



Key Biscayne's Citizen Scientist Project

NEWSLETTER

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Editorial

The Citizen Scientist Project (CSP) of the Key Biscayne Community Foundation (KBCF) has as its primary objective maintaining the natural resources of the Island Paradise. These resources include, but are not limited to, the Key's beaches, coral reefs, green spaces, mangroves, pathways and water ways. The CSP is sponsored by grants from the Knight Foundation, the KBCF, the Village of Key Biscayne and the Rosenstiel School of Marine and Atmospheric Science (RSMAS) of the University of Miami. The project also has additional partners which contribute to meeting CSP objectives. A list of these partners is available on the keyscience.org web site.

As a means of informing Key residents of the activities of the CSP we are initiating this Newsletter to be published three times per year. The Newsletter will include information about our Sponsors and Partners; part, present and future CPS events with particular attention given to activities with volunteer

opportunities. We look forward to comments from our readers for additional Newsletter content. In this first edition, brief descriptions of our sponsors and their role in the CSP are given and events since the project launch described.

— SPONSORS OF THE CITIZEN SCIENTIST PROJECT —

1) The Knight Foundation provides financial support for community information and engagement projects. Responding to the Knight Community Information Challenge, the Key Biscayne Community Foundation (Mrs. Melissa McCaughan White) and scientists from RSMAS (Drs. A. Baker and D. Lirman) prepared a proposal primarily to provide Key Biscayne residents with information about the natural resources of the Island. The project was approved and the KBCF was awarded a 2-year grant (June 2012-July 2014) to conduct the CSP.



2) The Key Biscayne Community Foundation (KBCF) is a non-governmental, not-for-profit organization. The KBCF is coordinating the CSP to assist with the preservation of the natural resources of Key Biscayne by developing an informed and engaged community. The program will work with a group of 'Citizen Scientists' to address the various challenges to the maintenance of the environmental riches of the Island Paradise.



3) The Village of Key Biscayne has provided financial support to the CSP. This support recognizes the common goals of the CSP and the Key's 2020 Vision. Both activities are directed at maintaining the natural resources of the Island.



4) The Rosenstiel School of Marine and Atmospheric Science of the University of Miami and the Village of Key Biscayne have formed a partnership to characterize the natural land and marine resources of the Island. RSMAS personnel (Drs. A. Baker, D. Lirman, and L. Krinsky, L. Bracken, A. Burchfield and A. Conner) have provided critical resources developing and then implementing CSPs.

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Interacting with Partners

A major component of the CSP is to serve as an Information Service and to provide through lectures, workshops and field trips information on the natural resources of the Key. When available, the power-point presentations from the lectures will be placed on the CSP website keyscience.org. Summaries of the CSP events of the past several months are now given.

a) During the reporting period of this issue, meetings were held with Theodore Holloway, Council Member of the Key Biscayne Village Council; Theodora Long, Executive Director of the Marjorie Stoneham Douglas Biscayne Nature Center; David Foster, Park Manager, Bill Baggs, Cape Florida State Park; the Principals Coalition of Key Biscayne schools and several other individuals and groups to discuss potential future joint activities.

b) **Friday, March 15 2013:** The launching of the KBCF and RSMAS partnership to conduct the CSP was conducted at the Key Biscayne Village Hall. Posters provided the CSP Mission and Vision.

The Mission is:

“Using Citizen and Professional Scientists develop and continuously update the Project’s web site to provide the information needed to engage and inform Citizens in order to maintain the most critical nature resources of Key Biscayne and Virginia Key.”

The Vision is:

“A future Key Biscayne characterized by the same bounty and quality of natural resources that exist today, thus maintaining the title of Island Paradise.”

Mrs. Melissa White, Executive Director of the KBCF, welcomed the audience on behalf of the KBCF and provided background on the CSP. Village Mayor, Franklin Caplin and RSMAS Dean, Dr. Roni Avisar provided the rationale for the participation of their organizations in the CSP. Specifically, combining the resources of the two groups will significantly increase the potential for achieving the Mission and Vision of the CSP. The Lead Scientists working towards achieving the CSP goals were introduced and include:

Dr. Andrew C. Baker, RSMAS. Andrew is an Associate Professor at the University of Miami’s RSMAS. He is a marine biologist interested in the biology, ecology and conservation of coral reefs, with a focus on the impacts of climate change on these ecosystems. Much of his research studies corals from the perspective of their algal symbionts (zooxanthellae in the genus *Symbiodinium*). Additional interests include population genetics and ecological physiology of coral reef organisms (including coral bleaching), marine conservation biology, and fostering better communication of science to public and policy audiences.

Dr. Diego Lirman, RSMAS. Diego is an Associate Professor at RSMAS. His research emphasis is on the disturbance ecology of coastal ecosystems. Over the past 10 years he has worked on diverse projects to: 1) evaluate the health of seagrasses, macroalgae and coral reef communities, 2) estimate the impacts of multiple human and natural stressors on these susceptible natural resources, and 3) predict the potential impacts of future disturbances on these systems. His research has included a combination of extensive field monitoring, laboratory experiments, and simulation modeling framed within an ecological risk assessment protocol to document present-day condition of biological endpoints, susceptibility to stressors, and forecast future status based on simulated disturbance scenarios.

Dr. Robert Molinari, retired. Bob recently retired as the Director of the International CLIVAR (Variability and Predictability of the Ocean-atmosphere System) Project, headquartered in England. The CLIVAR Project is one of the four core projects of the World Climate Research Program. Prior to leading the CLIVAR Project Bob had a 36 year career in the various capacities including, Supervisory Oceanographer, Senior Scientist and Director of the Physical Oceanography Division of NOAA’s Atlantic Oceanographic and Meteorological Laboratory. His research included the western boundary currents of the Atlantic and Indian Oceans, air-sea interaction studies, observing system development, and graduate and post-graduate mentoring.

a) **Saturday, April 7 2013**, Youth Fishing Clinic. Summary provided by Ms Audra Burchfield, RSMAS



On April 7, 2013 we hosted a Youth Fishing Clinic at Bill Baggs State Park. The purpose of the clinic was to teach the children of the Key how to be ethical anglers by teaching them the current rules and regulations of recreational fishing, local species identifications, how to tie fishing knots, how to put a fishing pole together, and how to cast. The day wrapped up with the kids getting to fish from the seawall near the Cape Florida Lighthouse.

We had 17 volunteers helping from several organizations outside of the Key Biscayne Community Foundation. One hundred kids registered at the preregistration site prior to April 7th.

The day of the Youth Fishing Clinic 60 of those children that were preregistered participated and an additional 20 children registered as walk ups. We also had 40 parents participating.

A survey completed by the participants and their parents at the end of the day gave us a 92% customer satisfaction. The confidence the children had in their ability to cast and tie knots increased by 39%. The confidence the children had in how to properly handle and release a fish increased by 33%. Unfortunately only three fish were caught but the children were still able to learn a great deal of information that they will continue to use. Of those participating, 97% felt that this program gave them a better understanding and appreciation of the marine environment and 77% will fish more often after this clinic.

The purpose of this clinic was reached. We wanted to let the residents and visitors of Key Biscayne know about the Citizen Scientist Project and let them know about the environment around them. The Citizen Scientist Project will be teaching the same group of people about conservation and how to be a scientist in an informal classroom by monitoring local environments. We hope that the participants of the Youth Fishing Clinic will continue to help and be Citizen Scientists.

Due to the interest at this time we are considering a second clinic in the fall of this year. Details will be released later in the summer. We also have a special thanks to give to all of our volunteers and co-sponsors; The Key Biscayne Community Foundation, UF IFAS Extension, Rosenstiel School of Marine and Atmospheric Science, Florida Park Service - Bill Baggs State Park, and deRoode Orthodontics for providing lunch and water.

b) **Saturday, May 11, 2013**: Park Ranger Melissa Miano conducted a tour of the Restored Wetlands of Bill Baggs State Park.



The Restorations applied to the Wetlands to return them to pre-1950s conditions were described. Benefits

resulting from the Restoration included but were not limited to available seafood, clean water and a stable shoreline. Because of several factors attendance was low and the CSP learned some lessons about advertising similar events in the future.

Lectures

a) **April 11, 2013:** A two-part lecture was given. Bob Molinari described the Mission, Vision and Methods of the CSP. Dr. Manoj Shivlanim provided preliminary results of the Survey of Key residents taken by the CSP to identify among several objectives, including which of the Island resources were considered most valuable to the residents. This information will provide the initial foci of the CSP. A final report of the Survey results is presently being prepared and will be widely distributed when completed to allow residents the opportunity to comment on these initial CSP objectives. The presentations are given on the CSP website.

b) **April 18, 2013:** Drs. Chris Sinigalliano and Maribeth Gidley of NOAA's Atlantic Oceanographic and Meteorological Laboratory (AOML) presented a lecture on methods used to determine water quality of water bodies such as Biscayne Bay and the results of application of these methods on Hobie Beach, Virginia Key. Although pollution was found on the Beach primarily in the sand and sea grass on the Beach, proper sanitary measures such as showering after using the area greatly reducing potential harmful effects.

c) **April 25, 2013:** Dr. Peter Harlem of Florida International University gave a presentation of the changing land surface of the Key from the 1920's when the Key was primarily a coconut plantation to the present. He also presented numerical model results which showed how sea level rise associated with climate change would affect the Key over the coming decades. This presentation was arranged by Mrs. Theodora Long.

d) **May 16, 2013:** Dr. Sim Aberson of NOAA's AOML gave a presentation on hurricanes. The talk gave the environmental conditions necessary for the formation and intensification of tropical storms into hurricanes. The difficulty of forecasting exactly where a hurricane is likely to make landfall was also described. The small change in the South Florida landfall of hurricane Andrew was given as an example of the uncertainties in forecasting hurricane location just prior to coming ashore. The presentation is given on the CSP website.

Articles to Appear in Future Issues

- a) Survey results
- b) Future lectures, workshops and field trips
- c) Introduction of the Citizen Scientist Laboratory
- d) Volunteer opportunities

Contacting the Citizen Scientist Project

The KB CSP welcomes your input and strives to maintain open and clear lines of communication with Key Biscayne residents, visitors and anyone interested in becoming a Citizen Scientist. Please use any of the following contact information to get in touch with us.

ADDRESS:

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