TEXAS COASTAL MANAGEMENT PROGRAM

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Texas Sites and Coastal Sights

Brazoria County Adds Educational Structures to Hanson Riverside County Park // BRYAN FRAZIER & JESSICA CHAPPELL

Brazoria County Parks Department (Parks Department) used Coastal Management Program (CMP) funds to expand the infrastructure at Hanson Riverside County Park to improve bird watching, wildlife observation, and public access. The park, located on the San Bernard River off Highway 35 between the cities of West Columbia and Sweeny, contains one of the last remaining patches of Columbia Bottom Lands forest. The Columbia Bottom Lands once covered a thousand square miles but have been reduced to about 250 square miles. When found intact, the bottom lands are considered highly valued ecosystems because of their unique ability to filter and store floodwaters and provide habitat for migrating birds. The tall hardwood trees of the bottom land forest provide much-needed shelter and water for migratory birds on their journey north from Central and South America every spring.

CMP funds were used to create outdoor facilities that provide interpretive and educational opportunities in this one-of-a-kind Columbia Bottom Lands setting. The Parks Department commissioned a 52-ft diameter pavilion and a 240-sq ft wetland covered observation deck. The pavilion will house events to educate visitors on Texas coastal issues and the technology available for protecting and improving management of coastal natural resource areas. The covered observation deck overlooks the wetland garden, allowing guests to observe native wildlife and migratory birds. There are also two interpretive signs describing life in the bottom lands and the importance of the habitat. Not only does this project provide educational resources, but the enhancement of Hanson Riverside County Park will also encourage more family-oriented outdoor recreation and draw additional tourism to Brazoria County.

The Parks Department is also installing a 300-sq ft freshwater wetland garden and a rain harvesting system to supply water to the wetland garden when needed. The Parks Department plans to use these structures to host educational programs to increase knowledge and appreciation of water harvesting, habitat preservation, and bird migration.

In the near future, additional improvements will be made , including a sloped parking lot to accommodate more than 20 vehicles, three miles of new, multi-use hike and bike trails, and repairs to the existing ¾-mile hike and bike trail. To learn more about the park, visit: https://www.brazoriacountytx.gov/departments/parks-department

The new observation deck provides a space for unique educational opportunities in the Columbia Bottom Lands of Brazoria County.

Interpretative signage describes which migratory birds visitors can expect to see in Hanson Riverside County Park.

Natural Resource Damage Assessment Program

NRDA Funds Protect Kemp's Ridley Turtles // CARLY VAUGHN

Following a hazardous substance release or oil spill, trustees from state and federal agencies may conduct a natural resource damage assessment, or NRDA. During this cooperative process, trustee agencies work together to evaluate injuries to natural resources and services and determine the extent of restoration required. The goal of NRDA is to make the environment and public whole through feasible and cost-effective restorative actions. In the aftermath of the Deepwater Horizon oil spill, the largest in maritime history, BP Exploration and Production, Inc. provided $1 billion to state and federal trustees to offset ecological injuries and recreational losses through implementation of early restoration projects.

A portion of this early restoration funding supports a multi-faceted regionwide approach to address threats to sea turtles on nesting beaches and in the marine environment. As a component of this initiative, the Texas Trustees, which include the Texas Parks and Wildlife Department, the Texas Commission on Environmental Quality, and the Texas General Land Office (GLO), are administering efforts to enhance Kemp's ridley nesting and hatchling protection in Texas and Mexico. In 2016, the Texas Trustees began providing funding to project partners to strengthen nesting patrols and egg relocation efforts and improve nest protection.

The endangered Kemp's ridley nests in large synchronized events, or arribadas, in Mexico or individually in Texas. The adult females come ashore to lay eggs, typically in the finer sands of the beach's backshore near the vegetation line. After nesting occurs, the females return to the Gulf of Mexico, leaving the eggs to incubate for nearly two months. In an effort to increase nest success, trained personnel and volunteers conduct patrols to monitor beaches for sea turtle nests. From 2016 to 2019, nesting patrols surveyed a total of 803,785 mi of beachfront from Bolivar Peninsula to Boca Chica Beach, Texas, detecting a total of 979 nests.[1] During the same time period, a total of 588,769 mi of beachfront were surveyed in Tamaulipas, Mexico, detecting a total of 71,582 nests. In Texas, sea turtle nests are excavated and relocated to a monitored facility, while in Mexico, nests are either moved to a protective corral or left in situ to incubate. Relocated nests are closely monitored. Once hatchlings begin to emerge, the sea turtles are released onto beaches along the Gulf of Mexico. Since 2016, this effort has helped support the release of 3,345,659 Kemp's ridley hatchlings. The Texas Trustees will continue to support project efforts through 2026.

[1] Texas nesting data is comprehensive and includes data for surveying efforts not specifically funded by the project.

Not all Texas beaches are ideal for Kemp's ridley nests.

Kemp's ridley arribada in Mexico. Credit: Hector Chenge Alvarez, courtesy of Gladys Porter Zoo

Protective corral for relocated sea turtle nests at Rancho Nuevo in Tamaulipas, Mexico. Credit: Hector Chenge Alvarez, courtesy of Gladys Porter Zoo

Kemp's ridley hatchling release in Mexico. Credit: Hector Chenge Alvarez, courtesy of Gladys Porter Zoo

Eyes on the Horizon

GLO Coastal Planning Update // JOSHUA OYER

There's no doubt, things have been busy down on the Texas coast this year. However, that hasn't stopped the GLO's Coastal Planning staff from thinking about Texas' coastal future.

GLO Planning is assisting the U.S. Army Corps of Engineers Galveston District with a second Draft Feasibility Report and Draft Environmental Impact Statement for the Coastal Texas Study (the Study), with an anticipated release in fall 2020. The Study examines the feasibility and potential environmental impacts of large-scale storm risk management and ecosystem restoration projects to confront coastal concerns in Texas. Six public meetings for this project are planned for fall 2020 and will be held virtually via WebEx. For more information on the Study, visit: https://coastalstudy.texas.gov/

On the Texas Coastal Resiliency Master Plan (the Plan) front, GLO staff hosted two virtual WebEx Technical Advisory Committee (TAC) meetings in June 2020 to update local decision-makers and coastal experts on the progress of projects within the Plan. GLO staff also discussed upcoming planning enhancements and proposed a schedule for moving forward with the release of the 2023 Plan. GLO staff will continue to consult the TAC to gather information on regional vulnerability assessments and to evaluate potential project solutions for recommendation in the 2023 Plan. Enhancements to the planning process include additional scenarios for modeling sea level rise and storm surge impacts and an expanded data-driven vulnerability assessment process. The GLO expects to host another round of TAC meetings in spring 2021 to update the scale of vulnerability concerns at a regional level that will drive action and strategy development over the next phase of the planning process. For more information on the Plan, visit: https://www.glo.texas.gov/crmp

Tidal surge from Hurricane Laura caused scarping to the dune system at Quintana Beach, reinforcing the need to invest in coastal resiliency projects that serve as a first line of defense, such as beach and dune restoration.

Federal Activities in Coastal Waters

Deepwater Port News Update // JAQUELYN BOUTWELL, J.D.

Texas has three pending deepwater port (DWP) license applications. DWP applications are required to be consistent with the Texas CMP and the Texas Governor must approve or deny each Texas DWP application. The status for each DWP application is listed below.

SPOT (Sea Port Oil Terminal, LLC)

SPOT has applied to own, construct, and operate a DWP to export domestically produced crude oil approximately 27.2 to 30.8 nautical miles off the coast of Freeport. A public meeting was held on March 20, 2019 at Lake Jackson. On June 4, 2020, the statutory timeline for the DWP application was suspended to allow the applicant time to submit additional information in response to comments received from the GLO.

GulfLink (Texas GulfLink, LLC)

Gulflink has applied to own, construct, and operate a DWP to export domestically produced crude oil approximately 28.3 nautical miles off the coast of Brazoria County. A public meeting was held on July 17, 2019 in Lake Jackson. On September 15, 2020, the regulatory timeline for the DWP license was suspended to allow the applicant time to submit additional information necessary for the National Environmental Policy Act review. The draft Environmental Impact Statement has not yet been published for public comment.

GulfLink (Texas GulfLink, LLC)

Bluewater has applied to own, construct, and operate a DWP to export domestically produced crude oil approximately 15 nautical miles off the coast of San Patricio County. A public meeting was held on July 22, 2019 in Corpus Christi. On November 7, 2019, the regulatory timeline was suspended to allow the applicant to submit additional information. On August 7, 2020, notice was provided in the Federal Register that the scope of the project had changed. Click here to view the changes made.

More information on the applications can be found at www.regulations.gov using the docket no in the table below.

DWP APPLICANT	DOCKET NO. MARAD	APPLICATION DATE
SPOT (Sea Port Oil Terminal/Enterprise Products)	2019-0011	January 31, 2019
Bluewater Texas Terminal, LLC (Philips 66)	2019-0094	June 30, 2019
Texas Gulf Link, LLC (Sentinel Midstream, LLC)	2019-0093	June 30, 2019

CMP Success Story

Galveston Bay Foundation's Oyster Shell Recycling Program Adapts to COVID-19 // HAILLE LEIJA

Recycled oyster shells have been in quarantine long before we were! Even though the 2020 COVID-19 pandemic has interfered with many of our plans, Galveston Bay Foundation's (GBF) Oyster Shell Recycling Program is still going strong. Since 2011, GBF has collected shucked oyster shell from local restaurant partners to use in reef restoration. This shell is a valuable resource as it provides a surface for oyster larvae to attach and begin to grow. Prior to being returned to the Bay, all recycled oyster shell is stored at one of GBF's "curing sites" where it is strategically piled and turned, allowing the shells to be thoroughly exposed to the sun. This six-month quarantine process ensures the shells are rid of bacteria and other pathogens before being returned to the Bay as new oyster habitat.

GBF has collected over 2,000,000 lbs. of oyster shell to date and returned approximately 530 tons of shell to Galveston Bay to help sustain the local oyster populations. In the spring of 2020, shell recycling was put on hold for six weeks due to pandemic-related regulations that required restaurants to suspend inside dining. But now, the program's restaurant partners are open and shucking again, and have helped GBF collect over 156,000 lbs. of shell thus far in 2020!

Not only are shells being saved from the landfill, but GBF's Volunteer Oyster Gardening Program has emerged as an ideal volunteer opportunity in a time of social distancing. Rather than hosting in-person community events, GBF staff developed a series of instructional videos to allow volunteers to become oyster gardeners from the comfort of their home. During June and July, more than 100 bayfront residences deployed over 380 oyster gardens all containing recycled oyster shell. These volunteers have documented amazing results, with multiple new oysters growing on the recycled shell in their gardens! Soon GBF staff will collect the oyster gardens with the new baby oysters (aka spat) and transplant them onto nearby restoration reefs where the oysters can continue their important water filtration work. To learn more, visit galvbay.org/oysters today!

Volunteers create and deploy stringer oyster gardens from their docks to give oyster larvae a surface to attach and grow. Photo courtesy of Lynn Wright.

Oyster shells collected from restaurant partners must undergo a six-month quarantine/sun curing process before returning to the Bay. Photo courtesy of Galveston Bay Foundation.

THE DEEPER DIVE

Promoting Living Shorelines to Preserve the Texas Coast

The GLO is committed to promoting ecologically and economically sound coastal management practices. With this goal in mind, the GLO is promoting the use of living shorelines as an alternative to traditional shoreline stabilization techniques along the Texas coast. A living shoreline is a natural shoreline stabilization approach designed to mimic nature and serve as an alternative to bulkheads, seawalls, and other hard stabilization methods. These features utilize natural materials along with the strategic placement of plants and organic material to reduce erosion and protect property. In the right setting, they can prevent land loss and provide the aesthetic benefits of a natural shoreline. They can be designed in a variety of sizes, configurations, and dimensions and can be successful in both smaller residential locations and along larger sections of the coast.

To help coastal property owners install a living shoreline, the GLO has developed "A Guide to Living Shorelines in Texas". This guidance document is meant to be a one-stop educational resource that provides streamlined information on designing, permitting, and constructing viable living shoreline projects. The guide also contains a link to the Living Shoreline Site Suitability Model (LSSM) developed by the Harte Research Institute. Learn more about the tool in the "New Tools and Tech" section below.

In addition to creating the guide, the GLO has hosted a series of informative living shoreline workshops over the last two years. The 2019 workshops provided introductory information on living shorelines and the 2020 workshops presented technical information on how to install a living shoreline and debuted the guidance document.
The GLO hopes this newly available information will help coastal landowners build a living shoreline on their property that is resilient to coastal hazards and can protect their piece of Texas for generations to come.

Download the guide and workshop materials here: https://www.glo.texas.gov/coast/coastal-management/permitting/index.html

Volunteers plant marsh grass as part of a living shoreline in Lake Pasadena, Harris County. Photo courtesy of Galveston Bay Foundation.

New Tools and Tech

Living Shoreline Site Suitability Model Helps Homeowners Protect Their Coastline // MARISA DODSON

The Harte Research Institute, with support from the GLO, created the Living Shoreline Site Suitability Model (LSSM) and corresponding online tool to encourage Texas coastal residents to consider living shoreline techniques for minimizing shoreline erosion issues on their property. The LSSM is a GIS model that utilizes map-based data to predict where a living shoreline technique may be suitable, and to recommend the best management practice given the unique conditions on that section of coastline.

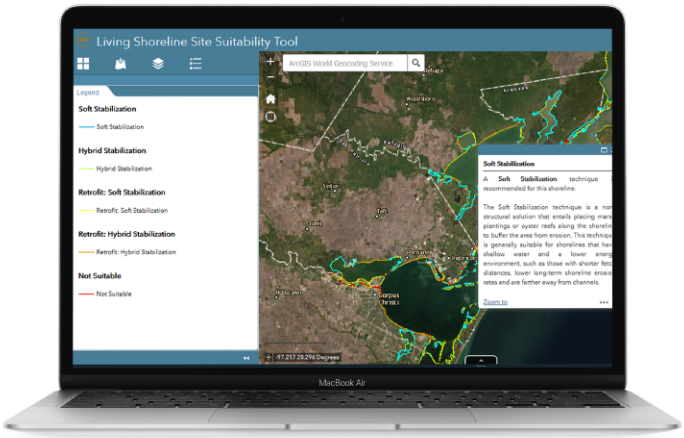
The primary purpose of this tool is to help shoreline property owners, natural resource managers, and contractors make informed decisions about shoreline management techniques and expand the use of greener, non-structural methods of shoreline protection.

The LSSM uses map data and decision tree logic to determine which living shoreline technique is best suited for a particular area of shoreline. There are six factors the model considers at each shoreline segment: historical erosion rate, wave energy, distance to/size of nearest channel, shoreline type, water depth and nearshore slope. Given these input data, the tool has five different possible living shoreline technique recommendations:

1. Soft Stabilization
2. Hybrid Stabilization
3. Retrofit: Soft Stabilization
4. Retrofit: Hybrid Stabilization
5. Not Suitable

The tool is in the form of an online map of the Texas coastline, with the shoreline divided into 55-yard-long segments. When you click on a shoreline segment, a pop-up will appear with the recommended living shoreline technique as determined by the decision tree model, a description of what that technique entails, and a link back to the GLO's "A Guide to Living Shorelines in Texas" for more information and potential next steps. It should be noted that this tool is not a substitute for a site assessment – it is merely a starting point to provide a suggested technique given the available data. The tool will hopefully help those interested in living shorelines get a better idea of what technique might be best suited to their property's coastal setting.

Learn more about the LSSM here: https://gomaportal.tamucc.edu/GLO/LivingShorelines/



The Living Shoreline Site Suitability Model provides a living shoreline technique recommendation based on a property's conditions.

ANNOUNCING CMP PROJECTS OF SPECIAL MERIT

The Texas CMP is excited to kick-off a new endeavor during the 25th grant cycle: Projects of Special Merit (PSM). PSMs are funded through allocations Texas receives from the Gulf of Mexico Energy Security Act (GOMESA). The CMP created the PSM as a funding category to prioritize innovative, collaborative projects involving large-scale coordinated effort among regional stakeholders. The CMP has five PSMs that started on October 1st.

An integrated assessment of nutrient loadings to Baffin Bay, Texas

A once thriving ecosystem, Baffin Bay currently exhibits symptoms of water quality degradation that could threaten the health of the bay and its valuable fishery. Researchers at Texas A&M University – Corpus Christi plan to identify the main source(s) of nutrients to the Baffin Bay watershed via environmental sample collection and modeling to help prioritize watershed restoration activities.

The Texas Coastal Collaborative, A dynamic approach to hazard mitigation, resiliency & NPS control

Coastal communities face an elevated risk of water quality degradation, habitat loss, storm surge damage, and flooding as a result of natural disasters. Texas State University will lead a dynamic team of scientists, educators, engineers, and communication professionals to engage key stakeholders in target communities to address nonpoint source (NPS) pollution.

Assessing Coastal Change in Support of the 2023 Texas Coastal Resiliency Master Plan

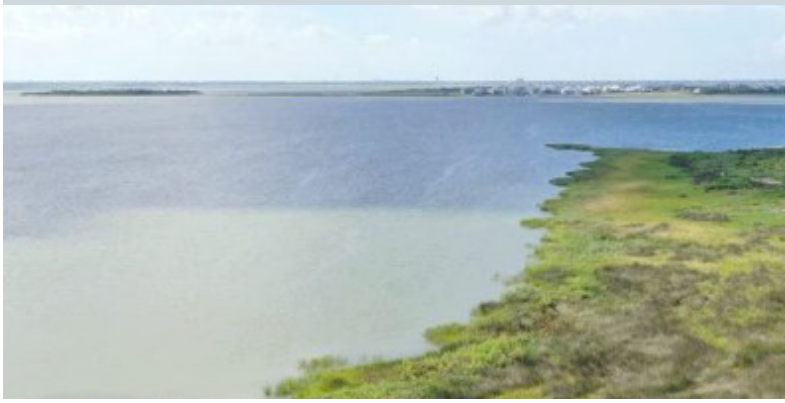
The Texas coast is susceptible to many hazards, including tropical storms, erosion, and sea level rise. To help increase the resiliency of the Texas Coast, the Harte Research Institute will conduct modeling to assess how implementing scenarios of conservation, restoration, engineering, and community planning efforts can affect present and future resiliency.

Redhead Pond - Adjacent Tract Acquisition

Redhead Pond is an extremely important freshwater pond in Corpus Christi used by thousands of wintering redhead ducks that has become brackish due to past stormwater projects. The City of Corpus Christi will acquire 24.43 acres of wetland and upland property adjacent to and contiguous with the existing Texas Parks and Wildlife Department's Redhead Pond Wildlife Management Area.

Dollar Bay Wetland Acquisition

Dollar Bay is a tidally influenced waterbody on the western shore of Galveston Bay. The wetland serves as critical habitat for local wildlife, but it is currently under threat of development. The Galveston Bay Foundation will purchase approximately 102 acres of coastal habitat adjacent to Dollar Bay in Galveston County to help protect this valuable ecosystem.



Galveston Bay Foundation will purchase and preserve 102 acres of coastal habitat in Dollar Bay as a Project of Special Merit.

Introducing Clean Coast Texas!

The Texas Coastal Nonpoint Source Pollution Program Continues its Work Under a New Name // JASON PINCHBACK

Clean Coast Texas, also known as the Texas Coastal Nonpoint Source Pollution program, has been working for several years to obtain program approval from the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA). A coastal nonpoint source pollution (NPS) program is a required component for all CMPs in the United States, and the GLO is proud to have Clean Coast Texas in the final stages of the approval process.

The ultimate goals of Clean Coast Texas are to reduce NPS and to enhance coastal water quality management to benefit habitat, tourism, and recreation. Clean Coast Texas focuses on providing technical guidance, community-based retrofit planning, engagement, collaboration, and funding assistance.

To help accomplish these goals, the program is forming partnerships along the coast. Their first major endeavor will feature a program initiative called the Coastal NPS Collaborative. This partnership includes Texas Sea Grant, AgriLife's Texas Community Watershed Partners, and Texas State University's Meadows Center for Water and the Environment. This initiative will:

- Develop retrofit plans and provide local planning resources
- Develop collaboration/partnerships with local jurisdictions
- Distribute the Sustainable Stormwater Drainage Manual and Roads/Highways Handbook
- Engage communities to assist with local planning or ordinance development
- Provide technical guidance, workshops, and aid efforts to resolve current issues
- Maintain a website and disseminate materials

A bioswale added downstream of a parking lot can improve the runoff water quality

Beach Dune Digest

GLO Temporarily Fast Tracks Dune Restoration Post-Hurricane Laura // NATALIE BELL

The Beach Access & Dune Protection Program is essential in furthering the GLO mission to protect Texas's vital coastal resources, specifically on our barrier islands. The program has the responsibility of balancing the preservation and enhancement of public access to Gulf-facing beaches, with protecting vegetated sand dunes that serve as our natural defense line against storms. This is done in part by working with coastal local governments to implement and enforce both the Texas Open Beaches Act and the Texas Dune Protection Act. These statutes require that the GLO and local governments work together to issue permits for all construction activities within 1,000 ft of mean high tide and ensure that mitigation is completed for adverse effects to sand dunes and dune vegetation that occur because of construction. Typically, the standard permitting process requires a local review of the permit application before a 10 to 30-day review period for the GLO to comment on the application before issuance.

Hurricane Laura made landfall at 1:00 a.m. on August 27, 2020 near Cameron, Louisiana, but its destructive force impacted the entire upper Texas coast. Galveston and Brazoria counties experienced loss in elevation of beach sand, and the protective barrier provided by naturally occurring beaches and dunes in these areas was severely impacted by erosion and dune shearing. Sand dunes serve as barriers that protect buildings and property from future storms and high tide, and mitigate the threat to public health and safety from storm surge and flooding.

A WARM WELCOME TO OUR NEW NOAA COASTAL MANAGEMENT FELLOW

Brian DeSanti II

NOAA Cosatal Management Fellow
brian.DeSanti@glo.texas.gov

Brian will be with Coastal Resources for the next two years as a NOAA Coastal Management Fellow. His work will focus on the Coastal Nonpoint Source Pollution Program, Texas Beach Watch, and Texas Coastal Ocean Observation Network (TCOON). Brian comes to the GLO with a highly credentialed background, including Master of Science degrees in Biological Oceanography from Florida State University and Natural Resource Management from Texas Tech University (TTU). While in Florida, he also worked as a coastal fisheries biologist. Additionally, Brian holds a PhD in Mass Communication from TTU. His personal interests are hiking, camping, and traveling, and some of his long-term plans include visiting all the national parks.

We're excited to have Brian as part of the GLO team!

In light of the fact that Texas still had two months of hurricane season left; and knowing how important dune restoration is to minimize further threat or damage to coastal residents and littoral property, the GLO decided to adopt Emergency Rules for dune restoration in the Texas Administrative Code in order to speed up the permitting process by giving local governments the ability to authorize rapid dune repair. The rules allow property owners in Brazoria and Galveston counties to repair and restore dunes damaged by the effects of Hurricane Laura under a drastically shortened permitting process.

Under the Emergency Rules for dune restoration, local governments can authorize the repair of dunes damaged by Hurricane Laura with beach quality sand, native dune vegetation, and organic brushy materials such as seaweed. Sandbags, clay, or other hard materials are prohibited from being used, as is restoring sand dunes in a manner or location that may block or impede public use of the beach.

The Emergency Rules will be in place until December 30, 2020. For additional information, please visit: https://www.glo.texas.gov/coast/coastal-management/laura/re-building-repairing/index.html or contact Natalie Bell (natalie.bell@glo.texas.gov).

Much of the Galveston and Brazoria County coastline lost the protective buffer of beaches and dunes as a result of Hurricane Laura.

Keeping up with CEPRA

Nueces Bay Rookery Islands Shoreline Protection Project Creates Habitat for Waterbirds // KELLY BROOKS

The Nueces Bay Rookery Islands Shoreline Protection Project restored 3.87 acres of bird rookery islands off White's Point in western Nueces Bay. The project restored five islands that provide a unique interface between foraging and nesting habitat for colonial waterbirds. Project construction was initiated in late 2019 and completed in June 2020. The project was funded by CEPRA Cycle 11, GOMESA, the National Fish and Wildlife Foundation (NFWF), the Port of Corpus Christi Authority (POCCA), and the Coastal Conservation Association (CCA). Coastal Bend Bays and Estuaries Program (CBBEP) led the project and Scheibe Consulting served as the engineer of record. Restoration of the five islands was constructed by Apollo Environmental for $4,288,921.00.

Four of the five Nueces Bay islands before and after they were restored. The islands are important habitat for colonial waterbirds.

SHARON SAYS

What do I do when a previously reported expenditure needs to be moved to a different budget category?

You will make the adjustment on your current invoice in the "Expenditures this Invoice" column. Reduce the Budget category where the expense was previously reported and increase the Budget category where the expense should have been reported. For example, let's say you previously reported an expense in Other, but it should have been in Supplies. Your "Expenditures this Invoice" column would look like this:

- Supplies $250
- Other ($250)

Remember to provide backup to show what the change is for!

Expert Tip

When preparing your request for reimbursement and match reports, start with the Payment Request Checklist as it will walk you through what is required to be included with every submission. Hint: The Payment Request Checklist must also be included in your submission.

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