

UOG Sea grant priority listening session

Graduating to Institutional Status

Healthy Coastal Ecosystems

06/14/2022

Participants:

Cara

Olympia

Laurie

Elsa

Hope

Esther

Sonya

Topic 1.

1. Solid Waste Management
2. Restoration of Coastal water quality
 - Storm water runoff and management
 - Water quality sewage and agriculture runoff terrestrial water issues
 - Restoration of Coastal water quality
 - Erosion
 - Runoff
3. Military accountability
 - Environmental damage is irresponsible
4. New Coastal development
 - Needs enforcement of laws
5. Invasive species eradication
 - Continuing eradication, suppression, and management of invasive species
 -

Topic 2: Research needs

1. No more research is needed now we need action, more political support, and more enforcement, there is a lack of political collaboration. Research lack of political will and action
2. Solid waste research
 - Need consistency with solid waste efforts; trash pickup, recycling information, allowance of multiple trash pickup bins in a household.
3. Restoration and Advisory board (RAB)
4. Mayor's office coordinating with Environmental stewardship efforts
5. Continued support for restoration

Support each other's research

Topic 3: Outreach and Extension

1. Multilingual and multicultural inclusive educational and outreach material
 - Language examples: CHamorro, Chuukese, Phonapeian, Tagalog, Palauan, Mandarin, etc.
 - Underserved communities
 - Multimodal outreach
2. Support invasive species eradication
3. Support elimination of Styrofoam and single use plastics
 - Normalize the use of reusable items
4. Network with sustainable businesses
 - Help vendors eliminate barriers to sustainability
 - Provide multiple options and alternatives for sustainability
 - Options for reducing single-use Styrofoam and plastics such as bringing your own container or sustainable single-use products
5. Build liaison relations with military about decisions

University of Guam Sea Grant
Listening Session
June 14, 2022
Hyatt Regency Guam

Sustainable Fisheries and Aquaculture
Break-out session

Issues that need research:

- A. Over-fishing
- B. Climate change
- C. Management challenges specific to Guam/Micronesia
 - a. Lack of enforcement, create legislation (size limits, etc.)
- D. Trend in fisheries
(Understanding where fisheries will go [reef fishing, deep sea fishing])
- E. Alternative livelihoods
- F. Aquaculture scalability/feasible
 - a. Food and stocking
- G. Communication platforms
- H. Data
- I. Difficulties/empirical information regarding multi-species fisheries
- J. Multi-cultural issues

What sort of research can Sea Grant conduct to address issues?

- A. Biological forecasting 1
- B. Overfishing
 - a. Empirical evidence/ historical trends 3
 - b. Understanding within multi-species fisheries
 - c. Integrating and improving data streams 3/5
- C. Lack of enforcement/Legislation/ Management
 - a. Cost-benefit analysis (legislation) 2
 - b. Socioeconomic info/ surveys (appetite for management) 4
 - c. Regional summary/ meta-analysis of effective policies 4
- D. Trends in fisheries
 - a. Biological forecasting 1
 - b. Species biology 3
 - c. Socio-economic effects/forecasting 1
 - i. Opinions/ patterns over time
 - ii. Data streams 5
 - iii. Accessible oceanographic information 3
- E. Aquaculture (Food & Stock)
 - a. Cost-benefit analysis 2
 - b. Stock: Survival analysis 1
 - c. Aquaculture: Yield analysis for food security 1
 - d. Ecological consequences of stocking 1/3
 - e. Refinement of aquaculture techniques 5
- F. Empirical data for multi-fisheries
 - a. Science-to-management frameworks 3/4

- b. Biological data gaps 3

Themes

1. Forecasting
2. Cost-benefit analysis
3. Data streams and integration
4. Socioeconomics
5. New technology/ methods

Extension & Outreach

- A. Community engagement
 - a. Multicultural
 - b. General water safety
 - c. Direct integration/engagement
 - i. DAWR, Co-op, etc.
- B. Messaging
- C. Infographics
- D. Translating science
 - a. Platform for communicating science
- E. Public presentations
- F. Community-based science
- G. Technology (fisher-to-buyer)
 - a. Supply chain
 - b. Data streams
- H. Training in aquaculture
- I. Short courses for community
 - a. Data viewing for Conservation Officers
- J. Novel incentives

UOG Sea Grant Priority Listening Session

8:00 a.m. to 12:00 p.m. June 14, 2022

Hyatt Regency Guam Salon Room

Breakout Session: Resilient Communities and Economies

Participants/Facilitators/Notetakers: Dr. Anita Borja-Enriquez (UOG), Edwin Reyes (GCMP), George Lujan (Legislature-Office of Sen. Sabina Perez), April Colitoy-Gaerlan (Sea Grant), Maria Louella Losinio (Sea Grant)

A. Significant Threats and Challenges

1. Climate change/sea level rise (lack of an engineering or design framework for resilient communities on Guam)
2. Lack of a comprehensive and updated land use plan that incorporates genuine community participation and respects the environment and local culture
3. Lack of accountability in land use issues and weak enforceability of current environmental and land use regulations and policies
4. Workforce and educational capacity gap: Insufficient number of planners across agencies. Need to train/capacitate planners on community resilience and other topics
5. Military build-up

B. Research and Resources to Address Challenges

1. Research on standards and terminologies applicable to building resilient communities within a cultural context
2. Sea Grant's research niche/strength within the context of developing resilient communities
3. Research that will guide planners and land use evaluators in enforcing related statutes
4. Research on building resilient communities and affordable homes, infrastructure, and utilities
5. Updated resource map identifying local resources

C. Extension and Outreach

1. Create an open-source site/one-stop hub to share government data and applicable
2. Plan to encourage accountability and transparency of data and information
3. Utilize/mobilize UOG computer science program to assist in developing and maintaining the open-source site
4. Develop an outreach plan to increase access/visibility of resiliency research and data to communities.
5. Train government agencies to produce related data.

June 14, 2022 – Hyatt Regency Guam Salon Room
UOG Sea Grant Priority Listening Session

Environmental Literacy and Workforce Development – Breakout Session

Challenges

1. Place-based implementation and measurements
2. Recruitment and pay scales
 - a. Building local capacity and education
 - b. Internships as requirements
 - c. Partnerships to build capacity and internship opportunities
3. Application process and knowledge
4. Gap with requirements for jobs and qualifications necessary
5. Key courses to add to curriculum for federal and other jobs

Research and Resources to Address Challenges

1. Creating and procuring content to distribute
 - a. Creating educational hub for the sciences
 - b. Getting feedback from provided materials
2. Design appropriate pay scales for natural resource positions that are consistent with Guam and the region
 - a. Research compensation and benefits that entice the new workforce
 - b. Have motivation for rewards
 - c. Figure out competitive rates with laid out requirements
3. Provide trainings
 - a. “How Tos” for the basics of preparing for the workforce
 - b. Internships for the sciences
4. Market research
 - a. Check what the private sectors’ needs, requirements, and qualifications are for positions in the sciences
5. Figure out key courses
 - a. Apply findings into the development of degree programs

Skills to Teach

1. How to have effective and strategic communication
 - a. How to use social media and analytics
2. Technical skills
 - a. Pulling data with field findings and how to measure/use
 - b. Data collection
 - c. Experimental design – asking the right question
3. Application of knowledge and lessons taught
 - a. From education to implementation
 - b. Interactive experiences
 - i. Fieldtrips and site visits
 - ii. Creating network experiences
 - iii. Relatable opportunities
4. Developing industries with the circular economy
 - a. Entrepreneurship – how to start your own business with processes and requirements
5. Sustainable harvesting
 - a. How to prepare and maintain
 - b. Identifying plants to use for different purposes