

# Natural Resources Conservation Service

Tucson Field Office

## Purpose of Presentation

- This presentation outlines the potential practices that can be used to address resource concerns on agricultural land in Santa Cruz County
- It does not include all potential practices, but, lists many that would be feasible
- Future presentations will include information of funding by various groups to assist with the practices

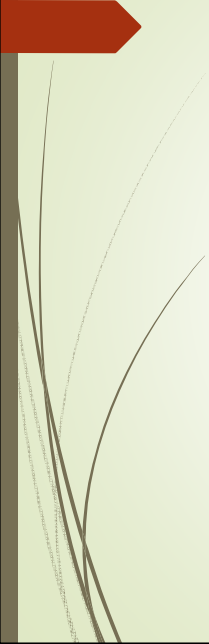


Conservation planning is the fundamental starting point for maintaining and improving the natural resources that support productive and profitable agricultural operations.




Conservation planning is also intended to help farmers and ranchers comply with a variety of environmental regulations

- Clean Water Act
- Clean Air Act
- Endangered Species Act
- State laws
- Tribal laws



## Technical References

- Plants Database
- Web Soil Survey
- Water Supply Forecasts
- Publications
- Coordination with local, state and federal agencies
- Assistance to Tribal Entities
- Soil Health



## Resource Concerns

NRCS addresses resource concerns by SWAPA + H + E

- Soil
- Water
- Air
- Plants
- Animals
- Human
- Energy

## Major Resource Concerns in Arizona

- **INSUFFICIENT WATER** – Inefficient use of irrigation water
- **LIVESTOCK PRODUCTION LIMITATION** – Inadequate livestock water
- **WATER QUALITY DEGRADATION** - Excess nutrients in surface and ground waters
- **DEGRADED PLANT CONDITION** - Undesirable plant productivity and health
- **AIR QUALITY IMPACTS** - Emissions of Particulate Matter (PM) and PM Precursors
- **WATER QUALITY DEGRADATION** – Excessive sediment in surface waters
- **INEFFICIENT ENERGY USE** – Equipment and facilities

## Resource Concerns (cont)

- **SOIL QUALITY DEGRADATION** – Concentration of salts or other chemicals
- **INADEQUATE HABITAT FOR FISH AND WILDLIFE** – Habitat degradation
- **Soil Erosion** – Sheet, rill & wind erosion
- **Soil Quality Degradation** – Organic matter depletion
- **Inefficient Water** – Inefficient moisture management
- **Air Quality Impacts** – Objectionable odors
- **LIVESTOCK PRODUCTION LIMITATION** - Inadequate feed and forage

## Typical Resource Concerns that can be addressed with practices

- Rangeland – plant productivity, erosion, water quantity
- Cropland (including vineyard) – water quantity and quality, irrigation induced erosion, air quality
- Irrigate Pasture – plant productivity, water quantity, soil compaction

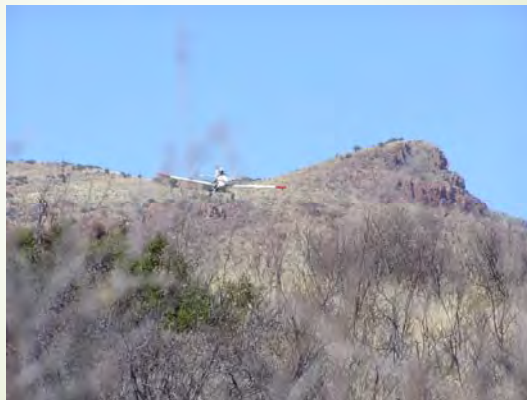
## Brush Management – Mechanical (314)



Brush Management –  
Mechanical (314)



Brush Management –  
Chemical (314)





Brush Management -  
Mesquite grubbing (314)



Brush Management -Weed  
Control -Back pack spraying  
(315)




Brush Treatments



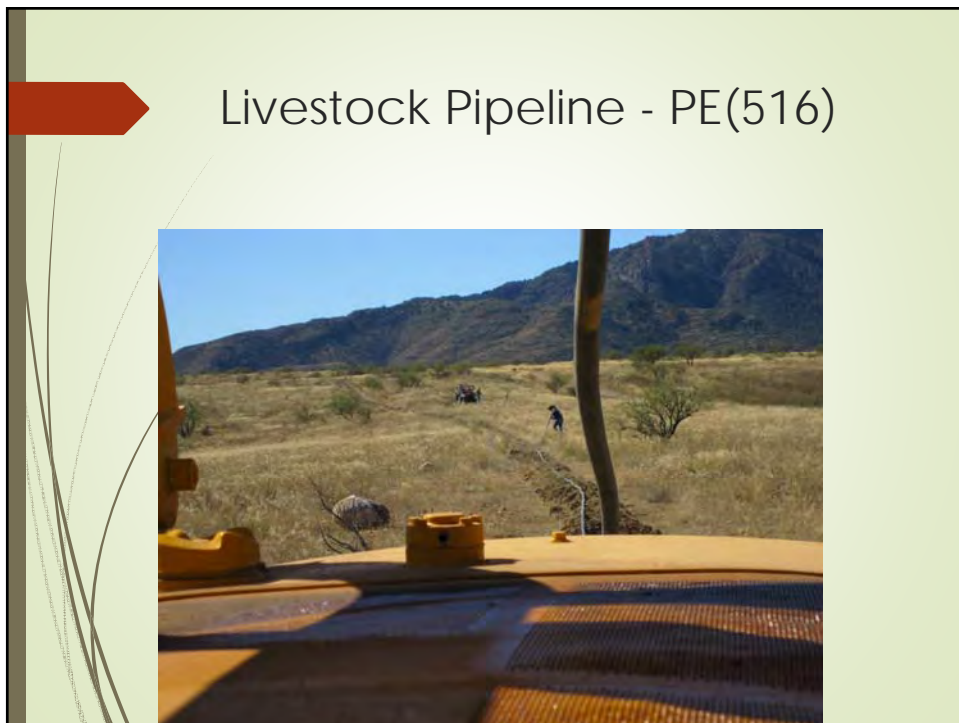
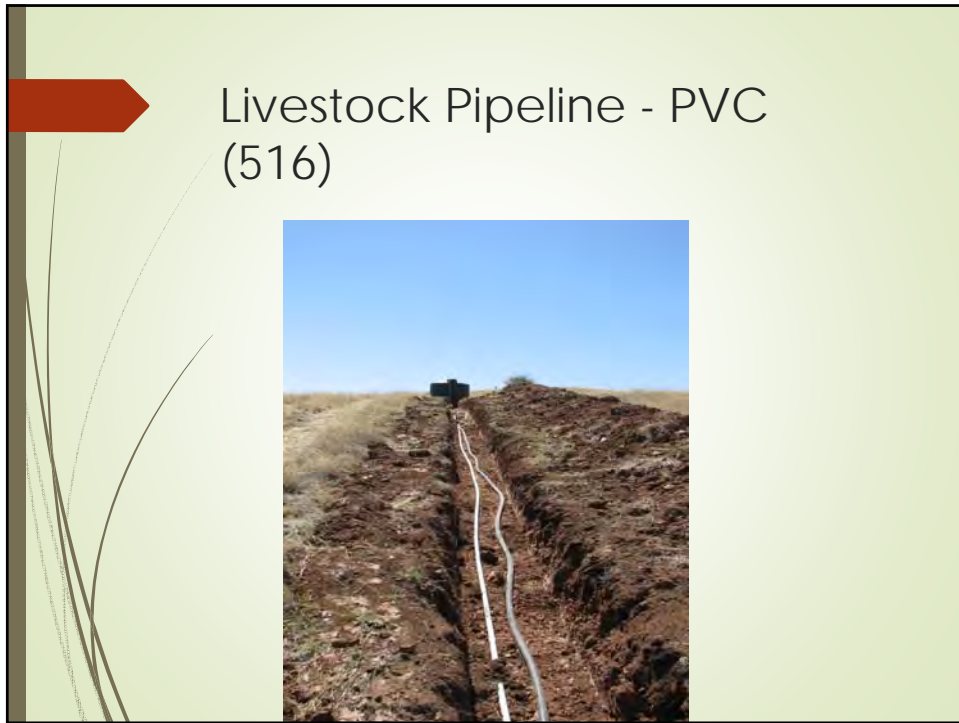
This slide features a light green background with a decorative graphic of tall grasses on the left side. A red arrow points to the right, followed by the text "Brush Treatments". Below the text is a photograph of a dry, open landscape with sparse, brownish brush and grasses under a heavy, grey, overcast sky.

Brush Treatments



This slide features a light green background with a decorative graphic of tall grasses on the left side. A red arrow points to the right, followed by the text "Brush Treatments". Below the text is a photograph of a similar landscape to the one above, but with vibrant green grass and brush, and a bright blue sky with large, white, fluffy clouds.





Watering Facility – storage, steel (614)



Watering Facility – storage, polyethylene (614)



Watering Facility – tire trough  
(614)



Watering Facility – cement  
trough (614)



Watering Facility – steel trough with wildlife escape ramp (614)



Pumping Plant - Windmill (533)



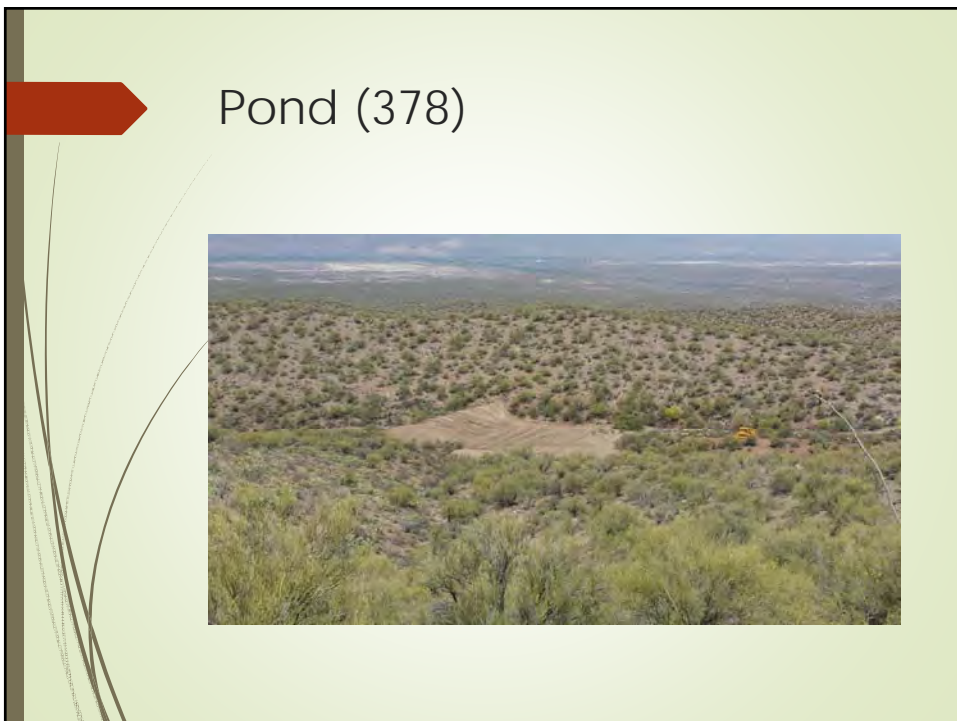


Pumping Plant – Solar  
replacing old windmill (533)



System – well, solar pump,  
storage (642, 533, 614)







Pond Sealing (521A)



Spring Development (574)



➤ Prescribed Fire (338)

A photograph showing a prescribed fire in a dry, open landscape. A dirt road runs alongside the fire, and a large plume of dark smoke rises into the sky. The fire is contained within a boundary, and the surrounding area is dry and scrubby.

➤ Fence – rough country (382)

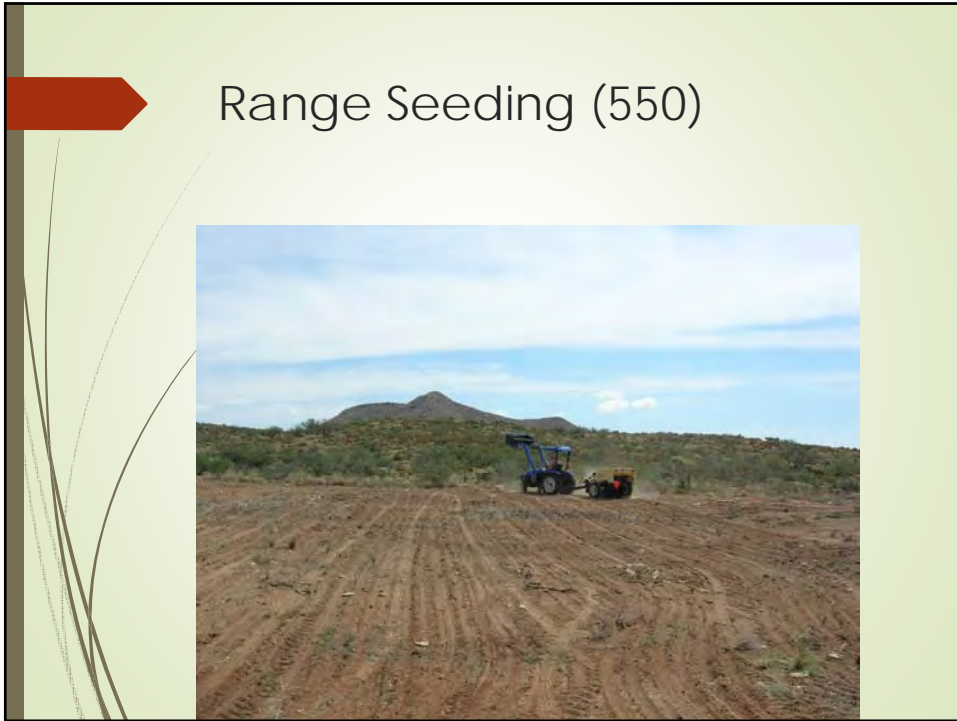
A photograph showing a fence line in a rough, hilly, and dry landscape. The fence consists of several strands of wire supported by wooden posts. The terrain is rocky and covered with sparse, dry vegetation.

Fence – smooth country  
(382)



Cattle guard – part of fence,  
we consider it separate







Mulch on Range Seeding  
(550 and 484)




The photograph shows a wide, flat field under a clear blue sky with a few clouds. The ground is a mix of light green grass and reddish-brown soil. In the background, there are some low hills and a few trees. The overall scene depicts a range seeding project where mulch has been applied to the soil.

Irrigation – Sprinkler (442)



The photograph shows a large, dark brown field with a sprinkler irrigation system in operation. The water is spraying across the field, creating a misty atmosphere. The field appears to be recently tilled or prepared for seeding. In the background, there are some hills and a clear blue sky.

Irrigation – Pivot (442)

A photograph showing a pivot irrigation system in operation. The system consists of a central pivot point with multiple arms extending outwards, each supported by a wheel. The arms are connected to a network of pipes that deliver water to the field. The field is dry and brown, and the sky is clear and blue.

Sprinkler on wheat

A close-up photograph of a sprinkler head in a field of green wheat. The sprinkler head is a black, cylindrical device with a central nozzle. The wheat is tall and green, and the background is a soft, out-of-focus green.




Irrigation System - Alfalfa Valve (443)



Irrigation System – big gun (442)




Field Border – pollinator habitat (386)



The photograph shows a long, narrow strip of land between a cultivated field and a forest. The strip is filled with a variety of tall grasses and other vegetation, serving as a habitat for pollinators. The field on the left has distinct rows of crops, and the forest on the right consists of tall, thin trees.

Cover crop (327)



The photograph shows a close-up view of a cover crop. The plants are green and leafy, growing in rows. The ground between the rows is covered with a layer of dry, brown straw or mulch.

Ditch with outlets (428)



Ditch Lining (428)



Irrigation gate for flood (587)



Pumping plant – irrigation (533)





Microirrigation – drip on vineyard (441)



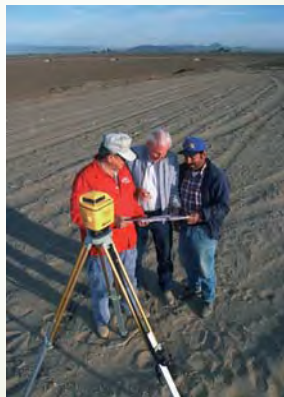
Drip on individual vine



Drip with high tunnel (325)



Land Levelling – survey (464)





Land Leveling (464)

A large yellow tractor with a leveling implement is shown working on a field of dark soil. The tractor is moving from left to right, and the soil is being leveled. The background shows a clear blue sky and a utility pole in the distance.

Irrigation Reservoir (436)

A calm irrigation reservoir is shown, surrounded by green grass and trees. The water is still, reflecting the clear blue sky. In the background, there are mountains under a clear blue sky.

Irrigation Water Management (449)



Field Border (386)



Integrated Pest Management (595)



Residue Management (345)





Nutrient Management (590)



Confined Animal Feeding Operation - roof runoff – specific program if funded



SC County – Roof Runoff



A photograph showing the exterior of a building with a light-colored roof and a dark brown fascia. A white gutter system is installed along the roofline, with a white downspout extending from the gutter. The building has large glass windows reflecting the sky. A timestamp in the bottom right corner of the photo reads "04.08.2009 08:59".

Storage for Roof Runoff



A photograph of two large, circular, above-ground storage tanks (cisterns) made of concrete or metal. They are situated outdoors on a rocky, dry ground. The tanks are connected to a network of pipes. The background shows a clear blue sky and some distant trees. A timestamp in the bottom right corner of the photo reads "04.08.2009 08:49".



## Wildlife – Pollinator Habitat



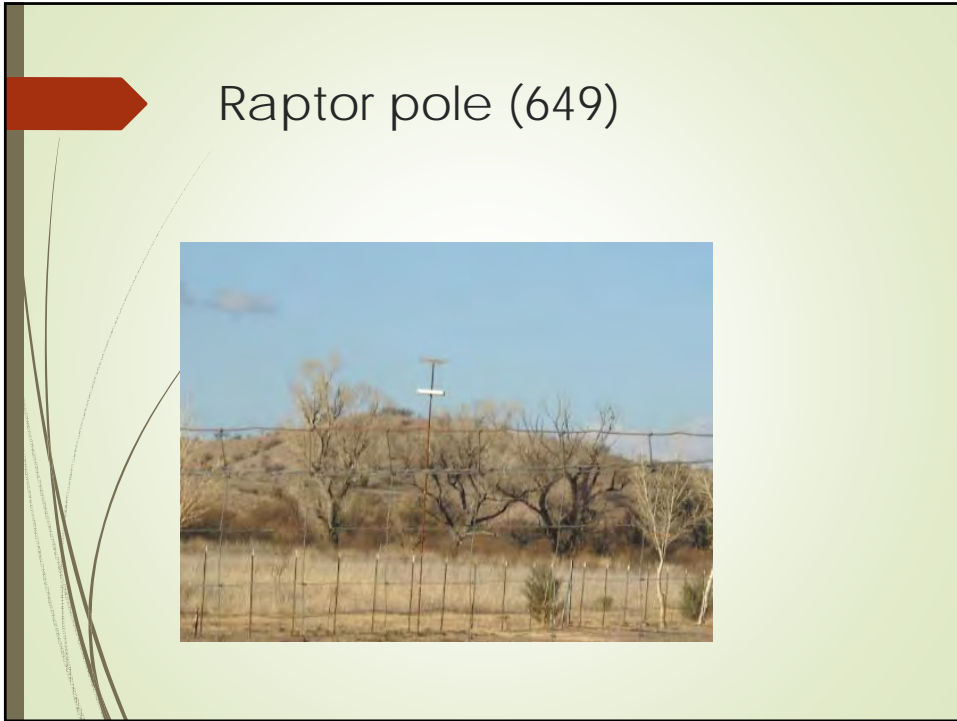


Various Wildlife Structures -  
Brush piles – (649)




Fish barrier (649)






Shrub planting (612)



A photograph showing a shrub with small, light pink flowers growing in a field of tall, green grasses. The shrub is the central focus, surrounded by dense vegetation.

Shrub planting (612)



A photograph of a man wearing a plaid shirt, blue jeans, and a hat, standing in a field of tall grasses. He is holding a small shrub, likely preparing to plant it. The background shows a clear blue sky and some distant buildings.

Old Catchment – past  
lifespan (636)




Grade Stabilization Structure  
for Erosion Control (410)





Erosion Control (410)



The photograph shows a stone-lined channel or structure in a dry, brushy landscape. The channel is constructed from large, light-colored rocks and is filled with water. The surrounding area is arid with sparse vegetation, including small trees and shrubs. The sky is clear and blue.

Obstruction Removal (500)



The photograph shows a rocky streambed with a concrete structure in the background. The streambed is filled with large, light-colored rocks and is filled with water. The surrounding area is arid with sparse vegetation, including small trees and shrubs. The sky is clear and blue.

Obstruction Removal (500)  
EWP




Wetland Enhancement (644)




 Dike (356)



A photograph showing a yellow bulldozer in the process of constructing a long, straight dike of reddish-brown soil. The bulldozer is positioned in the middle ground, pushing soil forward. The dike extends into the distance under a blue sky with scattered clouds. The surrounding area is a flat, open field with some sparse vegetation and distant hills.

 Mulching after disturbance (484)

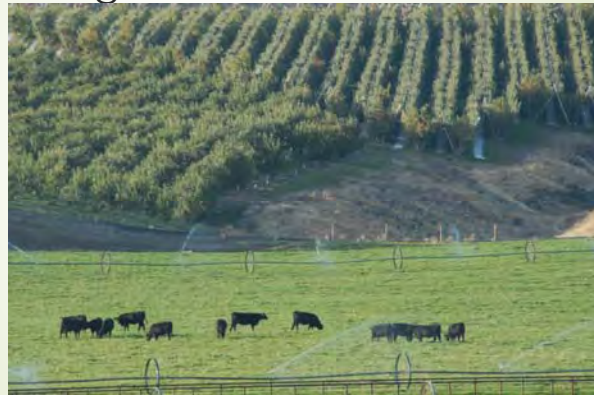


A photograph showing a tractor pulling a mulch spreader along a dirt road. The tractor is in the foreground, moving away from the camera. The spreader is distributing a layer of mulch onto the soil. In the background, a white pickup truck is parked on the left side of the road, and a person is standing near it. The scene is set in a rural, open area with hills in the distance under a clear blue sky.

Pole Planting (580)



Numerous practices – sprinkler, prescribed grazing, nutrient management






## Terraces – a practice on our national list but not Arizona




## Totals for Santa Cruz County since 1997

Practice	Amounts	Units
Brush Management	4,222.0	acres
Livestock Pipeline	121,262.0	ft
Fence	216,824.0	ft
Pond	1	Items
Pond Sealing or Lining	1	Items
Prescribed Grazing	190,817.4	acres
Range Planting	10	acres
Tree/Shrub Establishment	62	acres
Trough or Tank	42.0	Items
Water Well	9.0	Items
Watering Facility	60.0	Items
Pumping Plant - livestock and irrigation	26.0	Items
Combustion Engine Improvement	2	Items
Conservation Crop Rotation	267.4	acres
Dust Control of Unpaved Roads and Surfaces	82,733	sq ft
Irrig conv pipeline to press undgrnd plast (Ft)	13,991.0	ft
Irrigation Land Leveling	172,933.0	cu yds
Irrigation Pipeline	11,946.0	ft
Irrigation System Micro-Irrigation	19.2	ac
Irrigation System Sprinkler	1,451	acres
Irrigation Water Management	1,270.0	acres
Nutrient Management	1,681.1	acres
Pasture and Hayland Planting	75	acres
Pest Management	1,439.4	acres
Res manag mulch III (Ac)	267.0	acres
Seasonal High Tunnel for Crops	3	Items
Structure for Water Control	32.0	Items
Upland Wildlife Habitat Management	17,126.0	acres
Water Harvesting Catchment	2	Items
Fish and Wildlife Structure	40.0	Items



## Trends in Santa Cruz County

- Most applications continue to be for water development and fencing
- Brush management and erosion have very few applicants
- Vineyards – we can't retrofit existing drip or add new acres but can replace old systems
- Initiatives are announced every year; for example, high tunnel, air quality, energy
- Other programs like rcpp and csp are available as well, more information at the next workshop.



## Payment Schedules for NRCS

- Handout of 2016 payment schedules
- 2017 is not available yet
- The actual list is several pages, this is just the main headings
- Each practice can have several types such as brush management that we described, various types of fences, erosion control structures, etc
- Special Initiatives have their own schedule (high tunnel, air quality, rccp)
- The next workshop will cover funding from NRCS and others for practices to address your resource concerns



## FOR FURTHER INFORMATION

- All programs of the NRCS can be accessed at our website [www.nrcs.usda.gov](http://www.nrcs.usda.gov)
- *USDA is an equal opportunity provider and employer. To file a complaint of discrimination, write: USDA, Office of the Assistant Secretary for Civil Rights, Office of Adjudication, 1400 Independence Ave., SW, Washington, DC 20250-9410 or call (866) 632-9992 (Toll-free Customer Service), (800) 877-8339 (Local or Federal relay), (866) 377-8642 (Relay voice users).*