

# Comparing environmental chemical levels in dolphins, fish, and people: A sample of Sapelo Island residents

## Purpose

Dolphins and people eat a lot of the same seafood. Seafood can be contaminated from chemicals in the water.

Scientists at the Centers for Disease Control and Prevention (CDC) wanted to see if people who live in coastal areas are exposed to the same kinds of chemicals as dolphins that live in the same areas. We did this to see if dolphins are able to help us predict where people may be exposed.

We looked at three locations where dolphins had been examined for their exposure to chemicals in their environments: Charleston Harbor, SC; northern Biscayne Bay, FL; and Sapelo Island, GA. We compared levels of chemicals in dolphins, in people, and in the seafood they eat. We tested nine people at each location as a pilot study.



## What we did at Sapelo Island

- In October 2010, we posted notices about our study in public places on Sapelo Island. We were looking for nine people who had:
  - lived in the community for at least five years and
  - eaten at least two meals of locally-caught seafood each week.

These nine volunteers provided information, seafood and blood samples. We tested their blood samples for the types of chemicals found in the dolphins.

- We also tested for some of the same chemicals in locally-caught fish that participants regularly ate.

## What we found

- We found that the chemicals in people's bodies are similar to the ones found in the fish they eat and to the ones in the dolphins. This shows us that dolphins can be helpful in finding places where people might be exposed to chemicals.
- One type of chemical we looked at was polychlorinated biphenyls, or PCBs.
  - We compared participants' levels to levels found in people around the country.
  - The total levels of PCBs in participants were similar to national averages based on a person's age.
  - Some specific types of PCBs in the participants were higher than the national average, and some were lower than the national average. Some regional differences are expected around the country, based on which types of PCBs are in the nearby environment.
  - The total PCB levels were lower than those known to cause health problems.

### What are PCBs?

PCBs are man-made chemicals that were used as coolants and lubricants in electrical equipment before 1977. Even though they are no longer made or used, some of the chemicals still exist in the environment. There are more than 200 different types of PCBs. At very high levels, PCBs can cause health problems in animals and people.

## Should people in the area be worried about their health based on these results?

- This study was not designed to assess health outcomes. However, based on what we know from current science, these PCB levels are not as high as those known to cause health problems.
- In general, too much exposure to any chemical is not good for your health. We are learning more about chemical exposures each day.
- Because we only tested nine people, we do not know if these levels are similar to other residents on the island or in the area.

## What have we done with the results?

- We gave participants the results of their individual blood tests and information about the chemicals.
- We gave information from the study to the state health department and the U. S. Environmental Protection Agency. Those agencies can use that information to decide what to do next.
- We are continuing to analyze data from this site and the other two sites. We expect to complete this work in 2015.

## This small sample study was not designed to answer questions about the LCP Chemical site.

We selected Sapelo Island as one of the locations for our pilot studies because the dolphins that live in nearby coastal waters have been studied. It was conducted separately from the ATSDR health assessment for the LCP Chemicals Superfund site and was not designed to answer questions about the site.

### For More Information

National Oceanic and Atmospheric Administration Dolphin study:  
<http://oceanservice.noaa.gov/news/weeklynews/feb10/dolphins.html>

ATSDR Public Health Assessment for LCP Chemicals Superfund Site and Adjacent Areas:  
[http://www.atsdr.cdc.gov/HAC/pha/LCPC hemicalsSuperfundSite/LCP%20Chemicals%20Site\\_PHA\\_Final\\_04-16-2014.pdf](http://www.atsdr.cdc.gov/HAC/pha/LCPC hemicalsSuperfundSite/LCP%20Chemicals%20Site_PHA_Final_04-16-2014.pdf)

### More Questions?

Call CDC at 1-800-CDC-INFO