



Notice of Determination ARAP General Permits

Regarding the Issuance or Reissuance of Tennessee General Aquatic Resource Alteration Permits

April 7, 2015

This notice presents the final determination of the Tennessee Department of Environment and Conservation, Division of Water Resources, and responds to comments on the proposed General Permits for §401 Water Quality Certifications and Aquatic Resource Alteration Permits.

I. Background

Under *The Tennessee Water Quality Act of 1977*, where the Commissioner finds that a category of activities or discharges would be appropriately regulated under a general permit, the Commissioner may use a general permit to authorize alterations to waters for specific categories of activities that are substantially similar in nature and that result in no more than an insignificant or *de-minimis* degradation of water quality.

Notice of coverage by the division of activities that qualify under general permits also serve as a §401 Water Quality Certification pursuant to the federal Clean Water Act.

Each general permit establishes notification procedures required for approval of a specific qualifying activity. Notice of Coverage by the Division of activities that qualify under general permits may also serve as a §401 water quality certification pursuant to *The Clean Water Act*.

The valid duration of a permit under the *Tennessee Water Quality Act of 1977* is five years. The Department must therefore re-issue or deny the general permits every five years. The existing general permits were issued July 1, 2010 and will expire on June 30, 2015. The 2015 draft general permits were advertised for public comments on December 5, 2015. A public hearing was held on January 13, 2015 in Nashville with simultaneous videoconference hearings at seven environmental field offices across the state. The commenting period ended on February 13, 2015. A total of 13 general permits were proposed for re-issuance and subject to public comments.

II. Comments and Responses

The public's concerns and questions, along with the division's responses are supplied in this section. These comments were gathered through the course of public hearings, both verbal and written, along with submittal of written comments through mail, e-mail and fax.

Tennessee Department of Environment and Conservation
General Permit
Response to Comments



Comment: Tennessee’s Aquatic Resource Alteration Permit (“ARAP”) program was formally adopted in 2000 to establish general permits for a more streamlined process. This program, though, should not override the fact that, in circumstances where a permit for water withdrawal is required, TDEC is responsible for establishing permit conditions that protect the stream’s resource value, such as flow levels below which no withdrawal can occur. The issuance of an individual ARAP requires that public notice of the approved activity be distributed to interested persons in addition to being “circulated within the geographical area of the proposed activity.” Specifically, the permit applicant must distribute public notice “to the neighboring landowners by publishing in a local newspaper of general circulation and by posting a sign within view of a public road in the vicinity of the proposed project site as specified by [TDEC].” This public notice and potential participation does not happen with general permits, such that their wide or regular use should be viewed with caution. In addition, general permit programs may lead to potentially unavoidable cumulative impacts to waters of the state. Individual projects might not cause significant impact, yet the issuance of many such permits could result in degrading, cumulative effects. Finally, for activities that fall within the purview of the general ARAP program, the associated regulatory review is likely to be cursory in comparison with the review afforded an individual permit.

Response: TDEC utilizes general permits to authorize suites of activities that are substantially similar in nature and whose impacts to water resources are considered *de minimis*. These general permits are issued once every five years after a formal comment period that includes public notification to as broad population of stakeholders as feasible, and a public hearing simulcast across the eight regional field offices. The limitations and special conditions of each general permit prohibit activities that cause more than *de minimis* degradation to water quality. This includes cumulative impacts within a common plan of development. The division uses mapping tools and statewide databases, as part of the review process to evaluate all activities within the CPD from the past and into the reasonably foreseeable future. For more information on the division’s policy, please see Appendix A.

Comment: TDEC should consider a plan that would allow MS4s to administer the ARAP permits within their jurisdiction.

Comment: It is important that the MS4 programs are involved in the ARAP permits. Our experience has shown that prior to our MS4 program there was very little awareness or compliance with ARAP permits. Without MS4 involvement and assistance we have found that activities for the most part occur without permits because of the difficulty for private landowners to understand the application process.

Response: The division believes that MS4s are an important stakeholder concerning development and natural resources within their jurisdictions. At this time the division thinks the more effective role MS4s may have is one that broadens and strengthens coordination efforts with the state concerning alteration permitting and local ordinances and policy. However, the

need for statewide consistency in implementation of the ARAP program may not be possible with over 90 different MS4 programs administering these permits. The division is currently developing a framework that highlights where state and local authorities may coordinate on projects requesting ARAP coverage and hope that this coordination process provides further protection for the water resources by the state and the local community.

Comment: In West Tennessee, as a result of “Extensive Channel Alteration” or “Dramatic Land Use Changes”, aggressive channel evolution is a huge problem that contributes to poor water quality, degraded of aquatic resources, and dysfunctional stream function. To facilitate our efforts to “save” higher quality streams upstream of “head cuts” and of preventing huge volumes of sediment from entering streams and rivers, a General Permit for “Channel Stabilization in highly Altered Watersheds” should be developed. Appropriate use of weirs and grade control structures effectively mitigate aggressive channel evolution in West Tennessee. The designs are based off of standards established in NRCS Technical Guidance and Department of Agriculture Best Management Practices. When these structures are installed in Wet Weather Conveyances, the WWC GP is utilized for these activities. However, The WTRBA and NRCS routinely utilize grade control structure to arrest active “head cuts” in streams. A general permit for “Channel Stabilization in Highly Altered Watersheds” would facilitate accomplishment of WTRBA, NRCS, Department of Agriculture and TDEC objectives related to water quality and stream improvements. Similar to the proposed General Permit for “Restoration of Stream/Floodplain Dynamics and Wetland Enhancement”, this GP could be geographically limited and have specific requirements regarding Data Collection/Science Objectives and approved Design/Construction Techniques. We understand that this GP would take some time to create and would not be issued in January 2015.

Response: The division recognizes that many areas of West Tennessee have stream instability issues due to historic poor management practices. We are currently evaluating the potential conditions and framework for a grade stabilization general permit that focuses on destabilized channels in areas where the dominant soils are loess and coastal plains soil.



Tennessee Department of Environment and Conservation
General Permit Conditions

Comment: any references to impaired streams in the general permits should cite DWR’s general assessment process, not specifically the 303(d) List. In other words, “impaired streams” rather than “303(d) Listed streams.”

Response: The division agrees and will make the appropriate changes.

Comment: The proposed general permits under the ARAP program have provided several additional conditions that are not currently included. Specifically, the following conditions have been added to all or several general permits:

- “This permit does not authorize impacts to cultural, historic or archaeological features or sites.”
- “This permit does not authorize access to private property. Arrangements concerning the use of private property shall be made with the landowner.”
- “Where applicable, all activities shall be accomplished in the dry. All surface water flowing towards this work shall be diverted using cofferdams and/or berms constructed of sandbags, clean rock (containing no fines or soil), steel sheeting, or other non-erodible, non-toxic material. All such diversion materials shall be removed upon completion of the work.”
- “The use of monofilament-type erosion control netting or blanket is prohibited.”
- “Stream beds shall not be used as linear transportation routes for construction equipment, rather, the stream channel may be crossed perpendicularly with equipment provided no additional fill or excavation is necessary.”
- “Widening of the stream channel as a result of this activity is prohibited.”

We commend the efforts of TDEC to include these conditions, and we find them to be positive additions to the ARAP program that should continue to strengthen the protections of our state’s waters. These conditions, however, are not applied to all general permits, and we believe it would be beneficial for these conditions to be more broadly applied to all permits within the ARAP program.

Response: The division agrees with the need for consistent application of general conditions to every general permit, except where the conditions are not applicable to a specific activity. We will ensure that all general permits have these conditions unless these conditions are not applicable to the specific activity being authorized.

Comment: The reissued ARAP program includes one “General Condition” regarding state- or federally-listed endangered and threatened species. The comment is proposed as follows:

- “Activities occurring in known or likely habitat of state or federally listed threatened, endangered, or a species deemed in need of management may not be authorized without prior consultation with the Tennessee Wildlife Resources Agency (TWRA) and TDEC Division of Natural Areas (DNA) to determine if the proposed activities will or will not likely result in take, harassment, or destruction of the species or render the habitat unsuitable. Adverse effects to federal threatened and endangered species are not permitted without prior authorization from the United States Fish and Wildlife Service (USFWS) as required by Section 7 or Section 10 under the Endangered Species Act.”

This newly proposed condition appears to replace two conditions that appear in the current ARAP general permits. Those two conditions state the following:

- “Activities that may result in an adverse effect to a threatened or endangered species, or to designated critical habitat; or is likely to jeopardize the continued existence of a species proposed for listing as endangered or threatened without prior authorization from the U.S. Fish and Wildlife Service as required by section 7 or section 10 of the Endangered Species Act where applicable are not covered. Adverse effects comprise, but are not necessarily limited to, the following: (a) death or injury to one or more individuals that results from activities associated with an action, (b) a change in habitat quantity or quality that results from activities associated with an action that renders the habitat unsuitable for the species, or (c) activities associated with an action that disrupts normal behavior or functions of individuals.”
- “Activities that may result in the take, harassment, or destruction of plant or wildlife listed as threatened or endangered or a species is deemed to be in need of management, as defined and identified under Tennessee Code Annotated (TCA) 70-08-103, Tennessee Wildlife Resources Agency (TWRA) Proclamations 00-14 and 00-15, and Division of Natural Heritage (DNH) Rule 0400-6-2 or which will destroy the habitat of such species without prior authorization from TWRA and/or DNH where applicable are not covered.”

We have concerns with TDEC’s newly proposed language replacing the two current conditions for potential impacts to protected species. The need for condensing these two conditions and generalizing the requirements is not clear. Specifically, we are most concerned with the newly proposed language that states an activity cannot occur in an area where it is “known or likely” to be habitat of a species. The interpretation of this language has legal implications that could leave unknown habitat and species vulnerable, particularly for species of state concern that are not otherwise federally protected. For example, a developer could argue ignorance in support of a decision to proceed with a project without the proper consultations with TWRA or DNH. We believe these revisions are unnecessary, and we encourage TDEC to leave the current language in these general conditions unchanged.

Response: The newly composed condition for species protection was written in coordination with the Tennessee Wildlife Resources Agency. It affords the maximum amount of protection allowed under state law. Further, the review process evaluates every project proposal to determine the potential impact activities may have on endangered species. In addition, there is

regular coordination with state agencies and the Division of Natural Areas on projects where no known occurrences are but the potential for these sensitive species exists. This provides a consistent and thorough statewide evaluation process for protection where there is potential habitat and/or species presence. This process, to the best of our abilities, ensures the protection of these state and federally listed species.

Comment: The following general condition is included: “Activities, either individually or cumulatively, that may result in greater than *de minimis* degradation of waters of the state are not covered. This general permit shall not be used incrementally to combine with other activities resulting in a net loss of water resource values.”

The public notice informs that, “In accordance with the Tennessee Anti-degradation Statement (Rule 0400-40-03-.06), the division has determined that activities conducted under these general permits will not result in more than *de minimis* degradation to water quality.” Neither the public notice nor most of the draft general ARAPs at issue require additional considerations when the activities are in an Exceptional Tennessee Water or high quality surface waters. *See* Tenn. Comp. R. & Regs. 0400-40-03-.06(4). *But see* Tenn. Comp. R. & Regs. 0400-40-03-.06(1)(d)(3). Neither the Anti-degradation Statement nor the definition of “*de minimis degradation*” (Rule 0400-40-03-.04(4)) contain a blanket exception for general permits. The purpose of the Anti-degradation Statement is to protect existing uses of surface waters, and because the division is effectively issuing prospective permits for unknown projects, the division should exercise heightened caution and narrowly craft the permit terms.

The citizens of the State of Tennessee are entitled to a science-based regulatory program that protects our watersheds from the headwaters to the tap. As mentioned in the joint comments submitted to TDEC by the Tennessee Clean Water Network in November 2014 on the Chapter 0400-40-03 Rulemaking, the *de minimis* exception to anti-degradation review is of concern, because the antidegradation rule is based on the fundamental goal of the Clean Water Act to eliminate the discharge of pollutants to our nation’s waters by 1985. There is nothing in the text or structure of the Clean Water Act or EPA’s implementing regulations supporting an approach that presumptively allows activities that cause degradation. Therefore, we respectfully suggest that the issue before the division is not just whether a particular permittee’s projects have a cumulative impact but whether the particular project, in conjunction with other activities in the watershed, is having a cumulative impact and degrading the state’s waters. This would include watershed impacts from non-permitted activities, as well as permitted activities.

Response: We appreciate the commenters’ statements and hope to assuage concerns that the division does not evaluate the cumulative nature of these activities throughout the entire stream when making determinations concerning level of potential impact. The division, to the best of its abilities, has determined that the suite of activities authorized under conditions and limitations found in the general permits constitutes a *de minimis* level of impact. In addition, as the commenter notes, each permit has language that specifically states that the permits may not be used incrementally to result in a cumulative level of impact that exceeds *de minimis*.

The terms and conditions contained within these permits has been carefully crafted and refined to provide a maximum amount of protection for our water resources while providing the maximum

amount of flexibility for our permittees so that growth and development may continue. The division's responsibility through its consistent and vigilant oversight of the administration of the ARAP program as a whole, and these general permits in particular, is to ensure that the cumulative nature of these singular permitted activities have no more than a *de minimis* impact to water quality.

Comment: For all general ARAPs, please include the following language under "General Conditions" where not included:

- a. Replace "The activity may not be conducted in a manner that would permanently disrupt the movement of fish and aquatic life" with "The activity may not be conducted in a manner that would result in the long-term disruption of the movement of fish and aquatic life." Measuring permanent disruption is not feasible and any activity permitted under a general ARAP should not disturb aquatic life for more than the time of project activity.
- b. Include Exceptional Tennessee Waters along with the National Wild and Scenic River System and Outstanding National Resources Waters as not covered by general ARAPs.
- c. Waterbodies with contaminated sediments or impaired by heavy metals must be ineligible for any general ARAP coverage. The potential to create more of a pollution problem in these waterbodies should be avoided.
- d. The prohibition on disturbing threatened or endangered species must specify its application to both wildlife and plant species, as it does in current general ARAPs.

Response:

- a. The division agrees that the interpretation of the word permanent may be ambiguous. We have clarified the language to read: "The project may not result in a disruption or barrier to the movement of fish or other aquatic life".
- b. The division disagrees with this suggestion. The Antidegradation Statement within the Water Quality Criteria rules state "In the case of habitat alterations, if the department determines that no degradation or only *de minimis* degradation will occur, no further review under the rule is required regardless of the antidegradation classification of the receiving stream." Therefore, activities (within a project) may be authorized if the impacts within that project, either individually and/or cumulatively, falls within the limits of the general permit.
- c. The division believes for most of the activities covered by general permits, the conditions requiring adequate BMP and erosion control measures, among others, are sufficient to prevent more than a *de minimis* impact from any mobilized sediment, including contaminated sediment. The general permits that directly authorize dredging of sediments already contain a provision prohibiting their use in streams where contaminated sediments may be mobilized.

- d. The division agrees with the comments. The conditions within the general permit cover all plants and animals that are state and federally considered threatened, endangered, and species deemed in-need-of-management.

Comment: Please clarify TDEC's intent. We recommend that multiple impacts covered by a specific GARAP should not apply cumulatively to other types of permits covering different types of impacts. Cases in which it is apparent that permit applicants are attempting to circumvent the individual permit process should be handled by TDEC on a case-by-case basis.

Response: TDEC does evaluate each applicant's proposed activity on a case-by-case basis. Cumulative impacts, whether the same activity or a different activity, can cause adverse effects in the watershed where the activities are taking place. If any activity within the Common Plan of Development exceeds the threshold of de minimis degradation, all activity within that CPD is subject to a standard permit. This ensures that no net loss of resources is authorized without proper avoidance, minimization, and/or compensatory mitigation. Please see Appendix A for additional information on Common Plan of Development.

Comment: It is our experience that when native species are required, a cover crop must be also allowed, because the clumping and slow-growing characteristics of many native species make it difficult to achieve timely soil stabilization and their exclusive use will cause or contribute to soil loss and sedimentation.

Response: TDEC agrees with the comments. The division will change the condition to allow for the temporary establishment of non-native, non-invasive annuals as cover crops until native species are established.

Comment: We agree with restoring the preexisting types of riparian vegetation to pre-construction conditions. In urban and other populated areas, the use of true native vegetation in riparian restoration is likely to have a negative impact on the aesthetics and stabilization of existing species planted for lawns and landscaping. We request that TDEC provide their written rationale regarding the use of native grasses and other vegetation for restoration and stabilization of stream and riparian areas.

Response: The benefits of native vegetation along stream corridors have been widely documented, as summarized in the division's TN Erosion Prevention and Sediment Control handbook, and is considered the preferred BMP for stabilization in the division's NPDES Construction Stormwater General Permit. In addition, the establishment of nonnative or invasive vegetation tends to provides less than optimal habitat and structural integrity and therefore represents resource loss, as compared to a natural, native riparian zone. The Division's antidegradation policy requires permitted alterations be performed in the least ecologically impactful manner practicable, and we believe post-project re-establishment of a fully functional native riparian zone represents the least impactful alternative.

Comment: Also, is it TDEC’s intent that tree, shrub, and grass species be as specified in the Landscaping with Natives at tneppc.org? If so, we will have to develop a new species list to utilize in riparian areas.

Response: The division has outlined in the TNEPSC handbook invasive plant species that historically were used to control erosion and are no longer a preferred option for EPSC measures. Please refer to the TNEPSC handbook, which is based on the Landscaping with Natives list, for further guidance on acceptable plant species for stabilization and post-construction revegetation.

Comment: The general condition language “activities that impair surface water flow into or out of any wetland areas are prohibited” is inconsistent with provisions of permits which allow wetland impacts. We suggest substituting “Activities that cause greater than de minimis adverse impacts to wetlands.”

Response: The Division concurs that as worded, this provision is not applicable to all general permits, as several may authorize alterations or temporary impacts to wetlands. This language will be revised for these types of general permits, such as the minor wetland alteration general permit.

Comment: We recommend substituting the word “contact” for “consultation” because, especially for the USFWS, the word “consultation” has a very specific meaning indicating elevated agency requirements.

Response: We understand that the definition of consultation in relation to endangered species has a very specific meaning for 401/404 actions. We agree to change the sentence to reflect the efforts that take place on a statewide level to ensure protection of state or federally listed threatened, endangered, or a species deemed in need of management. We propose to change the word “consultation” to “coordination”.

Comment: For activities proposed in known or likely habitat of state or federally listed threatened, endangered, or a species deemed in need of management we recommend that USFWS be included as a contact.

Response: While the division is required to coordinate with state resource agencies and divisions, the U.S. Army Corps of Engineers through its 404 program is the lead agency for federal resource coordination with the USFWS. This general condition specifically states that adverse effects to federally listed species are not authorized, and the state is not required to wait for a federal action or opinion from USFWS before issuing a permit.

Comment: We recommend that the prohibition of monofilament-type erosion control netting not be included as such an all-encompassing requirement. Have TWRA or USFWS said this is a problem? Perhaps this statement could be used in relation to the presence of endangered species *per se*. It is the experience of our environmental field staff that monofilament is seen as a problem for wildlife on an infrequent basis and recommends that biodegradable or photodegradable monofilaments be allowed.

This would have an impact on use of slope blankets and other protective measures on projects. Our materials and testing personnel provided information regarding our erosion control netting

and blanket products and this requirement, if not modified, would negatively affect many areas that need a higher level of stabilization.

Response: Our agency partners at TWRA have expressed concern and requested the prohibition of these types of monofilament netting along riparian corridors due to the potential impact this netting has on wildlife. The TWRA states that all wildlife, not just endangered species, within riparian zones are at risk of entrapment when monofilament netting is used. In addition, there have been a vast number of published studies that document the detrimental impacts these types of erosion control blankets have on wildlife, especially to reptiles and amphibians, many of whom are aquatic or semi-aquatic species.. The division believes that, where 401 certification is required, avoidance of unnecessary wildlife harm through the exclusion of certain erosion control products is justified. Applicants may choose from many economically comparable alternative erosion control blanket and netting options that are commercially available today. The division has restricted the use of monofilament –type erosion control netting in individual permits for the past six years. Permittees have successfully used cost effective alternatives such as natural fiber woven blankets with no reduction in product performance. Reference papers

http://www.herpconbio.org/Volume_6/Issue_1/Kapfer_Paloski_2011.pdf

http://www.icoet.net/icoet_2009/downloads/proceedings/icoet09-proceedings-appendices-posterdisplays.pdf

Comment: We recommend this be 14 days, to be consistent with the NPDES CGP, wherever it occurs in the proposed ARAPs.

Response: TDEC agrees with the comment and will make the appropriate changes to be consistent with the NPDES CGP

Comment: Use of native species only is not compatible with current Group A, B, and C mixes specified in TDOT's 2015 Standard Specifications. We will have to develop an additional seed mix for areas near stream channels? As stated above, the slow establishment of the native grasses (species) would delay the final stabilization of a project (longer establishment time for appropriate cover) and is thus in opposition to established TDEC requirements for prompt stabilization. We recommend that TDEC define "in or near stream channel". Will this apply to all stream channel projects regardless of size or type of project, or location in populated areas?

Comment: We agree that a cover crop is needed for project stabilization and completion. We question whether native seed mixes improve water quality in streams, and thus qualify as a subject of General ARAPs, or is it regulatory preference? Especially in terms of reducing sedimentation of water resources, which is actually is considered a type of pollution by TDEC rules, quick stabilization is more important than native grasses. The lack of native vegetation *per se* is not a condition or cause of pollution, and is thus is considered to be misapplied in these permits.

Response: The removal of native riparian vegetation, or establishment of non-native or invasive species within the riparian zone is considered a degradation of habitat and a resource loss. However, the division recognizes the difficulties in native species establishment and has authorized the use of non-invasive annuals as a temporary cover crop until native species become established. As reflected in the NPDES Construction Stormwater General Permit, TDEC requires prompt stabilization on all sites regardless of the site proximity to water resources. Please refer to the standard specifications in the TN Erosion Prevention and Sediment Control Handbook for further details.

To reflect the use of temporary non-native cover crop, the division will change the condition to read:

1. Erosion prevention and sediment control measures must be in place and functional before any land disturbance activities begin, and shall be designed in accordance with the department's *Erosion and Sediment Control Handbook* (www.tn.gov/environment/wpc/sed_ero_controlhandbook/). Permanent vegetative stabilization of all disturbed areas in or near the stream channel (within the buffer zone) must be initiated within 14 days of project completion, and utilize native species (see also *Landscaping with Natives* at tneppc.org). Non-native, non-invasive annuals may be used as a temporary cover crop until native species are established.

Comment: In reference to temporary crossings, we are concerned that the phrase "in the construction area" would be difficult to consistently define and is far too open to interpretation.

We are concerned that not allowing fill to be used to construct temporary crossings will be detrimental to the environment, compared to equipment repeatedly driving across streams. We are concerned that this isn't feasible for construction, especially since many streams are too deep, or flow too swiftly, to safely drive across.

Response: TDEC will change the condition to read:

Stream beds shall not be used as linear transportation routes for construction equipment. Temporary stream crossings shall be limited to one point in the construction area and erosion control measures shall be utilized where the stream bank vegetation is disturbed. The crossing shall be constructed so that stream or wetland flow is not obstructed. Following construction, all materials used for the temporary crossing shall be removed and disturbed stream banks shall be restored and stabilized if needed.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for the
Alterations of Wet Weather Conveyances



Comment: Years ago, the department determined and made part of the state’s Water Quality Standards that waters where we find fish and aquatic life would be fully protected watercourses. (There were actually three additional criteria, but the basis for most determinations was the presence of fish and aquatic life.) Other watercourses were termed “Wet Weather Conveyances” and only protected in the sense that they could not harm humans or wildlife that came in contact with them or convey pollutants that would be harmful downstream. They could be altered or eliminated entirely provided that appropriate erosion and sediment controls and pollution prevention measures would be used, as would be expected at any other construction site. More recently, Tennessee law has been amended to more fully define Wet Weather Conveyances and limit how alterations can be regulated. My concern is that some watercourses that may accurately be identified as “Wet Weather Conveyances” are also important parts of our aquatic systems. We know now better than we ever did before how small headwaters provide essential services such as trapping sediments, attenuating floods, filtering and processing organics and nutrients, and maintaining biodiversity. In any particular watershed, if enough small headwaters are trimmed away, water quality and aquatic biodiversity in the remaining streams will diminish. Particularly in our state, home to some of the richest and most diverse freshwater aquatic systems on the planet, we want to be sure we preserve these systems. I certainly don’t propose that small headwaters can’t be altered. What I do suggest is that watersheds can and should be sustainably managed to maintain ecological function at the scale of whole systems. That will require further work in developing functional assessment methodologies and some way to replace lost headwater function before that loss accumulates to an unsustainable level. That’s really the only basis on which the Wet Weather Conveyance General Permit can be responsibly reissued.

Response: While the Division does not disagree with the body of science pertaining to the connectivity of headwater systems and their potential effect on downstream waters, and that it has a responsibility to maintain the quality of all waters of the State, we would note the commenter’s correct statement that State law currently limits how alterations to Wet Weather Conveyances may be regulated. We believe that the wording of the general permit applies the full extent of regulation on these features allowable under statute. The division is currently developing a more refined functional assessment methodology applicable to all watercourses, and is committed to replacing lost headwater function resulting from permitted activities resulting in a greater than *de minimis* degradation through compensatory mitigation.

Comment: Add “activities authorized under the conditions of this permit are considered *de minimis*” language to the WWC permit.

Response: The Division concurs and has added this language.

Comment: In determining the jurisdictional status of a watercourse in Tennessee, TDEC makes a distinction between a “stream” and a “wet weather conveyance”. According to the Tennessee Water Quality Control Act (“TWQCA”), a stream is defined as a surface water that is not a wet

weather conveyance. In contrast to a stream, the TWQCA defines a wet weather conveyance as a man-made or natural watercourse, including those natural watercourses that have been modified by channelization, which meets all four of the following characteristics: (A) that flow only in direct response to precipitation runoff in their immediate locality; (B) whose channels are at all times above the groundwater table; (C) that are not suitable for drinking water supplies; and (D) in which hydrological and biological analyses indicate that, under normal weather conditions, due to naturally occurring ephemeral or low flow there is not sufficient water to support fish, or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two (2) months. If a watercourse does not meet all four of these characteristics, the watercourse must be deemed a stream. Given that TDEC focuses on distinguishing between “streams” and “wet weather conveyances” when making jurisdictional determinations, the standard procedures for making hydrologic determinations focus on determining whether a watercourse satisfies the wet weather conveyance definition or not.

In Tennessee, watercourses that are considered streams include intermittent and perennial streams. TDEC defines a perennial stream as “a natural watercourse (including modified natural watercourse) whose stream beds during normal hydrologic years are always below the groundwater table.” In contrast, TDEC defines an intermittent stream as a natural watercourse (including modified natural watercourse) whose stream beds remain above the groundwater table for a portion of the year. The definition established by TDEC acknowledges that intermittent streams constitute a broad class of streams which may or may not support aquatic life. Moreover, intermittent streams, according to TDEC, can include streams that flow continuous from 30 days during normal hydrologic years to those that flow 364 days during normal hydrologic years. Revisions to the Wet Weather Conveyance general ARAP were driven by the new law adopted in the General Assembly with regard to alterations to wet weather conveyances. The new law attempts to establish a clear jurisdictional demarcation of wet weather conveyances, but limits any protections of these resources. TDEC’s proposed revisions to the ARAP for wet weather conveyances appear to be consistent with this new law.

We are not comfortable with the ARAP providing general approval for all activities within a wet weather conveyance. Notably, without the requirement for any coordination or communication with TDEC for activities within a wet weather conveyance, TDEC, as the regulator, loses any regulatory oversight of that activity. This is of particular concern where, for example, a developer might be incorrectly classifying an intermittent or perennial stream as a wet weather conveyance.

RESPONSE: The Division believes that an adequate level of coordination and communication with the division for activities conducted within a wet weather conveyance does exist to exert a level of regulatory oversight over these activities. Given the detailed definitions of the various classes of water features the commenter accurately describes above, and the fact that the division has developed a thorough standard operating procedure and Rules designed to facilitate consistent identification and delineation, we believe we have provided adequate guidance to prevent the incorrect classification of these features. Moreover, all final determinations of these features must be made or concurred with by the division prior to any alterations taking place. This often occurs prior to, or as a part of, review for NPDES Construction Stormwater Permit issuance, or ARAP permitting of larger sites. In any case, alteration of a feature that does not

specifically meet the definition of a wet weather conveyance is not authorized under this permit, and may be subsequently subject to enforcement and/or remediation.

Comment: According to TWQCA, which reflects the enactment of Public Chapter No. 464, TDEC must establish standard procedures for making stream and wet weather conveyance determinations that consider biology, geology, geomorphology, precipitation, hydrology, and other scientifically based principles. Scientific studies now reveal how biological, hydrological, and chemical connections exist between most types of isolated or other waters of the state. Often times, wetlands and other waters are connected to streams and waterways by groundwater flows, intermittent streams, or overland flows. Because of this hydrologic connection, these waters, and specifically wetlands, can have significant effects on the chemical quality of downstream waters. These hydrologic determinations must be conducted by a qualified hydrologic professional. Hence, TDEC has established a certification program for people who wish to become certified hydrology professionals known as the Tennessee Hydrologic Delineation Class. In order to be deemed a qualified hydrologic professional, a person must hold a bachelor's degree in biology, geology, ecology, engineering, or related sciences, must have a minimum of five years relevant experience, and must successfully complete the Tennessee Hydrologic Delineation Class. The hydrologic determination report must include the required documentation outlined under Tenn. Comp. R. & Regs. 0400-40-17-.04(1). Requirements include: (1) an explanation of the purpose and context of the report, including any proposed alterations to wet weather conveyances, streams, wetlands, or other aquatic resources; (2) vicinity map with property boundaries or review area; and (3) submission of at least one completed Hydrologic Determination Field Data Sheet, which is based on various interdisciplinary sciences that underlie stream development, channel maintenance, and the relationship between hydrologic regime and stream ecology. Specifically, jurisdictional status of a watercourse is determined by evaluating 28 different attributes of a watercourse and assigning a numeric score to each of the 28 attributes.

In addition to stream determinations made by TDEC, Tennessee Department of Transportation ("TDOT") requires Design-Builders of Design-Build contracts to complete field data sheets for water resources. The Guidance is intended to provide Design-Builders with the procedures required by law, regulation, rule, policy, and standard in order to use Federal Aid and State Highway funds for transportation projects. If Design-Builders do not adhere to the procedures specified in the Guidance, federal and/or state funding is subject to being withdrawn from transportation projects. The Guidance specifies that the field data sheets for water resources are to be used to document streams, springs, seeps, ponds, quarries, lakes and wet weather conveyances. The Guidance provides a list of characteristics that should be referenced to assess whether a watercourse is a perennial stream, an intermittent stream, or a wet weather conveyance. The Guidance notes that it is important to obtain confirmation of a questionable stream or wet weather conveyance from TDEC and/or U.S. Army Corps of Engineers (USACE). For example, if a design-builder determines that a watercourse is a wet weather conveyance, but the watercourse is indicated as a blue line on a topographic graph (illustrating the watercourse as a stream), then the determination must be made by TDEC or USACE. The newly adopted law regarding wet weather conveyances addresses this issue by requiring that "a person desiring to alter a specific water of the state ... request a determination from the commissioner that it is a wet weather conveyance."

To conform the ARAP for Alterations to wet weather conveyances to this law, we believe TDEC should include a notice requirement for any activities proposed under this ARAP. This may not need to be as extensive as a Notice of Intent nor need it require extensive TDEC review or response; however, the ARAP should be revised in accordance with this condition of the new adopted law to insure that any proposed activities utilizing this ARAP be verified.

Response: As alluded to in the previous response, the division concurs with the commenter's assertion that final determination that a specific water of the state is a wet weather conveyance is made by the commissioner (or their designee), and even determinations made by third-party qualified hydrological professionals must be submitted to the division for their concurrence. However, once that determination has been made, alterations to wet weather conveyances meeting the conditions of the general permit can be made without further notification or written authorization, per T.C.A. 69-3-108 (q) (1) "The alteration of a wet weather conveyance, as defined in § 69-3-103, by any activity is permitted by this subsection (q) and shall require no notice or approval; provided, that it is done in accordance with all of the following conditions".

Comment: Upon review, we noted that the provision for protection of listed species is omitted from this particular ARAP. Listed species are not merely associated with water features. Thus, an ephemeral stream or wet weather conveyance could include habitat for listed plant or animal species, and should be included.

Response: We have added a condition clarifying that the permit does not authorize adverse impact to listed species.

Comment: Straw bale check dams are not listed in the Tennessee Erosion & Sediment Control Handbook, and are no longer considered an appropriate BMP.

Response: We have removed reference to straw bale checkdams.

Comment: Condition #6: We recommend deleting this sentence : "Checkdams or other erosion control devices are not to be constructed in stream." from the Wet Weather Conveyance ARAP, because by TDEC's definition "in stream" does not include wet weather conveyances. If the intent is to now extend this prohibition to WWCs, water quality could be reduced because removing EPSC measures from WWCs would make sedimentation of receiving streams more likely.

Response: It is not the division's intent to prohibit checkdams or other erosion control devices within wet weather conveyances, and we have added language clarifying this provision applies to jurisdictional streams.

Comment: Condition#6 seems to be contradictory with other parts of the General Permit. We suggest deleting condition #6 and referencing recommended BMPs in #4 and #5.

Response: Condition#6 is referenced directly from state statute governing the regulation of wet weather conveyances, and has been clarified further per the comment above.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Construction of Intake and Outfall Structures



Comment: In the second paragraph a requirement should be added that the discharge or withdrawal authorization must first be obtained before an NOI is submitted to the Division. A general permit for this activity should not be issued until the applicant has permission to discharge to or withdrawal from the waterbody in order to prevent construction of a structure which ends up unused.

Response: The language in the second paragraph already explicitly states that obtaining coverage under this general permit does not authorize discharges into or withdrawals from the receiving stream. The condition that application for, and written authorization from the Division is required to obtain coverage under this GP, even for relatively small structures, allows the Division to adequately review the justification and potential need for the activity, including consultation with Division staff associated with NPDES, TSMP, CGP and withdrawal permitting. This should help prevent construction of “unused” structures, without setting up an excessive regulatory timeline requiring sequential application, review, and issuance for the multiple permits sometimes required for a single project.

In addition, the NPDES Construction Stormwater General Permit (CGP) already contains a provision requiring the submission of complete applications for any ARAP permits needed on a construction site before CGP coverage can be granted. The sizable majority of coverages under this permit are issued for stormwater outfalls, and the Division’s experience is that this CGP provision works well to minimize excessive and unauthorized alterations to water resources.

Comment: It is our experience that the permit condition for the alignment of the outfall structure (except for diffusers) to be as parallel to the stream flow as is practicable, with the discharge pointed downstream, is difficult to achieve in situations where the natural flow is coming in a perpendicular direction toward the stream.

Response: The permit condition indicates the Division’s expectation that every effort be made to align the outfall stream as parallel as possible to the natural stream flow, to protect channel stability. The condition’s wording “as parallel ... as is practicable” requires the applicant to evaluate alternative intake/outfall locations, or any other measures that may be taken to comply with this provision. If the intake/outfall structure cannot be installed parallel to the stream flow, supporting justification should be provided by the applicant and will be reviewed by the Division on a site-specific basis.

Comment: We recommend that TDEC clarify the length of allowable stream length (Special Condition #4), as follows : “Headwalls, bank stabilization materials, and any other hard armoring associated with the installation of each structure shall be limited to 25 feet along the receiving stream’s bank” . We assume it is supposed to be 25 ft of stream bank of whatever stream the outfall structure is discharging to.

Response: The Division is in agreement with the recommendation to clarify this language, and will change Special Condition #4 to read : *“Headwalls, bank stabilization materials, and any other hard armoring associated with the installation of each structure shall be limited to a total of 25 feet along the receiving stream’s bank”*.

Comment: We recommend that outfall structures 25 feet or less measured along the bank of the receiving stream be made a non-notification General ARAP.

Response: While the Division acknowledges that 25 feet or less of physical channel disturbance for other types of alterations have been deemed permissible under a general permit without notification or written authorization (such as the *General ARAP for Minor Road Crossings*), we believe that the potential additional water quality considerations associated with the discharge or withdrawal of water through these structures are sufficient to justify the requirement for application review, site tracking, and written authorization by the Division.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Construction of Launching Ramps and Public Access Structures



Comment: Consider allowing access stairs or small-scale canoe accesses be done without notification.

Response: The Division concurs with this suggestion, made by more than one commenter, and has added a subcategory of activities that may be performed under the conditions of the general permit without notification or written authorization. These activities would include, as suggested, public or private access stairs or hand-carried watercraft access, with restrictions on installation techniques, materials, and scale of bank disturbance.

Comment: The Launching and Access GP needs to allow for public or private structures. The old and current draft permit language is also vague as to whether private boat ramps are intended to be covered.

Response: The Division original intention for this general permit was authorization of public launching ramps and other public access structures, and we have added clarifying language to better reflect this. However, we also partially agree with the commenter's initial suggestion, and therefore have made some private structures allowable under the "no notification" subcategory described in the previous response. For larger structures, the Division generally considers the construction of public structures to provide all citizens access to the State's Water Resources a public good, justifying the minor degradation and aesthetic intrusion upon these resources. Conversely, the division believes a more thorough review of the necessity and alternatives available to private landowners, including the opportunity for public comment on the proposal, is an adequate justification to limit activities over the no notification threshold to public structures only. Larger private access structures may be authorized through the standard (individual) permitting process on a case-by-case basis.

Comment: Why was the exclusion for construction in State Scenic Rivers removed ? It needs to be reinstated.

Response: The language excluding coverage under the general permit for structures along State Scenic Rivers was inadvertently left off as part of the revisions to the General Conditions common across all of the ARAP general permits. We have corrected this error.

Comment: In Special Condition #1, we recommends substitution of "length" for "width" of fill.

Response: The Division intends for the 20 foot limit to apply to the distance as measured along (parallel to) the stream bank, and believes the term "length" may be confused with the length a ramp may extend into the stream channel. We have added additional language to clarify this.

Comment: We recommend that using a length of 25 feet along the stream would be more consistent with the Minor Road Crossings ARAP. Instead of not allowing a length along the bank of more than 25 feet under the General ARAP, the permit should instead make up to a 25-

foot impact a non-notification permit, with General ARAP notification required for ramps wider than 25 feet up to perhaps 50 feet length along the bank before requiring an Individual Permit, at least for those constructed by a governmental agency. These ramps are frequently of minimal water quality impact, and those constructed by governmental agencies typically help provide or enhance a stream's classified use for recreation.

Response: The Division believes that 20 feet represents an adequate impact zone to accommodate most of the minor public access structures this general permit is intended to cover, and that projects requiring a larger scale of impact can be addressed through the standard (individual) permit process, including justification for the need for a 40 -50 foot wide launching ramp. The enhancement of the public's recreational use of waters provided by structures built by government agencies is already reflected in the coverage for public access structures this general permit provides for.



Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Construction or Removal of Minor Road Crossings

Comment: It is not appropriate to include endwalls in the calculation of extent of cumulative impact, unless they are U shaped endwalls.

Response: The cumulative impact a minor road crossing structure has on the water resource includes the endwalls, wingwalls, and other transition areas of the structure. These additional protection areas are a necessary component of the road crossing structure and are integral to a properly functioning culvert, box, pipe or bridge. These transitional parts of the structures function as retaining walls for stability of the roadbed, soil, and protection for the culvert. These structures do not provide any significant habitat nor are their impacts temporary. To protect their integrity, these areas are regularly repaired, replaced, or maintained with riprap, debris removal, and other maintenance activities. Therefore, the Division considers the inclusion of the endwall transition areas, which have no independent utility except as a part of the crossing structure, as justified when determining the cumulative length of impact a crossing has at a specific site.

Comment: We have agreed for a long time with the cumulative adding of stream crossing lengths along a single stream to reach a threshold of 200 feet. However, we are concerned that the 200-foot length threshold should apply to any stream crossing occurring in a Stream Catalog Unit. For cumulatively adding all crossing lengths in a Stream Catalog Unit, we recommend that the threshold should be far higher than 200 feet.

Response: Cumulative impacts are defined as the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions...” Rule 0400-40-07-.03(13). General ARAP Permits can authorize impacts that if incrementally implemented may have the potential to cumulatively result in a loss of resources. To avoid a loss of resources without off-setting mitigation, public notice, or appropriate review under the antidegradation Rule, the division has historically determined that a threshold length of less than 200 linear feet of culvert is singularly or cumulatively a de minimis impact. While the scale of water resource this de minimis threshold would be applied to was described with the arguably vague term “within a single stream” in the previous Minor Road Crossing general permit, in 2014 the Division more clearly defined the resource scale at which the cumulative effects of all impacts to habitat integrity would be evaluated in a clarification document entitled “Clarification on Cumulative Impact Assessment and Aquatic Resource Alteration Activities Associated with a Common Plan of Development” (attached as Appendix A). For reasons described in more detail in this document, the Division believes applying the mandate in Rule to evaluate the potential for the overall impacts from a project to result in net loss of water resource value is most appropriate at the Stream Catalog Unit scale.

Comment: We suggest that the Federal Government’s criterion for road crossing impacts qualifying for a USACE Nationwide Permit is more appropriate - that for linear transportation

crossings, which are being created for the public good, each crossing should be considered a single and complete project in the General ARAP program.

Response: While the Division concurs that linear transportation projects are intended for the public good, this consideration is reflected in the Division's overall review of the proposal's socio-economic justification, and is required to authorize any impacts to water resources. The purpose of a project does not inform the degree, individually or cumulatively, of the resulting impacts or loss to the State's water resources, it simply justifies the authorization of those impacts necessary for that project. The division has elected to use the Federal Highways guidance for road projects that require environmental review as the defined area for the state's definition of linear projects considered a Common Plan of Development.

The Federal Highway Administration regulations outline three principles in 23 CFR 771.111(f) to be used to frame a road project:

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
- Have independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and
- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Based on these principles, and the reasoning outlined in "Clarification on Cumulative Impact Assessment and Aquatic Resource Alteration Activities Associated with a Common Plan of Development" the Division believes it most appropriate to define the Common Plan of Development for linear projects as being from logical termini to logical termini, with the associated impact points addressed cumulatively if within the same Stream Catalog Unit.

Comment: We recommend that TDEC define the countersinking process. It is our understanding that this is where the riprap is forced into the streambed to the proper elevation. We recommend that an over-excavation option be available when the proper elevation cannot be obtained by countersinking. The effectiveness of filling rip-rap voids with suitable substrate is questionable, compared to natural sedimentation. The stream will naturally place sediment where it is needed over time. In contrast, on a short-term basis, a stream is likely to blow out the material between voids filled as part of the project, until stream equilibrium is reached over time.

Response: The Division agrees with the commenter's definition of countersinking. However the division does not agree with authorizing over-excavation within a general permit, as this process has the potential to disturb the stream equilibrium and promote a condition of destabilization. The Division requires filling the voids of riprap areas with finer material to reduce the risk of localized turbulence and subsequent plucking of or dislodging of larger materials and therefore creating the potential for destabilization of the entire riprap revetment. If the stream substrate is not suitable for countersinking, the dissipation of energy and grade control may not be needed because of near surface bedrock or other compacted bed material. Isolated, project-specific

situations where over-excavation is considered the only alternative can be addressed through the standard (individual) permitting process.

Comment: In reference to Special Condition #8 concerning the removal of a road crossing we question whether this length is included in the 200 foot threshold. We recommend that when a stream is restored by removing a road crossing, any riprap or other measures are needed for stability should not have to be mitigated for or used to require an Individual ARAP

Response: When authorization for the removal of a minor road crossing is proposed, and is performed per the permit conditions, this footage is generally not used in a calculation of cumulative impacts that would represent a net resource loss and therefore require mitigation. The distance would however, in conjunction with any other proposed alteration activities associated with the project, be used in a cumulative evaluation of the total length of stream disturbance within a Stream Catalog Unit. If this exceeds the *de minimis* threshold, this would generally require the overall project to obtain authorization under a standard (individual) permit. In addition, removal of crossings in areas where known threatened or endangered species are found, or in resources considered ONRWs and/or State Scenic Rivers may require coverage under an individual permit.

Comment: We recommend the “not covered” language concerning wetland impacts used in the 2010 ARAPs be retained instead of using the word “prohibited,” which could be interpreted to mean it is not even allowed under an Individual Permit.

Response: The Division agrees with the commenter, and will change the word “prohibited” back to “not covered” in Special Condition #3, and General Condition #4.

Comment: In the Obtaining Permit Coverage section, we recommend changing “total width of disturbance to the stream channel” to “length of disturbance along the stream channel”.

Response: The Division agrees with the proposed changes.

Comment: Item 1 in Special Conditions requires clarification. Does the 200 feet length limit apply per stream bank or combined?

Response: Special Conditions Item 1 allows up to 200 total linear feet of channel disturbance, individually or cumulatively, per Stream Catalog Unit. The 200 feet does not separately apply to each bank in terms of a cumulative calculation.

Comment: Item 2 in Special Conditions should include additional language explicitly stating this general ARAP cannot be used when the road crossing is a component of a larger project or activity covered under an individual permit (e.g. residential developments and mining).

Response: This is covered under the General Conditions, Item 2.

Comment: Prohibit application of this general permit to waters impaired for siltation or habitat alterations. Those applying to construct or remove road crossings on waters impaired for siltation or habitat alterations would have to seek individual permit coverage to ensure no further degradation results.

Response: This permit with its governing conditions is intended to only authorize impacts associated with minor road crossings which, individually or cumulatively, will represent no more than a *de minimis* level of additional degradation to water resources. This level of additional impact is allowable under the Department's Antidegradation Rule, even for waters currently impaired for siltation or habitat alteration. For applications that propose more than *de minimis* degradation an individual permit and full antidegradation review would be required.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Emergency Infrastructure Repair



Comment: GP should include a requirement to return any disturbed area to prerepair condition when feasible.

Response: This provision was present in the previous general permit, and the Division agrees the addition of this language is appropriate in the new general permit.

Comment: Please clarify in Special Condition 1 when the 48 period begins.

Response: The 48 hours was intended to begin from identification that an emergency condition exists. We have added language to clarify this.

Comment: Under Special Condition 1 could the term “Public Entity” be added to the “public highway or transportation department?”

Response: The noticed language in the new general permit was expanded from “chief administrative officer of the public highway or transportation department” to a broader list consisting of the “chief administrative officer of the utility, public works, public highway or transportation department”. We believe this list, plus the inclusion of the “designee” language described below, adequately inclusive of personnel with administrative authority over the types of infrastructure designed to be covered under this permit.

Comment: Under Special Condition 1 could the term “or their designee” be added after “chief administrative officer.”

Response: The Division concurs and had added language indicating that it is acceptable for chief administrative officers to delegate authority for obtaining coverage under this permit to subordinates.

Comment: The length limitation of 300’ in Special Condition 3 should be eliminated in favor of the language in Special Condition 6. Since by nature an emergency is unpredictable in timing as well as breadth.

Response: General ARAP permits are intended to cover activities that could potentially represent only a *de minimis* level of impact to water resources. In situations where an imminent threat to public infrastructure posing immediate danger to public health, safety, or the environment exists, and requires a larger scale of repair, or more extensive alterations than the GP allows, the activity may be authorized by the Commissioner under the emergency permitting provisions already existing in Rule 1200-4-7-.04 (4)(4).

Comment: Due to the nature of the impact channel widening or realignment (prohibited in Special Condition 7) may be incidental to the required minimum necessary to make the

appropriate repair. Could this prohibition be removed or amended to reflect this eventuality? Could the word “Unnecessary” be added to the beginning of this sentence?

Response: The Division concurs that if incidental widening or realignment actions are specifically necessary to abate the immediate threat to public safety, they may be authorized under this permit, and has added such language. It should be noted that all repair activities must be limited to address the imminent threat, and if further work may be needed at a later date to effect a more permanent solution, that work should be proposed and authorized through the standard ARAP permitting process.

Comment: The General Conditions section is not applicable to emergency situations as it would conflict with other planned permit activities. This section should be stricken entirely.

Response: The General Conditions set baseline parameters on what the Division deems the minimum protections that should be considered on any activity within the waters of the state. However, the Division agrees that Condition 4 and Condition 6 should be modified to be more applicable to the activities intended to be covered by this permit.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Gravel Removal



Comment: A cumulative cap is necessary to ensure significant habitat is not impacted through several small dredging activities. The total dredge amount from different permittees should be capped for each stream segment.

Response: The Division concurs with the need to ensure that the cumulative impact from any type of alteration activity, including gravel removal, does not result in a loss of resource value or a condition of pollution. However, we believe that limitations and conditions built into this general permit, including an annual cap of only 50 cubic yards per farm or residence, will ensure that activities properly conducted under this permit will not result in a greater than *de minimis* impact. Additionally, General Conditions #2 and #14 specifically prohibit cumulative activities from exceeding a *de minimis* level of degradation or causing a violation of water quality standards. If situations such as this do arise, the Division has the regulatory authority to address them on a case-by-case basis.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Maintenance Activities



Comment: Recommend retaining the 2010 language in the “activities covered” section to read that the allowable limit for sediment removal be 100 feet either above or below a structure.

Response:The proposed limitation in the new permit still allows for the removal of accumulated sediment and debris for 100 linear feet of stream length as was the original intent, but specifies this length be divided evenly along the channel 50 feet above and 50 feet below a structure. This was intended as a clarification of the previous general permit, which contained the imprecise provision that sediment removal “*for a distance greater than 100 feet up and down the stream from a culvert or bridge are not covered*”. However, the Division recognizes that maintenance to address accumulated bed material may be better served by allowing the 100 linear feet of cumulative stream work to be performed using any combination of linear footage from upstream or downstream of the affected structure, and has made changes in the permit language to reflect this.

Comment: Request TDEC clarify special condition 1 to specify whether length of culvert or pipe increase would include additional end of pipe stabilization.

Response: The activities covered by this permit as written in the first section allows for the placement of up to 25’ of clean rock fill for stabilization at up and down stream sides of an existing structure. This fill would not be considered an increase in the length of the existing pipe or culvert, and therefore would not violate the Special Condition 1. Activities that structurally extend the full or partial encapsulation itself, such as additional wingwall extensions, would be prohibited and not considered maintenance activities. We have added the word “structure” to further clarify this.

Comment: Under “obtaining permit coverage” describe what TDEC means by rock fill placement.

Response: The fill is any type of clean, loose, natural material (clay, gravel, riprap) placed in a degraded bed or bank within 25’ of a structure to correct erosion, headcut or undermining of the surrounding bed or bank parent material. It does not include other hard armoring techniques such as concrete or grouted riprap.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Minor Alterations to Wetlands



Comment: I would like to suggest that some thought be given to the definition for "low resource value wetlands" and "degraded wetlands". My concern goes to the fact that the very same definition used to define the wetland to be done away with via the permit, could also be used to define the larger adjacent wetlands. If the water resource value of the larger wetland is evaluated as degraded or low value, what would stop an applicant from digging a ditch that impacts .10 an acre or less of wetland and draining a 100 acre "low value wetland". I am sure some type of limiter can be written into the language here. Special condition one mentions "high resource value" and "rare wetland types", so I am sure there is a gradient here. However unless the overall impact of the permitted action that impacts the .10 or .25 cumulative, is limited to that area alone with no value judgment being made to adjacent wetland that might be drained by the act, you may create a permit for a lot of wholesale wetland drainage. I would offer this language as a possible limiter for the permit: ... "but only for wetlands that are degraded, of low resource value, or in situations where the proposed partial fill would result in no significant change in the water resources value of the larger wetland regardless of its' characterization."

Response: Low resource value will be defined as wetlands that score below a threshold defined by a Division-approved wetland assessment methodology such as the Tennessee Rapid Assessment Methodology (TRAM), or in some cases by the best professional judgment of Division staff. Currently a TRAM score of 40 and below is considered to represent low resource value, with a score of 41-75 representing moderate resource value. TRAM scores above 75 are considered high resource value and must also be assessed for Exceptional Tennessee Waters status.

Special condition #5 is designed to address the indirect impacts to a portion of a larger wetland, or wetlands and streams that are adjacent to the direct impact site. Given this and other similar comments, we have added some clarifying language to make the intent more clear. Also, the proposed general permit language in the Activities Covered by this Permit section stipulated that certain larger amounts of impacts "*may also be authorized, but only for wetlands that are degraded, of low resource value, or in situations where the proposed partial fill would result in no significant change in the water resource value of the wetland.*" Here again we have reworded this section to better reflect the intent that the impact acreage of a wetland when determining a *de minimis* threshold appropriate for general permit coverage must be measured based on the overall acreage of degradation to the water resource value of the individual or larger wetlands, including reducing and extending the hydroperiod of a wetland to the point of net loss of resource value.

Comment: Does special condition 1 mean that an antidegradation/tier evaluation will have to be performed on each Minor Wetlands Alteration application? Will the EFOs be required to use TRAM to evaluate all wetlands that are proposed for alteration on a project to make sure they are not of high resource value or rare wetland type ? I understood that *de minimis* project such as those we authorize under GPs and would not have to be evaluated.

Response: Both the limitations described in Activities Covered by this Permit section, and Special Condition #1 will mean that in most situations the wetlands proposed to be altered will need to be evaluated for their current resource condition and antidegradation status before a General Permit can be issued. Special Condition 1 reflects the same basic concept as Condition 1 in the 2010 General Permit which stated “*Activities that impact wetlands that represent a high resource value as compared to others within the ecoregion are not covered*”, and to further clarify Special Condition 1 we have additionally listed some examples of wetland types the Division has determined fits into this category. For all of the permit conditions and limitations related to condition or status, wetlands have been, and should continue to be, evaluated based on the Water Quality Standards and division approved assessment methodology such as best professional judgment with justification, or the use of Tennessee Rapid Assessment Methodology. The determination that the authorized activity will in fact only represent a *de minimis* resource loss is in most cases contingent on an evaluation of resource value.

Comment: I would suggest just limiting the permit to 0.10 acres total for each project. We have seen several projects that have had single wetlands slightly over 0.10 acres in size which require individual permits while other projects have had multiple wetlands less than 0.10 acres in size but cumulatively less than 0.25 acres that can get GP coverage. It has been hard to explain to the individual permit applicant why they need to mitigate for a project that result in less cumulative impacts to wetlands.

Response: The resource value of the wetlands, individually or cumulatively, informs what the acreage limit for *de minimis* degradation allowed under a general permit should be. This is to better adhere to the division’s mandate for no net loss of water resource value. We have tried to reword the new language somewhat to provide better clarification that an applicant may fill 0.25 acres of wetland individually or cumulatively under a General Permit if the resource value is low, but is restricted to only 0.10 acres total when impacting moderate resource value.

Comment: In Special Condition #6, the top 12” of topsoil is to be stockpiled then spread at the end of the project. Do they need to replace it to the 12” original depth or is there any minimum depth needed?

Response: Special Condition #6 specifies that the pre-construction contours and elevation should be restored for temporary impacts. As a result of this condition when 12” of topsoil is removed, theoretically close to 12” of topsoil should be restored. The goal of this condition is to ensure any impact to the wetland hydrology, which is greatly affected by contour and elevation, is indeed temporary, and to restore the seed bed to the wetland.

Comment: We recommend that any acreage impact limits refer only to permanent alterations and requests removal of the term “temporary”

Response: The addition of temporary impacts to this general permit will allow stakeholders such as transportation infrastructure and utility companies to avoid the cost and time associated with procuring an individual permit for small temporary impacts below the defined thresholds thereby facilitating the permitting process when *de minimis* temporary impacts are involved.

Assurance that impacts to larger or unlimited areas of wetlands were indeed temporary and therefore de minimis in scale and/or temporally would necessitate monitoring conditions and success criteria inappropriate for a general permit.

Comment: We recommend that “cumulative alterations” only refer to permanent alterations and not include temporary alterations.

Response: See above response. Monitoring and success criteria needed to document that conditions were fully restored to pre-impact conditions would often need to be site-specific and therefore not appropriate in a general permit.

Comment: We request that TDEC explain what rationale initiated the proposed change in wording from the 2010 General ARAP, within the Activities Covered by this Permit section.

Response: The wording of this section in the 2015 wetland alteration general permit has been changed to clarify that temporary wetland alterations may also be covered, and has expanded the allowable amount of impact to include up to 0.25 acres of low resource value wetlands, individually or cumulatively and 0.10 acres of moderate resource value wetlands, individually or cumulatively. Impacts to water resource value is the focus of the protection of waters of the state. The language is being clarified in the permit to better define the limits of *de minimis* degradation allowable under a general permit, resolve any inconsistencies and confusion in the permit’s application, and to prevent net loss of water resource value as required by law.

Comment: In reference to Special condition #5, We are concerned how TDEC will determine that hydrologic alteration to adjacent wetlands has occurred such that the method is scientific based and repeatable. We recommend that clarification be included in the permit or that the language is removed. Please clarify how to include impact acreage calculation.

Response: In an effort to clarify the intent and application of this provision, the Division has crafted more specific language centered around causing “measurable degradation to resource value and classified uses”. Through the division’s existing definitions of degradation, its Water Quality Standards, and assessment methodologies used to determine use support and resource value, we believe the division can accurately and consistently evaluate a water resource to determine if an activity has resulted in, or is likely to result in, impact beyond the authorized work footprint. Any necessary impact calculation would be based on the cumulative amount of additional resource degradation to adjacent water resources, in a manner analogous to any resource degradation evaluation made by the division through its ARAP program. .

Comment: In reference to Special condition #5, we recommend changing “impacted by” to “adversely affect the resource value and classified use.

Response: As part of more clear wording of this condition, we have changed “impacted by” to “cause measurable degradation to resource values and classified uses”.

Comment: In reference to Special Condition #6 , change vegetation stabilization from 15 days to 14 days.

Response: The Division concurs with this change.

Comment: Prohibit application of this general permit to wetlands immediately adjacent to waters impaired for siltation or habitat alterations. Those applying to impact wetlands adjacent to waters impaired for siltation or habitat alterations would have to seek individual permit coverage to ensure no further degradation results.

Response: Special Condition #5 is intended to require any measurable degradation to an adjacent stream and wetland be included in the cumulative impact evaluation, which must remain below a *de minimis* threshold to be authorized by the general permit. This applies to all adjacent streams and wetlands, not just those impaired for siltation or habitat alteration. The Division has reworded this condition to clarify this intent.

Comment: Prohibit the use of this permit in a watershed (8-digit HUC) that has experienced a wetland loss of 50% or higher using the most reliable historical data. Assessed in the early 1990s, Tennessee has lost about half of its wetlands as a result of fills for development, agriculture, mining, and other activities. The continued loss of wetlands and their beneficial functions, even minor, threaten the integrity of an entire watershed.

Response: We agree with the concerns you address. The division is currently updating the department's Wetland Program Plan, as part of our continued efforts to protect and prevent wetland resource loss. We are focusing on improving monitoring and assessment, water quality standards, and regulatory requirements concerning wetland protection. As our current database and mapping capabilities become more robust, quantification of overall wetland loss may be more feasible. . There is currently no reliable quantitative real-time data on wetland loss by watershed. An historical and current wetland map would be needed for each watershed and the aerial boundaries can be difficult to define without ground-truthing.

Comment: Retain the language from the current permit to prohibit the use of this permit for wetlands that are adjacent to waters of the National Wild and Scenic River System, Outstanding National Resource Waters or Exceptional Tennessee Waters.

Response: The Division considers these designations to have been included within the category of wetlands with "high resource value", but will more explicitly include them under Special Condition #1.

Comment: Clarify the language to describe the allowed activity.

Response: The division has attempted to add clarifying language describing the types and scale of activities that may be authorized under this general permit in the Activities Covered by this Permit beginning section. Some of the Specific and General permit conditions that follow this section provide additional information as to where these activities may be restricted due to site-specific issues, such as the presence of Threatened or Endangered Species, or located in Outstanding National Resource Waters.



General Aquatic Resource Alteration Permit for Minor Dredging and Filling

Comment: Add “or wetlands” after “flowing systems” in the final sentence of the first paragraph.

Response: The Division concurs with this comment and has added “*jurisdictional wetlands*” in addition to “*flowing systems*” to further clarify the limitations of the Minor Dredging and Filling General Permit. This general permit already included the language under general condition 6 which states “*Activities that directly impact wetlands or impair surface water flow into or out of any wetland areas are prohibited*” and under special condition 6 which states “*Material may not be placed in a location or manner so as to impair surface water flow into or out of any wetland area.*”. TDEC agrees that adding wetlands to the Activities Covered by this Permit section will further clarify and reinforce these conditions.

Comment: A reservoir bank width cap should be included in this general ARAP.

Response: The Division concurs with this comment, and has included a disturbance limitation length of 200 linear feet of shoreline in Special Condition #1 to remain consistent with the accepted level of *de minimis* activity in other general permits.

Comment : Provide more clarification on what type of fill activities are intended to be authorized by this permit.

Response: The Division has added clarifying language to the “*Activities Covered by this Permit*” section to better describe applicable fill activities.

Comment: Remove general condition language that is not applicable to the permit to avoid confusion.

Response: The Division has removed the following general conditions that are not applicable to the activities covered under the General Permit for Dredging and Filling:

#10 “Backfill activities must be accomplished in a manner that stabilizes the streambed and banks to prevent erosion. All contours must be returned to pre-project conditions to the extent practicable and the completed activities may not disrupt or impound stream flow.”

#11 “The use of monofilament-type erosion control netting or blanket is prohibited.”

#15 “Erosion prevention and sediment control measures must be in place and functional before any earth moving operations begin, and shall be designed according to the department’s Erosion and Sediment Control Handbook (www.tn.gov/environment/wpc/sed_ero_controlhandbook/). Permanent vegetative stabilization using native species of all disturbed areas in or near the stream channel must be initiated within 15 days of project completion (see also Landscaping with Natives at tneppc.org). Non-native, non-invasive annuals may be used as cover crops until native species can be established.”

#17 “Temporary stream crossings shall be limited to one point in the construction area and erosion control measures shall be utilized where stream bank vegetation is disturbed. Stream beds shall not be used as linear transportation routes for construction equipment, rather, the stream channel may be crossed perpendicularly with equipment provided no additional fill or excavation is necessary.”

#3 The former general condition 3 which read: “Clearing, grubbing, and other disturbance to riparian vegetation shall be kept at the minimum necessary for slope construction and equipment operations. Unnecessary riparian vegetation removal, including trees, is prohibited. Native riparian vegetation must be reestablished after work is completed. Coverage under this permit does not serve to waive any local riparian buffer protection requirement, and permittees are responsible for obtaining any necessary local approval.” has been changed to Special Condition #7 and now reads “Clearing, grubbing, and other disturbance to riparian vegetation is prohibited. Coverage under this permit does not serve to waive any local riparian buffer protection requirement, and permittees are responsible for obtaining any necessary local approval.”

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Sediment Removal and Stream Remediation



Comment: Sediment Removal and Stream Remediation: In Special Condition #1, the word “were” should be “where”. Special Condition #3 paragraph font and alignment is not like 1 & 2.

Response: The Division concurs and will correct these minor typographical errors.

Comment: We believe TDEC should prohibit application of this general permit to waters impaired for habitat alterations. Those applying to correct for sediment discharges on waters impaired for habitat alterations would have to seek individual permit coverage to ensure no further degradation results.

Response: This permit with its governing conditions is intended to only authorize temporary impacts associated with the remediation of recent and inadvertent sediment releases which, individually or cumulatively, will represent no more than a *de minimis* level of additional degradation to water resources. This level of additional impact is allowable under the Department’s Antidegradation Rule, even for waters currently impaired for habitat alteration. For remediation activities that would represent more than *de minimis* level of additional degradation an individual permit and full antidegradation review would be required.

Comment: Item 14 under General Conditions should explicitly state “The discharge of additional sediment is prohibited.”

Response: The Division believes the addition of this language would be redundant, and notes that the explicit intent of the authorized activity must be to remove sediment. Any additional discharge of sediment would not be covered under the existing permit conditions.

Comment: We recommend that Special Condition 1 say for “sole” purpose of flood control. One could argue that a lot of sediment removal is done for flood control.

Response: The intent and use of the permit is defined under the [Activities Covered by this Permit](#) section. Over-excavation of sediment for flood abatement is not one of the activities covered, even if it coincides with an inadvertent release of sediment. The addition of “sole” to Special Condition #1 may imply that this permit could be used for flood control if paired with another purpose.

Comment: We are concerned that the way General Condition 6 is written it appears to require sediment removal from a wetland to require an individual permit, which is detrimental to the goal of this ARAP, which is to quickly remove sediment before it migrates or causes more than the initial harm. Please strike language in General condition 6.

Response: The Division’s intent is not to require an individual permit for all sediment remediation activities that may occur in a wetland area, and will clarify this condition by

changing “directly impact” to “adversely affect” and adding “permanently” to impairment of surface flow.

Comment: We recommend that e-mail be an option for notification if there is no response from telephone. We question whether this notification is intended to be to the Central Office or EFO. We recommend defining “notified” as verbal or e-mail communication. We recommend that TDEC specify when work can start and if it is commencing concurrent with application preparation?

Response: The Division concurs that email notification from the applicant is acceptable and will include this language, however, it should be noted that commencement of work may not begin until the applicant has been notified by the Division that the proposed activities are conditionally approved. Applicant may provide notification to the Division at either the Central or Field Office level. The Division concurs with the recommendation that conditional authorization to proceed may be communicated verbally or by email, and has added clarifying language. We will also add clarifying language indicating work may commence immediately after receiving the Division’s conditional approval, proceeding concurrently with the “preparation” of the NOC application (as outlined in [Obtaining Permit Coverage - Step #2](#)).

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Surveying and Geotechnical Exploration



Comment: Regarding General Condition #5 - *Activities that directly impact wetland resource value, or impair surface water flow into or out of any wetland areas are prohibited.*

Will drilling activities within any wetland now require an Individual Permit with regard to this revised language? Previous permit wording: *Activities that “adversely affect” wetlands are not covered.*

Response: It was not the Division’s intent to eliminate use of this general permit in all wetlands, and we have changed the language back to “adversely affect”. In addition, the draft wording “directly impact” may not have regulated indirect impacts that cause a net loss of water resource value, which is the Division’s intent.

Comment: There should be a cap on the size of the “scientific measurement devices” placed in a waterbody to ensure the project does not result in significant impacts to stream banks or aquatic life.

Response : The Division believes that the level of potential impact for activities intended to be covered by this general permit are not necessarily directly correlated to the size of the device itself, but more closely aligned with the methodologies and BMPs related to their installation and removal. The specific and general conditions that must be followed are designed to be protective of the water resources, and “significant impacts to stream banks or aquatic life” are directly prohibited by General Conditions #1 and #14. We have also added a Special Condition that clarifies the maximum area of disturbance allowable, previously only alluded to in General Condition #1 provision that greater than de minimis degradation is not authorized.

Comment: The general permit should require the restoration of any in-stream, streambank, or wetland disturbance when equipment and devices are temporarily or permanently removed.

Response : Although aspects of this concept are covered in some of the General Conditions, especially condition #9, we have added more direct language to this effect as a Special Condition.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Utility Line Crossings



Comment:

What is the basis for limiting directional bores to 10 crossings, especially if these are not on the same stream? Limiting the number of directional bore crossings under the general permit (for a project that exceeds 10 crossings) may have the unintended consequence of causing the applicant to choose to do all the crossings via open cut trench because that method is less expensive and any incentive use open cut under general permit is lost.

Response: In the case of horizontal directional drilling techniques that follow the conditions and BMPs described in the permit, we agree with this comment and have removed the limit of 10 crossings. The intent of limiting the number of crossings is to define a threshold where the potential for a greater than de minimis impact may exist. After review, we conclude that if a horizontal directional drill is executed properly, then a larger number of crossings could be done and still cause no more than a de minimis impact.

It is important to distinguish horizontal directional drilling from other forms of trenchless techniques such as jack and bore and auger boring. Both of these techniques require underground or pit entry points that would typically be located closer to the waterbody. These techniques have impacts more closely aligned with open cuts and therefore should be limited to five crossings under general permit.

Comment : For Special Condition #4, we recommend the language “per utility per stream” placed within the text, but otherwise question whether TDEC means 10 crossings per stream, stream “unit”, utility, or project?

Response : See above response. Based upon comments, the division has removed the 10 crossing limit for horizontal directional drill techniques.

Comment: Providing as-built drawings will be difficult for the field office to maintain and file. Are as-builts provided to the plans review section? If so, then the field office could ask for a copy of those if a problem arises.

Response: The as-built drawings are required only for gravity sewer installations. The as-built requirement is to ensure the permit BMP conditions were followed, including the adequate installation of the trench plugs which are essential to avoid the creation of a preferential flow path and the subsequent interception and capture of ground and surface waters. As-builts are not currently provided to the division’s plans review section, and therefore this requirement was placed into the ARAP permit.

Comment : We recommend that the requirement to submit as-built records for gravity sewer line installations be deleted. The value of as-built information to TDEC NRU is unclear, and this information does not enhance water quality. ARAPs already require that projects be built per the plans submitted with the permit application, so as-builts are unnecessary. The timing would also be problematic for large projects for which as-builts would not be prepared and filed until the entire project is completed.

TDOT does not require as-builts for any utility installation. A different unit of TDEC requires the utility to submit design plans for water and sewer as part of the TDEC requirement for utility approvals. They have the policing authority to require the utility as part of that design review and authorization to provide as-built plans if they so choose, so additional enforcement through an ARAP is considered unnecessary.

If TDOT is tasked with this, there are several repercussions. For example, what if the utility does not provide as-builts to us? TDOT has little or no leverage to require them after construction is complete. If the utility submits as-builts to TDOT that are incorrect, who is responsible? How would TDEC NRU propose to enforce this, given that a different unit has the authority under law?

Response : See above response which relate to some aspects of this comment. Additionally, the division believes the compliance assurance aspect of this requirement will result in the protection of water quality. Gravity sewer lines have been of particular concern due to the potential for very serious water quality impacts if not properly installed, therefore this narrow class of utility line projects has had this additional requirement added. Submission of as-built would not be required until 45 days after project completion, even for large projects. It is TDOT's, or any permit holder's responsibility to ensure their contractors adhere to all permit conditions, including the submission of correct as-builts. A contractor's refusal or submittal of incorrect as-builts is materially no different than a contractor's refusal or incorrectly following any of the other permit conditions, and TDOT should have the leverage to ensure all permit conditions are followed. Finally, the division's authority to enforce on violations of the terms and conditions of a permit is not delegated to any specific unit.

Comment: The separation of water and sewer lines should be addressed in the plans review process and not the ARAP permit process. We rarely do co-location, and utilities do not prefer that solution. But it needs to be an option where there is very limited property access to relocate utility facilities. In some circumstances, the real estate is extremely tight and the only solution is for the same trench installation of water and sewer. We do not see utility co-location as a stream or wetland water quality issue, but offers that a single trench is less environmentally intrusive than two separate trenches.

Response: We agree that the separation of water and sewer lines should be addressed in the plans review process as a matter of public health, and that this issue does not factor into the

water quality certification considerations that ARAP general permits are intended to address. Therefore the division will delete this provision.

Comment: Clay trench plugs in gravity sewer trenches are not needed in west Tennessee because the soils are silty clays and trench plugs are not needed. Please delete this requirement for west Tennessee as it is an unnecessary requirement adding additional costs for no benefit.

Response: The requirement for the installation of trench plugs is aimed at preventing the creation of a preferential flow path for water within the bedding and backfill of newly constructed trenches. Inflow and infiltration is a direct result of water following gravity sloped sewer trenches within the bedding and backfill. Gravel or shot rock bedding may be used for bedding or backfill in trenches even in West Tennessee, creating the potential for streamflow capture.

In addition, because of concerns for incomplete compaction around pipes, the division has determined that clay, or West Tennessee silty soils are not suitable materials to effectively plug a trench. Therefore, we have modified that condition to require the use of flowable fill instead for the installation of trench plugs.

Comments: We question the length of clay plugs to be installed and whether specific industry standards are to be used. The specifications for clay trench plug need to be further developed to include length, compaction rate, and elimination of gravel bedding within the plug area.

Response: TDEC agrees with the commenters' concerns over clay trench plug specifications, and as stated in the previous response, has determined that flowable fill trench plugs are more appropriate due in part to issues involved in compaction and bedding. Additionally, we have added language clarifying the length of the trench plugs should be at least ten feet.

Comment: The proposed limitation stated as "up to 3 crossings" is unnecessarily vague and could be easily misconstrued in the field. This language should be redrafted to clarify, for example, whether the three authorized crossings are limited to the entire length of the project, are inferring a single location, etc.

Response: The provision that allows up to three crossings with no notification applies only to horizontal directional drilling (hdd). This would generally equate to three bore holes in the case of hdd. Therefore to help clarify, we have added the term *boreholes* in parenthesis to read: "Up to 3 crossings (boreholes) utilizing horizontal directional drilling, provided..." The three crossing limit on activities that may be authorized under the no notification sub-category of the permit, as with all activities covered under any general permit, applies to the entire extent of a project (in this case, the entire length of the utility line installation). In most cases these crossings will involve different locations, but could theoretically be in close proximity to one another if different boreholes were utilized.

Comment : The condition “up to 5 crossings” is unclear and should include additional limitations. For example, limitations should be set on the permissible width of each crossing, preferably to establish a maximum width for each crossing with a cumulative limit disturbance to waters of the state.

Response: Activities covered by general permits are subject to various limitations and conditions that are designed to limit the scale and degree of impact to no greater than a de minimis level of degradation to water resources. For utility line crossings, the potential for water resource loss is based primarily on the cumulative number of crossing points and the installation techniques proposed, and not as much on the width of each crossing point. The division believes for projects using open-trenching, jack-and-bore, or auger boring an appropriate threshold for the potential to exceed de minimis degradation is 5 crossings. For more information on the rules and policy involved in de minimis evaluation, please see ‘Clarification on Cumulative Impact Assessment and Aquatic Resource Alteration Activities Associated with a Common Plan of Development’ included as Appendix A.

Comment : Why are projects using open trenching techniques limited to 5 crossings? Please provide further clarification.

Response: Please reference the above response.

Comment: Special Condition #11 states: “[T]he excavation and fill activities associated with utility line crossing may be accomplished within the water column.” We are unclear what is inferred here by “within the water column.” We suggest revising this language to better clarify the parameters of this condition.

Response: TDEC agrees to change the language to be clearer. The condition will now read “...may be accomplished within the flowing water.”

Comment: Under Special Condition #12 for Maintenance, repair and rehabilitation of existing utility lines, the proposed new language omits the following prohibition: “Fill activities for the construction of equipment access roads are not authorized in wetlands.”

Instead the proposed new language is revised to state: “[T]otal amount of excavation or fill within wetlands, including equipment access roads does not exceed 50 cubic yards.”

Although the practical application of this newly revised condition limits all fill in wetlands to 50 cubic yards, we are concerned with the omission of any unauthorized access for construction equipment. The concern here is not only the temporarily fill of wetlands, but also the placement of equipment within a wetland due to the high risk for accidental spills of fuel and other hazardous materials. We strongly advise TDEC to reconsider this omission to better protect these wetland resources.

Response: TDEC agrees with that access roads should be temporary and should be restored after maintenance activities are concluded to better protect wetland resources. Therefore, we have added the term “temporary” in reference to construction access roads and have added a standard condition regarding post-project restoration of affected wetlands.

Comment: Prohibit application of this general permit for new utility line crossings to waters impaired for siltation or habitat alterations. Those applying to install utility line crossings on waters impaired for siltation or habitat alterations would have to seek individual permit coverage to ensure no further degradation results.

Response : The limitations and conditions built into this general permit, especially the prohibition of blasting near the streams and other BMPs designed to reduce the risk of streamflow capture, will ensure that activities properly conducted under this permit will not result in a greater than de minimis impact. Additionally, General Conditions #2 and #14 specifically prohibit cumulative activities from exceeding a de minimis level of degradation or causing a violation of water quality standards.

Comment: Special Condition Item 9 should read “...avoid permanent alteration or damage to the integrity of the stream channel or wetland.”

Response: The division concurs that this condition was intended to also apply to wetlands and has added the suggested language.

Comment: The Special Conditions should address the requirement to restore the water resource to preimpact condition as much as feasible.

Response: General Condition #9 was intended to address this concern, but the applicable language “All contours must be returned to pre-project conditions to the extent practicable” was inadvertently left off of the draft permit. It has been corrected.

APPENDIX A

Clarification on Cumulative Impact Assessment and Aquatic Resource Alteration Activities Associated with a Common Plan of Development

TDEC has an overarching responsibility to ensure that impacts to waters of the state, as approved via permits issued, do not result in a net loss of water resource value. TDEC achieves this when impacts approved through permits are either de minimis, or compensatory mitigation is required to offset the loss of the resource value when the impacts are greater than de minimis. Persons who wish to conduct an activity that may impact a water of the state must first employ all efforts to avoid and minimize such impacts. If, after all avoidance, minimization, and full alternative analysis impacts to the waters are determined to be necessary, mitigation must be proposed to offset lost resource value.¹ Further, no activity can be authorized by the Commissioner unless the mitigation is sufficient to result in no overall net loss of resources.²

In making a decision on any permit application, the Commissioner “shall determine the lost resource value associated with a proposed impact and the resource value of any proposed mitigation”³ including the following factors:

1. direct loss of stream length, waters, or wetland area due to the proposed activity;
2. direct loss of in-stream, waters, or wetlands habitat due to the proposed activity;
3. impairment of stream channel stability due to the proposed activity;
4. diminishment in species composition in any stream, wetland, or state waters due the proposed activity;
5. direct loss of stream canopy due to the proposed activity;
6. whether the proposed activity is reasonably likely to have cumulative or secondary impacts to the water resource

TDEC regulations require the Division to evaluate...” *whether the proposed activity is reasonably likely to have cumulative or secondary impacts to the water resource*” for linear and non-linear projects. The cumulative level of degradation of proposed impacts on water resources may exceed a de minimis level, even where each discreet impact point might be considered de minimis if only considered individually. Where a single impact of a given scale might only require coverage under a general permit, multiple impacts of the same scale may require coverage under an individual permit, due to the cumulative effects. Similarly, large linear and non-linear activities often encompass multiple impacts that may, collectively, result in a net loss of water resource value if compensatory mitigation is not utilized to offset or compensate for the impacts. Therefore, TDEC must review applications from larger linear and non-linear activities

¹ Rule 0400-40-03-.04(4)(b), Water Quality Criteria; 0400-40-07-.01(1), Aquatic Resource Alterations

² Rule 0400-40-07-.04(6)(c), Aquatic Resource Alterations

³ Rule 0400-40-07-.04(6)(c), Aquatic Resource Alterations

that propose multiple impacts comprehensively at the outset of permitting to ensure that there is no net loss of resource value from individual or cumulative impacts.⁴ These projects are considered Common Plans of Development (CPD).

For activities that are considered CPDs, understanding the totality of the impacts associated with the entire project at the outset of permitting is critical for Division to assess if the de minimis threshold will be exceeded and an individual permit, and potentially mitigation is needed. If the de minimis threshold will be exceeded and an individual permit is required, the applicant must propose adequate mitigation actions so that there is no net loss of state water resource values

To better address the issue of resource loss with cumulative impacts, the Division will:

1. Require applicants with large projects that have the potential for multiple impacts within the project boundaries to submit a comprehensive project plan (including future phases) with their application;
2. Require applicants to identify all aquatic resources, including wetlands, streams, and creeks within the boundaries of the CPD, and the locations, size and scope of all potential aquatic resource alterations to waters of the state; and
3. Require that multiple impacts within the same Stream Catalog Unit (“Waterbody”) for a project are assessed cumulatively prior to permit issuance for any portion of the CPD.

With the comprehensive plan, the Division will be able to address impacts within a CPD and holistically review the site for the potential to exceed the threshold of de minimis degradation to water resources. The process will allow the Division to ensure no net loss to water resources for both linear and non-linear projects. Further, it will benefit the permit applicant by:

- allowing the applicant to receive coverage at once for all impacts requiring 401 certification; therefore, having one public notice process and one application review time;
- providing reasonable certainty concerning the potential compensatory mitigation needs for the entire site over the life of the project; and
- avoid piece-mealing of impacts under multiple general or individual permits that can create controversy and confusion, and potentially lead to uncompensated loss of the State’s water resources.

The Division will assess cumulative impacts for linear and non-linear projects on the Waterbody scale. This is the same scale the Division utilizes in its bi-annual report to EPA evaluating the overall ecological health and use support of our water resources (“305b report”). Years of detailed evaluation of data collected at this scale highlights these systems’ responsiveness to activities within the watershed that are reflected in the overall condition of that Waterbody. This is also the scale at which TDEC reports the impairment status of water resources to the EPA

⁴ Rule 0400-40-03-.04(4)(b), Water Quality Criteria; 0400-40-07-.04(4)(b), Aquatic Resource Alterations

(such as in the 303d-list), and the level at which the availability or unavailability of additional degradation from pollutants or habitat alteration is assessed.

All impacts within the CPD project boundaries (linear and non-linear) will be covered under an individual permit if any impact, either singularly, or cumulatively within a single Waterbody, exceeds the threshold of de minimis degradation. The amount of compensatory mitigation needed to offset resource loss will be calculated independently for each affected Waterbody. If impacts exceed de minimis in one Waterbody but do not exceed this threshold in another Waterbody, those that do not exceed the threshold will not require additional mitigation. Mitigation will only be assessed to those activities and impact types that require compensation for resource loss as outlined in the Division's Mitigation Guidelines.

An applicant may seek multiple general permit coverage for a CPD if the comprehensive plan and resource impact evaluation shows the activities cumulatively will stay below the minimum threshold for an individual permit.

On linear projects, the Division will use the logical termini as defined by the Federal Highway Administration (for the purpose of environmental reviews) to determine the extent of the CPD. Logical termini for project development are defined as (1) rational end points for a transportation improvement, and (2) rational end points for a review of the environmental impacts. As with non-linear projects, cumulative impacts for a linear project (from logical termini to logical termini) will be assessed on a Waterbody ID scale. Many large scale linear projects will affect multiple Waterbodies within the project boundaries. Each Waterbody will be identified, assessed, and impacts will be calculated based on the cumulative impacts within that Waterbody.



Notice of Determination ARAP General Permits

Regarding the Issuance or Reissuance of Tennessee General Aquatic Resource Alteration Permits

July 23, 2015

This notice presents the final determination of the Tennessee Department of Environment and Conservation, Division of Water Resources, and responds to comments on the proposed General Permits for §401 Water Quality Certifications and Aquatic Resource Alteration Permits.

I. Background

Under *The Tennessee Water Quality Act of 1977*, where the Commissioner finds that a category of activities or discharges would be appropriately regulated under a general permit, the Commissioner may use a general permit to authorize alterations to waters for specific categories of activities that are substantially similar in nature and that result in no more than an insignificant or *de-minimis* degradation of water quality.

Notice of coverage by the division of activities that qualify under general permits also serve as a §401 Water Quality Certification pursuant to the federal Clean Water Act.

Each general permit establishes notification procedures required for approval of a specific qualifying activity. Notice of Coverage by the Division of activities that qualify under general permits may also serve as a §401 water quality certification pursuant to *The Clean Water Act*.

The valid duration of a permit under the *Tennessee Water Quality Act of 1977* is five years. The Department must therefore re-issue or deny the general permits every five years. The existing general permits were issued July 1, 2010 and expired on June 30, 2015. The 2015 draft general permits for Bank Stabilization and Stream Grade Stabilization were advertised for public comments on May 15, 2015. A public hearing was held on June 16, 2015 in Nashville with simultaneous videoconference hearings at seven environmental field offices across the state. The commenting period ended on July 6, 2015. A total of 2 general permits were proposed for re-issuance and subject to public comments.

II. Comments and Responses

The public's concerns and questions, along with the division's responses are supplied in this section. These comments were gathered through the course of public hearings, both verbal and written, along with submittal of written comments through mail, e-mail and fax.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Bank Stabilization
Response to comments



Comment: Per Special Condition #5, the proposed elimination of the use of geotextile material under rock. We know from older sites constructed 15 or so years ago, that over time, sediment is deposited in the rock structures and seed from various vegetation species is dropped along with sediment. Vegetation (trees and shrubs) is more prolific after naturally occurring than if planted by hand. We've shown TDEC multiple locations and pictures of multiple sites with rock riprap revetments and geotextile under it that are absolutely covered up with trees, shrubs, and native grasses. In our experience, the geotextile doesn't prevent roots from penetrating. In our opinion, the quality and quantity of the vegetation is determined by the frequency of the flooding that occurs on the site and the quality of the sediment that is deposited on the rock riprap. We recommend removing geotextile from this bullet statement.

Comment: Does this include products such as flexmat that is a hard armoring concrete blanket that allows for vegetation to grow through but also helps protect the stream from high velocities?

Comment: Several conditions refer to engineering guidance. We request the rationale in limiting the engineering alternatives in this GP. Such limitations could limit the effectiveness of the treatment. The exclusion of the use of geotextile fabric in the GP eliminates most stabilization projects from coverage. Most NRCS bank stabilization projects call for geotextile under the riprap to prevent erosion and undermining of the rock.

Comment : I assume this (Special Condition #5) would not prohibit us from using form filled fabric with "slits" for vegetation.

Response: The division has determined that the use of geotextiles can be authorized for limited use under the terms and conditions of this general permit, primarily in conjunction with hard armoring techniques, and has changed Special Condition #5 to reflect this. The division acknowledges that the necessity to limit the scope, complexity, and potential impact of activities covered under a general permit to *de minimis* may limit the engineering alternatives for projects proposed to be authorized under this General Permit. We are responsible for determining the potential impact projects authorized under general permits have on water quality, habitat, special resources, and the general public. Therefore the division does allow for limited use of hard armoring. We have considered, and recognize the potential limitations certain techniques may pose when critical public infrastructure restricts the stabilization approach. In these instances, hard armoring techniques like flexmat and form filled concrete may be authorized. In addition, certain proposed activities that exceed the scope of the General Permit will require further

review, justification, alternative analysis, or public input prior to authorizing their use, in which case an applicant may seek coverage under an individual permit.

Comment: Suggested Language: This coverage does not extend to active/permitted mine facilities where new stream alterations are proposed that would otherwise require an Individual Aquatic Resource Alteration Permit/401 certification or are stream reaches proscribed in the “Responsible Miners Act” T.C.A. 69-3-108(f).

Response: The division appreciates the commenter’s approach to ensuring further protection of Waters of the State. We have determined that the Responsible Miners Act and any activity required to receive coverage under an individual permit is precluded from obtaining a bank stabilization general permit. Therefore, the activities that you mention are already covered under another permit mechanism.

Comment: Paragraph 3, line 5: we prefer to leave out “willow”, since there are several other types of live stakes that are utilized and preferred on most of our projects.

Response: The division has determined that the sentence can be deleted entirely to avoid confusion. We agree that there are multiple species that can be successful for the live staking

Comment: Paragraph 3 The sentence that reads “... to the appropriate slope, based on *hydrology*, in conjunction with the placement of rip rap, gabion baskets, and/or installation of bioengineering techniques” should be revised to read “...to the appropriate slope, based on *hydraulics*, in conjunction with the placement of rip rap, gabion baskets, *concrete reinforcement systems*, *cellular confinement systems* and/or installation of bioengineering techniques ...”

Response: Based on this and other comments, the division has deleted the sentence from the paragraph to provide more clarity.

Comment: Limiting bank stabilization covered under TDEC General Permit to 300 ft on 1 side. We feel this bank length should be 500 ft to match US Corps of Engineers 404 Nationwide Permit.

Comment: We recommend that TDEC match the current USACE requirements (500 ft.). NW 13, Bank Stabilization (b) the activity is no more than 500 in length along the bank.....

Comment: We recommend 500’ whether one or two banks, but if “both banks” must be treated separately, it should not be reduced from the current TDEC requirement of 300’.

Response: The division considers the continued limitation on hard armoring treatments to a maximum of 300 feet for one bank to allow for appropriate protection of water quality. This *de minimis* threshold has been used historically in previous versions of this general permit, and

aligns with other general permits issued by the department. Projects requiring over 300 linear feet of hard armor treatment along a single streambank may seek authorization under an individual permit.

The USACE's 404 program and permitting process operates under a different set of rules, regulation, and policy, and is not intended to represent an identical authorization mechanism. In particular, 404 permits must also receive 401 certification from each state that an authorized activity will not violate its water quality criteria. TDEC's general ARAP permits serve as 401 certifications, and per Rule must also ensure authorized alterations result in only *de minimis* degradation. We believe the renewed limitations on hard armor treatments and other permit conditions are appropriate in meeting both of these requirements.

Comment: Special Condition 1(b): I think baseflow depth should be reconsidered. Our baseflow depth is often less than 1 foot. Could you give consideration to 1/3rd bank height? In incised streams the shear stresses are very high during storm events. Significant Storm events are typically 1 to 2 year storm events or greater. Flow will certainly be above the average wetted baseflow in these instances, especially in our urban streams where flows are very "flashy". I think in most instances, where we have incised channels and the stream is over widening we will need more armor a little further up the stream bank to ensure vegetative establishment.

Comment: The special condition states that "riprap..... must be limited to the minimum height necessary to ensure protection and may not exceed 1/5 the bank height". The statement is contradictory in that it allows the minimum height necessary to ensure protection then limits that to only 1/5 bank height. It cannot be both. Can you provide a reference for 1/5 bank height protection? In our experience most toe protection should extend up to at least bankfull height or 1/3 the bank height. I would like to recommend that wording be changed to at least 1/3 bank height or something that references bankfull height.

Comment: The way I read this is that rip rap or other hard armor toe protection techniques can be utilized for 1,000 linear feet, if used in conjunction with and for the purpose of establishing natural vegetation). I generally like it, if I am reading it correctly and we can go 1/3rd bank height – I'd like to stay away from terms such as "bankfull", since everyone is all over the map on this term.

Comment: As mentioned in previously submitted TN NRCS comments and in many engineering, hydrology, and stream mechanics references, the 1/5 bank height is a recipe for many failed or damaged structures (Unless it's an incised channel in W. TN). Nearly all of these references and publications require structures (Rock riprap revetments, retaining walls, rock riprap weirs, rock riprap jetties, barbs, cedar tree revetments, rootwads, etc.) to be designed and constructed to the "bankfull flow, stream forming flow, or 2 year flow". TDEC leadership stated

to NRCS leadership that they don't want a high percentage of failures on proposed bank stabilization projects that would require additional disturbances on the streambank or in the stream channel. This 1/5 of the bank height dimension for structures encourages structures and projects to conform to these requirements to minimize permitting red tape. Using this 1/5 dimension could cause many necessary repairs to damaged or failed projects. I recommend the language that I've added (below) that refers to the technically accepted design requirements for the 2 year storm flow, and if none available, to use the 1/2 bank height dimension. The 1/2 dimension would be effective on many non-incised streams in Middle and East TN

“Activities using soil bioengineering techniques may be permitted up to 1,000 linear feet. Use of structurally based bioengineering techniques (i.e., riprap, other hard armor, etc.) will include an analysis of site specific hydraulic conditions at the 2-year recurrence interval demonstrating the need for such techniques. Where such data and analysis does not exist, the height of structurally based bioengineering techniques will not exceed one half (1/2) of the bank height. Instream structures in combination with bioengineering techniques may be used to stabilize the streambank.”

Comment: The second sentence states “any riprap or other hard armor associated with soil bioengineering techniques must be limited to the minimum height necessary to ensure toe protection and may not exceed 1/5 the bank height. Most of the experts on streams (Rosgen being one) provide guidance that, at a minimum, the structures should extend to the bankfull flow, channel forming flow, or approximately the 2 year flow. We would recommend that these structures be allowed to extend to the 2 year flow, or bankfull flow, or channel forming flow as determined by the engineer evaluating the hydrology of the site.

Comment : Some stream banks will require rip-rap/hard armoring protection along the entire bank height. We request that TDEC provide clarification and rationale for the 1/5 height restriction, or remove the language.

Comment : In reference to limiting height necessary to protect “toe” of bank to 1/5 of bank height. We feel that NRCS's current design criteria remain in effect to allow top of rock to extend to the bank full flow or channel forming flow as determined by the NRCS Design Engineer.

Comment: Is the incorporation of hard armor allowed in bioengineering projects in accordance with language later in this GP ? I believe the conditions are okay, if I have interpreted the other language allowing use of hard armor as a part of bioengineering.

Comment: The limit on 1/5 bank height is confusing and it is recommended that it be more clearly worded to reflect that hard armor in proportion to the stream bank height is only limited when using bioengineering techniques. (last sentence in the first paragraph)

Response: The division's intent is to allow for some structural toe protection in connection with areas above the toe where soil bioengineering is installed. For the purposes on this general permit "toe protection" is intended to mean the most critical area, immediately at the bed-bank interface and slope break, generally the area between the stream bottom and the typical baseflow water elevation. To provide some guidance and practical limitations, the allowable extent of this additional use of structural materials "may not exceed 1/5 the bank height or one row of "class c" rock, whichever is greater". This area is not intended to be directly analogous with terms such as "bankfull flow, channel forming flow, or approximately the 2 year flow", although in some sites it may include these areas. In situations where an engineering analysis indicates that the required scale or complexity of resource alteration necessary to successfully achieve project goals exceeds the scope of the General Permit, the applicant may seek authorization under a site-specific individual permit.

Where hard armoring treatments beyond toe protection are used in addition to bioengineering treatments, the hard armoring may not exceed 300 linear feet of bank within the total treated area (which may not exceed 1000 linear feet in its entirety).

Comment: Per limitation on instream structures to one bank, suggested language: *"Where the activity is located in Soil Parent Materials made up of Loess, Coastal Plains Sands or Coastal Plains Clays, in-stream structures may be anchored to both opposing banks and hard armor may be provided to the stream bed, as is necessary, to provide a base for installation of bank stabilization measures or in-stream structures."*

Comment: Per "Instream structures, such as rock jetties or wing deflectors must be anchored to only one bank". We recommend deleting the reference to wing deflectors. While wing deflectors might work well for habitat in small streams and can deflect water in low flow conditions, during high flow conditions wing deflectors work with the opposite effect by directing water perpendicular to the log right into the face of the streambank. Wing deflectors can actually cause erosion because of this effect. I recommend replacing wing deflectors with vanes (rock and log) and weirs.

Comment: Per condition that "... rock jetties or wing deflectors must be anchored to only one bank." There are many locations in Tennessee where the sediment transport is compromised due to the channel dimensions. The classic scenario in East and Middle Tennessee is for the stream to be overwidened, and severely eroded on one bank, and many time both banks. The classic problem in West Tennessee is bed degradation due to headcutting. Many of these situations (depending on the severity and scale) can be handled by rock riprap weirs (essentially two jetties that are constructed from opposite banks that meet in the center of the stream) extending across the entire stream channel. This would require them to be anchored into both banks. These weirs are often called v-weirs in NRCS (Rosgen calls them cross vanes, etc.) but they all serve the same purpose. In our opinion, they help provide streambed diversity (pools and riffle formation)

and streambank stability, maintain sediment transport through the systems, provide vertical grade control to a certain extent, and the weir section of rock itself acts as the riffle section of the stream. They are an effective tool and should be allowed under the bioengineering definition discussed in this section. We recommend that the reference where it only allows anchoring to one bank be deleted and the structures be allowed to tie into both banks. Instream structures, such as rock jetties wing deflectors, rock riprap cross vanes, or rock riprap V-shaped weirs (essentially two (2) rock riprap jetties that meet in the center of the stream and cross the entire stream), can be anchored to both streambanks.

Comment: In-stream jetties are only effective when the width of the stream channel is wide enough to allow for the structures to affect a moderate length of stream channel before the next in-stream jetty is installed. The narrow streams in many areas are not conducive to jetties being effective without potentially causing erosion problems on the opposite streambank, or they require structure after structure in very close proximity. In many cases, this is a good location for the rock v-weir. The rock v-weirs perform well stabilizing the adjacent streambanks and creating the step pool diversity in the streambed at the same time.

Response: The division agrees with the commenters on allowing structures to be anchored to both banks, when appropriate conditions are followed. The condition requiring structures be anchored to only one bank has been removed, and replaced with a limiting condition that *“Structures keyed into both banks that span the channel may not impede the movement of fish and aquatic life.”*

Comment: The second sentence states “Placement of liners, matting, or hard armoring in other locations along the streambed is prohibited.” If streams were all the same where slopes were mild, and curvature was gentle, then this might work. Unfortunately, that is not the case. Many gentle curving streams that are severely eroded can be solved with jetties along with vegetation between and on the constructed slopes above the jetty structures. Many times, these gentle curves dive straight into very tight curvatures (many approaching 90 degrees). Our technical guidance does not recommend jetties in these tight curvatures. In-stream structures in these tight curves have a very high rate of failure. The tight curvatures take a very direct impact from streams during flood flows. This causes these areas to erode and scour very quickly. There are normally deep scours between the structures, and many times the structures are flanked and eroded behind and around the structure. In these types of situations, the only sound technical option is some type of hard armor that will line the streambank through these tight curves. We recommend deleting the second sentence in Item 2, *“Placement of liners, matting or hard armor in other locations along the streambed is prohibited”* .and allowing for hard armor to the 2 year flow when necessary as determined by an appropriate specialist (Professional Engineer, perhaps) experienced in streambank design.

Response: We believe the commenter may be misreading the intent of the permit language. It would not prohibit the use of hard armoring *bank* treatments in conjunction with instream structures, but rather was intended to limit the use of additional liners, matting, and hard armor in other locations along the *bottom* of the stream channel. We have changed the language to try and clarify this.

Comment: The allowance of instream structure installations should not be authorized by the general permit in waterbodies deemed impaired by contaminated sediments. EPA recommends capping sites with contaminated sediments so the toxins are not reintroduced into the water column. The installation of instream structures will result in the disturbance of sediments and therefore should not be allowed in waterbodies with this impairment. Any person seeking to disturb sediments in such impaired streams should apply for an individual permit.

Response: The division agrees and the following language will be added to the permit, consistent with other general permits: *“Use of in-stream structures in any waterway which is identified by the department as having contaminated sediments, and the activity will likely mobilize the contaminated sediments, are not covered.”*

Comment: Per limiting the number of in-stream structures to three. Suggested language: *“Where the activity is located in Soil Parent Material made up of Loess, Coastal Plains Sands or Coastal Plains Clays and also within a highly modified stream reach, more than three in-stream structures may be installed, as is necessary, to compliment the stream’s natural ability to dissipate energy and provide stable and productive habitat.”*

Comment: Item 3 allows the use of a maximum of three (3) instream structures. What is the rationale for this limit? In an area of severe bank erosion in a sharp bend along a 300 ft. reach there would very likely be the need for more than three (3) vanes or weirs.

Comment: Item 3 limits the number of in-stream structures to three. This arbitrary number of three structures is just that – arbitrary. These structures are spaced according to the length of the instream structure, the curvature of the stream channel, channel slope, locations of pools, riffles, etc. Extremely small streams may need many more structures because the length of the jetties do not have much effective length of impact within the stream. Steeper streams require structures to be spaced closer together than flatter streams (As Rosgen has described, the spacing of the structures, pools, and riffles are inversely proportional to the slope of the channel. The steeper the channel, the closer the pools, and the closer the structures.). We suggest that this entire bullet statement be deleted and this be controlled by the length of the project limitation – 1,000 feet for bioengineering projects and not the number of structures.

Comment: My 1st recommendation on instream structures would be to allow all in-stream structures to fall under this general permit up to the 1,000’ length limit listed above. The actual

number of structures would vary depending on the individual characteristics of the stream instead of the number of structures limited to 3 in bullet item 3 to the left

Comment: The previous general permit for bank stabilization included all in-stream structures in the bioengineering definition, and therefore had no limit on the number of structures or the length of the project that included these structures. This draft general permit proposes a limit of 3 structures (Whether that is within the 300' of armoring or within the 1,000' of bioengineering). That is a huge change. On a mid-sized stream, 3 in-stream structures could easily be needed in 100' to 150' of stabilization. I recommend that this limitation be completely deleted, and add these structures to the bioengineering definition. This type of practice would normally have 75% or so bank coverage of vegetation. That is on par with the 1/5 of the bank that is proposed above. This structure, probably more than any others NRCS uses, is directly incorporated into the bioengineering definition that includes engineering structures and vegetation

Response: Based on the comments and other discussion with practitioners, the division agrees with expanding the number of in-stream structures allowable under this general permit to five. Because the installation of in-stream structures have the potential to cause significant alteration to the hydraulic, geomorphic, and habitat characteristics of the resource, we believe a limit to these structures is both appropriate and necessary for projects authorized under a general permit. Projects whose scale and complexity exceed the scope of the general permit may be authorized under a site-specific individual permit.

Comment : Does this limit to 3 the type of structures or individual structure? For instance would a series of step pools count as 1 structure, or more than one?

Response: One step pool would be considered one structure. A series of step pools would be considered more than one structure.

Comment : Does the limitation to the number of in-stream structures refer to permanent in stream structures or would this number include a temporary crossing?

Response: This condition refers to permanent in-stream structures and would not include a temporary crossing.

Comment: Per the limit on in-stream structures extending more than 1/3 of the stream channel, we think this needs to be revised in some way, since most of the in stream structures designed have a ~30 degree angle to the direction of flow. The length of the structure may need to equal the stream width, but would not extend into the channel more than 1/2th the width of the stream.

Comment: The draft states the in-stream structures must be limited to 1/3 the width of the stream channel. Many over-widened streams occur in areas where gravel dredging and other

manipulations have been on-going for a very long time in Middle and East Tennessee. In many of these extreme over-widened streams, the 1/3 of the stream width will not accomplish what is needed. Rosgen's directions on this distance are based on the bankfull width. Limits based on stream channel width is vague.

Comment: Would the stream channel width be different during a bankfull flow event than one at low summer or fall flows? What would the answer to this be in a stream that is dry when you look at it? These structures should cross the thalweg at the very least and that percentage will vary widely depending on what is going on in the stream. We recommend deleting this 1/3 bullet statement and placing emphasis on NRCS technical guidance.

Comment: Proposing limiting of the structures to 1/3 the width of stream channel. NRCS designed bank stabilization projects have always been based on 1/3 the distance of bank full width, not stream channel width. The width of the channel is a moving target, whereas the bankfull or channel forming flow width is more stable. We recommend deleting this proposal.

Response: The division has reviewed many technical guidance documents concerning the use of instream deflection structures, which recommend structures should either span the entire stream or span no more than 1/3 the width of the channel. Extending structures over this distance can lead to erosion along the opposing bank. The term "bankfull width" can be equally confusing and difficult to determine under many circumstances, and therefore its use in the permit language may not provide any additional clarity. However, the division would accept a technical determination of channel width based on this concept. To clarify the limitation applies not to the length of the structure, but rather its maximum extent across the channel, the division has changed the condition to read: *"In-stream structures must not extend past 1/3 the width of the stream channel."*

Comment: General Condition #13 states *"all surface water flowing towards this work shall be diverted by using coffer dams and/or berms constructed of sandbags, clean rock (containing no fines or soils), steel sheeting, or other non-erodible, non-toxic material."* We disagree with this entire bullet statement for our small projects. The building of coffer dams to separate flowing water from the work area effectively doubles the width of the stream area impacted in a rock riprap revetment situation, and it would be nearly impossible in a larger stream. It would be even more difficult to place a coffer dam around a series of jetties. The amount of sediment from excavating the slopes would be small in comparison. Additionally, when the coffer dam is removed, all of these fine sediments would then still be released into the stream channel. The teeth on a trackhoe bucket are at least 6 inches in length. There is no physical way for that type of equipment to remove a layer of silt/sediment that is less than 1/2 inch deep. In NRCS-type small conservation work, we believe there is less damage and disturbance to do the work as quickly as possible and to get the site vegetated as quickly as possible. We recommend that this

bullet statement be deleted (or put some other criteria on it for small scale short turn around conservation work).

Comment: General Condition 13 implies that work be done in the dry, but do we want to specify that bank stabilization, that requires digging below the water level, must be done in the dry to the maximum extent practicable

Response: The division agrees with the difficulties and potential for additional pollution from the use of coffer dams and /or berms. The new condition will allow for work to occur in the flowing water in certain circumstances, and will read : *“Where practicable, all activities shall be accomplished in the dry. All surface water flowing towards this work shall be diverted using cofferdams and/or berms constructed of sandbags, clean rock (containing no fines or soils), steel sheeting, or other non-erodible, non-toxic material. All such diversion materials shall be removed upon completion of the work. Activities may be conducted in the flowing water if working in the dry will likely cause additional degradation. If work is conducted in the flowing water it must be of a short duration and with minimal impact.”*

Comment: We recommend TDEC’s consideration of returning the General Permit for Bank Stabilization not needing a State permit for 401 Water Qualification Certification to its pre-amended status which had no length limitation on TVA control reservoirs. Stabilization projects initiated on TVA controlled Reservoirs are reviewed and cleared through a rigorous environmental process whereby each proposed action is reviewed by a group of technical specialists (Biological, Cultural, Heritage, Water Resources) and documented in an environmental record. Actions are approved under a set of General and Standard Conditions and any special conditions that are identified during the review process.

Comment: The limitation on TVA and USACE lands should read : *“Activities located within water resource development lands and waters, managed by the Tennessee Valley Authority, the United States Army Corps of Engineers (USACE), or areas where hydroelectric power generation has a significant impact on the stream and the streambanks are limited to 1000 linear feet.”*

These areas are already highly modified by humans. The streambanks are nearly all eroding (Even in areas where no erosion would normally occur, and deposition would normally occur.) due to the water management by the dams for hydroelectric power generation and/or flood control draw downs. In my opinion and experience, most of the erosion is manmade and controlled by the dams. Therefore, there should be great latitude in stopping these manmade erosion problems. In the previous general permit, these distances were not limited. Going from no length limit to the 500’ on an area where the erosion is mostly caused by manmade structures that individual landowners don’t control is a drastic change. I recognize that there probably should be some limit. In my opinion, the 1000’ I’ve suggested would take care of most of the

NRCS landowner related projects, and in many cases that won't be the case for the 500' proposed limit.

Comment: The 2010 GARAP for Bank Stabilization has no length limit on TVA and USACE controlled lands, and we recommend that language be retained. These areas are already managed by two agencies that have control over existing elevation and velocities within the reservoir. This new language would also mean that projects in construction that meet the old requirement of no permit required may need to fall under the General Permit (or an Individual Permit). We request that TDEC not place these restrictions on projects already let to construction. We request the rationale of this new limitation [of 1000 linear feet], which did not exist in the 2010 GARAP.

Response: The limitation of 500 linear feet of bank treatment for areas located within water resource development lands and waters managed by the Tennessee Valley Authority or the United States Army Corps of Engineers (USACE) is reflective of the 404 Nationwide #13 permit. The division certified USACE Nationwide #13 in 2012. The limitations are to establish a threshold for *de minimis* impact. Where activities exceed this threshold the division supports providing the public an opportunity to receive notice of and comment on projects that exceed *de minimis*. Additionally, the USACE has the authority to modify, condition, and require mitigation for any activity authorized under Nationwide permits. Whereas, the division promotes a more stream-lined process and does not establish project specific conditions or mitigation for general permits. It is the division's goal to authorize general permits that are substantially similar in nature and strives to ensure the cumulative nature of these singular permitted activities have no more than a *de minimis* impact to water quality.

Comment: A sentence should be added that defines a "Hybrid System". The sentence should be worded along the lines of "Hybrid Systems may incorporate the use of rip rap, gabion baskets, turf reinforcement matting, concrete reinforced systems, and cellular confinement systems in conjunction with bioengineering techniques, provided that the system allows sustained establishment of riparian vegetation." The Interagency Team that developed the "Stream Corridor Restoration" Manual (published in the late 90s and soon to be updated), acknowledges that stream hydraulics and geomorphic condition of the channel may require the use of armoring as a part of bioengineered systems. The Department may consider inclusion of a sentence along the lines of "It is incumbent upon the applicant to make a clear demonstration that the use of a "hybrid system" is necessary for successful establishment of stream bank vegetation.

Comment: Both plant based and structurally based streambank soil bioengineering approaches are applicable on most river systems. Choosing between the two should be based on cost, tolerance for risk, and amount of acceptable bank movement. A variety of proven approaches to stabilizing and restoring streambanks are available. It is suggested that it be clearly stated that inert materials are acceptable as further alluded to below in the permit

Response: The division has attempted to clarify the permit language to allow for combinations of multiple techniques on one project under the bank stabilization general permit.

Comment: In the first paragraph, first sentence under Obtaining Permit Coverage the second use of the word “to” needs to be deleted. “....does not ~~to~~ exceed.....”

Response: The division agrees and will delete the word “to”

Comment: General Condition 4, which prohibits only activities that result in “permanent” disruption to the passage of fish or other aquatic life violates the Division’s antidegradation policy. By definition degradation results if alterations are greater than “a short duration.” Clearly, there is a significant gap in time between “short duration” and “permanent.” Because the Division is proposing this general permit to cover only *de minimis* impacts the permit should state: “*The activity may not be conducted in a manner that would result in the disruption of the movement of fish and aquatic life after the project is complete.*”

Response: The division agrees with this recommended language. The condition now reads: “*This activity may not result in the permanent disruption to the movement of fish or other aquatic life upon project completion.*”

Comment: The draft permit fails to properly address cumulative impacts. The size of the projects are capped at various lengths, and General Condition 2 prohibits degradation greater than *de minimis*, but this does not prevent multiple projects within the same stream segment or even within a few hundred feet of one another. Tenn. Comp. R. & Regs. 0400-40-11-.02(2)(v) allows for “Multiple impact points.... under one general permit,” but it must be determined whether “the cumulative degradation or other aspect of the activities” would “require coverage under an individual permit.” The draft permit should define how much bank stabilization within a stream segment or a specific length would result in the need for an individual permit. Otherwise the permit violates the Division’s anti-degradation policy which defines *de minimis* impacts as “degradation of a small magnitude.”

Response: We appreciate the commenters’ statements and hope to assuage concerns that the division does not evaluate the cumulative nature of these activities throughout the entire stream when making determinations concerning level of potential impact. The division, to the best of its abilities, has determined individual bank stabilization activities authorized under conditions and limitations found in the general permits constitutes a *de minimis* level of impact.

The terms and conditions contained within this permit has been carefully crafted and refined to provide protection for our water resources while allowing a reasonable, limited, and conditioned permitting process for justified and necessary projects that foster growth and socioeconomic development may continue. The division’s responsibility through its consistent and vigilant

oversight of the administration of the ARAP program as a whole, and these general permits in particular, is to ensure that the cumulative nature of these singular permitted activities have no more than a *de minimis* impact to water quality.

Comment: We request General Condition 15 include language similar to that in General Condition 13 regarding the removal of materials upon completion of work. It should require all EPSC measures be removed once the area is stabilized and the project complete. Unfortunately, silt fencing and other EPSCs are too frequently left behind, deteriorating and/or falling into waterways.

Response: The division agrees with the substance of this comment and believes this condition is reflected in the EPSC requirements of the NPDES construction general permit (CGP). Specifically the CGP states *“The permittee has removed all stormwater controls that were installed and maintained during construction, except those that are intended for long-term use following termination of permit coverage”*.

Comment: A sentence should be added that encourages the applicant to give consideration to vertical stability of the stream bed before designing a Bank Stabilization Project.

Response: We believe all applicants should consider whether stream erosion is from vertical instability or lateral instability. Each applicant is responsible for determining the issues of bank retreat before application is made.

Comment: We support the deference granted soil bioengineering designs. Practices that employ organic materials rather than artificial structures often result in less invasive excavation equipment and more appropriately replicate the natural conditions of streams.

Response: The division is pleased to know that interested stakeholders appreciate and are in support of soil bioengineering techniques for bank stabilization.

Comment: We recommend that stabilization should be for potential erosion also, not just for active erosion. The ‘actively eroding’ language would require an individual permit for bioengineered stream stabilization.

Response: The division promotes and supports appropriate land management activities that prevent and arrest potential streambank erosion. However, the division does not intend to authorize stabilization projects based on potential. It is the responsibility of landowners and land managers to identify activities that may affect streams and reduce those activities before active erosion occurs.

Comment: It is unclear what “staged” means; please define. [refers to equipment being staged in the stream]

Comment : We recommend that TDEC clarifies whether a prohibition on equipment being staged in the stream includes use of temporary stream crossings.

Comment : **Item 6** states that heavy equipment may not be staged within the stream channel. We take this to mean that constructing a temporary rock riprap pad within the edge of the stream channel is prohibited. Many in-stream structures extend beyond the reach of the equipment when working from the top of the constructed bank. We recommend that this statement be modified to allow for equipment to work from temporary rock pads that will be removed upon completion of the work.

Response: “Staged” means that equipment may not be placed in the flowing water when working, or when not in operation. The use of temporary crossing for equipment is not prohibited, provided it meets the applicable General Condition #17. The installation and removal of temporary rock pads to work from exceeds the scope of this General Permit and are not authorized, however, equipment may be staged on top of any authorized, permanent instream structures.

Comment: We recommend deleting limits on flood control and drainage improvement projects under this General Permit. These are common reasons for bank stabilization projects, especially in urban and residential areas.

Response: The divisions intent is to prohibit projects in which the primary purpose is for flood control and drainage improvement. These types of projects require site-specific justification and alternatives analyses, and often result in channel widening and a degradation to water quality. The division does not consider these types of activities inherently *de minimis*, and are not what this General Permit is intended to address.

Comment: Does the condition addressing State Scenic Rivers include the 1000 ft and 1/5 height of stream bank constraints?

Comment: With the permit restrictions placed on the rock riprap revetment lengths and heights, the limitations of the number of jetties, the complete elimination of weirs as an option, and no in channel structures allowed in scenic rivers, there are extreme limitations on a sizable eroded area of a scenic river. We recommend deleting this bullet statement completely.

Comment: As proposed, only bank treatments utilizing bioengineering techniques with no in-channel deflection structures may be authorized in State Scenic Rivers. Want to allow in-channel deflection structures

Response: The division considers State Scenic Rivers to be aesthetically and environmentally sensitive areas that have substantial public interest for protection. The division intends to recognize the intent of the State Scenic Rivers Act by maintaining and “preserve(ing) valuable selected rivers in their free flowing natural” state. Therefore hard armoring treatments and artificial in-stream structures will not be authorized through a general permit that does not allow for public participation. This condition does limit the techniques allowable in State Scenic Rivers to soil bioengineering as outlined in the general permit.

Comment: replace prohibited with “not covered” throughout the permit

Response: The division agrees and has replaced “prohibited” with “not covered” where applicable.

Comment: We request that TDEC provide the rationale for monofilament-type blanket/netting prohibition.

Response: Our agency partners at TWRA have expressed concern and requested the prohibition of these types of monofilament netting along riparian corridors due to the potential impact this netting has on wildlife. The TWRA states that all wildlife, not just endangered species, within riparian zones are at risk of entrapment when monofilament netting is used. In addition, there have been a vast number of published studies that document the detrimental impacts these types of erosion control blankets have on wildlife, especially to reptiles and amphibians, many of whom are aquatic or semi-aquatic species. The division believes that, where 401 certification is required, avoidance of unnecessary wildlife harm through the exclusion of certain erosion control products is justified. Applicants may choose from many economically comparable alternative erosion control blanket and netting options that are commercially available today. The division has restricted the use of monofilament –type erosion control netting in individual permits for the past six years. Permittees have successfully used cost effective alternatives such as natural fiber woven blankets with no reduction in product performance.

Reference papers

http://www.herpconbio.org/Volume_6/Issue_1/Kapfer_Paloski_2011.pdf

http://www.icoet.net/icoet_2009/downloads/proceedings/icoet09-proceedings-appendices-posterdisplays.pdf

Comment: TDOT requests clarification as to whether the project can be closed/terminated without having a stand of native grass? (e.g. “within 15 days of project completion” bolded for emphasis.)

Response: The division requires a native stand of vegetative cover in and along stream corridors to be permanently established before a project can be terminated. A project site must initiate site stabilization within 15 days of project completion, and may use non-native, non-invasive annuals as a cover crop while natives are being ultimately established.

Comment: For a stream, please clarify if this includes one bank or both? [refers to activities falling under the no notification provision]

Response: Activities where stabilization techniques do not exceed a cumulative total of 50 linear feet on one or both banks (limited to one site per 1000 linear feet of stream or reservoir bank) may be done without submittal of an application or written authorization from the division prior to the commencement of work, provided the work is performed in accordance with the permit terms and conditions.

Comment: Item 15 lists the Erosion and Sediment Control handbook. This handbook proposes using geotextile in many locations as part of standardized Best Management Practices (BMPs) and above this permit omits the use of geotextile. These statements contradict each other.

The second and third sentences state “Permanent vegetative stabilization using native species of all disturbed areas in or near the stream channel must be initiated within 15 days of project completion (see also Landscaping with Natives at tneppc.org). Non-native, non-invasive annuals may be used as cover crops until native species can be established.” These two sentences contradict each other. Planting dates are species specific, and the success of the vegetation short term may be (and often is) determined by the planting of certain species of vegetation in the wrong time frame. We suggest that the 15 days of vegetation be temporary or permanent, and if temporary, that permanent vegetation shall be established as soon as the correct seeding dates arrive.

The first sentence states “using native species of all disturbed areas in or near the stream channel.” There are locations (high flow channels in floodplains for example) where the native grasses are not effective since they do not form a sod. They tend to be more of a bunch type grass and they are much slower to establish than natives. We recommend that the “or near” part of this statement be deleted from this sentence. That would allow for site specific grasses that can handle the various problem areas that occur in floodplains that are near streams. NRCS pushes the use of natives in these areas, but it also allows site specific problem areas to be stabilized with non-native sod type grasses where required.

Response: The Erosion and Sediment Control handbook recommends geotextiles primarily in upland areas where construction stabilization is needed. Temporary in-stream measures may also use geotextiles when needed, however, these measures are to be removed from the stream or wetland once the work is complete. Authorization for in-stream EPSC measures must be first

permitted through the 401 certification (ARAP). The division agrees with the need to specify where geotextiles (specifically monofilament type erosion control) may be used and where they may not be used. We have modified the condition to more appropriately reflect the conditions for specific activities in and along water resources. The condition shall now read “The use of monofilament-type erosion control netting or blanket is prohibited in the stream channel and along the riparian corridor”.

The division will clarify the statement to read “The site must be seeded (for permanent vegetative cover) using native species around all disturbed areas in or near the stream channel within 15 days of project completion (see also Landscaping with Natives at tneppc.org). Non-native, non-invasive annuals may be used as cover crops until native species can be established.”

Alteration to high flow channels in floodplains typically do not require an ARAP, therefore, there are no limitations on the use of sod in these areas. Non-native sods will not be authorized within stream channels or the riparian corridor.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for the
Minor Stream Grade Stabilization
Response to Comments



Comment: I would like to request that a general permit be added to cover weirs for the west Tennessee area. The following are reasons why the weirs are needed in this area: 1) to stabilize stream beds, which preserve habitat for the aquatic life. 2) Though the weirs are not necessarily natural, the head cutting in this area is destroying stream beds and eroding the stream banks. This bed and bank erosion is adding silt to the receiving stream, which is already on the 303d list because of silt loading. 3) The weirs create pools that allow silt to settle out, which reduces silt loading. The settled silt also builds the stream bed back up to historical levels, limiting future bank erosion.

Response: Based on several similar comments, the Division has developed the *General Aquatic Resource Alteration Permit for Minor Grade Stabilization*, specifically for use in highly altered, and actively degrading streams in West Tennessee. The permit specifies in the Activities Covered by the Permit section that certain cross channel treatments are approved as described in the following language from that section:

“Stream grade stabilization activities typically include installation of one or more transverse hard points to halt the headcut and allow the stream to resume the appropriate grade based on hydrology. Such activities involve cross channel structural elements (i.e. logs, rock, reno mattress, driven sheet pile), keyed into both left and right bank, including scour protection immediately downstream.”

Limitations on the nature, scale, and location of such activities are further described in the permit’s Specific and General Conditions.

Comment: I think we need two New General Permits for (a) Restoration of stream/Floodplain Dynamics and Wetland Enhancement for channelized, occluded or dysfunctional stream systems and (b) Channel Stabilization in highly the altered systems of West Tennessee. Concerns I have are our ability to use grade control structures (hard points) to arrest vertical channel degradation and reduce huge volumes of sediment from entering streams and rivers.

Response: The Division has determined that activities that involve either relocation or radical channel alteration as would be required in re-establishment of a stream channel in an erosional fan require alterations whose scale, complexity, and potential impact would exceed the threshold of *de minimus* and therefore would not be an acceptable use of the authority of a General Permit. Such activities may be authorized under a standard ARAP permit on a site-by-site basis.

The *General Aquatic Resource Alteration Permit for Minor Grade Stabilization* has been developed and issued as a means of authorizing the placement of cross channel hard point grade control structures for the purpose of meeting the need for arresting the vertical channel degradation and sediment movement, in many cases without requiring an individual permit.

Comment: We support this new General ARAP to assist in efforts to restore the agriculturally impacted and channelized streams in west Tennessee to natural conditions. General Condition 4

which requires the permittee to minimize only the “permanent” disruption to the passage of aquatic life violates the Division’s anti-degradation policy.

We request the following language be changed:

General Condition 4, which prohibits only activities that result in “permanent” disruption to the passage of fish or other aquatic life, violates the Division’s anti degradation policy. By definition degradation results if alterations are greater than “a short duration.” Clearly, there is a significant gap in time between “short duration” and “permanent.” Because the Division is proposing this general permit to cover only de minimus impacts the permit should state: “The activity may not be conducted in a noted in a manner that would result in the disruption of the movement of fish and aquatic life after the project is complete.”

Response: The Division agrees that the language of any General Permit must be consistent with the both the Tennessee Clean Water Act, rule 0400-40 et seq. and Division policies that guide permit decisions. In the case of this general permit, the authorized activities are designed to arrest or prevent massive headcutting and channel failures in which a significant barrier to the passage of fish and other aquatic life already exists or is likely to occur if preventative measures are not taken. Any application for authorization under this permit will be reviewed to ensure the proposed project results in as minimal disruption to passage as possible, and less than would result if no action was taken, per the General Condition cited by the commenter.

Comment: The allowance of in stream structure installations should not be authorized by the general permit in water bodies deemed impaired by contaminated sediments. EPA recommends capping sites with contaminated sediments so the toxins are not reintroduced into the water column. The installation of instream structures will result in the disturbance of sediments and therefore should not be allowed in waterbodies with this impairment. Any person seeking to disturb sediments in such impaired streams should apply for an individual permit.

Response: The Division concurs with the commenter, and to be consistent with conditions in other general permits whose authorized activities have the potential to mobilize contaminated sediments, have added the following condition :

“7. Activities located in any waterway which is identified by the department as having contaminated sediments, and the activity will likely mobilize the contaminated sediments are not covered.”

Comment: These grade stabilization problems exist to a lesser extent, in tributaries that TDEC labels streams in the rest of the state. Recommend deleting the provisions limiting locations and allow it state wide.

Response: This General Permit was specifically targeted to meet the more immediate conditions of rapid headcutting in the highly altered streams and highly erosive geology located in the western third of the state. Although some degree of headcutting can occur in all three physiographic regions of the state, the presence of natural hard points and erosion-resistant clays, bedrock, or other underlying geology present a natural barrier to accelerated degradation not present in west Tennessee. A certain degree of grade stabilization in other parts of the State may

be authorized under the conditions of the *General ARAP for Bank Stabilization*, or under a standard ARAP permit on a case-by-case basis.

Comment: Five hundred feet (500') is probably OK in W. TN. Recommend adding a smaller distance for the rest of the state. Something like 200' would be reasonable.

Response: The Division intends this permit to only be applicable to the western third of the state, in the ecoregions described in the permit language. There is no current proposal to expand general permit coverage beyond those boundaries.

Comment: NRCS grade stabilization standard and all of our other technical standards are available at <http://efotg.sc.egov.usda.gov/> . Once you click on this internet address, and then click on state of TN, then any county. Then click on section IV of the dropdown box, then conservation practice standards folder. All conservation practices will be shown. The eFOTG is where much of our field technical information is housed. You can also click on other states to get all of their technical content. Other manuals and such are located at another public site if interested.

Response: The Division will take the best management practices of NRCS under consideration when making decisions concerning the efficacy of the proposed activities that would be covered under this general permit, or under a standard permit.

Comment: Item 1 under Special Conditions limits the use of the General ARAP to 500 linear feet. Most cases in West TN with the stream gradient being so flat can easily extend the effect of one grade control structure to beyond 500 ft. I recommend changing this limit to 1,000 ft. or possibly change the restriction to limit the use of the General ARAP to a set number of grade control structures not a footage. The Division might change the limit to a maximum of three (3) grade control measures. Another option would be to limit the General ARAP to three (3) grade control measures within a 1,000 ft. reach or something similar.

Comment: Not entirely sure, but it seems that the stabilization treatment reach shouldn't be a hard number (i.e. 500') but should be relative to the size of the stream. It might be possible to break stream sizes down to 1. very small (<1.5m), 2. small (1.5-3m), 3. medium (3-10m), 4. large (10-25m) and 5. Very large (>25m) (like on our habitat assessment sheets or some version of this) and come up with relative treatment reaches. The same would go for the placement of riprap, matting, liners or other hard armor for scour protection.

The draft GP does not reference or limit the number of structures that may be installed on any given stream. In a highly degraded stream there may be a need to perform grade stabilization at multiple points along a stream channel that are quite some distance apart (1000' or more).

We suggest adding language that allows more than one (but also includes a maximum #) grade stabilization practice on a stream as long as they are some certain distance apart (1,000')?

Comment: Special Condition 1: Please clarify if this includes the non-impacted area between upstream and downstream impacts.

Response: The limitations set in the Special Conditions were established to remain consistent with the *de minimis* threshold set forth in other General Permit (including the limit on hard armoring), and as described in the Department’s Antidegradation Rules. The Special Conditions allows for a the total treatment and impact length of 500 feet. As the comments have indicated, in relatively low gradient streams a single grade control structure could be more than adequate. However, the limit only on total impact footage and not structures can also allow for placement of multiple steps to correct a dramatic grade change over a short distance by not limiting the total number of steps required to complete the transition. It can also allow for these structures to be placed quite some distance apart – only the total length of stream channel actually impacted is limited. A project that would require a greater length of repair would exceed the scope of the general permit, but may still be eligible for authorization under an individual permit.

Comment: Special Condition 2: Suggest replacing “prohibited” with “not covered.”

Response: Agreed.

Comment: General Condition 5: Suggest replacing “prohibited” with “not covered.”

Response: Agreed.



CORRECTED
Notice of Determination
ARAP General Permit
Stream and Wetland Habitat
Enhancement

Regarding the Issuance or Reissuance of the Tennessee General Aquatic Resource Alteration Permit for Stream and Wetland Habitat Enhancement

October 14, 2015

This notice presents the corrected and final determination of the Tennessee Department of Environment and Conservation, Division of Water Resources, and responds to comments on the proposed General Permit for §401 Water Quality Certifications and Aquatic Resource Alteration Permit for Stream and Wetland Habitat Enhancement.

I. Background

Under The Tennessee Water Quality Act of 1977, where the Commissioner finds that a category of activities or discharges would be appropriately regulated under a general permit, the Commissioner may use a general permit to authorize alterations to waters for specific categories of activities that are substantially similar in nature and that result in no more than an insignificant or *de minimis* degradation of water quality.

Notice of coverage by the division for activities that qualify under general permits also serve as a §401 Water Quality Certification pursuant to the federal Clean Water Act.

This general permit establishes notification procedures required for approval of a specific qualifying activity. Notice of Coverage by the Division for activities that qualify under general permits may also serve as a §401 water quality certification pursuant to The Clean Water Act.

The valid duration of a permit under the Tennessee Water Quality Act of 1977 is five years. The Department must therefore re-issue or deny the general permits every five years. The existing general permit was issued July 1, 2010 and expired on June 30, 2015. The 2015 draft general permit for Stream and Wetland Habitat Enhancement was advertised for public comments on May 15, 2015. A public hearing was held on June 16, 2015 in Nashville with simultaneous videoconference hearings at seven environmental field offices across the state. The commenting period ended on July 6, 2015. A total of 2 general permits were proposed for re-issuance and subject to public comments.

II. Comments and Responses

The public's concerns and questions, along with the division's responses are supplied in this section. These comments were gathered through the course of public hearings, both verbal and written, along with submittal of written comments through mail, e-mail and fax.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for the
Stream and Wetland Habitat Enhancement



Comment: We think the following language should be added to the general permit:

Stream Restoration and Enhancement

This permit coverage authorizes and provides 401 certifications for stream restoration and enhancement activities conducted by Tennessee's Abandoned Mine Lands (AML) Program or The Office of Surface Mining Technical Support Group (bond forfeiture reclamation) and their authorized contractors. The AML Program conducts mine reclamation projects in the process of eliminating human health & safety, environmental hazards and disturbance as specified in the program's federal and state mandates. This GP coverage authorizes the restoration of stream hydrology, geomorphology and riparian enhancement to facilitate the elimination of mine pits, elimination of highwall, elimination of mine benches, bank stabilization, the installation of passive treatment structures for acid mine drainage features, and correction of other mining related land disturbance.

*This coverage does not extend to active/permitted mine facilities where new stream alterations are proposed that would otherwise require an Individual Aquatic Resource Alteration Permit/401 certification or are stream reaches proscribed in the "Responsible Miners Act" T.C.A. 69-3- 108(f).

Wetland Restoration and Enhancement

This permit coverage authorizes and provides 401 certifications for wetland restoration and enhancement activities conducted by Tennessee's Abandoned Mine Lands(AML) Program or The Office of Surface Mining Technical Support Group (bond forfeiture reclamation) and their authorized contractors. The AML Program conducts mine reclamation projects in the process of eliminating human health & safety, environmental hazards and disturbance as specified in the program's federal and state mandates. This coverage authorizes the restoration and enhancement of wetlands to facilitate the elimination of mine pits, elimination of highwall, elimination of mine benches, the installation of passive treatment structures for acid mine drainage features, and correction of other mining related land disturbance.

*This coverage does not extend to active/permitted mine facilities where new wetland alterations are proposed that would otherwise require an Individual Aquatic Resource Alteration Permit/401 certification.

Response: The division does not intend to extend the scope of this general permit at this time. If the activities fall within the terms and conditions of the Wetland and Stream Enhancement General Permit, they may be covered. Activities outside the scope of this general permit may require further review and

may require an individual permit unless the activity is covered under an alternative permitting mechanism specific to or in coordination with Tennessee's Abandoned Mine Lands(AML) Program.

Comment: Regarding severely degraded wetlands in Western Tennessee, it would be beneficial to allow some flexibility regarding drainage ditches, levees, and levee borrow areas. On Wetland Restoration Easement Program lands the current management system (prior to easement closing) has been to drain water quickly, and to keep flood water out for farming. When NRCS acquires the easement, we are tasked by the Secretary of Agriculture to fully restore the sites to its maximum wetland functions and values as feasibly possible. Sometimes, the drainage ditches, borrow areas, and areas adjacent to levees meet the stream determination criteria. This immediately limits what we can and cannot do regarding our current MOU between NRCS and TDEC and the general permit. Our restoration funding could be jeopardized if each project required an Individual Permit. Plus, these areas typically contain low DO levels, and only support wildlife that can handle those environments. To truly restore the wetland hydrology to these sites, the lateral connection between the channel and floodplain is crucial. These areas are often ponded for many weeks during the warmer months, but have no access to freshwater other than rainfall runoff. It would be beneficial to include a statement or different GP that allows these areas that are scored as streams during the determination be part of the whole restoration plan. I am not talking about diverting or redirecting a drainage channel, I understand the larger undertakings of that process. It would be beneficial to allow restoration techniques that allow these areas to be blocked in a low-head manner that forces additional water to spread out over the wetland area and filter pollutants, store large flood volumes, and drop sediment before it enters back into the larger order watercourse.. TDEC field office staff have been very supportive of our Stream/Wetland Restoration efforts in West Tennessee in the past years. They understand our objectives, and we frequently involve them in the planning process.

Response: Adding in-stream structures that impound water in jurisdictional streams is prohibited under this general permit however, adding small water control structures in wetlands or in non-jurisdictional drainages is covered under this general permit. It is considered a *de minimis* activity if its establishing conditions that promote the system to naturally develop towards regional wetland reference standards

Comment: We suggest that the term "Restoration" be removed since the idea of restoration is more complex than establishment of the habitat component alone. We do believe that a GP for "Stream Habitat Enhancement" will be useful in many instances across the State, just not for our efforts at "Restoration of Stream/Floodplain Dynamics and Wetland Enhancement".

Response: We agree with your comment and have changed the wording of the permit.

Comment: "This general permit authorizes activities associated with the improvement of the habitat and ecological function of altered or degraded streams and wetlands, and riparian lands. These activities are designed to improve hydrology, native vegetation, and habitat functions. For streams these activities may include buffer enhancement, vegetative bank stabilization, in-stream habitat structures," **(include) removal of levees in the riparian zone,** "and removal of small obstructions in channel."

Response: This activity is not prohibited under this general permit and will be included as a specific example.

Comment: “For wetlands, these activities are typically associated with greenway development, habitat enhancement, and watershed protection. Such activities include installation and maintenance of small water control structures, dikes and berms; backfilling of existing drainage structures; construction of small nesting islands, plowing and disking for seed bed preparation;” **(include) removal of floodplain obstructions;** “and other related activities.”

Response: This activity is not prohibited under this general permit and will be included as a specific example.

Comment: Regarding “2. Total area of channel disturbance is limited to 1000 linear feet.” This applies to stream channel only. It is noted that area is not identified for wetland enhancement. I assume that since this is not specified, the wetland enhancements are okay for broad areas - I can certainly see this as being desirable, especially on projects similar to the NRCS Wetland Reserve Program projects and some of our BLH Restoration Efforts.

Response: The area of wetland enhancement has been described with terms not absolutely related to acreage, rather the potential for degradation or stakeholder comment, in the following Special Conditions:

“3. Affected wetland(s) are limited to those in which the maximum extent of potential hydrologic alteration is within single ownership or all affected landowners have submitted written permission allowing the activity to affect their property.”

“4. Affected wetland(s) greater than 2 acres must be documented to have low resource value. Prior to permit issuance, the applicant will submit baseline documentation of the resource, including Army Corps of Engineers wetland delineation form(s), a Tennessee Rapid Assessment Methodology (TRAM) evaluation, and an overall plant species list.”

Comment: Regarding “5. Moving the channel laterally or vertically is not allowed under this permit.”

Should this be limited to lowering the vertical elevation of the channel. Often times we use grade control measures to prevent “headcuts” from draining wetland areas.

Response: Where these activities are proposed in a jurisdictional stream, they may be covered under the Minor Stream Grade Stabilization General Permit.

Comment: Regarding “8. Vehicles and other related heavy equipment may work from the stream bank but not within the stream channel.”

We recommend that this language be clarified or removed. Heavy equipment work is often needed to improve efficiency when enhancing the stream channel.

This is a little concerning with respect to our Amphibious Equipment. We often work from within the channel on this type of project. In our sand bed streams they often dry up in the summer months. Sometimes heavy equipment can be less disruptive to the riparian zone when working within a seasonally dry stream bed. Maybe add language to allow work when the stream is dry.

Response: Projects of such scale and/or complexity as to require the use of heavy equipment within the stream channel are subject to the additional review for potential degradation, site-specific permit conditions, and stakeholder or wildlife agency comment available through the individual permit process. This is a restriction common to nearly every general ARAP permit.

Comment: Overall this GP is so limited in scope that it is essentially useless in West TN especially the Stream Enhancement end of the GP.

Response: This general permit is intended to cover enhancement projects that are *de minimis*, routine, and of limited scope so that they may not result in degradation. Projects outside the scope of this general permit may require monitoring or extensive evaluation to ensure that the project is carried out as planned, notification to interested stakeholders and the division must ensure the projects do not result in resource loss.

Comment: Enhancement of the buffer zone should not even be regulated. If someone wants to plant trees along their stream it should not require a GP, unless bank reshaping is also done.

Response: The division does not require a permit to plant trees along stream banks. The statement “*For streams these activities may include buffer enhancement...*” does not refer to planting the riparian buffer unless, as you stated, it is in conjunction with a bank alteration activity.

Comment: As a general comment, why is there a limit to the reach/size of stream or a wetland that can be enhanced under a GP. Enhancement is a good thing . . . improving on a degraded or bad situation . . . so why limit the extent of the reach to 1,000’ or 2 acres? Telling someone that they can enhance 2 acres of wetland but not 2.5, or 1,000’ of stream but not 1,500’ under the terms and conditions of a GP is arbitrary.

Response: We agree with allowing greater acreage of wetland enhancement and have revised the permit to allow wetland enhancement that is not acreage dependant, rather is dependent on the need for stakeholder comment and potential for degradation. The 1000 foot limit is consistent with the Bank Stabilization general permit and the established threshold of *de minimis*. Limiting the stream reach to be enhanced is needed because large activities can become increasingly complex, requiring detailed review of plans, the need for public input, and have the potential, if not done well, to cause degradation.

Comment: Via the special conditions in this GP a person cannot use grade control, cannot use hard armor and cannot use erosion control matting to enhance a stream even though the activities covered by this permit include improving hydrology, and habitat functions. Small grade control structures will improve hydrology and habitat function. A small amount of hard armor for providing a bank footer or non-monofilament erosion control matting will also allow for native vegetation to get a foot-hold on highly erodible WTN soils, thereby improving habitat function. I truly don’t think you will find very many stream enhancement projects in West TN that don’t include at least one of these components, therefore, making this GP essentially useless in our area. Very few streams in our area have any rock in the banks or bed that would naturally provide grade control or keep banks from eroding.

Response: The division does not prohibit the use of the above mentioned techniques on stream projects and we encourage applicants to propose projects that will improve the habitat and water quality of streams. However, the project may exceed the limitations of the general permit. Complex projects requiring the use of multiple techniques for stream bed and bank stability may be authorized under an individual permit, the Stream Grade Stabilization permit, or the Bank Stabilization permit. The division does encourage the use of soil bioengineering, e.g. natural and permeable erosion control matting, natural revetments, etc., as these techniques have been shown to be effective when done correctly and are permissible under the General Permit.

Comment: By the way, Special Condition 4 states placement of matting is prohibited whereas General Condition 9 states use of monofilament-type erosion control netting is prohibited. Which is it?? Please clarify what is meant by erosion control matting (geotextile?).

We request TDEC's rationale for this prohibition regarding the use of monofilament type erosion control netting

Response: Our agency partners at TWRA have expressed concern and requested the prohibition of these types of monofilament netting along riparian corridors due to the potential impact this netting has on wildlife. The TWRA states that all wildlife, not just endangered species, within riparian zones are at risk of entrapment when monofilament netting is used. In addition, there have been a vast number of published studies that document the detrimental impacts these types of erosion control blankets have on wildlife, especially to reptiles and amphibians, many of whom are aquatic or semi-aquatic species. The division believes that, where 401 certification is required, avoidance of unnecessary wildlife harm through the exclusion of certain erosion control products is justified. Applicants may choose from many economically comparable alternative erosion control blanket and netting options that are commercially available today. The division has restricted the use of monofilament – type erosion control netting in individual permits for the past six years. Permittees have successfully used cost effective alternatives such as natural fiber woven blankets with no reduction in product performance.

Reference papers

http://www.herpconbio.org/Volume_6/Issue_1/Kapfer_Paloski_2011.pdf

http://www.icoet.net/icoet_2009/downloads/proceedings/icoet09-proceedings-appendices-posterdisplays.pdf

Comment: So, you've created a situation where an individual will have to get two general permits, at \$50.00 each or a non-private entity @ \$500.00 each – one for bank stabilization and one for grade control to enhance a West TN stream. This is unnecessarily complicated.

Response: Yes, if the activity proposed is a combination of both stabilization and grade control, the applicant may need to receive two different permit coverages or these activities cumulatively may exceed *de minimis* degradation and be covered under an individual permit.

Comment: As stated above enhancement of wetlands is a good thing and should not be limited to 2 acres.

Response: The Division agrees with your comment and has added the following language to the Special Conditions:

“3. Affected wetland(s) are limited to those in which the maximum extent of potential hydrologic alteration is within single ownership or all affected landowners have submitted written permission allowing the activity to affect their property.”

“4. Affected wetland(s) greater than 2 acres must be documented to have low resource value. Prior to permit issuance, the applicant will submit baseline documentation of the resource, including Army Corps of Engineers wetland delineation form(s), a Tennessee Rapid Assessment Methodology (TRAM) evaluation, and an overall plant species list.”

Comment: There should be some allowance for placement of low berms and water level control structures as these are necessary when property boundaries conflict with topography on a wetland site.

Response: Low berms and minor water control structures are covered under this general permit.

Comment: The allowance of instream structure installations should not be authorized by the general permit in waterbodies deemed impaired by contaminated sediments for the reason stated above.

Response: The Division concurs with the commenter, and to be consistent with conditions in other general permits where activities have the potential to mobilize contaminated sediments, we have added the following condition:

“12. Activities located in any waterway which is identified by the department as having contaminated sediments, and the activity will likely mobilize the contaminated sediments are not covered.”

Comment: The requirement to keep wetland excavation and fill activities “to a minimum” in Special Condition 11 is vague. The use of an undefined term hinders the Division from properly enforcing this permit condition or assessing whether it has been violated. We recommend this condition be clarified so no unnecessary or inappropriate impacts occur. We request General Condition 14 include language similar to that in General Condition 12 regarding the removal of materials upon completion of work for the reason stated above.

Response: The Division agrees with this comment and has removed Special Condition 11. The division also agrees with the second portion of your comment related to the General Conditions and has added Special Condition 15 which says *“All materials resulting from the enhancement project will be removed and properly disposed of upon completion of work.”*

Comment: We believe this permit should allow “minor hydrologic modifications to facilitate regeneration of Bottomland Hardwood Systems (or other higher value wetlands), seasonally ponded areas

for waterfowl and amphibians, and micro-topography adjustments to facilitate accomplishment of these objectives”. The Department may want to require the applicant to make clear demonstration via TRAM or some other acceptable habitat evaluation method that an overall improvement in Wetland Function will result.

Response: We agree that easily obtainable baseline data should be collected to use this General Permit and submittal of this information has been added to the special conditions of the General Permit. This General Permit covers the enhancement of bottomland hardwoods and all other naturally occurring wetland ecological communities in Tennessee.

Comment: The difference between ‘vegetative bank stabilization’ and the Bank Stabilization permit is unclear; please clarify.

Response: Vegetative bank stabilization refers to the use of native perennial species as bank stabilization, specific examples include live stakes, fascines, brush mattresses, or native plantings. These practices may also be a component of activities covered under the Bank Stabilization general permit.

Comment: We recommend that TDEC provide ‘removal’ and ‘backfilling’ activity constraints.

Response: The constraints within the General Permit are included within the general and special conditions.

Comment: Regarding: “1. This permit does not authorize projects for which the primary purpose is stream relocation, compensatory mitigation, flood control or drainage improvement.”

Please provide clarification and rationale. Who would this apply to? This is allowed under the existing permit. Please provide clarification and rationale. A stated purpose of the permit is for improvement of hydrology.

"This permit does not authorize projects for which the primary purpose is stream relocation" We suggest removing “compensatory mitigation, flood control or drainage improvement”

Response: The division has determined that the referred to activities may or may not result in an improvement in stream resource value, are typically complex, involve significant risk, and are often greater than *de minimis*. Therefore these projects require a substantive review, site-specific conditions, and stakeholder notification available through the individual permit process.

Comment: Change “area” to length

“Total area of stream channel disturbance is limited to 1000 linear feet.”

Response: The division agrees with the suggested change and the General Permit has been changed to read “2. Total length of stream channel disturbance is limited to 1000 linear feet.”

Comment: Please clarify that no liners or matting are allowed under this GP.
“Placement of liners, matting, rip rap or other hard armor along the streambed or bank is prohibited”

Response: The Division has prohibited the use of these materials along the streambed or bank in the General Permit.

Comment: Regarding “5. *Moving the channel laterally or vertically is not allowed under this permit.*” Please clarify or provide constraints. Some structures might require a section of the stream’s elevation to change. We recommend that TDEC clarify or remove this language. In many instances installation of habitat or stream restoration activities have the effect of allowing a channel to naturally migrate laterally and vertically. In many cases accumulated sediments may need to be removed to restore pool habitat, which would require a deepening of the channel and a vertical movement.

Response: As stated, the channel is not prohibited from moving naturally, however if the applicant proposes physical changes to the cross sectional area or longitudinal profile of the stream through the use of equipment then the applicant should apply for an individual permit.

Comment: Regarding “*Bank reshaping may be authorized.*” We recommend adding ‘and stabilization’.

Response: Some enhancement activities that also may result in a more stable bank are allowable under this permit, but the permit is not intended for all bank stabilization projects. Activity that is specifically for stabilization of a channel may seek coverage under the Bank Stabilization General Permit.

Comment: Please clarify if this reference is to culvert-type structures or dam-like structures. If culvert type, please explain rationale. “Projects for the purpose of structure removal are limited to those structures that are no more than 5 feet high.”

Response: This refers to dam-like structures. The general permit language has been clarified. Removals of culverts are intended to be covered under the *Construction and Removal of Minor Road Crossings* general permit.

Comment: “14. *Permanent vegetative stabilization using native species of all disturbed areas in or near the wetland must be initiated within 14 days of project completion (see also Landscaping with Natives at meppc.org). Non-native, non-invasive annuals may be used as cover crops until native species can be established*”

This permit condition is different from the Bank Stabilization permit and Special Condition 14 which states “15 days”; please reconcile.

Response: The Division agrees with this comment and has corrected the permit.

Comment: “4. *Activities that directly impact wetlands, or impair surface water flow into or out of any wetland areas are prohibited.*”

Remove “directly impact wetlands, or” This language seems contradictory in that it prohibits wetland enhancement which is the intent of the GP; please clarify.

Response: The Division agrees and has removed the general condition and replaced it with Special Condition 11. “*Activities that impact wetlands that represent a high resource value, including but not limited to rare wetland types, Exceptional Tennessee Waters, and wetlands located in a component of the National Wild and Scenic River System or Outstanding Natural Resource Waters are not covered.*”

Comment: We recommend that ‘disruption’ be clarified. For example, some in stream structures might “disrupt” flow by some definitions. “Backfill activities must be accomplished in a manner that stabilizes the streambed and banks to prevent erosion. All contours must be returned to pre-project conditions to the extent practicable and the completed activities may not disrupt or impound stream flow.”

Response: The division recognizes that some in-stream structures may alter the course of stream flow. The use of the words “disrupt or impound” is intended to prohibit structures that restrict the stream from flowing. The division has updated the condition to better reflect our intent.

Comment: On page 1, paragraph two, last sentence, we recommend “the planting of hydrophytic species” be changed to “the establishment of hydrophytic species”.

Response: The permit states these activities often occur in conjunction with planting of hydrophytic plant species. This language does not require the planting of hydrophytic species for all activities covered under this permit and does not preclude the establishment of volunteer plant species.

Comment: We recommend removing the word channel from Special Condition 2.

Response: The division has changed the language of Special Condition 2 to read “The length of stream channel and riparian area disturbance is limited to 1,000 linear feet.” The division feels this language more accurately clarifies the intent of special condition #2.

Comment: We recommend changing allowing the removal of structures over five feet high to be covered under this permit.

Response: The division has determined structures that are five feet high or less to be the *de minimis* threshold for activities allowed by this general permit. Applicants proposing the removal of dam-like structures over five feet high may apply to have those activities covered under an individual permit.

Comment: We feel Special Condition 16 is unnecessary and could possibly be more disruptive.

Response: Special Condition 16 has not been changed. Projects that do not meet the requirements of this general permit may apply for coverage under an individual permit. The upper 12” of the soil is a measure to conserve topsoil organic matter, prevent compaction, and preserve a native local seed bank in accordance with scientific data on best restoration practices. This only applies to temporary wetland

impacts and does not apply to wetland enhancement activities unless temporary fill for things such as haul roads or equipment pads is needed during construction, in which case this best management practice should be followed. Impacts in wetlands that fall within Tennessee State Forestry Best Management Practices, such as the use of timber matting are also acceptable to use under this General Permit.

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Stream and Wetland Habitat Enhancement



Effective Date: October 15, 2015
Expiration Date: April 6, 2020

Activities Covered by this Permit

This general permit authorizes activities associated with the improvement of the habitat and ecological function of altered or degraded streams and wetlands, and riparian lands. These activities are designed to improve hydrology, native vegetation, and habitat functions. For streams these activities may include buffer enhancement, vegetative bank stabilization, in-stream habitat structures, and removal of small obstructions in channel.

These activities are limited to existing wetlands for the purposes of greenway development, habitat enhancement, and/or watershed protection. Such activities should propose to restore these sites by establishing conditions that will allow and promote the systems to naturally develop towards regional wetland reference standards. This may include removal of small water control structures or backfilling of existing drainage structures often in conjunction with the planting of hydrophytic species.

Certain activities due to size, location or potential water quality impacts are not covered under this general permit, as described in both the Special and General Conditions sections. Activities not qualifying for authorization under this general permit may be authorized by a standard (individual) permit provided that all requirements of the *Tennessee Water Quality Control Act of 1977* (the *Act*) are met.

Special Conditions

1. This permit does not authorize projects for which the primary purpose is stream relocation, compensatory mitigation, flood control or drainage improvement.
2. Total length of stream channel disturbance is limited to 1000 linear feet.
3. Affected wetland(s) are limited to those in which the maximum extent of potential hydrologic alteration is within single ownership or all affected landowners have submitted written permission allowing the activity to affect their property.
4. Affected wetland(s) greater than 2 acres must be documented to have low resource value. Prior to permit issuance, the applicant will submit baseline documentation of the resource, including Army Corps of Engineers wetland delineation form(s), a Tennessee Rapid Assessment Methodology (TRAM) evaluation, and an overall plant species list.
5. Placement of liners, matting, rip rap or other hard armor along the streambed or bank is prohibited.
6. Moving the channel laterally or vertically is not allowed under this permit.
7. Bank reshaping may be authorized.

8. Projects for the purpose of structure removal are limited to dam-like structures that are no more than 5 feet high.
9. Vehicles and other related heavy equipment may work from the stream bank but not within the stream channel.
10. Work performed by hand and related hand-operated equipment is allowed within the stream channel.
11. Activities that impact wetlands that represent a high resource value, including but not limited to rare wetland types, Exceptional Tennessee Waters, and wetlands located in a component of the National Wild and Scenic River System or Outstanding Natural Resource Waters are not covered.
12. Activities located in any waterway which is identified by the department as having contaminated sediments, and the activity will likely mobilize the contaminated sediments are not covered.
13. Wetlands outside of the permitted impact areas shall be clearly marked so that all work performed by the contractor is solely within the permitted impact area.
14. The authorized wetland and/or stream alterations shall not cause measureable degradation to resource values and classified uses of hydrologically connected waters of the state, including disruption of sustaining surface or groundwater hydrology. This includes temporary or haul roads constructed for the permitted activity.
15. All materials resulting from the enhancement project will be removed and properly disposed of upon completion of work.
16. Temporary wetland impacts, including haul road and staging area fill activities, which do not conform to Tennessee Division of Forestry Best Management Practices shall be mitigated by the removal and stockpiling of the first 12 inches of topsoil, prior to construction. Upon completion of construction activities, all temporary wetland impact areas are to be restored to pre-construction contours, and the stockpiled topsoil spread to restore these areas to pre-construction elevation. Other side-cast material shall not be placed within the temporary impact locations.
17. Permanent vegetative stabilization using native species of all disturbed areas in or near the stream or wetland must be initiated within 14 days of project completion (see also *Landscaping with Natives* at tneppc.org). Non-invasive annuals may be used as cover crops until native species can be established.

General Conditions

1. All activities must be accomplished in conformance with the approved plans, specifications, data and other information submitted in support of the ARAP application (form CN-1091) and the limitations, requirements and conditions set forth herein. Failure to comply with the terms and conditions of this permit is a violation of the *Tennessee Water Quality Control Act of 1977 (the Act)*, and is subject to penalty in accordance with T.C.A. §69-3-115.

2. Activities, either individually or cumulatively, that may result in greater than *de minimis* degradation to waters of the state are not covered. This general permit shall not be used incrementally to combine with other activities resulting in a net loss of water resource values.
3. Disturbance to riparian vegetation shall be kept at the minimum necessary for slope construction and equipment operations. Unnecessary riparian vegetation removal, including trees, is prohibited. Native riparian vegetation must be reestablished after work is completed. Coverage under this permit does not serve to waive any local riparian buffer protection requirement, and permittees are responsible for obtaining any necessary local approval.
4. Activities located in a component of the National Wild and Scenic River System or waters designated as Outstanding National Resource Waters are not covered.
5. Activities occurring in known or likely habitat of state or federally listed threatened, endangered, deemed in need of management, or species of special concern may not be authorized without prior coordination with the Tennessee Wildlife Resources Agency (TWRA) and TDEC Division of Natural Areas (DNA) to determine if any special conditions are required to avoid and/or minimize harm to the listed species or their habitat. Adverse effects to federal threatened and endangered species are not permitted without prior authorization from the United States Fish and Wildlife Service (USFWS) as required by Section 7 or Section 10 under the Endangered Species Act.
6. Work shall not commence until the permittee has obtained all necessary authorizations pursuant to applicable provisions of §10 of The Rivers and Harbors Act of 1899; §404 of The Clean Water Act and §26a of The Tennessee Valley Authority Act, as well as any other federal, state or local laws.
7. Backfill activities must be accomplished in a manner that stabilizes the streambed and banks to prevent erosion. The completed activities may not disrupt or impound stream flow.
8. The use of monofilament-type erosion control netting or blanket is prohibited.
9. This permit does not authorize impacts to cultural, historic or archaeological features or sites.
10. This permit does not authorize access to private property. Arrangements concerning the use of private property shall be made with the landowner.
11. Where practicable, all activities shall be accomplished in the dry. All surface water flowing towards this work shall be diverted using cofferdams and/or berms constructed of sandbags, clean rock (containing no fines or soils), steel sheeting, or other non-erodible, non-toxic material. All such diversion materials shall be removed upon completion of the work.
12. All activities must be carried out in such a manner as will prevent violations of water quality criteria as stated in TDEC Rule 0400-40-03. This includes, but is not limited to, the prevention of any discharge or use of materials that may be harmful to humans, terrestrial or aquatic life, or causes a condition in which visible solids, bottom deposits or turbidity impairs the designated uses of waters of the state.
13. The permittee is responsible for obtaining coverage under the National Pollutant Discharge Elimination System (NPDES) *General Permit for Storm Water Discharges from Construction Activities* where clearing, grading or excavation results in an area of disturbance of one or more acres,

or activities that result in the disturbance of less than one acre if it is part of a larger common plan of development or sale.

14. Temporary stream crossings shall be limited to one point in the construction area and erosion control measures shall be utilized where stream bank vegetation is disturbed. Stream beds shall not be used as linear transportation routes for construction equipment, rather, the stream channel may be crossed perpendicularly with equipment provided no additional fill or excavation is necessary.

Obtaining Permit Coverage

Activities for the habitat enhancement of streams and wetlands may obtain coverage by submitting a signed and completed ARAP application (form CN-1091), along with any other required information, to the division. Work shall not commence until a written Notice of Coverage (NOC) from the division is received. Not all activities may be eligible for coverage under this general permit and coverage may be denied when appropriate.

Each Notice of Coverage under this general permit is valid until the expiration date specified on the NOC. If the expiration date on an NOC extends beyond the date the General Permit is modified, reissued, or revoked, and the permittee has commenced or is under contract to commence this activity before the expiration date, the permittee may have up to twelve (12) months from the date of the modification, reissuance, or revocation of the General Permit to complete the activity under the present terms and conditions of the general permit.

An application fee as established in Rule 0400-40-11-.02 will be assessed to applicants intending to receive an NOC to conduct activities under this general permit. An annual maintenance fee will be assessed to those individuals holding general permit coverage unless a Notice of Termination (NOT) form is received prior to the one-year anniversary of the issuance date of the NOC, or the NOC was issued for less than a one-year term. An NOT form can be downloaded from the division's ARAP webpage (<http://www.tn.gov/environment/permits/arap.shtml>).

APPROVED: _____


Tisha Calabrese Benton
Director, Division of Water Resources

DATE: 10/14/15



NOTICE OF DETERMINATION

Tennessee Division of Water Resources General Permit for Recreational Prospecting

December 9, 2015

Introduction

Under the *Tennessee Water Quality Control Act of 1977 (Act)*, it is unlawful to alter the properties of any waters of the state except in accordance with the conditions of a valid permit. The Division recognizes that recreational prospecting in streams can change water quality and in that regard makes the activity unlawful without a permit. It also concludes that recreational prospecting can be done in such a manner as to result in a de minimis change in water quality.

The *Act* provides the authority for the Commissioner to issue a general permit where a category of activities or discharges would be appropriately regulated under such a permit. A general permit means a permit that authorizes an alteration to waters for a specified category of activities that are substantially similar in nature. The general permit has several advantages: it can govern an activity on a statewide basis; it carries a simplified or streamlined review process; it can impose standards necessary for the protection of water quality and uses; and, it can be updated and refined as needed by the Commissioner.

Public Participation

The Division issued a General Permit for Recreational Prospecting on August 27, 2014. The general permit was scheduled to expire in sequence with the Division's other general permits that expired on June 30, 2015.

Prior to the June 30, 2015 expiration of the General Permit for Recreational Prospecting, the Division began to seek formal comments for the reissuance by public notice dated December 2, 2014. Public hearings were held January 13, 2015, in Knoxville, Nashville, and Jackson to hear comments on the draft general permit. The hearings were held simultaneously by video conference, with the video originating from the Nashville hearing location.

In response to comments, the Division made substantive changes to the draft general permit. Public notice was issued May 15, 2015, that included the revised draft general permit and public hearing announcement. On June 16, 2015, the Division again held public hearings at three locations across the state; Knoxville, Nashville, and Jackson to hear comments on the draft general permit. The hearings were held simultaneously by video conference, with the video originating from the Nashville hearing location.

This Notice of Determination (NOD) addresses the questions and comments presented at the hearings and those submitted during the official comment period that ended June 26, 2015. It also presents TDEC's decision regarding the permit and the rationale for that decision.

Comments that were received during the public notice process are presented below. The comments are grouped together by general topic. They are presented in no particular order.

Response to Comments

Comment: Class 2 mechanized equipment should be representative of dredges, high-banker dredges, and other mechanized means of excavating material. High-bankers, power sluices and trommels should not be included in this class because they only require electric or gasoline motors and pumps for the purpose of providing water to wash material.

Comment: Class 1 should also include the hybrid equipment: high-bankers, power sluices and trommels. Although these pieces of equipment have gasoline or electric motors and pumps; these are only needed to provide water for washing material.

Response: The Division's intent in creating two classes is to address the scope of impact. We believe that mechanization allows the individual to process more material and therefore impact more streambed. The impact from panning can be much less than from dredging, so the logic was not to burden a small scale impact with the same level of review as a larger impact.

Comment: Class 2 section 3 states "All operations must take place in-stream. Operating on stream banks or in the floodplain is not allowed." changes requested----- The wording floodplain is too broad and can and will be interpreted to whoever is in control of any situation that may arise, and possibly used for obstructing our activities.

Comment: The instream requirement for Class 2 (Item 3) prospecting should not be removed. The floodplains and banks must be protected from the impacts of the machines used in the process.

Response: This condition of the permit is intended to instruct that all operations must take place in the stream. The term floodplain is used to mean simply an area of low, flat land along a stream or river that may flood.

The Division has determined that the term floodplain and associated instruction is appropriate. The permit condition will remain as published.

Comment: Class 2 section 5 states "Minimum streams sizes relative to equipment types are as follows: Equipment Type Stream Size Power Sluices, High bankers and Mechanized Trammels : Minimum wetted width of 10 feet at the spot of the activity Dredges - 2 inches or less* Minimum wetted width of 7 feet at the spot of the activity Dredges - up to 3 inches* Minimum wetted width of 25 feet at the spot of the activity Dredges over 3 inches* must apply for an individual Aquatic Resources Alteration Permit to operate." changes requested----- The wetted width of Power Sluices, High bankers and Mechanized Trammels, is 10 feet and must be in the water. While most activities DO occur in the water, however, sometimes the gravel bars are used. We request that "wetted width" be stricken and the size of the in stream activity be a minimum of seven like the 2 inch.

Comment: There should just be a minimum wetted width for Class 2 activity of 5-10 feet. People using dredges understand that water volume is more important than stream width when operating their equipment. As an example, responsible prospectors would not put a 4 inch dredge in a small stream with an inadequate water supply. They would not have enough water to operate the equipment properly. In a small, narrow and shallow stream a 2 inch dredge would likely be more suited for this purpose.

Comment: The stream size relative to stream width rule will almost completely shut down class 2 prospecting. When combined with rule number 4 which states that Class 2 operations will not take place closer than 5 feet from the water's edge, it becomes impossible to operate anything larger than a 2 inch dredge in a shallow stream that is at least 15 feet wide. A 2 inch dredge is designed to move sand and sediment in shallow water. By requiring it to be used at least 5 feet from the water's edge, in most cases the depth will be too great for the dredge to operate properly. The same is true for 3 and 4 inch dredges. They are not designed work properly at greater depth that would be likely to exist based on the stream widths and the distance from the water's edge as shown in the draft rules. Also, based on the draft rules, the streams widths for 3 and 4 inch dredges close almost all waterways to Class 2 prospectors who use Mechanized equipment larger than a 2 inch dredge.

Comment: At minimum, reinstate the requirement that the minimum wetted width for 2-inch dredges is 15 feet, for 3 inch dredges is 50 feet, and at least 100 feet for larger dredges.

Response: The Division is guided by Tennessee statute and regulation in its standards of water quality and the maintenance of the classified uses of streams and rivers. We have determined that the minimum stream width limits must be increased from 7 feet wide to 10 feet wide for two inch dredges and 15 feet wide for power sluices, highbankers and mechanized trommels to be somewhat more protective of the classified uses of small streams.

Comment: All dredges greater than 2 inches must employ a classifier over the nozzle intake." changes requested----- We see the need to strike this from the permit as all three inch nozzles already have classifiers made on them from factories.

Response: The Division has determined that this requirement is valid and will retain the condition in the general permit.

Comment: The use of pry bars, chisels, wedges, shovels, etc. to break layers of bedrock is not permitted. Loose rock may be moved and returned to its original position but competent bedrock shall not be disturbed. Changes requested -- Competent bedrock could be transposed in many ways so we ask that it be solid bedrock, which leaves no guess work.

Response: The intent of this provision is to limit the disruption of the stability of the natural streambed. The word competent means to have the capacity to function in a particular way. In this context, the Division intended to limit the dismantling of rock that functions to maintain

stability of the streambed and has determined that this requirement is valid and will retain the condition in the general permit.

Comment: Obtaining Permit Coverage states under Class 2" Each application shall apply to only one operator and only to qualifying prospecting equipment owned by that operator." changes requested----We suggest that this be changed to include spouse/domestic partner and immediate family members and at least 1 other individual and that the person obtaining this permit be responsible for all individuals working under this permit.

Response: As written, the condition does not preclude persons other than the equipment operator to be present and assisting the operator. Permit Coverage is however intended to apply to one set of Class 2 equipment owned and operated under the direct supervision of the permit holder.

Comment: We want the TDEC to re-evaluate their stance on requiring a NOC on PRIVATE land and NAVIGABLE waterways (excluding, state or federal lands) as long as we maintain these rules. We STRONGLY feel that the U.S. SUPREME COURT'S ruling and them defining the term "pollution" (... "moving rocks and material from one place in a waterway does not mean pollution as long as no other material is introduced"), supports our comments and a requirement for this NOC.

Response: We are unsure as to which ruling this refers, however, we believe the point to be moot with respect to the requirement of an Aquatic Resource Alteration Permit under the *Tennessee Water Quality Control Act of 1977* (Act). The Act states:

It is unlawful for any person ...to carry out any of the following activities, except in accordance with the conditions of a valid permit: (1) The alteration of the physical, chemical, radiological, biological, or bacteriological properties of any waters of the state;...

The Division has determined that it is correct and appropriate to require a permit where the streambed or banks are altered by dredging, excavation, or mining.

Comment: 200 feet between panning sites is excessive. When panning, material has already been washed when it was classified and there is no need for more than 25 feet between panning sites.

Response: The general permit as noticed and issued only requires a distance of 75 feet between dig sites for panning. The division believes that this distance between dig sites is the minimum necessary to remain protective of designated uses.

Comment: Increase the distance between class 1 sites from 75 feet to prevent a daisy-chain effect of impacts, given that the plume limit is 300 feet.

Comment: This General ARAP fails to comply with the state's anti-degradation policy. The unlimited amount of time a sediment plume can remain in the stream, despite the size restriction, defies the "short duration" limitation of anti-degradation. If each dig site at 75 or 200 feet apart, is creating a 300 foot plume, the sediment plume can be continuous and unlimited. When impacts to streams exceed the level of *de minimis* degradation, the rules require permit applicants to analyze alternatives to degradation as well as "discuss the social and economic consequences of each alternative..."

Comment: 200 feet between sluicing is excessive as well. When sluicing, material has already been washed when it was classified and there is no need for more than 50 feet between panning sites. There should also be a provision for more than one sluice at an installation. Sites suitable for setting up a sluice box can be difficult to locate and there may not be suitable sites at 200 foot intervals.

Comment: The special conditions of the general permit require that no objectionable color contrast, or plume, shall be visible in the stream greater than three hundred (300) feet downstream of the prospecting activities. This condition allows for a violation of water quality criteria for 300 feet downstream of the activity. This special condition is contradictory to general condition. A rationale is requested on why a recreational activity can be allowed to generate a 300' plume when such a plume from road construction is considered a violation.

Comment: Under class 2, all operations shall maintain a distance of two hundred (200) feet between sites as measured along the stream channel. Only one mechanized form of prospecting may be in use at a given site. I believe that 100 feet would be sufficient distance between sites. On a recreational scale turbidity is only increased during the time that the class 2 equipment is in operation and returns to normal levels within minutes of the termination of the activity.

Response: Regardless of the class of prospecting or the equipment being used, the primary objective of the spacing requirements is to limit the area of disruption of streambed habitat in a stream segment. However, suspended solids (plume) in higher concentrations caused by excavation and dredging can be harmful to fish and aquatic life as well. Therefore limiting turbidity is also an objective.

We agree with the comments that a 300 foot plume may be excessive. We believe that for a plume to travel 300 feet downstream without dispersion would indicate a relatively high concentration of suspended solids, and could result in a continuous plume of an even greater distance since sluices and dredging operations can be within 200 feet of each other. Therefore the Division's determination is to revise the limit to 100 feet downstream for Class 1 and 200 feet for Class 2.

Because sluice operations typically disrupt the streambed habitat by moving large rocks around to construct a sluice dam, a limit of 200 feet between sluices was conditioned to limit habitat disruption. The permit provides that up to two sluices may be in use at a given installation site.

Similarly, the Division has determined that a limit of 200 feet between dredging operations is necessary to limit the cumulative area of disruption of streambed habitat in a stream segment.

Comment: 5 feet is an excessive distance from the water's edge to operate a dredge. Gold does not collect in the middle of a stream unless it is in a bedrock crack, behind a large rock or in a depression in the stream bed. The distance from the water's edge should be no more than 12 inches. Responsible prospectors realize that we need to maintain that distance so as not to destabilize the banks.

Comment: At minimum, reinstate the requirement that operations shall not be conducted within 5 feet of the water's edge.

Response: The general permit as noticed and issued requires a minimum distance of 2 feet from water's edge on the day of the activity. The intent of this provision is to prevent the destabilization of the stream bank. Destabilization can occur from digging into the stream bank directly or undermining the stream bank from digging in close proximity to it. The previous permit's minimum distance of 5 feet from each bank was determined to be too limiting on the range of stream types where certain types Class 2 activities could be conducted. Two feet is the minimum distance that we believe is acceptable to prevent the destabilization and the Division's determination is to retain the 2 foot limit as proposed.

Comment: We also understand that dredge sizes have a relationship to the purpose and the conditions for which they are being used. A 2 inch dredge is simply a shallow water tool used to move simple sediments from cracks and bedrock. It is not made to move overburden. A 3 inch dredge is still a shallow water tool that will move small amounts of overburden but not designed to move large rocks and lose effectiveness at depths of 4-5 feet. A 4 inch dredge will move overburden in larger amounts but starts losing its effectiveness at 6-8 feet. The engines and pumps on these operations, especially when limited to no more than 10 horsepower cannot create enough suction to lift large amounts of material from greater depths. It would be more effective to regulate engine size by putting a maximum engine size of 10 horse power.

Comment: Dredge size should be measured as it is by every other state, by nozzle size. Trying to reduce a nozzle size on a larger dredge will only increase the pressure of water flowing through the sluice box and blow out the gold. Knowledgeable Dredge operators know that reducing the nozzle size offers no benefit. It would be more useful to require a nozzle classifier to keep larger rocks from passing through the sluice box.

Comment: Pump engines shall not exceed eight (8) horsepower. I would like to recommend that Pump engines not exceed 10 horsepower.

Response: These comments illustrate that either horsepower or nozzle size or both control the impact that a dredge can have on the stream-bed habitat. The Division looked at the typical

equipment used in most cases and concluded that the hobby can effectively continue with these limits of 8 horsepower and other limits based on nozzle size (including classifiers).

Comment: Permit fees should be reflective of a recreational permit or license such as a hunting or fishing license. An appropriate fee should be in the \$30.00 to \$50.00 range annually.

Response: The minimum fee charged by the Division for permit processing is \$50.00. The rulemaking authority, the Tennessee Board of Water Quality, Oil and Gas, has approved a change to the rules that govern the Division's fees to reflect a one-time processing fee of \$50.00 (fifty dollars) for a Notice of Intent for Class 2 recreational prospecting, and a waiver of the typical annual maintenance fee of \$350.

Comment: We are of the opinion that Class 2 activities, as defined in the general permit, should be removed from the general permit and require that individuals seeking to engage in these activities obtain an individual Aquatic Resource Alteration Permit (ARAP). Our reasons for this request follow. If Class 2 activities are allowed to remain in the general permit, we do not believe that the notification and oversight of these activities will be as well documented and evaluated.

Additionally, for the other citizens wishing to use these same waters, the general permit imposes a greater challenge upon them to understand what is happening to the waters they also use and enjoy. Stated another way, other citizens who have the same rights to access and use this water will be better able to engage in your processes if an individual ARAP is required for Class 2 impacts. Given that Class 2 activities have been proven to damage the physical and habitat characteristics of streams and rivers, and that these activities can and do directly impact the ability of others to enjoy these waters, we feel it only prudent to exclude Class 2 activities from the general permit.

Comment: Operating from the assumption that the department will consider Class 1 and Class 2 activities *de minimis*, the general permit does not commit the department to pre and post activity monitoring to determine if these activities are truly *de minimis*. We call on the department to work cooperatively with the Tennessee Wildlife Resources Agency and the U.S. Forest Service to develop and implement a monitoring protocol for all areas where these activities are allowed to occur. This appears to be the only reasonable way the department will be able to adequately support its own anti-degradation statement contained within the water quality rules of the state of Tennessee.

Comment: Require the submission of an annual report, to include information about location (waterbody where prospecting occurred and the geographic location of the operation), duration (dates of operation and the length of operation each day), and minerals recovered. This report shall be signed and certified as accurate.

Response: Almost all permits that the Division issues allow some degradation to waters. General permits represent a scale of degradation that is considered *de minimis*, or minimal.

Tracking and evaluating impacts of alterations conducted under permits, including general permits, represents a challenge, and is not required in any other general ARAP permit.

With the prospecting general permit, class 2 prospecting requires submittal of a Notice of Intent. The Division must evaluate the resource values associated with the proposed locations listed in the Notice of Intent before authorizing the prospecting. In cases such as streams containing threatened or endangered aquatic species, coverage will not be issued. If this review indicates a substantial need for public input or other significant resource issue, the Division retains the right to require an Individual Permit for the proposed activity.

Where the Division does issue a Notice of Coverage, the locations will be tracked and impacts can potentially be evaluated with follow-up monitoring conducted by the Division or other resource agency. The determination is to retain class 2 prospecting within the general permit.

Comment: The general permit as written allows for the use of a #2 shovel. If this general permit is truly for recreational prospecting we believe that this tool is unnecessary. There is adequate video evidence on the internet to show that two people utilizing a #2 shovel can produce significant damage to stream banks and other areas in a relatively short amount of time. This is particularly concerning since Class 1 activities do not require notifying the department of these activities.

Comment: Exclude the use of #2 shovels and other large tools in class 1.

Response: While the division acknowledges that there may be evidence of damage using these tools in the past, we believe such tools when used responsibly under the conditions established in the general permit (including the prohibition on disturbing stream banks) will result in no more than *de minimis* impact.

Comment: During discussions with a representative of the recreational prospecting community earlier this year, it was mentioned that recreational prospectors would be willing to forgo prospecting in streams and rivers during the time which fish are spawning. We agree that this is a sound idea and will reduce potential impacts on fishes. We ask that the department coordinate with the TWRA to establish a "season" or periods of time where these prospecting activities can occur and do not interfere with fish spawning.

Comment: Limit the times of years certain waters can be used to exclude seasonal spawning. Prohibit operations when fish are spawning or when fish eggs or yolk-sac larvae are known to exist at the time the dredging occurs. Likewise, prohibit operation in gravel bar areas at the tail of pools or where operations result in fine sediments discharging onto gravel bars.

Response: Spawning seasons are specific to different fish species. The Division looked at ways to address spawning requirements of fishes in a comprehensive way, but could not identify a process that would not otherwise be too broadly restrictive, or that could be practically applied.

However, listed fish species are protected under the general permit. Class 2 prospecting is not permitted in any stream segment containing threatened or endangered aquatic species, aquatic species deemed in need of management, or designated as critical habitat.

Comment: In determining whether these activities are *de minimis* or not, we request the department consider the cumulative impacts of these activities and the existing condition of the water at this time.

Comment: We're particularly concerned with the proposition that these activities as proposed to be authorized could be considered *de minimis* under the antidegradation provisions of Tennessee's water quality standards. The proposed permit does not sufficiently limit or control impacts to state waters to assure their protection, much less the minimal degradation needed to assert the *de minimis* exemption from antidegradation review.

Comment: TDEC cannot issue a General Permit that causes more than *de minimis* harm, and Tennessee specific studies confirm that recreational prospecting adversely affects aquatic habitats and species.

Response: Cumulative impacts were considered during the development of this general permit. The terms and conditions contained within this permit have been carefully constructed to avoid degradation of water resources, both individually and cumulatively.

The Division has confirmed more than *de minimis* adverse impacts caused by unregulated recreational prospecting in at least one stream segment in Tennessee. However, since the activity was ongoing without regulation, previous impact is not comparable to impact that may occur from activities conducted under the terms and conditions of the general permit.

We believe that prospecting activities, when conducted under the terms and conditions of the general permit, will not result in more than *de minimis* impact.

Comment: Extend the prohibition and limitations established for all Tennessee Wildlife Resources Agency properties [*i.e.*, Supplemental Requirements] to all waters that flow through federal, state, and local public lands.

Comment: The anti-degradation rules have specific requirements regarding Exceptional Tennessee Waters. The Proposed Permit does not exclude mining in Exceptional Tennessee Waters, only Outstanding Natural Resource Waters. Rules governing impacts to Exceptional Tennessee Waters ("ETWs") mandate that alternatives and economic and social justifications be analyzed.

Comment: Class 2 prospecting should be explicitly prohibited in all Exceptional Tennessee Waters (ETW). Areas in the state popular with prospectors include several ETWs. While the prohibition on prospecting in waters designated as containing threatened or endangered (T&E)

aquatic species will protect some ETWs, it will not protect them all. Many ETWs are designated for purposes other than protecting T&E species. For example, many of the ETWs in areas popular with prospectors are designated trout streams. According to the TWRA the upper part of the Tellico River has natural reproduction of rainbow and brown trout. The lower reaches of the Tellico River and its tributaries provide a cool water stretch containing smallmouth bass and rock bass. The sensitivity of these fish has led the Division to place more restrictive water criteria on streams they inhabit, especially for temperature and dissolved oxygen. Disturbing the streambeds in these waterways will negatively affect the naturally occurring trout species, which are highly intolerant of unhealthy water quality. However, the draft permit only proposes to prohibit prospecting in streams managed for brook trout. Failing to apply the prohibition to all ETWs leaves many non-T&E species at risk.

Comment: Prohibit recreational prospecting in Exceptional Tennessee Waters.

Response: One of the criteria for defining Exceptional Tennessee Waters includes waters within state or national parks, wildlife refuges, forests, wilderness areas, or natural areas. The Division determined not to absolutely prohibit prospecting in Exceptional Tennessee Waters because this would exclude this recreational use in waters on most state and federal public lands in Tennessee.

The Tennessee Wildlife Resources Agency and the Cherokee National Forest both informed TDEC that they would not allow class 2 prospecting on lands that they administer, and both asked that TDEC exclude those lands from coverage under the general permit. Since the general permit is only a means to provide a streamlined authorization of *de minimis* activities, and does not itself represent a prohibition of activities on those lands, the Division has determined to honor the requests of the administrators of those lands and exclude those lands from coverage under the general permit.

A guiding principle behind the issuance of general permits is that activities, when conducted under the terms and conditions of a general permit, will not result in more than *de minimis* impact. Under the State's Antidegradation Policy, only if the proposed activity will cause degradation above a *de minimis* level is an analysis of alternatives and social and economic consequences explicitly required, including Exceptional Tennessee Waters.

The general permit also excludes prospecting in waters designated as containing threatened or endangered aquatic species and streams managed for brook trout. These exclusions capture many of the Exceptional Tennessee Waters.

We determined to prohibit prospecting in streams managed for brook trout because it could be contrary to the relatively significant investment that the state and federal wildlife agencies are making in the reintroduction and management of brook trout into their former ranges. The Division determined not to prohibit prospecting in naturally reproducing trout streams because naturally reproducing trout streams represents a much broader category of waters that do not necessarily represent a level of sensitivity that would be harmed by prospecting and a prohibition may unnecessarily exclude this recreational use.

However, as the commenter above noted, the Division does require more restrictive water quality criteria for sensitive waters. In that regard, we have determined to add to the general permit an exclusion for Exceptional Tennessee Waters listed because of exceptional biological diversity and other waters with outstanding ecological, or recreational value as determined by the Department (Rule 0400-40-03-.06(4)6.-7.)

Comment: Limit the number of pans, sluices, and operators at a given site.

Comment: Items 6 and 7 under Class 1 Special Conditions allow for more than one pan or sluice at a given site, but do not cap the number of pans or sluices in use. Allowing for an unrestricted amount of equipment to be in use at one site could result in over disturbance of streambeds and would threaten aquatic life.

Response: The division believes for Class 1 prospecting the conditions placed on dig sites are the most important in regulating impact to water quality, and that the number of pans that can be realistically used at a single dig site is much less significant and self-limiting. We agree with the commenter that the number of sluices should be restricted and have limited sluices to a maximum of 3 at an installation.

Comment: Special events (Class 2, Item 10) should not be able to receive a waiver. The potential for degradation to occur when multiple people are prospecting within a small area is too great. As the Division noted at the public hearing, General permits can only apply to those activities which do not exceed *de minimis* degradation. When activities are proposed to exceed the scope of the general permit, an individual permit must be sought by the applicant, as is required when all other activities covered by such permits exceed conditions.

Comment: Special events should not be exempt from the spacing requirements. The spacing requirements help to ensure degradation does not occur and should not be negated when this potential increases.

Comment: Remove the exemption for “periodic, special events” as it is inconsistent with the *Tennessee Water Quality Control Act*.

Response: We believe that the short duration of an annual event can still result in *de minimis* water quality impact. However, we have replaced the word periodic with the word annual, thus modifying the permit condition to allow only one special event per calendar year instead of “periodic” events, with no specific limits. In addition the Division requires a written request outlining the specifics of such an event, and will only authorize events that represent impact of a short duration and magnitude.

Comment: Remove the exemption for class 1 from the wetted width minimum for private landowners and their immediate family. Whether a land is privately owned is irrelevant to the impacts on public resource water.

Comment: A Notice of Coverage requirement should not be removed from activities on private land. The impacts occur to waters of the state regardless of who owns land through which the stream flows.

Response: The specific exemption for private lands addressed only the wetted width requirements for class 1 prospecting. Class 1 prospecting activities as a whole do not have a requirement for a Notice of Coverage. However, the Division agrees that impacts are independent of property ownership and has removed the wetted width exemption from the general permit.

Comment: The benefits of the existing uses exceed those of the activities described in the permit. The economic and social benefits of fishing and other natural resource values in the State of Tennessee exceed any benefit from permitting the streambed destruction that would result from prospecting these small streams.

Comment: The State cannot authorize degradation to impaired waters and should not authorize degradation to non-impaired waters. It is illogical and impermissible that Tennessee waters that are not already “impaired” may become impaired by activities described in the Proposed Permit while waters that are “impaired” are protected.

Comment: Prohibit class 1 prospecting in any stream on the Division of Water Resource’s 303(d) impaired waters list for channel, physical substrate, or habitat alteration (as is true for Class 2 activities).

Response: A guiding principle behind the crafting and issuance of general permits is that activities, when conducted under the terms and conditions of a general permit, will not result in more than *de minimis* impact. Under this principle, the Division is not authorizing a loss of a designated use, nor significant additional degradation to waters, regardless of the availability or unavailability of the parameters associated with the support of those uses.

Comment: The proposed activity threatens protected species and could lead to “takes” Neither the special nor general conditions of the Proposed Permit will prevent impermissible impacts on protected species or their critical habitat, in violation of the *Endangered Species Act* and the *Tennessee Nongame and Endangered or Threatened Wildlife Species Conservation Act of 1974*.

Comment: Prohibit adverse impacts to state or federal aquatic species proposed for listing as endangered and threatened, candidate species, partial status species, non-essential experimental population, as well as aquatic species of special concern and the critical habitat of all such species.

Response: The general conditions of all of the ARAP general permits require prior coordination with state and federal agencies responsible for administration of rare species protection laws before the activity can be authorized.

This permit condition for species protection was written in coordination with the Tennessee Wildlife Resources Agency. Further, for Class 2 activities the review process to receive written authorization evaluates every project proposal to determine the potential impact activities may have on endangered species. In addition, there is regular coordination with state agencies and the Division of Natural Areas on projects where no known occurrences are but the potential for these sensitive species exists. This provides a consistent and thorough statewide evaluation process for protection where there is potential habitat and/or species presence. This process, to the best of our abilities, ensures the protection of these state and federally listed species.

Finally, for all classes of activity the standard permit condition addressing rare species has been further clarified is as follows:

Activities occurring in known or likely habitat of state or federally listed threatened, endangered, or a species deemed in need of management may not be authorized without prior coordination with the Tennessee Wildlife Resources Agency (TWRA) and TDEC Division of Natural Areas (DNA) to determine if the proposed activities will or will not likely result in take, harassment, or destruction of the species or render the habitat unsuitable. Adverse effects to federal threatened and endangered species are not permitted without prior authorization from the United States Fish and Wildlife Service (USFWS) as required by Section 7 or Section 10 under the Endangered Species Act.

Comment: Require a “Notice of Intent” to be submitted to the State when a person seeks coverage for Class 1 prospecting activities so the State may track and evaluate where the activity is taking place and require written confirmation that the waterbody in which the person seeks to operate is eligible.

Response: The Division recognizes a general distinction between non-mechanized (class 1) and mechanized (class 2) prospecting in terms of impact. We believe that, in general, more impact is likely utilizing mechanized prospecting equipment than non-mechanized. In order to avoid an unnecessary regulatory burden, a review and approval process was not required on the manual or non-mechanized prospecting. The specific and general permit conditions that must be followed for Class 1 activities are designed to keep any impact to a *de minimis* level. If information arises that shows that review and approval is needed for non-mechanized prospecting, the general permit can be revised.

Comment: Require that mechanical equipment be checked for leaks, and all leaks repaired, prior to the start of operations each day. Spills of petroleum products must be reported to TDEC.

Response: The permit requires all fueling or servicing operations to be conducted at least 25 feet from waters, minimizing the threat from any spills. In addition, the permit prohibits the

discharge of any substance harmful to aquatic life into waters. The division believes that the specific requirements proposed by the commenter would be difficult to enforce, especially given that significant numbers of motorized recreational equipment operate in state waters currently without such specific regulatory requirements.

Comment: Shorten the term of the permit from 5 years to 1 year to use the information from the annual reports, spot-inspections, and other analysis to more fully analyze the degradation of the activity.

Comment: Establish a shorter permit term than 5 years to confirm, based on additional data and observation, whether the State can defend its *de minimis* determination.

Response: ARAP general permits typically have a 5 year duration. This is to provide consistency to both the public being regulated and to Division staff. This time frame seems ample to adjust the permit to accommodate change as needed and also to maintain consistency. Problems arising from activities in a specific location, or by a specific permit holder can be addressed at any time during the permit cycle by the Division. For this general permit the term will be somewhat shorter than five years, expiring on April 6, 2020 to align with the expiration of all the other GPs.

Comment: Limit the number of days a site can be used in a given period, add a temporal limit on how much material can be moved in a day.

Response: Generally, prospectors are day users and many work only on weekend when they have leisure time. While there may be sporadic exceptions (i.e. people from out of town who may camp for a week or so) it is felt that limiting the number of days a site can be prospected is not necessary as it affords no additional stream protection, and would very difficult to determine compliance. The amount of material that can be moved depends on the type of material, tools being used and the physical condition of the prospector. See the comment below on site definitions for more discussion.

Comment: Prohibit Class 1 and Class 2 activities taking place at the same site.

Response: The separation distances outlined in the permit already address this concern.

Comment: Require protective minimum flow levels, not just wetted width.

Response: Flow data is not available for many of the streams that might be affected and it is not possible to develop a reasonable estimate for every stream. In addition, this would require flow measurements to be taken at the time prospecting was occurring which could not be verified by the division until the data was received in which case, flows would likely have changed.

Comment: Require the permittee to ensure that there is adequate passage for fish around and through the mining area at all times.

Response: With bank setbacks and wetted width limits, it is highly unlikely that fish would be prohibited from moving through an area of prospecting or retreating from it either upstream or downstream.

Comment: Define key terms, including “site” and “wetted width.”

Comment: The draft permit fails to define “site.” Items 6 and 7 under Class 1 Special Conditions and Item 10 under Class 2 Special Conditions specify a required distance between sites, but do not limit the size of each site. The absence of a size limitation allows for indefinite disturbance of the stream bed from each prospecting site.

Response: For the purpose of this general permit, we define “wetted width” as the width of water measured perpendicular to the stream channel, or that cross section of the stream channel that is wet.

We define “site” as the area of disturbance resulting from a discrete one-time excavation of material.

Comment: Require that, if mercury is found during the operation (*i.e.*, if mercury is collected in the sluice box or other apparatus), keep mercury collected, do not remobilize the collected mercury, dispose pursuant to hazardous waste laws.

Response: The division does not believe it is appropriate to include a permit condition requiring untrained citizens who may have no knowledge of how to properly handle mercury to collect and keep it; including risking the possibility of release and additional exposures after it is collected and before it is disposed of. Anyone who encounters mercury in the environment may obtain further information related to precautions and disposal options at: <https://tn.gov/health/article/mercury> .

Comment: Specify the additional permit(s) required to operate.

Response: Additional permit(s) required to operate vary with jurisdiction. We have specified that work shall not commence until the permittee has obtained all necessary authorizations pursuant to applicable provisions of §10 of The Rivers and Harbors Act of 1899; §404 of The Clean Water Act and §26a of The Tennessee Valley Authority Act, as well as any other federal, state or local laws.