Federal Facilities Land Use Issue Paper:
Tracking and Crediting Federal Land Uses/BMPs Currently Unassigned

Background Context and Rationale:

Several land uses are not tracked and credited for federal land. Although CAST calculates nutrient and sediment loads from six source sectors (Agriculture, Atmosphere, Developed, Natural, Septic, and Wastewater), federal agencies are currently only assigned specific loads in the Developed and Natural source sectors. In practice, federal agencies may also impact these other source sectors, such as Agriculture, Septic, and Wastewater, but due to past limitations in available data and scale of implementation, the Chesapeake Bay Program elected not to assign these source sectors to federal agencies. Federal agencies already report some BMPs on these available source sectors, but these are aggregated to the jurisdictional level, despite the jurisdiction(s) not managing this land directly.

This results in agencies not being able to get credit toward federal planning goals and leaves a conflict with the expectations for federal landowners that are stated in jurisdiction WIPs (e.g. Virginia). The development of the Phase 7 watershed model is also prompting a review of the treatment of these federal land uses in CAST which could be released by 2028/2029. With added context provided by the Brown and Caldwell report from 2021, an enhanced ability to track and report BMPs on federal lands would benefit the public and each agency to ensure that agencies communicate and measure watershed-wide efforts already occurring to reduce nutrients and sediment. Tracking is technically feasible; however, there are costs related to doing so. Depending on the land uses/BMP types that agencies may be interested in delving into reporting further, this would provide the same opportunity for the federal agencies as the non-federal land holders, and will allow the federal agencies to report BMPs on these available source sectors. This is an effort to create a more equitable reporting landscape across the Partnership, which enables fulfillment of the expectations of federal participation stated in the Clean Water Act and E.O. 13508.

This background represents the rationale for reconsideration, and importantly highlights an opportunity to update the allocations and provide enhanced metrics and breakouts for the efforts of the Chesapeake Bay Program, and federal agency partners.

Previous Developments and Next Steps:

During the December 2024 meeting, Peter Claggett, USGS, provided an overview of the initial proposed solution(s) to gather feedback from the FFWG. The slides from this presentation can be accessed here. Then, during the February 2025 meeting, the FFWG reviewed an earlier draft of the following paper to solicit further feedback and questions related to the proposed solution(s).

Step 1: During the April 8th, 2025 FFWG meeting, the FFWG will discuss the following paper—which outlines the currently unassigned land uses/BMP types for federal agencies—to determine whether these proposed solution(s) are ready to move up the respective agency chain of commands for consideration.

Step 2: Between the April and June FFWG meetings, we will continue to invite questions and concerns via email and edit the paper accordingly if needed. FFWG members will be asked to discuss this document with their relevant leadership to determine the feasibility of tracking and reporting these land uses/BMP types. Email updates to the FFWG leadership will be appreciated to assist in preparing for the June 10th FFWG meeting.

Step 3: During the June 10th, 2025 FFWG meeting, we will evaluate if a vote should be called or if additional discussion/clarity is required before a vote can be performed. If additional time is needed, then a vote could be done via email following the June meeting or at the August 2025 FFWG meeting. **Timeline is subject to change.*

Step 4: Any final recommendations based on the proposed solution(s) will be presented to the WTWG for concurrence, followed by final approval at the WQGIT. The previous FFWG discussions will help inform the WTWG and WQGIT regarding the agencies' capacity to implement baseline creation and/or annual reporting. Additionally, this process will help identify areas where further effort and detail may be needed (e.g. Forest Workgroup for USFS, WTWG for reporting structure, etc.) **Timeline is subject to change.*

**These topics may require significant time and consideration, in addition to review and approval from agency personnel, therefore the timelines of Steps 3 and 4 are subject to change.*

Land Use/BMP Type and Proposed Solution(s):

<table>
<tr><th>Land Use/Fed Loads</th><th>Issue</th><th>Proposed Solution(s)</th></tr>
<tr><td rowspan="2">Septic

WIP scenario loading data is not available.</td><td>Septic loads from federal facilities are absent from the CBP watershed model and Federal agencies are not credited for their actions to reduce these loads.</td><td>Proposed Solution:
Step 1: To establish a baseline, federal agencies report resident populations (count) served by septic systems AND the number of septic systems for Phase 7.
Step 2: Agencies report septic BMPs in annual progress reporting for following years.</td></tr>
<tr><td colspan="2">Feedback from the April 2025 FFWG meeting:</td></tr>
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Land Use/Fed Loads	Issue	Proposed Solution(s)
Construction **Total Federal Load (WIP Scenario):** **N Load**: 42,224 lbs **P Load**: 7,634 lbs **Sediment Load**: 5,089,604 lbs	Pollutant loads from construction activities requiring E&S permits are absent from the CBP watershed model and Federal agencies are not credited for their actions to reduce these loads.	Proposed Solutions: ● Solution 1: Federal agencies report acres to establish a baseline for Phase 7 of land disturbed for construction activities requiring E&S permits (min 5,000 to 10,000 ft2). For following progress years after the release of Phase 7, additional reporting would be required. ● ***For context, the WTWG and WQGIT are currently evaluating the below option and whether the new CBP high-resolution land use data can be used to streamline and/or reduce the need for annual reporting. A final decision will require further discussion and approval.*** Hypothetical Solution 2: Construction acres can be estimated from the CBP's high-resolution land use data to reduce the annual reporting burden by federal agencies.
	Feedback from the April 2025 FFWG meeting:	

Land Use/Fed Loads	Issue	Proposed Solution(s)
Harvested Forest **Total Federal Load (WIP Scenario):** **N Load**: 18,010 lbs **P Load**: 325 lbs **Sediment Load**: 571,311 lbs	Timber harvest land owned by agencies including USFS and NPS involve runoff-reducing BMPs. If not tracked and credited, these agencies miss substantial opportunities for credit.	Proposed Solution to be discussed in further depth at April FFWG meeting by Katie Brownson (USFS): ● Step 1: Federal facilities should report annual acres harvested at the county scale if possible. If federal facilities do not report forest harvesting acres, any true forest acres within the facility footprint could be assigned a "default rate" for facilities where forest harvesting is occuring in a given year. (For context, a default rate of 1.1% is applied at the state level, but a new rate that is more appropriate for the federal facility level may need to be evaluated). ● Step 2: Clearcut harvest acres can be estimated from the CBP's high-resolution land use data. County-scale data reported by the federal facilities would be spatially allocated to the mapped harvested forest footprint up to the amount reported. Any additional reported acres (above the mapped acres) will be distributed across NHD catchments within each county in the facility footprint based on the relative amount of "harvestable" forest in each catchment, which will be defined as forest patches >10 acres.

Land Use/Fed Loads	Issue	Proposed Solution(s)
	Feedback from the April 2025 FFWG meeting:	
Agriculture **1. Cropland** **Total Federal Load (WIP Scenario):** **N Load**: 521,301 lbs **P Load**: 10,714 lbs **Sediment Load**: 14,294,091 lbs **2. Pasture/Hay** **Total Federal Load (WIP Scenario):**	At least one jurisdiction's Phase 3 WIP includes expectations for load reductions on federal agricultural lands which they currently don't receive credit for because all agriculture in the watershed is assumed to be non-federally owned or managed.	Proposed Solution: ● Step 1: Cropland and Pasture/Hay acres can be estimated from the CBP's high-resolution land use data to reduce the annual reporting burden by federal agencies for Phase 7. ● Step 2: Agencies work with lease holders and other stakeholders to report agriculture BMPs in annual progress reporting for following years.

Land Use/Fed Loads	Issue	Proposed Solution(s)
N Load: 400,526 lbs **P Load**: 30,677 lbs **Sediment Load**: 4,585,493 lbs	**Feedback from the April 2025 FFWG meeting:**	

Supporting Information:

- PDF Document: List of BMPs Eligible for Load Sources Not Currently Assigned to Federal Agencies in Phase 6
- Table 1: Initial Estimates of Land Use Areas and Associated Nutrient and Sediment Loads for All Federal Agencies
- Table 2: Initial Estimates of Land Use Areas and Associated Nutrient and Sediment Loads for Each Federal Agency

Table 1: Initial Estimates of Land Use Areas and Associated Nutrient and Sediment Loads for All Federal Agencies

Description: This table presents the initial estimates of land use areas and associated total federal loads for nitrogen, phosphorus, and sediment loads, including both the no BMP scenario and the full WIP implementation scenario. The responsibility for addressing federal cropland and pasture loads, which constitute the bulk of the acres and an even higher percentage of loads, is fully accounted for in CAST, but currently the responsibility is only on the states to report. Moreover, loads from construction and

harvested forest on federal lands are not currently accounted for in CAST. This table underpins the purpose of bringing up this issue, to ensure continuity between the states and federal agencies (federal agencies assuming responsibility for cropland and pasture), as well as accuracy (federal agencies assuming responsibility for construction and harvested forest). In addition, this table demonstrates that federal agencies are missing out on credit (difference between BMP (WIP) and no BMP loads).

	Land Use Acres (annual average 2014-2022)				No BMP Annual Nitrogen Loads (lbs/year)				No BMP Annual Phosphorus Loads (lbs/year)				No BMP Annual Sediment Loads (lbs/year)			
	Construction	Harvested Forest	Cropland	Pasture	Construction	Harvested Forest	Cropland	Pasture	Construction	Harvested Forest	Cropland	Pasture	Construction	Harvested Forest	Cropland	Pasture
Total FED Load	2,178	2,288	20,920	38,907	47,177	25,381	892,124	604,543	7,634	510	25,962	52,398	17,478,238	839,337	35,497,082	12,010,040

	Land Use Acres (annual average 2014-2022)				WIP Annual Nitrogen Loads (lbs/year)				WIP Annual Phosphorus Loads (lbs/year)				WIP Annual Sediment Loads (lbs/year)			
	Construction	Harvested Forest	Cropland	Pasture	Construction	Harvested Forest	Cropland	Pasture	Construction	Harvested Forest	Cropland	Pasture	Construction	Harvested Forest	Cropland	Pasture
Total FED Load	2,178	2,288	20,920	38,907	42,224	18,010	521,301	400,526	7,634	325	10,714	30,677	5,089,604	571,311	14,294,091	4,585,493

Table 2: Initial Estimates of Land Use Areas and Associated Nutrient and Sediment Loads for Each Federal Agency

Description: As an addition to Table 1, this table presents the initial estimates of land use areas and associated nitrogen, phosphorus, and sediment loads for each federal agency, including both the no BMP scenario and the full WIP implementation scenario.

	Land Use Acres (annual average 2014-2022)				No BMP Annual Loads (lbs/year)			WIP Annual Loads (lbs/year)		
FED Agency	Construction	Harvested Forest	Cropland	Pasture	Nitrogen	Phosphorus	Sediment	Nitrogen	Phosphorus	Sediment
ARS	2	2	1,511	752	76,177	2,896	2,813,154	45,444	1,375	1,126,274
DOD	1,025	984	7,596	7,802	478,262	23,745	23,880,310	297,207	13,855	8,749,592
FWS	244	51	2,556	904	128,932	5,258	6,596,684	78,154	2,906	2,437,149
GSA	10	4	-	10	417	50	86,029	330	45	25,895

NASA	**4**	**1**	**5**	**14**	**523**	**38**	**43,681**	**350**	**27**	**14,241**
NPS	**491**	**292**	**7,616**	**16,128**	**589,226**	**32,957**	**21,946,933**	**367,609**	**18,418**	**8,324,268**
OTHER	**55**	**25**	**96**	**1,119**	**22,954**	**1,826**	**962,295**	**15,182**	**1,134**	**333,242**
SI	**1**	**11**	**56**	**469**	**9,804**	**706**	**250,050**	**6,321**	**403**	**98,061**
USACE	**39**	**204**	**1,052**	**2,710**	**90,101**	**5,138**	**3,008,587**	**56,486**	**2,844**	**1,180,130**
USFS	**247**	**713**	**433**	**8,998**	**171,526**	**13,679**	**5,753,982**	**113,812**	**8,302**	**2,111,002**

If you have any questions or concerns, please contact:

- Peter Claggett, USGS (pclagget@chesapeakebay.net)
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