

Part 600 – Payment Schedules

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Part 600 – Payment Schedules

Subpart A– General Information

600.00 Introduction

A, Background

- (1) NRCS financial assistance programs authorize NRCS to base program payments upon NRCS determination of incurred costs and income foregone associated with practice implementation. This authority affords the agency the ability to:
 - (i) Justify program payments to assure compliance with World Trade Organization treaties and agreements;
 - (ii) Make payments for certified practices based upon NRCS determination of cost estimates without need to collect receipts or verify actual cost; and
 - (iii) Document costs for typical practice application in payment schedules.
- (2) Beginning fiscal year 2009, the agency uses payment schedules to document cost of practice implementation and provide public transparency in determination of payment rates to support certain program payments administered through approved contracting software. The methods for development of payment schedules must include assurances that payments meet program authority, reduce potential for improper payments, provide adequate financial assistance to encourage adoption of practices, and other positive benefits
- (3) The agency methodology described in this handbook and the process used to develop payment schedules achieve the following:
 - (i) Provide transparency and timely payment rate information to program applicants and agency partners.
 - (ii) Ensure that payment schedules are consistent with program authority.
 - (iii) Provide a consistent, reliable, and defensible method for documenting eligible costs.
 - (iv) Provide flexibility that reflects cost variation across the Nation.
 - (v) Use established and accepted economic geographic areas aligned with States and regions based on farm employment data, crop costs, and other economic factors.
 - (vi) Ensure payment rates and financial assistance are consistent with the definition, purpose, and requirements of approved conservation practice technical standards.
 - (vii) Provide for simplification of program payment processes.
 - (viii) Support agency efforts to reduce State and field staff workload allowing more time for conservation planning, technical assistance, and practice implementation.

B. National-Regional Process

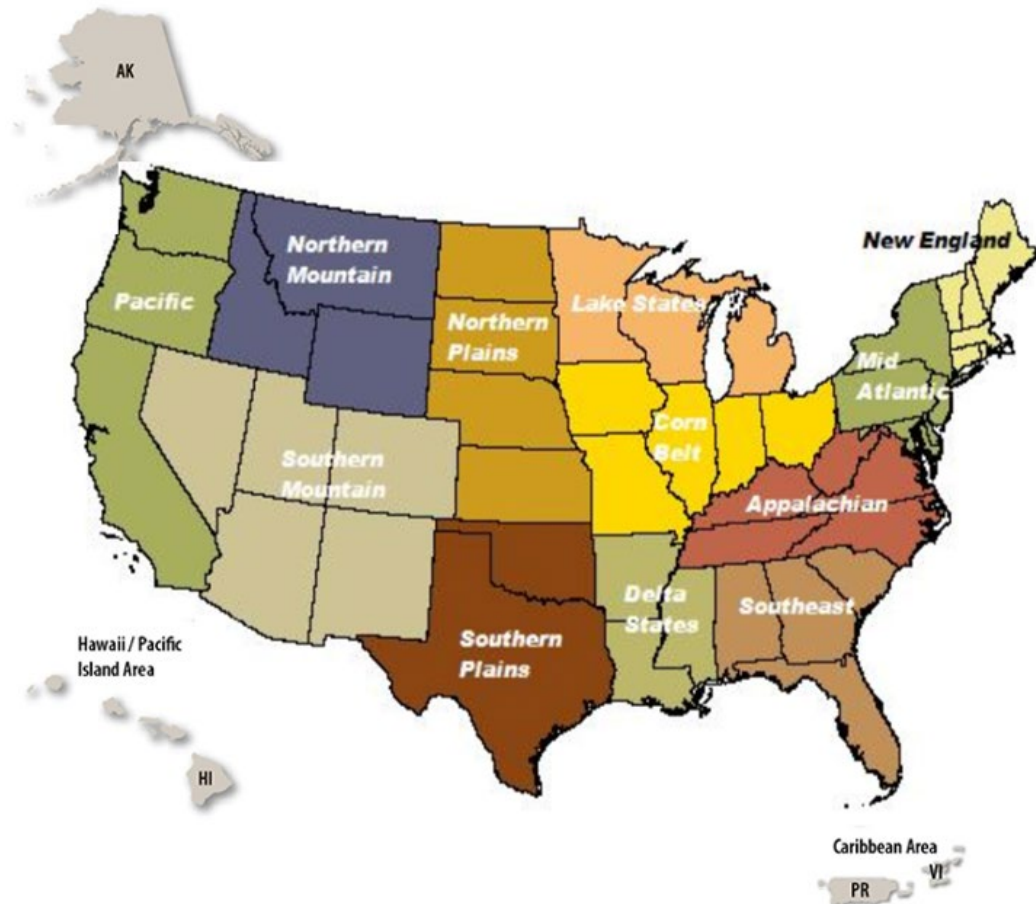
The process of determining the estimated incurred costs for individual conservation practice standard implementation is an iterative review process between national and regional teams. This process is briefly explained below.

- (i) Payment schedule development begins at the national level based on the conservation practice standards.
- (ii) Regional teams have been established to adjust the nationally developed payment schedules based on local conditions.
 - The geographic areas represented by regional teams were established based upon slightly modified Economic Research Service Farm Production Regions as shown in figure 1.

- The Pacific Islands, Alaska, and Caribbean areas are considered separate regions for development of payment schedules.

Figure1. A map identifying the various farm production regions used in payment schedules.

Farm Production Regions



600.01 Authority

A. Legislative Authorities

- (1) Legislative authorities for the guidance and procedures contained in this handbook, are codified at 16 U.S.C. 3801 et seq. and 7 U.S.C 1524(b) and include the following programs:
 - (i) Agricultural Conservation Easement Program
 - (ii) Agricultural Management Assistance Program
 - (iii) Conservation Stewardship Program
 - (iv) Environmental Quality Incentives Program
 - (v) Regional Conservation Partnership Program
- (2) Additionally, other NRCS conservation programs may utilize the guidance and procedures contained in this handbook.

B. Regulatory Authorities:

- (1) Regulatory authorities for the guidance and procedures contained in this handbook are as follows:

- (i) 7 CFR Part 1470, “Conservation Stewardship Program”
- (ii) 7 CFR Part 1468, “Agricultural Conservation Easement Program”
- (iii) 7 CFR Part 1466, “Environmental Quality Incentives Program”
- (iv) 7 CFR Part 1465, “Agricultural Management Assistance”
- (v) 7 CFR Part 1464, “Regional Conservation Partnership Program”
- (vi) 7 CFR Part 652, “Technical Service Provider Assistance”

(C) Policy Authorities:

- (1) Title 440, Conservation Programs Manual (CPM), (440-CPM) Part 502, “Terms and Abbreviations Common to All Programs”
- (2) 440-CPM, Part 530, “Working Lands Conservation Programs Manual”
- (3) Title 440, General Manual (GM), Part 402, “NRCS Electronic Program Delivery Business Tools”
- (4) Title 250, GM, “Financial Management”
- (5) 440-CPM, Part 504, “Technical Service Provider Assistance”
- (6) Any other policy that cross references this part.

D. Scope

This handbook addresses the methodology, administration, and development of payment schedules for all agency-approved conservation practices or activities that may be financially supported through programs for a specific fiscal year. The handbook also documents the requirements for estimated incurred costs and income foregone associated with implementation of conservation practices in payment schedules.

Note: States may not establish any additional policy or guidance regarding administration or development of program payment schedules.

600.02 NRCS Roles and Responsibilities

A. Chief

- (1) Make policy and program regulatory decisions.
- (2) Approve the use of income foregone for designated conservation practices.

B. Deputy Chief for Management and Strategy

- (1) Provide leadership for the National Payment Schedule Core Team.
- (2) Provide information and technology support for approved payment schedule development and storage software.
- (3) Approve cost calculation methodologies used to support payment schedules
- (4) Provide oversight of the component cost and income foregone quality assurance reviews.
- (5) Provide quality assurance to ensure States do not deviate from the regionally developed payment schedules.
- (6) Coordinate payment schedules for landscape-scale special initiatives.
- (7) Review requests from States for special considerations that deviate from the process outlined in this handbook.
- (8) Maintain the payment schedules on appropriate application platform.

C. Deputy Chief for Science and Technology (S&T)

- (1) Provide technical support for the development of payment schedules.
- (2) Provide oversight for technical quality assurance reviews.

D. Deputy Chief for Soil Science and Resource Assessment (SSRA)

- (1) Provide technical support for the development of payment schedules.
- (2) Provide oversight for technical quality assurance reviews.

E. Deputy Chief for Programs

- (1) Provide development, implementation, and policy guidance.
- (2) Ensure that payment schedules are consistent with program statutory, regulatory, and policy provisions.
- (3) Provide oversight for program quality assurance reviews.

F. Director, Policy and Program Analysis Division

- (1) Provide overall program evaluation, including program accountability.
- (2) Recommend regulation, policies, and procedures to support payment schedules administration.
- (3) Develop user requirements for program-related software, including coordination and involvement with business and information technology specialists on testing, issuing training, and maintaining software to support program activities.
- (4) Review requests from States for special considerations that deviate from the process outlined in this manual.

G. National Payment Schedule Core Team

- (1) Membership of the core team, at a minimum, should consist of:
 - (i) Team leader and representatives from Programs and S&T Deputy Areas, and other national disciplines.
 - (ii) Duties include:
 - Provide leadership and oversight for the development of payment schedules.
 - Provide training to other payment schedule support teams.
 - Develop guidance to support the payment schedule process.
 - Members chair the national payment schedule technical specialists, cost and foregone income (FI) teams, and Payment Schedule Application (PSA) software development.

H. National Technical Specialist Team

- (1) Membership of the technical specialist teams, as a minimum, must consist of:
 - (i) A technical lead (TL) for each discipline group. Leaders on the national technical specialist teams will be discipline leads assigned by the Conservation Engineering Division, Conservation Planning and Technical Assistance Division, Ecological Science Division, and Soil Health Division.
 - (ii) Discipline groups have representatives from national technology support centers (NTSCs) and other national technical specialists. Discipline groups will consist of a minimum of three technical representatives.

The teams' makeup will depend on the complexity and diversity of practice implementation across the Nation. Technical discipline groups are as follows:

- Agricultural engineering
- Agronomy
- Engineering general
- Environmental engineering
- Forestry
- Conservation planning
- Range/pasture grazing

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- Soil health
- Water management engineering
- Wildlife wetland

(2) Duties include:

- (i) Serve as national scenario managers (NSM) in the PSA Tool. See subpart F, section 600.54, “PSA User Guide” of this handbook.
- (i) Determine the number of scenarios available for each practice and enhancement.
- (ii) Determine whether FI is applicable for each practice or enhancement
- (iii) Review, update, or create national payment schedule scenarios for use by the regional scenario teams (RSTs).
- (iv) Evaluate requests by RSTs to add new scenarios, components, and unit types.
- (v) Provide quality assurance review for RSTs’ work.
- (vi) Support development of payment schedules for enhancements and conservation activity plans (CAPs), including conservation planning activity (CPA), design and implementation activity (DIA), and conservation evaluation and monitoring activity (CEMA).

I. National Cost Team

(1) Membership of the National Cost Team, as a minimum, must consist of:

- (i) Assigned economist lead.
- (ii) Other identified personnel as needed.

(2) Duties include:

- (i) Serve as component manager (CM) and price manager (PM) in the PSA Tool. See subpart F, section 600.54 of this handbook.
- (ii) Review component requests and consults with S&T and Programs Deputy Areas for consistency, duplication, and appropriations law.
- (iii) Develop cost data for practice components following approval by S&T and concurrence by Programs Deputy Area. See subpart C, section 600.26 of this handbook.
- (iv) Upload component prices and documentation in the PSA Tool.
- (v) Provides quality assurance reviews on cost and FI components.

J. Regional Scenario Team (RST)

(1) Membership of RST shall consist of:

- (i) A maximum of three members from each State within the region as assigned by the respective State conservationists (STC).
- (ii) Should be multi-disciplinary and should have access to program and technical expertise to address all practices.
- (iii) Each region has the autonomy to establish operational structure as needed. The teams can determine how often and what type of meetings may be necessary for each region. Regular communications amongst the team is essential.

(2) Duties include:

- (i) Serve as regional scenario managers (RSM) in the PSA Tool. See subpart F, section 600.54 of this manual.
- (ii) Coordination with technical specialists to review and update regional payment schedules.
- (iii) Coordinate with other RSTs to develop typical practice scenarios.
- (iv) Coordinate and collaborate within each region to make decisions regarding final regional scenarios.
- (v) Engage the appropriate program and technical experts needed for development, review, and concurrence on regional scenarios.
- (vi) Coordinate with neighboring RSTs to develop consistent payment schedules for cross-regional landscape conservation initiatives (see National Instruction (NI) 440-307,

“Instructions for Implementing National Program and Landscape Conservation Initiatives”).

- (3) To facilitate communications and coordinate work tasks, each team should include:
 - (i) A regional coordinator who will—
 - Prepare a work plan for the region.
 - Schedule meetings as needed.
 - Initiate action when needed by team.
 - Ensure actions are completed by team on schedule time.
 - Report regional team progress.
 - Engage line officers if needed to resolve differences.
 - (ii) Two team members who will—
 - Coordinate requests for additional components, price evaluations, scenario units and limits, etc.
 - Upload final regional payment schedules.
 - (iii) If needed, a facilitator who will—
 - Facilitate consensus on final scenarios and solutions for regional differences.
 - Resolve conflicts on difficult issues.

K. State Conservationists (STC)

- (1) Evaluate recommendations from the State Technical Committees.
- (2) Establish the program payment percentages applied to each cost category.
- (3) Provides representatives for the RST and State payment schedule managers (SPS). STCs should ensure that individuals are selected to equitably represent each State within the region.

L. State Payment Schedule Managers

- (1) A maximum of two members from each State as assigned by the respective STCs.
- (2) Duties include:
 - (i) Serve as SPS in the PSA Tool.
 - (ii) Select and approve regional scenarios to be offered within the State.
 - (iii) Add State programs.
 - (iv) Set payment percentages for each scenario by program.
 - (v) Complete practice average annual cost (PAAC).

M. Designated Conservationists

- (1) Hold local work group meetings and provide feedback to State representatives.
- (2) Select the payment scenario that most closely resembles the practice implementation when developing NRCS program contracts.

N. State Technical Committees and Local Work Groups (LWG)

- (1) As authorized in 7 CFR Part 610 Subpart C, NRCS is responsible for administering programs including approving program payment rates. The development of payment schedules to support program payment rates is an inherently governmental technical activity and State Technical Committees and LWG subcommittees do not have a role of reviewing, approving, or concurring in this activity.
- (2) State Technical Committees and LWGs are bodies that provide advice to the STC as described in [440-CPM, Part 501 “USDA Conservation Program Delivery.”](#) The primary focus and advisory role of these committees and LWGs is identification of local natural resource concerns and priorities that can be addressed through agency provided technical and program assistance and may provide:

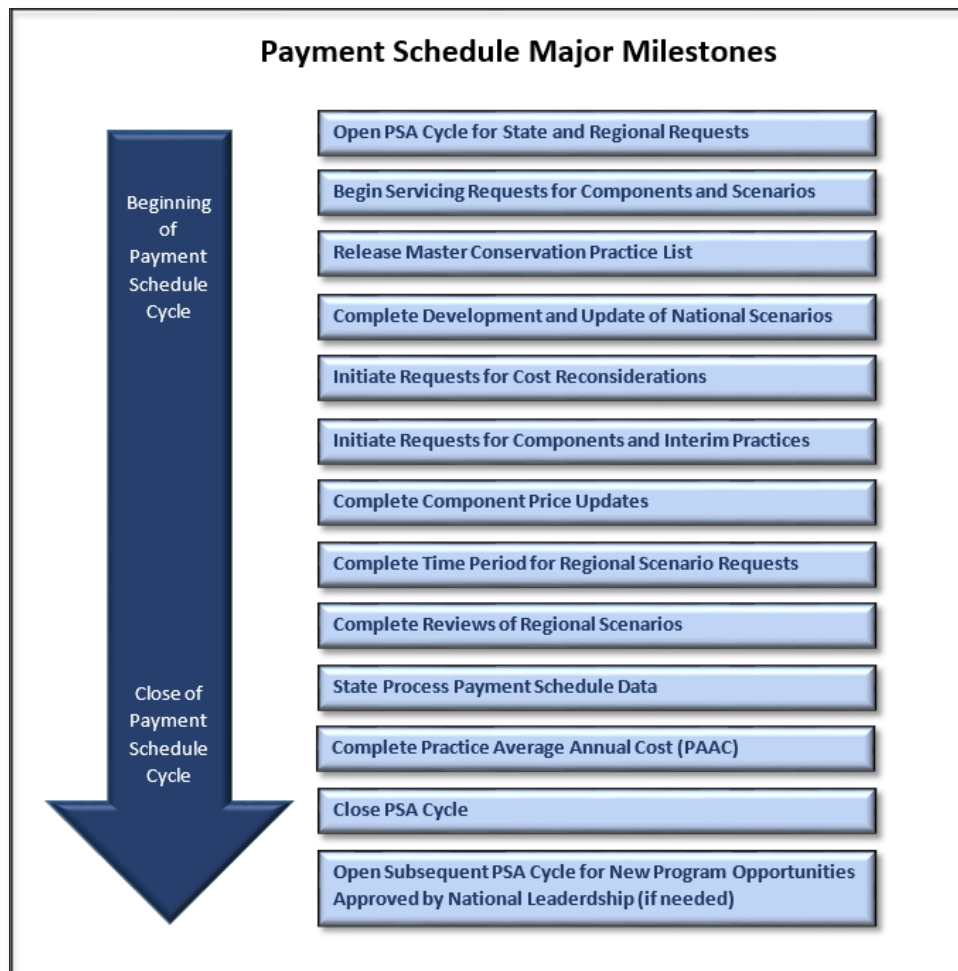
- (i) Recommendations for practices and program payment percentages for conservation programs that support program objectives and State and local priorities.
- (ii) Program payment percentages documented in practice payment schedules and maximum payment on conservation practices consistent with program requirements.
- (3) Although it is permissible to solicit recommendations as noted above, NRCS must not share detailed payment schedule cost documentation, scenario details, or cost category information due to proprietary information collected. Decisions by STCs regarding establishment of program payment percentages are described in policy and subpart B, sections 600.10, “General Policy Requirements,” and 600.11, “Principles of Least Cost” in this handbook.

600.03 – Deadlines – Fiscal Year Implementation Schedule

A. To make program opportunities available to eligible participants at the beginning of any new program year, the agency has established that all activities, procedures, and actions needed to publish final payment rates must be completed by the beginning of each fiscal year (October 1). Therefore, the following generalized schedule provides guidance for completing milestones and actions needed to meet the October 1 deadline for release of approved payment rates.

Note: For approved and announced program opportunities, no new or additional payment schedules, scenarios, or components may be developed or added—program announcement is typically October 1, the beginning of the fiscal year. After a program opportunity is publicly announced along with final approved payment rates, no new practices, payment schedules or revised payment rates may be added or approved for the announced program opportunity. In unusual situations as approved by national leadership, new payment schedules and scenarios may be approved after October 1 when a new program opportunity is approved by agency leadership, and only if existing payment schedules do not address the purpose or need of the new program. Development of new payment schedules or scenarios for new mid-year program opportunities must follow established protocol as described in this handbook.

B. Payment Schedule Development Process:



600.04 Annual Database Updates

Successful development of payment schedules to support each fiscal year program is dependent upon the timely review, update, and management of data in several business tools. Agency staff responsible for these databases must review and update, as applicable the following database or business tool on an annual basis to guarantee successful generation of payment schedules to support financial assistance programs. Although these databases may be updated after the October 1 payment schedule deadline, revised values may not be used to change any previously announced or published payment schedule, payment rate, or scenario.

- (1) Conservation Practice Data Entry System (CPDES):
 - (i) The CPDES database is the official agency registry for approved conservation practices and activities that may be eligible to be supported through program financial assistance.
 - (ii) This database also includes the approved lifespan for each practice that may influence the inputs or components used to support the practice, activities, and potential design of practice scenarios.

- (iii) New, revised, or interim practices and enhancements that are anticipated to be made available for any program year must be approved and entered into CPDES to allow incorporation into the scenario development process.
- (2) Payment Schedule Application (PSA)
 - (i) The PSA facilitates the development, approval, and management of payment schedule scenarios among regions and States for consistency, national oversight, and to meet agency responsibilities to implement program statutory requirements.
 - (ii) The PSA is an internal agency Web-based tool accessible by authorized users based on zRoles permissions.
 - (iii) The PSA fully integrates the process approved by the agency to generate payment schedules and practice average annual costs (PAAC) used to support, contracting software, and other agency business tools.
 - (iv) PSA provides oversight to assure adherence to policy, protection of proprietary cost data, tracking of annualized costs, and reports for posting to the State Payment Schedules national website for transparency and public inspection.

600.05 Applicability

Payment schedules are used to document all authorized costs and payment rates used to support applicable authorized programs administered through approved contracting software.

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Subpart B – Payment Schedule Requirements

600.10 General Policy Requirements

A. Program Neutral Payment Schedules

Only one payment schedule using “program neutral” costs will be developed each fiscal year for approved conservation enhancements and practices offered for each respective program.

B. Program Payment Percentages

For each practice scenario, State conservationists must establish appropriate program payment percentages for each cost category to create a program-specific payment rate and the following requirements:

- (i) To the extent possible States should strive for a single payment rate for each practice scenario, unless the following criteria apply:
 - A different payment rate is necessary to support a specific program or landscape conservation initiative.
 - A different payment rate is necessary to support significant regional differences within a State.
 - A different payment rate is necessary to address program-specific requirements such as high priority practices, source water protection, and supplemental payments.
- (ii) State conservationists should consider the principles of least cost when assigning the program payment percentages, following guidance below in section 600.11(D).

Note: Payment percentages under the Conservation Stewardship Program (CSP) program are nationally determined.

C. Payment Schedules

Statutory authority for program payments is to implement practices and enhancements that have a purpose and definition to address an identified natural resource concern (e.g., 16 U.S.C. 3839.8a-2 and 16 U.S.C. 3839aa-24). Payment schedules must only address the costs associated with a single stand-alone practice.

D. Estimated Incurred Costs

- (1) Payment schedules are used to document appropriate estimated incurred costs and foregone income (FI) to arrive at a payment rate for program financial assistance payments.
 - (i) As provided in program-specific policy, program payments may be based on the estimated incurred costs and income foregone associated with practice implementation to address a natural resource concern.
 - (ii) Authority may also include certain approved planning, incentive, and rental costs. Program payments are not to reimburse program participants completely for all costs associated with practice implementation.
- (2) To assist in helping applicants and partners understand this authority and process to develop payment rates, several key points should be understood.
 - (i) Cost-share authority is not applicable.—Discussions with producers and partners regarding program assistance should avoid this term and instead use “financial assistance payment” or “payment rates.”

- (ii) Producers or partners who request NRCS provide estimates of total practice implementation costs should be informed that the costs estimated through NRCS technical assistance in the conservation planning process is separate from the financial assistance of the NRCS program. The payment schedules represent a typical scenario and do not include all costs for implementation such as those associated with risk, administration, permitting, etc.
- (iii) NRCS is responsible for providing the applicable payment rates associated with practice implementation. The applicant is responsible for making the final decision of whether the program payment will provide enough financial assistance to warrant continuing with the application/contract.
- (iv) Maximum payment percentages established for programs are not cost-share percentages. These percentages are maximum payment limits applied to estimated incurred cost of practice implementation. Actual cost to the individual landowner/producer is not used for the determination of program payment as cost share is no longer calculated in approved contracting software for payment purposes.
- (3) Additional guidance regarding details to identify and document appropriate estimated incurred component costs is in subpart C of this handbook.

E. Cost Categories

- (1) For the purpose of cost documentation in payment schedules, only the following cost categories are authorized to be used:
 - (i) Materials
 - (ii) Equipment for installation
 - (iii) Labor
 - (iv) Mobilization
 - (v) Acquisition of technical knowledge
 - (vi) FI
- (2) Since payment schedules are not used as a basis to determine total estimated project cost, the following categories are not documented in payment schedules:
 - (i) Risk
 - (ii) Administrative and permit costs
- (3) Not all cost categories are appropriate for all practices or programs.

See subpart F, section 600.51 of this handbook for approved cost categories and maximum payment percentages allowed for each conservation practice, enhancement, and authorized program.

F. Technical Standards and Lifespan

- (1) Costs documented in the payment schedule must only address those components and activities necessary to implement the practice, enhancement, or activity to address the identified natural resource concern and achieve the conservation objective.
- (2) The selection of components needed to implement the conservation practice should also reflect the lifespan assigned to the practice.
 - (i) This is not a requirement that each funded component by itself must meet or last the stated lifespan, rather, the total of all required components together serve to allow the practice to meet the intended lifespan if operated and maintained according to the operation and maintenance (O&M) plan.
 - (ii) There may be certain components originally included in the payment schedule that alone cannot meet the lifespan requirement. These items may require replacement or repair according to the O&M plan, and the cost is borne by the participant.

G. Components and Practices

- (1) All components and design requirements of the practice must meet the minimum requirements of the standard for all programs except CSP.
 - (i) For CSP, components and design requirements must meet the difference between the minimum requirement of the standard and the enhancement criteria.
 - (ii) Payment schedules may not include payments for a stand-alone component or item that does not meet the design requirements of the complete practice.
 - (iii) Payment schedules only establish payment rates for the estimated incurred costs associated with practice implementation that are certified as meeting practice standard requirements.

Example: The scenario and payment schedule cannot be developed for the separate component of a fence post, flagging, or gate using the fence practice. The single payment for a post, flagging, or gate described in the scenario does not meet the minimum technical requirements of the fence practice standard.

- (2) Note that some authority specific to programs such as the Agricultural Management Assistance Program (AMA), CSP, and Environmental Quality Incentives Program (EQIP) include policy that prohibits development of payment schedules and payments for practices or scenarios that are entirely enterprise or production related and do not address a natural resource concern.
 - (i) Payment schedule scenarios must be developed to ensure that the typical resource setting to be addressed by the practice also addresses a natural resource concern and achieves a positive environmental benefit.
 - (ii) Practices implemented solely for the purpose to reduce producer costs or other activities simply to increase or facilitate production of commodities or livestock are not appropriate for program support.
- (3) Certain programs have other payment requirements that are not developed by the National Payment Schedule Cost Team because of different authorities. For example, CSP existing activity payments are determined by the Chief per 7 CFR Section 1470.24.

H. Practice Scenarios

- (1) The practice scenario is a general description of practice application for a typical resource setting.
 - (i) The practice scenario **does**—
 - Determine the commonly used components and activities associated with a practice.
 - Assist the field planner to select the most appropriate scenario for the resource setting regardless of the final payment rate.
 - Document the estimated incurred costs, FI, and the most applicable typical payment rate.
 - Broadly approximate the typical application of a practice to address a resource concern in a region or State.
 - (ii) The practice scenario **does not**—
 - Dictate the technical requirements or design of a practice.
 - Represent application of a practice for a geographical area less than that of a State.
 - Develop a description of every situation that may exist where the practice is applied.
- (2) The scenario is initially established by appropriate national lead for each practice, enhancement, or activity to address common application for typical resource settings. The national process also provides opportunity for regional scenario managers (RSMs) to modify or add additional scenarios needed to address typical practice application that is not addressed in nationally approved scenarios.

- (3) Nationally approved scenarios are assigned one of four different types of statuses by national technical leads.
 - (i) Adoptable.—Regional teams may adopt scenarios as written or use as a template to create a new regional scenario.
 - (ii) Noneditable.—Regional teams may adopt scenarios as written but may not use as a template to create new scenarios.
 - (iii) Mandatory
 - Mandatory-Region.—National scenarios are automatically assigned to all regions. States will have the option to determine which scenarios will be made available for financial assistance.
 - Mandatory-State.—National scenarios are automatically assigned to all regions and States.
- (4) At a minimum, the practice scenarios must include:
 - (i) Brief description of the location and site setting;
 - (ii) Typical installation extent (acres, square feet, etc.);
 - (iii) At least one natural resource concern to be addressed consistent with the conservation practice standard, enhancement, or activity; and
 - (iv) Reference to commonly associated or facilitating practices.
- (5) RSMs may develop a new payment schedule to support practices in the following situations:
 - (i) The typical practice or enhancement implementation requirements are unique to a region or State.
 - (ii) The State has an approved interim practice where a national payment schedule scenario will not be developed.
- (6) There may be situations where the resource settings or the typical application of a practice is unique. This situation may require additional scenarios to be developed that represent an area smaller than the established regional geographic area.
 - (i) These exceptions will only be considered if all the following conditions are met:
 - The resource setting requires that additional or unique components (material, labor, equipment, etc.) be considered.
 - The final payment rate is significantly different than what is provided based on the other practice scenarios within the payment schedule.
 - Typical implementation size of the practice is different than neighboring States.

Note: Unit size difference does not always mean cost/unit difference.
 - (ii) The area addressed by a scenario should not represent a geographic area less than the size of a State. A scenario's resource setting should not be established for specific agricultural or administrative units (farms, ranches, counties, etc.) within State boundaries.
- (7) NRCS is currently implementing several national and landscape initiatives to target and maximize the resource benefits. As these initiatives are not limited to the same regional payment schedule boundaries, it is expected that some additional coordination is required.
 - (i) RSMs should coordinate as needed to ensure that each region involved with a specific initiative has the necessary payment schedule scenarios necessary to ensure the success of the initiative.
 - (ii) The national initiative coordinators are responsible to ensure coordination occurs and assist with the development of scenarios as needed to ensure the success of the initiative.
- (8) The maximum number of scenarios that may be developed for a specific practice, enhancement, or activity payment schedule is approved by the appropriate national technical lead. RSMs can request the limit on the number of scenarios be increased.

- (9) The goal of the agency is to develop the fewest number of scenarios and payment rates needed to implement the program. For decisions on merging scenarios, the general rules or criteria to consider may include the following:
 - (i) If two or more practice scenarios are technically similar within the same practice, (use the same or similar components, activities, etc.) except for a minor difference in the quantity or extent, and are 10 percent or less in total cost difference, consideration should be given to a scenario merger.
 - (ii) If two or more practice scenarios are technically similar within the same practice, use similar components at various sizes or extents to create economies of scale, and are 10 percent or less in total cost difference, consideration should be given to scenario merger.

I. Foregone Income

In addition to estimated incurred costs of components and activities, program payments may include estimated foregone income costs associated with practice implementation. The process to identify estimated foregone income associated with practice implementation is subject to the same rigorous process and justification for estimated incurred costs. Additional guidance for foregone income is in subpart C of this handbook.

J. Special Program Limitations or Considerations

- (1) Statute and regulation establish that AMA, CSP and EQIP may be used to help implement conservation practices on eligible land. Areas of water that are not associated with a land-based practice are not eligible. Financial assistance may only be used to implement practices, enhancements, or support activities that are land based. See Title 440, Conservation Programs Manual (CPM), Part 530 (440-CPM-530), Subparts Q and R.
- (2) Currently there is no statute or regulatory authority to use AMA, CSP, or EQIP program funds to implement practices or enhancements with the standard purpose to “develop renewable energy systems.” No practice or enhancement scenario should be developed for the stand-alone purpose of generating energy or electricity. Any program funded practice, enhancement, or activity must address a purpose related to an approved natural resource concern.

600.11 Principles of Least Cost

A. Cost effectiveness is defined in 440-CPM, Part 502, Subpart A “Terms and Abbreviations Common to All Programs,” as the least costly option for achieving a given set of conservation objectives to address an identified natural resource concern. Consideration to achieve least cost must be used during the following activities and methodology used to support development of appropriate payment rates that meet requirements of cost effectiveness.

B. Payment Schedule Components

- (1) The selection of components or inputs will be based on what is typically needed to meet the minimum requirements of the practice standard, address the resource concern, and represent the least costly alternative.

Note: For enhancements only, components and design requirements must meet the difference between the minimum requirement of the standard and the enhancement criteria.

- (i) The concept of least cost should be considered first by the technical discipline leads and economists in terms of the specific components and activities that are required for each specific scenario.
- (ii) Least cost components are determined by—

- The minimum technical requirements to implement a practice to resolve a resource concern.
 - The expected lifespan of the practice that is properly operated and maintained.
 - Historical Experience.—If agency staff determines the use of a cheaper component prevents the practice from meeting its expected lifespan, then a more costly component is justified.
- (2) The principle of least cost should not be applied as criteria to limit the number of scenarios developed to address typical resource settings. Each scenario stands on its own merits without comparison in terms of least cost. The payment scenario and associated estimated costs are developed independently of each other to establish an appropriately documented payment rate (payment amount per unit).

Example: An engineer and economist consider the least cost pipe component that is typically needed to meet the minimum requirements of an irrigation-related practice scenario. There would be no need to include the estimated cost for using a steel pipeline component when a PVC pipeline component will suffice to meet the minimum technical requirements of the practice standard, conservation need, and will be operated and maintained for the expected practice lifespan. However, if the design engineer determines that based on geographical or typical site-specific conditions that the standard can only be met using steel pipe, it would be appropriate to develop a scenario containing a steel pipe component.

C. Payment Percentages

- (1) Agency policy establishes requirements for assigning program payment percentages associated with each authorized cost category. For certain nationally established program opportunities that need to be offered consistently throughout the Nation, payment percentages may be established through guidance for specific practices, enhancements, activities or initiatives.
- (2) For all other situations, the Chief delegates authority to the State conservationist, with input from State Technical Committees, to set the payment percentage for each program within each State and payment schedule. The selection of an appropriate payment percentage should also consider the minimum or least costly percentage needed to encourage participation in the program.

Example: Based upon input from the State Technical Committee and agency partners, a State conservationist may establish for a specific practice a maximum payment percentage of 60 percent to encourage adoption of the practice and adequate participation in the program. This percent represents the least cost principle to establish a reasonable payment rate for each financially supported practice to encourage program participation.

D. Small Scale and Historically Underserved Producer Considerations

- (1) Outreach is an integral part of the overall delivery of NRCS programs and services to customers and potential beneficiaries. NRCS will conduct business to ensure that all programs and services are made equally accessible to all customers, with emphasis on assisting historically underserved (HU). NRCS will identify opportunities and barriers to successful outreach.
- (2) Development of least cost alternatives that also consider the needs of small scale or HU producers will provide opportunities to reduce negative impacts.
- (3) When developing practice scenarios, consideration should be given for typical situations associated with small scale or HU producers. Considerations may include:
- (i) The typical extent of the practice that is implemented to address a resource concern. Practice scenarios that only consider extremely large or small extents may not provide adequate payment rates.

- (ii) The typical components (such as the types of material or labor) used to implement the practice.

600.12 Conservation Activity Plans (CAPs), Conservation Evaluation and Monitoring Activities (CEMAs), Conservation Planning Activities (CPAs), and Design and Implementation Activities (DIAs)

A. Labor is the only authorized cost basis when developing payment schedules for CAPs, CEMAs, CPAs, and DIAs.

- (1) The following cost categories may not be used:
 - (i) Materials
 - (ii) Equipment for installation
 - (iii) Acquisition of technical knowledge
 - (iv) Mobilization
 - (v) FI
- (2) Applicable program-specific payment percentages will be established through the national process. State conservationists may not establish program-specific payment percentages for CAPs, CEMAs, CPAs, or DIAs.
- (3) Payment schedules may not include costs associated with travel expenses (hotel, mileage, etc.) for technical service provider services or reimbursement of time or labor contributed by the contract participant.

B. Payment schedules to support CAP, CEMA, CPA and DIA payment rates will reflect estimated incurred costs based upon a national or regional geographic area.

Note: NRCS has replaced CAPs with CEMAs, CPAs, and DIAs beginning in fiscal year 2022; however, CAPs remain in the payment schedules for prior fiscal years.

600.13 Conservation Activities

Conservation activities include enhancements, bundles, and practices. Refer to specific guidance below for developing the payment schedules and payment scenarios for these activities.

- (1) Enhancement Scenarios
 - (i) Only include payment components and extents required for the producer to meet an enhancement's criteria that are above and beyond the components used for the basic practice scenario. Do not include payment components and extents required for a producer to meet the basic practice scenario purpose in the enhancement scenarios.
 - (ii) Payment schedules that support enhancement payments will reflect local conditions using State cost factors.
 - (iii) Use the national template to develop the enhancement payment schedules.
 - (iv) Some enhancements include supplemental payment scenarios including resource conserving crop rotation (RCCR), improved resource conserving crop rotation (IRCCR), and certain grazing enhancements associated with advanced grazing management (AGM). Preface all supplemental payment scenarios with an "SU."
 - (v) Certain payment scenarios require a higher payment percentage in the payment schedule, as follows:
 - Cover crop enhancement scenarios
 - Supplemental payment enhancement scenarios
- (2) Bundle Scenarios

- (i) A bundle scenario includes all the scenario components from the individual enhancements used to make the bundle. For duplicative components include the appropriate quantity for that component based on the amount needed for each individual enhancement.
- (ii) Payment schedules to support bundle payments will reflect local conditions using State cost factors.
- (iii) Use the national template to develop bundle payment schedules.
- (iv) Bundle payment scenarios require a higher payment percentage in the payment schedule.
- (3) NRCS creates regional payment schedules using State component costs for enhancements or bundles.
- (4) Payment schedule scenarios to support enhancements or bundles may include the following cost components:
 - (i) Labor
 - (ii) Acquisition of technical knowledge
 - (iii) Materials
 - (iv) Equipment for installation
 - (v) Mobilization
 - (vi) FI

600.014 Costs Lists

States must ensure that all cost lists are created in the payment schedule application (PSA) tool and electronically transmitted into contracting software.

A cost list consists of conservation practices, enhancements, and activities (with applicable components) that identifies unit costs or payment rates for a geographic area.

Note: Component(s) identified in the cost list template are the same as the typical scenario names created in PSA.

- (i) A separate (i.e., new) cost list should be developed for—
 - Different percentage rates for programs or initiatives.
 - A new program opportunity (i.e., special funding pool) is approved by agency leadership. In unusual situations, new payment schedules and scenarios may be approved after October 1 when a new program opportunity is approved by agency leadership, and only if existing payment schedules do not address the purpose or need of the new program.

Note: Each cost list electronically transmitted into contracting software must include HU and traditional participant payment rates, except CSP (refer to section 600.13(4) above). Payment rates for HU items must be prefaced with “HU” in the cost list to comply with new software controls for applicable participant types during contracting and quality assurance.

- (ii) A separate cost list should **not** be developed for—
 - Separation of regular and HU payment rates.
Each cost list uploaded into contracting software must include HU and traditional participant payment rates. Payment rates for HU items are prefaced with “HU” in the cost list to comply with new software controls for applicable participant types during contracting and quality assurance.

Note: The PSA tool is designed to generate all cost lists with both payment rates consolidated for all programs, excluding CSP. For CSP only, there is no increased payment percentage for HU participants.

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- A specific group, practice, resource concern, or location.
- Same percentage rate for initiatives.

Note: Some practice scenarios are not applicable for a certain initiative, but, have the same percentage rate. States have autonomy to develop a user's guide or practice matrix.

- Only CAPs, CEMAs, CPAs, and DIAs.

Part 600 – Payment Schedules

Subpart C – Developing Cost Data

600.20 Introduction

A. The cost data documented in payment schedules is critical for developing appropriate payment rates to support NRCS programs. Cost data documented in payment schedules must meet the following criteria:

- (1) Necessary to ensure the purpose, definition, and technical requirements of the conservation practice standards, activity, and enhancement criteria to be met.
- (2) Support the implementation of a conservation practice, enhancement, or activity based on the typical scenarios that address resource concerns in common resource settings.
- (3) Consolidated data that reflects national, regional, or State geographic areas.
- (4) Based on credible sources that offer estimates of incurred costs.
- (5) Are appropriate based on program authority and purposes.
- (6) Represent the least cost component as determined by subpart B, sections 600.11 and 600.13 in this handbook.

B. Payment schedule components will be reviewed annually and updated by the National Cost Team (NCT). A component cost review can be initiated using one of three methods:

- (1) The Payment Schedule Application (PSA) administrator may set all active components to “Auto Review” status.
- (2) A component price reconsideration on any component may be submitted by the regional scenario managers (RSMs) or national scenario managers (NSMs) within the PSA system.
- (3) The NCT may initiate an independent price review on any component or category of components.

C. NRCS has authority through the Food Security Act to provide payments to its participants based on payment schedules.

D. Costs documented in payment schedules **must not** be based on a predetermined or desired payment rate, goal, or target amount, including historical perceptions of the amount of payment needed to provide incentive to participate each fiscal year.

600.21 Geographic Area Considerations

A. NRCS determined that payment schedules and associated payment rates will be based on an ideal target resource setting representing a national or regional geographic area.

B. Regional geographic areas as described in this handbook are at subpart A, section 600.00(B) of this handbook, figure 1. These regions were established to—

- (1) Increase payment consistency.
- (2) Use common resource settings, economics considerations, and similar practices as neighboring States.

600.22 Accepted Data Sources

A. General Information and Responsibility of Data Integrity

- (1) The national payment schedule core team and NCT is responsible for determination of the appropriate data sources that will be used to support component costs in payment schedules. The technical leads and regional teams are tasked with identification of components that must be appropriate to a conservation practice standard. The cost data team then establishes the most appropriate representative data source that will be associated with the component.
- (2) All data sources used by NCT and the rationale for making the decision are documented to provide justification consistent with program authority and to assure compliance with World Trade Organization trade agreements.

B. Principles for Data Source Evaluation

- (1) NCT employs three guiding principles for developing component price data:
 - (i) Reliability and credibility,
 - (ii) Consistency, and
 - (iii) Efficiency.
- (2) Reliability and Credibility means:
 - (i) For compiled data, the data sources must be credible. Data compilation follows sound methodology.
 - (ii) For market cost data, large national vendors are preferred over small local vendors.
 - (iii) Data description must match the definition of the component exactly. If not, some adjustments to the data may be needed.
 - (iv) The data needs to be recent enough. Within 1 year is the typical goal.
 - (v) To improve the reliability and credibility of the data, NRCS may use various statistical analytical tools to evaluate the data sources used. (See subpart F, exhibit 600.56, in this handbook.)
- (3) Consistency means:
 - (i) Cross-State Consistency. For the same component, data source and calculations for average State prices have to be the same or very similar for all States.
 - (ii) Cross-Component Consistency.—Data sources for similar components need to be the same or very similar.
 - (iii) Cross-Time Consistency.—There is the need to consider time consistency which means that for the same component, data sources need to be relatively stable and consistent.
- (4) Efficiency means:
 - (i) When multiple methods meet the same reliability, credibility, and consistency requirements, price data should be collected with the least amount of time and effort. As such, higher priority is given to data sources that have State average data already developed or can be readily computed and is applicable to the component cost being calculated.
 - (ii) Indexes may be used to estimate State prices from national averages or single State prices instead of collecting price data by State for the same component if such data doesn't already exist or can be easily calculated from other sources.

C. Protection of Personally Identifiable Information (PII) or Proprietary Data

- (1) The agency is responsible for protecting individual PII that may include sensitive information such as tax identification numbers, bank account numbers, social security numbers, etc. Legislation, departmental guidance, and policy all establish privacy rights for internal and external agency customers. Certain information may be releasable or withheld through provisions of the Freedom of Information Act (FOIA). Proprietary data provided by vendors or private companies may be protected by trademark or patent laws.
- (2) Applicable references regarding PII or proprietary cost data used by NRCS could be subject to any of the following:
 - (i) FOIA

- (ii) Privacy Act, Section 2004 of the Farm Security and Rural Investment Act of 2002 and Section 1619 of the Food, Conservation, and Energy Act of 2008.
- (iii) Title 120, General Manual, Part 408, Subpart C, “Freedom of Information Act and Privacy Act.”
- (iv) [NRCS FOIA Website](#)
- (3) The NCT will take action as needed to protect known proprietary data used to document component costs. Databases containing raw data will be protected from access except for members of the core or cost teams, and any data that will be released for public transparency will be sanitized to remove reference to sensitive source information that may be PII or proprietary. Requests from unauthorized staff to access or download the cost team working database will not be approved.

D. Classification and Prioritization of Data Sources:

- (1) NCT will classify data sources into five broad categories:
 - (i) Nationally Published Data Sources (public and private).—Examples of this category include Department of Labor Wage Rates by Occupation, National Agricultural Statistics Service price paid data, Economic Research Service crop budgets, American Society of Agricultural and Biological Engineers Agricultural Machinery Management (i.e., machinery cost calculators), and land grant university extension publications.
 - (ii) National Commercial Databases.—An example of this data category is RSMeans CostWorks ©. (Proprietary data – Not Releasable).
 - (iii) National Vendors.—These are usually large suppliers with national distribution channels that sell their products nationally on the web with the same prices. An example of this data category is fencing material suppliers. (Proprietary data – Not Releasable).
 - (iv) State/local Vendors and Other Data Sources.—This category includes smaller suppliers with State or local distribution channels. It also includes data from State or local extension services and other State or local data providers. (Local proprietary data – Not Releasable).
 - (v) Past State Payment Schedule Price Data.—The price data from past payment schedules is a unique data source that may sometimes provide data that could not be found efficiently elsewhere with sufficient accuracy and consistency. For example, the average State prices for central pivot irrigation system components are unique and may be difficult to find. However, the components have been well studied by NRCS specialists and documented in the past payment schedules.
- (2) NCT will prioritize the use of data sources as follows:

In general, NCT prefers the use of national data sources in the first three categories over the State and local data in the last two categories for the overall advantage of the former:

- Better consistency and efficiency by definition.
- Better reliability, credibility, and documentation for estimation.
- State and local data may be useful in situations where quality national data sources are not available.
- Multiple data sources are preferred if available. However, one data source is acceptable. For example, as new technology becomes available for producers to acquire technical and financial assistance, the number of vendors may be limited to the public.

Note: Sources of data using “actual cost” such as bills, invoices, and receipts are not used for cost documentation unless no other data source is available.

600.23 Cost Category Guidance

A. Detailed cost category guidance for practices supported by payment schedules are in subpart F, section 600.51 of this handbook.

B. Materials

- (1) Materials are components used to make, develop, or implement a practice; such as sand, gravel, grass seed, soil amendments, plants, pipe, concrete, sensors, required water measurement devices, and similar products and devices cited as needed in the practice standard. Costs associated with signage or safety requirements cited in the practice standard to address the resource concerns may be included as eligible costs.
- (2) Costs associated with the expense of materials typically needed to implement a conservation practice are recorded in the “materials” cost category of the payment schedules.

C. Equipment for Installation

- (1) Equipment for installation includes the costs associated with the use of the tools, machinery, or similar items needed to implement the practice to design standards.
 - (i) These costs may consider the expense of equipment based on whether it is owned, rented, or hired when used while implementing or installing a conservation practice.
 - (ii) The total estimated expense for equipment services also may include the labor costs associated with operating the equipment while implementing or installing a conservation practice.
- (2) Equipment for installation costs may not include—
 - (i) Costs associated with mobilization.
 - (ii) Cost to purchase equipment used to install conservation practices.
- (3) Equipment for installation cost category does not include components specified by the practice standard that are an integral part of the practice.

Examples include moisture sensors or weather stations needed to implement Conservation Practice Standard (CPS) Irrigation Water Management (Code 449) – these costs should be recorded as material costs.

- (4) Costs associated with the expense of equipment (owned, rented, or hired) typically needed to implement a conservation practice are recorded in the “equipment/installation” cost category of the payment schedule.

Note: Costs associated with the purchase of equipment or personal property is prohibited. Personal property includes equipment, supplies, fuel for vehicles, vehicles, pens, chairs, desks, and any other tangible property. See Title 440, Conservation Programs Manual (440-CPM), Part 503, “Commodity Credit Corporation (CCC) Procedures.”

D. Labor

- (1) Labor includes the costs associated with the time needed for workers to physically install a practice.

Labor rates may vary depending on the skill level required or degree of difficulty associated with installing a practice. This rate may include certain limited labor costs associated with specialized wage earners, such as supervisory personnel, safety workers, inspectors, or specialists that are typically needed.

- (2) This cost category should not include labor associated with conservation planning, design of the practice, payment certification, administrative expenses, or other costs not directly related to installation of the practice. Labor should not include expenses associated with travel costs;

however, additional labor time may be added for situations where practices are typically implemented in remote locations.

- (3) Labor occasionally will be included in other cost categories for calculation purposes or when available cost data already includes labor as an embedded cost, such as equipment/installation; therefore, it is important to make sure this cost is not duplicated in other cost categories.
- (4) Costs associated with the expense of labor (self or hired) typically needed to implement a conservation practice are recorded in the “labor” cost category of the payment schedule.

E. Mobilization

- (1) Mobilization costs are limited to the costs associated with hauling equipment or materials, including loading, unloading, time, and labor costs.
- (2) This component is most commonly associated with practices located in remote areas.
- (3) This mobilization does not include costs associated with—
 - (i) Fuel, purchase of equipment, travel permit costs, inspection fees, license costs, toll road fees, or other administrative costs.
 - (ii) Providing access to the worksite such as temporary roads, bridges, or trails.
- (4) Costs associated with the typical expense of moving large equipment or materials to and from remote sites where a practice is to be implemented are recorded in the “mobilization” cost category of the payment schedule.

F. Acquisition of Technical Knowledge

- (1) Acquisition of technical knowledge includes the costs for services from other than technical assistance (TA) provided by NRCS or a technical service provider (TSP).
- (2) Expenses must be directly tied to the requirements of the practice standard or design criteria and necessary to properly implement, operate or maintain the practice.

Note: This category does not include the cost of labor to implement, operate, or maintain the practice.

- (3) Acquisition of technical knowledge may include the cost associated with—
 - (i) Course or workshop the participant must attend to gain the knowledge or training to implement the practice.
 - (ii) Service providers providing training or activities directly needed to help implement a practice (e.g., cost of a consultant to prepare or provide guidance for application of pesticides or irrigation scheduling information, etc.).

Note: Conservation activity plans, conservation program applications, design and implementation activities, conservation evaluation and monitoring activities, and TA services using 100 and 900 series practice codes in program contracts must be completed by a certified TSP.

- (4) Acquisition of technical knowledge may **not** include costs associated with—
 - (i) Self-taught courses such as DVDs, software, books, reading trade materials, etc.
 - (ii) Costs associated with “how to plan.”
 - (iii) Expenses associated with record keeping, scouting, etc., are considered labor costs.
 - (iv) TSP costs associated with TA payments.
 - (v) Travel-related expenses (vehicle rental, transportation costs, meals, etc.).
- (5) Costs associated with expense for training the participant, services from TSPs, or consultants are recorded in the “acquisition of technical knowledge” cost category of the payment schedule.

G. Foregone Income – Guiding Principles in Calculating Foregone Income

(1) Background

- (i) Policy for financial assistance (FA) is based upon the estimated incurred costs (i.e., planning, design, materials, equipment, installation, labor, management, or training) for implementing conservation practices, as well as income foregone by the producer for only designated conservation practices approved by the agency in the “Practice Definition, Purpose, Lifespan, Cost Categories” document. See sections 600.10, 600.25(A) and 600.51 of this handbook.
- (ii) NRCS calculates foregone income (FI) as the average annual net income (\$/unit/year) lost from implementing a conservation practice that results in a change in land use or land taken out of production associated with the adoption of a conservation practice.

Note: FI is a one-time cost, not the estimated loss over the lifespan of the practice. See subpart F, section 600.52, “Foregone Income Calculations” of this handbook.

- (iii) FI will not include losses of income due to disaster or other events unrelated to the conservation practice such as risk associated with agricultural production. See section 600.25(A) below.

(2) Baseline Net Income Considerations

- (i) FI is a quantifiable measure of the amount of lost income between a producer’s “baseline net income and reduced net income amount” as a result of the adoption of an approved conservation practice or systems of practices.
- (ii) The “baseline net income” considers non-Federal program supported income and cost streams associated with crop and animal production over a defined historical period. NRCS’s current methodology uses a 5-year-average return or best available data of commodities affected.

Note: The baseline net income does not consider the impact of the conservation practice on future expected income and cost streams.

- (iii) The calculation of FI uses economic principles centered on baseline “typical” production practices, motivation of conservation practice adoption, and other factors influencing the producer’s decision to depart from baseline conditions.

(3) Special Considerations with Respect to Calculating Foregone Income

- (i) Purpose.—FI calculations are only considered as a result of the implementation of conservation measures taken by the landowners which must be associated with environmental benefits. Confusion may arise because changes in net return can result from a wide range of factors influencing the landowner’s land use and crop/livestock enterprise management strategies. These factors may include:
 - Economic decisions (e.g., higher expected prices for one crop over others).
 - Marketing decisions (e.g., shifting away from conventional to organic production).
 - Strategic decisions (e.g., participating in Government commodity programs to maintain production base for certain crops).
 - Best agronomic practices (e.g., adopting crop rotations that maximize long-term production goals).
 - Compliance with environmental requirements (e.g., delayed harvesting to protect threatened and endangered species).
 - Other factors related to historical land stewardship decisions and real-time site-specific conditions.
- (ii) Quality of Land Importance.—Crop and forage production budgets used to construct the baseline net income assume that the land is productive and employed fully in commercial pursuit. This reason may not be the case for some field border or riparian areas. In such cases, the baseline net income assumptions may need to reflect those more typical

situations (Example: 30-percent yield reduction for field borders affecting gross revenue without any adjustments to costs).

Note: For additional guidance, see Technical Note 200-ECN-3, “Guiding Principles in Calculating Foregone Income for Conservation Planning.”

600.24 Components

A. A component is a common term used to describe a specific part, input, or activity of a cost category that is typically needed to implement a conservation practice. Various alternatives for practice installation are described using typical scenarios, which are composed of one or more component or variation of the same component(s), but at different amounts. PSA contains many of the components necessary to support existing or establish new scenarios. However, as new practices become available, or technology improves, there may be a need to request new components.

B. Component Request

- (1) All component requests are submitted for consideration through the PSA web tool. Requests for components require submission of justification and other information to allow appropriate review and record of decisions to document the process.
- (2) Existing.—Components currently available on the national component list may be requested to be added to a practice for scenario development. These requests may originate from RSM with approval by NSM or originate from an NSM.
 - (i) Existing components may be removed from practices for scenario development by an NSM or Financial Assistance Programs Division (FAPD).
 - (ii) Existing components may be archived from the component list by request from an NSM or FAPD.
- (3) New.—The development of new components not on the national component list may be requested by NSMs or RSMs. Components requested by the RSM are forwarded to the NSM for approval. After approval by the NSM, the component is reviewed for program compliance by FAPD and then submitted to the cost team. Considerations to request a new component must address the following:
 - (i) Is there an existing component that will address the resource concern in a similar manner?
 - (ii) Is the proposed component representative of the industry or a common cultural practice as dictated by the land use or management?
 - (iii) Is the proposed component the least cost alternative to meet the planning criteria and the minimum practice standards and specifications needed to address the resource concerns? (See 440-CPM, Part 515, Subpart J, “Conservation Practice and Technical Assistance Payments”).

Note: Question does not apply to enhancements.

- (iv) Will the proposed component address the resource concern that is consistent with the definition, purpose, and criteria of the conservation practice standard?
- (4) New component requests should contain at a minimum the following as supporting documentation:
 - (i) A detailed description, including such information as the general purpose, composition, appurtenances needed, typical size, etc.
 - (ii) Technical requirements and specifications (i.e., ASTM standards, engineering drawings, manufacturer specifications, images/photos etc.).
 - (iii) Contain a minimum of one reference to a verifiable vendor/supplier that is current within 1 year. See section 600.22 in this subpart.

- (5) Requests for new components received after approval of payment schedules and program announcement will not be considered until the following cycle for development of payment schedules, typically the following fiscal year.
- (6) Reconsideration.—RSMs can ask that decisions by the NSM be reconsidered by the technical lead (TL) of that discipline group.
 - (i) Reconsiderations are limited to a single request per component denial. A justification will be provided for requests denied.
 - (ii) RSMs should include all pertinent information necessary for the TL to make a final decision.
 - (iii) Decisions by the TL are final.
- (7) The NSM should consider the potential need for innovative technologies in the technical requirements of the practice when reviewing component requests.
 - (i) New methods, components, enhancements, or activities must go through technical and programmatic reviews to confirm the requirements of the practice standard will be met in addition to potential programmatic restrictions. A justification will be provided for requests denied.
 - (ii) Merge.—If two or more components are technically similar as determined by a national technical specialist, except for a minor difference in cost (10 percent or less), the NCT should consider a merge.

600.25 Prohibited Components and Activities

A. Payment schedules may not include certain costs that may be required for practice implementation that are not authorized by the program, appropriation law, or not directly related to costs associated with the practice standard, activity and enhancement criteria (see subpart B of this handbook for additional guidance regarding program related limitations). Such expenses include but are not limited to the following:

- (1) FI as a stand-alone single-cost element of any payment schedule is prohibited. The exclusion of incurred costs (labor, materials, etc.) commonly used to implement a practice to just provide an FI payment does not meet the requirements for typical practice implementation nor statute. A stand-alone FI payment is not authorized. See subpart B, section 600.10 of this handbook.
- (2) Components or undertakings that are not specifically needed as determined by the CPS, activity, or enhancement criteria. Stand-alone components that do not meet the requirements of the CPS, activity, or enhancement criteria.
- (3) Risk.—Costs related to the agricultural operation that are unknown, uncertain, and typically based upon the probability of financial loss associated with business operation decisions or market conditions. Examples may include the potential loss of value of a crop due to misapplication of water, fertilizer amendments, or market conditions related to crop prices. These costs related to the risk of the agricultural operation are not authorized to be included in payment schedules. A cost associated with risk is not the same cost authorized in the FI cost category. Although there may be risk associated with implementation of a conservation practice, only estimated incurred costs and income foregone defined in legislation are authorized.
- (4) Enterprise Operation Costs.—Similar to “Risk,” costs associated with the agricultural operation such as soil amendments, irrigation water to grow a crop, pest and weed control, fuel, inflation, energy or electricity, materials and equipment price changes, or contingency may not be included in payment schedules. Costs for decisions related to choice of crops, changes in the enterprise (i.e., conversion from a conventional to organic operation) may not be included in payment schedules. Costs related to either voluntary or regulatory

certifications are not reimbursable. Costs associated with water supply companies or districts, utility connections, building drawings or permit, repair of farm equipment, lubrication, and practice repair are not allowed in payment schedules. See 600.25(A)(6), “Administrative Costs” below.

Note: Operational costs that are typical for implementing a practice or enhancement may be allowed when the practice or enhancement is addressing a resource concern.

Example: Payment rate associated with utilizing a no-till drill when adopting a residue management practice.

- (5) Permit and Legal Costs.—Program authority and appropriation law does not allow for the reimbursement of expenses associated with obtaining permits, filing of applications, or documentation to meet regulatory requirements. Additional costs disallowed in payment schedules are phone calls, organic certification, legal counsel, building permits, property taxes, and the time of program participants or service providers to complete forms.
- (6) Administrative Costs.—Expenses associated with overhead and components not directly related to the installation of a conservation practice or enhancement cited in the practice standard or enhancement criteria are not authorized for inclusion in payment schedules. Such expenses typically include, but are not limited to—
 - (i) Drinking water or food costs.
 - (ii) Communication costs associated with phone, fax, email, etc.
 - (iii) Signage not related to safety during or after practice implementation.
 - (iv) Cost of signage to advertise a vendor or promote use of a conservation practice.
 - (v) Travel costs or expenses of food, hotel, or personal transportation.
- (7) Renewable Energy.—Expenses for practices, enhancements or components with the sole purpose of generation of energy are prohibited. The Environmental Quality Incentives Program (EQIP) is the only program with statutory authority for support of energy conservation, which does not include costs associated with components or activities solely for the purpose of generation of energy or electricity. There is no statute or regulatory authority to use the Agricultural Management Assistance Program, Conservation Stewardship Program (CSP), or EQIP program funds to implement practices or enhancements for the single purpose of developing renewable energy systems. No payment schedule may be developed for funding through these programs for the single purpose of generation of energy or electricity.

B. Practice and Program Restrictions

Only certain practices may be allowed to be supported in certain programs. For example, statute authority allows financial support through EQIP for only “land-based” conservation practices; however other programs may allow financial support for practices that are located entirely in water environments. Although payment schedules and payment rates are intended to be “program neutral,” if a scenario is being developed for a specific program and resource setting, consideration should be given to programmatic restrictions which may invalidate or negate the need for development of such a payment schedule. For additional guidance, see also subpart B, section 600.10(J) of this handbook.

C. Rounding

- (1) The PSA tool is currently designed to round the monetary data to the nearest cent, such as \$3.45/foot; percentage data to the nearest single digit, such as 78 percent; all other non-monetary values such as component quantities for scenarios to two digits after decimal point.
- (2) States are **not** allowed to alter final cost lists created within the PSA tool for electronic transmittal into contracting software

- (3) Cost data used to support FA programs and payment schedules may not be the same cost data developed for conservation planning. Conservation planning cost data is developed locally for site-specific analysis and decisionmaking, while cost data for FA programs is often developed on a broader or even national scale.
- (4) See Title 200, National Resource Economics Handbook, Part 613, Subpart A, Section 613.2, “Cost Data for Conservation Planning Versus Financial Assistance Programs.”

D. Bundling

- (1) Payment schedules may only address the costs associated with a single stand-alone practice and as defined in the practice standard or planning requirements.
- (2) Payments for other stand-alone practices may not be bundled or included in another stand-alone practice payment schedule (e.g., CPS Pumping Plant (Code 533) may not be included in the payment for CPS Irrigation Pipeline (Code 430)).
- (3) The attempt to apply a conservation system through a single payment schedule is not allowed. There are some situations where a practice standard cites the use of another practice standard as a condition of design for implementation. Such situations are not considered as bundling practices. Additional exceptions are as follows:
 - (i) If a component item meets the definition and purpose of two different standards and the exact same planning criteria for the item exists in both practice standards, then the item may **not** be considered bundling for payment purposes when applied by either of the two different practices. The choice for which practice to include the scenario for payment purposes should be based on which practice is typically or appropriately needed to address the common resource situation.
 - (ii) A component item is **not** considered bundling when a standard refers to criteria in another standard for planning or design purposes **and** the component item and design elements alone do not meet the definition, purpose, and minimum technical requirements of the referenced practice standard. These component costs may be included in the payment schedule to implement the primary practice.

Note: See subpart B, section 600.13(2), “Bundle Scenarios” of this handbook for CSP.

600.26 Component Pricing Methods

A. The methods for developing prices for each component falls into three general categories, dealing with different price and data situations:

- (1) National Average.—All States use the best available national average price data for the component, and there is no need to develop different individual State prices;
- (2) Individual State.—Use one or more best available individual State price data with adjustments, if necessary;
- (3) Estimated State.—Find best available price for one or more States or national average and estimate prices for other States by price indexes available from existing data sources or developed by the team. In special situations, elaborate studies may be conducted to develop prices for individual components.

B. Price Reconsiderations

Existing component prices are periodically reviewed and updated by the NCT. Price reconsiderations also may be submitted by RSMs or NSMs within PSA to initiate a price review (see PSA User Guide, exhibit 600.54 in this handbook). Considerations when requesting a component price reconsideration are:

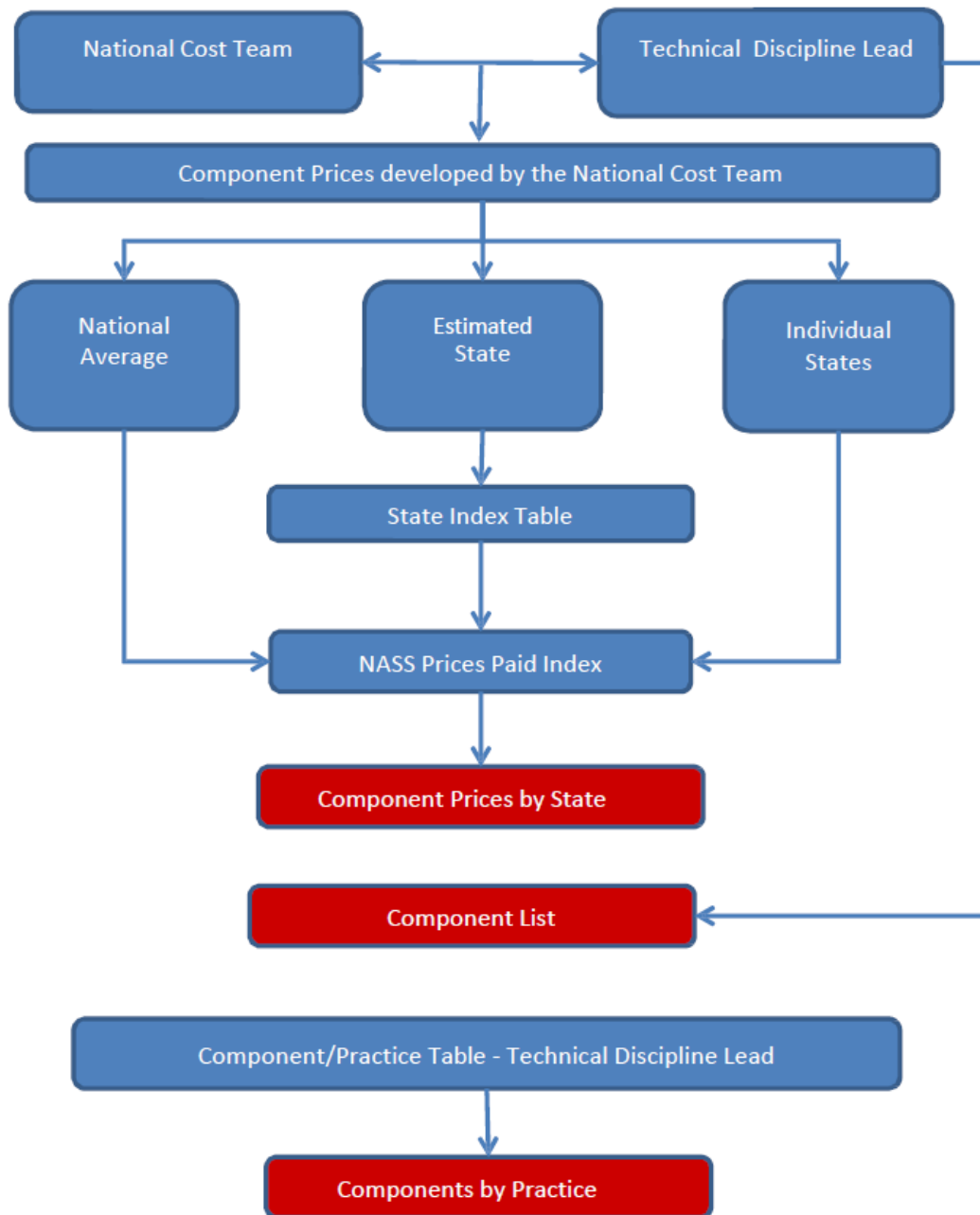
Title 300 – Payment Schedule Handbook

- (i) Is the price reconsideration based on the typical size, unit, configuration, material, or group type necessary to address the resource concern?
- (ii) Is the cost reconsideration based on a representative industry average or majority and not an isolated brand or vendor associated cost?
- (iii) Is the price reconsideration the least cost alternative to meet the planning criteria and the minimum practice standards and specifications needed to address the resource concerns?

Note: Question does not apply to enhancements.

- (iv) Contain a minimum of one reference to a verifiable vendor/supplier that is current within 1 year.

Component Price Flow Chart



BLUE - Input files or calculated data used for the development of component prices.
 RED - output to PSA for scenario development.

600.27 Unit for Payment

The unit for making a payment is used for a specified conservation practice, enhancement, or activity scenario. Different scenarios within the same practice may have different units. Units are not

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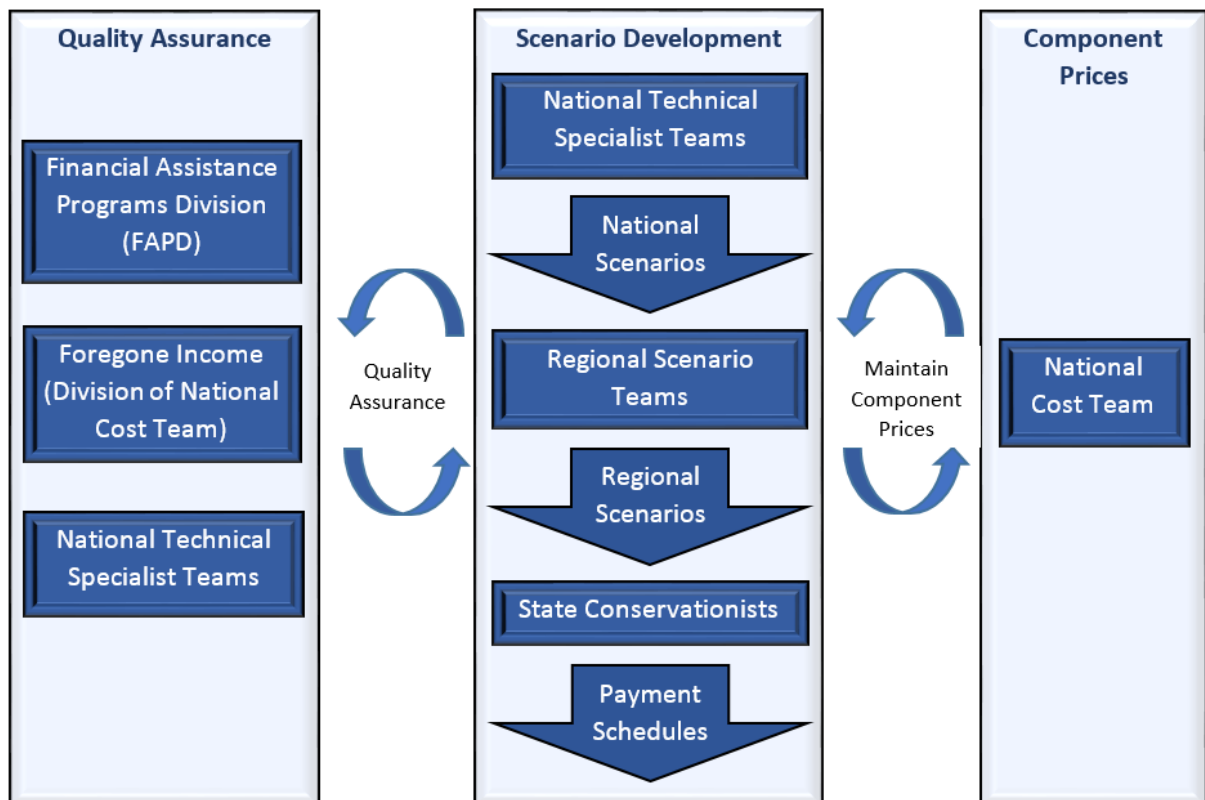
required to be the same as the national practice standard units and may vary from payment, planning, and reporting units. Units should be the most logical to achieve the practice purpose and in the simplest unit for establishing payment rates. Examples include acres, animal units, feet, number, or cubic yards.

- (1) More than one scenario may be described for a practice or activity to reflect different conditions such as variations in economies of scale (i.e., large, medium, small animal waste storage structure), alternative materials, significant equipment, or labor costs that exist within the area covered by the payment schedule.
- (2) RSMs can request a change in the allowable units from the NSM discipline group.

Subpart D – Payment Schedule Methodology

600.30 General Description – Methodology Process

A. Flow Chart



600.31 Payment Schedule Scenarios

- A. A well written scenario is based on the conservation practice standard. A scenario cannot describe activities that are outside of the standard. The scenario should describe the geographical area, typical resource setting, and natural resource concerns to be addressed. It establishes the logic behind the use of the practice or enhancement to address the resource concerns, and determines the components and activities allowed in the practice standard to meet planning criteria. The typical scenario documents the authority for the final payment rate that meets program rules. The process justifies program payments based on an accurate, logical and complete scenario description.
- B. National technical specialists and RSMs must complete payment schedule scenario required fields by filling in the designated space or selecting a value.

(1) Name *	(7) Description *
Barbed wire, Multi-strand	Multi-strand barbed or smooth wire. Installation of fence will allow for implementation of grazing management that allows for adequate rest and recovery periods, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds.
(2) Region	
National	
(3) Base State *	
Illinois	
(4) Unit *	
Foot	
(5) Feature Measure *	(8) Before Practice Situation *
Length of Fence	Grazing lands health and vigor are negatively impacted by poor grazing distribution, timing of grazing, and inadequate rest and recovery periods. Water quality is impacted by increased erosion and runoff, cattle access to water bodies is uncontrolled. Reduced vegetative cover increases the opportunity for noxious and invasive weeds.
(6) Typical Size *	
1320	
	(9) After Practice Situation *
	Installation of fence will allow for the implementation of grazing management that allows for an adequate rest and recovery periods, protection of sensitive areas, improved water quality, reduction of noxious and invasive weeds. Fence includes posts, wire, fasteners, gates, etc. Four strand wire is commonly installed. Fence will be installed with wildlife friendly considerations. Associated practices: Prescribed Grazing, Pipeline, Water Well, Spring Development, Heavy Use Area Protection, Pumping Plant, Watering Facility, Forage and Biomass Planting, Critical Area Planting, Access Control.

1. Name – The name associated with each scenario and identified as a “component” in the final cost list created in PSA. For consistency in naming scenarios, national technical specialists and RSMs should use the following guidance:
 - i. Names should contain a brief description to distinguish between scenarios for selection of appropriate payment rate to support the practice or activity.
 - ii. Do not include the practice, activity, subaccount, initiative, or program name within the description.

- iii. Names should be phrased from general to specific and separated by a comma when necessary.
 - iv. Avoid using uncommon abbreviations. It is important to provide adequate explanation for the intended audience. Information is used by conservation planners and contract developers, and viewed by program participants. Refer to 440 CPM, Part 502, Section 502.10, "Acronyms".
 - v. Do not duplicate symbols in the scenario or spreadsheet names. Example 6"<UO>12"
 - vi. Examples of an appropriate scenario is "Barbed wire, Multi-strand".
2. Region – The area covered by the scenario.
 3. State – The State's price (i.e., Illinois) is associated with the scenario being created. All scenarios are available within the region for adoption unless specified by national guidance. Prices also will be converted to reflect the appropriate state.
 4. Unit – Refer to Section 600.27, "Unit for Payment".
 5. Feature Measure - The feature measure identifies what part of the practice is measured to determine the payment rate. For example, a terrace has a measurement unit of cubic yards; however, this information doesn't clearly explain what cubic yards to measure (excavated, terrace volume, or both).
 6. Scenario Typical Size - The size of the practice that the scenario is based upon. The total cost of the typical scenario is divided by this number to determine the cost per unit.
 7. Description – Describes the key features of the scenario. Refer to section 600.10(H).
 8. Before Practice Situation – Identifies the resource setting and the typical resource concern that represents a significant problem in a State or region, and is likely to be addressed through the implementation of conservation practices or activities by producers according to NRCS technical standards.
 9. After Practice Situation – Defines the typical size and how the practice is typically installed. If the practice in the scenario is typically installed or associated with other practices to function properly and completely meet planning criteria, list these other practices as "associated practices". Note: The listing of these additional practices is to establish that these activities are not included in the costs associated with the practice scenario. Refer to section 600.25(D).
- C. Cost Summary - Sum of cost categories for a single practice or activity type. The total practice cost constitutes the NRCS estimate of how much it will typically cost to implement

a conservation practice or activity. Total Implementation Cost = (Materials + Equipment/Installation + Mobilization + Acquisition of Technical Knowledge + Foregone Income).

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Cost Category	Number	Name	Unit	Qty	Price	Total Cost
Equipment Installation	934	Auger Post driver attachment	Hour	5	\$7.37	\$36.85
Equipment Installation	939	Truck, Pickup	Hour	5	\$23.41	\$117.05
Equipment Installation	963	Tractor, agricultural, 60 HP	Hour	5	\$24.99	\$124.95
Materials	1057	Gate, Pipe, 12"	Each	1	\$166.29	\$166.29
Mobilization	1138	Mobilization, small equipment	Each	1	\$173.63	\$173.63

1. Cost Category – Designated subdivisions of the costs of implementing conservation practice and activities. The cost categories approved for use in developing cost data are materials, equipment, labor, mobilization, acquisition of technical knowledge, and foregone income. Refer to sections 600.10(E), 600.23, and 600.51.
2. Number (i.e., Component ID) – The specific identifier for the component assigned automatically by the PSA.
3. Component Name – A short description of the component used. Component name should follow a simple naming convention: words used in a component name should start from general to specific; separated by a comma when necessary. There should be no other special symbols used within component names nor uncommon abbreviations. Example: “Tractor, Agricultural, 60 HP”.
 - i. Component description should be a narrative written in normal English word order, include all information in the component name necessary to separate the component from similar components, and to price the component precisely. Component description should not include any company name or brand names.
4. Component Unit - The common unit that the product or service is usually priced or used. National technical specialists and RSMs should refrain from using uncommon units. When no common unit name is available for a component, try to use the unit “each” and then describe what the “each” means in component description.
5. Quantity – The number of units used in the typical scenario.
6. Price (i.e., Component Cost) – The cost of implementing a single unit of a specified practice or activity type.
7. Total Cost – The result of multiplying the price times the quantity.

600.32 Documentation

- A. Payment schedules serve as the basis for justification of program payment rates that are eventually recorded in cost lists electronically transmitted to support business tools (e.g. CST, ProTracts) and publications in the Field Office Technical Guide (FOTG) for public, partners, and potential program participants. The entire process to document estimated costs and provide assurance that technical and program requirements are met is a significant part of the process to develop payment schedules. The end product is not useful if the cost list is not appropriately used in business tools, not posted in due time for transparency and public scrutiny, or circumvents the review and approval process.
- B. After all payment schedules are reviewed and approved, the final payment schedules and cost lists also must be appropriately archived, electronically transmitted to business tools, and publically posted, per the following:
- (1) Final payment schedule workbooks (i.e., Scenario Detail Reports in PSA) must be uploaded and posted to each State online FOTG per requirements of:
 - 440 CPM, Part 512, Section 512.32(B)
 - (2) Final cost lists must be electronically transmitted to Customer Service Toolkit (CST) and ProTracts per:
 - 440 CPM, Part 512, Section 512.32(B)
 - (3) Final cost lists or payment rates must be posted to the State Web site 30 days prior to announced application periods:
 - 440 CPM, Part 512, Section 512.32(B)
 - (4) Once announced, electronically transmitted to ProTracts, and posted publically, Scenarios and Payment Rates may not be modified or changed.
 - 440 CPM, Part 512, Section 512.32(B)

600.33 Internal Audit Review

A. Purpose and Applicability

1. Internal auditing is an assurance and consulting activity for improving the payment schedule process. It helps NRCS to accomplish its objectives by using a systematic approach to evaluate and improve the effectiveness of risk management, control, and governance processes.
2. Internal auditing should be independent and objective and must follow the Institute of Internal Auditors standards (found in the International Professional Practices Framework).
3. The principal objective of the internal audit review (IAR) is to examine the documentation for omissions, errors, or significant inaccuracies. This includes:
 - a. Review documentation maintained in the component price databases for the accuracy of component pricing (i.e., dimensions and price matching).
 - b. Verify that the dates comply with the year.
 - c. Verify the change in the average pricing or percentage is accurate.
 - d. Verify that the internal control process used by the National Cost Team (NCT) to record its financial data is effective in preventing improper payments.

B. Procedure

1. Auditors from the Policy and Program Analysis Division must conduct the IAR annually (see section 600.02 of this handbook). IARs should occur before payment schedules are released.
2. The auditors determine the scope and sample size for IARs. The sample size will be modified based on changes in methodology, staff, management, or other changes.
3. The 5 percent error rate threshold is widely used for testing internal controls. It is not a rule but is a helpful starting point for statistical guidance. As best practice, management should set the guidelines and threshold level before beginning an audit.
4. The auditor conducts the IAR as follows:
 - a. Planning
 - (1) Meet with the National Payment Schedule Core Team Lead to discuss audit purposes.
 - (2) Review previous audit work papers.
 - (3) Prepare a summary of prior audit findings that require verification of corrective action.
 - (4) Read audit guides and other reference material.
 - (5) Document all meetings with National Payment Schedule Core Team Lead.

- b. Preliminary Survey
 - (1) Meet with subject matter experts to observe and document processes, controls, control weaknesses, and opportunities to improve controls within business applications (i.e., payment schedule application).
 - (2) Complete the control matrix to document objectives, risks, controls, and control weaknesses.
- c. Fieldwork
 - (1) Perform fieldwork per the audit program.
 - (2) Forward work papers to National Payment Schedule Core Team Lead for final review.
- d. Reporting
 - (1) Provide the draft report to the National Payment Schedule Core Team Lead for comment.
 - (2) Distribute the final report to Director.
- e. Corrective Action
 - (1) NCT will take appropriate action to correct omissions, errors, or significant inaccuracies before payment schedules are released.
 - (2) Auditors will perform a secondary review of changes made by the NCT.
 - (3) Forward work papers to National Payment Schedule Core Team Lead for final review.
 - (4) Disseminate the draft report to the National Payment Schedule Core Team Lead for comment.
 - (5) Distribute the final report to management.
- f. Post-Audit Administration
 - (1) Return all documents and reference materials to their source.
 - (2) Save a copy of the final report and work papers to the report file folder on the [Regional Scenario Team2 - Internal Audits - All Documents \(sharepoint.com\)](#).

Subpart E – Payment Schedule Application

600.40 Payment Schedule Application (PSA)

- A. PSA is a Web-based software application that automates and centralizes the NRCS payment schedule development and management process. It combines the semi-automated procedures developed since the initiation of payment schedule development into one common format. The main purposes of PSA include:
- (1) Component management. There is a large number of components in the payment schedule system available for national and regional scenario teams to choose. PSA restricts component usage by conservation practice and allows only pertinent components to be used for scenario development. The allowable component list may be managed as follows:
 - i. Add an existing component to be made available to a practice
 - ii. Create a new component for a practice
 - iii. Request a price reconsideration of an existing component
 - iv. Request to remove a component from a practice
 - v. Deactivate a component from all practice.
 - (2) Component pricing. PSA serves as a data warehouse for the storage and documentation of component prices developed by the national cost team. It also provides indexing functions in the component cost development. Currently, two indexing functions are used:
 - i. State price index. If data sources can only be located for one or a few States, a State price index is used to estimate component prices for all States. Refer to section 600.26.
 - ii. NASS prices paid index is being used to index all component prices to one common time period.
 - (3) Practice scenario management. PSA provides an automated review process for payment schedule scenario development. New scenarios can be developed, as well as existing scenarios updated and edited in the system. In either instance, a scenario is only allowed following a complete technical and programmatic review.
 - (4) State payment rate development. Payment schedule scenarios developed at the regional level can be adopted by any State within the region, unless noted in guidance. After adopted, component prices are converted in the scenario to the State. The payment rate is calculated based on a percent of the total scenario cost. This percent is established by the State Conservationist and placed into PSA by the State payment schedule manager (SPS). Refer to section 600.10(B), 600.11(B), 600.13(E), and 600.31(B) for additional guidance.
 - (5) Administrative. PSA includes a role to centralize the administrative functions of the payment schedule program. The role created for this is the PSA administrator (PSA Admin). The duties of the PSA Admin include:

- i. Manage payment schedule update cycles. An update cycle is the period during a fiscal year that updates to component prices and scenarios can be made. During any fiscal year, only one update cycle may be open at a time; and after closed, an update cycle cannot be re-opened. To accommodate for any late developing initiatives or programs, subsequent update cycles may be opened to account for needed changes.
 - ii. Assign conservation practices to discipline groups. Refer to 600.02(H) for addition guidance on discipline groups.
 - iii. Manage payment schedule region designations and assign States to applicable regions.
 - iv. Input program payment rate percentage caps as determined by programmatic policy.
- (6) Report management. PSA provides online reports available to users for component information and scenario development. These reports are downloadable to excel spreadsheet or PDF for external use. PSA also provides payment rates in the appropriate format used in business tools (CST and Protracts).

Note: Refer to Exhibit 600.54, PSA User Guide for additional guidance.

Subpart F – Exhibits

600.50 Definitions – Common Terms

Definitions for many common terms used in this handbook can be found in [440 CPM, Part 502 “Terms and Abbreviations Common to All Programs”](#).

600.51 Practice Definition, Purpose, Lifespan, Cost Categories

[Click Here For Practice Guidance](#)

600.52 Example References: Foregone Income Calculations

FI components were established in acres or (Animal Unit Month) units. Typical scenarios reflecting a different unit must undergo a conversion to acres or AUM to use FI components. FI components may be used for the following activities:

- Land taken out of production. Unit of acres must be equal to the typical scenario size. If a combination of crops is used, the total acres must not exceed the typical scenario size.

Examples:

- Typical scenario contains 100 acres of corn:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Foregone Income	1959	FI, Corn Dryland	Corn is Primary Crop	Acre		100	

- Typical scenario contains 100 acres of corn and soybeans in rotation (50 acres each). The combination of crops must be equal to the scenario size:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Foregone Income	1959	FI, Corn Dryland	Corn is Primary Crop	Acre		50	
Foregone Income	1961	FI, Soybeans Dryland	Soybeans is Primary Crop	Acre		50	

- Delayed harvest or planting. Foregone income must reflect the percent of acres lost as a result of the activity.
 - Example: 100 acres typical size with a 12 percent loss due to delayed harvest or planting. Total FI would be equal to 12 acres:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Foregone Income	1959	FI, Corn Dryland	Corn is Primary Crop	Acre		12	

- Delayed or lost grazing of AUMs. FI reflects the percent loss of AUMs as result of the activity.

- Example: 35 percent loss of forage AUMs (entered as .35 AUMs):

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Foregone Income	2079	FI, Grazing	Typical value of an AUM	AUM		0.35	

- Change in Crops. FI must reflect a change in units by using positive and negative units. A negative number represents “before practice situation” and a positive number represents “after practice situation”. The sum of negative and positive numbers must equal zero.
 - Example: 100 acres of Irrigated corn/soybean rotation converted to a dryland rotation (50 acres each). The “before crops” quantity must be treated as a positive value equal to “100.” The “after crops” quantity must be treated as a negative value equal to “-100.”

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Foregone Income	1960	FI, Corn Irrigated	Irrigated Corn is Primary Crop	Acre		50	
Foregone Income	1962	FI, Soybeans Irrigated	Irrigated Soybeans is Primary Crop	Acre		50	
Foregone Income	1959	FI, Corn Dryland	Dryland Corn is Primary Crop	Acre		-50	
Foregone Income	1961	FI, Soybeans Dryland	Dryland Soybeans is Primary Crop	Acre		-50	

600.53 Resource Concerns

A resource concern is defined as a specific natural resource problem that represents a significant concern in a State or region, and is likely to be addressed through the implementation of conservation practices or enhancements by producers, according to technical standards. See chart below for list of primary resource concerns.

Resource Concerns	
Soil Erosion • Sheet, Rill, & Wind Erosion: - Sheet and Rill Erosion (101) - Wind Erosion (102) • Concentrated Flow Erosion: - Ephemeral Gully Erosion (103) - Classic Gully Erosion (104) • Excessive Bank Erosion from Streams, Shorelines or Water Conveyance Channels (105) Soil Quality Degradation • Organic Matter Depletion (106) • Compaction (107) • Subsidence (108) • Concentration of Salts or Other Chemicals (109) Excess Water • Ponding, Flooding, Seasonal High Water Table, Seeps and Drifted Snow: - Seeps (110) - Runoff, Flooding, or Ponding (111) - Seasonal High Water Table (112) - Drifted Snow (113) Insufficient Water • Inefficient Use of Irrigation Water (114) • Inefficient Moisture Management (115) Air Quality Impacts • Emissions of Particulate Matter (PM) and PM Precursors (128) • Emissions of Ozone Precursors (129) • Emissions of Greenhouse Gases (GHGs) (130) • Objectionable Odors (131) Degraded Plant Condition • Undesirable Plant Productivity and Health (132) • Inadequate Structure and Composition (133) • Excessive Plant Pest Pressure (134) • Wildfire Hazard, Excessive Biomass Accumulation (135)	Water Quality Degradation • Pesticides Transported to Surface and Groundwater: - Pesticides in Surface Water (116) - Pesticides in Groundwater (117) • Excess Nutrients in Surface and Groundwater: - Nutrients in Surface water (118) - Nutrients in Groundwater (119) • Salts in Surface and Groundwater: - Salts in Surface Water (120) - Salts in Groundwater (121) • Excess Pathogens and Chemicals from Manure, Bio-solids or Compost Applications: - Surface Water (122) - Groundwater (123) • Petroleum, Heavy Metals and Other Pollutants Transported to Receiving Waters: - Surface Water (124) - Groundwater (125) • Excessive Sediment in Surface Water (126) • Elevated Water Temperature (127) Fish and Wildlife - Inadequate Habitat • Habitat Degradation: - Food (136) - Cover/Shelter (137) - Water (138) - Habitat Continuity (Space) (139) Livestock Production Limitation • Inadequate Feed and Forage (140) • Inadequate Shelter (141) • Inadequate Water (142) Inefficient Energy Use • Equipment and Facilities (143) • Farming/ranching practices and field operations (144)

NOTE: Numbers in parenthesis represent CSP numeric enhancement codes.

600.55 Units of Measurement

Units of Measurement			
Name	Unit	Name	Unit
1,000 BTU	kBTU	Gallon per Minute	Gal/Min
1,000 BTU/Hour	kBTU/Hr	Gram/Cubic Centimeter	G/CC
1,000 Foot	KFt	Head per day	Hd/Day
1,000 Gallon	kGal	Height x Diameter	HgtxDia
1,000 Gallon-Mile	kGal-Mi	Horsepower	HP
1,000 Square Foot	kSqFt	Horsepower-Hour	HpHr
100 Foot	100 Ft	Hour	Hr
Acre Foot	AcFt	Inch	In
Acre Inch	ac-in	Inch Diameter	InDia
Acre Inche per Year	Ac-In/Yr	Inch per Acre per Year	In/Ac/Yr
Acre-in/Ac/Yr	Acre-in/Ac/yr	Inch-Foot	InFt
Acre	Ac	Kilowatt	Kw
Acre/Year	Ac/Yr	Linear Feet per Year	Linear Ft /yr
Air Quality Index	AQI	Linear Foot	LnFt
Animal Unit	AU	Microgram/cubic meter	Ug/Cu-M
Animal Unit Month	AUM	Mile	Mile
Board Foot	BdFt	Mile Per Hour	Mph
Brake Horse Power	BHP	Millimhos Per Centimeter	Mmhos/cm
British Thermal Unit	BTU	Nephelometric Turbidity Unit	NTU
BTU per Pound of Water Removed	BTU/LB	Number	No
Bushel	Bu	Part Per Million	PPM
Bushel per Hour	Bu/Hr	Percent of Time	%Time
Cubic Foot per Second	CFS	Phosporus Index	Phos Indx
Change from ESD cat. # (1-5)	ESD cat (1-5)	Pound	Lb
Colonies/100 ml	Col/100ml	Pound/Sq Inch	PSI
Cubic Foot	CuFt	Pound per Acre per Year	Lb/Ac/Yr
Cubic Foot Per Minute	CFM	Pound per Day	Lb/Day
Cubic Meter	Cu-M	Pound per Hour	Lb/Hr
Cubic Yard Mile	CY-Mile	Pound per year	Lb/Yr
Cubic Yard	CuYd	R-Value Square Foot	Rval/SF
Day	Day	Soil Condition Index	SCI
Degree Centigrade	Deg Centigrade	Square Foot	SqFt
Degree Fahrenheit	Deg Fahrenheit	Square Yard	SqYd
Degree Kelvin	Deg Kelvin	T Value	T
Diameter Inch Foot	DiaInFt	Ton	Ton
Dollar	Dollar	Ton-Mile	Ton-Mile
Each	Ea	Ton/Acre/Year	Tons/ac/yr
Electrical Conductivity	EC	Ton/Year	Ton/Yr
Foot	Ft	Vertical Foot	Vft
Gallon	Gal	Watt	Watt
Gallon per Day	Gal/Day	WIN-PST Rating	Win-PST
Gallon per Hour	Gal/Hr	Yes/No	Y/N
Gallon-Mile	Gal-Mile	Yard	Yd

(300-600-H, 1st Ed., Oct 2016)

Identifying Outliers

In statistics, outliers are data points that do not follow the dominant patterns within a certain population. However, there are no strict statistical rules for definitively identifying outliers. Identifying outliers is especially troublesome when only a few data points are available, as is the case in payment schedules. When this occurs, determining outliers depends heavily on the subject matter expert's (SME) professional judgment and economic evaluation of the data.

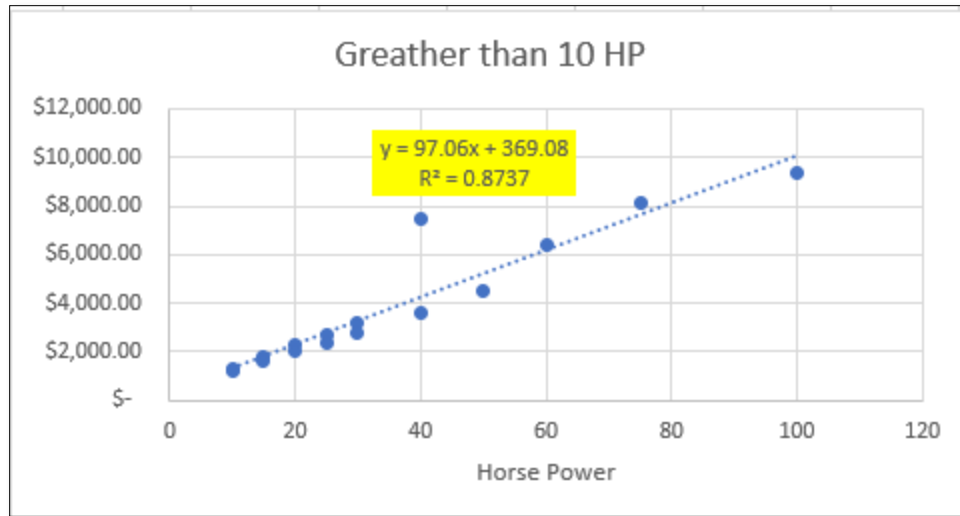
In occurrences where several data points are available, there are several methodologies that can be used to identify potential outliers. Regardless of the methodology used, professional judgement of the SME is still an important factor.

Sorting: Similar to the instance where only a few data points are available, this method relies on a visual approach of sorting many values and visually identifying unusually high or low values. This approach does not quantify outliers' degrees of deviation from the normal range of values, but it is an easy method to follow.

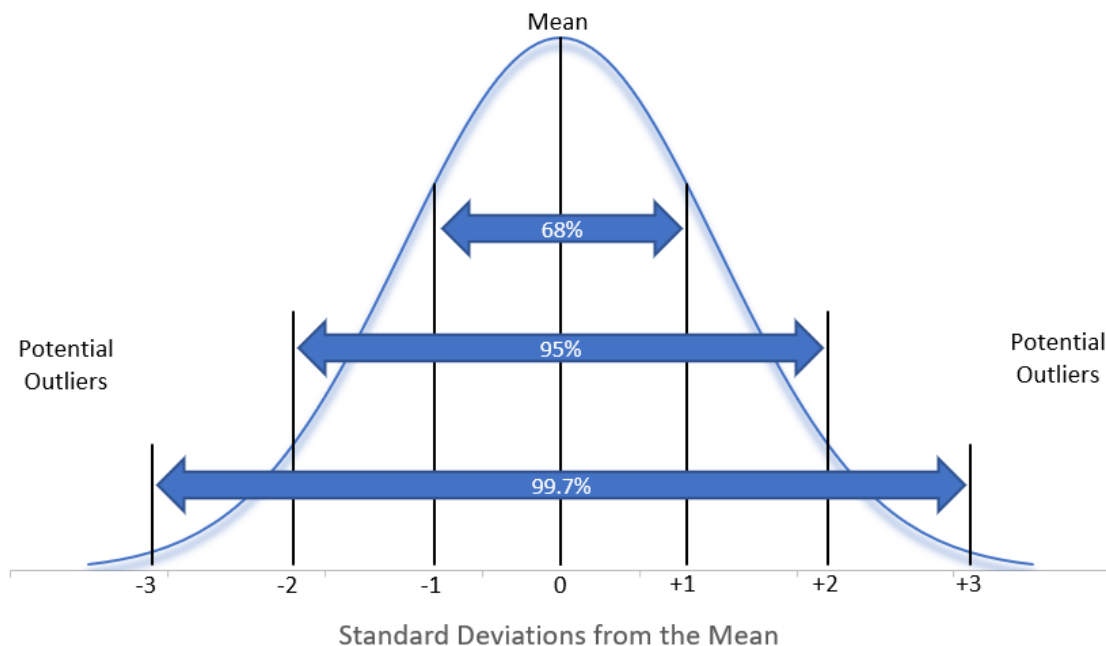
Example:

Dealer	Chemical	Cost /Acre
Dealer A	Herbicide, XYZ	\$12.13
Dealer B	Herbicide, XYZ	12.14
Dealer C	Herbicide, XYZ	12.54
Dealer D	Herbicide, XYZ	12.83
Dealer E	Herbicide, XYZ	12.93
Dealer F	Herbicide, XYZ	13.25
Dealer G	Herbicide, XYZ	14.00
Dealer H	Herbicide, XYZ	14.12
Dealer I	Herbicide, XYZ	14.35
Dealer J	Herbicide, XYZ	19.31

Linear Regression: If numerous data points can be plotted using a scatter chart, then a simple linear regression model can be used to identify potential outliers. A regression line can be quickly established in an Excel scatterplot to reveal the relationship between the x and y axis points. In the example below, all but one point fits the regression neatly. The point at 40 horsepower at a cost of \$7,500 could be considered an outlier and removed in this instance.



Standard Deviation: Where prices are based on a single fixed unit (i.e., one acre) and cannot be graphed using an x, y axis in a scatterplot, then a standard deviation method can be used. If a data distribution is approximately normal, then about 68 percent of the data lie within one standard deviation of the mean, 95 percent are within two standard deviations of the mean, and 99.7 percent lie within three standard deviations of the mean. In this instance, data point(s) that are more than three times the standard deviation might be outliers and could potentially be removed.



Example:

Dealer	Chemical	Cost / Acre
Dealer A	Herbicide, XYZ	\$12.13
Dealer B	Herbicide, XYZ	12.14
Dealer C	Herbicide, XYZ	12.54
Dealer D	Herbicide, XYZ	12.83
Dealer E	Herbicide, XYZ	12.93
Dealer F	Herbicide, XYZ	13.25
Dealer G	Herbicide, XYZ	14.00
Dealer H	Herbicide, XYZ	14.12
Dealer I	Herbicide, XYZ	14.35
Dealer J	Herbicide, XYZ	19.31

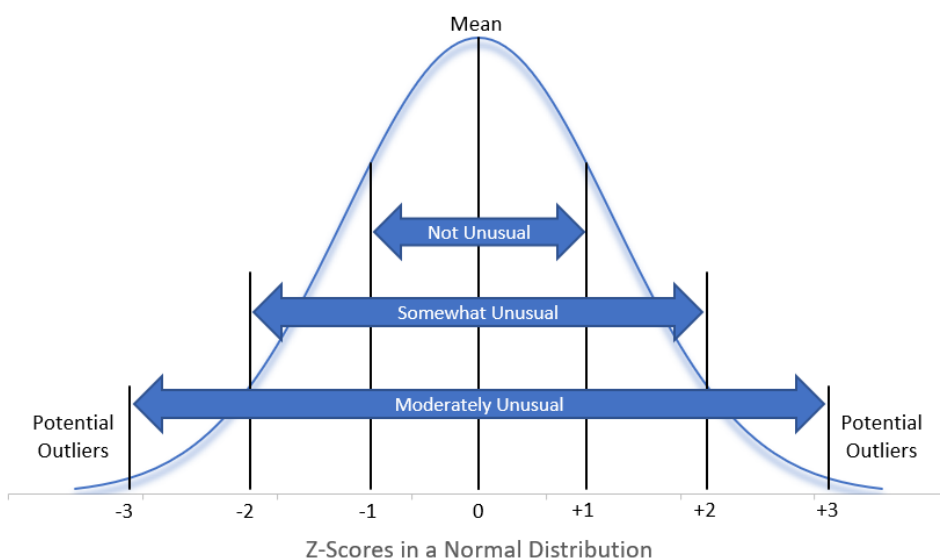
Outlier?

Average	\$13.76
Std Dev	2.11

	3 Std Dev	2 Std Dev
Low Price Outlier:	\$7.44	\$9.55
High Price Outlier:	20.08	17.97

At three standard deviations, the result indicate that it may not be an outlier. However, using two standard deviations, it could potentially be considered an outlier.

Z-Score Identification. Using a Z-score to identify potential outliers uses the same principles as above, only in a slightly different format. To calculate the Z-score for a series of data, the formula is the measurement minus the mean divided by the standard deviation. A score of zero represents the mean of all data, and the further away the data point is from zero, the more unusual it is.



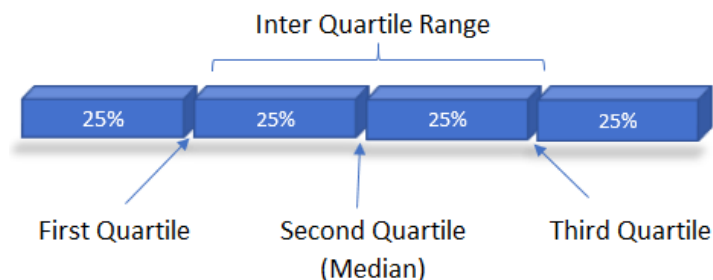
Example:

Dealer	Chemical	Cost /Acre	Z-score
Dealer A	Herbicide, XYZ	\$12.13	(0.77)
Dealer B	Herbicide, XYZ	12.14	(0.77)
Dealer C	Herbicide, XYZ	12.54	(0.58)
Dealer D	Herbicide, XYZ	12.83	(0.44)
Dealer E	Herbicide, XYZ	12.93	(0.39)
Dealer F	Herbicide, XYZ	13.25	(0.24)
Dealer G	Herbicide, XYZ	14.00	0.11
Dealer H	Herbicide, XYZ	14.12	0.17
Dealer I	Herbicide, XYZ	14.35	0.28
Dealer J	Herbicide, XYZ	19.31	2.64

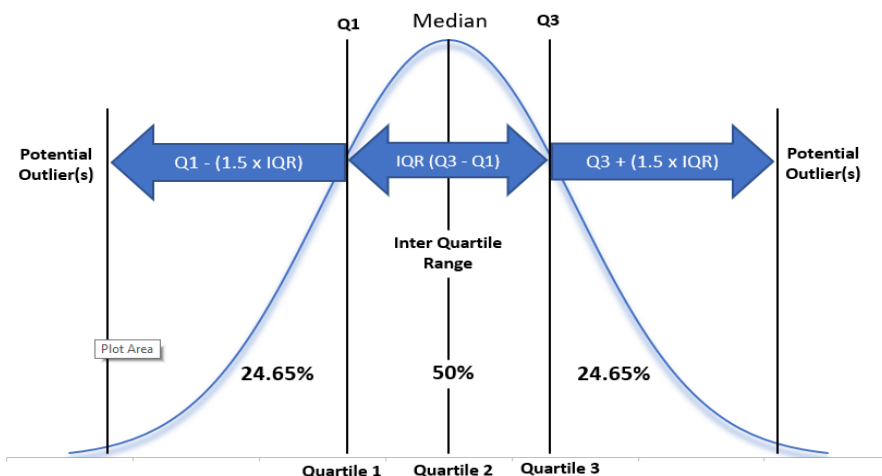
Outlier?

Interquartile Method: The interquartile range (IQR) can be used on a set of data to identify minor and major unusualness in data distribution.

Quartiles within a dataset:



The IQR is the middle 50 percent of the dataset, or the range between the third quartile and first quartile ($Q3 - Q1$). Using the IQR, $Q1$, and $Q3$ values, outlier fences can be built to help identify potential outliers within a given dataset. Outliers are defined as observations below $Q1 - 1.5 \times \text{IQR}$, and above $Q3 + 1.5 \times \text{IQR}$. This method is the least susceptible to distortions due to the very presence of one or more outliers skewing the distribution.



Example:

Dealer	Chemical	Cost /Acre
Dealer A	Herbicide, XYZ	\$12.13
Dealer B	Herbicide, XYZ	12.14
Dealer C	Herbicide, XYZ	12.54
Dealer D	Herbicide, XYZ	12.83
Dealer E	Herbicide, XYZ	12.93
Dealer F	Herbicide, XYZ	13.25
Dealer G	Herbicide, XYZ	14.00
Dealer H	Herbicide, XYZ	14.12
Dealer I	Herbicide, XYZ	14.35
Dealer J	Herbicide, XYZ	19.31

Outlier?

Quartile Q1	\$12.61
Quartile Q3	14.09

Inter Quartile Range (IQR) \$1.48 $Q3 - Q1$

Inner Fence:	Low Price Outlier:	\$10.40	Quartile 1 - (1.5 x IQR)
	High Price Outlier:	16.30	Quartile 3 + (1.5 x IQR)

Outer Fence:	Low Price Outlier:	\$8.19	Quartile 1 - (3 x IQR)
	High Price Outlier:	18.52	Quartile 3 + (3 x IQR)