

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Wildlife Wetland
Practice Code/Name	643 - Restoration and Management of Rare and Declining Habitats
Scenario ID	4
Scenario Name	Monitoring, & Management, Low Intensity and Complexity - No Foregone Income

Scenario Description
 Setting is any land use with the potential to provide habitat for species of plants and animals identified as Rare and Declining and the habitat potential is not currently being captured. The identified habitat limiting factors can be restored, enhanced or created, with the application of this practice alone or in combination with other supporting and facilitating practices. Monitoring will be used to determine if the conservation system meets or exceeds the minimum quality criteria for the targeted wildlife. Management will be implemented based on the findings of the habitat assessment and monitoring. Habitat management and monitoring needed to treat the resource concerns requires no training, no qualitative data assessment, no water quality monitoring and is low in complexity and intensity. Examples of prescribed monitoring, include but are not limited to: photo points taken, use documentation by livestock, regeneration/breeding success, completing an annual management records log, documenting wildlife sightings, documenting location and species of invasive plants and condition of vegetative and structural treatments. No decision or treatment associated with this practice or facilitating practices will require income foregone. The planner will specify locations and identify the methods to the customer who will implement the monitoring and management plan.

Before Practice Situation
 Existing degraded plant conditions and resulting inadequate habitat for fish and wildlife have resulted in low use of the area by target species identified as Rare and Declining and associated species.

After Practice Situation
 Based on the results of a State-approved upland wildlife habitat assessment process, the application of habitat management efforts and prescribed monitoring have been implemented. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate habitat conditions have been addressed. Monitoring has maximized the benefits of the needed habitat treatment efforts.

Scenario Feature Measure	Acres Managed and Monitored
Scenario Unit	Acre
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$55.80	\$0.56
Equipment/Installation	\$912.16	\$9.12
Labor	\$455.80	\$4.56
Mobilization	\$239.99	\$2.40
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,663.75	\$16.64

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Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Wildlife Wetland
Practice Code/Name	643 - Restoration and Management of Rare and Declining Habitats
Scenario ID	7
Scenario Name	Topographic Feature Creation, Low Complexity & Intensity - No Foregone Income
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Rare and Declining and the habitat potential is not currently being captured. This scenario is typically occurs on lands used for the production of forest products, grazing and/or fish and wildlife where the slope gradient is less than two percent and predominant soils are not excessively drained. The State-approved habitat evaluation or appraisal found that a limiting factor for species of plants and animals identified as rare and declining is the absence of sufficient variability in microtopographic relief in the area. The construction of low intensity and low complexity topographic features will provide for diverse soil hydrologic conditions needed to treat the degraded plant condition and/or inadequate habitat for rare and declining species. The construction of micro and macro topographic features can be implemented with the use of equipment with less than 70 HP. This scenario is for earthwork, not associated with habitat structures or any other national standard (e.g. Wetland Restoration (657), Wetland Enhancement (659), Wetland Creation (658), and Dike (356)).
Before Practice Situation	The site lacks sufficient micro- and macrotopographic features needed for optimal habitat for target rare and declining species. Typically the site has been previously manipulated and utilized for agricultural, livestock or forest production. With the loss of hummocks, depressions and other topographic features scattered throughout the site, both plant and animal species that are dependent on the microenvironments created by these features are no longer present or are in decline within the planning unit.
After Practice Situation	Appropriate low horsepower equipment, such as, rubber tired tractor and farm implements (i.e. – box blade, scraper blade, grader blade, front end-loader, etc) were used to construct planned topographic features essential for identified species. As a result of the installation, the topographic relief needed to provide the varied habitat needs is provided.
Scenario Feature Measure	number and size of constructed features
Scenario Unit	Acre
Scenario Typical Size	50

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$2,767.20	\$55.34
Labor	\$3,492.40	\$69.85
Mobilization	\$7,805.20	\$156.10
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$14,064.80	\$281.30

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Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Wildlife Wetland
Practice Code/Name	643 - Restoration and Management of Rare and Declining Habitats
Scenario ID	8
Scenario Name	Topographic Feature Creation, Medium Complexity & Intensity, Foregone Income
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Rare and Declining and the habitat potential is not currently being captured. This scenario is typically occurs on lands used for the production of forest products, grazing and/or fish and wildlife where the slope gradient is less than two percent and predominant soils are not excessively drained. The State-approved habitat evaluation or appraisal found that a limiting factor for species of plants and animals identified as rare and declining is the absence of sufficient variability in microtopographic relief in the area. The construction of medium intensity and medium complexity topographic features will provide for diverse soil hydrologic conditions needed to treat the degraded plant condition and/or inadequate habitat for rare and declining species. The construction of micro and macro topographic features can be implemented with the use of equipment in the 70-150 HP range due to current site conditions and implementation techniques. This scenario is for earthwork, not associated with habitat structures or any other national standard (e.g. Wetland Restoration (657), Wetland Enhancement (659), Wetland Creation (658), and Dike (356)).
Before Practice Situation	The site lacks sufficient micro- and macrotopographic features needed for optimal habitat for target rare and declining species. Typically the site has been previously manipulated and utilized for agricultural, livestock or forest production. With the loss of hummocks, depressions and other topographic features scattered throughout the site, both plant and animal species that are dependent on the microenvironments created by these features are no longer present or are in decline within the planning unit.
After Practice Situation	Appropriate equipment (i.e. – Skidsteer, Farm Tractor, Small Dozer, etc) was used to construct planned topographic features essential for identified species. As a result of the installation, adequate habitat needs have been provided.
Scenario Feature Measure	number and size of constructed features
Scenario Unit	Acre
Scenario Typical Size	50

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$27,237.60	\$544.75
Labor	\$7,878.60	\$157.57
Mobilization	\$3,922.00	\$78.44
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$11,484.25	\$229.69
Total	\$50,522.45	\$1,010.45

Cost Details:									
Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost	Component Justification	Quantity Justification
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$5.37	15	\$80.55	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	933	Skidsteer, 80 HP	Skidsteer loader with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$34.86	60	\$2,091.60	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	935	Track Loader, 95HP	Equipment and power unit costs. Labor not included.	Hour	\$74.16	60	\$4,449.60	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	962	Tractor, agricultural, 120 HP	Agricultural tractor with horsepower range of 90 to 140. Equipment and power unit costs. Labor not included.	Hour	\$47.06	60	\$2,823.60	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	50	\$6.00	Necessary for planning and documenting the location and number of features needed to meet targeted wildlife habitat criteria.	Scenario typical size is 50acres.
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$54.84	60	\$3,290.40	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	927	Dozer, 140 HP	Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included.	Hour	\$101.33	60	\$6,079.80	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	926	Backhoe, 80 HP	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$45.10	60	\$2,706.00	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	\$4.01	15	\$60.15	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$92.80	60	\$5,568.00	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	48	Excavation, Common Earth, side cast, small equipment	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$2.17	15	\$32.55	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$3.29	15	\$49.35	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.

Labor	230	Skilled Labor	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$42.23	60	\$2,533.80	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Labor	231	General Labor	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$22.79	60	\$1,367.40	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.29	60	\$1,337.40	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$44.00	60	\$2,640.00	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$43.59	10	\$435.90	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Mobilization	1141	Mobilization, Skilled labor	Mobilization of skilled labor: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$40.62	10	\$406.20	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Mobilization	1143	Mobilization, Light Equipment Operator	Mobilization of light equipment operators: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$22.09	10	\$220.90	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$285.90	10	\$2,859.00	Necessary for the installation of micro and macro topographic features.	Installation of features of medium intensity and medium complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Foregone Income	1961	Fl, Soybeans Dryland	Dryland Soybeans is Primary Crop	Acre	\$295.69	12.5	\$3,696.13	Cropland removed from production	Typical rotation is 2 years of corn, and 1 year each of soybeans and wheat. Therefore, 50% acreage in wheat and 25% in Soybeans and 25% in wheat: 25 acres corn, 12.5 acres soybeans, 12.5 acres wheat
Foregone Income	1959	Fl, Corn Dryland	Dryland Corn is Primary Crop	Acre	\$202.67	25	\$5,066.75	Cropland removed from production	Typical rotation is 2 years of corn, and 1 year each of soybeans and wheat. Therefore, 50% acreage in wheat and 25% in Soybeans and 25% in wheat: 25 acres corn, 12.5 acres soybeans, 12.5 acres wheat
Foregone Income	1963	Fl, Wheat Dryland	Dryland Wheat is Primary Crop	Acre	\$217.71	12.5	\$2,721.38	Cropland removed from production	Typical rotation is 2 years of corn, and 1 year each of soybeans and wheat. Therefore, 50% acreage in wheat and 25% in Soybeans and 25% in wheat: 25 acres corn, 12.5 acres soybeans, 12.5 acres wheat

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Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Wildlife Wetland
Practice Code/Name	643 - Restoration and Management of Rare and Declining Habitats
Scenario ID	9
Scenario Name	Topographic Feature Creation, High Complexity & Intensity - Includes Foregone Income
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Rare and Declining and the habitat potential is not currently being captured. This scenario is typically occurs on lands used for the production of forest products, grazing and/or fish and wildlife where the slope gradient is less than two percent and predominant soils are not excessively drained. The State-approved habitat evaluation or appraisal found that a limiting factor for species of plants and animals identified as rare and declining is the absence of sufficient variability in microtopographic relief in the area. The construction of construction of high intensity and high complexity topographic features will provide for diverse soil hydrologic conditions needed to treat the degraded plant condition and/or inadequate habitat for rare and declining species. The construction of micro and macro topographic features will require the use of equipment 150 HP in size or larger due to current site conditions and implementation techniques. This scenario is for earthwork, not associated with habitat structures or any other national standard (e.g. Wetland Restoration (657), Wetland Enhancement (659), Wetland Creation (658), and Dike (356)).
Before Practice Situation	The site lacks sufficient micro- and macrotopographic features needed for optimal habitat for target rare and declining species. Typically the site has been previously manipulated and utilized for agricultural, livestock or forest production. With the loss of hummocks, depressions and other topographic features scattered throughout the site, both plant and animal species that are dependent on the microenvironments created by these features are no longer present or are in decline within the planning unit.
After Practice Situation	Appropriate equipment (i.e. – Dozer, Excavator, etc) was used to construct planned topographic features essential for identified species. As a result of the installation, adequate habitat needs have been provided.
Scenario Feature Measure	number and size of constructed features
Scenario Unit	Acre
Scenario Typical Size	50

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$25,052.40	\$501.05
Labor	\$11,742.40	\$234.85
Mobilization	\$13,127.60	\$262.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$11,484.25	\$229.69
Total	\$61,406.65	\$1,228.13

Cost Details:									
Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost	Component Justification	Quantity Justification
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$5.37	20	\$107.40	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	932	Hydraulic Excavator, 2 CY	Track mounted hydraulic excavator with bucket capacity range of 1.5 to 2.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$155.28	80	\$12,422.40	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	50	\$6.00	Necessary for planning and documenting the location and number of features needed to meet targeted wildlife habitat criteria.	Scenario typical size is 50 acres.
Equipment/Installation	928	Dozer, 200 HP	Track mounted Dozer with horsepower range of 160 to 250. Equipment and power unit costs. Labor not included.	Hour	\$154.09	80	\$12,327.20	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	\$4.01	20	\$80.20	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	48	Excavation, Common Earth, side cast, small equipment	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$2.17	20	\$43.40	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$3.29	20	\$65.80	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Labor	230	Skilled Labor	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$42.23	80	\$3,378.40	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Labor	231	General Labor	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$22.79	80	\$1,823.20	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Labor	233	Equipment Operators, Heavy	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.76	80	\$3,020.80	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$44.00	80	\$3,520.00	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.41	20	\$748.20	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$43.59	20	\$871.80	Necessary for the installation of micro and macro topographic features.	Installation of features of high intensity and high complexity to bring habitat limiting factor quantity, quality and continuity of, forage, water, cover and shelter up to planning criteria.

