

# Golden Gate Climate Update Transcript

Interview with Michael Reichmuth

Fisheries biologist, National Park Service, San Francisco Bay Area Inventory and  
Monitoring Network

Interviewed on July 29, 2009

James Osborne interviewer

Part 2

*Music begins and fades slightly*

*James* - Hi, I'm Ranger James Osborne, and welcome to Golden Gate Climate Update, your source for information on climate change and sustainability. This episode is a continuation of our interview with Mike Reichmuth, a fisheries biologist with the National Park Service, who studies salmon in Marin County, California. But before we get back to the interview, here is the answer to our climate update challenge. Scientists predict all seafood populations on the planet will collapse by 2048 if current levels of over-fishing and pollution are maintained. However, a recent article in Science magazine reported some good news. The tide is turning in some areas, with fish stocks, such as haddock on the east coast, rapidly recovering after the initiation of good fisheries management. Now back to Michael. So, we've been hearing on the news lately about changes in the upwelling of nutrients on the west coast and also about declining populations of salmon. In your opinion is there a link between the two?

*Michael* - Yes, actually in the last couple years regionally the salmon have been in decline and it's been because of ocean conditions, and when we say ocean conditions we actually mean that there just hasn't been enough food and that's because upwelling hasn't been occurring as frequently as it normally does. So usually, for instance like we're on the coast here, when it's a really windy June or windy July, that means the ocean is turning over and you're getting good upwelling and those nutrients are coming up from below and coming up for the salmon to eat. The last couple of years that didn't happen for the fish, so the young fish that were out in the ocean, they did not get their food. And so, they did not return in good numbers.

*James* - Now, can you tell us how you think climate change and associated factors such as sea level rise will affect our park's salmon populations and those of the west coast in the coming years?

*Michael* - Yeah, that's going to be a hard one to predict at this point. If we have sea level rise, what is that going to do to our population of salmon. Well what habitat does our salmon use at this point. For instance, when they are going out to the ocean, they use our estuary in order to gain in size before they go to the ocean and also their body goes through some transformations, like becoming more silver in color for the Coho. And if you have sea level rise some of these estuaries will become deeper and may not be as productive as they once were. Especially if you have, along the edges of these estuaries, confinement because of roads or other development. So, it wouldn't be like just because sea level is rising we're creating more habitat on the boundaries. It's not going to occur like that. In case of salmon since their populations are so small at this point, we might not be able to determine if that is playing a big part on the decline until after they are already extricated from the watershed. Which is sad but that is one of the realities of it.

*James* - Is there anything that the park is doing, or that we can do, to help our local salmon?

*Michael* - Yes, I think that we can do, instead of just sitting at home for one thing you can actually get out and help with some of these restoration projects. There is a big need for volunteers especially planting and weeding and actually even our monitoring program itself. We use volunteers to help monitor the fish. Also people can conserve water at home, water is a huge issue in California and especially with global climate change there is probably going to be less of it to use state wide. So, we need to be conscious of that the water we use is actually part of a state wide problem and us conserving at home will help the salmon out.

*James* - Wow, that is a lot to chew on, but you've shown us how very very specific study can have much broader ramifications. And I don't just mean study, I mean your work and what we do in our daily lives and our visits to the park. Thank you very much Michael.

*Michael* - Thank you.

*James* - Please join our next podcast, when we will be interviewing actress and environmental advocate, Daryl Hanna. Until our next podcast this is James Osborne. Thanks for listening.

*Music fades in and then out*

*Male voice* - Golden Gate Climate Update is produced by Will Elder and is a product of the Earth to Sky Program, an innovative partnership between the National Park Service, the U.S. Fish and Wildlife Service, and NASA. Music from *A Walk in the Desert* by Electronic Symphonic.