Practice: 400 - Bivalve Aquaculture Gear and Biofouling Control

Scenario: #34 - Infaunal Culture Yr-1

Scenario Description: This scenario describes the implementation of aquaculture gear and biofouling control on 1 acre of bivalves, usually clams, that are seeded IN the substrate of the ocean floor and tended and grown for two to three years until they reach marketable size. The planned practice will meet the current 400 standard. Implementation will result in the proper rate, method and timing of gear and biofouling controls, including increased level of monitoring, frequency of cleaning, cycling/rotating and hauling gear, disposing of waste gear, and keeping records demonstrating implementation of the 400 criteria. Payment for implementation is to defray the costs of redundant gear, increased labor above normal operating procedures and recordkeeping for the first year of the growth cycle.

Before Situation: Aquaculture gear (preditor exclusion apparatus) is overgrown with biofouling organisms; water flow and food supply is significantly reduced endagering shellfish health and growth. Increased drag increases risk of gear escaping into the marine environment; escaped gear presents entanglement hazards to marine wildlife. Organic loading and aquatic nuisance species release are potential negative impacts of in-water gear cleaning activities.

After Situation: Producer uses environmentally sound methods to maintain adequate water flow to bivalves by monitoring, minimizing and removing biofouling organisms. Damaged or excessively fouled gear is removed from the water and transported on-shore for cleaning or disposal.

Scenario Feature Measure: 20 beds/acre; 900sf/bed

Scenario Unit: Acre

Scenario Typical Size: 1

Total Scenario Cost: $3,797.80

Scenario Cost/Unit: $3,797.80

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
Labor						
General Labor	231	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	$23.74	160	$3,797.80

Practice: 400 - Bivalve Aquaculture Gear and Biofouling Control

Scenario: #35 - Infaunal Culture Yrs 2-3

Scenario Description: This scenario describes the implementation of aquaculture gear and biofouling control on 1 acre of bivalves, usually clams, that are seeded IN the substrate of the ocean floor and tended and grown for two to three years until they reach marketable size. The planned practice will meet the current 400 standard. Implementation will result in the proper rate, method and timing of gear and biofouling controls, including increased level of monitoring, frequency of cleaning, cycling/rotating and hauling gear, disposing of waste gear, and keeping records demonstrating implementation of the 400 criteria. Payment for implementation is to defray the costs of increased labor above normal operating procedures and recordkeeping for the second and third years of the growth cycle.

Before Situation: Aquaculture gear (preditor exclusion apparatus) is overgrown with biofouling organisms; water flow and food supply is significantly reduced endagering shellfish health and growth. Increased drag increases risk of gear escaping into the marine environment; escaped gear presents entanglement hazards to marine wildlife. Organic loading and aquatic nuisance species release are potential negative impacts of in-water gear cleaning activities.

After Situation: Producer uses environmentally sound methods to maintain adequate water flow to bivalves by monitoring, minimizing and removing biofouling organisms. Damaged or excessively fouled gear is removed from the water and transported on-shore for cleaning or disposal.

Scenario Feature Measure: 20 beds/acre; 900sf/bed

Scenario Unit: Acre

Scenario Typical Size: 1

Total Scenario Cost: $3,607.91

Scenario Cost/Unit: $3,607.91

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
Labor						
General Labor	231	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	$23.74	152	$3,607.91

Practice: 400 - Bivalve Aquaculture Gear and Biofouling Control

Scenario: #36 - 50,000 Epifaunal Culture Yr-1

Scenario Description: This scenario describes the implementation of aquaculture gear and biofouling control for raising 50,000 bivalves, usually oysters, ON or NEAR the substrate of the ocean floor, for three or more years until they reach marketable size. The planned practice will meet the current 400 standard. Implementation will result in the proper rate, method and timing of gear and biofouling controls, including increased level of monitoring, frequency of cleaning, cycling/rotating and hauling gear, disposing of waste gear, and keeping records demonstrating implementation of the 400 criteria. Payment for implementation is to defray the costs of redundant gear, increased labor above normal operating procedures and recordkeeping for the first year of the growth cycle.

Before Situation: Aquaculture gear (preditor exclusion apparatus) is overgrown with biofouling organisms; water flow and food supply is significantly reduced endagering shellfish health and growth. Increased drag increases risk of gear escaping into the marine environment; escaped gear presents entanglement hazards to marine wildlife. Organic loading and aquatic nuisance species release are potential negative impacts of in-water gear cleaning activities.

After Situation: Producer uses environmentally sound methods to maintain adequate water flow to bivalves by monitoring, minimizing and removing biofouling organisms. Damaged or excessively fouled gear is removed from the water and transported on-shore for cleaning or disposal.

Scenario Feature Measure: 50,000 bivalves

Scenario Unit: Each

Scenario Typical Size: 1

Total Scenario Cost: $5,696.71

Scenario Cost/Unit: $5,696.71

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
Labor						
General Labor	231	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	$23.74	240	$5,696.71

Practice: 400 - Bivalve Aquaculture Gear and Biofouling Control

Scenario: #37 - 50,000 Epifaunal Culture Yrs 2-3

Scenario Description: This scenario describes the implementation of aquaculture gear and biofouling control for raising 50,000 bivalves, usually oysters, ON or NEAR the substrate of the ocean floor, for three or more years until they reach marketable size. The planned practice will meet the current 400 standard. Implementation will result in the proper rate, method and timing of gear and biofouling controls, including increased level of monitoring, frequency of cleaning, cycling/rotating and hauling gear, disposing of waste gear, and keeping records demonstrating implementation of the 400 criteria. Payment for implementation is to defray the costs of increased labor above normal operating procedures and recordkeeping for the second and third years of the growth cycle.

Before Situation: Aquaculture gear (preditor exclusion apparatus) is overgrown with biofouling organisms; water flow and food supply is significantly reduced endagering shellfish health and growth. Increased drag increases risk of gear escaping into the marine environment; escaped gear presents entanglement hazards to marine wildlife. Organic loading and aquatic nuisance species release are potential negative impacts of in-water gear cleaning activities.

After Situation: Producer uses environmentally sound methods to maintain adequate water flow to bivalves by monitoring, minimizing and removing biofouling organisms. Damaged or excessively fouled gear is removed from the water and transported on-shore for cleaning or disposal.

Scenario Feature Measure: 50,000 bivalves

Scenario Unit: Each

Scenario Typical Size: 1

Total Scenario Cost: $5,696.71

Scenario Cost/Unit: $5,696.71

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
Labor						
General Labor	231	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	$23.74	240	$5,696.71

Practice: 400 - Bivalve Aquaculture Gear and Biofouling Control

Scenario: #38 - 100,000 Epifaunal Culture Yr-1

Scenario Description: This scenario describes the implementation of aquaculture gear and biofouling control for raising 100,000 bivalves, usually oysters, ON or NEAR the substrate of the ocean floor, for three or more years until they reach marketable size. The planned practice will meet the current 400 standard. Implementation will result in the proper rate, method and timing of gear and biofouling controls, including increased level of monitoring, frequency of cleaning, cycling/rotating and hauling gear, disposing of waste gear, and keeping records demonstrating implementation of the 400 criteria. Payment for implementation is to defray the costs of redundant gear, increased labor above normal operating procedures and recordkeeping for the first year of the growth cycle.

Before Situation: Aquaculture gear (preditor exclusion apparatus) is overgrown with biofouling organisms; water flow and food supply is significantly reduced endagering shellfish health and growth. Increased drag increases risk of gear escaping into the marine environment; escaped gear presents entanglement hazards to marine wildlife. Organic loading and aquatic nuisance species release are potential negative impacts of in-water gear cleaning activities.

After Situation: Producer uses environmentally sound methods to maintain adequate water flow to bivalves by monitoring, minimizing and removing biofouling organisms. Damaged or excessively fouled gear is removed from the water and transported on-shore for cleaning or disposal.

Scenario Feature Measure: 100,000 bivalves

Scenario Unit: Each

Scenario Typical Size: 1

Total Scenario Cost: $11,393.41

Scenario Cost/Unit: $11,393.41

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
Labor						
General Labor	231	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	$23.74	480	$11,393.41

Practice: 400 - Bivalve Aquaculture Gear and Biofouling Control

Scenario: #39 - 100,000 Epifaunal Culture Yrs 2-3

Scenario Description: This scenario describes the implementation of aquaculture gear and biofouling control for raising 100,000 bivalves, usually oysters, ON or NEAR the substrate of the ocean floor, for three or more years until they reach marketable size. The planned practice will meet the current 400 standard. Implementation will result in the proper rate, method and timing of gear and biofouling controls, including increased level of monitoring, frequency of cleaning, cycling/rotating and hauling gear, disposing of waste gear, and keeping records demonstrating implementation of the 400 criteria. Payment for implementation is to defray the costs of increased labor above normal operating procedures and recordkeeping for the second and third years of the growth cycle.

Before Situation: Aquaculture gear (preditor exclusion apparatus) is overgrown with biofouling organisms; water flow and food supply is significantly reduced endagering shellfish health and growth. Increased drag increases risk of gear escaping into the marine environment; escaped gear presents entanglement hazards to marine wildlife. Organic loading and aquatic nuisance species release are potential negative impacts of in-water gear cleaning activities.

After Situation: Producer uses environmentally sound methods to maintain adequate water flow to bivalves by monitoring, minimizing and removing biofouling organisms. Damaged or excessively fouled gear is removed from the water and transported on-shore for cleaning or disposal.

Scenario Feature Measure: 100,000 bivalves

Scenario Unit: Each

Scenario Typical Size: 1

Total Scenario Cost: $11,393.41

Scenario Cost/Unit: $11,393.41

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
Labor						
General Labor	231	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	$23.74	480	$11,393.41

Practice: 400 - Bivalve Aquaculture Gear and Biofouling Control

Scenario: #40 - 500,000 Epifaunal Culture Yr-1

Scenario Description: This scenario describes the implementation of aquaculture gear and biofouling control for raising 500,000 bivalves, usually oysters, ON or NEAR the substrate of the ocean floor, for three or more years until they reach marketable size. The planned practice will meet the current 400 standard. Implementation will result in the proper rate, method and timing of gear and biofouling controls, including increased level of monitoring, frequency of cleaning, cycling/rotating and hauling gear, disposing of waste gear, and keeping records demonstrating implementation of the 400 criteria. Payment for implementation is to defray the costs of redundant gear, increased labor above normal operating procedures and recordkeeping for the first year of the growth cycle.

Before Situation: Aquaculture gear (preditor exclusion apparatus) is overgrown with biofouling organisms; water flow and food supply is significantly reduced endagering shellfish health and growth. Increased drag increases risk of gear escaping into the marine environment; escaped gear presents entanglement hazards to marine wildlife. Organic loading and aquatic nuisance species release are potential negative impacts of in-water gear cleaning activities.

After Situation: Producer uses environmentally sound methods to maintain adequate water flow to bivalves by monitoring, minimizing and removing biofouling organisms. Damaged or excessively fouled gear is removed from the water and transported on-shore for cleaning or disposal.

Scenario Feature Measure: 500,000 bivalves

Scenario Unit: Each

Scenario Typical Size: 1

Total Scenario Cost: $56,967.06

Scenario Cost/Unit: $56,967.06

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
Labor						
General Labor	231	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	$23.74	2400	$56,967.06

Practice: 400 - Bivalve Aquaculture Gear and Biofouling Control

Scenario: #41 - 500,000 Epifaunal Culture Yrs 2-3

Scenario Description: This scenario describes the implementation of aquaculture gear and biofouling control for raising 500,000 bivalves, usually oysters, ON or NEAR the substrate of the ocean floor, for three or more years until they reach marketable size. The planned practice will meet the current 400 standard. Implementation will result in the proper rate, method and timing of gear and biofouling controls, including increased level of monitoring, frequency of cleaning, cycling/rotating and hauling gear, disposing of waste gear, and keeping records demonstrating implementation of the 400 criteria. Payment for implementation is to defray the costs of increased labor above normal operating procedures and recordkeeping for the second and third years of the growth cycle.

Before Situation: Aquaculture gear (preditor exclusion apparatus) is overgrown with biofouling organisms; water flow and food supply is significantly reduced endagering shellfish health and growth. Increased drag increases risk of gear escaping into the marine environment; escaped gear presents entanglement hazards to marine wildlife. Organic loading and aquatic nuisance species release are potential negative impacts of in-water gear cleaning activities.

After Situation: Producer uses environmentally sound methods to maintain adequate water flow to bivalves by monitoring, minimizing and removing biofouling organisms. Damaged or excessively fouled gear is removed from the water and transported on-shore for cleaning or disposal.

Scenario Feature Measure: 500,000 bivalves

Scenario Unit: Each

Scenario Typical Size: 1

Total Scenario Cost: $56,967.06

Scenario Cost/Unit: $56,967.06

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
Labor						
General Labor	231	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	$23.74	2400	$56,967.06

Practice: 400 - Bivalve Aquaculture Gear and Biofouling Control

Scenario: #42 - 1 mil Epifaunal Culture Yr-1

Scenario Description: This scenario describes the implementation of aquaculture gear and biofouling control for raising >= 1 million bivalves, usually oysters, ON or NEAR the substrate of the ocean floor, for three or more years until they reach marketable size. The planned practice will meet the current 400 standard. Implementation will result in the proper rate, method and timing of gear and biofouling controls, including increased level of monitoring, frequency of cleaning, cycling/rotating and hauling gear, disposing of waste gear, and keeping records demonstrating implementation of the 400 criteria. Payment for implementation is to defray the costs of redundant gear, increased labor above normal operating procedures and recordkeeping for the first year of the growth cycle.

Before Situation: Aquaculture gear (preditor exclusion apparatus) is overgrown with biofouling organisms; water flow and food supply is significantly reduced endagering shellfish health and growth. Increased drag increases risk of gear escaping into the marine environment; escaped gear presents entanglement hazards to marine wildlife. Organic loading and aquatic nuisance species release are potential negative impacts of in-water gear cleaning activities.

After Situation: Producer uses environmentally sound methods to maintain adequate water flow to bivalves by monitoring, minimizing and removing biofouling organisms. Damaged or excessively fouled gear is removed from the water and transported on-shore for cleaning or disposal.

Scenario Feature Measure: 1 million bivalves

Scenario Unit: Each

Scenario Typical Size: 1

Total Scenario Cost: $113,934.12

Scenario Cost/Unit: $113,934.12

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
Labor						
General Labor	231	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	$23.74	4800	$113,934.12

Practice: 400 - Bivalve Aquaculture Gear and Biofouling Control

Scenario: #43 - Epifaunal Culture

Scenario Description: This scenario describes the implementation of aquaculture gear and biofouling control for raising >=1 million bivalves, usually oysters, ON or NEAR the substrate of the ocean floor, for three or more years until they reach marketable size. The planned practice will meet the current 400 standard. Implementation will result in the proper rate, method and timing of gear and biofouling controls, including increased level of monitoring, frequency of cleaning, cycling/rotating and hauling gear, disposing of waste gear, and keeping records demonstrating implementation of the 400 criteria. Payment for implementation is to defray the costs of increased labor above normal operating procedures and recordkeeping for the second and third years of the growth cycle.

Before Situation: Aquaculture gear (preditor exclusion apparatus) is overgrown with biofouling organisms; water flow and food supply is significantly reduced endagering shellfish health and growth. Increased drag increases risk of gear escaping into the marine environment; escaped gear presents entanglement hazards to marine wildlife. Organic loading and aquatic nuisance species release are potential negative impacts of in-water gear cleaning activities.

After Situation: Producer uses environmentally sound methods to maintain adequate water flow to bivalves by monitoring, minimizing and removing biofouling organisms. Damaged or excessively fouled gear is removed from the water and transported on-shore for cleaning or disposal.

Scenario Feature Measure: 1 million bivalves

Scenario Unit: Each

Scenario Typical Size: 1

Total Scenario Cost: $113,934.12

Scenario Cost/Unit: $113,934.12

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
Labor						
General Labor	231	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	$23.74	4800	$113,934.12