Interviewer: Hi and welcome to another episode of what’s causing the decline of your local salmonids. If you recall last week, we had Wes. T. slope the cutthroat trout talk about whirling disease. To follow up, today we have Sammy to talk to us about behavioural thermoregulation in salmonids. Sammy is a coho salmon and belongs in the family Salmonidae. Why don’t you tell us a bit about yourself, Sammy?

Sammy: Wow thanks for having me here today. I’m so excited to have a platform to about issues my fellow fish face! So yes, I am a coho salmon and therefore a fish which means I am an ectotherm. I rely on my environment’s temperature to regulate my own body temperature. This means when my environment gets cold, I get cold and when my environment gets hot, I get hot. Now, salmonids are a cold-water family, so we are particularly concerned about staying cool now that our homes are warming up due to climate change.

Interviewer: Oh interesting. Tell us what it would be like normally?

Sammy: Well normally, for us salmonids living in higher latitudes, we wouldn’t see lethal temperatures all too often. And when they did occur, it wouldn’t be for very long. So finding shelter wasn’t as big of a problem.

Interviewer: So, what’s changed?

Sammy: Well now, high heat events are not only happening more frequently, but they’re also lasting for multiple days at a time. This means we are restricted to these areas of shelter for longer just to survive.

Interviewer: Yeah, that certainly sounds like a challenge! So, tell us what you do when you find yourself in an extreme heat wave?

Sammy: Well, some of my friends and family have died because we’re not used to these kinds of conditions! But, just like you when you become too hot, we have also learned to move to colder areas. The problem is these colder areas are not always ideal locations. Sometimes there are big bullies that defend these areas which don’t allow for us small fry to come hang out. Other times these areas are more exposed and so we’re attacked by other animals that want to eat us! So, unlike you finding some shade it can be a bit more dangerous for us to move to these cooler areas. Also, we can’t spend all of our time in these cooler locations because we still get hungry and there is not enough food to feed everyone who aggregate in these locations.

Interviewer: Wow that sounds tough! I’m sorry to hear about these troubles. How can we help protect your habitat to ensure salmonids have safe temperatures to survive?

Sammy: Thanks. Hopefully we can stop negatively altering my habitat to make sure we have access to these microclimates that allow us to survive. For example, damming rivers has restricted our access to upstream locations which are normally higher elevations with cooler temperatures. Maintaining access to thermal heterogeneity will ensure we have access to the microclimates we need to survive.

Interviewer: Well thank you so much, Sammy. It’s been great talking to you and I hope you can stay cold out there!

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Wow that was really interesting to hear about the challenges salmonids fac! I was curious what makes it so hard for them to survive at higher temperatures. So I looked into it and found they actually have changes on the molecular level that are driving a stress response to temperature! If you would like to learn more check out the links listed with this podcast!