicine River	8,920	1,351	15.1%	633	22.2%	633	\$83,355	\$83,355
Iron Horse Creek	323	156	48.4%	55	65.4%	55	\$75,614	\$75,614
Alder Creek	79	45	57.1%	6	64.5%	6	\$71,243	\$71,243
Greenhorn Creek	952	152	16.0%	186	35.5%	186	\$53,189	\$53,189
Middle Tenmile Creek	342	143	41.8%	8	44.2%	8	\$43,354	\$43,354
Butler Creek	1,209	195	16.1%	357	45.7%	357	\$37,860	\$37,860
Swamp Creek-Lake Creek	922	154	16.7%	2	16.9%	2	\$34,540	\$34,540
Upper Willow Creek	865	283	32.7%	552	96.6%	552	\$24,387	\$24,387
Yourname Creek	1,553	376	24.2%	254	40.6%	254	\$22,925	\$22,925

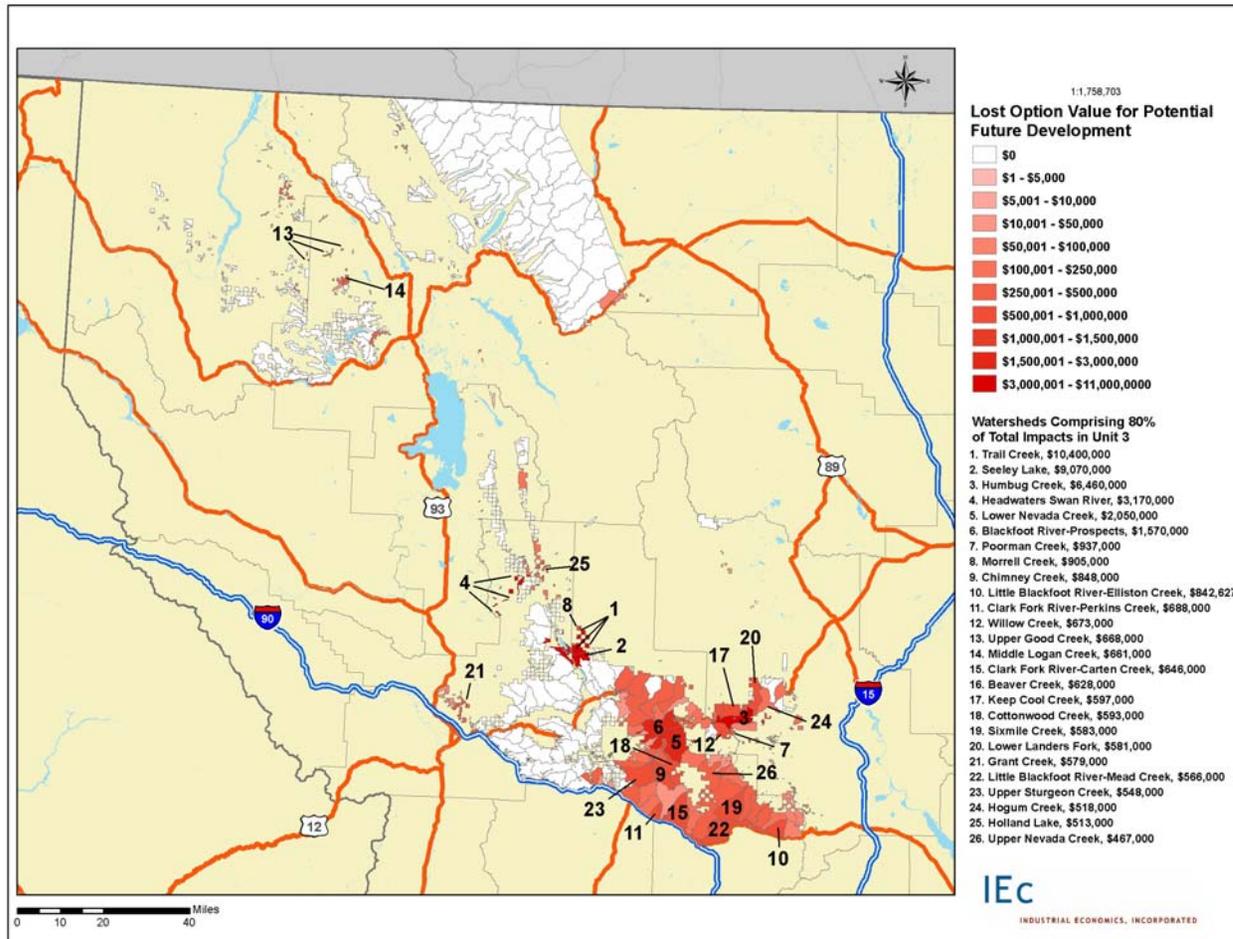
WATERSHED	WATERSHED AREA (ACRES)	DEVELOPED ACRES	PERCENT DEVELOPED	DEVELOPABLE ACRES	PERCENT TOTAL FUTURE DEVELOPMENT	LOST FUTURE DEVELOPMENT (ACRES)	COST OF LOST FUTURE DEVELOPMENT (LOW)	COST OF LOST FUTURE DEVELOPMENT (HIGH)
Trout Creek	277	211	76.2%	59	97.3%	59	\$21,998	\$21,998
Ward Creek	3,836	906	23.6%	278	30.9%	278	\$14,804	\$14,804
La Valle Creek	953	155	16.3%	102	27.0%	102	\$13,276	\$13,276
Sunday Creek	440	130	29.5%	26	35.5%	26	\$10,352	\$10,352
Upper Fortine Creek	391	62	15.9%	0	16.0%	0	\$9,036	\$9,036
Lost Creek	467	105	22.5%	37	30.6%	37	\$1,849	\$1,849
Bigfork Dam	1,100	330	30.0%	18	31.6%	18	\$1,849	\$1,849
Gregg Creek	67	38	56.9%	21	88.4%	21	\$1,419	\$1,419
Little Prickley Pear Creek-Marsh Creek	23	14	61.6%	0	62.2%	0	\$878	\$878
EXISTING PLUS FORECAST DEVELOPMENT EXCEEDS 15 PERCENT OF TOTAL WATERSHED								
Seeley Lake	11,249	1,477	13.1%	896	21.1%	686	\$3,309,556	\$9,070,010
Chimney Creek	10,787	1,378	12.8%	6,101	69.3%	5,861	\$343,083	\$848,458
Little Blackfoot River-Elliston Creek	9,668	1,209	12.5%	4,543	59.5%	4,301	\$133,117	\$842,627
Clark Fork River-Perkins Creek	4,952	592	12.0%	3,886	90.4%	3,735	\$310,953	\$688,032
Willow Creek	6,211	741	11.9%	651	22.4%	460	\$9,323	\$672,662
Clark Fork River-Carten Creek	20,610	1,690	8.2%	9,785	55.7%	8,383	\$274,599	\$645,530
Sixmile Creek	18,773	2,764	14.7%	8,537	60.2%	8,485	\$553,537	\$583,441
Little Blackfoot River-Mead Creek	20,508	2,037	9.9%	7,751	47.7%	6,712	\$293,727	\$566,407
Upper Sturgeon Creek	17,682	1,754	9.9%	8,826	59.8%	7,928	\$378,065	\$547,522
Upper Nevada Creek	15,849	1,678	10.6%	4,992	42.1%	4,292	\$286,044	\$467,287
Virginia Creek	779	71	9.1%	92	20.9%	46	\$3,726	\$441,021
Douglas Creek	6,468	197	3.0%	1,810	31.0%	1,037	\$61,143	\$394,735
Lower Sturgeon Creek	8,421	488	5.8%	6,806	86.6%	6,031	\$242,520	\$332,628
Halfway Creek	17,732	1,886	10.6%	7,436	52.6%	6,662	\$269,908	\$328,685

WATERSHED	WATERSHED AREA (ACRES)	DEVELOPED ACRES	PERCENT DEVELOPED	DEVELOPABLE ACRES	PERCENT TOTAL FUTURE DEVELOPMENT	LOST FUTURE DEVELOPMENT (ACRES)	COST OF LOST FUTURE DEVELOPMENT (LOW)	COST OF LOST FUTURE DEVELOPMENT (HIGH)
Warm Springs Creek	20,089	1,275	6.3%	8,865	50.5%	7,127	\$215,498	\$315,537
Carpenter Creek	9,092	419	4.6%	4,588	55.1%	3,644	\$137,652	\$301,681
Lower Bear Creek	6,424	671	10.4%	454	17.5%	162	\$113	\$296,788
Lower Rattlesnake Creek	1,210	108	8.9%	269	31.1%	195	\$7,858	\$269,339
Murray Creek	7,092	1,046	14.8%	3,546	64.7%	3,528	\$217,299	\$218,131
Washington Creek	2,988	360	12.0%	1,377	58.1%	1,288	\$87,698	\$198,582
Brock Creek	12,112	251	2.1%	6,401	54.9%	4,835	\$154,565	\$197,981
Blackfoot River-Hardscrabble Creek	9,097	1,192	13.1%	997	24.1%	825	\$18,463	\$184,085
Blackfoot River-Little Moose Creek	9,693	1,256	13.0%	1,643	29.9%	1,445	\$104,748	\$171,966
Clark Fork River-Dunkleberg Creek	7,729	607	7.9%	4,357	64.2%	3,805	\$94,060	\$171,950
North Trout Creek	7,201	408	5.7%	4,307	65.5%	3,635	\$127,459	\$168,211
Nevada Creek Headwaters	7,072	795	11.2%	2,450	45.9%	2,185	\$118,572	\$153,849
Lower Good Creek	344	48	14.0%	9	16.6%	5	\$75,952	\$142,879
Morris Creek	9,704	292	3.0%	3,663	40.8%	2,499	\$62,998	\$129,180
Browns Lake	3,544	241	6.8%	2,746	84.3%	2,455	\$112,822	\$117,459
Wales Creek	4,216	300	7.1%	583	20.9%	250	\$52,667	\$105,216
Upper Dog Creek	8,046	1,028	12.8%	301	16.5%	123	\$5,224	\$89,699
Lower Dog Creek	11,840	715	6.0%	1,328	17.2%	266	\$1,217	\$89,143
Blackfoot River-Lincoln	6,048	830	13.7%	1,111	32.1%	1,034	\$81,502	\$83,394
McElwain Creek	3,451	447	13.0%	970	41.1%	899	\$43,845	\$49,249
Buffalo Gulch	4,219	453	10.7%	228	16.1%	48	\$2,101	\$42,167
O'Keefe Creek	1,720	185	10.7%	291	27.7%	218	\$4,639	\$41,753
Hoover Creek	18,791	1,015	5.4%	2,225	17.2%	421	\$3,453	\$41,732
Squaw Meadows Creek	1,410	179	12.7%	409	41.7%	377	\$27,178	\$36,901
Blackfoot River-Lahrity	8,712	594	6.8%	1,405	23.0%	693	\$17,804	\$36,439

WATERSHED	WATERSHED AREA (ACRES)	DEVELOPED ACRES	PERCENT DEVELOPED	DEVELOPABLE ACRES	PERCENT TOTAL FUTURE DEVELOPMENT	LOST FUTURE DEVELOPMENT (ACRES)	COST OF LOST FUTURE DEVELOPMENT (LOW)	COST OF LOST FUTURE DEVELOPMENT (HIGH)
Lake								
Hannan Gulch	340	18	5.2%	54	21.0%	20	\$298	\$29,161
Jefferson Creek	3,989	515	12.9%	718	30.9%	634	\$24,377	\$27,856
Clark Frok River-Garden Gulch	2,874	269	9.4%	572	29.3%	410	\$13,757	\$14,716
Little Prickley Pear Creek Headwaters	606	73	12.1%	55	21.2%	38	\$2,247	\$6,928
Flathead River-Goodwich Bayou	6	0	0.0%	2	34.7%	1	\$3,821	\$3,821
Lower North Fork Sun River	230	8	3.6%	73	35.3%	47	\$394	\$394
Little Blackfoot River-Hat Creek	18	3	14.7%	3	32.2%	3	\$126	\$126
Ford Creek	3	0	0.0%	3	99.9%	2	\$51	\$51
TOTAL							\$45,676,371	\$57,552,023

Notes: The remaining 200 watersheds in Unit 3 are not forecast to experience development impacts. Developable acres identified in this table include undeveloped lands that are amenable to future development as determined by available zoning or land use planning information. Impacts to development activities in this analysis are the lost option value for future new development in lynx habitat.

EXHIBIT G-6: DISTRIBUTION OF DEVELOPMENT IMPACTS BY WATERSHED IN UNIT 3³



³ GIS Source Data: Draft 6th Code Hydrologic Units [Shapefile]. (2006). Bozeman, Montana: Natural Resources Conservation Service. Available: <http://nris.state.mt.us/nsdi/watershed/datapage.html> [September 4, 2006]; Montana Cadastral Database [Shapefile]. (1999; on-going updates). Helena, Montana: Dept. of Administration/Information Services Division; with MT Dept. of Revenue and some MT. Counties. Available: <http://gis.mt.gov/> [April 16, 2006].