

Voluntary Stewardship Program

VSP Template Instructions –
10/14/2020

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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

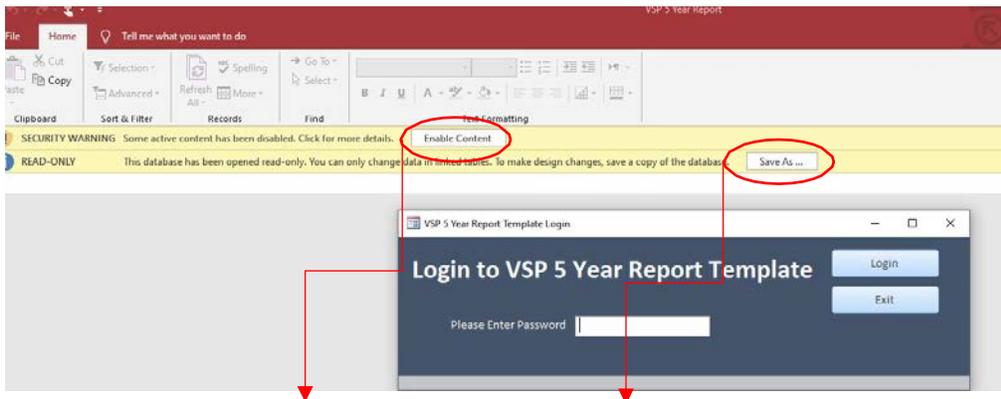
Download your county's VSP Template from the Commission's Box website. The link below will direct you to a parent folder that contains folders for each county. Locate your county's folder and find your template. The file should be titled "VSP 5 Year Report Template.accdb". Download this file and save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

Template download link:

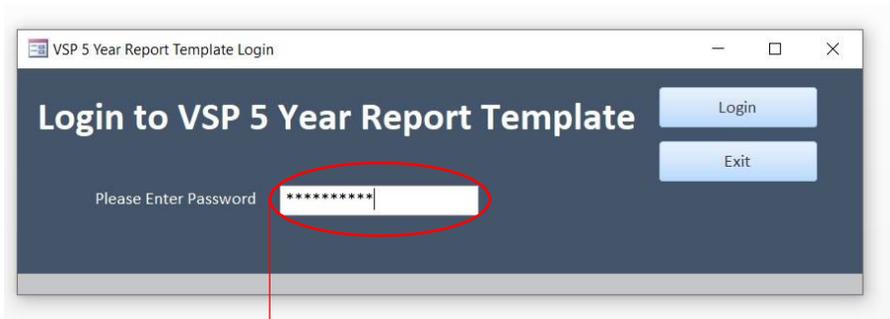
<https://sccwagov.box.com/s/f4wwli7u2qe9kfqf71689n2e7qa166es>

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.

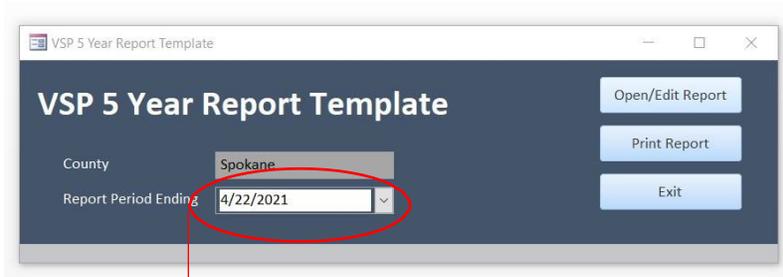


Double click the Template file that you downloaded in the previous step. When the Template first opens, you may see one or two yellow ribbons above the Login screen. If you experience this, click the "x" in the Login menu to close it, click "Enable Content", then click "Save As", save the Template file 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

Report Submitter/Goal Status

Report Submitter and Goal Status

County for Report Period Ending Next --->

Save Location and Close Report

Submitter Name Submitter Phone
Submitter Email

Protection Goals

The watershed work group asserts that the work plan's PROTECTION goals and benchmarks have been met during the past five years.

The watershed work group asserts that the work plan's PROTECTION goals and benchmarks have NOT been met during the past five years.

Enhancement Goals

The watershed work group asserts that the work plan's ENHANCEMENT goals and benchmarks have been met during the past five years.

The watershed work group asserts that the work plan's ENHANCEMENT goals and benchmarks have NOT been met during the past five years.

If the watershed group determines the enhancement goals and benchmarks have not been met, the watershed group must determine what additional voluntary actions are needed to meet the benchmarks, identify the funding necessary to implement these actions, and implement these actions when funding is

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 met”. 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

| County WRIAs | Status for this VSP Plan | | |
|-------------------|--|---|---|
| Palouse | <input checked="" type="checkbox"/> Included | <input type="checkbox"/> Included, but No Agricultural Intersect | <input type="checkbox"/> NOT In Plan |
| Upper Crab-Wilson | <input checked="" type="checkbox"/> Included | <input type="checkbox"/> Included, but No Agricultural Intersect | <input type="checkbox"/> NOT In Plan |
| Lower Spokane | <input checked="" type="checkbox"/> Included | <input type="checkbox"/> Included, but No Agricultural Intersect | <input type="checkbox"/> NOT In Plan |
| Little Spokane | <input type="checkbox"/> Included | <input checked="" type="checkbox"/> Included, but No Agricultural Intersect | <input type="checkbox"/> NOT In Plan |
| Hangman | <input type="checkbox"/> Included | <input type="checkbox"/> Included, but No Agricultural Intersect | <input checked="" type="checkbox"/> NOT In Plan |
| Middle Spokane | <input type="checkbox"/> Included | <input type="checkbox"/> Included, but No Agricultural Intersect | <input checked="" type="checkbox"/> NOT In Plan |

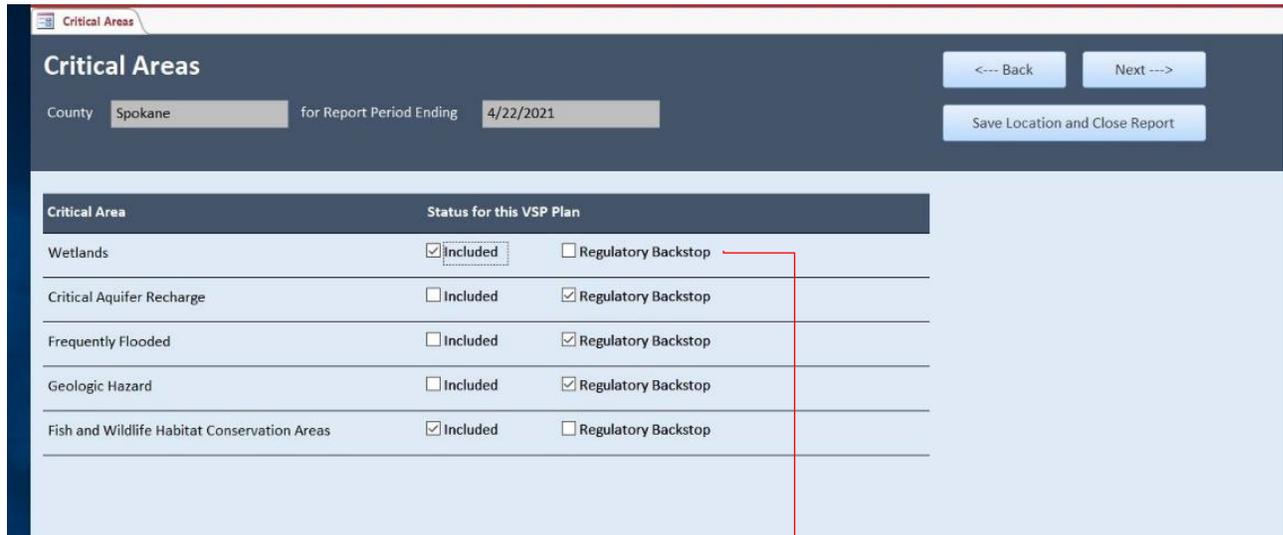
WRIAs for each county are populated automatically by the Template. In this case, portions of six WRIAs are within Spokane County. Work groups must select a status for each WRIA in their county. Each county identified which WRIA's were in the VSP in their opt-in ordinance. Those WRIA's were then identified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

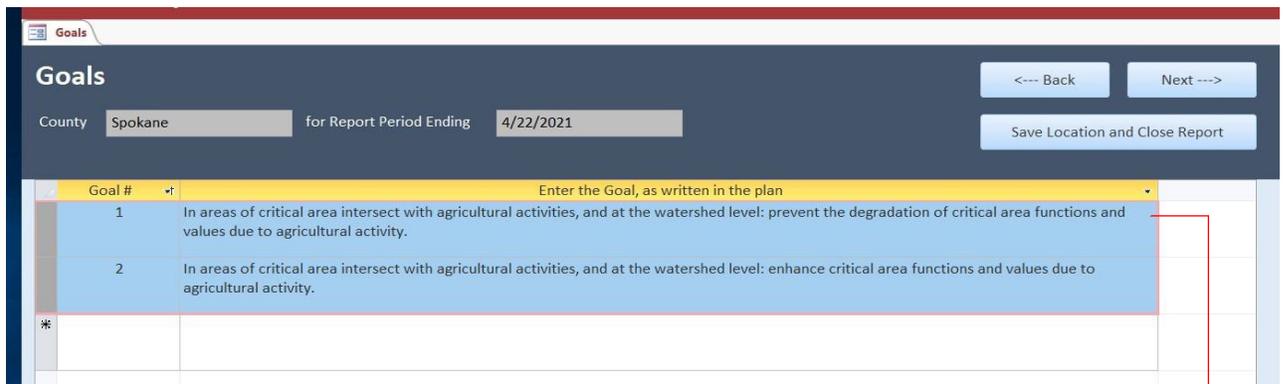


| Critical Area | Status for this VSP Plan | |
|--|--|---|
| Wetlands | <input checked="" type="checkbox"/> Included | <input type="checkbox"/> Regulatory Backstop |
| Critical Aquifer Recharge | <input type="checkbox"/> Included | <input checked="" type="checkbox"/> Regulatory Backstop |
| Frequently Flooded | <input type="checkbox"/> Included | <input checked="" type="checkbox"/> Regulatory Backstop |
| Geologic Hazard | <input type="checkbox"/> Included | <input checked="" type="checkbox"/> Regulatory Backstop |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> Included | <input type="checkbox"/> Regulatory Backstop |

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

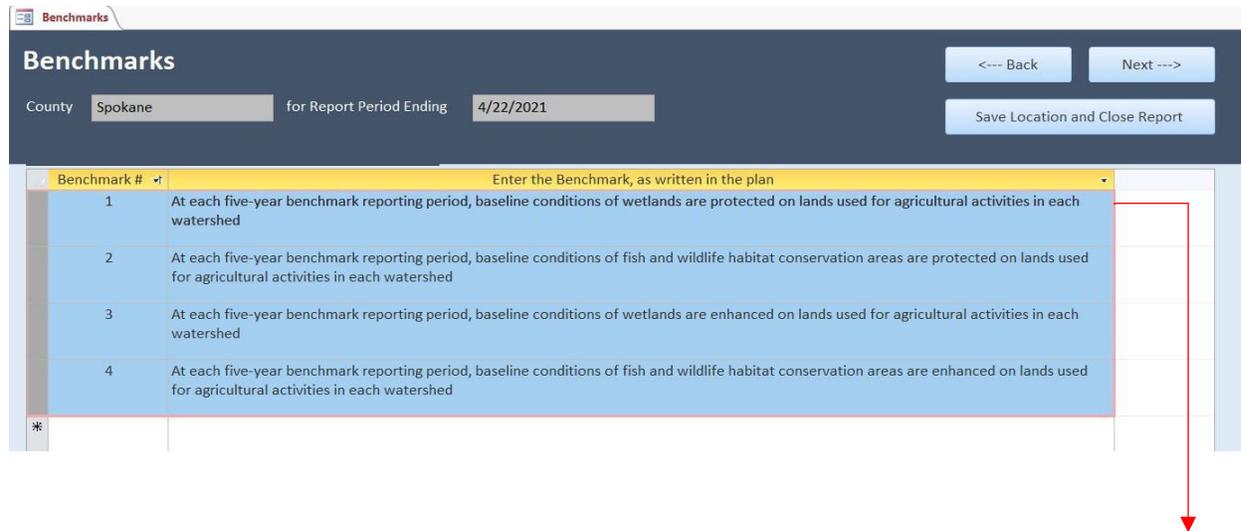


| Goal # | + | - | Enter the Goal, as written in the plan |
|--------|---|---|---|
| 1 | | | In areas of critical area intersect with agricultural activities, and at the watershed level: prevent the degradation of critical area functions and values due to agricultural activity. |
| 2 | | | In areas of critical area intersect with agricultural activities, and at the watershed level: enhance critical area functions and values due to agricultural activity. |
| * | | | |

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



Benchmarks

County for Report Period Ending

| Benchmark # | Enter the Benchmark, as written in the plan |
|-------------|---|
| 1 | At each five-year benchmark reporting period, baseline conditions of wetlands are protected on lands used for agricultural activities in each watershed |
| 2 | At each five-year benchmark reporting period, baseline conditions of fish and wildlife habitat conservation areas are protected on lands used for agricultural activities in each watershed |
| 3 | At each five-year benchmark reporting period, baseline conditions of wetlands are enhanced on lands used for agricultural activities in each watershed |
| 4 | At each five-year benchmark reporting period, baseline conditions of fish and wildlife habitat conservation areas are enhanced on lands used for agricultural activities in each watershed |

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

Connect Goals and Benchmarks

County: for Report Period Ending:

Navigation: <--- Back, Next --->, Save Location and Close Report

Click on a Goal #:

| Goal # | Goal |
|--------|---|
| 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 activity. |
| 2 | In areas of critical area intersect with agricultural activities, and at the watershed level: enhance critical area functions and values due to agricultural activity. |

Record: 1 of 2

Then, click SELECT box for each Benchmark connected to Goal #1

| Benchmark # | Benchmark | SELECT |
|-------------|---|-------------------------------------|
| 1 | At each five-year benchmark reporting period, baseline conditions of wetlands are protected on lands used for agricultural activities in each watershed | <input checked="" type="checkbox"/> |
| 2 | At each five-year benchmark reporting period, baseline conditions of fish and wildlife habitat conservation areas are protected on lands used for agricultural activities in each watershed | <input checked="" type="checkbox"/> |
| 3 | At each five-year benchmark reporting period, baseline conditions of wetlands are enhanced on lands used for agricultural activities in each watershed | <input type="checkbox"/> |
| 4 | At each five-year benchmark reporting period, baseline conditions of fish and wildlife habitat conservation areas are enhanced on lands used for agricultural activities in each watershed | <input type="checkbox"/> |

Connect Goals and Benchmarks

County: for Report Period Ending:

Navigation: <--- Back, Next --->, Save Location and Close Report

Click on a Goal #:

| Goal # | Goal |
|--------|---|
| 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 activity. |
| 2 | In areas of critical area intersect with agricultural activities, and at the watershed level: enhance critical area functions and values due to agricultural activity. |

Record: 2 of 2

Then, click SELECT box for each Benchmark connected to Goal #2

| Benchmark # | Benchmark | SELECT |
|-------------|---|-------------------------------------|
| 1 | At each five-year benchmark reporting period, baseline conditions of wetlands are protected on lands used for agricultural activities in each watershed | <input type="checkbox"/> |
| 2 | At each five-year benchmark reporting period, baseline conditions of fish and wildlife habitat conservation areas are protected on lands used for agricultural activities in each watershed | <input type="checkbox"/> |
| 3 | At each five-year benchmark reporting period, baseline conditions of wetlands are enhanced on lands used for agricultural activities in each watershed | <input checked="" type="checkbox"/> |
| 4 | At each five-year benchmark reporting period, baseline conditions of fish and wildlife habitat conservation areas are enhanced on lands used for agricultural activities in each watershed | <input checked="" type="checkbox"/> |

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 10. Strategies and Performance Metrics

The screenshot shows the 'Strategies and Performance Metrics' interface. At the top, there are navigation buttons: '<-- Back', 'Next -->', and 'Save Location and Close Report'. Below these, the 'County' is set to 'Spokane' and the 'Report Period Ending' is '4/22/2021'. The main table has the following columns: Goal, Benchmark, Critical Area, WRIA, and # Strategies/Metrics. A red circle highlights the 'Select Preferred Column Order' button above the table. Another red circle highlights a row in the table with columns: Goal, Benchmark, Critical Area, WRIA, and # Strategies/Metrics. Below the table is a section titled 'Then, add Strategies, Performance Metrics, etc.' with columns: Description, Accomplishment, and Status. A red arrow points from the selected row in the upper table to the corresponding row in the lower table.

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 level, prevent the degradation of critical | 1 - At each five-year benchmark reporting period, baseline conditions of wetlands are protected as lands used for 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 | 1 - At each five-year benchmark reporting period, baseline conditions of wetlands are protected as lands used for 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 | 1 - At each five-year benchmark reporting period, baseline conditions of wetlands are protected as lands used for 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 | 1 - At each five-year benchmark reporting period, baseline conditions of wetlands are protected as lands used for 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 | 1 - At each five-year benchmark reporting period, baseline conditions of wetlands are protected as lands used for agricultural | 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.

| Goal | Benchmark | Critical Area | WRIA | Results |
|---|---|--|------------------------|----------|
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed level, prevent the degradation of critical | 1 - At each five-year benchmark reporting period, baseline conditions of wetlands are protected on land used for 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 | 1 - At each five-year benchmark reporting period, baseline conditions of wetlands are protected on land used for 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 | 1 - At each five-year benchmark reporting period, baseline conditions of wetlands are protected on land used for 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 | 1 - At each five-year benchmark reporting period, baseline conditions of wetlands are protected on land used for agricultural | Fish and Wildlife Habitat Conservation Areas | 34 - Palouse | Complete |
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed level, prevent the degradation of critical | 1 - At each five-year benchmark reporting period, baseline conditions of wetlands are protected on land used for agricultural | Fish and Wildlife Habitat Conservation Areas | 43 - Upper Crab-Wilson | |

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 demonstrated a decrease in wetland area within WRIA 43. Surveys of 5 out of 12 wetlands showed a general decline in native wetland plant species.

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

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 level: prevent the degradation of critical area functions and values due to agricultural | 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.

Goal Results

County **Spokane** for Report Period Ending **4/22/2021**

← Back Next →

Save Location and Close Report

| 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 | Complete |
| 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 level: prevent the degradation of critical area functions and values due to agricultural | Fish and Wildlife Habitat | 54 - Lower Spokane | |

Record: 2 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)

Landscape change detection demonstrated a net increase in intersect between Critical Aquifer Recharge Areas and agricultural lands. Groundwater monitoring revealed a slight increase in average concentrations of nutrients and herbicides.

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

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

Click on a row for Goal/Benchmark/Critical Area/WRIA (All identified as not met and/or needing adaptive management)

| Goal | Benchmark | Critical Area | WRIA | Plan |
|---|--|--|------------------------|----------|
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed level, prevent the degradation of critical areas | 1 - At each five-year benchmark reporting period, baseline conditions of wetlands are protected or restored for agricultural | Fish and Wildlife Habitat Conservation Areas | 43 - Upper Crab-Wilson | Complete |

Record: 1 of 1 No Filter Search

Then, describe your Adaptive Management plan for selected Benchmark:

Our work group has chosen to pursue more landowner participation in WRIA 43 to prioritize the protection of wetlands. Additionally, we plan to increase the number of wetland surveys to better identify wetland functions and values.

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

Click on a row for Goal/Critical Area/WRIA (All identified as not met and/or needing adaptive management)

| Goal | Critical Area | WRIA | Plan |
|---|---------------------------|------------------------|----------|
| 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 activity. | Critical Aquifer Recharge | 43 - Upper Crab-Wilson | Complete |
| 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 activity. | Critical Aquifer Recharge | 54 - Lower Spokane | Complete |

Record: 1 of 2 No Filter Search

Then, describe your Adaptive Management plan for selected Goal:

Our work group plans to prioritize BMPs that are likely to reduce nutrient and herbicide concentrations in WRIA 43.

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 WRIsAs. 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

Benchmark Monitoring <-- Back Next -->

County for Report Period Ending Save Location and Close Report

Click on a row for Goal/Benchmark/Critical Area/WRIA

| Goal | Benchmark | Critical Area | WRIA | Monitoring |
|---|---|--|------------------------|------------|
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed level... | 2 - At each five-year benchmark reporting period, baseline conditions of fish and wildlife habitat... | Fish and Wildlife Habitat Conservation Areas | 34 - Palouse | |
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed level... | 2 - At each five-year benchmark reporting period, baseline conditions of fish and wildlife habitat... | Fish and Wildlife Habitat Conservation Areas | 43 - Upper Crab-Wilson | |
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed level... | 2 - At each five-year benchmark reporting period, baseline conditions of fish and wildlife habitat... | Fish and Wildlife Habitat Conservation Areas | 54 - Lower Spokane | |
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed level... | 2 - At each five-year benchmark reporting period, baseline conditions of fish and wildlife habitat... | Wetlands | 34 - Palouse | Complete |
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed level... | 2 - At each five-year benchmark reporting period, baseline conditions of fish and wildlife habitat... | Wetlands | 43 - Upper Crab-Wilson | Complete |

Record: 16 of 36

Then, add Benchmark monitoring information:

Explain how the benchmark is being monitored. Include a discussion of the monitoring methodology. (1000 char max)

Wetlands in WRIA 34 are being monitored using a combination of landscape change analysis and on-the-ground rapid assessments using photo interpretation and wetland plant composition

Is the monitoring sufficient to meet the Benchmark? Yes No

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 continued. Benchmark Monitoring

Benchmark Monitoring

County for Report Period Ending

[<-- Back](#) [Next -->](#)

[Save Location and Close Report](#)

Click on a row for Goal/Benchmark/Critical Area/WRIA

| Goal | Benchmark | Critical Area | WRIA | Monitoring |
|--|---|--|------------------------|------------|
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed | 2 - At each five-year benchmark reporting period, baseline conditions of fish and | Fish and Wildlife Habitat Conservation Areas | 34 - Palouse | |
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed | 2 - At each five-year benchmark reporting period, baseline conditions of fish and | Fish and Wildlife Habitat Conservation Areas | 43 - Upper Crab-Wilson | |
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed | 2 - At each five-year benchmark reporting period, baseline conditions of fish and | Fish and Wildlife Habitat Conservation Areas | 54 - Lower Spokane | |
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed | 2 - At each five-year benchmark reporting period, baseline conditions of fish and | Wetlands | 34 - Palouse | Complete |
| 1 - In areas of critical area intersect with agricultural activities, and at the watershed | 2 - At each five-year benchmark reporting period, baseline conditions of fish and | Wetlands | 43 - Upper Crab-Wilson | Complete |

Then, add Benchmark monitoring information

Explain how the benchmark is being monitored. Include a discussion of the monitoring methodology. (1000 char max)

Wetlands in WRIA 43 are being monitored using a combination of landscape change analysis and on-the-ground rapid assessments using photo interpretation and wetland plant composition. We were only able to conduct on-the-ground assessments for 10% of the wetlands in this WRIA.

Is the monitoring sufficient to meet the Benchmark? Yes No

If the monitoring is not sufficient, explain how the monitoring will change so that it will be

Our work group intends to sample 50% of the wetlands in this WRIA over the next 5 years.

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. 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. When finished entering participation benchmarks, select “Next”.

Step 18. Connect Participation Goals and Benchmarks

| Goal # | Participation Goal |
|--------|---|
| | Promote participation and stewardship activities by agricultural operators conducting commercial and noncommercial agricultural activities in order to meet the protection and enhancement benchmarks |

| Benchmark # | Participation Benchmark | SELECT |
|-------------|--|-------------------------------------|
| 5 | Increase direct participation in VSP over 10 years by commercial and noncommercial agricultural operators in terms of number or percent of operators and/or number or percent of acres participating | <input checked="" type="checkbox"/> |

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

Participation Strategies and Performance Metrics

County for Report Period Ending

Participation Strategies and Performance Metrics

Click on a row for Participation Goal/Benchmark

| Goal | Benchmark | # Strategies/Metrics |
|--|--|----------------------|
| 3 - Promote participation and stewardship activities by agricultural operators conducting commercial and noncommercial agricultural activities in order to meet the protection and enhancement benchmarks. | 5 - Increase direct participation in VSP over 10 years by commercial and noncommercial agricultural operators in terms of number or percent of operators and/or number or percent of acres participating | 1 |

Record: 1 of 1

Then, add Strategies, Performance Metrics, etc.

| Description | Accomplishment | Status |
|--|--|----------|
| Number of Individual Stewardship Plan (ISP) checklists submitted to the technical assistance provider. | Our work group received 25 completed ISPs during the reporting period. | Exceeded |

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

Critical Area Function Monitoring

County: for Report Period Ending:

<-- Back Next -->

Save Location and Close Report

Enter Monitoring Activities described by the plan: *include all monitoring or indicators used to evaluate Critical Area functions*

| Monitoring # | Monitoring Activity | Monitoring Type |
|--------------|---|--|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis |
| 2 | Water quality monitoring for 12 stations throughout WRN 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative 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

Critical Area Function Monitoring Details

County: for Report Period Ending:

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Record: 1 of 4

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Input datasets used: We used digital surface landscape models based on aerial imagery to classify the landscape into Critical Area types. We overlaid WA Dept. of Agriculture's crop layer with the imagery-based classification to determine changes in intersect between agricultural lands and Critical Area types.

Year of map/imagery for comparison with 2011 baseline:

Spatial accuracy of least accurate input layer: Units for spatial accuracy:

Classification accuracy of least accurate input layer:

Field verification of overall accuracy: Omission:

Field verification of overall accuracy: Commission:

Field verification of overall accuracy: Kappa:

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations:

In general, there were no statistically significant increases in agricultural intersect with any Critical Area type. Moreover, no net loss in any Critical Area type exceeded the accuracy of the landscape models.

Critical Area:

| | |
|--|-------------------------------------|
| Wetlands | <input checked="" type="checkbox"/> |
| Critical Aquifer Recharge | <input checked="" type="checkbox"/> |
| Frequently Flooded | <input checked="" type="checkbox"/> |
| Geologic Hazard | <input checked="" type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed? Yes No

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

Critical Area Function Monitoring Details

County: for Report Period Ending:

Buttons: <--- Back, Next --->, Save Location and Close Report

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Records: 1 of 4

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Input datasets used: We used digital surface landscape models based on aerial imagery to classify the landscape into Critical Area types. We overlaid WA Dept. of Agriculture's crop layer with the imagery-based classification to determine changes in intersect between agricultural lands and Critical Area types.

Year of map/imagery for comparison with 2011 baseline:

Spatial accuracy of least accurate input layer: Units for spatial accuracy:

Classification accuracy of least accurate input layer:

Field verification of overall accuracy: Omission:

Field verification of overall accuracy: Commission:

Field verification of overall accuracy: Kappa:

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations:

In general, there were no statistically significant increases in agricultural intersect with any Critical Area type. Moreover, no net loss in any Critical Area type exceeded the accuracy of the landscape models.

Critical Area Included:

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input checked="" type="checkbox"/> |
| Critical Aquifer Recharge | <input checked="" type="checkbox"/> |
| Frequently Flooded | <input checked="" type="checkbox"/> |
| Geologic Hazard | <input checked="" type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed? Yes No

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

Critical Area Function Monitoring Details

County: for Report Period Ending:

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Record: 1 of 4

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Input datasets used: We used digital surface landscape models based on aerial imagery to classify the landscape into Critical Area types. We overlaid WA Dept. of Agriculture's crop layer with the imagery-based classification to determine changes in intersect between agricultural lands and Critical Area types.

Year of map/imagery for comparison with 2011 baseline:

Spatial accuracy of least accurate input layer: Units for spatial accuracy:

Classification accuracy of least accurate input layer:

Field verification of overall accuracy: Omission:

Field verification of overall accuracy: Commission:

Field verification of overall accuracy: Kappa:

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations:

In general, there were no statistically significant increases in agricultural intersect with any Critical Area type. Moreover, no net loss in any Critical Area type exceeded the accuracy of the landscape models.

Adaptive Management needed? Yes No

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input checked="" type="checkbox"/> |
| Critical Aquifer Recharge | <input checked="" type="checkbox"/> |
| Frequently Flooded | <input checked="" type="checkbox"/> |
| Geologic Hazard | <input checked="" type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

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

Critical Area Function Monitoring Details

County for Report Period Ending

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Record: 1 of 4

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Input datasets used

Year of map/imagery for comparison with 2011 baseline

Spatial accuracy of least accurate input layer Units for spatial accuracy

Classification accuracy of least accurate input layer

Field verification of overall accuracy: Omission

Field verification of overall accuracy: Commission

Field verification of overall accuracy: Kappa

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input checked="" type="checkbox"/> |
| Critical Aquifer Recharge | <input checked="" type="checkbox"/> |
| Frequently Flooded | <input checked="" type="checkbox"/> |
| Geologic Hazard | <input checked="" type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed? Yes No

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.

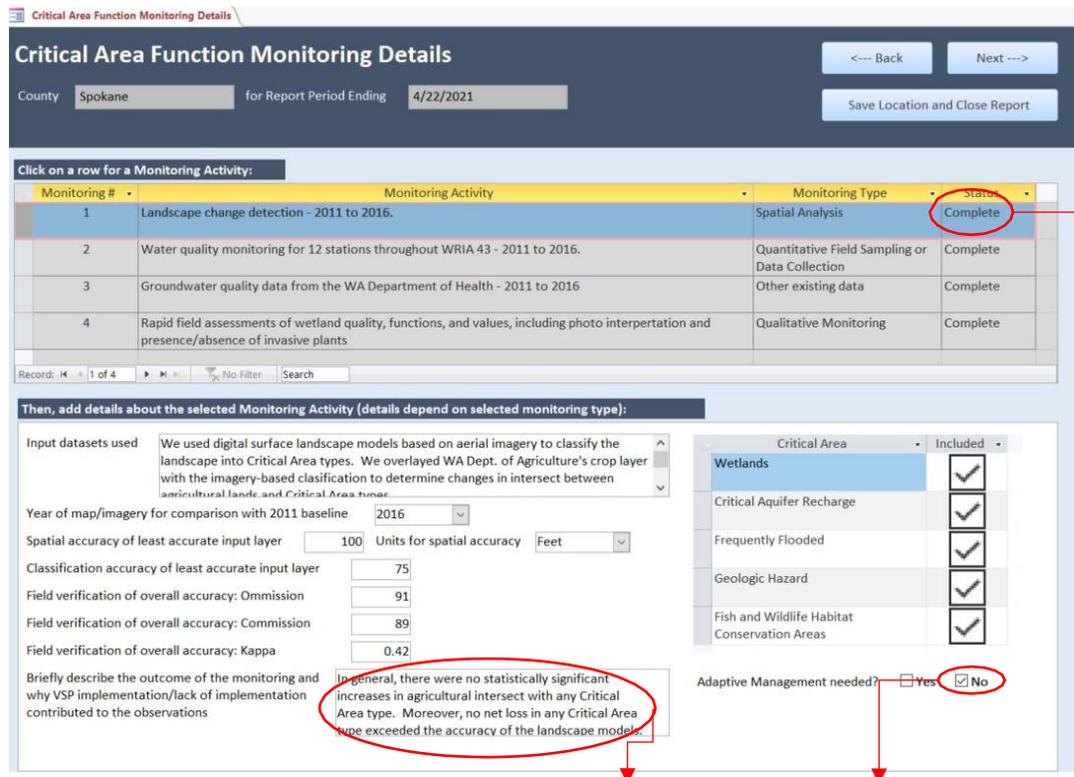
Errors of Omission and Commission. Errors of omission occur when a land-use/land-cover reference sites are omitted from the GIS classification (e.g., a known wetland reference area is classified as forest in a GIS). Omission errors represent how well the reference sites on-the-ground are classified in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



Critical Area Function Monitoring Details

County: Spokane for Report Period Ending: 4/22/2021

Buttons: <--- Back, Next --->, Save Location and Close Report

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Records: 1 of 4

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Input datasets used: We used digital surface landscape models based on aerial imagery to classify the landscape into Critical Area types. We overlaid WA Dept. of Agriculture's crop layer with the imagery-based classification to determine changes in intersect between agricultural lands and Critical Area types.

Year of map/imagery for comparison with 2011 baseline: 2016

Spatial accuracy of least accurate input layer: 100 Units for spatial accuracy: Feet

Classification accuracy of least accurate input layer: 75

Field verification of overall accuracy: Omission: 91

Field verification of overall accuracy: Commission: 89

Field verification of overall accuracy: Kappa: 0.42

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations:

In general, there were no statistically significant increases in agricultural intersect with any Critical Area type. Moreover, no net loss in any Critical Area type exceeded the accuracy of the landscape models.

Adaptive Management needed? Yes No

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

Critical Area Function Monitoring Details

[<--- Back](#)
[Next --->](#)

County for Report Period Ending
Save Location and Close Report

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Records: 2 of 4

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Timeframe/season for field sampling or data collection (e.g., summer only, annually, monthly)

Desired accuracy of the monitoring Number of samples/sites

Observed standard deviation

What statistical test was performed? (Ex. t-test, ANOVA, time series, regression, etc.)

Is the observation statistically significant? Yes No

Did the underlying data meet statistical test assumptions (e.g., normality)? Yes No

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input type="checkbox"/> |
| Critical Aquifer Recharge | <input type="checkbox"/> |
| Frequently Flooded | <input type="checkbox"/> |
| Geologic Hazard | <input type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed? Yes No

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

Critical Area Function Monitoring Details

County for Report Period Ending

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Record: 2 of 4

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Timeframe/season for field sampling or data collection (e.g., summer only, annually, monthly)

Desired accuracy of the monitoring Number of samples/sites

Observed standard deviation

What statistical test was performed? (Ex. t-test, ANOVA, time series, regression, etc.)

Is the observation statistically significant? Yes No

Did the underlying data meet statistical test assumptions (e.g., normality)? Yes No

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations

Critical Area Included

| | |
|--|-------------------------------------|
| Wetlands | <input type="checkbox"/> |
| Critical Aquifer Recharge | <input type="checkbox"/> |
| Frequently Flooded | <input type="checkbox"/> |
| Geologic Hazard | <input type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed? Yes No

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

Critical Area Function Monitoring Details <-- Back Next -->

County for Report Period Ending Save Location and Close Report

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Record: 2 of 4 No Filter Search

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Timeframe/season for field sampling or data collection (e.g., summer only, annually, monthly)

Desired accuracy of the monitoring Number of samples/sites

Observed standard deviation

What statistical test was performed? (Ex. t-test, ANOVA, time series, regression, etc.)

Is the observation statistically significant? Yes No

Did the underlying data meet statistical test assumptions (e.g., normality)? Yes No

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input type="checkbox"/> |
| Critical Aquifer Recharge | <input type="checkbox"/> |
| Frequently Flooded | <input type="checkbox"/> |
| Geologic Hazard | <input type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed? Yes No

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

Critical Area Function Monitoring Details

County for Report Period Ending
Save Location and Close Report

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Record: 2 of 4

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Timeframe/season for field sampling or data collection (e.g., summer only, annually, monthly)

Desired accuracy of the monitoring Number of samples/sites

Observed standard deviation

What statistical test was performed? (Ex. t-test, ANOVA, time series, regression, etc.)

Is the observation statistically significant? Yes No

Did the underlying data meet statistical test assumptions (e.g., normality)? Yes No

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input type="checkbox"/> |
| Critical Aquifer Recharge | <input type="checkbox"/> |
| Frequently Flooded | <input type="checkbox"/> |
| Geologic Hazard | <input type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed? Yes No

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

Critical Area Function Monitoring Details

County: for Report Period Ending:

Navigation: <-- Back | Next --> | Save Location and Close Report

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Records: 2 of 4

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Timeframe/season for field sampling or data collection (e.g., summer only, annually, monthly):

Desired accuracy of the monitoring: Number of samples/sites:

Observed standard deviation:

What statistical test was performed? (Ex. t-test, ANOVA, time series, regression, etc.):

Is the observation statistically significant? Yes No

Did the underlying data meet statistical test assumptions (e.g., normality)? Yes No

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations:

Critical Area Function Monitoring Details:

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input type="checkbox"/> |
| Critical Aquifer Recharge | <input type="checkbox"/> |
| Frequently Flooded | <input type="checkbox"/> |
| Geologic Hazard | <input type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed? Yes No

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

Critical Area Function Monitoring Details

County: for Report Period Ending:

Navigation: <-- Back, Next -->, Save Location and Close Report

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Records: 3 of 4

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Type of data:

Timeframe/season for field sampling or data collection (e.g., summer only, annually, monthly):

Desired accuracy of the Analysis:

Number of samples drawn from existing data: Observed standard deviation:

What statistical test was performed? (Ex. t-test, ANOVA, time series, regression, etc.):

Is the observation statistically significant? Yes No

Did the underlying data meet statistical test assumptions (e.g., normality)? Yes No

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations:

Critical Area Included:

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input type="checkbox"/> |
| Critical Aquifer Recharge | <input checked="" type="checkbox"/> |
| Frequently Flooded | <input type="checkbox"/> |
| Geologic Hazard | <input type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed? Yes No

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

Critical Area Function Monitoring Details <--- Back Next --->

County for Report Period Ending Save Location and Close Report

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Records: 4 of 4 No Filter Search

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Type of data:

Timeframe/season for field sampling or data collection (e.g., summer only, annually, monthly):

Desired accuracy of the Analysis:

Number of samples drawn from existing data: Observed standard deviation:

What statistical test was performed? (Ex. t-test, ANOVA, time series, regression, etc.):

Is the observation statistically significant? Yes No

Did the underlying data meet statistical test assumptions (e.g., normality)? Yes No

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations:

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input type="checkbox"/> |
| Critical Aquifer Recharge | <input checked="" type="checkbox"/> |
| Frequently Flooded | <input type="checkbox"/> |
| Geologic Hazard | <input type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed? Yes No

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

Critical Area Function Monitoring Details <--- Back Next --->

County for Report Period Ending Save Location and Close Report

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Records: 4 of 4 No Filter Search

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Type of data:

Timeframe/season for field sampling or data collection (e.g., summer only, annually, monthly):

Desired accuracy of the Analysis:

Number of samples drawn from existing data: Observed standard deviation:

What statistical test was performed? (Ex. t-test, ANOVA, time series, regression, etc.):

Is the observation statistically significant? Yes No

Did the underlying data meet statistical test assumptions (e.g., normality)? Yes No

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations:

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input type="checkbox"/> |
| Critical Aquifer Recharge | <input checked="" type="checkbox"/> |
| Frequently Flooded | <input type="checkbox"/> |
| Geologic Hazard | <input type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed? Yes No

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

Critical Area Function Monitoring Details

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Next -->

County Spokane for Report Period Ending 4/22/2021

Save Location and Close Report

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Records: 4 of 4 | No Filter | Search

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Type of data: DOH

Timeframe/season for field sampling or data collection (e.g., summer only, annually, monthly): Groundwater samples were collected annually; herbicides and nutrients were the parameters of interest

Desired accuracy of the Analysis: 80

Number of samples drawn from existing data: 24 Observed standard deviation: 0.6

What statistical test was performed? (Ex. t-test, ANOVA, time series, regression, etc.): t-tests were performed comparing baselin 2011 conditions to concentrations in 2016

Is the observation statistically significant? Yes No

Did the underlying data meet statistical test assumptions (e.g., normality)? Yes No

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations: variation in both nutrients and herbicides were high due to low sample sizes. Future efforts will increase sampling at well locations to reduce data variability

Critical Area: Wetlands Included: Included

| | |
|--|-------------------------------------|
| Wetlands | <input type="checkbox"/> |
| Critical Aquifer Recharge | <input checked="" type="checkbox"/> |
| Frequently Flooded | <input type="checkbox"/> |
| Geologic Hazard | <input type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input checked="" type="checkbox"/> |

Adaptive Management needed: Yes No

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 – Qualitative Monitoring

Critical Area Function Monitoring Details <--- Back Next --->

County for Report Period Ending Save Location and Close Report

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Record: 4 of 4 No Filter Search

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Timeframe/season for qualitative monitoring (e.g., summer only, annually, monthly)

Number of observations (sample size)

Number of possible data points in the sample area (population)

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations

Adaptive Management needed? Yes No

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input checked="" type="checkbox"/> |
| Critical Aquifer Recharge | <input type="checkbox"/> |
| Frequently Flooded | <input type="checkbox"/> |
| Geologic Hazard | <input type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input type="checkbox"/> |

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

Critical Area Function Monitoring Details

County: for Report Period Ending:

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[Save Location and Close Report](#)

Click on a row for a Monitoring Activity:

| Monitoring # | Monitoring Activity | Monitoring Type | Status |
|--------------|---|--|----------|
| 1 | Landscape change detection - 2011 to 2016. | Spatial Analysis | Complete |
| 2 | Water quality monitoring for 12 stations throughout WRIA 43 - 2011 to 2016. | Quantitative Field Sampling or Data Collection | Complete |
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Other existing data | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Qualitative Monitoring | Complete |

Record: 4 of 4

Then, add details about the selected Monitoring Activity (details depend on selected monitoring type):

Timeframe/season for qualitative monitoring (e.g., summer only, annually, monthly):

Number of observations (sample size):

Number of possible data points in the sample area (population):

Briefly describe the outcome of the monitoring and why VSP implementation/lack of implementation contributed to the observations:

Adaptive Management needed? Yes No

Critical Area Included:

| Critical Area | Included |
|--|-------------------------------------|
| Wetlands | <input checked="" type="checkbox"/> |
| Critical Aquifer Recharge | <input type="checkbox"/> |
| Frequently Flooded | <input type="checkbox"/> |
| Geologic Hazard | <input type="checkbox"/> |
| Fish and Wildlife Habitat Conservation Areas | <input type="checkbox"/> |

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

CA Function Monitoring Adaptive Management

County: for Report Period Ending:

Click on a row for a Monitoring Activity: *(All identified as needing adaptive management)*

| Monitoring # | Monitoring Activity | Plan |
|--------------|---|----------|
| 3 | Groundwater quality data from the WA Department of Health - 2011 to 2016 | Complete |
| 4 | Rapid field assessments of wetland quality, functions, and values, including photo interpretation and presence/absence of invasive plants | Complete |

Record: 1 of 2

Then, describe your Adaptive Management plan for selected Monitoring Activity:

Briefly describe the proposed monitoring and how proposed changes will address the previous deficiency

Our work group intends to suppliment existing WA DOH groundwater data with more frequent sampling during times of the year that producers apply herbicides and nutrients. We used the existing data to determine approximately how many more samples will be required to meet statistical assumptions (i.e., normality) and align us with a goal of 80% accuracy.

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

Report Approval and Finalize for Submission

County for Report Period Ending

Print Report <--- Back

Finalize/Lock Report Save Location and Close Report

Has the county work group approved the content and submittal of this report? Yes No
Please obtain permission from your county work group before submitting this report.

Date of approval

Please verify contact information for any questions about submitted report:

Submitter Name
Submitter Phone
Submitter Email

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 onto paper 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.**

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-P-Monitoring-for-WGs.Feb-2017.pdf

What does Monitoring Look Like? A VSP Primer (SCC/WDFW) - https://uploads-ssl.webflow.com/5f0507f9cf344a5f8752f27a/5f7e39783c18833bbb1ea7c7_VSP%20Regional%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_PowerAnalysisSummaryMay10_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%2005/Module%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=Equal&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/drinkingwatersystemdata/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&eld=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 | https://www.ecy.wa.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/GDGO_rder.aspx |
| Various | Washington GeoSpatial Open Data | Office of the Chief Information Officer (OCIO) - WA | http://geo.wa.gov/ |