In the coming decades, warming ocean temperatures could stunt the growth of fish by as much as 30 percent, according to a new study in the journal Global Change Biology.

Environmental News Network (ENN) reports that the main driver behind this decline in size is that warmer water contains less oxygen.

According to the report, fish are cold-blooded animals and therefore cannot regulate their own body temperatures. So as oceans heat up, a fish’s metabolism accelerates to cope with the rising temperatures and they need more oxygen to sustain their body functions. But fish gills do not grow at the same pace as the rest of their body, resulting in a decline of oxygen supply and in growth.

ENN reports that for every one degree Celsius of ocean warming, active fish like tuna could shrink by as much as 30 percent, the study found, while less-active species like brown trout may only shrink by 18 percent. Overall, the decline in size could reduce commercial fish catches by about 3.4 million tons for each degree of warming.
“Fish are constrained by their gills in the amount of oxygen they can extract from the water,” Daniel Pauly, the study’s lead author and a principal investigator with Sea Around Us, a University of British Columbia research initiative, told Nexus Media.

“With increasing temperatures, fish require more oxygen but get less,” he said.