

3.5.2.2 Indirect Impacts

No-Action Alternative

No indirect impacts to threatened or endangered species are anticipated as a result of the No-Action Alternative since there would not be any changes to the existing GSB infrastructure or surrounding area.

Action Alternatives

While Alternatives 6 and 7 involve direct permanent impact to intertidal and subtidal systems and a greater degree of temporary impact to Atlantic and shortnose sturgeon, no indirect impacts to threatened or endangered species are anticipated to occur as a result of any of the Action Alternatives.

3.5.3 Mitigation

In addition to the environmental commitments in **Section 3.4.3, Wildlife and Fisheries**, the following mitigation measures would be implemented during construction to reduce or eliminate potential impacts to threatened and endangered species and natural communities.

- › If a threatened, endangered, or rare plant species is encountered during construction that was not documented prior to construction, construction activities in that area would temporarily cease until the plant has been relocated.
- › The existing bridge structure will be re-surveyed to identify any use by NLEB following the procedures in Appendix D of the *Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat* (revised February 5, 2018).
- › The following AMMs shall be followed to comply with the NLEB effect determination (refer to the USFWS concurrence letter in **Appendix H**).
 - Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.
 - Direct temporary lighting away from suitable habitat during the active season.
 - When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting).
 - Modify all phase/aspects of the project (e.g., temporary work areas) to minimize tree removal.
 - Ensure tree removal is minimized to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field.

- › Wildlife friendly erosion control methods shall be implemented during construction such as woven organic material for erosion control blankets. Welded plastic, biodegradable plastic, or threaded erosion control materials shall not be used as part of construction.
- › Since soil disturbance is anticipated to occur as part of the Project, the contractor(s) shall be required to develop and implement an appropriate Invasive Species Control and Management Plan which adheres to NHDOT's publication *Best Management Practices for the Control of Invasive and Noxious Plant Species* (2018) during construction to minimize the spread of invasive plant species within the area of ground disturbance. Only clean equipment that is free of plant material and debris shall be delivered to the Project site and utilized during construction. All machinery entering and leaving any area containing invasive plants will be inspected for foreign plant matter (stems, flowers roots, etc.) and embedded soil. If foreign plant matter/soil is present, the operator shall remove the plant material and soil from the machine using acceptable methods.

3.6 Farmlands

The identification and protection of farmlands is important to the national, regional and local economies; therefore, consideration of potential impacts from federal activities on- or adjacent to prime or unique farmlands is necessary. The Farmland Protection Policy Act (FPPA) of 1984 (7 USC 4201) provides guidelines to Federal agencies involved in projects that may convert existing or potential farmland areas to non-agricultural uses. The FPPA directs Federal agencies to "...*(a) identify and take into account the adverse effects of their programs on the preservation of farmland, (b) to consider alternative actions, as appropriate, that could lessen adverse effects, and (c) to ensure that their programs, to the extent practicable, are compatible with State and units of local government and private programs and policies to protect farmland...*" (7 CFR 658.1). FHWA's Technical Advisory T6640.8A (October 30, 1987) further directs that impacts on farmlands be assessed as part of the environmental assessment for all transportation projects.

The FPPA outlines several exemptions which apply to projects that occur within urbanized areas as identified by the US Census Bureau or areas already in development. Farmlands are defined as *already in areas of development in the FPPA as, Farmland "already in" urban development or water storage includes all such land with a density of 30 structures per 40-acre area. Farmland already in urban development also includes lands identified as "urbanized area" (UA) on the Census Bureau Map (7 CFR 658.2).*

3.6.1 Affected Environment

Urbanized areas maps are available by the US Census Bureau from the 2010 Census.³⁵ Review of urban area reference maps determined that the Study Area occurs entirely within the following two UAs: Dover – Rochester, NH – ME 24607 on the Dover side of the Study Area and Portsmouth, NH – ME 71506 on the Newington side of the Study Area.

³⁵ US Census Bureau. *2010 Census Urban Area Reference Maps*. Revised October 16, 2019. Accessed from <https://www.census.gov/geographies/reference-maps/2010/geo/2010-census-urban-areas.html>. Accessed on June 25, 2019.

3.6.2 Environmental Consequences

Impacts to farmlands result from the conversion or loss of undeveloped properties and prime or unique farmlands (as defined by the FPPA or the US Department of Agriculture) to paved or disturbed surfaces. Due to the Project occurring entirely with areas exempt from the FPPA, prime farmlands were not evaluated.

3.6.2.1 Direct Impacts

Due to the location of the Project within UAs it is exempt from the FPPA. Additionally, the Study Area lies entirely within State of New Hampshire parcels and bridge piers or abutments. Parcels where construction access and laydown would occur are parklands (on the Dover side of the Study Area) and State Highway right-of-way (on the Newington side of the Study Area). During construction, activities would occur in the areas leading up to the bridge abutments in Newington and Dover, as illustrated in the Preliminary Construction Impact Plans (**Appendix D**). Disturbed areas would be restored to existing conditions after construction. It is anticipated that any disturbed areas would rebound after construction.

3.6.2.2 Indirect Impacts

The Project would not result in indirect impacts on farmlands as the induced growth impacts from land conversion were evaluated in the 2007 FEIS.

3.6.3 Mitigation

No mitigation is required because the Project would have no impacts to farmlands.

3.7 Air Quality

The Clean Air Act, as amended, protects the quality of the nation's air resources at both the federal and state level. It established the National Ambient Air Quality Standards (NAAQS) for various criteria pollutants in order to protect the health and welfare of the general public. From a transportation perspective, the primary pollutants of concern are carbon monoxide, volatile organic compounds, and oxides of nitrogen, which are emitted from gasoline and diesel engines. Highway agencies are required to consider the impacts of their projects on a local and a regional level.

3.7.1 Affected Environment

The Project is located in both the Town of Newington and City of Dover, in Rockingham and Strafford County, respectively. The Clean Air Act, as amended divided the State into attainment and non-attainment areas with classifications based upon the severity of the air quality problems. A nonattainment area is an area that has had measured pollutant levels that exceed

the NAAQS and that has not been designated to attainment. The Clean Air Act, as amended, established emission reduction requirements that vary depending on an area's classification.

Based on the US Environmental Protection Agency's (EPA) Green Book³⁶, both Rockingham and Strafford Counties were designated as nonattainment areas for 1-hour (1979-Revoked) and 8-hour (1997-Revoked) Ozone standards. Rockingham County is also designated as nonattainment for Sulfur Dioxide, but Sulfur Dioxide is not a pollutant of transportation concern due to the restriction of sulfur content in on-road diesel fuels. These counties are in attainment for all other criteria pollutants.

3.7.2 Environmental Consequences

The Project is not expected to result in substantial direct or indirect, permanent or temporary, impacts on air quality. The 2007 FEIS evaluated air quality associated with the GSB and LBBs. The analyses in the 2007 FEIS considered both regional and local air quality associated with motor vehicle traffic traveling over the LBBs. The larger Newington-Dover, Spaulding Turnpike Improvements Project was incorporated into the State Transportation Improvement Plan and associated Conformity analysis and no regional impacts were found. The 2007 FEIS also evaluated local air quality by conducting microscale "hotspot" modeling that determined that all pollutant concentrations would be below the NAAQS, meaning no local air quality impact was anticipated.

During operations, the GSB would not be a substantial source of pollutant emissions since it would carry pedestrian and bicycle traffic and would not affect motor vehicle traffic on the LBB. Since the Project would not change the design of the roadway or result in changes to traffic volumes, it is assumed that there would be no long-term change in air quality impacts relative to the impacts discussed in the 2007 FEIS. The following sections consider both the direct and indirect impacts associated with the construction and operations of the Project.

3.7.2.1 Direct Impacts

Direct impacts are evaluated for both the operational period (*i.e.*, open for public use) and construction period of the Project. This section is organized by alternative, discussing direct impacts resulting from each alternative individually. However, none of the Action Alternatives (Alternatives 1, 3, 6, 7, and 9) would cause a substantial source of pollutant emissions since the bridge would carry pedestrians and bicyclists and would not affect motor vehicle traffic on the LBBs.

Construction of the Project would temporarily result in increased pollutant emissions associated with construction equipment. The intensity and duration of construction are considered for each of the alternatives. General construction air quality mitigation measures are described in **Section 3.7.3**.

³⁶ US Environmental Protection Agency. *Green Book Website*. Accessed from <https://www.epa.gov/green-book>. Accessed on July 15, 2019.