Central Valley Clean Water Association
Representing Over Fifty Wastewater Agencies

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August 24, 2020

E. Joaquin Esquivel, Chair
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814
c/o Jeanine Townsend, commentletters@waterboards.ca.gov

Subject: Comment Letter – Toxicity 2018 to 2020 Changes

Dear Chair Esquivel:

The Central Valley Clean Water Association (CVCWA) appreciates the opportunity to provide comments on the *Draft Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California; and Toxicity Provisions, July 7, 2020 version* (Toxicity Provisions). CVCWA is an association of municipalities and local agencies in the Central Valley that provide wastewater collection, wastewater treatment, clean energy, and water recycling services to millions of Californians. We have been an active partner in the development of the proposed Toxicity Provisions since their inception, and respectfully submit the following comments to further our constructive input on the proposed regulatory framework.

Our comments focus on six main aspects of the proposed Toxicity Provisions:

- **Monitoring Approach**: We urge an alternative approach to the monitoring frequencies and timing of the three sample medians. As proposed, the frequency and schedule create unnecessary duplication and increase costs.
- **Dual Purpose Tests**: We request that the Provisions be revised to allow the same sample to be used for dual purposes—as a routine test and as a replacement test.
- **Permit requirements for use of *Ceriodaphnia dubia* reproduction test***:*** CVCWA supports the use of an interim approach during the pendency of the study regarding the *Ceriodaphnia dubia* reproduction test method. However, we believe that the proposed hard end date for these provisions presupposes the outcome and would

not provide a meaningful opportunity to incorporate results of the study. We recommend alternative language providing for a specific decision informed by the study findings.

- **Toxicity Target Requirements for Small Communities with No Reasonable Potential:** We request that the proposed targets for initiation of Toxicity Reduction Evaluations in small communities with no Reasonable Potential be removed from the proposed Toxicity Provisions.
- **Toxicity Test Completion:** We request that a simple wording change be made to ensure that the full range of testing requirements specified in USEPA standard methods and guidance be considered in the determination of test completion.
- **In-stream Waste Concentration:** We request a simple wording change to ensure that the proposed Toxicity Provisions are consistent with Section 1.4.2 of the State Implementation Policy.

We Urge the Board to Revise the Monitoring Approach to a 45-day Test Period.

The proposed Toxicity Provisions would require all chronic toxicity testing (the initial test and up to two follow-up tests) to be initiated in a one-month (i.e. 30-day) period, with monitoring frequencies ranging from monthly to quarterly to semi-annually, depending on the size of the discharge. We recommend modifying the compliance testing requirement to a 45-day testing period, with monitoring frequencies ranging from bi-monthly to semi-annual, or greater, depending on the magnitude of discharge and other circumstances.

The issue of the feasibility of initiating three chronic toxicity tests in a one-month period has been an ongoing topic between CVCWA and State Board staff for the past several years. Laboratory supervisors from various Central Valley POTWs have provided consistent, pragmatic input to the Board on their concerns regarding the logistics of meeting this requirement, month after month, year after year. The topic has also been discussed at workshops before State Board members. CVCWA believes that additional consideration should be given to this issue. The following provides our detailed assessment of the logistics of the proposed sampling regimen (which has been previously provided to the Board):

The findings from the survey of toxicity testing laboratories performed by State Board staff indicate the following for the *Ceriodaphnia dubia* reproduction test, the most commonly applied test for inland surface water discharges:

- Time to perform Ceriodaphnia dubia reproduction test: 6 to 8 days (Page 3, K.3)
- Time for laboratory to perform Ceriodaphnia dubia reproduction test and produce preliminary results: 10 days (Page 1, K.2. Question 1)

- Time to inform client regarding preliminary results: 1 to 2 days Page 1, K.2, Question 1)
- Time for a laboratory to initiate a subsequent test upon direction from client: from 1 day to 7 days (Page 1, K.2, Question 2)

Based on these facts, the range in timing for performance of three *Ceriodaphnia dubia* reproduction tests is as follows:

Best case

- Start first laboratory test – Day 2 (first full day of sampling occurs on Day 1 – laboratory testing begins on Day 2)
- Start second laboratory test – Day 14 (first test completed on Day 11, results conveyed to POTW on Day 12, sampling initiated on Day 13, second test starts on Day 14)
- Start third laboratory test – Day 26 (second test completed on Day 23, results conveyed to POTW on Day 24, sampling initiated on Day 25, third test starts on Day 26)

Less Optimistic Case

- Start first laboratory test – Day 2 (first day of sampling occurs on Day 1 – laboratory testing begins on Day 2)
- Start second laboratory test – Day 20 (first test completed on Day 11, results conveyed to POTW on Day 13, sampling starts on Day 19 to match lab capacity to begin next test, second test starts on Day 20)
- Start third laboratory test – Day 38 (second test completed on Day 29, results conveyed to POTW on Day 31, sampling starts on Day 37 to match lab capacity, third test starts on Day 38)

As can be seen in the above, for the Less Optimistic case, based on the information presented in Appendix K, 3 samples cannot be taken in the required 30- or 31-day monthly window. This would result in non-compliance with this NPDES permit requirement.

Notably, we designate the second case above as "Less Optimistic," as opposed to "Worst Case," because of the following, which, if included, would add days to those shown for the "Less Optimistic" case:

- Sampling may not be possible on the first day of every month, due to weekends, holidays and other sampling staff availability issues, especially at smaller POTWs.

- Weekends and holidays will likely impact (prolong) communications between the testing laboratory and the POTW management and sampling crews during the month.
- Smaller POTWs will likely encounter difficulties in communication and in getting contractors out to take multiple mid-month samples and renewals on specific days.

The above results bring into question the information presented in Table K-1. To illustrate the above, we have prepared several diagrams.

The first diagram (Figure 1) depicts the "Best Case" described above; the second diagram (Figure 2) depicts the "Less Optimistic Case" described above. A "Worst Case" condition is not depicted.

Two additional diagrams illustrate a different point. A third diagram (Figure 3), illustrates the case in which a discharger just barely complies with the three samples initiated in a 30-day-month. Note that in this case there is a significant overlap in sampling days between months one and two. A total of 22 unique sampling days over a two-month period would result. A fourth diagram (Figure 4) illustrates a sampling approach where three samples are taken in a 6-week period (an approach currently used in Central Valley NPDES permits). This approach results in 15 unique sampling days over a two-month period. The point to be made is that the sampling intensity (as measured by sampling days per two-month period) is different between the two approaches, but not radically so. On the other hand, the approach shown in the third diagram is unproven in common practice, and in fact is shown to likely not be reliably attainable based on the information presented in Appendix K. As has been discussed with State Board staff by CVCWA, and as documented in testimony by POTW laboratory leaders at the October 3, 2019 workshop, there are serious concerns regarding the ability to initiate three samples in a one-month approach, over the long haul of a five-year NPDES permit term, for POTWs of all sizes.

Based on the above information, CVCWA recommends the following alternative:

- Switch from monthly sampling to bi-monthly sampling as the most intensive sampling requirement. This would apply to the largest POTWs. As has been recommended previously by CVCWA, for the smallest POTWs, switch from quarterly to a maximum of semi-annual sampling.
- Switch from a requirement to initiate three samples in a month to initiating three samples in a 45-day period. This would require a switch in terminology from a median monthly effluent limit to a 3-sample median effluent limit. CVCWA believes that this approach is legal, since it has been used in previously adopted (and EPA-approved) NPDES permits.

The above alternative provides much needed flexibility to address the real-world issues described above; reduces stress on sampling crews, laboratory managers, and other staff involved in the logistics of the toxicity testing process; has been applied successfully; and will not significantly reduce the monitoring intensity for toxicity testing. We believe that the tradeoffs in adopting this approach would be worthwhile, and offer, at a minimum, an appropriate starting point for implementation of the proposed Toxicity Provisions.

The Provisions Should Allow a Single Sample to be Used for Dual Purposes.

CVCWA appreciates the changes to the second revised draft Toxicity Provisions to allow a replacement test (i.e., retest) when a required test is not completed. A replacement test is also allowed when a required test cannot be initiated in the required period due to circumstances outside of the discharger's control. This flexibility is necessary to accommodate logistical constraints associated with toxicity testing (e.g., multiple composites samples per test, sampling coordination with facility maintenance and operations). However, a discharger may have to conduct up to four or more tests in the next calendar month (i.e., the replacement test from the previous month, a routine monthly monitoring test for the current month, and two median monthly effluent limit [MMEL] or median monthly effluent target [MMET] compliance tests).

As currently drafted, a replacement test, if conducted in the calendar month following the month when it was originally required, cannot be used to demonstrate effluent quality for a routine test in the month in which samples are collected. This would require more testing in a calendar month than is physically or logistically possible when replacement tests and MMEL or MMET compliance tests are required. Concurrent testing with splits of the same samples might need to be conducted by a discharger that cannot conduct all of its required tests sequentially within the available time, to avoid pushing retesting into the successive calendar months. This testing approach adds costs, may not always be possible due to sample volume requirements, and should not be necessary. It is a waste of resources to conduct multiple tests on the same sample(s) when a reliable and reproducible test method should produce the same result. Instead, it would be more economical, and technically justified, if a replacement test conducted in the next calendar month could also be used as the routine monitoring test result for the month in which the samples were collected.

State Water Board staff explained at the July 29, 2020 staff workshop that one reason for this limitation was to avoid multiple violations for a single sample. However, this outcome may be unavoidable. A discharger conducting either concurrent testing with effluent split samples, or a single test to meet two required tests (e.g., for a replacement

test and a routine test), would face the same consequence if the sample(s) result is a TST "fail." The consequence of a TST "pass" in this situation is also the same. A single test that meets the requirement for a replacement test and routine monitoring would also cause less confusion than testing split samples in two concurrent tests if one produces a "pass" and the other a "fail."

To allow the same sample to be used for dual purposes—as a routine test and as a replacement test—we suggest modifying the proposed provisions to delete the following sentence:

> ~~The new toxicity test and any MMET TESTS or MMEL COMPLIANCE TESTS required to be conducted due to the results of the new toxicity test shall not be used to substitute for any other required toxicity tests.~~ Section IV.B.2.d.iv.

The Provisions Related to Permit Requirements Using *Ceriodaphnia dubia* Reproduction Tests Should Be Modified to Provide for Meaningful Consideration of the Laboratory Study.

CVCWA appreciates the Board's funding and initiation of a study to examine the *C. dubia* reproduction toxicity test method. Our special study of toxicity results in the Central Valley clearly indicated that the *C. dubia* reproduction test is the most prevalent indicator of toxicity for Central Valley POTWs, and the most common reason for the initiation of Toxicity Reduction Evaluations (TREs). Given the well-documented and recognized issues regarding this test, CVCWA fully endorses the need for the study to improve the reliability and accuracy of results for the *C. dubia* reproduction test. We look forward to working with State Board staff and other stakeholders on the design and implementation of the proposed study.

CVCWA also supports the inclusion of the alternative permitting approach during the conduct of the study and analysis of the findings, which specifies how permit limits and targets will be structured while the study is underway. We have a very real concern, however, about including the proposed hard end date of December 31, 2023, at which time all permits would be required to include monthly median numeric limits for *C. dubia* reproduction. This date would have immediate regulatory effect, and could be modified only by undertaking a separate regulatory process to amend the statewide water quality plan. Not only would this would be an unnecessary drain on resources, but given the time and effort it has taken to get to this point, and the Board's workload, we are skeptical that such a process would be undertaken.

The Board and stakeholders are undertaking the study of *C. dubia* in order to gain important information relevant to the regulation of toxicity under the plan. Following completion of the study, the Board may well decide that the December 31, 2023 deadline should stand. But that is not the only potential outcome of the study. The Board could very well conclude that the interim provisions should be extended, either to allow additional time or as a long-term permitting approach. The Toxicity Provisions should allow the Board to exercise its authority and discretion over the full range of options available, informed by the study. As currently drafted, the provisions favor one potential policy choice and would set up any alternative, other than the proposed default, for an uphill (perhaps futile) battle.

Instead, the provisions should include a specific decision point for the Board, similar to reopener language common to TMDLs and other regulatory actions that will be informed by the developing science under the proposed study. We recommend the following language be inserted into section IV.B.2.e.i:

> On or before [date], the State Water Board will reopen this Section, based on new information, to specify one of the following:
>
> - Require that permits renewed, reissued, or reopened on or after December 31, 2023 shall include the MDEL indicated in Section IV.B.2.e.iii and the MMEL indicated in Section IV.B.2.e.iv.
> - Revise Section IV.B.2.e.i. to extend the time period that Section IV.B.2.e.i is operative.
> - Revise Section IV.B.2.e.i to specify that where *C. dubia* is the most sensitive species, permits may include either (1) monthly median trigger (MMET) and a maximum daily effluent limit (MDEL) using *C. dubia*, or (2) a monthly median effluent limit (MMEL) and an MDEL using the next most sensitive species.[1]

[1] The revised provision Revised Section IV.B.2.e.i would read as follows:

> For NON-STORMWATER NPDES DISCHARGERS when the MOST SENSITIVE SPECIES identified by the PERMITTING AUTHORITY is not *Ceriodaphnia dubia*, the PERMITTING AUTHORITY shall include the MDEL indicated in Section IV.B.2.e.iii and the MMEL indicated in Section IV.B.2.e.iv using the MOST SENSITIVE SPECIES.
> For NON-STORMWATER NPDES DISCHARGERS when the MOST SENSITIVE SPECIES identified by the PERMITTING AUTHORITY is *Ceriodaphnia dubia*, the PERMITTING AUTHORITY shall include either (1) the MDEL indicated in Section IV.B.2.e.iii and the MMET indicated in Section IV.B.2.g.ii using *Ceriodaphnia dubia* as the MOST SENSITIVE

The Toxicity Target Requirements for Small POTWs With No Reasonable Potential Should Be Removed.

Sections IV.B.2.g and IV.B.2.d.iii of the proposed Toxicity Provisions include new requirements which would impose toxicity targets (Maximum Daily and Median Monthly Effluent Targets [MDETs and MMETs]) that would require small communities with no Reasonable Potential (RP) to initiate Toxicity Reduction Evaluations based on two exceedances of the proposed targets. These requirements will impose an additional cost burden on the very communities on which the State Board members previously directed staff to focus for cost reductions. Communities with no history of effluent toxicity will be the ones found to have no RP. Such communities should be granted leniency in both monitoring requirements and requirements to prepare costly TREs. The proposed toxicity target requirements eliminate such leniency and will result in unwarranted costs to those small communities. CVCWA requests that the proposed toxicity target provisions be removed to avoid these unnecessary costs to small communities, in particular the chronic aquatic toxicity MMET, which can be triggered by low-level chronic toxicity results for small discharges that are unlikely to impact receiving waters.

The Language on Toxicity Test Completion Should Be Revised to Ensure That the Full Range of Testing Requirements Is Considered.

The completion of a toxicity test is now described in Section IV.B.2.d of the second revised draft Toxicity Provisions, as follows:

> For the purposes of this section, completion of a test means when the test has been terminated, and all required test conditions and TAC [test acceptability criteria] have been met.

This definition, which is also described in Section 5.4.4.1 of the staff report, affects the conditions under which the conduct of a "*replacement test*" (i.e., retest) would be performed, i.e. when a test is "*not completed*".

For the reasons below, we request that Section IV.B.2.d of the proposed Toxicity Provisions be modified to define the completion of a test as "*when all test requirements have been met."* This simple change would expand "all required test conditions and Test Acceptability Criteria (TAC)" to the full range of "test requirements" specified in USEPA Standard Methods.

SPECIES or (2) the MDEL indicated in Section IV.B.2.e.iii and the MMEL indicated in Section IV.B.2.e.iV using the next applicable species as the MOST SENSITIVE SPECIES.

Under USEPA (2002) chronic toxicity test method guidance, "test conditions" describe the specific laboratory procedures for conducting a toxicity test (e.g., temperature, age of organisms, volume of sample, number of replicates, etc.) and are presented in tables of test conditions for each test species. Some of the "test conditions" described by USEPA are denominated as "required." [2] TAC are the minimum required performance standards for control organisms. Additional test *requirements,* not listed in the tables of test conditions or TAC, must also be met for a valid result, according to USEPA (2002) test methods. Not meeting any test *requirement* produces an invalid test and creates the need for a retest. Examples of chronic toxicity test requirements in USEPA (2002) test methods that are not TAC, or are not listed in the tables describing test conditions, are as follows.

- "In addition to these test acceptability criteria, if fewer than eight replicates in the control remain after excluding males and blocks with 50% or more surviving organisms identified as males, the test is invalid and must be repeated with a newly collected sample." (Section 13.13.1)
- "The concentration-response relationship generated for each multi-concentration test must be reviewed to ensure that calculated test results are interpreted appropriately" (Section 10.2.6.2)
- "If the data from the samples are to be acceptable for use in the NPDES Program, the lapsed time (holding time) from sample collection to first use of each grab or composite sample must not exceed 36 h." (Section 8.5.3)

USEPA toxicity test methods clearly explain which parts of a test method are required and which are not. "*Words of obligation, such as "must" or "shall" indicate a required procedure. When WET method manuals use discretionary terms such as "may" or "should," the manuals provide flexibility so that the laboratory analyst may optimize successful test completion (USEPA, 1996a).*" (USEPA 2000). Therefore, following the full range of "test requirements" in USEPA-approved methods is not optional.

The In-stream Waste Concentration Language Should Be Consistent with the SIP.

Section IV.B.2.a, third paragraph, second sentence, states that "For the purpose of aquatic toxicity tests, in no case shall the PERMITTING AUTHORITY set the IWC at less than the inverse of 1 plus the DILUTION RATIO, multiplied by 100 per cent." To maintain consistency with the provisions of the SIP, and to avoid confusion, it is requested that either

[2] United States Environmental Protection Agency (USEPA). 2002. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. 4th Edition. EPA-821-R-02-013. October.

the subject sentence be eliminated, or the words "DILUTION RATIO" be changed to "DILUTION CREDIT."

Again, we thank you for the opportunity to provide these comments and are available to meet and discuss any of the information provided above.

Sincerely,

Debbie Webster

Debbie Webster, Executive Officer

Attachments

cc: Adam Link, CASA
Lorien Fono, BACWA
Jenn Jones, CWEA
Steve Jepsen, SCAP

Figure 1. *Ceriodaphnia dubia* reproduction test- Best Case

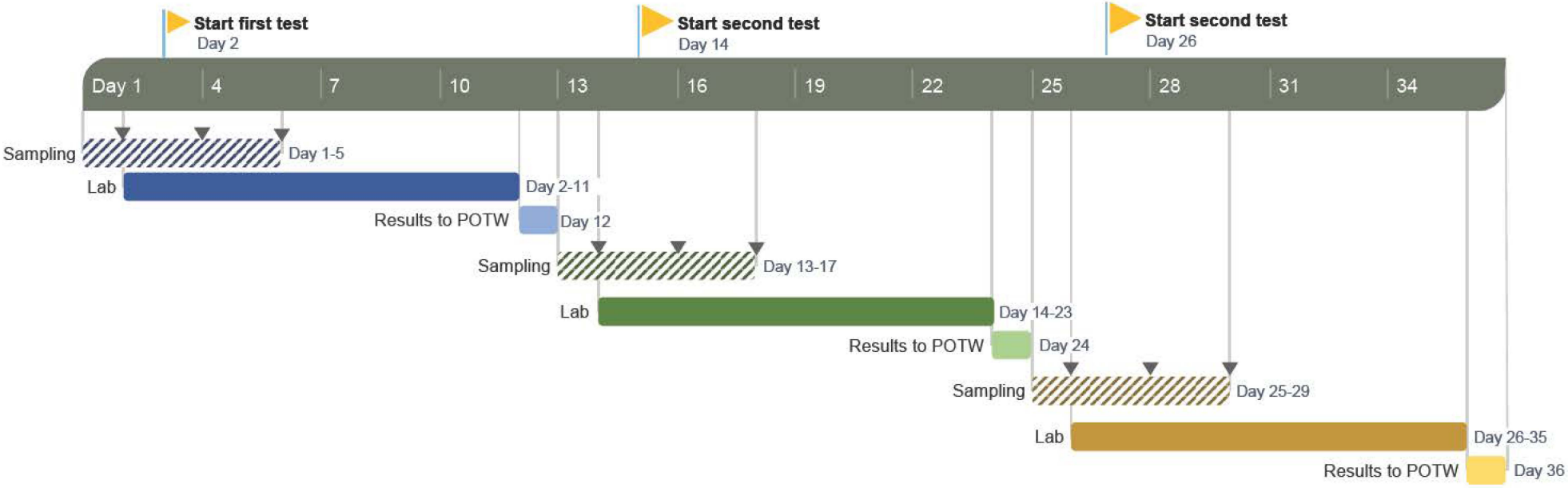


Figure 2. *Ceriodaphnia dubia* reproduction test- Less Optimistic Case

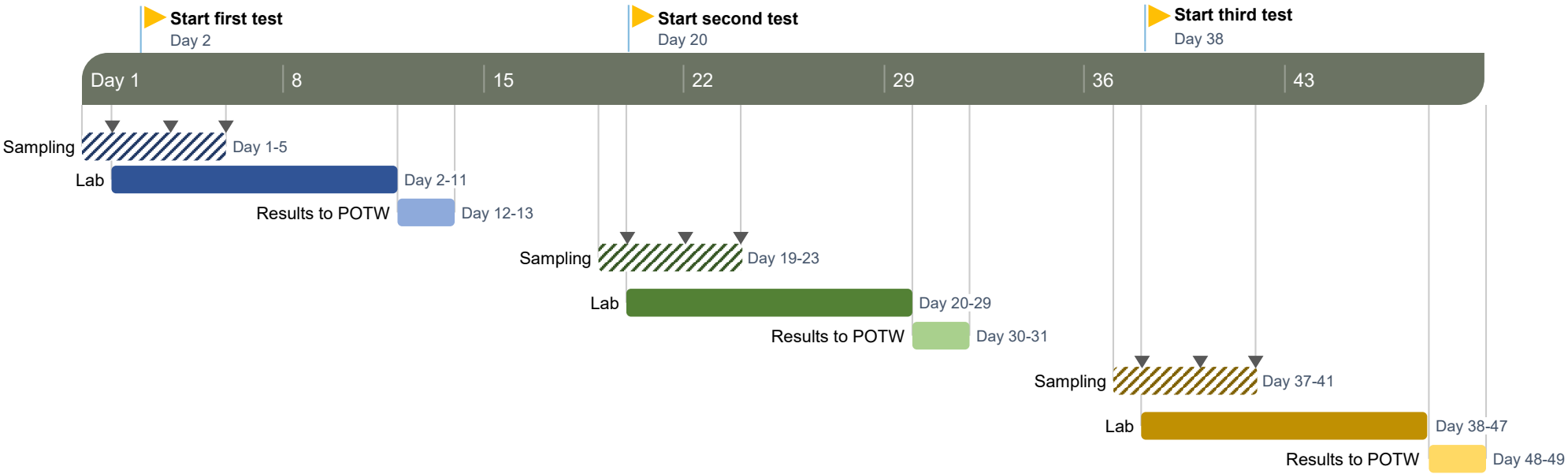


Figure 3. Ceriodaphnia dubia reproduction test- Compliant Discharger with 3 Samples in 30 Days

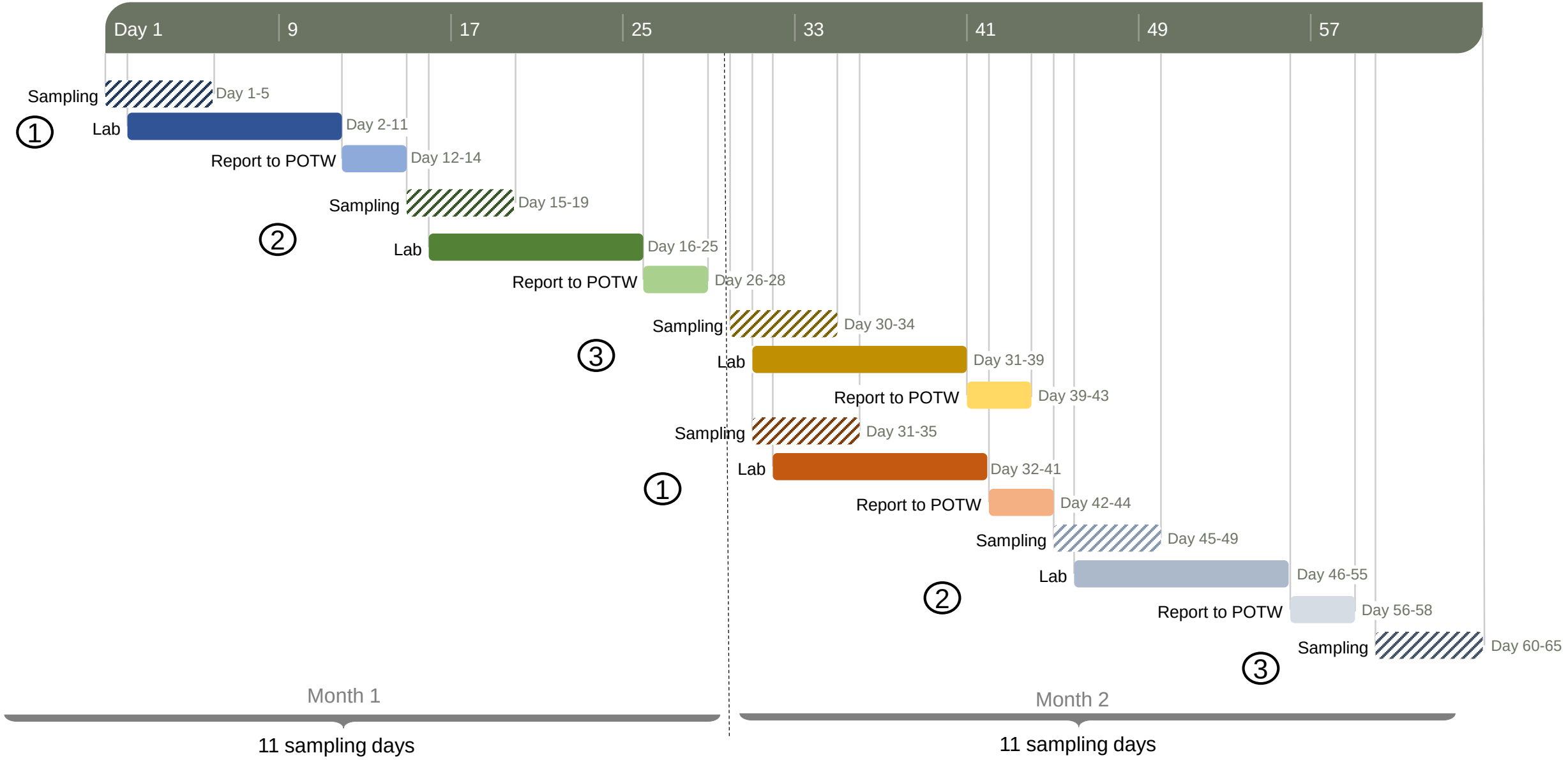
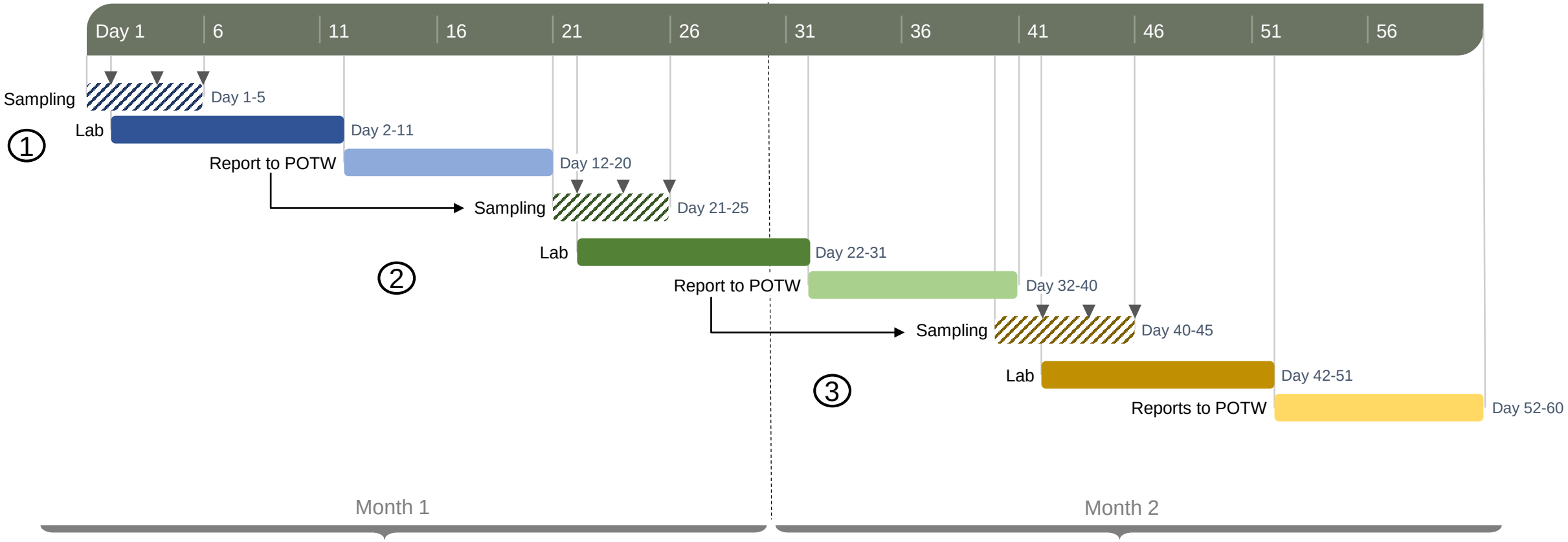


Figure 4. *Ceriodaphnia dubia* reproduction test- Alternative Sampling Approach with 3 Samples over 6 Weeks



Total of 15 sampling days