

CSULB Environmental Science & Policy

2010 Newsletter

Upcoming Dates

- * March 31st: Cesar Chavez Holiday (campus closed)
- * May 15th: Last Day of Classes
- * May 18-23: Finals
- * May 25: Memorial Day (campus closed)
- * May 27th: ES&P Graduation Ceremony at 1:00 PM

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A Letter from New ES&P Chair, Dr. Paul Laris

Welcome back to the Beach!

I am delighted to have the opportunity to serve as director of the Environmental Science and Policy Program at CSULB. This September I took over for the program's two founders, Darwin Hall and Stan Finney, both of whom have poured their energy into designing and then directing an exciting and truly interdisciplinary environmental program at the Beach.

As the new ES&P program director, my immediate goals are to work to assure that ES&P students can get the courses and advising they need to graduate during a difficult time. It is tough for any program or department to function given the kind of financial "punch" we have taken from the state of California, but even more of a challenge for a dynamic but small interdisciplinary program like ours that depends on other departments for course offerings. As students, you have already felt the impact, as our courses have been cut and the ones you have been lucky enough to enroll in are full if not overflowing.

As an advisor of undergraduate students for the last 6 years, I have experience in helping students find ways to complete their degrees and graduate. I am committed to working with you to help you get your diploma in a timely fashion. To let me help you, you will need to come and visit me—the sooner the better—so that we can make a plan for graduation that works for you.

Now for the good news! Our program is healthy, our major numbers continue to rise, and we have a vibrant and active student group (be sure to check out a meeting or two, they have a great speaker series planned!). Our graduates continue to find interesting jobs and our



students are landing great internships— something I hope to see increase. We also have a dedicated group of affiliated faculty, who despite having their own "home" departments and dealing with ongoing furloughs, have committed to giving their time, resources, and support to our pursuit of creating the very best department possible.

I look forward to working for (and with) all of you this year.

—P.L.

Former Co-Directors Stan Finney & Darwin Hall Bid Farewell to ES&P

This year, I step down as co-director and advisor of the Environmental Science & Policy degree program and turn the leadership over to Dr. Paul Laris of Geography. It is time for new leadership, and I am confident that Dr. Laris with his extensive background in environmental sciences will take the program through the current budgetary crisis and develop it to a higher level. In 1996, I recruited a team of faculty from several departments to develop the ES&P degrees. It was a long process with many hurdles, but, in the end, through the determination of Dr. Darwin Hall (co-director) and myself, we succeeded in securing approval for the BS and BA degree programs in the Spring 2002, and by the following year we team taught ES&P 200 for the first time. The degree program grew quickly, attaining more than 100 majors within four years. Although I have not taught ES&P courses for three



years, I managed the program, served as academic advisor and as faculty advisor of the ES&P club for the past two years. I take special pride in the numbers of majors who have graduated and begun professional careers and in the visibility and respect that the program has at CSULB and in the greater community. I have chosen this time in my life to step aside from administrative duties at CSULB (also stepping down as Chair of Geological Sciences) and to focus on my own scholarship, teaching, and professional activities. I leave ES&P with a great sense of satisfaction for having conceived of, developed, and promoted a most successful ES&P program, with wonderful memories of my interactions with ES&P students, and with appreciation of the tremendous help I received from the many other faculty involved in, and supportive of, the ES&P program.

— Stan Finney

Transitions. Life is full of transitions. Leaving the position of Co-Director of Environmental Science and Policy, I take with me wonderful memories and the pleasure of being part of the creation of the Program and building it into what it has become.

In the spring of 1996, the deans of the College of Liberal Arts and the College of Natural Sciences and Mathematics formed a committee headed by my colleague, Stan Finney, to explore the creation of the program. In the fall of that year, the dean of Liberal Arts invited me to join the committee. The approval process took 7 years, and in spring of 2004 we offered the first class, ES&P 200. As I depart, the program now has 128 majors and 22 minors, and the alumni are employed in a broad array of positions that span medical school to field biology to environmental management and economics.

Though no longer Co-Director, I continue to teach ES&P 200. Faculty and students in the program continue to impact the policies of the cities of Long Beach and Seal Beach as well as regional and state agencies that will determine the future of Los Cerritos Wetlands near the campus and straddling the San Gabriel River, a wonderful legacy. Go Beach!

— Darwin Hall



Spotlight: Tracey Egoscue, New ES&P Faculty Member

For the past year, the Environmental Science and Policy department has been lucky enough to host Tracey Egoscue as our Environmental Law and Policy lecturer (ESP 300i).

Professor Egoscue serves as the Executive Officer of the Los Angeles Regional Water Quality Control Board, and brings us a wealth of information and experience in the application of law and policy making in environmental issues at both state and federal levels. She recently agreed to speak about her experiences as an environmental attorney, her decision to teach at CSULB, and her pursuit to bring lessons from the environmental field into the classroom.

Q: Can you explain a little about your “day job,” and what the focus of your work is there?

A: I am the Executive Officer of the Los Angeles Regional Water Quality Control Board. I oversee a staff of 150 with an annual budget of 21 million. The Board is responsible for protecting and ensuring water quality in both surface and groundwater throughout Los Angeles and Ventura Counties.

Q: Why did you decide to teach?

A: I have wanted to be a teacher since college. I hope to inspire our future through the next generation. We have many challenges ahead of us, and it will be up to the smart and capable students of CSULB (Go Beach!) to lead the way and find solutions to what plagues our environment. I also enjoy the job.

Q: What are the most important environmental issues in California that you try to convey to ESP students?

A: Polluted air and water. Our survival depends on our ability to keep them both clean.

Q: Through your work with the state, you have some very interesting environmental contacts, some of which you have brought to ESP 300i as guest speakers. Can you tell us a little about this?

A: Last semester I was able to bring in the head of storm water programs for Los Angeles County, Mark Pestrella. This semester we have enjoyed the City Manager of Signal Hill, Ken Farfsing, and both Leslie and Terry Tamminen joined us recently. Mr. Farfsing spoke about clean air and CEQA issues, while Leslie discussed her fight against Marine Debris. Terry has worn many hats and is the former Secretary of California Environmental Protection Agency under the Governor. He spoke about his amazing work on climate change. One of the benefits of my contacts is the ability to bring the "real world" into the classroom.



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ES&P Alumni Nicole Chatterson's Amazing Summer Pacific Adventure

Shortly after graduating in May of 2009, ES&P Alumni Nicole Chatterson took part in a research expedition to the much publicized "Pacific Garbage Patch." The seven week expedition launched from Southern California and led first to Hawaii and later to the study site of the North Pacific Gyre. We caught up with her recently to get the details of her trip. Here is what she had to say—

Q: Can you tell us a little about what you did this summer? Where you went, and the primary focus of the trip?

A: This summer I was part of a 6 person oceanic research team and sailing crew aboard the Research Vessel *Alguita* of the Algalita Marine Research Foundation (AMRF). We spent 7 weeks at sea and logged over 7,000 miles looking at the mass of plastic accumulation in the North Pacific Gyre, commonly known as the "Pacific Garbage Patch." The expedition started from Alamitos Bay in Long Beach and extended to the island of Oahu in Hawai'i. After resupplying in Hawai'i we headed north along the International Dateline (180 east and west longitude) until we hit the Bering Sea at about 41 north and then we headed back down to Oahu. Using surface and subsurface trawls, we collected roughly 50 water samples, all of which displayed plastic fragments. We also collected and logged the larger debris items (water bottles, shoes, buoys, nets, plastic

wrappers, even light bulbs) which we brought on board using long hand nets. We estimated that we collected nearly 1/3 of a ton of debris, and that was barely skimming the surface of the amount of debris we actually encountered.

Q: Can you give us a feel for the Pacific Garbage Patch as an area? Its size or visual feel?

A: The size of the "Pacific Garbage Patch" is difficult to define. AMRF has been research this issue for the past 10 years, and each voyage in which new areas of the Pacific are sampled reveal the presence of plastic. This summer we sampled the farthest west and the farthest north we have ever sampled, and confirmed that the plastic pollution exists to at least those boundaries. Some of the debris is subsurface, some of it is right on

the surface, and some of it sinks and gets deposited in the benthos of the ocean.

I began doing timed trials in which I would count the amount of debris which flowed by the boat—the record was 10.5 pieces per minute (and mind you this is just the stuff on the surface). Ocean currents are complex, and move the debris in different patterns throughout the gyre. In a matter of minutes we would pass through a very dense debris zone, to a more sparse zone, and back into a thick zone again— but no matter where we sampled we always found plastic. It seems that the debris accumulates the most along the same lines as plankton does, we found high concentrations of plastics among

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ES&P Alumni Nicole Chatterson's Amazing Summer Pacific Adventure

plankton blooms, which is bad news as plankton blooms attract marine organisms which will likely ingest the plastic mixed with the plankton. It is important to keep in mind however that this is still a fairly new area of research and it is very difficult to make any conclusive statements about the mechanisms and amount of debris in the gyre.

Q: What does it consist of?

A: The "Garbage Patch," which is more akin to a plastic soup than a patch, is made up of consumer waste. There is a range of full size trash, to debris, to the fragmented aftermath of a plastic containers and plastics broken into small fragments (bite size pieces for many marine animals).

Q: Are there any misconceptions about it?

A: The media started to spread the terms "trash island" and "garbage patch," which give a sense of solid mass. The area is not a solid mass, but more like a soup with varying sizes and densities of plastic.

Q: What is the best course of action in correcting the problem?

A: Roughly 80% of the debris in the North Pacific Gyre can be attributed to outfall from land. Therefore the most effective way to stop this problem is to change our behaviors as both a society and as individuals. We must stop the flow of trash into the ocean. If we stop using "disposable plastics," like plastic shopping bags and plastic beverage containers, we will greatly curb the influx of persistent materials into the ocean.



Once the plastics reach the vortex of currents in the gyre, it is extremely difficult to remove them. For one, the materials are mobile in both a vertical and a horizontal sense. Furthermore, they photo degrade and embitter, becoming progressively smaller pieces of plastic, much of which is the same size as zooplankton (the base of the marine food chain). If we try to filter out these plastic particles, we will be filtering out the organisms that sustain ocean life.

Q: Finally, is there a plan underway to return to the site? If so, what would be the focus of the return trip?

A: As far as I know an AMRF trip back out to the site is a few years off. The research vessel is scheduled to be dry docked for repairs and renovations. However, there are several other organizations that are beginning to research plastic pollution in the ocean, both in the North Pacific Gyre and elsewhere.

Shortly after the research trip I participated in this summer, there were two other organizations, one of which was from Scripps Institute of Oceanography at UC San Diego, which launched research expeditions into the Pacific. Starting in February of 2010, a group called Pangaea Explorations will launch a research expeditions throughout the Atlantic to begin collection data on plastic accumulation in that region.

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ES&P Club Meeting Schedule

Feb 9th: 1st ESP Club Meeting of Spring Semester (USU-305, 12:30-1:30).

Feb 16th: Speaker Event: Dr. Paul Laris (USU-305, 12:30-1:30).

Feb 20th: Saturday Event: Hike, Meet at Lot 14 @ 9AM, leave at 9:30

Feb 27th: Saturday Event: Adopt a Beach, Meet at Belmont Pier @ 10AM (meet on campus in lot 14 @ 9:30 to carpool)

Please drop by any ESP Club meeting or event for information on March events and beyond!

ES&P Congratulates Upcoming Class of 2010

The Environmental Science and Policy Department would like to extend a warm congratulations to the graduating class of 2010! Graduation festivities will be held on May 27th, at IPM.

Arkininstall, Leonard (B.A.)
Beimer, Rae Marie (B.S.)
Chen, Tiffany (B.S.)
Creer, Kenya (B.A.)
Delgado, Antonio (B.S.)
Erkebaeva, Katya (B.S.)
Gatbonton, Geralyn (B.S.)
Hiebert, Erika (B.A.)
Hiebert, Franz (B.A.)
Ho, jecelyn (B.S.)
Hogan Andrew (B.A.)
Leech, Geoffrey (B.A.)
Mercado, Mari-Louie (B.S.)
Montoya, Henry (B.S.)
Nguyen, Linda (B.A.)
Post, Kirk (B.A.)
Ramirez, Sergio (B.A.)
Ruiz, Lizzette (B.S.)
Tayama, Kodai (B.A.)
White, Jessie (B.S.)

