Washington State
Conservation Commission

Voluntary Stewardship Program

VSP Template Instructions – 10/27/2020

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Getting Started

Login: Once you login, please choose the current report due date. Once you open and start a report for a reporting period, you have the option to "save location and close report". This will save the current menu location so that when you login again you will be prompted to start at the menu where you left off. All data is automatically saved in real time when you enter data into the database – you do not have to save-as-you-go as you would do in an Excel or Word document. The "Save Location…" simply stores the current menu when you close the Template so that when you login again you will return to the same menu.

Importance of Entering Goals Carefully and Correctly. Enter each goal in your work plan. Once you connect each goal with one or more benchmarks (Step 9), you cannot delete a goal. Be sure to carefully enter your goals to ensure you do not need to remove it later. While you cannot delete a goal, it is possible to add a goal or change a goal after connecting goals and benchmarks.

Menu Navigation: At any time you can move backward or forward between menus in the Template. If you discover that you forgot to enter a goal or benchmark, for example, you can navigate back to the appropriate menu, enter your information, and proceed through the Template. However, some menus are required to be completed before progressing to additional menus.

Copying and Pasting Data into the Template. You may find it useful to use an Excel spreadsheet to copy text into fields in the Template, especially when transferring goals and benchmarks from your work plan to the Template. In some cases there may be many entries with the same text – such as if goals and benchmarks are the same for multiple WRIA's. While you cannot paste entire columns or rows, you can copy text from a cell in Excel and paste it into a field in the Template.

Software Versions and Microsoft Access. The Template was developed using Microsoft Access 2013 and has been designed to work with runtime (e.g., if a computer does not have a full version of Microsoft Access installed) or a full version of MS Access. The Template should open and upgrade itself automatically with any newer version of Access. The Template works best on a desktop or laptop computer, not a tablet or

smartphone.

Computers that have MS Access versions older than 2013 will need to download a newer runtime version of MS Access in order to use the template. A runtime version of MS Access is available free at this link: https://www.microsoft.com/en-us/download/details.aspx?id=50040. If you need to use the runtime version of MS Access, you will find additional instructions and system requirements on the link above.

Carry Forward of Information. The first time a work group fills out the template there will be many points of data entry. This data will carry forward and future reporting will require significantly less data entry. This will greatly ease each county's burden during future rounds of five year reporting.

A Note on the Sample Template Data. The information included in the Template example provided here is intended only as an example, is not reflective of any specific county work plan, and is not meant to be emulated in any specific way. All 27 county group plans are unique. The Template should be filled out by the work group in light of each plan's specific goals, benchmarks, and associated monitoring approaches.

A Box account may be required to download and install the Template. Instructions for setting up a Box account are set out below, if needed:

- Receive invite to join
- Enter your information to sign up for free Box account
- Download the phone app (if working from your phone)
- Skip the payment process – If you're asked to add a credit card payment, etc., click the "skip" button
- You'll be sent back to log in page to login
- Once logged in, you'll be prompted to check your email for further verification to complete set up
- Find email from Box and click on "verify email"
- You're all set!

With this access, you will have the ability to upload and download versions of the database, and other documents as necessary up to 250MB. The total storage size you're given is 10GB.

If you want to add more collaborators to your folder, or have any other questions, please contact Alicia McClendon at: **amcclendon@scc.wa.gov**

Steps

Step 1. Download the 5-Year Reporting Template

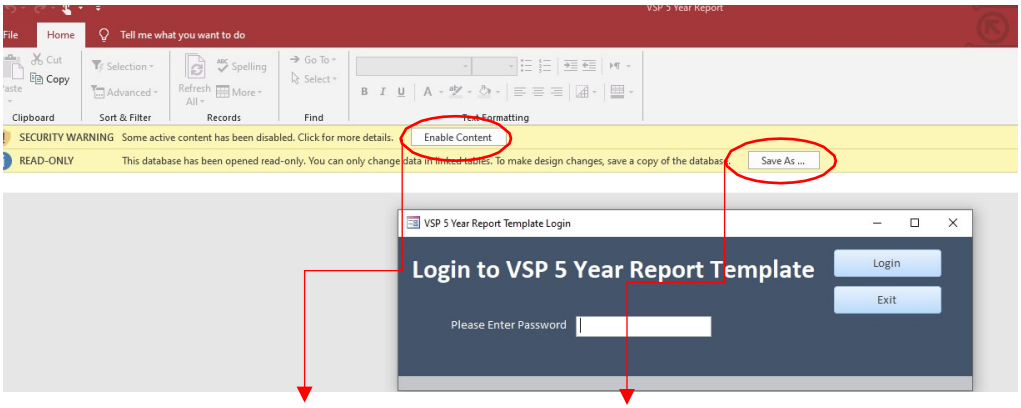
Download your county's VSP Template from the Commission's Box website. The link below will direct you to a parent folder that contains folders for each county. Locate your county's folder and find your template. The file should be titled "VSP 5 Year Report Template.accdb". Download this file and save to your computer's hard drive.

Template download link:

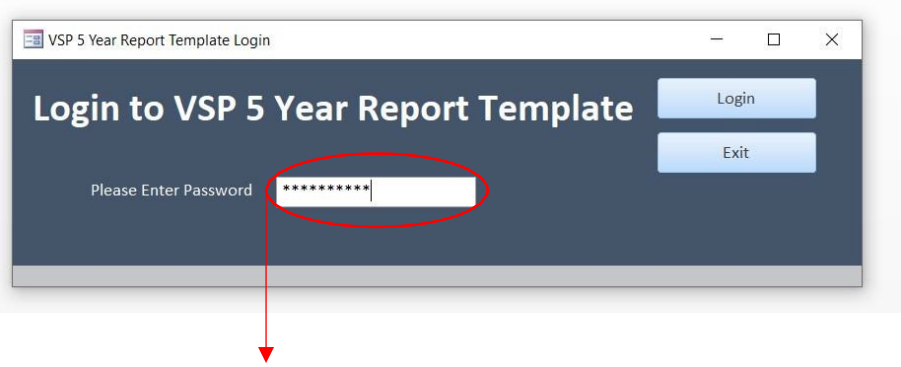
https://sccwagov.box.com/s/f4wwli7u2qe9kfgf71689n2e7qa166es

Step 2. Login to VSP 5 Year Report Template

Double click the Template file that you downloaded in the previous step. When the Template first opens, you may see one or two yellow ribbons above the Login screen. If you experience this, click the “x” in the Login menu to close it, click “Enable Content”, then click “Save As”, save the Template file on your computer’s hard drive, and then re-open the Template. The yellow ribbons should not appear again unless you open the Template on a new computer.

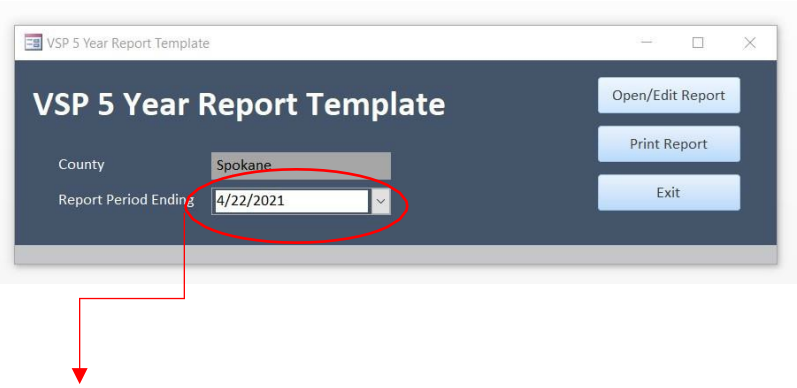


Double click the Template file that you downloaded in the previous step. When the Template first opens, you may see one or two yellow ribbons above the Login screen. If you experience this, click the “x” in the Login menu to close it, click “Enable Content”, then click “Save As”, save the Template file on your computer’s hard drive, and then re-open the Template. The yellow ribbons should not appear again unless you open the Template on a new computer.



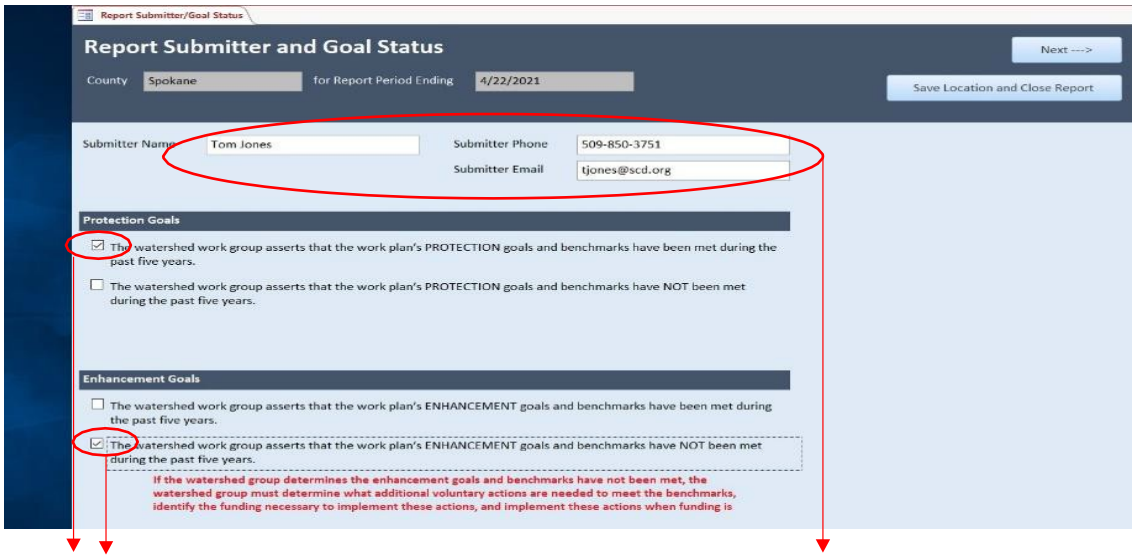
Enter the password you received from the SCC for your county.

Step 3. Choose the Current Reporting Period



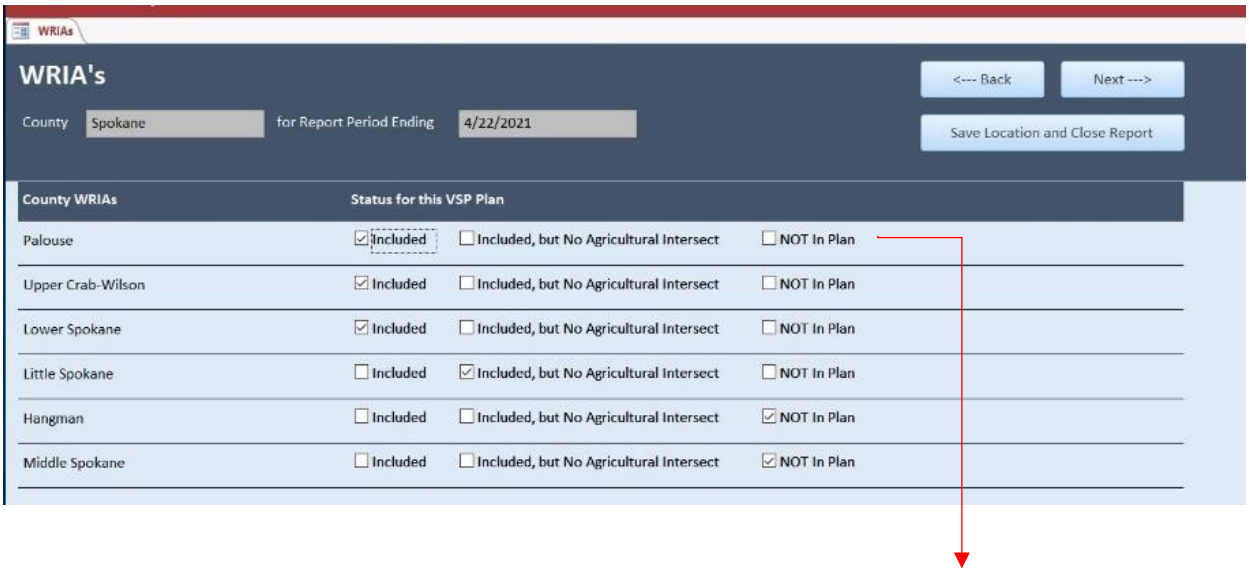
Confirm that the correct county is listed in the “County” field. Select the appropriate date for the “Report Period Ending” field. This is the date that your 5 year report is due. Then select “Open/Edit Report”. If the information is correct, choose “Yes” to make a new VSP 5 year report.

Step 4. Report Submitter and Goal Status



Enter the contact information for the person responsible for submitting the 5-year report. Then, choose an assertion for both Protection goals and Enhancement goals. The two choices for each set of goals are either “goals and benchmarks have been met” or “goals and benchmarks have NOT been me”. If goals have NOT been met, an adaptive management plan must be provided when prompted by the Template in an additional menu later in the reporting process (Step 14). Select “Next”.

Step 5. Select WRIAs and WRIA Status



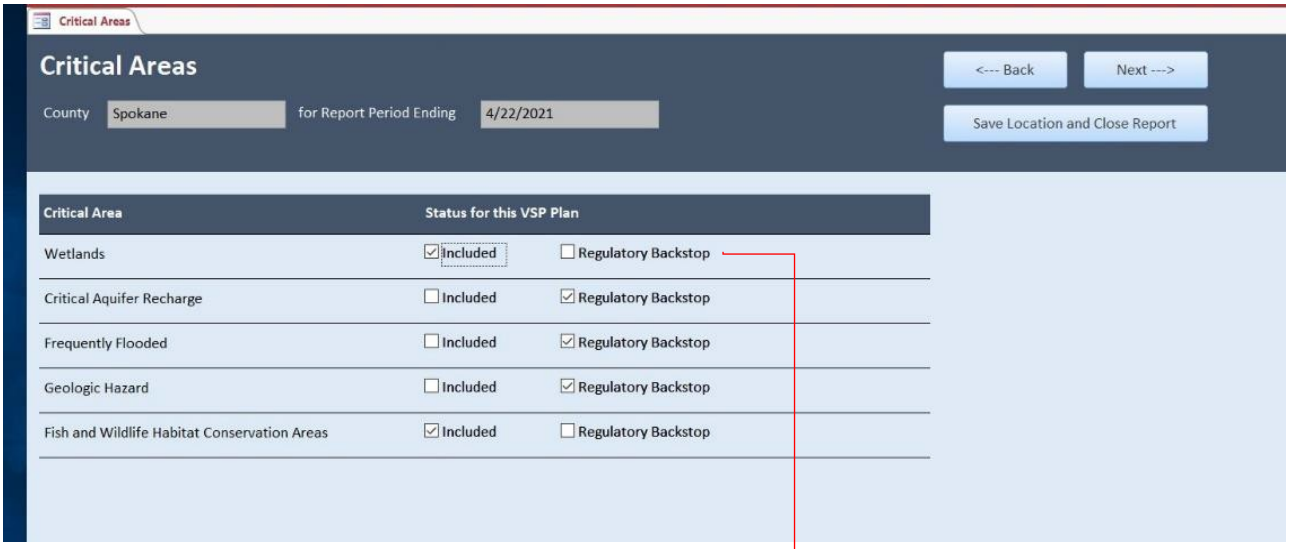
WRIAs for each county are populated automatically by the Template. In this case, portions of six WRIAs are within Spokane County. Work groups must select a status for each WRIA in their county. Each county identified which WRIA's were in the VSP in their opt-in ordinance. Those WRIA's were then identified in each county work plan.

County work groups, when submitting the 5 year report, need to identify which WRIA's were included in their county VSP work plan, which were included but there is no critical area and agricultural area intersect in the WRIA, or which were not included in the plan.

"Included" means that the county work plan has goals and benchmarks related to the critical areas that intersect with agricultural activities in that WRIA. "Included, but No Agricultural Intersect" means that the county work plan includes that WRIA, but there are no goals and benchmarks related to the critical areas because there is no intersect with agricultural activities in that WRIA. "Not in Plan" means that WRIA was not part of the original opt-in ordinance for the county, and the WRIA is not part of the county VSP work plan.

Any portion of a WRIA must be identified using one of the three designations above. Once completed, select "Next".

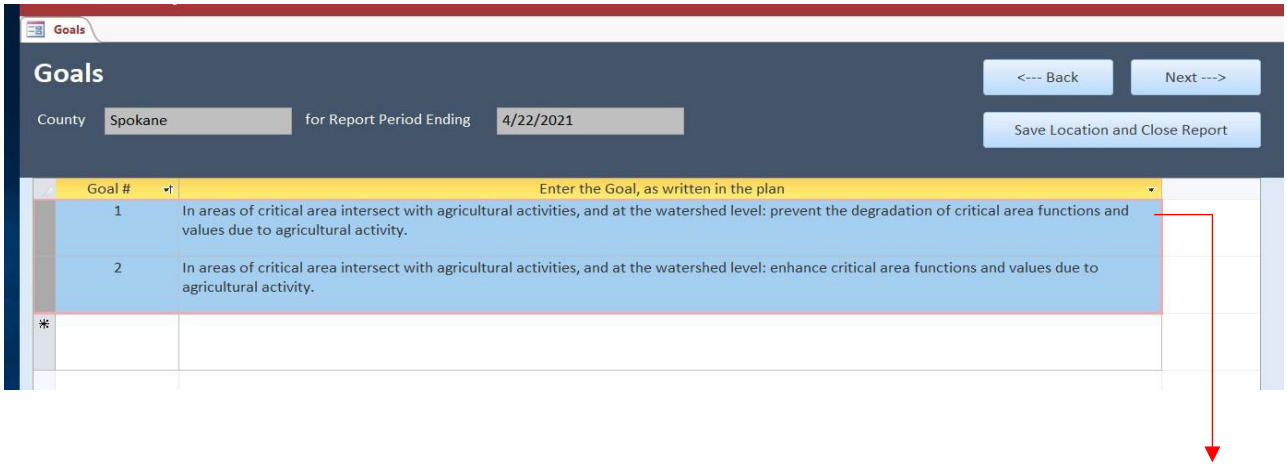
Step 6. Select Critical Areas and Critical Area Status



Here the work groups report whether each of the five critical area functions and values are addressed on a voluntary basis or via a regulatory backstop. Some counties rely on a regulatory approach for one or more critical area functions and values. If the protection/enhancement of critical area functions and values are addressed on a voluntary basis, select “Included”. If addressed via a regulatory approach, select “Regulatory Backstop”. One of the two options must be selected for each of the critical area types.

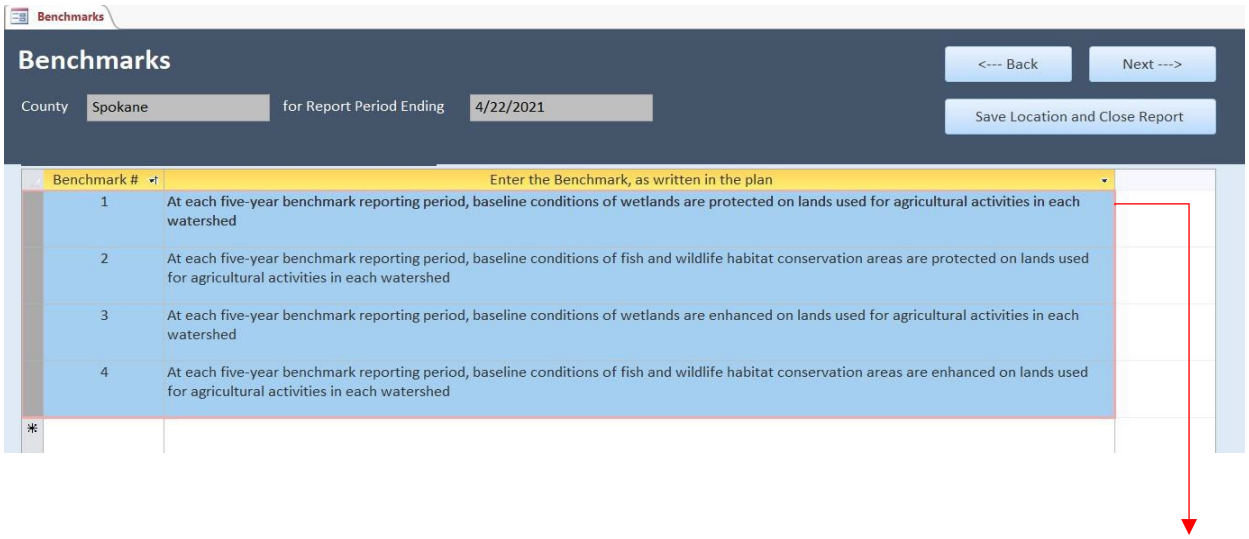
When completed, select “Next”.

Step 7. Enter Goals



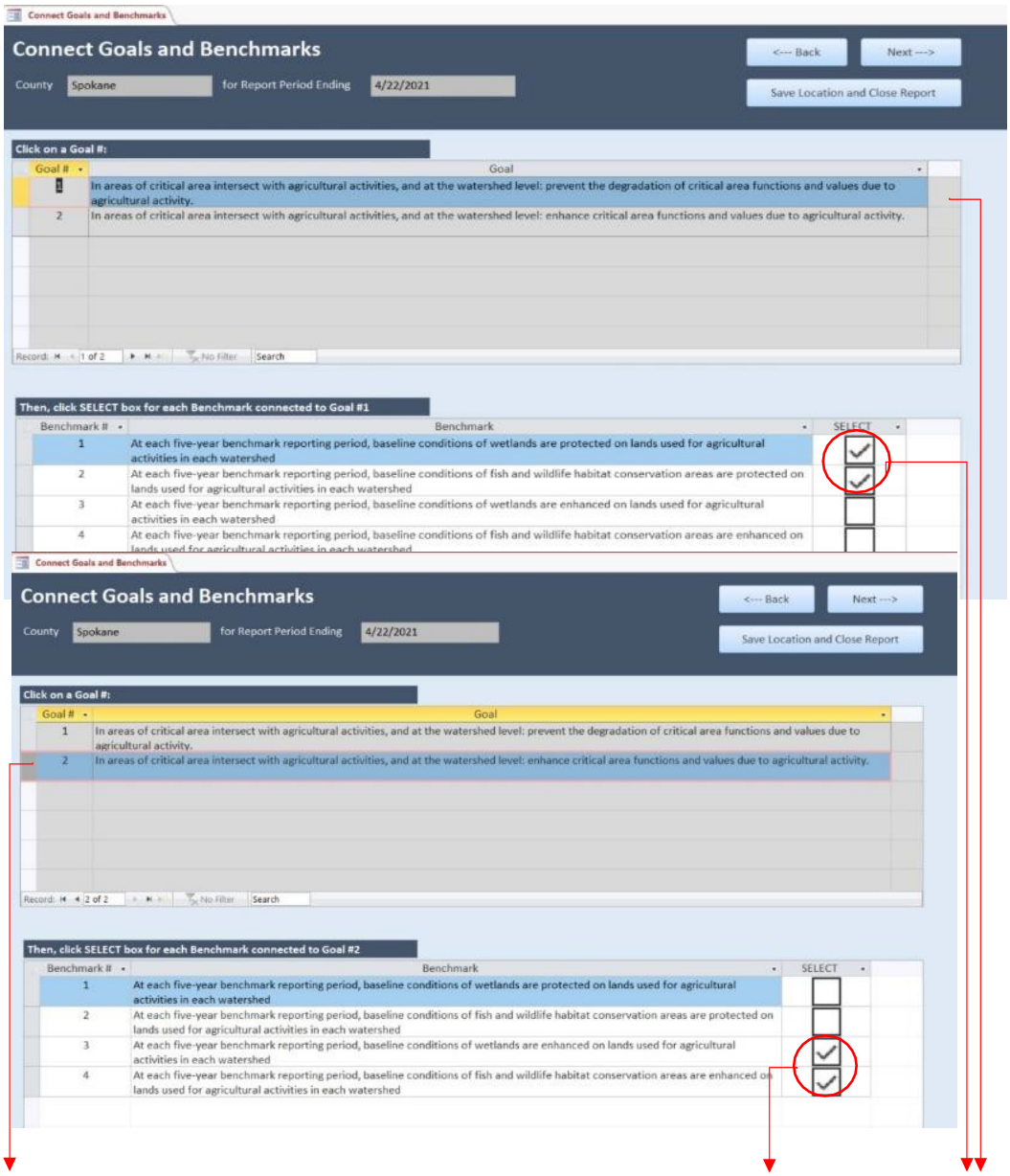
Provide each goal in the county work plan. Please enter the goals exactly as they are written in the work plan. The column “Goal #” is automatically populated once you enter text into the “Enter the Goal, as written in the plan” column. The order (and hence Goal #) that you enter each goal is not important. The Goal # is built into the Template simply to organize data, it is not a ranking indicator. Select “Next”.

Step 8. Enter Benchmarks



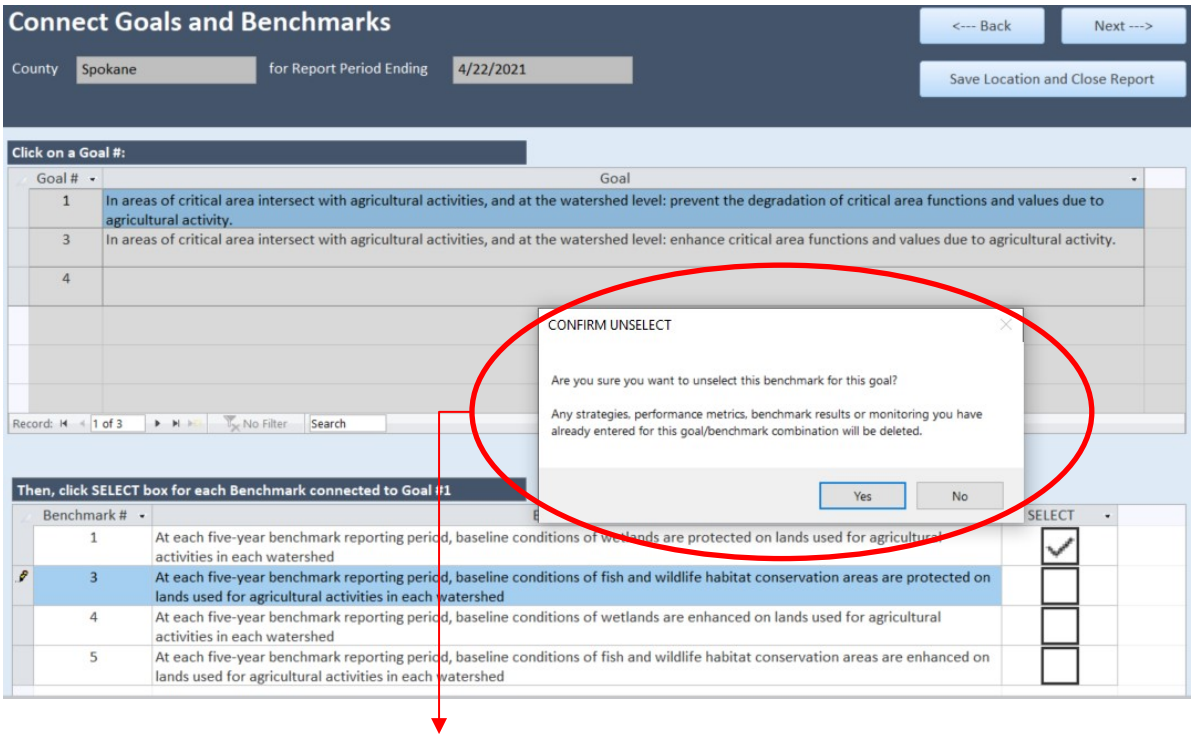
Provide each benchmark outlined in the county work plan. Please enter the benchmarks exactly as they are written in the work plan. As in Step 7, the column “Benchmark #” is automatically populated once you enter text into the field. In the next menu of the Template you will be prompted to match goals with benchmarks. Select “Next”.

Step 9. Connect Goals and Benchmarks



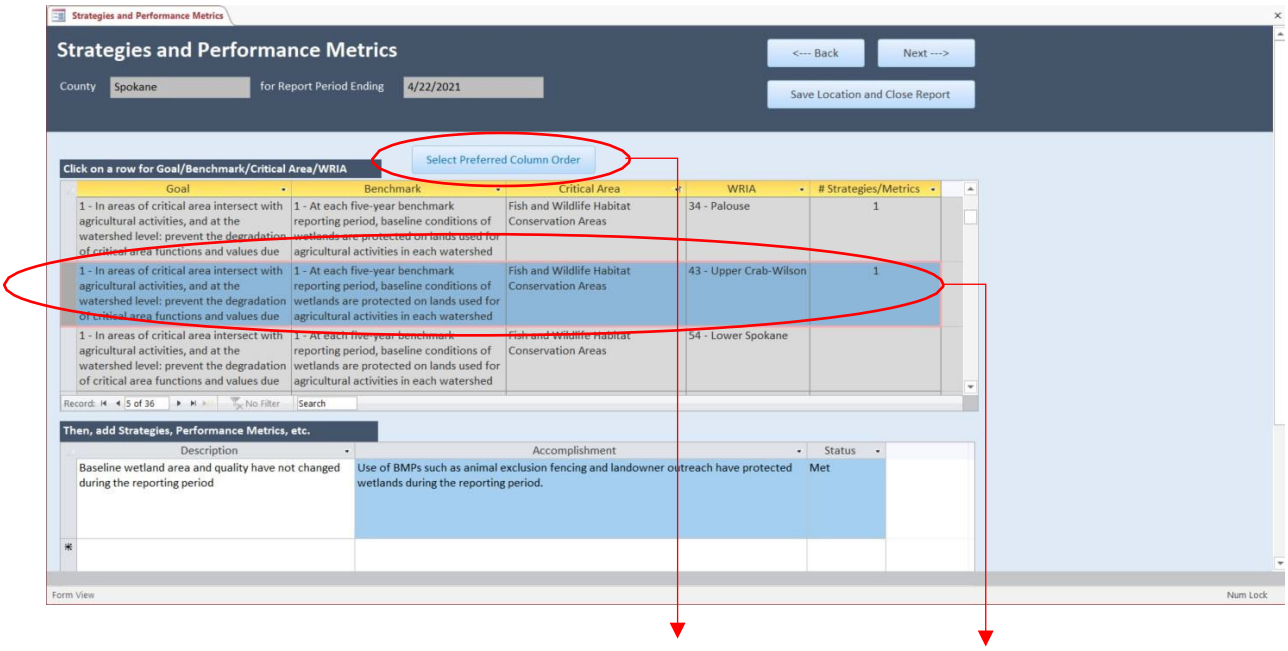
Here you will join the goals and benchmarks. The Template populates the goals and benchmarks you entered from the previous menu. First, select one of the goals by clicking it with your cursor. Then, from the list of benchmarks you entered, select the benchmark(s) that relate to the goal. Not all benchmarks may relate to each goal. Be sure to select each benchmark that is associated with each goal. Select the next goal and repeat the process. Then select “Next”.

Step 9, Connect Goals and Benchmarks, continued



One you have connected goals with benchmarks and proceeded to the next menu, you cannot delete a goal or benchmark. However, it is possible to make changes to how goals and benchmarks are connected. For example, if you choose to disconnect a goal or benchmark, or, create a new connection between a goal and benchmark, the Template will update your selections and filter future menu information accordingly. If you make changes to which goals or benchmarks are connected you should receive the message above.

Step 10. Strategies and Performance Metrics



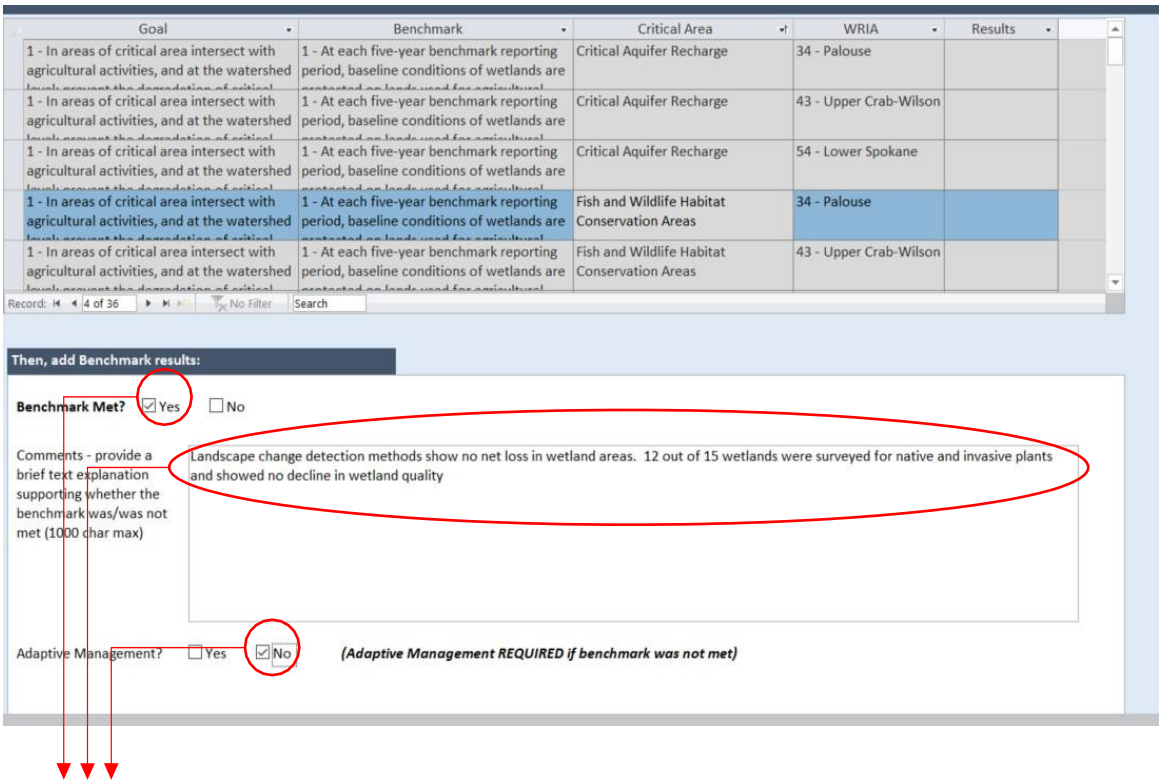
At this point, each combination of goal, benchmark, critical area type, and WRIA are populated. Note that you can change the order of the columns in the upper table using the “Select Preferred Column Order” button. In this example, three of the WRIAs in the county are omitted because they were marked as either “NOT in plan” or “Included, but No Agricultural Intersect” (Step 5). The three WRIAs that were marked as “Included” are associated with each combination of goal, benchmark, and critical area type. Additionally, critical area types marked as “Regulatory Backstop” from Step 6 are not included in the table, while critical area types marked as “Included” are included.

Select a record in the upper table (i.e., the unique combination of goal, benchmark, CA type, and WRIA). Note that the lower table provides prompts to type a Description, Accomplishment, and Status for each record. The Description should contain the language in the work plan describing the activities to be undertaken.

The Accomplishments field should contain the specific activities that occurred, e.g., the number of acres of specific conservation practices implemented during the reporting period. The Status column has four choices, “Met”, “Not Met”, “Exceeded”, or “N/A”. If you choose “Met”, “Not Met”, or “Exceeded”, all three columns must be completed before moving to the next menu. If you choose “N/A” as your status, the Template will

automatically populate the Description with the text “Goal and benchmark do not apply to this critical area”. The purpose of this is to provide the user a way to note that this particular combination of goal/benchmark/Critical Area/WRIA is not applicable for reporting purposes. An example would be critical area-specific goals and benchmarks, e.g., related to Fish and Wildlife, that do not apply to Critical Aquifer Recharge areas. When finished entering a Description, Accomplishment, and Status for each record, select “Next”.

Step 11. Benchmark Results



Goal	Benchmark	Critical Area	WRIA	Results
1 - In areas of critical area intersect with agricultural activities, and at the watershed	1 - At each five-year benchmark reporting period, baseline conditions of wetlands are	Critical Aquifer Recharge	34 - Palouse	
1 - In areas of critical area intersect with agricultural activities, and at the watershed	1 - At each five-year benchmark reporting period, baseline conditions of wetlands are	Critical Aquifer Recharge	43 - Upper Crab-Wilson	
1 - In areas of critical area intersect with agricultural activities, and at the watershed	1 - At each five-year benchmark reporting period, baseline conditions of wetlands are	Critical Aquifer Recharge	54 - Lower Spokane	
1 - In areas of critical area intersect with agricultural activities, and at the watershed	1 - At each five-year benchmark reporting period, baseline conditions of wetlands are	Fish and Wildlife Habitat Conservation Areas	34 - Palouse	
1 - In areas of critical area intersect with agricultural activities, and at the watershed	1 - At each five-year benchmark reporting period, baseline conditions of wetlands are	Fish and Wildlife Habitat Conservation Areas	43 - Upper Crab-Wilson	

Record: 4 of 36 | No Filter | Search

Then, add Benchmark results:

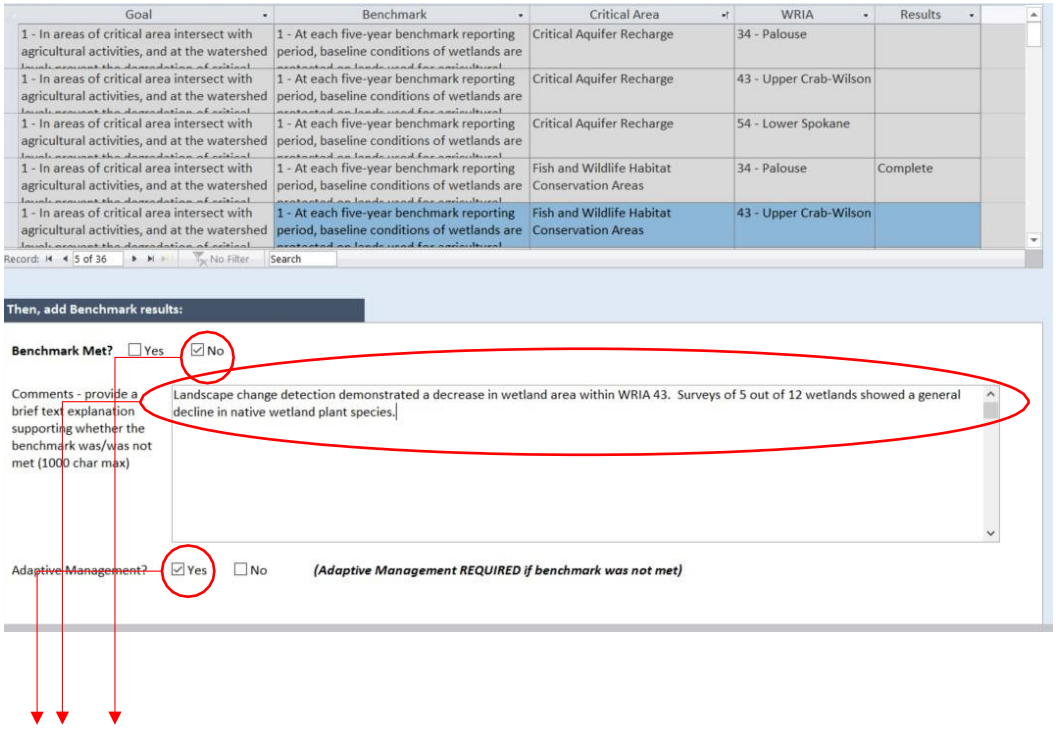
Benchmark Met? ☑ Yes ☐ No

Comments - provide a brief text explanation supporting whether the benchmark was/was not met (1000 char max): Landscape change detection methods show no net loss in wetland areas. 12 out of 15 wetlands were surveyed for native and invasive plants and showed no decline in wetland quality

Adaptive Management? ☐ Yes ☑ No ***(Adaptive Management REQUIRED if benchmark was not met)***

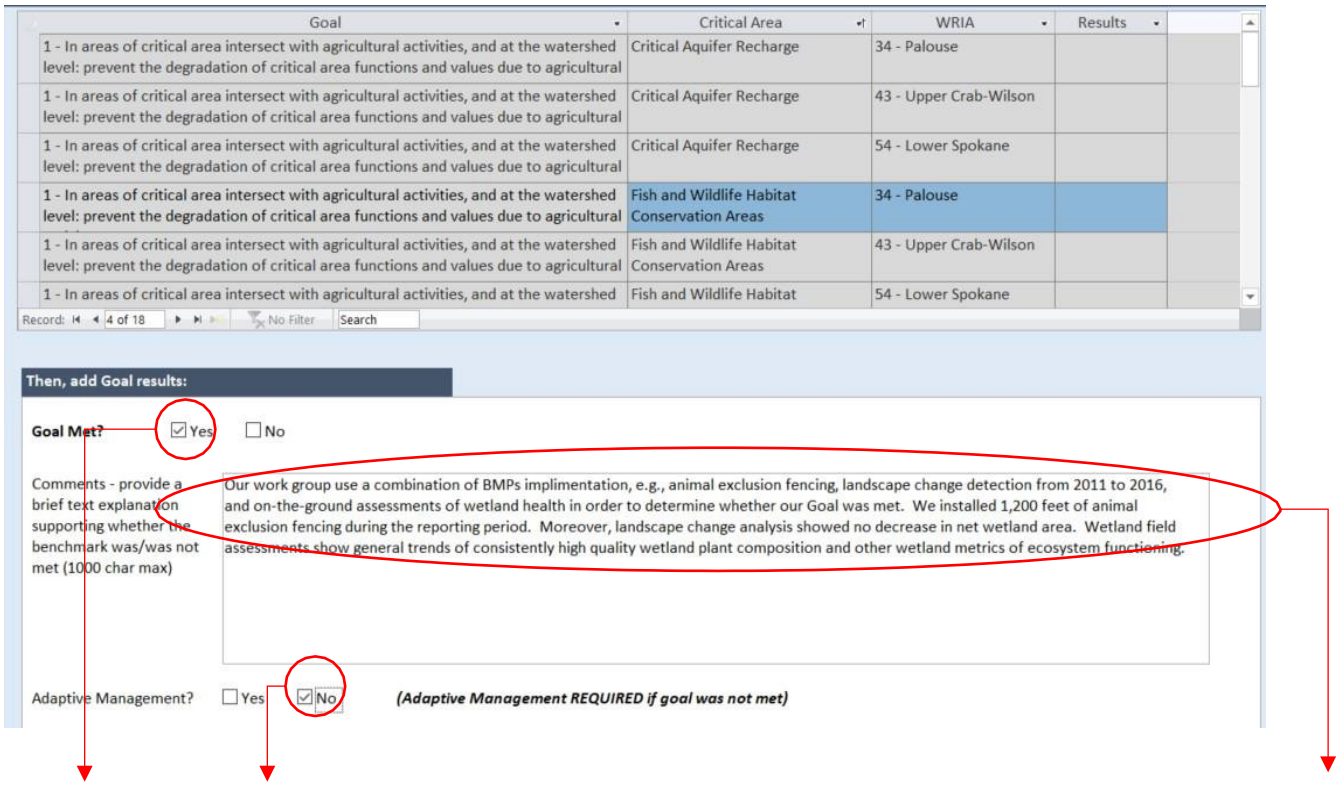
Select each goal/benchmark/critical area/WRIA combination and report whether the benchmark was met. Please choose “Yes” or “No” in the check boxes provided and enter a description of how the benchmark was, or was not, met. If the benchmark has been met, no adaptive management is required.

Step 11, Benchmark Results continued



If a benchmark was not met, please provide a description for how this was determined. If a benchmark was not met, users are required to choose “Yes” for whether adaptive management is required. Later in the template you will have an opportunity to describe what adaptive management will look like moving forward. When finished reporting on each goal/benchmark/critical area/WRIA combination, select “Next”.

Step 12. Goal Results



Goal	Critical Area	WRIA	Results
1 - In areas of critical area intersect with agricultural activities, and at the watershed level: prevent the degradation of critical area functions and values due to agricultural	Critical Aquifer Recharge	34 - Palouse	
1 - In areas of critical area intersect with agricultural activities, and at the watershed level: prevent the degradation of critical area functions and values due to agricultural	Critical Aquifer Recharge	43 - Upper Crab-Wilson	
1 - In areas of critical area intersect with agricultural activities, and at the watershed level: prevent the degradation of critical area functions and values due to agricultural	Critical Aquifer Recharge	54 - Lower Spokane	
1 - In areas of critical area intersect with agricultural activities, and at the watershed level: prevent the degradation of critical area functions and values due to agricultural	Fish and Wildlife Habitat Conservation Areas	34 - Palouse	
1 - In areas of critical area intersect with agricultural activities, and at the watershed level: prevent the degradation of critical area functions and values due to agricultural	Fish and Wildlife Habitat Conservation Areas	43 - Upper Crab-Wilson	
1 - In areas of critical area intersect with agricultural activities, and at the watershed	Fish and Wildlife Habitat	54 - Lower Spokane	

Record: 4 of 18 | No Filter | Search

Then, add Goal results:

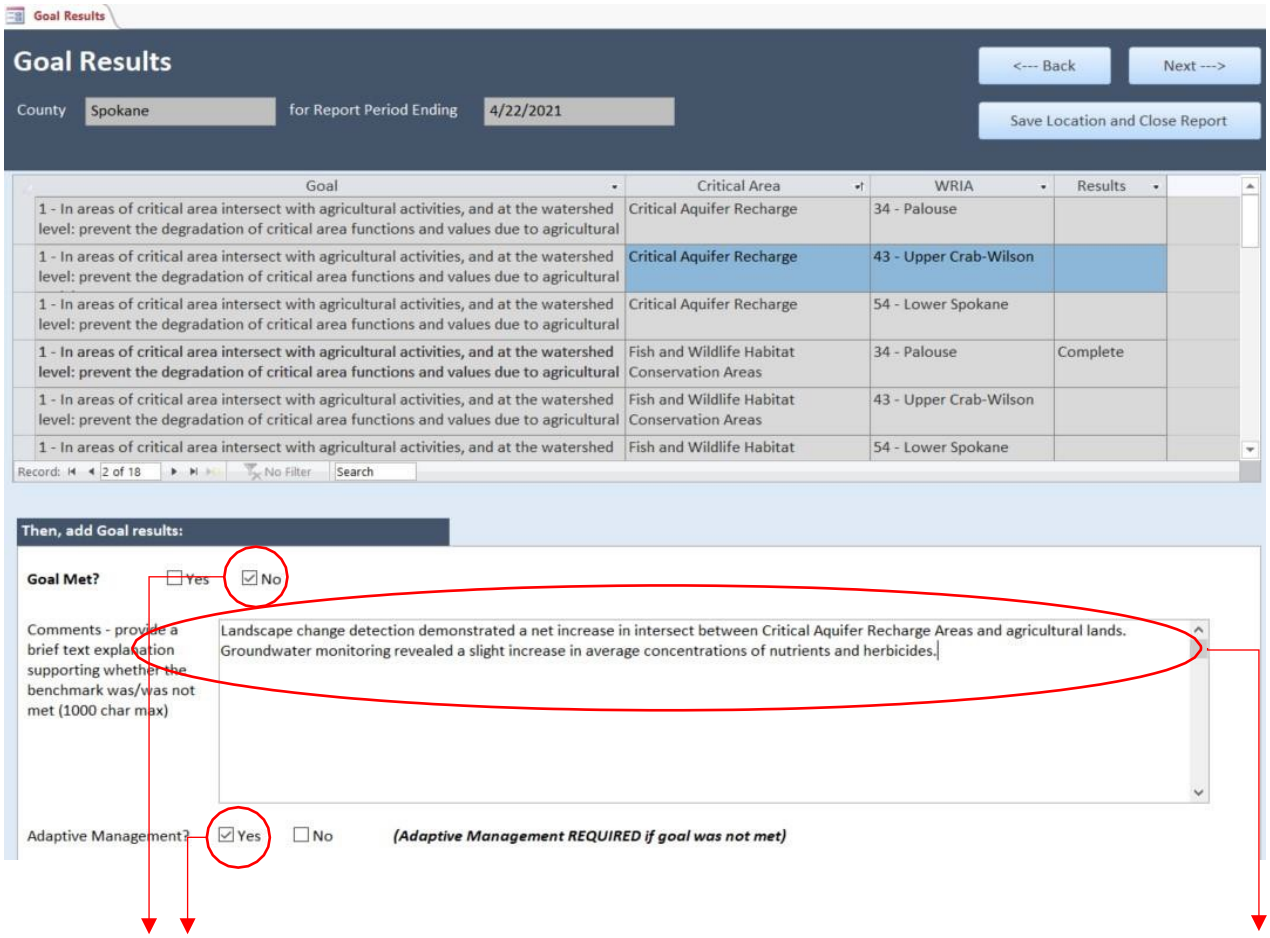
Goal Met? ☑ Yes ☐ No

Comments - provide a brief text explanation supporting whether the benchmark was/was not met (1000 char max): Our work group use a combination of BMPs implimentation, e.g., animal exclusion fencing, landscape change detection from 2011 to 2016, and on-the-ground assessments of wetland health in order to determine whether our Goal was met. We installed 1,200 feet of animal exclusion fencing during the reporting period. Moreover, landscape change analysis showed no decrease in net wetland area. Wetland field assessments show general trends of consistently high quality wetland plant composition and other wetland metrics of ecosystem functioning.

Adaptive Management? ☐ Yes ☑ No ***(Adaptive Management REQUIRED if goal was not met)***

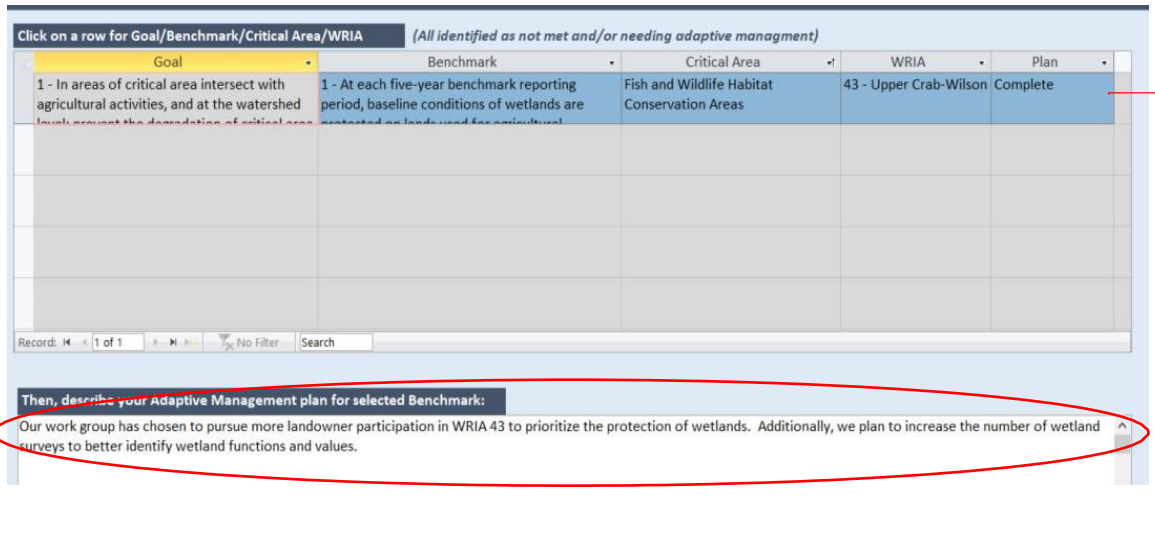
Please indicate for each goal/critical area/WRIA combination whether the goal(s) were met. Please describe in the comments what approaches were used to determine whether each goal was met or not.

Step 12, Goal Results continued



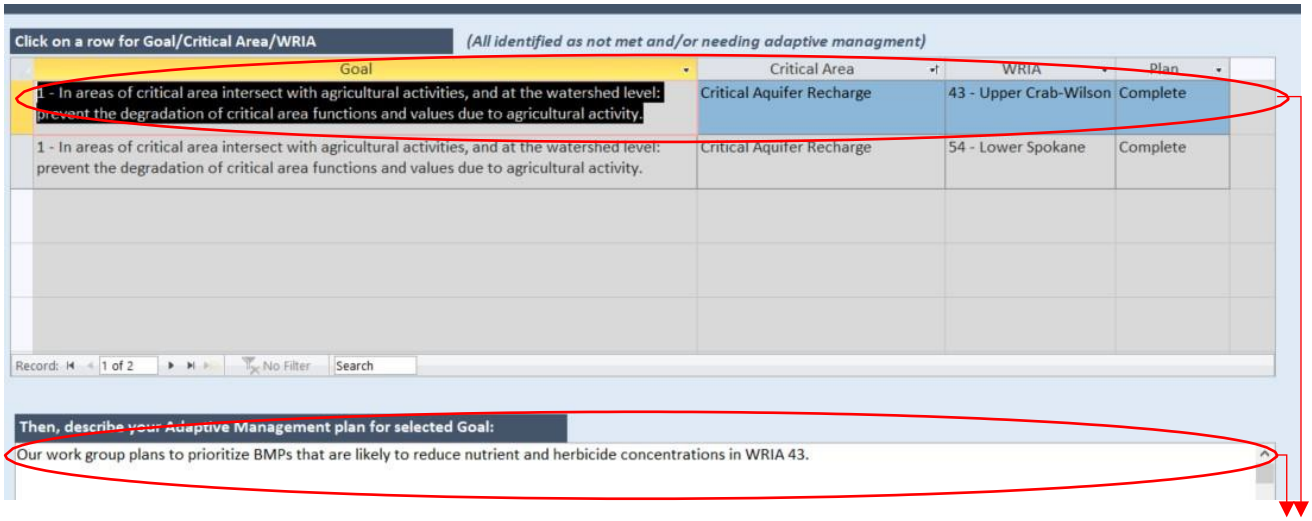
If a goal was not met, the Template will automatically select “Yes” that adaptive management is required. Later in the Template a menu will be prompted to describe what adaptive management strategies your work group intends to pursue. When finished reporting if each goal was met on each goal/benchmark/critical area/WRIA combination, select “Next”.

Step 13. Benchmark Adaptive Management



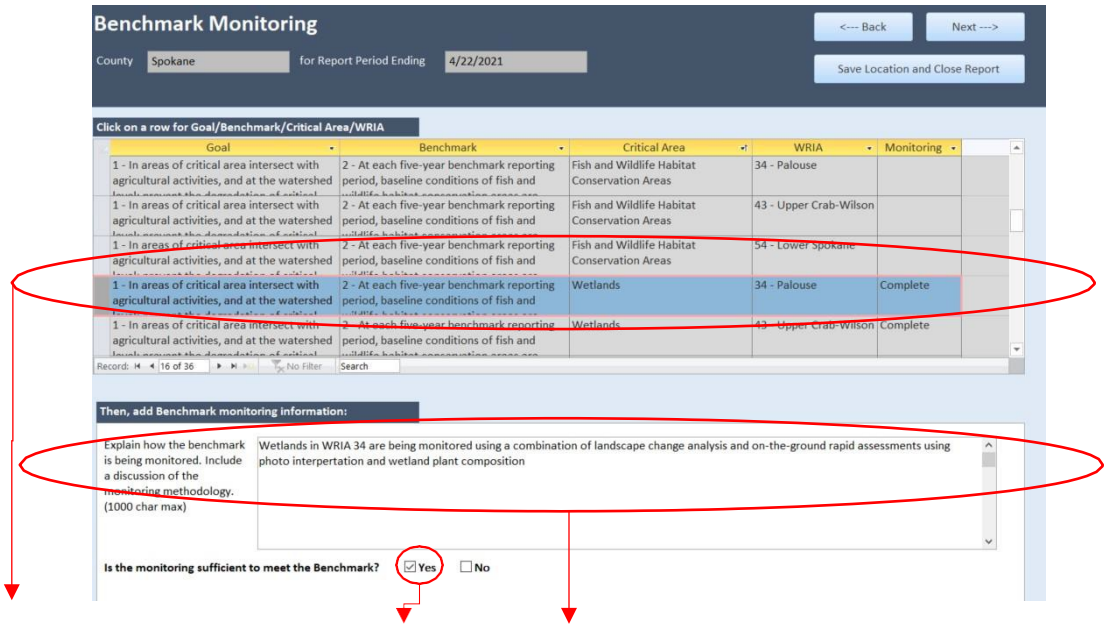
The “Benchmark Adaptive Management” menu is only displayed if previously benchmarks were noted as “Not Met”. Select each goal/benchmark/critical area/WRIA and describe in the lower box how you will implement adaptive management. Once you enter the information the Plan field in the upper box will display “Complete”. When finished explaining adaptive management for each combination of goal/benchmark/critical area/WRIA combination not being met, select “Next”.

Step 14. Goal Adaptive Management



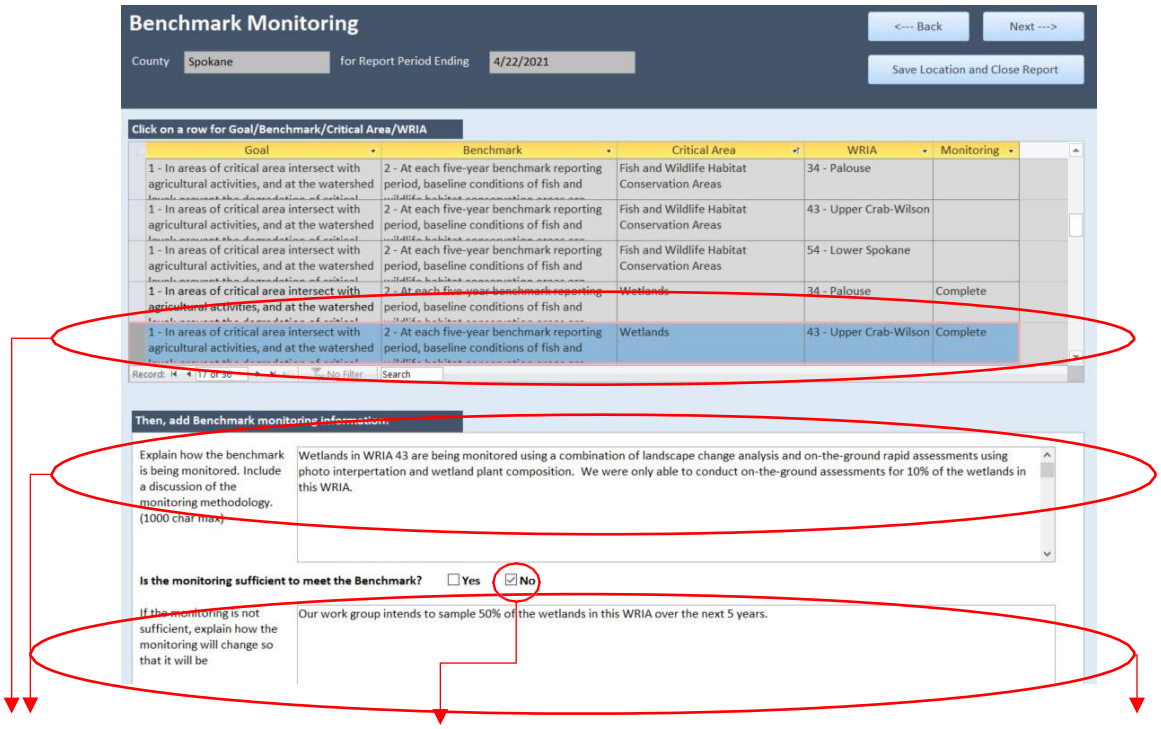
If the user has selected that goals need adaptive management, these goals will appear in the “Goal Adaptive Management” menu. Select each row in the upper table corresponding with a unique combination of goals, critical areas, and WRIAs. With the row selected, the user will be prompted to enter a description of the adaptive management plan in the text box below the upper table. When finished explaining adaptive management for each combination of goal/benchmark/critical area/WRIA combination not being met, select “Next”.

Step 15. Benchmark Monitoring



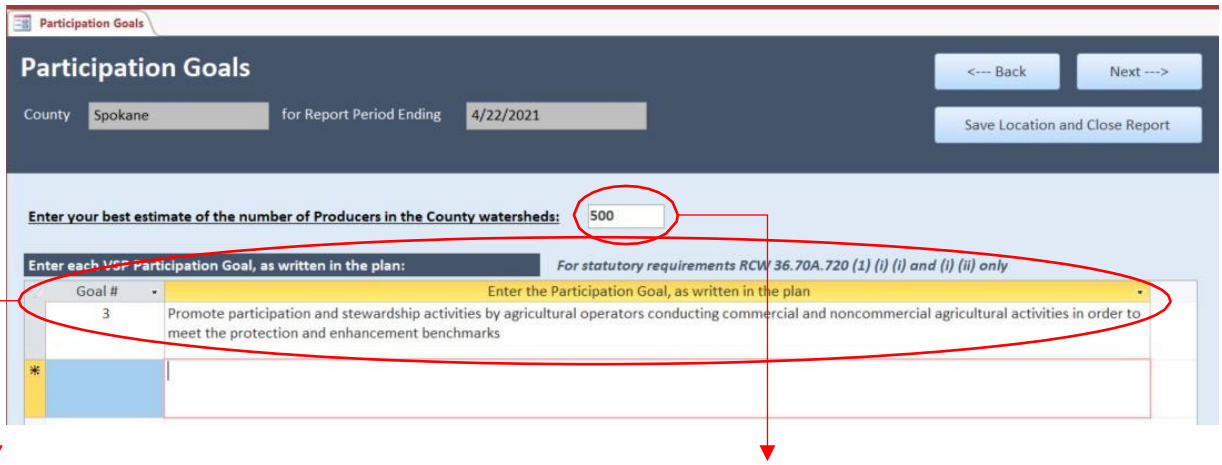
Enter a description of the methods used to monitor goal and benchmark. If monitoring was sufficient to meet each benchmark, select “Yes” in the check boxes at the bottom of the menu. Once you enter this information, the monitoring field will display
“Complete”.
When finished explaining monitoring for each combination of goal/benchmark/critical area/WRIA combination, select “Next”.

Step 15, Benchmark Monitoring, continued



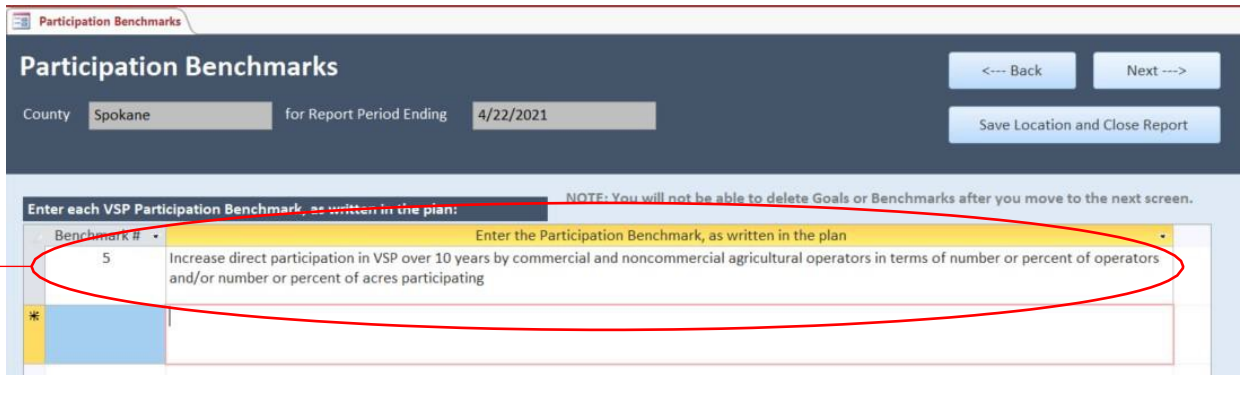
If the monitoring approaches were not sufficient to detect changes, an additional menu will display. Please indicate how your work group intends to modify the monitoring approach to ensure it will be sufficient to detect changes in the future. When finished, select “Next”.

Step 16. Participation Goals



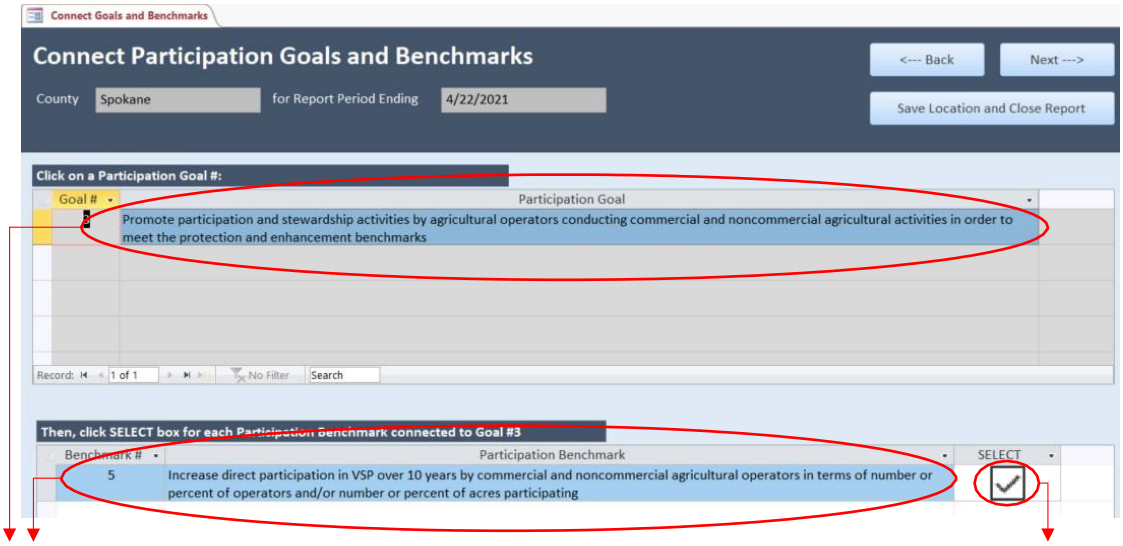
Enter an estimate of the total number of producers within the county watersheds included in your work plan. Then, enter your work plan's participation goals as they are written in the plan. Later you will connect participation goals with participation benchmarks. When you complete an entry, the "Goal #" field will auto populate with a number. **Note: once you enter a participation goal and navigate to the next menu you cannot delete the goal. Be sure that you have correctly identified your participation goals from your work group's work plan before entering them and proceeding with the template.* When finished entering participation goals, select "Next".

Step 17. Participation Benchmarks



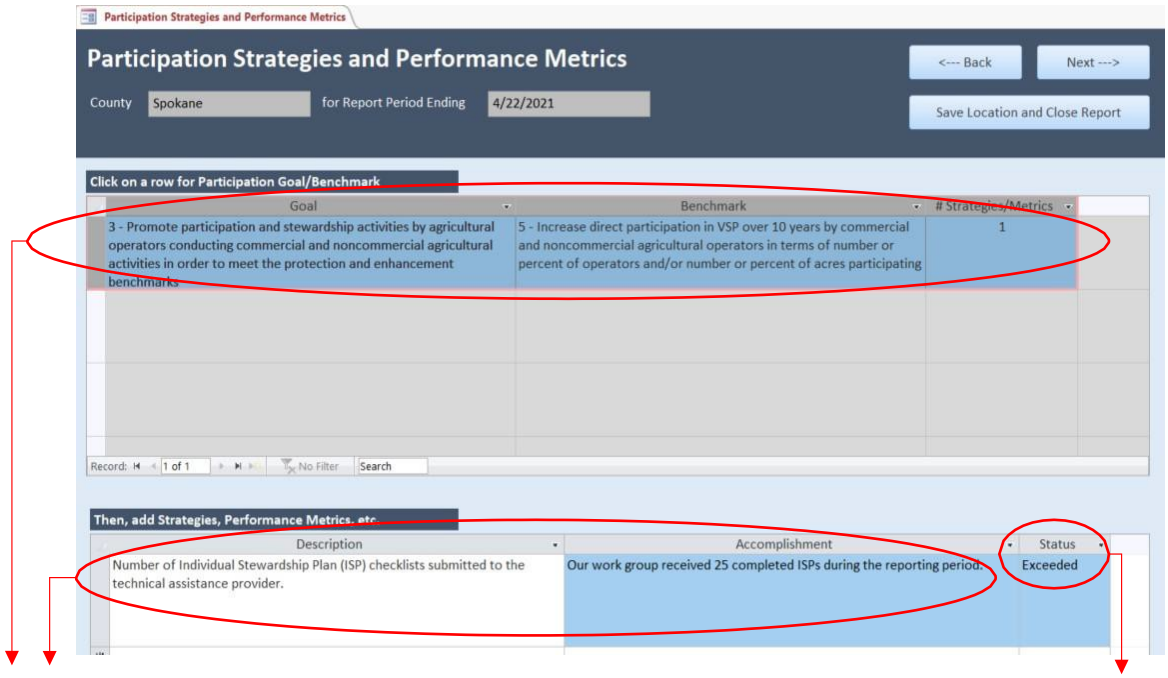
Enter your work plan's participation benchmarks as written in the plan. When you complete an entry, the "Goal #" field will auto populate with a number. **Note: once you enter a participation benchmark and navigate to the next menu you cannot delete the participation benchmark. Be sure that you have correctly identified your participation benchmarks from your work group's work plan before entering them and proceeding with the template*. When finished entering participation benchmarks, select "Next".

Step 18. Connect Participation Goals and Benchmarks



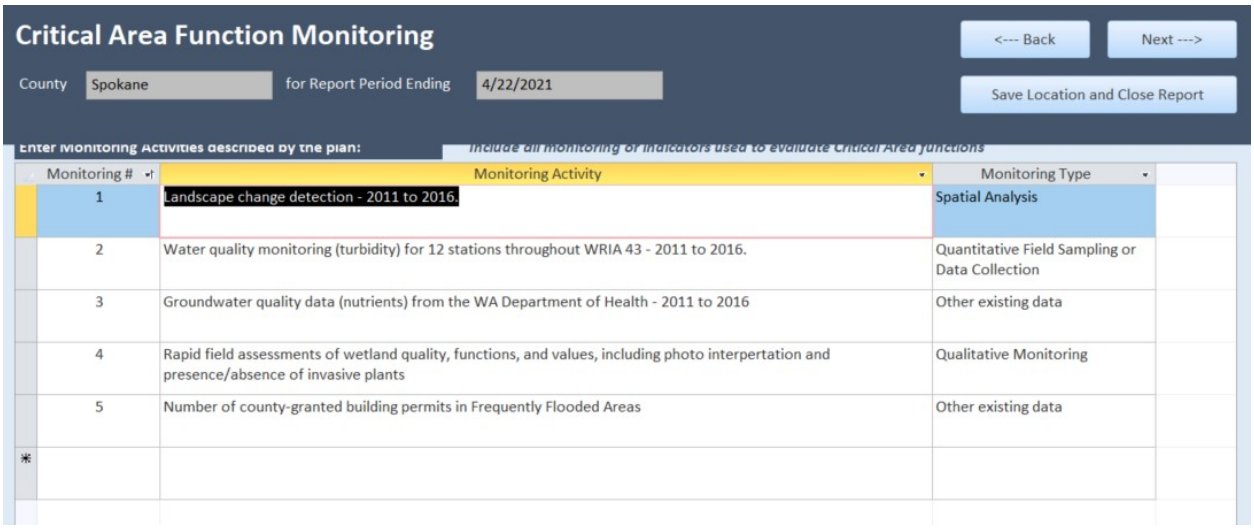
Select the participation benchmark that correspond with each participation goal. Participation goals may have more than one participation benchmark. Participation benchmarks are associated with participation goals by checking the check-box in the "Select" column. When finished, select "Next".

Step 19. Participation Strategies and Performance Metrics



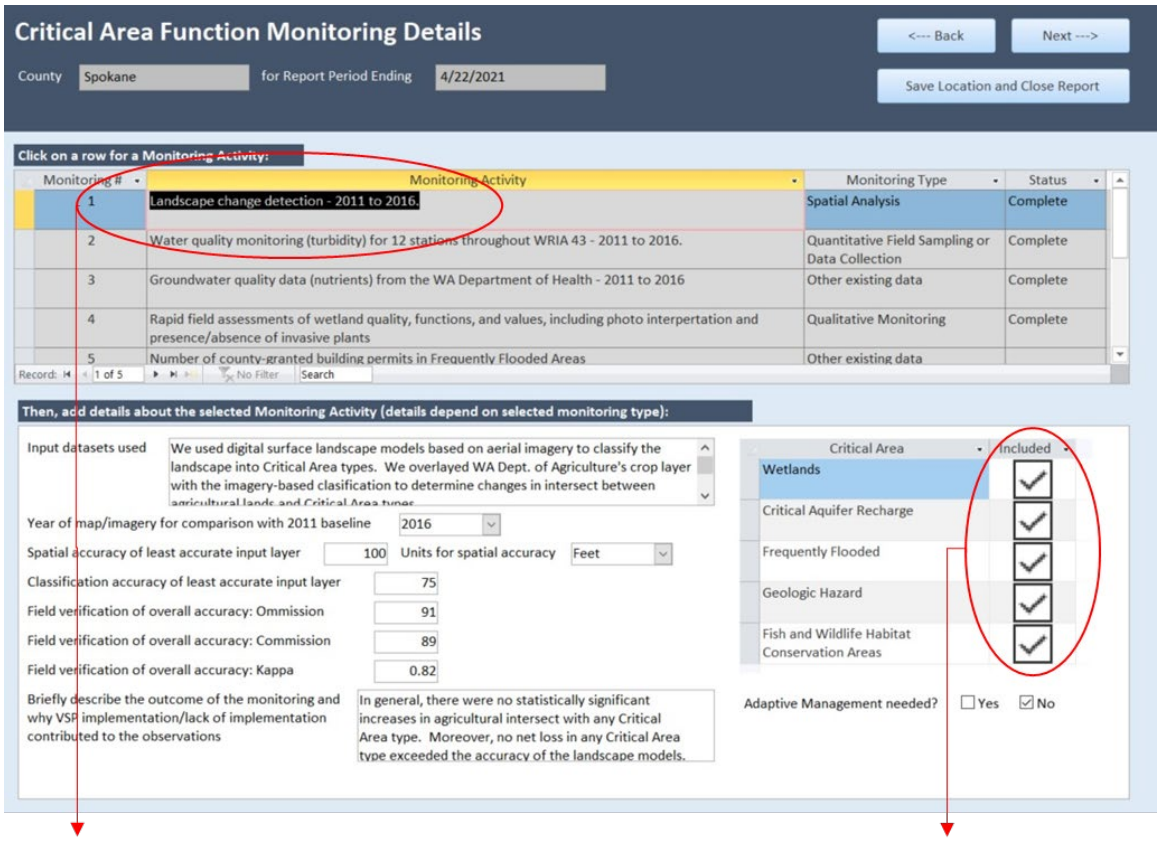
Select each unique combination of participation goals and participation benchmarks, and then enter a Description of the Strategies/Performance Metrics associated with the participation goal/benchmark. Describe what was accomplished in the Accomplishment field and indicate a Status of "Exceeded", "Met", "Not Met", or "NA". Once you enter the information the "# Strategies/Metrics" field in the upper table will automatically be populated with the number "1" to indicate the information has been completed. When finished, select "Next".

Step 20. Critical Area Function Monitoring



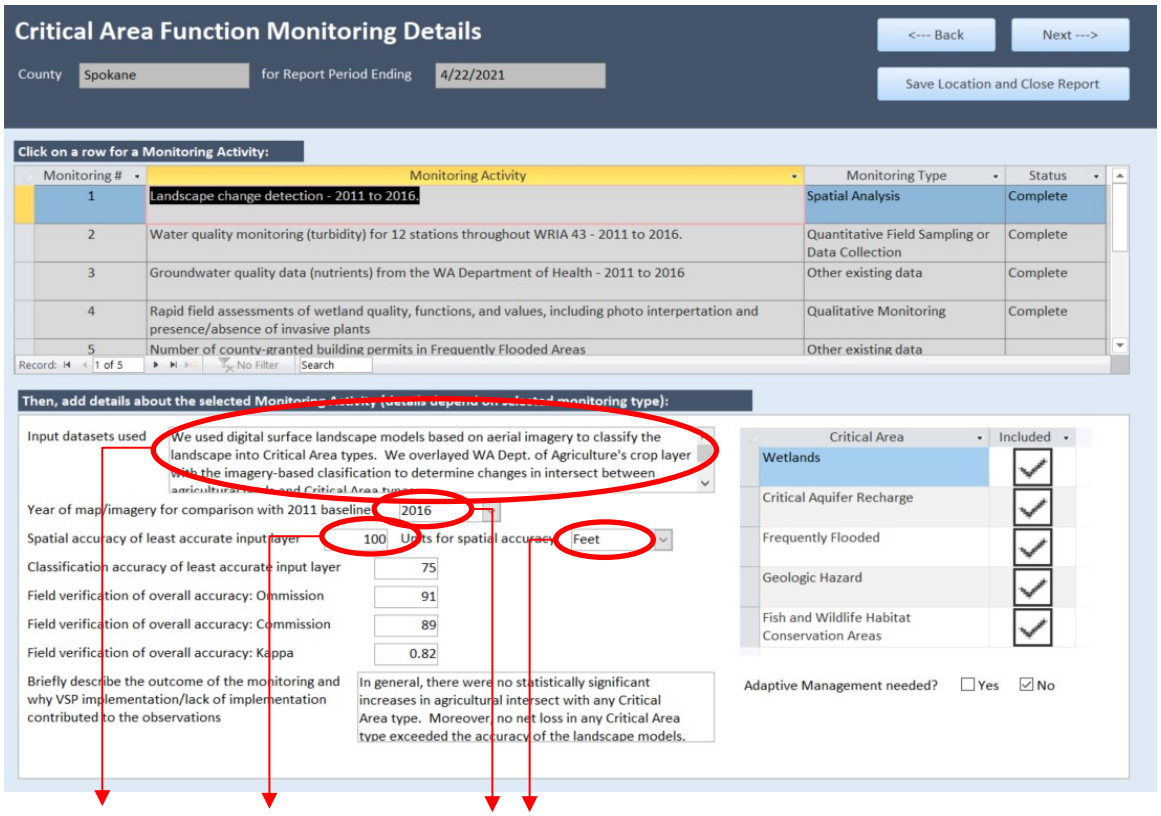
Users are prompted to choose from several categories of types of monitoring used to monitor the functions and values of the critical areas as addressed in your work plan. There are four options: “Spatial Analysis”, “Quantitative Field Sampling or Data Collection”, “Qualitative Monitoring”, or “Other existing data”. Details on each monitoring category can be found in the Appendix. After a type is chosen, please further explain the type by entering an informative description of each monitoring activity in the Monitoring activity column. In the next menu you will be prompted to provide more detail about your monitoring activities. When finished entering all monitoring types, select “Next”.

Step 21. Critical Area Function Monitoring Details – Spatial Analysis



Users are prompted to enter details for each type of monitoring activity. First, select a monitoring activity in the upper table. Then, with the upper table row selected, enter details of the monitoring activity in the dialog below. In the example above, the first monitoring activity is "**Spatial Analysis**". Each monitoring type is associated with different details, and the details of each monitoring type in a county work plan will need to be entered. Be sure to select the check boxes that correspond to critical area types related to the specific monitoring activity. More information on spatial analysis can be found in Appendixes A-1 and A-5.

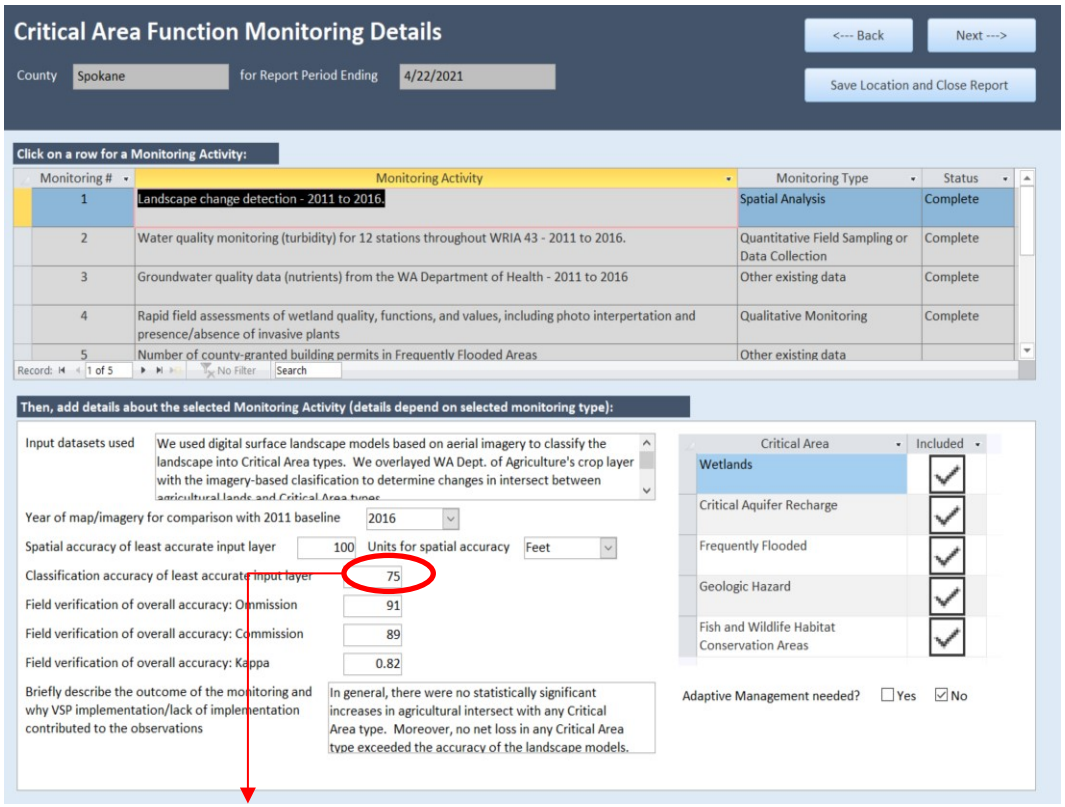
Step 21, Spatial Analysis continued



Provide a description of the spatial data used for the analysis. Include information on which datasets were used, where the data originated, and how the data was integrated. Select the comparison year for the spatial analysis (relative to 2011 baseline) in the “Year of map/imagery for comparison with 2011 baseline” dialog box. Identify and report the spatial accuracy of the least accurate input layer used in the spatial analysis. Units may be feet, meters, or root-mean-square-error (RMSE).

Spatial Accuracy. Reporting the spatial accuracy of any mapping or spatial analysis is a critical part of the reporting process. All valid spatial data will contain an accuracy assessment. Typically accuracies are expressed in spatial units, such as 30-meter resolution land use/land cover data or GPS points that are accurate within 15 feet. The Template prompts users to input the spatial accuracy of the least accurate input layer. The spatial accuracy of the least accurate layer provides reviewers with perspective on how to interpret the magnitude (how much change) and direction (gain/loss) of landscape changes with respect to critical area functions and values and patterns of agricultural land-use.

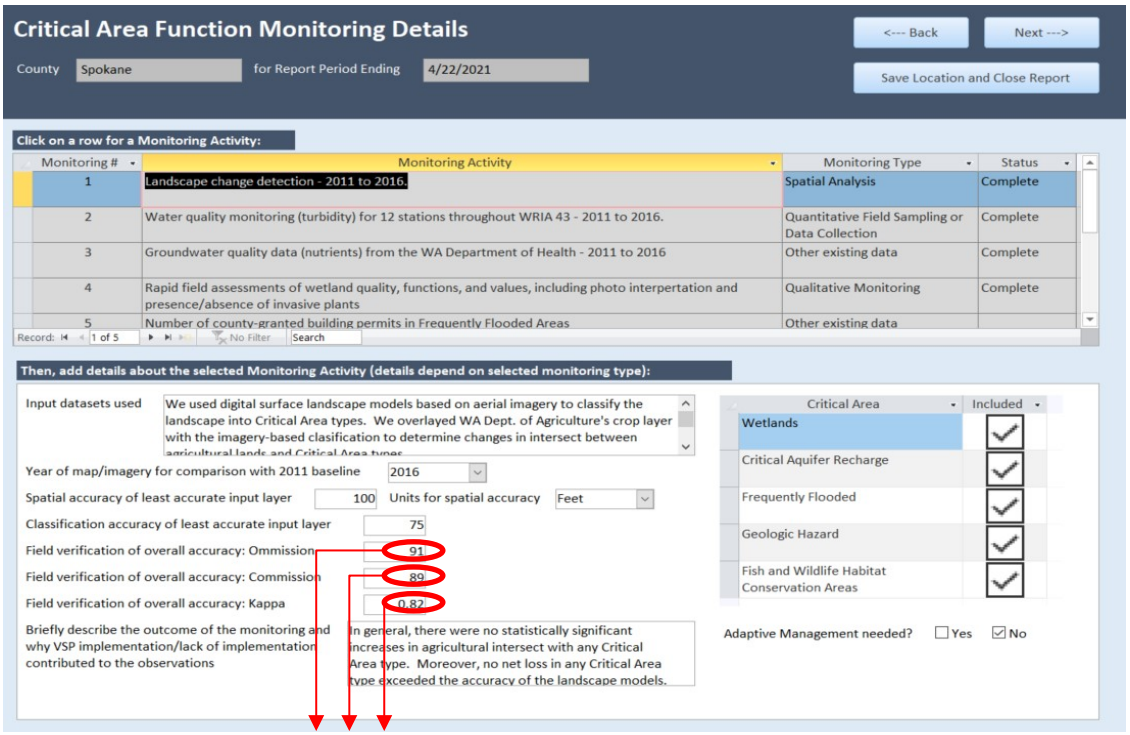
Step 21, Spatial Analysis continued



Next, enter the classification accuracy of the least accurate input layer (units are %).

Classification Accuracy of Least Accurate Input Layer. Classification accuracy refers to how well a GIS classified different landscape features. Landscape classification typically involves extrapolating cell (pixel) values across the map extent based upon a subset of known locations and landscape feature types. Some approaches to classification result in higher or lower accuracies with respect to the extrapolated map areas. The template prompts users to input the classification accuracy of the least accurate layer to provide reviewers with information about how to interpret the magnitude and direction of landscape changes and the overall accuracy of land-use/land-cover in the region.

Step 21, Spatial Analysis continued



Enter the omission and commission errors (as a percentage) as well as the Kappa statistic (numeric decimal). Errors of omission and commission, and the Kappa statistic, are used by reviewers to assess the overall accuracy of any landscape classification that was conducted. Links to additional resources on these themes can be found in Appendix A-1.

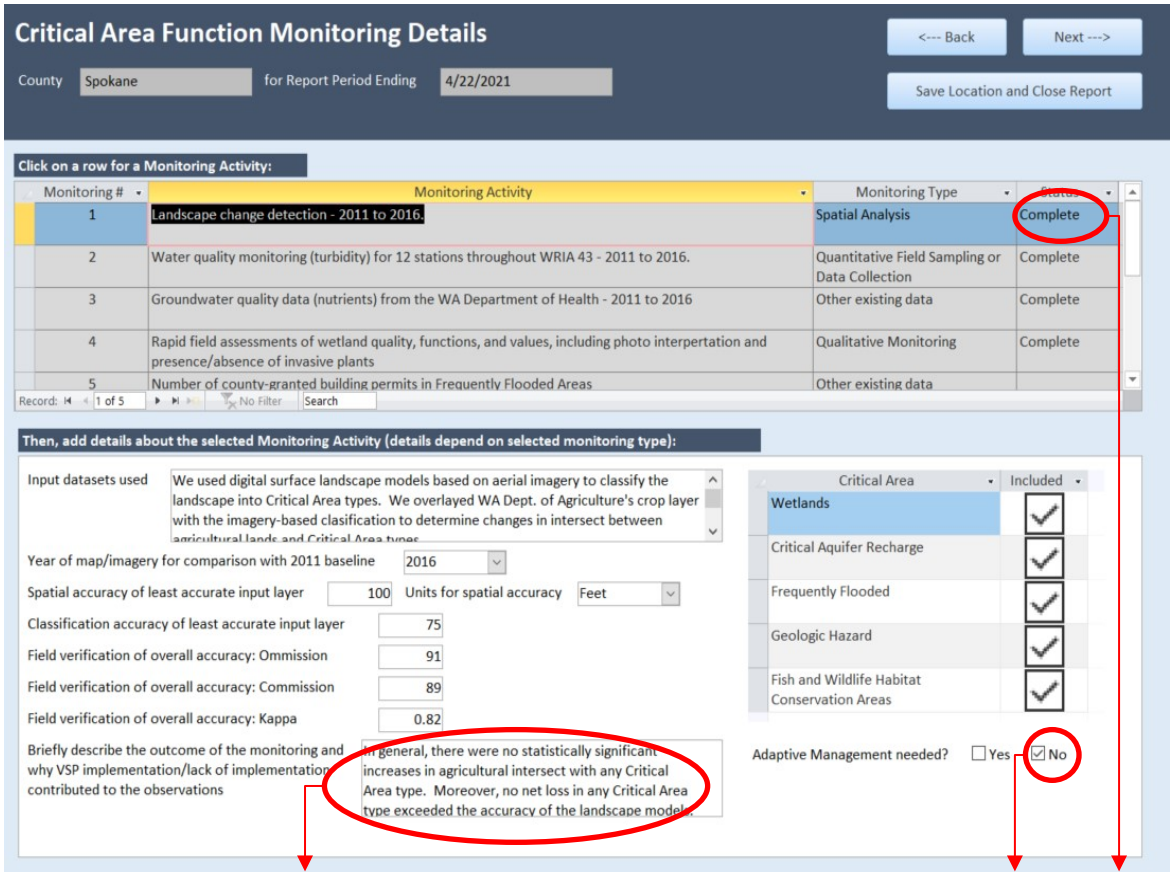
Errors of Omission and Commission. Errors of omission occur when a land-use/land-cover reference sites are omitted from the GIS classification (e.g., a known wetland reference area is classified as forest in a GIS). Omission errors represent how well the reference sites on-the-ground are classified in the GIS. Errors of commission refer to how well the classified land-use/land-cover map captures landscape types over the entire map extent.

Commission errors represent the probability that a map cell (pixel) is correctly classified across land-use/land-cover types.

Kappa. The Kappa statistic is an approach for classification accuracy assessment. The value of Kappa indicates the difference between actual agreement between land-use/land- cover classified by the GIS in relation to on-the-ground conditions, and the agreement that may occur by chance alone. A Kappa statistic of 0.85 means that the landscape classification has

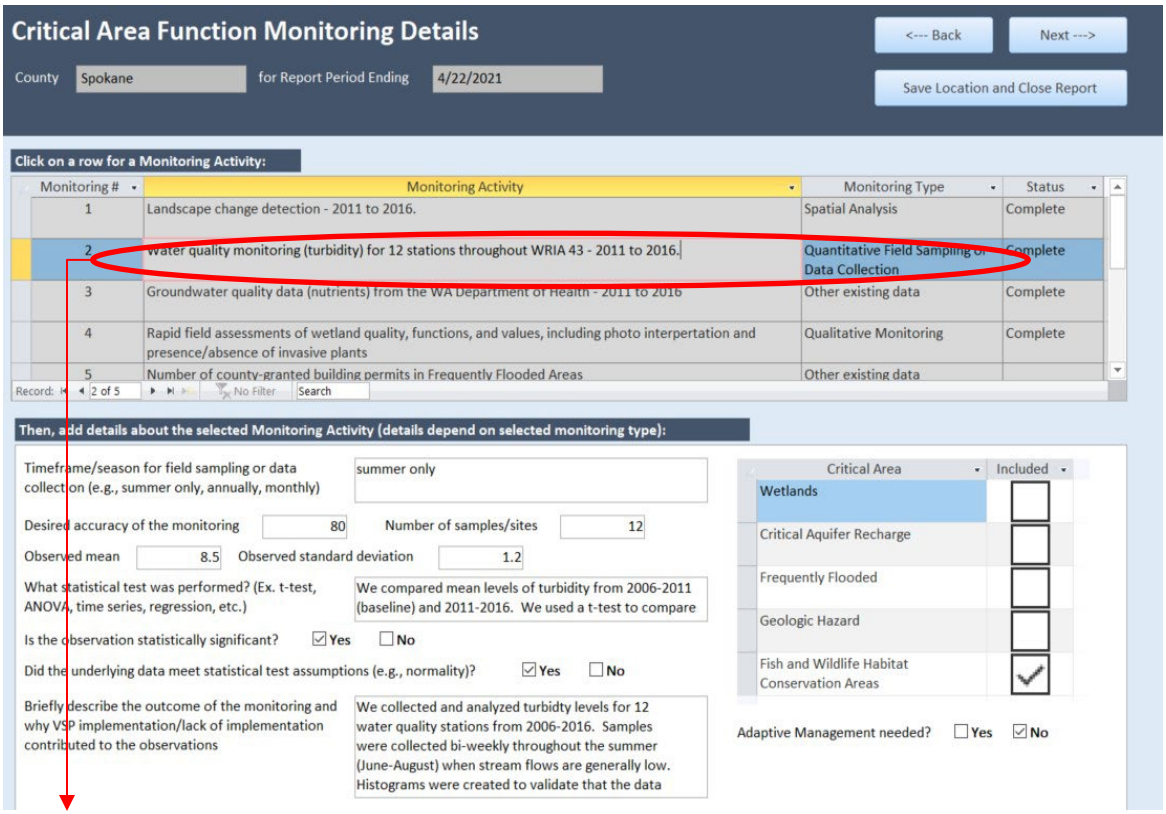
85% better agreement than simply chance alone; higher Kappa values indicate better agreement between on-the-ground observations and GIS classifications.

Step 21, Spatial Analysis, continued



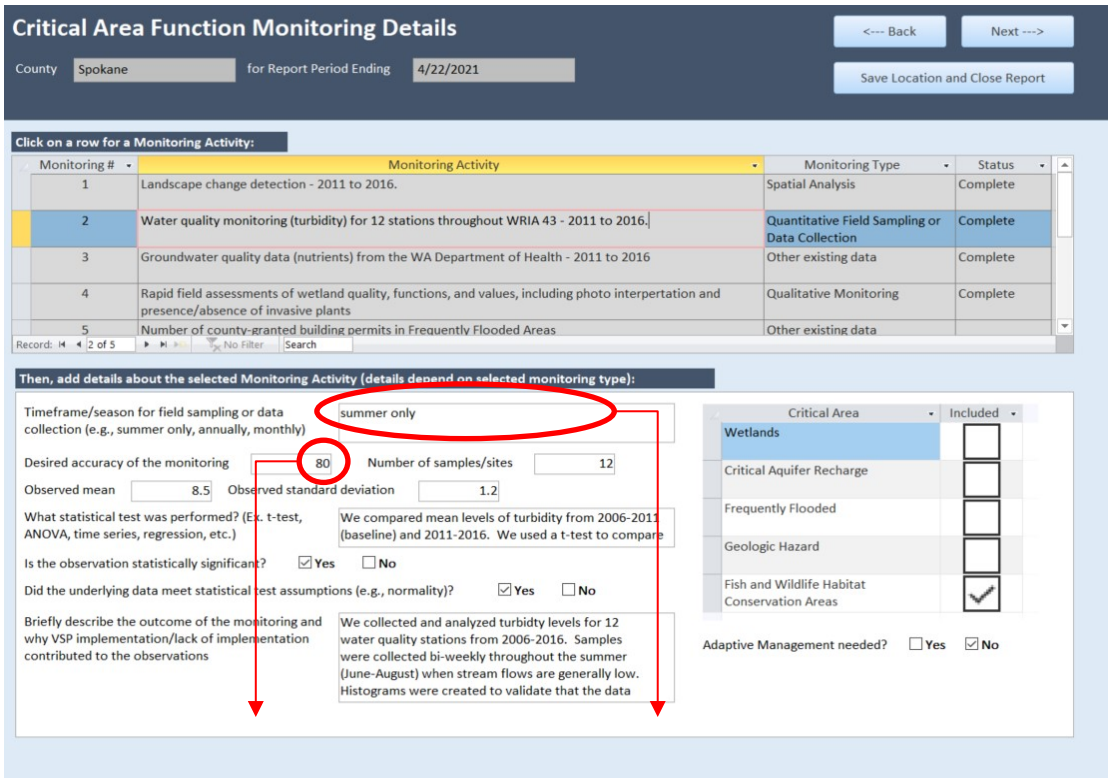
In the “Briefly describe the outcome of the monitoring…” dialogue box, Please describe in a narrative form the outcome of the spatial analysis with emphasis on the quality of the data, accuracy of the analysis, and interpretation of the results in the context of your VSP work plan’s goals and benchmarks. Please also describe how VSP implementation, or lack thereof, has contributed to the results of your observations. Then select whether adaptive management is needed. Once you have completed the details for a specific monitoring activity, the “Status” field in the upper table will read “Complete.”

Step 21. Critical Area Function Monitoring Details – Quantitative Field Sampling or Data Collection



In this example the monitoring type category is "**Quantitative Field Sampling or Data Collection".** Note that the lower menu has changed relative to the "Spatial Analysis" monitoring details menu. Quantitative Field Sampling/Data Collection refers to data that your VSP has collected on-the-ground. Examples include water quality samples, habitat surveys, or species observations.

Step 21, Quantitative Field Sampling or Data Collection, continued



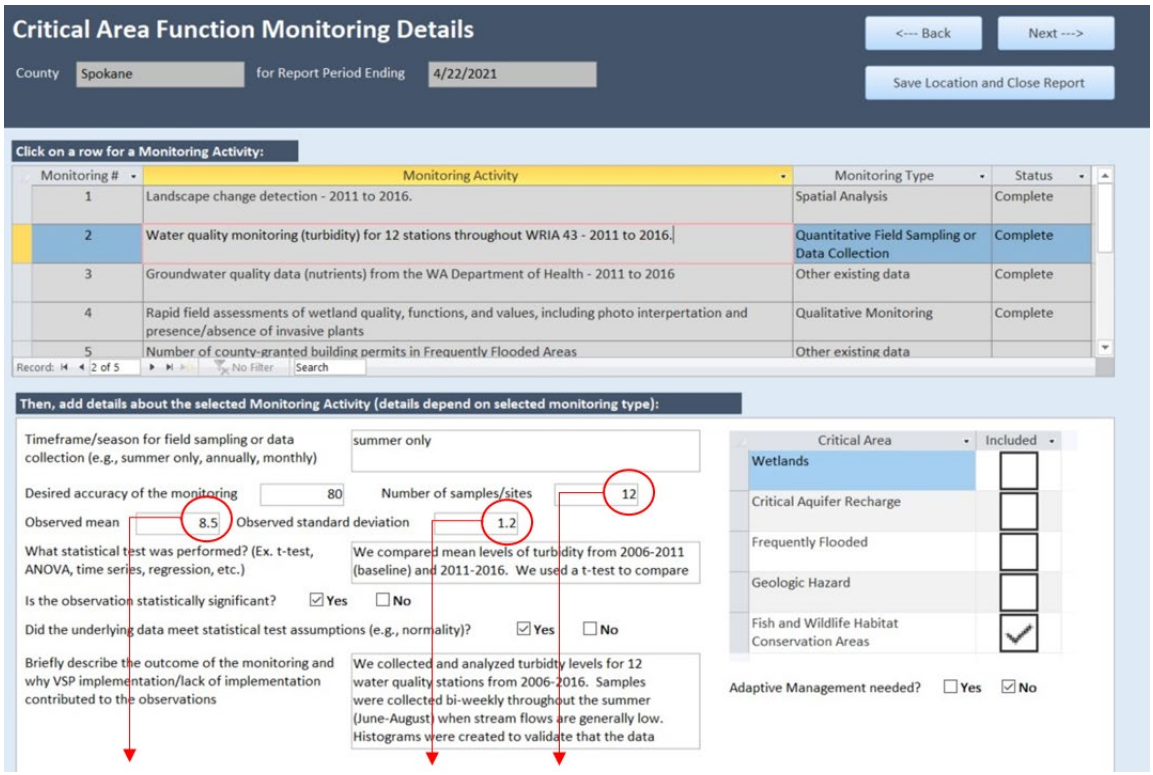
In the lower menu, the user is prompted to enter the timeframe of the analysis (e.g., summer-only, monthly, annual, etc.) as well as the desired accuracy of the monitoring activities. Links to additional resources on these themes can be found in Appendix A-2.

Timeframe/Season for Field Sampling or Data Collection. Please enter a description of the timeframe/season of the field sampling or data collection. Examples include seasonal (spring/autumn), summer-only (e.g., low flow critical period), monthly, annually, etc. This information helps reviewers better understand your work group's monitoring approaches and potential caveats.

Desired Accuracy of the Monitoring. Please indicate a desired accuracy of your monitoring in terms of a percentage (0-100%). For example, field-based monitoring intensity may be based on a desire to have an 80% chance of correctly identifying a true difference in mean values of a parameter of interest. In this case, enter 80 into the dialogue box. Monitoring accuracy is related to Type II error (failure to reject the null hypothesis when it is in fact false) and "power analysis" – i.e., utilizing previously collected data to identify how much statistical power exists to detect differences

depending upon how many samples are collected and how much variability exists within this data. See resources below for more information.

Step 21, Quantitative Field Sampling or Data Collection, continued

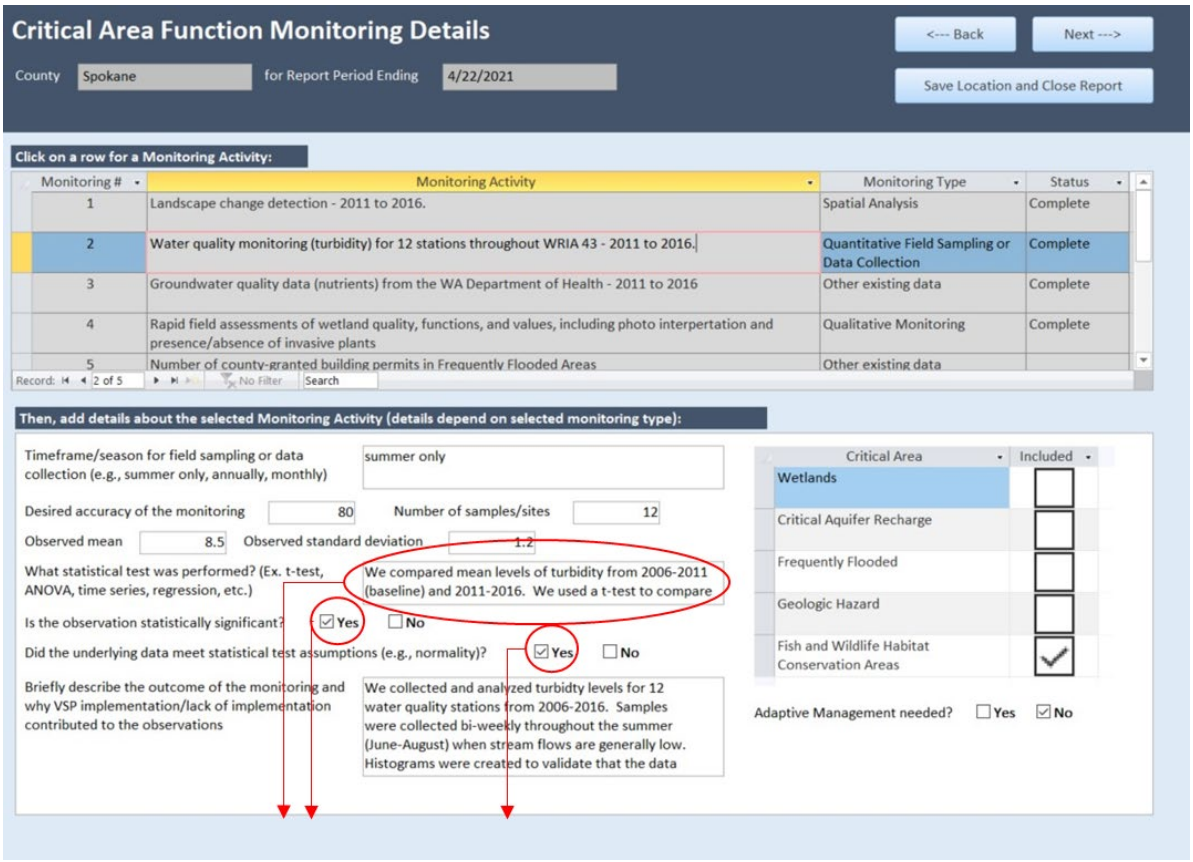


Enter the total number of samples or field sites used for the monitoring activities and enter the standard deviation of the data used for analysis.

Number of Samples/Sites. Please indicate the total number of samples collected or total sites sampled during your monitoring activity. Generally, as more samples are collected, data variability decreases and it is more likely that the data can be used to test for true differences in parameter values.

Observed Standard Deviation. Please enter the observed standard deviation of your data in the dialogue box. Standard deviation measures how spread out the data are with respect to the mean (average). This information provides reviewers with a sense for how much “noise” exists within the data.

Step 21, Quantitative Field Sampling or Data Collection, continued



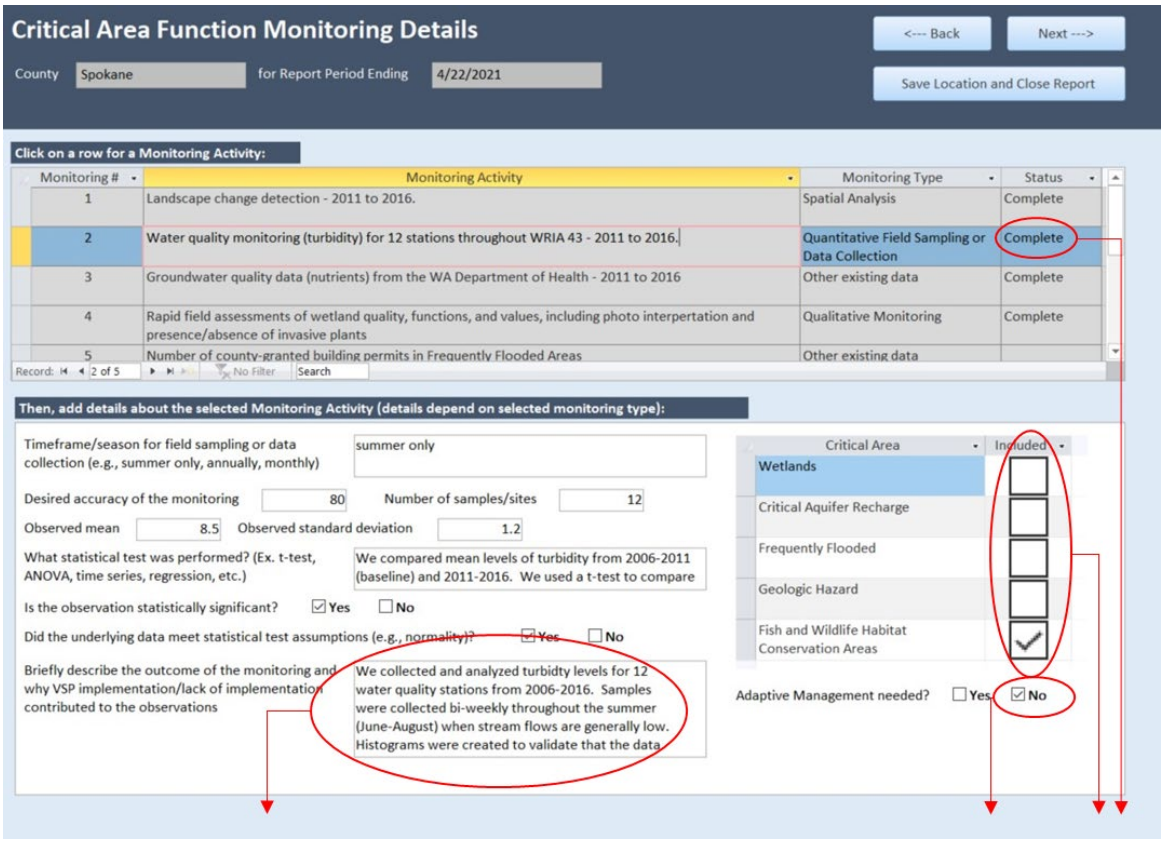
Describe the type of statistical test or approach used to analyze your monitoring data, whether or not the results are statistically significant, and whether the underlying data met the appropriate statistical assumptions of the analysis approach taken.

What Statistical Test was Performed? Please indicate which types of statistical tests were performed. Common statistical approaches to environmental data include t-tests, analysis of variance (ANOVA), time series analysis, and regression. Please explain how the tests were conducted, e.g., 1- or 2-tailed t-test, how data were data aggregated - monthly, annually, baseline vs. reporting period, and any other related information to the specific statistical approaches utilized. Results are generally considered “statistically significant” if a valid approach results in a p-value of less than 0.05 (i.e., roughly less than a 5% chance that observed patterns occurred by random chance).

Did the Underlying Data Meet Statistical Test Assumptions? Nearly all statistical approaches require that a set of assumptions regarding the data

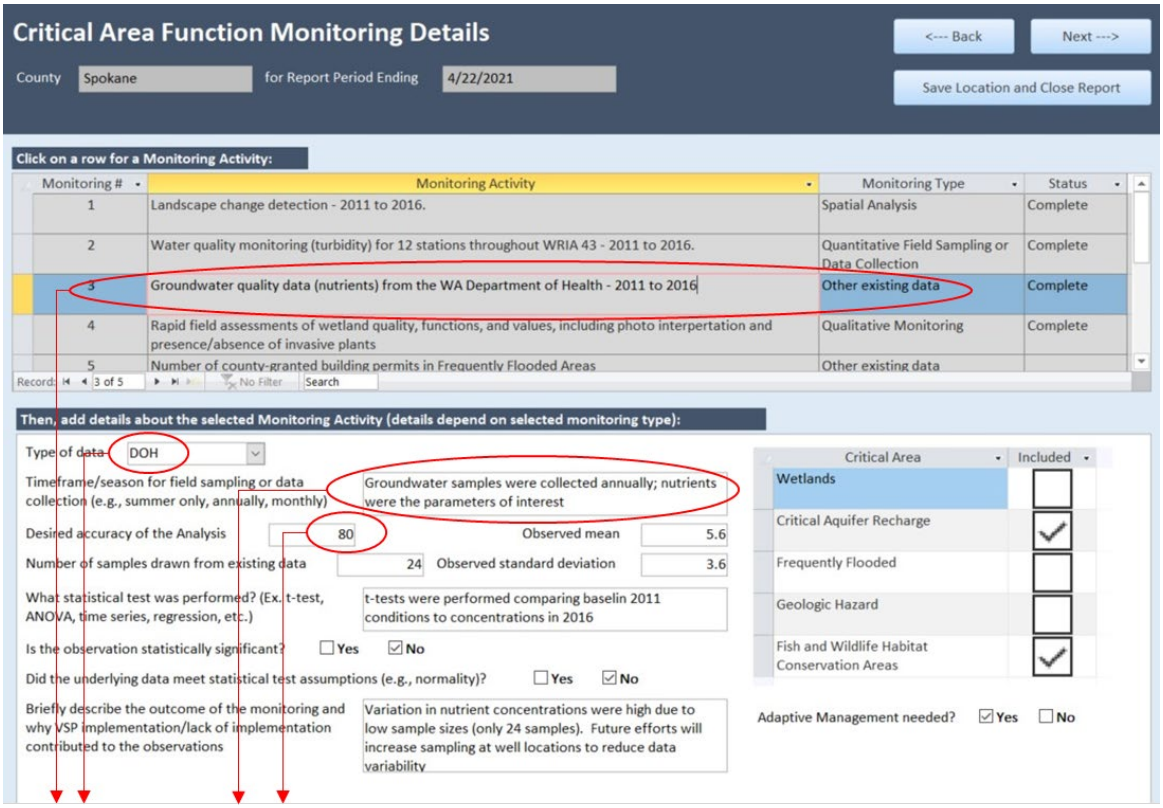
are met. If these assumptions are not met, statistical inference cannot be accurately made. Common statistical assumption include: data are normally distributed (bell-shaped curve), linearity (there is a linear relationship between x and y), and equality of variances (the data "noise" in 2011 is equal to the "noise" in 2016). More information on statistical approaches and assumptions can be found in Appendix A-2.

Step 21, Quantitative Field Sampling or Data Collection, continued



In the "Briefly describe the outcome of the monitoring…" dialogue box, please enter a brief summary of the monitoring outcomes and the extent to which VSP implementation may have affected monitoring outcomes. Be sure to select the check boxes that correspond to critical area types related to the specific monitoring activity. Then select whether adaptive management is needed. Once you have completed the details for a specific monitoring activity, the "Status" field in the upper table will read "Complete."

Step 21. Critical Area Function Monitoring Details – Other Existing Data



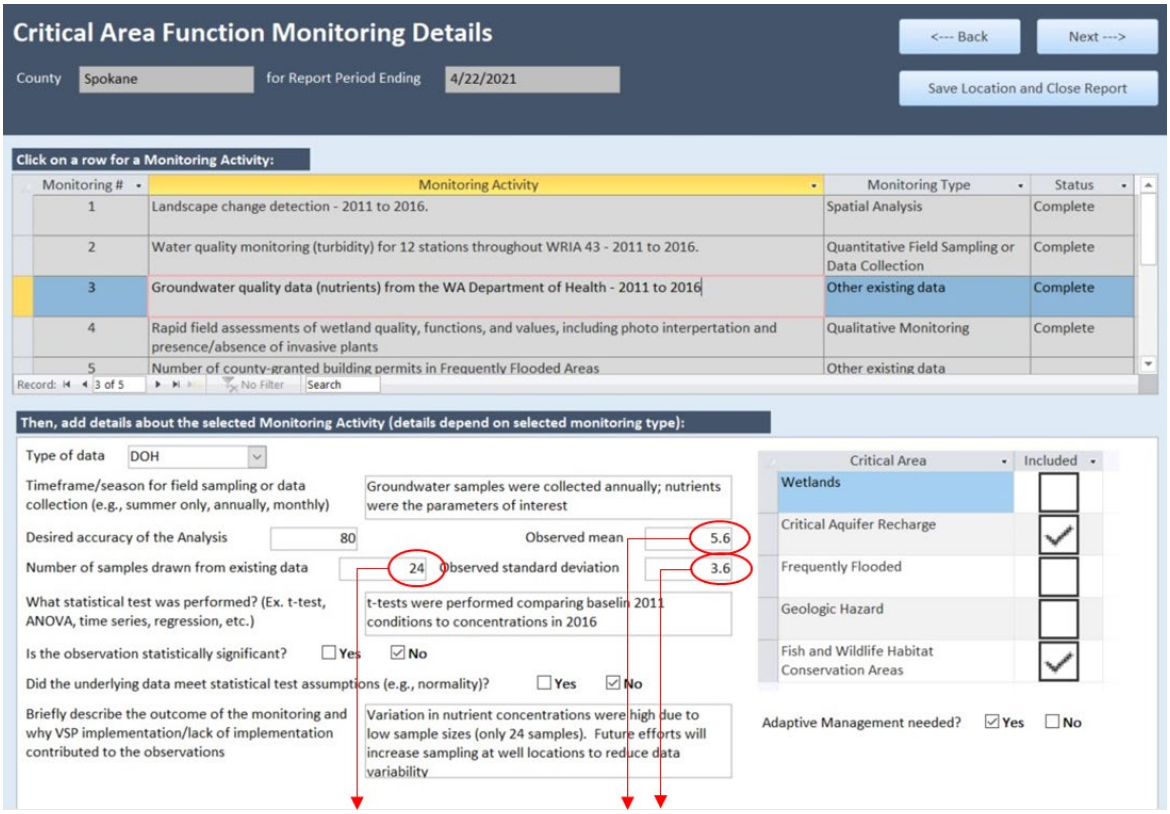
In this example, "**Other existing data**" is selected as the monitoring type. The user will be prompted to first enter the source of the existing data. Commonly used data sources are provided in the drop down menu "Type of data". Then enter the timeframe/season of sampling and the desired accuracy of the monitoring.

Timeframe/Season for Field Sampling or Data Collection. Please enter a description of the timeframe/season of the field sampling or data collection. Examples include seasonal (spring/autumn), summer-only (e.g., low flow critical period), monthly, annually, etc. This information helps reviewers better understand your work group's monitoring approaches and potential caveats.

Desired Accuracy of the Monitoring. Please indicate a desired accuracy of your monitoring in terms of a percentage (0-100%). For example, field-based monitoring intensity may be based on a desire to have an 80% chance of correctly identifying a true difference in mean values of a parameter of interest. In this case, enter 80 into the dialogue box. Monitoring

accuracy is related to Type II error (failure to reject the null hypothesis when it is in fact false) and “power analysis” – i.e., utilizing previously collected data to identify how much statistical power exists to detect differences depending upon how many samples are collected and how much variability exists within this data. See resources below for more information.

Step 21, Other Existing Data, continued

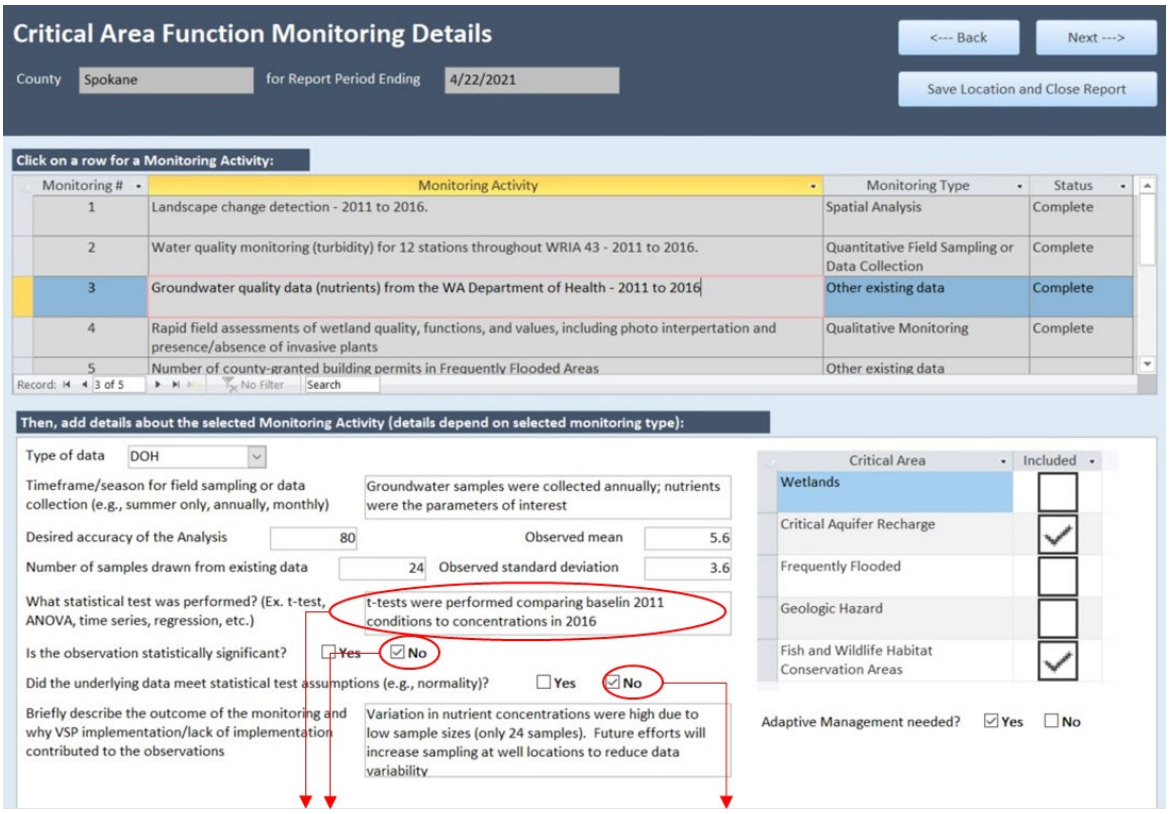


Enter the total number of samples used for the monitoring activities and enter the standard deviation of the data used for analysis.

Number of Samples/Sites. Please indicate the total number of samples collected or total sites sampled during your monitoring activity. Generally, as more samples are collected, data variability decreases and it is more likely that the data can be used to test for true differences in parameter values.

Observed Standard Deviation. Please enter the observed standard deviation of your data in the dialogue box. Standard deviation measures how spread out the data are with respect to the mean (average). This information provides reviewers with a sense for how much “noise” exists within the data.

Step 21, Other Existing Data, continued



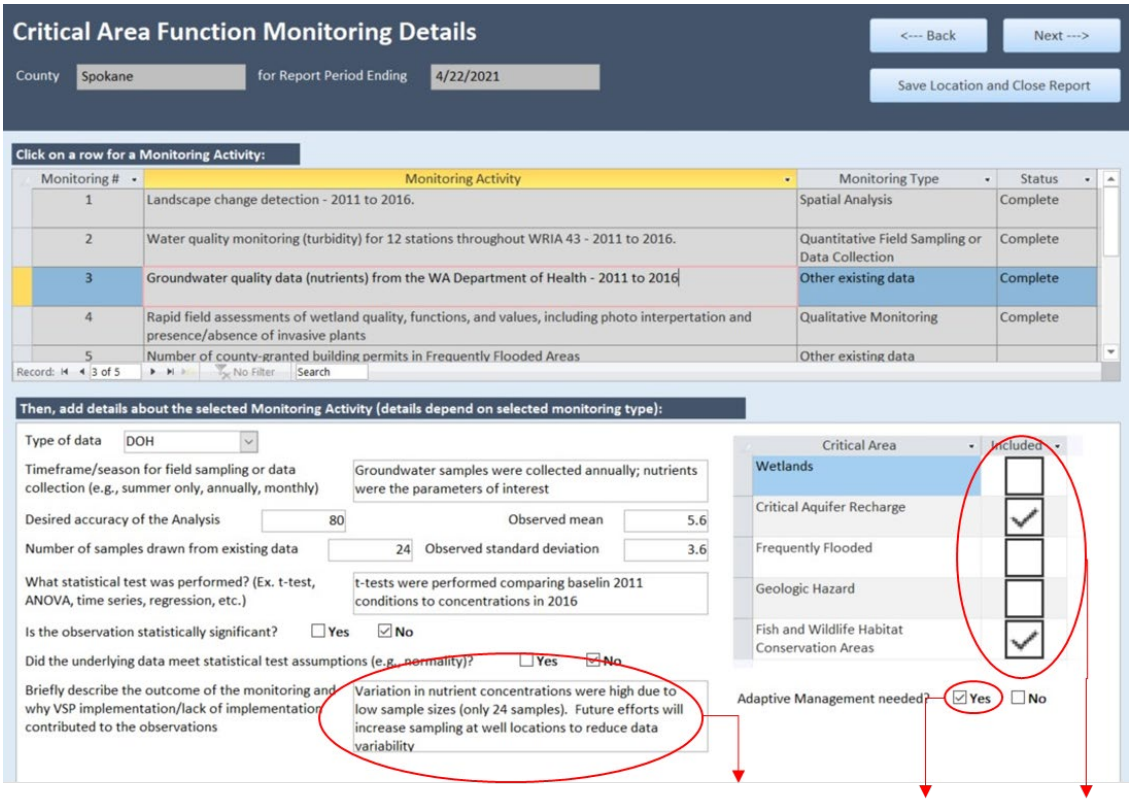
Describe the type of statistical test or approach used to analyze your monitoring data, whether or not the results are statistically significant, and whether the underlying data met the appropriate statistical assumptions of the analysis approach taken.

What Statistical Test was Performed? Please indicate which types of statistical tests were performed. Common statistical approaches to environmental data include t-tests, analysis of variance (ANOVA), time series analysis, and regression. Please explain how the tests were conducted, e.g., 1- or 2-tailed t-test, how data were data aggregated - monthly, annually, baseline vs. reporting period, and any other related information to the specific statistical approaches utilized. Results are generally considered “statistically significant” if a valid approach results in a p-value of less than 0.05 (i.e., roughly less than a 5% chance that observed patterns occurred by random chance).

Did the Underlying Data Meet Statistical Test Assumptions? Nearly all statistical approaches require that a set of assumptions regarding the data are met. If these assumptions are not met, statistical inference cannot be

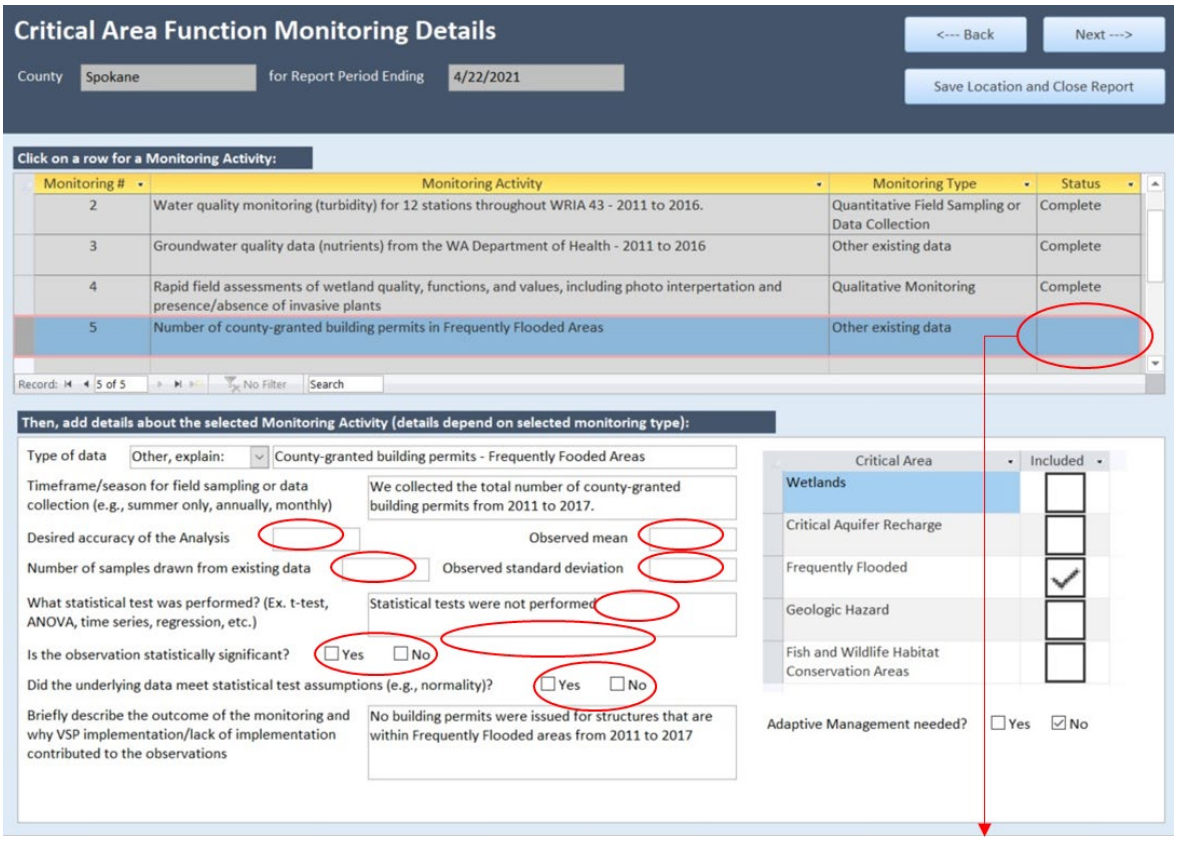
accurately made. Common statistical assumption include: data are normally distributed (bell-shaped curve), linearity (there is a linear relationship between x and y), and equality of variances (the data "noise" in 2011 is equal to the "noise" in 2016). More information on statistical approaches and assumptions can be found in Appendix A-4.

Step 21, Other Existing Data, continued



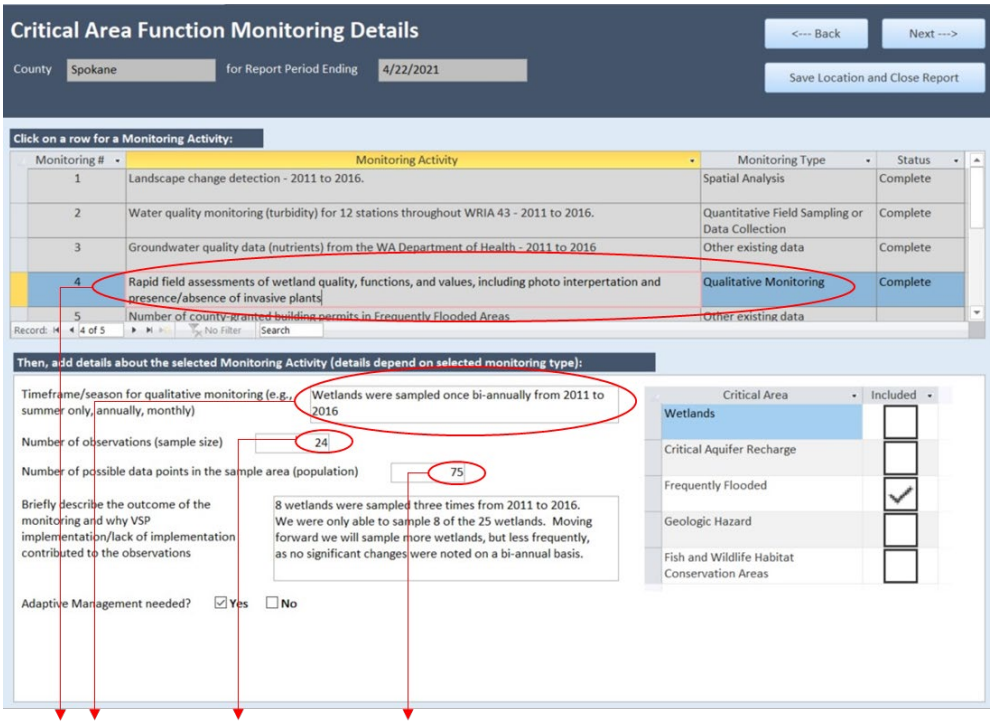
In the "Briefly describe the outcome of the monitoring…" dialogue box, please enter a brief summary of the monitoring outcomes and the extent to which VSP implementation may have affected monitoring outcomes. Be sure to select the check boxes that correspond to critical area types related to the specific monitoring activity. Then select whether adaptive management is needed. Once you have completed the details for a specific monitoring activity, the "Status" field in the upper table will read "Complete."

Step 21, Other Existing Data, continued



In some cases it may not make sense to report all of the requested information. For example, if a work group reports on whether or not buildings were permitted in frequently flooded areas, this data may not have an associated mean or standard deviation. When reporting data such as this, you may leave blank the impertinent fields, as the example above. Note that the “Status” field in the upper table will remain blank rather than read “Complete”. This simply indicates that one or more reporting fields in the bottom menu were not filled out.

Step 21. Critical Area Function Monitoring Details – Qualitative Monitoring



This example illustrates the dialogue when "**Qualitative Monitoring**" is selected as the monitoring type. Again, the user is prompted for the timeframe/season that monitoring took place. The user is prompted to enter information related to the qualitative analysis performed, including number of observations and total sample size.

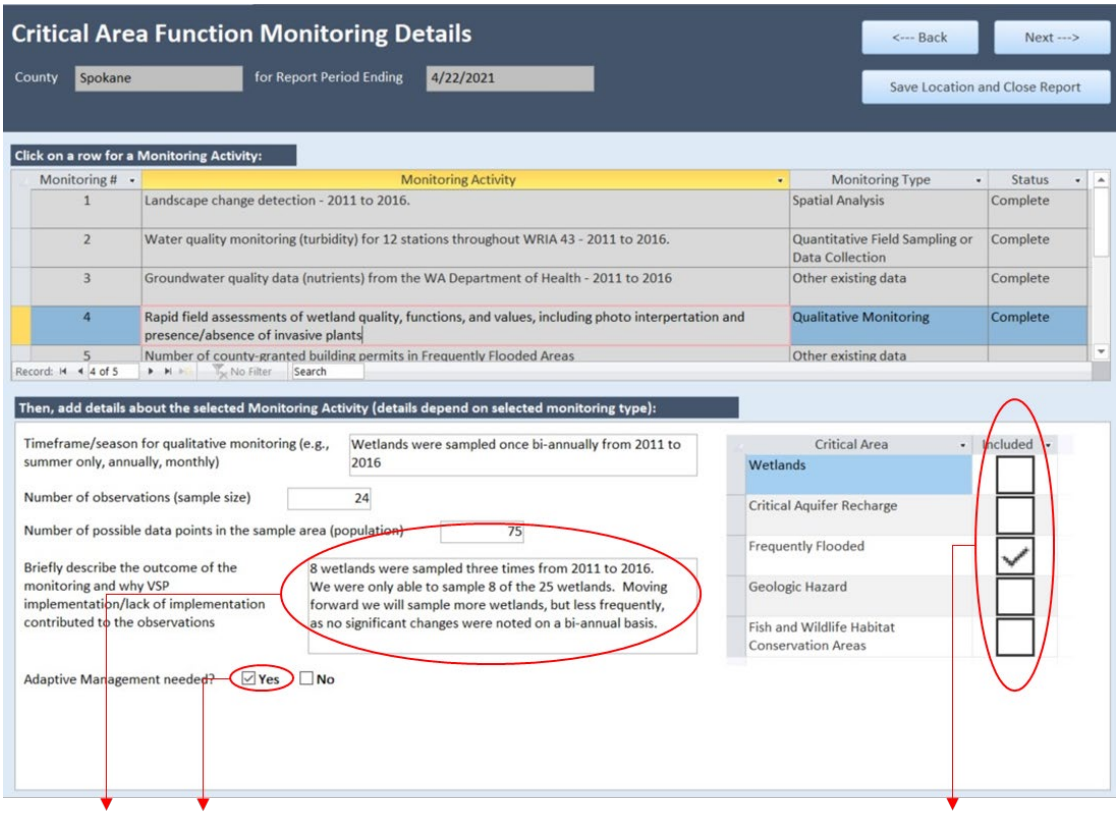
Timeframe/Season for Field Sampling or Data Collection. Please enter a description of the timeframe/season of the field sampling or data collection. Examples include seasonal (spring/autumn), summer-only (e.g., low flow critical period), monthly, annually, etc. This information helps reviewers better understand your work group's monitoring approaches and potential caveats.

Sample Size. Please enter the sample size for the qualitative monitoring activity. For example, if your work group performed qualitative surveys of wetlands (functioning vs. not functioning), enter the total number of wetlands surveyed as your sample size.

Sample Population. Please enter the sample population. If the total number of wetlands in your county is 50, but you sampled only 25, then enter 50 as the sample population. Based on this information and the sample size,

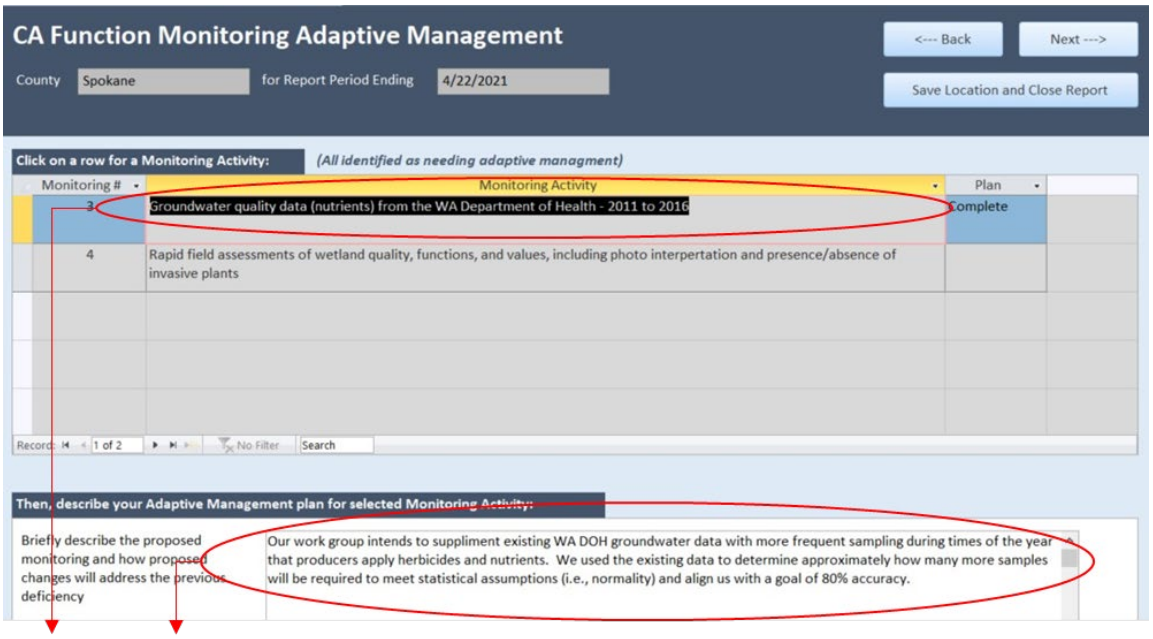
reviewers can assess what proportion of the total population was actually sampled.

Step 21, Qualitative Monitoring, continued



Please describe in a narrative form the outcome of the qualitative monitoring with emphasis on the quality of the data, accuracy of the analysis, and interpretation of the results in the context of your VSP work plan's goals and benchmarks. Please also describe how VSP implementation, or lack thereof, has contributed to the results of your observations. Then, select whether adaptive management is needed and select the critical area types associated with the monitoring activity.

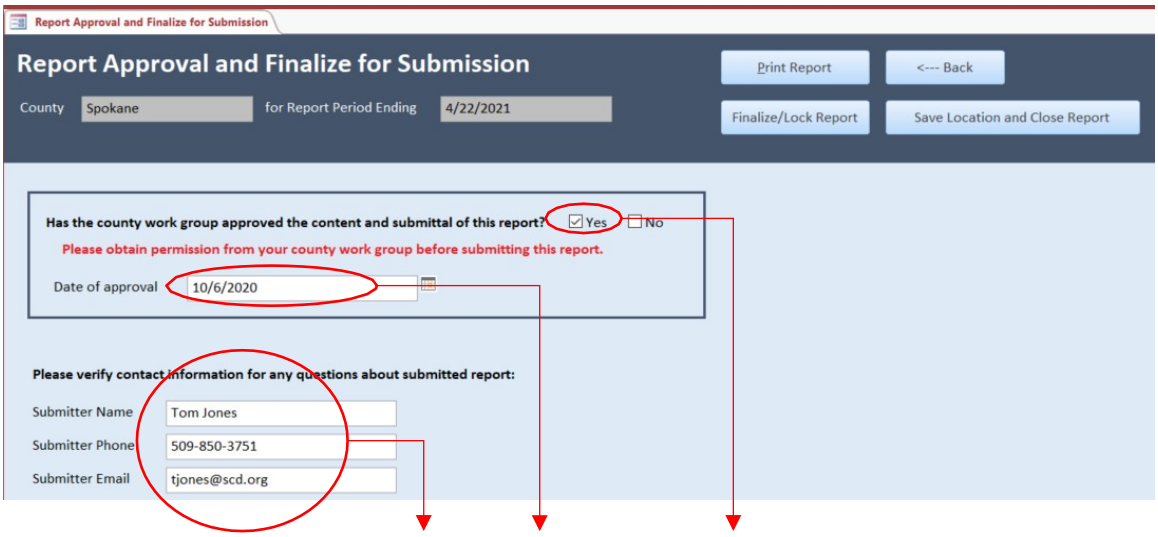
Step 22. Critical Area Function Monitoring Adaptive Management



If your monitoring approach requires adaptive management, and the user has selected the check boxes in previous menus indicating adaptive management is needed, the Template will prompt the user to describe the adaptive management methodology in more detail.

First select the appropriate monitoring activity from the upper table. With the row selected, enter a narrative description of the monitoring Activities proposed via adaptive management. Please be as detailed as possible and consider that reviewers will be interested in assessing how likely the proposed adaptive management activities will result in actionable data.

Step 23. Report Approval and Finalize for Submission



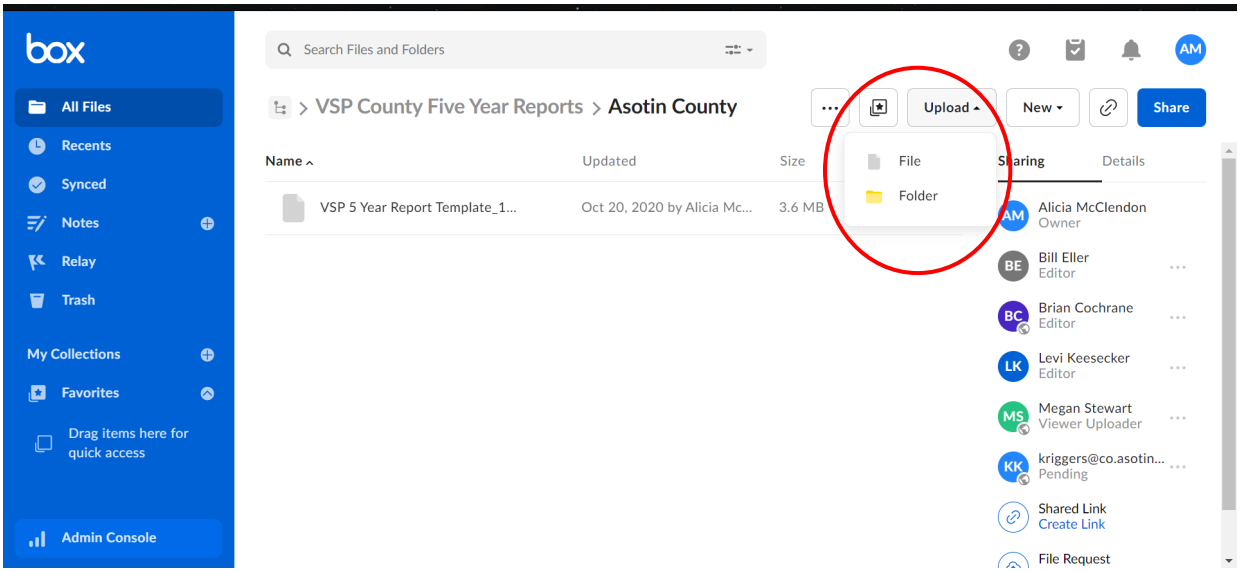
In the final menu, the user is prompted to indicate whether the work group approved the content and submittal of the report. Template users can choose many ways to obtain work group approval before submittal of the report. Examples include:

- Displaying and presenting the Template and data entered during a workgroup meeting using a computer display,
- Converting the Template into a PDF and displaying and presenting that during a work group meeting,
- Converting the Template into a PDF and printing the Template out ontopaper and displaying and presenting that during the work group meeting

Once approval is obtained, select the appropriate check box for “Yes/No” and select the appropriate Date of approval. Verify that the contact information is correct. Once the information is complete, you may select “Finalize/Lock Report”. **Once you Finalize/Lock Report you can no longer make changes or edits to the Template. Be sure that all the information is correct before you select this button.**

Step 24. Upload Final VSP 5-Year Report to Box

- **1:** Go to your VSP 5 Year Report template folder, setup for you by SCC on Box.com.
- **2:** Click the "Upload" button in the top right corner. A dropdown menu will appear with the option to upload a file or a folder. (*see screenshot below*)



- **3:** Select File, then find the completed 5 Year Report Database to be uploaded.
- **4:** Once the Database has been uploaded to Box successfully, please send an email to Alicia McClendon at: amcclendon@scc.wa.gov, and let her know the final report has been submitted.

Appendix

A-1. Spatial Analysis Monitoring Resources

General spatial data for VSP (Toolbox Framework; SCC) - https://assets.website-files.com/5ec2d4f7da309c68cdc0655a/5f57cb6e17972a3ec8ca4832_VSP-Monitoring- Toolbox-framework_Mar9.pdf

High Resolution Change Detection (HRCD) website - https://hrcd-wdfw.hub.arcgis.com

Technical paper on accuracy assessment in HRCD (Kenneth Pierce Jr., WDFW)

https://www.mdpi.com/2072-4292/7/10/12654

Kappa: http://web.pdx.edu/~nauna/resources/9-accuracyassessment.pdf

Classification accuracy and metrics on-line GIS course pages
http://gis.humboldt.edu/OLM/Courses/GSP_216_Online/lesson6-2/accuracy.html
http://gis.humboldt.edu/OLM/Courses/GSP_216_Online/lesson6-2/metrics.html

More in-depth GIS classification with a lecture

https://developers.google.com/machine-learning/crash-course/classification/video- lecture

Article on importance of balance in classification
https://www.kdnuggets.com/2016/12/best-metric-measure-accuracy-classification- models.html

A-2. Quantitative Field Sampling and Data Collection Monitoring Resources

Monitoring Tips for Local Voluntary Stewardship Workgroups (SCC) https://assets.website-files.com/5ec2d4f7da309c68cdc0655a/5f57caeee815a00779b7f345_VSP-Monitoring- for-WGs.Feb-2017.pdf

What does Monitoring Look Like? A VSP Primer (SCC/WDFW) - https://uploads-ssl.webflow.com/5f0507f9cf344a5f8752f27a/5f7e39783c18833bbb1ea7c7_VSP%20Reg ional%20Fall%202018%20Monitoring%20PPT%20slides.pdf

Power Analysis, Sample Size, and Data Variability: Applications using Existing State/Federal Data (SCC) – https://uploads-ssl.webflow.com/5f0507f9cf344a5f8752f27a/5f7e39bab9232515420f9027_PowerAnaly sisSummaryMay10_2020.pdf

Statistical Analysis and Assumptions - https://www.afit.edu/stat/statcoe_files/Model%20Building%20Process%20Part%201% 20Checking%20Model%20Assumptions%20V2.pdf

Field Sampling Design, Statistics, and Variability http://unix.eng.ua.edu/~rpitt/Class/ExperimentalDesignFieldSampling/Module%205/M 5%20Statistical%20Analyses.pdf

A-3. Qualitative Monitoring Resources

Stream Visual Assessment Protocol (NRCS)
https://efotg.sc.egov.usda.gov/references/public/OK/NWCC_99-1_Stream_Visual_Assessment_Protocol.pdf

A-4. Other Monitoring Resources

WA Dept. of Ecology

Freshwater Information Network – https://apps.ecology.wa.gov/eim/search/SMP/RiverStreamSearch.aspx?StudyMonitoringProgramUserId=RiverStream&StudyMonitoringProgramUserIdSearchType=Equals&MPLocationStatus=Active

Environmental Information Management database (EIM) – https://apps.ecology.wa.gov/eim/search/default.aspx

WA Water Quality Assessment 303(d)/305(b) – https://apps.ecology.wa.gov/ApprovedWQA/ApprovedPages/ApprovedSearch.aspx

Water Quality Atlas – https://fortress.wa.gov/ecy/waterqualityatlas/map.aspx

WA Dept. of Health

Source Water Assessment Program – https://fortress.wa.gov/doh/swap/

Downloadable Data Sets – https://fortress.wa.gov/doh/swap/ https://www.doh.wa.gov/DataandStatisticalReports/DataSystems/GeographicInformationSystem/DownloadableDataSets

Sentry Drinking Water System Data – https://www.doh.wa.gov/dataandstatisticalreports/environmentalhealth/drinkingwaterrsystemdata/sentryinternet

Federal

Water Quality Portal (USGS/US EPA/Tribal)

https://www.waterqualitydata.us/

A-5. Resources for analyzing spatial data and applying GIS approaches

Grant County VSP Monitoring Forum story map presentation (includes VSP-related GIS resources)

https://arcg.is/nWH0X0

ArcGIS Collector

https://www.esri.com/en-us/arcgis/products/arcgis-collector/resources

ArcGIS Survey123

https://www.esri.com/en-us/arcgis/products/arcgis-survey123/overview

Selected Spatial Data Sets – VSP

Theme	Origin	Organization	Web Link
Agricultural Viability	Farms Under Threat	American Farmland Trust	https://csp-ut.appspot.com/?eType=EmailBlastContent&eId=6ecfe345-ebba-40db- 9e09-4e7d95c44b6e
Agricultural Viability	Farms Under Threat	American Farmland Trust	https://storage.googleapis.com/csp-fut.appspot.com/reports/spatial/Washington_spatial.pdf
Climate	Climate Toolbox	Climate Impacts Research Consortium (NOAA, NW Universities, USDA)	https://climatetoolbox.org/
Functions and Values	EnviroAtlas	US EPA	https://www.epa.gov/enviroatlas
Functions and Values	Wetlands Functions and Values	WA Dept. of Ecology	.gov/Water-Shorelines/Wetlands/Education-training/Functions- values-of-wetlands
Habitat	Priority Habitats and Species	Washington State Dept. of Fish and Wildlife (WDFW)	https://geodataservices.wdfw.wa.gov/hp/phs/

Theme	Origin	Organization	Web Link
Land Use/Land Cover	National Land Cover Database (NLCD)	Multi-Resolution Land Characteristics (MRLC) consortium (US Federal)	https://www.mrlc.gov/data?f%5B0%5D=category%3Aland%20cover
Rangelands	Rangeland Analysis Platform	USDA NRCS/USDI BLM/University of Montana	https://rangelands.app/
Soils	Soil Survey Geographic Database (SSURGO)	Natural Resources Conservation Service (NRCS)	https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/?cid=nrcs142p2_053627
Sub Watersheds	National Map	US Geological Survey (USGS)	https://viewer.nationalmap.gov/advanced-viewer/
Various	GeoSpatial Data Gateway	Natural Resources Conservation Service (NRCS)	https://datagateway.nrcs.usda.gov/GDGOrder.aspx
Various	Washington GeoSpatial Open Data	Office of the Chief Information Officer (OCIO) - WA	http://geo.wa.gov/