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# Ecosystem Management and Restoration Research Program

# Project Record

# Project Title: Development of New Capabilities and Enhancements to the USACE Two-Dimensional Reservoir Water Quality Model (CE-QUAL-W2)

# Reference SON ENV 1174: Development of New Capabilities and Enhancements to the USACE Two-Dimensional Reservoir Water Quality Model (CE-QUAL-W2)

# Lead PI: Todd Steissberg

# Latest Update: October 12, 2021

# Deliverables

| Work Unit Major Deliverables/Tasks | | | | | |
| --- | --- | --- | --- | --- | --- |
| **Task/Product** | **Milestones** | | **Status** | | **Remarks** |
| **Original Specified Delivery Date** | **Project Year** | **Percent Completion** | **Anticipated Delivery Date** |
| **(Qtr/FY)** | **(1,2,..n)** | **(%)** | **(Qtr/FY)** |
| 1. CE-QUAL-W2 Version 4.3 | Q2/FY21 | 1 | 100 | Q2/FY21 | * Initiated work on CESU in FY21 |
| 2. CE-QUAL-W2 Version 5.0 Alpha | Q2/FY22 | 2 | 50 | Q2/FY22 | * Initiated work on CESU in FY21 |
| 3a. Python Framework  3b. Prototype Jupyter Notebook  3c. Plotting Capability | Q1/FY21  Q1/FY21  Q1/FY21 | 2  2  2 | 100  100  100 | Q3/FY21  Q3/FY21  Q3/FY21 | * Started work in FY20 * Started work in FY20 * Started work in FY20 |
|  |  |  |  |  |  |
| 4. CE-QUAL-W2 Operations Capability | Q4/FY21 | 2 | 50 | Q4/FY21 | * None |
| 5. CE-QUAL-W2 Version 5.0 Beta | Q2/FY23 | 3 | 0 | Q4/FY21 | * None |
| 6a. CE-QUAL-W2 Version 5.0 Final  6b. User's Manual  6c. Technical Reference Manual  6d. Webinar  6e. Technical Note | Q4/FY23  Q4/FY23  Q4/FY23  Q4/FY23  Q4/FY23 | 3 | 0  75  75  0  0 | Q4/FY23  Q4/FY23  Q4/FY23  Q4/FY23  Q4/FY23 | * None |

# Deviations

| Significant Changes of Plan, Delays, Problems | | |
| --- | --- | --- |
| **Task/Product/Goals** | **Description of Change** | **Remarks/Justification/Impacts** |
|
|  |
| None | None | None |

# Other Achievements

| Big Wins/Other Significant Activities | | |
| --- | --- | --- |
| **Description** | **Qtr/FY** | **Remarks/Impacts** |
| 1. Recruited computer scientist at EL-EPW | Q1/FY21 | The new team member will provide essential skills in software design, implementation, deployment, and maintenance. |
| 2. Recruiting DB-IV research scientist to replace team member that departed ERDC | Q4/FY21 | The new team member will provide environmental modeling expertise. |
| 3. New CE-QUAL-W2 capabilities presented at National Conference for Ecosystem Restoration (NCER), July 2021 | Q4/FY21 | Increased awareness of CE-QUAL-W2 improvements, features, and modeling expertise |
| 4. Additional features developed for V4.5, funded by reimbursable projects | Q4/FY21 | The features enable wider range of potential applications and meet needs specific to certain watersheds, such as TDG and mercury modeling |
| 5. New features presented at California Water and Environmental Modeling Forum (CWEMF), October 2021 | Q4/FY21 | Increased awareness of CE-QUAL-W2 improvements, features, and modeling expertise |

# Obligations and Expenditures

When a project is selected for funding – and prior to initial disbursement of funds - an obligation/expenditure plan will be developed. As emphasis has shifted from full obligation to full expenditure of funds, this information is necessary to enable the program manager to make projections for the coming fiscal year, and to prioritize distribution of funds in-hand as and where they are most needed. We are now required to make projections for program obligations and expenditures in two categories: labor and non-labor. Please allocate projections accordingly in the following table, and update periodically along with the other documentation in the Project Record.

