

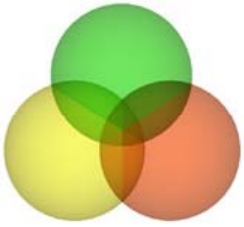
**IAIA Assessing and Managing Cumulative  
Environmental Effects  
Calgary, November 6-9, 2008**

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# **Making Cumulative Effects Assessment Faster and Easier**

Robert (Robin) Senner  
Northwest Regional Technical Practice Leader  
for Environmental Planning and Documentation

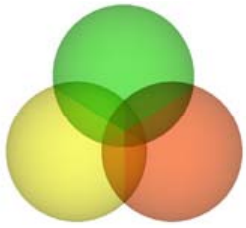




# Presentation Outline

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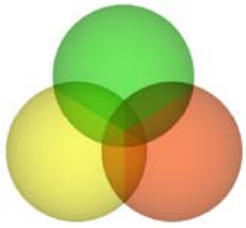
- Definitions of “faster” and “easier” (and “VEC”)
- Understanding the CEQ Handbook
- Scoping for CEA
- RFFA Identification and Display
- Affected Environment Organization
- Environmental Consequences Organization



# Definitions

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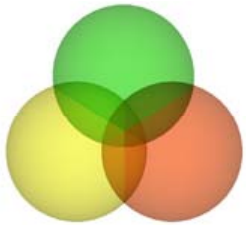
- ***Faster*** means not having to reinvent the wheel, so that you can spend your time on substantive analysis rather than figuring out the process.
- ***Easier*** means already knowing and focusing on defined impact pathways and mechanisms relevant to your VEC.
- ***VEC*** means *valued ecological or environmental component* (Beanlands and Duinker 1983).



# The CEQ Handbook

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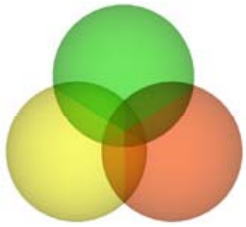
- **Read the January 1997 CEQ Handbook on CEA.**
- **If you wish, re-arrange the first 9 steps in a logical order that works best for you.**
- **Note that some of the early steps will be completed during preparation of the Affected Environment and Direct and Indirect Effects sections.**
- **The CEQ Handbook was written primarily by biologists and reflects some of the assumptions of that disciplinary framework.**



# The CEQ Handbook (continued)

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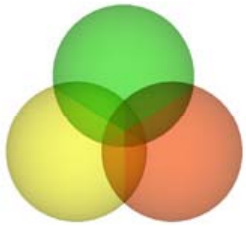
- If you are a physical, cultural, or social scientist, you will have to define each VEC and characterize its baseline condition in ways that depart from most examples in the CEQ Handbook.
- CEA starts with, and focuses on, the **VEC** – not the project. The Affected Environment description and impact assessments for each VEC must be prepared by a specialist on that VEC. The same person who conducts the direct and indirect assessments for a VEC should do the CEA for that VEC.
- This means that the CEAs will be performed and written by a **team** of specialists, not by one generalist. Budget accordingly.



## Scoping for CEA

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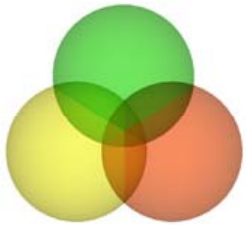
- **Start from an informed place so that you can ask informed questions.**
- **Ask agency representatives, stakeholders, and members of the public “What are your concerns about this project?”**
- **Ask agency and private-sector representatives to identify as many reasonably foreseeable future actions as they can, even if the details are sketchy.**



## Scoping for CEA (continued)

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- During public scoping meetings, **schedule a time for cumulative effects on the agenda**. Explain what cumulative effects are. **Ask** the public if there are cumulative effects they are concerned about. This will help you to (1) identify potential cumulative effects in advance and (2) prioritize them as issues of concern.
- Remember: to be **sustainable**, a project has to be **supported by the people it affects over time**. Long-term cumulative effects have a strong relationship to sustainability.
- Immediately following the agency and public scoping meetings, document your findings re: CEs and RFFAs.

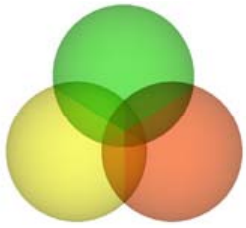


# RFFA Identification and Display

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- **RFFA identification is a big job that will require roughly 40 hours or more of focused effort to complete responsibly.**
- **Following scoping, interview agency and private-sector people involved in approving or sponsoring each RFFA.**
- **For each RFFA, obtain the following information:**
  - **Official name**
  - **Location**
  - **Sponsoring entity**
  - **Purpose as officially described by the sponsor**
  - **Construction start date and time frame**

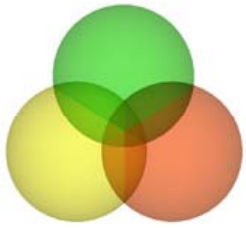




## **RFFA Identification and Display (continued)**

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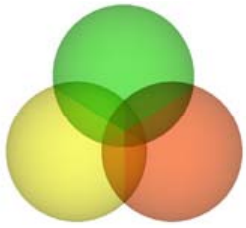
- **Prepare a base map with the RFFAs overlaid and numbered.**
- **Prepare a table with the numbered RFFAs as rows and the five items of information as columns.**
- **Make these into two exhibits on facing pages, so that the reader can compare the mapped location and tabulated information for each RFFA.**
- **These two exhibits should appear in the CEA methodology section at the beginning of the Environmental Consequences chapter.**



# Affected Environment Organization

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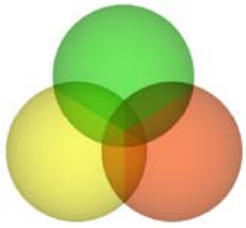
- **The Affected Environment chapter can have an Introduction that includes a concise historical overview of the project vicinity and surrounding region.**
- **The historical overview should summarize the history of the region since it began to be modified by humans, touching briefly on major events or changes that have affected the region, but avoiding detail per CEQ guidance (Connaughton memorandum of June 2005).**
- **The Cultural Resources specialist is often the appropriate person to prepare the historical overview.**



## Affected Environment Organization (continued)

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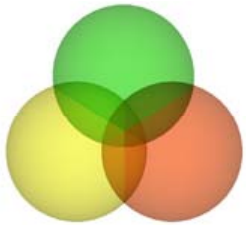
- The historical summary serves as a common basis for all of the specialists to reference as they prepare their VEC-specific baseline characterizations, saving time and space.
- Following the Introduction with its historical summary, the specialists prepare individual brief Affected Environment sections specific to their VECs.
- Each of these sections should:
  - Characterize the **baseline** (present-day) condition of the VEC.
  - Explain **how** the baseline condition came to be in its present shape, summarizing key **past actions** and **trends** that have shaped it.
  - Identify environmental **stressors** to which the VEC is vulnerable, based on the documented effects of the preceding past actions and trends.



# Environmental Consequences Organization

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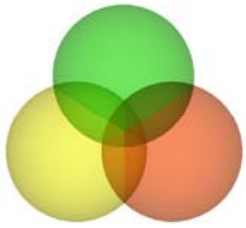
- **Following the Introduction, prepare a Methods section that defines direct, indirect, and cumulative effects and explains the general methodology used for each.**
- **In the CEA subsection of this Methods section, provide a clear description of the 11 CEQ Handbook steps and explain any difference in their sequence as applied here.**
- **In the CEA subsection, also include the RFFA table and map on facing pages, to be referenced by the VEC-specific CEA sections that will follow later in the chapter.**



# Environmental Consequences Organization (continued)

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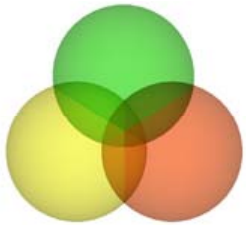
- In the Methods section, explain that each of the impact assessments—direct, indirect, and cumulative—identifies **impact mechanisms or pathways** by which the alternative(s) act as stressors on the vulnerable features of the VEC identified in the Affected Environment chapter.
- Typically, but not necessarily, these stressors and vulnerable features will be the same for direct, indirect, and cumulative effects.
- Explain also that significance criteria are established for each VEC and apply equally to direct, indirect, and cumulative effects.



## **Environmental Consequences Organization (continued)**

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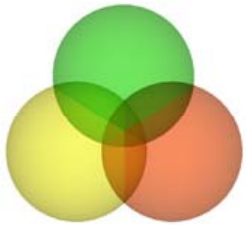
- **Following the Methods section, prepare an impact assessment section on each relevant VEC paralleling the sequence of the Affected Environment sections.**
- **Each VEC-specific section will include subsections on on direct, indirect, and cumulative effects, in that order, with each building on the preceding analysis.**
- **This approach saves time and space, and provides an explicit direct→indirect→cumulative analytic sequence that shows how each type of impact is constructed and thus provides transparency to the reviewer.**



## **Environmental Consequences Organization (continued)**

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- **This approach also allows the analyst to create a work flow and economy of words that makes the sequential discussion much faster and easier than isolating indirect and cumulative effects in a separate section.**
- **For each VEC, use a matrix to show the relevant past, present, RFFAs, their impact pathways, and the CE characterization: Pos, Low Pos, Neutral, Low Neg, Neg.**
- **At the end of each VEC-specific impact section, prepare a synthesis table that shows and characterizes the expected direct, indirect, and cumulative effects on the VEC.**



## Environmental Consequences Organization (continued)

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- **Following the analytic discussions, provide a concise summary to accompany the impact matrix, emphasizing any direct, indirect, or cumulative effects that are likely to be consequential, and explaining why this is so.**