



COASTAL FUND MINUTES

Associated Students

Tuesday, 10/29/19, Nati Conference Room

CALL TO ORDER: 6:02 minutes recorded by Carissa

A. ATTENDANCE

Name	Note: absent (excused/not excused) arrived late (time) departed early (time)	Name	Note: absent (excused/not excused) arrived late (time) departed early (time)
Jeremy Francoeur Chair	present	Anushna Patel Outreach Coordinator	present
Kate Mcleod Co-Chair	present	Katherine Fukada Outreach Coordinator	present
Cyrus Kayhan Undergraduate Rep	present	Sarah Siedschlag Advisor	absent/ excused
Karen Thornton Undergraduate Rep	present	Carissa Stewart Administrative Assist	present
Mike Martin Undergraduate Rep	present	Kevin Sway Senate Liaison	absent
Phoebe Racine Graduate Student Rep	present	Emma Swanson Senate Liaison	present
Laura Ingulsrud Graduate Student Rep	present		

B. COMMITTEE BUSINESS

1. Approval of Attendance and Proxies

MOTION/SECOND: Jeremy/Kate

Motion language: Motion to approve attendance and proxies.

ACTION: Consent

Additional approval required: YES (Senate)

2. Approval of Minutes

MOTION/SECOND: Jeremy/Cyrus

Motion language: Motion to approve minutes from last week

ACTION: Consent

Additional approval required: YES (Senate)

C. PUBLIC FORUM

(Announcements, appreciations, concerns, requests to have items added to agenda)

Happy Halloween!

D. REPORTS

- 1. Advisor Report: Siedschlag**
 - i. Absent**
- 2. Chair Report: Francoeur**
 - i. Two applications for undergrad representative position**
- 3. Vice Chair Report: McLeod**
 - i. Probably will not do coastal fund next quarter**
- 4. Senate Report: Sway and Swanson**
 - i. No report**
- 5. Administrative Report: Stewart**
 - i. No presentation on decision meeting**
- 6. Coastal Service Program Report: Stewart**
 - i. Complaint about Your Children's Trees from group who worked with them on October 26th, 2019**
- 7. Outreach and Education Report: Patel and Fukada**
 - i. Two site visits decided November 8th and November 15th**
 - ii. One with CCBER**
 - iii. Please send photos to outreach**
 - iv. EDC wants us to sign a petition for Goleta city council**

MOTION/SECOND: Jeremy/Cyrus

Motion language: Motion to sign on as advocates for EDC order

ACTION: Consent

Additional approval required: YES (Senate)

MOTION/SECOND: Jeremy/Kate

Motion language: Motion to approve ten dollars for outreach for Digiknow

ACTION: Consent

Additional approval required: YES (Senate)

- 8. Sub-Committee Reports**
 - i. NRS scholarships**
 - 1. No report**
 - ii. Long-term funding application**

1. Possibly Money would be sent once a year but would still need to present every year
 2. Thinking instead to have a long-term funding chairperson, or admin, that renews yearly/quarter allocation form, would read through it and report to make sure all is good
 3. Would need to present every three years
 4. Board members review but good for one person to keep track
 5. Around 8ish presentations that would be on this list, but could start this winter
 6. But not all 8 would come every three years
 7. Would probably need a cap on long-term funding groups
 8. Might not need to change our by-laws
 9. Approve a certain amount for a three-year period
 - a. Should we allow these same organizations to do a side project and present, or should we have them work it out with the money they are given
 - b. Jeremy thinks they should present besides the long-term funding
 10. Encourage new projects if they want but as minor grants
 - a. Could we maybe create a long-term grant
 11. Laura- relevant to pre-screening
 12. Pre-screening and long term funding plan to meet up
 13. Could have a short time-line update and budget
 14. Could work out kinks next year, but have to have specific language
- iii. Pre-screening process for applications
1. still trying to figure out what makes sense-need more brainstorming
 2. Think recurring groups need a less timely process
 3. look at other groups and see if they have a different way of doing it
 4. Could be a pre-screen people for no but is risky
 - a. might convince people to add more

E. AGENDA

1. Approval of Agenda/Additions to Agenda

MOTION/SECOND: Jeremy/Cyrus

Motion language: motion to approve agenda and additions to agenda

ACTION:Consent

Additional approval required: YES (Senate)

F. OLD BUSINESS

1. 19-02 is wanting funding for three years
 - a. Kate is worried because he hasn't talked to the Los Padres Forest Service
 - b. Jeremy is concerned about why they restore the fuel break if they just are going to mow it down
 - c. Still better than invasive at protecting from fires

G. NEW BUSINESS

1. Reallocation request for FALL 18-12 (Surveys of the Leopard Shark aggregation of Coal Oil Point)

MOTION/SECOND: Kate/Karen

Motion language: Motion to Approve Request to reallocate funds for 18-12

ACTION: Consent

Additional approval required: YES (Senate)

2. Extension request for FALL 18-02 (UCSB Ocean Portal)

MOTION/SECOND: Jeremy/Cyrus

Motion language: Motion to approve extension request for FALL 18-02

ACTION: Consent

Additional approval required: YES (Senate)

H. DISCUSSION

I. PROJECT REVIEW

Project Title: FALL 19-14 : Inventory of the Seaweeds of Santa Rosa Island, Santa Barbara County, California

Sponsoring Organization: CCBER

Presenter Name: Gregory A. Wahlert

Summary:

The funding request for this project proposal can be divided into four categories: 1) funds to pay stipends for six undergraduate student curator internships at CCBER over the course of an academic year; interns will be trained and work under the supervision of PI Wahlert to curate and manage the seaweed herbarium at UCSB; 2) funds to provide transportation and accommodations for a seaweed specialist (Dr. Kathy Ann Miller) to join the field expeditions, to train the graduate student divers in collecting techniques, and to provide expert identification of seaweeds collected in the field and those specimens currently housed in CCBER's herbarium; 3) boat rental from UCSB's Marine Operations, including fees for the captain and SCUBA tank recharge for UCSB graduate student volunteer divers; and 4) equipment for the field collecting trip and for mounting the collected seaweed specimens that will be deposited in the UCSB herbarium (two plant presses and ventilators to dry the specimens).

Presentation Notes

- Cyrus will recuse himself because he works for CBBR
- Works at CBBR
- Basically a Natural history museum
- UCSB Herbarium, have 15,000 specimens of seaweed
- Herbarium is repository of dried plants and other specimen
- Have been learning about seaweed to help urate seaweed in herbarium

- Over last two years, reorganized seaweed collection
- Well curated specimens have a lot of data and can keep irreplaceable specimen
- Limitless amount of scientific research you can do with specimen
- Can sequence dna of seaweed or other technological and scientific experiences
- The herbarium documents different kinds of specimen and he wants to know what kind of seaweed is in the intertidal zones at santa rosa island
- Is no publication of intertidal seaweed for santa rosa
- Proof that seaweed grows there at a specific time
- Diving in and collecting species can tell how the circumstances are changing for the water and for the ecology of the seaweed
- Can look for presence of invasive species, part of the project is to see what's growing and to record it
- Getting a seaweed specialist, Kathy Ann to work on the project as well, will provide identity of seaweed, she's coming with on all three planned dives
- 3 diving trips on UCSB marine science vessel
- Will take place during summer and autumn months for best seaweed conditions
- Each trip will last 2 days for a total of 6 days
- Will try to go to various sites around the island
- Will recruit three UCSB grad student divers, would be instructed by Kristoff
- Would be excellent experience for grad students
- He and kathy ann will be on the boat and press the seaweed and identify types
- 3-9 grad students to dive
- Herbarium portion would like 2 paid ucsb interns to help curate specimen
- Will digitize the specimen into a database
- Working with the paid interns in the herbarium, usually 6-10 students usually are interested in internships from all across major board
- Curation experience

Board Questions

- Kate- What was the problem with last years project and do you see that happening again?
 - Spent months planning the exhibition, but someone tried to commit suicide so the police kicked him and everyone else out and they didn't get to do it-three day identification project
- Kate-How do workshops tie into this project
 - Kathy Ann would run a workshop before or after exhibition
- Karen-Why would you limit to grad student
 - He didn't think that undergrads would want to
- Jeremy-Would you pay the divers?
 - It would be a volunteer position, but he supposes he could give them credit or give them food etc
 - Rental costs includes re-filling tanks
- Karen-Why did you pick santa rosa island?

- Kathy Ann thought it would be a good island
- Do you know if that specific invasive species is around Santa Rosa
 - Not for sure, kathy would know more but no one really knows what been growing out there, its undercollected
- Are you working with national park intertidal guys-Phoebe
 - No, but when they apply they are connected when getting a permit
 - They would get all of the data
 - Kathy and him are looking at it from a biodiversity perspective
- Is there a reason CBBR hasn't done a project like this since the last one 30 years ago- Jeremy
 - His position is somewhat new and he has more flexibility to work on projects like this
- Where is herbarium-Karen
 - Right under harder stadium
 - We can do field trips there
- Are they going to quantify biodiversity?
 - Trying to collect as many different specimens as possible
 - More qualitative and once they have a list of species they want to compare it to santa cruz island
- How closely would you be working for the interns-Jeremy
 - Will work closely with them, will train extensively
 - Interns in herbarium will not be doing research it is curative work
 - Eventually at the end, they will be doing all of the curation work
- Is the invasive species around santa barbara reefs?-Phoebe
 - First discovered by long beach and in one decade it spread to anacapa
 - Seen areas completely wrecked by invasive species and climate change

Board Discussion

- Cool if intern was here but like the collaboration
- Think it is powerful if undergrad comes in

MOTION/SECOND: Kate/Karen

Motion language: Move to table FALL 19-14

ACTION: Consent

Additional approval required: YES (Senate)

Project Title: FALL 19-04 : Internships and additional funding support for conservation, education, and restoration programs for winter and spring 2020
 Sponsoring Organization: Coal Oil Point Reserve
 Presenter Name: Jessica Nielsen

Summary:

Coal Oil Point Reserve (COPR) requests funds to provide UCSB students with paid internships for winter and spring quarters of 2020. UCSB student interns and assistants will participate in the Snowy Plover Docent Program, land stewardship (restoration,

maintenance, resource management), water quality monitoring, and the study of climate change effects on the reserve. The internships at the reserve will provide UCSB students with opportunities to acquire field experience to enhance their professional development while helping the reserve with crucial conservation and education programs.

Presentation Notes

- Jeremy will recuse himself from discussion because he is interested in position
- Coordinates tours
- Asking for internships with Snowy Plover Docent program
- Protect western snowy plover birds
- Beach became open to the public, for 30 years the birds stopped breeding until program started in 2001
- Try to have docent on duty every day sunrise to sunset all year
- Habitat restoration program-asking for interns to help with restoration projects, usually habitat but some other maintenance projects
- Water quality Monitoring Project- students monitor health of devereux slough every week
- Student to do climate change project
- Do not have projections for climate change and affect on Snowy Plover
- Will they have other habitats
- Student wanted to go above and beyond and figure out how she could help
- Has a really good advisor who is a professor and has expertise
- Money for supplies, advertisements, tours, nature centers and snacks

Board Questions

- Were you going to publish results-Phoebe
 - Would like to include appendix in plan
- Curious what is going to happen with day-to-day with new project
 - Will be doing full tour, she will get one-on-one mentorships and info on snowy plover
 - Working with land and research steward with GIS
 - Very specific from their restoration site
 - Will come up with suggestions of what to do and other sites and use that data
- Will the info get shared with other snowy plover sites
 - On an email list with all other sites
 - Meet with all plover managers once a year in their region, share ideas, give presentations
 - One a year meet with every snowy plovers on west coast
- For climate change intern, is she eligible for senior thesis-Phoebe
 - She is a junior so she cannot
 - Would be great for a multi-year project
- Is it looking like the snowy plover has the potential to be self-sustaining?-Kate
 - Can see the species off the endangered species list in the future
 - Goals for population to reach 3,000 for three years
 - It is around 3,000 right now

- Do think they will need protection because of human interaction, habitat destruction, and increase of predators
- Are you going to be doing new mapping?-Laura
 - Planning to use projections that are already published but then apply them to our area
- How is Land use history intern doing-Kate
 - Doing well, research is finished but the final report is not finished

Applicant question: what are you most excited about

-Jeremy and Lauren is most interested in climate change internships

-Cyrus likes internships that works on reserve management

Board Discussion

N/a

MOTION/SECOND: Jeremy/Mike

Motion language: Motion to Table discussion for FALL 19-04

ACTION: Consent

Additional approval required: YES (Senate)

Project Title: FALL 19-09 : Turning Up the Heat: Climate Science In Action

Sponsoring Organization: UCSB Marine Science Institute & Department of Ecology, Evolution, and Marine Biology

Presenter Name: Xochitl Clare

Summary:

I propose to create an interactive global change biology experiment-display at the UCSB Research Experience & Education Facility (REEF). The display will address the effects of marine heatwaves on an economically important kelp forest sea snail. Outcomes of the project are:

1. Resulting data will reveal climate change impacts on a local fisheries species in the kelp forest and will be a part of my Ph.D. dissertation
2. Undergraduate research assistants (URAs) recruited across all campus majors (STEM & non-STEM) will receive research training and partake in professional development in public outreach and education. I will also involve URAs in building curriculum for grades 8-12 that pairs with the display.
3. The tanks used in the experiment-display will be a long-lasting resource for public education and demonstration of “science-in-action” at the REEF

I am requesting funds for aquarium supplies for the REEF, undergraduate research assistants, and outreach materials for this project.

Presentation Notes

- Third year PhD student and will be looking at climate change and how it affects whelk
- Looking at having undergrad interns actually doing science

- Happening right now is an intense warming event in our coastline known as the blob
- We have a marine coast heat wave and we are a 100 days in
- It affects the coast with like algal blooms etc
- She is studying the whelk which is very prevalent
- They are scavenger predator that a lot of people are eating right now
- There are no regulations on that food source right now and we don't know anything about them
- Their babies are very vulnerable to climate change and where they are born is right where the water is most hot
- Wants to figure out the physiology of the species
- Already worked with undergrads with the project
- Wants to do a larger scale project
- Wants to actually find people outside of the field

Board Questions

- Could we learn more about the aquarium?-Phoebe
 - There are touch tanks right now in The Reef
 - Need to be research grade, presentation grade, and long-lasting
 - Need a good quality testing station
 - Row of tanks for observation, three tanks controlled temperature
 - Project will be on display, but to keep the tanks warm and cold, they need higher quality tools since it is open to all ages
- What do you see of the main benefits of using the aquarium instead of natural environment-Cyrus
 - Lab environment in the aquarium, will have info about consistent heating or how much they eat
 - Lots of risks to the natural environment, but in other phases of project she will have both
- Will interns be doing research or projects?-Jeremy
 - She will be doing a lot of research
 - Option to be doing a senior thesis
 - Undergrads can pursue academic credit along with stipend and so that they can build senior thesis with their own questions
 - Jerney says that undergrads cannot get credit and get paid
- Phoebe- Why is there such a tight timeline?
 - She is trying to capture an application period and everything is tight so that they experience the temperatures they need to experience
 - Need to get reproduction data and then once babies are born they immediately start getting data
 - Tanks and everything would be set up before period of reproduction
- Is there any data on whelk fisheries-cyrus
 - There is some data but it has not been synthesized in a way that can answer the questions
 - Working on building a relationship with fishermen

- There is a whelk report-ish that is sporadically put out
- Is there a specific fishery-phoebe
 - Only a bi-catch fishery
- Kate- is your tank system absolutely necessary?
 - If they have to change the design of tank to work with funding, they probably can
 - Should submit a more detailed budget for tank system
- What aspect affects the whelks?
 - For snails, when stressed they can't attach on the walls as well
 - Looking at how many eggs were laid, the metabolism
 - How many hatch, look at swimming behavior,

Board Discussion

- Preemptive research is awesome-cyrus
- Project seems very holistic-cyrus
- Like the fact that the aquarium would stay in the reef-mike
- Seems like a really cool project-jeremy
- Appreciate bringing different fields-cyrus
- Cool that experience is public-Phoebe

MOTION/SECOND: Kate/Jeremy

Motion language: Motion to table FALL 19-09

ACTION: Consent

Additional approval required: YES (Senate)

Project Title: FALL 19-19 : Identifying native seeds in the seed bank through DNA and RNA extractions
 Sponsoring Organization: EEMB
 Presenter Name: Stephanie Ma

Summary: An ideal approach to restoration is to use what is present on site, in the soil seed bank because the community restored is likely to represent the community that was present prior to degradation. However, determining if desirable native species are present in the seed bank and if their seeds are viable (alive) is challenging. Previous phases (Summer 2019, Fall 2019) of this project applied environmental DNA and RNA techniques to *Salvia leucophylla* (purple sage) and we are in the process of determining if this common species can be identified.

The next phase of our project is to test our methods with varying seed densities and with varying seed diversity. We will test multiple seed densities (5, 10, 100 *Salvia leucophylla*) to investigate if there is a minimum number of seeds that need to be present to be detectable. We will test multiple seed mixes (2 species, 4 species, 10 species) to investigate how accurately we can detect an increasingly complex suite of species in the soil.

Presentation Notes

- Stephanie-phd student
- Project advisor is also here
- Use methods used in marine systems to bring on land and characterize plant species in soil seed bank
- Viable seeds in seed banks, look at DNA, and past species
- Used purple sage to extract dna and rna from the seeds and created complex sample
- Started to include exotic roots and sterile field soil and culminating it and look at seeds with soil they didn't sterilize
- Found positive result because they extracted dna but narrow result with one specie
- Hoping to test multiple species
- Can you still get positive detection with several kinds and numbers
- Have undergrad that was trained and has taken ownership of this project and would like to keep them on
- Would have them start to mentor students of their own and get experience
- Would share findings with other organizations in town such as CBBR, santa barbara botanical garden
- Other projects would be interested
- Applicable for other ecosystems
- Asking for funding to run dna sequencing from summer and funding to extract and sequence new samples, and help provide a stipend for a student
- Good for collaboration for students and offer method that is quicker and more effective
- Advisor proposed it because she was hearing about students trying to characterize a seed bank
- People were counting seedlings in greenhouses and were using a time-consuming and ineffective method
- She does sequencing and though why don't people sequence the seed in the soil but know one has ever done this before
- Looking at rna vs dna in soil
- Surprising that this method hasn't been done for species in soil seed bank
- A lot of seeds require specific conditions to germinate
- As long as the dna or rna is in there, they should be able to identify

Board Questions

- Cyrus- is this a completely novel method?
 - People have sequenced seed species for genomes but they haven't looked at seed banks
 - They probably haven't due to the issue of non-plant species dna
- Kate-what do you see the main potential struggles
 - Have not done any of the sequencing
 - Have set up everything but nothing has been sequenced
 - Some unknown
 - Want to see the threshold of the dna data, they want to know how much of dna they will need

- How are you planning on telling the plants apart?
 - Every plant has different dna sequence
 - Hae four areas of genome that they are focusing on and each sequence has a unique dna code
 - They will take the code and compare it
- Will that be done by your selves or is there a program?-Jeremy
 - There is a website that does it for you
- How long are the barcodes?- Mike
 - They are still testing that but all under 500 base pairs
 - Have been able to identify well
- Do you foresee limits to the sequencing system?
 - Number of species will not be limited on, and will have tons of readings that come back
 - Limitation will be how much dna is in soil sample
 - The question is if they can separate seeds from others
 - Stephanie is also doing the same experiment with the traditional method in order to compare
 - Cannot get relative abundance of the seed- one large seed might have more dna than 30 small seeds
- Can you talk more about coastal impact of the project-Kate
 - Helping community with new tool and helping restoration in the coast with recreation
 - Find out what species are out there and where
 - Inform restoration projects
 - End coast as well like with the golf course
- How are you planning on publicizing results-Jeremy
 - Will be doing a published paper
 - Sharing results at conferences and local places
 - Give undergraduate students an opportunity to present
 - Will have posters and papers and promote coastal fund as well
 - Will be interested in working with other people from coastal fund
 - Everyone is using data from seed bank but there is a really inefficient way of finding it

Board Discussion

- Think it will be a good method to use before renovating
- Not totally convinced but have the potential to help other projects and santa barbara would benefit-Phoebe
- Wanted more oomph from presentation and show why it is necessary

MOTION/SECOND: Jeremy/Kate

Motion language: Motion to table discussion for FALL 19-19

ACTION: Consent

Additional approval required: YES (Senate)

ADJOURNMENT AT 9:04

MOTION/SECOND: Jeremy/Karen
Motion language: Motion to adjourn at 9:04 PM
ACTION: Consent
Additional approval required: NO