Maryland CREP Technical Handbook

USDA - Natural Resources Conservation Service

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This edition is based upon the Maryland CREP agreement that became effective May 14, 2009.

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This handbook provides guidance on the Maryland CREP. CREP is part of the Conservation Reserve Program (CRP) administered by the Farm Service Agency (FSA), for which official policy can be found in FSA Handbook 2-CRP. However, because this guidance is specific to Maryland CREP, specific practice criteria in this handbook are more extensive than, and may differ from that in FSA-2-CRP.

Technical criteria and requirements for CREP have been developed in consultation with the Maryland CREP Technical Committee and reviewed by the CREP Advisory Committee.

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PROGRAM OVERVIEW

CREP enrollments will be offered on a continuous basis until further notice. Each new fiscal year will be assigned a new sign-up number but the enrollment will be uninterrupted. CREP is a part of the continuous sign-up program. CREP is administered through the Farm Service Agency (FSA).

Participant Eligibility. Producers and landowners are eligible if they have owned or operated the land for at least 12 months prior to application. Participants must also meet adjusted gross income (AGI) and HEL/WC eligibility criteria. *Participant eligibility is determined by FSA.*

Land Eligibility. There are two types of land eligibility determination:

Administrative – Whether or not the land is considered cropland or marginal pastureland for the purposes of CRP. *Determined by FSA.*

Technical – Whether or not the land meets the criteria for enrollment in a CREP practice, and if the practice is needed and feasible. Technical criteria include suitability for a specific practice, erodibility index (EI)[1], presence of water bodies, whether the planned treatment can be implemented, and whether or not existing cover is treating the resource concern. *Determined by NRCS or TSP*.

Land Eligibility Criteria. The basic land eligibility criteria for enrollment in CREP were established in the CREP agreement between the USDA and the State of Maryland. The priority area for Maryland CREP includes the entire state. Land is suitable for enrollment under the Maryland CREP provisions if it meets at least one of the following criteria, as determined by NRCS or a TSP:

1. It is suitable for *shallow water or wetland restoration* practices (CP9, CP23, CP23A); or,

2. It is suitable for *rare and declining species habitat* (CP25); or,

3. It meets both of the following criteria for *highly erodible land* practices (CP1, CP2, CP3, CP3A, CP4D):

    a. It has an erodibility index (EI) of 8 or greater in Cecil county and the eastern shore, or of 16 or greater in the remainder of the state; and

    b. The entire area is within 1,000 feet of a permanent or intermittent stream or other water body.

Or,

4. It is suitable for *riparian buffer* practices (CP4D-Buffer, CP21, CP22, CP29, CP30), and meets one of the following criteria:

    a. It is within 100 feet of a stream, measured from the top of bank, or other eligible water body, not including water bodies classified as ditches; or,

    b. It is within 35 feet of a drainage ditch, measured from the top of bank, and is offered for enrollment as a filter strip (CP21); or,

[1] Determination of erodibility index for CRP General Sign-up applications is determined by FSA.

c. It is within 250 feet of a stream or other eligible water body, not including water bodies classified as ditches, and meets one of the following additional criteria for *expanded buffers*:

   i. The land has an EI ≥ 8 (using the USDA approved EI Calculator) on 50% or more of the enrolled acres (this criterion is applicable statewide only for expanding buffer practices); or,

   ii. The land is located west of the Chesapeake Bay (does not include Cecil Co.) and contains 50% or more hydric or floodplain soil mapping units (see Appendix F for a list of flooded map units, or the Field Office Technical Guide for a list of hydric soils); or,

   iii. The land offered for enrollment will be established and managed for at-risk riparian species or shrubland birds and pollinators, according to specific requirements (see *Expanded Buffers for Wildlife*). Due to practice requirements, buffers enrolled as filter strips (CP21) are not eligible to be expanded beyond 100 feet under the *expanded buffers for wildlife* criteria.

See Appendix C for determination of streams and ditches.

Or,

5. It is land previously enrolled under Maryland CREP in a contract that expired on or after September 30, 2008. This land may be re-enrolled, within current application submission deadlines per the current FSA 2-CRP Handbook, based on the eligibility and practice requirements at the time of initial enrollment, except in cases where:

   a. The eligible water body no longer exists (e.g. ditch converted to drain tile); or,

   b. The initial eligibility determination was incorrect (e.g. ditch never existed); or,

   c. The area was planted with a species that was allowed at the time, but has since been placed on the *List of Prohibited Plants.* The area may be made eligible for enrollment by destroying the prohibited plants.

If the offered acreage is not eligible for CREP, the applicant should be advised of the next general sign-up or the regular continuous sign-up, which would not include CREP incentive payments.

Cropland Eligibility Criteria.[2] Land may be considered cropland for the purposes of CRP if it meets all of the following criteria, as determined by FSA:

- Cropping history of planted or considered planted during 4 of the 6 crop years, 2002 to 2007, to an agricultural commodity crop.

  Acreage for which the producer received a crop insurance indemnity payment for prevented planting shall be considered planted for that year for CRP cropping history purposes.

  The following conserving uses are considered planted for cropping history purposes:

  – Any alfalfa or multi-year legumes or grasses planted, or any summer fallow established during 2002 through 2007;

[2] Reference: 2-CRP (Rev. 5), Para. 151A and Para. 181A.

- Any alfalfa, multi-year legumes or grasses, or summer fallow in a crop rotation of not more than 12 consecutive years;

- Any land previously enrolled in CRP where the grass cover continues to be maintained as though enrolled in CRP.

- Physically and legally capable of being planted in a normal manner.

  Land with a mixture of grass and small trees and/or shrubs that can be removed with a brush-hog or mower shall be considered physically capable of being planted in a normal manner.

Marginal Pastureland Eligibility Criteria.[3] Marginal pastureland adjacent to streams or other permanent water bodies that will be devoted to riparian forest buffer, wildlife habitat buffer, or wetland buffer. Marginal pastureland is land that is not cropland or forestland and is not currently functioning as a riparian buffer.

Needed and Feasible Criteria. To be eligible for CREP, the acreage must be determined to be suitable for the offered practice, and the practice is needed and feasible to solve the resource concern, as determined by NRCS or TSP.

Land may be considered "in need" of a practice if it is physically capable of being planted in a normal manner (see above), because it is then subject to planting to an agricultural commodity. For example, land in grass cover, that is otherwise eligible, may be considered "in need" of a buffer to maintain and/or provide the functions of a CREP buffer. Additionally, land in grass cover that is being maintained in a way that is not beneficial for water quality or wildlife, is not meeting the objectives of CREP, and therefore could be considered "in need" of a practice.

Marginal pastureland may be considered "in need" of a practice if it is not currently functioning as a riparian buffer. For example, if livestock have access to a riparian area, and the area contains only large shade trees with no understory, then it is not functioning as a riparian forest buffer.

Land may be considered "infeasible" for a practice if existing conditions preclude successful implementation. For example, an area containing a drained hydric soil may be considered infeasible for a wetland restoration if the only way to restore the hydrology is by plugging a ditch on land not enrolled in the program, and the ditch cannot be plugged.

Farm Lanes and Access Roads. Farm lanes and access roads within an area proposed for enrollment shall be excluded from the area enrolled in the CRP. NRCS or TSP must determine if the area proposed for enrollment on the outside of the lane or road is needed and feasible.

Existing Buffers. Existing buffers not currently enrolled in CRP may be augmented up to the maximum allowable width. Participants must agree to maintain the entire buffer, and are eligible for rental payments and cost-share only on the enrolled (i.e. augmented) acreage.

When an existing natural or planted buffer does <u>not</u> meet CRP/CREP eligibility requirements, the width of the existing buffer must be subtracted out of the total possible width for CRP/CREP enrollment. For more information and examples, see FSA 2-CRP, Exhibit 9, CP21 and CP22.

Areas previously enrolled in general sign-up or continuous CRP must meet current eligibility and practice requirements to be enrolled in CREP.

[3] Reference: 2-CRP (Rev 5), Para. 181C.

Government-owned Lands. State-owned and local government-owned lands are eligible for enrollment in CREP, but may not be eligible to receive all payments due to payment limitations. Producers leasing government-owned lands are eligible to enroll those lands in CREP, provided they can submit satisfactory evidence that they will have control of the land for the entire contract period.

Weed Problems on Land Under Consideration for Enrollment. NRCS or TSP is responsible for determining whether a site is suitable for establishing and maintaining a planting. Sites that have heavy infestations of invasive weeds and/or have poor access for treatment are not eligible for enrollment in CREP. As a general guideline, "heavy infestation" means that more than 20% of a site is covered with invasive plants.

Invasive weeds include (but are not limited to) state-listed noxious weeds such as Johnsongrass, shattercane, Canada thistle, bull thistle, plumeless thistle, and musk thistle, as well as other aggressive species such as multiflora rose, tree of heaven (Ailanthus altissima), kudzu, and Phragmites. Invasive plants usually exhibit certain characteristics: they spread aggressively, reproduce quickly, tolerate a wide range of climatic conditions and habitats, compete efficiently against other species, and thrive in disturbed areas.

Areas with light infestations of invasive plants may be enrolled in CREP if weed control can be accomplished within 12 months. For sites with weed problems, NRCS will:

- Consult with county weed control specialists and/or weed control specialists in MDA or Maryland Cooperative Extension to determine the extent of treatment needed to bring weeds under control; and,

- Determine the suitability of the site for CREP enrollment, based on technical recommendations and a treatment plan developed by the weed control specialist.

Criteria for Perennial and Seasonal Streams. The stream criteria of CRP will also apply to CREP. A “stream” must have a definable stream channel. The following definitions will be used:

- Perennial stream - a stream that contains water throughout the year.

- Seasonal stream - a stream that contains water for only part of the year, but more than just during and/or after rainfall or snowmelt.

Seasonal streams do not include any of the following:

  – Wetlands;

  – Ponds or lakes;

  – Gullies;

  – Grass waterways;

  – Roadside ditches, unless they meet the definition of a perennial or seasonal stream;

  – Springs or seeps, unless they have a defined channel and also meet the definition of a perennial or seasonal stream.

- Constructed drainage ditches and channelized intermittent streams are treated differently under CREP (See Appendix C). Constructed drainage ditches must be at least 2 years old at the time of eligibility determination to be considered eligible waterbodies in CREP.

USGS maps, soil maps, etc. shall not be the only source of information used to determine seasonal or perennial streams, or wetlands. Mapped information may not reflect actual conditions. Field verification is required. Use the Maryland CRP/CREP Wetland Verification Worksheet (see Appendix B) to document the presence of seasonal wetlands.

Contract Acreage Limitation. The following limitations for enrollment in CREP have been established:

- ***77,000 acres Riparian Buffers (CP4D-Buffer, CP21, CP22, CP29, CP30)***. Herbaceous, forested, and wildlife buffers up to 100 feet wide adjacent to streams and other waterbodies. The following acreage limitations apply to *expanded buffers* (up to 250 feet in width):

  – Up to 1,000 acres on the Eastern Shore (Cecil county and points south), where water quality benefits can be derived due to HEL, or for wildlife benefits. The 1,000 acre total regional enrollment restriction applies only to new enrollments, excluding re-enrollments, as of May 15, 2009.

  – Up to 4,000 acres in the remainder of the state (west of the Chesapeake Bay), where additional water quality benefits can be derived due to floodplains, hydric soils, or HEL, or for wildlife benefits. The 4,000 acre total regional enrollment restriction applies only to new enrollments, excluding re-enrollments, as of May 15, 2009.

- ***5,000 acres of Water and Wetland Practices (CP9, CP23, CP23A)***

- ***16,000 acres of Highly Erodible Land Practices (CP1, CP2, CP3, CP3A, CP4D-HEL)***. Highly erodible land within 1,000 feet of a permanent water body and an EI of 8 or greater on the Eastern Shore or an EI of 16 or greater in the remainder of the state.

- ***2,000 acres of Rare and Declining Species Habitat (CP25)***. Enrollment may include up to 500 acres on the Eastern Shore, and 1,500 acres in the remainder of the state. Applications for CP25 will be reviewed by the CREP Technical Committee to ensure they meet the requirements of the program.

The State FSA Office will be responsible for keeping track of the cumulative CREP enrollments to ensure these targets are not exceeded and for other reporting purposes.

Cost-Share. Cost-share from FSA is limited to 50% of eligible costs, including costs required to re-establish re-enrolled lands. Participants can receive up to 50% cost-share for mid-contract management activities, up to $50 per acre per year not to exceed[4]:

- $100 per acre for the life of the contract for a 10-year contract;

- $125 per acre for the life of the contract for a contract in excess of 10 years.

The Maryland Department of Agriculture provides cost-share for some CREP practices through MACS. See the MACS Cost-Share section for more information.

[4] Reference: 2-CRP (Rev 5), Para. 512.

Cost-share on Existing Practices. FSA will not provide cost-share to enhance an existing practice that meets practice standards. For example, FSA will not provide cost-share to enhance the vegetative diversity of an herbaceous stand or increase the hydrology in a wetland if the practice currently meets standards. A participant may conduct these types of enhancements at their own expense, within practice requirements. However, a participant could receive a mid-contract management payment to maintain vegetative diversity per Maryland CRP/CREP mid-contract management requirements, if the mid-contract management activity is included in the conservation plan.

Annual Rental Payments. All CREP practices are eligible for annual rental payments based on the soil rental rates for the three predominant soil types plus an incentive payment that varies depending on the practice, as follows:

Table 1. CREP practice incentive payment rates.

CREP Practice	Incentive Payment
CP22 (Riparian Buffer), CP23 and CP23A (Wetland Restoration)	200% of the average SRR
CP4D-Buffer (Wildlife Habitat), CP21 (Filter Strip), CP25 (Rare and Declining Species Habitat)	150% of the average SRR
CP9 (Shallow Water Area), CP29 (Wildlife Habitat Buffer), CP30 (Wetland Buffer)	100% of the average SRR
CP1 (Introduced Grasses), CP2 (Native Grasses), CP3 and CP3A (Trees), CP4D-HEL (Wildlife Habitat)	80% of the average SRR

One-time Bonus Payments. The following one-time bonus payments are applicable to certain practices:

- ***Sign-up Incentive Payment (SIP)*** - For CP9, CP21, CP22, CP23, CP23A, CP29, and CP30, a participant can receive a one-time SIP bonus of $10/acre for each full year of enrollment, not to exceed $100/acre. For example, 1 acre enrolled in a contract that will run for 9 years and 7 months would receive a $90/acre bonus. SIP only applies to new enrollments. Land enrolled under the land eligibility criteria of expired but maintained as if in CRP is not eligible for SIP.[5]

- ***Practice Incentive Payment (PIP)*** - For CP9, CP21, CP22, CP23, CP23A, CP29, and CP30, a participant can receive a one-time PIP bonus equal to 40% of the eligible cost of installation. The PIP payment is made by FSA after the practice is certified and the technical agency signs the AD-862.

- ***Maryland State Signing Bonus Payment***. The State of Maryland will provide a one-time signing bonus payment of $100 per acre for all new enrollments and re-enrollments, for all practices.

Annual Payment Limitation. There is a cap of $50,000 per person per year in CRP/CREP payments from FSA. This limitation includes annual rental payments, and one-time SIP and PIP bonus payments. Cost-share payments do not apply to the annual payment limitation.

Contract Duration. The duration of a CREP contract is 10 years for CP1, CP2, CP3, CP4D, and CP9, and can be from 10 to 15 years for CP3A, CP21, CP22, CP23, CP23A, CP25, CP29, and CP30.

[5] Reference: 2-CRP (Rev 5), Para. 181F.

Effective Date of CRP-1. The effective date of the CRP contract (CRP-1) under CREP shall be the first day of the month following the month the County Committee approves the CRP-1. From this day on, the land is subject to CRP restrictions and is earning rental payments.

Exception: The applicant may defer the effective date of the CRP-1 up to 6 months. This may be necessary in circumstances such as when installation of a fence is needed to restrict livestock access, or deferment is needed to harvest a standing crop.

GENERAL PRACTICE REQUIREMENTS

This section describes practice requirements that are applicable to CREP. Additional practice requirements are provided in the practice-specific sections of the handbook.

Requirements Applicable to all Practices

- Enrolled practices must be maintained for the duration of the contract.
- Limit cost-share to the components necessary to establish the practice.
- Select species from the list of approved trees, shrubs and cover mixes. Herbaceous plantings shall include at least 2 grasses and at least 1 forb or legume. For woody plantings, select at least 2 species of trees and/or shrubs that are native to Maryland. (Note: Some practices may require more species.) Herbaceous cover established as Conservation Cover (327) or Riparian Herbaceous Cover (390) shall be established with preferred mixes for wildlife. Do not select mixes that include tall fescue (*Schedonorus phoenix).*
- Do not use plants on the list of *Prohibited Plants* for CRP and CREP.
- Noxious weeds and other invasive plants must be controlled by spot treatment, using mechanical methods or approved herbicides, to avoid an adverse impact on surrounding land.
- Participants shall follow the requirements outlined in the Practice Implementation and Maintenance Plans (job sheets) for the appropriate practice. All participants shall be provided with a job sheet or forestry planting and management plan, or similar document that identifies the vegetation to be established, and the requirements for establishment, maintenance, and management.
- Chemicals used must be Federally, State, and locally registered, and applied according to registered uses.
- When planting trees and shrubs adjacent to drainage ditches (allowed in non-buffer practices such as CP23 and CP25), ensure that the plantings will not impede drainage on other properties, and that drainage for other properties can be maintained. This may require that the area immediately adjacent to the ditch be maintained in herbaceous cover.
- After the cover is established, all maintenance and management must be conducted outside the primary nesting season of April 15 to August 15.

  Exceptions: When necessary, spot treatment of noxious and invasive weeds (see *Practice Maintenance*) and approved moist-soil management may occur during the primary nesting season.
- Practices must be protected from destructive fire (not prescribed burns) and unauthorized grazing, including areas that are considered to be part of a buffer.
- Periodic management activities must be performed according to the WSG, CSG and tree/shrub job sheets, as applicable. See *CRP Management Practices* in Appendix G for required management.

Prohibited Activities. The following activities are prohibited on enrolled land:

- Annual food plots;
- Periodic or annual mowing for cosmetic purposes or generic weed control;
- Using the enrolled land as a regular travel lane.

Requirements Applicable to Buffer Practices. The following requirements apply to CP4D-Buffer, CP21, CP22, CP29 and CP30:

- The buffer shall reduce nutrients, sediment, organic matter, pesticides, and other pollutants that are being delivered to waterbodies.
- The minimum acceptable width of a buffer for CREP is 35 feet, which can include existing buffer that meets the practice standard for Conservation Cover (Code 327), Filter Strip (Code 393), Riparian Herbaceous Cover (Code 390), or Riparian Forest Buffer (Code 391). On streams and ditches, the buffer is measured from the top of the bank.
- The maximum buffer width, based on the average width, is 100 feet, except for buffers on drainage ditches, which may be only 35 feet in width. The maximum width for buffers that meet the criteria (i.e. water quality or wildlife) for *expanded buffers* in section 4c under *Land Eligibility* is 250 feet.
- ***Expanded Buffers for Wildlife***. Expanded buffers for wildlife benefits must be established and maintained in habitat for an approved group of species considered to be declining or at-risk. The following requirements apply when utilizing expanded buffers for wildlife benefits:
  - The approved group of species that are considered to be declining or at-risk in Maryland shall be identified in the plan.
  - The area shall be established with a high diversity of species and managed to address the habitat needs of the targeted wildlife.
  - Additional requirements for expanded buffers for wildlife apply to the entire buffer width, except in cases where a Filter Strip (conservation practice code 393) is required to treat the resource concern, or where there is an existing buffer. When a Filter Strip is required, only the minimum design filter strip shall be used, and the remaining portion of the buffer will meet the requirements for wildlife. When there is an existing buffer, it must be forested or established to a forested buffer if the wildlife group to be addressed is *riparian species*.
  - A management plan or job sheet specific to the approved group of species shall be developed and implemented.
  - Approved species groups and practice requirements:
    - Riparian Species. Forested riparian areas provide habitat for many declining and at-risk species of birds throughout Maryland. The establishment of wide riparian forest buffers supports the conservation goals for these species, including the Black-and-white Warbler, Kentucky Warbler, Louisiana Waterthrush, Prothonotary Warbler, Wood Thrush, and Yellow-throated Vireo. The following requirements apply to buffers enrolled for these species:

(1) Applicable for buffering perennial streams, non-channelized intermittent streams, and wetlands that are part of the linear riparian area along either of these stream types.

(2) The land will be established as a forested buffer and planted to a permanent cover of native trees and shrubs that are similar in composition to locally occurring natural habitat.

(3) Plantings must be generally mixed throughout (i.e., no block plantings), and limited to no more than 25% pines when restoring a mixed pine-hardwood plant community.

(4) At least 5 native species of trees and shrubs shall be selected.

- Shrubland Birds and Pollinators. Birds that require early successional habitat have displayed some of the most precipitous population declines, and many native pollinator populations are declining for reasons that include pesticide use, disease, non-native and invasive species, and loss and fragmentation of habitat. Habitat for these two groups of declining species can be designed and managed to benefit both groups. Early successional habitat containing fruit-bearing and pollinator-friendly shrubs and small trees is important for both shrubland birds and pollinators. Shrubland birds to benefit from this practice include the Brown Thrasher, Eastern Towhee, Golden-winged Warbler (western Maryland), Northern Bobwhite, Prairie Warbler, and Yellow-breasted Chat. Pollinators to benefit include the many declining species of solitary bees and bumble bees. In addition, the practice may benefit the following at-risk butterfly species: Baltimore Checkerspot, Cobweb Skipper, Giant Swallowtail, Indian Skipper, Long Dash, Pepper and Salt Skipper, and Silver-bordered Fritillary (western Maryland). The following requirements apply to buffers enrolled for these species:

(1) The land will be planted to a diverse mix of native species.

(2) The planting shall consist of at least 20% and no more than 70% fruit-bearing and pollinator-friendly shrubs and small trees, planted in clumps of at least 66 feet in diameter, with clumps evenly dispersed throughout the buffer. As much as 50% of the shrub and small tree plantings may be established as linear features of at least 20 feet in width along the inner edge (i.e. edge toward water body) of the buffer. The purpose of this provision is to allow for the establishment of shrubs and trees directly adjacent to streams, or to create a soft edge of shrubs adjacent to forested areas. Small trees shall represent no more than 10% of the total buffer area.

(3) The remainder of the buffer (i.e., the herbaceous portion) shall be established in cover consisting of grasses, forbs, and legumes. Use either the approved custom grass mix or eastern shore short mix, with at least 2 lb/ac PLS of approved native wildflower mixes.

(4) The herbaceous portion of the buffer shall have periodic management activities to maintain the forb and legume components, and to maintain areas with bare ground or litter of less than 1 cm in depth. Management shall consist of disking and/or prescribed burning.

(5) Mowing may be used to control woody vegetation in the herbaceous portion of the buffer, within the following guidelines: No more than 1/3 of the herbaceous portion shall be mowed in any one year; and, mowing shall be conducted no earlier than December 1st after the end of the primary nesting season.

Practice Implementation. Approved cover is expected to be planted by the end of the next normal planting season. However, NRCS in developing the conservation plan may allow an additional 12 months, not to exceed 24 continuous months, to plant the approved permanent cover if any of the following apply:

- The specific site conditions require additional time to plant the approved cover to not adversely impact the natural resources of the site or surrounding areas; or,
- The recommended grass seed, trees or shrubs are not available; or,
- Seed costs will create an adverse economic hardship on producers.

Cost-share for temporary cover, if needed, is authorized if the County Committee determines that the permanent seeding component should be delayed.

Weed Control on Enrolled Land. During practice implementation, weed control is eligible for cost-share as provided in FSA Handbook 2-CRP. After planting, cost-share may be authorized for one post-planting weed control application if it is applied within the first 12 months of planting herbaceous cover, or within 24 months of planting trees and shrubs (as authorized in 2-CRP, Par. 442B). Eligible weed control treatments can be mechanical or chemical for pre-treatment or treatment at the time of planting. Mowing is not eligible for cost-share if it is used for post-planting weed control.

Practice Maintenance. Participants shall follow the practice implementation and maintenance plans in job sheets developed specifically for the CRP program, or in tree and shrub planting plans developed by DNR-Forest Service.

NRCS or the TSP shall work with participants to plan appropriate maintenance practices, such as mowing, spraying, targeted herbicide treatment, disking, or prescribed burning in a logical and practical manner. All practices necessary for the successful establishment and maintenance of the approved cover shall be included in the conservation plan and agreed to by the participant. Maintenance practices shall meet CRP and participant objectives.

After the final NRCS status review, all CRP maintenance activity such as mowing, burning, and spraying, shall be conducted outside the primary nesting season (April 15 – August 15). There is an exception for spot treatment if there is a weed problem that, if not treated immediately, would adversely affect the approved cover. The County Committee, in consultation with NRCS, must approve the spot treatment before the participant does the work.

When spot treatment of noxious weeds is determined necessary, COC shall approve a method that results in the least damage to nesting wildlife. Spot treatment includes spot spraying and mowing, and is limited to the immediate area of infestation.

Maintaining Herbaceous Cover.[6] After a grass stand is well established, it is generally recommended that CRP ground be mowed no more than once every 2 years, with no more than half the acreage mowed in any one year.

For practices where water quality is the primary purpose (e.g., filter strips), annual mowing may be conducted if necessary to maintain the grass in a dense turf for erosion control and sediment filtering. This recommendation does not conflict with the guidance given in 2-CRP because it is needed to maintain the approved cover in a functioning condition, and is not for cosmetic purposes or weed control. The

[6] The FSA NHQ and State Office, and the CREP Advisory Committee have concurred with this guidance.

mowing must be conducted outside the primary nesting season. The following language should be added to conservation plans or job sheets: "Annual mowing may be needed to maintain grass in a dense turf that will prevent erosion and protect water quality. Do not mow during the primary nesting season."

For practices where wildlife is a primary purpose, the enrolled acreage should not be mowed more often than once every 2 years, with no more than half of each field mowed in a single year. Spot-treatment to control invasive species is allowed.

Annual mowing of herbaceous cover may be conducted (outside the primary nesting season) when determined by NRCS on a field-by-field basis that it is necessary to control woody vegetation. Targeted herbicide treatment for woody vegetation and disking may be used to control woody vegetation in herbaceous cover when mowing is insufficient. Refer to the appropriate job sheet for more information.

Compliance on Herbaceous Cover Practices.[7] Practices where only herbaceous cover is allowed (e.g. CP1, CP2, CP21) are required to be maintained in herbaceous cover. Control of woody vegetation in herbaceous plantings should be conducted per the job sheet. However, because site conditions and management objectives sometimes result in the inadvertent establishment of woody vegetation, Maryland has adopted a 5% threshold criterion for woody cover in herbaceous plantings. Participants must implement maintenance and management actions to maintain the occurrence of woody species at or below the following thresholds to remain in compliance:

- 5% of the total canopy coverage in a CRP/CREP field; and,
- Any patch of woody vegetation of 1 acre or more in a CRP/CREP field.

Canopy coverage should be evaluated during the growing season when the plants are in full leaf-out.

Mid-Contract Management

Participants that are enrolled in CRP or CREP contracts (as of Signup 26, summer 2003) may be required to perform specific management activities to ensure long-term plant diversity and wildlife habitat benefits. See the list of CRP management practices in Appendix G and job sheets for more information. Required management activities should be documented on job sheets.

Cost-share for mid-contract management activities is available from FSA (see *Cost-Share* in the *Program Overview* section). For participants with older contracts, management practices are optional, and can be added to their contracts with approval from FSA.

[7] The FSA and the MD CREP Advisory Committee have concurred on this guidance (June 25, 2012).

HIGHLY ERODIBLE LAND PRACTICES – CP1, CP2, CP3, CP3A, CP4D

Purpose. To reduce soil erosion and sedimentation, improve water quality, and create or enhance wildlife habitat.

Application. These practices are applied on eligible cropland that has an Erodibility Index (EI) of 8 or greater in Cecil county and the eastern shore, and an EI of 16 or greater for the remainder of the state, and is within 1,000 feet of:

- Perennial streams;
- Seasonal (intermittent) streams, excluding gullies or sod waterways;
- Sinkholes, karst areas, and other groundwater recharge areas;
- Other water bodies of a permanent nature, such as lakes or ponds;
- Wetlands that are at least seasonally flooded or ponded (≥ 21 days), or wetter.

  If these wetlands occur within a larger wetland complex, other seasonal wetlands in the system can also be buffered in order to protect water quality. Use the Maryland CRP/CREP Wetland Verification Worksheet (see Appendix B) to document the presence of seasonal wetlands.

The EI is determined based on a weighted average of the eligible acreage. The enrolled acreage shall be within 1,000 feet and within the drainage area of the stream, sinkhole, or other water body. The USDA approved EI Calculator is used to determine the weighted EI for eligibility. It can be found at https://arcticocean.sc.egov.usda.gov/soilDbMgnt/SoilWelcome.do. Select *View Only* and then click on *EI Calculator* under the *Utility* subheading.

Cost-Share. Cost-sharing is available for components necessary to establish the vegetative cover, including site preparation, eligible seed and seeding, tree and shrub seedlings and planting, tree shelters, herbicide, insecticide and temporary cover.

Practice Requirements. In addition to requirements in the *General Practice Requirements* section, the following apply:

- Practices must be established and maintained according to the Conservation Cover practice standard (Code 327).
- The vegetative cover to be established must be a preferred mix for wildlife.
- Managed haying and grazing may be allowed for CP1, CP2, and CP4D, if requested in advance by the participant and approved by FSA. Reduced rental payments and other restrictions apply.

Table 2. Highly erodible land practices and requirements

Practice Code	Practice	Requirements
CP1	Introduced Grasses	Select approved Conservation Cover introduced cool-season grass mixes.
CP2	Native Grasses	Select approved Conservation Cover native grass mixes.
CP3	Tree Planting	Select at least 2 species of approved trees.
CP3A	Hardwood Tree Planting	• Select at least 2 species of approved hardwood trees. • For wildlife diversity, mixed hardwoods may include pines/softwoods, not to exceed 50% of the total number of trees planted, and planted in a manner that is beneficial to wildlife.
CP4D	Wildlife Habitat	• A minimum of 30% not to exceed 95% of the area will be planted to herbaceous cover, and a minimum of 5% not to exceed 70% will be planted to a mixed stand of native trees and/or shrubs. • Select herbaceous cover mixes from the approved Conservation Cover mixes. • Select at least 2 species of approved native hardwoods, softwoods, and/or shrubs.

Approved mixes and species are in the Approved Trees, Shrubs and Cover Mixes section.

WILDLIFE HABITAT BUFFER – CP4D

Purpose. To reduce soil erosion and sedimentation, improve water quality, and create or enhance wildlife habitat.

Application. This practice is applied on eligible cropland immediately adjacent and parallel to:

- Perennial streams;
- Seasonal (intermittent) streams, excluding gullies or sod waterways;

  Note: Channelized intermittent streams and constructed drainage ditches are not eligible for buffering with CP4D.

- Sinkholes, karst areas, and other groundwater recharge areas;
- Other water bodies of a permanent nature, such as lakes or ponds;
- Wetlands that are at least seasonally flooded or ponded (>21 days), or wetter.

  If these wetlands occur within a larger wetland complex, other seasonal wetlands in the system can also be buffered in order to protect water quality. Use the Maryland CRP/CREP Wetland Verification Worksheet (see Appendix B) to document the presence of seasonal wetlands.

Cost-Share. Cost-sharing is available for components necessary to establish the vegetative cover, including site preparation, eligible seed and seeding, tree and shrub seedlings and planting, tree shelters, herbicide, insecticide and temporary cover.

Practice Requirements. In addition to requirements in the *General Practice Requirements* section, the following apply:

- This practice shall provide early successional wildlife habitat.
- The practice must be established and maintained according to the Conservation Cover practice standard (Code 327).
- The vegetative cover to be established must be a preferred mix for wildlife.
- A minimum of 30% not to exceed 95% of the buffer will be planted to herbaceous cover, and a minimum of 5% not to exceed 70% of the buffer will be planted to a mixed stand of native trees and/or shrubs.

SHALLOW WATER AREA – CP9

Purpose. To develop or restore shallow water areas for water quality and wildlife habitat.

Application. This practice is applied on eligible cropland that is suitably located for development or restoration of a shallow water area that will hold surface water for at least 6 months of the year. At maximum normal pool elevation, the shallow water area will be an average of 18 inches deep or less. This practice may be constructed on hydric or non-hydric soils.

Size Limits. CP9 shall not exceed a total of 50 acres per tract, including the buffer. The buffer shall be no less than 35 feet wide, and no more than an average maximum width of 100 feet. There shall be no more than two CP9 contracts per tract.

Cost-Share. Components eligible for cost-sharing include:

- Earthmoving;
- Approved seed and seeding;
- Tree and shrub seedlings and planting;
- Seedbed preparation;
- Temporary cover;
- Seeding firebreaks;
- Fertilizer and pesticides;
- Structures such as pipes, chutes and outlets.

Practice Requirements

Shallow water areas shall be planned using the practice standard for Shallow Water Area Development and Management (Code 646). When using the minimum required buffer of 35 feet, the buffer can be planned as part of the Shallow Water Area Development and Management practice standard (Code 646). When using a larger buffer, plan the buffer using the practice standard for Riparian Herbaceous Cover (Code 390), Riparian Forest Buffer (Code 391), or Conservation Cover (Code 327), whichever is most appropriate. Regardless of the practice standard used to plan the buffer, the buffer acreage is enrolled as part of the CP9.

Soil

The site must have soil that is suitable for development or restoration of shallow surface water by impoundment, excavation, or a combination of the two methods.

After the practice is established, the soil surface may be infrequently manipulated (not more than once every two to three years) by disking or other methods to encourage the re-establishment of early successional plant species, a technique which is referred to as *moist-soil management.*

Vegetation - Pool Area

Vegetation is not required in the pool area. If vegetation is desired, it may be established by planting or by natural revegetation methods, or a combination of the two. Vegetation may include trees, shrubs, and/or herbaceous species, depending on site conditions and objectives of the participant. Use of native plant species is highly encouraged.

After the vegetation is established, management will consist of one of the following options, as described in the conservation plan or job sheet:

Moist-soil management. Herbaceous vegetation will be infrequently manipulated (not more than once every two to three years) by disking or other methods to encourage the re-establishment of early successional plant species. Timing of drawdown and moist-soil management will be scheduled to benefit the desired wildlife and plant species, and water quality. Manipulation will occur when the pool area is sufficiently dry to support equipment, typically in early to mid-summer.

Minimal management. Vegetation will be maintained with minimal or no disturbance. Areas which are planned to remain predominantly herbaceous may be spot mowed or burned infrequently (not more than once every two to three years) to reduce encroachment of woody vegetation and maintain an early successional plant community.

Nesting season restrictions do not apply to management of the pool area because the inundated portion of the site is unlikely to provide significant nesting habitat.

Vegetation - Buffer

The site must be capable of supporting an upland plant community in the buffer area. Vegetation may include trees, shrubs, and/or herbaceous species, depending on site conditions and objectives of the participant. The buffer must meet the requirements of the NRCS conservation practice standard for Riparian Herbaceous Cover (Code 390), Riparian Forest Buffer (Code 391), or Conservation Cover (Code 327), whichever is most appropriate.

After the vegetation is established, the buffer will be maintained as described in the conservation plan or job sheet. For buffers established in herbaceous cover, appropriate management activities shall be conducted based on the type of cover (see Appendix G).

Other than approved maintenance and management activities, the buffer shall have minimal or no disturbance. Access through the buffer for maintenance of the pool area will be permitted during the nesting season, provided that the disturbance is limited in location, extent, and frequency of occurrence.

Hydrology

In order to provide water quality benefits, the shallow water area shall have an off-site contributing watershed beyond the enrolled acreage of the practice.

The practice must provide a source of water for wildlife for the majority of the year. At maximum normal pool elevation, the pool area will be an average of 18 inches deep or less. In addition, the shallow water area shall be designed so that the elevation of at least 20% of the pool area is below the invert of the water control structure. This will allow sediment trapping as well as additional wildlife benefits. Within these constraints, the specific depths, duration, and frequency of surface water on the site will be based on site conditions and objectives of the participant.

Depending on site conditions, some shallow holes (defined as less than 4 feet deep at normal pool) may be constructed in the pool area for one or more of the following reasons:

- To meet the 20% "no-drain" amphibian habitat requirement;
- To provide some diversity of water depths within the pool area to benefit other wildlife, such as waterfowl;
- To provide enough depth in some parts of the site to discourage encroachment of cattails, Phragmites, and other invasive plants, thus maintaining plant diversity and habitat values.

(Note: From a wildlife standpoint, a scattering of several small holes is preferable to one large shallow hole because the scattered holes enhance habitat interspersion.)

After the practice is installed, water level management will consist of one of the following options, as described in the conservation plan or job sheet:

- Managed drawdown/inundation. The water level will be manipulated seasonally to allow drawdown in the spring and inundation in the fall to encourage the growth of desired plant species and maximize the use of the site by migrating waterfowl. In order to ensure water quality benefits, a slow drawdown over a period of at least 2 to 3 weeks is required.
- Natural drawdown/inundation. The water level will not be actively managed on a regular basis. The site will have a natural water regime, in which water levels rise and fall seasonally in response to varying natural conditions. The water level may be managed if needed for control of noxious weeds or invasive species, or for making structural repairs.

FILTER STRIP – CP21

Purpose. To remove nutrients, sediment, organic matter, pesticides, and other pollutants from surface runoff and subsurface flow by deposition, absorption, plant uptake, denitrification, and other processes, and thereby reduce pollution and protect surface water and subsurface water quality while enhancing the ecosystem of the water body.

Application. This practice is applied on eligible cropland immediately adjacent and parallel to:

- Streams having perennial flow;
- Intermittent streams, excluding gullies or sod waterways;

  Note: Along channelized intermittent streams and in-field constructed drainage ditches, filter strips are limited to a width of 35 feet (Maryland CREP policy).

- Sinkholes, karst areas, and other groundwater recharge areas;
- Other water bodies of a permanent nature, such as lakes or ponds;

  Exception: Ponds of less than 5 ac in size that do not have at least seasonal flow to another eligible water body are ineligible (national CRP policy).

- Wetlands that are at least seasonally flooded or ponded (≥ 21 days), or wetter.

  If these wetlands occur within a larger wetland complex, other seasonal wetlands in the system can also be buffered in order to protect water quality. Use the Maryland CRP/CREP Wetland Verification Worksheet (see Appendix B) to document the presence of seasonal wetlands.

Cost-Share. Cost-sharing is available for:

- Components necessary to establish the vegetative cover, including site preparation, eligible seed, herbicide, insecticide, and temporary cover;
- Pipeline and watering facilities if providing an alternative water source for livestock;
- Fencing if needed to exclude livestock;
- Structures, grading, leveling, and filling to control concentrated flow.

Practice Requirements. In addition to requirements in the *General Practice Requirements* section, the following apply:

- Filter strips will be established and maintained in herbaceous cover, and must meet the requirements of the practice standard for Filter Strip (Code 393) or Riparian Herbaceous Cover (Code 390).
- For most sites, select an approved Conservation Cover mix. When site conditions are severe and significant erosion control and sediment retention is needed, select an approved Critical Area Planting mix, but do not use mixes containing tall fescue.

RIPARIAN BUFFER – CP22

Purposes. The purposes of this practice are to:

- Remove nutrients, sediment, organic matter, pesticides, and other pollutants from surface runoff and subsurface flow by deposition, absorption, plant uptake, denitrification, and other processes, and thereby reduce pollution and protect surface water and subsurface water quality while enhancing the ecosystem of the water body;
- Create shade to lower water temperature to improve habitat for aquatic organisms;
- Provide a source of detritus and large woody debris for aquatic organisms and habitat for wildlife.

Application. This practice is applied on eligible cropland or marginal pastureland immediately adjacent and parallel to:

- Streams having perennial flow;
- Intermittent streams, excluding gullies or sod waterways;

  Note: Channelized intermittent streams and constructed drainage ditches are not eligible for buffering with CP22 (Maryland CREP policy).

- Sinkholes, karst areas, and other groundwater recharge areas;
- Other water bodies of a permanent nature, such as lakes or ponds;

  Exception: Ponds of less than 5 ac in size that do not have at least seasonal flow to another eligible water body are ineligible (national CRP policy).

- Wetlands that are at least seasonally flooded or ponded (≥ 21 days), or wetter.

  If these wetlands occur within a larger wetland complex, other seasonal wetlands in the system can also be buffered in order to protect water quality. Use the Maryland CRP/CREP Wetland Verification Worksheet (see Appendix B) to document the presence of seasonal wetlands.

Cost-Share. Cost-sharing is available for:

- Site preparation, including plowing, mowing, and removing multiflora rose;
- Minerals, nutrients, seed, and seeding;
- Herbicides, pesticides, and mechanical measures necessary to establish the vegetation;
- Trees, shrubs, and costs associated with planting and/or seeding of trees and shrubs;
- Tree shelters not to exceed 400 tubes/acre, and only for hardwood trees if determined necessary by the designated technician. Tree shelters shall be staked with wood, plastic, or fiberglass posts. No metal or bamboo posts are allowed;
- Permanent fencing needed to exclude livestock from the buffer strip;

- Pipelines and watering facilities constructed outside the riparian buffer strip if constructed to provide a water source for livestock;

- Water gaps, bridges, or other livestock crossing facilities that will prevent sedimentation and pollution. The installation of crossings is limited to small streams;

- Grading, leveling, and filling to control concentrated flow.

Natural regeneration may be used to establish CP22. If the participant elects to use natural regeneration, cost-share will not be provided. Within two years, the buffer must meet the establishment requirements of the NRCS conservation practice standard for Riparian Forest Buffer (Code 391). If the buffer is not adequately established within 2 years, the participant must plant an approved cover at their own expense, with no cost-share. For additional information, see 2-CRP, Par. 209B, and Exhibit 9.

Areas infested with invasive woody plants may not be eligible for enrollment in CP22. Cost-sharing is available for mechanical and chemical weed control to remove invasive tree and shrub species, such as multiflora rose, but only if: (1) the area needing treatment is less than 20% of the CP22 acres to be enrolled; (2) the site is easily accessible for maintenance; and (3) weed control can be accomplished within 12 months. If the area has a heavy infestation, then the area is not suitable to be planted to trees and is not eligible for CP22.

Practice Requirements. In addition to requirements in the *General Practice Requirements* section, the following apply:

- The riparian buffer must be established and maintained according to the NRCS conservation practice standard, Riparian Forest Buffer (Code 391). The herbaceous portion (see below), if used, must be established and maintained according to the NRCS conservation practice standard, Filter Strip (Code 393) or Riparian Herbaceous Cover (Code 390).

- Within 15 feet of the stream or water body the planting shall be all native species of hardwood trees and/or shrubs. The majority of the planting (greater than 50 percent) in the 15-foot zone must be hardwood trees. Do not plant softwoods in the first 15 feet. The remainder of the forested planting shall be composed of at least 25 percent hardwood tree species.

- No more than 10% of the forested planting can be introduced, non-invasive trees and/or shrubs, provided these species are not on the list of prohibited plants.

- An herbaceous strip may be used to address erosion and concentrated flow on the crop side of the buffer. The maximum width of the herbaceous portion, if used, shall be the minimum required to address erosion and concentrated flow, but not less than 20 feet. The herbaceous strip shall be established with an approved Conservation Cover mix. The herbaceous portion may be planned using the criteria from the filter strip (code 393) or riparian herbaceous cover (code 390) conservation practice standards. When the herbaceous portion is planned using the criteria from riparian herbaceous cover (code 390), the width of the herbaceous portion shall be 20 feet.

- If there is an existing forest buffer that is less than what is needed to adequately provide water quality and wildlife benefits, the area may be augmented up to the appropriate maximum width. Participants must agree to maintain the entire buffer. The rental payment and cost-share is only for the acreage enrolled.

WETLAND RESTORATION – CP23, CP23A

Purpose. To restore the functions and values of a wetland ecosystem that has been used for crop production.

Application. This practice is applied to eligible cropland containing prior converted wetlands and/or farmed wetlands, and associated upland cropland. The cropland must be suitable for the restoration of wetland functions and values.

Practice CP23 is applicable to wetlands restored in the 100-year floodplain, and practice CP23A applies to areas outside the 100-year floodplain. This distinction is based on the area to be restored to wetland. Upland buffers may be located outside the 100-year floodplain for CP23, or within the 100-year floodplain for CP23A.

Cost-Share. Cost-share is limited to the minimum needed to restore wetland hydrology and establish vegetative cover. Components include:

- Earthmoving;
- Approved seed and seeding;
- Tree and shrub seedlings and planting;
- Seedbed preparation;
- Temporary cover;
- Seeding firebreaks;
- Fertilizer and pesticides;
- Tree shelters and plastic mulch;
- Structures such as pipes, chutes and outlets.

Wetland restorations (CP23, CP23A) enrolled in CREP are not eligible for the 25% hydrology restoration incentive payment.

Size Limits. No limit on overall project size. However, the area enrolled to provide an upland buffer cannot exceed the area enrolled which will be restored to wetland conditions (i.e., maximum 1:1 ratio of upland buffer to restored wetland). The buffer shall be at least 35 feet wide.

Practice Requirements

Use the NRCS conservation practice standard for Wetland Restoration (Code 657) to plan and design the wetland. When using the minimum required buffer of 35 feet, the buffer can be planned as part of the Wetland Restoration practice standard (Code 657). When using a larger buffer, plan it using the practice standard for Riparian Herbaceous Cover (Code 390), Riparian Forest Buffer (Code 391), or Conservation Cover (Code 327), whichever is most appropriate. Regardless of the standard used to plan the buffer, the buffer acreage is enrolled as part of the CP23 or CP23A.

At least 70% of the wetland area shall be restored to a type that would naturally occur in the same physiographic region and landscape position. For the purpose of plant and animal diversity, up to 30% of the wetland area may be restored to a type other than that which would naturally occur within the physiographic region and landscape position. Within this designated "30% zone", vegetation and soil disturbances and hydrologic manipulations may be conducted to support the desired wetland vegetation and/or hydrology. The specific options for the "30% zone" are described in the applicable sections below.

Areas designated for active management shall be clearly marked on the plan map, and shall have a fixed location (i.e. cannot be moved around from year to year).

Soil

The portion of the site that will be restored to wetland must have hydric soil, which after restoration, will support hydrophytic vegetation.

Where soils have depleted organic content due to long-term drainage and agricultural use, organic matter and/or topsoil may need to be replaced during construction. In addition, the natural micro-topography of a wetland may need to be restored on the site.

After the site is restored, the soil will remain generally undisturbed (for exceptions, see below) so that it will provide the natural functions of a hydric soil, including accumulation of organic matter, nutrient and contaminant sequestering, and retention of surface and subsurface water.

Vegetation - Restored Wetland Area

Vegetation may be restored by planting or by natural regeneration methods, or a combination of the two. Vegetation shall be native, and may include trees, shrubs, and/or herbaceous species, depending on site conditions and objectives of the participant.

The following requirements apply:

- At least 70% of the wetland area shall be restored to one or a combination of the following plant communities:
  - The natural wetland plant community that typically occurred on the site before it was converted to agricultural use. In most cases, this will be a wooded wetland;
  - A wetland plant community that would naturally occur in the same physiographic region and similar landscape position. For example, a wetland that was originally wooded prior to conversion to agricultural use could be restored to an herbaceous wetland typical of the geographic area.
- After the site is restored, management of vegetation in the restored portion of the site will be limited to that which is required to maintain the planned plant community. For wooded wetlands, maintenance may include selective thinning of less desirable woody species (e.g., sweetgum, red maple). For herbaceous wetlands, mowing or burning may be used to reduce the encroachment of woody vegetation, provided that the maintenance does not occur more often than once every two to three years, and does not occur during the primary nesting season (April 15 to August 15). Other types of maintenance activities generally will not be permitted, unless approved by FSA on a case-by-case basis to control noxious weeds or invasive species.

- Up to 30% of the wetland area may be developed and maintained as a wetland plant community different from that which would naturally occur within the same physiographic region and landscape position.

- Within the designated "30% zone," areas may be managed using moist-soil management techniques. The soil surface may be infrequently manipulated, not more than once every two to three years, by disking or other methods to encourage the re-establishment of early successional plant species. Nesting season restrictions do not apply to the designated moist-soil management area.

Vegetation - Upland Buffer Area

The vegetation in the upland buffer shall meet the requirements of the NRCS conservation practice standard for Riparian Herbaceous Cover (Code 390), Riparian Forest Buffer (Code 391), or Conservation Cover (Code 327), whichever is most appropriate.

After the vegetation is established, the buffer will be maintained as described in the conservation plan or job sheet. For buffers established in herbaceous cover, appropriate management activities shall be conducted based on the type of cover (see Appendix G).

Other than approved maintenance and management activities, the buffer shall have minimal or no disturbance. Access through the buffer for maintenance of the pool area will be permitted during the nesting season, provided that the disturbance is limited in location, extent, and frequency of occurrence.

Hydrology

The site must be capable, after restoration, of supporting wetland hydrology. The depth, duration, and frequency of surface and/or ground water in the wetland shall be capable of supporting a prevalence of hydrophytic vegetation. Wetland hydrology is defined as inundation (flooding and/or ponding) for at least 7 consecutive days during the growing season in most years, or saturation at or near the soil surface for at least 14 consecutive days during the growing season in most years.

The extent of hydrology restoration will be based on site conditions and the objectives of the participant. A variety of shallow water depths and soil moisture regimes, such as those provided by restoring the natural microtopography of a wetland, should be encouraged in order to support a diverse natural plant and wildlife community.

For wetlands that are designed to have surface water, the water depth shall be capable of supporting wetland vegetation, and shall be no deeper than an average of 18 inches at maximum normal pool elevation. During the growing season, surface water depths ranging from 0 to 6 inches are best for wetland plant growth. (Refer to the NRCS conservation practice standard for Wetland Restoration (Code 657) for lists of native wetland plants and their hydrology requirements.)

Up to 30% of the wetland area may be designated for maintenance as shallow open water (4 feet deep or less) and/or as a wetland water regime different from that which originally occurred on the site.

Except in the designated "30% zone," management of the water level will not be permitted, unless approved by NRCS on a case-by-case basis for control of noxious weeds or invasive species, or for making structural repairs. At least 70% of the site will have a natural wetland water regime, in which water levels rise and fall seasonally in response to varying natural conditions. Surface water may be absent during part or all of the year, depending on the extent of the restoration and natural conditions.

RARE AND DECLINING SPECIES HABITAT – CP25

Purpose. To restore the functions and values of habitats for rare, threatened, and/or endangered species.

Application. This practice is applied to cropland where a specified rare and declining habitat can be enhanced or restored and maintained, as determined by NRCS technical specifications, in a cost-effective manner through enrollment in CREP.

In Maryland, there are six recognized critically endangered or threatened ecosystems that are eligible for restoration or enhancement under this practice. These declining habitats are:

- Shallow emergent freshwater seepage wetlands;
- Riverine systems supporting rare, threatened, or endangered species;
- Grassland-nesting bird habitat;
- Delmarva bay habitats;
- Streams supporting Eastern Brook Trout;
- Forest interior dwelling species (FIDS) habitat.

Cost-Share. Cost-sharing is limited to the minimum needed to establish vegetative cover and to restore wetland hydrology, if appropriate. Components include:

- Earthmoving;
- Approved seed and seeding;
- Tree and shrub seedlings and planting;
- Seedbed preparation;
- Temporary cover;
- Fertilizer and pesticides;
- Tree shelters and plastic mulch;
- Structures such as pipes, chutes and outlets.

Size Limits. A maximum of 2,000 acres can be enrolled in CP25 statewide. Enrollment on the Eastern Shore can include up to 500 acres, with the remaining 1,500 acres to be enrolled elsewhere in the State. Enrollment for FIDS habitat is limited to 100 acres per tract.

Acreage proposed for enrollment in CP25 shall be of sufficient size and location on the landscape to meet the purpose of the practice.

Practice Requirements

A habitat restoration plan stating the goals of the practice must be developed for each CP25 contract. NRCS will request technical assistance from Maryland DNR and/or the U.S. Fish and Wildlife Service, as appropriate, to develop the habitat restoration plan. The plan must meet criteria established by the Maryland CREP Technical Committee.

Shallow Emergent Freshwater Seepage Wetlands

Habitat Description. Small (typically 2.5 to 25-acre) patches of emergent (non-woody) wetland habitat including fens, bogs, and wet meadows that have shallow water, perennial flow, and mucky soils. Such habitats are particularly important in Carroll, Baltimore, Harford, Cecil, and Howard counties.

Species to Benefit. Enhancement and restoration of shallow emergent wetlands with an open canopy may benefit a number of rare species including the Eastern bog turtle, sedge wren, Baltimore checkerspot butterfly, Eastern mud salamander, and West Virginia water shrew.

Restoration Requirements.

Restoration plans will restore or enhance habitats so that they provide habitats characterized by:

- Shallow water (< 4-inch depth) and saturated soils year-round; and,
- Vegetation canopy that is open and allows sunlight to reach the ground; and,
- A diversity of microhabitats including hummocky vegetation and soft mud.

Restoration may require actions to restore hydrology by breaking tile lines, plugging ditches, or removing fill material.

Management plans will address the need to maintain the open canopy condition and plant community composition of the wetland. Actions may include periodic removal of native late successional species (e.g., trees and shrubs) and/or exotic invasive species, as appropriate.

Use the NRCS conservation practice standard for Wetland Restoration (Code 657) to restore wetlands and Conservation Cover (Code 327) to restore native upland plant communities. For bog turtle habitats, the approved cover types will be native grasses and forbs (in upland buffers), and tussock sedges and rushes in wetland areas.

Riverine Systems Supporting Rare, Threatened, or Endangered Species

Habitat Description. Located throughout the State of Maryland, this habitat type consists of remarkably pristine freshwater ecosystems with physical, chemical, and biological characteristics that support rare aquatic species. Examples of these riverine habitats include Sideling Hill Creek, (Allegany and Washington Counties), Parkers Creek (Calvert Co.), Norwich Creek (Queen Anne's Co.), McIntosh Run (St. Mary's Co.), Nanjemoy Creek (Charles Co.), and the Casselman River (Garrett Co.).

Species to Benefit. Populations of sensitive aquatic mollusks including the dwarf wedge mussel (*Alasmidonta heterodon*), and numerous other unionid mussels including *A. varicosa*, *A. undulata*, and *Discus catskillensis*; various endangered fishes including the glassy darter, brook lamprey, Cheat minnow, and stonecat; the hellbender; and the wood turtle.

Restoration Requirements

Restoration plans will restore or enhance riverine habitats by maximizing water quality benefits in adjacent uplands. Plantings will consist of native woody species, primarily deciduous trees.

Use the NRCS conservation practice standard for Conservation Cover (Code 327) to restore native deciduous forest communities. Select at least 3 species of trees and/or shrubs that are native to Maryland. At least 50 percent of the planting must consist of hardwood trees.

Grassland-Nesting Bird Habitat

Habitat Description. Contiguous tracts of managed native grassland habitat. These habitats are a declining resource throughout Maryland, but particularly in the upper Coastal Plain counties and in the major valleys of Frederick and Washington Counties.

Species to Benefit. A species or group of species will be targeted depending on location and site characteristics. At-risk species to be targeted are: Dickcissel and Grasshopper Sparrow in the Coastal Plain; Bobolink, Dickcissel, Grasshopper Sparrow, and Savannah Sparrow in the Piedmont; Bobolink, Grasshopper Sparrow, and Savannah Sparrow in the Ridge and Valley and Allegheny Plateau; and Henslow's Sparrow in Allegany and Garrett Counties. Other grassland species that may benefit from this practice include the Eastern Meadowlark, Upland Sandpiper, and Vesper Sparrow.

Restoration Requirements

Restoration plans will restore grassland habitats characterized by a mix of sparsely vegetated native grasses and forbs, according to following:

- Use the NRCS conservation practice standard for Conservation Cover (Code 327) to restore native grassland communities;

- All plantings must be of an approved, all-native, warm season grass mix with forbs and/or legumes;

- The grassland shall be within an area that contains at least 200 acres of undeveloped land, of which at least 50 percent is not forested (e.g. cropland, pasture, marsh);

- Use the recommendations provided in Table 3 for a particular species, or for multiple species when practical.

- The area to be enrolled must meet both the minimum patch size and minimum width requirements, as shown in Tables 3 and 4. The minimum distance measured from any point along the centerline of the area shall meet the minimum half-width requirement.

  The centerline is a line that bisects the area resulting in the shortest distance between any two endpoints of a line that is perpendicular to and connects the centerline with the edge of the area (see Figure 1). To accommodate irregular shaped fields, up to 10 percent of the acreage, in excess of the qualifying patch, may be less than the minimum width. For example, if the minimum patch size requirement is 30 acres, and there is a 40-acre area that meets the minimum width requirement, then up to 4 additional acres that do not meet the minimal width requirement may be enrolled. These areas must be contiguous with the patch, and should be consistent with the needs of grassland birds, as identified in this section.

Fields whose common borders do not include hedgerows, tree lines, or other barriers greater than 6 feet in height may be evaluated for eligibility as a single area. Fields with common borders that have these barriers must be evaluated separately.

Table 3. Targeted grassland birds, regions, and habitat requirements.

Species	Region(s)	Minimum Patch Size (ac)	Grass Height	Predominant Soil Drainage Class
Bobolink	Piedmont, Ridge and Valley, Allegheny Plateau	10	Medium	Excessively - somewhat poorly drained
Dickcissel	Coastal Plain, Piedmont	25	Medium - Tall	Excessively - moderately well drained
Grasshopper Sparrow	All Regions	30	Short	Excessively - moderately well drained
Henslow's Sparrow	Allegany and Garrett Cos.	50	Medium - Tall	Any
Savannah Sparrow	Piedmont, Ridge and Valley, Allegheny Plateau	25	Short - Medium	Excessively - moderately well drained

Table 4. Minimum width requirements based on minimum patch size.

Minimum Patch Size (ac)	Minimum Width (ft)	Minimum Half-width (ft)
10	470	235
25	740	370
30	810	405
50	1,040	520

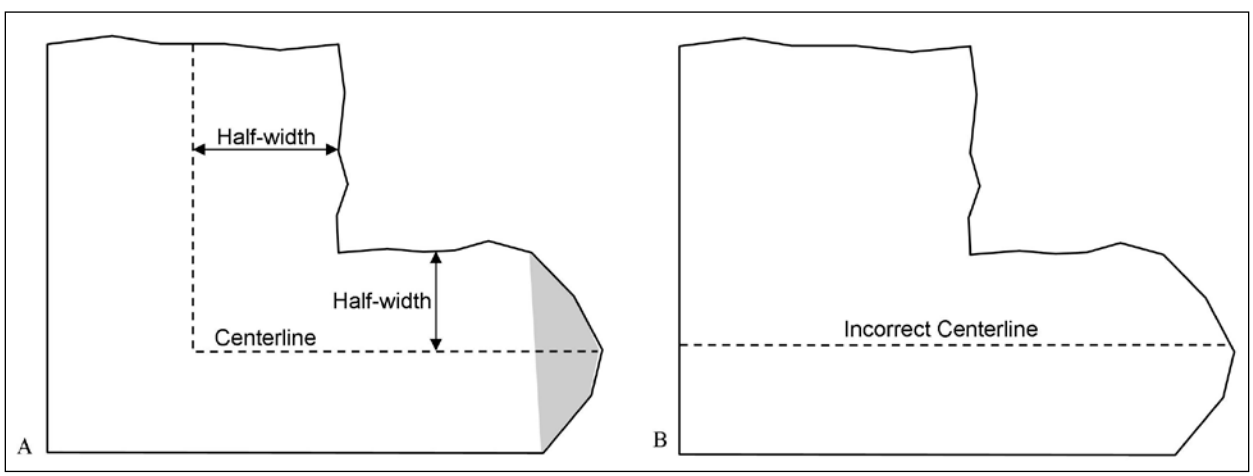

Figure 1. Example centerline and half-width measurement for a field or area. The shaded area in Figure 1A may not meet the half-width requirement, but could be eligible if it is an area in excess of the minimum patch, and does not exceed 10 percent of the otherwise eligible acreage. Figure 1B demonstrates an incorrect interpretation of a centerline.

Management. Management plans will address the need to maintain the structure and species composition of the grassland plant community. Actions may include periodic removal of late successional species (e.g., trees and shrubs) and/or exotic invasive species, as appropriate. The following should be considered in developing the management plan:

- Prescribed burning is the preferred method for maintaining grassland ecosystems. Disking may also be required to reduce stand density and maintain diversity.
- Mowing may be used when necessary to control woody vegetation.
- Mowing and management activities should be conducted on not more than 1/3 of the grassland in any one year.
- Mowing and management activities should be deferred as late as possible into the winter, but conducted no earlier than December 1st after the end of the primary nesting season.

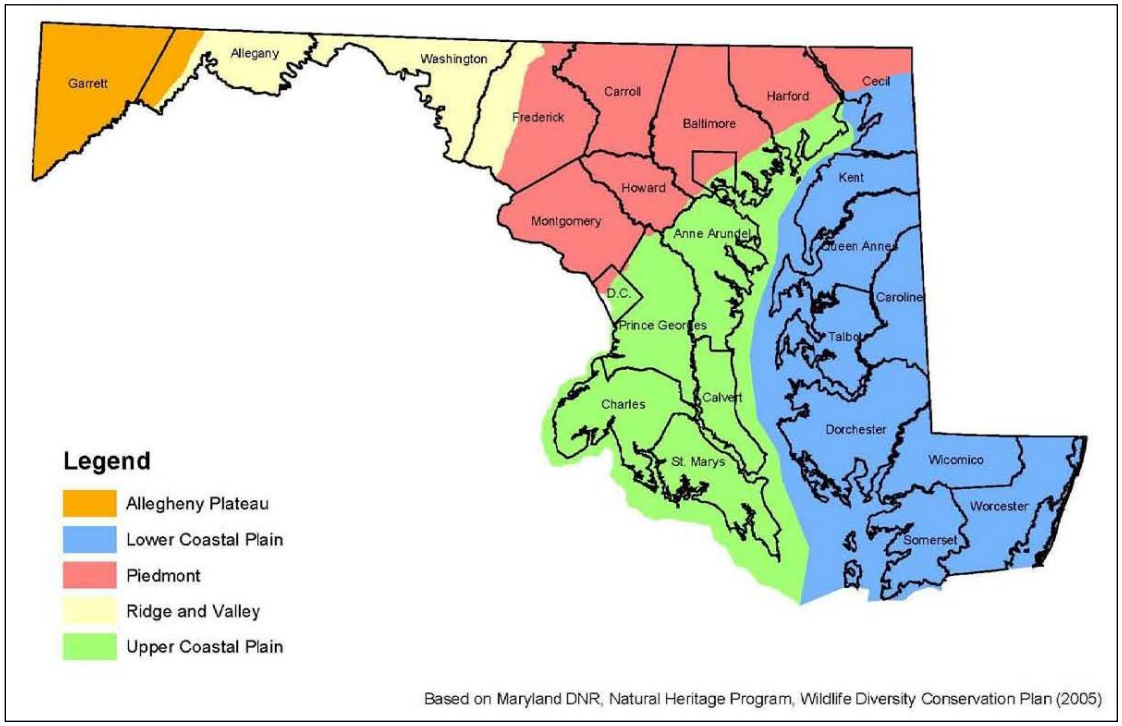

Figure 2. Physiographic provinces for at-risk species in Maryland.

Delmarva Bay Habitats

Habitat Description. Delmarva bays are unique depressional wetlands that support globally rare plant and amphibian species. Connectivity between these forested habitats is critical to maintaining rare species over the long term. Delmarva bays are located primarily in Kent, Queen Anne's, and Caroline counties.

Species to Benefit. Restoration of Delmarva bay complexes and reconnection of Delmarva bays through the establishment of forested corridors may enhance habitat for the eastern tiger salamander, carpenter frog, Delmarva fox squirrel, and several endangered plant species including Canby's dropwort (*Oxypolis canbyi)* and *Fimbristylis perpusilla*. This habitat will also support a large suite of declining forest interior dwelling birds.

Restoration Requirements

Restoration will focus on connecting existing bays and bay complexes with native forest communities. Plantings will consist of native woody species, primarily deciduous trees. Emphasis will be placed on woody species diversity to benefit forest interior-dwelling birds.

Restoration may require actions to restore hydrology by breaking tile lines, plugging ditches, or removing fill material.

CP25 may be used to restore Delmarva bay habitat in cropland. CP25 may also be used to provide upland forested buffers on Delmarva bays and provide connecting corridors to restore Delmarva bay complexes, provided the additional eligible acreage is cropland.

Use the NRCS conservation practice standard for Conservation Cover (Code 327) to restore native deciduous forest communities. Select at least 3 species of trees and/or shrubs that are native to Maryland. At least 50 percent of the planting must consist of hardwood trees.

Streams Supporting Eastern Brook Trout

Habitat Description. Brook trout in Maryland typically occupy headwater streams (1st, 2nd, and 3rd order). Protection of brook trout will focus in Maryland subwatersheds with existing populations (i.e., any of the 4 categories of presence shown in Figure 3), which are located in Allegany, Anne Arundel, Baltimore, Carroll, Frederick, Harford, Howard, Garrett, Montgomery, and Washington Counties.

Species to Benefit. Maryland's eastern brook trout populations are greatly diminished, and have been extirpated from 57 percent of subwatersheds in which they once existed. The vast majority of remaining populations are classified as greatly reduced, and Maryland DNR has listed brook trout as a *Species of Greatest Conservation Need.* Since brook trout require relatively pristine habitat conditions, many other aquatic species will benefit from a focus on brook trout habitat restoration and protection.

Restoration Requirements

Technical assistance will be requested from Maryland DNR and/or the U.S. Fish and Wildlife Service to confirm the presence of brook trout, and identify sites and activities that will benefit brook trout populations. For this practice, CP25 may only be applied on cropland within 1,000 feet of a stream or water body within a watershed where Eastern Brook Trout are present. A list of eligible watersheds is provided in Appendix H.

Land enrolled in CP-25 for the protection of brook trout will be planted to a permanent cover of predominantly (i.e., greater than 50 percent) trees and shrubs, but can include native grasses and forbs. Use the NRCS conservation practice standard for Conservation Cover, Code 327. Select at least 3 species of trees and/or shrubs that are native to Maryland.

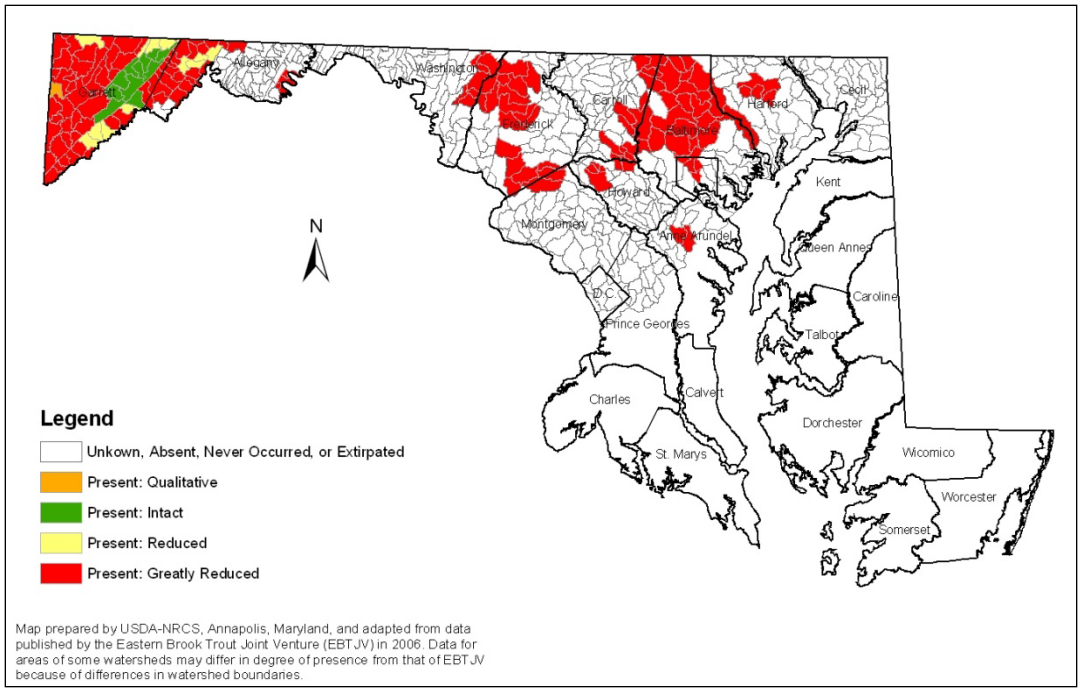

Figure 3. Status of Eastern Brook Trout in Maryland. This map shows the watersheds where Eastern Brook Trout are known to occur. A list of these watersheds is in Appendix H.

Forest Interior Dwelling Species (FIDS) Habitat

Habitat Description. Large contiguous upland and riparian forest areas with a high interior-to-edge ratio.

Species to Benefit. FIDS require large contiguous forest areas to breed successfully and maintain viable populations. Habitat loss, habitat fragmentation, and edge effect are responsible for declines in many FIDS populations over the last 30 to 40 years. Some of the most significant declines in FIDS populations include the Wood Thrush at 2.3 percent annually (1980-1996) in the Coastal Plain, the Kentucky Warbler at 3.1 percent annually (1966-1999) in the Piedmont, and the Cerulean Warbler at 6.9 percent annually (1966-1999) in the Ridge and Valley.

Restoration Requirements

Restoration of FIDS habitat will focus on enhancing existing suitable forest habitat by increasing the total size of contiguous forest, closing gaps in large forest tracts, and increasing the interior-to-edge ratio. The majority of existing suitable FIDS habitat occurs in Western and Southern Maryland, and on the Lower Eastern Shore, although enrollment is not limited to these areas.

Targeted FIDS habitat for the purpose of this practice is defined as either one of the following:

- Forests at least 100 acres in size with 20 or more acres of forest interior habitat (i.e., forest greater than 300 feet from the nearest forest edge); or

- Riparian forests at least 100 acres in size with an average total width of at least 300 feet. The stream within the riparian forest is perennial.

Cropland adjacent to, or within forest tracts that meet one of the above criteria may be enrolled in CP-25 to benefit FIDS. Forest tracts that meet the above criteria, but contain monotypic stands that are actively managed to reduce competition from native tree species (e.g. forests where hardwood-selective herbicides are applied to Loblolly Pine plantations) do not qualify.

The land will be planted to a permanent cover of native trees and shrubs that are similar in composition to local naturally occurring habitat. Plantings must be generally mixed throughout (i.e., no block plantings), and limited to no more than 25% pines when restoring a mixed pine-hardwood plant community. Use the NRCS conservation practice standard for Conservation Cover, Code 327. Select at least 3 species of trees and/or shrubs that are native to Maryland.

Size Limit. Enrollment for FIDS habitat is limited to 100 acres per tract.

MARGINAL PASTURELAND WILDLIFE HABITAT BUFFER – CP29

Purpose. The purpose of this practice is to remove nutrients, sediment, organic matter, pesticides, and other pollutants from surface runoff and subsurface flow by deposition, absorption, plant uptake denitrification and other processes and thereby reduce pollution and protect surface water and subsurface water quality while enhancing the ecosystem of the water body. When this riparian buffer is established, it will help to stabilize streambanks, reduce impacts from flood damage, and enhance wildlife habitat.

General Guidelines. To be eligible to be enrolled as a CP29, the land must be marginal pastureland as determined by FSA. The practice shall enhance the plant community and provide water quality improvement and wildlife habitat benefits. NRCS or TSP determines based on a site visit:

- Marginal pastureland is located in a riparian area (adjacent to an eligible stream or water body, as specified below) and is suitable to be devoted to a wildlife habitat buffer;
- The buffer is needed and feasible to solve the resource concern;
- The marginal pastureland is capable, after the buffer is established, of substantially reducing pollutants in the nearby eligible stream or other water body.

Application. This practice is applied on marginal pastureland immediately adjacent and parallel to:

- Streams having perennial flow;
- Intermittent streams, excluding gullies or sod waterways;

  Note: Channelized intermittent streams and constructed drainage ditches are not eligible for buffering with CP29 (Maryland CREP policy).

- Sinkholes, karst areas, and other groundwater recharge areas;
- Other water bodies of a permanent nature, such as lakes or ponds;

  Exception: Ponds of less than 5 ac in size that do not have at least seasonal flow to another eligible water body are ineligible (national CRP policy).

CP29 can not be used as the herbaceous portion for a CP22. CP29 can not be used as the buffer component of CP23, CP30, or CP9, because these practices already include their own buffers.

Cost-Share. Cost-share is available for:

- Site preparation, including plowing, mowing and some brush removal;
- Eligible seed and seeding;
- Shrub seedlings and planting;
- Herbicide, pesticides and mechanical measures necessary to establish the vegetation;
- Temporary cover;

- Pipelines and watering facilities (subject to FSA's program limits on cost for these items);
- Fencing;
- Installation of structural practices where concentrated flow degrades water quality.

Cost-share is not available under CP29 for tree shelters or other animal damage control devices.

Practice Requirements. In addition to requirements in the *General Practice Requirements* section, the following apply:

Vegetation shall include grasses and forbs, and may include shrubs, as per the following:

- Herbaceous buffers: For buffers that will be planted and maintained in herbaceous cover, use the NRCS conservation practice standard for Riparian Herbaceous Cover (Code 390). For most sites, select approved Conservation Cover mixes. When site conditions are severe and significant erosion control and sediment retention is needed, select approved Critical Area Planting mixes, but do not use mixes containing tall fescue.
- Herbaceous/shrub buffers: For buffers that will be planted and maintained in a combination of herbaceous cover and shrubs, use the NRCS conservation practice standard for Conservation Cover (Code 327).
- The vegetative cover to be established must be a preferred mix for wildlife.

Example

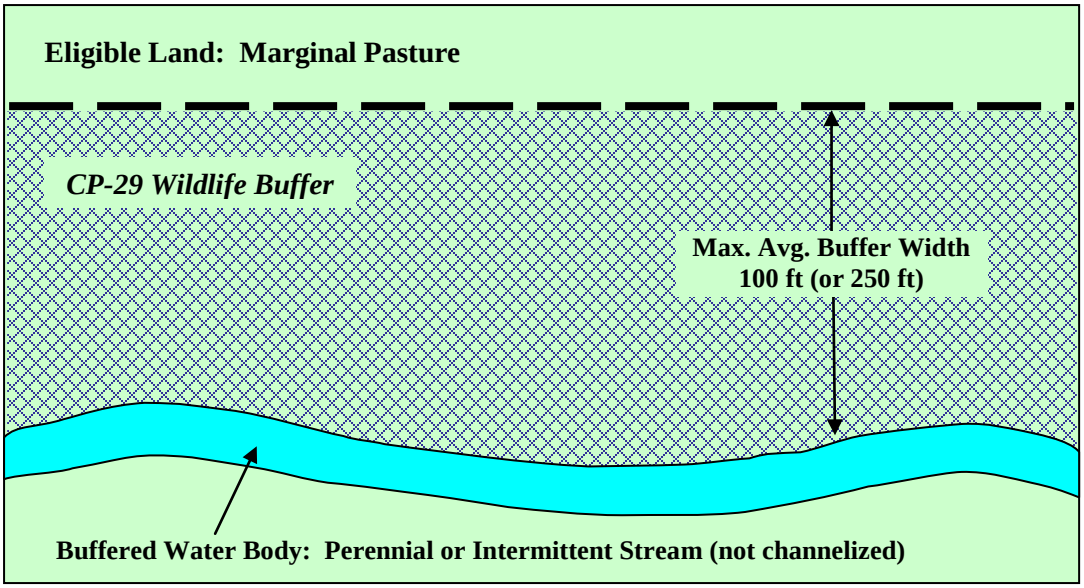

Figure 4. CP29 Example: Marginal pasture is adjacent to a stream. As measured from the streambank, a buffer up to a maximum average width of 100 feet (or 250 feet with expanded buffer criteria) is eligible for enrollment in a CP29 Wildlife Buffer.

MARGINAL PASTURELAND WETLAND BUFFER – CP30

Purpose. The purpose of this practice is to remove nutrients, sediment, organic matter, pesticides, and other pollutants from surface runoff and subsurface flow by deposition, absorption, plant uptake, denitrification, and other processes, and thereby reduce pollution and protect surface water and subsurface water quality while enhancing the ecosystem of the water body. The practice will enhance and/or restore hydrology and plant communities associated with existing or degraded wetland complexes. The goal is to enhance water quality, reduce nutrient and pollutant levels, and improve wildlife habitat.

General Guidelines. To be eligible to be enrolled as a CP30, the land must be marginal pastureland as determined by FSA. NRCS or TSP determines based on a site visit:

- Marginal pastureland is located in a riparian area (adjacent to an eligible stream or water body, as specified below) and is suitable to be devoted to wetlands and buffers.

- The area to be established as a buffer contains existing degraded wetlands, or hydric soils where wetlands will be restored.

- The CP30 wetland buffer is needed and feasible to solve the resource concern.

- The marginal pastureland is capable after the wetland buffer is established of substantially reducing pollutants in the nearby eligible stream or other water body.

The wetland buffer must include existing or restorable wetland(s), but there is no minimum wetland to buffer ratio requirement.

Application. This practice is applied on marginal pastureland immediately adjacent and parallel to:

- Streams having perennial flow;

- Intermittent streams, excluding gullies or sod waterways;

  Note: Channelized intermittent streams and constructed drainage ditches are not eligible for buffering with CP30 (Maryland CREP policy).

- Sinkholes, karst areas, and other groundwater recharge areas;

- Other water bodies of a permanent nature, such as lakes or ponds;

  Exception: Ponds of less than 5 ac in size that do not have at least seasonal flow to another eligible water body are ineligible (national CRP policy).

- Wetlands that are at least seasonally flooded or ponded (≥ 21 days), or wetter.

  If these wetlands occur within a larger wetland complex, other seasonal wetlands in the system can also be buffered in order to protect water quality. Use the Maryland CRP/CREP Wetland Verification Worksheet (see Appendix B) to document the presence of seasonal wetlands.

CP30 can not be used as the herbaceous portion for a CP22. CP30 can not be used as the buffer component of CP23 or CP9, because these practices already include their own buffers.

Cost-Share. Cost-share is available for:

- Site preparation, including plowing , mowing and some brush removal;
- Eligible seed and seeding;
- Tree and shrub seedlings and planting;
- Herbicide, pesticides, and mechanical measures necessary to establish the vegetation;
- Earthmoving to restore the hydrology of the site;
- Temporary cover;
- Pipelines and watering facilities (subject to FSA's program limits on cost-share);
- Fencing;
- Construction of structures where concentrated flow continues to degrade water quality;
- Tree shelters or other animal control devices.

Practice Requirements. In addition to requirements in the *General Practice Requirements* section, the following apply:

- Degraded wetlands may be restored by ceasing disturbance of the site (thus allowing natural regeneration of a native plant community), replanting a disturbed wetland, plugging drains and ditches, excavating accumulated sediment, or any combination of activities that will restore natural wetland vegetation and hydrology. Wetlands will be restored using the NRCS conservation practice standard for Wetland Restoration (Code 657).
- The wetland buffer may be planted to herbaceous vegetation, shrubs, or trees, or any combination thereof. Buffers will be planned using the NRCS conservation practice standard for Riparian Herbaceous Cover (Code 390), Riparian Forest Buffer (Code 391), or Conservation Cover (Code 327), whichever is most appropriate.
- The vegetative cover to be established must be a preferred mix for wildlife.

Examples. Following are scenarios for which CP-30 can be applied. Not all potential scenarios are shown.

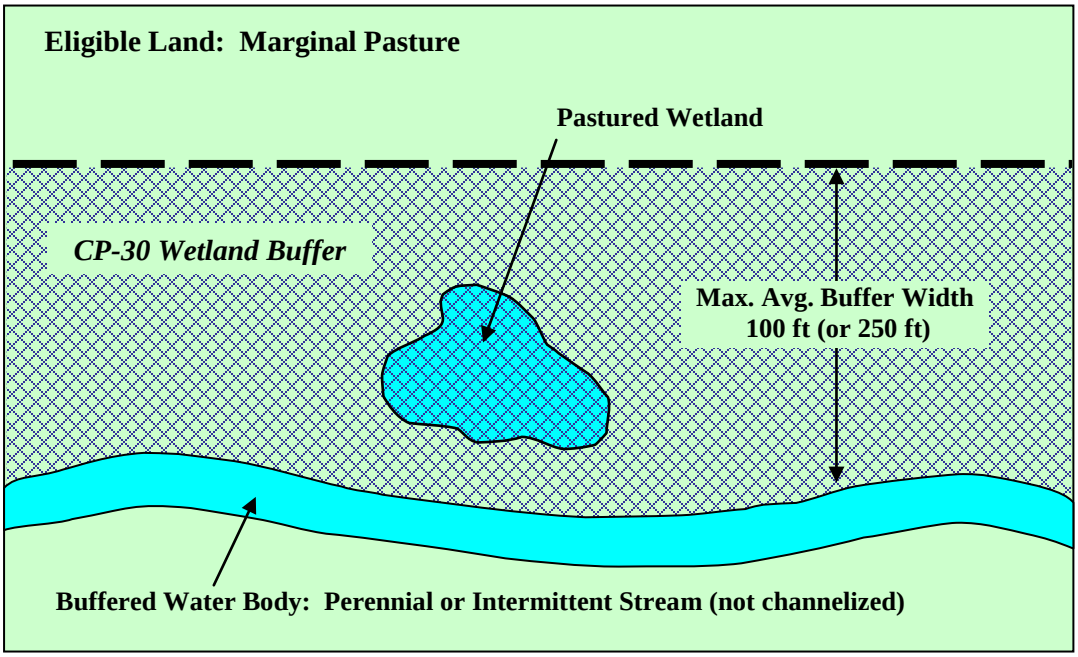

Figure 5. CP30 Example 1: Marginal pasture is adjacent to a stream, and includes a seasonally ponded pastured wetland. As measured from the streambank, a buffer up to a maximum average width of 100 feet (or 250 feet with expanded buffer criteria) is eligible for enrollment as a CP30. Because the stream is being buffered, the wetland acreage is included in the CREP contract, and is planned as a Wetland Restoration (Code 657).

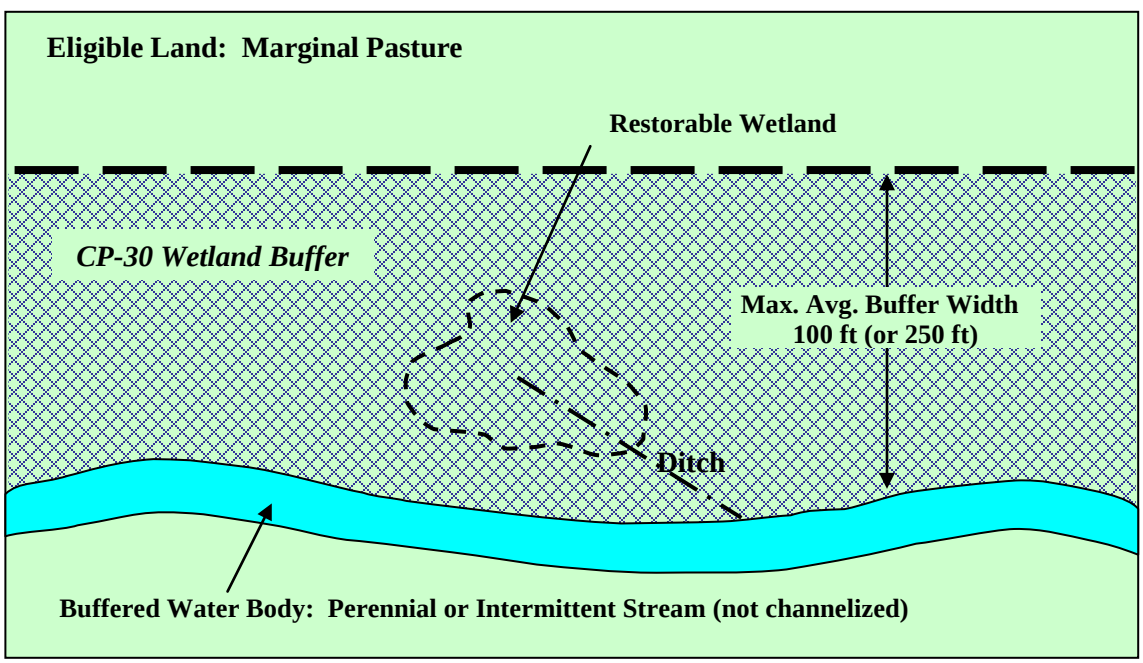

Figure 6. CP30 Example 2: Marginal pasture is adjacent to a stream, and includes a hydric soil area that is suitable for wetland restoration. As measured from the streambank, a buffer up to a maximum average width of 100 feet (or 250 feet with expanded buffer criteria) is eligible for enrollment as a CP30. The wetland acreage is included in the CREP contract, and will be restored using the NRCS practice standard for Wetland Restoration (Code 657).

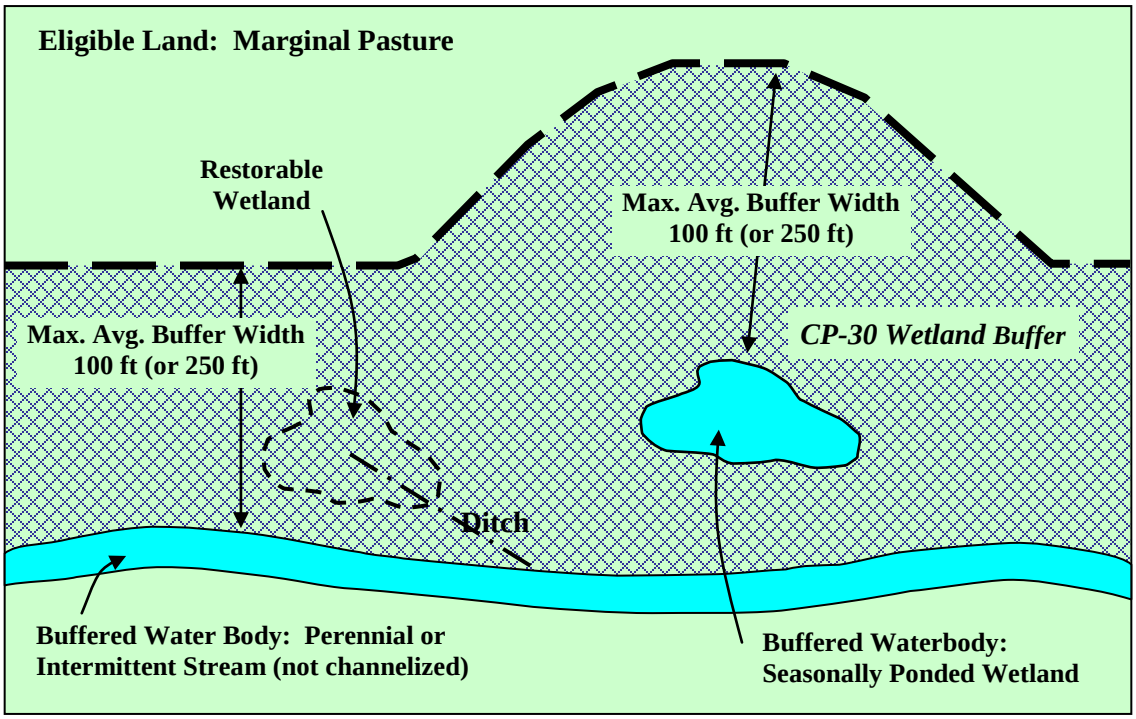

Figure 7. CP30 Example 3: Marginal pasture is adjacent to a stream, and includes a seasonally ponded wetland and a hydric soil area that has been drained. As measured from the streambank and the seasonally ponded wetland, a buffer up to a maximum average width of 100 feet (or 250 feet with expanded buffer criteria) is eligible for enrollment as a CP30. The seasonally ponded wetland acreage is not included in the CREP contract. The restorable wetland is included in the CREP contract, and will be restored using the NRCS practice standard for Wetland Restoration (Code 657). Although not included in the CREP contract, the seasonally ponded wetland should be planned as a Wetland Restoration (Code 657).

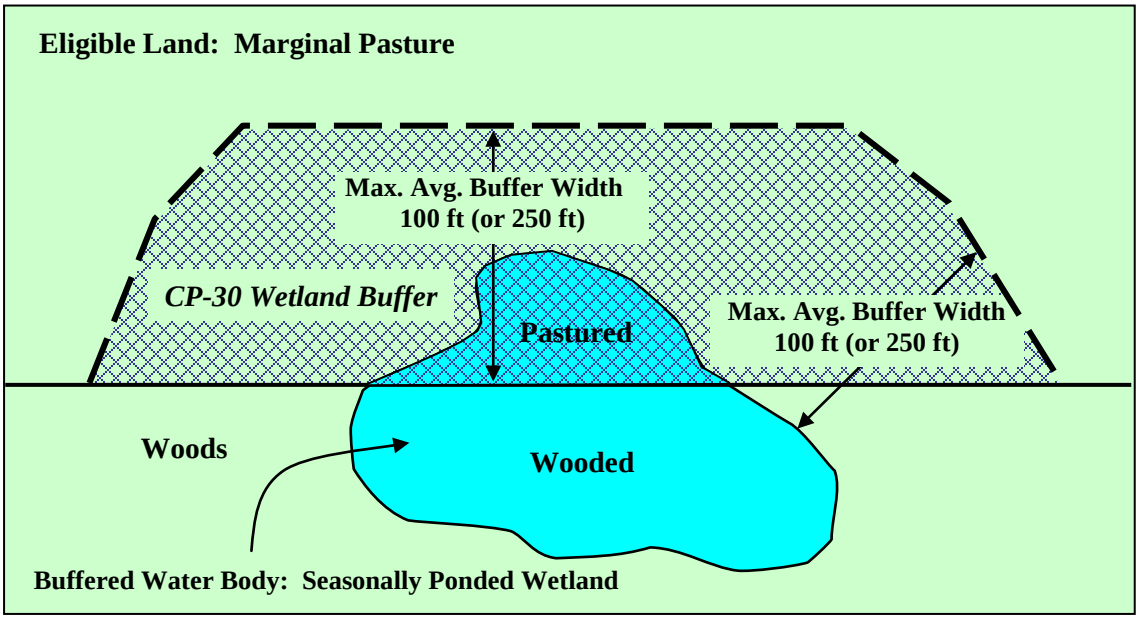

Figure 8. CP30 Example 4: Marginal pasture is adjacent to woodland containing a seasonally ponded wetland, and a portion of the wetland is being pastured. As measured from the edge of the wooded wetland, a buffer up to a maximum average width of 100 feet (or 250 feet with expanded buffer criteria) is eligible for enrollment as a CP30. The wetland acreage is included in the CREP contract, and is planned as a Wetland Restoration (Code 657).

APPROVED TREES, SHRUBS AND COVER MIXES

Approved Cover Mixes. The following mixes are approved for CREP. Mixes from the NRCS practice standard for Conservation Cover (Code 327) are typically applicable to CREP, but may require the addition of a legume/forb component to meet the basic wildlife requirements of the program.

TABLE 5. APPROVED CONSERVATION COVER (CODE 327) MIXES	
Introduced Cool-season Grasses	Grass/legume/forb mixes: 9, 10, 12 Must add Mix 8, 8a, 8b, 8c, 8d or legume(s) to these grass mixes: 11, 13
Native Warm- and Cool-season Grasses	Grass/legume/forb mixes: 1, 4, 6, 14, 15, 16, 17, 18 Must add Mix 8, 8a, 8b, 8c, 8d or legume(s) to these grass mixes: 2, 3, 5, 7 Eastern Shore short mix Maryland native custom grass/wildflower mix

TABLE 6. APPROVED CRITICAL AREA PLANTING (CODE 342) MIXES (no tall fescue allowed)	
Cool-season Grasses	Grass/legume/forb mixes: 5, 10, 12 Must add Mix 8, 8a, 8b, 8c, 8d or legume(s) to these grass mixes: 7, 9, 11, 13
Warm- and Cool-season Grasses	Grass/legume/forb mixes: 1, 2, 3 Must add Mix 8, 8a, 8b, 8c, 8d or legume(s) to these grass mixes: 4

Approved Trees and Shrubs. The following trees and shrubs are approved for CREP. Where allowed, other non-invasive trees and shrubs may be used. Trees and shrubs on the *prohibited plants* list are not to be used under any circumstances.

TABLE 7. APPROVED PINES AND SOFTWOOD TREES	
Cedar, Atlantic White[8] (Chamaecyparis thyoides)	Pine, Loblolly (Pinus taeda)
Cedar, Eastern Red (Juniperus virginiana)	Pine, Pitch (Pinus rigida)
Cypress, Bald[*] (Taxodium distichum)	Pine, Virginia (Pinus virginiana)
Hemlock, Eastern (Tsuga canadensis)	Pine, White (Pinus strobus)

TABLE 8. APPROVED HARDWOOD TREES	
Aspen, Large-Toothed (Populus grandidentata)	Nannyberry (Viburnum lentago)
Aspen, Quaking (Populus tremuloides)	Oak, Chestnut (Quercus prinus)
Ash, Green (Fraxinus pennsylvanica)	Oak, Chinquapin (Quercus muehlenbergii)
Ash, White (Fraxinus americana)	Oak, Overcup (Quercus lyrata)
Birch, River (Betula nigra)	Oak, Pin (Quercus palustris)

[8] For the purposes of CRP, Atlantic White Cedar and Bald Cypress can be considered hardwoods for practice requirements.

TABLE 8. APPROVED HARDWOOD TREES (continued)	
Box-Elder (Acer negundo)	Oak, Northern Red (Quercus rubra)
Cherry, Black (Prunus serotina)	Oak, Southern Red (Quercus falcata)
Cottonwood, Eastern (Populus deltoides)	Oak, Swamp White (Quercus bicolor)
Dogwood, Flowering (Cornus florida)	Oak, Willow (Quercus phellos)
Gum, Black (Nyssa sylvatica)	Oak, White (Quercus alba)
Gum, Sweet (Liquidambar styraciflua)	Pawpaw (Asimina triloba)
Hackberry (Celtis occidentalis)	Poplar, Tulip (Liriodendron tulipifera)
Hickory, Shagbark (Carya ovata)	Redbud (Cercis canadensis)
Holly, American (Ilex opaca)	Sycamore (Platanus occidentalis)
Locust, Black (Robinia pseudoacacia)	Walnut, Black (Juglans nigra)
Maple, Red (Acer rubrum)	Willow, Black (Salix nigra)
Maple, Silver (Acer saccharinum)	

TABLE 9. APPROVED SHRUBS	
Alder, Smooth (Alnus serrulata)	Elderberry (Sambucus nigra ssp. canadensis)
Alder, Speckled (Alnus incana ssp. rugosa)	Fetterbush (Leucothoe racemosa)
Arrowwood (Viburnum dentatum)	Indigobush (Amorpha fruticosa)
Bayberry, Northern (Myrica pennsylvanica)	Inkberry (Ilex glabra)
Black-Haw (Viburnum prunifolium)	Pepperbush, Sweet (Clethra alnifolia)
Blueberry, Highbush (Vaccinium corymbosum)	Possum-Haw (Viburnum nudum)
Bush, High-Tide (Groundsel) (Baccharis halimifolia)	Raisin, Wild (Viburnum cassinoides)
Bush, High-Tide (Marsh-Elder) (Iva frutescens)	Rose, Swamp (Rosa palustris)
Buttonbush (Cephalanthus occidentalis)	Spicebush (Lindera benzoin)
Chokeberry, Red (*Photinia pyrifolia*)	Sweetspire, Virginia (Itea virginica)
Cranberrybush (Viburnum trilobum)	Waxmyrtle, Southern (Myrica cerifera)
Dogwood, Gray (Cornus racemosa)	Witch-Hazel (Hamamelis virginiana)
Dogwood, Redosier (Cornus sericea)	Winterberry (Ilex verticillata)
Dogwood, Silky (Cornus amomum)	

PROHIBITED PLANTS

The following species are considered invasive and shall not be used in any plantings under the Conservation Reserve Program or Conservation Reserve Enhancement Program.

Trees

- Arnot Bristly Locust (Robinia fertilis)
- Empress Tree (Paulownia tomentosa)
- Norway Maple (Acer platanoides)
- Sweet Cherry (Prunus avium)
- Sycamore Maple (Acer pseudoplatanus)
- Tree of Heaven (Ailanthus altissima)
- White Cottonwood (Populus alba)

Shrubs

- Amur Honeysuckle or Rem Red Honeysuckle (Lonicera mackii)
- Amur Privet (Ligustrum amurense)
- Autumn Olive (Eleagnus umbellata)
- Common Buckthorn (Rhamnus cathartica)
- European Buckthorn (Rhamnus frangula)
- Japanese Barberry (Berberis thunbergii)
- Japanese Spirea (Spirea japonica)
- Multiflora Rose (Rosa multiflora)
- Privet (Ligustrum obtusifolium)
- Russian Olive (Eleagnus angustifolia)
- Tatarian Honeysuckle (Lonicera tatarica)
- Burning Bush or Winged Euonymus (Euonymus alatus)

Forbs

- Crown Vetch (Coronilla varia)
- Sericea Lespedeza (Lespedeza cuneata)

MACS PROGRAM COST-SHARE

The State provides cost-share through the Maryland Agricultural Water Quality Cost-Share (MACS) Program for the following practices and criteria. Refer to the MACS Program Manual for details on documentation for cost-share and practice criteria.

HEL Practices (CP1, CP2, CP3, CP3A, CP4D) and Wildlife Buffer (CP4D). MACS will provide cost-share for these practices on HEL land where the cost-effectiveness of the practice is $40/ton of soil saved or less. If the cost-effectiveness of the practice exceeds $40/ton of soil saved, use the variable rate formula to determine the amount of cost-share the applicant can receive.

Filter Strip (CP21) and Riparian Buffer (CP22). MACS will cost-share up to 100 feet wide for water quality. Cost-share may be provided for additional filter strip or buffer width up to a maximum of 250 feet, for the following:

- Statewide for water quality benefits on highly erodible land, where the cost-effectiveness of the additional width is $40/ton of soil saved or less. If the cost-effectiveness of the practice exceeds $40/ton of soil saved, use the variable rate formula to determine the amount of cost-share the applicant can receive.

- West of the Chesapeake Bay for water quality benefits on floodplains or hydric soils, where the soils in the additional width are at least 50% hydric, or the additional width is occasionally or frequently flooded. See the approved list of flooded soils in Appendix F of this handbook. Hydric soil lists are contained in the FOTG.

Wetland Restoration (CP23, CP23A). MACS will provide cost-share for the necessary components to restore wetland hydrology and vegetative cover, including the associated buffer, where the wetland will have an off-site contributing watershed beyond the enrolled acreage of the practice. When using the minimum 35-foot buffer, it can be included as part of the wetland restoration (Code 657) in the MACS application. For wider buffers, use NRCS practice code 390 (herbaceous only), code 391 (forested), or code 327 (mixed herbaceous and woody).

Marginal Pasture Buffer Practices (CP29, CP30). MACS will provide cost-share for a maximum 100-foot buffer if animals are present and a water quality condition is addressed. In addition to the water quality criteria, for MACS cost-share on the wetland restoration portion of CP30, the wetland must have an off-site contributing watershed beyond the enrolled acreage of the practice. Cost-share eligibility is determined as follows:

- Animals are currently present on the pasture and will be excluded as part of the practice. Cost eligibility will be based on the number of animal units that regularly use or occupy the area being addressed.

- If 15 or more animal units are present, cost-share will be based on the applicable flat rates.

- Operations with 8-14 animal units will be based on the animal unit cost eligibility: (number of animal units × $25/yr × maintenance life) – USDA cost-share.

- Operations with less than 8 animal units are not eligible for MACS unless they meet the HEL cost effectiveness criteria.

- On HEL land, where the cost-effectiveness of the buffer is $40/ton of soil saved or less. If the cost-effectiveness of the practice exceeds $40/ton of soil saved, use the variable rate formula to determine the amount of cost-share the applicant can receive.

When submitting a MACS application for the buffer component of CP29 or CP30, use NRCS practice code 390 (herbaceous plantings only) or code 327 (can include woody plantings) to request MACS cost-share.

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APPENDIX A: CREP SUMMARY OF PRACTICES AND PAYMENTS

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CONSERVATION RESERVE ENHANCEMENT PROGRAM (CREP) – SUMMARY OF PRACTICES AND PAYMENTS

Practices and NRCS Practice Codes	Incentive Payment (% of SRR)	SIP Bonus[1]	PIP Bonus	MD Signing Bonus[2]	FSA Cost-share	MACS Cost-share[3]	FSA Max Maintenance Rate	Eligible Land	Remarks
CP1, CP2, CP3, CP3A, CP4D HEL Code 327	80%	No	No	Yes	50%	37.5% [4]	$0/ac	Cropland	Must be within 1,000 feet of streams, other waters or wetlands AND have an EI ≥ 8 on the Eastern Shore (includes Cecil) or an EI ≥ 16 on the Western Shore (all other counties).
CP4D Wildlife Buffer (Grass with Trees/Shrubs) Code 327	150%	No	No	Yes	50%	37.5% [4,5]	$0/ac	Cropland	35-100 feet wide adjacent to streams, other waters or wetlands. Expanded buffers up to 250 feet wide [6] Channelized intermittent streams and drainage ditches not eligible.
CP9 Shallow Water Area Codes 646 and 327	100%	Yes	Yes	Yes	50%	0	$0/ac	Cropland	Up to 2 contracts per tract; maximum total of 50 acres of CP9 per tract.
CP21 Filter Strip Code 390 or 393	150%	Yes	Yes	Yes	50%	37.5% [7]	$0, $4, $5/ac	Cropland	35-100 feet wide adjacent to streams, other waters or wetlands. Expanded buffers up to 250 feet wide [6] In CREP, CP21 is limited to 35 feet wide along channelized intermittent streams and constructed drainage ditches.
CP22 Riparian Forest Buffer Codes 391 and 390 or 393	200%	Yes	Yes	Yes	50%	37.5% [7]	$2, $4, $5/ac	Cropland or Marginal Pasture	35-100 feet wide adjacent to streams, other waters or wetlands. Expanded buffers up to 250 feet wide [6] Channelized intermittent streams and drainage ditches not eligible.
CP23, CP23A Wetland Restoration Codes 657 and 390, 391 or 327	200%	Yes	Yes	Yes	50%	37.5% [5,8]	$0/ac	Cropland	Applicable to eligible cropland with hydric soils. CP23 in the 100-year floodplain and CP23A outside the 100-year floodplain. Maximum buffer to wetland ratio of 1:1.
CP25 Rare and Declining Species Habitat Code 327	150%	No	No	Yes	50%	0 [5]	$0/ac	Cropland	Specific habitat and management plans required. 100 acres per tract maximum for FIDS habitat. 500 acre cap on Eastern Shore (includes Cecil) and 1,500 acre cap on Western Shore (all other counties)
CP29 Marginal Pasture Wildlife Buffer Code 390 or 327	100%	Yes	Yes	Yes	50%	37.5% [5,9]	$0, $4, $5/ac	Marginal Pasture	35-100 feet wide adjacent to streams and other waters. Expanded buffers up to 250 feet wide [6] Channelized intermittent streams and drainage ditches not eligible.
CP30 Marginal Pasture Wetland Buffer Codes 657 and 390, 391 or 327	100%	Yes	Yes	Yes	50%	37.5% [5,9]	$0, $4, $5/ac	Marginal Pasture	35-100 feet wide adjacent to streams, other waters or wetlands. Expanded buffers up to 250 feet wide [6] Channelized intermittent streams and drainage ditches not eligible.

1 SIP applies to new enrollments only
2 State signing bonus applies to new enrollments and re-enrollments
3 MACS cost-share NTE 87.5% for state and federal cost-share combined
4 MACS cost-share for these practices is based on "Tons of Soil Saved"
5 USFWS may provide additional cost-share on a case-by-case basis when MACS cost-share is not available
6 Expanded buffer cap of 1,000 acres on Eastern Shore (includes Cecil County) and 4,000 acres on Western Shore (all other counties) applies to new enrollments as of May 14, 2009. Expanded buffers are eligible for the purposes of: HEL (EI ≥ 8) and wildlife habitat on Eastern Shore; HEL (EI ≥ 8), wildlife habitat, and water quality on Western Shore. Specific wildlife habitat requirements apply.
7 MACS cost-share may be provided for additional buffer width (up to 250 feet) if water quality criteria are met
8 MACS will provide cost-share only if there is an off-site contributing watershed
9 MACS will provide cost-share only if livestock are present and sufficient benefits for water quality will occur

This table is for guidance purposes and agency use only.

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APPENDIX B: MARYLAND CRP/CREP WETLAND VERIFICATION WORKSHEET

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MARYLAND CRP/CREP WETLAND VERIFICATION WORKSHEET

Client _____ Tract No. _____

Address _____ Evaluated by _____

_____ Date _____

Use this worksheet to verify the presence of wetlands. For each sampling point, number and mark its location on an aerial photo, and use the boxes below to document the presence or absence of wetland indicators, as field-checked. Attach this worksheet to the aerial photo showing the sampling locations. Note: This is not intended to contain the level of detail required for a "Certified Wetland Determination/Delineation."

Site # _____			**Wetland Determination**
Has this site been recently disturbed?	Yes___	No___	Is this sampling point within a wetland? Yes___ No___
Predominance of hydrophytic vegetation?	Yes___	No___	
Wetland hydrology observed or indicators present?	Yes___	No___	
Hydric soil present?	Yes___	No___	
Remarks:			

Site # _____			**Wetland Determination**
Has this site been recently disturbed?	Yes___	No___	Is this sampling point within a wetland? Yes___ No___
Predominance of hydrophytic vegetation?	Yes___	No___	
Wetland hydrology observed or indicators present?	Yes___	No___	
Hydric soil present?	Yes___	No___	
Remarks:			

Site # _____			**Wetland Determination**
Has this site been recently disturbed?	Yes___	No___	Is this sampling point within a wetland? Yes___ No___
Predominance of hydrophytic vegetation?	Yes___	No___	
Wetland hydrology observed or indicators present?	Yes___	No___	
Hydric soil present?	Yes___	No___	
Remarks:			

Client _____ Page____ of ____

Site # _____ Has this site been recently disturbed? Yes___ No___ Predominance of hydrophytic vegetation? Yes___ No___ Wetland hydrology observed or indicators present? Yes___ No___ Hydric soil present? Yes___ No___	**Wetland Determination** Is this sampling point within a wetland? Yes___ No___
Remarks:	

Site # _____ Has this site been recently disturbed? Yes___ No___ Predominance of hydrophytic vegetation? Yes___ No___ Wetland hydrology observed or indicators present? Yes___ No___ Hydric soil present? Yes___ No___	**Wetland Determination** Is this sampling point within a wetland? Yes___ No___
Remarks:	

Site # _____ Has this site been recently disturbed? Yes___ No___ Predominance of hydrophytic vegetation? Yes___ No___ Wetland hydrology observed or indicators present? Yes___ No___ Hydric soil present? Yes___ No___	**Wetland Determination** Is this sampling point within a wetland? Yes___ No___
Remarks:	

Site # _____ Has this site been recently disturbed? Yes___ No___ Predominance of hydrophytic vegetation? Yes___ No___ Wetland hydrology observed or indicators present? Yes___ No___ Hydric soil present? Yes___ No___	**Wetland Determination** Is this sampling point within a wetland? Yes___ No___
Remarks:	

APPENDIX C: DETERMINING STREAMS VS. DITCHES AND ELIGIBLE BUFFER WIDTHS

Constructed ditches that never were streams are treated as "ditches," regardless of whether they are perennial or intermittent. Channelized intermittent streams are also treated as "ditches." Natural perennial streams, channelized perennial streams, and natural intermittent streams are treated as "streams."

The watercourse is perennial and is…	For purposes of CREP, the watercourse is considered to be a….	Maximum allowed buffer width is….
A. Not channelized; or, B. Channelized, and within a floodplain soil mapping unit; or, C. Channelized, and within a hydric soil unit that is mapped as a narrow, elongated feature in a fluvial/floodplain position; or, D. Channelized, and within a soil mapping unit that has a "B" slope class or steeper	Stream	100 feet (or up to 250 feet when expanded buffers are applicable)
E. Channelized, and is not contained within soil mapping units as described in items B, C, or D above	Ditch	35 feet and CP21 (grass) only. Can be applied only in cropland.
The watercourse is intermittent and is…	**For purposes of CREP, the watercourse is considered to be a….**	**Maximum allowed buffer width is….**
Not channelized	Stream	100 feet (or up to 250 feet when expanded buffers are applicable)
Channelized	Ditch	35 feet and CP21 (grass) only. Can be applied only in cropland.

Channelized watercourses can be differentiated from natural, unmodified streams by their straight reaches and the lack of natural sinuosity when viewed on aerial photos and maps.

Constructed drainage ditches must be at least 2 years old at the time of eligibility determination to be considered eligible waterbodies in CREP.

APPENDIX D: COMPONENTS OF COST-SHARE FOR COVER ESTABLISHMENT

Cool Season Grasses

Seedbed preparation, seed, weed control (herbicide and/or mechanical methods), lime, and fertilizer.

Warm Season Grasses

Seedbed preparation, seed, weed control (herbicide and/or mechanical methods), lime, and nurse crop.

Softwood trees

Seedlings, weed control (herbicide and/or mechanical methods), lime, fertilizer, hand or machine planting, and companion planting.

Hardwood trees

Seedlings, weed control (herbicide and/or mechanical methods), lime, fertilizer, hand or machine planting, and companion planting.

Shrubs

Seedlings, weed control (herbicide and/or mechanical methods), lime, fertilizer, hand or machine planting, and companion planting. (Shrub flat rate is based on a 6' x 6' spacing. If planted at the same stocking rate as trees, use the hardwood tree flat rate.)

Tree Shelters and Protection

Tree shelters, stakes, netting, and installation.

Post-emergence Herbicide Treatment

A single herbicide treatment for weed control, if required, within 12 months of the planting for herbaceous cover, or within 24 months of the planting for woody cover.

The weed control component that is included in the establishment flat rates can be used at planting or before planting.

Cost-share rates for components may vary among counties.

APPENDIX E: COST-SHARE FOR LIVESTOCK EXCLUSION AND WATERING FACILITIES

FSA cost-share is available through CREP for eligible livestock watering facility components for implementation of:

- CP21 – Filter Strip
- CP22 – Riparian Forest Buffer
- CP29 – Marginal Pastureland Wildlife Habitat Buffer
- CP30 – Marginal Pastureland Wetland Buffer

Cost-share for water developments, watering facilities, and pipeline is available for the lowest cost option that provides a dependable water source. Cost-share for fencing is limited to the length parallel and directly adjacent to the buffer.

Livestock crossings are eligible for cost-share only if they are necessary to implement the buffer.

The following practices are eligible for 50% cost-share up to the maximum identified. In addition to cost-share, a participant is eligible to receive a PIP bonus on these practices. The *maximum cost-share per contract limits* apply to FSA cost-share only. The participant may be eligible for additional cost-share through MACS.

Practice	**Maximum Cost-Share per Contract***	**Maximum Distance from Outer Edge of Buffer**
Water Development (e.g. well, spring)	$3,600	750 feet 1,500 feet based on STC approval
Watering Facility	$2,400	750 feet 1,500 feet based on STC approval
Pipeline	$2,400	750 feet 1,500 feet based on STC approval
Fencing	Limited to Cost of 4-Strand Barbed Wire	Parallel and Adjacent to Buffer
Livestock Crossing	$1,800	N/A

Note: All livestock watering facility and exclusion practices are subject to COC approval.

* Multiple contracts to avoid the cost-share limitation are not authorized.

See paragraph 511 in the FSA 2-CRP Manual for more information.

APPENDIX F: FLOODED MAP UNITS FOR MARYLAND

U. S. Department of Agriculture
Natural Resources Conservation Service 08/21/2003

Allegany County, Maryland (MD001: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Au	ALLUVIAL LAND	Alluvial land	frequent
Av	ALLUVIAL LAND-URBAN LAND COMPLEX	Alluvial land	frequent
Aw	ATKINS SILT LOAM	Atkins	frequent
CsA	CHAVIES LOAM, 0 TO 3 PERCENT SLOPES	Chavies	rare
CsB	CHAVIES LOAM, 3 TO 8 PERCENT SLOPES	Chavies	rare
Hn	HUNTINGTON SILT LOAM	Huntington	occasional
HxA	HUNTINGTON SILT LOAM, LOCAL ALLUVIUM, 0 TO 3 PERCENT SLOPES	Huntington	occasional
HxB	HUNTINGTON SILT LOAM, LOCAL ALLUVIUM, 3 TO 8 PERCENT SLOPES	Huntington	occasional
HxC	HUNTINGTON SILT LOAM, LOCAL ALLUVIUM, 8 TO 15 PERCENT SLOPES	Huntington	occasional
Ln	LINDSIDE SILT LOAM	Lindside	occasional
Me	MELVIN SILT LOAM	Melvin	frequent
Ph	PHILO SILT LOAM	Philo	occasional
Pn	POPE FINE SANDY LOAM	Pope	occasional
Ps	POPE SILT LOAM	Pope	occasional

Anne Arundel County, Maryland (MD003: update)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
CHA	Codorus and hatboro soils, 0 to 2 percent slopes, frequently flooded	Hatboro	frequent
	Codorus and hatboro soils, 0 to 2 percent slopes, frequently flooded	Codorus	occasional
CTA	Comus and Codorus soils, 0 to 2 percent slopes, occasionally flooded	Codorus	frequent
	Comus and Codorus soils, 0 to 2 percent slopes, occasionally flooded	Comus	rare
MZA	Mispillion and Transquaking soils, 0 to 1 percent slopes, tidally flooded	Transquaking	very frequent
	Mispillion and Transquaking soils, 0 to 1 percent slopes, tidally flooded	Mispillion	very frequent
NMA	Nanticoke and mannington soils, 0 to 1 percent slopes, tidally flooded	Mannington	very frequent
	Nanticoke and mannington soils, 0 to 1 percent slopes, tidally flooded	Nanticoke	very frequent
WBA	Widewater and Issue soils, 0 to 2 percent slopes, frequently flooded	Issue	frequent
	Widewater and Issue soils, 0 to 2 percent slopes, frequently flooded	Widewater	frequent
ZBA	Zekiah and Issue soils, 0 to 2 percent slopes, frequently flooded	Issue	occasional
	Zekiah and Issue soils, 0 to 2 percent slopes, frequently flooded	Zekiah	occasional

Baltimore County, Maryland (MD005: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Av	ALLUVIAL LAND	Alluvial land	frequent
Ct	COASTAL BEACHES	Coastal beaches	frequent
Cu	CODORUS SILT LOAM	Codorus	occasional
Cv	COMUS SILT LOAM	Comus	occasional
DcB	DELANCO SILT LOAM, 3 TO 8 PERCENT SLOPES	Delanco	rare
Du	DUNNING SILT LOAM	Dunning	occasional
Hb	HATBORO SILT LOAM	Hatboro	frequent
Iu	IUKA SILT LOAM	Iuka	occasional
Ls	LINDSIDE SILT LOAM	Lindside	occasional
Mn	MELVIN SILT LOAM	Melvin	occasional
Mo	MELVIN SILT LOAM, LOCAL ALLUVIUM	Melvin	occasional
Sw	SWAMP	Swamp	frequent
Tm	TIDAL MARSH	Tidal marsh	frequent

Calvert County, Maryland (MD009: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Co	COASTAL BEACHES	Coastal beaches	frequent
ImB	IUKA FINE SANDY LOAM, LOCAL ALLUVIUM, 2 TO 5 PERCENT SLOPES	Iuka	rare
My	MIXED ALLUVIAL LAND	Mixed alluvial land	frequent
OcB	OCHLOCKONEE FINE SANDY LOAM, LOCAL ALLUVIUM, 2 TO 5 PERCENT SLOPES	Ochlockonee	rare
Sx	SWAMP	Swamp	frequent
Tm	TIDAL MARSH	Tidal marsh	frequent

Caroline County, Maryland (MD011: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Bm	Bibb silt loam	Bibb	frequent
Jo	Johnston loam	Johnston	frequent
Mt	Mixed alluvial land	Mixed alluvial land	frequent
Mu	Muck	Muck	frequent
Sw	Swamp	Swamp	occasional
Tm	Tidal marsh	Tidal marsh	frequent

Carroll County, Maryland (MD013: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Be	Bermudian silt loam	Bermudian	occasional
Bs	Bowmansville silt loam	Bowmansville	frequent
Ch	Codorus silt loam	Codorus	occasional
Cm	Comus silt loam	Comus	occasional
CnA	Comus silt loam, local alluvium, 0 to 3 percent slopes	Comus	occasional
CnB	Comus silt loam, local alluvium, 3 to 8 percent slopes	Comus	occasional
DeA	Delanco silt loam, 0 to 3 percent slopes	Delanco	rare
DeB2	Delanco silt loam, 3 to 8 percent slopes, moderately eroded	Delanco	rare
Ht	Hatboro silt loam	Hatboro	frequent
Le	Lindside silt loam	Lindside	occasional
Mo	Melvin silt loam	Melvin	occasional
Ro	Rowland silt loam	Rowland	occasional

Cecil County, Maryland (MD015: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Co	COASTAL BEACHES	Coastal beaches	frequent
Cr	CODORUS SILT LOAM	Codorus	occasional
Cu	COMUS SILT LOAM	Comus	occasional
Ha	HATBORO SILT LOAM	Hatboro	occasional
Mr	MIXED ALLUVIAL LAND	Mixed alluvial land	frequent
Tm	TIDAL MARSH	Tidal marsh	frequent

Charles County, Maryland (MD017: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Ad	ALLUVIAL LAND	Alluvial land	frequent
Bo	BIBB SILT LOAM	Bibb	frequent
Co	COASTAL BEACHES	Coastal beaches	frequent
Ik	IUKA FINE SANDY LOAM	Iuka	frequent
Im	IUKA SANDY LOAM, LOCAL ALLUVIUM	Iuka	rare
In	IUKA SILT LOAM, LOCAL ALLUVIUM	Iuka	occasional
OcB	OCHLOCKONEE FINE SANDY LOAM, LOCAL ALLUVIUM, 0 TO 5 PERCENT SLOPES	Ochlockonee	rare
Sx	SWAMP	Swamp	frequent
Tm	TIDAL MARSH	Tidal marsh	frequent

City of Baltimore, Maryland (MD510: published)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
10	FLUVENTS, FREQUENTLY FLOODED	Fluvents	frequent
42	UDORTHENTS-FLUVENTS COMPLEX, OCCASIONALLY FLOODED	Udorthents	occasional
	UDORTHENTS-FLUVENTS COMPLEX, OCCASIONALLY FLOODED	Fluvents	occasional
43U	URBAN LAND-UDORTHENTS COMPLEX, OCCASIONALLY FLOODED	Udorthents	occasional

District of Columbia (MD099: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Bg	BIBB SANDY LOAM	Bibb	frequent
Ck	CODORUS SILT LOAM	Codorus	occasional
Cn	CODORUS-URBAN LAND COMPLEX	Codorus	occasional
Dn	DUNNING SOILS	Dunning	frequent
FB	FLUVAQUENTS, BOULDERY	Fluvaquents	frequent
FD	FLUVAQUENTS, PONDED	Fluvaquents	frequent
FF	FLUVAQUENTS-UDIFLUVENTS COMPLEX, FREQUENTLY FLOODED	Fluvaquents	frequent
	FLUVAQUENTS-UDIFLUVENTS COMPLEX, FREQUENTLY FLOODED	Udifluvents	frequent
FH	FLUVAQUENTS-UDIFLUVENTS-URBAN LAND COMPLEX	Fluvaquents	frequent
	FLUVAQUENTS-UDIFLUVENTS-URBAN LAND COMPLEX	Udifluvents	frequent
Ik	IUKA SANDY LOAM	Iuka	occasional
Ip	IUKA-URBAN LAND COMPLEX	Iuka	occasional
Ld	LINDSIDE LOAM	Lindside	occasional
Lp	LINDSIDE SILT LOAM, BEDROCK SUBSTRATUM	Lindside	frequent
Mp	MELVIN SILT LOAM	Melvin	occasional
UA	UDIFLUVENTS, SANDY	Udifluvents	frequent

Dorchester County, Maryland (MD019: published)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
1	BEACHES	Beaches	frequent
2	BESTPITCH AND TRANSQUAKING SOILS	Bestpitch	frequent
	BESTPITCH AND TRANSQUAKING SOILS	Transquaking	frequent
3	CHICONE MUCKY SILT LOAM	Chicone	frequent
11	FLUVAQUENTS	Fluvaquents	frequent
17	HONGA PEAT	Honga	frequent
25	NANTICOKE SILT LOAM	Nanticoke	frequent
30	PUCKUM MUCK	Puckum	frequent
33	SUNKEN MUCKY SILT LOAM	Sunken	occasional

Frederick County, Maryland (MD021: published)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
AdA	Adamstown silt loam, 0 to 3 percent slopes	Adamstown	frequent
AdB	Adamstown silt loam, 3 to 8 percent slopes	Adamstown	frequent
AfB	Adamstown-Funkstown complex, 0 to 8 percent slopes	Funkstown	frequent
	Adamstown-Funkstown complex, 0 to 8 percent slopes	Adamstown	frequent
BfA	Bermudian silt loam, 0 to 3 percent slopes	Bermudian	occasional
BmA	Bowmansville-Rowland silt loams, 0 to 3 percent slopes	Rowland	occasional
	Bowmansville-Rowland silt loams, 0 to 3 percent slopes	Bowmansville	occasional
BmB	Bowmansville-Rowland complex, 3 to 8 percent slopes	Bowmansville	occasional
	Bowmansville-Rowland complex, 3 to 8 percent slopes	Rowland	occasional
CgA	Codorus and Hatboro silt loams, 0 to 3 percent slopes	Codorus	occasional
	Codorus and Hatboro silt loams, 0 to 3 percent slopes	Hatboro	occasional
CmA	Combs fine sandy loam, 0 to 3 percent slopes	Combs	rare
CnA	Combs silt loam, 0 to 3 percent slopes	Combs	rare
FoB	Foxville cobbly silt loam, 0 to 8 percent slopes, rubbly	Foxville	occasional
FxA	Foxville and Hatboro soils, 0 to 3 percent slopes	Foxville	occasional
	Foxville and Hatboro soils, 0 to 3 percent slopes	Hatboro	occasional
GvA	Glenville-Codorus complex, 0 to 3 percent slopes	Codorus	occasional
GvB	Glenville-Codorus complex, 3 to 8 percent slopes	Codorus	occasional
HdA	Hatboro-Codorus silt loams, 0 to 3 percent slopes	Hatboro	occasional
	Hatboro-Codorus silt loams, 0 to 3 percent slopes	Codorus	occasional
LaB	Lantz-Rohrersville silt loams, 0 to 8 percent slopes, extremely stony	Lantz	rare
LsA	Lindside silt loam, 0 to 3 percent slopes	Lindside	frequent
MaA	Melvin-Lindside silt loams, 0 to 3 percent slopes	Lindside	frequent
	Melvin-Lindside silt loams, 0 to 3 percent slopes	Melvin	frequent
MoB	Mt. Zion-Codorus complex, 0 to 8 percent slopes	Codorus	occasional
RoB	Rohrersville-Lantz silt loams, 0 to 8 percent slopes	Lantz	rare
RwA	Rowland silt loam, 0 to 3 percent slopes	Rowland	occasional
TxB	Trego-Foxville complex, 0 to 8 percent slopes	Foxville	occasional
WhB	Wheeling gravelly loam, 0 to 8 percent slopes	Wheeling	rare
WtB	Wiltshire-Funkstown complex, 0 to 8 percent slopes	Funkstown	frequent

Garrett County, Maryland (MD023: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
An	Alluvial land	Alluvial land	frequent
Ao	Alluvial land, very stony	Alluvial land	frequent
At	Atkins silt loam	Atkins	frequent
Ek	Elkins silt loam	Elkins	occasional
Ph	Philo silt loam	Philo	occasional
Ps	Pope silt loam	Pope	occasional
SW	Swamp	Swamp	frequent

Harford County Area, Maryland (MD600: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Av	ALLUVIAL LAND	Alluvial land	occasional
Cu	CODORUS SILT LOAM	Codorus	occasional
Cv	COMUS SILT LOAM	Comus	occasional
DcA	DELANCO SILT LOAM, 0 TO 3 PERCENT SLOPES	Delanco	rare
DcB	DELANCO SILT LOAM, 3 TO 8 PERCENT SLOPES	Delanco	rare
Hb	HATBORO SILT LOAM	Hatboro	frequent
KrA	KINKORA SILT LOAM, 0 TO 3 PERCENT SLOPES	Kinkora	rare
KrB	KINKORA SILT LOAM, 3 TO 8 PERCENT SLOPES	Kinkora	rare
Sw	SWAMP	Swamp	frequent
Tm	TIDAL MARSH	Tidal marsh	frequent

Harford County, Aberdeen Proving Ground, Maryland (MD601: published)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Cd	CODORUS LOAM	Codorus	occasional
Ch	CHICONE SILT LOAM	Chicone	occasional
In	INDIANTOWN MUCKY SILT LOAM	Indiantown	frequent
Le	LENAPE MUCKY PEAT	Lenape	frequent
Lo	LONGMARSH SANDY LOAM	Longmarsh	frequent
Ma	MANAHAWKIN MUCK	Manahawkin	frequent
Pk	PUCKUM MUCK	Puckum	frequent
Ze	ZEKIAH LOAM	Zekiah	frequent

Howard County, Maryland (MD027: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Co	CODORUS SILT LOAM	Codorus	occasional
Cs	COMUS SILT LOAM	Comus	occasional
CuB	COMUS SILT LOAM, LOCAL ALLUVIUM, 3 TO 8 PERCENT SLOPES	Comus	rare
DeA	DELANCO SILT LOAM, 0 TO 3 PERCENT SLOPES	Delanco	rare
DeB2	DELANCO SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	Delanco	rare
Ha	HATBORO SILT LOAM	Hatboro	frequent
IuB	IUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES	Iuka	rare
Kn	KINKORA SILT LOAM	Kinkora	rare
Mo	MIXED ALLUVIAL LAND	Mixed alluvial land	occasional

Kent County, Maryland (MD029: published)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Ax	Axis mucky silt loam	Axis	frequent
Be	Beaches	Beaches	frequent
Bs	Bibb silt loam	Bibb	frequent
Bt	Bibb variant silt loam	Bibb variant	frequent
Ih	Ipswich mucky peat	Ipswich	frequent
Ik	Iuka silt loam, rarely flooded	Iuka	occasional
Ks	Kingsland mucky peat	Kingsland	occasional
We	Westbrook peat	Westbrook	frequent

Montgomery County, Maryland (MD031: published)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
43A	ELK SILT LOAM, 0 TO 3 PERCENT SLOPES OCCASIONALLY FLOODED	Elk	occasional
45A	DELANCO SILT LOAM, 0 TO 3 PERCENT SLOPES, OCCASIONALLY FLOODED	Delanco	occasional
46A	HUNTINGTON SILT LOAM, 0 TO 3 PERCENT SLOPES, OCCASIONALLY FLOODED	Huntington	occasional
47A	LINDSIDE SILT LOAM, 0 TO 3 PERCENT SLOPES, OCCASIONALLY FLOODED	Lindside	occasional
48A	MELVIN SILT LOAM, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	Melvin	occasional
50A	ROWLAND SILT LOAM, 0 TO 3 PERCENT SLOPES, OCCASIONALLY FLOODED	Rowland	occasional
51A	BOWMANSVILLE-MELVIN SILT LOAMS, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	Bowmansville	occasional
	BOWMANSVILLE-MELVIN SILT LOAMS, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	Melvin	occasional
53A	CODORUS SILT LOAM, 0 TO 3 PERCENT SLOPES, OCCASIONALLY FLOODED	Codorus	occasional
54A	HATBORO SILT LOAM, 0 TO 3 PERCENT SLOPES, FREQUENTLY FLOODED	Hatboro	frequent

Prince Georges County, Maryland (MD033: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Bn	BIBB SANDY LOAM	Bibb	frequent
Bo	BIBB SILT LOAM	Bibb	frequent
Br	BIBB-URBAN LAND COMPLEX	Bibb	frequent
Ch	CODORUS SILT LOAM	Codorus	occasional
Ck	CODORUS-URBAN LAND COMPLEX	Codorus	occasional
Cl	COLEMANTOWN LOAM	Colemantown	occasional
Cr	COMUS SILT LOAM	Comus	rare
Ha	HATBORO SILT LOAM	Hatboro	frequent
Ik	IUKA FINE SANDY LOAM	Iuka	occasional
ImA	IUKA SANDY LOAM, LOCAL ALLUVIUM, 0 TO 2 PERCENT SLOPES	Iuka	rare
ImB	IUKA SANDY LOAM, LOCAL ALLUVIUM, 2 TO 5 PERCENT SLOPES	Iuka	rare
In	IUKA SILT LOAM	Iuka	occasional
IoA	IUKA SILT LOAM, LOCAL ALLUVIUM, 0 TO 2 PERCENT SLOPES	Iuka	rare
IoB	IUKA SILT LOAM, LOCAL ALLUVIUM, 2 TO 5 PERCENT	Iuka	rare
Iu	IUKA-URBAN LAND COMPLEX	Iuka	rare
Ix	IUKA-URBAN LAND COMPLEX, LOCAL ALLUVIUM	Iuka	rare
Jo	JOHNSTON SILT LOAM	Johnston	occasional
	JOHNSTON SILT LOAM	Johnston	frequent
Ju	JOHNSTON-URBAN LAND COMPLEX	Johnston	frequent
Mw	MIXED ALLUVIAL LAND	Mixed alluvial land	frequent
OcA	OCHLOCKONEE SANDY LOAM, LOCAL ALLUVIUM, 0 TO 2 PERCENT SLOPES	Ochlockonee	occasional
OcB	OCHLOCKONEE SANDY LOAM, LOCAL ALLUVIUM, 2 TO 5 PERCENT SLOPES	Ochlockonee	rare
OcC	OCHLOCKONEE SANDY LOAM, LOCAL ALLUVIUM, 5 TO 10 PERCENT SLOPES	Ochlockonee	rare
OhA	OCHLOCKONEE SILT LOAM, LOCAL ALLUVIUM, 0 TO 2 PERCENT SLOPES	Ochlockonee	occasional
OhB	OCHLOCKONEE SILT LOAM, LOCAL ALLUVIUM 2 TO 5 PERCENT SLOPES	Ochlockonee	rare
Ok	OCHLOCKONEE, LOCAL ALLUVIUM-URBAN LAND COMPLEX	Ochlockonee, local a	rare
Sx	SWAMP	Swamp	frequent
Tm	TIDAL MARSH	Tidal marsh	frequent

Queen Anne's County, Maryland (MD035: published)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Bp	BESTPITCH PEAT	Bestpitch	frequent
Ho	HONGA PEAT	Honga	frequent
Lo	LONGMARSH MUCKY LOAM, 0 TO 1 PERCENT SLOPES	Longmarsh	frequent
LZ	LONGMARSH AND ZEKIAH SOILS, 0 TO 2 PERCENT SLOPES	Longmarsh	frequent
	LONGMARSH AND ZEKIAH SOILS, 0 TO 2 PERCENT SLOPES	Zekiah	frequent
Pk	PUCKUM MUCKY PEAT	Puckum	frequent

Somerset County, Maryland (MD039: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Cb	Coastal beaches	Coastal beaches	frequent
Jo	Johnston loam	Johnston loam	frequent
Mx	Mixed alluvial land	Mixed alluvial land	frequent
Tm	Tidal marsh	Tidal marsh	frequent

St. Marys County, Maryland (MD037: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Aa	ALLUVIAL LAND	Alluvial land	frequent
Ad	ALLUVIAL LAND, WET	Alluvial land	frequent
Be	BEACHES	Beaches	frequent
Bm	BIBB SILT LOAM	Bibb	frequent
Tm	TIDAL MARSH	Tidal marsh	frequent

Talbot County, Maryland (MD041: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Cb	COASTAL BEACHES	Coastal beaches	frequent
My	MIXED ALLUVIAL LAND	Mixed alluvial land	frequent
Tm	TIDAL MARSH	Tidal marsh	frequent

Washington County, Maryland (MD043: published)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
At	ATKINS SILT LOAM	Atkins	frequent
Bc	BASHER FINE SANDY LOAM	Basher	occasional
Bp	BIGPOOL SILT LOAM	Bigpool	occasional
Cm	CODORUS SILT LOAM	Codorus	occasional
Cn	CODORUS GRAVELLY SANDY LOAM	Codorus	occasional
Co	COMBS FINE SANDY LOAM	Combs	rare
Cp	COMBS SILT LOAM	Combs	rare
Dk	DEPOSIT GRAVELLY LOAM	Deposit	rare
DnB	DEPOSIT GRAVELLY LOAM, 0 TO 8 PERCENT SLOPES, VERY STONY	Deposit	rare
Fa	FAIRPLAY (MARL) SILT LOAM	Fairplay	frequent
FO	FOXVILLE AND HATBORO SOILS	Foxville	occasional
	FOXVILLE AND HATBORO SOILS	Hatboro	occasional
Ft	FUNKSTOWN SILT LOAM	Funkstown	frequent
Hh	HATBORO SILT LOAM	Hatboro	occasional
LaB	LANTZ-ROHRERSVILLE SILT LOAMS, 0 TO 8 PERCENT SLOPES, EXTREMELY STONY	Lantz	rare
Lb	LAPPANS (MARL) LOAM	Lappans	occasional
Ln	LINDSIDE SILT LOAM	Lindside	frequent
Me	MELVIN SILT LOAM	Melvin	frequent
Pg	PHILO SILT LOAM	Philo	occasional
Ph	PHILO GRAVELLY SANDY LOAM	Philo	occasional
Pn	POPE FINE SANDY LOAM	Pope	occasional
Po	POPE GRAVELLY LOAM	Pope	occasional
RhB	ROHRERSVILLE-LANTZ SILT LOAMS, 0 TO 8 PERCENT SLOPES	Lantz	rare
SsA	SWANPOND-FUNKSTOWN SILT LOAMS, 0 TO 3 PERCENT SLOPES	Funkstown	frequent
SuA	SWANPOND-FUNKSTOWN-URBAN LAND COMPLEX, 0 TO 3 PERCENT SLOPES	Funkstown	frequent

Wicomico County, Maryland (MD045: out-of-date)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
Be	BEACHES	Beaches	frequent
Mu	MUCK	Muck	frequent
Mv	MIXED ALLUVIAL LAND	Mixed alluvial land	frequent
Sw	SWAMP	Swamp	frequent
Tm	TIDAL MARSH	Tidal marsh	frequent

Worcester County, Maryland (MD047: update)

Map Symbol	Map Unit Name	Flooded Component Name	Flood Frequency
AcB	ACQUANGO SAND, 2 TO 5 PERCENT SLOPES	Acquango	occasional
AcC	ACQUANGO SAND, 5 TO 10 PERCENT SLOPES	Acquango	occasional
Be	BEACHES	Beaches	frequent
Bh	BERRYLAND MUCKY LOAMY SAND	Berryland	rare
BkA	BROCKATONORTON SAND, 0 TO 2 PERCENT SLOPES	Brockatonorton	occasional
BkB	BROCKATONORTON SAND, 2 TO 5 PERCENT SLOPES	Brockatonorton	occasional
Br	BROADKILL MUCKY SILT LOAM	Broadkill	frequent
BX	BOXIRON AND BROADKILL SOILS	Boxiron	frequent
	BOXIRON AND BROADKILL SOILS	Broadkill	frequent
Ch	CHICONE MUCKY SILT LOAM	Chicone	occasional
In	INDIANTOWN SILT LOAM	Indiantown	frequent
Ma	MANAHAWKIN MUCK	Manahawkin	frequent
MC	MANNINGTON AND NANTICOKE SOILS	Mannington	frequent
	MANNINGTON AND NANTICOKE SOILS	Nanticoke	frequent
Mu	MULLICA-BERRYLAND COMPLEX	Mullica	rare
	MULLICA-BERRYLAND COMPLEX	Berryland	rare
Pk	PUCKUM MUCKY PEAT	Puckum	frequent
Pu	PURNELL PEAT	Purnell	frequent
Su	SUNKEN MUCKY SILT LOAM	Sunken	occasional
Tk	TRANSQUAKING MUCKY PEAT	Transquaking	frequent
TP	TRANSQUAKING AND MISPILLION SOILS	Transquaking	frequent
	TRANSQUAKING AND MISPILLION SOILS	Mispillion	frequent
Uc	URBAN LAND-ACQUANGO COMPLEX	Acquango	occasional
Un	URBAN LAND-BROCKATONORTON COMPLEX	Brockatonorton	occasional
Zk	ZEKIAH SILT LOAM	Zekiah	frequent

APPENDIX G: CRP MANAGEMENT PRACTICES IN MARYLAND

Cover Management to ensure plant diversity and wildlife benefits, and to protect soil and water resources.

Cover Type	Management Required
CP1 Introduced Grasses	For cool season grass plantings, management shall be conducted, as necessary, to provide a diverse stand of grasses mixed with forbs and/or legumes. Management activities that may be used to maintain diversity include mowing, disking, and inter-seeding native or introduced forbs and legumes. See the MD Cool Season Grasses job sheet for more information. Inter-seeding forbs and legumes should be documented as "required as necessary" on the job sheet.
CP2 Native Grasses – Warm Season	For native warm season grass plantings, management shall be conducted, as necessary, to provide a diverse stand of grasses and forbs. Management activities that may be used to maintain diversity include mowing, disking, prescribed burns, targeted herbicide application, and inter-seeding native forbs and legumes. See the MD Warm-Season Grasses job sheet for more information. Strip disking should be documented as "required as necessary" on the job sheet.
CP2 Native Grasses – Cool Season	For cool season grass plantings, management shall be conducted, as necessary, to provide a diverse stand of grasses and forbs and/or legumes. Management activities that may be used to maintain diversity include mowing, disking, and inter-seeding native or introduced forbs and legumes. See the MD Cool Season Grasses job sheet for more information. Inter-seeding forbs and legumes should be documented as "required as necessary" on the job sheet.
CP3 Tree Planting	No management required.
CP3A Hardwood Tree Planting	No management required.
CP4B/CP4D Wildlife Habitat	For cool season grass management, see CP1. For native grass management, see CP2. If the planting is trees and/or shrubs, no management practice is required.
CP4D Wildlife Habitat Buffer	No management required in the first 35 feet of buffer. For wider buffers, management shall be implemented in accordance with CP1 or CP2 requirements, as appropriate.
CP5A Field Windbreak	No management required.
CP6 Diversion	Over-seed with forbs and/or legumes, as necessary, to maintain vegetative diversity in the planting through the 4th to last year of the contract. See the MD Cool-Season Grasses job sheet for more information.
CP8A Grass Waterway	Over-seed with forbs and/or legumes, as necessary, to maintain vegetative diversity in the planting through the 4th to last year of the contract. See the MD Cool-Season Grasses job sheet for more information.

Cover Type	Management Required
CP9 Shallow Water Area for Wildlife	If the site is planned for active management as a moist-soil area, lightly disk or burn the managed pool area, as necessary, to encourage germination of native/naturalized annuals, as described in the job sheet. For the buffer around the water, the management shall be implemented in accordance with CP1, CP2, CP3, CP3A, or CP4D, as appropriate.
CP10 Grass Already Established	For cool season grass management, see CP1. For native grass management, see CP2.
CP11 Trees Already Established	No management required.
CP12 Wildlife Food Plot	No management required.
CP15A Contour Grass Strips	Over-seed with forbs and/or legumes, as necessary, to maintain vegetative diversity in the planting through the 4th to last year of the contract. See the MD Cool-Season Grasses job sheet for more information.
CP16A Shelterbelt	No management required.
CP21 Filter Strip	No management required in the first 35 feet of buffer. For wider buffers, management shall be implemented in accordance with CP1 or CP2 requirements, as appropriate.
CP22 Riparian Buffer	If the planting is only trees and shrubs, no management practice is required. If the planting includes a grass filter strip, the management of the grass strip shall be based on the purpose of the strip and the type of grass. Refer to management practices for CP1 or CP2, as appropriate.
CP23 Wetland Restoration	If the site is planned for active management as a moist-soil area, lightly disk or burn the managed pool area, as necessary, to encourage germination of native/naturalized annuals, as described in the job sheet. For the buffer around the wetland, the management shall be implemented in accordance with CP1, CP2, CP3, CP3A, or CP4D, as appropriate.
CP25 Rare and Declining Species Habitat	The management practice is based on the type of cover established. For native grass plantings, refer to the management requirements for CP2. For native tree and/or shrub plantings, no management practice is required. *The individual management plan may include other requirements as applicable to the species and habitat.*
CP27 Farmable Wetland	No management required.
CP28 Buffer for Farmable Wetland	For the buffer around the wetland, the management practice is based on the type of cover. See CP1, CP2, CP3, and CP3A, as appropriate.
CP29 Wildlife Buffer	No management required in the first 35 feet of buffer. For the herbaceous portions of wider buffers, management shall be implemented in accordance with CP1 or CP2 requirements, as appropriate. No management required for CP29 buffer areas planted to shrubs.

Cover Type	Management Required
CP30 Wetland Buffer	No management required in the first 35 feet of buffer. For the herbaceous portions of wider buffers, management shall be implemented in accordance with CP1 or CP2 requirements, as appropriate. If the wetland portion of the site is planned for active management to be maintained in herbaceous cover, burn or mow as necessary, as described in the job sheet.
CP33 Habitat Buffers for Upland Birds	Strip disking starting in year 3 or 4, then every 3 years through the 4th to last year of the contract. Burning may be used in combination with disking to remove accumulated plant litter and woody vegetation. Over-seed the disked strips, as necessary, to maintain the legume component of the buffers. See the job sheet for more information.

APPENDIX H: MARYLAND WATERSHEDS WITH KNOWN PRESENCE OF EASTERN BROOK TROUT

Sorted by County and HUA14 Code

County	HUA14 Code	DNR12 Code	Presence Status
Allegany	02070002050136	021410060075	Intact
Allegany	02070002070151	021410030099	Greatly Reduced
Allegany	02070002070152	021410030102	Greatly Reduced
Allegany	02070002070153	021410030103	Greatly Reduced
Allegany	02070002070154	021410030095	Reduced
Allegany	02070002070155	021410030098	Greatly Reduced
Allegany	02070002070156	021410030100	Greatly Reduced
Allegany	02070002070157	021410030096	Reduced
Allegany	02070002070158	021410030097	Reduced
Allegany	02070002070159	021410030101	Reduced
Allegany	02070002080176	021410040094	Greatly Reduced
Allegany	02070002080177	021410040093	Greatly Reduced
Allegany	02070002080178	021410040092	Greatly Reduced
Allegany	02070002080179	021410040091	Greatly Reduced
Allegany	02070002080180	021410040090	Greatly Reduced
Allegany	02070002080181	021410040089	Greatly Reduced
Allegany	02070002080182	021410040088	Greatly Reduced
Allegany	02070002080183	021410040087	Greatly Reduced
Allegany	02070002080184	021410050052	Reduced
Allegany	02070002100203	021410010055	Greatly Reduced
Allegany	02070002100204	021410010056	Greatly Reduced
Allegany	02070002100205	021410010057	Greatly Reduced
Allegany	02070002100206	021410010059	Greatly Reduced
Allegany	02070002100207	021410010058	Greatly Reduced
Allegany	02070002100208	021410010060	Greatly Reduced
Allegany	02070002130226	021410020107	Greatly Reduced
Allegany	02070002130227	021410020108	Greatly Reduced
Allegany	02070003100178	021405080112	Greatly Reduced
Allegany	02070003100179	021405080113	Greatly Reduced
Allegany	02070003100180	021405080114	Greatly Reduced
Allegany	02070003100181	021405080115	Greatly Reduced
Allegany	02070003100182	021405080116	Greatly Reduced
Anne Arundel	02060004010006	021310021002	Greatly Reduced
Anne Arundel	02060004010007	021310021001	Greatly Reduced
Baltimore	02060003120101	021308040299	Greatly Reduced
Baltimore	02060003120102	021308040298	Greatly Reduced
Baltimore	02060003120126	021308050312	Greatly Reduced
Baltimore	02060003120127	021308050311	Greatly Reduced
Baltimore	02060003120128	021308050310	Greatly Reduced

County	HUA14 Code	DNR12 Code	Presence Status
Baltimore	02060003120129	021308050309	Greatly Reduced
Baltimore	02060003120176	021308060316	Greatly Reduced
Baltimore	02060003120177	021308060315	Greatly Reduced
Baltimore	02060003120178	021308060314	Greatly Reduced
Baltimore	02060003120179	021308060313	Greatly Reduced
Baltimore	02060003120180	021308050306	Greatly Reduced
Baltimore	02060003120181	021308050305	Greatly Reduced
Baltimore	02060003120182	021308050304	Greatly Reduced
Baltimore	02060003120183	021308050301	Greatly Reduced
Baltimore	02060003120184	021308050300	Greatly Reduced
Baltimore	02060003120202	021308050307	Greatly Reduced
Baltimore	02060003120203	021308050303	Greatly Reduced
Baltimore	02060003120226	021308050302	Greatly Reduced
Baltimore	02060003150251	021309041036	Greatly Reduced
Baltimore	02060003150252	021309041037	Greatly Reduced
Baltimore	02060003150276	021309041035	Greatly Reduced
Baltimore	02060003150277	021309041034	Greatly Reduced
Baltimore	02060003150278	021309041033	Greatly Reduced
Baltimore	02060003150307	021309071058	Greatly Reduced
Baltimore	02060003150316	021309071048	Greatly Reduced
Baltimore	02060003150317	021309071046	Greatly Reduced
Baltimore	02060003150331	021309051045	Greatly Reduced
Baltimore	02060003160361	021309081020	Greatly Reduced
Carroll	02050306050101	020503010290	Greatly Reduced
Carroll	02060003120151	021308060317	Greatly Reduced
Carroll	02060003120176	021308060316	Greatly Reduced
Carroll	02060003120177	021308060315	Greatly Reduced
Carroll	02060003120178	021308060314	Greatly Reduced
Carroll	02060003120179	021308060313	Greatly Reduced
Carroll	02060003150307	021309071058	Greatly Reduced
Carroll	02060003150308	021309071057	Greatly Reduced
Carroll	02060003150314	021309071056	Greatly Reduced
Carroll	02060003150316	021309071048	Greatly Reduced
Carroll	02060003150317	021309071046	Greatly Reduced
Carroll	02060003160359	021309081022	Greatly Reduced
Carroll	02060003160361	021309081020	Greatly Reduced
Carroll	02060003160376	021309081023	Greatly Reduced
Carroll	02060003160377	021309081024	Greatly Reduced
Carroll	02060003160378	021309081021	Greatly Reduced
City of Baltimore	02060003150276	021309041035	Greatly Reduced
City of Baltimore	02060003150277	021309041034	Greatly Reduced
City of Baltimore	02060003150278	021309041033	Greatly Reduced

County	HUA14 Code	DNR12 Code	Presence Status
City of Baltimore	02060003150279	021309041032	Greatly Reduced
Frederick	02070004440426	021405020201	Greatly Reduced
Frederick	02070004440476	021405020194	Greatly Reduced
Frederick	02070004440477	021405020193	Greatly Reduced
Frederick	02070004440501	021405020192	Greatly Reduced
Frederick	02070008010026	021403050221	Greatly Reduced
Frederick	02070008010027	021403050220	Greatly Reduced
Frederick	02070008010028	021403050219	Greatly Reduced
Frederick	02070009060176	021403030253	Greatly Reduced
Frederick	02070009060177	021403030250	Greatly Reduced
Frederick	02070009060205	021403030243	Greatly Reduced
Frederick	02070009060206	021403030241	Greatly Reduced
Frederick	02070009060208	021403030242	Greatly Reduced
Frederick	02070009060209	021403030240	Greatly Reduced
Frederick	02070009060226	021403030252	Greatly Reduced
Frederick	02070009060227	021403030251	Greatly Reduced
Frederick	02070009060228	021403030244	Greatly Reduced
Frederick	02070009080301	021403020230	Greatly Reduced
Frederick	02070009080306	021403020227	Greatly Reduced
Frederick	02070009080308	021403020222	Greatly Reduced
Frederick	02070009080326	021403020226	Greatly Reduced
Frederick	02070009080327	021403020225	Greatly Reduced
Frederick	02070009080328	021403020223	Greatly Reduced
Frederick	02070009080330	021403020224	Greatly Reduced
Garrett	02070002020105	021410050039	Greatly Reduced
Garrett	02070002020106	021410050040	Greatly Reduced
Garrett	02070002020107	021410050041	Greatly Reduced
Garrett	02070002020108	021410050042	Greatly Reduced
Garrett	02070002020109	021410050043	Greatly Reduced
Garrett	02070002020110	021410050044	Greatly Reduced
Garrett	02070002020111	021410050045	Reduced
Garrett	02070002020112	021410050046	Reduced
Garrett	02070002020113	021410050047	Reduced
Garrett	02070002020114	021410050048	Greatly Reduced
Garrett	02070002020115	021410050049	Greatly Reduced
Garrett	02070002020116	021410050050	Reduced
Garrett	02070002020117	021410050051	Reduced
Garrett	02070002050126	021410060084	Intact
Garrett	02070002050127	021410060083	Intact
Garrett	02070002050128	021410060081	Intact
Garrett	02070002050129	021410060082	Intact
Garrett	02070002050130	021410060080	Intact

County	HUA14 Code	DNR12 Code	Presence Status
Garrett	02070002050131	021410060079	Intact
Garrett	02070002050132	021410060077	Intact
Garrett	02070002050133	021410060078	Intact
Garrett	02070002050134	021410060076	Intact
Garrett	02070002050135	021410060074	Intact
Garrett	02070002050136	021410060075	Intact
Garrett	02070002070150	021410060085	Reduced
Garrett	02070002070151	021410030099	Greatly Reduced
Garrett	02070002080176	021410040094	Greatly Reduced
Garrett	02070002080177	021410040093	Greatly Reduced
Garrett	02070002080178	021410040092	Greatly Reduced
Garrett	02070002080180	021410040090	Greatly Reduced
Garrett	02070002080181	021410040089	Greatly Reduced
Garrett	02070002080183	021410040087	Greatly Reduced
Garrett	02070002080184	021410050052	Reduced
Garrett	05020006010100	050202010001	Greatly Reduced
Garrett	05020006010101	050202010002	Greatly Reduced
Garrett	05020006010102	050202010005	Greatly Reduced
Garrett	05020006010103	050202010007	Greatly Reduced
Garrett	05020006010104	050202010009	Greatly Reduced
Garrett	05020006010106	050202010008	Greatly Reduced
Garrett	05020006010107	050202030028	Greatly Reduced
Garrett	05020006010108	050202030027	Greatly Reduced
Garrett	05020006010109	050202010010	Qualitative
Garrett	05020006010110	050202010011	Greatly Reduced
Garrett	05020006010111	050202010012	Greatly Reduced
Garrett	05020006010112	050202030029	Greatly Reduced
Garrett	05020006010113	050202010014	Greatly Reduced
Garrett	05020006010114	050202010013	Greatly Reduced
Garrett	05020006010115	050202010015	Greatly Reduced
Garrett	05020006010116	050202010016	Greatly Reduced
Garrett	05020006010117	050202010017	Greatly Reduced
Garrett	05020006010118	050202010019	Greatly Reduced
Garrett	05020006010119	050202010020	Greatly Reduced
Garrett	05020006010120	050202010018	Greatly Reduced
Garrett	05020006010121	050202010023	Greatly Reduced
Garrett	05020006010122	050202010021	Reduced
Garrett	05020006010126	050202020025	Greatly Reduced
Garrett	05020006010127	050202020004	Greatly Reduced
Garrett	05020006010128	050202020026	Greatly Reduced
Garrett	05020006010129	050202020003	Greatly Reduced
Garrett	05020006010130	050202010006	Greatly Reduced

County	HUA14 Code	DNR12 Code	Presence Status
Garrett	05020006050151	050202040030	Greatly Reduced
Garrett	05020006050152	050202040031	Greatly Reduced
Garrett	05020006050153	050202040032	Greatly Reduced
Garrett	05020006050154	050202040033	Greatly Reduced
Garrett	05020006050155	050202040034	Greatly Reduced
Garrett	05020006050156	021410060086	Greatly Reduced
Garrett	05020006050157	050202040038	Reduced
Garrett	05020006050158	050202040037	Reduced
Garrett	05020006050160	050202040035	Greatly Reduced
Garrett	05020006050161	050202040036	Reduced
Garrett	05020006070176	050202010022	Greatly Reduced
Harford	02050306200181	021202020326	Greatly Reduced
Harford	02050306200182	021202020325	Greatly Reduced
Harford	02050306200183	021202020324	Greatly Reduced
Harford	02050306200184	021202020323	Greatly Reduced
Harford	02060003120101	021308040299	Greatly Reduced
Harford	02060003120102	021308040298	Greatly Reduced
Harford	02060003120129	021308050309	Greatly Reduced
Howard	02060003160359	021309081022	Greatly Reduced
Howard	02060003160361	021309081020	Greatly Reduced
Howard	02060006020026	021311080971	Greatly Reduced
Howard	02060006020027	021311080972	Greatly Reduced
Howard	02060006020028	021311080973	Greatly Reduced
Howard	02060006020029	021311080968	Greatly Reduced
Montgomery	02070009080308	021403020222	Greatly Reduced
Montgomery	02070009080326	021403020226	Greatly Reduced
Montgomery	02070009080327	021403020225	Greatly Reduced
Montgomery	02070009080328	021403020223	Greatly Reduced
Washington	02070004400449	021405020204	Greatly Reduced
Washington	02070004440426	021405020201	Greatly Reduced
Washington	02070004440427	021405020200	Greatly Reduced
Washington	02070004440476	021405020194	Greatly Reduced
Washington	02070004440477	021405020193	Greatly Reduced
Washington	02070004440478	021405020195	Greatly Reduced
Washington	02070004440501	021405020192	Greatly Reduced
Washington	02070008010026	021403050221	Greatly Reduced
Washington	02070008010027	021403050220	Greatly Reduced
Washington	02070009060176	021403030253	Greatly Reduced

HUA14 Code – Federal 14-digit hydrologic unit code
DNR12 Code – State of Maryland Dept. of Natural Resources 12-digit watershed code
List prepared by USDA-NRCS, Annapolis, Maryland. Adapted from data published by the Eastern Brook Trout Joint Venture (EBTJV) in 2006. Presence status may differ from that of EBTJV in some watersheds because of differences in watershed boundaries.