

05MN047 Doris Amendment: Fisheries Habitat Units for Doris Lake

The following tables present the areas and lengths for habitat units (HU) for each species into habitat categories High, Low, and None (categories that were presented in the recent memo on spawning locations in Doris Lake, response to technical comment DFO 3.2.1). The species presented are Lake Trout (LT), Lake Whitefish (LW), and Cisco (CIS). Columns on the left present the actual values, and the columns on the right present associated percentages.

Table 1 presents the lengths of habitat units categorized as H, L, and N for each species. Only linear distances are used for each unit; the width (and therefore area) of the potentially affected site is not considered.

Table 1. Lengths of habitat units categorized as H, L, and N per species, Doris Lake

	<i>Length (m)</i>				<i>Length (%)</i>		
	LT	LW	CIS		LT	LW	CIS
H	1,295	1,295	1,660	H	8.9	8.9	11.4
L	2,855	3,395	6,025	L	19.6	23.3	41.3
N	10,445	9,905	6,910	N	71.6	67.9	47.3

The Table 2 presents the total areas of habitat units categorized as H, L, and N for each species. These areas are calculated based on the entire habitat unit (i.e. 1m to 4m water depth), so these areas are far larger than the actual area that may be affected (2.74 to 2.97m).

Table 2. Total areas of habitat units categorized as H, L, and N per species, Doris Lake

	<i>Area (m<sup>2</sup>)</i>				<i>Area (%)</i>		
	LT	LW	CIS		LT	LW	CIS
H	45,313	45,313	195,043	H	3.1	3.1	13.4
L	168,022	215,352	788,424	L	11.6	14.8	54.3
N	1,237,519	1,190,189	467,387	N	85.3	82.0	32.2

Given the level of resolution of the bathymetry data, the areas of each unit between 2.74m and 2.97m cannot be extracted; virtually no bathymetry data are collected on a scale that would allow data to be extracted to that level of accuracy. Accordingly, area estimates were calculated based on the following:

$$\text{Approximate Impacted Area (m}^2\text{)} = \text{Affected Vertical Range (0.23m)} / \text{HU Vertical Range (3m)} * \text{HU Width (m)}$$

Table 3 presents these area estimates wherein the approximate area that would be impacted by 23cm of drawdown (caused by maximum water withdrawal and maximum water loss from Doris Lake). The area was calculated using an estimate of the width of the 23cm depth range (based on the average width of that HU) combined with the HU length.

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Table 2. Estimates of impacted area categorized as H, L, and N per species, Doris Lake

<i>Approximate Impacted Area (m<sup>2</sup>)</i>				<i>Approximate Impacted Area (%)</i>			
	LT	LW	CIS		LT	LW	CIS
H	28	28	71	H	8.0	8.0	20.3
L	21	25	166	L	5.9	7.0	47.5
N	302	298	113	N	86.1	85.0	32.2