

# Cumulative Effects Assessment E-Learning Course Brochure



Cumulative effects assessment (CEA) is becoming an increasingly important issue in both the national and international practice of environmental impact assessment (EIA). This increased attention, particularly within the last decade, has heightened the need for practice-oriented CEA training which is based on scientific principles and sound logic regarding policies and their implications, particularly regarding the development of cooperative programs to mitigate undesirable cumulative effects.



**Target Audience:** This e-learning training course is designed for practitioners who need information on how to do Cumulative Effects Assessment.

**Course Length:** Approximately 10 – 12 hours. The course includes five modules and the modules are sub-divided into 5 to 10 minute segments to allow for breaks as needed. Each module includes video instruction, interactive exercises and reading materials in the course manual.

## Course Costs:

1 Course CD set, 1 Student Manual and 1 Reference CD	<b>\$1375 if you buy before June 1<sup>st</sup>!</b> \$1475 after June 1st
1 Student manuals and 1 Reference CDs for each additional student	\$150

## What's Included:

- **Just in Time Training:** The e-learning course utilizes self-paced, interactive CDs which allows students to complete the training at their convenience and at their pace.
- **Cost Effective and Feasible Training:** Computer-based training eliminates training obstacles such as travel costs and last-minute work conflicts.
- **Video and Interactive Features:** These CDs utilize full-motion video of instructors teaching, along with synchronized bullet points. Students will feel as if they are getting a one-on-one teaching seminar. They can move forward or backwards within the course, create bookmarks and repeat any or all segments. In addition, students will be able to interact with the course, answering review questions after segments.
- **Online Student Collaboration:** Each student will be able to access EIT's community forum and discuss the course. The forum is also a great way to network with other EIA professionals.
- **Student Manual and Reference CD:** The course includes a student manual which is utilized throughout the interactive CDs. The manual contains case studies, reading materials and exercises, along with opportunities to take notes. In addition, a Cumulative Effects Reference CD is provided which includes fundamental guidance documents, information on methods, tools and web links.
- **Continual Training Resource:** Many EIA professionals' work is project-based, so video segments in this course might be more applicable at different times. Even after completing the course, students can revisit sections with new projects in mind.
- **Experienced Instruction:** Each course is designed by Dr. Larry Canter, lead instructor and Principal, who has 33 years teaching experience at a graduate university. He has taught over 130 public and onsite professional-level EIA-related courses.
- **Continuing Education Credit** – Earn hours towards professional development requirements.

## Course Themes:

- Principles, Processes, and Documentation
- Addressing Past, Present, and Reasonably Foreseeable Future Actions
- Special Considerations Related to Describing the Affected Environment
- Connecting Actions with Consequences on Valued Environmental Components (VECs)
- Mitigation, Monitoring, and Collaborative Management

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## Course Overview:

Module 1 is focused on various definitions and processes related to cumulative effects (impacts) and their assessment. Further, suggestions are included on pertinent topics which should be addressed in the documentation of the findings of a CEA study. These themes are presented in three segments. The first segment is directed toward the importance of CEA, relevant definitions, and the development of a fundamental understanding of basic CEA concepts and principles. The second segment is structured around an 11-step process for CEA as promulgated by the Council on Environmental Quality in the USA. The final segment highlights various topics which should be addressed in documenting the findings of a CEA study within the overall EIA process. Further, emphasis is given to various placement options within environmental impact statements (EISs) and to communication challenges related to CEA.

Module 2 highlights the identification and analysis of the contributions of other actions to effects on environmental features which are also anticipated to be changed by the proposed action. Such other actions are typically categorized by time into past, present, and reasonably foreseeable future actions (RFFAs). As a result, Module 2 is related to Steps 1 through 4, and particularly Step 4, of the Council on Environmental Quality's (CEQ's) 11-step CEA process. The information is presented in three segments. The first segment is focused on the need to address other actions, some cautions and practicalities related to their identification, and pertinent information sources. The second segment includes a description of a systematic process which can be used to identify and screen RFFAs for inclusion in a CEA study. The final segment includes information on range of approaches used for addressing RFFAs in six case studies. The studies range from simple site-specific situations to a complex regional-scale example.

Describing the affected environment for potentially impacted resources, ecosystems, and human communities can be challenging within a CEA study. Accordingly, Module 3 emphasizes several special challenges, including temporal and spatial considerations, using conceptual models, the selection and use of indicators, delineating historical reference points and trends, and determining the significance of historical and current conditions relative to sustainability. Regarding the Council on Environmental Quality's (CEQ's) 11-step CEA process, Module 3 includes information related to Steps 2, 3, and 5 - 7. The information is presented in three segments. The first segment contains contextual information followed by a discussion of factors to consider in establishing the spatial and temporal scope of the CEA study. Steps 5 - 7 of the CEQ's process are the subject of the second segment. An example of a conceptual model for understanding freshwater mussels is included, along with information on the selection and use of indicators and environmental indices, and describing "baseline" conditions. Further, examples of information sources are mentioned. The final segment is related to determining the significance of cumulative effects for historical, current, and potential future conditions.

Module 4 summarizes various methods which can be used to both identify potential cumulative effects from multiple actions, as well as to quantify (or qualitatively address) the contributions of various actions on VECs. These topics represent the primary focus of Steps 8 and 9 in the Council on Environmental Quality's (CEQ's) 11-step CEA process. Three segments are included in Module 4. The first segment provides an overview of a variety of types of methods, and then addresses the use of questionnaire checklists, matrices, and networks for the identifying cumulative effects of multiple actions. Suggestions are also included as to how to adapt existing methods for such purposes, and how to develop new checklists, matrices, or networks. The second segment has a case study on how matrices were developed and utilized to address the cumulative effects of military training activities, other land uses, and infrastructure projects in southwestern Arizona on the endangered Sonoran pronghorn. The final segment reviews examples of specific prediction methods and their actual usage in CEA studies.

The focus of Module 5 is related to management opportunities for identified cumulative effects. To be successful, such opportunities must be planned in consonance with the institutional responsibilities and authorities of the proponent agency and other pertinent agencies. Collaborative efforts should be utilized. Further, "follow-on" tools such as adaptive management (AM) and monitoring could be used. Accordingly, Module 5 is primarily related to Steps 10 and 11 of the Council on Environmental Quality's (CEQ's) 11-step CEA process. The topical themes are addressed in three segments. The first segment highlights proponent agency mitigation responsibilities, and includes several examples. The second segment provides an overview of the concepts of AM as applied to the EIA process. It also delineates six key elements of AM as well as the inferences associated therewith. The second segment also addresses planning and implementation considerations related to environmental monitoring (one of the six elements). Finally, the third segment emphasizes the benefits and challenges associated with collaborative management, and a case study is included.