

## **Gulf of Mexico Alliance Environmental Education Network Action Plan II DRAFT Goals and Actions**

### **Long-Term Alliance Partnership Goals**

**GOAL 1:** Enhance functional environmental literacy<sup>1</sup> about the Gulf of Mexico resources and issues.

**GOAL 2:** Increase stewardship of the Gulf of Mexico through measurable, targeted education.

**GOAL 3:** Improve cross-Alliance communication and collaboration to assist other Priority Issue Teams with public education and outreach.

### **ED-1 Galvanize local communities to protect the Gulf of Mexico through education programs and projects.**

**Action:** Build upon existing success of Alliance partners to increase awareness and promote action among Gulf citizens by engaging in both GOMA in reach<sup>2</sup> and outreach activities.

### **Five-Year Outcomes:**

- Continue to implement professional development programs<sup>3</sup> for a wide range of audiences (i.e. elected officials, coastal managers, engineers and similar);
- Conduct annual environmental education and outreach meetings throughout the Gulf of Mexico (including Mexican and U.S. representatives).
- Create a network of volunteer/service-learning opportunities and activities.
- Identify and strengthen relations with local, state and regional organizations (NGO, State, Local) undertaking outreach activities across the Gulf;
- Develop at least five on-the-ground outreach/education projects that engage the public with Gulf resources.

**Why do this?** Education experts have learned that being aware and informed about an issue does not always translate into action <citation>. Engaging local target audiences on issues that directly influence them will strengthen the foundation for behavior change, thereby positively affecting Gulf-wide environmental stewardship. Learning by doing has a long-standing success when it comes to building awareness and understanding. Therefore, having the public systematically engaged in the actions of the GOMA will provide a strong vehicle for commitment to the goals of GOMA.

**Action 1 (old ED-1 A1 and A4 modified)** Galvanize the GOMA community through workshops and community involvement sessions.

- Conduct timely community meetings to report the progress of GOMA actions.

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<sup>1</sup> Literacy refers to reading and writing at a level adequate for communication, or at a level that lets one understand and communicate ideas in a literate society, so as to take part in that society.

<sup>2</sup> “In reach” means working among existing GOMA partners.

<sup>3</sup> Referencing current program by NOAA Coastal Training Programs

- Utilize NOAA Coastal Training Programs to develop grass roots actions toward community identified issues of concern.
- Conduct at least one regional, environmental education and outreach meeting to share and promote best management practices for formal and informal educators.
- Develop tools to promote Gulf of Mexico-related education to policy makers on local and regional environmental values and issues;

**Action 2. (old ED-1 A7 modified)** Maintain, support, and expand GOMA EEN clearinghouse and website.

- Establish and maintain a funding stream.
- Continue to link partner organization websites to expand the network of information and outreach at the Gulf level.

**Action 3. (new action)** Create and promote adult environmental education opportunities through coordinated partnerships with existing organizations (i.e. Rotary Clubs, birding groups, hiking clubs, landscapers, etc.) .

- Promote community service
  - Develop Explorer/Naturalists' Programs
  - Develop and implement field trips for conference participants
  - Expand communication/leadership training;

**Action 4 (new action)** Encourage and establish GOMA “model” communities.

- Document existing best management practices and programs available to municipalities
  - i.e. Waterfronts Florida Program, Clean Marinas, Resiliency Index, Green Municipalities
  - Create a “Model Community” criteria menu
  - Include tools in each priority issue area (nutrient reduction, education, etc.)
- Identify one pilot community per Gulf State
- Partner with municipalities to test adoption of strategies
- Evaluate pilot projects and determine next steps

## **ED-2 Conduct public awareness activities for the Gulf of Mexico.**

**Action:** Expand public awareness campaign efforts to include showcasing the Gulf of Mexico and its relevance in the lives of citizens.

### **Five-Year Outcomes:**

- Complete and expand the pilot, community-based social marketing program which includes a Gulf-wide branding initiative.
- Develop and disseminate regional messages for the Gulf of Mexico that reach non-traditional, regional, and upstream audiences.
- Utilize current or advanced technologies to reach audiences.

**Why do this?** Similar to environmental monitoring, addressing public awareness is a need that all environmental educators must continually refine and address. Consistent public awareness

activities must be pursued in promoting the health and welfare of the Gulf of Mexico to the region and the nation.

**Action 1. (old ED-2 A1 modified)** Continue, launch, and evaluate the community based social marketing (CBSM<sup>4</sup>) public awareness campaign strategy.

- Implement the behavioral change(s) related to nutrients identified in the CBSM strategy.
- Implement the branding scheme, where appropriate, identified by the CBSM strategy.
- Identify one behavior change and encourage program participants to set goals (i.e. reduce plastic bags; install monofilament line containers).

**Action 2. (old ED-2 A1 modified)** Create public awareness and stewardship campaign components to reach non-traditional and “upstream” audiences using creative methods that address their values and interests<sup>5</sup>.

- Utilize messages, such as those developed through Earth Gauge, for multiple media to include current technology<sup>6</sup>, alternative methods of message dissemination<sup>7</sup>, and informal education centers<sup>8</sup> (museums, aquariums, libraries, and science centers) for campaign dissemination.
  - Review effectiveness of existing science-based media<sup>9</sup> for use with environmental education and communication
  - Review cables resources (i.e., *National Geographic*, television, and (websites), videogames, Radio-Television News Directors Association, and the video gaming industry;
    - Include demographics, i.e., who is watching, utilizing the resource, what is the level of interest;
    - Incorporate reviewed materials when creating new programs;
    - Create meaningful messages, based on sound science;
    - Design and develop tools and resources for younger generations to compete among themselves;
    - Provide experts to participate in ‘edutainment’<sup>10</sup>,

**Action 4. (new action)** Develop integration of priority team materials to help facilitate message development and dissemination.

- Implement an outreach/education program with priority issue teams and partner organizations (one per State).
- Engage scientists to make clear connections about how science impacts society through programs that show the relevance of their research to citizens everyday lives.

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<sup>4</sup> CBSM = Community Based Social Marketing

<sup>5</sup> Examples include: decision-makers, community leaders, private industry, informal community leaders (i.e., faith-based groups), sporting events, media outlets and other similar groups.

<sup>6</sup> Examples include all forms of media: print, audio, television, web, etc.)

<sup>7</sup> Examples include: text messages, blogging, YouTube, e-cards, web-based, and GPS-based, podcasts.

<sup>8</sup> Examples include: museums, aquariums, libraries, and science centers

<sup>9</sup> Examples include: i.e. television, radio, podcasts, CD/DVDs, and other similar venues

<sup>10</sup> “Edutainment” refers to educational entertainment opportunities beyond free choice learning.

**ED-3 Galvanize the K-20 community to elevate environmental literacy for the purpose of creating a future informed citizenry that engages in action for the health and welfare of the Gulf and connected ecosystems.**

**Action:** Increase environmental literacy within the K-20 audience by developing, implementing, expanding, and enhancing specific environmental education programs. Cross-reference disciplines to environmental education, engage dialog on cross-state standards, and .... Include an emphasis on workforce development which addresses science technology, engineering, and math as well as in-school experiential learning opportunities such as aquaculture. Define underserved and underrepresented populations within communities and include those cultural needs in environmental education initiatives. Use best management practices in evaluation and assessment to establish program success.

**Five-Year Outcomes:**

- Expand experiential learning opportunities across all grade levels.
- Incorporate environmental literacy standard requirements into state courses of study and field exercises.
- Implement cross-discipline environmental education materials.
- Establish new partnerships with state departments of education and the federal Department of Education and Labor.
- Continue to build programs targeted toward underrepresented and underserved populations.
- Engage in No Child Left Inside movement

**Why do this?** Alliance education members across the Gulf of Mexico recognize the value and increasing need to expand environmental literacy. By standardizing state requirements, providing experiential learning opportunities, working across the region, educators and students alike will benefit. Increased knowledge in science education should reflect increased numbers of individuals pursuing Science, Technology, Engineering, and Math (STEM) as future careers thus adding to the strength of our regional workforce development.

**Action 1. (old ED-1 A6 modified)** Continue the implementation of environmental education programs targeted toward underrepresented and underserved populations (UUP)<sup>11</sup>.

- Continue funding efforts to support existing and developing UUP programs.
- Provide funding to support the development of new UUP programs.
- Explore the concept of adopt-a-school program across the Gulf states, i.e., The MARE<sup>12</sup> Project
- Include efforts which address workforce development in science, technology, engineering, and math (STEM<sup>13</sup>).
- Develop a service-learning, community outreach program for high school students that connect programs with informal outreach and education programs.

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<sup>11</sup> Need reference to Ocean Action Plan & Previous GOMA action plan; UUP means Underserved and Underrepresented Populations

<sup>12</sup> MARE = Marine Activities, Resources and **E**ducation

<sup>13</sup> STEM = Science Technology Engineering and Math

**Action 2.** Participate in regional forums.

- Promote links with Departments of Education and Labor
  - Begin dialog to participate in state standards amendments to include environmental education
  - Begin dialog to review and compare environmental education standards across Gulf states
  - Begin dialog to increase federal funding toward Gulf environmental education efforts
  - Participate in activities that introduce “No Child Left Inside” to states.
- Correlate environmental standards (*The Essential Principles and Fundamental Concepts of Ocean Literacy* and *The North American Association of Environmental Education [NAAEE]*) to the Gulf of Mexico states’ respective State Education Standards;
- Provide a matrix of *The Essential Principles and Fundamental Concepts of Ocean Literacy* to other disciplines and technology;
- Correlate local and regional experiential learning opportunities to Gulf of Mexico states’ respective Education Standards.

**Action 3.** Integrate environmental science into State Educational Standards across disciplines and develop an implementation plan for incorporation of ocean/coastal sciences content, re-enforced with experiential activities into the states’ curricula.

- Work with state committees to address tasks involved in revising State Education Standards;
- Conduct a workshop to begin brainstorming on the implementation plan and
- Incorporate *The Essential Principles and Fundamental Concepts of Ocean Literacy* within the Gulf of Mexico states’ State Education Standards (also see NAAEE environmental literacy standards).

**Action 4.** Increase experiential learning opportunities through formal and informal education programs and projects

- Identify specific sites or resources to correlate to State Education Standards in each state;
- Utilize experiential learning provided in festival type events as the basis for grade level curricula;
- Incorporate and increase service learning opportunities within civic activities.
- Have scientists make current or real-time data available for classroom investigations and public presentations

**Action 5.** Provide professional development and/or teacher training programs and increase these opportunities utilizing various data collection and communication technologies

- Use the following communication and/or data collection technologies: satellite, GPS, infrared, maps, real-time, visualizations, lidar, landsat, STS (science technology and society) and Science, Technology, Engineering, and Math (STEM) .
- Develop tools to promote Gulf of Mexico-related education to superintendent/school board/State Board of Education audiences).

**Action 6.** Develop and implement evaluation and assessment strategies, qualitative and quantitative.

- Share established techniques with other GOMA priority issue teams for replication where appropriate.
- Use formative and summative evaluations, as well as longitudinal studies and select interviews if time and funding allow.

#### **ED-4 Utilize economic value for the Gulf in targeted environmental communications**

**Action:** Utilize economic valuations related to environmental ethic, education, culture, and stewardship in all aspects of environmental education.

#### **Five Year Outcomes:**

- Incorporation of economic values into local, regional, and national environmental education initiatives for the Gulf of Mexico;...
- Incorporation of cultural and regional nuances into valuations and document historical environmentally related economic changes within the states and region.
- Development of a clearinghouse of natural resource/environmental economics information being produced in and around the Gulf as it relates to the resources present in the Gulf with links to its source to provide guidance to the interested public.
- Development of a Teachers Guide on Natural Resources Economic benefits of the Gulf of Mexico that the teachers can use in their teaching and outreach activities.
- Development of media bits to communicate the results of the clearinghouse as well as examples of results of economic valuations on Gulf of Mexico natural resources and their economic benefits.

**Why Do This?:** Although altruistic actions are often admired, their scope is rarely understood. Economics drives the workforce and the business community. By translating the manner in which conservation and environmental stewardship affect the bottom line, the Alliance—can in effect—yield a greater regional and national understanding of “how” the health of the Gulf of Mexico is tied to the nation’s economic vitality. With this shared understanding, policy-makers will see the value in promoting environmental education.

Working together existing information can be harnessed that reflects the economic benefits provided by signature habitats and resources of the Gulf. All priority issue teams can generate communication devices to disseminate this knowledge through the GOMA and its partnerships.

**Action 1:** Translate conservation ethic and stewardship responsibility into terms of economic benefit.

- Conduct a regional conference on conservation ethics and stewardship (form collaborations/partnerships with existing activities i.e., Watchable Wildlife or similar Sea Grant Extension activities);
- Develop a ‘code of conduct’ to address travel-related behavior<sup>14</sup>.

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<sup>14</sup> Many coastal communities which have a regular tourist population experience actions by visitors which they would not normally do at home. This ‘vacation’ behavior is often a source of environmental problems.

- Translate conservation ethic and stewardship responsibility into terms of nationwide economic benefit
  - Value of Louisiana Wetlands (working coast) reference – Costanza and others annual economic value wetland functions LA marshes
  - Value of Texas as a Gulf coast state<sup>15</sup>
  - Value of Gulf of Mexico
  - Value of Regional Contributions (working coast)

**Action 2.** Work with regional partners on the development of a clearinghouse to include design and implementation strategy to ensure awareness and recognition of the economic benefits of a healthy Gulf.

- Inventory and share information on institutions and individuals around the Gulf that are engaged in development of economic analysis and valuation of Gulf resources.
- Together with partners, develop a clearinghouse of information regarding economic benefits of a healthy Gulf.
- Work with Federal partners to find funding to increase the efforts towards research, communication and sharing of economic valuation and its application to real life cases around the Gulf.

**Action 3.** (new action) Incorporate cultural values and regional nuances into educational learning opportunities.

- Develop environmental children’s literature that reflects local and regional cultural values and issues;
- Identify citizens whose livelihood is intertwined with a healthy Gulf of Mexico (ex. Oystermen ) and develop programs that showcase these stories to the public
- Document oral histories of the working coast;
- Create historical and current documentation of environmental observation practice as they relate to economic health and welfare of coastal states.

### Crosscutting Action Steps

#### Action Steps with our Mexican Gulf State Partners

#### Emerging Issues

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<sup>15</sup> In the Texas education sessions, it was noted that often Texans do not see themselves as a Gulf coast state. This is not to preclude the value of all Gulf states.