J O I N T
P U B L I C N O T I C E

CHARLESTON DISTRICT, CORPS OF ENGINEERS
69A Hagood Avenue
Charleston, South Carolina 29403-5107,

THE S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Office of Ocean and Coastal Resource Management
1362 McMillan Avenue, Suite 400
North Charleston, South Carolina 29405,
And
THE S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Water Quality Certification and Wetlands Section
2600 Bull Street
Columbia, South Carolina 29201

REGULATORY DIVISION
Refer to: P/N SAC-2020-00196 through 00198 December 9, 2020

Pursuant to Sections 401 and 404 of the Clean Water Act (33 U.S.C. 1344), the South Carolina Coastal Zone Management Act (48-39-10 et.seq.), and the S.C. Construction in Navigable Waters Permit Program (R. 19-450, et. seq., 1976 S.C. Code of Laws, as amended),

NOTICE

is hereby given that the District Engineer, Charleston District proposes to issue a General Permit to the General Public to authorize the discharge of dredged and/or fill material into waters of the U.S. to facilitate the construction and maintenance of private, recreational ponds, Waterfowl Impoundments, and/or Greentree Reservoirs.

This Regional General Permit (RGP) does not authorize the construction of aesthetic ponds for residential or commercial development, stormwater management ponds, sediment ponds, wastewater treatment ponds, waste disposal ponds, commercial aquaculture ponds, irrigation ponds, managed tidal impoundments or work on existing managed tidal impoundments and/or the discharge of dredged and/or fill material into waters of the United States for any purpose beyond what is prescribed in Section I of the RGP. This RGP does not authorize construction of multiple ponds, waterfowl impoundments, and/or greentree reservoirs on a single property or on a property where these features already exist.

***NOTE: A copy of the draft General Permit is attached to this Public Notice and contains the general and special conditions of the authorization. A copy of the guidance referenced in each proposed General Permit is also included.**

In order to give all interested parties an opportunity to express their views

N O T I C E

is hereby given that written statements regarding the proposed work will be received by the **Corps** until

15 Days from the Date of this Notice,

and **SCDHEC** will receive written statements regarding the proposed work until

30 Days from the Date of this Notice

from those interested in the activity and whose interests may be affected by the proposed work.

NOTE: This public notice and associated plans are available on the Corps' website at: http://www.sac.usace.army.mil/Missions/Regulatory/PublicNotices .

The District Engineer has concluded that the discharges associated with this project, both direct and indirect, should be reviewed by the South Carolina Department of Health and Environmental Control in accordance with provisions of Section 401 of the Clean Water Act. As such, this notice constitutes a request, on behalf of the applicant, for certification that this project will comply with applicable effluent limitations and water quality standards. The work shown on this application must also be certified as consistent with applicable provisions of the Coastal Zone Management Program (15 CFR 930). This activity may also require evaluation for compliance with the S. C. Construction in Navigable Waters Permit Program. State review, permitting and certification is conducted by the S. C. Department of Health and Environmental Control. The District Engineer will not process this application to a conclusion until such certifications are received. The applicant is hereby advised that supplemental information may be required by the State to facilitate the review.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. Implementation of the General Permit would have minimal impact on estuarine substrates and emergent wetlands utilized by various life stages of species comprising the shrimp, and snapper-grouper management complexes. The District Engineer's initial determination is that the proposed action would not have a substantial individual or cumulative adverse impact on EFH or fisheries managed by the South Atlantic Fishery Management Council and the National Marine Fisheries Service (NMFS). The District Engineer's final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the NMFS.

The District Engineer has consulted the most recently available information and has determined that the General Permit will have no effect on any Federally endangered, threatened, or proposed species and will not result in the destruction or adverse modification of designated or proposed critical habitat. Provisions have been made in the form of general conditions to the General Permit, which should prevent any effect to Federally endangered, threatened, proposed species, or their critical habitat that the District Engineer is not aware of or may have overlooked. This public notice serves as a request to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for any additional information they may have on whether any listed or proposed endangered or threatened species or designated or proposed critical habitat may be present in the area which would be affected by the activity, pursuant to Section 7(c) of the Endangered Species Act of 1973 (as amended).

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), this public notice also constitutes a request to Indian Tribes to notify the District Engineer of any historic

properties of religious and cultural significance to them that may be affected by the proposed undertaking.

In accordance with Section 106 of the NHPA, the District Engineer has evaluated the proposed General Permit regarding its potential to affect cultural resources including registered properties or properties listed as being eligible for inclusion in the National Register. Provisions have been made in the form of general conditions to the General Permit, which should prevent any adverse effect to cultural resources that the District Engineer is not aware of are not overlooked. This public notice also serves as a request to the State Historic Preservation Office and other interested parties to provide any information they may have with regard to historic properties. This public notice serves as a request for concurrence within 30 days from the SHPO (and/or Tribal Historic Preservation Officer.

The District Engineer's final eligibility and effect determination will be based upon coordination with the SHPO and/or THPO, as appropriate and required and with full consideration given to the proposed undertaking's potential direct and indirect effects on historic properties within the Corps-identified permit area.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state, with particularity, the reasons for holding a public hearing.

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the activity on the public interest and will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency (EPA), under authority of Section 404(b) of the Clean Water Act and, as appropriate, the criteria established under authority of Section 102 of the Marine Protection, Research and Sanctuaries Act of 1972, as amended. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the project must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the project will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production and, in general, the needs and welfare of the people. A permit will be granted unless the District Engineer determines that it would be contrary to the public interest. In cases of conflicting property rights, the Corps cannot undertake to adjudicate rival claims.

The Corps is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for this project. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity. When providing comments, please reference the project number and provide written comments to the following address (email comments is the preferred means):

SAC.RD.Greenville@usace.army.mil

or mail to:

U.S. Army Corps of Engineers
ATTN: REGULATORY DIVISION
150 Executive Center Drive, Suite 205
Greenville, South Carolina 29615

If there are any questions concerning this public notice, please contact Kristin B. Andrade, Team Leader, at (864) 609-4324, or by email at Kristin.B.Andrade@usace.army.mil.

General Permit No. SAC-2020-00196 through 00198
Name of Applicant: General Public
Effective Date:
Expiration Date:

DEPARTMENT OF THE ARMY
REGIONAL GENERAL PERMIT
FOR CERTAIN PRIVATE RECREATIONAL PONDS,
WATERFOWL IMPOUNDMENTS, AND GREENTREE RESERVOIRS
WITHIN SOUTH CAROLINA

A General Permit to authorize the discharge of dredged or fill material into waters of the United States pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344), is hereby issued by the authority of the Secretary of the Army by the

District Engineer
U.S. Army Engineer District, Charleston
Corps of Engineers
69-A Hagood Avenue
Charleston, South Carolina 29403-5107

for the construction and maintenance of: (1) private, recreational ponds; (2) waterfowl impoundments; and/or (3) greentree reservoirs.

SPECIAL NOTES FOR USE OF THIS REGIONAL GENERAL PERMIT:

- A Pre-Construction Notification (PCN) is required for all activities authorized by this RGP. After submitting a PCN to the U.S. Army Corps of Engineers, Charleston District (Corps), project-specific written permission must be received from the Corps for all activities authorized by this Regional General Permit (RGP) prior to commencement of work.

- This RGP does not authorize the construction of aesthetic ponds for residential or commercial development, stormwater management ponds, sediment ponds, wastewater treatment ponds, waste disposal ponds, commercial aquaculture ponds, irrigation ponds, managed tidal impoundments or work on existing managed tidal impoundments and/or the discharge of dredged and/or fill material into waters of the United States for any purpose beyond what is prescribed in Section I of this RGP.

- This RGP does not authorize construction of multiple ponds, waterfowl impoundments, and/or greentree reservoirs on a single property or on a property where these features already exist.

- This RGP references several documents from the South Carolina Department of Natural Resources (SCDNR) and Interagency documents. These are separate documents that are included to provide reference for use but are not part of the RGP. These documents can be used for possible reduction in compensatory mitigation. These documents can be found on SCDNR website at the following locations:

  https://www.dnr.sc.gov/environmental/docs/private-ponds.pdf
  https://www.dnr.sc.gov/environmental/docs/impoundments.pdf
  https://www.dnr.sc.gov/environmental/docs/greentree.pdf

I. ACTIVITIES AUTHORIZED AND SPECIAL CONDITIONS:

SAC-2020-00196: Private Recreational Ponds

Private Recreational Ponds authorized by this RGP are limited to non-commercial, recreational ponds with a full pool surface area of less than **five (5) acres**.

a. **Impacts shall not exceed 1,000 linear feet of stream and/or 2 acres of wetlands and other jurisdictional waters of the U.S.** Impacts include, but are not limited to, mechanized land clearing, dam construction, placement of water control structures and spillways, and flooding.

b. A compensatory mitigation plan is required for private recreational ponds that would result in impacts **greater than 0.1 acres of wetlands and/or greater than 100 linear feet of stream**. The mitigation plan should be prepared in accordance with the "Guidelines for Preparing a Compensatory Mitigation Plan", or the most current mitigation requirements, which can be found at https://www.sac.usace.army.mil/Missions/Regulatory/Compensatory-Mitigation/.

   Compensatory Mitigation Reduction: Reduction in compensatory mitigation can be achieved by following the most recent SCDNR version of the *Guidelines for Private Recreational Ponds.* If requesting a reduction in compensatory mitigation, please provide specific information on how the proposed pond will meet each condition in the guidelines. If it will not meet one of the guidelines, please provide justification why.

SAC-2020-00197: Waterfowl Impoundments

Waterfowl Impoundments authorized by this RGP are limited to those impoundments that are constructed and maintained primarily to improve conditions for waterfowl conservation and/or hunting activities. (NOTE: Waterfowl impoundments constructed for commercial purposes are not authorized under this RGP).

a. **Impacts are limited to 1,000 linear feet of stream and/or 2 acres of wetlands and other jurisdictional waters of the U.S.** Impacts include, but are not limited to, mechanized land clearing, dam construction, placement of water control structures and spillways, and flooding.

b. A compensatory mitigation plan is required for waterfowl impoundments that would result in impacts **greater than 0.1 acres of wetlands and/or greater than 100 linear feet of stream.** The mitigation plan should be prepared in accordance with the "Guidelines for Preparing a Compensatory Mitigation Plan", or the most current mitigation requirements, which can be found at https://www.sac.usace.army.mil/Missions/Regulatory/Compensatory-Mitigation/.

   Compensatory Mitigation Reduction: Reduction in compensatory mitigation can be achieved by following the most recent SCDNR version of the *Guidelines for Private Shallow Water Impoundments for Waterfowl*. If requesting a reduction in compensatory mitigation, please provide specific information on how the proposed pond will meet each condition in the guidelines. If it will not meet one of the guidelines, please provide justification why.

SAC-2020-00198: Greentree Reservoirs

Greentree Reservoirs authorized by this RGP are limited to private, seasonally flooded systems that enhance feeding and foraging habitat for wildlife. (NOTE: Greentree reservoirs are managed forested wetland systems that promote seasonal flooding cycles).

a. **Impacts are limited to 1,000 linear feet of stream and/or 2 acres of wetlands and other**

jurisdictional waters of the U.S. Impacts include, but are not limited to, mechanized land clearing, dam construction, placement of water control structures and spillways, and flooding.

b. The permittee should demonstrate compliance with the most recent *Interagency Guidelines for Greentree Reservoirs*.

c. A compensatory mitigation plan should be prepared in accordance with the "Guidelines for Preparing a Compensatory Mitigation Plan", or the most current mitigation requirements, which can be found at https://www.sac.usace.army.mil/Missions/Regulatory/Compensatory-Mitigation/ Compensatory mitigation will be evaluated on a case by case basis and may be reduced (or waived) where the permittee proposes to follow the most recent "*Interagency Guidelines for Greentree Reservoirs"*.

II. NOTIFICATION AND APPROVAL PROCEDURES: The applicant must submit a PCN to the Corps prior to commencement of work. Work cannot proceed until the Corps has provided written approval to the applicant. The permittee must submit the following information to the appropriate Corps Office:

1) **APPLICATION:** Joint Federal and State Application Form For Activities Affecting Waters of the United States Or Critical Areas of the State of South Carolina.

2) **PROJECT PLANS:** Plans of the proposed work (on 8 ½" x 11" sized pages), showing all pertinent structures, elevations, clearances, dimensions, and types and quantities of materials. This includes plan view and cross section drawings of all structures and the impoundment. (NOTE: To ensure that all impoundment structures are safely designed, the District Engineer may require applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The District Engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.)

3) **SCHEDULE:** Approximate commencement and expected completion dates.

4) **PROJECT DESCRIPTION:** Description of the proposed activity which includes, but is not limited to, the following information:
   - Existing site conditions.
   - The purpose of the proposed activity.
   - A description of impacts to waters of the U.S. including the amount of impacts.
   - Methods to be used for construction.
   - A drawing showing the distance to the adjacent property and full pool elevation.
   - Photographs of the area if available.

5) **WATERS:** A delineation of waters within the project area that includes documentation to support the delineation in accordance with the current methods required by the Charleston District.

6) **MITIGATION PLAN:** A mitigation plan to include the avoidance and minimization measures, alternatives, and compensatory mitigation (if required).

7) **SCDNR GUIDACE COMPLIANCE**: Documentation that the project meets the terms and conditions of the SCDNR guidance and if not, which conditions would not be met and why (if applicable).

Additional information may be required on a case by case basis.

SUBMITALS: To determine the appropriate Corps office to submit application, please visit our website for a map identifying the specific counties served by each Corps Regulatory office: is located on our website at https://www.sac.usace.army.mil/Missions/Regulatory.aspx

Please submit your PCN package electronically to appropriate Corps Office where the project is located:

U.S. Army Corps of Engineers
Charleston Office
SAC.RD.Charleston@usace.army.mil
(843) 329-8044

U.S. Army Corps of Engineers
Conway Office
SAC.RD.Conway@usace.army.mil
(843) 365-4239

U.S. Army Corps of Engineers
Columbia Office
SAC.RD.Columbia@usace.army.mil
(803) 253-3444

U.S. Army Corps of Engineers
Greenville Office
SAC.RD.Greenville@usace.army.mil
(864) 609-4326

If you are unable to submit the PCN and supporting information electronically, please contact the appropriate Corps Regulatory office for additional instructions.

III. **GENERAL CONDITIONS:** To qualify for this RGP authorization, the prospective permittee must comply with the following general conditions (GC), in addition to any regional or case specific conditions:

a. That the term "permittee" means the individual authorized by the District Engineer to accomplish work under this General Permit. The activities authorized under this permit are for private use.

b. The permittee cannot begin work until notified in writing by the Corps that the proposed work is authorized by this RGP.

c. A complete copy of this permit, verification letter, drawings, special conditions, and any amendments shall be maintained at the work site whenever work is being performed. The permittee shall ensure that all contractors, subcontractors and other personnel performing the permitted work are fully aware of the permit terms and conditions.

d. This RGP authorizes work subject to Section 404 of the CWA and does not authorize work in or affecting Navigable Waters of the U.S. subject to Section 10 of the Rivers and Harbors Act (RHA). This RGP does not authorize work in tidal waters or other navigable waters subject to Section 10 of the RHA.

e. This RGP authorizes only those activities specifically addressed herein. Any work or activity in waters of the U.S. not specifically authorized in this RGP, or any work or activity which exceeds the limitations of the RGP, will require separate authorization by the Corps.

f. The proposed activity must be a single and complete project. The same RGP cannot be used more than once for the same single and complete project.

g. The use of more than one RGP for a single and complete project is prohibited, except when the acreage or linear footage of impacts to waters of the U.S. authorized by the RGP does not exceed the limits of the RGP.

h. This RGP cannot be used in conjunction with any other Department of the Army authorization to enlarge a pond size beyond the limits stated within the RGP.

i. The District Engineer, at his/her discretion, may determine that this General Permit will not be applicable to a specific construction proposal. In such case the procedure for processing an individual permit in accordance with 33 CFR 325 will be available.

j. All activities identified and authorized herein shall be consistent with the terms and conditions of this RGP; any variance not specifically identified and authorized herein shall constitute a violation of the terms and conditions of this permit which may result in the modification, suspension, or revocation of the authorization, as set forth more specifically in General Condition l. below, and in the institution of such legal proceedings as the United States Government may consider appropriate.

k. Authorization of a specific work or structure authorized herein may be summarily suspended in whole or in part upon a finding by the District Engineer that immediate suspension would be in the general public interest or there has been a violation of any terms and conditions of this permit. Such suspension shall be effective upon receipt by the permittee of a written notice thereof which shall indicate (1) the extent of the suspension, (2) the reasons for this action, and (3) any corrective or preventative measures to be taken by a permittee which are deemed necessary by the District Engineer to abate imminent hazards to the general public interest. A permittee shall take immediate action to comply with the provisions of this notice. Within ten (10) days following the receipt of this notice of suspension, the permittee may request a meeting with the District Engineer or a public hearing to present information relevant to a decision whether his permit should be reinstated, modified, or revoked. If a public hearing is requested, it shall be conducted pursuant to procedures prescribed by the Chief of Engineers. After completion of the public hearing or within a reasonable time after issuance of the suspension notice to the permittee if no hearing is requested, the authorization of the specific work or structure will be reinstated, modified, or revoked. Any modification, suspension, or revocation of authorization under this General Permit shall not be the basis for any claim for damages against the United States.

l. The permittee must be the property owner or have the requisite property interests to undertake the proposed project. The requisite property interests extend to the 100-year floodplain. No activity authorized by this permit will cause flooding or ponding of water on property in which the permittee does not have this necessary property interest.

m. This RGP does not convey any property rights, either in real estate or material, or any exclusive privileges; and it does not authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations, nor does it obviate the requirement to obtain other Federal, State, or local assent or to comply with any applicable standards required by ordinance for the activities authorized herein. Other Federal, State, and/or local agencies are not limited by this document and may impose more stringent requirements than those stated herein as they see fit.

n. The permittee must comply with all FEMA regulations and requirements. The permittee is advised that the National Flood Insurance Program (NFIP) prohibits any development within a designated floodway within the FEMA Special Flood Hazard Area (SFHA), including placement of fill, without a "No Impact Certification" approved by the local NFIP flood plain manager. The permittee is further advised that development activities in a designated FEMA Special Flood Hazard Area (SFHA) are subject to the floodplain management regulations of the National Flood Insurance Program (NFIP). If the proposed action is located in a designated FEMA SFHA (e.g.,100 year flood plain), the permittee must coordinate with the local NFIP flood plain manager and comply with FEMA requirements prior to initiating construction. A list of NFIP floodplain managers may be found at: http://www.dnr.sc.gov/water/flood/index.html.

o. The permittee should coordinate with the SC Department of Health and Environmental Control Dam Safety to determine if a dam safety permit is required.

p. To ensure that all impoundment structures are safely designed, the District Engineer may require applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The District Engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

q. The activity must be designed to maintain to the greatest extent practicable preconstruction downstream flow conditions. The activity must not permanently restrict or impede the passage of normal or expected high flows and the structure or discharge of dredged or fill material must withstand expected high flows.

r. The permittee must make every reasonable effort to conduct the work authorized herein in a manner so as to minimize any adverse impact to fish, wildlife, and other environmental resources.

s. The permittee must make every reasonable effort to conduct the work authorized herein in a manner so as to minimize any degradation of water quality.

t. The permittee shall allow the District Engineer to make periodic inspections of the authorized work at any time deemed necessary in order to ensure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

u. Any activity that may adversely affect any federally listed threatened or endangered species, a species proposed for listing, or designated critical habitat is NOT authorized by this General Permit. These activities will be evaluated under the individual permit review process as specified in 33 CFR Part 325.

v. Historic Properties:
   1. In cases where the District Engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

2. Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the District Engineer with the appropriate documentation to demonstrate compliance with those requirements. The District Engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the proposed activity, or whether additional section 106 consultation is necessary.

3. The PCN must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places. Based on the information submitted and these efforts, the District Engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the District Engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

4. The District Engineer will notify the prospective permittee whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties.

5. Prospective permittees of this General Permit should be aware that Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

w. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this General Permit, you must immediately notify the District Engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The District Engineer will initiate the Federal, Tribal, and State coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places. Archeological remains consist of any materials made or altered by man, which remain from past historic or prehistoric times (i.e., older than 50 years). Examples include old pottery fragments, metal, wood, arrowheads, stone implements or tools, human burials, historic docks, structures, or non-recent (i.e., older than 100 years) vessel ruins.

x. The permittee must notify the South Carolina Institute of Archaeology and Anthropology in accordance with the South Carolina Underwater Antiquities Act of 1991 (Article 5, Chapter 7, Title

54 Code of Laws of South Carolina, 1976) in the event archaeological or paleontological remains are found during the course of the work. Archaeological remains consist of any materials made or altered by man which remains from the past historic or prehistoric times (i.e. older than 50 years). Examples include old pottery fragments, metal, wood, arrowheads, stone implements or tools human, burials, historic docks, structures or non-recent (i.e. older than 100 years) vessel ruins. Paleontological remains consist of old animal remains, original or fossilized, such as teeth, tusk, bone or entire skeletons.

y. The permittee shall maintain the work or structure authorized herein in good condition. If and when a permittee desires to abandon an authorized structure, unless such abandonment is part of a transfer procedure by which the individual is transferring ownership of the structure, the permittee may be required to remove the structure.

z. Prior to the beginning of any construction activities, appropriate erosion control measures, such as silt fences, silt barriers or other suitable devices must be placed between the construction area and affected waterways (wetlands) and maintained in a functioning capacity until the area is permanently stabilized upon completion of the project.

aa. All steps necessary must be taken to prevent oil, tar, trash, debris, and other pollutants from entering adjacent wetlands and/or waterways.

bb. Each permittee who receives a verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the District Engineer.

IV. III. PROHIBITED ACTIVITIES:

All work that exceeds the terms and conditions specified herein is prohibited unless an Individual or Nationwide Permit has been obtained from the Corps. All work for purposes other than those specified herein is expressly not authorized by this document.

V. REQUIRED AUTHORIZATIONS:

Prior to performing any of the work authorized herein the permittee shall obtain the necessary state permits from the South Carolina Department of Health and Environmental Control and any other required Federal, State or local authorizations.

VI. PENALTIES FOR VIOLATIONS:

Authorization obtained under this General Permit limits the size, length and use of the pond, impoundment, and/or reservoir structures. Any deviation from the specifications, or other terms or conditions of the General Permit shall constitute a violation of the Section 404 of the CWA and may result in the District Engineer seeking judicial relief to have the permittee remove the structure or work and/or restore the project area to its former condition, as well as the imposition of penalties as provided by law.

VII. LIMITS OF FEDERAL LIABILITY:

In issuing this General Permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
d. Design or construction deficiencies associated with the permitted work.
e. Damage claims associated with any future modification, suspension, or revocation of this permit.

VIII. REVOCATION OF THE GENERAL PERMIT:

This permit may be revoked by issuance of a public notice at any time the District Engineer determines that the cumulative effects of the activities authorized herein have an adverse effect on the public interest. Following such revocation, any future activities in areas covered by this General Permit will be processed as Individual or Nationwide Permits.

IX. DURATION OF THE GENERAL PERMIT:

This General Permit will authorizes activities commenced within five (5) years and completed within six (6) years of the date of issuance unless this permit is revoked in the interim. At the end of the first year and every succeeding year, the Corps and the Federal and State regulatory and resource agencies will jointly review activities authorized by this General Permit to determine if significant cumulative impacts have resulted. If the District Engineer determines revocation of this permit, in whole or in part, may be in order due to cumulative impacts, a public notice of the intention will be issued and after a review of all additional data submitted, action will be taken to amend, modify or revoke this permit as appropriate.

This permit shall become effective on the date of the District Engineer's signature.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

Rachel A. Honderd
Lieutenant Colonel, U.S. Army
Commander and District Engineer

Date

or an authorized Designee

Travis G. Hughes
Chief, Regulatory Division

SCDNR Guidelines for Private Recreational Ponds

March 17, 2020

South Carolina Department of Natural Resources (SCDNR) has developed the Guidelines for Private Recreational Ponds. The SCDNR is the steward of the state's natural resources and is responsible for the protection and management of these resources for the use and enjoyment of the public. SCDNR, in carrying out its protection and management responsibilities, must balance its objectives and actions in order to most appropriately protect and sustain the natural resources of South Carolina.

The construction of private recreational ponds provides opportunity for maintaining a stayed tradition in South Carolina's culture of recreational fishing. However, these benefits are often gained at costs to both natural ecosystem functions and native biological communities. Ponds can result in substantial changes in stream flow, water temperature, wetland functions, energy cycles, channel morphology and natural biological communities. To balance the management of South Carolina natural resources with the protection of natural ecosystems, SCDNR has developed these guidelines for suitable pond construction and management for the purpose of recreational fishing.

In order to fulfill the goals of this guidance, applications for private recreational ponds should contain sufficient information to allow determinations relative to these criteria. They must contain a plan that addresses the elements listed below.

I. Siting

a. Uplands
   i. Site the pond solely in uplands. If this occurs, no permitting is required from the U.S. Army Corps of Engineers (USACE); however, other state and local permits may be required.
   ii. If powerline, telephone or gas lines (or the associated right-of-way) are located within the pond location, a letter of permission or easement access may be required from the appropriate utility company.

b. Waters
   i. Ponds should not be constructed in navigable waters and/or adjacent wetlands. Ponds should not be constructed on a perennial stream; however, on a case by case basis these ponds will be evaluated on a perennial stream if the proposed pond site is situated between a pond upstream and downstream. In general, ponds built on perennial streams are not manageable for fisheries due to poor water retention time and competitive fish species introductions.
   ii. Ponds should not be constructed in a stream that does not have an existing pond between the site and the nearest downstream navigable water, as defined by the South Carolina Department of Health and Environmental Control per S.C. Code of Laws §49-1-10 and Code of Regulations 19-450.2.C.
   iii. Ponds should not be constructed on trout waters. Trout waters are defined in the S.C. Code of Regulations 61-69.
   iv. Proposed ponds sited in streams which do have an existing pond downstream of the proposed pond site and the nearest downstream navigable water will be evaluated.
   v. Proposed ponds sited on intermittent streams and/or adjacent wetlands will be evaluated.
   vi. Proposed ponds should be built on sites where either the watershed rainfall runoff or the spring fed inflow is enough to maintain the water level within the impoundment to support the fishery. Pond levels should not be maintained with the use of supplemental well water.
   vii. If powerline, telephone or gas lines or the associated right-of-way are located within the pond location, a letter of permission or easement access may be required from the appropriate utility company.

c. Sensitive Resources
    i. Ponds should not be constructed if their construction will negatively impact a state or federal threatened or endangered species.
d. Water Quality
    i. If the proposed pond will be fed by a creek or spring, it is required that a water quality check occur to ensure the water is an adequate pH (6-9) to sustain a recreational fishery prior to construction. It is also recommended that the alkalinity and hardness be checked to determine what long-term management costs (liming/fertilizing) may be associated with the proposed pond prior to construction to ensure its productivity as a recreational fishing pond. SCDNR recommends that the pond owner consult the SCDNR publication "Managing Ponds for Recreational Fishing[1]" to determine fish stocking rates for fertilized versus unfertilized ponds. Provide the water chemistry information as a part of the pond proposal plan.
e. Soils
    i. Soils should have low permeability thereby allowing for proper water level maintenance.
    ii. Check the soils of the proposed site by contacting a professional pond construction company that can conduct site evaluations and soil analysis. The proposed pond site should have soils that have low permeability and good compaction such as a clay, silty clay or sandy clay content to be able to hold water. During construction be careful not to excavate below the restrictive clay layer. This can be determined with a bore sample. Provide information on soil types as a part of the pond proposal plan.
f. Hazards
    i. Identify any hazards on the proposed pond site that may affect the project such as powerlines, roadways, location of adjacent landowner homes, etc. on a map.

II. Construction

It is recommended, but not required, that a professional pond construction company be consulted for the submission of the following information, along with pond design:

a. Ponds should be constructed between 1 to 5 acres and built an adequate size not to exceed what the watershed can contribute, unless a reliable spring is available. If the pond is fed by runoff, each acre of pond requires 10-12 acres of watershed (generally undeveloped land). Avoid including too much watershed acreage as excess waterflow is undesirable.
b. A recreational fishing pond should have a maximum pond depth that ranges between 5 and 10 feet. (Depths greater than 10 feet may result in stratification and associated water quality issues, such as low dissolved oxygen.) If the pond is predominantly fed by an adequate spring, then the maximum depth should range between 5 to 6 feet. For those that are relying predominantly on runoff from the watershed, the maximum depth should range between 7 to 10 feet. For recreational fishing, excavated ponds should be constructed in a manner to provide variability of the shoreline, and therefore fish habitat, so as not to create a perfect square, circle or oval. The higher the shoreline development ratio[i], or the more irregular the shoreline, the greater the potential for development of productive littoral communities.
c. Twenty five percent of the total pond acreage should be constructed at 3 feet deep to create a littoral shelf of fish habitat. (Waters shallower than 3 feet should be minimized to prevent aquatic weed problems.) Proposed plans for submission must include a depiction of the proposed location(s) of the littoral zone(s) and a typical cross-section. Vegetation may be used to stabilize the littoral shelf and improve water quality within the pond. Vegetation must be herbaceous native emergent species or appropriate native

[1] www.dnr.sc.gov/fishpond

woody shrubs, such as buttonbush. Cypress may also be planted, where appropriate, in the pond bed. Helpful resources for planting may be found at
    i. https://hgic.clemson.edu/factsheet/aquatic-shoreline-plant-selection/
    ii. https://hgic.clemson.edu/factsheet/shorescaping-freshwater-shorelines/

d. Inflow volume must approximate outflow volume for ponds constructed in streams. The proposed project submittal must include calculations that demonstrate that the downstream flow will not be adversely affected by the proposed pond. Submittals must include clear and concise drawings such as a plan view and cross section depicting the use of a low flow device or other method to prevent adverse impacts to the flow and circulation of flow downstream. Further, the applicant must submit documentation that during a normal rainfall year, the tributary to be impounded has adequate flows to support a pond of the size proposed without impacting downstream flows. This documentation may vary depending upon available flows within the tributary to be impounded. The documentation must be commensurate with the size of the proposed pond and the environment surrounding the proposed pond. For example, small ponds on tributaries with higher volume or perennial flows may require less documentation. Ponds on low volume or less than perennial tributaries may require inflow calculations and projected outflow calculations that account for average seepage losses and evaporation. The selected low flow device must be specified and depicted in the permitted plans. It is important to note that the property owner must manage the required low flow device such that during drought conditions, downstream flow is maintained; even if this requires that during drought events, the water level within the pond is substantially lower than normal pool elevation. Physical management of the low flow device will be a special condition of the permit.
e. The pond will be managed with adequate forested and vegetated buffers. This requires that at least 50% of the pond perimeter, excluding the dike/dam/embankment, be maintained, or planted, in a forested buffer that averages at least 50 feet in width and the remaining 50% of the pond perimeter in a non-invasive grass or forb. Additionally, the downstream portion of the tributary must be maintained in a forested buffer that is at least 50 feet in width (on both streambanks) and continues for a minimum of 100 feet downstream or to the property line, whichever is closer. Deed restrictive covenants, or a similar document, requiring that the buffer be maintained in perpetuity is required and will be made part of the permit via special condition.
f. All trees, vegetation, roots, stumps and large rocks must be removed from the dam/dike/embankment site to prevent potential dam failures. The decay or organic materials left in the dam will create passages allowing water to seep and large rocks may prevent proper compaction.
g. The dike/dam must be keyed with a clay core at least 8 feet wide and extend into the impermeable layer below the bottom of the pond, generally at least 2 feet. The core should extend to the top of the dam, not just to the top of the water.
h. The dike/dam/embankment must be designed to incorporate a 3:1 slope on the inside of the pond (water side) and a 3:1 or 2:1 on the outside. The top width of the dam should be a minimum of 12 feet wide.
i. A water control structure or primary spillway should be included to allow controlled release of water to maintain the desired depth of the pond. Examples of water control structures include: a conduit and riser, trickle tube with antiseep collar, bottom draw riser or a bottom draw with a valve. The water control structure and primary spillway must be specified and depicted in the plans.
j. The embankment design must include a structure for energy dissipation and water aeration at the outfall point/location/structure. Details regarding the energy dissipation and water aeration structure must be included within the work plan and depicted on the appropriate project drawings.

k. The emergency spillway must be constructed such that it discharges into the tributary and into an area of the tributary that is sufficiently stabilized to prevent excessive erosion during storm events. The emergency spillway should be on one end of the dam and placed slightly below the top of the dam at less than 2 feet above the riser. The width of the spillway channel is determined by the discharge or size of the watershed and size of the pond. A professional pond construction consultant should be able to assist with this determination. The emergency spillway must be specified and depicted in the plans.

l. A water control structure or primary spillway should be included to allow controlled release of water to maintain the desired depth of the pond. It is recommended that a low level or bottom release control structure be used. The water control structure and primary spillway must be specified and depicted in the plans.

m. Topsoil excavated during construction should be retained separately, so that it can be spread on the dam and banks of the finished pond. Subsoils are poor substrates for plant growth and if left adjacent to the pond will erode back into the pond and become a source of turbidity and poor water quality. Excavated material should be moved away from the pond into an upland area.

n. To prevent erosion, establish vegetation (grasses such as rye, wheat or millet) on the pond banks and excavated material piles immediately after the completion of the pond until permanent grasses are able to be planted or established.

III. Pond Management

a. Primary spillways should be inspected routinely for signs of beaver or other animal activity that could affect the function of the spillway.

b. Emergency spillways should be inspected routinely for signs of animal activity and maintained free of woody vegetation.

c. Dikes/dam/embankments should be routinely inspected and managed for signs of faults, leaks, and animal activity (muskrat and beaver), as well as maintained free of woody vegetation to protect the integrity of the dam. The dike/dam/embankment should be maintained in grasses.

d. For additional detailed information regarding management such as pond stocking, fertilization and liming rates, visit: www.dnr.sc.gov/fishpond/

Note:

SC Department of Health and Environmental Control (DHEC) Dam Safety Program
https://scdhec.gov/environment/bureau-water/dams-reservoirs

Under state law and regulations, before a dam that meets regulatory criteria can be built, altered, repaired, or removed, plans and specifications must be submitted to the DHEC Dams and Reservoirs Safety Program for review. Once that review is complete, work can commence after a written permit is issued by the Department. The Dams and Reservoirs Safety Program reviews permit applications while also conducting safety inspections of regulated dams and providing informational and technical assistance to dam owners and operators in South Carolina to ensure their compliance with state laws and regulations.

The program conducts construction inspections and final inspections on permitted projects to ensure all work is performed in accordance with the approved plans and specifications. Before a regulated dam or reservoir can be placed into operation, written authorization must be granted by the program.

SC Dams and Reservoirs – Tax Credits
http://www.scdhec.gov/Environment/WaterQuality/DamsReservoirs/TaxCredits/

Section 12-6-3370 of the 1976 South Carolina Code of Laws provides for a state tax credit for the construction, installation or restoration of water impoundments and water control structures used for certain purposes. That Section of the 1976 Code is printed here:

Section 12-6-3370. Tax credits for construction, installation or restoration of water impoundments and water control structures.

1. A taxpayer may claim a credit for twenty-five percent of all expenditures for the construction, installation, or restoration of ponds, lakes, other water impoundments, and water control structures designed for the purposes of water storage for irrigation, water supply, sediment control, erosion control or aquaculture and wildlife management, providing these items are not located in or adjacent to and filled primarily by coastal waters of the State.

2. In the case of pass-through entities, the credit is determined at the entity level and is limited to two thousand five hundred dollars. The maximum amount of credit for all taxpayers, including any credit passed through to the taxpayer from a partnership, "S" Corporation, estate, or trust, is also limited to two thousand five hundred dollars.

3. If the credit exceeds the taxpayer's tax liability for the taxable year, the excess amount may be carried forward for credit against income taxes in the next five succeeding taxable years.

4. To qualify for the credit the taxpayer must obtain a construction permit issued by the Department of Health and Environmental Control or proof of exemption from permit requirements issued by the department, the Natural Resources Conservation Service, or a local Soil and Water Conservation District.

To obtain the proof of exemption form referenced in (D) above, the owner must first insure that the dam is less than 25 feet high and will impound less than 50 acre feet of water and does not present a hazard for loss of life in case of failure (for dams of lesser size). Once the owner has determined with certainty that his dam does not meet the size requirements to require a permit, proceed with construction. When construction is complete, call the DHEC Environmental Quality Control Regional Office of the county in which the dam is located, and ask for the Dam Certificate of Exemption Form. The Regional Office will arrange for someone to meet the owner or his representative at the dam to verify its location, size, and use. That Regional Office representative will issue the Certificate to the owner, and the owner can then use that document to apply for the tax credit when he files his state income tax return on or before the following April 15th. For permitted dams, the permit to construct and certificate of completion should be filed with the state income tax return.

Additional Sources

Natural Resources Conservation Service Conservation Practice Standard. Pond. No. 378.
file:///V:/Other/Impoundment%20Policy%20Planning/Pond%20RGP/NRCS%20Pond%20Standard%20Practice%20Code%20378.pdf

Natural Resources Conservation Service. Ponds: Planning, Design and Construction. Agriculture Handbook No. 590.
file:///V:/Other/Impoundment%20Policy%20Planning/Pond%20RGP/NRCS%20Pond%20Standard%20Practice%20Code%20378.pdf

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[i] Hutchinson, G.E. 1957. A treatise on limnology v.1. Geography, Physics and Chemistry. Wiley. 1015pp
Shoreline development is the ratio of the length of the shoreline to the circumference of a circle of area equal to that of the lake.

SCDNR Guidelines for Private Shallow Water Impoundments for Waterfowl

March 17, 2020

South Carolina Department of Natural Resources (SCDNR) has developed the Guidelines for Private Shallow Water Impoundments for Waterfowl. This guidance document applies only to non-tidally influenced, shallow (less than 4 ft of water) waterfowl impoundment development.

The SCDNR is the steward of the state's natural resources and is responsible for the protection and management of these resources for the use and enjoyment of the public. SCDNR, in carrying out its protection and management responsibilities, must balance its objectives and actions in order to most appropriately protect and sustain the natural resources of South Carolina.

The construction of private shallow water impoundments for waterfowl provides opportunity for maintaining a stayed tradition in South Carolina's culture of waterfowl hunting and provides additional habitat for waterfowl species that overwinter in South Carolina. However, these benefits may be gained at costs to both natural ecosystem functions and native biological communities. Impoundments can result in substantial changes in stream flow, wetland functions, energy cycles, channel morphology and natural biological communities. To balance the management of South Carolina natural resources with the protection of natural ecosystems, SCDNR has developed these guidelines for suitable waterfowl impoundment construction and management for the purpose of productive waterfowl impoundments.

In order to fulfill the goals of this guidance, applications for waterfowl impoundments should contain sufficient information to allow determinations relative to these criteria. They must contain a plan that addresses the elements listed below.

I. Siting

a. Uplands
   i. Site the impoundment solely in uplands. If this occurs, no permitting is required from the U.S. Army Corps of Engineers (USACE); however, other state and local permits may be required.
   ii. If powerline, telephone or gas lines or the associated right-of-way are located within the impoundment location, a letter of permission or easement access may be required from the appropriate utility company.

b. Waters
   i. Impoundments should not be constructed in navigable waters and/or adjacent wetlands. Impoundments should not be constructed on a perennial stream; however, on a case by case basis these impoundments will be evaluated on a perennial stream if the proposed impoundment site is situated between an impoundment upstream and downstream.
   ii. Impoundments should not be constructed in a stream that does not have an existing impoundment between the site and the nearest downstream navigable water, as defined by the South Carolina Department of Health and Environmental Control per S.C. Code of Laws §49-1-10 and Code of Regulations 19-450.2.C.
   iii. Impoundments should not be constructed on trout waters. Trout waters are defined in the S.C. Code of Regulations 61-69.
   iv. Proposed impoundments sited in streams which do have an existing impoundment downstream of the proposed impoundment site and the nearest downstream navigable water will be evaluated.
   v. Proposed impoundments sited on intermittent streams and/or adjacent wetlands will be evaluated.
   vi. Proposed impoundments should be built on sites where water sources (the watershed rainfall runoff, spring fed inflow, etc.,) are enough to maintain the water level within the impoundment to provide shallow water, making foraging possible for wintering waterfowl.

vii. If powerline, telephone or gas lines (or the associated right-of-way) are located within the impoundment location, a letter of permission or easement access may be required from the appropriate utility company.

c. Sensitive Resources
   i. Impoundments should not be constructed if their construction will negatively impact a state or federal threatened or endangered species or waters designated as Outstanding Resource Waters (ORW) by the SC Department of Health and Environmental Control under Regulation 61-69.

d. Soils
   i. Soils should have low permeability thereby allowing for proper water level maintenance.
   ii. Check the soils of the proposed site by contacting a professional pond construction company that can conduct site evaluations and soil analysis. The proposed impoundment site should have soils that have low permeability and good compaction such as a clay, silty clay or sandy clay content to be able to hold water. During construction be careful not to excavate below the restrictive clay layer. This can be determined with a bore sample. Provide information on soil types as a part of the impoundment proposal plan.

e. Hazards
   i. Identify any hazards on the proposed impoundment site that may affect the project such as powerlines, roadways, location of adjacent landowner homes, etc. on a map.

II. Construction

It is recommended, but not required, that a professional pond construction company be consulted for the submission of the following information, along with pond design:

a. Impoundments should be constructed between 1 to 10 acres[1] and built an adequate size not to exceed what the watershed can contribute, unless a reliable spring is available. An adequate water source is generally considered as having the capacity to flood approximately 50% of the impoundment over a 1-2-week period, continue at a pace to complete flooding within 3-4 weeks, and maintain water levels with some consistency throughout winter[i].

b. A shallow-water waterfowl impoundment should have an impoundment depth between 0.5 and 4 feet, with additional depth allowed for construction of interior borrow canals if necessary.

c. Vegetation may be used to stabilize the dike. Seeding of native or annual grasses is encouraged. Dense sod-forming grasses should be seeded as dike stabilization. Dikes should be kept free of woody vegetation. To prevent erosion, establish vegetation (grasses such as rye, wheat or millet) on the impoundment banks and spoil piles immediately after the completion of any grading work for the impoundment until permanent grasses are able to be planted or established.

d. Inflow volume must approximate outflow volume on impoundments constructed on streams. The proposed project plans must demonstrate that the downstream flow will not be adversely affected by the proposed impoundment. Documentation will include clear and concise drawings such as a plan view and cross section depicting the use of a water control structure that allows for continuous flow of a stream while maintaining water levels inside the impoundment such as a low flow device, flashboard riser system, or other method to prevent adverse impacts to the flow and circulation of flow downstream during months where water is impounded in winter (i.e., November – February). Further, the applicant must submit documentation that during a normal rainfall year, the tributary to be

[1] The impoundment size is total acreage of the impoundment. This is not in reference to total amount of impact related to waters under the jurisdiction of the USACE authorities provided in the Clean Water Act 404 program or Section 10 in the Rivers and Harbors Act.

impounded has adequate flows to support an impoundment of the size proposed without impacting downstream flows. This documentation may vary depending upon available flows within the tributary to be impounded. The documentation must be commensurate with the size of the proposed impoundment and the environment surrounding the proposed impoundment. For example, small impoundments on tributaries with higher volume or perennial flows may require less documentation. Impoundments on low volume or less than perennial tributaries may require inflow calculations and projected outflow calculations that account for average seepage losses and evaporation. The selected low flow device must be specified and depicted in the permitted plans.

e. All trees, roots, stumps and large rocks must be removed from the dam/dike/embankment site to prevent potential dam failures. The decay or organic materials left in the dam will create passages allowing water to seep and large rocks may prevent proper compaction. The dike must be maintained free of woody vegetation including trees and shrubs, such as buttonbush.
f. The dike/dam/embankment should be constructed with a slope of 4:1 or greater to allow for safe operation of equipment (ATVs, tractors, mowers) and reduced preference as burrowing sites for aquatic mammals (beaver and muskrat). The top width of the dam should be a minimum of 4 ft with a maximum of 10 ft to allow for operation of various maintenance machinery.
g. A water control structure or primary spillway should be included to allow controlled release of water to maintain the desired depth of the impoundment. Examples of water control structures include: a flashboard riser, full-round riser, or screw-gate valve. The water control structure and primary spillway must be specified and depicted in the plans. The spillway should be on one end of the embankment and should be built to the elevation of the impoundments maximum desired water level. The width of the spillway channel is determined by the discharge or size of the watershed and size of the impoundment. A professional pond construction consultant should be able to assist with this determination.
h. Topsoil excavated during construction should be retained separately, so that it can be spread on the field bed of the finished impoundment. Subsoils are poor substrates for plant growth and, if left adjacent to the impoundment, will likely erode and re-enter the impoundment resulting in turbidity and poor water quality. Excavated material accumulated during construction should be moved away from the impoundment to an upland area.
i. The site should be adequately sized to accomplish the project purpose and should facilitate a low ratio of dike fill to impoundment size (e.g., 1:50, not 1:5).
j. Soil material for dike construction should be non-contaminated and come from an appropriate upland source. Material should be clean earthen fill suitable for maintaining a steep slope.
k. Dike height should be limited to a design that allows a maximum of one foot of free board above the desired managed water level.
l. Dikes should be located to minimize impacts to mature trees and should take advantage of existing high ground such as roads, river berms, railroad tracks, old dikes and/or other disturbance corridors.
m. Water control structures (flash board risers) should be flush with the lowest elevation of the impoundment (the base level of the streambed when present) to allow for unimpeded passage of aquatic organisms and complete drawdown and maintain any natural flow during the non-flooded seasons (i.e., March – October).
n. Where appropriate, project design should include emergency spillways to prevent dike failure due to heavy rain or other flooding events.
o. In areas subject to beaver activity, measures such as the installation of beaver pond levelers and/or emergency drainage systems are necessary to maintain control of water levels. In areas of heavy beaver activity, control via trapping is recommended.

p. Dike construction should occur during dry periods.
q. Construction access impacts should be limited to the footprint of the dike.
r. The following best management practices should be followed during construction.
    i. Prior to the beginning of any construction activities, appropriate erosion control measures, such as silt fences, silt barriers or other suitable devices, will be placed between the construction area and affected waterways (wetlands); and maintained in a functioning capacity until the area is permanently stabilized upon project completion.
    ii. In areas where silt barriers cannot be effectively employed, mulching, burlap or other suitable materials will be applied and maintained on all disturbed land surfaces to control erosion until the area can be permanently stabilized.
    iii. All steps necessary will be taken to prevent oil, tar, trash, debris and other pollutants from entering adjacent wetlands and/or waterways.
    iv. Once initiated, the project will be carried to completion in an expeditious manner in order to minimize the period of disturbance to the environment.
    v. Upon completion, all disturbed areas will be promptly and permanently stabilized with 70% vegetative cover.
    vi. Construction activities will avoid to the greatest extent practicable, encroachment into any wetland areas not designated as fill for dike construction.

III. Impoundment Management

a. Dikes/dam/embankments,spillways, and canals should be routinely checked and managed for signs of faults, leaks, and animal activity (muskrat and beaver), as well as maintained free of woody vegetation to protect the integrity of the structures. The dike/dam/embankment should be maintained in grasses.

b. The plant community within the impoundment should be managed for the production of annual plants to provide food and cover for waterfowl. Food sources may be provided mechanically (plant and flood) and/or naturally (moist-soil management). Regardless, there should be 50% of the impoundment providing a food source for waterfowl.

c. Flooding of annual plants should not commence until senescence of annual plants has begun, through natural causes or management actions such as spraying, mowing, or burning that simulate senescence. Impoundments containing oak trees should not commence flooding until trees have entered dormancy. No flooding should be commenced before November 1.

d. To ensure that foods are available to dabbling ducks, water levels should be managed at a depth of 4-18”, not to exceed 36” to maximize availability of food to waterfowl, with consideration given to dabbling duck feeding habits (tipping up, reaching for seed on soil surface) balanced with location of seed (seed still on plant stalk vs. seed fallen to soil surface).

e. Migratory waterfowl require habitat beyond hunting seasons. Beginning February 1, managers should maintain shallower flood levels (mudflat – 6”) to provide habitat for wetland dependent species. When time for complete drawdown, it should be done gradually (taking 10 days or more) to minimize loss of topsoil. Drawdown should not begin before March 1 unless impoundments contain oak trees, in which case drawdown may begin February 15. Water control structures shall remain open March 1 – October 31 to facilitate water, nutrient and/or organism exchanges.

f. No timbering or significant modification to existing wetland vegetation shall occur within the impoundment, except those modifications specified in a management plan approved by regulatory and review agencies. Any forest manipulation that must occur to construct and establish a waterfowl impoundment must avoid and minimize impacts to wetlands and streams. Construction plans, including avoidance and minimization measures, must submitted along with a waterfowl management plan to be approved by the regulatory and review agencies through the permitting process and shall be restricted to those activities that promote habitat for waterfowl.

Note:
SC Department of Health and Environmental Control (DHEC) Dam Safety Program
https://scdhec.gov/environment/bureau-water/dams-reservoirs
Under state law and regulations, before a dam that meets regulatory criteria can be built, altered, repaired, or removed, plans and specifications must be submitted to the DHEC Dams and Reservoirs Safety Program for review. Once that review is complete, work can commence after a written permit is issued by the Department. The Dams and Reservoirs Safety Program reviews permit applications while also conducting safety inspections of regulated dams and providing informational and technical assistance to dam owners and operators in South Carolina to ensure their compliance with state laws and regulations.

The program conducts construction inspections and final inspections on permitted projects to ensure all work is performed in accordance with the approved plans and specifications. Before a regulated dam or reservoir can be placed into operation, written authorization must be granted by the program.

SC Dams and Reservoirs – Tax Credits
http://www.scdhec.gov/Environment/WaterQuality/DamsReservoirs/TaxCredits/

Section 12-6-3370 of the 1976 South Carolina Code of Laws provides for a state tax credit for the construction, installation or restoration of water impoundments and water control structures used for certain purposes. That Section of the 1976 Code is printed here:

Section 12-6-3370. Tax credits for construction, installation or restoration of water impoundments and water control structures.

1. A taxpayer may claim a credit for twenty-five percent of all expenditures for the construction, installation, or restoration of impoundments, lakes, other water impoundments, and water control structures designed for the purposes of water storage for irrigation, water supply, sediment control, erosion control or aquaculture and wildlife management, providing these items are not located in or adjacent to and filled primarily by coastal waters of the State.

2. In the case of pass-through entities, the credit is determined at the entity level and is limited to two thousand five hundred dollars. The maximum amount of credit for all taxpayers, including any credit passed through to the taxpayer from a partnership, "S" Corporation, estate, or trust, is also limited to two thousand five hundred dollars.

3. If the credit exceeds the taxpayer's tax liability for the taxable year, the excess amount may be carried forward for credit against income taxes in the next five succeeding taxable years.

4. To qualify for the credit the taxpayer must obtain a construction permit issued by the Department of Health and Environmental Control or proof of exemption from permit requirements issued by the department, the Natural Resources Conservation Service, or a local Soil and Water Conservation District.

To obtain the proof of exemption form referenced in (D) above, the owner must first insure that the dam is less than 25 feet high and will impound less than 50 acre feet of water and does not present a hazard for loss of life in case of failure (for dams of lesser size). Once the owner has determined with certainty that his dam does not meet the size requirements to require a permit, proceed with construction. When construction is complete, call the DHEC Environmental Quality Control Regional Office of the county in which the dam is located, and ask for the Dam Certificate of Exemption Form. The Regional Office will arrange for someone to meet the owner or his representative at the dam to verify its location, size, and

use. That Regional Office representative will issue the Certificate to the owner, and the owner can then use that document to apply for the tax credit when he files his state income tax return on or before the following April 15th. For permitted dams, the permit to construct and certificate of completion should be filed with the state income tax return.

Additional Sources

Natural Resources Conservation Service Conservation Practice Standard. Impoundment. No. 378. file:///V:/Other/Impoundment%20Policy%20Planning/Impoundment%20RGP/NRCS%20Impoundment%20Standard%20Practice%20Code%20378.pdf

Natural Resources Conservation Service. Impoundments: Planning, Design and Construction. Agriculture Handbook No. 590. file:///V:/Other/Impoundment%20Policy%20Planning/Impoundment%20RGP/NRCS%20Impoundment%20Standard%20Practice%20Code%20378.pdf

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[i] State of Virginia. 1995. Impoundment management for dabbling ducks. IN: WR Whitman, et. Al., ed Waterfowl habitat restoration, enhancement and management in the Atlantic Flyway. Third ed. Environmental Manage. Comm., Atlantic Flyway Council Technical Section, and Delaware Div. Fish and Wildlife. POS Box 1401, Dover, DE pp. D-119 to D-120

Interagency Guidelines for Greentree Reservoirs

March 17, 2020

The South Carolina Department of Natural Resources (SCDNR) has developed the Interagency Guidelines for Greentree Reservoirs with guidance from the U.S. Department of Agriculture Natural Resources Conservation Service; the U.S. Army Corps of Engineers, Charleston District; the U.S. Fish and Wildlife Service, Charleston Field Office; the National Marine Fisheries Service, Charleston Habitat Office; the U.S. Environmental Protection Agency; the South Carolina Department of Natural Resources; Clemson University's James C. Kennedy Waterfowl and Wetlands Conservation Center; and the South Carolina Department of Health and Environmental Control.

The SCDNR is the steward of the state's natural resources and is responsible for the protection and management of these resources for the use and enjoyment of the public. SCDNR, in carrying out its protection and management responsibilities, must balance its objectives and actions in order to most appropriately protect and sustain the natural resources of South Carolina.

Greentree reservoirs (GTR) provide seasonal habitat for migratory and resident waterfowl and other wildlife and opportunity for maintaining a stayed tradition in South Carolina's culture of waterfowl hunting. GTRs are managed forested wetland systems which provide seasonal wetlands to enhance foraging and resting habitat for a wide range of wetland dependent wildlife species. As with most other habitat manipulations, there are risks that other ecosystem functions, including habitat loss for non-targeted species, may be temporarily altered or interrupted, or the ecosystem integrity itself may be impaired. Besides the direct loss of wetlands from embankment construction, overly intensive GTR management can severely alter the long-term integrity of bottomland hardwood systems (Weller 1989, King 1994). By affecting seed dispersal mechanisms, germination, seedling survival, overstory mortality and windthrow susceptibility, GTRs can affect a long-term shift in vegetative composition.

However, in appropriate locations and circumstances and within appropriate design, construction and management constraints, direct impacts such as temporal shifts in wetland functions, long-term forest health and vigor, and seasonal habitat loss to non-targeted wildlife species can be minimized while providing enhanced habitat for a host of wildlife including waterfowl. In some cases, GTR strategies can also be effective restoration and management tools in areas where hydrology has been altered (King & Allen 1996).To balance the management of South Carolina natural resources with the protection of natural ecosystems, these guidelines have been developed for siting, construction and management.

In order to fulfill the goals of this guidance, applications for GTRs should contain sufficient information to allow determinations relative to these criteria. They must contain a plan that addresses the elements listed below.

I. **Siting**
   a. Suitable sites avoid areas where GTRs would adversely affect threatened or endangered species, bird rookeries, trout streams, and or waters designated as Outstanding Resource Waters (ORW) by the SC Department of Health and Environmental Control under Regulation 61-69. New embankments will not be considered in designated ORW areas.
   b. Suitable GTR sites should require a minimum of embankment construction to accomplish water control. Favored sites contain natural grade controls or other existing embankments (e.g. roads, railroad grades, rice field dikes, etc.)
   c. Site topography should be near flat with slope not to exceed 1% (one-foot rise per hundred-foot length).
   d. Soils should have low permeability thereby allowing for proper water level maintenance.
   e. The site should be dominated (50% or more) by a hard mast producing hardwood component (e.g., oaks) and should include trees currently producing adequate mast to provide forage for ducks and other species of wildlife.

f. On a case-by-case basis, sites without appropriate percentages of mast producing hardwood species (50% or more) will be evaluated. On these sites a minimum of 40% of the site will need to be planted using bare-root seedling of mast producing tree species with a 70% survival rate of the density planted. The remainder of the site must be planted in a crop for waterfowl such as millet, chufa, sorghum, etc. or allowed to produce natural grasses and sedges (i.e. moist-soil plants).
g. Areas subject to tidal influence and/or long periods of inundation, such as cypress/tupelo forests, are not suitable sites.
h. Sites that require impoundment of perennial streams and primary river floodplains are not suitable.
i. The site should be adequately sized to accomplish the project purpose and should facilitate a low ratio of dike fill to reservoir size (e.g., 1:50, not 1:5).
j. Areas of heavy beaver activity are not recommended sites.

II. Construction

a. Soil material for dike construction should be non-contaminated and come from an appropriate upland source outside of the reservoir area. Material should be clean earthen fill suitable for maintaining a steep slope.
b. Dikes should not exceed a bottom width of 20 feet; however, smaller dikes are encouraged. The dike/dam/embankment should be constructed with a slope of 3:1 or greater to allow for safe operation of equipment (ATVs, tractors, mowers) and reduced preference as burrowing sites for aquatic mammals (beaver and muskrat). The top width of the dam should be a minimum of 4 ft with a maximum of 10 ft to allow for operation of various maintenance machinery.
c. Dike height should be limited to a design that allows a maximum of one foot of free board. The depth of flooding should average between 4 and 12 inches and should not exceed 18 inches.
d. Dikes should be located to minimize impacts to mature trees and should take advantage of existing high ground such as roads, river berms, railroad tracks, old dikes and/or other disturbance corridors.
e. Water control structures (flash board risers) should be flush with the base level of the reservoir (the base level of the streambed when present) to allow for unimpeded passage of aquatic organisms and complete drawdown during the non-flooded seasons.
f. Where appropriate, project design should include emergency spillways to prevent dike failure due to heavy rain or other flooding events.
g. In areas subject to beaver activity, measures such as the installation of beaver pond levelers, fencing and/or emergency drainage systems are necessary to maintain control of water levels.
h. Dike construction should occur during dry periods.
i. Construction access impacts should be limited to the footprint of the dike.
j. The following best management practices should be followed during construction.
    i. Prior to the beginning of any construction activities, appropriate erosion control measures, such as silt fences, silt barriers or other suitable devices, will be placed between the construction area and affected waterways (wetlands); and maintained in a functioning capacity until the area is permanently stabilized upon project completion.
    ii. In areas where silt barriers cannot be effectively employed, mulching, burlap, seeding or other suitable materials will be applied and maintained on all disturbed land surfaces to control erosion until the area can be permanently stabilized.
    iii. All steps necessary will be taken to prevent oil, tar, trash, debris and other pollutants from entering adjacent wetlands and/or waterways.
    iv. Once initiated, the project will be carried to completion in an expeditious manner in order to minimize the period of disturbance to the environment.
    v. Upon completion, all disturbed areas will be promptly and permanently stabilized with 70% vegetative cover.

vi. Construction activities will avoid to the greatest extent practicable, encroachment into any wetland areas not designated as fill for dike construction.

III. Management

a. Flooding shall not commence before November 1, when trees are entering the period of dormancy. Managers are encouraged to vary commencement every year the unit is flooded.
b. To ensure that foods are available to dabbling ducks, GTRs should be gradually flooded (taking 10 days or more) to an average depth of 4-12 inches, with the maximum depth not to exceed 18 inches (excluding channels). With increasing depths from rain and flooding, water should be released to maintain the recommended depths between 4 and 18 inches. Lower water depths are more likely to have the area dry before trees break dormancy; thus, shallower water increases seedling survival and ensures forest regeneration. Additionally, invertebrate abundance decreases with increased water depths.
c. Gradual drawdown (taking 10 days or more) shall begin early enough (generally in February) to ensure that most of the impoundment is totally dried to bed level by March 1, unless precluded by natural flooding. However, managers are encouraged to vary initiation date and rate of drawdown as well as vary target completion date before March 1.
d. Water control structures shall remain open during time of drawdown and throughout the growing season to facilitate water, nutrient and/or organism exchanges.
e. The reservoir shall not be flooded more than three consecutive years followed by at least one dry year with control structures completely open. This will result in reducing water stress that could be responsible for declines in growth and mast production, poor natural regeneration and/or mortality often associated with hydrological changes of the soil. Managers are encouraged to vary which year will be the dry year to allow for natural regeneration and support forest health. Regardless of the annual flooding plan, managers are encouraged to refrain from flooding the GTR the subsequent fall after a heavy masting event to promote germination and survival of new seedlings.
f. Snags will be allowed to remain standing to provide habitat for cavity nesting species.
g. No timbering or significant modification to existing wetland vegetation shall occur within the GTR, except those modifications specified in a management plan approved by regulatory and review agencies. Any forest manipulation within the GTR shall be conducted in accordance with a management plan approved by the regulatory and review agencies through the permitting process and shall be restricted to those activities that promote the growth of mast producing trees.

Supporting Literature

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