

## Appendix 16A. Economic Impact Analysis of Lake Winnipeg Commercial Fishery: Summary of Results

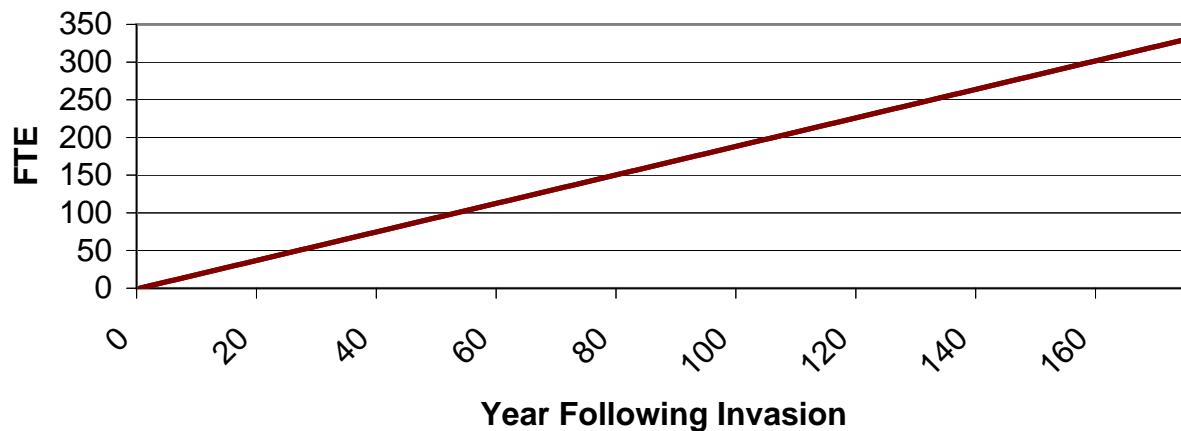
Assumed number of years until successful invasion begins: 0

### Expected Direct and Indirect Output Impacts for All Canadian Provinces Given a Jump Dispersal Event

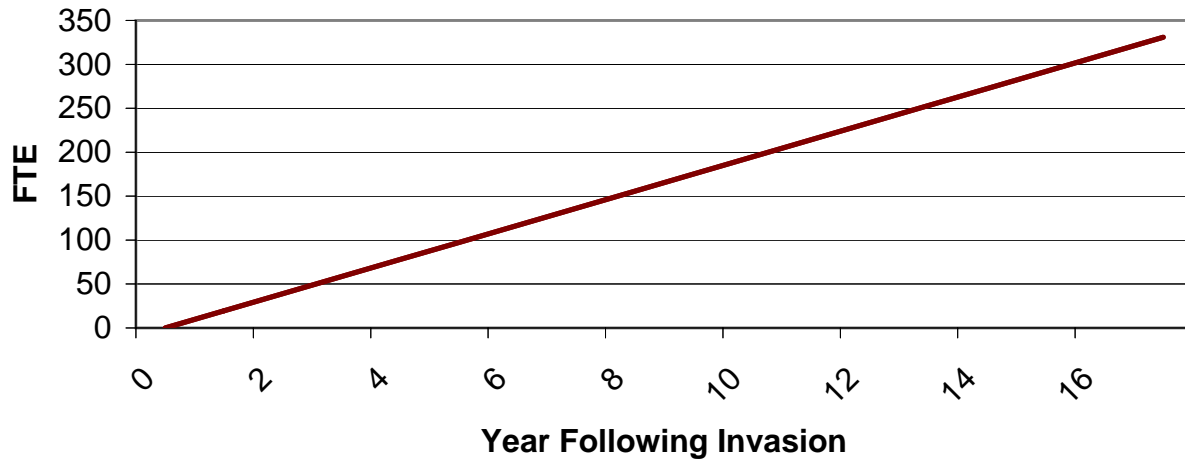
Risk Category	Probability of Successful Invasion	Percent Outcomes	Total Expected Present Value of <---Direct and Indirect Output Impacts--->	
			Slow Invasion (Canadian 2003 \$)	Fast Invasion (Canadian 2003 \$)
Very Low	1.00E-09	87.0%	\$0.160	\$0.655
Low	1.00E-06	7.6%	\$160	\$655
Moderate	1.00E-03	3.7%	\$160,000	\$655,000
High	1.00E-02	1.7%	\$1,600,000	\$6,550,000
Very High	1.00E+00	0.0%	\$160,000,000	\$655,000,000
Weighted Average (a)			\$33,000	\$136,000

(a) Weighted by the percent outcomes of respective risk categories

### Direct and Indirect Employment Impacts for All Canadian Provinces: Slow Invasion, Jump Dispersal Event, and Very High Risk



**Direct and Indirect Employment Impacts for All Canadian Provinces: Fast Invasion, Jump Dispersal Event, and Very High Risk**



### Appendix 16B. Economic Impact Analysis of Lake Winnipeg Commercial Fishery: Slow Invasion - Very Low Risk

Probability of successful invasion:	1.00E-09
Annual discount rate:	3.0%
Present year:	0
Invasion year:	0
Annual landed value (10-year average):	\$14,838,754
Economic impact multipliers	
Output (direct effects):	1.00
Output (direct & indirect effects - all provinces):	1.66
Employment (direct effects):	17.41 FTE/million \$ direct output
Employment (direct & indirect effects - all provinces):	22.30 FTE/million \$ direct output

Year	<------(Fishery Displacement)----->		<------(Output Impacts)----->			
	Certain (a)	Expected (b)	<------(Direct Effects)----->		<-----(Direct & Indirect Effects)---->	
			Current Value	Present Value	Current Value	Present Value
0	0.0%	0.0000000000%	\$0.00000	\$0.00000	\$0.00000	\$0.00000
1	0.6%	0.0000000006%	\$0.00008	\$0.00008	\$0.00014	\$0.00014
2	1.1%	0.0000000011%	\$0.00017	\$0.00016	\$0.00028	\$0.00027
3	1.7%	0.0000000017%	\$0.00025	\$0.00023	\$0.00042	\$0.00039
4	2.3%	0.0000000023%	\$0.00034	\$0.00030	\$0.00056	\$0.00050
5	2.9%	0.0000000029%	\$0.00042	\$0.00037	\$0.00070	\$0.00061
6	3.4%	0.0000000034%	\$0.00051	\$0.00043	\$0.00084	\$0.00071
7	4.0%	0.0000000040%	\$0.00059	\$0.00048	\$0.00099	\$0.00080
8	4.6%	0.0000000046%	\$0.00068	\$0.00054	\$0.00113	\$0.00089
9	5.1%	0.0000000051%	\$0.00076	\$0.00058	\$0.00127	\$0.00097
10	5.7%	0.0000000057%	\$0.00085	\$0.00063	\$0.00141	\$0.00105
11	6.3%	0.0000000063%	\$0.00093	\$0.00067	\$0.00155	\$0.00112
12	6.9%	0.0000000069%	\$0.00102	\$0.00071	\$0.00169	\$0.00118

13	7.4%	0.000000074%	\$0.00110	\$0.00075	\$0.00183	\$0.00125
14	8.0%	0.000000080%	\$0.00119	\$0.00078	\$0.00197	\$0.00130
15	8.6%	0.000000086%	\$0.00127	\$0.00082	\$0.00211	\$0.00136
16	9.1%	0.000000091%	\$0.00136	\$0.00085	\$0.00225	\$0.00140
17	9.7%	0.000000097%	\$0.00144	\$0.00087	\$0.00239	\$0.00145
18	10.3%	0.000000103%	\$0.00153	\$0.00090	\$0.00253	\$0.00149
19	10.9%	0.000000109%	\$0.00161	\$0.00092	\$0.00267	\$0.00153
20	11.4%	0.000000114%	\$0.00170	\$0.00094	\$0.00282	\$0.00156
21	12.0%	0.000000120%	\$0.00178	\$0.00096	\$0.00296	\$0.00159
22	12.6%	0.000000126%	\$0.00187	\$0.00097	\$0.00310	\$0.00162
23	13.1%	0.000000131%	\$0.00195	\$0.00099	\$0.00324	\$0.00164
24	13.7%	0.000000137%	\$0.00204	\$0.00100	\$0.00338	\$0.00166
25	14.3%	0.000000143%	\$0.00212	\$0.00101	\$0.00352	\$0.00168
26	14.9%	0.000000149%	\$0.00220	\$0.00102	\$0.00366	\$0.00170
27	15.4%	0.000000154%	\$0.00229	\$0.00103	\$0.00380	\$0.00171
28	16.0%	0.000000160%	\$0.00237	\$0.00104	\$0.00394	\$0.00172
29	16.6%	0.000000166%	\$0.00246	\$0.00104	\$0.00408	\$0.00173
30	17.1%	0.000000171%	\$0.00254	\$0.00105	\$0.00422	\$0.00174
31	17.7%	0.000000177%	\$0.00263	\$0.00105	\$0.00436	\$0.00175
32	18.3%	0.000000183%	\$0.00271	\$0.00105	\$0.00450	\$0.00175
33	18.9%	0.000000189%	\$0.00280	\$0.00105	\$0.00464	\$0.00175
34	19.4%	0.000000194%	\$0.00288	\$0.00106	\$0.00479	\$0.00175
35	20.0%	0.000000200%	\$0.00297	\$0.00105	\$0.00493	\$0.00175
36	20.6%	0.000000206%	\$0.00305	\$0.00105	\$0.00507	\$0.00175
37	21.1%	0.000000211%	\$0.00314	\$0.00105	\$0.00521	\$0.00174
38	21.7%	0.000000217%	\$0.00322	\$0.00105	\$0.00535	\$0.00174
39	22.3%	0.000000223%	\$0.00331	\$0.00104	\$0.00549	\$0.00173
40	22.9%	0.000000229%	\$0.00339	\$0.00104	\$0.00563	\$0.00173
41	23.4%	0.000000234%	\$0.00348	\$0.00103	\$0.00577	\$0.00172
42	24.0%	0.000000240%	\$0.00356	\$0.00103	\$0.00591	\$0.00171
43	24.6%	0.000000246%	\$0.00365	\$0.00102	\$0.00605	\$0.00170
44	25.1%	0.000000251%	\$0.00373	\$0.00102	\$0.00619	\$0.00169
45	25.7%	0.000000257%	\$0.00382	\$0.00101	\$0.00633	\$0.00167
46	26.3%	0.000000263%	\$0.00390	\$0.00100	\$0.00647	\$0.00166
47	26.9%	0.000000269%	\$0.00399	\$0.00099	\$0.00662	\$0.00165
48	27.4%	0.000000274%	\$0.00407	\$0.00098	\$0.00676	\$0.00164
49	28.0%	0.000000280%	\$0.00415	\$0.00098	\$0.00690	\$0.00162

50	28.6%	0.000000286%	\$0.00424	\$0.00097	\$0.00704	\$0.00161
51	29.1%	0.000000291%	\$0.00432	\$0.00096	\$0.00718	\$0.00159
52	29.7%	0.000000297%	\$0.00441	\$0.00095	\$0.00732	\$0.00157
53	30.3%	0.000000303%	\$0.00449	\$0.00094	\$0.00746	\$0.00156
54	30.9%	0.000000309%	\$0.00458	\$0.00093	\$0.00760	\$0.00154
55	31.4%	0.000000314%	\$0.00466	\$0.00092	\$0.00774	\$0.00152
56	32.0%	0.000000320%	\$0.00475	\$0.00091	\$0.00788	\$0.00151
57	32.6%	0.000000326%	\$0.00483	\$0.00090	\$0.00802	\$0.00149
58	33.1%	0.000000331%	\$0.00492	\$0.00089	\$0.00816	\$0.00147
59	33.7%	0.000000337%	\$0.00500	\$0.00087	\$0.00830	\$0.00145
60	34.3%	0.000000343%	\$0.00509	\$0.00086	\$0.00845	\$0.00143
61	34.9%	0.000000349%	\$0.00517	\$0.00085	\$0.00859	\$0.00141
62	35.4%	0.000000354%	\$0.00526	\$0.00084	\$0.00873	\$0.00140
63	36.0%	0.000000360%	\$0.00534	\$0.00083	\$0.00887	\$0.00138
64	36.6%	0.000000366%	\$0.00543	\$0.00082	\$0.00901	\$0.00136
65	37.1%	0.000000371%	\$0.00551	\$0.00081	\$0.00915	\$0.00134
66	37.7%	0.000000377%	\$0.00560	\$0.00080	\$0.00929	\$0.00132
67	38.3%	0.000000383%	\$0.00568	\$0.00078	\$0.00943	\$0.00130
68	38.9%	0.000000389%	\$0.00577	\$0.00077	\$0.00957	\$0.00128
69	39.4%	0.000000394%	\$0.00585	\$0.00076	\$0.00971	\$0.00126
70	40.0%	0.000000400%	\$0.00594	\$0.00075	\$0.00985	\$0.00124
71	40.6%	0.000000406%	\$0.00602	\$0.00074	\$0.00999	\$0.00123
72	41.1%	0.000000411%	\$0.00611	\$0.00073	\$0.01013	\$0.00121
73	41.7%	0.000000417%	\$0.00619	\$0.00072	\$0.01028	\$0.00119
74	42.3%	0.000000423%	\$0.00627	\$0.00070	\$0.01042	\$0.00117
75	42.9%	0.000000429%	\$0.00636	\$0.00069	\$0.01056	\$0.00115
76	43.4%	0.000000434%	\$0.00644	\$0.00068	\$0.01070	\$0.00113
77	44.0%	0.000000440%	\$0.00653	\$0.00067	\$0.01084	\$0.00111
78	44.6%	0.000000446%	\$0.00661	\$0.00066	\$0.01098	\$0.00109
79	45.1%	0.000000451%	\$0.00670	\$0.00065	\$0.01112	\$0.00108
80	45.7%	0.000000457%	\$0.00678	\$0.00064	\$0.01126	\$0.00106
81	46.3%	0.000000463%	\$0.00687	\$0.00063	\$0.01140	\$0.00104
82	46.9%	0.000000469%	\$0.00695	\$0.00062	\$0.01154	\$0.00102
83	47.4%	0.000000474%	\$0.00704	\$0.00061	\$0.01168	\$0.00100
84	48.0%	0.000000480%	\$0.00712	\$0.00059	\$0.01182	\$0.00099
85	48.6%	0.000000486%	\$0.00721	\$0.00058	\$0.01196	\$0.00097
86	49.1%	0.000000491%	\$0.00729	\$0.00057	\$0.01211	\$0.00095

87	49.7%	0.0000000497%	\$0.00738	\$0.00056	\$0.01225	\$0.00094
88	50.3%	0.0000000503%	\$0.00746	\$0.00055	\$0.01239	\$0.00092
89	50.9%	0.0000000509%	\$0.00755	\$0.00054	\$0.01253	\$0.00090
90	51.4%	0.0000000514%	\$0.00763	\$0.00053	\$0.01267	\$0.00089
91	52.0%	0.0000000520%	\$0.00772	\$0.00052	\$0.01281	\$0.00087
92	52.6%	0.0000000526%	\$0.00780	\$0.00051	\$0.01295	\$0.00085
93	53.1%	0.0000000531%	\$0.00789	\$0.00050	\$0.01309	\$0.00084
94	53.7%	0.0000000537%	\$0.00797	\$0.00050	\$0.01323	\$0.00082
95	54.3%	0.0000000543%	\$0.00806	\$0.00049	\$0.01337	\$0.00081
96	54.9%	0.0000000549%	\$0.00814	\$0.00048	\$0.01351	\$0.00079
97	55.4%	0.0000000554%	\$0.00822	\$0.00047	\$0.01365	\$0.00078
98	56.0%	0.0000000560%	\$0.00831	\$0.00046	\$0.01379	\$0.00076
99	56.6%	0.0000000566%	\$0.00839	\$0.00045	\$0.01393	\$0.00075
100	57.1%	0.0000000571%	\$0.00848	\$0.00044	\$0.01408	\$0.00073
101	57.7%	0.0000000577%	\$0.00856	\$0.00043	\$0.01422	\$0.00072
102	58.3%	0.0000000583%	\$0.00865	\$0.00042	\$0.01436	\$0.00070
103	58.9%	0.0000000589%	\$0.00873	\$0.00042	\$0.01450	\$0.00069
104	59.4%	0.0000000594%	\$0.00882	\$0.00041	\$0.01464	\$0.00068
105	60.0%	0.0000000600%	\$0.00890	\$0.00040	\$0.01478	\$0.00066
106	60.6%	0.0000000606%	\$0.00899	\$0.00039	\$0.01492	\$0.00065
107	61.1%	0.0000000611%	\$0.00907	\$0.00038	\$0.01506	\$0.00064
108	61.7%	0.0000000617%	\$0.00916	\$0.00038	\$0.01520	\$0.00062
109	62.3%	0.0000000623%	\$0.00924	\$0.00037	\$0.01534	\$0.00061
110	62.9%	0.0000000629%	\$0.00933	\$0.00036	\$0.01548	\$0.00060
111	63.4%	0.0000000634%	\$0.00941	\$0.00035	\$0.01562	\$0.00059
112	64.0%	0.0000000640%	\$0.00950	\$0.00035	\$0.01576	\$0.00058
113	64.6%	0.0000000646%	\$0.00958	\$0.00034	\$0.01591	\$0.00056
114	65.1%	0.0000000651%	\$0.00967	\$0.00033	\$0.01605	\$0.00055
115	65.7%	0.0000000657%	\$0.00975	\$0.00033	\$0.01619	\$0.00054
116	66.3%	0.0000000663%	\$0.00984	\$0.00032	\$0.01633	\$0.00053
117	66.9%	0.0000000669%	\$0.00992	\$0.00031	\$0.01647	\$0.00052
118	67.4%	0.0000000674%	\$0.01001	\$0.00031	\$0.01661	\$0.00051
119	68.0%	0.0000000680%	\$0.01009	\$0.00030	\$0.01675	\$0.00050
120	68.6%	0.0000000686%	\$0.01018	\$0.00029	\$0.01689	\$0.00049
121	69.1%	0.0000000691%	\$0.01026	\$0.00029	\$0.01703	\$0.00048
122	69.7%	0.0000000697%	\$0.01034	\$0.00028	\$0.01717	\$0.00047
123	70.3%	0.0000000703%	\$0.01043	\$0.00027	\$0.01731	\$0.00046

124	70.9%	0.000000709%	\$0.01051	\$0.00027	\$0.01745	\$0.00045
125	71.4%	0.000000714%	\$0.01060	\$0.00026	\$0.01759	\$0.00044
126	72.0%	0.000000720%	\$0.01068	\$0.00026	\$0.01774	\$0.00043
127	72.6%	0.000000726%	\$0.01077	\$0.00025	\$0.01788	\$0.00042
128	73.1%	0.000000731%	\$0.01085	\$0.00025	\$0.01802	\$0.00041
129	73.7%	0.000000737%	\$0.01094	\$0.00024	\$0.01816	\$0.00040
130	74.3%	0.000000743%	\$0.01102	\$0.00024	\$0.01830	\$0.00039
131	74.9%	0.000000749%	\$0.01111	\$0.00023	\$0.01844	\$0.00038
132	75.4%	0.000000754%	\$0.01119	\$0.00023	\$0.01858	\$0.00038
133	76.0%	0.000000760%	\$0.01128	\$0.00022	\$0.01872	\$0.00037
134	76.6%	0.000000766%	\$0.01136	\$0.00022	\$0.01886	\$0.00036
135	77.1%	0.000000771%	\$0.01145	\$0.00021	\$0.01900	\$0.00035
136	77.7%	0.000000777%	\$0.01153	\$0.00021	\$0.01914	\$0.00034
137	78.3%	0.000000783%	\$0.01162	\$0.00020	\$0.01928	\$0.00034
138	78.9%	0.000000789%	\$0.01170	\$0.00020	\$0.01942	\$0.00033
139	79.4%	0.000000794%	\$0.01179	\$0.00019	\$0.01957	\$0.00032
140	80.0%	0.000000800%	\$0.01187	\$0.00019	\$0.01971	\$0.00031
141	80.6%	0.000000806%	\$0.01196	\$0.00019	\$0.01985	\$0.00031
142	81.1%	0.000000811%	\$0.01204	\$0.00018	\$0.01999	\$0.00030
143	81.7%	0.000000817%	\$0.01213	\$0.00018	\$0.02013	\$0.00029
144	82.3%	0.000000823%	\$0.01221	\$0.00017	\$0.02027	\$0.00029
145	82.9%	0.000000829%	\$0.01229	\$0.00017	\$0.02041	\$0.00028
146	83.4%	0.000000834%	\$0.01238	\$0.00017	\$0.02055	\$0.00027
147	84.0%	0.000000840%	\$0.01246	\$0.00016	\$0.02069	\$0.00027
148	84.6%	0.000000846%	\$0.01255	\$0.00016	\$0.02083	\$0.00026
149	85.1%	0.000000851%	\$0.01263	\$0.00015	\$0.02097	\$0.00026
150	85.7%	0.000000857%	\$0.01272	\$0.00015	\$0.02111	\$0.00025
151	86.3%	0.000000863%	\$0.01280	\$0.00015	\$0.02125	\$0.00024
152	86.9%	0.000000869%	\$0.01289	\$0.00014	\$0.02139	\$0.00024
153	87.4%	0.000000874%	\$0.01297	\$0.00014	\$0.02154	\$0.00023
154	88.0%	0.000000880%	\$0.01306	\$0.00014	\$0.02168	\$0.00023
155	88.6%	0.000000886%	\$0.01314	\$0.00013	\$0.02182	\$0.00022
156	89.1%	0.000000891%	\$0.01323	\$0.00013	\$0.02196	\$0.00022
157	89.7%	0.000000897%	\$0.01331	\$0.00013	\$0.02210	\$0.00021
158	90.3%	0.000000903%	\$0.01340	\$0.00013	\$0.02224	\$0.00021
159	90.9%	0.000000909%	\$0.01348	\$0.00012	\$0.02238	\$0.00020
160	91.4%	0.000000914%	\$0.01357	\$0.00012	\$0.02252	\$0.00020

161	92.0%	0.0000000920%	\$0.01365	\$0.00012	\$0.02266	\$0.00019
162	92.6%	0.0000000926%	\$0.01374	\$0.00011	\$0.02280	\$0.00019
163	93.1%	0.0000000931%	\$0.01382	\$0.00011	\$0.02294	\$0.00019
164	93.7%	0.0000000937%	\$0.01391	\$0.00011	\$0.02308	\$0.00018
165	94.3%	0.0000000943%	\$0.01399	\$0.00011	\$0.02322	\$0.00018
166	94.9%	0.0000000949%	\$0.01408	\$0.00010	\$0.02337	\$0.00017
167	95.4%	0.0000000954%	\$0.01416	\$0.00010	\$0.02351	\$0.00017
168	96.0%	0.0000000960%	\$0.01425	\$0.00010	\$0.02365	\$0.00016
169	96.6%	0.0000000966%	\$0.01433	\$0.00010	\$0.02379	\$0.00016
170	97.1%	0.0000000971%	\$0.01441	\$0.00009	\$0.02393	\$0.00016
171	97.7%	0.0000000977%	\$0.01450	\$0.00009	\$0.02407	\$0.00015
172	98.3%	0.0000000983%	\$0.01458	\$0.00009	\$0.02421	\$0.00015
173	98.9%	0.0000000989%	\$0.01467	\$0.00009	\$0.02435	\$0.00015
174	99.4%	0.0000000994%	\$0.01475	\$0.00009	\$0.02449	\$0.00014
175	100.0%	0.0000001000%	\$0.01484	\$0.00008	\$0.02463	\$0.00014
Beyond (c)				\$0.00280		\$0.00465
Total				\$0.09649		\$0.16017

<--(Employment Impacts - FTE)-->

Year	Direct	
	Direct Effects	& Indirect Effects
0	0	0
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0



15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
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23	0	0
24	0	0
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**Notes**

- (a) Percent displacement given certain invasion
- (b) Percent displacement given probability of successful invasion
- (c) From year 176 into perpetuity

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### Appendix 16C. Economic Impact Analysis of Lake Winnipeg Commercial Fishery: Slow Invasion - Low Risk

Probability of successful invasion: 1.00E-06  
 Annual discount rate: 3.0%  
 Present year: 0  
 Invasion year: 0  
 Annual landed value (10-year average): \$14,838,754

**Economic impact multipliers**

Output (direct effects): 1.00  
 Output (direct & indirect effects - all provinces): 1.66  
 Employment (direct effects): 17.41 FTE/million \$ direct output  
 Employment (direct & indirect effects - all provinces): 22.30 FTE/million \$ direct output

Year	<------(Fishery Displacement)----->		<------(Output Impacts)----->			
	Certain (a)	Expected (b)	<------(Direct Effects)----->		<------(Direct & Indirect Effects)----->	
			Current Value	Present Value	Current Value	Present Value
0	0.0%	0.0000000%	\$0.00	\$0.00	\$0.00	\$0.00
1	0.6%	0.0000006%	\$0.08	\$0.08	\$0.14	\$0.14
2	1.1%	0.0000011%	\$0.17	\$0.16	\$0.28	\$0.27
3	1.7%	0.0000017%	\$0.25	\$0.23	\$0.42	\$0.39
4	2.3%	0.0000023%	\$0.34	\$0.30	\$0.56	\$0.50
5	2.9%	0.0000029%	\$0.42	\$0.37	\$0.70	\$0.61
6	3.4%	0.0000034%	\$0.51	\$0.43	\$0.84	\$0.71
7	4.0%	0.0000040%	\$0.59	\$0.48	\$0.99	\$0.80
8	4.6%	0.0000046%	\$0.68	\$0.54	\$1.13	\$0.89
9	5.1%	0.0000051%	\$0.76	\$0.58	\$1.27	\$0.97
10	5.7%	0.0000057%	\$0.85	\$0.63	\$1.41	\$1.05
11	6.3%	0.0000063%	\$0.93	\$0.67	\$1.55	\$1.12
12	6.9%	0.0000069%	\$1.02	\$0.71	\$1.69	\$1.18

13	7.4%	0.0000074%	\$1.10	\$0.75	\$1.83	\$1.25
14	8.0%	0.0000080%	\$1.19	\$0.78	\$1.97	\$1.30
15	8.6%	0.0000086%	\$1.27	\$0.82	\$2.11	\$1.36
16	9.1%	0.0000091%	\$1.36	\$0.85	\$2.25	\$1.40
17	9.7%	0.0000097%	\$1.44	\$0.87	\$2.39	\$1.45
18	10.3%	0.0000103%	\$1.53	\$0.90	\$2.53	\$1.49
19	10.9%	0.0000109%	\$1.61	\$0.92	\$2.67	\$1.53
20	11.4%	0.0000114%	\$1.70	\$0.94	\$2.82	\$1.56
21	12.0%	0.0000120%	\$1.78	\$0.96	\$2.96	\$1.59
22	12.6%	0.0000126%	\$1.87	\$0.97	\$3.10	\$1.62
23	13.1%	0.0000131%	\$1.95	\$0.99	\$3.24	\$1.64
24	13.7%	0.0000137%	\$2.04	\$1.00	\$3.38	\$1.66
25	14.3%	0.0000143%	\$2.12	\$1.01	\$3.52	\$1.68
26	14.9%	0.0000149%	\$2.20	\$1.02	\$3.66	\$1.70
27	15.4%	0.0000154%	\$2.29	\$1.03	\$3.80	\$1.71
28	16.0%	0.0000160%	\$2.37	\$1.04	\$3.94	\$1.72
29	16.6%	0.0000166%	\$2.46	\$1.04	\$4.08	\$1.73
30	17.1%	0.0000171%	\$2.54	\$1.05	\$4.22	\$1.74
31	17.7%	0.0000177%	\$2.63	\$1.05	\$4.36	\$1.75
32	18.3%	0.0000183%	\$2.71	\$1.05	\$4.50	\$1.75
33	18.9%	0.0000189%	\$2.80	\$1.05	\$4.64	\$1.75
34	19.4%	0.0000194%	\$2.88	\$1.06	\$4.79	\$1.75
35	20.0%	0.0000200%	\$2.97	\$1.05	\$4.93	\$1.75
36	20.6%	0.0000206%	\$3.05	\$1.05	\$5.07	\$1.75
37	21.1%	0.0000211%	\$3.14	\$1.05	\$5.21	\$1.74
38	21.7%	0.0000217%	\$3.22	\$1.05	\$5.35	\$1.74
39	22.3%	0.0000223%	\$3.31	\$1.04	\$5.49	\$1.73
40	22.9%	0.0000229%	\$3.39	\$1.04	\$5.63	\$1.73
41	23.4%	0.0000234%	\$3.48	\$1.03	\$5.77	\$1.72
42	24.0%	0.0000240%	\$3.56	\$1.03	\$5.91	\$1.71
43	24.6%	0.0000246%	\$3.65	\$1.02	\$6.05	\$1.70
44	25.1%	0.0000251%	\$3.73	\$1.02	\$6.19	\$1.69
45	25.7%	0.0000257%	\$3.82	\$1.01	\$6.33	\$1.67
46	26.3%	0.0000263%	\$3.90	\$1.00	\$6.47	\$1.66
47	26.9%	0.0000269%	\$3.99	\$0.99	\$6.62	\$1.65
48	27.4%	0.0000274%	\$4.07	\$0.98	\$6.76	\$1.64
49	28.0%	0.0000280%	\$4.15	\$0.98	\$6.90	\$1.62



50	28.6%	0.0000286%	\$4.24	\$0.97	\$7.04	\$1.61
51	29.1%	0.0000291%	\$4.32	\$0.96	\$7.18	\$1.59
52	29.7%	0.0000297%	\$4.41	\$0.95	\$7.32	\$1.57
53	30.3%	0.0000303%	\$4.49	\$0.94	\$7.46	\$1.56
54	30.9%	0.0000309%	\$4.58	\$0.93	\$7.60	\$1.54
55	31.4%	0.0000314%	\$4.66	\$0.92	\$7.74	\$1.52
56	32.0%	0.0000320%	\$4.75	\$0.91	\$7.88	\$1.51
57	32.6%	0.0000326%	\$4.83	\$0.90	\$8.02	\$1.49
58	33.1%	0.0000331%	\$4.92	\$0.89	\$8.16	\$1.47
59	33.7%	0.0000337%	\$5.00	\$0.87	\$8.30	\$1.45
60	34.3%	0.0000343%	\$5.09	\$0.86	\$8.45	\$1.43
61	34.9%	0.0000349%	\$5.17	\$0.85	\$8.59	\$1.41
62	35.4%	0.0000354%	\$5.26	\$0.84	\$8.73	\$1.40
63	36.0%	0.0000360%	\$5.34	\$0.83	\$8.87	\$1.38
64	36.6%	0.0000366%	\$5.43	\$0.82	\$9.01	\$1.36
65	37.1%	0.0000371%	\$5.51	\$0.81	\$9.15	\$1.34
66	37.7%	0.0000377%	\$5.60	\$0.80	\$9.29	\$1.32
67	38.3%	0.0000383%	\$5.68	\$0.78	\$9.43	\$1.30
68	38.9%	0.0000389%	\$5.77	\$0.77	\$9.57	\$1.28
69	39.4%	0.0000394%	\$5.85	\$0.76	\$9.71	\$1.26
70	40.0%	0.0000400%	\$5.94	\$0.75	\$9.85	\$1.24
71	40.6%	0.0000406%	\$6.02	\$0.74	\$9.99	\$1.23
72	41.1%	0.0000411%	\$6.11	\$0.73	\$10.13	\$1.21
73	41.7%	0.0000417%	\$6.19	\$0.72	\$10.28	\$1.19
74	42.3%	0.0000423%	\$6.27	\$0.70	\$10.42	\$1.17
75	42.9%	0.0000429%	\$6.36	\$0.69	\$10.56	\$1.15
76	43.4%	0.0000434%	\$6.44	\$0.68	\$10.70	\$1.13
77	44.0%	0.0000440%	\$6.53	\$0.67	\$10.84	\$1.11
78	44.6%	0.0000446%	\$6.61	\$0.66	\$10.98	\$1.09
79	45.1%	0.0000451%	\$6.70	\$0.65	\$11.12	\$1.08
80	45.7%	0.0000457%	\$6.78	\$0.64	\$11.26	\$1.06
81	46.3%	0.0000463%	\$6.87	\$0.63	\$11.40	\$1.04
82	46.9%	0.0000469%	\$6.95	\$0.62	\$11.54	\$1.02
83	47.4%	0.0000474%	\$7.04	\$0.61	\$11.68	\$1.00
84	48.0%	0.0000480%	\$7.12	\$0.59	\$11.82	\$0.99
85	48.6%	0.0000486%	\$7.21	\$0.58	\$11.96	\$0.97
86	49.1%	0.0000491%	\$7.29	\$0.57	\$12.11	\$0.95

87	49.7%	0.0000497%	\$7.38	\$0.56	\$12.25	\$0.94
88	50.3%	0.0000503%	\$7.46	\$0.55	\$12.39	\$0.92
89	50.9%	0.0000509%	\$7.55	\$0.54	\$12.53	\$0.90
90	51.4%	0.0000514%	\$7.63	\$0.53	\$12.67	\$0.89
91	52.0%	0.0000520%	\$7.72	\$0.52	\$12.81	\$0.87
92	52.6%	0.0000526%	\$7.80	\$0.51	\$12.95	\$0.85
93	53.1%	0.0000531%	\$7.89	\$0.50	\$13.09	\$0.84
94	53.7%	0.0000537%	\$7.97	\$0.50	\$13.23	\$0.82
95	54.3%	0.0000543%	\$8.06	\$0.49	\$13.37	\$0.81
96	54.9%	0.0000549%	\$8.14	\$0.48	\$13.51	\$0.79
97	55.4%	0.0000554%	\$8.22	\$0.47	\$13.65	\$0.78
98	56.0%	0.0000560%	\$8.31	\$0.46	\$13.79	\$0.76
99	56.6%	0.0000566%	\$8.39	\$0.45	\$13.93	\$0.75
100	57.1%	0.0000571%	\$8.48	\$0.44	\$14.08	\$0.73
101	57.7%	0.0000577%	\$8.56	\$0.43	\$14.22	\$0.72
102	58.3%	0.0000583%	\$8.65	\$0.42	\$14.36	\$0.70
103	58.9%	0.0000589%	\$8.73	\$0.42	\$14.50	\$0.69
104	59.4%	0.0000594%	\$8.82	\$0.41	\$14.64	\$0.68
105	60.0%	0.0000600%	\$8.90	\$0.40	\$14.78	\$0.66
106	60.6%	0.0000606%	\$8.99	\$0.39	\$14.92	\$0.65
107	61.1%	0.0000611%	\$9.07	\$0.38	\$15.06	\$0.64
108	61.7%	0.0000617%	\$9.16	\$0.38	\$15.20	\$0.62
109	62.3%	0.0000623%	\$9.24	\$0.37	\$15.34	\$0.61
110	62.9%	0.0000629%	\$9.33	\$0.36	\$15.48	\$0.60
111	63.4%	0.0000634%	\$9.41	\$0.35	\$15.62	\$0.59
112	64.0%	0.0000640%	\$9.50	\$0.35	\$15.76	\$0.58
113	64.6%	0.0000646%	\$9.58	\$0.34	\$15.91	\$0.56
114	65.1%	0.0000651%	\$9.67	\$0.33	\$16.05	\$0.55
115	65.7%	0.0000657%	\$9.75	\$0.33	\$16.19	\$0.54
116	66.3%	0.0000663%	\$9.84	\$0.32	\$16.33	\$0.53
117	66.9%	0.0000669%	\$9.92	\$0.31	\$16.47	\$0.52
118	67.4%	0.0000674%	\$10.01	\$0.31	\$16.61	\$0.51
119	68.0%	0.0000680%	\$10.09	\$0.30	\$16.75	\$0.50
120	68.6%	0.0000686%	\$10.18	\$0.29	\$16.89	\$0.49
121	69.1%	0.0000691%	\$10.26	\$0.29	\$17.03	\$0.48
122	69.7%	0.0000697%	\$10.34	\$0.28	\$17.17	\$0.47
123	70.3%	0.0000703%	\$10.43	\$0.27	\$17.31	\$0.46

124	70.9%	0.0000709%	\$10.51	\$0.27	\$17.45	\$0.45
125	71.4%	0.0000714%	\$10.60	\$0.26	\$17.59	\$0.44
126	72.0%	0.0000720%	\$10.68	\$0.26	\$17.74	\$0.43
127	72.6%	0.0000726%	\$10.77	\$0.25	\$17.88	\$0.42
128	73.1%	0.0000731%	\$10.85	\$0.25	\$18.02	\$0.41
129	73.7%	0.0000737%	\$10.94	\$0.24	\$18.16	\$0.40
130	74.3%	0.0000743%	\$11.02	\$0.24	\$18.30	\$0.39
131	74.9%	0.0000749%	\$11.11	\$0.23	\$18.44	\$0.38
132	75.4%	0.0000754%	\$11.19	\$0.23	\$18.58	\$0.38
133	76.0%	0.0000760%	\$11.28	\$0.22	\$18.72	\$0.37
134	76.6%	0.0000766%	\$11.36	\$0.22	\$18.86	\$0.36
135	77.1%	0.0000771%	\$11.45	\$0.21	\$19.00	\$0.35
136	77.7%	0.0000777%	\$11.53	\$0.21	\$19.14	\$0.34
137	78.3%	0.0000783%	\$11.62	\$0.20	\$19.28	\$0.34
138	78.9%	0.0000789%	\$11.70	\$0.20	\$19.42	\$0.33
139	79.4%	0.0000794%	\$11.79	\$0.19	\$19.57	\$0.32
140	80.0%	0.0000800%	\$11.87	\$0.19	\$19.71	\$0.31
141	80.6%	0.0000806%	\$11.96	\$0.19	\$19.85	\$0.31
142	81.1%	0.0000811%	\$12.04	\$0.18	\$19.99	\$0.30
143	81.7%	0.0000817%	\$12.13	\$0.18	\$20.13	\$0.29
144	82.3%	0.0000823%	\$12.21	\$0.17	\$20.27	\$0.29
145	82.9%	0.0000829%	\$12.29	\$0.17	\$20.41	\$0.28
146	83.4%	0.0000834%	\$12.38	\$0.17	\$20.55	\$0.27
147	84.0%	0.0000840%	\$12.46	\$0.16	\$20.69	\$0.27
148	84.6%	0.0000846%	\$12.55	\$0.16	\$20.83	\$0.26
149	85.1%	0.0000851%	\$12.63	\$0.15	\$20.97	\$0.26
150	85.7%	0.0000857%	\$12.72	\$0.15	\$21.11	\$0.25
151	86.3%	0.0000863%	\$12.80	\$0.15	\$21.25	\$0.24
152	86.9%	0.0000869%	\$12.89	\$0.14	\$21.39	\$0.24
153	87.4%	0.0000874%	\$12.97	\$0.14	\$21.54	\$0.23
154	88.0%	0.0000880%	\$13.06	\$0.14	\$21.68	\$0.23
155	88.6%	0.0000886%	\$13.14	\$0.13	\$21.82	\$0.22
156	89.1%	0.0000891%	\$13.23	\$0.13	\$21.96	\$0.22
157	89.7%	0.0000897%	\$13.31	\$0.13	\$22.10	\$0.21
158	90.3%	0.0000903%	\$13.40	\$0.13	\$22.24	\$0.21
159	90.9%	0.0000909%	\$13.48	\$0.12	\$22.38	\$0.20
160	91.4%	0.0000914%	\$13.57	\$0.12	\$22.52	\$0.20

161	92.0%	0.0000920%	\$13.65	\$0.12	\$22.66	\$0.19
162	92.6%	0.0000926%	\$13.74	\$0.11	\$22.80	\$0.19
163	93.1%	0.0000931%	\$13.82	\$0.11	\$22.94	\$0.19
164	93.7%	0.0000937%	\$13.91	\$0.11	\$23.08	\$0.18
165	94.3%	0.0000943%	\$13.99	\$0.11	\$23.22	\$0.18
166	94.9%	0.0000949%	\$14.08	\$0.10	\$23.37	\$0.17
167	95.4%	0.0000954%	\$14.16	\$0.10	\$23.51	\$0.17
168	96.0%	0.0000960%	\$14.25	\$0.10	\$23.65	\$0.16
169	96.6%	0.0000966%	\$14.33	\$0.10	\$23.79	\$0.16
170	97.1%	0.0000971%	\$14.41	\$0.09	\$23.93	\$0.16
171	97.7%	0.0000977%	\$14.50	\$0.09	\$24.07	\$0.15
172	98.3%	0.0000983%	\$14.58	\$0.09	\$24.21	\$0.15
173	98.9%	0.0000989%	\$14.67	\$0.09	\$24.35	\$0.15
174	99.4%	0.0000994%	\$14.75	\$0.09	\$24.49	\$0.14
175	100.0%	0.0001000%	\$14.84	\$0.08	\$24.63	\$0.14
Beyond (c)				\$2.80		\$4.65
Total				\$96.49		\$160.17

<--(Employment Impacts - FTE)-->

Year	Direct	
	Direct Effects	& Indirect Effects
0	0	0
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
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171	0	0
172	0	0
173	0	0
174	0	0
175	0	0

---

**Notes**

- (a) Percent displacement given certain invasion
- (b) Percent displacement given probability of successful invasion
- (c) From year 176 into perpetuity

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**Appendix 16D. Economic Impact Analysis of Lake Winnipeg Commercial Fishery:  
Slow Invasion - Moderate Risk**

Probability of successful invasion: 1.00E-03  
 Annual discount rate: 3.0%  
 Present year: 0  
 Invasion year: 0  
 Annual landed value (10-year average): \$14,838,754

Economic impact multipliers

Output (direct effects): 1.00  
 Output (direct & indirect effects - all provinces): 1.66  
 Employment (direct effects): 17.41 FTE/million \$ direct output  
 Employment (direct & indirect effects - all provinces): 22.30 FTE/million \$ direct output

Year	<------(Fishery Displacement)----->		<------(Output Impacts)----->			
	Certain (a)	Expected (b)	<------(Direct Effects)----->		<------(Direct & Indirect Effects)----->	
			Current Value	Present Value	Current Value	Present Value
0	0.0%	0.0000%	\$0	\$0	\$0	\$0
1	0.6%	0.0006%	\$85	\$82	\$141	\$137
2	1.1%	0.0011%	\$170	\$160	\$282	\$265
3	1.7%	0.0017%	\$254	\$233	\$422	\$386
4	2.3%	0.0023%	\$339	\$301	\$563	\$500
5	2.9%	0.0029%	\$424	\$366	\$704	\$607
6	3.4%	0.0034%	\$509	\$426	\$845	\$707
7	4.0%	0.0040%	\$594	\$483	\$985	\$801
8	4.6%	0.0046%	\$678	\$535	\$1,126	\$889
9	5.1%	0.0051%	\$763	\$585	\$1,267	\$971
10	5.7%	0.0057%	\$848	\$631	\$1,408	\$1,047
11	6.3%	0.0063%	\$933	\$674	\$1,548	\$1,119
12	6.9%	0.0069%	\$1,018	\$714	\$1,689	\$1,185

13	7.4%	0.0074%	\$1,102	\$751	\$1,830	\$1,246
14	8.0%	0.0080%	\$1,187	\$785	\$1,971	\$1,303
15	8.6%	0.0086%	\$1,272	\$816	\$2,111	\$1,355
16	9.1%	0.0091%	\$1,357	\$845	\$2,252	\$1,403
17	9.7%	0.0097%	\$1,441	\$872	\$2,393	\$1,448
18	10.3%	0.0103%	\$1,526	\$897	\$2,534	\$1,488
19	10.9%	0.0109%	\$1,611	\$919	\$2,674	\$1,525
20	11.4%	0.0114%	\$1,696	\$939	\$2,815	\$1,559
21	12.0%	0.0120%	\$1,781	\$957	\$2,956	\$1,589
22	12.6%	0.0126%	\$1,865	\$974	\$3,097	\$1,616
23	13.1%	0.0131%	\$1,950	\$988	\$3,237	\$1,640
24	13.7%	0.0137%	\$2,035	\$1,001	\$3,378	\$1,662
25	14.3%	0.0143%	\$2,120	\$1,012	\$3,519	\$1,681
26	14.9%	0.0149%	\$2,205	\$1,022	\$3,660	\$1,697
27	15.4%	0.0154%	\$2,289	\$1,031	\$3,800	\$1,711
28	16.0%	0.0160%	\$2,374	\$1,038	\$3,941	\$1,723
29	16.6%	0.0166%	\$2,459	\$1,043	\$4,082	\$1,732
30	17.1%	0.0171%	\$2,544	\$1,048	\$4,223	\$1,740
31	17.7%	0.0177%	\$2,629	\$1,051	\$4,363	\$1,745
32	18.3%	0.0183%	\$2,713	\$1,054	\$4,504	\$1,749
33	18.9%	0.0189%	\$2,798	\$1,055	\$4,645	\$1,751
34	19.4%	0.0194%	\$2,883	\$1,055	\$4,786	\$1,752
35	20.0%	0.0200%	\$2,968	\$1,055	\$4,926	\$1,751
36	20.6%	0.0206%	\$3,053	\$1,053	\$5,067	\$1,748
37	21.1%	0.0211%	\$3,137	\$1,051	\$5,208	\$1,745
38	21.7%	0.0217%	\$3,222	\$1,048	\$5,349	\$1,740
39	22.3%	0.0223%	\$3,307	\$1,044	\$5,489	\$1,733
40	22.9%	0.0229%	\$3,392	\$1,040	\$5,630	\$1,726
41	23.4%	0.0234%	\$3,477	\$1,035	\$5,771	\$1,718
42	24.0%	0.0240%	\$3,561	\$1,029	\$5,912	\$1,708
43	24.6%	0.0246%	\$3,646	\$1,023	\$6,053	\$1,698
44	25.1%	0.0251%	\$3,731	\$1,016	\$6,193	\$1,687
45	25.7%	0.0257%	\$3,816	\$1,009	\$6,334	\$1,675
46	26.3%	0.0263%	\$3,900	\$1,001	\$6,475	\$1,662
47	26.9%	0.0269%	\$3,985	\$993	\$6,616	\$1,649
48	27.4%	0.0274%	\$4,070	\$985	\$6,756	\$1,635
49	28.0%	0.0280%	\$4,155	\$976	\$6,897	\$1,620

50	28.6%	0.0286%	\$4,240	\$967	\$7,038	\$1,605
51	29.1%	0.0291%	\$4,324	\$958	\$7,179	\$1,590
52	29.7%	0.0297%	\$4,409	\$948	\$7,319	\$1,574
53	30.3%	0.0303%	\$4,494	\$938	\$7,460	\$1,557
54	30.9%	0.0309%	\$4,579	\$928	\$7,601	\$1,540
55	31.4%	0.0314%	\$4,664	\$918	\$7,742	\$1,523
56	32.0%	0.0320%	\$4,748	\$907	\$7,882	\$1,506
57	32.6%	0.0326%	\$4,833	\$896	\$8,023	\$1,488
58	33.1%	0.0331%	\$4,918	\$886	\$8,164	\$1,470
59	33.7%	0.0337%	\$5,003	\$875	\$8,305	\$1,452
60	34.3%	0.0343%	\$5,088	\$864	\$8,445	\$1,433
61	34.9%	0.0349%	\$5,172	\$852	\$8,586	\$1,415
62	35.4%	0.0354%	\$5,257	\$841	\$8,727	\$1,396
63	36.0%	0.0360%	\$5,342	\$830	\$8,868	\$1,377
64	36.6%	0.0366%	\$5,427	\$818	\$9,008	\$1,359
65	37.1%	0.0371%	\$5,512	\$807	\$9,149	\$1,340
66	37.7%	0.0377%	\$5,596	\$796	\$9,290	\$1,321
67	38.3%	0.0383%	\$5,681	\$784	\$9,431	\$1,302
68	38.9%	0.0389%	\$5,766	\$773	\$9,571	\$1,282
69	39.4%	0.0394%	\$5,851	\$761	\$9,712	\$1,263
70	40.0%	0.0400%	\$5,936	\$750	\$9,853	\$1,244
71	40.6%	0.0406%	\$6,020	\$738	\$9,994	\$1,225
72	41.1%	0.0411%	\$6,105	\$727	\$10,134	\$1,206
73	41.7%	0.0417%	\$6,190	\$715	\$10,275	\$1,188
74	42.3%	0.0423%	\$6,275	\$704	\$10,416	\$1,169
75	42.9%	0.0429%	\$6,359	\$693	\$10,557	\$1,150
76	43.4%	0.0434%	\$6,444	\$682	\$10,697	\$1,131
77	44.0%	0.0440%	\$6,529	\$670	\$10,838	\$1,113
78	44.6%	0.0446%	\$6,614	\$659	\$10,979	\$1,095
79	45.1%	0.0451%	\$6,699	\$648	\$11,120	\$1,076
80	45.7%	0.0457%	\$6,783	\$637	\$11,260	\$1,058
81	46.3%	0.0463%	\$6,868	\$627	\$11,401	\$1,040
82	46.9%	0.0469%	\$6,953	\$616	\$11,542	\$1,022
83	47.4%	0.0474%	\$7,038	\$605	\$11,683	\$1,005
84	48.0%	0.0480%	\$7,123	\$595	\$11,824	\$987
85	48.6%	0.0486%	\$7,207	\$584	\$11,964	\$970
86	49.1%	0.0491%	\$7,292	\$574	\$12,105	\$953

87	49.7%	0.0497%	\$7,377	\$564	\$12,246	\$936
88	50.3%	0.0503%	\$7,462	\$554	\$12,387	\$919
89	50.9%	0.0509%	\$7,547	\$544	\$12,527	\$902
90	51.4%	0.0514%	\$7,631	\$534	\$12,668	\$886
91	52.0%	0.0520%	\$7,716	\$524	\$12,809	\$870
92	52.6%	0.0526%	\$7,801	\$514	\$12,950	\$854
93	53.1%	0.0531%	\$7,886	\$505	\$13,090	\$838
94	53.7%	0.0537%	\$7,971	\$495	\$13,231	\$822
95	54.3%	0.0543%	\$8,055	\$486	\$13,372	\$807
96	54.9%	0.0549%	\$8,140	\$477	\$13,513	\$791
97	55.4%	0.0554%	\$8,225	\$468	\$13,653	\$776
98	56.0%	0.0560%	\$8,310	\$459	\$13,794	\$761
99	56.6%	0.0566%	\$8,394	\$450	\$13,935	\$747
100	57.1%	0.0571%	\$8,479	\$441	\$14,076	\$732
101	57.7%	0.0577%	\$8,564	\$433	\$14,216	\$718
102	58.3%	0.0583%	\$8,649	\$424	\$14,357	\$704
103	58.9%	0.0589%	\$8,734	\$416	\$14,498	\$690
104	59.4%	0.0594%	\$8,818	\$408	\$14,639	\$677
105	60.0%	0.0600%	\$8,903	\$400	\$14,779	\$663
106	60.6%	0.0606%	\$8,988	\$392	\$14,920	\$650
107	61.1%	0.0611%	\$9,073	\$384	\$15,061	\$637
108	61.7%	0.0617%	\$9,158	\$376	\$15,202	\$624
109	62.3%	0.0623%	\$9,242	\$369	\$15,342	\$612
110	62.9%	0.0629%	\$9,327	\$361	\$15,483	\$599
111	63.4%	0.0634%	\$9,412	\$354	\$15,624	\$587
112	64.0%	0.0640%	\$9,497	\$347	\$15,765	\$575
113	64.6%	0.0646%	\$9,582	\$339	\$15,905	\$564
114	65.1%	0.0651%	\$9,666	\$333	\$16,046	\$552
115	65.7%	0.0657%	\$9,751	\$326	\$16,187	\$541
116	66.3%	0.0663%	\$9,836	\$319	\$16,328	\$529
117	66.9%	0.0669%	\$9,921	\$312	\$16,468	\$518
118	67.4%	0.0674%	\$10,006	\$306	\$16,609	\$508
119	68.0%	0.0680%	\$10,090	\$299	\$16,750	\$497
120	68.6%	0.0686%	\$10,175	\$293	\$16,891	\$487
121	69.1%	0.0691%	\$10,260	\$287	\$17,031	\$476
122	69.7%	0.0697%	\$10,345	\$281	\$17,172	\$466
123	70.3%	0.0703%	\$10,430	\$275	\$17,313	\$456

124	70.9%	0.0709%	\$10,514	\$269	\$17,454	\$447
125	71.4%	0.0714%	\$10,599	\$263	\$17,595	\$437
126	72.0%	0.0720%	\$10,684	\$258	\$17,735	\$428
127	72.6%	0.0726%	\$10,769	\$252	\$17,876	\$419
128	73.1%	0.0731%	\$10,853	\$247	\$18,017	\$410
129	73.7%	0.0737%	\$10,938	\$242	\$18,158	\$401
130	74.3%	0.0743%	\$11,023	\$236	\$18,298	\$392
131	74.9%	0.0749%	\$11,108	\$231	\$18,439	\$384
132	75.4%	0.0754%	\$11,193	\$226	\$18,580	\$375
133	76.0%	0.0760%	\$11,277	\$221	\$18,721	\$367
134	76.6%	0.0766%	\$11,362	\$216	\$18,861	\$359
135	77.1%	0.0771%	\$11,447	\$212	\$19,002	\$351
136	77.7%	0.0777%	\$11,532	\$207	\$19,143	\$344
137	78.3%	0.0783%	\$11,617	\$202	\$19,284	\$336
138	78.9%	0.0789%	\$11,701	\$198	\$19,424	\$329
139	79.4%	0.0794%	\$11,786	\$194	\$19,565	\$321
140	80.0%	0.0800%	\$11,871	\$189	\$19,706	\$314
141	80.6%	0.0806%	\$11,956	\$185	\$19,847	\$307
142	81.1%	0.0811%	\$12,041	\$181	\$19,987	\$301
143	81.7%	0.0817%	\$12,125	\$177	\$20,128	\$294
144	82.3%	0.0823%	\$12,210	\$173	\$20,269	\$287
145	82.9%	0.0829%	\$12,295	\$169	\$20,410	\$281
146	83.4%	0.0834%	\$12,380	\$165	\$20,550	\$275
147	84.0%	0.0840%	\$12,465	\$162	\$20,691	\$268
148	84.6%	0.0846%	\$12,549	\$158	\$20,832	\$262
149	85.1%	0.0851%	\$12,634	\$154	\$20,973	\$256
150	85.7%	0.0857%	\$12,719	\$151	\$21,113	\$251
151	86.3%	0.0863%	\$12,804	\$148	\$21,254	\$245
152	86.9%	0.0869%	\$12,889	\$144	\$21,395	\$239
153	87.4%	0.0874%	\$12,973	\$141	\$21,536	\$234
154	88.0%	0.0880%	\$13,058	\$138	\$21,676	\$229
155	88.6%	0.0886%	\$13,143	\$135	\$21,817	\$223
156	89.1%	0.0891%	\$13,228	\$131	\$21,958	\$218
157	89.7%	0.0897%	\$13,312	\$128	\$22,099	\$213
158	90.3%	0.0903%	\$13,397	\$126	\$22,239	\$208
159	90.9%	0.0909%	\$13,482	\$123	\$22,380	\$204
160	91.4%	0.0914%	\$13,567	\$120	\$22,521	\$199

161	92.0%	0.0920%	\$13,652	\$117	\$22,662	\$194
162	92.6%	0.0926%	\$13,736	\$114	\$22,803	\$190
163	93.1%	0.0931%	\$13,821	\$112	\$22,943	\$185
164	93.7%	0.0937%	\$13,906	\$109	\$23,084	\$181
165	94.3%	0.0943%	\$13,991	\$107	\$23,225	\$177
166	94.9%	0.0949%	\$14,076	\$104	\$23,366	\$173
167	95.4%	0.0954%	\$14,160	\$102	\$23,506	\$169
168	96.0%	0.0960%	\$14,245	\$99	\$23,647	\$165
169	96.6%	0.0966%	\$14,330	\$97	\$23,788	\$161
170	97.1%	0.0971%	\$14,415	\$95	\$23,929	\$157
171	97.7%	0.0977%	\$14,500	\$93	\$24,069	\$154
172	98.3%	0.0983%	\$14,584	\$90	\$24,210	\$150
173	98.9%	0.0989%	\$14,669	\$88	\$24,351	\$146
174	99.4%	0.0994%	\$14,754	\$86	\$24,492	\$143
175	100.0%	0.1000%	\$14,839	\$84	\$24,632	\$140
Beyond (c)				\$2,804		\$4,654
Total				\$96,491		\$160,174

<--(Employment Impacts - FTE)-->

Year	Direct	
	Direct Effects	& Indirect Effects
0	0	0
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0



15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	0	0
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
31	0	0
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	0	0
44	0	0
45	0	0
46	0	0
47	0	0
48	0	0
49	0	0
50	0	0
51	0	0

52	0	0
53	0	0
54	0	0
55	0	0
56	0	0
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	0	0
65	0	0
66	0	0
67	0	0
68	0	0
69	0	0
70	0	0
71	0	0
72	0	0
73	0	0
74	0	0
75	0	0
76	0	0
77	0	0
78	0	0
79	0	0
80	0	0
81	0	0
82	0	0
83	0	0
84	0	0
85	0	0
86	0	0
87	0	0
88	0	0

89	0	0
90	0	0
91	0	0
92	0	0
93	0	0
94	0	0
95	0	0
96	0	0
97	0	0
98	0	0
99	0	0
100	0	0
101	0	0
102	0	0
103	0	0
104	0	0
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116	0	0
117	0	0
118	0	0
119	0	0
120	0	0
121	0	0
122	0	0
123	0	0
124	0	0
125	0	0

126	0	0
127	0	0
128	0	0
129	0	0
130	0	0
131	0	0
132	0	0
133	0	0
134	0	0
135	0	0
136	0	0
137	0	0
138	0	0
139	0	0
140	0	0
141	0	0
142	0	0
143	0	0
144	0	0
145	0	0
146	0	0
147	0	0
148	0	0
149	0	0
150	0	0
151	0	0
152	0	0
153	0	0
154	0	0
155	0	0
156	0	0
157	0	0
158	0	0
159	0	0
160	0	0
161	0	0
162	0	0

163	0	0
164	0	0
165	0	0
166	0	0
167	0	0
168	0	0
169	0	0
170	0	0
171	0	0
172	0	0
173	0	0
174	0	0
175	0	0

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**Notes**

- (a) Percent displacement given certain invasion
- (b) Percent displacement given probability of successful invasion
- (c) From year 176 into perpetuity

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### Appendix 16E. Economic Impact Analysis of Lake Winnipeg Commercial Fishery: Slow Invasion - High Risk

Probability of successful invasion: 1.00E-02  
 Annual discount rate: 3.0%  
 Present year: 0  
 Invasion year: 0  
 Annual landed value (10-year average): \$14,838,754

**Economic impact multipliers**

Output (direct effects): 1.00  
 Output (direct & indirect effects - all provinces): 1.66  
 Employment (direct effects): 17.41 FTE/million \$ direct output  
 Employment (direct & indirect effects - all provinces): 22.30 FTE/million \$ direct output

Year	<-----<Fishery Displacement>----->		<-----<Output Impacts>----->			
	Certain (a)	Expected (b)	<-----<Direct Effects>----->		<-----<Direct & Indirect Effects>----->	
			Current Value	Present Value	Current Value	Present Value
0	0.0%	0.000%	\$0	\$0	\$0	\$0
1	0.6%	0.006%	\$848	\$823	\$1,408	\$1,367
2	1.1%	0.011%	\$1,696	\$1,599	\$2,815	\$2,654
3	1.7%	0.017%	\$2,544	\$2,328	\$4,223	\$3,864
4	2.3%	0.023%	\$3,392	\$3,013	\$5,630	\$5,002
5	2.9%	0.029%	\$4,240	\$3,657	\$7,038	\$6,071
6	3.4%	0.034%	\$5,088	\$4,261	\$8,445	\$7,073
7	4.0%	0.040%	\$5,936	\$4,826	\$9,853	\$8,011
8	4.6%	0.046%	\$6,783	\$5,355	\$11,260	\$8,889
9	5.1%	0.051%	\$7,631	\$5,849	\$12,668	\$9,709
10	5.7%	0.057%	\$8,479	\$6,309	\$14,076	\$10,474
11	6.3%	0.063%	\$9,327	\$6,738	\$15,483	\$11,185
12	6.9%	0.069%	\$10,175	\$7,137	\$16,891	\$11,847

13	7.4%	0.074%	\$11,023	\$7,506	\$18,298	\$12,460
14	8.0%	0.080%	\$11,871	\$7,848	\$19,706	\$13,028
15	8.6%	0.086%	\$12,719	\$8,164	\$21,113	\$13,552
16	9.1%	0.091%	\$13,567	\$8,454	\$22,521	\$14,034
17	9.7%	0.097%	\$14,415	\$8,721	\$23,929	\$14,477
18	10.3%	0.103%	\$15,263	\$8,965	\$25,336	\$14,882
19	10.9%	0.109%	\$16,111	\$9,188	\$26,744	\$15,252
20	11.4%	0.114%	\$16,959	\$9,390	\$28,151	\$15,587
21	12.0%	0.120%	\$17,807	\$9,572	\$29,559	\$15,889
22	12.6%	0.126%	\$18,654	\$9,736	\$30,966	\$16,161
23	13.1%	0.131%	\$19,502	\$9,882	\$32,374	\$16,404
24	13.7%	0.137%	\$20,350	\$10,011	\$33,781	\$16,618
25	14.3%	0.143%	\$21,198	\$10,124	\$35,189	\$16,806
26	14.9%	0.149%	\$22,046	\$10,223	\$36,597	\$16,970
27	15.4%	0.154%	\$22,894	\$10,307	\$38,004	\$17,109
28	16.0%	0.160%	\$23,742	\$10,377	\$39,412	\$17,226
29	16.6%	0.166%	\$24,590	\$10,435	\$40,819	\$17,322
30	17.1%	0.171%	\$25,438	\$10,480	\$42,227	\$17,397
31	17.7%	0.177%	\$26,286	\$10,514	\$43,634	\$17,453
32	18.3%	0.183%	\$27,134	\$10,537	\$45,042	\$17,491
33	18.9%	0.189%	\$27,982	\$10,550	\$46,450	\$17,513
34	19.4%	0.194%	\$28,830	\$10,553	\$47,857	\$17,518
35	20.0%	0.200%	\$29,678	\$10,547	\$49,265	\$17,508
36	20.6%	0.206%	\$30,525	\$10,532	\$50,672	\$17,484
37	21.1%	0.211%	\$31,373	\$10,510	\$52,080	\$17,446
38	21.7%	0.217%	\$32,221	\$10,479	\$53,487	\$17,395
39	22.3%	0.223%	\$33,069	\$10,442	\$54,895	\$17,333
40	22.9%	0.229%	\$33,917	\$10,398	\$56,302	\$17,260
41	23.4%	0.234%	\$34,765	\$10,347	\$57,710	\$17,176
42	24.0%	0.240%	\$35,613	\$10,291	\$59,118	\$17,083
43	24.6%	0.246%	\$36,461	\$10,229	\$60,525	\$16,980
44	25.1%	0.251%	\$37,309	\$10,162	\$61,933	\$16,869
45	25.7%	0.257%	\$38,157	\$10,090	\$63,340	\$16,750
46	26.3%	0.263%	\$39,005	\$10,014	\$64,748	\$16,623
47	26.9%	0.269%	\$39,853	\$9,934	\$66,155	\$16,490
48	27.4%	0.274%	\$40,701	\$9,849	\$67,563	\$16,350
49	28.0%	0.280%	\$41,549	\$9,762	\$68,971	\$16,205



50	28.6%	0.286%	\$42,396	\$9,671	\$70,378	\$16,054
51	29.1%	0.291%	\$43,244	\$9,577	\$71,786	\$15,898
52	29.7%	0.297%	\$44,092	\$9,480	\$73,193	\$15,737
53	30.3%	0.303%	\$44,940	\$9,381	\$74,601	\$15,573
54	30.9%	0.309%	\$45,788	\$9,280	\$76,008	\$15,405
55	31.4%	0.314%	\$46,636	\$9,176	\$77,416	\$15,233
56	32.0%	0.320%	\$47,484	\$9,071	\$78,823	\$15,058
57	32.6%	0.326%	\$48,332	\$8,964	\$80,231	\$14,881
58	33.1%	0.331%	\$49,180	\$8,856	\$81,639	\$14,701
59	33.7%	0.337%	\$50,028	\$8,746	\$83,046	\$14,519
60	34.3%	0.343%	\$50,876	\$8,635	\$84,454	\$14,335
61	34.9%	0.349%	\$51,724	\$8,524	\$85,861	\$14,149
62	35.4%	0.354%	\$52,572	\$8,411	\$87,269	\$13,962
63	36.0%	0.360%	\$53,420	\$8,298	\$88,676	\$13,774
64	36.6%	0.366%	\$54,267	\$8,184	\$90,084	\$13,585
65	37.1%	0.371%	\$55,115	\$8,070	\$91,492	\$13,396
66	37.7%	0.377%	\$55,963	\$7,955	\$92,899	\$13,205
67	38.3%	0.383%	\$56,811	\$7,840	\$94,307	\$13,015
68	38.9%	0.389%	\$57,659	\$7,726	\$95,714	\$12,825
69	39.4%	0.394%	\$58,507	\$7,611	\$97,122	\$12,634
70	40.0%	0.400%	\$59,355	\$7,496	\$98,529	\$12,444
71	40.6%	0.406%	\$60,203	\$7,382	\$99,937	\$12,254
72	41.1%	0.411%	\$61,051	\$7,268	\$101,344	\$12,065
73	41.7%	0.417%	\$61,899	\$7,154	\$102,752	\$11,876
74	42.3%	0.423%	\$62,747	\$7,041	\$104,160	\$11,688
75	42.9%	0.429%	\$63,595	\$6,928	\$105,567	\$11,501
76	43.4%	0.434%	\$64,443	\$6,816	\$106,975	\$11,315
77	44.0%	0.440%	\$65,291	\$6,705	\$108,382	\$11,130
78	44.6%	0.446%	\$66,138	\$6,594	\$109,790	\$10,946
79	45.1%	0.451%	\$66,986	\$6,484	\$111,197	\$10,764
80	45.7%	0.457%	\$67,834	\$6,375	\$112,605	\$10,582
81	46.3%	0.463%	\$68,682	\$6,267	\$114,013	\$10,402
82	46.9%	0.469%	\$69,530	\$6,159	\$115,420	\$10,224
83	47.4%	0.474%	\$70,378	\$6,053	\$116,828	\$10,047
84	48.0%	0.480%	\$71,226	\$5,947	\$118,235	\$9,872
85	48.6%	0.486%	\$72,074	\$5,843	\$119,643	\$9,699
86	49.1%	0.491%	\$72,922	\$5,739	\$121,050	\$9,527

87	49.7%	0.497%	\$73,770	\$5,637	\$122,458	\$9,357
88	50.3%	0.503%	\$74,618	\$5,536	\$123,865	\$9,189
89	50.9%	0.509%	\$75,466	\$5,435	\$125,273	\$9,023
90	51.4%	0.514%	\$76,314	\$5,336	\$126,681	\$8,858
91	52.0%	0.520%	\$77,162	\$5,239	\$128,088	\$8,696
92	52.6%	0.526%	\$78,009	\$5,142	\$129,496	\$8,536
93	53.1%	0.531%	\$78,857	\$5,046	\$130,903	\$8,377
94	53.7%	0.537%	\$79,705	\$4,952	\$132,311	\$8,220
95	54.3%	0.543%	\$80,553	\$4,859	\$133,718	\$8,066
96	54.9%	0.549%	\$81,401	\$4,767	\$135,126	\$7,913
97	55.4%	0.554%	\$82,249	\$4,676	\$136,533	\$7,763
98	56.0%	0.560%	\$83,097	\$4,587	\$137,941	\$7,615
99	56.6%	0.566%	\$83,945	\$4,499	\$139,349	\$7,468
100	57.1%	0.571%	\$84,793	\$4,412	\$140,756	\$7,324
101	57.7%	0.577%	\$85,641	\$4,326	\$142,164	\$7,182
102	58.3%	0.583%	\$86,489	\$4,242	\$143,571	\$7,042
103	58.9%	0.589%	\$87,337	\$4,159	\$144,979	\$6,904
104	59.4%	0.594%	\$88,185	\$4,077	\$146,386	\$6,768
105	60.0%	0.600%	\$89,033	\$3,996	\$147,794	\$6,634
106	60.6%	0.606%	\$89,880	\$3,917	\$149,202	\$6,502
107	61.1%	0.611%	\$90,728	\$3,838	\$150,609	\$6,372
108	61.7%	0.617%	\$91,576	\$3,762	\$152,017	\$6,244
109	62.3%	0.623%	\$92,424	\$3,686	\$153,424	\$6,118
110	62.9%	0.629%	\$93,272	\$3,611	\$154,832	\$5,995
111	63.4%	0.634%	\$94,120	\$3,538	\$156,239	\$5,873
112	64.0%	0.640%	\$94,968	\$3,466	\$157,647	\$5,753
113	64.6%	0.646%	\$95,816	\$3,395	\$159,054	\$5,636
114	65.1%	0.651%	\$96,664	\$3,325	\$160,462	\$5,520
115	65.7%	0.657%	\$97,512	\$3,257	\$161,870	\$5,406
116	66.3%	0.663%	\$98,360	\$3,189	\$163,277	\$5,294
117	66.9%	0.669%	\$99,208	\$3,123	\$164,685	\$5,184
118	67.4%	0.674%	\$100,056	\$3,058	\$166,092	\$5,076
119	68.0%	0.680%	\$100,904	\$2,994	\$167,500	\$4,970
120	68.6%	0.686%	\$101,751	\$2,931	\$168,907	\$4,866
121	69.1%	0.691%	\$102,599	\$2,870	\$170,315	\$4,764
122	69.7%	0.697%	\$103,447	\$2,809	\$171,723	\$4,663
123	70.3%	0.703%	\$104,295	\$2,750	\$173,130	\$4,565

124	70.9%	0.709%	\$105,143	\$2,691	\$174,538	\$4,468
125	71.4%	0.714%	\$105,991	\$2,634	\$175,945	\$4,372
126	72.0%	0.720%	\$106,839	\$2,578	\$177,353	\$4,279
127	72.6%	0.726%	\$107,687	\$2,523	\$178,760	\$4,187
128	73.1%	0.731%	\$108,535	\$2,468	\$180,168	\$4,097
129	73.7%	0.737%	\$109,383	\$2,415	\$181,575	\$4,009
130	74.3%	0.743%	\$110,231	\$2,363	\$182,983	\$3,923
131	74.9%	0.749%	\$111,079	\$2,312	\$184,391	\$3,838
132	75.4%	0.754%	\$111,927	\$2,262	\$185,798	\$3,754
133	76.0%	0.760%	\$112,775	\$2,212	\$187,206	\$3,673
134	76.6%	0.766%	\$113,622	\$2,164	\$188,613	\$3,592
135	77.1%	0.771%	\$114,470	\$2,117	\$190,021	\$3,514
136	77.7%	0.777%	\$115,318	\$2,070	\$191,428	\$3,437
137	78.3%	0.783%	\$116,166	\$2,025	\$192,836	\$3,361
138	78.9%	0.789%	\$117,014	\$1,980	\$194,244	\$3,287
139	79.4%	0.794%	\$117,862	\$1,936	\$195,651	\$3,214
140	80.0%	0.800%	\$118,710	\$1,894	\$197,059	\$3,143
141	80.6%	0.806%	\$119,558	\$1,852	\$198,466	\$3,074
142	81.1%	0.811%	\$120,406	\$1,810	\$199,874	\$3,005
143	81.7%	0.817%	\$121,254	\$1,770	\$201,281	\$2,938
144	82.3%	0.823%	\$122,102	\$1,730	\$202,689	\$2,873
145	82.9%	0.829%	\$122,950	\$1,692	\$204,096	\$2,808
146	83.4%	0.834%	\$123,798	\$1,654	\$205,504	\$2,745
147	84.0%	0.840%	\$124,646	\$1,617	\$206,912	\$2,684
148	84.6%	0.846%	\$125,493	\$1,580	\$208,319	\$2,623
149	85.1%	0.851%	\$126,341	\$1,545	\$209,727	\$2,564
150	85.7%	0.857%	\$127,189	\$1,510	\$211,134	\$2,506
151	86.3%	0.863%	\$128,037	\$1,475	\$212,542	\$2,449
152	86.9%	0.869%	\$128,885	\$1,442	\$213,949	\$2,394
153	87.4%	0.874%	\$129,733	\$1,409	\$215,357	\$2,339
154	88.0%	0.880%	\$130,581	\$1,377	\$216,765	\$2,286
155	88.6%	0.886%	\$131,429	\$1,346	\$218,172	\$2,234
156	89.1%	0.891%	\$132,277	\$1,315	\$219,580	\$2,183
157	89.7%	0.897%	\$133,125	\$1,285	\$220,987	\$2,133
158	90.3%	0.903%	\$133,973	\$1,255	\$222,395	\$2,084
159	90.9%	0.909%	\$134,821	\$1,226	\$223,802	\$2,036
160	91.4%	0.914%	\$135,669	\$1,198	\$225,210	\$1,989

161	92.0%	0.920%	\$136,517	\$1,171	\$226,617	\$1,943
162	92.6%	0.926%	\$137,364	\$1,144	\$228,025	\$1,898
163	93.1%	0.931%	\$138,212	\$1,117	\$229,433	\$1,854
164	93.7%	0.937%	\$139,060	\$1,091	\$230,840	\$1,811
165	94.3%	0.943%	\$139,908	\$1,066	\$232,248	\$1,769
166	94.9%	0.949%	\$140,756	\$1,041	\$233,655	\$1,728
167	95.4%	0.954%	\$141,604	\$1,017	\$235,063	\$1,688
168	96.0%	0.960%	\$142,452	\$993	\$236,470	\$1,649
169	96.6%	0.966%	\$143,300	\$970	\$237,878	\$1,610
170	97.1%	0.971%	\$144,148	\$947	\$239,286	\$1,572
171	97.7%	0.977%	\$144,996	\$925	\$240,693	\$1,536
172	98.3%	0.983%	\$145,844	\$903	\$242,101	\$1,500
173	98.9%	0.989%	\$146,692	\$882	\$243,508	\$1,464
174	99.4%	0.994%	\$147,540	\$861	\$244,916	\$1,430
175	100.0%	1.000%	\$148,388	\$841	\$246,323	\$1,396
Beyond (c)				\$28,039		\$46,545
<b>Total</b>				<b>\$964,906</b>		<b>\$1,601,745</b>

<--(Employment Impacts - FTE)-->

Year	Direct	
	Direct Effects	& Indirect Effects
0	0	0
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0

15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	0	0
23	0	0
24	0	0
25	0	0
26	0	0
27	0	1
28	0	1
29	0	1
30	0	1
31	0	1
32	0	1
33	0	1
34	1	1
35	1	1
36	1	1
37	1	1
38	1	1
39	1	1
40	1	1
41	1	1
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43	1	1
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79	1	1
80	1	2
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149	2	3
150	2	3
151	2	3
152	2	3
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162	2	3



163	2	3
164	2	3
165	2	3
166	2	3
167	2	3
168	2	3
169	2	3
170	3	3
171	3	3
172	3	3
173	3	3
174	3	3
175	3	3

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**Notes**

- (a) Percent displacement given certain invasion
- (b) Percent displacement given probability of successful invasion
- (c) From year 176 into perpetuity

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### Appendix 16F. Economic Impact Analysis of Lake Winnipeg Commercial Fishery: Slow Invasion - Very High Risk

Probability of successful invasion:	1.00E+00
Annual discount rate:	3.0%
Present year:	0
Invasion year:	0
Annual landed value (10-year average):	\$14,838,754

Economic impact multipliers

Output (direct effects):	1.00
Output (direct & indirect effects - all provinces):	1.66
Employment (direct effects):	17.41 FTE/million \$ direct output
Employment (direct & indirect effects - all provinces):	22.30 FTE/million \$ direct output

Year	<------(Output Impacts)----->					
	<------(Fishery Displacement)----->		<------(Direct Effects)----->		<------(Direct & Indirect Effects)----->	
	Certain (a)	Expected (b)	Current Value	Present Value	Current Value	Present Value
0	0.0%	0.0%	\$0	\$0	\$0	\$0
1	0.6%	0.6%	\$84,793	\$82,323	\$140,756	\$136,656
2	1.1%	1.1%	\$169,586	\$159,851	\$281,512	\$265,352
3	1.7%	1.7%	\$254,379	\$232,792	\$422,269	\$386,436
4	2.3%	2.3%	\$339,172	\$301,350	\$563,025	\$500,240
5	2.9%	2.9%	\$423,964	\$365,715	\$703,781	\$607,088
6	3.4%	3.4%	\$508,757	\$426,076	\$844,537	\$707,287
7	4.0%	4.0%	\$593,550	\$482,611	\$985,293	\$801,134
8	4.6%	4.6%	\$678,343	\$535,490	\$1,126,049	\$888,914
9	5.1%	5.1%	\$763,136	\$584,880	\$1,266,806	\$970,901
10	5.7%	5.7%	\$847,929	\$630,939	\$1,407,562	\$1,047,358
11	6.3%	6.3%	\$932,722	\$673,818	\$1,548,318	\$1,118,538
12	6.9%	6.9%	\$1,017,515	\$713,664	\$1,689,074	\$1,184,683

13	7.4%	7.4%	\$1,102,307	\$750,618	\$1,829,830	\$1,246,025
14	8.0%	8.0%	\$1,187,100	\$784,813	\$1,970,587	\$1,302,790
15	8.6%	8.6%	\$1,271,893	\$816,380	\$2,111,343	\$1,355,191
16	9.1%	9.1%	\$1,356,686	\$845,442	\$2,252,099	\$1,403,434
17	9.7%	9.7%	\$1,441,479	\$872,118	\$2,392,855	\$1,447,717
18	10.3%	10.3%	\$1,526,272	\$896,524	\$2,533,611	\$1,488,230
19	10.9%	10.9%	\$1,611,065	\$918,768	\$2,674,367	\$1,525,154
20	11.4%	11.4%	\$1,695,858	\$938,955	\$2,815,124	\$1,558,666
21	12.0%	12.0%	\$1,780,650	\$957,187	\$2,955,880	\$1,588,931
22	12.6%	12.6%	\$1,865,443	\$973,561	\$3,096,636	\$1,616,111
23	13.1%	13.1%	\$1,950,236	\$988,169	\$3,237,392	\$1,640,360
24	13.7%	13.7%	\$2,035,029	\$1,001,099	\$3,378,148	\$1,661,825
25	14.3%	14.3%	\$2,119,822	\$1,012,439	\$3,518,905	\$1,680,648
26	14.9%	14.9%	\$2,204,615	\$1,022,268	\$3,659,661	\$1,696,965
27	15.4%	15.4%	\$2,289,408	\$1,030,666	\$3,800,417	\$1,710,906
28	16.0%	16.0%	\$2,374,201	\$1,037,708	\$3,941,173	\$1,722,595
29	16.6%	16.6%	\$2,458,994	\$1,043,465	\$4,081,929	\$1,732,152
30	17.1%	17.1%	\$2,543,786	\$1,048,006	\$4,222,685	\$1,739,690
31	17.7%	17.7%	\$2,628,579	\$1,051,398	\$4,363,442	\$1,745,321
32	18.3%	18.3%	\$2,713,372	\$1,053,703	\$4,504,198	\$1,749,147
33	18.9%	18.9%	\$2,798,165	\$1,054,982	\$4,644,954	\$1,751,270
34	19.4%	19.4%	\$2,882,958	\$1,055,292	\$4,785,710	\$1,751,785
35	20.0%	20.0%	\$2,967,751	\$1,054,689	\$4,926,466	\$1,750,784
36	20.6%	20.6%	\$3,052,544	\$1,053,227	\$5,067,223	\$1,748,356
37	21.1%	21.1%	\$3,137,337	\$1,050,954	\$5,207,979	\$1,744,584
38	21.7%	21.7%	\$3,222,129	\$1,047,921	\$5,348,735	\$1,739,548
39	22.3%	22.3%	\$3,306,922	\$1,044,172	\$5,489,491	\$1,733,326
40	22.9%	22.9%	\$3,391,715	\$1,039,753	\$5,630,247	\$1,725,991
41	23.4%	23.4%	\$3,476,508	\$1,034,706	\$5,771,003	\$1,717,612
42	24.0%	24.0%	\$3,561,301	\$1,029,071	\$5,911,760	\$1,708,257
43	24.6%	24.6%	\$3,646,094	\$1,022,886	\$6,052,516	\$1,697,991
44	25.1%	25.1%	\$3,730,887	\$1,016,188	\$6,193,272	\$1,686,873
45	25.7%	25.7%	\$3,815,680	\$1,009,013	\$6,334,028	\$1,674,962
46	26.3%	26.3%	\$3,900,472	\$1,001,394	\$6,474,784	\$1,662,314
47	26.9%	26.9%	\$3,985,265	\$993,362	\$6,615,540	\$1,648,981
48	27.4%	27.4%	\$4,070,058	\$984,949	\$6,756,297	\$1,635,016
49	28.0%	28.0%	\$4,154,851	\$976,183	\$6,897,053	\$1,620,465

50	28.6%	28.6%	\$4,239,644	\$967,093	\$7,037,809	\$1,605,374
51	29.1%	29.1%	\$4,324,437	\$957,704	\$7,178,565	\$1,589,788
52	29.7%	29.7%	\$4,409,230	\$948,041	\$7,319,321	\$1,573,748
53	30.3%	30.3%	\$4,494,023	\$938,129	\$7,460,078	\$1,557,293
54	30.9%	30.9%	\$4,578,816	\$927,989	\$7,600,834	\$1,540,462
55	31.4%	31.4%	\$4,663,608	\$917,645	\$7,741,590	\$1,523,291
56	32.0%	32.0%	\$4,748,401	\$907,116	\$7,882,346	\$1,505,813
57	32.6%	32.6%	\$4,833,194	\$896,422	\$8,023,102	\$1,488,060
58	33.1%	33.1%	\$4,917,987	\$885,581	\$8,163,858	\$1,470,065
59	33.7%	33.7%	\$5,002,780	\$874,611	\$8,304,615	\$1,451,855
60	34.3%	34.3%	\$5,087,573	\$863,529	\$8,445,371	\$1,433,459
61	34.9%	34.9%	\$5,172,366	\$852,351	\$8,586,127	\$1,414,903
62	35.4%	35.4%	\$5,257,159	\$841,091	\$8,726,883	\$1,396,212
63	36.0%	36.0%	\$5,341,951	\$829,764	\$8,867,639	\$1,377,409
64	36.6%	36.6%	\$5,426,744	\$818,384	\$9,008,396	\$1,358,517
65	37.1%	37.1%	\$5,511,537	\$806,962	\$9,149,152	\$1,339,557
66	37.7%	37.7%	\$5,596,330	\$795,512	\$9,289,908	\$1,320,549
67	38.3%	38.3%	\$5,681,123	\$784,043	\$9,430,664	\$1,301,512
68	38.9%	38.9%	\$5,765,916	\$772,569	\$9,571,420	\$1,282,464
69	39.4%	39.4%	\$5,850,709	\$761,097	\$9,712,176	\$1,263,421
70	40.0%	40.0%	\$5,935,502	\$749,638	\$9,852,933	\$1,244,399
71	40.6%	40.6%	\$6,020,294	\$738,201	\$9,993,689	\$1,225,414
72	41.1%	41.1%	\$6,105,087	\$726,795	\$10,134,445	\$1,206,479
73	41.7%	41.7%	\$6,189,880	\$715,426	\$10,275,201	\$1,187,607
74	42.3%	42.3%	\$6,274,673	\$704,103	\$10,415,957	\$1,168,812
75	42.9%	42.9%	\$6,359,466	\$692,833	\$10,556,714	\$1,150,103
76	43.4%	43.4%	\$6,444,259	\$681,622	\$10,697,470	\$1,131,493
77	44.0%	44.0%	\$6,529,052	\$670,477	\$10,838,226	\$1,112,992
78	44.6%	44.6%	\$6,613,845	\$659,402	\$10,978,982	\$1,094,608
79	45.1%	45.1%	\$6,698,638	\$648,404	\$11,119,738	\$1,076,351
80	45.7%	45.7%	\$6,783,430	\$637,487	\$11,260,494	\$1,058,229
81	46.3%	46.3%	\$6,868,223	\$626,656	\$11,401,251	\$1,040,249
82	46.9%	46.9%	\$6,953,016	\$615,915	\$11,542,007	\$1,022,419
83	47.4%	47.4%	\$7,037,809	\$605,268	\$11,682,763	\$1,004,745
84	48.0%	48.0%	\$7,122,602	\$594,719	\$11,823,519	\$987,234
85	48.6%	48.6%	\$7,207,395	\$584,271	\$11,964,275	\$969,890
86	49.1%	49.1%	\$7,292,188	\$573,927	\$12,105,032	\$952,719

87	49.7%	49.7%	\$7,376,981	\$563,690	\$12,245,788	\$935,725
88	50.3%	50.3%	\$7,461,773	\$553,562	\$12,386,544	\$918,913
89	50.9%	50.9%	\$7,546,566	\$543,546	\$12,527,300	\$902,287
90	51.4%	51.4%	\$7,631,359	\$533,644	\$12,668,056	\$885,849
91	52.0%	52.0%	\$7,716,152	\$523,858	\$12,808,812	\$869,604
92	52.6%	52.6%	\$7,800,945	\$514,189	\$12,949,569	\$853,553
93	53.1%	53.1%	\$7,885,738	\$504,639	\$13,090,325	\$837,700
94	53.7%	53.7%	\$7,970,531	\$495,209	\$13,231,081	\$822,046
95	54.3%	54.3%	\$8,055,324	\$485,900	\$13,371,837	\$806,594
96	54.9%	54.9%	\$8,140,116	\$476,713	\$13,512,593	\$791,344
97	55.4%	55.4%	\$8,224,909	\$467,649	\$13,653,350	\$776,298
98	56.0%	56.0%	\$8,309,702	\$458,709	\$13,794,106	\$761,457
99	56.6%	56.6%	\$8,394,495	\$449,893	\$13,934,862	\$746,823
100	57.1%	57.1%	\$8,479,288	\$441,201	\$14,075,618	\$732,394
101	57.7%	57.7%	\$8,564,081	\$432,634	\$14,216,374	\$718,173
102	58.3%	58.3%	\$8,648,874	\$424,192	\$14,357,130	\$704,159
103	58.9%	58.9%	\$8,733,667	\$415,875	\$14,497,887	\$690,352
104	59.4%	59.4%	\$8,818,460	\$407,682	\$14,638,643	\$676,752
105	60.0%	60.0%	\$8,903,252	\$399,613	\$14,779,399	\$663,358
106	60.6%	60.6%	\$8,988,045	\$391,669	\$14,920,155	\$650,171
107	61.1%	61.1%	\$9,072,838	\$383,849	\$15,060,911	\$637,189
108	61.7%	61.7%	\$9,157,631	\$376,152	\$15,201,668	\$624,412
109	62.3%	62.3%	\$9,242,424	\$368,577	\$15,342,424	\$611,838
110	62.9%	62.9%	\$9,327,217	\$361,125	\$15,483,180	\$599,467
111	63.4%	63.4%	\$9,412,010	\$353,794	\$15,623,936	\$587,298
112	64.0%	64.0%	\$9,496,803	\$346,584	\$15,764,692	\$575,329
113	64.6%	64.6%	\$9,581,595	\$339,493	\$15,905,448	\$563,559
114	65.1%	65.1%	\$9,666,388	\$332,522	\$16,046,205	\$551,987
115	65.7%	65.7%	\$9,751,181	\$325,669	\$16,186,961	\$540,610
116	66.3%	66.3%	\$9,835,974	\$318,933	\$16,327,717	\$529,429
117	66.9%	66.9%	\$9,920,767	\$312,313	\$16,468,473	\$518,439
118	67.4%	67.4%	\$10,005,560	\$305,808	\$16,609,229	\$507,641
119	68.0%	68.0%	\$10,090,353	\$299,417	\$16,749,986	\$497,032
120	68.6%	68.6%	\$10,175,146	\$293,139	\$16,890,742	\$486,611
121	69.1%	69.1%	\$10,259,938	\$286,973	\$17,031,498	\$476,375
122	69.7%	69.7%	\$10,344,731	\$280,917	\$17,172,254	\$466,322
123	70.3%	70.3%	\$10,429,524	\$274,970	\$17,313,010	\$456,451

124	70.9%	70.9%	\$10,514,317	\$269,132	\$17,453,766	\$446,759
125	71.4%	71.4%	\$10,599,110	\$263,400	\$17,594,523	\$437,245
126	72.0%	72.0%	\$10,683,903	\$257,774	\$17,735,279	\$427,905
127	72.6%	72.6%	\$10,768,696	\$252,253	\$17,876,035	\$418,739
128	73.1%	73.1%	\$10,853,489	\$246,834	\$18,016,791	\$409,744
129	73.7%	73.7%	\$10,938,282	\$241,517	\$18,157,547	\$400,918
130	74.3%	74.3%	\$11,023,074	\$236,300	\$18,298,304	\$392,258
131	74.9%	74.9%	\$11,107,867	\$231,182	\$18,439,060	\$383,762
132	75.4%	75.4%	\$11,192,660	\$226,162	\$18,579,816	\$375,429
133	76.0%	76.0%	\$11,277,453	\$221,238	\$18,720,572	\$367,255
134	76.6%	76.6%	\$11,362,246	\$216,409	\$18,861,328	\$359,240
135	77.1%	77.1%	\$11,447,039	\$211,674	\$19,002,084	\$351,379
136	77.7%	77.7%	\$11,531,832	\$207,031	\$19,142,841	\$343,672
137	78.3%	78.3%	\$11,616,625	\$202,479	\$19,283,597	\$336,115
138	78.9%	78.9%	\$11,701,417	\$198,017	\$19,424,353	\$328,707
139	79.4%	79.4%	\$11,786,210	\$193,642	\$19,565,109	\$321,446
140	80.0%	80.0%	\$11,871,003	\$189,355	\$19,705,865	\$314,329
141	80.6%	80.6%	\$11,955,796	\$185,153	\$19,846,621	\$307,353
142	81.1%	81.1%	\$12,040,589	\$181,035	\$19,987,378	\$300,518
143	81.7%	81.7%	\$12,125,382	\$177,000	\$20,128,134	\$293,819
144	82.3%	82.3%	\$12,210,175	\$173,046	\$20,268,890	\$287,256
145	82.9%	82.9%	\$12,294,968	\$169,173	\$20,409,646	\$280,826
146	83.4%	83.4%	\$12,379,760	\$165,378	\$20,550,402	\$274,527
147	84.0%	84.0%	\$12,464,553	\$161,661	\$20,691,159	\$268,357
148	84.6%	84.6%	\$12,549,346	\$158,020	\$20,831,915	\$262,313
149	85.1%	85.1%	\$12,634,139	\$154,454	\$20,972,671	\$256,394
150	85.7%	85.7%	\$12,718,932	\$150,962	\$21,113,427	\$250,597
151	86.3%	86.3%	\$12,803,725	\$147,542	\$21,254,183	\$244,920
152	86.9%	86.9%	\$12,888,518	\$144,193	\$21,394,939	\$239,361
153	87.4%	87.4%	\$12,973,311	\$140,914	\$21,535,696	\$233,918
154	88.0%	88.0%	\$13,058,104	\$137,704	\$21,676,452	\$228,589
155	88.6%	88.6%	\$13,142,896	\$134,562	\$21,817,208	\$223,372
156	89.1%	89.1%	\$13,227,689	\$131,485	\$21,957,964	\$218,265
157	89.7%	89.7%	\$13,312,482	\$128,474	\$22,098,720	\$213,267
158	90.3%	90.3%	\$13,397,275	\$125,526	\$22,239,477	\$208,374
159	90.9%	90.9%	\$13,482,068	\$122,642	\$22,380,233	\$203,585
160	91.4%	91.4%	\$13,566,861	\$119,818	\$22,520,989	\$198,898

161	92.0%	92.0%	\$13,651,654	\$117,056	\$22,661,745	\$194,312
162	92.6%	92.6%	\$13,736,447	\$114,352	\$22,802,501	\$189,824
163	93.1%	93.1%	\$13,821,239	\$111,707	\$22,943,257	\$185,433
164	93.7%	93.7%	\$13,906,032	\$109,118	\$23,084,014	\$181,137
165	94.3%	94.3%	\$13,990,825	\$106,586	\$23,224,770	\$176,933
166	94.9%	94.9%	\$14,075,618	\$104,109	\$23,365,526	\$172,821
167	95.4%	95.4%	\$14,160,411	\$101,686	\$23,506,282	\$168,798
168	96.0%	96.0%	\$14,245,204	\$99,315	\$23,647,038	\$164,863
169	96.6%	96.6%	\$14,329,997	\$96,996	\$23,787,795	\$161,014
170	97.1%	97.1%	\$14,414,790	\$94,728	\$23,928,551	\$157,249
171	97.7%	97.7%	\$14,499,582	\$92,510	\$24,069,307	\$153,567
172	98.3%	98.3%	\$14,584,375	\$90,341	\$24,210,063	\$149,966
173	98.9%	98.9%	\$14,669,168	\$88,220	\$24,350,819	\$146,445
174	99.4%	99.4%	\$14,753,961	\$86,145	\$24,491,575	\$143,001
175	100.0%	100.0%	\$14,838,754	\$84,117	\$24,632,332	\$139,634
Beyond (c)				\$2,803,896		\$4,654,467
Total				\$96,490,643		\$160,174,467

<--(Employment Impacts - FTE)-->

Year	Direct	
	Direct Effects	& Indirect Effects
0	0	0
1	1	2
2	3	4
3	4	6
4	6	8
5	7	9
6	9	11
7	10	13
8	12	15
9	13	17
10	15	19
11	16	21
12	18	23
13	19	25
14	21	26



15	22	28
16	24	30
17	25	32
18	27	34
19	28	36
20	30	38
21	31	40
22	32	42
23	34	43
24	35	45
25	37	47
26	38	49
27	40	51
28	41	53
29	43	55
30	44	57
31	46	59
32	47	61
33	49	62
34	50	64
35	52	66
36	53	68
37	55	70
38	56	72
39	58	74
40	59	76
41	61	78
42	62	79
43	63	81
44	65	83
45	66	85
46	68	87
47	69	89
48	71	91
49	72	93
50	74	95
51	75	96

52	77	98
53	78	100
54	80	102
55	81	104
56	83	106
57	84	108
58	86	110
59	87	112
60	89	113
61	90	115
62	92	117
63	93	119
64	94	121
65	96	123
66	97	125
67	99	127
68	100	129
69	102	130
70	103	132
71	105	134
72	106	136
73	108	138
74	109	140
75	111	142
76	112	144
77	114	146
78	115	147
79	117	149
80	118	151
81	120	153
82	121	155
83	123	157
84	124	159
85	125	161
86	127	163
87	128	165
88	130	166

89	131	168
90	133	170
91	134	172
92	136	174
93	137	176
94	139	178
95	140	180
96	142	182
97	143	183
98	145	185
99	146	187
100	148	189
101	149	191
102	151	193
103	152	195
104	154	197
105	155	199
106	156	200
107	158	202
108	159	204
109	161	206
110	162	208
111	164	210
112	165	212
113	167	214
114	168	216
115	170	217
116	171	219
117	173	221
118	174	223
119	176	225
120	177	227
121	179	229
122	180	231
123	182	233
124	183	234
125	185	236

126	186	238
127	187	240
128	189	242
129	190	244
130	192	246
131	193	248
132	195	250
133	196	251
134	198	253
135	199	255
136	201	257
137	202	259
138	204	261
139	205	263
140	207	265
141	208	267
142	210	269
143	211	270
144	213	272
145	214	274
146	216	276
147	217	278
148	218	280
149	220	282
150	221	284
151	223	286
152	224	287
153	226	289
154	227	291
155	229	293
156	230	295
157	232	297
158	233	299
159	235	301
160	236	303
161	238	304
162	239	306

163	241	308
164	242	310
165	244	312
166	245	314
167	247	316
168	248	318
169	249	320
170	251	321
171	252	323
172	254	325
173	255	327
174	257	329
175	258	331

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**Notes**

- (a) Percent displacement given certain invasion
- (b) Percent displacement given probability of successful invasion
- (c) From year 176 into perpetuity

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### Appendix 16G. Economic Impact Analysis of Lake Winnipeg Commercial Fishery: Fast Invasion - Very Low Risk

Probability of successful invasion:	1.00E-09
Annual discount rate:	3.0%
Present year:	0
Invasion year:	0
Annual landed value (10-year average):	\$14,838,754
Economic impact multipliers	
Output (direct effects):	1.00
Output (direct & indirect effects - all provinces):	1.66
Employment (direct effects):	17.41 FTE/million \$ direct output
Employment (direct & indirect effects - all provinces):	22.30 FTE/million \$ direct output

Year	<-----<Fishery Displacement>----->		<-----<Output Impacts>----->			
	Certain (a)	Expected (b)	<-----<Direct Effects>----->		<-----<Direct & Indirect Effects>----->	
			Current Value	Present Value	Current Value	Present Value
0	0.0%	0.0000000000%	\$0.0000	\$0.0000	\$0.0000	\$0.0000
1	5.9%	0.0000000059%	\$0.0009	\$0.0008	\$0.0014	\$0.0014
2	11.8%	0.0000000118%	\$0.0017	\$0.0016	\$0.0029	\$0.0027
3	17.6%	0.0000000176%	\$0.0026	\$0.0024	\$0.0043	\$0.0040
4	23.5%	0.0000000235%	\$0.0035	\$0.0031	\$0.0058	\$0.0051
5	29.4%	0.0000000294%	\$0.0044	\$0.0038	\$0.0072	\$0.0062
6	35.3%	0.0000000353%	\$0.0052	\$0.0044	\$0.0087	\$0.0073
7	41.2%	0.0000000412%	\$0.0061	\$0.0050	\$0.0101	\$0.0082
8	47.1%	0.0000000471%	\$0.0070	\$0.0055	\$0.0116	\$0.0092
9	52.9%	0.0000000529%	\$0.0079	\$0.0060	\$0.0130	\$0.0100
10	58.8%	0.0000000588%	\$0.0087	\$0.0065	\$0.0145	\$0.0108
11	64.7%	0.0000000647%	\$0.0096	\$0.0069	\$0.0159	\$0.0115
12	70.6%	0.0000000706%	\$0.0105	\$0.0073	\$0.0174	\$0.0122

13	76.5%	0.0000000765%	\$0.0113	\$0.0077	\$0.0188	\$0.0128
14	82.4%	0.0000000824%	\$0.0122	\$0.0081	\$0.0203	\$0.0134
15	88.2%	0.0000000882%	\$0.0131	\$0.0084	\$0.0217	\$0.0140
16	94.1%	0.0000000941%	\$0.0140	\$0.0087	\$0.0232	\$0.0144
17	100.0%	0.0000001000%	\$0.0148	\$0.0090	\$0.0246	\$0.0149
Beyond (c)				\$0.2993		\$0.4968
Total				\$0.3946		\$0.6550

<--(Employment Impacts - FTE)-->

Year	Direct	
	Direct Effects	& Indirect Effects
0	0	0
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0

**Notes**

(a) Percent displacement given certain invasion

(b) Percent displacement given probability of successful invasion



(c) From year 18 into perpetuity

### Appendix 16H. Economic Impact Analysis of Lake Winnipeg Commercial Fishery: Fast Invasion - Low Risk

Probability of successful invasion: 1.00E-06  
 Annual discount rate: 3.0%  
 Present year: 0  
 Invasion year: 0  
 Annual landed value (10-year average): \$14,838,754

**Economic impact multipliers**

Output (direct effects): 1.00  
 Output (direct & indirect effects - all provinces): 1.66  
 Employment (direct effects): 17.41 FTE/million \$ direct output  
 Employment (direct & indirect effects - all provinces): 22.30 FTE/million \$ direct output

Year	<------(Fishery Displacement)----->		<------(Output Impacts)----->			
	Certain (a)	Expected (b)	<------(Direct Effects)----->		<-----(Direct & Indirect Effects)---->	
			Current Value	Present Value	Current Value	Present Value
0	0.0%	0.0000000%	\$0	\$0	\$0	\$0
1	5.9%	0.0000059%	\$1	\$1	\$1	\$1
2	11.8%	0.0000118%	\$2	\$2	\$3	\$3
3	17.6%	0.0000176%	\$3	\$2	\$4	\$4
4	23.5%	0.0000235%	\$3	\$3	\$6	\$5
5	29.4%	0.0000294%	\$4	\$4	\$7	\$6
6	35.3%	0.0000353%	\$5	\$4	\$9	\$7
7	41.2%	0.0000412%	\$6	\$5	\$10	\$8
8	47.1%	0.0000471%	\$7	\$6	\$12	\$9
9	52.9%	0.0000529%	\$8	\$6	\$13	\$10
10	58.8%	0.0000588%	\$9	\$6	\$14	\$11
11	64.7%	0.0000647%	\$10	\$7	\$16	\$12
12	70.6%	0.0000706%	\$10	\$7	\$17	\$12

13	76.5%	0.0000765%	\$11	\$8	\$19	\$13
14	82.4%	0.0000824%	\$12	\$8	\$20	\$13
15	88.2%	0.0000882%	\$13	\$8	\$22	\$14
16	94.1%	0.0000941%	\$14	\$9	\$23	\$14
17	100.0%	0.0001000%	\$15	\$9	\$25	\$15
Beyond (c)				\$299		\$497
Total				\$395		\$655

<--(Employment Impacts - FTE)-->

Year	Direct	
	Direct Effects	& Indirect Effects
0	0	0
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0

**Notes**

(a) Percent displacement given certain invasion

(b) Percent displacement given probability of successful invasion

(c) From year 18 into perpetuity

**Appendix 16I. Economic Impact Analysis of Lake Winnipeg Commercial Fishery:  
Fast Invasion - Moderate Risk**

Probability of successful invasion: 1.00E-03  
 Annual discount rate: 3.0%  
 Present year: 0  
 Invasion year: 0  
 Annual landed value (10-year average): \$14,838,754

Economic impact multipliers

Output (direct effects): 1.00  
 Output (direct & indirect effects - all provinces): 1.66  
 Employment (direct effects): 17.41 FTE/million \$ direct output  
 Employment (direct & indirect effects - all provinces): 22.30 FTE/million \$ direct output

Year	<------(Fishery Displacement)----->		<------(Output Impacts)----->			
	Certain (a)	Expected (b)	<------(Direct Effects)----->		<------(Direct & Indirect Effects)----->	
			Current Value	Present Value	Current Value	Present Value
0	0.0%	0.0000%	\$0	\$0	\$0	\$0
1	5.9%	0.0059%	\$873	\$847	\$1,449	\$1,407
2	11.8%	0.0118%	\$1,746	\$1,646	\$2,898	\$2,732
3	17.6%	0.0176%	\$2,619	\$2,396	\$4,347	\$3,978
4	23.5%	0.0235%	\$3,491	\$3,102	\$5,796	\$5,150
5	29.4%	0.0294%	\$4,364	\$3,765	\$7,245	\$6,249
6	35.3%	0.0353%	\$5,237	\$4,386	\$8,694	\$7,281
7	41.2%	0.0412%	\$6,110	\$4,968	\$10,143	\$8,247
8	47.1%	0.0471%	\$6,983	\$5,512	\$11,592	\$9,151
9	52.9%	0.0529%	\$7,856	\$6,021	\$13,041	\$9,995
10	58.8%	0.0588%	\$8,729	\$6,495	\$14,490	\$10,782
11	64.7%	0.0647%	\$9,602	\$6,936	\$15,939	\$11,514
12	70.6%	0.0706%	\$10,474	\$7,347	\$17,388	\$12,195

13	76.5%	0.0765%	\$11,347	\$7,727	\$18,836	\$12,827
14	82.4%	0.0824%	\$12,220	\$8,079	\$20,285	\$13,411
15	88.2%	0.0882%	\$13,093	\$8,404	\$21,734	\$13,950
16	94.1%	0.0941%	\$13,966	\$8,703	\$23,183	\$14,447
17	100.0%	0.1000%	\$14,839	\$8,978	\$24,632	\$14,903
Beyond (c)				\$299,256		\$496,766
Total				\$394,568		\$654,983

## &lt;--(Employment Impacts - FTE)--&gt;

Year	Direct	
	Direct Effects	& Indirect Effects
0	0	0
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0

**Notes**

(a) Percent displacement given certain invasion

(b) Percent displacement given probability of successful invasion

(c) From year 18 into perpetuity

### Appendix 16J. Economic Impact Analysis of Lake Winnipeg Commercial Fishery: Fast Invasion - High Risk

Probability of successful invasion: 1.00E-02  
 Annual discount rate: 3.0%  
 Present year: 0  
 Invasion year: 0  
 Annual landed value (10-year average): \$14,838,754

**Economic impact multipliers**

Output (direct effects): 1.00  
 Output (direct & indirect effects - all provinces): 1.66  
 Employment (direct effects): 17.41 FTE/million \$ direct output  
 Employment (direct & indirect effects - all provinces): 22.30 FTE/million \$ direct output

Year	<------(Fishery Displacement)----->		<------(Output Impacts)----->			
	Certain (a)	Expected (b)	<------(Direct Effects)----->		<-----(Direct & Indirect Effects)---->	
			Current Value	Present Value	Current Value	Present Value
0	0.0%	0.000%	\$0	\$0	\$0	\$0
1	5.9%	0.059%	\$8,729	\$8,474	\$14,490	\$14,068
2	11.8%	0.118%	\$17,457	\$16,455	\$28,979	\$27,316
3	17.6%	0.176%	\$26,186	\$23,964	\$43,469	\$39,780
4	23.5%	0.235%	\$34,915	\$31,021	\$57,958	\$51,495
5	29.4%	0.294%	\$43,643	\$37,647	\$72,448	\$62,494
6	35.3%	0.353%	\$52,372	\$43,861	\$86,938	\$72,809
7	41.2%	0.412%	\$61,101	\$49,681	\$101,427	\$82,470
8	47.1%	0.471%	\$69,829	\$55,124	\$115,917	\$91,506
9	52.9%	0.529%	\$78,558	\$60,208	\$130,406	\$99,946
10	58.8%	0.588%	\$87,287	\$64,950	\$144,896	\$107,816
11	64.7%	0.647%	\$96,015	\$69,364	\$159,386	\$115,144
12	70.6%	0.706%	\$104,744	\$73,465	\$173,875	\$121,953



13	76.5%	0.765%	\$113,473	\$77,269	\$188,365	\$128,267
14	82.4%	0.824%	\$122,202	\$80,790	\$202,854	\$134,111
15	88.2%	0.882%	\$130,930	\$84,039	\$217,344	\$139,505
16	94.1%	0.941%	\$139,659	\$87,031	\$231,834	\$144,471
17	100.0%	1.000%	\$148,388	\$89,777	\$246,323	\$149,030
Beyond (c)				\$2,992,563		\$4,967,655
Total				\$3,945,683		\$6,549,835

## &lt;--(Employment Impacts - FTE)--&gt;

Year	Direct	
	Direct Effects	& Indirect Effects
0	0	0
1	0	0
2	0	0
3	0	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	2
9	1	2
10	2	2
11	2	2
12	2	2
13	2	3
14	2	3
15	2	3
16	2	3
17	3	3

**Notes**

(a) Percent displacement given certain invasion

(b) Percent displacement given probability of successful invasion

(c) From year 18 into perpetuity

### Appendix 16K. Economic Impact Analysis of Lake Winnipeg Commercial Fishery: Fast Invasion - Very High Risk

Probability of successful invasion:	1.00E+00
Annual discount rate:	3.0%
Present year:	0
Invasion year:	0
Annual landed value (10-year average):	\$14,838,754
Economic impact multipliers	
Output (direct effects):	1.00
Output (direct & indirect effects - all provinces):	1.66
Employment (direct effects):	17.41 FTE/million \$ direct output
Employment (direct & indirect effects - all provinces):	22.30 FTE/million \$ direct output

Year	<------(Output Impacts)----->					
	<------(Fishery Displacement)----->		<------(Direct Effects)----->		<------(Direct & Indirect Effects)----->	
	Certain (a)	Expected (b)	Current Value	Present Value	Current Value	Present Value
0	0.0%	0.0%	\$0	\$0	\$0	\$0
1	5.9%	5.9%	\$872,868	\$847,445	\$1,448,961	\$1,406,758
2	11.8%	11.8%	\$1,745,736	\$1,645,523	\$2,897,921	\$2,731,569
3	17.6%	17.6%	\$2,618,604	\$2,396,393	\$4,346,882	\$3,978,013
4	23.5%	23.5%	\$3,491,472	\$3,102,127	\$5,795,843	\$5,149,531
5	29.4%	29.4%	\$4,364,339	\$3,764,718	\$7,244,803	\$6,249,431
6	35.3%	35.3%	\$5,237,207	\$4,386,079	\$8,693,764	\$7,280,891
7	41.2%	41.2%	\$6,110,075	\$4,968,050	\$10,142,725	\$8,246,963
8	47.1%	47.1%	\$6,982,943	\$5,512,400	\$11,591,685	\$9,150,584
9	52.9%	52.9%	\$7,855,811	\$6,020,825	\$13,040,646	\$9,994,569
10	58.8%	58.8%	\$8,728,679	\$6,494,957	\$14,489,607	\$10,781,628
11	64.7%	64.7%	\$9,601,547	\$6,936,362	\$15,938,568	\$11,514,360
12	70.6%	70.6%	\$10,474,415	\$7,346,544	\$17,387,528	\$12,195,262

13	76.5%	76.5%	\$11,347,282	\$7,726,947	\$18,836,489	\$12,826,732
14	82.4%	82.4%	\$12,220,150	\$8,078,959	\$20,285,450	\$13,411,072
15	88.2%	88.2%	\$13,093,018	\$8,403,910	\$21,734,410	\$13,950,491
16	94.1%	94.1%	\$13,965,886	\$8,703,079	\$23,183,371	\$14,447,110
17	100.0%	100.0%	\$14,838,754	\$8,977,690	\$24,632,332	\$14,902,966
Beyond (c)				\$299,256,340		\$496,765,525
Total				\$394,568,347		\$654,983,456

## &lt;--(Employment Impacts - FTE)--&gt;

Year	Direct	
	Direct Effects	& Indirect Effects
0	0	0
1	15	19
2	30	39
3	46	58
4	61	78
5	76	97
6	91	117
7	106	136
8	122	156
9	137	175
10	152	195
11	167	214
12	182	234
13	198	253
14	213	273
15	228	292
16	243	311
17	258	331

**Notes**

(a) Percent displacement given certain invasion

(b) Percent displacement given probability of successful invasion

(c) From year 18 into perpetuity