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| **Project Title:**  **-**Land-sea metabolic coupling in temperate eelgrass beds: The role of watershed connectivity and environmental gradients on carbon sequestration of seagrass meadows  **Edited for Logic Model**: Land-sea coupling in temperate eelgrass beds: The role of watershed connectivity and freshwater inputs on dissolved oxygen in seagrass meadows. | | | | | **Issue:**  Water quality and the health and long-term resilience of eelgrass meadows | | | | **OFFICE FOR COASTAL MANAGEMENT** |
| **Target Population:**  -Scientists and Managers tasked with protecting eelgrass ecosystem health and resilience.  -Aquaculture industry and other residents interested in water quality. | | | | | **Goal:** Eelgrass meadows in Padilla and Samish Bay remain healthy and are protected, supporting fishery habitat and the local ecosystem as a whole. | | | |
| Inputs/Resources | Activities | | | Outputs | | | Short-Term Outcome | Mid-Term Outcome | Long-Term Outcome |
| UW, scientific literature, R community  Reserve research team, education and communication staff, existing research infrastructure. | Develop protocol and dissolved oxygen model code for the reserve research staff.  Partnership development and maintenance: Promote project through talks, outreach events.  Build community relationships, to start through fieldwork, conversation, and presence in the system. | | | Interactive R shiny app  Scientific publication  Presentations to the public and science community | | | Padilla Bay scientists gain a better understanding of dissolved oxygen dynamics in Samish vs Padilla Bay watersheds.  Specifically, by comparing systems, we learn how and when freshwater nutrient inputs may affect dissolved oxygen in Samish vs Padilla Bay eelgrass meadows.  This results in an interactive, open-source R Shiny application of modeled dissolved oxygen dynamics for each bay, targeted towards informing managers, residents, and the shellfish industry. | Scientists, local residents, and the shellfish industry work with land use managers to address human impacts to water quality and eelgrass ecosystem health.  The link between freshwater inputs and dissolved oxygen dynamics are clarified and communicated to managers and the aquaculture industry by me = activity.  Managers and aquaculture industry can now access an interactive online tool that provides local oxygen dynamics as it relates to water quality and fishery health.  Managers and reps understand the link between freshwater inputs and DO dynamics.  They will be aware of tool. They will see the benefit of the tool. They know where they can access assistance.  They tool allows them to select places that are optimal to site new beds. | The protection of water quality in the context of eelgrass meadows becomes a management priority as a larger tactic to support ecosystem function and fishery health.  Eelgrass meadows in the greater Puget Sound recover and remain productive element of coastal floor.  Water quality improves and supports the greater fishery health of the area.  Samish and Padilla Bay watersheds are better managed for the health of the receiving coastal waters. |
| **SMART Objectives:**  **By fall of 2022, 90% of research staff will be able to access and execute the R shiny application to calculate site-specific dissolved oxygen.** | | | | | | | | | |
| **Other Influences:**  **COVID, loss of funding, balancing timeline of PhD milestones/other projects, loss of equipment** | | | | | | | **Assumptions:** | | |
| **Needs Assessment/Project Scoping**  Begin by gaining an understanding of the target population and the issue. What about the issue are you trying to impact with your project?   * Who is the target population and what are their characteristics? * What knowledge, skills, attitudes, or behaviors need to change? * How can you best accomplish these changes?   See the “Needs Assessment Guide” on the Digital Coast, under Training: [*https://coast.noaa.gov/digitalcoast/training/needs-assessment-guide.html*](https://coast.noaa.gov/digitalcoast/training/needs-assessment-guide.html) | | | | | | | **Tips for Completing a Logic Model**   * Work from right to left. Identify outcomes first, then outputs, activities, and finally, resources. * After drafting a logic model, check for plausibility by making sure that:   ▷ Planned activities are reasonable, given the available resources;  ▷ Activities are sufficient in quantity and quality; and  ▷ Linkages are logical when you read from left to right “if–then” statements. | | |
| **Project Title:**  This is your working title, i.e., how you refer to the project. | **Target Population:**  This is a detailed description of the groups of people that might be the cause of the issue or the key to the solution. What groups of people influence or will be influenced by your project? | | | **Issue:**  This is the problem or opportunity that your team or organization needs to address; record what has happened or is anticipated. | | | **Goal:**  This is the overall change your project’s long-term outcome is contributing to; it is aspirational. | | |
| Inputs/Resources | Activities  Planned work and actions of your program | | | Outputs  Planned work and actions of your program | | | Short-Term Outcome  The [target population] will… | Mid-Term Outcome  The [target population] will… | Long-Term Outcome  Overall change in condition |
| Record what you need to conduct the activity. Consider the following:   * Time – Overall project time (can be added to each column) * Staff – Number, expertise, and time * Volunteers – Number, expertise, and time * Funding – For inputs, activities, and sub-contracts * Equipment and supplies – To be used or purchased | Record what you will do with the resources to create the outputs and outcomes. | | | Record the product title or description and the number of physical products produced by the activity. Products can include events, participants, or science-based outputs. | | | Record the logical change in one or more of the following:   * Awareness * Knowledge * Skills * Attitude * Initial response of the biota or habitat | Record the logical change that results from the short-term outcome in one or more of the following:   * Behavior * Decision * Policy * Practice * Social action * Effect of the initial response of the biota or habitat | Record the logical change that results from the mid-term outcome in one or more of the following conditions:   * Social * Economic * Environmental * Civic * Overall change in the condition due to response of the biota or habitat; typically environmental |
| **SMART Objectives:**  Remember to include the following elements in each objective: S = Specific There will be SMART objectives for each column, except for the inputs column. | | M = Measureable | A = Audience/Issue-focused | | | R = Realistic/Ambitious | T = Time-bound |  |  |
| **Other Influences:**  Variables that may have an effect on the program or project (e.g., the degree of success, changes in the timeline) but are beyond the control of the program or project manager/team. For example, changes in funding, collaborating partners, organizational or interpersonal networks, staff and volunteers, time, facilities, equipment, attitudes, lack of resources, changing policies, laws, geography, and weather. | | | | | | | **Assumptions:**  The premises that support the linkages between the logic model components, and that the success of the project is based on. For example:   * Two new staff members will be in place * New software will be approved and installed * Erosion rates over the project period are similar to the last two years. Remember: faulty assumptions are often the reason for poor results! | | |