

# **Implementing the Secondary and Cumulative Impact Master Mitigation Plan Concept on a Nationwide Basis**

**by  
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The purpose of this paper is to examine the secondary and cumulative impact master mitigation plan (SCIMMP) concept developed for use under the North Carolina Environmental Policy Act, also called the State Environmental Policy Act (SEPA) and to examine the potential implementation of the concept on a nationwide basis under the National Environmental Policy Act (NEPA).

## **1.0 Overview**

### **1.1. Definition of a Secondary and Cumulative Impact Master Mitigation Plan**

A SCIMMP is an environmental planning document that identifies secondary and cumulative impacts on a holistic level across a local government unit (LGU) rather than on a project-by-project basis. Approaching secondary and cumulative impacts (SCI) in this manner allows planners to consistently characterize SCI in an area. Additionally, SCIMMPs are tools that help decision makers understand the environmental impacts of a proposed project.

The concept of a secondary and cumulative impact master mitigation plan (SCIMMP) originated in 2004 when the Town of Cary wanted to obtain permits from NCDENR to construct wastewater infrastructure projects. Throughout the past several years, the Town had spent both time and money repeatedly characterizing the same SCI. The Town approached NCDENR and developed a Memorandum of Agreement (MOA) (Haynie, 2008). This agreement outlined the purpose and scope for the MOA, the scope for the SCIMMP, the procedure for adopting the SCIMMP, the reporting requirements, and the timing for revisions to the SCIMMPs. The MOA between the Town of Cary and NCDENR was executed during the summer of 2005 (Town of Cary, Memorandum of Agreement, July 26, 2005). The SCIMMP was finalized in October 2005 (CH2MHill, October 2005).

Other municipalities within the Research Triangle area in North Carolina followed suit. The Town of Apex completed their MOA in July 2005 (Town of Apex, Memorandum of Agreement, July 2005) and finalized the SCIMMP in October 2005. The Towns of Holly Springs and Morrisville completed theirs as well in October 2005 with the MOAs being signed in July 2005 (Town of Holly Springs, Memorandum of Agreement, July 26, 2005, Town of Morrisville, Memorandum of Agreement, July 26, 2005). These four Towns developed their SCIMMPs in conjunction with the environmental impact statement (EIS) for the Western Wake Regional Water Reclamation Facility, which began as a SEPA EIS and is now a NEPA EIS with a Record of Decision under the U.S. Army Corps of Engineers (USACE, 2009).

Since then, the City of Raleigh completed their SCIMMP in November 2009 with the MOA being signed in December 2008 (City of Raleigh, Memorandum of Agreement, December 19, 2008). Additionally, the City of High Point is in the process of preparing a MOA in conjunction

with NCDENR that will allow them to develop a SCIMMP for the Westside Wastewater Treatment Plant (WWTP) Service Area.

The SCIMMPs developed in the Research Triangle area of North Carolina are the first of its kind and serve as models for other LGUs across the state who may desire to develop similar documents.

The North Carolina Environmental Policy Act, also called the State Environmental Policy Act (SEPA), requires agencies to examine three types of impacts: direct, secondary, and cumulative impacts. These terms are defined below.

## **1.2. Definition of Direct and Secondary Impacts**

The regulations from the *North Carolina Administrative Code* (NCAC) define secondary impacts as

...indirect impacts caused by and resulting from a specific activity that occur later in time or further removed in distance than direct impacts, but are reasonably foreseeable. Indirect impacts may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems [NC Administrative Code, 15A NCAC 01C .0103(20)].

The definition found in the Code of Federal Regulations (CFR) is almost identical [see 40 CFR 1508.8(b)].

For WWTP expansions facilitating growth, direct impacts would relate directly to the impacts of constructing the WWTP expansion. The secondary (indirect) impacts would result from the future population growth in the service area of the WWTP.

## **1.3. Definition of Cumulative Impacts**

The NCAC defines cumulative impacts as

...environmental impacts resulting from incremental effects of an activity when added to other past, present, and reasonably foreseeable future activities regardless of what entities undertake such other actions. Cumulative impacts are the reasonably foreseeable impacts from individually minor but collectively significant activities [North Carolina Administrative Code, 15A NCAC 01C .0103 (3)].

The CFR definition of cumulative impacts is very similar to the NCAC definition [see 40 CFR 1508.7).

Following the WWTP example, cumulative impacts would be related to the capacity expansion of a WWTP in a rapidly growing area. In addition to the expansion project, the area might be

experiencing other environmental impacts from other projects such as road widening, power line construction, and water infrastructure construction. Over time, the impacts from these projects as well as the expansion project may degrade the environment at a faster rate than would occur from one project.

#### **1.4. Historical Treatment of Secondary and Cumulative Impacts**

Since SEPA was enacted, state agencies and LGUs struggled to characterize the three types of impacts. For many years, consulting firms and agencies drafting most environmental assessments (EAs) and EISs have focused the vast majority of their efforts and resources on the characterization of direct impacts to the point that some completely neglected to examine SCI. Other EAs and EISs addressed SCI but in such a cursory manner that it was clear that SCI had not been characterized adequately. The main reason for this relates to the difficulty in analyzing SCI. Still, the State regulations that govern the implementation of SEPA make it clear that SCI must be considered and addressed.

More recently, agencies and their consultants have made an effort to provide a better understanding of how to characterize SCI. Likewise, within North Carolina, efforts have been made to provide a methodology for SCI analysis under SEPA. In 2008, the North Carolina Department of Environment and Natural Resources (NCDENR) released its own guidance, *Guidance for Preparing SEPA Documents and Addressing Secondary and Cumulative Impacts*. This guidance describes how agencies, municipalities, and consultants should implement SEPA and analyze SCI. In the release of its guidance, NCDENR made it clear that all environmental information documents need to include a discussion of SCI.

The level of detail may vary between documents, but the vast majority of EAs and EISs prepared under SEPA now contain discussions related to SCI. However, most of these discussions address SCI on an individual project basis.

### **2.0 Issues with Secondary and Cumulative Impacts**

Under SEPA, assessing SCI as well as direct impacts is critical in determining the overall environmental impacts of a project. However, SCI analysis has many inefficiencies that must be addressed to effectively improve this process. This section explores the importance of SCI in the environmental analysis, the historical treatment of SCI, and the resulting inefficiencies of the current methodologies used to address SCI.

#### **2.1. The Importance of Secondary and Cumulative Impacts under SEPA**

Under SEPA, the analysis of impacts to the environment due to a project should consist of an analysis of direct impacts, secondary impacts, and cumulative impacts. By itself, a direct impacts analysis only examines the impact of the construction of the project in the immediate area of that project. For example, if a WWTP is being expanded beyond its current property line, then the direct impacts analysis would encompass only that area which would literally be

disturbed by building the project. Impacts to wetlands, forest resources, and noise levels would be related only to the construction of the project itself.<sup>1</sup>

Secondary and cumulative impacts provide a complete picture of the impacts related to a project. They encompass a broader scale both spatially and temporally. For a WWTP, the secondary impacts portion of the SCI analysis would determine what would occur in the WWTP's expanded service area once the project is constructed. These impacts would not occur during construction of the project or immediately upon completion but would gradually occur months and years into the future as the LGU where the WWTP is located expands and adds to its population. Spatially, the secondary impacts analysis reviews the impacts of a project that occur on a wider scale than the immediate vicinity where construction occurs. Temporally, a secondary impacts analysis examines the effects of the single project from the present into the future.

Cumulative impacts analyses are more complicated, as they investigate not just the wider-reaching implications of one project but the sum of impacts related to other projects over a broad area. Cumulative impacts analyses also use a longer time scale by not only looking into the future but looking back at the past. The time window for cumulative impacts analysis starts several years before the project under discussion is constructed. The way the environment is impacted by other projects under construction during that time is considered, and the result of the temporal analysis usually yields either a positive trend toward environmental improvement or a negative trend toward environmental degradation over the larger area.

Then, the subject project and other projects under construction or planned for the wider area are examined for total impact. Because of the sum total of projects, the environment may decline more rapidly, more slowly, or improve. For construction in a rapidly growing area, the temporal cumulative impacts analysis would examine how the environment improved or declined in the past and how the addition of the project to the area in conjunction with the construction of other unrelated projects will impact the environment of an area in the future by either continuing a trend of degradation or improving the trend.

While the secondary impacts analysis only looks at spatial and temporal impacts related to the construction of a project from the completion of the project forward, the cumulative impacts analysis not only covers the same spatial considerations but also examines the trends of environmental impacts both in the past before the construction of the project and then into the future after the project was constructed. Along with the analysis of direct impacts from the construction of a project, SCI analyses provide a complete picture of the environmental impacts related to a project.

## **2.2. Results of Secondary and Cumulative Impact Analyses**

Once agencies and LGUs began addressing SCI on a regular basis, inefficiencies in the analysis and addressing of SCI became apparent. The following four issues were identified:

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<sup>1</sup> The scope of direct impacts may vary depending on the resource being analyzed. For most resources, the scope of impacts will be in the area of disturbance. However, for some resources such as wetland and water resources, direct impacts may also impact the resource outside of this immediate area of disturbance (e.g., downstream for wetlands and water resources).

(1) regulatory inefficiencies, (2) cost inefficiencies, (3) LGU planning inefficiencies, and (4) lack of complete spatial coverage.

In North Carolina, when LGUs or agencies prepare EAs or EISs, they typically consider each project on an individual basis even though the projects are in close geographic proximity. Because the reports may be prepared at different times by different agencies or LGUs, the SCI analysis in these documents may contain redundant information. As a result, resource agencies reviewing the documents for impacts related to their jurisdiction often see the analysis presented in a slightly different manner for each project. This often leaves agencies raising the same SCI issues. As a result, these resource agencies frequently spend their time reviewing and negotiating the same impacts repeatedly because the projects are viewed as separate entities.

Likewise for projects within close spatial range, such as multiple projects that occur within a municipality, time and monetary resources are expended across agencies and LGUs by repeatedly characterizing the same SCI from slightly different angles due to the firms and agencies being different. Then resource agencies spend time (e.g., money) reviewing the same SCI but for different projects. As a result of approaching projects by completing the SCI analysis in a vacuum, more time and monetary resources are spent in the preparation and review of the environmental documents than is necessary.

Additionally, permit conditions often require ordinance changes to mitigate SCI. These ordinance changes must be approved by the LGU's governing body. At best, such ordinances may be passed at different times and potentially conflict with each other. At worst, they may not be passed, which would result in a critical permit not being issued and the project not being constructed.

Finally, an SCI analysis conducted for several projects within a municipality may result in conflicting scopes for spatial impacts. For example, one project may occur on the eastern side of a town while another project may occur on the western side of the town. The spatial scopes of impacts for some resources may be too narrowly defined even though the impacts may extend across the entire municipality. As a result, the actual SCI may be inadequately characterized on a spatial basis.

### **3.0 Development and Use of Secondary and Cumulative Impact Master Mitigation Plans**

#### **3.1. Description and Development of Secondary and Cumulative Impact Master Mitigation Plans**

Secondary and cumulative impact master mitigation plans are documents that have a very similar format to EISs. Each plan follows a similar outline that contains:

- Acronyms and Abbreviations
- Executive Summary
- Introduction
- Background and Description of Infrastructure Master Plans

- Purpose and Need for Proposed Infrastructure
- Description of Existing Environment in Planning Area
- Description of Secondary and Cumulative Impacts Related to Projected Growth in the Planning Area
- Mitigation for Secondary and Cumulative Impacts

The Acronyms and Abbreviations, Executive Summary, and Introduction are all similar to what would be found in EISs. The SCIMMP then continues by discussing the background related to the SCIMMP development process and describes any master plans for infrastructure that are already in place. For example, the Town of Cary uses Section Two of its SCIMMP to describe the master plans it developed for wastewater, reclaimed water, drinking water, and transportation (Town of Cary only) (CH2MHill, Town of Cary, pp. 2-1 to 2-11). Then the document provides a purpose and need statement for the project. Instead of the project being one specific action such as the construction of a WWTP, the project within a SCIMMP is the entire infrastructure for the LGU. The SCIMMP for the Town of Cary states its purpose and need as follows:

The purpose and need for the proposed infrastructure is a function of the Town of Cary's commitment to its citizens. Part of Cary's mission is to provide responsible leadership for controlled infrastructure development. Cary promotes orderly growth through development and implementation of the Town Standard Specifications and Details Manual. Through effective planning, the Town has anticipated infrastructure problems and needs by developing cost-effective, viable solutions implemented as part of the Town's capital improvements budget (CH2MHill, October 2005, p. 3-1).

After the Purpose and Need statement, the typical SCIMMP discusses the existing environment. Rather than describing the affected environment in a narrow spatial scope as would be typical for an environmental information document that relates to a particular project, the SCIMMP typically focuses on the entire municipality. For example, if an EA were drafted for the expansion of a WWTP, the spatial scope described would typically include the specific area where the project would be constructed as well as the service area. For a SCIMMP that involves wastewater infrastructure, water supply infrastructure, and transportation infrastructure, the affected environment would encompass the area of the entire LGU. The resource categories cover the same categories that are found in a SEPA EA or EIS (e.g., wetlands, streams, cultural resources, air quality, noise levels).

Once the existing environment is characterized, then the SCIMMP describes the SCI that will be associated with the various projects outlined in the background section. The impacts cover the same resource categories previously described in the Existing Environment section. Using these impacts as a basis, the SCIMMP concludes by outlining and discussing the mitigative measures that the LGU will employ to minimize these SCI. The section calls upon both Federal and State regulations as well as local ordinances and other documents such as growth management plans and land use plans and a host of other regulations that may be specific to individual resource categories.

For the Town of Cary, the SCIMMP described the threatened and endangered (T&E) species that may be found within Wake County and then discussed where within the planning area these species could possibly be found. In the mitigative measures section, the SCIMMP then outlines the Federal and State regulations that protect T&E species (CH2MHill, Town of Cary, pp. 6-1 to 6-2) as well as other ordinances such as open space preservations, riparian buffer and floodplain protection that also serve to protect T&E species (CH2MHill, Town of Cary, pp. 6-12 to 6-24).

Secondary and Cumulative Impacts Master Mitigation Plans are developed in a process that is very similar to that used to develop an EIS for a specific project. The data collected for SCIMMPs are similar but on a wider scale that encompasses the entire LGU impacted by the SCIMMP. The same collection tools are used such as records research, geographic information systems (GIS), and fieldwork where needed. The public is also involved, and once the SCIMMP is drafted, an official hearing is held to record public comments. The SCIMMP is revised in response to the public comments, and then a draft is noticed through the *Environmental Bulletin*, which is the North Carolina State Clearinghouse's public notification venue. After the 30-day review period has passed, then the SCIMMP is finalized. Like a Record of Decision (ROD) for a specific project, a ROD is issued for the SCIMMP. However, it does not support a particular permit. Instead, the ROD allows the SCIMMP to be used in accordance with the signed MOA.

Every five years, the SCIMMP must be reviewed, and any changes recorded in a new document. This new document then goes through a review process that was similar to the original document where agencies have input as well as the public. Note that the SCIMMP does not limit the regulatory authority of NCDENR or the ability of NCDENR to require additional mitigation for an additional project.

### **3.2. Process for Using Secondary and Cumulative Impact Master Mitigation Plans**

Secondary and cumulative impact master mitigation plans may be used for projects within the subject LGUs that fall under SEPA. Examples of these projects include wastewater infrastructure construction and/or rehabilitation, roadway construction, and water distribution construction/rehabilitation. When a LGU with a SCIMMP prepares the document, an EA (or in rare cases, EIS) is prepared by the consultants for the projects. They provide the project description, purpose and need, and alternatives analysis the same way that they would for a traditionally prepared report. Direct impacts are also analyzed in the same manner typical for EAs.

The SCIMMPs may be used to assist in the description of the affected environment for a wider area. However, the most important role the SCIMMP plays is in the analysis of SCI. When the consultant prepares this section, rather than prepare the SCI analysis in a vacuum, they refer to the SCIMMP and summarize what the SCIMMP says for SCI in that particular resource category. Generally, information is summarized, and then page references are provided to where the reader may find more detail in the SCIMMP. For mitigative measures related to SCI, the consultant will again summarize these measures and refer the reader to the appropriate places within the SCIMMP.

## **4.0 Analysis of Secondary and Cumulative Impacts Master Mitigation Plans**

This section explores both the strengths and weaknesses of SCIMMPs that have come from applying them for various projects within the Research Triangle area of North Carolina.

### **4.1 Strengths of Secondary and Cumulative Impact Master Mitigation Plan Application**

Using SCIMMPS in the Research Triangle area of North Carolina has taken place in the Towns of Apex, Cary, Holly Springs, and Morrisville, mainly for the Western Wake Regional Water Reclamation Facility (WWRWRF) EIS (USACE, December 2009, pp 5-2 to 5-4). This project consists of the construction of a regional water reclamation facility to treat and transport wastewater from the participating towns of Apex, Cary, and Morrisville to the Cape Fear River as the way to fulfill the requirements of the Interbasin Transfer Certificate to which the Towns must adhere. The environmental review occurred under the USACE's NEPA process.

Additionally, Holly Springs has been required by the NCDENR's Division of Water Quality (DWQ) to remove its discharge from a local creek and send it to the Cape Fear River through the WWRWRF's effluent force main and pump station. The Town of Holly Springs has also used its SCIMMP to document SCI related to both its Utley Creek WWTP and the reclaimed water distribution system now in operation (Haynie, January 6, 2010). Since the Utley Creek WWTP project was funded by a Clean Water State Revolving Fund loan, environmental impacts were reviewed under the SEPA process. Since the reclaimed Water project was a State and Tribal Assistance Grant appropriated by Congress, environmental impacts were analyzed under EPA's NEPA process.

In the Western Wake EIS, the authors analyzed direct impacts as would typically be done. They then relied heavily upon the SCIMMPs of the four participating towns to document the SCI that would occur as a result of both the construction of the WWRWRF and growth of the towns due to its geographic location to the Research Triangle Park. For example, over the next 20 years, the Town of Apex is expected to grow from approximately 34,000 people to approximately 100,000 people, which is an increase of almost 230 percent (USACE, December 2009, p D-2). Most of this growth will result from new development, which would be SCI. The EIS summarizes the current conditions for the planning area, including Apex (USACE, December 2009, pp 5-7 to 5-12). Then the secondary and cumulative impacts are characterized, and mitigative measures are discussed.

In the case of the Holly Springs Utley Creek WWTP expansion, the EA referred to the Holly Springs SCIMMP for SCI and the mitigative measures that would be used to reduce the effects of the project. In the project, the expansion of the Utley Creek WWTP from 1.75 million gallons a day (mgd) to 6.0 mgd, would accommodate growth for the Town of Holly Springs. Between 1990 and 2000, the Town grew an astonishing 920 percent from 908 people to 9,192 people (Davis-Martin-Powell and Associates, p. 4). From 2010 to 2030, the Town is expected to grow to 61,920, another population increase of 574 percent (USACE, Town of Holly Springs, p. D-5). Most of this growth is related to new development, which results in SCI. Rather than discuss SCI in the body of the EA, the summary of environmental impacts in the engineering report



refers to the reader to the SCIMMP for Holly Springs (Davis-Martin-Powell and Associates, p. 52).

The examples discussed above reveal the strengths of the SCIMMP concept and application. It consolidates the analysis of SCI and the measures used to mitigate these impacts under one document. As additional projects in these towns are analyzed under the SEPA process, the preparers of the EA will not conduct a SCI analysis because the analysis completed as part of the SCIMMP has been approved by NCDENR and covers the scope of SCI. Because the SCIMMP may be used to describe the SCI and mitigative measures for various projects within the affected towns, time and money are saved because the consultants preparing the EAs do not have to conduct SCI analysis on the same areas over and over again.

For agencies, time and money are saved because they do not have to review SCI analyses for separate reports in the same area and/or negotiate for the same types of impacts. Additionally, NCDENR has already reviewed and approved the SCIMMPs for these Towns, and because of the approval, they recognize that NCDENR has already reviewed and approved the mitigative measures used to offset SCI. As a result, the divisions within NCDENR can focus their limited time and resources on analyzing the direct impacts, and, therefore, additional projects in the same amount of time.

The SCIMMPs also enable LGUs to develop land use ordinances and other protective measures in a cohesive manner. For example, as part of its SCIMMP, the Town of Holly Springs set certain stream buffers. Had there been no SCIMMP in place, then the Town might have adopted a certain set of buffers as part of the EIS for the WWRWRF and a certain set for its Utley Creek WWTP expansion that might slightly contradict themselves and lead to general confusion when the buffer regulations were implemented. However, since the buffer regulations were prepared as part of the SCIMMP, then the town can reliably refer to one document for buffer measures for each project (USACE, December 2009, p. 5-24, CH2MHill, Town of Holly Springs, pp. 6-19 to 6-20). Using SCIMMPs should allow for a clear, concise development of ordinances to mitigate SCI, which would reduce both cost and time spent on each project.

#### **4.2. Weaknesses of Secondary and Cumulative Impact Master Mitigation Plan Application**

While SCIMMPs contain many strengths associated with the characterization and mitigation of SCI, they contain some weaknesses as well. The three main weaknesses are (1) the lack of incorporating transportation infrastructure; (2) multiple LGU issues; and (3) the lack of a temporal aspect.

First, the SCIMMPs that have been prepared so far for the Towns of Apex, Cary, Holly Springs, and Morrisville and for the City of Raleigh do not include transportation corridors that are constructed and maintained by the North Carolina Department of Transportation (NCDOT) or the specifics of where roadways may be constructed as development occurs. However, it does incorporate transportation plans for local roadways, greenways, and public transit. Without the entire infrastructure picture, including NCDOT-funded roadways and railways, it does not provide an entirely accurate representation of what impacts may occur. Additionally, the

Raleigh SCIMMP focuses mainly on public utilities infrastructure for the City of Raleigh and does not incorporate transportation infrastructure for the outlying towns because the City only has jurisdiction of transportation corridors within its limits (CH2MHill, City of Raleigh, p. 2-5).

A way to address this issue would be to determine the types of infrastructure that must be included in the documentation process. For example, as part of its review process, NCDENR could require that a LGU document SCI for wastewater and water, power line, roadway, greenway, and public transportation infrastructure. In the case where one city may serve utilities in other Towns (such as Raleigh with its outlying Towns), NCDENR could require the same things but have the outlying Towns coordinate their transportation, public transit, and greenway infrastructure with the main Town so that an accurate picture of SCI may be determined.

Also, a LGU may provide utility services for other nearby LGUs who have a separate set of ordinances. While drafting a SCIMMP may be the best way to document SCI in this area, the LGU leading the SCIMMP effort may face issues associated with different, less stringent ordinances the other Towns have that may create difficulties with obtaining NCDENR approval. To resolve any local issues that may occur as a result, the main LGU would have to coordinate closely with the other LGUs to ensure that all of the ordinances discussed in the SCIMMP are satisfactory to NCDENR.

Last, the SCIMMPs as currently developed for NCDENR do not incorporate a temporal aspect. For example, the SCIMMPs prepared for the Towns of Apex, Cary, Holly Springs, and Morrisville do not characterize past environmental trends. Since these areas did not begin significantly developing until the late 1980s, the forest that existed almost 30 years ago was significantly greater than that which exists today, resulting in a downward trend for forest resources. When the USACE began reviewing the Western Wake EIS and the SCIMMPs as part of the draft EIS review process, they required the towns to go back and add a temporal analysis to the EIS to characterize the past environment (USACE, January 24, 2008). The EIS for the WWRWRF showed that as additional SCIMMPs are prepared, the inclusion of a temporal analysis will provide for a complete SCI analysis. To fully address the temporal aspect associated with SCI, LGUs would need to complete a temporal analysis using a methodology such as the one agencies are required to use for NEPA (Council of Environmental Quality, pp.16-20).

## **5.0 Application of Secondary and Cumulative Impacts Master Mitigation Plans for NEPA Projects**

Preparing SCIMMPs for the documentation of SCI and application of mitigative measures has the potential to impact projects that must have environmental documents prepared under NEPA. This section discusses the roles and responsibilities, process, and potential pitfalls that might occur should SCIMMPs be used with NEPA on a nationwide basis.

### **5.1. Roles and Responsibilities**

Implementing the use of SCIMMPs on a nationwide scale would require a definition of the roles and responsibilities of those who would be involved in not only the preparation of SCIMMPs but

also the review of them. The following sections describe the roles and responsibilities envisioned for this potential nationwide process.

### **5.1.1. Council of Environmental Quality**

The Council on Environmental Quality (CEQ) is viewed as the overall governing body associated with the NEPA process. They provide an oversight role but mainly focus their attention on projects that may have a national impact in terms of scope and importance. They are responsible for the review and approval of NEPA regulations other Federal agencies use.

As part of the SCIMMP process, the CEQ would be responsible for preparing cohesive guidance that would apply to NEPA projects nationwide. The guidance would have to describe what entities wishing to draft SCIMMPs would have to include in order to be used for NEPA projects. The guidance could suggest that those wishing to prepare NEPA SCIMMPs should utilize the CEQ's document called *Considering Cumulative Effects* as a supplement. The guidance would also need to specify what types of laws and regulations a SCIMMP would have to include to be used for NEPA analyses such as the Endangered Species Act or Executive Order 12898.

For example, since a temporal review is required for cumulative impacts, then the CEQ would need to describe requirements on what the temporal review should contain. The CEQ would also need to coordinate with States to ensure that the criteria required for NEPA SCIMMPs would not conflict with those related to any SCIMMPs that states might prepare under their state environmental policy acts. For example, if CEQ were creating NEPA SCIMMP requirements, then they should consult with NCDENR officials while preparing the guidance so that no requirement would conflict with SEPA requirements.

The CEQ would also play a vital role in moderating any potential issues that might arise. For example, if a metropolitan area encompassed areas within two states as well as several local government units who could not agree on how to prepare a SCIMMP, then the CEQ could mediate the disputes so that the SCIMMP could be completed in an orderly and efficient manner.

Last, for NEPA projects, the CEQ could work with all other associated agencies, be it State, local, and/or Tribal, to establish a framework under which the MOA for the NEPA SCIMP would be prepared. They would encourage states in which the local governments are located to have MOAs that would allow the SCIMMPs to be used for SCI analysis under the state environmental policy acts. For example, if the Charlotte-Mecklenburg-Rock Hill area, which encompasses portions of both North and South Carolina, prepared a SCIMMP for their metropolitan area, a MOA would have to be signed not only by member municipalities but also by both NCDENR and the South Carolina Department of Environmental Health and Environmental Compliance to show that the SCIMMP would comply with both of their SEPAs.

### **5.1.2. States**

The States would have the responsibility of determining which areas could benefit from the development of a SCIMMP. Areas with rapid growth would be the best candidates for this type of document, as these areas would have a multitude of projects that might require reviews under

their state environmental policy act, as well as NEPA. Small towns with areas of low growth most likely would not benefit by having a SCIMMP. Once these areas are determined, then the states would be responsible for encouraging these fast-growing areas to develop SCIMMPs. The states would also have the responsibility of ensuring that the SCIMMPs contain all laws and regulations that would need to be included for a SCIMMP to be used for SEPA analyses. Once SCIMMPs are completed, the states would need to review the document to ensure that the requirements of the state's environmental policy act are met.

Additionally, if a SCIMMP were to include more than one LGU, the states would need to participate in the development process and moderate any differences that the LGUs might have. They would also need to ensure that differing LGU ordinances would be sufficient for mitigating SCI in the differing jurisdictions.

### ***5.1.3. Local Government Units***

Local government units would be the ones who would actually prepare the NEPA SCIMMP. They would be responsible for hiring the consultants to do the work, overseeing the work, and maintaining quality assurance and control. If the scope of the SCIMMP would cover more than one municipality, then the LGUs would ensure that the document prepared adequately characterizes both the SCI and the mitigative measures needed to control SCI.

## **5.2. Process for Implementation**

The process for implementation of a NEPA SCIMMP program would encompass guidance development, potential locations for NEPA SCIMMP usage, SCIMMP development, and SCIMMP implementation.

### ***5.2.1. Guidance Development***

First, the CEQ would need to create guidance that LGUs could use to create SCIMMPs. The guidance development process should include meetings first with NCDENR officials and the LGUs within North Carolina who have created SCIMMPs. The discussions should focus on the actual process that was used, what the SCIMMPs included, and the experiences of actually implementing the SCIMMPs as part of the SEPA/NEPA process.

With that experience in hand, the CEQ would then determine a set of stakeholders who would be interested in using the SCIMMP process. This determination could be made through a variety of methods that could include surveys, interviews, and working through professional associations. Once stakeholders are identified, then the CEQ should use a working group process to draft the outline of the guidance for NEPA SCIMMPs.

The guidance itself should undergo a public review process via the *Federal Register* where those who could potentially use the SCIMMPs or be impacted by the implementation of a NEPA SCIMMP could provide their input. Public meetings and surveys could also be used to gather information. Provided feedback would then be incorporated into a revised NEPA SCIMMP

guidance document that would be released as a final document for use by LGUs when preparing a SCIMMP.

### ***5.2.2. Potential Locations for SCIMMP Usage***

While the guidance is being drafted, States should collaborate with LGUs within their borders to determine if preparing a NEPA SCIMMP for that area would be useful. The states could identify these areas via public meetings, interviews, and surveys and then set up a timetable as to when, if the LGUs chose to do so, they would begin the NEPA SCIMMP preparation process. Once the final guidance is released, the LGUs would then begin the preparation and review process.

### ***5.2.3. SCIMMP Development and Implementation***

Using the NEPA SCIMMP guidance, the LGUs and their consultants would prepare a NEPA SCIMMP. Preparation would include a MOA, and once satisfied, the CEQ would issue a ROD that would allow for the use of the SCIMMP in the NEPA process. The LGUs would then implement their SCIMMP for the NEPA/SEPA process in their area. At a point in the future (e.g., five years) after the implementation of the NEPA SCIMMP, the CEQ could then ask for a renewal, much like the way NCDENR does, as well as a review to determine the effectiveness of the SCIMMP. Pending on the results of the review, the CEQ could make recommendations on how to modify the SCIMMP, or, if it does not appear to be working, to discontinue the SCIMMP.

## **5.3. Challenges in Using NEPA Secondary and Cumulative Impact Master Mitigation Plans**

As with the implementation of any large-scale shift in environmental documentation, challenges exist. The difficulties related to the development and use of NEPA SCIMMPs include (1) the need for data collection, (2) coordination between government entities, and (3) coordination between Federal, state, local, and tribal agencies. This section discusses these challenges and suggests ways in which they could be overcome.

### ***5.3.1. Data Collection***

One of the biggest difficulties in preparing an environmental document that characterizes impacts on a large scale is collecting the data needed to provide an overall picture not only of the current conditions in a municipality limits but also the potential impacts that could occur over a widespread area. Fortunately, much data are now available via GIS. Other data, such as verification of wetland locations, land use, and T&E species might have to be collected via fieldwork. Depending upon the scope of impacts for the SCIMMP, this could require additional time and money.

To minimize the costs, LGUs should carefully consider what resources would require fieldwork. Once the decision is made, then ground-truthing could be used to determine if the data available on current mapping is accurate. If not, then the LGU would target that specific resource for

fieldwork. If the ground truthing showed that the available mapping was accurate, then the municipality could consider it accurate and devote resources to where fieldwork is truly needed.

Another issue associated with data collection is determining historical trends related to the area under investigation. Traditionally, aerial photography was completed only for individual projects, so only a patchwork of photography may exist for an area that covers the needed amount of years. For a large metropolitan area encompassing several smaller municipalities, this may be a tremendous challenge. The SCIMMP preparers may need to tap into additional sources beyond aerial photography such as old land use plans, older satellite imagery, and local records to ascertain the historical characteristics of the area.

### ***5.3.2. Coordination between Government Entities***

Many times, friction may exist between the Federal, State, local, and Tribal governments involved in the development of the NEPA SCIMMP. For example, a large piece of Federal property may exist close to a LGU, and the LGU may feel as if the Federal government is trying to dictate the LGU's local land use planning. This friction may create, at best, a simple lack of cooperation, and, at worst, may derail the development of a NEPA SCIMMP.

In the development of a NEPA SCIMMP, a working group should be used to bring together all parties, including representatives of the Federal, state, local, and tribal governments involved. The mission of the work group should be to develop a NEPA SCIMMP that would clearly and concisely show the current situation and potential impacts related to projects that would be taking place in that area. Members of the work group should put aside any local issues that may exist..

### ***5.3.3. Cooperation between Agencies***

Additionally, different agencies have different missions, which may create conflicts when discussing impacts related to different activities in an area that might utilize a NEPA SCIMMP. For example, one agency might have the mission to encourage the development of a particular industry that impacts the environment while another agency might have the mission to protect that particular part of the environment. These two missions would conflict, which would create friction when discussing the potential SCI in an area. These conflicts could also create a lack of trust.

The best place to resolve these issues would be the work group atmosphere. This group should develop a clear mission statement and a set of ground rules. While working to develop the SCIMMP, they should frequently refer back to the mission statement and adhere to the ground rules to accomplish their mission.

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