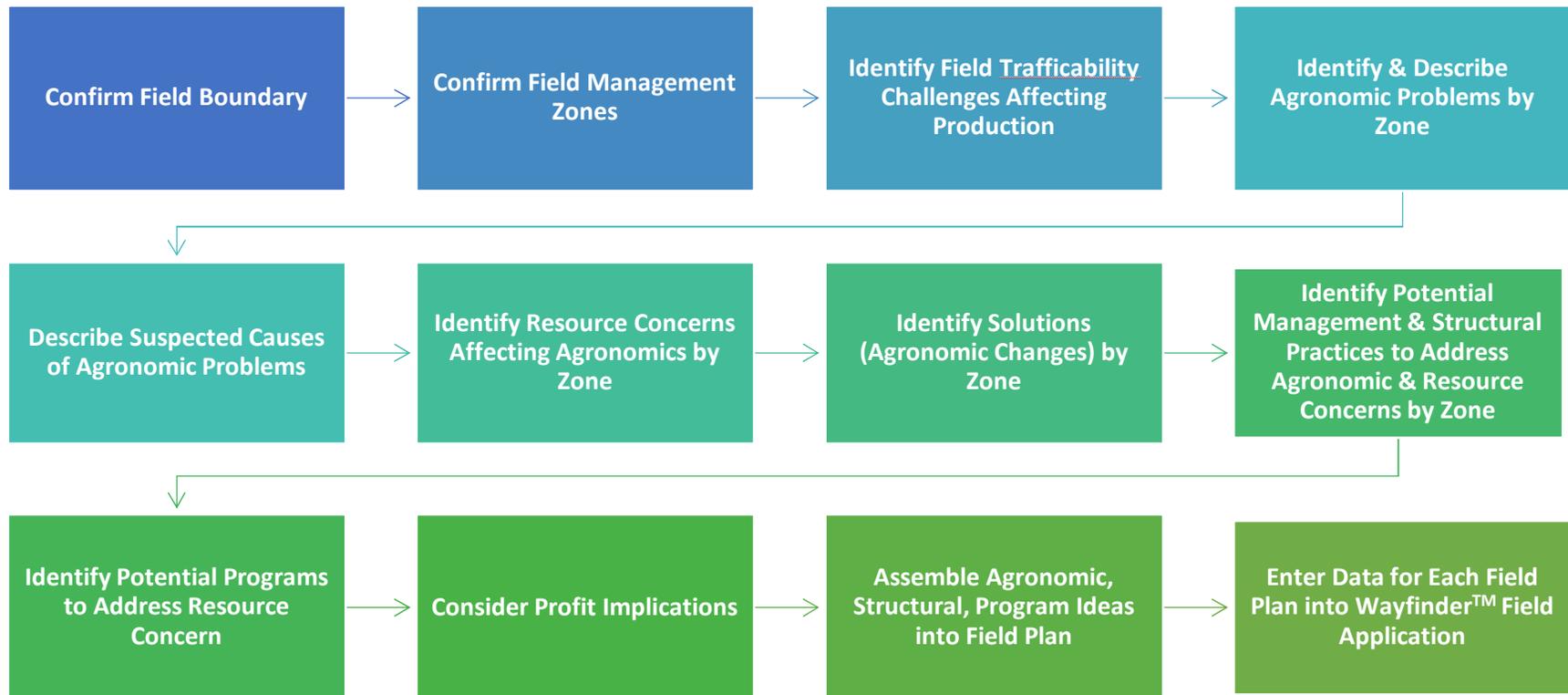


Purpose	The purpose of the consultation meeting is to for each field enrolled in the Stewardship Program: 1) describe the current operation; and 2) brainstorm and develop ideas to improve net return, while understanding the implications on stewardship quality and environmental outcomes.
Expected Outcomes	You will capture your ideas to improve net return by developing one or more “field plans” for each field. Comparing these field plans to your current operation allows you to assess the potential change in net return, stewardship quality and environmental outcomes and manage your risk.
Process	See the flow chart for a description of the plan development process.
Required Documentation	<p><i>Use the Wayfinder™ Field Stewardship Application Interface to collect and enter the data for the current condition and each field plan.</i></p> <p>The factors identified in Attachment A MUST be recorded for each management zone within the field. We recommend using a 6-year history for the current operation and a 6-year forward looking planning horizon for the field plans. An entire field can be a management zone or the field subdivided into multiple management zones to reflect the variation in yield, operation or agronomic prescription (see Figure 1).</p> <p>Use multiple management zones if one of the factors (in Attachment A) varies either across the field or in time. Here are some examples of where subdividing the field into multiple management zones is required:</p> <ol style="list-style-type: none"> 1. modifying the current operation (in the future) to address a specific agronomic challenge within the field boundary; 2. evaluating the implications of using a cover crop on a portion, but not all, of the field; 3. understanding the ramifications of planting a different crop on a portion of the field; 4. implementing a management or structural conservation practice in a portion of the field; 5. improving drainage to a portion of the field; and 6. varying the fertilizer application practices across the field. <p>The number of management zones for the field CANNOT change through time, so when drawing management zones you MUST include zones to reflect future changes in rotation, tillage method, and practices.</p>
Next Steps	Compute the FSR, estimate profitability, and determine environmental outcomes.

Developing Field Plans

IWI Stewardship Program

The flow chart shows the steps in the process for developing a field plan.



February 17, 2023



Developing Field Plans

IWI Stewardship Program

Guidance for Developing Field Plans

Net return, environmental outcomes and the field stewardship rating are assessed for your current operation for comparison to one or more "alternative" field plans. A field plan is a set of viable agronomic ideas to improve your operation for the field. You may develop one or several field plans to compare to your current operation.

Creating the field plan means changing one or more of the factors (Attachment A) for your current operation. The tillage system, crop rotation, land drainage method and use of conservation practices are the most common factors changed to create the field plan.

Consider carefully the reasons for developing a field plan. Field plans can represent:

1. Relatively minor adjustments to your current operation to address specific concerns within a management zone; or
2. A considerable shift in your operation.

Here are some example field plans:

Field Plan Purpose	Description
Benchmark your current operation	Evaluate your current operation against one or more "endpoints" that bracket the range of net return, stewardship quality and environmental outcomes.
Evaluate the Implications of Land Improvement	Add surface or subsurface drainage to improve yield on wet and drown-out areas.
Understand Implications of a Tillage System	Manage risk when considering altering your tillage system (e.g., conventional till to no-till or strip-till).
Assess the Change in Stewardship Quality and Environmental Outcomes	Quantify the change in stewardship quality and environmental outcomes associated with a previous change in your operation.
Modify Crop Rotation	Change the current crop rotation – add a new crop.
Address Operational Challenge Caused by a Resource Problem	Evaluate different methods of stemming high soil loss in areas with steep slopes.
Use a Cover Crop	Assess the implications of utilizing a cover crop.
Address Trafficability and Resource Challenges	Utilizing conservation practices like grass swales, filter strips, and water and sediment control basins to trap soil and phosphorus.

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Figure 1. Example zone map. The information within Attachment A will be recorded for each zone. Letter denote historic yield (A=Average; BA=Below Average). You can draw these maps using the Wayfinder™ Field App.



Developing Field Plans IWI Stewardship Program

Attachment A.

A field plan can be comprised of one or more of the following changes to your current operation. The column labeled “PROBABLE AFFECT” identifies the number of stewardship indices affected and a sense of how the factor affects the Stewardship Rating.

Factor	Outcomes Affected	Considerations	Probable Affect on Field Stewardship Rating	Agronomic Decision
Crop Rotation	Sediment, phosphorus and water runoff	<p>Rotations leaving more residue on the field protect the soil and reduce sediment loss.</p> <p>The amount of surface water runoff declines as the amount of residue increases.</p> <p>Some crops (like corn) naturally use more of the precipitation falling on the field than other crops.</p> <p>Generally, the amount of runoff is greater for row crops than small grains or solid seeded crops.</p>	<p>The field stewardship rating will increase for rotations leaving more residue on the field.</p> <p><i>Twelve of the fourteen indices comprising the Field Stewardship Rating are affected.</i></p>	<p>Is using a different crop to lower input cost within management zones having low yield a possibility to increase profitability?</p> <p>Is performance poor enough within a management zone to consider planting the area to a forage crop.</p> <p>Should I consider enrolling a portion of the field in a government program to eliminate input cost and generate revenue?</p>
Tillage Method and Timing	Sediment, phosphorus and water runoff	<p>Leaving more or less residue by altering the tillage system (methods include moldboard plow, chisel plow, conservation tillage (ridge, strip, no till)) and time of year (fall / spring) affects the amount of soil loss, phosphorus loss and surface water runoff.</p> <p>Leaving more residue reduces sediment, total phosphorus loss and the amount of surface water runoff.</p>	<p>Less intensive tillage increases the field stewardship rating because less soil erodes from surface water runoff.</p> <p>The field stewardship rating improves with spring rather than fall conventional tillage.</p> <p>The amount of phosphorus leaving the field is reduced because of less runoff.</p>	<p>Should I modify the tillage methods for the same rotation to increase profitability.</p> <p>Does modifying my tillage method reduced my soil loss to an “acceptable” level.</p>

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			<i>Twelve of the fourteen indices comprising the Field Stewardship Rating are affected.</i>	
Fertilizer Application Source, Rate, Timing and Placement Method	Phosphorus and nitrogen	<p>Spring N application results in less loss than fall application.</p> <p>Use of N inhibitors decreases loss.</p> <p>Avoid application during precipitation periods.</p> <p>Adjust rates based on soil testing.</p> <p>Incorporate fertilizer into the soil.</p>	<p>Following the 4R performance standards improves the field stewardship rating.</p> <p>The annual estimated nitrogen yield loss will be reduced by ~ 10% for spring versus fall applied fertilizer. The TN and TP loss rates will be reduced when applying near the “desired” rate.</p> <p><i>Four of the fourteen indices comprising the Field Stewardship Rating are affected.</i></p>	How does increasing or decreasing the application rate affect estimated profitability?
Cover Crop	Sediment, phosphorus and water runoff	<p>Whether to use a cover crop, the type of cover crop and when the cover crop is planted.</p> <p>Sediment loss reduced by ~ 10% annually by using a cover crop.</p> <p>The amount of runoff and phosphorus loss are reduced.</p> <p>The value of the cover crop for improving environmental outcomes increases when planted earlier in the growing season.</p>	<p>Using a cover crop improves the field stewardship rating.</p> <p><i>Twelve of the fourteen indices comprising the Field Stewardship Rating are affected.</i></p>	<p>Can a cover crop utilize some of the excess moisture and improve trafficability?</p> <p>Does planting a cover crop increase yield, by reducing nutrient loss?</p> <p>How does a cover crop affect spring soil moisture temperatures?</p>
Agriculture Inputs	Profitability	Primarily modify the fertilizer application rates for N and P consistent with soil test results.	<p>Greater use efficiency improves the stewardship rating.</p> <p><i>Four of the fourteen indices comprising the Field Stewardship Rating are affected.</i></p>	How does increasing or decreasing the agricultural inputs affect estimated profitability?

Developing Field Plans IWI Stewardship Program

Conservation Practices	Sediment, phosphorus and water runoff	<p>Strategic placement of structural practices within areas of low profitability or operational problem areas (e.g. gully).</p> <p>Use landowner information package to identify opportunities in low profit zone and areas of high estimate loss</p>	<p>Using management and structural conservation practices improves the field stewardship rating.</p> <p><i>Eleven of the fourteen indices comprising the Field Stewardship Rating are affected.</i></p>	<p>Can I use structural practices to address problem areas on my field (e.g., repeated drown out area; formation of gullies that affect trafficability)?</p> <p>What to does structural conservation practices cost me and how will it affect my profitability.</p>
Drainage	Sediment, phosphorus and water runoff	<p>Remove standing water from low areas using surface drainage.</p> <p>Technical challenges associated with estimating effects of tile drainage.</p>	<p>Improving drainage decreased the field stewardship rating.</p> <p><i>Seven of fourteen Field Stewardship Rating indices are affected.</i></p>	<p>Can I improve my drainage and my yields and profitability?</p>