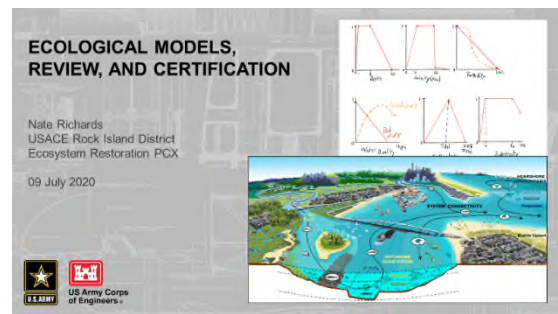


Ecological Model Review and Certification Process

July 9, 2020

Q&A Session

This webinar, presented by Nate Richards (ECO-PCX Model Review Manager), provided an overview of the model certification process for ecological models and presented advancements in the process. Model review and certification has a reputation of taking a long time and requiring significant funds. These misconceptions, among others, have decreased in recent years thanks to a greater understanding of the certification requirements, increased emphasis on model quality by planning teams, delegation of model certification/approval authority, and implementation of best practices. The webinar also provided useful information and tips for planners, decision-makers, researchers, and others that develop, implement, and review aspects of ecological planning models.



For more information or assistance, planners should reach out to Nate or Greg Miller (ECO-PCX Technical Director) or visit the USACE [Ecological Model Library](#).

This summary of the Question / Answer session of the webinar is not a transcription; questions and responses have been edited and reordered for clarity.

Model Certification and Re-Certification Requirements

Is there a formal process for initiating consultation on a model with the Ecosystem Restoration Planning Center of Expertise (ECO-PCX)?

Unless a District maintains specific requirements related to model review and certification/approval (e.g., directing requests through a supervisor), planners can reach out directly to Nate Richards or Greg Miller through phone or e-mail to discuss the process for model certification and next steps.

Is every ecological planning model required be certified prior to the tentatively selected plan (TSP) milestone, assuming it has not already been previously certified?

A planning model should always be certified or approved before a project delivery team (PDTs) starts using it to produce data for use in a study, per the [USACE planning model policy](#). While PDTs working on ecosystem restoration studies generally need to start using their models before the TSP milestone, the certification/approval timeline will differ across studies based on numerous factors. However, there may be cases where model certification/approval happens post-TSP – for example, in cases where mitigation planning is required, model use may not come until later in the study process.

How are certified models adjusted when new scientific findings contradict or otherwise change the variables currently used in a certain model?

The ECO-PCX has a formal reevaluation process in place for model reapproval and recertification, which must take place at a minimum of every seven years. In cases where new scientific evidence requires reassessment of a model before the seven year period expires, the ECO-PCX uses the same reevaluation process to consider the original certification rationale, review the new information and determine how it changes the components of the existing model, and re-certify the model, as appropriate.

Is there a requirement to use scientific literature-based sources in model development and documentation, or can model certification rely solely on expert professional judgement?

The basis of evidence for certifying models ranges widely. Models for rare species or habitat types may be primarily based on expert professional judgement and experience in the field given the sparsity or complete lack of literature or data, and therefore are documented to the best of the PCX's ability. While the citation of at least some peer reviewed literature is preferred for all model certification, it is sometimes impossible. When this is the case, the ECO-PCX documents uncertainties and potential complications related to the lack of data to ensure that these issues are clearly outlined.

Model Development by or in Collaboration with Non-USACE Entities

Are there model certification requirements under Section 203 of the Water Resources Development Act (WRDA) of 1986, which authorizes non-Federal interests to undertake feasibility studies of proposed water resources development projects for submission to the Secretary of the Army?

Yes, USACE planning model quality guidance applies. Appendix B, Section j(2) of [Engineer Regulation 1165-2-209, Studies of Water Resources Development Projects by non-Federal Interests](#) addresses planning model quality assurance in studies undertaken by non-Federal interests.

Is it more difficult or time consuming to approve models developed by state agencies vs. models developed by USACE?

Models developed by state agencies are not necessarily harder to approve than models developed by USACE, but the effort and time required depends on how robust and well-documented the model is when it gets to USACE. Some models with detailed documentation that have already been peer-reviewed move fairly quickly through the process, while others that are still in draft form and that lack an active point of contact at the submitting agency are much more difficult to review and approve.

Additionally, some models developed by others have parameters that are not USACE policy compliant. For example, some mitigation models developed by other federal agencies include a discount rate and risk factor. USACE does not discount habitat units per agency policy, and risk is accounted for in our monitoring and adaptive management requirements.

Do Districts typically collaborate with their resource agency partners (i.e., U.S. Fish and Wildlife Service, National Marine Fisheries Service) when developing their ecological planning models?

As best practices continue to be shared widely, the ECO-PCX is seeing increased coordination between Districts and their resource agency partners on model development and certification. The resource agencies are typically enthusiastic about getting involved in the model development process and sharing their expertise. They bring helpful field experience and peer review skills to the table that can improve model quality and make the certification process easier.