

# Program Change Request

Date Submitted: 04/09/18 10:32 am

Viewing: **SC-BS-EVSC : Environmental Science, BS**

Last approved: 03/26/18 12:13 pm

Last edit: 04/09/18 10:31 am

Changes proposed by: jbazaz

Catalog Pages

Using this Program

Environmental Science, BS

## In Workflow

1. **ESP Chair**
2. **SC Curriculum Committee**
3. SC Associate Dean
4. SC CAT Editor
5. Assoc Provost-Undergraduate
6. Registrar-Programs

## Approval Path

1. 04/09/18 11:00 am  
A. Alonso Aguirre (aaguirr3):  
Approved for ESP Chair

## History

1. Nov 1, 2017 by clmig-jwehrheim
2. Mar 1, 2018 by Jennifer Bazaz Gettys (jbazaz)
3. Mar 13, 2018 by Jennifer Bazaz Gettys (jbazaz)
4. Mar 26, 2018 by Rebekah Zacharias (rzachari)

Are you completing this form on someone else's behalf?

Yes

Requestor:

Name	Extension	Email
Younsung Kim	5165	ykih@gmu.edu

Effective Catalog: 2019-2020

**Program Level:** Undergraduate

**Program Type:** Bachelor's

**Degree Type:** Bachelor of Science

**Title:** Environmental Science, BS

**Is this a retitling of Registrar/OAPI Use Only – SCHEV Status** Approved

**Registrar's Office Use Only – Program Start Term** Fall 2018

**Registrar/OAPI Use Only – SCHEV Letter**

**Concentration(s):**

	Associated Concentrations	Registrar's Office Use Only: Concentration Code
1	Conservation	CNSV
2	Ecological Science	ESCI
3	Environmental Health	EVHL
4	Human and Ecosystem Response to Climate Change	HERC
5	Marine, Estuarine and Freshwater Ecology	MEFC
6	Wildlife	WILD

**Registrar/IRR Use Only – Concentration CIP Code**

**College/School:** College of Science

**Department / Academic Unit:** Environmental Science & Policy

**Jointly Owned Program?** No

**Justification**

**Adding elective course options to the Conservation Concentration. Students in this concentration tend to take CONS 400, 405, 406, and 496 when they take courses at SMSC,**

this will eliminate the need for them to request that the courses be counted toward the degree. ~~Added Smithsonian hyperlinks. Added periods.~~

**Total Credits Required:** Total credits: minimum 120

**Registrar's Office Use Only - Program Code:**  
SC-BS-EVSC

**Registrar/IRR Use Only – Program CIP Code**

**Admission Requirements:**

## Admissions

University-wide admissions policies can be found in the [Undergraduate Admissions Policies](#) section of this catalog.

To apply for this program, please complete the [George Mason University Admissions Application](#).

**Program-Specific Policies:**

## Policies

Students must fulfill all [Requirements for Bachelor's Degrees](#), including the [Mason Core](#).

Students can fulfill the writing intensive requirement for this major by taking [EVPP 337](#) Environmental Policy Making in Developing Countries.

For policies governing all undergraduate programs, see [AP.5 Undergraduate Policies](#).

**Degree Requirements:**

This is a Green Leaf program.

Students should refer to the [Admissions & Policies](#) tab for specific policies related to this program.

### Core Requirements

All students complete the following core courses:

**Environmental Science**

Course List

Code	Title	Credits
<a href="#">EVPP 210</a>	Environmental Biology: Molecules and Cells	4

Code	Title	Credits
<a href="#"><u>EVPP 301</u></a>	Environmental Science: Biological Diversity and Ecosystems	4
<a href="#"><u>EVPP 302</u></a>	Environmental Science: Biomes and Human Dimensions	4
<a href="#"><u>EVPP 305</u></a>	Environmental Microbiology Essentials	3
<a href="#"><u>EVPP 306</u></a>	Environmental Microbiology Essentials Laboratory	1
<a href="#"><u>EVPP 337</u></a>	Environmental Policy Making in Developing Countries 1	3
<a href="#"><u>EVPP 361</u></a>	Introduction to Environmental Policy	3
<a href="#"><u>EVPP 377</u></a>	Applied Ecology	3
<a href="#"><u>EVPP 430</u></a>	Fundamentals of Environmental Geographic Information Systems	3
<a href="#"><u>BIOL 214</u></a>	Biostatistics for Biology Majors	4
Select one from the following:		3
<a href="#"><u>EVPP 336</u></a>	Human Dimensions of the Environment	
<a href="#"><u>EVPP 338</u></a>	Economics of Environmental Policy	
<a href="#"><u>EVPP 362</u></a>	Intermediate Environmental Policy	
<a href="#"><u>EVPP 475</u></a>	Global Biodiversity Governance	
Select one from the following:		3-4
<a href="#"><u>EVPP 378</u></a>	RS: Ecological Sustainability ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>EVPP 401</u></a>	Integrated Environmental Assessment	
<a href="#"><u>EVPP 480</u></a>	Sustainability in Action ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>CONS 490</u></a>	RS: Integrated Conservation Strategies ( <a href="#"><u>Mason Core</u></a> ) 2	
Total Credits		38-39
1 Fulfills the writing intensive requirement.		
2 Only offered through the <a href="#"><u>Smithsonian-Mason Semester</u></a> .		

## Chemistry

Course List		
Code	Title	Credits
<a href="#"><u>CHEM 211</u></a>	General Chemistry I ( <a href="#"><u>Mason Core</u></a> )	3
<a href="#"><u>CHEM 213</u></a>	General Chemistry Laboratory I ( <a href="#"><u>Mason Core</u></a> )	1
<a href="#"><u>CHEM 212</u></a>	General Chemistry II ( <a href="#"><u>Mason Core</u></a> )	3
<a href="#"><u>CHEM 214</u></a>	General Chemistry Laboratory II ( <a href="#"><u>Mason Core</u></a> )	1
Total Credits		8

## Mathematics

Course List		
Code	Title	Credits
Select two from the following:		
<a href="#"><u>MATH 111</u></a>	Linear Mathematical Modeling ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>MATH 113</u></a>	Analytic Geometry and Calculus I ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>MATH 114</u></a>	Analytic Geometry and Calculus II	
Total Credits		7-8

## Geology

Course List		
Code	Title	Credits
<a href="#"><u>GEOL 102</u></a>	Introductory Geology II ( <a href="#"><u>Mason Core</u></a> )	4
Total Credits		4

### Information Technology

Course List		
Code	Title	Credits
<a href="#"><u>CDS 130</u></a>	Computing for Scientists ( <a href="#"><u>Mason Core</u></a> )	3
Total Credits		3

## Concentration in Conservation (CNSV)

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Course List		
Code	Title	Credits
Select 21 credits from the following:		21
<a href="#"><u>EVPP 318</u></a>	Conservation Biology	
<a href="#"><u>EVPP 378</u></a>	RS: Ecological Sustainability ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>EVPP 395</u></a>	Undergraduate Research in Environmental Science and Policy 1	
<a href="#"><u>EVPP 396</u></a>	Directed Topic in Environmental Science and Policy 1	
<a href="#"><u>EVPP 419</u></a>	Marine Mammal Biology and Conservation	
<a href="#"><u>EVPP 420</u></a>	Marine Mammal Biology and Conservation Field Course	
<a href="#"><u>EVPP 421</u></a>	Marine Conservation	
<a href="#"><u>EVPP 427</u></a>	Disease Ecology and Conservation	
<a href="#"><u>EVPP 440</u></a>	Field Environmental Science 1	
<a href="#"><u>EVPP 475</u></a>	Global Biodiversity Governance	
<a href="#"><u>EVPP 490</u></a>	Special Topics in Environmental Science and Policy 1	
<a href="#"><u>EVPP 494</u></a>	Internship 1	
<a href="#"><u>BIOL 310</u></a>	Biodiversity	
& <a href="#"><u>BIOL 330</u></a> and Biodiversity Lab and Recitation		
<a href="#"><u>BIOL 435</u></a>	Selected Topics in Biology 1	
<a href="#"><u>GGS 303</u></a>	Geography of Resource Conservation ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>GGS 307</u></a>	Sustainable Development	
<a href="#"><u>CONS 320</u></a>	Conservation in Practice 2	
<a href="#"><u>CONS 400</u></a>	<b>Conservation Seminar</b>	
<a href="#"><u>CONS 401</u></a>	Conservation Theory 2	
<a href="#"><u>CONS 402</u></a>	Applied Conservation 2	
<a href="#"><u>CONS 403</u></a>	Ecology and Conservation Theory 2	
<a href="#"><u>CONS 404</u></a>	Biodiversity Monitoring 2	
<a href="#"><u>CONS 405</u></a>	<b>Landscape and Macrosystems Ecology</b>	
<a href="#"><u>CONS 406</u></a>	<b>Small Population Management</b>	

Code	Title	Credits
<a href="#"><u>CONS 410</u></a>	Human Dimensions in Conservation ( <a href="#"><u>Mason Core</u></a> ) 2	
<a href="#"><u>CONS 411</u></a>	Science Communication for Conservation 2	
<a href="#"><u>CONS 490</u></a>	RS: Integrated Conservation Strategies ( <a href="#"><u>Mason Core</u></a> ) (Synthesis course) 2	
<a href="#"><u>CONS 491</u></a>	RS: Conservation Management Planning ( <a href="#"><u>Mason Core</u></a> ) 2	
<a href="#"><u>CONS 496</u></a>	<b><a href="#"><u>Research in Conservation (Mason Core)</u></a></b>	
<a href="#"><u>CONS 497</u></a>	Special Topics in Conservation 2	
<a href="#"><u>CONS 498</u></a>	Internship	
<a href="#"><u>CONS 499</u></a>	Independent Study/Research	
<a href="#"><u>INTS 311</u></a>	The Mysteries of Migration: Consequences for Conservation ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>PRLS 300</u></a>	People with Nature	
<a href="#"><u>PRLS 402</u></a>	Human Behavior in Natural Environments	

Alternative courses may be taken as approved by the program coordinator.

Total Credits 21

1 In a relevant topic.

2 Only offered through the [Smithsonian-Mason Semester](#).

## Concentration in Ecological Science (ECSE)

Course List		Credits
Code	Title	
Select 21 credits from the following:		21
<a href="#"><u>EVPP 309</u></a>	Introduction to Oceanography	
<a href="#"><u>EVPP 350</u></a>	Freshwater Ecosystems	
<a href="#"><u>EVPP 355</u></a>	Ecological Engineering and Ecosystem Restoration	
<a href="#"><u>EVPP 378</u></a>	RS: Ecological Sustainability ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>EVPP 395</u></a>	Undergraduate Research in Environmental Science and Policy 1	
<a href="#"><u>EVPP 396</u></a>	Directed Topic in Environmental Science and Policy 1	
<a href="#"><u>EVPP 408</u></a>	Mushrooms, Molds and Society	
<a href="#"><u>EVPP 427</u></a>	Disease Ecology and Conservation	
<a href="#"><u>EVPP 440</u></a>	Field Environmental Science 1	
<a href="#"><u>EVPP 449</u></a>	Marine Ecology	
<a href="#"><u>EVPP 490</u></a>	Special Topics in Environmental Science and Policy 1	
<a href="#"><u>EVPP 494</u></a>	Internship 1	
<a href="#"><u>BIOL 310</u></a>	Biodiversity	
& <a href="#"><u>BIOL 330</u></a>	and Biodiversity Lab and Recitation	
<a href="#"><u>BIOL 345</u></a>	Plant Ecology	
<a href="#"><u>BIOL 435</u></a>	Selected Topics in Biology 1	
<a href="#"><u>BIOL 459</u></a>	Fungi and Ecosystems	
<a href="#"><u>GEOL 305</u></a>	Environmental Geology	

Code	Title	Credits
<a href="#"><u>GEOL 306</u></a>	Soil Science	
<a href="#"><u>GGS 307</u></a>	Sustainable Development	
Alternative courses may be taken as approved by the program coordinator.		
Total Credits		21
1	In a relevant topic.	

## Concentration in Environmental Health (EVHL)

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Course List		
Code	Title	Credits
Required Courses		
<a href="#"><u>EVPP 427</u></a>	Disease Ecology and Conservation	3
<a href="#"><u>EVPP 445</u></a>	Principles of Environmental Toxicology	3
Select 15 credits from the following:		15
<a href="#"><u>EVPP 395</u></a>	Undergraduate Research in Environmental Science and Policy 1	
<a href="#"><u>EVPP 396</u></a>	Directed Topic in Environmental Science and Policy 1	
<a href="#"><u>EVPP 409</u></a>	Medical Mycology	
<a href="#"><u>EVPP 440</u></a>	Field Environmental Science 1	
<a href="#"><u>EVPP 490</u></a>	Special Topics in Environmental Science and Policy 1	
<a href="#"><u>EVPP 494</u></a>	Internship 1	
<a href="#"><u>EVPP 515</u></a>	Molecular Environmental Biology I	
<a href="#"><u>BIOL 305</u></a>	Biology of Microorganisms	
& <a href="#"><u>BIOL 306</u></a>	and Biology of Microorganisms Laboratory	
<a href="#"><u>BIOL 402</u></a>	Applied and Industrial Microbiology	
<a href="#"><u>BIOL 404</u></a>	Medical Microbiology	
<a href="#"><u>BIOL 465</u></a>	Histology	
<a href="#"><u>GGS 302</u></a>	Global Environmental Hazards	
<a href="#"><u>GGS 304</u></a>	Population Geography ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>GGS 307</u></a>	Sustainable Development	
<a href="#"><u>GGS 319</u></a>	Air Pollution	
<a href="#"><u>GGS 322</u></a>	Issues in Global Change	
<a href="#"><u>GCH 205</u></a>	Global Health ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>GCH 360</u></a>	Health and Environment	
<a href="#"><u>GCH 560</u></a>	Environmental Health	
Alternative courses may be taken as approved by the program coordinator.		
Total Credits		21
1	In a relevant topic.	

# Concentration in Human and Ecosystem Response to Climate Change (HERC)

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## Course List

Code	Title	Credits
Required Course		
<a href="#"><u>EVPP 336</u></a>	Human Dimensions of the Environment	3
Select 18 credits from the following:		18
<a href="#"><u>EVPP 309</u></a>	Introduction to Oceanography	
<a href="#"><u>EVPP 355</u></a>	Ecological Engineering and Ecosystem Restoration	
<a href="#"><u>EVPP 378</u></a>	RS: Ecological Sustainability ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>EVPP 395</u></a>	Undergraduate Research in Environmental Science and Policy 1	
<a href="#"><u>EVPP 396</u></a>	Directed Topic in Environmental Science and Policy	
<a href="#"><u>EVPP 427</u></a>	Disease Ecology and Conservation	
<a href="#"><u>EVPP 432</u></a>	Energy Policy	
<a href="#"><u>EVPP 436</u></a>	The Human Dimensions of Global Climate Change	
<a href="#"><u>EVPP 440</u></a>	Field Environmental Science	
<a href="#"><u>EVPP 475</u></a>	Global Biodiversity Governance	
<a href="#"><u>EVPP 490</u></a>	Special Topics in Environmental Science and Policy	
<a href="#"><u>EVPP 494</u></a>	Internship	
<a href="#"><u>CLIM 101</u></a>	Global Warming: Weather, Climate, and Society ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>CLIM 111</u></a>	Introduction to the Fundamentals of Atmospheric Science ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>CLIM 112</u></a>	Introduction to the Fundamentals of Atmospheric Science Lab ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>CLIM 312</u></a>	Physical Climatology	
<a href="#"><u>CLIM 314</u></a>	Severe and Extreme Weather	
<a href="#"><u>CLIM 319</u></a>	Air Pollution	
<a href="#"><u>CLIM 412</u></a>	Physical Oceanography	
<a href="#"><u>CLIM 438</u></a>	Atmospheric Chemistry	
<a href="#"><u>GEOL 309</u></a>	Introduction to Oceanography	
<a href="#"><u>GGS 121</u></a>	Dynamic Atmosphere and Hydrosphere ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>GGS 302</u></a>	Global Environmental Hazards	
<a href="#"><u>GGS 304</u></a>	Population Geography ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>GGS 307</u></a>	Sustainable Development	
<a href="#"><u>GGS 309</u></a>	Meteorology and Climate	
<a href="#"><u>GGS 312</u></a>	Physical Climatology	
<a href="#"><u>GGS 314</u></a>	Severe and Extreme Weather	
<a href="#"><u>GGS 319</u></a>	Air Pollution	
<a href="#"><u>GGS 321</u></a>	Biogeography	
<a href="#"><u>GGS 322</u></a>	Issues in Global Change	



Code	Title	Credits
<a href="#"><u>GGS 354</u></a>	Data Analysis and Global Change Detection Techniques	
<a href="#"><u>GGS 456</u></a>	Introduction to Atmospheric Radiation	
Alternative courses may be taken as approved by the program coordinator.		
Total Credits		21
1	In a relevant topic.	

## **Concentration in Marine, Estuarine and Freshwater Ecology (MEFC)**

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Course List		
Code	Title	Credits
Required Courses		
<a href="#"><u>EVPP 309</u></a>	Introduction to Oceanography	3
<a href="#"><u>EVPP 350</u></a>	Freshwater Ecosystems	4
<a href="#"><u>EVPP 421</u></a>	Marine Conservation	3
<a href="#"><u>EVPP 449</u></a>	Marine Ecology	3
Select 8 credits from the following:		8
<a href="#"><u>EVPP 318</u></a>	Conservation Biology	
<a href="#"><u>EVPP 363</u></a>	Coastal Morphology and Processes	
<a href="#"><u>EVPP 380</u></a>	Wetlands of the World	
<a href="#"><u>EVPP 395</u></a>	Undergraduate Research in Environmental Science and Policy 1	
<a href="#"><u>EVPP 396</u></a>	Directed Topic in Environmental Science and Policy 1	
<a href="#"><u>EVPP 419</u></a>	Marine Mammal Biology and Conservation	
<a href="#"><u>EVPP 420</u></a>	Marine Mammal Biology and Conservation Field Course	
<a href="#"><u>EVPP 427</u></a>	Disease Ecology and Conservation	
<a href="#"><u>EVPP 440</u></a>	Field Environmental Science 1	
<a href="#"><u>EVPP 490</u></a>	Special Topics in Environmental Science and Policy 1	
<a href="#"><u>EVPP 494</u></a>	Internship 1	
<a href="#"><u>BIOL 331</u></a>	Invertebrate Zoology	
<a href="#"><u>BIOL 480</u></a>	The Diversity of Fishes	
<a href="#"><u>GEOL 364</u></a>	Marine Geology	
<a href="#"><u>GEOL 458</u></a>	Chemical Oceanography	
<a href="#"><u>GGS 307</u></a>	Sustainable Development	
<a href="#"><u>CLIM 412</u></a>	Physical Oceanography	
<a href="#"><u>INTS 318</u></a>	Exploring Virginia's Watersheds	
Alternative courses may be taken as approved by the program coordinator.		
Total Credits		21
1	In a relevant topic.	

## **Concentration in Wildlife (WILD)**

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## Course List

Code	Title	Credits
Wildlife Courses		9-10
<a href="#"><u>EVPP 318</u></a>	Conservation Biology (Required Courses)	3
<a href="#"><u>BIOL 460</u></a>	Infectious Diseases Wildlife	3
Choose one course from the following:		
<a href="#"><u>EVPP 395</u></a>	Undergraduate Research in Environmental Science and Policy 1	
<a href="#"><u>EVPP 396</u></a>	Directed Topic in Environmental Science and Policy 1	
<a href="#"><u>EVPP 419</u></a>	Marine Mammal Biology and Conservation	
<a href="#"><u>EVPP 494</u></a>	Internship 1	
<a href="#"><u>BIOL 437</u></a>	Orinthology	
<a href="#"><u>BIOL 438</u></a>	Mammalogy	
<a href="#"><u>BIOL 439</u></a>	Herpetology	
Zoology Courses		3-4
Choose one course from the following:		
<a href="#"><u>EVPP 395</u></a>	Undergraduate Research in Environmental Science and Policy 2	
<a href="#"><u>EVPP 396</u></a>	Directed Topic in Environmental Science and Policy 2	
<a href="#"><u>EVPP 427</u></a>	Disease Ecology and Conservation	
<a href="#"><u>EVPP 494</u></a>	Internship 2	
<a href="#"><u>BIOL 311</u></a>	General Genetics	
<a href="#"><u>BIOL 331</u></a>	Invertebrate Zoology	
<a href="#"><u>BIOL 332</u></a>	Insect Biology	
Botany Courses		9-12
Choose from the following courses:		
<a href="#"><u>EVPP 395</u></a>	Undergraduate Research in Environmental Science and Policy 3	
<a href="#"><u>EVPP 396</u></a>	Directed Topic in Environmental Science and Policy 3	
<a href="#"><u>EVPP 494</u></a>	Internship 3	
<a href="#"><u>BIOL 140</u></a>	Plants and People ( <a href="#"><u>Mason Core</u></a> )	
<a href="#"><u>BIOL 304</u></a>	Plant Biology	
<a href="#"><u>BIOL 344</u></a>	Plant Diversity and Evolution	
<a href="#"><u>BIOL 345</u></a>	Plant Ecology	
<a href="#"><u>INTS 402</u></a>	Plants and People - Sustenance, Ceremony, and Sustainability	
Total Credits		21-26
1	In a topic relevant to wildlife.	
2	In a topic relevant to zoology.	
3	In a topic relevant to botany.	

### Plan of Study:

Honors  
Information:

### Additional Program Information

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*This information is required by the Office of Accreditation and Program Integrity.*

**Courses offered via  
distance (if  
applicable):**

**What is the  
primary delivery  
format for the  
program?**

Face-to-Face Only

**Does any portion of this program occur off-campus?**

Yes

**Off-campus details:**

If students choose to take courses as a part of the Mason-Smithsonian semester.

**Are you working with a vendor / other collaborators to offer your program?**

No

**Related  
Departments**

**Could this program prepare students for any type of professional licensure, in  
Virginia or elsewhere?**

No

**Are you adding or removing a licensure component?**

No

### Additional SCHEV & SACSCOC Information

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**Are you changing the total number of credits required for this program?**

**Are you changing the delivery format in any way (e.g adding an online option)?**

**Are you adding/removing a licensure option which was approved by SCHEV?**

Will any portion of this program be offered at an off-campus location?

Are you adding significant new content areas to the program?

Will this program change affect any specialized accreditation?

### Green Leaf Program Designation

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Is this a Green Leaf program? Yes

Green Leaf Designation Sustainability-focused designation

Sustainability-focused academic programs require at least one green leaf course. Either that course is itself sustainability-focused or else the program requires a set of sustainability-related courses with aggregated substance equivalent to a sustainability-focused course.

Relationship to Existing Courses

Relationship to Existing Programs

List sustainability-focused courses currently required in the degree program:

List sustainability-

Does this program cover material which crosses into another department?

No

Additional Attachments

[BS-Environmental-Science-Wildlife.pdf](#)

SCHEV Proposal

**Executive  
Summary**

**Reviewer  
Comments**

**Additional  
Comments**