Updated 2/23/21

LaRosa Partnership Program New Model Questions and Answers

Overall Program Strategy

1. What are the main research questions of water quality monitoring conducted through the LaRosa Partnership Program?

The State of Vermont considers and monitors all three components of stream health – biological, chemical, and physical. The LPP aims to better characterize and fill in data gaps for the water chemistry component of stream health. The LPP Monitoring Matrix includes four monitoring categories focused on water chemistry, with the following objectives: identifying potentially high-quality waters; sampling lake tributaries that may be contributing to phosphorus loading in lakes; identifying stressed or impaired waters and refining the extent and/or source of the stressor; and evaluating the effectiveness of BMPs or other remediation efforts. Each LPP partner has a unique understanding of their watershed, and we rely on the partners to offer this insight and their individual goals and research questions that fit underneath the umbrella of these broader LPP monitoring categories.

2. Why has LPP moved away from the old model of individualized sampling plans and has instead created one standardized plan?

The standardized plan allows the state and partners to meet our shared monitoring goals in a more efficient manner. It reduces the requirements to participate in the program as well as the time investment needed to run the program both for partners and the state by eliminating the RFP process and creating one general sampling plan and QAPP. However, we recognize that one size does not fit all, so not all your monitoring goals and priorities will be included in our sampling plan. There are trade-offs with this new model, but we are excited for the improvements this new model will bring to the program. It allows us to keep the current sampling capacity, evolve the partnership model with watershed organizations around the state, and focus our time and energy on water quality monitoring instead of administrative processes.

3. What will the generic QAPP look like?

The new LPP Quality Assurance Project Plan (QAPP) will be a hybrid of the existing QAPP template that partners have used for writing QAPPs and EPA's citizen science QAPP. The sampling Quality Assurance Quality Control (QAQC) will be detailed in the LPP QAPP and all partners will need to be familiar with the QAPP prior to sampling. Like previous years, 10% of the samples will be blanks and field duplicates. The QAPP will be reviewed at the partner training in April and posted on the LPP website.

4. Why is the sampling season limited to May-August?

A shorter field season will meet monitoring and assessment objectives while allowing LPP staff to fulfill other water quality monitoring and assessment duties, such as acid lakes sampling, USFS stream sampling, and state-wide biomonitoring.

5. Where can partner organizations find a guide to all the details of the new LPP model?

LPP staff are currently writing a LPP Partner Guidance Document that will include all the information you need to know to participate in the program for the 2021 field season. It is not complete yet, but it will be sent to all partners and posted on the website before the beginning of the sampling season in May. Additionally, we will hold a partner training event as usual in April.

Funding

6. Will LOSG projects be continued?

LaRosa Operational Support Grants (LOSG) will no longer be offered. However, sites monitored through the LOSG in the past may be eligible for water chemistry monitoring if they fit the 2021 LPP criteria.

7. Is there funding available for tasks associated with monitoring such as attending the April training, moving samples to storage sites, or training and organizing volunteers?

Some partners received funding through their LOSG to support these expenses but most of the partners did not. These expenses can be considered “in-kind” to pursue other funding opportunities.

Site Selection and Program Capacity

8. What will the site selection process be?

LPP staff will send a monitoring site nomination form to partners, who will work with their watershed planner to develop a list of nominated sites. As in the past, nominated sites will have to meet one of the four monitoring matrix categories. Partner monitoring site nomination lists, along with those submitted by DEC staff, will be evaluated based on standard criteria, including those outlined in the monitoring matrix, statewide spatial distribution, the analytical budget, and state and partner capacity. That evaluation will determine what sites are selected for the final annual sampling plan.

9. How much will VT DEC consider partners’ priorities in site selection?

Partners’ priorities provide important local insight and knowledge and will be considered when finalizing the annual sampling plan. We rely on partners’ willingness and ability to sample any given site and recognize partners will be most willing to sample sites where there is shared interest. We encourage partners to only nominate sites they are capable of sampling. It is likely that we will have more sites suggested than we have capacity for, so we will need to narrow the list of nominated sites as described above.

10. When will the monitoring site list form be distributed?

We sent out the monitoring site nomination form to partners on January 8th. It is also available on the LPP website.

11. How will LPP staff determine program capacity?

The LPP capacity is based on several factors, including state staff capacity (LPP staff also support other critical water quality monitoring programs), the $100,000 analytical services budget, and partner capacity.

Parameters

12. Why did we choose the parameters total phosphorus, total nitrogen, chloride, and flow?

These parameters indicate the presence of pollutants from a range of potential sources, including direct discharges, eroding banks, stormwater (lawn fertilizer, pet waste, wildlife droppings), manure, agricultural fertilizers, road salt, and atmospheric deposition. Flow information is crucial to using this data effectively. Flow helps us understand what the base concentrations are and potential sources of these three parameters. For example, a high chloride concertation under low flow may indicate groundwater contributions. These parameters have longer hold times (21-28 days), which will provide flexibility for sampling and sample pick-up.

13. Will LPP require that all three parameters be collected at every site?

We recommend all three parameters be collected at most sites. Exceptions will be considered for excluding chloride and/or total nitrogen if there is sufficient recent data (within the last ten years) from a pre-existing LPP site that indicates these parameters are not an issue. Total nitrogen can also be excluded based on safety concerns with using sulfuric acid required to acidify samples for preservation.

14. Why isn't E. coli being monitored in 2021?

Although E. coli is a useful parameter to monitor from a water quality and human health standpoint, its 48-hour hold time makes it nearly impossible to collect and process samples in time under the new LPP model. Once LPP has transitioned smoothly into the new model, we may consider adding additional parameters.

Sampling Protocols

15. How will training be conducted?

Like in years past, LPP will hold a training for organization leaders who will then be responsible for training their volunteers in sampling protocols. Additional resources and details are available on the LPP website and in the Partner Guidance Document that will be distributed at the training.

16. Why is LPP requiring 8 sampling events and 2 high-flow events?

It allows us to have a higher statistical power and confidence to evaluate concentrations under different flow conditions. If we have less than 8 low-flow events, the data is still useful but the statistical significance drops.

17. Would it be possible to sample more than 8 events?

At this point, no. We can only fund 8 sampling events and 2 high-flow events per site.

18. By high-flow, do we mean freshet samples or truly high-flow samples?

High-flow samples could be rain induced freshets or caused by snowmelt related runoff.

19. For high-flow events, is it preferable to have every site sampled during or immediately after a storm (provided safety is not a problem) regardless of time of day?

Safety is the main priority to consider when sampling during a high-flow event. As long as safety is ensured, we will leave it up to your organization to determine the best protocols for sampling during a high-flow event. Ideally, high-flow samples would be collected at peak flow toward the end of the storm while the rainfall is still entering the streams.

20. April is the best time to collect samples during high-flows, is there any flexibility in the sampling starting dates?

Not for this season, but we will consider opportunities for improvement when planning for 2022.

21. What if my organization is unable to sample 2 high-flow events?

We are asking partners to aim for at least two high-flow event samples, but we recognize that this might not be possible during the sampling season, especially if it is an abnormally dry year or difficult logistically.

22. How do we measure flow?

Flow will be based on visual observations, not a quantitative measurement. Being familiar with the stream conditions will assist with observations. Flow type will be either base flow or freshet. Flow level will be low, moderate, or high. A freshet event can be associated with low, moderate, or high flows. It can be useful to use data from nearby USGS flow gauges, but volunteers will still need to make a qualitative assessment of flow at the exact time and location of sampling. For more information, you can find this flow observation guidance document and sample photos on the LPP website under the educational materials section. We will also provide guidance at the annual training in April.

Sample Storage and Pick-Up

23. Will sample bottles be distributed or picked up by partners?

Bottles and their labels will be distributed to partners. Enough bottles required for a set period – either biweekly or monthly – will be distributed in installments. The bottles will not be pre-labeled, but they will come with pre-printed labels that need to be attached to the bottles.

24. Where will samples be picked up?

We are looking for suggestions from partners on how to make the sample pick-up process most convenient. TN needs to be acidified and refrigerated, but TP and Cl do not. Samples can be held for up to 2 weeks at a nearby location until a Watershed Management Division staff member can pick them up.

25. How will storage and pick-up of high flow samples taken outside of the normal sampling schedule be handled?

High-flow samples can be stored with regularly scheduled samples. DEC staff will pick up samples every two weeks from May 10th to August 16th. As long as the high-flow samples are stored properly, their hold times are 21-28 days. Phosphorus and chloride samples do not need preservation, and nitrogen needs to be acidified within 8 hours and refrigerated. Both high-flow and regular samples will be stored for time periods well within their hold times in between the biweekly pick-ups.

Data Access and Management

26. What is being done to make LPP water quality data more accessible and useful to partners?

LPP staff are developing a new and improved way to access both current and historical LPP data reports through the Watershed Management Division's database called IWIS (Vermont Integrated Watershed Information System). Through IWIS, partners will be able to access and download a chosen file type (including word, excel, CSV, or PDF) of all their monitoring data from past years.

27. Will flow be included in the new IWIS data reports?

Yes! Flow will be one of the parameters included in the data reports. Eventually we plan to include other past ambient data as well, including E. coli.

28. Can my organization submit other data such as turbidity, E. coli, ambient data, etc.?

For 2021, we will collect flow data, but no other associated data. Our next priority after we complete the new IWIS data reporting will be entering LPP past field data such as flow type, flow level, field pH, temperature, etc. into IWIS. We are currently working with our database manager on how to store this supporting ambient data in our database. In the meantime, we encourage partners to continue recording and storing this data independently.

29. Will data processed by another lab be included in the new IWIS data reports?

We are focusing on inputting LaRosa data generated by VAEL into the IWIS database. If the data has been collected with comparable methods and procedures to those of the State of Vermont or it has been included under an approved QAPP, it is possible to add this data into IWIS.

30. Where can I access my organization's past water quality data right now?

Currently, data collected prior to 2018 can be accessed and exported to an excel sheet from this database link on the LPP website. Data from 2018 and later is still undergoing quality assurance and will be published to the database as soon as LPP staff complete the review process. If you would like to access the preliminary data from 2018 or 2019, please contact Jim or Meaghan. You can also access a list of monitoring sites and their associated information organized by partner on the LPP website. One disclaimer: because the 2018 and 2019 data are not in the database yet, those years will be missing from the years sampled field and the years sampled field will be completely blank for sites sampled only during those years.

31. When will my organization's current water quality data be available after the sampling season ends?

One of the primary goals of the LPP redesign is to increase the efficiency of the LPP quality assurance and reporting process. With LPP staff handling sampling plans, bottle orders, sample log-in, and data review, we can standardize and streamline water quality data management. Under this new model, we plan to have data and reports available by late winter following the sampling season.

32. Will partners have access to raw data once it is processed by VAEL?

Yes, we can make the raw data available to you once the samples are processed by VAEL by adding you to the VAEL's data distribution email list. The data will be emailed in the VAEL raw data output format as either a PDF or excel sheet. It will not be approved to share with other stakeholders prior to completing the QAQC process. We caution you against sharing this raw data because it has not been reviewed by the LPP staff and is subject to changes.

33. What will the data quality assurance process be?

Data quality assurance involves a three-stage review process. The first stage involves data authorization and verification by VAEL. Next, the data will be reviewed by the LPP staff, with help from partners. A final review is done by the LPP coordinators as the final data is entered into the state water quality monitoring database.

Annual Reporting

34. What is the format of the DEC LPP annual reports?

Each site will have online graphs summarizing the parameter concentration and associated flows over one or more sampling seasons, although we are still determining the exact layout and welcome partners suggestions. We will provide updates as more information becomes available.

35. When will the annual report be released?

Annual data summary reports will be available once the data is finalized and uploaded into IWIS database. We anticipate this will be ready by late winter following the sampling season.

36. Can my organization still submit an individual report?

Yes! The partners' annual reports are insightful and used by Watershed Management Division assessment staff and Water Investment Division watershed planners. While we no longer require

this, partners may choose to summarize results over one or several years to educate their constituencies and state staff.