

APPENDIX I

District of Lake Country Results



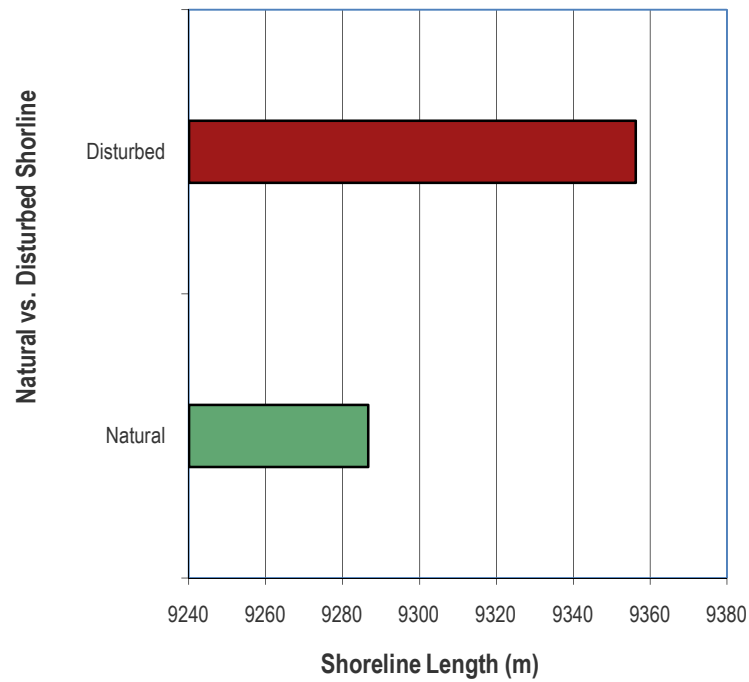


Figure 1: The percent of natural and disturbed shoreline.

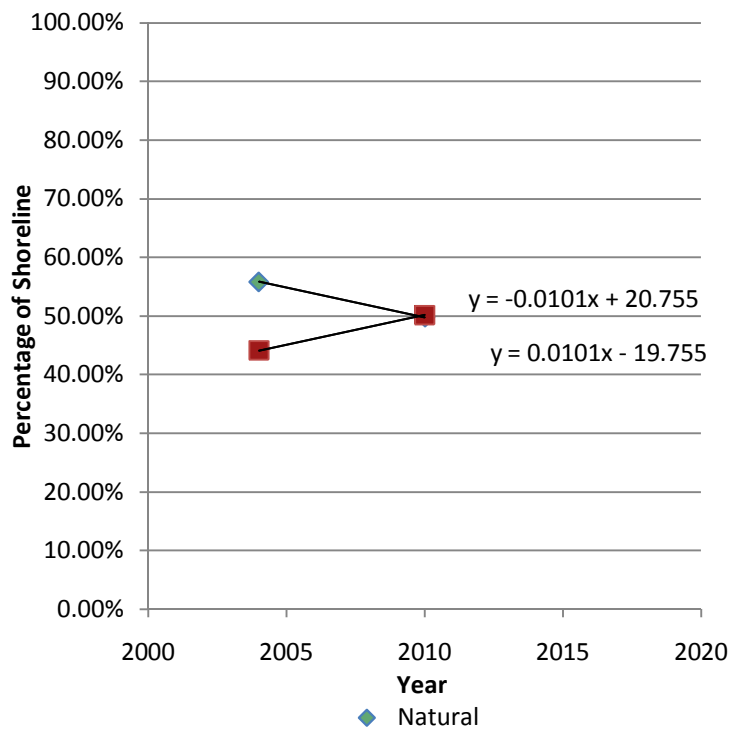


Figure 2: The percent of natural and disturbed shorelines in 2004 and 2010.



Table 1: The total shore length of percentage of shore length along Okanagan Lake in 2004 and 2010.

	2010		2004	
	% of Shoreline	Shore Length (m)	% of Shoreline	Shore Length (m)
Natural	49.81%	9287	55.86%	10414.00
Disturbed	50.19%	9356	44.14%	8228.87
Total		18642.9		18642.9

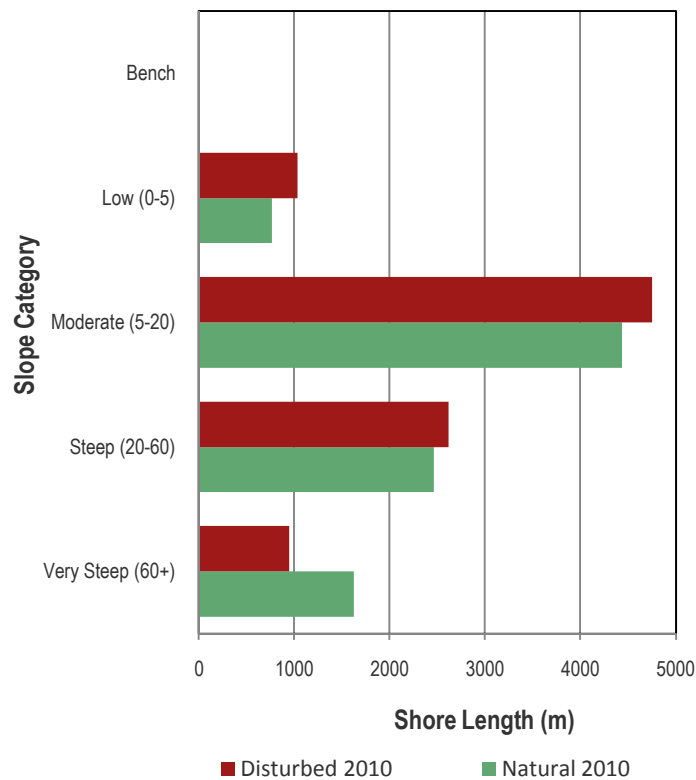


Figure 4: The length of natural and disturbed shorelines in each slope category.



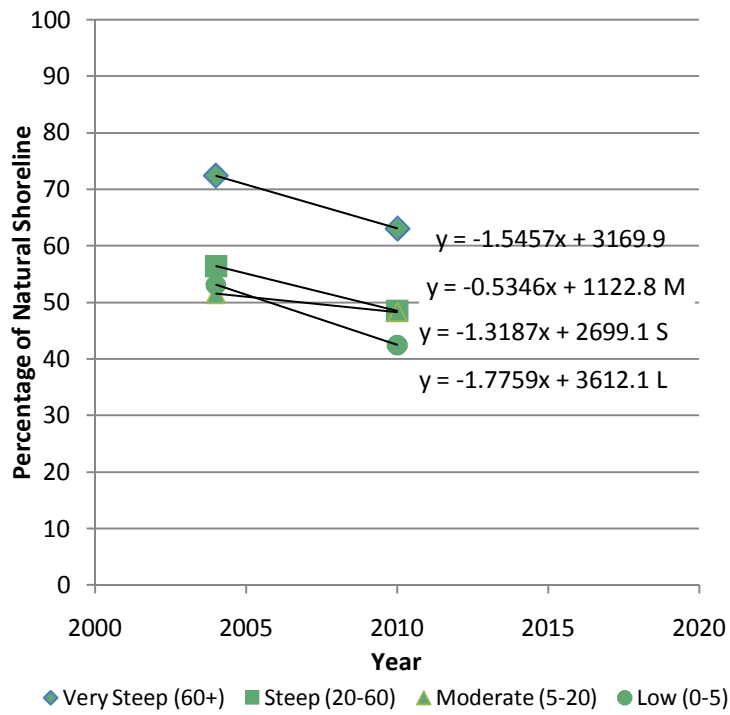


Figure 5: The percent of natural shoreline in each slope category in 2004 and 2010.



Table 2: The percentage of natural and disturbed shore lengths within each of the different slope categories on Okanagan Lake in 2004 and 2010.

2004							2010						
Slope	% of Total Shore Length	Total Shore Length (m)	Shore Length Natural (m)	Shore Length Disturbed (m)	% Natural	% Disturbed	Slope	% of Total Shore Length	Total Shore Length (m)	Shore Length Natural (m)	Shore Length Disturbed (m)	% Natural	% Disturbed
Very Steep (60+)	14	2572	1861	711	72	28	Very Steep (60+)	13.8	2572	1623	949	63.1	36.9
Steep (20-60)	27	5085	2867	2218	56	44	Steep (20-60)	27.3	5085	2464	2620	48.5	51.5
Moderate (5-20)	49	9186	4730	4456	51	49	Moderate (5-20)	49.3	9186	4436	4751	48.3	51.7
Low (0-5)	10	1800	956	844	53	47	Low (0-5)	9.7	1800	764	1036	42.4	57.6
Bench	0	0	0	0	0	0	Bench	0.0	0	0	0	0	0
Total	100.0	18643	10414	8229	55.9	44.1	Total	100.0	18643	9287	9356	49.8	50.2



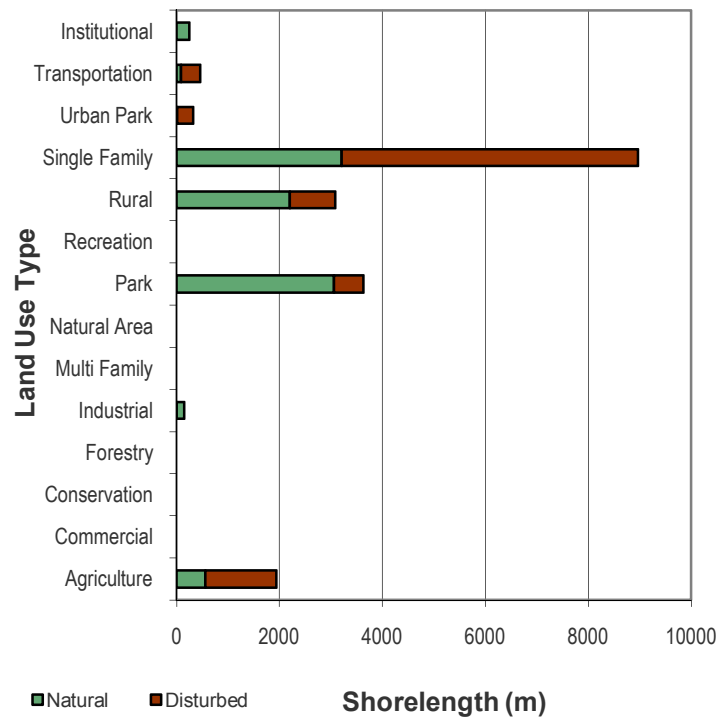


Figure 6: The length of natural and disturbed shoreline in each land use category

Table 3: The total length of natural and disturbed shorelines and their associated land uses around Okanagan Lake in 2004 and 2010.

	% of Shoreline Length	Shoreline Length (m)	Natural Shore Length (m)	Disturbed Shore Length (m)	% Natural	% Disturbed
Agriculture	10.4%	1939	556	1383	28.7%	71.3%
Commercial	0.0%	0	0	0	0	0
Conservation	0.0%	0	0	0	0	0
Forestry	0.0%	0	0	0	0	0
Industrial	0.0%	0	151	-151	0	0
Multi Family	0.0%	0	0	0	0	0
Natural Area	0.0%	0	0	0	0	0
Park	19.5%	3630	3063	567	84.4%	15.6%
Recreation	0.0%	0	0	0	0	0
Rural	16.5%	3083	2206	877	71.6%	28.4%
Single Family	48.1%	8962	3212	5750	35.8%	64.2%
Urban Park	1.7%	317	6	311	1.9%	98.1%
Transportation	2.5%	459	92	367	20.0%	80.0%
Institutional	1.4%	252	252	0	100.0%	0.0%
Total	100.0%	18642.9				



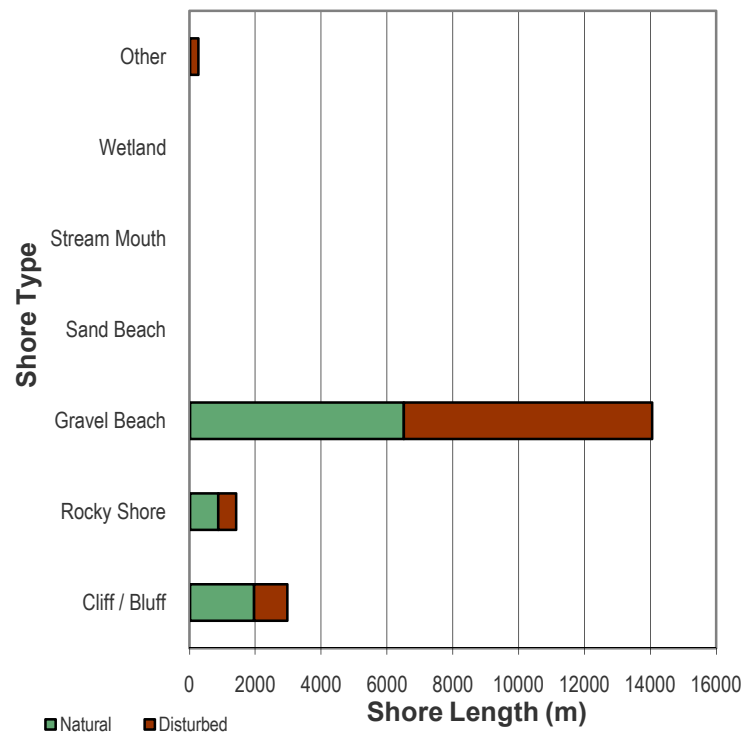


Figure 7: The length of natural and disturbed shoreline in each shore type category

Table 4: The total length of natural and disturbed shoreline and associated percentages within the different shore types that occur around Okanagan Lake in 2004 and 2010.

Shore Type	% of Total	Total Shoreline Length (m)	Natural Shore Length (m)	Disturbed Shore Length (m)	% Natural	% Disturbed
Cliff / Bluff	15.9%	2960	1936	1024.1	65.4%	34.6%
Rocky Shore	7.5%	1394	862	532.5	61.8%	38.2%
Gravel Beach	75.3%	14033	6489	7543.8	46.2%	53.8%
Sand Beach	0.0%	0	0	0.0	0	0
Stream Mouth	0.0%	0	0	0.0	0	0
Wetland	0.0%	0	0	0.0	0	0
Other	1.4%	256	0	255.7	0.0%	100.0%
Total	100.00%	18643				



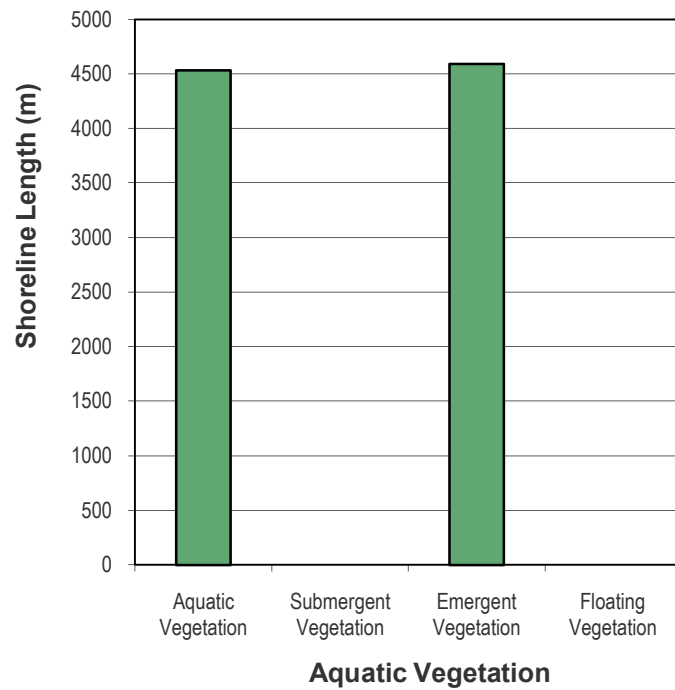


Figure 8: The shore length of each different type of aquatic vegetation.

Table 5: The total shoreline length and percentage that has aquatic, submergent, emergent, and floating vegetation along Okanagan Lake in 2004 and 2010.

Type	% of Total Shoreline Length	Shoreline Length (m)
Aquatic Vegetation	7.0%	261
Submergent Vegetation	0.0%	0
Emergent Vegetation	7.0%	261
Floating Vegetation	0.0%	0



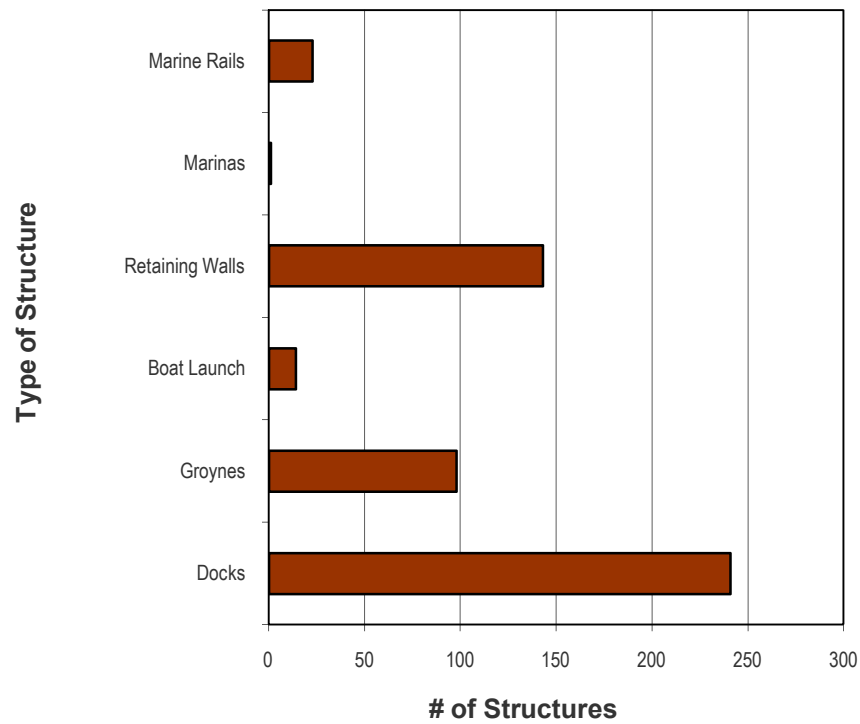


Figure 9: The total number of different types of modifications on Okanagan Lake

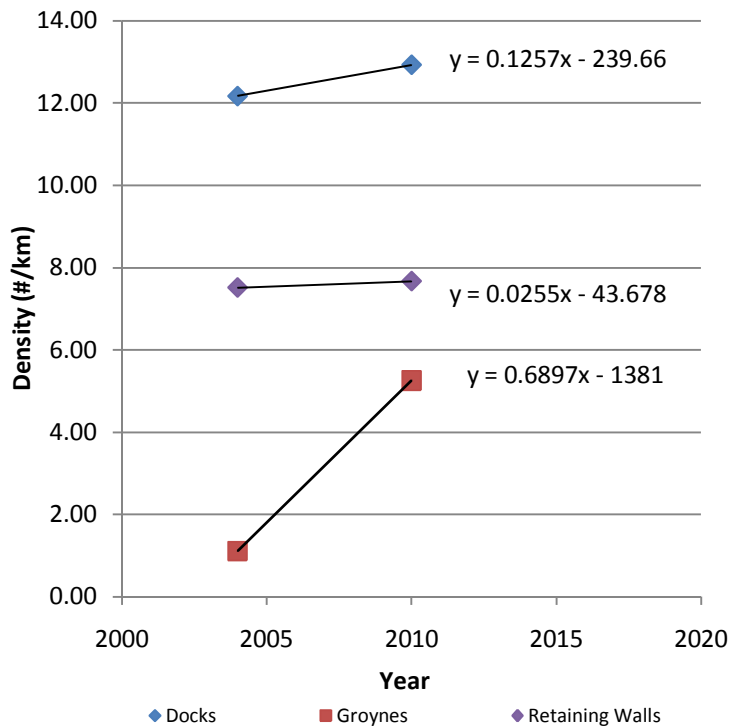


Figure 10: The density of docks, groynes, and retaining walls on Okanagan Lake in 2004 and 2010.



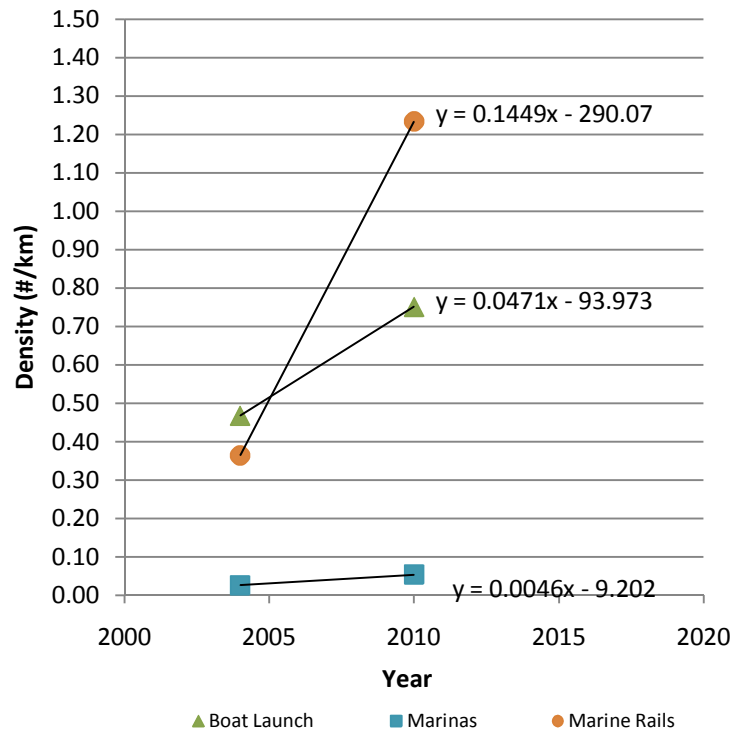
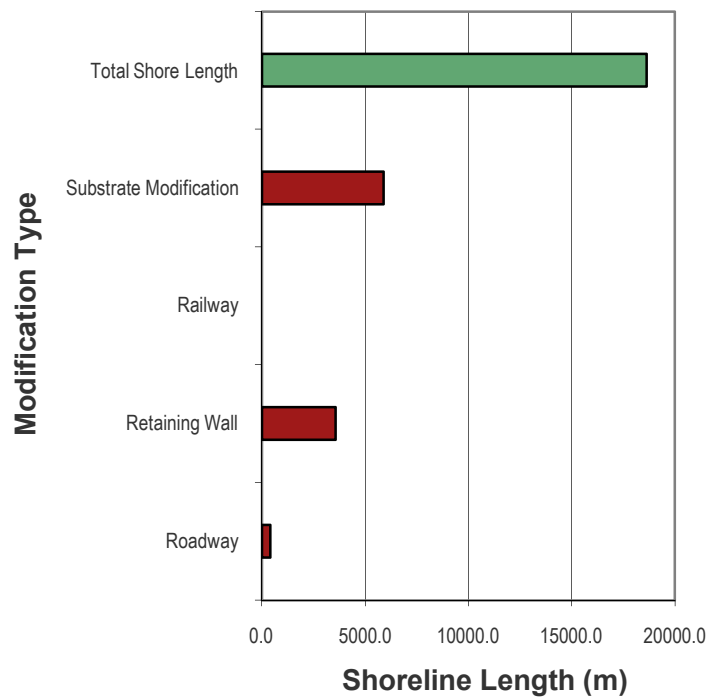


Figure 11: The density of boath launches, marinas, and marine rails on Okanagan Lake in 2004 and 2010.

Table 6: The total number and density (# per km) of different shoreline modifications occurring around Okanagan Lake in 2004 and 2010.

2004			2010		
Type	Total #	# Per km	Type	Total #	# Per km
Docks	468	12.17	Docks	241	12.93
Groynes	43	1.12	Groynes	98	5.26
Boat Launch	18	0.47	Boat Launch	14	0.75
Retaining Walls	289	7.52	Retaining Walls	143	7.67
Marinas	1	0.03	Marinas	1	0.05
Marine Rails	14	0.36	Marine Rails	23	1.23



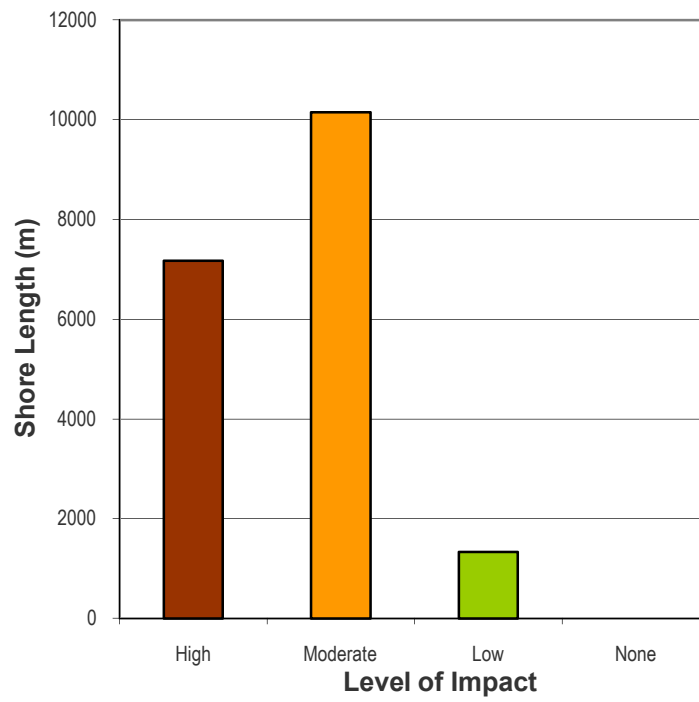


. **Figure 12:** The shore length of different shore modifiers were observed.

Table 7: The approximate shoreline length that has been impacted by substrate modification, road and railways, and retaining walls along Okanagan Lake in 2004 and 2010.

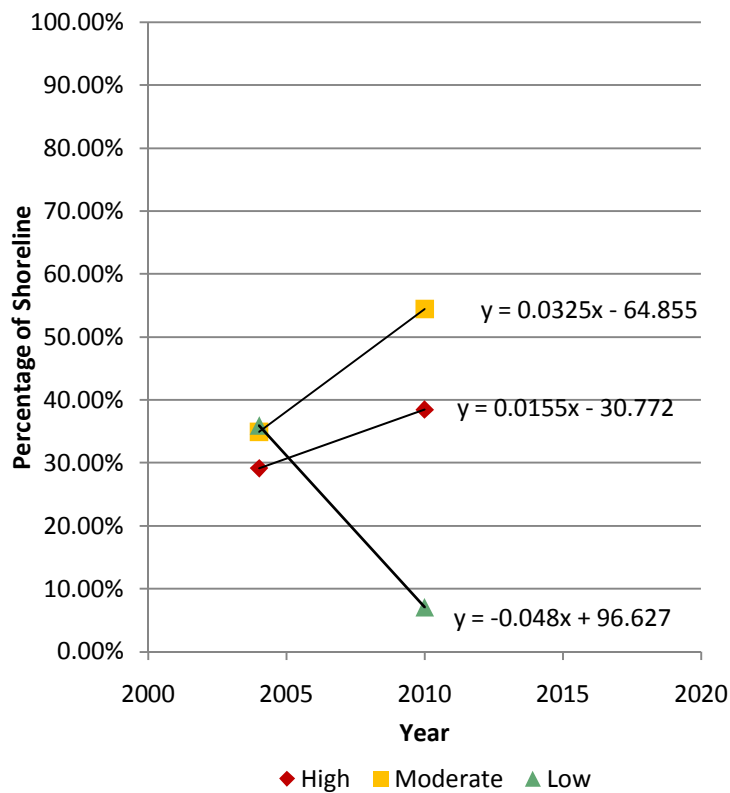
Category	% of Shoreline	Shorelength (m)
Roadway	2%	401.9
Retaining Wall	19%	3568.8
Railway	0%	0.0
Substrate Modification	32%	5908.8
Total Shore Length		18642.9





. **Figure 13:** The shore length of different levels of impact on Okanagan Lake..





. **Figure 14:** The percentage of the shoreline classified as High, Moderate or Low Level of Impact in 2004 and 2010 on Okanagan Lake..

Table 8: The Level of Impact around Okanagan Lake (High > 40%, Moderate (10-40%), Low (<10%), None (0%)) in 2004 and 2010.

2004			2010		
Level of Impact	% of Shoreline	Shore Length	Level of Impact	% of Shoreline	Shore Length
High	47.70%	18339	High	38.46%	7171
Moderate	22.75%	8746	Moderate	54.43%	10148
Low	29.55%	11361	Low	7.10%	1324
None	0.00%	0	None	0.00%	0
				Shore Length	18642.9



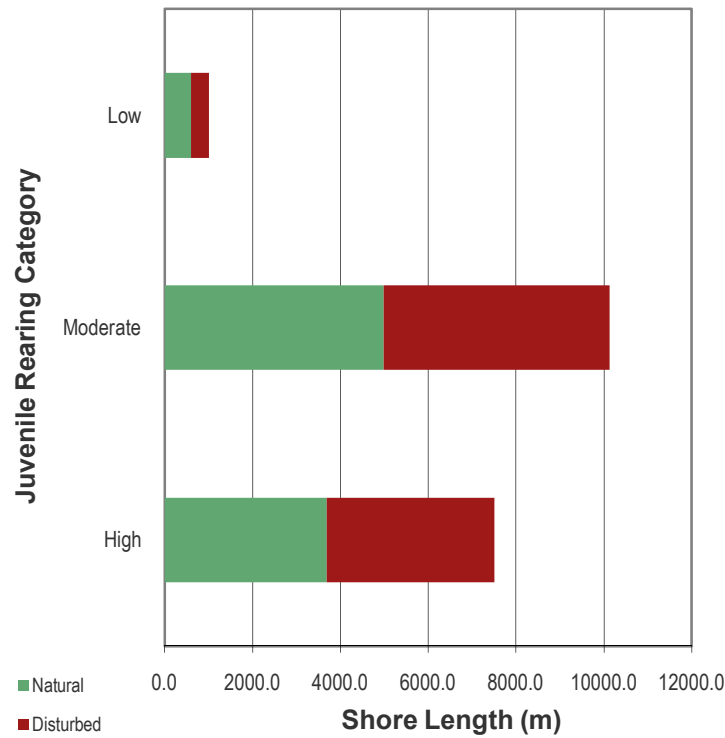


Figure 15: The natural and disturbed shore length of areas classified as having and High, Moderate, or Low Juvenile Rearing ranking.

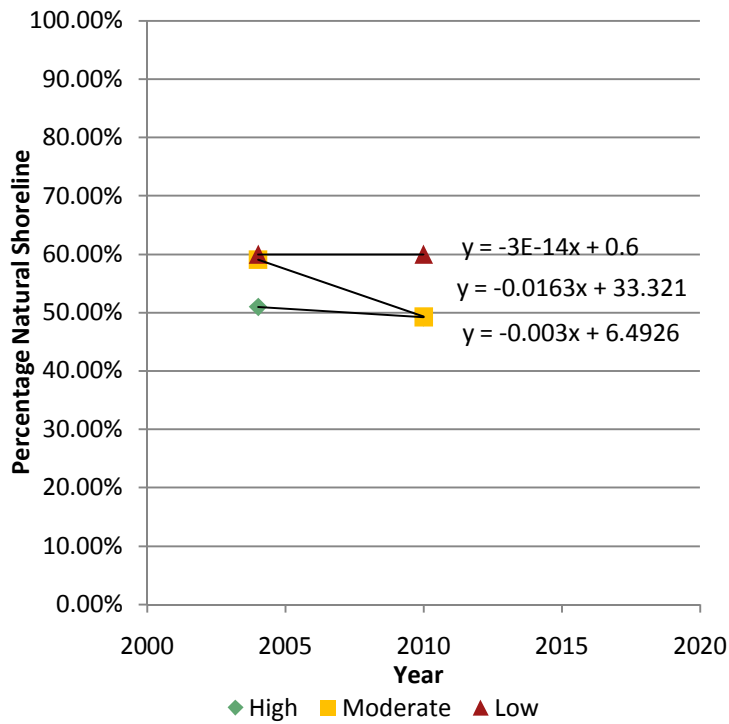


Figure 16: The percentage of High, Moderate, or Low Juvenile Rearing ranking in 2004 and 2010.



Table 9: The shore length and percentage of shoreline areas classified as having High, Moderate, or Low Juvenile Rearing Value on Okanagan Lake in 2004 and 2010.

Juvenile Rearing Category	# of Segments	2004					2010						
		Shore Length (m or %)					Shore Length (m or %)						
		Natural (m)	Natural (%)	Disturbed (m)	Disturbed (%)	Total	Natural (m)	Natural (%)	Disturbed (m)	Disturbed (%)	Total		
High	16	3825.0	50.98%	3677.68	49.02%	7503.2	High	16	3690.6	49.2%	3812.1	50.8%	7503.2
Moderate	15	5984.1	59.06%	4147.96	40.94%	10132.7	Moderate	15	4991.2	49.3%	5140.9	50.7%	10132.6
Low	1	604.9	60.00%	403.234	40.00%	1008.7	Low	1	604.9	60.0%	403.2	40.0%	1008.7
						18644.5							

Table 10: The length of natural and disturbed shorelines within the different Okanagan Large Lakes Protocol Kokanee Shore Spawning areas in 2004 and 2010.

2004								2010							
Black		Red		Yellow		No Colour		Black		Red		Yellow		No Colour	
Natural	Disturbed	Natural	Disturbed	Natural	Disturbed	Natural	Disturbed	Natural	Disturbed	Natural	Disturbed	Natural	Disturbed	Natural	Disturbed
74.77%	25.23%	58.40%	41.60%	47.44%	52.56%	47.66%	52.34%	68.6%	31.4%	53.9%	46.1%	46.6%	53.4%	36.0%	64.0%
2021.68	682.318	4368.45	3111.67	1595.96	1768.05	2427.91	2666.84	1854	850	4032	3448	1568	1796	1833	3261



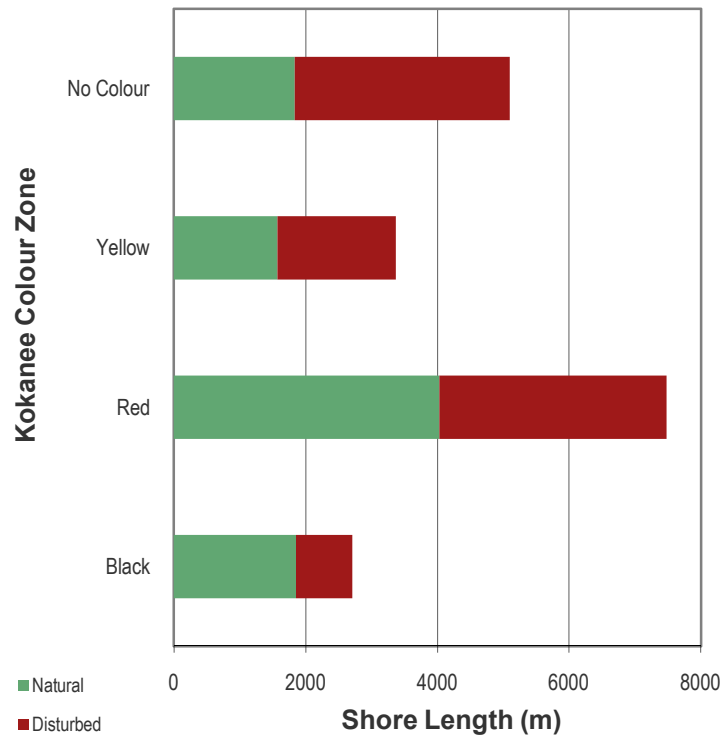


Figure 17: The length of natural and disturbed shoreline in the different shore spawning kokanee zones.

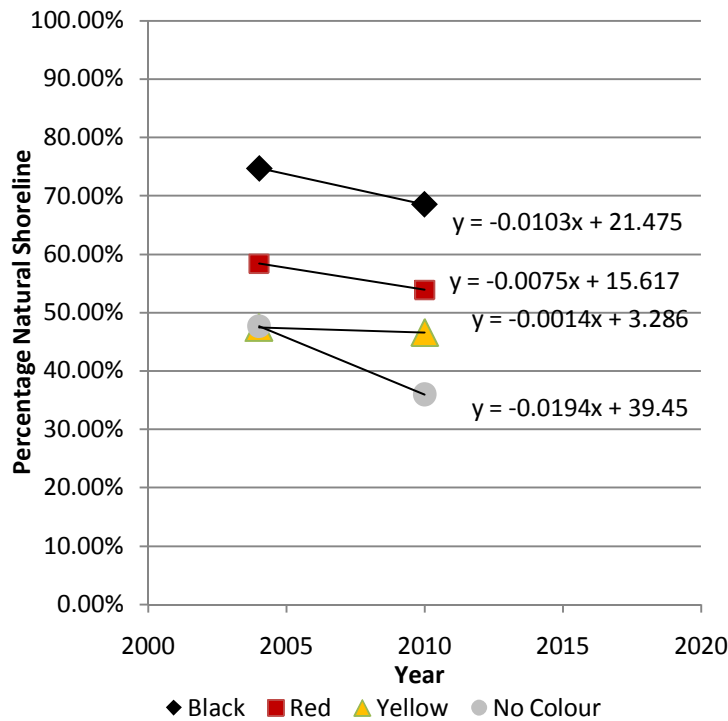


Figure 18: The percentage of natural shoreline in the different shore spawning kokanee zones in 2004 and 2010.



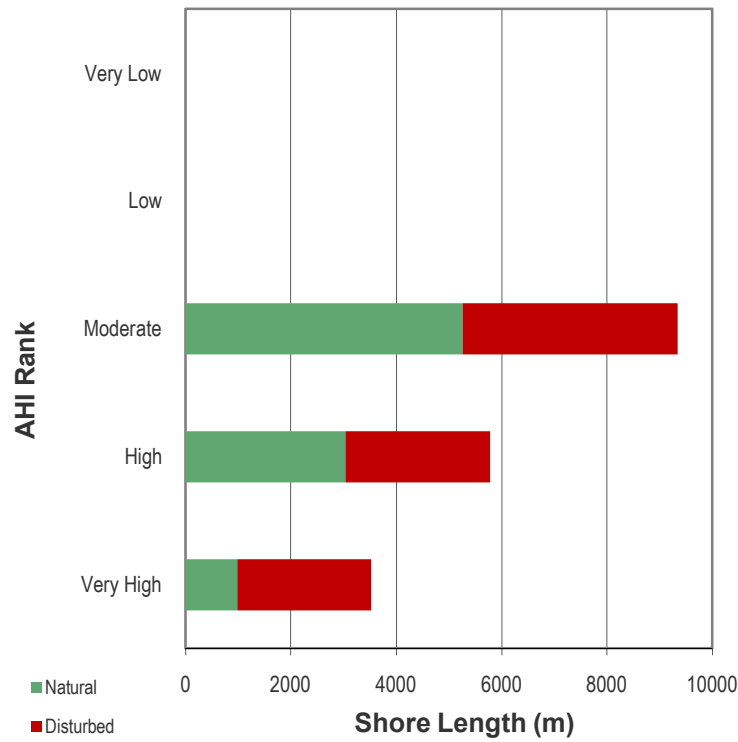


Figure 18: The length of natural and disturbed shoreline in the different AHI rankings.

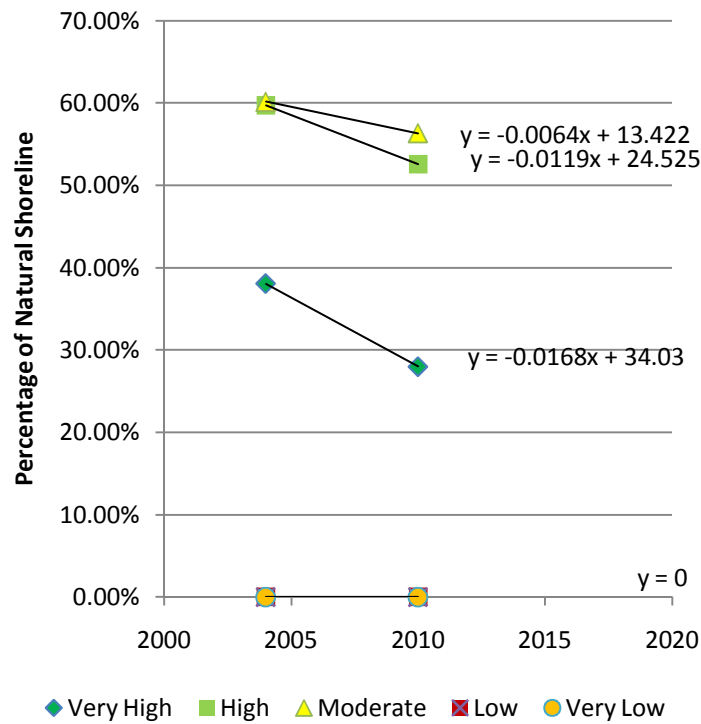


Figure 19: The length of natural shoreline in the different AHI rankings in 2004 and 2010.



Table 11: The shoreline that is natural and disturbed (m and %) within each of the different AHI rankings in 2004 and 2010.

AHI Rank	2004				AHI Rank	2010			
	Natural		Disturbed			Natural		Disturbed	
	m	%	m	%		m	%	m	%
Very High	1339.42	38.07	2179.20	61.93	Very High	984.939		2533.69	
High	9	%	7	%	High	9	28.0%	6	72.0%
High	3452.99	59.72	2328.87	40.28	High	3038.78		2743.08	
High	5	%	4	%	High	7	52.6%	2	47.4%
Moderate	5621.57	60.17	3720.79	39.83	Moderate	5262.97		4079.39	
Moderate	5	%	2	%	Moderate	4	56.3%	2	43.7%
Low	0	0	0	0	Low	0	0	0	0
Very Low	0	0	0	0	Very Low	0	0	0	0

