

Golden Gate Climate Update Transcript

Interview with Marcus Koenen

Program Manager, National Park Service, San Francisco Bay Area Network

Inventory and Monitoring Program

Interviewed on July 16, 2009

James Osborne interviewer

Part 2

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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 Marcus Koenen, Program Manager for the San Francisco Bay Area Network Inventory and Monitoring Program, which monitors biologic and physical information in the Bay Area national parks that may be used to study climate change and its consequences. But before we get back to the interview, here is the answer to our climate update challenge. Red Squirrels are adapting to warmer weather by moving their breeding season up nearly 3 weeks in just a decade. Squirrels that are genetically apt to breed earlier are having more success. In a few years, most squirrels will have genetic coding to adapt to the changing climate.

Now back to Marcus. You have documented a variety of changes in the species and what you called the biological indicators?

Marcus - Yah, for example, since we've been monitoring elephant seals they have been increasing in both numbers and their range has been expanding. On the other hand, the number of harbor seals, spotted owls, and prairie falcons appear relatively stable. With the snowy plovers, like those we have at Ocean Beach, the numbers have decreased and then increased. The numbers of Coho Salmon in our creeks like Redwood Creek have decreased quite a bit, but at this point like I said we can't say if these changes are due to climate change, but in fact it seems that in some cases the changes are due to changes in disturbances to population or lack of prey for example. With the Coho, they seem to be responding to large scale ocean condition changes such as upwelling or El Ninos, that may or may not be related to climate change.

James - What do you consider to be the biggest threats from global warming to this Bay Area and Bay Area parks in the next 50 years?

Marcus - That's the million dollar question. Around here some of the most obvious changes will be the ones that are related to sea level rise. It's going to effect low lying areas, it's going to directly result in loss of habitat for harbor seals or snowy plover for example. But, the biggest problem is probably the interaction of our existing threats with climate change. For example, we have Sudden Oak Death which is really putting a strain on the forest ecosystem and it's really noticeable when you walk in Muir Woods, for example. And it's hard to predict how forests will change when you combine Sudden Oak Death with future stresses associated with climate change. As a result, if the forest changes, the wood rats that are the food source for the spotted owls, how will the wood rats change and then how will the spotted owls change. So it's a really complex web we have and without a lot of answers at this point, so that makes mitigating these treats very difficult.

James - Well, how can we find out about your work?

Marcus - Yes, all of our work is posted to our web site and that is www.science.nature.nps.gov and from there you can click on a map for San Francisco Bay Area.

James - Now, are there any ways that our listening audience may be able to help in monitoring the effects of global warming?

Marcus - It would be great to get their help, because so many of our projects are actually driven and supported by volunteers. To find out more about these you can go to www.nps.gov and then you can link to the park that you are interested in helping out at.

James - Marcus, I want to thank you for speaking with us and thank you very much for the work you're doing and all of you out there listening learn more and go out and get involved.

Marcus - Thank you very much for having me.

James - Please join our next podcast, when we will be interviewing Dr. Noah Knowles, a research hydrologist with the U.S. Geological Survey. One of Noah's areas of study is climate change and how it may affect the San Francisco Bay ecosystems. Until our next podcast this is James Osborne. Thanks for listening.

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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 and NASA.

Music from *A Walk in the Desert* by Electronic Symphonic