



NOAA FISHERIES Webinar Series

Sponsored by the

Quantitative Ecology and Socioeconomics Training (QUEST) Program

Webinar Details:

Date: Thursday, November 3, 2016

Time: 1-2pm Eastern Time

Space is limited. Reserve your seat at:

<https://goo.gl/VTwLaL>

Topic: Using Internet Search Volume to Improve Quota Monitoring for the Gulf of Mexico Red Snapper Recreational Sector

Presenter: David W. Carter
Economist
NOAA Fisheries, Southeast Fisheries Science Center



Abstract: This presentation will show how Google Internet Search Data can be used to improve recreational quota monitoring. Estimates of recreational fishing harvest are often unavailable until after a fishing season has ended, complicating efforts to stay within the quota. A simple way to monitor quota within the season is to use harvest information from the previous year. This works well when fishery conditions are stable, but is inaccurate when fishery conditions are changing. We develop regression-based models to improve our ability to monitor within-season recreational fishing harvest even when fishery conditions are changing. Our basic model accounts for seasonality, changes in the fishing season, and important events in the fishery. Our extended model uses Google Trends® data on the internet search volume relevant to the fishery of interest, in this case Gulf of Mexico red snapper.

The recreational sector in the Gulf of Mexico overharvested red snapper nearly every year from 2007 to 2013. Our results confirm that data for the previous year work well to predict within-season harvest for a year (2012) where fishery conditions are consistent with historic patterns. However, for a year (2013) of unprecedented harvest and management activity, our regression model using internet search volume for the term "red snapper season" generates within-season estimates that are 27% more accurate than the basic model without the internet search information and 29% more accurate than the prediction based on the previous year. More accurate estimates of within-season harvest will increase the likelihood that the Gulf of Mexico red snapper fishery can stay within quota. Our approach using internet search volume might have the potential to improve quota management in other fisheries where conditions change year-to-year.

Biography: David W. Carter is an economist at the NOAA Southeast Fisheries Science Center in Miami. He has spent nearly 15 years conducting research on the marine recreational fisheries from North Carolina to Texas. His estimates of the economic value of sportfish are routinely used in the analysis of recreational fishing policy. Dr. Carter has also developed models to forecast recreational fishing effort and harvest using novel indicators outside the fishery such as climate and internet search volume. He is an adjunct professor at the University of Miami Rosenstiel School of Marine and Atmospheric Science where he regularly advises graduate students and conducts lectures. Dr. Carter completed his M.S. and Ph.D. in resource economics from the University of Florida and his undergraduate studies at Stetson University.

For more information, contact:
Laura Oremland, laura.oremland@noaa.gov

Webinar System Requirements:
PC: Windows® 8, 7, Vista, XP or 2003 Server **Mac:** Mac OS® X 10.6 or newer