



To: Katie Finegan and Amanda Guthrie, South Carolina Sea Grant Consortium

From: Patricia A. McKee, Research Associate, National Sea Grant Law Center (supervised by Terra Bowling, NSGLC Research Counsel II and Stephanie Otts, NSGLC Director)

Re: Guide to Thin-Layer Placement Permitting NSGLC-24-04-04¹

Date: July 31, 2024

Advisory Summary

South Carolina Sea Grant reached out to the NSGLC for assistance understanding the permitting framework for “thin layer placement” or TLP in South Carolina. Thin layer placement is a restoration technique that involves placing a thin layer of sediment on a marsh to mimic natural sediment deposition. NSGLC conducted research to outline South Carolina’s wetland permitting regime and highlight where TLP likely falls. NSGLC also considered any relevant federal permitting provisions under the Clean Water Act wetlands programs and the impact of the recent *Sackett* decision. NSGLC also conducted research on TLP projects in the region, including Georgia and Maryland, to identify relevant permitting mechanisms. NSGLC also looked at the process in Louisiana, where a TLP project has been permitted.

Introduction

The United States has many different types of wetlands with many categorizations.² These include “marshes, mangroves, swamps, deltas, and floodplains,” to name just a few.³ Wetlands regulate coastal ecosystems, benefiting nearshore and inland communities.⁴ They supply erosion control during storms, buffering wave action, and mitigating property damage by absorbing and diverting floodwaters.⁵ A single square mile of wetlands on the Atlantic coast can save nearly \$700,000 in storm damage annually.⁶ Climate change amplifies storm activity, causing increased floods and

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² *What is a Wetland?*, NOAA (June 16, 2024), <https://oceanservice.noaa.gov/facts/wetland.html>.

³ *5 Reasons Why We Love Wetlands*, NOAA (May 26, 2020), <https://www.fisheries.noaa.gov/feature-story/5-reasons-why-we-love-wetlands>. [hereinafter NOAA’s 5 Reasons]

⁴ *Coastal Wetland Habitat*, NOAA FISHERIES (Feb. 26, 2024), <https://www.fisheries.noaa.gov/national/habitat-conservation/coastal-wetland-habitat>.

⁵ *Id.*; *Wetlands and Climate Change*, CAR. WETLANDS ASS’N (May 2022), <https://www.carolinawetlands.org/wetlands-and-climate-change>. [hereinafter CAR. WETLANDS ASS’N]

⁶ NOAA’s 5 Reasons, *supra* note 3.



taxing wetlands.⁷ Concurrently, the United States is facing an unparalleled decline in wetlands nationwide.⁸

In 2024, the U.S. Fish & Wildlife Service reported that over half of the wetlands in the contiguous United States have disappeared, with losses accelerating in the Southeast.⁹ This loss exacerbates community vulnerability to harmful algal blooms, leading to significant fish kills of rare and commercially valuable species.¹⁰ These events disrupt recreational opportunities and reduce clean water access, endangering public health through increased exposure to pollutants and toxins.¹¹ The U.S. FWS advocates immediate intervention to prevent these issues and further wetland declines.¹²

The U.S. FWS attributes the recent surge in wetland loss rates to several potential contributors, including rising sea levels.¹³ To mitigate wetland loss, some coastal communities spread sediment over subsiding areas to slow their decline.¹⁴ Without this maintenance, wetlands must naturally migrate or become inundated by saltwater and convert to open waters.¹⁵ The success of wetland migration differs depending on the availability of undeveloped, upland drylands.¹⁶

Comparatively, humans can engineer wetland restoration projects to replicate the natural processes of sediment accumulation.¹⁷ For a wetland to endure rising sea levels, it must grow upward at a rate equal to or greater than the rate of sea level rise.¹⁸ Placing dredged material on sinking wetlands, for example, facilitates this vertical accretion. This approach – called thin-layer placement (TLP) – involves strategically positioning sediment to enable the wetland to restore itself naturally.¹⁹ The terms used to describe this process vary. Sources may refer to it as “marsh renourishment,” “sediment subsidy,” “artificial sediment enhancement,” or another similar term.²⁰ For consistency, TLP is used throughout the remainder of this memo.

⁷ CAR. WETLANDS ASS’N, *supra* note 5.

⁸ *Continued Decline of Wetlands Documented in New U.S. Fish and Wildlife Service Report*, U.S. FISH & WILDLIFE SERV. (Mar. 22, 2024), <https://www.fws.gov/press-release/2024-03/continued-decline-wetlands-documented-new-us-fish-and-wildlife-service-report>. [hereinafter FWS Press Release]

⁹ *Id.*

¹⁰ U.S. FISH & WILDLIFE SERVICE, *STATUS AND TRENDS OF WETLANDS IN THE CONTERMINOUS UNITED STATES 2009 TO 2019*, 1,9 (2024). [hereinafter 2024 Status and Trends]

¹¹ *Id.*

¹² *Id.*

¹³ *Id.*

¹⁴ *Vulnerability and Resilience of U.S. Coastal Wetlands to Sea Level Rise*, CLIMATE CENTRAL (June 8, 2022), <https://www.climatecentral.org/report/vulnerability-and-resilience-of-u-s-coastal-wetlands-to-sea-level-rise>.

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ Tim Welp, et al., *Guidance for Thin Layer Placement of Dredged Material*, U.S. ARMY CORPS OF ENGINEERS (Oct. 16—18, 2019), https://www.westerndredging.org/phocadownload/Eastern/2019Conference/presentations/Welp_GuidanceforThinLayerPlacement_WEDAEastern%20Chapter_FinalVersionFinal.pdf.

²⁰ *Id.*

TLP restores unstable wetland soils when traditional restorative practices become ineffective due to prolonged site deterioration.²¹ Engineers frequently employ it in coastal zones, preferring locations less sensitive to irregular sediment placement.²² South Carolina boasts many hydrological and edaphic advantages due to its abundant water resources.²³ However, although wetlands cover roughly one-quarter of the state, South Carolina lacks a state-specific program to regulate them.²⁴

Absent oversight, wetlands may become susceptible to unregulated activities and environmental degradation. Only three states have independent wetland management programs; the others are under federal supervision or co-regulation.²⁵ Without a definitive jurisdictional authority, wetlands permitting in South Carolina demands a multifaceted approach.

Federal Wetlands Permitting

The federal definition of “wetlands” has evolved. In 1985, the U.S. Supreme Court described them as “areas not wholly aquatic but nevertheless fall short of dryland.”²⁶ Over the years, multiple rounds of litigation have ensued to define wetlands qualifying as “waters of the United States” or WOTUS under the Clean Water Act (CWA). Most recently, in 2023, the Court’s ruling in *Sackett v. EPA* narrowed that scope to waters with a continuous surface connection to relatively permanent water bodies.²⁷ Meaning that wetlands must be “indistinguishably” part of established federal waters.²⁸

Since 1972, the CWA has prohibited unpermitted discharges “of any pollutant” from a point source into WOTUS.²⁹ A pollutant may include “dredged spoil,” which encompasses the sediment applied during TLP.³⁰ The Act defines a “point source” as “any discernable, confined, and discrete conveyance.”³¹ This expansive definition includes the mechanical dredge and “hydraulic ‘high-

²¹ See Gary L. Ray, *Thin Layer Placement of Dredged Material on Coastal Wetlands: A Review of the Technical and Scientific Literature*, U.S. ACE (Dec. 2007), <https://apps.dtic.mil/sti/pdfs/ADA475811.pdf>.

²² CANDICE D. PIERCY ET AL., GUIDELINES FOR HOW TO APPROACH THIN LAYER PLACEMENT PROJECTS, U.S. ACE 1, 27 (OCT. 2023).

²³ Mable K. Haralson and Ruth Sheard, *Our Water...It's Too Valuable to Waste*, SC STATE CLIMATOLOGY OFF., https://www.dnr.sc.gov/climate/sco/Publications/our_water.php (Last Accessed: July 19, 2024).

²⁴ *Wetlands*, SC DEP’T OF NAT. RES. (2020), <https://www.dnr.sc.gov/wildlife/wetlands/index.html>. [hereinafter SCDNR Wetlands]

²⁵ E.A. Crunden, *Post-Sackett, chaos erupts for wetlands oversight*, E.E. NEWS (BY POLITICO) (June 2, 2023), <https://www.eenews.net/articles/post-sackett-chaos-erupts-for-wetlands-oversight/>.

²⁶ *U.S. v. Riverside Bayview Homes, Inc.*, 474 U.S. 121, 132 (1985).

²⁷ *Sackett v. EPA*, 598 U.S. 651, 684 (2023).

²⁸ *Id.* at 651.

²⁹ 33 U.S.C. §1311(a).

³⁰ 33 U.S.C. §1362(6).

³¹ 33 U.S.C. §1362(14).



pressure’ spray” used to deposit material for TLP.³² Activities involving dredged material discharge into WOTUS, including wetlands, typically require a permit under Section 404 of the CWA.³³

Reviewed by the U.S. Army Corps of Engineers, Section 404 permits authorize discharges if (1) no viable alternative exists or (2) it will not significantly degrade the site.³⁴ When applying for this permit, applicants must demonstrate they avoided impacting wetlands or minimized and compensated for those impacts if they were unavoidable.³⁵ Through stringent review, these permits balance development needs with environmental protection with provisions to mitigate wetland disturbances. Understanding these distinctions helps clarify why TLP is exempt from other CWA permits, including Section 402. Section 402 enables the controlled discharge of a specified amount of pollutants through the National Pollution Discharge Elimination System (NPDES).³⁶ However, regulatory agencies are more likely to view TLP as a beneficial use of dredged material rather than a pollutant discharge, triggering Section 404.

The Water Resources Development Act (WRDA) instructs the Army Corps to consistently devise new methods for using dredged material in beneficial ways.³⁷ The Army Corps and EPA have produced a manual on the topic, lamenting no “complementary federal and state regulatory frameworks for evaluating dredged material as a resource.”³⁸ In 2023, the Army Corps identified TLP as an advantageous solution for increasing the beneficial use of dredged material from 30% to 70% by 2030.³⁹ This precedent allows for integrating TLP into state regulatory frameworks, such as South Carolina’s Critical Areas Permitting system.⁴⁰

South Carolina

South Carolina contains several wetlands, including marshes.⁴¹ The EPA defines “marshes” as “wetlands that are frequently or continually inundated with water, characterized by

³² PIERCY, *supra* note 22, at 8.

³³ 33 U.S.C. §1344(a).

³⁴ *Permit Program under CWA Section 404*, EPA (Apr. 11, 2024), <https://www.epa.gov/cwa-404/permit-program-under-cwa-section-404>.

³⁵ *Id.*

³⁶ 33 U.S.C. §1342(a).

³⁷ 33 U.S.C.S. §2326.

³⁸ THE RULE OF THE FEDERAL STANDARD IN THE BENEFICIAL USE OF DREDGED MATERIAL FROM U.S. ARMY CORPS OF ENGINEERS NEW AND MAINTENANCE NAVIGATION PROJECTS, U.S. ACE & EPA, 1, i (2007).

³⁹ *About This Episode*, ENGINEERING WITH NATURE (Nov. 29, 2023), <https://ewn.erdc.dren.mil/podcasts/episode/s6-e9-advancing-the-practice-with-new-guidelines-for-thin-layer-placement/>.

⁴⁰ *Critical Area Permitting*, SC DEP’T OF HEALTH & ENVTL CONTROL (2023), <https://scdhec.gov/environment/your-water-coast/ocean-coastal-resource-management-ocrm/critical-area-permitting>. [hereinafter Critical Area Permits]

⁴¹ *Ernest F. Hollings Ace Basin National Wildlife Refuge*, U.S. FWS (2024), <https://www.fws.gov/refuge/ernest-f-hollings-ace-basin>.



emergent... vegetation adapted to saturated soil.”⁴² These marshes serve many functions, and their unique ecological features make them excellent candidates for TLP.

South Carolina also boasts Carolina Bays, also called pocosins, exclusive to the Atlantic coastal plain.⁴³ These freshwater wetlands supposedly formed thousands of years ago, yet their exact origin remains uncertain.⁴⁴ A pocosin has a raised sandy rim and organic matter accumulation, resembling “black muck.”⁴⁵ TLP may also be a beneficial tool for pocosin restoration.

The South Carolina Zone Management Act (1977) designates critical areas and “guide[s] the wise preservation and utilization of coastal resources.”⁴⁶ That guidance manifests as a robust state-permitting system spanning eight coastal counties and four types of critical areas.⁴⁷ Only one area, tidelands, will be applicable for TLP purposes.

The South Carolina Department of Health and Environmental Control (SCDHEC) has jurisdiction over tidelands “at or below the mean high tide and coastal wetlands.”⁴⁸ Consequently, the Department’s oversight extends to activities affecting wetlands, like TLP. The SCDHEC derives its permitting authority from the Pollution Control Act (PCA).⁴⁹ While the PCA does not explicitly mention wetlands, SCDHEC includes them within its interpretation of the Act.⁵⁰

In South Carolina, the SCDHEC issues critical area permits for categorically “major” and “minor” activities.⁵¹ TLP cannot be classified as a minor project because it involves dredging.⁵² Instead, it demands a “major activity permit” encompassing any complex, non-minor construction activity.⁵³ The Army Corps advises states to approach TLP as a “wetland restoration or maintenance” endeavor, not “just” a “dredged material disposal project.”⁵⁴ South Carolina embraces this mentality, putting the upkeep of its critical tidelands at the forefront of its permitting scheme.

The permit approval process in South Carolina begins with a preliminary review initiated by a public notice of the impending project.⁵⁵ This notice must appear in a newspaper within the county where the project occurs.⁵⁶ Within thirty days of receiving an application, the SCDHEC writes to

⁴² *Classification and Types of Wetlands*, EPA (Apr. 11, 2024), <https://www.epa.gov/wetlands/classification-and-types-wetlands#undefined>.

⁴³ *Carolina Bays*, SC DNR – WETLANDS (2020), <https://www.dnr.sc.gov/wildlife/wetlands/carolinabays.html>.

⁴⁴ *What is a pocosin?*, NOAA (June 16, 2024), <https://oceanservice.noaa.gov/facts/pocosin.html>.

⁴⁵ *Id.*

⁴⁶ S.C. Code §48-39-10 et. seq.

⁴⁷ *Waters of the State*, SCDHEC (2019), <https://scdhec.gov/waters-state>.

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ Critical Area Permits, *supra* note 40.

⁵² *Id.*

⁵³ *Id.*

⁵⁴ Welp, *supra* note 19, at 22.

⁵⁵ S.C. Code Reg. 30-12 (G).

⁵⁶ *Id.*



inform the local governing body by certified mail.⁵⁷ The state must also alert adjacent landowners within 100 feet of the proposed project site.⁵⁸ If twenty or more people request a public hearing, the SCDHEC must hold one independently or jointly with the Army Corps.⁵⁹

An application can result in one of three potential outcomes: acceptance, conditional acceptance, or rejection.⁶⁰ If accepted, the SCDHEC has ninety days to issue a permit.⁶¹ Once the SCDHEC approves an application, the Department may, at its discretion, support the applicant during the federal authorization process.⁶² Under a conditional acceptance, the applicant must amend their proposal to protect the “public interest.”⁶³

In South Carolina, the “public interest” encompasses the “beneficial and adverse impacts and effects of a project upon members of the general public.”⁶⁴ TLP offers many public benefits, including erosion control.⁶⁵ South Carolina may also invoke additional mitigation requirements. For example, some projects must accompany wetland creation at a ratio of 1:1 – wetland created to wetland altered.⁶⁶ A permit holder has five years to complete their work or request an extension before their license expires.⁶⁷

To secure a permit for TLP, applicants may need to appease landowner concerns regarding this practice. TLP involves deliberately placing sediment, potentially affecting site conditions. In South Carolina, the state holds presumptive title to land below the high-water mark, including some wetlands. The state promotes the principle that lands naturally converted to dry ground remain with the original shoreline owner, but artificially created land may not. Transparency and exploring easements or similar agreements can help South Carolina alleviate landowner concerns about accidental land conversion via TLP. The state may address this concern through its obligations under the National Environmental Policy Act (NEPA).⁶⁸

NEPA directs federal agencies, such as the Army Corps, to produce an Environmental Assessment (EA) to gauge their environmental effects.⁶⁹ If further investigation is needed, the agency must issue a more detailed Environmental Impact State (EIS); otherwise, a Finding of No Significant

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ S.C. Code §48-39-10 et seq.

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ S.C. Code §48-39-10 et seq.

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ 42 U.S.C. §§ 4321-4347.

⁶⁹ *Id.*



Impact (FONSI) or a categorical exclusion may apply.⁷⁰ South Carolina’s State Environmental Review Procedures (SERP) similarly requires state agencies to consider the environmental impacts of their actions.⁷¹ Through SERP, the SCDHEC facilitates permit acquisition while avoiding sensitive areas such as fragile wetlands.

Maryland

NSGLC conducted research on TLP projects in the region, including Maryland, to identify relevant permitting mechanisms. Maryland has many statutes regulating the state’s diverse wetlands. In 1970, Maryland extended protections to tidal wetlands via the Maryland Tidal Wetlands Act.⁷² This Act supports mapping those resources and a corresponding protection program.⁷³ The map shows the wetlands and provides information about their vegetation communities.⁷⁴ Maryland’s Board of Public Works grants wetland licenses for activities in tidal wetlands, following the Maryland Department of the Environment (MDE) recommendations.⁷⁵

In 1987, Maryland and other states bordering the Chesapeake Bay formed the Chesapeake Bay Commission to coordinate its interstate management.⁷⁶ The EPA interceded to establish long-term goals and codify them in a “refined agreement.”⁷⁷ The Chesapeake Bay Agreement outlines objectives for managing this “integrated ecosystem” with specific mechanisms for achieving them.⁷⁸ This checklist includes a Bay-wide initiative to “protect, enhance, and restore wetlands.”⁷⁹ A subcommittee later created the Chesapeake Bay Wetlands Policy, which aimed for “‘net resource gain’ in wetlands acreage and function” compared to current conditions.⁸⁰ This commitment inspired the Maryland Nontidal Wetlands Task Force, whose reports became the basis for the state’s Nontidal Wetlands Protection Act (NWPA).⁸¹

⁷⁰ See *State Environmental Review Procedure for the South Carolina Revolving Fund Program*, SCDHEC (Mar. 2024), https://des.sc.gov/sites/des/files/media/document/New/SC_SERP_Mar_2024.pdf.

⁷¹ *Id.*

⁷² Md. Code Ann., Env’t §16-101.

⁷³ *Id.*

⁷⁴ *Beneficial Use of Dredged Material*, MD DEP’T OF NAT. RES. (2024), <https://dnr.maryland.gov/ccs/Pages/beneficial-use.aspx>. [hereinafter *Dredged Material Use*]

⁷⁵ *Id.*

⁷⁶ 33 U.S.C. § 1267(a)(2).

⁷⁷ 1987 Chesapeake Bay Agreement 1 (1987), available at: https://d38c6ppuviqmf.cloudfront.net/content/publications/cbp_12510.pdf.

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Nontidal Wetlands Protection Programs*, MD DEP’T OF THE ENV’T (2024), <https://mde.maryland.gov/programs/water/WetlandsandWaterways/DocumentsandInformation/Documents/www.mde.state.md.us/assets/document/WetlandsWaterways/protection.pdf>. [hereinafter *Nontidal Wetlands*]

⁸¹ *Id.*



Under the NHPA, the MDE administers a statewide permit system for nontidal wetlands.⁸² The state describes “nontidal wetlands” as “inland, freshwater areas not subject to tidal influence.”⁸³ Any activity occurring in these areas after January 1991 must obtain either a permit or a similar Letter of Authorization.⁸⁴ The state requires mitigation of all permanent nontidal wetland impacts while exempting agriculture and forestry activities.⁸⁵

Maryland has specific expectations for dredged material and its beneficial usage.⁸⁶ The state enacted the Dredged Material Management Act (DMMA) in 2001.⁸⁷ Maryland even developed a guidance document in December 2019 listing permissible uses of dredged material from the Chesapeake Bay.⁸⁸ Those uses included “shoreline stabilization...[and] wetland creation or restoration,” like TLP.⁸⁹

The state also maintains an ArcGIS layer in the Maryland Coastal Atlas called “Beneficial Use: Identifying Locations for Dredge” or BUILD.⁹⁰ This technology enables coastal engineers to pinpoint ideal locations for utilizing dredged material and identify opportunities for its beneficial use.⁹¹ Currently, the information on the BUILD Tool is specific to dredging and restoration projects where the Maryland Department of Natural Resources (DNR) is a partner.⁹²

The Maryland State Programmatic General Permit (MDSPGP-6) is a permit issued by the Baltimore District of the Army Corps to the state.⁹³ The Baltimore District of the Army Corps to the state will issue this permit until it expires on September 30, 2026, when the Army Corps switches to the MDSPGP-7.⁹⁴ This permit reinforces dredged material discharges under Section 404.⁹⁵ This permit is most suitable for TLP.

⁸² *Id.*

⁸³ *Nontidal Wetlands and Their Values*, MD DEP’T OF THE ENV’T (2024), <https://mde.maryland.gov/programs/Water/WetlandsandWaterways/DocumentsandInformation/Documents/www.mde.state.md.us/assets/document/WetlandsWaterways/values.pdf>.

⁸⁴ *Nontidal Wetlands*, *supra* note 80.

⁸⁵ *Id.*

⁸⁶ *Dredged Material Use*, *supra* note 74.

⁸⁷ *Id.*

⁸⁸ *See INNOVATIVE REUSE AND BENEFICIAL USE OF DREDGED MATERIAL GUIDANCE DOCUMENT*, MDE (DEC. 2019). [hereinafter *Guidance Document*]

⁸⁹ *Id.* at 5.

⁹⁰ *Dredged Material Use*, *supra* note 74.

⁹¹ *Id.*

⁹² *Id.*

⁹³ *See Maryland State Programmatic General Permit (MDSPGP-6)*, U.S. ACE (BALT. DIST.) (OCT. 1, 2021, AS CORRECTED OCT. 26, 2022), https://www.nab.usace.army.mil/Portals/63/MDSPGP-6%20%20Permit%20clarifications%2020221102_1.pdf. [hereinafter *SP Overview*]

⁹⁴ *Id.*

⁹⁵ *Guidance Document*, *supra* note 88, at 17.



Projects that qualify for review under the MDSPGP-6 are either Category A or B projects.⁹⁶ If a project falls within the parameters of a Category A project, it would have minimal impacts, and MDE will review and authorize the project on behalf of the Army Corps.⁹⁷ Maryland considers this an expedited review since the application does not require input by the Army Corps.⁹⁸ A project that does not fit the Category A parameters may meet the Category B parameters.⁹⁹ A Category B project goes to the Corps for review, and the applicant will receive separate authorizations from the state and the Corps.¹⁰⁰ Projects ineligible for review as a Category A or B require a separate review by the Corps as an alternate, which may require either an Individual Permit or a Letter of Permission.¹⁰¹

The joint application, known as the Joint Federal/State Application for the Alteration of Any Floodplain, Waterway, Tidal, or Nontidal Wetland in Maryland, is submitted to MDE.¹⁰² All permit applications begin with a screening of potential impacts to resources (e.g., natural and historic resources) regardless of the category.¹⁰³ The applicant must explain where the dredged material will originate and its planned disposal.¹⁰⁴ They must also denote “any potential aquatic resources” onsite, including “perennial, intermittent, and ephemeral streams.”¹⁰⁵ Upon concluding its analysis, the Army Corps can issue three outcomes:

1. The project is permit-eligible.
2. The project is eligible for modifications.
3. The project is ineligible.¹⁰⁶

Another federal agency may object to the Army Corps decision.¹⁰⁷ The opposing agency has 15 days to notify the Army Corps of its stance and “explain why...the adverse environmental effects will be more than minimal.”¹⁰⁸ Like the original permit application, the Army Corps considers those comments case-by-case.¹⁰⁹

Georgia

NSGLC conducted research on TLP projects in the region, including Georgia, to identify relevant permitting mechanisms. In Georgia, “freshwater wetlands” follow the federal definition, which

⁹⁶ *Id.* at 17.

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ SP Overview, *supra* note 93, at 8.

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² Guidance Document, *supra* note 88, at 17.

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ SP Overview, *supra* note 93, at 8.

¹⁰⁶ *Id.* at 11.

¹⁰⁷ *Id.* at 12.

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

excludes “coastal marshlands.”¹¹⁰ When arranging TLP, permittees must distinguish between the two environments, as they are subject to different requirements. Determining whether a site falls within a freshwater area is guided by the Georgia Planning Act, which offers precise descriptions for various types.¹¹¹

The Act delineates four wetlands categories similar to the critical areas in South Carolina.¹¹² It portrays “non-forested emergent wetlands” as areas containing specialized vegetation and “tidally-influenced non-saline waters.”¹¹³ The National Park Service (NPS) describes these wetlands as “transitional area[s] between permanently wet and dry environments.”¹¹⁴ Secondly, the Act characterizes “scrub/shrub wetlands” as “non-forested areas” that may blend with other wetlands and open water.¹¹⁵ Comparatively, the Act represents “forested wetlands” as those “having a dominant tree crown closure of hardwoods, pines, gums, cypress, or any combination of these types.”¹¹⁶ Four “forested wetland” subcategories exist based on tree crown coverage.¹¹⁷ Lastly, the Act defines “altered wetlands” as “denuded” or modified for specialized human use, such as agriculture.¹¹⁸

Georgia has distinct regulatory measures for “coastal marshlands” under the Coastal Marshland Protection Act (CMPA).¹¹⁹ The CMPA and Shoreline Protection Act create a permitting framework that distinguishes between upland and marshland areas.¹²⁰ An upland permit regulates areas “in, on, or over” a marsh and projects involving “removing, filling, dredging, draining, or otherwise alter[ing]” that site.¹²¹ This permit is most suitable for TLP.

Since February 2007, the state has mandated that projects requiring a CMPA permit must maintain a 50-foot buffer adjacent to coastal marshland.¹²² Georgia does offer “Buffer Encroachment Permits,” allowing buffer averaging but only when “it is necessary or ecologically defensible to reduce buffer width.”¹²³ TLP may receive such a permit because it enhances the wetland and surrounding area.

¹¹⁰ Ga. Comp. R. & Regs. 391-3-16-03(a).

¹¹¹ *Id.*

¹¹² Ga. Comp. R. & Regs. 391-3-16-03(b)(1).

¹¹³ Ga. Comp. R. & Regs. 391-3-16-03(b)(2).

¹¹⁴ *Wetlands, Marshes, and Swamps – Ocmulgee Mounds National Historical Park*, NAT’L PARK SERV. (Nov. 29, 2020), <https://www.nps.gov/ocmu/learn/nature/wetlands.htm>.

¹¹⁵ Ga. Comp. R. & Regs. 391-3-16-03(b)(3).

¹¹⁶ Ga. Comp. R. & Regs. 391-3-16-03(b)(4).

¹¹⁷ Ga. Comp. R. & Regs. 391-3-16-03(b)(4)(i—iv).

¹¹⁸ Ga. Comp. R. & Regs. 391-3-16-03(b)(5).

¹¹⁹ O.C.G.A. §12-5-280 et seq.

¹²⁰ EMILY FRANZEN ET AL., PROTECTING RIPARIAN BUFFERS IN COASTAL GEORGIA: MANAGEMENT OPTIONS, UNIV. OF GA. RIVER BASIN CTR. & UNIV. OF GA. SCH. OF LAW, LAND USE CLINIC, 1, 10 (DEC. 2006).

¹²¹ *Id.*

¹²² FRANZEN, *supra* note 120, at 10.

¹²³ *Id.* at 29.

Louisiana

In addition to looking at TLP projects in the region, including Georgia and Maryland, NSGLC also looked at Louisiana where the first U.S. recorded TLP occurred in the 1970s when the state authorized bank stabilization for petroleum-related canals.¹²⁴ As mechanical dredges traversed the state, excavated material was deposited haphazardly “to the side.”¹²⁵ However, observers soon realized this disposal adversely impacted the canal environment.¹²⁶ They petitioned the state to cease its activities from “disrupting the substrate.”¹²⁷ Louisiana refined its sediment distribution for decades, producing modern TLP methods.

In Louisiana, coastal wetlands projects require a Coastal Use Permit (CUP).¹²⁸ The state uses a landscape model to predict how climate change will affect “wetland morphology.”¹²⁹ Louisiana considers those projections and sediment availability when allocating funds toward wetland restoration.¹³⁰ The Coastal Protection and Restoration Authority of Louisiana (CPRA) collaborates with five federal agencies – EPA, NOAA, NRCS, FWS, and USACE – to facilitate these projects.¹³¹ Those agencies help CPRA execute the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA).¹³²

Louisiana lauds the Act as the “only joint Federal/State coastal restoration efforts with a predictable and recurring funding stream designed to restore...vanishing wetlands.”¹³³ Funding for the Act derives from the Sport Fish Restoration and Boating Safety Trust Fund, which CPRA matches by 15%.¹³⁴ The state conducts an “annual project selection cycle” to establish a CWPPRA Priority Project List (PPL).¹³⁵ During regional meetings, anyone may propose projects for a preliminary vote involving representatives from the state, coastal parish, and five federal agencies.¹³⁶ Subsequently, the CWPPRA Technical Committee (TC) votes to reduce the PPL to ten projects.¹³⁷ Agency sponsors conduct site visits and draft Wetland Value Assessments (WVAs) for all ten

¹²⁴ PIERCY, *supra* note 22, at 7.

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ La. R.S. 49:214.21 et seq.

¹²⁹ KYLE R. KLINE, JR., ET AL., LOUISIANA’S COMPREHENSIVE MASTER PLAN FOR A SUSTAINABLE COAST, COAST. PROT. & REST. AUTH. LA., 1, 23 (MAY 25, 2023).

¹³⁰ *Id.* at 29.

¹³¹ *Id.* at 53.

¹³² *Id.* at 91.

¹³³ *About CWPPRA*, CWPPRA PROGRAM (2024), <https://lacoast.gov/new/About/Default.aspx>.

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ *Id.*



options.¹³⁸ After reviewing the WVAs, the TC recommends four projects for final approval and inclusion in the PPL.¹³⁹

Conclusion

In states like South Carolina, Maryland, Georgia, and Louisiana, the regulatory landscape for wetland management varies, reflecting regional needs and ecological diversity. The significant decline in wetland areas, particularly in the Southeast, has intensified following severe environmental challenges, including rising sea levels. Programs like TLP represent innovative approaches to wetland restoration at the state and local levels. As climate-induced wetland loss accelerates, similar proactive measures and adaptive management strategies will be key to ensuring wetland resilience. Permitting TLP will guarantee its effective integration into wetland restoration efforts within South Carolina, particularly advantaging its critical tideland areas.

¹³⁸ CWPPRA PROGRAM, *supra* note 133.

¹³⁹ *Id.*