

## Appendix E.19 – Cumulative Effects

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## APPENDIX E.19

### CUMULATIVE EFFECTS – ERRATA SHEET

No changes were made to the materials in this appendix. This Volume 2 file contains the same information as was presented in the Tier 1 Draft EIS published November 2015.



# Cumulative Effects Assessment Methodology

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# Table of Contents

<b>1.</b>	<b>CUMULATIVE EFFECTS ASSESSMENT METHODOLOGY .....</b>	<b>1</b>
1.1	INTRODUCTION .....	1
1.2	DEFINITIONS .....	1
1.3	RELATED RESOURCES .....	2
1.4	REGULATORY FRAMEWORK AND GUIDANCE .....	2
1.4.1	<i>Agency Coordination and Regulatory Compliance .....</i>	<i>3</i>
1.5	METHODOLOGY TO ASSESS CUMULATIVE EFFECTS.....	3
1.5.1	<i>Identification of Resources for Analysis.....</i>	<i>3</i>
1.5.2	<i>Evaluation of Cumulative Effects.....</i>	<i>4</i>
1.5.3	<i>Mitigation Strategies.....</i>	<i>7</i>
1.6	TIER 1 EIS OUTCOMES.....	7
1.7	APPLICABILITY TO TIER 2 ASSESSMENTS.....	7

## Tables

TABLE 1 – RELATED RESOURCE INPUTS TO CUMULATIVE EFFECTS.....	2
TABLE 2 – DATA SOURCES FOR THE EVALUATION OF CUMULATIVE EFFECTS.....	5

# 1. Cumulative Effects Assessment Methodology

## 1.1 INTRODUCTION

This methodology explains how the NEC FUTURE program will assess the potential cumulative effects of the Tier 1 EIS Alternatives. Although indirect and cumulative effects are often considered together, each involves a distinct set of issues and analyses. Therefore, to maintain a clear distinction between indirect and cumulative effects, their respective impact-assessment methodologies are described in separate documents.

This methodology presents the regulatory framework, involved government agencies, expected regulatory and other outcomes of the Tier 1 EIS process, and relevance to Tier 2 project-level assessments. It also identifies data sources, metrics and methods to be used to document existing conditions and analyze environmental consequences. This methodology may be revised as the NEC FUTURE program advances and new information becomes available.

## 1.2 DEFINITIONS

In addition to the direct and indirect effects evaluated for the Tier 1 EIS resources, the NEC FUTURE Tier 1 EIS Alternatives could also result in cumulative effects.

- ▶ A ***cumulative effect***<sup>1</sup> is the “impact on the environment which results from the incremental impact of the [proposed] action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” (40 CFR § 1508.7)
- ▶ ***Direct Effects*** are “caused by the action and occur at the same time and place” (40 CFR § 1508.8).
- ▶ ***Indirect effects*** are those effects that are “caused by the action and are later in time and farther removed in distance, but still reasonably foreseeable”, as described in a separate methodology.
- ▶ ***Reasonably Foreseeable Effects*** are those effects that are “sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision”.<sup>2</sup> Reasonably Foreseeable Effects for a National Environmental Policy Act (NEPA) analysis are those that are “uncertain, but probable”. In one of the leading court decisions addressing NEPA requirements, the U.S. Court of Appeals for the First Circuit explained the legal standard for environmental impacts as “[O]nly those effects that are “likely” (or “foreseeable” or “reasonably foreseeable”)

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<sup>1</sup> CEQ regulations use the term “cumulative impacts” (40 CFR § 1508.7). However, the regulations also note that “[e]ffects and impacts as used in these regulations are synonymous” (40 CFR § 1508.7). To be consistent with the terminology used throughout the NEC FUTURE Tier 1 EIS, this assessment will use the term “cumulative effects” unless the term “cumulative impacts” is used in a citation.

<sup>2</sup> Center for Environmental Excellence by AASHTO, Practitioner’s Handbook 12, Assessing Indirect Effects and Cumulative Impacts Under NEPA, April 2011.

need to be discussed,...and, as in other legal contexts, the terms “likely” and “foreseeable”, as applied to a type of environmental impact, are properly interpreted as meaning that the impact is sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision.”<sup>3</sup> Thus, the effects of remote or speculative actions identified by the analysis will not be considered, although a rationale explaining their exclusion will be provided.

### 1.3 RELATED RESOURCES

The FRA will incorporate the effects assessments for other related resources evaluated in the Tier 1 EIS into the cumulative effects assessment. Table 1 lists the relevant related resources and anticipated input to the cumulative effects assessment.

**Table 1 – Related Resource Inputs to Cumulative Effects**

Resource	Input to Cumulative Effects
Land Cover	▪ State and regional plan analyses
Individual natural and build environment resources assessed in the Tier 1 EIS*	▪ Summary of existing conditions and direct effects
Indirect Effects	▪ Summary of indirect effects

Source: NEC FUTURE JV Team, 2013

\* Specific resources to be considered for the cumulative effects assessment will be identified as per Section 1.5.1 of this methodology.

### 1.4 REGULATORY FRAMEWORK AND GUIDANCE

The Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) require consideration of cumulative effects in an EIS. The Federal Railroad Administration (FRA) *Procedures for Considering Environmental Impacts (64 Federal Register 25454, May 1999)* state that the discussion of the environmental impacts of all alternatives in NEPA environmental documents should include “...impacts which are direct, indirect and cumulative, and impacts of both long and short-term duration...”

In addition, the following policies, guidance documents, and reference materials relate to the evaluation of cumulative effects of projects:

- ▶ Federal Highway Administration (FHWA) Policy and Guidance
  - FHWA Interim Guidance: Indirect and Cumulative Impacts in NEPA (2003)
- ▶ CEQ Policy and Guidance
  - Considering Cumulative Effects under the National Environmental Policy Act (1997)
  - Guidance on the Consideration of Past Actions in Cumulative Effects Analysis (2005)

<sup>3</sup> Sierra Club v. Marsh, 976 F.2d 763, 767 (1<sup>st</sup> Cir. 1992)

- ▶ Environmental Protection Agency (EPA) Policy & Guidance
  - Consideration of Cumulative Impacts in EPA Review of NEPA Documents (1999)
- ▶ Other resources
  - American Association of State Highway and Transportation Officials (AASHTO) Practitioner’s Handbook on Indirect and Cumulative Impacts (2011)
  - Indirect and Cumulative Impact Analysis (National Cooperative Highway Research Program 2006)

#### **1.4.1 Agency Coordination and Regulatory Compliance**

During the Tier 1 EIS process, the FRA will engage in dialogue with federal resource agencies, particularly with regard to reasonably foreseeable future actions that will be considered as part of this analysis, the sensitivity or vulnerability of resources that could be affected, and the representative types of cumulative effects that past, present, and reasonably foreseeable future actions could have on these resources. As appropriate, the FRA will also engage state and local agencies in these discussions. Regulatory compliance requirements for each resource evaluated as part of the NEC FUTURE Tier 1 EIS are listed within the relevant resource methodologies. During the Tier 1 EIS process, the FRA will identify potential opportunities to streamline subsequent Tier 2 environmental reviews (see Section 1.7). Coordination with the agencies identified in the relevant resources methodologies will be consistent with the NEC FUTURE Agency Coordination Plan and support the Statement of Principles (SOP) established between the FRA and federal regulatory agencies as part of the CEQ Pilot program.

### **1.5 METHODOLOGY TO ASSESS CUMULATIVE EFFECTS**

This methodology identifies the approach and assumptions for assessing cumulative effects. The assessment of cumulative effects includes considering the combined result of the incremental direct and indirect effects of the Tier 1 EIS Alternatives as well as the effects of other past, present, and reasonably foreseeable future actions, regardless of agency, on resources of concern. For NEC FUTURE, FRA will consider cumulative effects along the NEC Spine and new off-corridor areas served by the Tier 1 EIS Alternatives.

#### **Connecting Corridors**

The potential exists for NEC FUTURE Tier 1 EIS Alternatives to contribute to the cumulative impacts of other actions on resources along connecting corridors (e.g., Richmond, Virginia, to the south; Harrisburg, Pennsylvania, to the west; or Albany, New York, and New England to the north). As such, as appropriate and consistent with the overall approach to assessing cumulative impacts, FRA will qualitatively discuss how the NEC FUTURE Tier 1 EIS Alternatives relate to these connecting corridors.

#### **1.5.1 Identification of Resources for Analysis**

The initial step in assessing cumulative effects is to identify key resource areas for this analysis. The assessment will not focus on all resource areas for which the Tier 1 EIS Alternatives are expected to

produce direct or indirect effects; instead, it will focus on those resource areas for which a cumulative impacts analysis is most meaningful. FRA will apply the following set of criteria, developed based on an AASHTO Practitioner's Handbook,<sup>4</sup> to select key resource areas for analysis:

- ▶ What types of environmental resources are present in the vicinity of the Tier 1 EIS Alternatives?
- ▶ Which resources are most prevalent or sensitive?
- ▶ Which resources are most likely to have substantial direct and indirect effects as a result of NEC FUTURE actions?
- ▶ Which resources are sensitive to cumulative effects, as identified through coordination with resource and regulatory agencies?
- ▶ Which resources have specific regulatory requirements to perform a cumulative effects assessment? (e.g., The Endangered Species Act (ESA) requires consideration of cumulative effects as part of the Section 7 consultation process.)

The documentation of existing conditions and effects assessment described in Sections 1.5.2 and 1.5.3 will focus on the selected key resource areas. Key resource areas selected for analysis could include, but are not limited to:

- ▶ Land Cover
- ▶ Economic Growth
- ▶ Transportation
- ▶ Threatened and Endangered Species
- ▶ Air Quality
- ▶ Floodplains, Coastal Zones, Freshwater Resources
- ▶ Cultural and Historic Resources

### **1.5.2 Evaluation of Cumulative Effects**

The process by which FRA will evaluate cumulative effects on key resources (see Section 1.5.1) is presented in three parts. The first part describes how the study area used to assess cumulative effects will be defined. The second part establishes past, present and future trends and those actions that will be used in the cumulative effects analysis. The third part describes the evaluation of the combined direct and indirect effects of the Tier 1 EIS Alternatives with the effects of past, present and reasonably foreseeable future actions on key resource areas.

#### **Part 1: Define the Study Area**

An Affected Environment is defined for each resource area evaluated in the Tier 1 EIS. For this methodology, the cumulative effects study area is referred to as the Affected Environment, consistent with other NEC FUTURE Tier 1 EIS terminology. Given the scope of the NEC FUTURE

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<sup>4</sup> Center for Environmental Excellence by AASHTO, Practitioner's Handbook 12, Assessing Indirect Effects and Cumulative Impacts Under NEPA, April 2011.



program, the Affected Environment includes the entire NEC FUTURE Study Area (Study Area), expanded to include connecting corridors (e.g., Richmond, Virginia, to the south; Harrisburg, Pennsylvania, to the west; or Albany, New York, and New England to the north. The Affected Environment is intended to:

- ▶ Encompass the areas where changes in growth patterns, beyond those in current projections, are expected to occur
- ▶ Include logical boundaries for evaluating cumulative effects on resources of the natural and built environment
- ▶ Encompass reasonably foreseeable future actions that may also contribute to cumulative effects to the same resources as are affected by the Tier 1 EIS Alternatives
- ▶ Account for network characteristics of the transportation system (including connecting corridors)

**Part 2: Establish Resource Conditions and Trends**

The FRA will use the data sources listed in Table 2 to (i) establish past, present and future trends regarding the condition of a resource and (ii) identify those transportation and non-transportation projects that are reasonably foreseeable future actions for the cumulative effects analysis. FRA will coordinate with the FTA as a cooperating agency, as well as regulatory and resource agencies and other state agencies, for their insights and information on reasonably foreseeable future actions that could occur within the Affected Environment. The FRA will also coordinate with regional agencies as appropriate on an as-needed basis.

**Table 2 – Data Sources for the Evaluation of Cumulative Effects**

Required Data	Data Source	Data Application
Past and future trends	<ul style="list-style-type: none"> <li>▪ Readily-available information from federal documentation and websites (e.g., EPA website on trends in water quality)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Understanding of past trends that have resulted in the current condition of the resource and the potential for a resource’s condition to improve or decline in the future</li> </ul>
Reasonably foreseeable future actions (transportation-related)	<ul style="list-style-type: none"> <li>▪ No Action Alternative project list</li> </ul>	<ul style="list-style-type: none"> <li>▪ Highway, transit, and airport improvement projects approved for future implementation</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Environmental Documentation for reasonably foreseeable future actions (transportation-related)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Summary of potential environmental effects that may occur as a result of reasonably foreseeable future actions (transportation-related)</li> </ul>
Reasonably foreseeable future actions (non-transportation-related)	<ul style="list-style-type: none"> <li>▪ Interviews with federal and state regulatory and resource agencies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Large-scale future actions related to residential or commercial development or natural resource development activity</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Environmental Documentation for reasonably foreseeable future actions (non-transportation-related)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Summary of potential environmental effects that may occur as a result of reasonably foreseeable future actions (non-transportation-related)</li> </ul>

Source: NEC FUTURE JV, 2013

FRA will consider cumulative effects within the 2040 planning horizon for the NEC FUTURE program. This time horizon is consistent with regional long range and comprehensive land use planning

horizons (see Land Cover Methodology) and available population and employment forecasts (see Demographics Methodology). For purposes of this analysis, FRA assumes that the alternative under consideration has been implemented and in operation for a period of time sufficient for both direct and indirect effects associated with the proposed action to occur. While in actuality a Tier 1 EIS Alternative might not be fully implemented and in operation by 2040 with sufficient time for all indirect effects (one component to assess cumulative effects) to take place, this assumption creates the analytical framework necessary to understand the potential for change in the future.

Part 2 of the analysis includes the following steps to establish existing conditions and trends for key resources (as described in Section 1.5.1):

1. Describe past, present, and future actions based on availability of information. Data sources to be used are identified in **Table 2**. Analysis of identified past, present, and future actions will allow for the following:
  - a. Discussion of past trends will include a qualitative overview of development trends that have contributed to the current condition of the resource<sup>5</sup>.
  - b. Discussion of current trends will include either a quantitative or qualitative overview, depending on the information available.
  - c. Discussion of future trends will include an overview of the potential for a change in future condition based on other studies and analysis. (Assumes the 2040 planning horizon)
2. Review effects on key resources (Section 1.5.1) as a result of the Tier 1 EIS Alternatives and prepare a summary matrix of all effects (quantitatively or qualitatively as appropriate) and map areas of identified sensitivity.
3. Review the potential environmental effects of identified past, present, and future actions (as summarized in Step 1 and using data sources identified in Table 2) on key resources and prepare a summary matrix of all effects; map areas of identified sensitivity. Information related to the environmental effects of these actions will be based upon existing environmental documentation already prepared for other projects.
4. Compare effects of identified past, present and future actions on key resource areas (Step 3) against effects of the Tier 1 EIS Alternatives (Step 2). Prepare a summary matrix and mapping to depict areas where it is determined that Tier 1 EIS Alternatives exacerbate environmental impacts of other actions – these areas would be identified as areas of concern or sensitivity to cumulative impacts.

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<sup>5</sup> Center for Environmental Excellence by AASHTO (Practitioner's Handbook 12, Assessing Indirect Effects and Cumulative Impacts Under NEPA, April 2011) notes that while it is not a requirement to set a time period for considering past actions, if decided it is appropriate to set one, a period of at least 10 years is appropriate.

### Part 3: Assess Cumulative Effects by Resource

Part 3 of the evaluation describes the cumulative effects of the Tier 1 EIS Alternatives on key resource areas, building on the analyses completed in Part 2 of this assessment. Part 3 of the analysis includes the following steps to assess the cumulative effects:

1. Estimate the combined potential effects of Tier 1 EIS Alternatives and past, present and reasonably foreseeable actions on key resource areas using the summary matrices prepared in Part 2 of this analysis. Depending on available information, this analysis will use both quantitative and qualitative data.
2. Qualitatively describe the potential cumulative effects of the Tier 1 EIS Alternatives. The degree of confidence in or current level of understanding of effects of future related actions will be highlighted, particularly where future actions are less well understood or where data to inform this analysis is not available.
3. Where applicable, prepare mapping of the key resource areas to show the effects of the Tier 1 EIS Alternatives in comparison to the effects of other actions.

#### 1.5.3 Mitigation Strategies

Cumulative effects include the additive effects on environmental resources of each Tier 1 EIS Alternative on the effects of actions taken by others as identified in other analyses. Therefore, mitigation for cumulative effects is generally the same as elsewhere in the Tier 1 EIS, and it is not practical to identify specific mitigation measures for a cumulative effects assessment. A discussion of the menu of programmatic mitigation strategies is discussed for each respective resource area and focuses on ways to minimize or mitigate effects of the Tier 1 EIS Alternatives. Mitigation for other actions will be reviewed, where available, and considered as appropriate within the NEC FUTURE Tier 1 EIS as potential mitigation strategies for consideration. It is assumed that the mitigation needed to address the effects of other actions would be the responsibility of the project sponsor.

#### 1.6 TIER 1 EIS OUTCOMES

The assessment of cumulative effects will broadly identify and disclose the potential for additive effects of the Tier 1 EIS Alternatives when considered with other past, present, and reasonably foreseeable future actions on identified key resource areas presented in the Tier 1 EIS. Areas of concern for future consideration as the program advances will be highlighted.

#### 1.7 APPLICABILITY TO TIER 2 ASSESSMENTS

As part of Tier 2 assessments, the analysis of cumulative effects will be undertaken in more detail, and will focus on a more site-specific study area. Understanding where the NEC FUTURE program has the potential to contribute to cumulative effects, as well as examining additive impacts of actions over a larger corridor-wide scale, allows for proactive planning to potentially minimize or avoid adverse effects as planning and implementation of the program progresses.

# Application of Effects-Assessment Methodology

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## 19.1 CUMULATIVE EFFECTS: APPLICATION OF EFFECTS-ASSESSMENT METHODOLOGY

### 19.1.1 Variations to Effects-Assessment Methodology

There were no variations to the Effects-Assessment Methodology during the Tier 1 Draft EIS analysis.

### 19.1.2 Data Variations

There were no data variations to the Effects-Assessment Methodology during the Tier 1 Draft EIS analysis.

### 19.1.3 Criteria for Analysis

#### Environmental Consequences

- ▶ **Effects of Action Alternatives:** For the following key resource areas, consistent with the corresponding resource chapter or sub-section, the FRA identified a high-level qualitative summary of the locations (by state) of greatest effects as a result of the Action Alternatives. Note that Alternative 3 considers the effects from Washington, D.C., to Boston for all possible route options.
  - Air Quality
  - Climate Change
  - Cultural Resources and Historic Properties
  - Ecological Resources
  - Environmental Justice
  - Hydrologic/Water Resources
  - Indirect Effects
  - Land Cover
  - Transportation
- ▶ **Effects of Other Transportation Projects:** Consistent with the No Action Alternative Report, the cumulative effects of other transportation projects considers the planned and programmed improvements to highway, freight rail, transit, air, and maritime modes by 2040. Interregional and regional travel demand is affected by the availability, price, and reliability of all transportation modes. Therefore, inclusion of improvements of these other modes is necessary to represent the reasonably foreseeable future transportation conditions in the Study Area. Appendix B and Appendix C of the No Action Alternative Report contain a more detailed list of all No Action Alternative projects and Related Projects within the Study Area. For each project, the FRA identified a high-level qualitative summary of the locations (by state) of key resource areas most affected by the transportation project. A detailed list of these projects and key resources affected by state is included in the project files.
- ▶ **Effects of Non-Transportation Projects:** Other non-transportation projects were identified at a state level from federal and state regulatory and resource agencies, and readily available

information from federal documentation and websites. This included infrastructure improvements that would occur on the existing NEC or near the Action Alternatives; larger-scale residential or commercial development projects, or natural resource development projects within the Study Area that are assumed to be built by the horizon year of 2040. This includes larger-scale development projects, such as brownfield redevelopment, that are near stations for the Action Alternatives; and state efforts, plans, or publications related to land use, climate change, air quality or any other environmental resource that is using state-level information in their analysis. For each project, the FRA identified a high-level qualitative summary of the locations (by state) of key resource areas most affected as a result of the non-transportation project. A detailed list of these projects and key resources affected by state is included in supporting documentation.

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## Data Matrices

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Geography		Environmental Consequences: Greatest Potential for Cumulative Effects on Key Resource Areas																										
State	County	Alternative 1								Alternative 2							Alternative 3											
		Air Quality	Climate Change	Cultural Resources and Historic Properties	Ecological Resources	Environmental Justice	Hydrologic/Water Resources	Indirect	Land Cover	Transportation	Air Quality	Climate Change	Cultural Resources and Historic Properties	Ecological Resources	Environmental Justice	Hydrologic/Water Resources	Indirect	Land Cover	Transportation	Air Quality	Climate Change	Cultural Resources and Historic Properties	Ecological Resources	Environmental Justice	Hydrologic/Water Resources	Indirect	Land Cover	Transportation
VA	TOTAL	AT					TN	T	TN	TN	AT					TN	T	TN	TN	AT					TN	T	TN	TN
DC	TOTAL	A	A	TN			T		TN	AT	A	A	TN			T		TN	AT	A	A	TN			T		TN	AT
MD	TOTAL	ATN	AN		A	A	T	T	T	T	ATN	AN		A		T	T	T	T	ATN	AN			A	AT	T	AT	T
DE	TOTAL	AN	A	N			T	T	N	AT	AN	A	N			T	T	N	AT	AN	A	N			T	T	N	AT
PA	TOTAL	A	A	T			T		TN	TN	A	A	T		A	T		TN	TN	A	A	T		A	T		TN	TN
NJ	TOTAL	A	A				T	T	T	AT	A	A			A	T	AT	T	AT	A	A				T	AT	T	T
NY	TOTAL	AT	T	T	A		T	T	T	AT	AT	T	T	A	A	T	AT	T	AT	AT	T	T	A	A	T	AT	T	AT
CT	TOTAL	AT	A	A	AT	A	AT		ATN	ATN	AT	A	A	AT	A	AT	A	ATN	ATN	AT	A	A	AT	A	AT	A	ATN	TN
RI	TOTAL	A					AT	AT	T	T	A					AT	T	T	T	A				A	T	AT	T	T
MA	TOTAL	AT		TN			TN	AT	TN	ATN	AT		TN			TN	AT	TN	ATN	AT		TN		A	TN	AT	TN	ATN
NH	TOTAL	A									A									A								

Note: New Hampshire and Virginia are shown to include connecting corridors.  
 A = Potential for Cumulative Effects due to the Action Alternatives  
 T = Potential for Cumulative Effects due to other transportation projects  
 N = Potential for Cumulative Effects due to non-transportation projects



Geography		Number of Other Transportation Projects Affecting Key Resource Areas									Number of Other Non-Transportation Projects Affecting Key Resource Areas								
State	County	Air Quality	Climate Change	Cultural Resources and Historic Properties	Ecological Resources	Environmental Justice	Hydrologic/Water Resources	Indirect	Land Cover	Transportation	Air Quality	Climate Change	Cultural Resources and Historic Properties	Ecological Resources	Environmental Justice	Hydrologic/Water Resources	Indirect	Land Cover	Transportation
VA	TOTAL	1	0	0	0	0	2	1	2	17	0	0	0	0	0	1	0	1	1
DC	TOTAL	0	0	2	0	0	1	0	2	10	0	0	1	0	0	0	0	1	0
MD	TOTAL	1	0	0	0	0	7	2	5	29	1	1	0	0	0	0	0	0	0
DE	TOTAL	0	0	0	0	0	2	1	0	17	1	0	1	0	0	0	0	1	0
PA	TOTAL	0	0	4	0	0	7	0	36	113	0	0	0	0	0	0	0	1	1
NJ	TOTAL	0	0	0	0	0	7	2	4	56	0	0	0	0	0	0	0	0	0
NY	TOTAL	2	2	6	0	0	11	2	6	61	0	0	0	0	0	0	0	0	0
CT	TOTAL	5	0	0	1	0	8	0	2	31	0	0	0	0	0	0	0	1	1
RI	TOTAL	0	0	0	0	0	1	1	2	8	0	0	0	0	0	0	0	0	0
MA	TOTAL	1	0	2	0	0	2	1	9	35	0	0	1	0	0	1	0	2	2
NH	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: New Hampshire and Virginia are shown to include connecting corridors.

Geography		Environmental Consequences: Action Alternatives Effects on Key Resource Areas																												
State	County	Alternative 1									Alternative 2									Alternative 3										
		Air Quality	Climate Change	Cultural Resources and Historic Properties	Ecological Resources	Environmental Justice	Hydrologic/Water Resources	Indirect	Land Cover	Transportation	Air Quality	Climate Change	Cultural Resources and Historic Properties	Ecological Resources	Environmental Justice	Hydrologic/Water Resources	Indirect	Land Cover	Transportation	Air Quality	Climate Change	Cultural Resources and Historic Properties	Ecological Resources	Environmental Justice	Hydrologic/Water Resources	Indirect	Land Cover	Transportation		
VA	TOTAL	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
DC	TOTAL	1	1	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	2
MD	TOTAL	1	1	0	2	1	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	1	0	0	1	1	0	2	0	0
DE	TOTAL	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1
PA	TOTAL	1	1	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0
NJ	TOTAL	1	1	0	0	0	0	0	0	1	1	1	0	0	1	0	1	0	1	1	1	1	0	0	0	0	1	0	0	0
NY	TOTAL	1	0	0	1	0	0	0	0	1	1	0	0	1	1	0	1	0	1	1	0	0	1	1	0	1	0	0	2	0
CT	TOTAL	1	1	1	3	1	2	0	1	1	1	1	1	3	1	2	1	1	1	1	1	1	1	3	1	1	2	1	0	0
RI	TOTAL	1	0	0	0	0	1	1	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	1	0	0	0
MA	TOTAL	1	0	0	0	0	0	2	0	2	1	0	0	0	0	0	1	0	2	1	0	0	0	0	1	0	1	0	3	0
NH	TOTAL	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

Note: The numbers in this table represent the number of different effects of the Action Alternatives on Key Resource Areas as identified by Table 7.20-3 in the Cumulative Effects chapter. For example: for Alternative 1, there are two different impacts from Ecological Resources in Maryland.

Note: New Hampshire and Virginia are shown to include connecting corridors.