



Governing Board Meeting 15 December 2017

Pre-Meeting

9:00 am to 9:30 am Coffee and pastries

Call To Order

9:30 am

Introductions

- Members, New Members and MLML Attendees
- Packets (*hard copies will be printed if requested*)
- Sign In, Update Contact Sheet, Lunch Orders (**Phil's \$10/each**)

Acknowledge Spring 2017 Meeting

- Review Director's Report and meeting packet items, comments?

Director's Report

9:45 am

JIM HARVEY

Faculty/Staff Updates

1. Faculty Recruitments – Assistant Professors

- Marine Invertebrate Zoologist (Professor Geller entered pre-retirement in Summer 2017), 5 candidates interviewed in November.
- Chemical Oceanographer (Professor Coale is scheduled to retire in January 2018), 5 candidates selected for interview and campus visits between Dec 2017 and Jan 2018.

2. Visiting Scientist AY18-19

- Dr. Katlin Bowman, Postdoctoral Research Scholar with the Department of Ocean Sciences at UC Santa Cruz.
- Dr. Bowman's research focuses on Marine Biogeochemical cycles and genomics. *Dr. Bowman studies in situ production of methyl-mercury and the abundance of specific genes in microorganisms capable of mercury methylation and reduction. Other areas of interest include quantifying anthropogenic mercury in the ocean, exploring the geochemistry of deep sea-hydrothermal vents, and understanding the influence of climate change on global biogeochemical cycles.*

3. Visiting Scientist AY19-20

- Posted in May 2017 and will run through Spring 2018. MLML sent the post to Gov Board members last summer for distribution at home campuses science departments and to colleagues. We have included it in your meeting packet and request you distribute it if you have not done so already.

4. Research Faculty

- Dr. Stacy Kim, Benthic Ecologist and longtime MLML Research Faculty member announced her retirement in Summer 2017. She will revert to a new status, "Emeritus Research Faculty" which will allow her to remain a part of the MLML community.

<p>TERRA EGGINK</p> <p>IVANO AIELLO</p>	<p>5. <u>New Research Affiliates:</u></p> <ul style="list-style-type: none"> • Zach Peery, Associate Professor in the Department of Forest and Wildlife Ecology at the Univ of Wisconsin, Madison studies the demography and conservation of CA Spotted Owls • Holly Bowers, formerly a Post-Doc Fellow at MBARI. She is continuing her research assessing fluctuations in <i>Pseudo-nitzschia</i> populations by coupling traditional and cutting edge molecular tools and correlating those findings with larger-scale perturbations in Monterey Bay and will work with the MLML-ACT (Alliance for Coastal Technologies) partnership. <p>6. <u>CA SeaGrant Specialist (Center for Aquaculture)</u></p> <ul style="list-style-type: none"> • Appointment has not been announced because final appointment papers are not completed; start date is scheduled for March 2018. <p>7. <u>IT Help Desk Administrator (6-12 Month Temp)</u></p> <ul style="list-style-type: none"> • Jeff Arlt, MLML IT Network Administrator retired in Summer 2017. The IT Dept is under-resourced, especially given the new website design and launch. MLML has increased the IT dept. budget by \$25k this AY to fund 4 Student Assistants to man an IT Help Desk. • A temporary, State side position will help to bring much needed user support to the MLML community. A reorganization of the MLML IT dept. is underway to reflect current IT requirements and priorities which may possibly result in the hiring of a State side position, though not necessarily for network administration as SJSU manages this from campus. <p>Graduate Program Report</p> <ul style="list-style-type: none"> - FTE's - Course Schedule - Graduates <p>Curriculum Committee</p>
<p>10:45</p>	<p>BREAK</p>
<p>JIM HARVEY</p>	<p>MLML Strategic Plan</p> <p>MLML Center for Aquaculture</p> <ul style="list-style-type: none"> - ORTU – status - Planned activities, events, research projects, courses - Increasing sea water pump flow by 33% - Recent projects <ul style="list-style-type: none"> • Ocean Acidification (Dr. Hamilton), <i>CA Sea Grant and NOAA</i> • Olympia Oyster Restoration (Dr. Graham), in collaboration with Elkhorn Slough and UCSC, funded by a donation from the <i>Anthropocene Institute</i> • Sustainable Aquaculture Techniques (Drs. Hamilton and Graham), <i>CA SeaGrant award</i> • F3 (fish-free-feed) Challenge (Dr. Graham), funded by a donation from the <i>Anthropocene Institute</i>
<p>12:00 pm</p>	<p>LUNCH – Committee Meetings</p>

1:00 PM

JIM HARVEY

KATHLEEN
DONAHUE

Funding-Budgets

State

MLML does not expect to finish the AY with much cash flow. Several large ticket items and new permanent costs have increased our OE&I by ~ \$75k.

- Faculty Recruitment Costs ~\$20k, SJSU CoS is contributing \$6k
- CA Sea Grant Aquaculture Specialist, MLML's annual contribution to UCSD/SCRIPPS \$27k
- Increase in Student Assistant budgets to fund Front Desk/reception full time and to supplement the IT Dept Help Desk \$25k
- Generator for the IT Server room \$30k

SJSU Research Foundation

Due to a decrease in research grants awarded between 2015 and 2016, MLML will receive less than \$50k in F&A returns this AY. The SJSU Research Foundation is supplementing our Admin and Facilities budget with \$125k.

SJSU Tower Foundation

Donations for general purposes have dramatically decreased since the departure of the part-time Friends of MLML manager, however, we continue to sell Boardwalk planks, collect donations for scholarships, research (Anthropocene Institute, Betty and Gordon Moore Foundation) participate in outreach events such as Leatherback Turtle Week and earn revenue from renting out the Seminar Room to outside groups.

- Donations for general purpose, scholarships, Boardwalk planks and rental revenue ~\$15k
- Donations from major donors \$150k

1:45 pm

JIM HARVEY

General/Other Business

MLML Open House 28-29 April 2018

-Preceded by "MLML Night" at the Santa Cruz Warriors basketball game against the Iowa Wolves Fri. March 23 at 7pm. 15% of ticket proceeds will be donated to MLML and MLML gets 6 minutes at half time to advertise for Open House and promote who we are and what we do to the Santa Cruz community. The Gov Board will receive a flyer and notifications when tickets go on sale.

Other Items:

- Website Redesign
- 50th Anniversary Book
- Del Mar Building Demolition
- New Dive Program Complex at Small Boats
- Academic Village Project
- New Vessel
- "Case for MLML" status (SJSU Advancement Initiative for Fundraising)

3:00 pm

ADJOURN and MLML HOLIDAY PARTY



Governing Board Spring 2017

Director's Report

This meeting was cancelled due to lack of attendance, packet distributed to members

Visiting Scholars and Faculty

Dr. Michael Lee has been a fabulous Visiting Scientist for MLML. He has participated in courses, organized the seminar series, interacted with the burgeoning aquaculture facility, and is currently the Chair of the Governing Board. He will be leaving MLML sometime this summer to return to CSUEB. Dr. Patrick Gagnon from Memorial University of Newfoundland has spent his sabbatical at MLML working mostly with Dr. Diana Steller and her students. He will be leaving in June. *MLML will host a farewell Happy Hour for them on 18 May at 4pm, you are all invited.*

Visiting Scientist

Dr. Alison Stimpert will be the MLML Visiting Scientist for AY 2017-18. Alison is a bioacoustician and works at the intersection of bioacoustics and conservation, especially on the effects of anthropogenic sound on behavior and ecology of cetaceans. Alison will help with some classes, organize the seminar series, advise some students, and have an active research program.

MEETING CANCELLED

The Visiting Scientist position for AY2018-19 is posted and attached. Applications are due by 1 July 2017, and we have no applications to date, so please pass along this opportunity to colleagues.

The Visiting Scientist position for AY 2019-20 will be posted in May and applications will be accepted though Spring of 2018. We will send the posting to you and hope you can distribute to your campus.

New Research Affiliates at MLML

Dr. Denny Alapuatti has been approved as a Research Affiliate (i.e. PI status, research collaboration with MLML community). Denny studies the marine atmospheric boundary layer and air-sea interactions. He is currently affiliated with the Meteorology Department of the Naval Postgraduate School, and is involved in a project with Dr. Kenneth Coale (MLML) and Dr. Qing Wang (NPS).

Dr. Karin Forney also has recently become a MLML Research Affiliate. Karin is a marine mammal ecologist and statistician. Many of her publications deal with population dynamics of cetaceans in the North Pacific. She has collaborated on a few projects with Dr. Jim Harvey, including a recent one recording harbor porpoise vocalizations as a measure of abundance and distribution. She will occupy an office at the Norte facility.

Sea Grant Specialist

Dr. Mike Graham (MLML) is serving on the search committee for a new California Sea Grant Extension Specialist in aquaculture, who will be stationed at MLML. The committee has identified four candidates that will be interviewed in person, likely in the early summer. This person will teach

May 2017

courses at MLML in aquaculture, mentor students, and have an active research program. We hope to have the successful candidate in residence by early 2018.

Faculty Recruitments

Dr. Kenneth Coale has announced his retirement in January 2018, and Dr. Jon Geller has announced that he will be using the Pre-Retirement Reduction in Time Base program to reduce his time until retirement. With these salary savings and impending retirements we have requested the ability to recruit two new faculty members for MLML. Assuming we obtain permission we will start the process soon, and after faculty discussion will likely be advertising for an Assistant Professor of Invertebrate Zoology and an Assistant Professor of Chemical Oceanography.

MLML Open House (29 and 30 April 2017)

MLML just concluded another successful Open House with about 2,800 of the public touring the labs, viewing the always popular and entertaining puppet show, consuming food and baked goods, bidding on auction items, and generally enjoying the spectacular weather. All the proceeds go to student support.

Center for Aquaculture

MLML applied to SJSU to establish a Center for Aquaculture as an Organized Research and Training Unit (ORTU). The proposal has been approved through most of the process and has just a few more steps before it is functional. A few recent activities include a plan to increase seawater pumping capacity by 33%, increase of electrical power at the site by 300%, design of three new buildings (Ocean Acidification test facility, aquaculture processing space, and hatchery). With the hiring of the new Sea Grant aquaculture specialist we will be proposing at least one or two new aquaculture courses to the MLML curriculum. A number of research proposals in this area have been submitted and we are awaiting the outcome.

MLML Operating Institution (CSUMB/SJSU)

The discussion about the potential change in Operating Institution for MLML is now in the hands of the administration at SJSU. When we have a more clear idea of the decision we will forward that information to the Governing Board.

Revisions of the By Laws and Rules of Operation

Because there has been no clarity on any changes to the Operating Institution we have paused with making changes to the By Laws and Rules of Operation. Once we have clarity, we will start the process again to revise the administrative documents that were last revised in 2008.

MLML Strategic Plan

The MLML Faculty have meet once to discuss development of a new strategic plan for MLML. A committee was formed and formulated a survey of the MLML community, which was sent to everyone (i.e. faculty, staff, and students). With the completion of the survey, we are now meeting to draft a plan that will be reviewed by the entire MLML faculty. After that is completed we will circulate the draft plan to the MLML community and meet with select members to solicit input. The draft plan will then be shared with the Governing Board and SJSU administration. The final stages are to seek approval by the Governing Board and submit to the Chancellor's Office by 31 July 2017.

May 2017

New Research Vessel

MLML and Scripps Institution of Oceanography (UCSD) continue to have discussions regarding the possibility of jointly operating a research vessel. Conversations have included a fuel cell (zero emissions) vessel, birthing at San Diego and Moss Landing, crew, and size. At some point we need to involve the consortium in a discussion about the vessel and its use by the consortium campuses and the CSU.

Budgets

Jim met with Dean Michael Parrish on 9 May 2017 to review the various MLML budgets with him and seek his approval of the proposed budgets for 2017/18. He saw no problems with the budgets so we attach the budgets and seek your approval. If we do not hear from you within 2 weeks that there are any issues with the budgets, we will consider the proposed budgets for 2017/18 as approved.

State support for MLML remains stable, and the State-support budget for MLML is attached for your review. With the potential hiring of two new faculty we trying to save a bit of money this AY to provide start-up funds for them next year. The major infrastructure improvement this AY will be the upgrading of the seawater pump capacity by 33%. Luckily, MBARI is helping pay for 50% of the costs because we supply their seawater needs and they need additional capacity too.

Research Foundation support via return of indirect costs (F&A) is always variable. Contract and grant activity by MLML, however, has been down a bit for the past two years a combination of lesser State funding because of decisions by California not to contract out as many jobs, the loss of the R/V Point Sur, and generally lesser amounts of federal research dollars available. The amount of F&A returned to MLML that helps support research infrastructure and people is dependent on our grant activity and the F&A we provide to cover the costs of SJSURF Central Office. We are starting an internal discussion with SJSURF and SJSU regarding how we can proceed with possibly decreased funding opportunities.

Recent Grant Activity

New Grants Awarded (since 1 June 2016):		
Agency	PI	Amount
CMSF	Aiello	20,000
CU	Aiello	59,025
ONR	Coale	280,564
MBRI	Connolly	53,720
NSF	Durkin	162,417
UCSD	Durkin	59,608
PWSRCAC	Geller	4,999
PSA	Graham	543,742
DOC	Greene	40,000
DOC	Hamilton	298,206
DOC	Hamilton	299,782

May 2017

DOC	Harvey	9,939
ONR	Harvey	193,694
CSUCRF	Harvey	25,908
SFEI	Harvey	15,400
AMSI	Harvey	266,727
AFWE	Harvey	11,137
SFEI	Heim	90,000
SFEI	Heim	3,300
ONR	McDonald	55,599
UMCS	Smith	181,000
CARA	Starr	187,202
CARA	Starr	55,180
DOC	Stimpert	24,945
CRC	Stimpert	50,000
Total		\$2,992,094

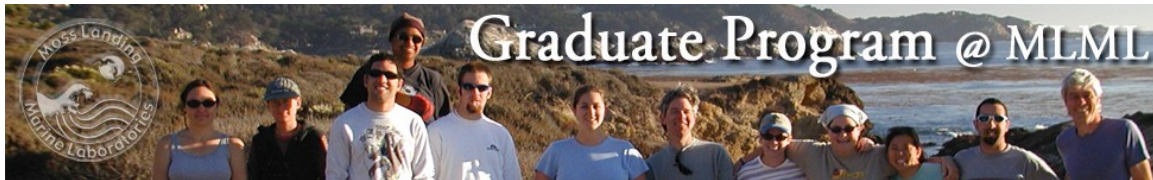
MEETING CANCELLED

MLML Web and Media

Our IT Dept formed a Web Committee in early 2016 to redesign the MLML Home Page to be more user-friendly, easier for the public and potential students to navigate and modernize the overall look and organization of the websites belonging to labs, research affiliates, resources and information. Launch of the new website is tentatively slated for Fall 2017. MLML's social media presence has dramatically increased by the implementation of an aggressive social media campaign. MLML has pages on Facebook, You Tube, Instagram, Twitter and LinkedIn which are attracting hundreds of followers. Many posts, such as announcements for Open House and research faculty member Dr. Colleen Durkin's Sea2Space cruise with Schmitt Oceanographic Research Institute, have been shared globally by mainstream media, alumni, and other marine research institutions like SCRIPPS and COAST. MLML plans to maintain a current, consistent and strong social media footprint in AY17-18 by including more videos, photos and animations. **Please find us on social media and give us your feedback**

You can watch the video of Open House 2017 here:

<https://youtu.be/poCgFHx1Shw>



SPRING 2017 MLML GRADUATE PROGRAM REPORT

Spring 2017 FTES by campus

<i>Campus</i>	Total Students by Level			Total Units by Level		FTES	
	<i>Total (U)</i>	<i>Total (G)</i>	<i>Total Enroll</i>	<i>Total (U)</i>	<i>Total (G)</i>	<i>Total FTES</i>	<i>Campus FTE %</i>
East Bay	0	0	0	0	0	0.00	0.00%
Fresno	0	0	0	0	0	0.00	0.00%
Monterey	0	46	46	0	235	19.58	57.80%
Sacramento	0	0	0	0	0	0.00	0.00%
San Francisco	1	4	5	4	22	2.10	6.20%
San Jose	7	25	32	43	112	12.20	36.01%
Stanislaus	0	0	0	0	0	0.00	0.00%
TOTALS	8	75	83	47	369	33.88	

U=Undergraduate (including post baccalaureates); G=Graduate

MLML graduate students enrolled in zero-unit course are included in total enrollment and FTES

Fall 2016 FTES by campus

MEETING CANCELLED

<i>Campus</i>	Total Students by Level			Total Units by Level		FTES	
	<i>Total (U)</i>	<i>Total (G)</i>	<i>Total Enroll</i>	<i>Total (U)</i>	<i>Total (G)</i>	<i>Total FTES</i>	<i>Campus FTE %</i>
East Bay	2	0	2	8	0	0.53	1.55%
Fresno	0	0	0	0	0	0.00	0.00%
Monterey	2	45	47	8	243	20.78	60.56%
Sacramento	0	0	0	0	0	0.00	0.00%
San Francisco	1	2	3	3	0	0.20	0.58%
San Jose	12	27	39	47	116	12.80	37.30%
Stanislaus	0	0	0	0	0	0.00	0.00%
TOTALS	17	74	91	66	359	34.32	

U=Undergraduate (including post baccalaureates); G=Graduate

MLML graduate students enrolled in zero-unit course are included in total enrollment and FTES

Spring 2016 FTES by campus

<i>Campus</i>	Total Students by Level			Total Units by Level		FTES	
	<i>Total (U)</i>	<i>Total (G)</i>	<i>Total Enroll</i>	<i>Total (U)</i>	<i>Total (G)</i>	<i>Total FTES</i>	<i>Campus FTE %</i>
East Bay	0	0	0	0	0	0.00	0.00%
Fresno	0	0	0	0	0	0.00	0.00%
Monterey	0	41	41	0	200	16.67	55.31%
Sacramento	0	0	0	0	0	0.00	0.00%
San Francisco	0	2	2	0	8	0.67	2.21%
San Jose	3	28	31	12	144	12.80	42.48%
Stanislaus	0	0	0	0	0	0.00	0.00%
TOTALS	3	71	74	12	352	30.13	

U=Undergraduate (including post baccalaureates); G=Graduate

MLML graduate students enrolled in zero-unit course are included in total enrollment and FTES

Spring 2017 Class Schedule

Course #	Course Name	Units	Instructor(s)	Day	Time
MS 131	Marine Botany	4	Dr. Mike Graham	M	9-5
MS 143	Chemical Oceanography	4	Dr. Kenneth Coale	M	9-5
MS 144	Biological Oceanography	4	Dr. Nick Welschmeyer	W	9-5
MS 204	Sampling and Experimental Design	4	Dr. Gitte McDonald	T	9-5
MS 208	Scientific Methods	4	Dr. Mike Graham	Th	9-5
MS 211	Ecology of Marine Mammals, Birds, Turtles	4	Dr. Gitte McDonald	M	9-5
MS 221	Advanced Topics in Marine Invertebrates	4	Dr. Jon Geller	W	9-5
MS 231	Biology of Seaweeds	4	Dr. Mike Graham	M	9-5
MS 248	Marine Benthic Habitat Mapping Techn.	4	Dr. Ivano Aiello	W	9-5
MS 263	Data Analysis Techniques in Mar Sci	4	Dr. Tom Connolly	T	9-5
MS 272	Subtidal Ecology	4	Drs. Scott Hamilton & Diana Steller	Th	9-5
MS 285-1	Seminar: Biophysical Interactions	2	Dr. Tom Connolly	Th	9-12
MS 285-2	Seminar: Climate Change	2	Dr. Ivano Aiello	Th	1-4
MS 298	Research in Marine Science	1-4	Faculty	Arr.	Arr.
MS 299	Thesis	4	Faculty	Arr.	Arr.

Fall 2016 Graduates

Heather Fulton Bennett

Ecological and Reproductive Consequences of Morphological Variation in Egregia menziesii.

Jackie Lindsey

Estuarine habitat use by the California sea otter (Enhydra lutris nereis)

Keith Hernandez

Sex-specific diet and rockfish consumption in California sea lions (Zalophus californianus): Insights from molecular scatology

Elizabeth Lam Gagneron

Variation in Organismic RNA and DNA Content: Analysis and Application to the Assessment of Living Planktonic Biomass

Alicia Bitondo

Defining the Doratopsis: Investigating the endpoint of the paralarval stage in Chiroteuthis calyx

Catherine Drake

Decorating Behavior and Decorating Preference in the Masking Crab, Loxorhynchus crispatus

Emily Schmeltzer

Micro biome sharing between reef-building corals and associated epizootic gastropods in French Polynesia

MEETING CANCELLED

Spring 2017 Graduates

Kristin Walovich

Taxonomic Revision of the Short-Nose Chimaeras (genus Hydrolagus) from the Southern African Region

James Knuckey

A Taxonomic Revision of Eastern North Pacific Softnose Skates (Arhynchobatidae: Bathyraja Ishiyama)

Robert San Miguel

Gametophyte Fitness and Costs of Self-Fertilization in the Giant Kelp, Macrocystis pyrifera

Christine Mann

Temporal and Spatial Impacts of Water Control Structures on the Benthic Infaunal Community of a Tidally Restricted Wetland in Elkhorn Slough, CA

AY 2016-17 MLML Graduate Student Scholarships & Awards

John H. Martin Scholarship (\$3,000)

Cody Dawson

Xiphias Martin Scholarship (\$500)

Drew Burrier

James Nybakken Scholarship (\$2,500)

Martin Jinchun Guo

Sonia Linnik Hamilton Marine Science Scholarship (\$1,000)

Alex Olson

Signe Lundstrum Memorial Scholarship (\$1,000)

Jen Chiu

Jimmy Williamson

Loury Family Marine Science Outreach Scholarship (\$1,000)

June Shrestha

Bill Watson Memorial Scholarship (~\$2,000)

TBD

Simpkins Family Marine Science Scholarships

Elizabeth Ramsay (\$2,000)

Bonnie Brown (\$1,000)

Amanda Heidt (\$1,000)

Angela Zepp (\$1,000)

MLML Scholar Awards Patrick

Daniel (\$2,000) Stephanie

Schneider (\$2,000)

MLML Wave Awards Rachel

Brooks (\$500) Brijonnay

Madrigal (\$500) Breanna

Machuca (\$750)

Natalie Yingling (\$750)

Holly Chiswell (\$850)

Steve Cunningham (\$850)

Martin Jinchun Guo (\$850)

Myers Oceanographic and Marine Biology Trust Grants (~\$2000 ea.)

Heather Barrett

Patrick Daniel

Jennifer Johnson

Laurel Lam

MEETING CANCELLED

Brijonnay Madrigal
June Shrestha

Zale Parry Scholarship (\$6000)
Angela Zepp

International Women's Fishing Association Scholarship (\$3000)
June Shrestha

PLEASE JOIN US FOR OUR AY16-17 SCHOLARSHIP RECEPTION:



5/2/2017

MLML State Budget FY 16/17 & FY 17/18 Proposed

		<u>FY 16/17</u>	<u>Actuals as of</u>	<u>Projected</u>	<u>FY 17/18</u>
		<u>Budget</u>	<u>3/31/2017</u>	<u>Year End</u>	<u>Proposed Budget</u>
REVENUE					
	Salary	1,811,042	1,813,522	1,813,522	1,813,522
	Benefits	770,000	714,314	770,000	770,000
	⁹ OE&E	407,648	357,648	407,648	407,648
	Utilities	248,463	233,508	306,844	306,845
	² Salary Recovery / Reimbursement	13,000	13,000	-	13,000
	Visiting Scientist Support	21,425	-	21,425	21,425
	Other Reimbursement/Support	5,000	13,130	13,130	5,000
	CSUMB Contribution	50,000	-	50,000	50,000
	Prior Year Balance Forward	166,917	166,917	166,917	110,642
	¹ Roll-Forward Encumbrances	-	29,932	29,932	-
TOTAL REVENUE		\$ 3,493,495	\$ 3,341,971	\$ 3,579,418	\$ 3,498,082
SALARIES (Salary \$)					
	³ Faculty	854,954	647,103	866,410	787,584
	⁴ Staff	897,348	678,839	904,508	898,104
	⁵ Temporary Faculty	27,000	-	-	27,000
SALARIES (OE&E)					
	⁶ Visiting Scientist	35,366	35,366	35,366	30,000
	⁷ Graduate Assistants	63,700	51,609	75,842	63,700
	⁸ Student Assistants	123,000	87,314	123,412	123,000
BENEFITS		770,000	715,639	771,325	770,000
TOTAL SALARIES & BENEFITS		\$ 2,771,368	\$ 2,215,871	\$ 2,776,863	\$ 2,699,388
OPERATING EXPENSES					
<i>ADMINISTRATION</i>					
	Taxes / Liability Premiums	1,400	709	945	1,400
	Office Supplies	4,500	2,146	2,861	3,500
	Copiers & Maintenance	6,500	7,105	8,193	8,000
	Furniture/Equipment	2,000	-	-	2,000
	Postage / Postage Meter Rental	2,700	1,643	2,343	1,605
	Telecommunications	5,000	4,800	4,800	4,800
	Memberships	5,400	5,460	5,460	5,400
	Faculty / Staff Recruitment	3,000	-	-	3,000
	Startup Funds	26,033	12,513	12,639	88,618
	Travel / Training	4,000	2,820	3,760	4,000
	Miscellaneous	1,500	1,611	1,847	1,500
	Reimbursable Grant/Award Exp.		9,091	10,374	
	Roll-Forward Expenses	-	667	667	-
TOTAL ADMINISTRATIVE EXPENSES		\$ 62,033	\$ 48,565	\$ 53,889	\$ 123,823
<i>INSTRUCTIONAL SUPPLIES</i>					
	Equipment/Services	15,000	6,895	6,895	15,000
	Aquarium Room Refresh	1,000	-	-	1,000
	Class Materials & Supplies	8,000	4,775	5,836	8,000
	Baja Course	5,000	-	-	5,000
	Oceanographic Instrumentation	3,000	1,189	1,189	3,000
	Molecular Ecology	-	-	-	-
	Miscellaneous	1,000	-	-	1,000
	Roll-Forward Expenses	-	5,515	5,515	-

MEETING CANCELLED

11

11

11

TOTAL INSTRUCTIONAL SUPPLIES		\$ 33,000	\$ 18,374	\$ 19,435	\$ 33,000
		<i><u>FY 16/17</u></i>	<i><u>Actuals as of</u></i>	<i><u>Projected</u></i>	<i><u>FY 17/18</u></i>
		<i><u>Budget</u></i>	<i><u>3/31/2017</u></i>	<i><u>Year End</u></i>	<i><u>Proposed</u></i>
				¹⁰	<i><u>Budget</u></i>
<i>MARINE SCIENCE DIVING</i>					
	Supplies & Repairs	10,000	6,371	8,495	10,000
	Roll-Forward Expenses		2,475	2,475	
TOTAL MAR. SCI. DIVING EXPENSES		\$ 10,000	\$ 8,847	\$ 10,971	\$ 10,000
<i>ENVIRONMENTAL HEALTH & SAFETY</i>					
	Supplies & Permitting	8,600	3,343	5,615	8,600
	Museum	1,500	346	461	1,500
	Roll-Forward Expenses	-	-	-	
TOTAL EHS EXPENSES		\$ 10,100	\$ 3,689	\$ 6,076	\$ 10,100
<i>FACILITIES</i>					
	Janitorial Services & Supplies	33,425	23,937	26,246	33,425
	Landscaping / Restoration	5,040	2,520	5,040	5,040
	Vehicle Maintenance & Repair	7,000	2,496	3,328	7,000
	Gasoline Charges	9,000	3,190	5,206	7,000
	R/V Sheila B - Fuel & Upkeep	3,000	1,067	1,422	3,000
	Proposed Facility Projects	44,505	50,473	50,473	50,000
	Scheduled Maintenance & Repair	15,000	6,155	8,820	15,000
	General Supplies & Repairs	29,750	22,563	30,084	29,750
	Seawater System	21,000	14,096	18,795	21,000
	Roll-Forward Expenses		20,544	20,544	
TOTAL FACILITIES EXPENSES		\$ 167,720	\$ 147,043	\$ 169,959	\$ 171,215
<i>UTILITIES</i>					
	Electricity	190,829	175,006	234,541	234,541
	Gas	29,956	31,911	42,548	42,548
	Water	5,804	3,277	4,369	4,369
	Sewage	6,795	5,700	7,600	7,600
	Trash	15,078	13,340	17,787	17,787
TOTAL UTILITY EXPENSES		\$ 248,462	\$ 230,133	\$ 306,844	\$ 306,845
<i>LIBRARY</i>					
	Services	10,000	10,000	10,000	10,000
	Books/ILL/Supplies	7,000	11,631	13,792	7,000
	Periodicals	82,220	87,186	87,186	82,220
	Roll-Forward Expenses		730	730	
TOTAL LIBRARY EXPENSES		\$ 99,220	\$ 109,547	\$ 111,708	\$ 99,220
<i>NETWORK</i>					
	Hardware	17,000	6,409	8,545	17,000
	Software	16,300	3,364	4,485	16,300
	Roll-Forward Expenses	-	-	-	
TOTAL NETWORK EXPENSES		\$ 33,300	\$ 9,773	\$ 13,030	\$ 33,300
TOTAL OPERATING EXPENSES		\$ 663,835	\$ 575,970	\$ 691,913	\$ 787,503
TOTAL EXPENSES					
		3,435,203	2,791,841	3,468,776	3,486,891
TOTAL REVENUE					
		3,493,495	3,341,971	3,579,418	3,498,082
CASH FLOW BALANCE					
		58,292	550,130	110,642	11,192
ADJUSTED BALANCE					
		\$ 58,292	\$ 550,130	\$ 110,642	\$ 11,192

Notes:

- ¹ Open encumbrances from previous fiscal year are rolled forward into the next year's budget
- ² Faculty buyout
- ³ Faculty = 9
- ⁴ Staff = 8
- ⁵ Temporary Faculty: Fall = 0, Spring = 0
- ⁶ OE&E Salaries - MLML pays salaries and all benefits
- ⁷ Graduate Assistants: Fall = 6, Spring = 8
- ⁸ Student Assistants: Summer = 9, Fall = 11, Spring = 12
- ⁹ Includes State Support OE&E budget and \$50K from Provost
- ¹⁰ Actual expenses only, no blanket encumbrances
- ¹¹ Expenses on rolled encumbrances from the previous fiscal year

FY 16/17 Projects

Main Lab

Seawater pump system	33,500
Air Handlers/Exhaust Fans/Freq. Drives	8,255
Seminar Room tables	1,750
Carpet IT Area	1,000

FY 17/18 Projects

Main Lab

Main Lab Generator	10,000
Main Lab Transformer	13,500
Pump House Power Augmentation	8,500
Seminar Room Kitchen Remodel	18,000

MEETING CANCELLED

MLML Operating Budget: SJSU Research Foundation

Includes MLML Operating, Norte, Del Mar, Sandholdt, Firehouse and Shore Lab

REVENUE	FY 2015-2016 ACTUALS	FY 2016-2017 ESTIMATED	FY 2017-2018 PLANNED
Other Income	990	650	1,000
Balance From Previous Year	-	133,869	91,765
Rental Income (Del Mar, Sandholdt Center)	114,750	112,000	110,000
F&A Return <i>(Less 10% to PI's, Res 198, Reserve)</i>	510,838	221,371	100,000
Foundation Admin and Facility Support + Supplement	190,000	190,000	315,000
Total Revenue	816,578	657,890	617,765
Operating Budget:	608,123	566,125	580,000
Balance:	208,455	91,765	37,765

EXPENSES	FY 2015-2016 ACTUALS	FY 2016-2017 ESTIMATED	FY 2017-2018 PLANNED
Total Salaries, Wages and Benefits	420,613	375,925	400,000
Total Administrative Costs	22,812	22,300	21,500
Total Information Technology	18,558	28,400	30,000
Total Supplies and Equipment	10,309	11,500	11,500
Total Services & Facility Costs	67,557	72,000	72,000
Total Diving Costs	2,500	3,000	5,000
Total Maintenance and Repairs	50,774	38,000	40,000
Small Boat Support	15,000	15,000	-
Total Operating Costs	608,123	566,125	580,000

MEETING CANCELLED

RESERVE	FY 2015-2016 ACTUALS	FY 2016-2017 ESTIMATED	FY 2017-2018 PLANNED
Beginning Balance Reserve Account	537,785	333,988	359,283
Transfer to Reserve Acct from F&A	69,225	25,295	25,000
MLML Transfer to Reserves (Sale of WPCL Equipment)	-	-	225,000
Expenses (WPCL Equipment Purchase 2015)	273,022	-	-
EOY Balance	333,988	359,283	609,283

REFINANCING ACCOUNT	FY 2015-2016 ACTUALS	FY 2016-2017 ESTIMATED	FY 2017-2018 PLANNED
Beginning Balance Refinancing Account	(3,045,608)	(3,030,238)	(3,004,943)
Transfer to Refinancing Acct from F&A	15,370	25,295	15,000
EOY Balance	(3,030,238)	(3,004,943)	(2,989,943)



FRIENDS OF MOSS LANDING
MARINE LABORATORIES

DONATIONS TO DATE AY16-17:

\$500,000

DONATIONS AY15-16:

\$630,715

AY16-17 ACTIVITIES

- *Develop Social Media Presence*
- *Monthly E-Newsletters*
- *Collect Email Addresses From Donors*
- *Support Open House*
- *Fundraising for Scholarships*

MEETING CANCELLED





Moss Landing Marine Laboratories

Period of report

1 July 2016 through 30 June 2017

Date due

September 29, 2017

Date submitted

Prepared by (indicate lead and other contributors)

Dr. James Harvey, Director

Kathleen Donahue, Assistant to the Director

Approved by

Mary Papazian, President - SJSU

Contents

1	Executive summary	3
2	Achievements against strategic plan milestones	4
3	Impact	6
3.1	Scientific impact	6
3.2	Financial impact for CSU	6
3.3	Student success impact	7
3.4	Community impact	7
3.5	Communication and dissemination activities	12
4	Training and workforce development activities.....	14
5	Intellectual property and technology transfer.....	15
6	New activities planned for coming year	16
7	Problems and opportunities	17
8	Budget	19
9	Appendix: Affinity group's self-certification checklist.....	22

1 Executive summary

CSU CO Instructions: In the summary include information about (a) affinity group contribution to the fundamental mission of the CSU system, (b) ability of the affinity group to attract external funds and grow in a financially sustainable manner, (c) return on investment that includes funding, student success, publications, engagement with community, service etc., (d) other points that you may have including constructive suggestions for improvement.

MLML contributes to the mission of the CSU by providing a world-class M.S. degree program in marine science, which includes curriculum, student mentoring, access to research and educational tools, and administrative and facilities support. MLML also contributes to the mission of the CSU by encouraging and supporting innovation, learning, and student and faculty fulfillment. In the past year, MLML has secured 82 grants totalling \$8.8 million in extramural funding from Federal, State, and private sources, \$640,000 in donations, and awarded 12 graduate students with \$22,000 in scholarships.

Twelve students finished their M.S. degree this past year, and students continue to receive many regional and national awards (e.g., Central California Diving Aquatics Studies Scholarship, Academy of Underwater Arts and Sciences Zale Parry Scholarship, and International Women in Fishing Association's scholarship). Personnel at MLML published 35 peer-reviewed articles and six books. MLML continues to engage with the community and public via the annual MLML Open House that attracted 2,000 people in Spring 2017; via social media; and via community lecture series, tours, and sponsored many community events. We are reorganizing various aspects of the curriculum and advising to reduce the time it takes students to graduate.

MLML's plans include the final stages of the proposed Center for Aquaculture, adding two new tenure-track faculty members, and a new Sea Grant Extension Specialist in aquaculture. Our faculty, researchers, and students have research projects throughout the world including Antarctica, Arctic, Indian Ocean, Indonesia, Chile, Mexico, Philippines, and throughout the tropical and temperate Pacific. These studies are making a difference in the future of science and the oceans.

2 Achievements against strategic plan milestones

Enter as many objectives as needed to summarize achievements

Objective 1: Education - Student Success

No.	Activity	Outputs/ milestones	Completion date	Comments
1.1	Increased Accountability	Thesis Committee	October 2017	Committee formed to provide guidance to students who have not received thesis topic approval and to set yearly milestones for students and advisors. Faculty Chair scheduled a Thesis Symposium for students without an approved thesis proposal where students will be expected to present their ideas and preliminary thesis topics to the MLML community.
1.4	Creation of an Aquaculture Program	Partner with CA SeaGrant to host an Aquaculture Specialist.	Fall 2016	Earmarked funding to pay 25% of the salary for the CA SeaGrant Specialist who will begin in March 2018.

Objective 2: Research

No.	Activity	Outputs/ milestones	Completion date	Comments
2.2	Integration of Research Faculty Into Academic Program	Promote greater use of MLML Research Affiliates	July 2017	3 new Research Affiliates appointed from NOAA and the Naval Postgraduate School held a summer computer programming workshop for MatLab and Python and have research cruise opportunities for MLML students in 2018 and 2019.
2.4	Faculty Recruitments	Recruit new faculty and researchers specializing in new marine science subject areas	August 2018	With the retirement and pre-retirement of 2 TT Faculty at MLML, recruitments began for two new TT Faculty in Oceanography and marine Invertebrate Zoology. The new CA SeaGrant Specialist will develop a course in Aquaculture for AY18-19

Objective 3: Societal Benefits

No.	Activity	Outputs/ milestones	Completion date	Comments
3.2	Enhanced Online Presence	Launched new, re-designed website and enhanced social media sites	Fall 2016 and July 2017	In the Fall of 2016, MLML synchronized multiple social media pages, brought uniformity and consistency to MLML branding and introduced more modern posting themes. New website was launched in July 2017

3.4	New & Strengthened Partnerships	Started two new collaborations at the Aquaculture Facility with local researchers.	July 2016	MLML will begin collaborating with CSUMB on an ocean acidification project and an Olympia Oyster Restoration project with the Elkhorn Slough at the Proposed Aquaculture Center.
-----	---------------------------------	--	-----------	--

Objective 4: Infrastructure & Funding

No.	Activity	Outputs/ Milestones	Completion date	Comments
4.1	Continued Development of MLML Properties	Received Coastal Commission approval to erect structure for an ocean acidification project at the Aquaculture Facility	August 2017	All development in Monterey County must obtain design approval from Monterey County Planning and then apply to the Coastal Commission for a permit to build or alter property. We are going through a design phase currently before attempting to raise funds for permitting and development.
4.5	Philanthropic Development	Dedicated staff	Spring 2017	SJSU College of Science Advancement director began working at MLML 1 day per week.

3 Impact

3.1 Scientific impact

CSU CO Instructions: Include scientific advances and journal publications. Include impact on faculty career development.

MLML faculty, labs, and research facilities have made significant advances within marine science disciplines while also influencing faculty career development, research, and scholarship positively. Our scientific impact is demonstrated in research awards won by faculty members, grants awarded to MLML research projects, and through recognition in journal publications. In fact, MLML Faculty and Research Affiliates authored and co-authored a total of 35 articles and papers and published six scientific books.

Dr. Colleen Durkin, Research Faculty member in Biological Oceanography, won the 2016 Luigi Provosoli Award from the Phycology Society of America, received the 2016 NSF EAGER Award, the 2017 CA SeaGrant New Faculty Award and was selected to join the NASA EXPORTS field program and Sea to Space Particle Investigation cruise aboard the R/V Falkor in March 2017.

With funding from the CSU COAST Grant Development Program, another tenure-track faculty member who studies the ecological impacts of the coastal zones, Dr. Tom Connolly, is starting a new project investigating remote forcing of seasonal currents in the California Current System. Additionally, the CSU COAST awarded Professor Ivano Aiello from the Geological Oceanography Lab, who specializes in Marine Geology and cross-disciplinary fields within marine sciences, a Rapid Response grant to study the changes in beach morphology and sand budgets in Monterey Bay that are associated with the storm activity during the 2015 El Nino.

Professor Michael Graham of the Phycology Lab continued serving as the Managing Editor and Co-editor of the Journal of Phycology. Also, several MLML faculty members received assigned-time support from the College of Science in recognition of, and to further, their research activities.

MLML Faculty and Research Affiliates authored, co-authored and published 35 peer-reviewed articles and papers, and 6 scientific books.

3.2 Financial impact for CSU

CSU CO Instructions: Indicate whether affinity group projects generated revenue beyond grant funding.

Total Revenue generated: \$640,000

- \$2,600 generated from the rental of the Seminar Room and other classrooms to outside groups.
- \$630,715 in donations received.
- \$8,000 revenue generated by the MLML Student Body from Open House 2017.
- \$3,400 revenue from MLML Merchandise Store, operated via the SJSU Bursar's Office.
- \$24,417 in revenue from Sandholdt property house rentals
- \$96,000 in revenue earned from rental of our dock to Del Mar Seafoods, Inc.

3.3 Student success impact

As an institution within the CSU, MLML aims to impact student success and encourage state, national, and international student enrolment. MLML students demonstrate such success through scholarships earned, grant awards, and professional recognition within the field of marine sciences.

The California Sea Grant State Fellowships, an esteemed program that matches qualified graduate students with "hosts" in municipal, state and federal agencies in California for a 12-month paid fellowship, awarded the highly sought-after experience to two MLML students.

The Dr. Earl H. Myers and Ethel M. Myers Oceanographic and Marine Biology Trust of Pebble Beach Grant, which supports the work of outstanding student researchers in the Monterey Bay Area, awarded a total of \$10,200 to six MLML students.

June Shrestha, an Ichthyology lab student, was awarded the prestigious Central California Diving Aquatics Studies Scholarship. Other Ichthyology lab students, Bonnie Brown and June Shrestha, won the International Women in Fishing Association's scholarship and Wil Fennie made headlines when he studied the effects of ocean acidification on juvenile rockfish

Angela Zepp, a Phycology lab student, was awarded the Academy of Underwater Arts and Sciences Zale Parry Scholarship, one recent graduate was hired by the Monterey Bay Aquarium's cephalopod research group and a second recent graduate was hired as the Diving Safety and Logistics Specialists at the University of Hawaii Manoa. Chemical Oceanography lab student, Maureen Wise, spoke at the 2017 Girls in Ocean Science Conference conducted by the Ocean Institute in Orange County.

Discovery Channel's popular programming during Shark Week 2016, "Alien Sharks: Stranger Fins," featured Paul Clerkin and Vicky Vasquez, two MLML students, from MLML's Pacific Shark Research Center. The Pacific Shark Research Center earned additional prestige when one of its graduate students, Kristin Walovich, discovered a new species of shark, the *Bucktoothed Ghost Shark*.

The CSU COAST Graduate Student Research and Travel program awarded a total of \$9000 to three MLML students and The David and Lucile Packard Foundation awarded ten students Research and Travel Grants that totalled \$10,000. MLML invested in its students as well and awarded a total of \$22,000 over 12 student scholarships.

With the help of individual achievements made by our students, MLML has grown in recognition as an esteemed academic and research institution. In Fall 2016, a remarkable 17 new students started at MLML, this past year 12 Students graduated with an MS in Marine Science, and the recent Open House 2017 welcomed almost 2000 visitors and generated \$8,000 in donations to support students.

Additionally, MLML encourages student engagement within and outside of our institution to advance knowledge and research findings further. MLML graduate students served as mentors to 12 undergraduates from the University Research Opportunities Center (UROC) at CSU Monterey Bay and MLML Students and Faculty mentored six students from the NSF Research Experience for Undergraduates (REU) program at CSU Monterey Bay. MLML faculty member Dr. Tom Connolly and 2 Research Affiliates from MOBY and NOAA provided free statistical programming tutorial workshops on using MatLab and Python to over a dozen students.

3.4 Community impact

A major vision of MLML lies within its ability to strengthen the local Moss Landing community, along with the larger state, national, and international communities. As a

member of the CSU, all of MLML's research is done in this spirit of advancing knowledge of the marine sciences and to promote sustainable ocean systems.

MLML is a member of the Moss Landing Chamber of Commerce and participates in all public meetings conducted by the County of Monterey regarding Planning and Development of Moss Landing, California and its harbor. Additionally, MLML continues its positive relationship with neighboring oceanographic institute, the Monterey Bay Aquarium Research Institute (MBARI) by working with them to replace the sea water pump system, maintain properties, coordinate security, share scientific subject matter expertise and sharing use of boats and dock space.

MLML strives to promote community integration, communication, and environmental recognition as both an academic and research facility and through the professional accomplishments of its faculty. MLML gave 40 free tours to K-12 classes, including a high school Aquaculture class who spent the weekend at MLML and an undergraduate Biology class from CSU Stanislaus that stayed for three days.

Additionally, MLML's Vertebrate Ecology Lab manages BeachCOMBERs, a regional team of 75 trained public volunteers that monitors beaches from central California to Mexico, counting and surveying dead and stranded marine mammals, birds and turtles.

The MLML Annual Open House is a well-known event in the Monterey Bay area and draws visitors of all ages from across the state, consortium campuses and family and friends. It is put on by MLML students and supported by staff, faculty and researchers, and welcomed 2000 visitors over two days and generated \$8000 for the MLML Student Body.

MLML welcomed 40 different groups in the Seminar Room and classrooms. These groups provided MLML with \$2600 in rental revenue for the use of the rooms, an amount directly used towards student support:

- *Central Coast Fire and Red Cross used our seminar room as HQ during the major Big Sur fires in 2016*
- *CA Assemblyman Mark Stone*
- *Congressman Panetta*
- *Habitat for Humanity*
- *Cal State University Emergency Planner's Meeting*
- *CSUMB conducted four workshops and meetings*
- *CSU Fresno*
- *Humboldt State*
- *SJSU*
- *NOAA*
- *MLML and collaborators conducted a Wildlife Disturbance workshop and Whale Disentanglement training sessions.*

MLML understands the importance of raising awareness of oceanic life through public education and takes advantage of community-based platform opportunities to do so. MLML was considered the most popular booth when it participated in Monterey's Whale Festival 2017 by displaying specimens from our Biological Collection ranging from shark jaws to jarred fish and marine mammal skeletons and hides. MLML's Pacific Shark Research Center participated in the California Academy of Sciences *Sharktoberfest* in October 2016, where it displayed specimens and gave presentations about shark research. MLML also invites outside researchers from The Elkhorn Slough Foundation to use the Biological Oceanography lab every week for continued collaboration on wetland restoration and aquaculture.

MLML community impact relies on the outreach of students, faculty, and staff. Kathleen Donahue, Assistant to the Director, connected MLML to the Monterey Bird Festival in Summer 2016. At the festival, MLML hosted a site for lectures, showed a film, displayed our sea bird collection with student volunteers answering any questions from the public and offering support at the table, and led birding walks along the slough, shoreline and dunes.

The research of our faculty also plays a distinct role in MLML's community impact strategy. Alum Gary McDonald from the Invertebrate Zoology Lab, who spent decades studying and documenting California nudibranchs, had the prestigious honor of having a new nudibranch species named after him, "McDonald's Dorid" (*Limacia mcdonaldi*).

Professor Emeritus Mike Foster and former MLML Post Doc Dave Schiel received the Gerald W. Prescott Award in June 2017 from the Phycological Society of America for their book, "*The Biology and Ecology of Giant Kelp Forests*." Professor Emeritus Greg Cailliet was elected President of the Cannery Row Foundation Board of Directors whose mission is to preserve historical sites along Cannery Row in Monterey.

Professor MacDonald of the Vertebrate Ecology lab served as a judge for CSU Monterey Bay's Marine Science Department undergraduate poster session and MLML's Environmental Health and Safety Officer, Jocelyn Douglas served her 5th year on SJSU's IACUC Board.

3.4.1 Economic impact

As an internationally recognized institute of marine sciences, MLML requires a broad economic strategy to maintain its academics, research lab and expeditions, and the maintenance of six properties. During AY16-17, MLML submitted 66 proposals totalling \$15.6 million. For its 8th year, MLML operated on a \$3.5M budget from the State, \$50K of which was allocated to hire more student assistants to support our IT department and to fund 25% of the salary for a California SeaGrant Aquaculture Specialist. When, and if, necessary, SJSU can provide additional IT support.

To qualify and remain competitive for grant revenue, MLML must remain on the cutting edge of innovation because the scientific discoveries and investigations generated by MLML link powerfully to local, regional, state, national and international economics. For example, understanding the effects of climate change and overfishing informs diverse populations about regulating local fisheries and assessing shoreline communities and assets. MLML was awarded 82 grants totaling \$8.8 million. This generated \$1.9 million in F&A revenue, of which MLML was returned \$128k, and \$190k in administrative support for facilities and administration.

3.4.2 Social impact

MLML advocates on behalf of the marine sciences and oceanic life, and how the health of our oceans, coastlines, and sea life directly impacts society and the quality of individual lives. As such, it is vital MLML continue efforts to highlight our exemplary research efforts through volunteer opportunities, traditional and social media, and through increased brand-marketing.

MLML's research activities throughout AY16-17 served to raise awareness and influence such societal issues as fisheries management, impacts of climate change, pollution from anthropogenic sources like agricultural runoff and ballast water release from ships, and developing sustainable aquaculture methods. Also, MLML staff, faculty, researchers, and students volunteered with the Marine Mammal Center, Monterey Bay Aquarium Research Institute's Open House, and as divers for the Monterey Bay Aquarium. Additionally, representatives from MLML visited local K-12 schools, Rotary Clubs, and the SPCA.

In efforts to increase donations for student support and lab operations and expand our reputation within and outside of the scientific community, we've renewed emphasis of

MLML, SJSU, and CSU-branding on posters, papers, and during presentations. Additionally, we've increased our media presence so that it both highlights and reinforces the dedicated work of MLML faculty, students and researchers.

Additionally, Kathleen Donahue, Assistant to the Director, began an aggressive campaign to increase MLML's online presence by synchronizing all MLML social media sites and launching more modern and consistent posts such as *#LiveEveryWeekLike*, features on students and researchers, and video blogs called "*What is Up With Your Science MLML?*" These new posts have generated a 50% increase in views, shares, and followers. The MLML Graduate Student blog, "The Drop In," communicating individual student research and achievement, continues to gain popularity and success.

3.4.3 Environmental impact

MLML seeks to advance marine sciences, strengthen environmental policy, and engage individuals and communities in building a sustainable world. Positively contributing to the environmental health of California and the planet is the driving force behind faculty research and scholarship as well as a major component of MLML's mission. A reduced environmental impact and increased environmental awareness is the result of a collective strategy among staff and faculty, MLML research labs and classrooms, MLML sponsored, approved, and partnered studies, as well institutional action taken onsite. As such, to better sustain natural resources and to minimize the institution's environmental impact, MLML Facilities, SJSU FD&O, and PG&E conducted an energy assessment on all of the MLML buildings.

Environmental awareness efforts are reflected in our local research studies taking place at MLML and in the Monterey Bay, nearby in San Francisco and the surrounding Bay Area, and in our expeditions expanding up and down the California coastline and in other parts of the country and world.

The Marine Pollution Studies Lab (MPSL) began a long-term monitoring program for mercury and nutrients in the San Francisco Bay Delta and collected samples from the Yolo River during the 2017 flood event. Other local initiatives include The Central Coast Wetland Group (CCWG) building a 12-chamber bio-reactor to treat agricultural run-off and an 18-acre wetland treatment site to filter pollutants entering wetlands near Moss Landing. Incidentally, the CCWG also conducted fieldwork for the Environmental Protection Agency at 51 sites within the state of California. With renewed funding from NOAA, the Central and Northern California Ocean Observing System will continue to support MLML shore stations. These stations will be maintained by MLML principal investigators Drs. Connolly, Smith, Harvey, and Coale along with technical manager Jason Adelaars.

MLML faculty and research affiliates, with studies occurring onsite at one of MLML's laboratories or locally, nationally, and internationally, are furthering understanding on how human innovation effects the climate and the environment as well as the interconnectedness of ecosystems around the planet. Below are examples of such vital work happening within the expansive MLML community.

Professor McDonald from the Vertebrate Ecology Lab and other researchers measured the impact of sound on marine mammals and fish using Bioacoustics. Dr. McDonald measured the negative effects vessels had on the behaviors of marine mammals.

Dr. Qing Wang and Dr. Denny Alappattu, research affiliates from the Naval Postgraduate School's Meteorology and Oceanography Departments, worked on air-sea interactions. Dr. Wang supported the MLML Chemical Oceanography Lab in identifying the role of fog in transporting contaminants from sea to land and to improve maritime communication while Dr. Alappattu's remote sensing observations looked at air-sea interaction in the marine atmospheric surface.

In further studies to identify the transmission quality of fog, Dr. Kenneth Coale, Chemical Oceanography Professor, continued his collaboration with UC Santa Cruz on a NSF-

funded project. Dr. Coale measured levels of mercury contained in coastal fog, between Ventura, CA and Newport, OR, up to 100 miles offshore, that is carried to land and deposited into the ecosystem. His work is particularly relevant as traces of mercury have been found in the coastal redwoods, biota, and mountain lions.

Dr. Tim Stanton from the Naval Postgraduate School and Research Affiliate deployed an Autonomous Ocean Flux Buoy at the North Pole in April 2017. Every two hours, the buoy reports vertical fluxes of heat, salt, and momentum just below the ice as it drifts toward Fram Strait, between Greenland and Spitzbergen.

Dr. Valerie Loeb, Research Faculty in Biological Oceanography, submitted final documentation summarizing results from a major NSF project conducted between 2014 and 2015 in Antarctica. Dr. Loeb used net sampling and Acoustic Doppler Current Profiling to study the biomass of zooplankton and physical structuring imposed by strong frontal jets of the Antarctic Circumpolar current. Dr. Loeb has also conducted a post-cruise analysis of zooplankton taxa collected during a pilot study inside the Drake Passage.

Dr. Ivano Aiello, Geological Oceanography Professor, began a long-term study using Terrestrial Laser Scanning and Unmanned Aerial Vehicles (drones). Dr. Aiello tracked the positions of California coastlines through time, in order to show trends in coastal erosion dating back to the beginning of the 20th century. Dr. Aiello also participated in the IODP Expedition 363 aboard the R/V *Joides Resolution* in the Western Equatorial Pacific where samples, or cores, of deep-sea sediment from key locations, were taken to identify different species of plankton contained in the sediment. This work will lead to an enhanced understanding how global warming might change the climate in this area and how this may influence climate elsewhere.

Dr. Nick Welschmeyer, Professor of the Biological Oceanography Lab, continued his research collaboration with the Cal State Maritime Academy analyzing ballast water deposited into the ocean from ships and how it is contributing to the spread of invasive species.

Dr. Mike Graham, Phycology Lab Professor, continued development of MLML's Aquaculture facility. The primary goal of MLML's Aquaculture facility is to develop novel technologies for enhancing the sustainability and productivity of current aquaculture practices. During AY16-17, Dr. Graham focused on studying more sustainable ways to cultivate seaweeds and algae to serve as potential food sources and to preserve kelp habitats essential to rockfish survival.

Philip Heller, a former Post-Doctoral Research Assistant, joined the faculty in the Computer Science department at SJSU where he will be teaching Programming and Bioinformatics in marine environments with a focus on Antarctica and the Baltic Sea, especially in the context of climate change.

The Ichthyology Lab, led by Professor Scott Hamilton, with funding from NSF, CA Sea Grant, NOAA, and SJSU investigates the effects of climate change (ocean acidification and hypoxia) on various aspects of the ecology and physiology of rockfish and other groundfish. Dr. Hamilton collaborated with students and faculty from MLML, CSU Monterey Bay, UC Santa Cruz, and NOAA Fisheries. They spent six weeks conducting the first ever quantitative surveys of kelp forests around Tristan da Cunha Islands (Tristan, Nightingale, Inaccessible, and Gough) in the South Atlantic on a project lead by the National Geographic Pristine Seas Program. Tristan da Cunha is the most remote inhabited archipelago on the planet. Additionally, in June 2017 Dr. Hamilton participated on a 3-week expedition to the remote southwest islands of Palau (Fana & Sonsorol, Pulo Ana, Tobi, Merir, and Helen Reef) to conduct SCUBA surveys of coral reef fish communities with colleagues from the Scripps Institution of Oceanography as part of the 100 Islands Challenge initiative.

The Benthic Lab, led by Research Faculty Dr. John Oliver, collaborated with architects from California College of the Arts to help their students design and build a floating “houseboat of the future” for deployment in the Maldives in 2018.

The Fisheries and Conservation Biology Lab, led by Dr. Rick Starr, Research Faculty member, completed its 10th year monitoring central coast marine reserves as the leader of the California Collaborative Fisheries Research Program (CCFRP). In recognition of the value of this work, the California Ocean Protection Council provided new funds to expand the program to other parts of the state. This expansion entailed Dr. Starr spending much of 2017 developing relationships with UC San Diego, UC Santa Barbara, Cal Poly San Luis Obispo, UC Davis Bodega Marine Lab, and Humboldt State University to create a statewide MPA monitoring program for marine reserves. Dr. Starr also worked with the Nature Conservancy, National Marine Fisheries Service, MBARI, and UC Santa Barbara to develop new tools and techniques for surveying high-relief rock habitats. His team also collaborated with UCSB researchers to use stereo video camera systems to evaluate species distributions in mid-depth areas around Anacapa Island.

Additionally, he received funding from the Ocean Protection Council to organize a series of workshops for scientists using camera systems to discuss the best ways to monitor the deeper portions of MPAs in California. In the last academic year, on behalf of the Fisheries and Conservation Biology Lab, Dr. Starr received funding from NOAA/NMFS to continue biological sampling of species being considered for stock assessments.

As demonstrated above, MLML’s strategic focus to lessen environmental impact lies in the dedication, expertise, and research of our faculty and affiliates, but also in our ability as an institution to share their findings with the scientific community and, when appropriate, the world. The results of Professor of Invertebrate Zoology, Dr. Jon Geller’s, study measuring and assessing debris found along the California coast from the 2011 Japanese Tsunami will be published in the journal *Science* this year. G. Jason Smith, Research Faculty from the Environmental Biotechnology Lab, received worldwide review for his published papers on the 2015 harmful toxic algal bloom events in the Monterey Bay.

3.5 Communication and dissemination activities

MLML is dedicated to increasing positive impacts on the climate and local, national, and international ecosystems. Communication, via journal articles, lectures, research, and online are all vital pieces to achieving this type of positive global influence. MLML’s dissemination strategy includes publishing research, enhancing online presence and accessibility, participating in lectures and seminars, and faculty involvement in committees or other events within the scientific community.

As a result, MLML was involved with numerous positive communication activities. A total of 35 articles and papers and 6 scientific books were authored and co-authored by MLML Faculty and Research Affiliates. The MLML faculty and research community were members of several organizations and committees: Monterey Area Research Information Network for Education (MARINE) and the Monterey Bay National Marine Sanctuary Advisory Committee. Additionally, MLML distributed packets containing an academic report, budgets and Director’s update in Fall 2016 and Spring 2017. (The MLML Governing Board met in the Fall of 2016 but were unable to meet Spring of 2017.)

Faculty and students led many efforts to both increase and enhance MLML’s outward facing communication. Between 2016 and 2017, Professor McDonald from the Vertebrate Ecology Lab presented at the Western Society of Naturalists, the WAVE Foundation Seminar Series, the Scientific Committee on Antarctic Research Conference, the Acoustical Society of America, the Pacific Sea Bird International Symposium and the 9th Annual Penguin Congress in South Africa.

The Pacific Shark Research Center presented at the American Elasmobranch Society meeting in July 2016 and the IUCN Shark Specialist Group in 2017.

Oceanographic Research Affiliate, Dr. Larry Breaker, was invited to present at SCRIPPS 100th Anniversary of the Shore Station Program

Professor Tom Connolly of the Physical Oceanography Lab co-chaired a scientific session on the California Undercurrent at the 2016 Eastern Pacific Ocean Conference (EPOC) and was selected to be co-organizer of the next EPOC in September 2017. Professor Connolly, along with his graduate students Ryan Manzer and Drew Burrier and summer 2016 REU student Miranda Baker, presented work at EPOC, the National Diversity in STEM Conference, the American Society of Limnology and Oceanography Meeting, the Gordon Research Conference on Coastal Ocean Dynamics, and the American Geophysical Union Fall 2016 Meeting.

To enhance accessibility for potential students or outside entities interested in MLML's research, scholarship, and academics, a Web Committee composed of faculty, staff and IT technicians redesigned the MLML website to make it more user-friendly and functional. Katie Lage, the MLML Librarian, launched OneSearch, the new library online catalog and discovery system. OneSearch is a consortial catalog with the 23 campuses of the CSU System and provides streamlined access to print and electronic resources provided by the MLML/MBARI Research Library. OneSearch facilitates enhanced collaboration among libraries and more efficient sharing of library resources.

4 Training and workforce development activities

- a. **CSU CO Instructions:** If relevant, indicate internal CSU and extra-CSU training activities.

Environmental Health and Safety Officer

DOT Hazmat Employee with Packaging online course
Campus Safety Webinar Preparing for an Active Killer
HAZWOPER Refresher
CSU: Bullying in the Workplace
CSU Emergency Manager's Meeting at CSUMB
Campus Safety Conference Long Beach

Marine Operations

Deckhand/Technician: Motor Boat Operator Training Course for Scientific Boating
Safety Association
All: OSHA-Approved Forklift Training

- b. **CSU CO Instructions:** If relevant, indicate internal CSU and extra-CSU workforce development activities

Assistant to the Director

SJSU Media Training for Faculty Affairs
MLML Small Boat Operating Certification

Marine Operations

Manager: USCG Master License (500tons/Oceans) Renewed
Captain and Small Boats Coordinator: USGS Captain's License (100tons/Near Coastal) Renewed

5 Intellectual property (IP) and technology transfer

- a. **CSU CO Instructions:** If relevant, indicate opportunities for intellectual property and technology transfer, including status and next steps

None

- b. **CSU CO Instructions:** Indicate IP training events for participants on how to protect

None

6 New activities planned for coming year

To continue the same level of institutional achievement identified in this document, MLML has an expansive strategy for positive environmental, community, and social impact in the year, and years, ahead. This plan includes property enhancements and renovations, investments in student achievement and faculty development, and sending the Assistant to the Director to CSU's IP/TT training in 2018.

MLML hired a team of current and former Industrial Design students from SJSU to develop a concept for an Academic Village to be built at the Sandholdt property. The current plan for the Academic Village is scheduled to be made available in print and 3D video by December 2017 for use in fundraising. The plan includes student housing, a conference center, a small restaurant, museum, classrooms, labs and an outdoor wetland classroom targeted for K-12 students.

MLML's Del Mar property is undergoing engineering studies to examine options available for removing the dock and building. The next steps involve obtaining approval from the Monterey County Planning Department and California Coastal Commission. Additionally, MLML's Marine Operation Facilities team and Diving Safety Officer will look at options for rebuilding and enlarging the Scientific Diving Area.

Progress continues on MLML's concept of an ORTU through SJSU for a Center for Aquaculture. Although some steps remain before its completion, the proposal has been reviewed and recommended for approval, and a significant amount of new activity is underway as three new research grants start and new infrastructure and researchers come to the facility.

In Spring 2017, The CSU COAST met with MLML students to discuss funding opportunities and as a result many MLML students will be funded during AY17-18 by CSU COAST graduate student awards for travel to field work and conferences.

In efforts to align with the CSU Strategic Plan to shorten the time towards graduation, all MLML students enrolled in an MS program without an approved thesis will be required to present their preliminary ideas and drafts at a Thesis Symposium in October 2017.

In the year ahead, MLML looks towards enhancing our online presence and platform to inspire student enrolment and community support. The new MLML website will continue development and refinement and MLML anticipates sending out regular E-Newsletters to alumni, donors and the community.

Finally, MLML believes student achievement is not possible without the intellect, merit, and guidance of skilled professors and researchers viewed as experts in the field of marine sciences. As such, recruitment efforts will soon be underway to hire two new tenure-track faculty members, a Chemical Oceanographer and a Marine Invertebrate Zoologist by August 2018.

7 Problems and opportunities

Since 1966, MLML has provided quality academic and research opportunities to students, researchers, and faculty members. MLML is unique in its ability to provide both onsite classroom and experiential learning. Each year, MLML is met with the obstacles and problems inherent to any internationally recognized academic and research institution. Such obstacles ahead exist in the areas of economic capacity, CSU institutional leadership, and developmental impact.

- a. **CSU CO Instructions:** Problems: Nature of problems; resources needed to resolve the; status on resolving them

MLML continues to seek additional funding to support its largely graduate student population. Graduate students require more support beyond the typical educational needs including travel, supplies, and research funding. In conjunction with this additional cost associated with graduate students, the State budget remains the same. In fact, the O&E portion of MLML has made only incremental increases since the large cuts starting in 2009, even as the cost for operating MLML increases each year.

MLML's research enterprise is supported by the return of F&A. Typically the variability in this return generated by MLML causes a constant budgetary battle which has been exaggerated recently by the decrease in external support for scientific research, especially from the State. In response to this, The SJSU Research Foundation budgeted an additional \$125,000 allocation to bridge MLML's lower F&A revenue and is committed to be responsive to any of MLML's further research needs. All of this is exacerbated by the fact that MLML has endured an extensive period of time with a small and overextended fundraising and outreach staff. The potential increased support of a development officer from SJSU will greatly increase the capacity for MLML to seek outside funding.

These funding concerns exist in conjunction with uncertainty about which CSU will be the future Operating Institution for MLML. This uncertainty has resulted in a number of decisions or activities being curtailed or altered because the future of the MLML consortium is somewhat dependent on the decision regarding the Operating Institution and the funding model with the CO and consortium campuses.

Capital enhancements rely on meeting standards and regulations in Monterey County which is notoriously strict on development regulations. This has been compounded by recent problems Monterey County has had in staffing the Building Department, thus impacting development plans for MLML (i.e. the Academic Village).

- b. **CSU CO Instructions:** Opportunities: Examples include enterprise-level projects (multi-campus; multi-sector), interdisciplinary projects; high-impact; new technology or tools

MLML leadership interprets the aforementioned problems as opportunities to improve MLML's standing within the scientific and research communities. In addition to these opportunities for success, MLML's future vision includes exciting partnerships, new funding streams, and enhanced technology.

MLML is currently in discussions about jointly operating a new research vessel for California with Scripps Institution of Oceanography (UCSD). This vessel would serve the CSU and UC systems, and operate out of ports in San Diego and Moss Landing.

Funding for MLML's proposed Center for Aquaculture is uniquely poised to support a burgeoning industry and educational opportunity, as funding for aquaculture via NOAA and other funders is likely going to increase.

We are developing a number of new tools that will allow us to study, monitor, and explore the world's oceans. These tools include new sensor technology, video landers, and environmental sensors.

Most favorably, all strides above will provide increased opportunities for CSU campus collaborations and support in MLML's plan to develop additional CSU partners in future marine science endeavors.

8 Budget

CSU CO Instructions: Indicate funds received from (a) the Chancellor's Office, (b) Campus contributions, (c) External funds to support operation of affinity group, (d) External grants of faculty associated with the affinity group

(A) Chancellor's Office

- **COAST Graduate Student Research and Travel Awards given to 3 MLML students totaling \$9000.**

(B) SJSU Contribution

MLML Operating Budget AY16-17: SJSU General Fund		
	<i>AY 16-17 Actuals</i>	<i>AY 17-18 Budgeted</i>
Salary	1,813,522	1,813,522
Benefits	770,000	770,000
OE&E	407,648	407,648
Utilities	306,844	306,845
Salary Recovery / Reimbursement	0	13,000
Consortium Funding-Visiting Scientist	21,425	21,425
Other Reimbursement/Support	13,130	5,000
CSUMB Contribution	50,000	50,000
Prior Year Balance Forward	166,917	110,642
Roll-Forward Encumbrances	29,932	TBD
TOTALS:	3,579,418	3,498,082
<i>Operating Budget For:</i>		
<i>Administration, Instructional Supplies, Dive Program, Facilities, IT</i>		

(C) External funds to support operation of affinity group.

MLML: SJSU Research Foundation F&A Return/Support for Operations

REVENUE	FY16-17 Actuals	FY17-18 Budgeted
Other Income	610	600
Rental Income (Del Mar, Sandholdt Center)	120,417	119,000
F&A Return (Less 30% to PI's, Reserve, Deficit Refinance)	177,068	44,917
Foundation Admin and Facility Support	190,000	315,000
Balance Forward From Previous FY	157,000	58,816
Balance of Revenue To Fund Operations:	645,095	538,333
OPERATIONS DETAIL		
Total Salaries, Wages and Benefits	421,388	429,369
<i>SJSURF Facility and Admin Staff - not from Grant Direct Costs</i>		
Total Administrative Costs	19,844	25,000
Total Diving Costs	1,592	5,000
Total Information Technology	14,551	53,400
Total Maintenance and Repairs to SJSURF Properties:	51,037	53,000
<i>Del Mar, Norte, Aquaculture Center, Firehouse, Sandholdt</i>		
Total Services & Facility Costs	72,849	36,000
Total Supplies & Equipment	5,018	11,500
Small Boat Support	-	15,000
Total Operating Costs:	586,279	628,269
	58,816	(89,936)
RESERVE		
Reserve Account Balance EOY	584,282	600,000
REFINANCING ACCOUNT		
Refinancing Account Balance EOY	(3,004,943)	(2,994,943)
MLML MARINE OPERATIONS BUDGET AND REVENUE FY16-17		
R/V JOHN H. MARTIN	8,310	
R/V SHEILA B.	(7,134)	
ORANGE RHIB	3,986	
WHALERS	(8,838)	
Total Revenue FY16-17:	(3,676)	
OPERATING COSTS FY16-17	(47,477)	
MARINE OPERATION BALANCE FY17-18:	(51,153)	

MLML: SJSU Tower Foundation Financial Report	
TOTAL DONATIONS AY16-17	630,715
<i>Major Donations and Fundraising</i>	
21 Scholarships Awarded	22,000
MLML Merchandise Store Revenue	3,400
Anthropocene Institute Donation	16,500
Monterey Bay Aquarium Research Institute	33,500
The Nature Conservancy	24,000

(D) External grants of faculty associated with the affinity group

- **82 Grants awarded totaling \$8.8 Million.**
- **66 Proposals submitted during AY16-17 totaling \$15.6 Million.**

9 Affinity group's self-certification checklist

CSU CO Instructions: Requirements to grandfather in as a System-Wide Center or Institute under EO 1103.

Check list for:

PURPOSE:

- ☒ Organized around a scholarly, creative, research, education, and/or public service activity that combines interests/expertise of individuals, departments or administrative units, and may draw on expertise of others external to the campus or the academy
- ☒ May offer services to constituents beyond the CSU community (e.g., individuals as well as private and public entities)
- ☐ As specified otherwise

FUNCTION

- ☒ Provide opportunities for professional development of faculty and staff through teaching, research, scholarly and creative activities, and public service
- ☒ Foster and facilitate interdisciplinary efforts among disciplines, departments, colleges, and universities
- ☒ Provide a clearinghouse for information of interest to professionals and conducting workshops and conferences for continuing education
- ☒ Improve student success by facilitating/supplementing student academic experience
- ☒ Provide opportunities for faculty and staff to collaborate on multi-campus or system-wide proposals for external funding to support the above activities
- ☒ Cite other functions as stated in proposal or strategic plan and approved following processes described below

STRUCTURE

- ☐ Strategic plan, including purpose and mission
- ☒ Campus or auxiliary responsible for administration of funds
- ☒ Financial support
- ☒ Participating CSU campuses and non-CSU entities, and their roles and responsibilities
- ☒ Organizational and governance structures
- ☐ Suspension or dissolution guidelines
- ☒ Hiring procedures, staff, and location
- ☒ Protocol for changes in participants—identified under participating CSU campuses...

ADMINISTRATION

- ☒ Identify lead president or other executive as responsible for the oversight of each system-wide multi-campus center, institute, or affinity group
- ☒ CSU personnel shall be subject to a letter of appointment from the campus; the letter sets forth the terms and conditions of his/her employment including, but not limited to, whether he/she serves at will in either capacity and whether his/her employment with the campus will continue after the employee's service to the unit terminates or is otherwise suspended and/or if the unit dissolves



FACULTY CHAIR REPORT

In order to shorten the graduation time, improve the communication between graduate advisee and advisor and involve the full thesis committee early on, we have established a new policy starting this Academic Year.

Every MLML M.S. student in their second year (3rd semester) or beyond in the program must schedule a meeting with their full thesis committee once a year, during Fall semester, until graduation. All committee members must be simultaneously present (or remotely connected). During these new annual committee meetings, the students will update their committee on: 1) the progress of their research over the past year, and 2) their future research plans for the next year. Toward that end, students are required to fill out a brief form documenting their past progress and future plans and then distribute it to their committee in advance of the meeting. Then, at the end of the meeting, the student and each committee member will sign the form. In the form, the thesis committee will evaluate whether the progress made by the student is satisfactory or not. The latter, will automatically trigger a response from the Department Chair who will contact both the student and the thesis advisor to ascertain the nature of the problem and help finding solutions.

Ultimately, this new requirement is intended to promote more and earlier mentoring of students by their entire committees, facilitate the regular sharing of information that will help committee members to more effectively advise students, encourage accountability amongst all parties, identify any potential challenges or problems as soon as possible, and ultimately better support MLML students and their progress through the program.

Failing to satisfy this new annual requirement by the deadline each Fall will be considered a lack of satisfactory progress and could result in consequences including but not limited to a loss of funding/scholarship/TAschip eligibility and/or recommended dismissal from the program.



Graduate Program Report

Fall 2017 Enrollment -- FTES by campus

<i>Campus</i>	Total Students by Level			Total Units by Level		FTES	
	<i>Total (U)</i>	<i>Total (G)</i>	<i>Total Enroll</i>	<i>Total (U)</i>	<i>Total (G)</i>	<i>Total FTES</i>	<i>Campus FTE %</i>
East Bay	1	0	1	4	0	0.27	0.52%
Fresno	0	0	0	0	0	0.00	0.00%
Monterey	2	61	63	8	410	34.70	67.51%
Sacramento	0	0	0	0	0	0.00	0.00%
San Francisco	1	2	3	3	2	0.37	0.71%
San Jose	3	23	26	16	180	16.07	31.26%
Stanislaus	0	0	0	0	0	0.00	0.00%
TOTALS	7	86	93	24	592	51.4	

U=Undergraduate; G=Graduate

MLML graduate students enrolled in zero-unit course are included in total enrollment and FTES

Spring 2017 Enrollment -- FTES by campus

<i>Campus</i>	Total Students by Level			Total Units by Level		FTES	
	<i>Total (U)</i>	<i>Total (G)</i>	<i>Total Enroll</i>	<i>Total (U)</i>	<i>Total (G)</i>	<i>Total FTES</i>	<i>Campus FTE %</i>
East Bay	0	0	0	0	0	0.00	0.00%
Fresno	0	0	0	0	0	0.00	0.00%
Monterey	0	49	49	8	241	20.62	49.34%
Sacramento	0	0	0	0	0	0.00	0.00%
San Francisco	0	2	2	0	0	0.00	0.00%
San Jose	3	26	29	115	162	21.17	50.66%
Stanislaus	0	0	0	0	0	0.00	0.00%
TOTALS	3	77	80	24	403	41.78333333	

U=Undergraduate; G=Graduate

MLML graduate students enrolled in zero-unit course are included in total enrollment and FTES



MLML GOVERNING BOARD MEETING
5 December 2017

MLML Class Schedule: Fall 2017

Course #	Course Name	Units	Instructor(s)	Day	Time
MS 103	Marine Ecology	4	Dr. Scott Hamilton	Th	9-5
MS 105	Marine Science Diving	3	Dr. Diana Steller	F	9-5
MS 112	Marine Birds, Mammals, Turtles	4	Dr. Gitte McDonald	W	9-5
MS 113	Marine Ichthyology	4	Dr. Scott Hamilton	T	9-5
MS 135	Physiology of Marine Algae	4	Dr. Nick Welschmeyer	W	9-5
MS 141	Geological Oceanography	4	Dr. Ivano Aiello	W	9-5
MS 142	Physical Oceanography	4	Dr. Tom Connolly	T	9-5
MS 201	Library Research Methods	1	Katie Lage	M	1-3
MS 202	Oceanographic Instrumentation	4	Dr. Kenneth Coale	M & W	9-5
MS 203	Advanced Marine Ecology	4	Dr. Mike Graham	Th	9-5
MS 210	Advanced Marine Birds, Mammals, Turtles	4	Dr. Gitte McDonald	W	9-5
MS 213	Advanced Marine Ichthyology	4	Dr. Scott Hamilton	T	9-5
MS 274-2	Advanced Topics: Marine Sedimentation	2	Dr. Ivano Aiello	Th	1-4
MS 280	Scientific Writing	3	Dr. Gitte McDonald	M	9-12
MS 298/9	Research/Thesis	1-4	Faculty	Arr.	Arr.



MLML GOVERNING BOARD MEETING
5 December 2017

MLML GRADUATES: FALL 2017

Robert San Miguel

*Gametophyte Fitness and Costs of Self-Fertilization in the Giant Kelp, *Macrocystis pyrifera**

Melinda Wheelock

*Shifting species boundaries: *Mytilus* spp. on the Pacific coast*

Maureen (Mo) Wise

Nutrient Dynamics in Tidally Restricted Regions of The Elkhorn Slough National Estuarine Research Reserve

Angela Zepp

*Factors driving demography and temporal variability in pH of the acid weed, *Desmarestia herbacea**

Dorota Szuta

Community structure & donation of Antarctic benthic invertebrates: using a remotely operated vehicle under ice to define biological patterns

Jennifer Keliher

Microbial Metagenomes from Cryptofaunal Sponges and Ascidians from Moorea, French Polynesia

Paul Clerkin

Life History Aspects and Taxonomy of Deep-Sea Chondrichthyans in the Southwestern Indian Ocean

Stephan Bitterwolf

*Physiological Effects of Nitrate, Light, and Intertidal Position on the Red Seaweeds *Mazzaella flaccida* and *Mazzaella splendens**

Martin Jinchun Guo

*Metabarcoding Analysis on Red Abalone (*Haliotis rufescens*) Gut Microbiome Compositions Fed Different Macroalgal Diets*

Christian Denney

Characterization of a new stereo-video tool to survey deep water benthic fish assemblages with comparison to a remotely operated vehicle

Chris Ryan Manzer

Variations in Phytoplankton Abundance: Analysis of Physical Factors Influencing Phytoplankton Abundance in South Monterey Bay



MLML GOVERNING BOARD MEETING
5 December 2017

Devona Yates

Spatial Variation of Invertebrate Survival in Central California Kelp Forests

MLML GRADUATES: SUMMER 2017

Scott Miller

Effects of Oceanographic Variability on the Trophic Ecology of Coral Reef Fishes

MLML GRADUATES: SPRING 2017

Kristin Walovich

*Taxonomic Revision of the Short-Nose Chimaeras (genus *Hydrolagus*) from the Southern African Region*

James Knuckey

*A Taxonomic Revision of Eastern North Pacific Softnose Skates (Arhynchobatidae: *Bathyraja* Ishiyama)*

Christine Mann

Temporal and Spatial Impacts of Water Control Structures on the Benthic Infaunal Community of a Tidally Restricted Wetland in Elkhorn Slough, CA

MLML GRADUATE STUDENT SCHOLARSHIPS & AWARDS: AY 2016-2017

John H. Martin Scholarship (\$3,000)

Cody Dawson

Xiphias Martin Scholarship (\$500)

Drew Burrier

James Nybakken Scholarship (\$2,500)

Martin Jinchun Guo

Sonia Linnik Hamilton Marine Science Scholarship (\$1,000)

Alex Olson

Signe Lundstrum Memorial Scholarship (\$1,000 ea.)

Jen Chiu

Jimmy Williamson



MLML GOVERNING BOARD MEETING
5 December 2017

Loury Family Marine Science Outreach Scholarship (\$1,000)
June Shrestha

Bill Watson Memorial Scholarship (~\$2,000)
June Shrestha

Simpkins Family Marine Science Scholarships
Elizabeth Ramsay (\$2,000)
Bonnie Brown (\$1,000)
Amanda Heidt (\$1,000)
Angela Zepp (\$1,000)

MLML Scholar Awards (\$2,000 ea.)
Patrick Daniel
Stephanie Schneider

MLML Wave Awards
Rachel Brooks (\$500)
Brijonnay Madrigal (\$500)
Breanna Machuca (\$750)
Natalie Yingling (\$750)
Holly Chiswell (\$850)
Steve Cunningham (\$850)
Martin Jinchun Guo (\$850)

Myers Oceanographic & Marine Biology Trust Grants (~\$2,000 ea.)
Heather Barrett
Patrick Daniel
Jennifer Johnson
Laurel Lam
Brijonnay Madrigal
June Shrestha

Zale Parry Scholarship (\$6000)
Angela Zepp

International Women's Fishing Association Scholarship (\$3000)
June Shrestha

12/15/2017

MLML State Budget FY 16/17 & FY 17/18 Proposed

		FY 16/17	Actuals as of	FY 17/18	Actuals as of
		<u>Budget</u>	<u>6/30/2017</u>	<u>Proposed</u>	<u>11/30/2017</u>
			¹⁰		¹⁰
REVENUE					
	Salary	1,811,042	1,813,752	1,835,942	1,861,385
	Benefits	770,000	949,801	961,923	404,560
	⁹ OE&E	407,648	407,648	407,648	419,770
	Utilities	248,463	305,300	305,299	-
	² Salary Recovery / Reimbursement	13,000	22,188	36,807	21,367
	Visiting Scientist Support	21,425	21,428	21,425	-
	Other Reimbursement/Support	5,000	13,130	11,000	5,858
	CSUMB Contribution	50,000	50,000	50,000	-
	Prior Year Balance Forward	166,917	166,917	125,801	125,801
	¹ Roll-Forward Encumbrances	-	31,988	-	3,222
TOTAL REVENUE		\$ 3,493,495	\$ 3,782,152	\$ 3,755,844	\$ 2,841,962
SALARIES (Salary \$)					
	³ Faculty	854,954	866,956	826,243	369,966
	⁴ Staff	897,348	904,175	871,513	356,447
	⁵ Temporary Faculty	27,000	-	27,000	-
SALARIES (OE&E)					
	⁶ Visiting Scientist	35,366	35,366	30,000	7,502
	⁷ Graduate Assistants	63,700	75,817	63,700	21,368
	⁸ Student Assistants	123,000	118,515	123,000	54,871
BENEFITS		770,000	957,795	961,923	409,278
TOTAL SALARIES & BENEFITS		\$ 2,771,368	\$ 2,958,624	\$ 2,903,379	\$ 1,219,432
OPERATING EXPENSES					
	<i>ADMINISTRATION</i>				
	Taxes / Liability Premiums	1,400	709	1,400	-
	Office Supplies	4,500	3,159	3,500	3,218
	Copiers & Maintenance	6,500	8,707	8,000	4,471
	Furniture/Equipment	2,000	-	2,000	-
	Postage / Postage Meter Rental	2,700	2,196	1,605	136
	Telecommunications	5,000	4,800	4,800	2,400
	Memberships	5,400	5,460	5,400	-
	Faculty / Staff Recruitment	3,000	-	19,500	5,034
	Startup Funds	26,033	12,639	88,618	5,032
	Travel / Training	4,000	2,885	4,000	-
	Miscellaneous	1,500	1,697	1,500	62
	Reimbursable Grant/Award Exp.	-	4,764	-	13,366
	Roll-Forward Expenses	-	667	-	¹¹ 136
	TOTAL ADMINISTRATIVE EXPENSES	\$ 62,033	\$ 47,682	\$ 140,323	\$ 33,854
	<i>INSTRUCTIONAL SUPPLIES</i>				
	Equipment/Services	15,000	17,108	15,000	3,714
	Aquarium Room Refresh	1,000	-	1,000	845
	Class Materials & Supplies	8,000	4,919	8,000	1,782
	Baja Course	5,000	-	5,000	-
	Oceanographic Instrumentation	3,000	973	3,000	1,002
	Molecular Ecology	-	-	-	-
	Miscellaneous	1,000	99	1,000	-
	Roll-Forward Expenses	-	7,571	-	¹¹ -

TOTAL INSTRUCTIONAL SUPPLIES	\$	33,000	\$	30,669	\$	33,000	\$	7,342
------------------------------	----	--------	----	--------	----	--------	----	-------

	<i><u>FY 16/17</u></i>	<i><u>Actuals as of</u></i>	<i><u>FY 17/18</u></i>	<i><u>Actuals as of</u></i>
	<i><u>Budget</u></i>	<i><u>3/31/2017</u></i>	<i><u>Proposed</u></i>	<i><u>11/30/2017</u></i>
<i>MARINE SCIENCE DIVING</i>				
Supplies & Repairs	10,000	10,122	10,000	2,883
Roll-Forward Expenses		2,475		0
TOTAL MAR. SCI. DIVING EXPENSES	\$ 10,000	\$ 12,597	\$ 10,000	\$ 2,883
<i>ENVIRONMENTAL HEALTH & SAFETY</i>				
Supplies & Permitting	8,600	4,986	8,600	2,903
Museum	1,500	346	1,500	1,021
Roll-Forward Expenses	-	-		-
TOTAL EHS EXPENSES	\$ 10,100	\$ 5,332	\$ 10,100	\$ 3,924
<i>FACILITIES</i>				
Janitorial Services & Supplies	33,425	34,792	33,425	11,803
Landscaping / Restoration	5,040	5,183	5,040	1,359
Vehicle Maintenance & Repair	7,000	3,203	7,000	1,428
Gasoline Charges	9,000	5,829	7,000	4,848
R/V Sheila B - Fuel & Upkeep	3,000	1,480	3,000	2,281
Proposed Facility Projects	44,505	55,600	84,500	15,996
Scheduled Maintenance & Repair	15,000	8,710	15,000	1,965
General Supplies & Repairs	29,750	24,615	29,750	11,796
Seawater System	21,000	14,330	21,000	3,701
Roll-Forward Expenses		20,544		3,087
TOTAL FACILITIES EXPENSES	\$ 167,720	\$ 174,286	\$ 205,715	\$ 58,263
<i>UTILITIES</i>				
Electricity	190,829	228,368	228,368	99,695
Gas	29,956	43,927	43,927	12,551
Water	5,804	4,021	4,021	1,929
Sewage	6,795	13,088	13,088	2,325
Trash	15,078	15,896	15,896	7,045
TOTAL UTILITY EXPENSES	\$ 248,462	\$ 305,299	\$ 305,299	\$ 123,545
<i>LIBRARY</i>				
Services	10,000	10,000	10,000	5,000
Books/ILL/Supplies	7,000	12,919	7,000	1,395
Periodicals	82,220	88,101	82,220	8,822
Roll-Forward Expenses		730		
TOTAL LIBRARY EXPENSES	\$ 99,220	\$ 111,750	\$ 99,220	\$ 15,217
<i>NETWORK</i>				
Hardware	17,000	6,723	17,000	7,225
Software	16,300	3,388	16,300	429
Roll-Forward Expenses	-	-	-	-
TOTAL NETWORK EXPENSES	\$ 33,300	\$ 10,111	\$ 33,300	\$ 7,654
TOTAL OPERATING EXPENSES	\$ 663,835	\$ 697,727	\$ 836,957	\$ 252,683
TOTAL EXPENSES	3,435,203	3,656,351	3,740,335	1,472,115
TOTAL REVENUE	3,493,495	3,782,152	3,755,844	2,841,962
CASH FLOW BALANCE	58,292	125,801	15,509	1,369,847
ADJUSTED BALANCE	\$ 58,292	\$ 125,801	\$ 15,509	\$ 1,369,847

Notes:

- ¹ Open encumbrances from previous fiscal year are rolled forward into the next year's budget
- ² Faculty buyout
- ³ Faculty = 9
- ⁴ Staff = 8
- ⁵ Temporary Faculty: Fall = 0, Spring = 0
- ⁶ OE&E Salaries - MLML pays salaries and all benefits
- ⁷ Graduate Assistants: Fall = 6, Spring = 8
- ⁸ Student Assistants: Summer = 9, Fall = 11, Spring = 12
- ⁹ Includes State Support OE&E budget and \$50K from Provost
- ¹⁰ Actual expenses only, no blanket encumbrances
- ¹¹ Expenses on rolled encumbrances from the previous fiscal year

FY 16/17 Projects		FY 17/18 Projects	
<u>Main Lab</u>		<u>Main Lab</u>	
Seawater pump system	33,500	Main Lab	30,000
Air Handlers/Exhaust Fans/Freq. Drives	8,255	Generator	
Seminar Room tables	1,750		
Carpet IT Area	1,000	Main Lab	8,000
		Mammal Freezer	
		Main Lab	13,500
		Transformer	
		Main Lab IT Server	4,500
		Room Air Conditioner	
		Seminar Room Kitcl	tbd
		Remodel Architect	
		Shore Lab Power	8,500
		Capacity Engineering	
		Forklift	20,000
TOTAL	\$ 44,505	TOTAL \$	84,500

MLML Governing Board Meeting

Fall: 15 December 2017



Director's Report:

- Faculty Recruitments
- Visiting Scientists
- Research Faculty/Affiliates
- CA Sea Grant aquaculture specialist
- IT @ MLML
- Graduate Program Report
- Strategic Plan
- Center for Aquaculture proposal
- Budgets – State and Foundation
- Open House
- Website
- 50th Anniversary Book
- Del Mar demolition/New dive facility
- Academic Village
- Fundraising
- CA-CESU



PROJECTS:

- Center designation with SJSU (ORTU)
- Olympia oyster culture
- Integrated aquaculture – abalone and seaweed
- OA impacts on fish culture
- New fish species for aquaculture

COMPANIES:

- Monterey Bay Seaweeds
- Monterey Abalone Company



COVER STORY FROM LAGOON TO SPOON: AQUACULTURE GETS A BOOST

The U.S. is among the top consumers of food taken from the ocean, but is a laggard when it comes to sea-based farming. Some local efforts aim to change that.

BY JOEY MEACHAM | jmeacham@siliconvalleyjournal.com | 408.290.1025, @jmeacham

There are many similarities between what's happening at the Moss Landing Marine Laboratories and in the high-tech culture of nearby Silicon Valley.

But the pioneering things that Moss Landing — the ocean research and education outpost for seven California State University campuses, including San Jose State — is working on aren't pushing advances in algorithms or artificial intelligence.

They're using mundane stuff like water pumps, PVC pipe and other stock from Orchard Supply to cool the planet, clean our water, advance medical knowledge and, well, feed people.

not with Trevor Fip in the Monterey Abalone Co.

Seaweed also acknowledged that salmon farming — perhaps the form of aquaculture best known in the United States — with its reputation for spreading disease to wild fish, has also hindered development. "People have gotten to the point where they associate all aquaculture with salmon farming," he said.

Partly because of California's strict regulations, San Diego's Hula Sea World Research Institute, a nonprofit arm of the tourist attraction, is trying to build an environmentally controversial fish farm 4½ miles off the Southern California coast in federally regulated waters. The goal is to raise



State Budget

MLML Operating Budget AY17-18: SJSU General Fund		
GF REVENUE	AY17-18 Budgeted	AY 17-18 Spent to Date
Salary	1,835,961	1,861,385
Benefits	961,923	404,560
OE&E	407,648	419,770
Utilities	305,299	0
Salary Recovery / Reimbursement	36,807	21,367
Consortium Funding-Visiting Scientist	21,425	0
Other Reimbursement/Support	11,000	5,858
CSUMB Contribution	50,000	0
Prior Year Balance Forward	125,801	125,801
Roll-Forward Encumbrances	0	3,222
TOTAL GF REVENUE:	3,755,864	2,841,963
GF OPERATING EXPENSES	AY17-18 Budgeted	AY 17-18 Spent to Date
Administration	140,323	33,854
Instructional Supplies	33,000	7,342
Scientific Diving	10,000	2,883
Environmental Health & Safety/Museum	10,100	3,924
Facilities	121,215	42,267
Facility Projects	84,500	15,996
Utilities	305,299	123,545
Library	99,220	15,217
Network	33,000	7,654
TOTAL GF EXPENSES:	836,657	252,682

AY17-18 Facility Projects	
IT Server Room Generator	30,000
IT Server Room Air Conditioner	4,500
Main Bldg Transformer	13,500
Marine Mammal Freezer	8,000
Seminar Room Kitchen Remodel	tbd
Shore Lab Power Capacity Eng	8,500
Forklift	20,000
TOTAL FACILITY PROJECTS:	84500

Foundation Budget

REVENUE	FY16-17 Actuals	FY17-18 Budgeted
Other Income	610	600
Rental Income (Del Mar, Sandholdt Center)	120,417	119,000
F&A Return (Less 30% to PI's, Reserve, Deficit Refinance)	177,068	44,917
Foundation Admin and Facility Support	190,000	315,000
Balance Forward From Previous FY	157,000	58,816
Balance of Revenue To Fund Operations:	645,095	538,333
OPERATIONS DETAIL		
Total Salaries, Wages and Benefits	421,388	429,369
<i>SJSURF Facility and Admin Staff- not from Grant Direct Costs</i>		
Total Administrative Costs	19,844	25,000
Total Diving Costs	1,592	5,000
Total Information Technology	14,551	53,400
Total Maintenance and Repairs to SJSURF Properties:	51,037	53,000
<i>Del Mar, Norte, Aquaculture Center, Firehouse, Sandholdt</i>		
Total Services & Facility Costs	72,849	36,000
Total Supplies & Equipment	5,018	11,500
Small Boat Support	-	15,000
Total Operating Costs:	586,279	628,269
	58,816	(89,936)
RESERVE	FY16-17	FY17-18 Est
Reserve Account Balance EOY	584,282	600,000
REFINANCING ACCOUNT		
Refinancing Account Balance EOY	(3,004,943)	(2,994,943)

MLML MARINE OPERATIONS BUDGET AND REVENUE FY16-17	
R/V JOHN H. MARTIN	8,310
R/V SHEILA B.	(7,134)
ORANGE RHIB	3,986
WHALERS	(8,838)
Total Revenue FY16-17:	(3,676)
Operating Costs AY16-17:	(47,477)
Balance EOY AY16-17:	(51,153)

MLML Annual Report submitted to CSU Chancellor's Office (EO 1103)



Moss Landing Marine Laboratories

Period of report

1 July 2016 through 30 June 2017

Date due

September 29, 2017

Date submitted

Prepared by (indicate lead and other contributors)

Dr. James Harvey, Director

Kathleen Donahue, Assistant to the Director

Approved by

Mary Papazian, President - SJSU

MLML OPEN HOUSE

SATURDAY AND SUNDAY

28 AND 29 APRIL 2018





Celebrating 50 Years

1966-2016



Jointly-operated Research Vessel with Scripps Institution of Oceanography (UCSD)

Characteristic	CCRV
Length	120-135
Beam	32
Draft	12 Max
Gross tonnage	< 300 (uninspected)
Crew - Multi Day Trips > 12 hrs	5 to 7
Crew - Day Trips < 12 hrs	3 to 5
Science Berthing Multi-Day Trips	12 to 14 non crew incl techs
Science Personnel (Day Trips <12h)	40 non crew incl techs
Speed, transit (kts)	10
Speed, maximum (kts)	11 to 12
Dynamic positioning	yes - not Classed
Sea keeping (SS operating)	SS4-SS5
Endurance (days)	14 - 21
Range (transit, nm)	3,500
Wet lab (sq ft)	150 to 200
Dry lab (sq ft)	350 to 450
Computer lab (sq ft)	100 to 120
Work deck (sq ft)	1200 to 1700
Stbd Rail Working Length (ft)	40 to 56
Freeboard (ft)	2 to 4
Day rate	\$10K/24hrs; less for 12 hours



Example: UW vessel design



MLML Academic Village Concept Design (Josh Nelson and students, SJSU)

Master Plan

- 1 - The Barn
- 2 - Conference Center
- 3 - Cafe
- 4 - Long-term Housing
- 5 - The Commons
- 6 - Short-term Housing
- 7 - Yurts
- 8 - Parking
- 9 - Expanded Parking



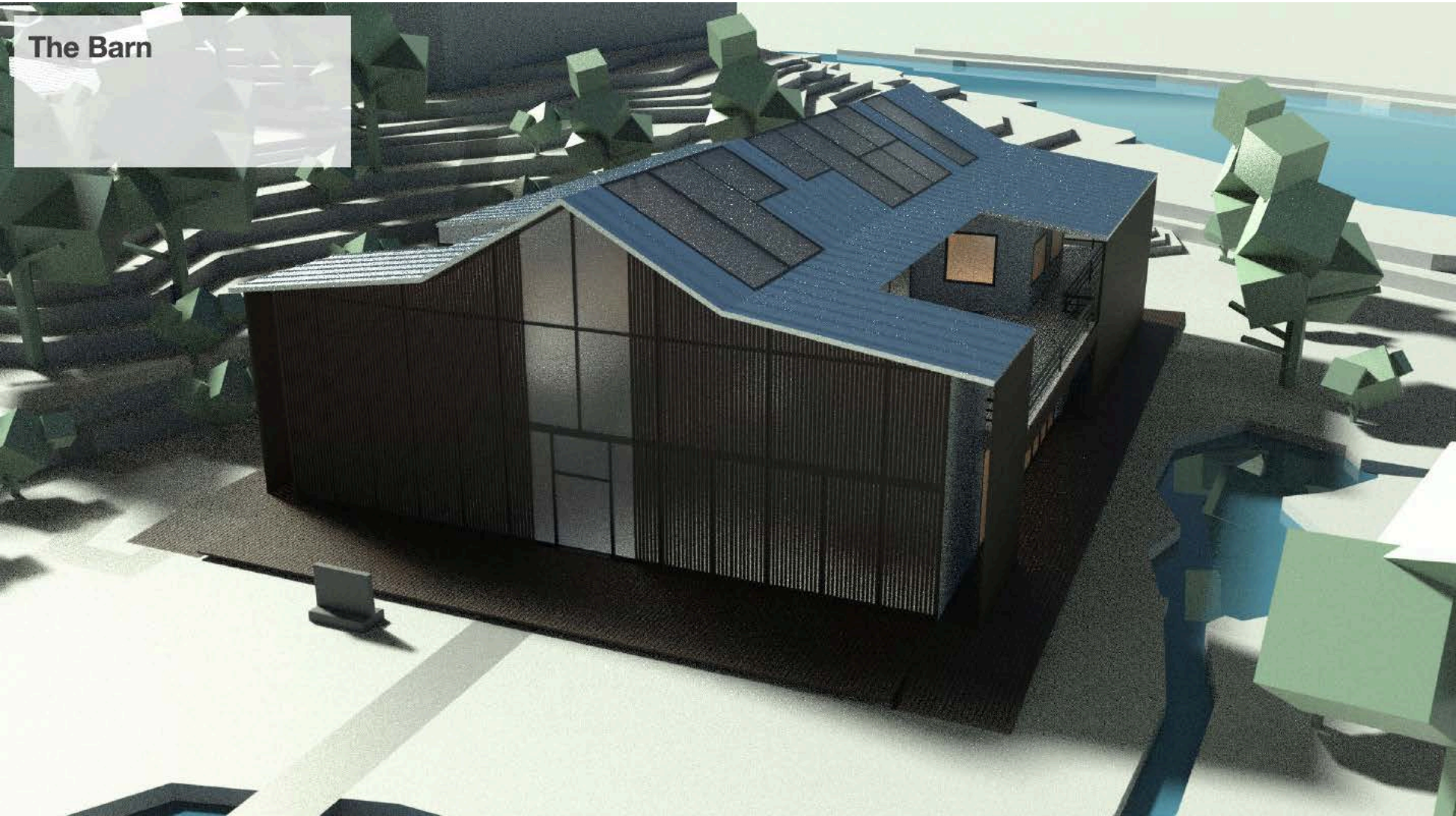


150 seating in Conference Center and Cafe

The Barn

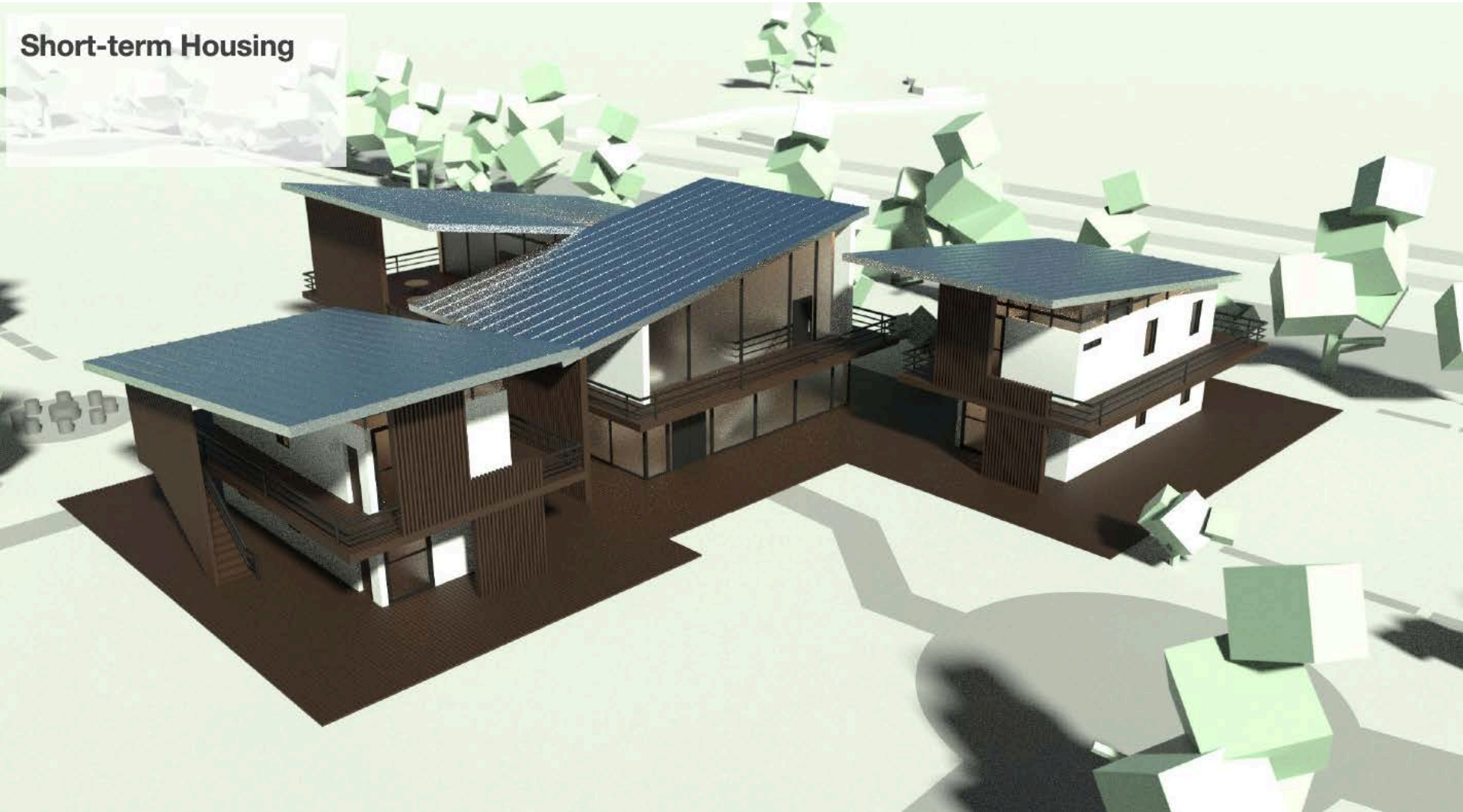
Classroom space, offices, Admin offices, lounge, deck

The Barn



Short-term Housing

- Common area with restrooms/showers, kitchen, storage
- Two housing quarters housing up to 8



Long-term Housing

- 3 -Studio apartments – housing 1 -2 people
- 2 Double apartments – housing 2 -4 people
- 5 Single family houses – up to 4 people

Long-term Housing





COOPERATIVE ECOSYSTEM STUDIES UNITS

NATIONAL NETWORK

[HOME](#)

[ABOUT CESU](#)

[CESU COUNCIL](#)

[CURRENT CESU UNITS](#)

[NETWORK RESOURCES](#)

[NEWS AND ANNOUNCEMENTS](#)

[MEETINGS OF INTEREST](#)

[CONTACT US](#)

[SEARCH](#)



FEDERAL PARTNERS:

- NOAA
- USFWS
- NPS
- USGS
- BOEM
- BLM
- NASA
- DOD

SOME ACADEMIC PARTNERS:

- CSU STANISLAUS
- SACRAMENTO STATE
- CSU MONTEREY BAY
- FRESNO STATE
- SAN FRANCISCO STATE
- UC SANTA CRUZ
- UC BERKELEY



MLML Governing Board Meeting 15 December 2017

MINUTES

Governing Board Members Attendees:

Jim Harvey (MLML, Director)
Ivano Aiello (MLML, Faculty Chair, Geological Oceanography)
Nick Welschmeyer (MLML, Biological Oceanography)
Brijonnay Madrigal (MLML, Student Body President, Vertebrate Ecology Lab)
Michael Lee (Chair of Governing Board, CSU East Bay) **Conference call (currently in Spain)*
Jim Murray (CSU East Bay)
Jason Singley (CSU East Bay)
Pam Stacks (SJSU)
Michael Kaufman (SJSU)
Manny Gabet (SJSU)
Raj Prasad (SJSURF)
Andrew Lawson (CSUMB)
Mathieu Richard (CSU Fresno State)
Horacio Ferriz (CSU Stanislaus)
David Evans (CSU Stanislaus)
Patrick Kelly (CSU Stanislaus)
Karina Nielsen (EOS Center- SF State)
Chris Scholin (MBARI)

Additional Attendees:

Kathleen Donahue (MLML Asst. to Director)
Brian Ackerman (MLML Marine Ops Manager)
Tom Connolly (MLML, Physical Oceanography)
Gitte McDonald (MLML, Vertebrate Ecology)
Jane Webster (MLML, SJSU State Financial Manager)
Terra Eggink (MLML Graduate Program Coord)
MJ Donahue (SJSU Univ Advancement/College of Science)
Vanessa Martinez (student, CSU Stanislaus)
Beth Pardieck (CSU COAST)

Meeting Start: 0934

Minutes: Brijonnay Madrigal (MLML, Student Assistant, Vertebrate Ecology Lab)

Chris Scholin:

- President of Monterey Bay Aquarium Research Institute (MBARI)
- Introduction
- Chris Scholin is the first member to join MLML's Gov Board as an affiliate from an outside institution

Annual Director's Report

Jim Harvey

- The Spring 2017 meeting was cancelled due to lack of member availability. Packet sent with rendition of what would have happened if we would have had the meeting. AY16-17 Annual Report for the Chancellor's Office was sent out to members Fall 2017. This meeting's packet includes an update to the State financial budget that was contained in the Annual Report, as well as the MLML Visiting Scientist post for AY 19-20.
- The MLML Visiting Scientist is in charge of coordinating the weekly seminar series and also works with students and faculty. Historically, MLML has appointed people applying through consortium campuses but recently (last 3 AY's) we have had difficulty finding someone within the consortium campuses. Jim Harvey (JH) asked attendees to go back to home campuses and encourage people from their universities to apply.

Faculty/Staff Updates

Jim Harvey

1. Faculty Recruitments:

MLML is in the process of hiring two tenure track (TT) faculty members. John Geller is the current invertebrate zoologist, but is starting the Pre-Retirement Reduction in Timebase Program in Fall 2017. His pay has been reduced but he has not retired yet. Kenneth Coale is retiring on 24 January 2018 (his birthday). Savings from Gellers reduction in pay and Coale's retirement will allow for us to appoint 2 new TT faculty members.

A candidate has been chosen for the invertebrate zoologist position and the paperwork has been submitted. There will be 2 invertebrate zoologists simultaneously which is a first for MLML. The Chemical Oceanographer search has just started. MLML Faculty is excited about the exceptional quality of the candidates. This speaks well of MLML. Five candidates have been selected for each position to visit MLML and SJSU.

2. Visiting Scientist AY 18-19

MLML received no applications from consortium campus so we have chosen a postdoctoral student, Dr. Katlin Bowman, a biogeochemist from UCSC who will start in August 2018.

Members asked what the applicant pool has been like in the last few years. JH explained that it goes in waves. If MLML receives three applicants and one is a consortium campus applicant, they automatically get it. 80% of the time a consortium campus person is in that position. One problem is that candidates were not given enough time to plan a sabbatical. Jim stated that MLML announces the position a couple years in advance to help consortium faculty plan for a potential position at MLML as the Visiting Scientist. Members discussed the possibility of half year appointments, but JH responded that this would put MLML in a bind. Members suggested that MLML consider appointing two different people for a half year each. All agreed that this would depend on how MLML spends the funding (\$30,000 per AY for the visiting scientist appointment). A question was raised as to whether resources available to the visiting scientist have changed over time. JH confirmed that things have not changed, the visiting scientists have access to all resources that MLML has to offer: Lab space, vessels, etc.

3. Visiting Scientist AY 19-20

Members commented that MLML continues to be a draw and the issue with reduced applicants is a CSU issue, not a MLML issue. Could COAST play a role in facilitating the visiting scientist position?

Task (Gov Board) *ONGOING TOPIC FOR LATER DISCUSSION. Will be included on the agenda for Spring 2018.*

4. Research Faculty

JH announced that Dr. Stacy Kim, long time member of MLML's Research Faculty and a benthic ecologist is retiring. Dr. Kim conducted most of her research in Antarctica and brought many MLML students with her on research trips. She has retired her affiliation with MLML and is no longer on the research faculty. MLML created a new status, emeritus researcher, so MLML can continue to showcase her legacy of research and partnership with MLML on our website, but she will not be able to mentor graduate students and won't physically be at the lab anymore.

TASK (MLML): *It was suggested that it would be nice if the Chair of the Governing Board could write a letter of appreciation to all faculty and researchers retiring (Coale, Kim, Fairey)*

5. New Research Affiliates

- Dr. Zach Perry, wildlife ecologist from the Univ of WI-Madison, has joined MLML as a Research Affiliate. He is continuing to do research on CA owls.
- Holly Bowers was a postdoc in environmental biotechnology at MBARI and is now working with Jason Smith at MLML. She was recently given Research Faculty status.

JH outlined the process and policy. If research faculty members want to serve as a PI at MLML, they have to submit a request to the MLML faculty. The faculty vote and then the request makes it way through SJSU. There is an official process and a document to formalize the PI status. MLML Research Affiliates are reviewed every 3 years. There are now 25 research affiliates (research PI level). This year we did a review of all Research Affiliates. These individuals all have PI status at SJSU and can submit grant proposals. JH has been discussing with people and wants to make designations consistent. MLML will add a blurb on the website describing each group of people.

Five different designations of people:

- Research Faculty: have PI status, are in residence in the main building and have responsibility/interest in mentoring graduate students (they are funded by soft money and are not State employees. They are typically, SJSU Research Foundation employees).
- Research Affiliates: have PI status, but generally do not engage with MLML's Academic Program, they do not mentor students and do not have space in the Main building, but have rooms in other buildings (i.e. Norte) or offsite.
- Adjunct Faculty: have PI status but do not occupy space at MLML, i.e. they work out of other agencies, universities, and government facilities.
- Emeritus Faculty- Retired TT Faculty, receive all benefits associated with Emeritus status at SJSU, may have space at the lab and some remain involved in research.
- Consortium Faculty - CSUMB faculty that can serve as co-advisors for MLML graduate students.

6. CA Sea Grant Specialist

Dr. Rick Starr has held the CA Sea Grant Specialist Extension appointment at MLML for a number of years. He retired from Sea Grant in 2017 but will keep Research Faculty status at MLML and continue mentoring students as well as continue to lead the CA Collaborative Fisheries Research Program. The Sea Grant Search Committee wanted someone with expertise in aquaculture. The search concluded in Spring 2017 and an offer has been made to the chosen candidate. MLML cannot announce the name because paperwork between funding agencies (CA Sea Grant and UC San Diego) is not finalized. The individual is scheduled to start at MLML 1 March 2018. MLML will pay 25% of this person's salary. The new specialist will have residence here, have an office and will teach classes in Aquaculture at MLML.

7. IT Help Desk

MLML's longtime Network Administrator, Jeff Arlt retired in Summer 2017. JH is working with current IT staff to restructure the IT Dept. SJSU IT network administrators can remotely administer our network from afar. This means MLML no longer requires someone with Arlt's expertise at MLML and a position has opened up. MLML is trying to re-envision the IT Dept. with 3 people. Historically, MLML's IT Dept consisted of one State employee and two Research Foundation technicians. MLML is currently recruiting a temporary technician, funded on the State side to support the IT Dept until MLML re-envisions what the IT Dept. will look like in the future. MLML will be asking IT techs from MBARI, SJSU College of Science, and SJSU IT to be involved in the restructure.

Graduate Program Report

MLML Graduate Program Coordinator, Terra Eggink provided a summary of the academic program

- *FTE's*
84 students in MS program
- *Course schedule*
14 classes total for fall semester
- *Graduates*
12 students (one summer 2017 graduate) so a total of 13 students graduated in Fall 2017.
 - \$48,000 in scholarship funds was awarded in Spring 2017 to students.
 - 4.2 is average time spent per student at MLML. Ideal is 3 years
- REU/COAST undergraduates can now join the MS program. It is an effective opportunity. Beth Pardieck from COAST pointed out that 3-4 students will be receiving COAST awards during AY17-18 and the same number was awarded last year.

Most MLML graduate students did not graduate from a CSU for their undergraduate degree and instead received their undergraduate degrees at non-CSU campuses. MLML does not draw as many applicants from consortium campuses as it does from non-CSU schools. Members commented that it would seem that after having students take classes at MLML as undergraduates, they would want to apply to be students. Pam Stacks, AVP of Research at SJSU stated MLML is not being discovered by CSU undergrads and she would like to see MLML continuing to attract more diversity in the student body. Karina Nielsen (SFSU member) asked if MLML is constrained by SJSU and Andrew Lawson (CSUMB) suggested appointing a consortium faculty advisor who knows the rules and deadlines to help with recruiting. Terra reported eight undergraduate students from SJSU are taking an MLML class this term. JH reflected that Moss Landing's proximity to CSUMB in Marina, CA is the reason many students choose CSUMB as their home campus. Terra reported that 18-20 graduate students are accepted each year out of approx. 80-90 applicants each year. JH explained that having to align with seven campuses is challenging because all have different deadlines and policies, some are on

quarters versus semester. Members asked if this would be an issue if most students registered through CSUMB and SJSU only, and members discussed whether the Governing Board can help. JH stated that MLML would likely get pushback from the other consortium campuses were we to do this.

Members asked if MLML has created a strategic plan and the diversity of students was brought up. Discussion about how it is a difficult issue to diversify MLML's student body and provide financial support. The MLML MS program is a strong field research-based program which costs money to do and takes time. Tuition has increased, and affordable housing is extremely difficult in the Monterey Bay. JH stated that MLML does support many graduate students and approx. 40% of students are supported by grants, 25% are hired in support positions (Library, Museum, IT, Marine Ops and Admin.) and approximately 5 TA's are appointed per semester. Members inquired about data for financial aid. JH explained that MLML does not have a clear idea but the Vertebrate Ecology lab was used as an example of students that get financial aid when they apply by the deadline. Professors Hamilton and McDonald get half of the total applicants. The Oceanography Professors are less selective and the ecologists get many first-rate applicants due to subject matter interest. Getting people to apply to MLML is not a problem, MLML wants strong students. An average of 100 students apply to MLML each year and about 20 are accepted into the Masters program, the greater problem for increasing diversity is providing support for students.

The MLML degree requires that a tenure track faculty member must be the primary advisor. MLML faculty has not discussed the possibility of removing that requirement. Research faculty serve as co-advisors alongside the tenure track faculty members (i.e. Rick Starr, Dave Ebert).

MLML Faculty Chair, Ivano Aiello reported that the faculty is actively working on ways to improve communications between students and advisors. Pam Stacks, SJSU asked for a status on the hybrid web course MLML envisioned for a course on marine science using the Monterey Bay to learn about ecology, geology, oceanography, and biology. Ivano reported that it will require a team and MLML needs resources to build course content. MLML sees this hybrid distance-learning and field trip course as a good way to attract more students to MLML.

TASK (Gov Board): *Look into appointing consortium faculty advisors*

Strategic Plan

Jim Harvey

As required by CSU Chancellors Office (CO) Executive Order (EO) 1103, MLML must have a strategic plan and file an Annual Report every Fall. In 2015, the CO started to review eleven different multi-campus units and discovered little to no information was on record to track activities and operations for these units. This led to an EO requiring that all multi-campus units file an Annual Report with the CO via the administrative campus President's Office (in MLML's case, SJSU). MLML was asked to provide reporting for three academic years. This report led to

the CO asking about a strategic plan. MLML Faculty developed one and submitted it to SJSU in July 2017. It is sitting in the SJSU President's Office until MLML's administrative campus is decided. MLML is still required to submit an annual report to the CO every Fall (Members received a copy of AY16-17 with this meeting's packet). JH explained that MLML's draft goes to the SJSU President's Office who then sends it to the CO. JH confirmed the CO does not have the strategic plan yet. MLML received a letter that said we cannot operate until the strategic plan is approved, and although this deadline has passed the CO realizes that final submittal of the Strategic Plan is waiting on the CO decision regarding the MLML Operating Institution. JH reported that he received notification from the CO in March 2017 that stated we could continue to operate. JH stated that a colorful Annual Report also serves as a takeaway document for stakeholders and donors; however, MLML does not have funding to design and print hard copies. MLML will create webpages with annual report content for their home page. Chris Scholin from MBARI shared success stories from their annual report. He recommended that MLML leverage what MBARI has learned. He suggested that MLML post an electronic version as a main point of entry but offer a shorter, condensed version that can be printed and used as a takeaway.

ORTU Status

We have a proposal at SJSU to obtain Organized Research and Teaching Unit (ORTU) status for a Center for Aquaculture. This would allow MLML to state we house the Center for Aquaculture at our Shore Lab. All consortium campuses will get to be involved. The SJSU Research Foundation is working through legal issues for conflicts of interest with private companies and outside users. Once user agreements are worked out, the ORTU proposal will be submitted to the SJSU President and make its way to through the remaining CSU ORTU approval process. There is a tremendous amount of interest for aquaculture in central CA. The new Sea Grant Specialist in Aquaculture in addition to other projects are examples of how we are trying to develop the aquaculture program. JH thanked Chris Scholin and MBARI for the donation of the large shelter/tent being used to house tanks. MLML plans to offer an MS or certificate in aquaculture in the future. Current aquaculture research being conducted at MLML:

- Olympia Oyster Restoration project funded by a donation from the Anthropocene Institute
- Ocean Acidification research funded by NSF
- Sustainable Aquaculture Techniques

MLML has greatly increased aquaculture activity and new tanks arrive weekly.

Break: 10:57- 11:

Funding- Budgets

Jim Harvey

MLML receives 3 sources of funding: (1) State of CA (goes through SJSU), (2) partial IDC return from SJSU Research Foundation and (3) donations (through SJSU Tower Foundation. Donations continue to increase. MLML receives \$4200 each AY from all seven consortium

campuses (CSUMB pays an additional \$50k). The majority of this funding pays for the visiting scientist. MLML supports marine operations with both State and Foundation money.

STATE:

State money pays for salaries, benefits, utilities. Etc. MLML's primary expenses are in salaries. An updated State budget for AY17-18 was sent to members with the meeting packet.

Upcoming projects include:

- IT server room - needs a backup generator and an additional air conditioner
- Transformer in the main bldg.
- Marine mammal freezer needs to be replaced.
- Shore lab is expanding so we are going to need more power as more projects are conducted there.
- Need to replace a forklift
- **TOTAL: \$84,500**

Members asked if facilities and maintenance were built into the strategic plan. JH answered some, but not a lot (partially). The main building roof is 17 years old and needs to be repaired in the future (\$400,000). For all the IT, MLML has a long-term plan for refreshing things. Chris Scholin suggested that MLML build a comprehensive plan that accounts for upgrades and long-term maintenance issues.

FOUNDATION:

Indirect costs (IDC) coming back to MLML fluctuates depending on grants and changes in cost associated with central office. Sometimes we can predict but sometimes we cannot. MLML is down in IDC returns. This is driven by the loss of the Pt. Sur (funded by NSF) and was further compounded when the State of CA changed their policy with how they deal with contracts (affecting the MPSL group/Fairey). Unions say contracts should not be awarded to outside groups or companies and should only be given to state employees. The money MPSL is bringing in has dropped in the recent years. The SJSU Research Foundation Board decided to augment MLML's budget to offset this loss. Hopefully MLML will bounce back. It is becoming more difficult to get research grant money at MLML because the current federal administration is pushing hard to reduce costs in NSF, NIH, etc. JH shared a report from the National Association of Marine Labs (NAML). The NAML lobbyist has confirmed that extramural funding from NOAA has been dramatically decreased under the current administration. Incomes from FA returns will decrease in the coming years. Aquaculture is one potential solution. MLML is working to prime ourselves into that space so we are much more active and eligible to acquire NOAA funding for aquaculture that will increase over time. Research affiliates are a great solution as well because they can write their grants through us, but they are not costing the lab much for space or other infrastructure needs. The two research affiliates at the Navy Postgraduate School have brought in 3 million dollars. JH listed ways MLML can reduce dependency on FA return dollars:

- Convert Research Foundation employees to State employees
- Add more Research Affiliates
- MLML could operate for one to two years in the red (the current state) using our reserves.
- MLML has been talking to Scripps Institute of Oceanography (SIO) about jointly operating a research vessel with the UC. It would be a UC and CSU vessel and spend part of the time in central California and part of the time in southern California. NSF put an RFP for three new research vessels; MLML, Oregon State and SIO submitted proposals and Oregon State was successful. SIO is retiring two of their vessels so it naturally made sense for these two institutions to team up. A proposal will be submitted to various entities for a jointly operated vessel. It will look good to show that both UC and CSU will be supported. Cost estimation: \$30-50 million. A UW vessel design was shown to the members. MLML will still need to go through the planning process and is barely in the preliminary phase. The vessel would potentially join the UNOLS fleet (operating using NSF funding). SIO will contribute \$2 million to help start this project (\$2.9 million between MLML and UCSD). Members asked if we could plan on having debt and then paying debt through operation of the vessel? JH answered yes, we could ask for an endowment for class operations. In comparison, UCSD puts a lot of money into running their marine operations and boat time for classes. Chris Scholin said MBARI is using containerized operations because they are extremely advantageous. MBARI is also looking at building a ship in 3-5 years. He suggested leveraging each other's assets and potentially working together on design ideas to share the design cost.

General/Other Business

MLML Open House

Scheduled for 28-29 April 2018. One month prior, the Santa Cruz Warriors (G-League team for the Golden State Warriors) is hosting "MLML Night" at the game against the Iowa Wolves Fri. 23 March, 2018 at 7pm. This is a unique opportunity to advertise for Open House share a bit about MLML with the Santa Cruz community. The SC Warriors are donating 15% of all ticket sales to MLML

Web Redesign

MLML is in the midst of updating the website. New website went live in August 2017. There are still many revisions to make. The website can be confusing. MLML needs to make selecting an advisor very clear to prospective students. The complexities and requirements need to be easy to understand. MLML needs to clearly explain who can serve as an advisor on the thesis committee and who can be committee members/co-advisors. The website should clearly illustrate who we are and what we do.

50th Anniversary Book

The 50th Anniversary event in Summer 2016 was described and discussed. A book has been designed to include photos, quotes, and blogs written by alumni. The book is being funded by 75% in donations from fundraising and alumni engagement, along with support from MBARI, the Packards and Moss Landing Harbor District.

Academic Village Project

MLML teamed up with a professor from the SJSU Department of Design to create a digital model of an Academic Village for the Sandholdt property. The Industrial Design professor put together a team of former industrial design students, funded by MLML and the Tower Foundation. The team collected feedback from group brainstorming discussions with faculty, staff and students to think about ways the property should be used. These digital models will be used for fundraising. MLML hopes the Academic Village will have long term and short term housing for students and visiting researchers, a café, a version of the historic barn to serve as a lab and classroom space, outdoor classrooms, areas for tents or yurts, paths to the beach and conference center. JH envisions a place to gather for think groups and a potential Sustainable Ocean Science center. MLML is aiming to incorporate waste water treatment, composting and green building practices in the plans. An Academic Village would create many opportunities for summer classes, weekend classes, K-12 programs and provide desperately needed affordable housing for our students. Building on the property will require 4-5 permits from State and County environmental agencies such as the California Coastal Commission and lots of politicking. The next step will be to finalize a video of the model and seek funding. The Academic Village can be built in phases with public and/or private funds.

Case for MLML

MLML needs dedicated staff and funding to pursue big fundraising campaigns. Building housing and acquiring new research vessels are important to MLML's future. Karina Nielson/SFSU asked if MLML has aligned plans with the CSU Master Planning Process. Is there a Business Plan that shows these acquisitions could generate revenue and are self-sustaining? Members recommended that MLML engage with the university about future consulting. MJ Donohoe/SJSU Advancement confirmed CSU, State of CA, and SJSU see both the Academic Village and new vessel as revenue generating. JH pointed to Friday Harbor Marine Labs as a successful and profitable example. Questions remain, "if we build it, will they come, and, "can we build it". JH mentioned that the Governing Board Members had participated in a survey about these plans and were asked whether they find value or see opportunities for their home campus.

Cooperative Ecological Study Units (CESU)

CESUs throughout the U.S. bring together scientists, resource managers, students, and other conservation professionals, drawing upon expertise from across the biological, physical, social, cultural, and engineering disciplines (from Anthropology to Zoology) to conduct collaborative and interdisciplinary applied projects that address natural and cultural heritage resource issues at multiple scales and in an ecosystem context. Each CESU is structured as a working collaborative with participation from numerous federal and nonfederal institutional partners. The California CESU home campus is UC Berkeley. JH announced a proposal has been submitted to have MLML join the CA-CESU. Academic partners can contract as subject matter experts. This program can make MLML competitive. CESU indirect cost rate is 17.5. SJSU will need to support this venture. It will allow a new mechanism to get funding and will benefit students. CESU funding flows seamlessly and awards are often expedited. MLML already works with

CESU partners. Patrick Kelley announced that he is the CESU representative for CSU Stanislaus, and that one way of minimizing the impact of the low IDC is to write in support as direct costs.

TASK (Gov Board): *Consider increasing contributions from consortium campuses*

TASK (MLML): *Consider forming a Gov Board Sub-Committee to support plans for a new ship and the Academic Village*

Meeting Adjourned: 1436