

APPENDIX E

RDCO West Results



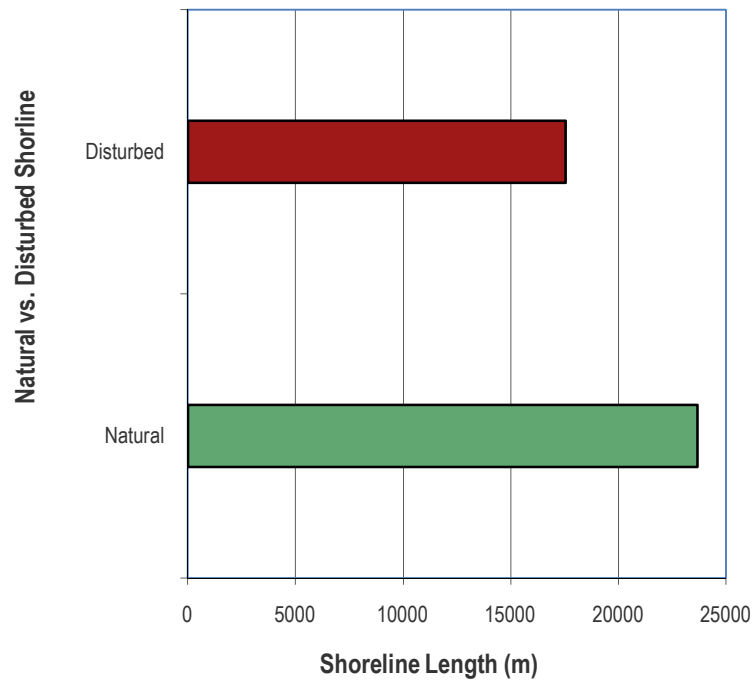


Figure 1: The percent of natural and disturbed shoreline.

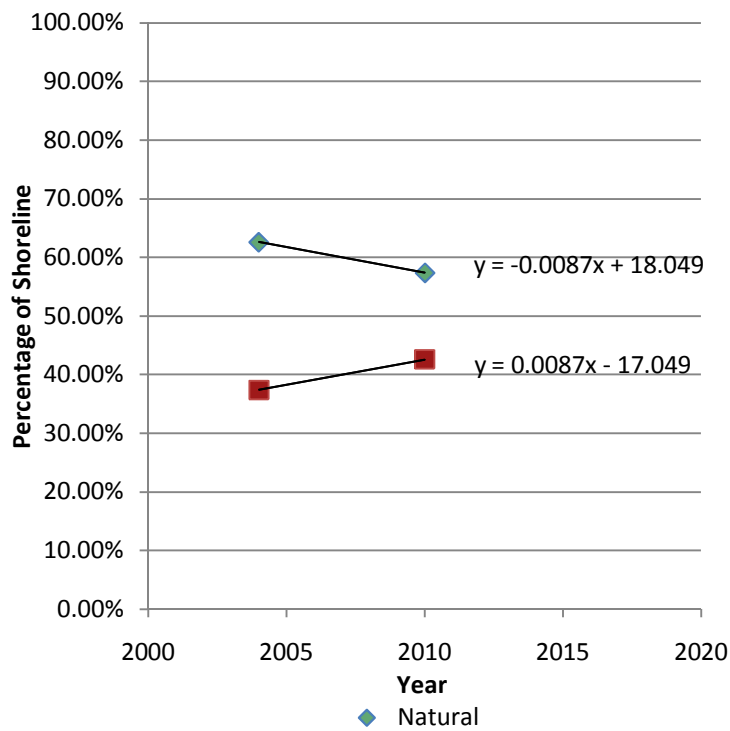


Figure 2: The percent of natural and disturbed shorelines in 2004 and 2010.



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	57.40%	23657	62.62%	25807.29
Disturbed	42.60%	17555	37.38%	15405.32
Total		41212.6		41212.6

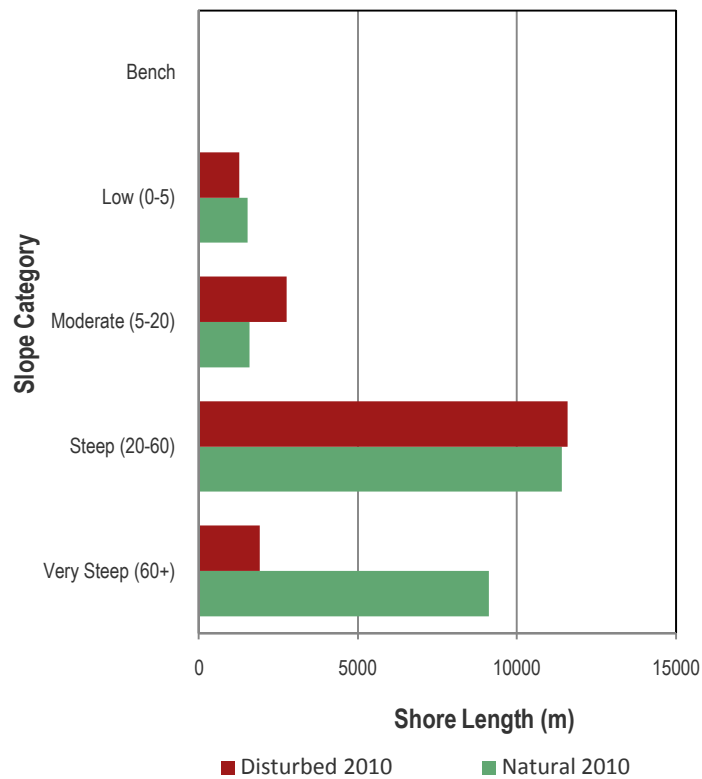


Figure 4: The length of natural and disturbed shorelines in each slope category.



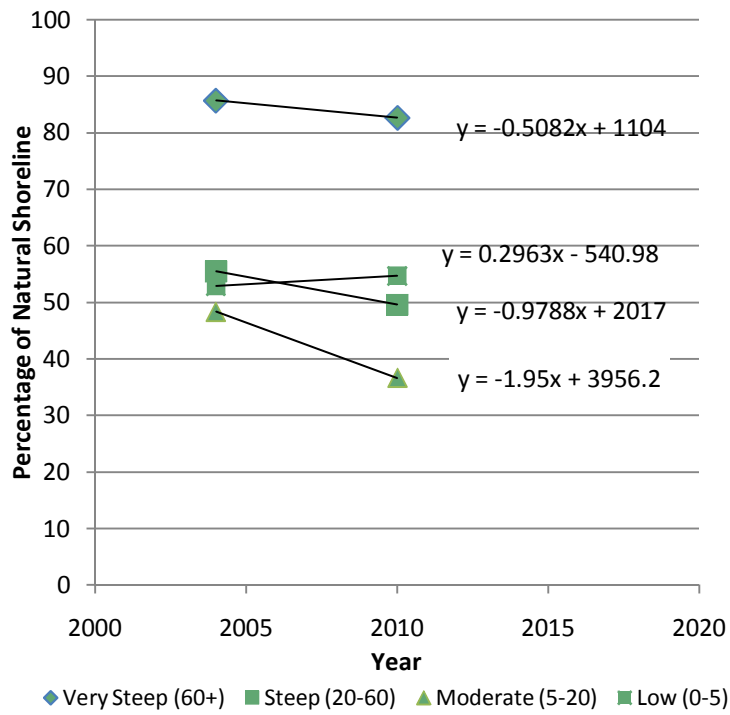


Figure 5: The percent of natural shoreline in each slope category in 2004 and 2010.



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+)	27	11035	9454	1581	86	14	Very Steep (60+)	26.8	11035	9118	1917	82.6	17.4
Steep (20-60)	56	23018	12765	10253	55	45	Steep (20-60)	55.9	23018	11413	11605	49.6	50.4
Moderate (5-20)	11	4369	2112	2257	48	52	Moderate (5-20)	10.6	4369	1601	2768	36.6	63.4
Low (0-5)	7	2791	1476	1315	53	47	Low (0-5)	6.8	2791	1525	1265	54.7	45.3
Bench	0	0	0	0	0	0	Bench	0.0	0	0	0	0	0
Total	100.0	41213	25807	15405	62.6	37.4	Total	100.0	41213	23657	17555	57.4	42.6



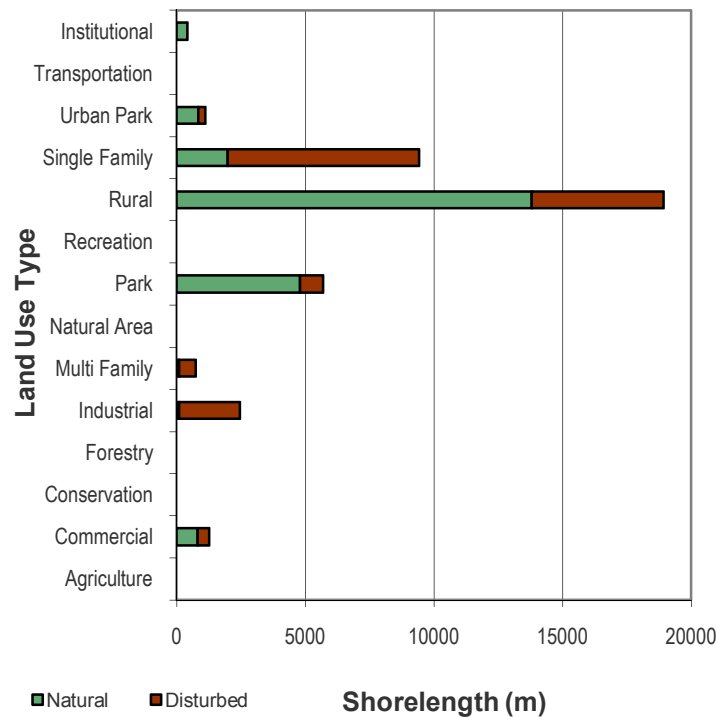


Figure 6: The length of natural and disturbed shoreline in each land use category

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	0.0%	0	0	0	0	0
Commercial	3.1%	1260	813	448	64.5%	35.5%
Conservation	0.0%	0	0	0	0	0
Forestry	0.0%	0	0	0	0	0
Industrial	6.0%	2466	86	2380	3.5%	96.5%
Multi Family	1.8%	754	110	644	14.6%	85.4%
Natural Area	0.0%	0	0	0	0	0
Park	13.8%	5700	4808	892	84.4%	15.6%
Recreation	0.0%	0	0	0	0	0
Rural	45.9%	18918	13793	5125	72.9%	27.1%
Single Family	22.9%	9428	1999	7429	21.2%	78.8%
Urban Park	2.7%	1106	844	261	76.4%	23.6%
Transportation	2.8%	1151	121	1030	10.5%	89.5%
Institutional	1.0%	430	430	0	100.0%	0.0%
Total	100.0%	41212.6				



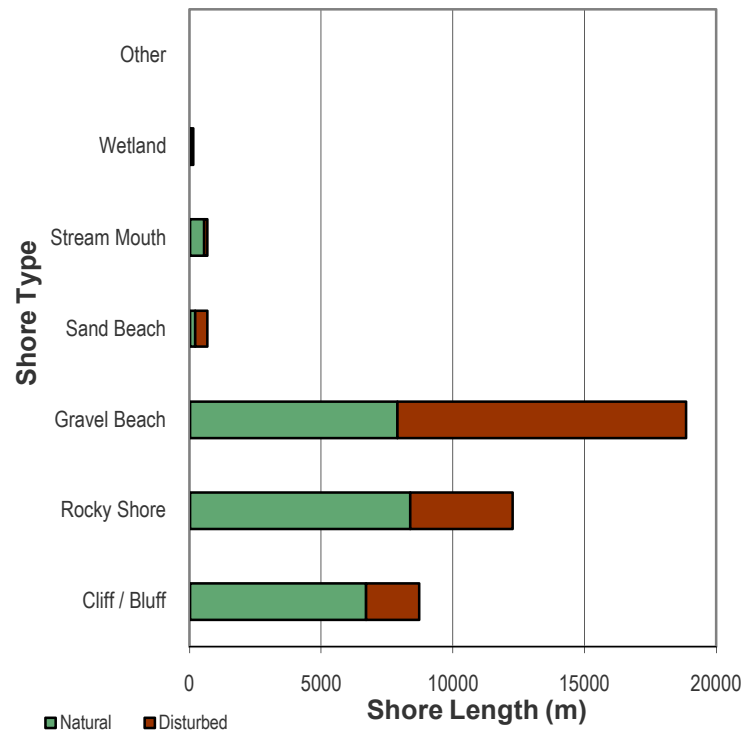


Figure 7: The length of natural and disturbed shoreline in each shore type category

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	21.1%	8697	6673	2024.0	76.7%	23.3%
Rocky Shore	29.7%	12250	8361	3889.0	68.3%	31.7%
Gravel Beach	45.7%	18824	7859	10965.2	41.7%	58.3%
Sand Beach	1.6%	667	197	469.1	29.6%	70.4%
Stream Mouth	1.6%	657	544	113.6	82.7%	17.3%
Wetland	0.3%	118	24	94.2	20.0%	80.0%
Other	0.0%	0	0	0.0	0	0
Total	100.00%	41213				



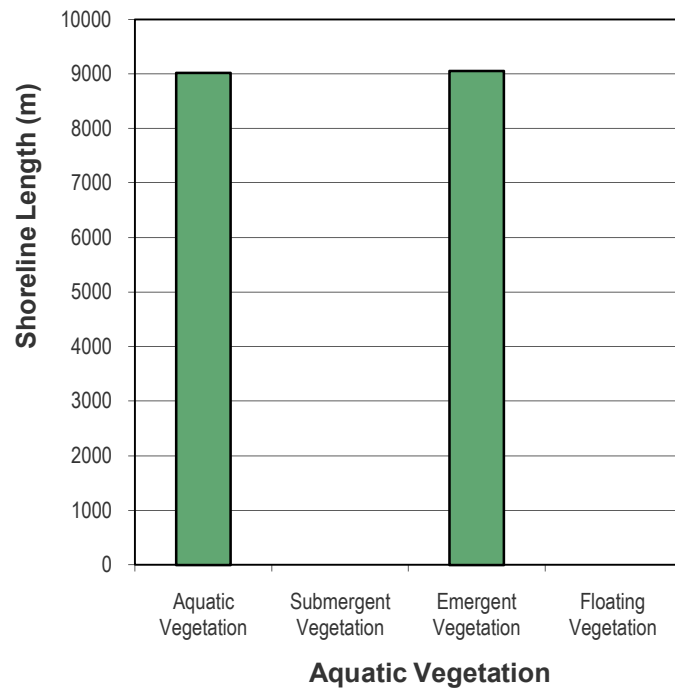


Figure 8: The shore length of each different type of aquatic vegetation.

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



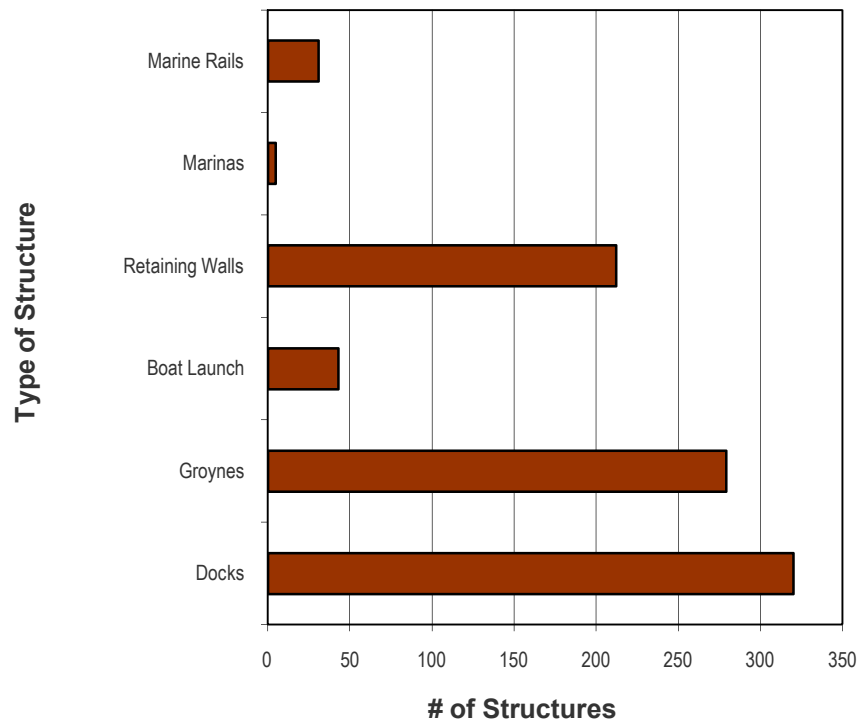


Figure 9: The total number of different types of modifications on Okanagan Lake

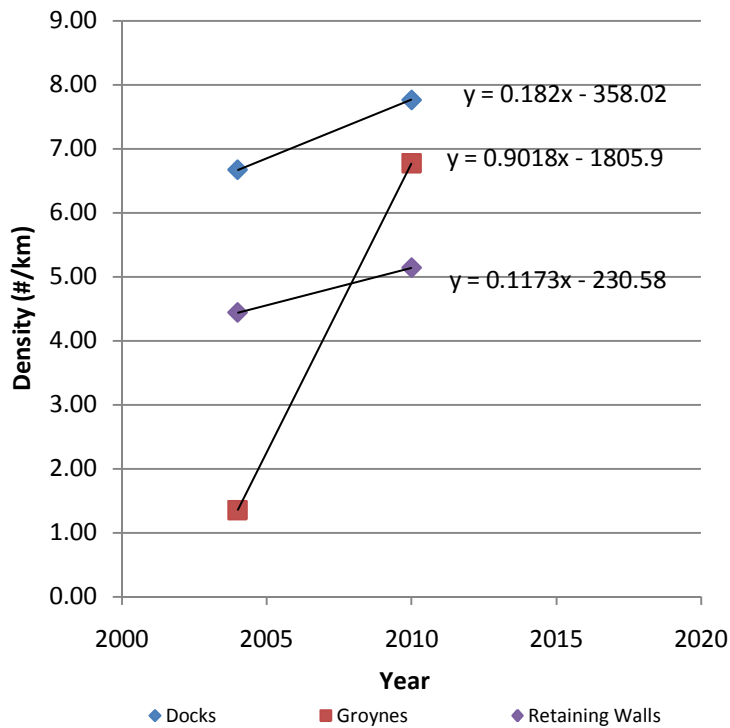


Figure 10: The density of docks, groynes, and retaining walls on Okanagan Lake in 2004 and 2010.



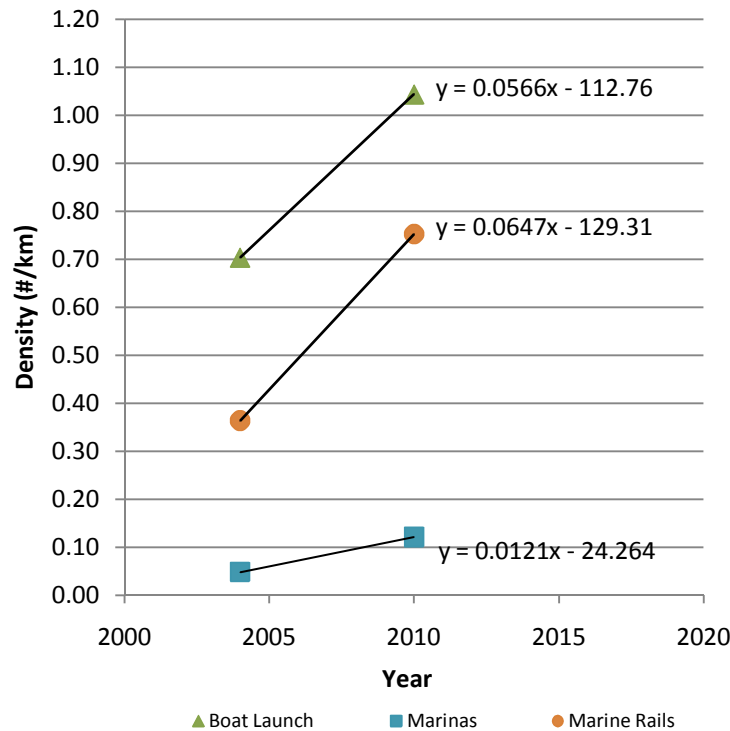
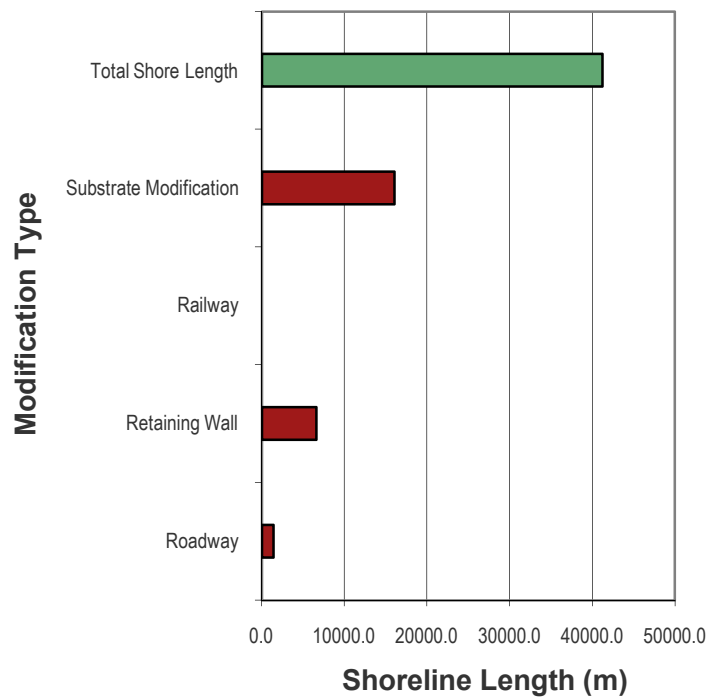


Figure 11: The density of both launches, marinas, and marine rails on Okanagan Lake in 2004 and 2010.

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	275	6.67	Docks	320	7.76
Groynes	56	1.36	Groynes	279	6.77
Boat Launch	29	0.70	Boat Launch	43	1.04
Retaining Walls	183	4.44	Retaining Walls	212	5.14
Marinas	2	0.05	Marinas	5	0.12
Marine Rails	15	0.36	Marine Rails	31	0.75



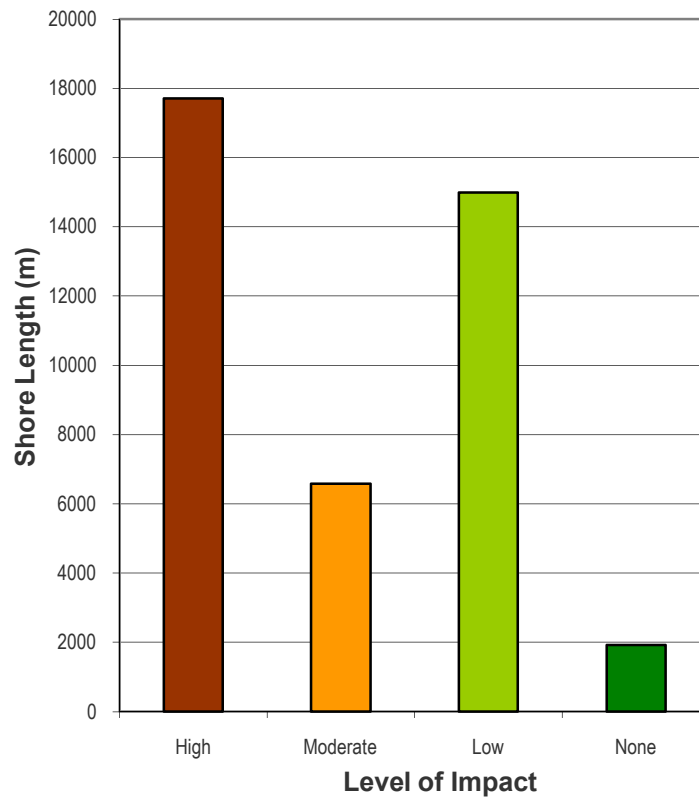


. **Figure 12:** The shore length of different shore modifiers were observed.

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.

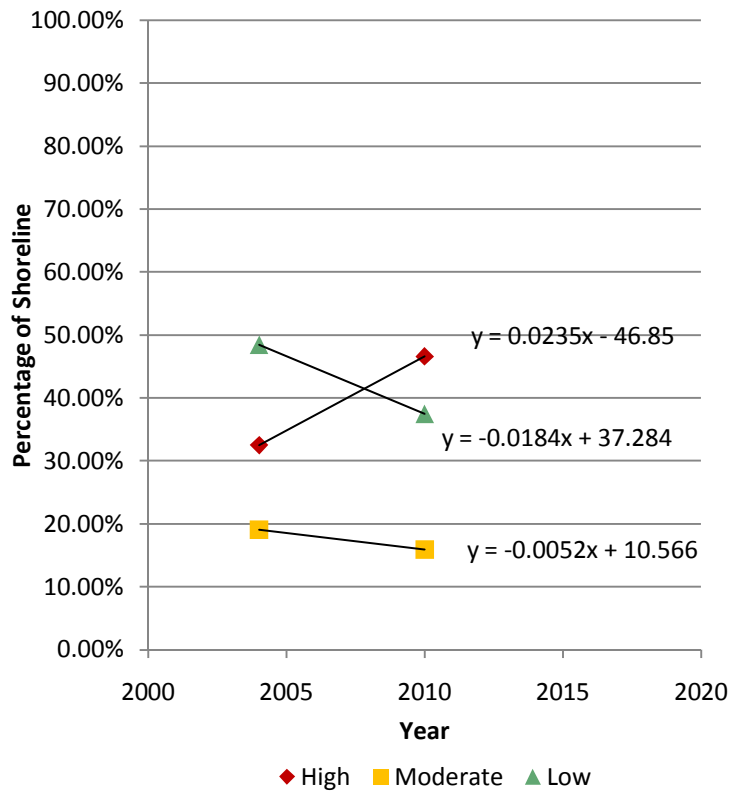
Category	% of Shoreline	Shorelength (m)
Roadway	3%	1394.5
Retaining Wall	16%	6573.1
Railway	0%	0.0
Substrate Modification	39%	16024.3
Total Shore Length		41212.6





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





. **Figure 14:** The perecentage of the shoreline classified as High, Moderate of 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.

Level of Impact	2004		2010		Shore Length
	% of Shoreline	Shore Length	% of Shoreline	Shore Length	
High	32.47%	13380	46.59%	19201	
Moderate	19.06%	7856	15.96%	6576	
Low	48.47%	19976	32.78%	13509	
None	0.00%	0	4.67%	1926	



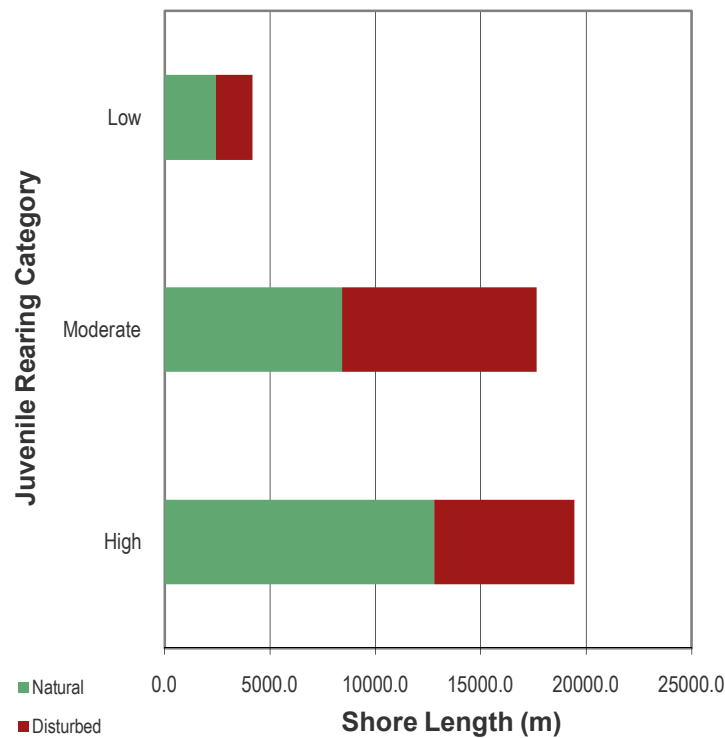


Figure 15: The natural and disturbed shore length of areas classified as having and High, Moderate, or Low Juvenile Rearing ranking.

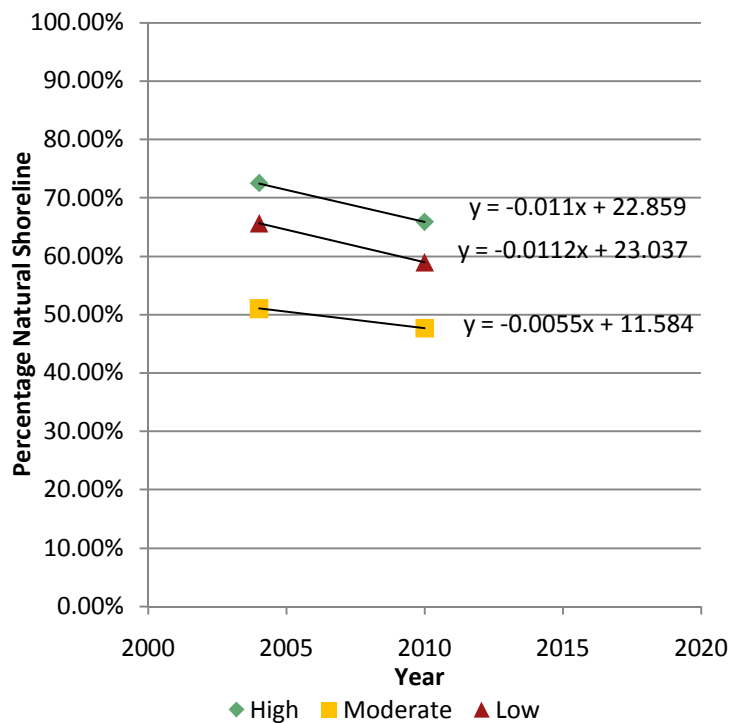


Figure 16: The percentage of High, Moderate, or Low Juvenile Rearing ranking in 2004 and 2010.



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.

2004							2010							
Juvenile Rearing Category	# of Segments	Shore Length (m or %)					Total	Juvenile Rearing Category	# of Segments	Shore Length (m or %)				Total
		Natural (m)	Natural (%)	Disturbed (m)	Disturbed (%)					Natural (m)	Natural (%)	Disturbed (m)	Disturbed (%)	
High	28	14081.3	72.51%	5339.19	27.49%	19421.2	High	28	12794.3	65.9%	6626.2	34.1%	19421.1	
Moderate	23	9002.5	51.02%	8641.84	48.98%	17644.9	Moderate	23	8417.5	47.7%	9226.8	52.3%	17644.8	
Low	7	2723.5	65.66%	1424.29	34.34%	4148.5	Low	7	2445.6	59.0%	1702.2	41.0%	4148.4	
													41214.3	

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
80.66%	19.34%	70.21%	29.79%	44.02%	55.98%	51.27%	48.73%	76.3%	23.7%	69.0%	31.0%	37.8%	62.2%	41.6%	58.4%
8751.56	2098.84	7906.34	3354.09	3913.83	4976.43	5235.56	4975.96	8280	2570	7768	3493	3362	5528	4247	5964



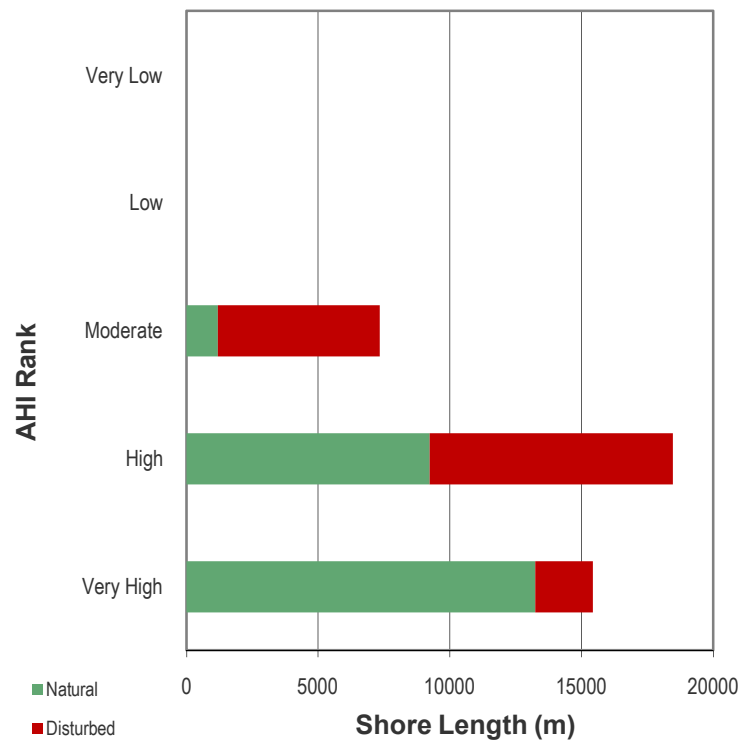


Figure 17: The length of natural and disturbed shoreline in the different shore spawning kokanee zones.

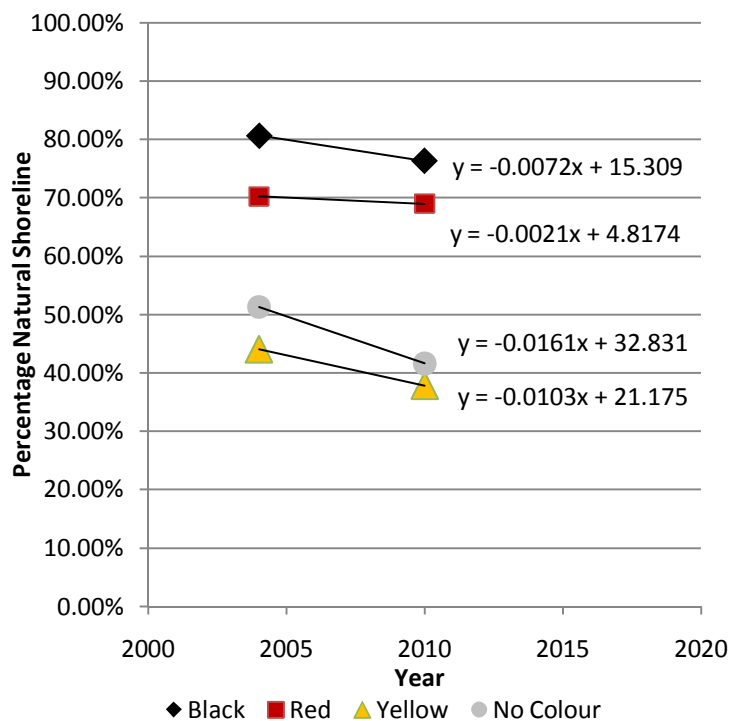


Figure 18: The percentage of natural shoreline in the different shore spawning kokanee zones in 2004 and 2010.



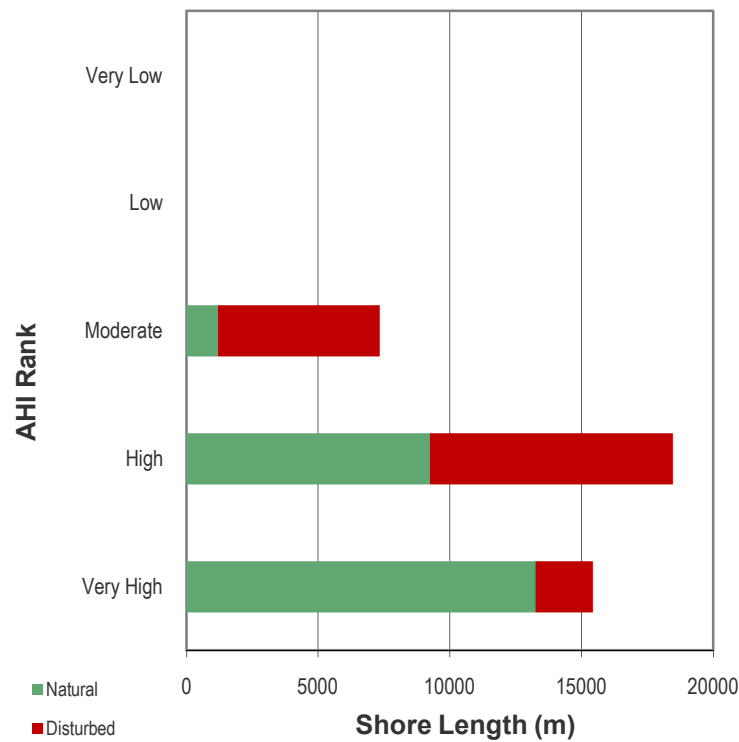


Figure 18: The length of natural and disturbed shoreline in the different AHI rankings.

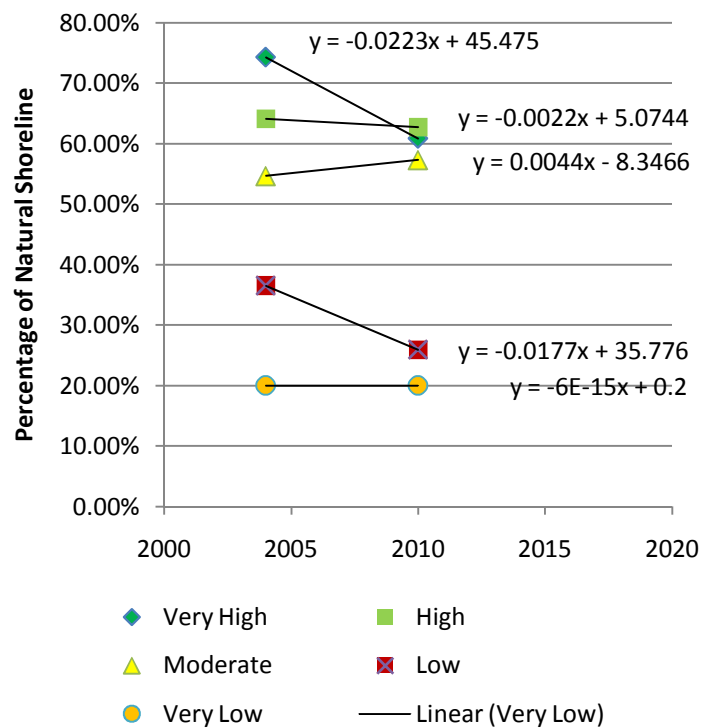


Figure 19: The length of natural shoreline in the different AHI rankings in 2004 and 2010.



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	12197.2	74.27	4225.94	25.73	Very High	9997.68	60.9	6425.47	39.1
High	2	%	6	%	High	5	%	7	%
High	5856.20	64.07	3283.71	35.93	High	5734.88	62.7	3405.03	37.3
Moderate	9	%	1	%	Moderate	3	%	7	%
Moderate	6888.48	54.64	5718.98	45.36	Moderate	7224.16	57.3	5383.30	42.7
Low	4	%	9	%	Low	7	%	7	%
Low	567.666	36.54		63.46	Low	402.967	25.9	1150.50	74.1
Very Low	6	%	985.809	%	Very Low	5	%	8	%
Very Low	297.716	20.00	1190.86	80.00	Very Low	297.716	20.0	1190.86	80.0
Very Low	3	%	5	%	Very Low	3	%	5	%

