As chair of the House Science and Technology Committees subcommittee on Research and Education I recently led a delegation of members of Congress and staff on a trip to the Galapagos Islands. The purpose of the travel was to meet with U.S. researchers who are conducting state of the art investigations there as well as to hear from local government and park leaders to learn about the challenges facing the islands.

In the history of science there may be no more significant place on Earth than the Galapagos Islands. Their unique and diverse bird, animal and plant life were central to Darwin's development of his theory of the Origin of Species and they continue to be the focus of intense international research. Their location far from the coast, along three tectonic plates and at the intersection of multiple ocean currents creates conditions that exist nowhere else on earth and provides a remarkable natural experiment in species development, climate change, geology, and other processes. At the same time, the Islands, the species they contain and their surrounding marine environment are considered among the most endangered ecosystems on Earth.

The challenges facing the Galapagos Islands include invasive species, population growth, climate change, illegal fishing, ocean acidification and increasing pressure from tourism. The islands are also central to understanding the weather and current patterns known as "El Nino" and "La Nina", which have profound effects both within the Galapagos and on our Northwest coastal and inland regions as well. A recent and particularly severe El Nino event dramatically impacted populations of a number of endemic Galapagos species, including the Galapagos Penguin, whose numbers were reduced by more than half and is considered endangered.

U.S. scientists, including several from our own University of Washington, are at the forefront of studying the Islands. They're funded by the National Science Foundation, and the committee I chair has oversight and authorization authority. What's happening in the Galapagos isn't happening in a vacuum: it has direct relevance not only to science in general but to our region in particular. For example, "El Nino" weather and ocean current patterns significantly impact our Northwest fisheries industries and inland agriculture. While in the Galapagos we observed sediment core sampling that will give a historical record of El Nino events going back thousands of years. This record can help scientists better predict and monitor El Nino events in the future and will help us understand whether or not such events may be related to climate change. We also met with another U.W. scientist whose studies of plankton in the Galapagos are being conducted in tandem with studies of plankton off our Washington and Oregon coast and in Hood Canal and may help improve our understanding of the devastating "dead zones" that have been forming and expanding in recent years.

Meeting with Galapagos National Park officials and non-governmental organizations addressed invasive species challenges in the Galapagos include the introduction of blackberries, which those of us in the Northwest know all too well can be virtually impossible to eradicate but can rapidly take over and destroy native vegetation. Other invasives include a particularly aggressive stinging wasp, ants, feral cats, goats, pigs and other introduced creatures which are devastating the endemic plants and animal life.

Ocean acidification is an issue of growing concern which results from increasing levels of atmospheric carbon dioxide dissolving in water, lowering the PH level and thereby increasing the acidity of the oceans. This increased acidity makes calcium carbonate less available to aquatic organisms which depend on it to secrete their shells. The result is that species ranging from plankton, the base of the ocean food chain, to shell fish and coral may soon become unable to produce the shells and structures necessary for their survival. Recent studies by the National Oceanic and Atmospheric Administration revealed surprising and troublingly high levels of acidity off our own Northwest coast.

Along with these environmental impacts, The Galapagos National Park must also deal with the delicate and difficult task of preserving a unique ecosystem while at the same time trying to meet the needs and demands of a growing local population and tourism industry. Representatives from our U.S. National Park service have provided important assistance in helping develop management strategies, such as concession allocations, to help meet these challenges.

In the Congress, and in particular in my role on the Science Committee, I have long been concerned about and have taken the lead in addressing each of the matters we encountered in the Galapagos. I have coauthored legislation to prevent and eradicate invasive species, introduced important amendments to expand our understanding of harmful algal blooms and dead zones, and have cosponsored and voted for initiatives to study and reduce the impacts of climate change. Most recently, I coauthored legislation that just a week ago passed out of our subcommittee on Energy and the Environment to establish a comprehensive and integrated approach to investigating the causes, impacts and possible remedies for ocean acidification. In addition, stemming from longstanding interest in our National Parks, I founded the Congressional National Parks caucus to promote and support national parks within our own nation and internationally.

As it happens, many of these issues have also been receiving particular attention in both the popular media and in some of the world's leading scientific journals. In just the past month, for example, U.S. News and World Report included the Galapagos Islands among their cover story's most endangered places on earth. Science, the publication of the American Association for the Advancement of Science, just published articles describing the impact of climate change on equatorial species, such as those in Ecuador and the Galapagos, and lamenting the relative disregard of ocean impacts, such as acidification, in research and reports by the International Panel on Climate Change. I had raised precisely this issue myself in hearings just two weeks prior to our travel to the Galapagos and prior to the article's publication in Science. Other recent reports in Science have included the previously mentioned study of acidification off our own Northwest coast and investigations of the negative combination of temperature increases and increased acidity on coral survival worldwide. The impact of invasive species on marine ecosystems has also be the subject of recent reports and there has been a growing international outcry over the impacts of "shark fining", which is one of the most destructive and common forms of illegal fishing taking place in the Galapagos.

Clearly, important research is happening in the Galapagos and that research is relevant to both the work of our House Science Committee and to Southwest Washington in particular. But why go there in person and why go there now?

Next year will mark the 50th anniversary of the creation of the Galapagos National Park, the 150th anniversary of the publication of Darwin's "Origin of the Species", and the 200th anniversary of Darwin's birth. This concurrence of anniversaries will focus extraordinary international attention on the Islands. Considering the importance of the islands and the research being conducted there by U.S. Scientists, it is important that we are prepared to be active participants in the events surrounding these anniversaries. We also must seize upon this opportunity to help impact some of the most important challenges facing the islands. In order to prepare for this participation in the coming year, it is essential to begin our efforts now as Congress and government agencies are looking ahead to next year's appropriations, research and aid priorities.

By visiting the islands personally we were able to spend many hours meeting with scientists, park officials, government leaders and members of non-governmental organizations. This face to face interaction combined with the chance to directly observe the research being conducted and the challenges facing the park gave our delegation invaluable insights that we would not otherwise have had. It also provided extensive time to discuss current activities and future needs in ways and detail that would not otherwise have been possible.

One example of this occurred while spending an entire day with one of the Park directors. During this time we had many hours to explore the issues facing the park, one of which was how to address the illegal fishing within the vast expanse of the Galapagos Marine Reserve. From this discussion we learned not only of the threat of illegal fishing but also that common aid approaches, such as providing aircraft or patrol boats are often ineffective because the costs of maintaining, fueling, berthing and crewing these airplanes and vessels is prohibitively expensive. As a result, they often sit in dock or hangers without being used.

A possible alternative, which occurred to me while traveling with the Park director on one of their existing patrol boats, would be to use unmanned aerial vehicles instead of traditional planes or vessels. I am aware of these vehicles in part because one of the world leaders in the industry, InSitu Corporation, is located in Bingen Washington. Having visited the InSitu and seen their aircraft, I know that they are uniquely able to be launched from and retrieved by vessels at sea, which I realized would be well suited for the very patrol boat we were on at the time of our discussion in the Galapagos.

Both the Galapagos Park officials and U.S. personnel expressed keen interest in this idea, which apparently had not been raised before; we are now exploring its feasibility with representatives of InSitu. Had I not been there in person I would not have known of the need nor would the thought of using a UAV for this purpose. This application has the potential to provide a model for similar uses not only in the Galapagos but in other marine and ecological reserves.

As someone who has spent a great deal of time and effort working to restore fiscal responsibility, I am keenly aware of the state of our federal budget. At the same time, I also know that our nation is the world leader in scientific research and it is important for us to remain so and to ensure that our research and aid dollars are being used wisely and effectively. That is one of the responsibilities of the subcommittee which I chair. Certainly much can be learned and accomplished by reading about issues and through Congressional hearings, but there are also times when there is no substitute for personal observation. The chance to interact with people on the ground, in real time, real life and real settings is invaluable.

By going in person our delegation gained insights and established the basis for lasting relationships and cooperation that we could not otherwise have achieved. We also returned with concrete strategies for improving both our aid and scientific efforts to make them more economical and effective not only in the Galapagos but in other comparable areas around the world.