## ASsquare_logo.tif Coastal Fund Agenda

## Associated Students

Tuesday, 05/21/2019, Nati Conference Room

**CALL TO ORDER** 6:03 by Lauren, minutes recorded by Rebecca and Emily

1. **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) |
| **Lauren Enright**  **Chair** | **Present** | **Jem Unger Hicks**  **Outreach Coordinator** | **Present** |
| **Jeremy Francoeur**  **Vice-Chair** | **Present** | **An Nguyen**  **Outreach Coordinator** | **Present** |
| **Kate Mcleod**  **Undergraduate Rep** | **Present** | **Sarah Siedschlag**  **Advisor** | **Present** |
| **Cyrus Kayhan**  **Undergraduate Rep** | **Present** | **Rebecca Nishide**  **Administrative Assist** | **Present** |
| **Juliette Verstaen**  **Graduate Student Rep** | **Absent (excused)** | **Emily Orr**  **Administrative Assist** | **Present** |
| **Alana Ayasse**  **Graduate Student Rep** | **Present** | **Alex Funk**  **Senate Liaison** |  |
|  |  | **Alli Adam**  **Senate Liaison** |  |

1. **COMMITTEE BUSINESS**
2. **Approval of Attendance and Proxies**

*MOTION/SECOND: Lauren/Jeremy*

*Motion language: Motion to approve attendance and proxies*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **Approval of Minutes**

*MOTION/SECOND: Lauren/Jeremy*

*Motion language: Motion to approve minutes*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **PUBLIC FORUM**

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

1. **REPORTS**
   1. **Advisor Report: Siedschlag**

* updated budget
  + ~ $387k requested
  + we have about 66k in total w out rollover, with rollover ~240k
    - can do what the board wants, but it would be ideal to approve around 120k
  + making the excel spreadsheet, we will send out the excel by Thurs. at latest
* same tuesday time slot after decision meeting, we have new transition meeting for board members - AKA the retreat
  + Tuesday June 4th
  1. **Chair Report: Enright**
* new chair?
  1. **Senate Report: Funk & Adam**
* N/A
  1. **Administrative Report: Nishide**
* total requested is ~ $387k for this quarter, 35 grants total
* one minor grant sent in at 12:45 AM
  + project we’ve funded before
  + board decided to add it, but noting that its late
  1. **Coastal Service Program Report: Orr**
* nothing to report
  1. **Outreach and Education Report: Unger Hicks & Nguyen**
* Gala is on Friday - woo!
  + bring your friends, RSVP
* finished photo contest, announcing on facebook page, displaying at gala
* Concert for the Coast raised $700 for EDC
  1. **Sub-Committee Reports**
* NRS
  + emailed draft application to the director of NRS
  + Lauren and hopefully Jeremy are going to NRS meeting (2:30 - 4:30)
  + interviewing all of the applicants this week, hopefully can attend gala
  + subcommittee cannot meet on Thursday, but can meet next Thursday (5/30)

1. **AGENDA**
2. **Approval of Agenda/Additions to Agenda**

*MOTION/SECOND: Lauren/Jeremy*

*Motion language: Motion to approve the agenda and additions to agenda*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **OLD BUSINESS**
2. **FALL 18-16 Reallocation Request**

* sounds like project design has shifted
  + could be from presenting at the conference
* asking for less money now
* just applied for a minor grant for an intern stipend
* hopefully she got feedback at the conferene and that is why her methods changed

*MOTION/SECOND: Laurenn/Jeremy*

*Motion language: Motion to approve FALL 18-16 reallocation request*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **SPR 18-13 Extension Request**

* seems fine

*MOTION/SECOND: Cyrus/Alana*

*Motion language: Motion to approve spring 18-13 extension request*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **NEW BUSINESS**
2. **Pizza**

*MOTION/SECOND: Alana/Lauren*

*Motion language: Motion to approve $150 for decision meeting pizza*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **Retreat Funds**

*MOTION/SECOND: Alana/Jeremy*

*Motion language: Motion to approve $340 for the retreat dinner*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **New Chair**

*MOTION/SECOND: Lauren/Kate*

*Motion language: Motion to approve Jeremy as the new Coastal Fund Chair*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **New Vice Chair**

*MOTION/SECOND: Lauren/Jeremy*

*Motion language: Motion to approve Kate as the new Coastal Fund Chair*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **Gala Funds**

*MOTION/SECOND:Lauren/Alana*

*Motion language: Motion to approve $4,000 for gala funds*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

1. **DISCUSSION**
   1. (first item)
2. **PROJECT REVIEW**

Project Title: SPR 19-17 Research and outreach to address the spread of invasive Asian kelp, Undaria

pinnatifida, in the Santa Barbara Region

Sponsoring Organization: MSI

Presenter Name: Carolynn Culver

Summary:

Presentation Notes:

* Five northern channel islands
  + Works on marine invasive species there
  + Brought visuals
* The seaweed (undaria?) is very invasive
* Spread all over the world before it came here
* Can crowd ou tnative species; effects food chain
* Spread by boats
* Just recently started showing up at channel islands, first Anacapa (2016) then Santa Cruz
  + SC island a couple of weeks ago
* Best way to prevent spread is by focusing on the vectors like the boats coming from local harbors
* Outreach materials to educate boaters and what to do when they find it
  + Awareness to remove the seaweed correctly, prevent further infection
* First need to understand the greatest risks and spots
* Hoping to hire 4 undergrads
* 1st harbor survey
  + Every other week looking for presence of undaria, and what abundance
  + Allows them to figure out where the hotspots are, if its just everywhere, etc
  + In 2013 and 2014 they did surveys, will compare them to this one and one the harbor did in 2006
  + Will help to see if there are specific boats or slips that its infested
* 2nd piece of project is outreach
  + Making sure printed materials are distributed
  + Talking to boaters
  + People are interested, starts a dialogue
* Keep in harbor at minimal amounts to prevent infecting islands

Board Questions:

* Why SB harbor rather than Ventura harbor?
  + Closest harbor, aware that Ventura probably has more boats going to Anacapa
  + Good way to see methods of surveying a harbor quickly and frequently
    - Hoping to scale to different harbors
* Have you looked at results from 2006 and 2014, or are you waiting to analyze data
  + 2006 and 2014 data compared, definitely more abundant and more of a problem
  + Patterns between data sets are observable
  + Interested to see change since
* What kind of vessels were they on the most? What are the problem areas?
  + Not looking on boats, introduce this measurement
  + Most prevalent at mouth of harbor
  + In random places as well
* How are you surveying the harbor?
  + Walking the docks, no scuba
  + Grows on floats under the docks so no need to scuba
  + Use GIS 123 survey app to have the data
* Has it been observed in ecosystems outside the harbor locally?
  + No, been found at san clemente and santa catalina in low abundance
  + Covers whole leeward (?) side of west isle in anacapa
  + No reports along mainland yet
* Is it just a matter of time for the spread?
  + Possibly
  + 200 feet (?) per year natural rate of spread
  + Stopping at boats would make a big difference
* Has there been similar research? Are there better management styles development?
  + Proposing best management by targeting boat vector
  + NZ, was treated with super hot water, was effective
  + Next time they tried that it didn't work because it had spread too far
* Not going to go at Anacapa? Most worried about establishing at others?
  + Yes, don’t want to spread it to new islands or other pockets
  + Has not spread from where its found, may stay contained naturally
* How are you planning on recruiting interns?
  + Have been successful before by putting out on different listervs
  + Maybe we can publicize
* What sort of ecological impacts have you observed?
  + Crowds out native kelps
  + Seen patches of really dense swaths of the kelp, patchy for the most part
  + Has different impacts everywhere, when it becomes monoculture it takes resources
  + Too early to tell the impacts
  + Don't want to wait for it to get worse
* How much of the project will interns get supervision and be with you all?
  + Interns will be involved with everything, RA will be present to help count
  + Facilitate carpooling; do not ant to require interns to have car
  + Outreach material as a team, get message out
  + Team, collective statement
  + Interns will interact with public independently
  + Mix of independent and group work
* What is most essential?
  + Personnel, cut project in half
  + If they had to lose half, they would survey in summer only which is when it is most abundant, miss fall season
    - Not preferable, but it will work

Board Discussion: Board goes into closed discussion

*MOTION/SECOND: Lauren/Alana*

*Motion language: Motion to table spring 19-17*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

Project Title: 19-18 Exploring Plankton Diversity in the Santa Barbara Channel

Sponsoring Organization: ERI

Presenter Name: Dylan Catlett

Summary:

Presentation Notes:

* Studies plankton diversity in SB channel and how to best monitor it and linking water samples to satellite observations, and how plankton affects marine ecosystem
* We are interested in this because plankton are the building blocks of all marine ecoystems
  + Basically the food of ecosystems
* Changes in species diversity and populations propagates through ecosystem
  + Plankton are the keystone species
* For his thesis he’s built up a massive DNA sampling data sequencing
  + Monthly time series in chanel, sequence every month
  + Can look at large scale changes for climate change
  + ACID project, we funded part of it, weeklong cruise during Thomas fire
    - What impacts ash from coastal wildfires are in the coast
* Put together huge DNA sequenching data set
  + Identified 25-30k unique data sequencing
    - One per species of plankton
* Proposing to document plankton diveristy
  + DNA sequencing field and tech is super new (10-15 years)
  + Need to optimize method to move from DNA sequence to species
  + Species can help see what's going on ecosystem and what role the plankton plays in
  + Need to test algorithms
  + Need to add to reference data base
  + All database vary, no better or worse
  + At least half of the time they can tell its eukaryote, but don’t know how that translates into ecosystem functions, which is what they want to know
* Asking for 3 undergrads interns
  + Identified three undergrads who have programming experience (compsci/math majors)
  + Need to be able to pay them so they can actually spend time on this

Board Questions:

* You have a way to get info thats not too crazy? Hard to extract meaningful info?
  + Yes
* What exactly are interns going to do?
  + Starting to get familiar with assignment algorithms
  + First step is implementing each assignment algorithm against each database
  + Written in different programming languages and different algorithms
  + Don’t have taxonomic framework for most microbes
    - Working on algorithm to map taxonomy names against eachother
  + Going to need developing when trying to work through algorithm disagreements
* How does this technique compare to other stuff like back scatter?
  + All the methods have their own pros and cons
  + DNA sequencing: get a sequence and theres less ambiguity
    - Finest scale with taxonomy
    - More holistic, can sample liters
* How will this project fit into the field in general? Collab w other labs?
  + Ongoing efforts to do this
  + Would be helpful for those efforts, not actively involved with other labs
  + Mostly a european concept
  + No one really does this for marine plankton
  + Interns are super good at writing algorithms
  + They are building framework
* 20-30k different species you’ve seen, field is only 10-15 years old, what happens when you find a new species and how often is it happening?
  + Recently species numbers have gotten much smaller
  + Ways to validate post sorting to check for random error
  + Weren’t removing random errors
  + Will probably be some sequences that they won’t know about, dinoflagellates
* Most essential?
  + 3 is a good number, it is a lot of work
  + The amount he is funded will be how productive this project is
  + 2 would be okay
  + 1 would be least ideal

Board Discussion:

*MOTION/SECOND: Lauren/Jeremy*

*Motion language: Motion to table SPR 19-18*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

Project Title: 19-22 Santa Ynez Mountains Area Invasive Plant Eradication and Microtrash Removal Project

Sponsoring Organization: Los Padres Forest Watch

Presenter Name: Bryant Baker

Summary:

Presentation Notes:

* Brought a handout with impact report from our support, about interns
* Project aimed at giving student interns unique experience, conservation work
  + Doing conservation work on public lands
  + Los Padres Forest covers most of SY mountains and watershed that runs into SB
* Past year had a project we funded
  + Looking at off road vehicle trespass
  + Causing degradation in front country
  + 6 interns have worked on it in the past year
  + Report going to forest service so they can figure out mitigation
  + Got funding from National Fish and Wildlife Foundation, they matched ours
* Ongoing project funded ny SFWF to remove invasive tamarisk?
  + Asking for follow up funding
  + Couple miles left of river to treat
  + Projects we fund for them is what they do for a majority of it, but they also give them different projects to work on
  + Wants to continue this, thinks its mutually important for them and students
* Wants to make a project that we fund 6 interns work on for 3 or 4 quarters, focusing on a few key things (removing invasive plants and microtrash, etc)
  + Microplastic contamination issue
    - Condors, plants, ect
* Wants to focus on west of 154
  + Clean up old target shooting sites there
  + Couldn’t get to this site because of the 2017 Whittier fire
  + Heavy metal contamination
  + Banned shooting across whole service
  + Get in while ban is in place to clean up
* Wants to focus on invasive plant removal
  + Open to changing some of his project if we want
  + Expecting to get grant from NFWF
  + Wants to use our funding to match NFWF funding
* Comprehensive project to give interns unique experience
  + Could not accomplish their work without interns

Board Questions:

* How do you remove microtrash?
  + Its hard!
  + Get as many volunteers as they can to systematically tackle multiple areas
  + Usually go to sites multiple times
  + Literally just picking up trash
  + Condor range is expanding, there have been condors that have visited santa ynez mountains
  + Want to tackle problem sites, and sites where they thing condors will move to
* Is the ban permanent?
  + Not sure yet, its a one year ban
  + They are doing consultation now
  + Complicated issue from 2005, almost 15 years
  + Thinks it will end up being permanent
* Are they going to do any sort of contained better managed sites?
  + Two sites in forest are managed in the forest, not affected by bans
  + One by lizards mouth, one by ojai
  + Would not be surprised to see site turn into something like a gun club
  + More controlled area hopefully
  + Issue with site is often at headwater/ridgelines
  + Serious need for soil testing
* Tammarisk, has it been successful?
  + Tough but successful
  + They focused on part, fish and wildlife focused on part
  + Treated half of 104 contaminated sites, will need to retreat
  + Some infestations were really big, some they discovered for first time
  + Continuation of NFWF that has funded before, seems interested in, thinks he will get continued funding
* Is the tammarisk treatment with herbicide?
  + Yes
* What is essential, what could be cut
  + Intern stipends absolutely
  + Even if it's the only thing we fund
  + Mutually beneficial
  + Trying to give students an experience he didn’t have
* Anticipate an improved way to get rid of microtrash?
  + Looking into raking; problem is lead dust
  + Masks? Sometimes they can’t rake no matter what
  + Has to make sure small children aren’t there
  + Magnets dont get glass
  + Broken glass attracts condors
* How often can you intervene to save baby condors
  + Fish and wildlife services
  + SB zoo does baby bird surgery
  + Main cause of death is lead poisoning (or blood poisoning)?
* Working on making an exhaustive list of interns that we’ve funded, accounts for 90% of their interns

Board Discussion: Board goes into closed discussion

*MOTION/SECOND: Lauren/Kate*

*Motion language: Motion to table SPR 19-22*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

Project Title: SPR 19-21 Expanding genetic tracing techniques to strengthen viable seed identification under varying conditions

Sponsoring Organization: EEMB

Presenter Name: Stephanie Ma

Presentation Notes:

* PhD in EEMB, does terrestrial restoration
* Make restoration more efficient with advancing tools
  + Big challenge is knowing what to plant in a place
  + How do you know what to restore?
* Current method to grow out in greenhouse with soil core
* Some plants have unique cues, its really hard to mimic in a greenhouse
  + Hard to get all these seeds in a seedbank
* Proposing to use methods in aquatic and human systems to look at environmental DNA
  + Bioinformatics
  + Can we characterize which species used to be there in the past? What viable seeds are there right now?
* Hope to provide practitioners and researchers a new tool to get a list of what used to be there
  + Quickly get a list of everything that used to be there and is still viable there
  + Creating a new method
  + Coauthor paper with undergrad
  + Undergrad lead project

Board Questions:

* Where are your seed soil collections taking place?
  + Locally, haven’t quite figured out what they want to look at
  + Stuff we’d use locally in restoration
  + California poppy, white and purple sages, classic chaparral species
* Have most of the things you’re looking to encounter been sequenced?
  + Not very much
  + Learning this method as well
  + Some plants have been sequenced and are in data banks
  + Not many people have sequenced it, lacking reproduction of data
  + Not very robust
  + Testing “can it work?”
  + Looking at four areas that have been published on
* How many DNA sequencing are you planning to do, what is minimum, ind. Cost?
  + Minimum: not 100% sure
  + Need to look for contamination
  + Not sure what resolution they need to validate method
  + Some of the things they wanted to look at was different soil types and a couple others
* Why isn't this method being used in US?
  + Its new, people have not gotten around to it
  + eDNA for aquatics is also pretty new, maybe there’s more funding for fish
* RNA sequencing? How does it show viability?
  + Has a crude understanding
  + Grinds up samples to extract DNA and look for signatures
  + Looking for RNA (active DNA making part) to extract and turn it into DNA which is a separate test
  + Can see what is actively making DNA and what is dead tissue
* How big are sample sizes (volume wise)
  + Not sure how much soil
  + Hopefully through grinding it, it will homogenized everything and give all the plant signatures
  + Amount is little test tube
* How much per run? How’d you get number for lab supplies
  + $100 for primers
  + $1200 for kits for extraction, runs about $1000
    - Dont remember how many runs that is for
  + Cost for sequencing send out
  + Can talk to advisors to see how they can cut back, does not know because does not have idea of resolution

Paper on DNA barcoding: <https://www.sciencedirect.com/science/article/pii/S2351989418303500>

Board Discussion:

*MOTION/SECOND: Lauren/Cyrus*

*Motion language: Motion to table Spring 19-21*

*ACTION: Consent*

*Additional approval required: YES (Senate)*

**ADJOURNMENT AT 8:53 PM**

*MOTION/SECOND: Jeremy/Lauren*

*Motion language: Motion to adjourn at 8:53 PM*

*ACTION: Consent*

*Additional approval required: NO*