**Title: Realized thermal niche approach eliminates temperature bias in bioenergetic model estimates**

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**Table:** Diet change in proportions per size of predator (weight was extrapolated from length-weight relationship) from age 1 through 15 for lake trout and 0 to 4 for Chinook salmon. Lake trout diet proportions were obtained from Rand and Stewart (1998), Madenjian, Desorcie, and Stedman (1998) and Chinook salmon from Mumby et al. (2018).

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Length**  **(mm)** | **Weight (g)** | **Alewife** | **Slimy sculpin** | **Deep-water sculpin** | **Rainbow smelt** | **Round goby** |
| **Lake trout** | <399 | < 572 | 0.31 | 0.1 | 0.1 | 0.21 | 0.28 |
| 400-499 | 572 - 1224 | 0.39 | 0.1 | 0.09 | 0.17 | 0.25 |
| 500-599 | 1224 - 2298 | 0.47 | 0.12 | 0.1 | 0.19 | 0.12 |
| 600-699 | 2298 - 3736 | 0.47 | 0.1 | 0.09 | 0.18 | 0.16 |
| >700 | >3736 | 0.42 | 0.1 | 0.09 | 0.19 | 0.2 |
|  |  |  |  |  |  |  |  |
| **Chinook salmon** | <399 | <655 | 0.66 | 0.02 | 0.02 | 0.08 | 0.22 |
| 400-499 | 655-1460 | 0.74 | 0.02 | 0.02 | 0.08 | 0.14 |
| 500-599 | 1460-2271 | 0.78 | 0.03 | 0.03 | 0.07 | 0.11 |
| 600-699 | 2271-3113 | 0.82 | 0.03 | 0.02 | 0.07 | 0.06 |
| 700-799 | 3113-6000 | 0.82 | 0.04 | 0.03 | 0.08 | 0.03 |
| >800 | >6000 | 0.84 | 0.04 | 0.03 | 0.08 | 0.01 |

References:

Madenjian, Charles P., Timothy J. Desorcie, and Ralph M. Stedman. 1998. ‘Ontogenic and Spatial Patterns in Diet and Growth of Lake Trout in Lake Michigan’. *Transactions of the American Fisheries Society* 127 (2): 236–52. https://doi.org/10.1577/1548-8659(1998)127<0236:oaspid>2.0.co;2.

Mumby, James A, Sarah M Larocque, Timothy B Johnson, Thomas J Stewart, John D Fitzsimons, Brian C Weidel, Maureen G Walsh, Jana R Lantry, Michael J Yuille, and Aaron T Fisk. 2018. ‘Diet and Trophic Niche Space and Overlap of Lake Ontario Salmonid Species Using Stable Isotopes and Stomach Contents’. *Journal of Great Lakes Research* 44 (6): 1383–92. https://doi.org/10.1016/j.jglr.2018.08.009.

Rand, Peter S, and Donald J Stewart. 1998. ‘Prey Fish Exploitation, Salmonine Production, and Pelagic Food Web Efficiency in Lake Ontario’. *Canadian Journal of Fisheries and Aquatic Sciences* 55 (2): 318–27. https://doi.org/10.1139/f97-254.