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* Modified from the network diagram in the Programmatic Environmental Assessment for EQIP to reflect regional use and conditions. See http://www.nrcs.usda.gov/programs/Env_Assess/EQIP/EQIP.html for original diagrams.

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[▫] Addition to the network diagram for Pest Management in the Programmatic Environmental Assessment for EQIP, modified specifically to include treatment of invasive species.
See http://www.nrcs.usda.gov/programs/Env_Assess/EQIP/EQIP.html for original diagram regarding treatment of other resource concerns.

[*] Modified from the network diagram in the Programmatic Environmental Assessment for EQIP to reflect regional use and conditions. See http://www.nrcs.usda.gov/programs/Env_Assess/EQIP/EQIP.html for original diagrams.

ACCESS ROAD

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 560

ACCESS ROAD

Access roads are travel-ways for equipment and vehicles constructed as part of a conservation plan.

PRACTICE INFORMATION

Access roads are installed to provide a fixed route for vehicular travel for resource management activities while protecting the soil, water, air, fish, wildlife and other adjacent natural resources. Access roads range from seasonal use roads, designed for low speed and rough driving conditions, to all-weather roads heavily used by the public and designed with safety as a high priority.

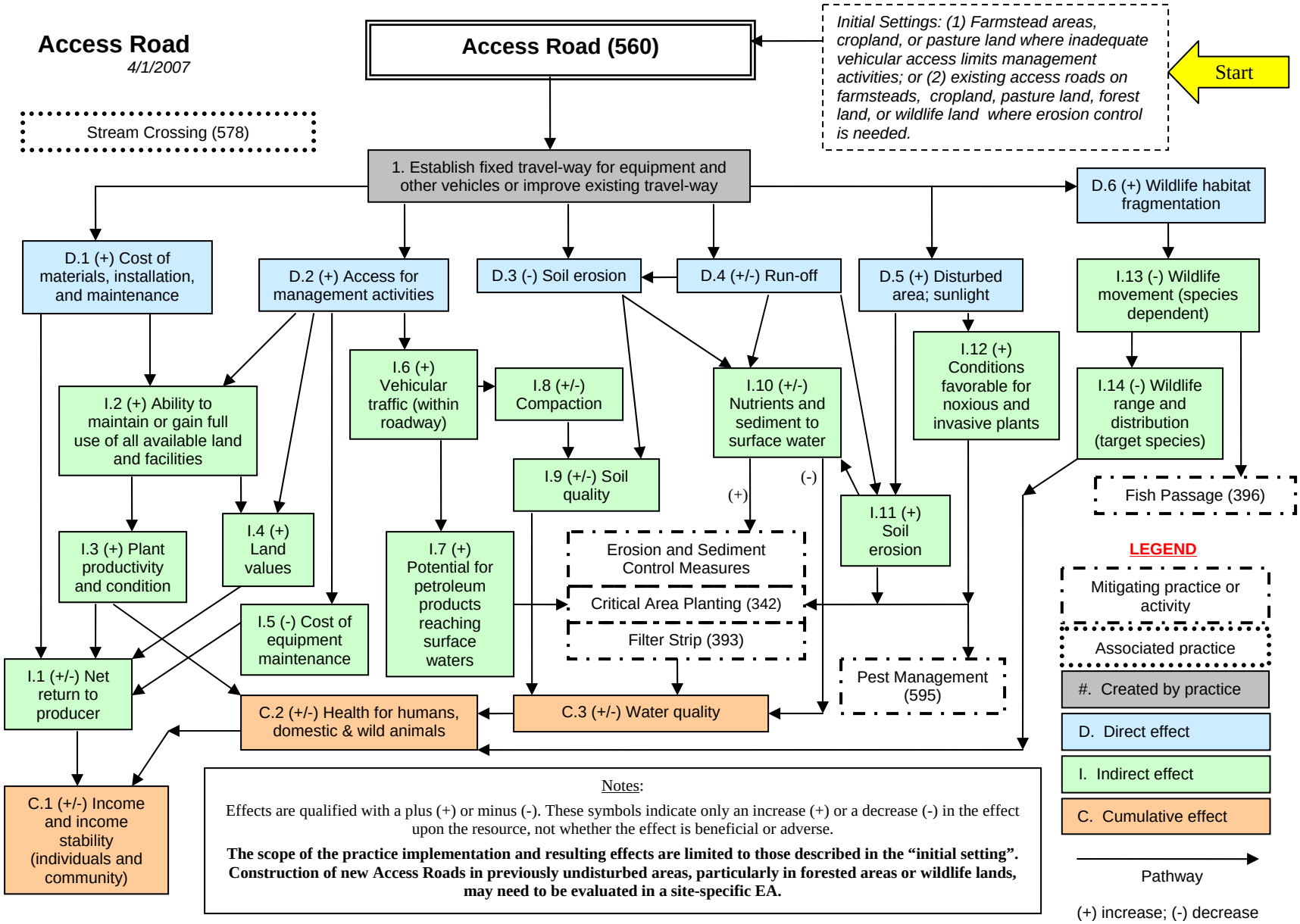
Access roads are designed to serve the enterprise or planned use with the expected vehicular or equipment traffic. The type of vehicle or equipment, speed, loads, soil, climatic, and other conditions under which vehicles and equipment are expected to operate must be considered. Planned work must also comply with all Federal, state and local laws and regulations. Where general public use is anticipated, roads must be designed to meet applicable Federal, state and local criteria.

COMMON ASSOCIATED PRACTICES

Access roads are applied as part of Conservation Management Systems on various landuses, including headquarters areas, cropland, pasture, and forest land. The practices associated with access roads will vary by land use but may include Stream Crossings, Critical Area Planting, Fish Passage, and various practices associated with runoff and erosion control.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowners and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.



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ANAEROBIC DIGESTER, CONTROLLED TEMPERATURE

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 313

ANAEROBIC DIGESTER, CONTROLLED TEMPERATURE

A Controlled Temperature Anaerobic Digester is a managed temperature waste treatment facility.

PRACTICE INFORMATION

A Controlled Temperature Anaerobic Digester biologically treats waste as a component of an agricultural waste management system. It can be used to:

- Produce biogas for energy production,
- Reduce odors,
- Reduce greenhouse gas emissions,
- Reduce pathogens, and
- Improve nutrient management.

Design criteria for this practice include: site location, digester volume and retention time, flow rates, heating system, methane yield, 12-month energy budget, and process control and monitoring. An operation and maintenance plan is developed specifically for each system.

COMMON ASSOCIATED PRACTICES

This practice is commonly applied as part of a Conservation Management System with a Waste Storage Facility, Waste Utilization, Manure Transfer Critical Area Planting, Nutrient Management, and other practices. Visual screening measures may also be used where aesthetics are a concern.

Refer to the practice standard in the local Field Office Technical Guide and associated practice specifications for further information.

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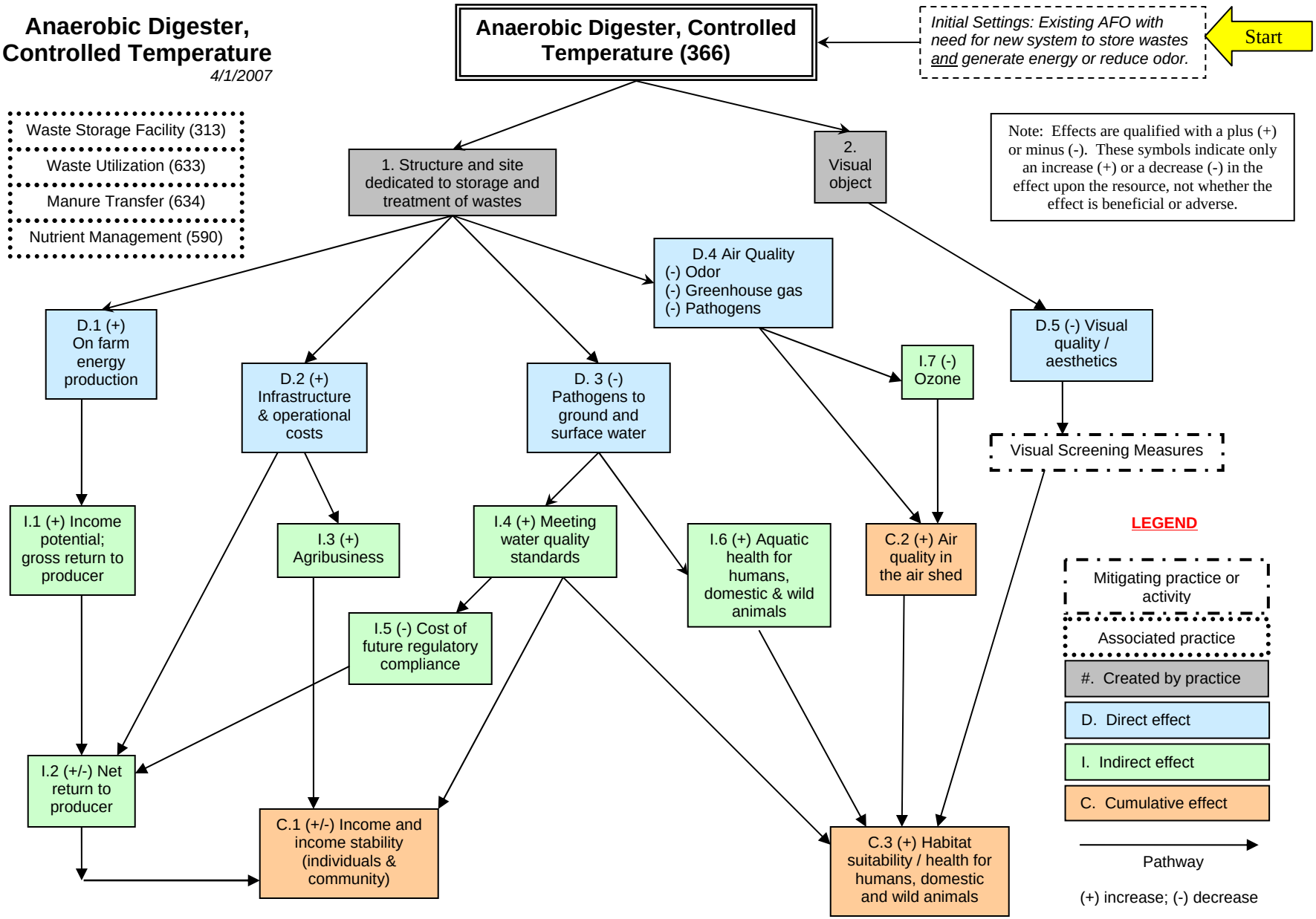

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BRUSH MANAGEMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 314

BRUSH MANAGEMENT

Brush management is the removal, reduction, or manipulation of tree and shrub species.

PRACTICE INFORMATION

Brush Management is designed to achieve the optimum level of control of the target woody species and protection of the desired species. This is accomplished by mechanical, chemical, biological, or a combination of these techniques. The practice is also planned and applied to meet the habitat requirements of fish and wildlife.

Brush Management is applied to accomplish one or more of the following:

1. Restore natural plant community balance;
2. Create the desired plant community;
3. Reduce competition for space, moisture and sunlight to favor the desired species;
4. Manage noxious woody plants;
5. Restore vegetation to control erosion and sedimentation, improve water quality, and enhance stream flow;
6. Maintain or enhance wildlife habitat including habitat for threatened and endangered species;
7. Improve forage accessibility, quality, and quantity for domestic and wild animals;
8. Protect life and property from wildfire; and
9. Improve visibility and access for handling livestock.

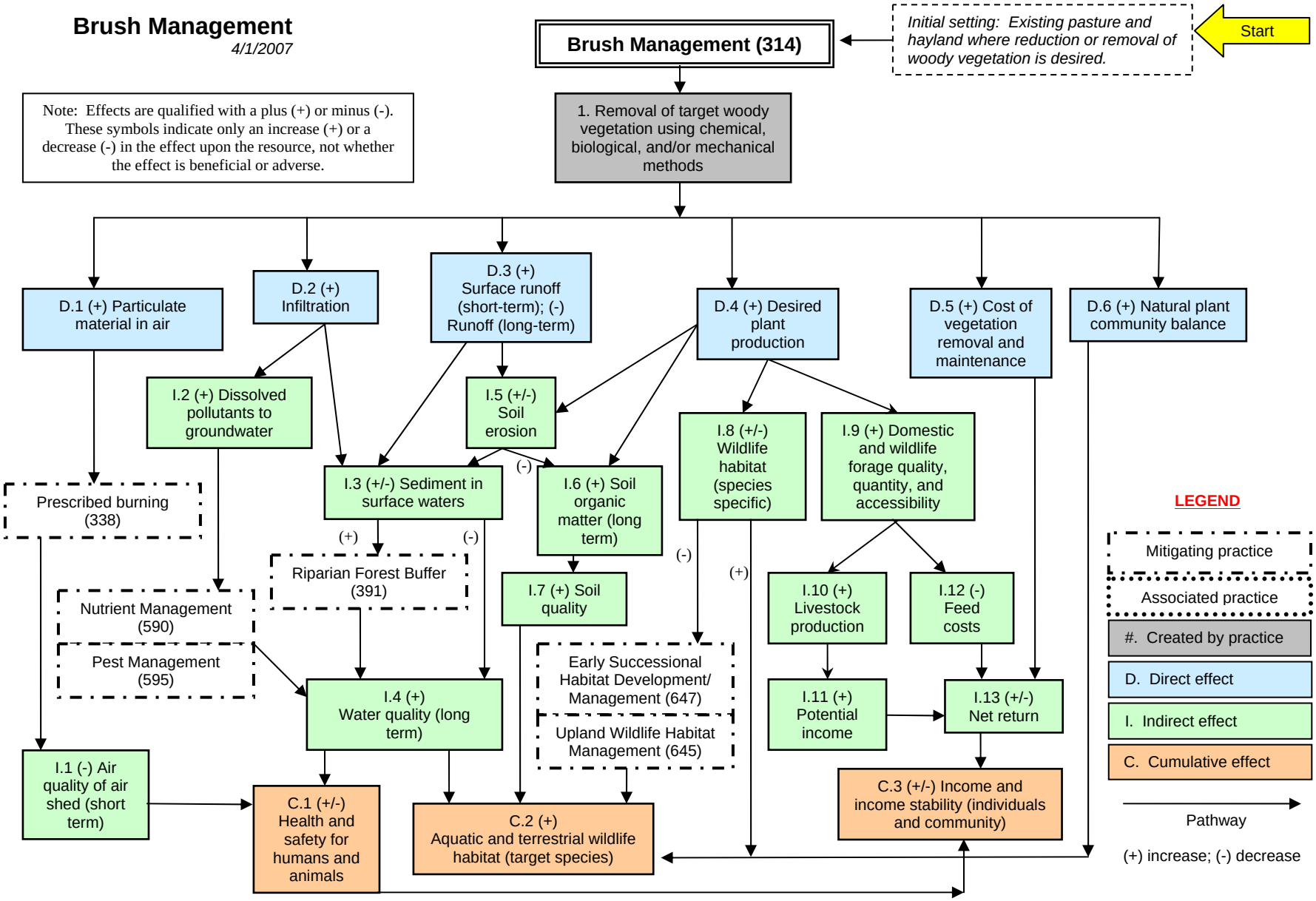
COMMON ASSOCIATED PRACTICES

Brush Management is commonly used in a Conservation Management System with the following practices:

- Pest Management,
- Prescribed Grazing.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowners and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.



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BRUSH MANAGEMENT (BLUEBERRY PRODUCTION)

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 314

BRUSH MANAGEMENT

Brush management is removal, reduction, or manipulation of tree and shrub species.

PRACTICE INFORMATION

This is a multipurpose practice applied on blueberry land where tree and/or shrub species are competing with blueberry species.

The brush management practice is designed to achieve the optimum level of control of the target woody species and protection of the desired species. This is accomplished by mechanical, chemical, biological, or a combination of these techniques. The practice is also planned and applied to meet the habitat requirements of fish and wildlife.

Brush Management is applied to accomplish one or more of the following: restore natural plant community balance; create the desired plant community; reduce competition for space, moisture and sunlight to favor the desired species; manage noxious woody plants; restore vegetation to control erosion and sedimentation; improve air quality; improve water quality; enhance stream flow; and maintain or enhance wildlife habitat including habitat for threatened and endangered species.

COMMON ASSOCIATED PRACTICES

Brush Management is commonly used in a Conservation Management System with the following practices:

- Pest Management,
- Nutrient Management,
- Atmospheric Resource Quality Management.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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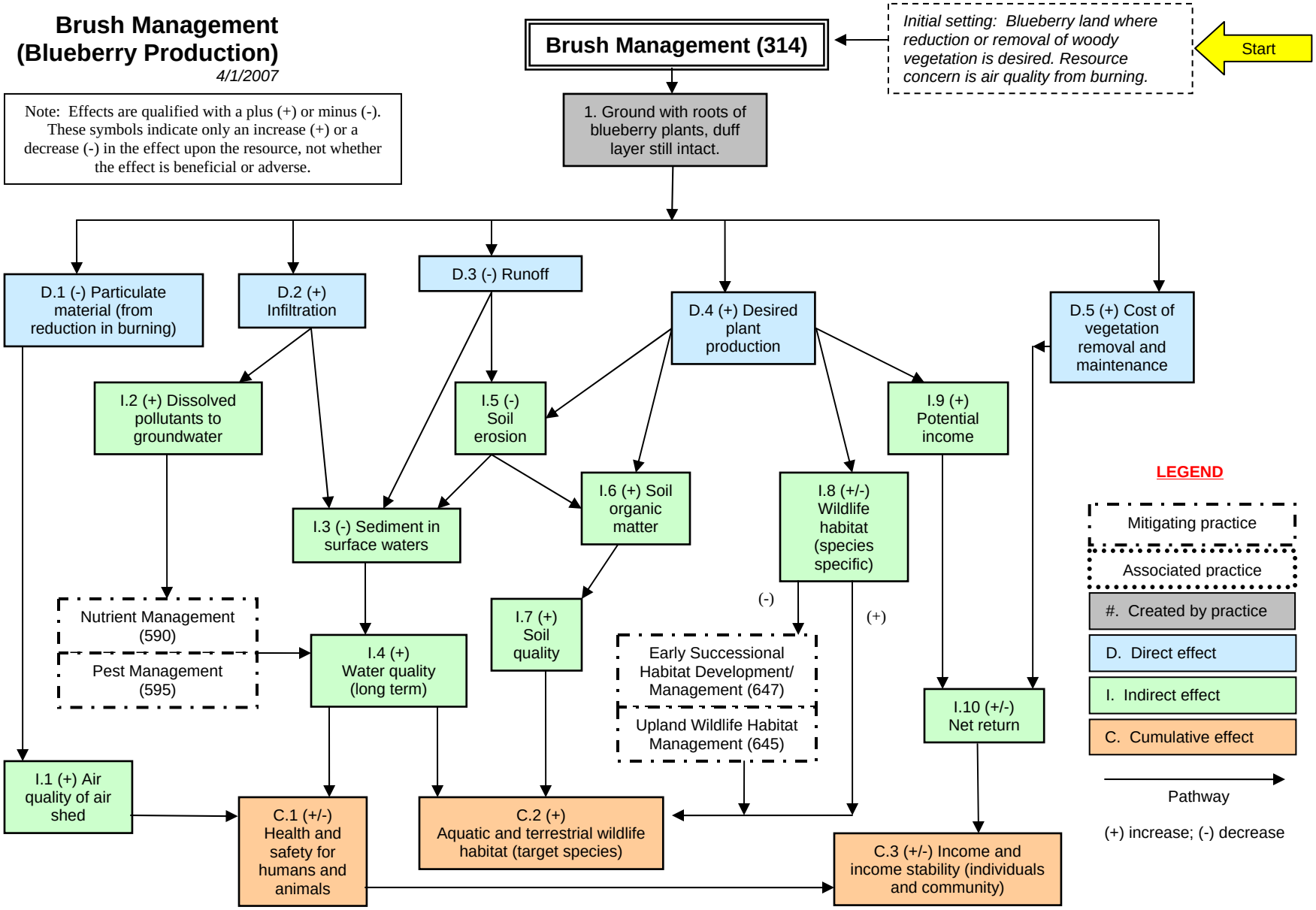

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CONSERVATION COVER

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 327

CONSERVATION COVER

Conservation Cover is establishing and maintaining perennial vegetative cover to protect soil and water resources on land retired from agricultural production or other lands needing permanent protective cover that will not be used for forage production.

PRACTICE INFORMATION

The purposes of this practice include:

- Reduced soil erosion and sedimentation,
- Enhancement of wildlife habitat, and
- Improved water quality.

Conservation cover applies on land to be retired from agricultural production and on other lands needing permanent protective cover. It does not apply to plantings for forage production or to critical area plantings.

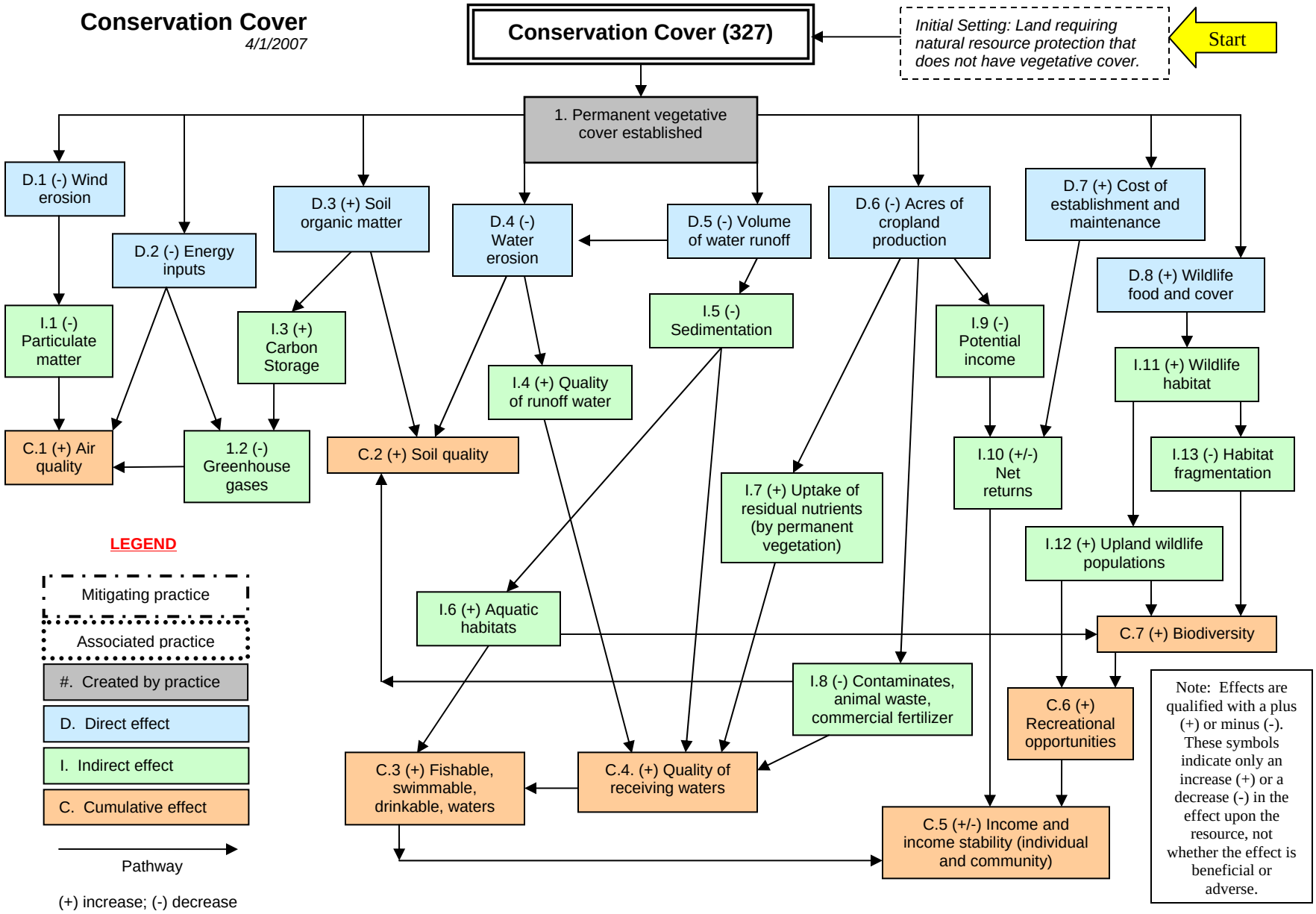
COMMON ASSOCIATED PRACTICES

Conservation cover is commonly used in a Conservation Management System with the following practices:

- Brush Management (314),
- Critical Area Planting (342),
- Fence (382),
- Tree and Shrub Establishment (612),
- Upland Wildlife Habitat Management (645),
- Use Exclusion (472).

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowners and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.



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CONTOUR ORCHARD AND OTHER FRUIT AREAS

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 331

CONTOUR ORCHARD AND OTHER FRUIT AREAS

Contour orchard and other fruit area is the practice of planting orchards, vineyards, or small fruit and nut crops so that all cultural operations are done on the contour.

PRACTICE INFORMATION

This practice is used on sloping land to conserve and protect soil, water, and related natural resources. Contouring orchards and vineyards is especially helpful in fields where permanent cover has not been established between the rows of plants. Contouring decreases surface runoff, increases infiltration of moisture, and reduces soil erosion. The practice also benefits equipment operation, improves aesthetics, and reduces pollution hazards.

Planting orchards and fruit areas on the contour generally requires a bench or terrace to be constructed to provide access to the growing trees or shrubs.

COMMON ASSOCIATED PRACTICES

Contour orchard and other fruit areas are commonly used in Conservation Management Systems with Access Road, Diversions, Grassed Waterways, Underground Outlets, Conservation Cover, Nutrient Management, Pest Management, and other conservation practices

Refer to the practice standard in the local NRCS Field Office Technical Guide and associated specifications and design criteria for more information.

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Contour Orchard and Other Fruit Areas

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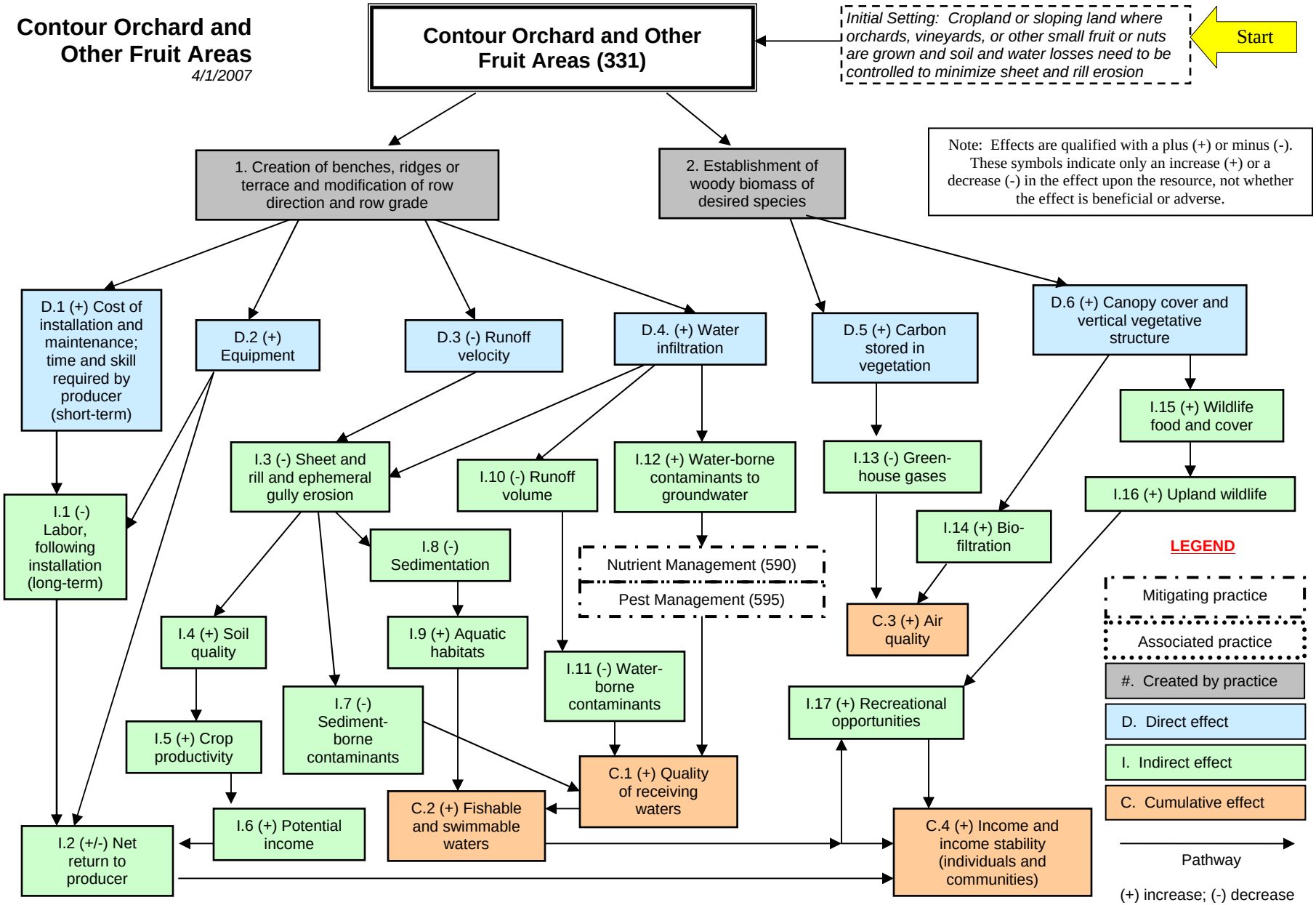

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DEEP TILLAGE

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 324

DEEP TILLAGE

Deep tillage means performing tillage operations below the normal tillage depth to modify the physical or chemical properties of a soil. It includes tillage operations commonly referred to as deep plowing, subsoiling, ripping, or row-till, performed from time to time below the normal tillage depth.

PRACTICE INFORMATION

Deep tillage is conducted on land having adverse soil conditions that inhibit plant growth, such as compacted layers formed by field operations, restrictive layers such as claypans, overwash, or deposits from wind and water erosion or flooding, or contaminants in the root zone.

The soil moisture content is very important factor to consider when performing deep tillage operations. Soil moisture should be less than 30 percent of field capacity at the maximum depth of tillage.

COMMON ASSOCIATED PRACTICES

Transport of sediment-borne pollutants off-site can be reduced when this practice is used in a Conservation Management System. On cropland, deep tillage is commonly used with Conservation Crop Rotation, Residue Management, Contour Farming, Irrigation Water Management, Cover Crops, Nutrient Management, Pest Management, and other conservation practices. On grazing lands, deep tillage may be used with Prescribed Grazing and other pasture management practices.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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Deep Tillage

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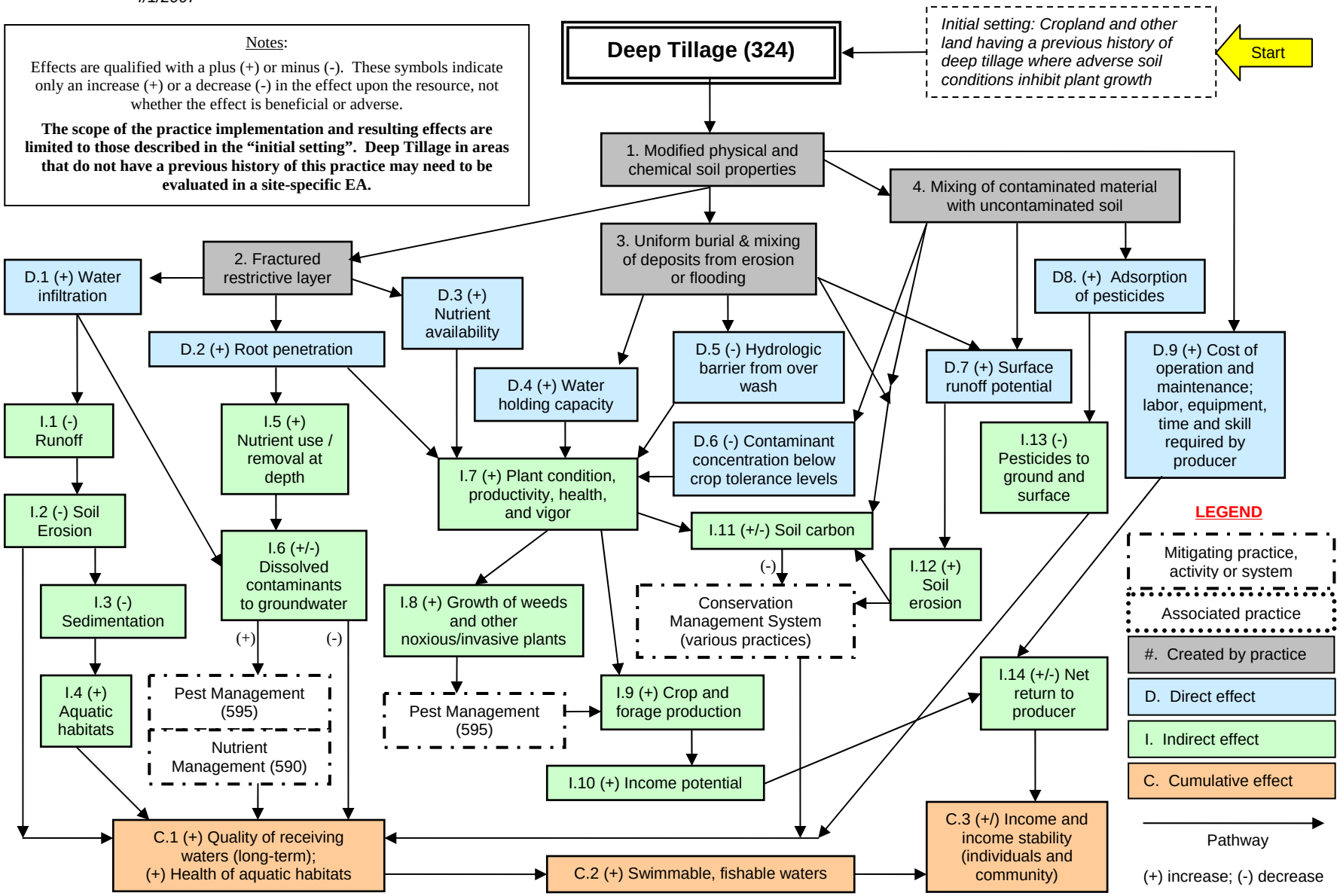

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DIKE

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 356

PRACTICE NAME

A dike is an embankment constructed of earthen or other suitable material to protect land against overflow or to regulate water.

PRACTICE INFORMATION

Dikes or levees can be used where the control of water level is desired. They are used to prevent or reduce flood damage to people and property, for flow control in conjunction with floodways, to impound or regulate water for fish and wildlife management, or to manage water for cranberry production.

Dikes for cranberry water management include perimeter and interior dikes to temporarily impound water for harvesting, trash removal, pest control, winter flooding or other management purposes.

Dikes are used to prevent wetlands and to form wetlands. The formed areas may be fresh, brackish or saltwater wetlands. In tidal areas dikes are used to stop saltwater intrusion, and to increase the hydraulic head of fresh water which will force intruded saltwater out the aquifer.

COMMON ASSOCIATED PRACTICES

Dikes are commonly used in a Conservation Management System with the following practices:

- Structure for Water Control,
- Land Smoothing,
- Irrigation Water Management,
- Nutrient Management,
- Pest Management.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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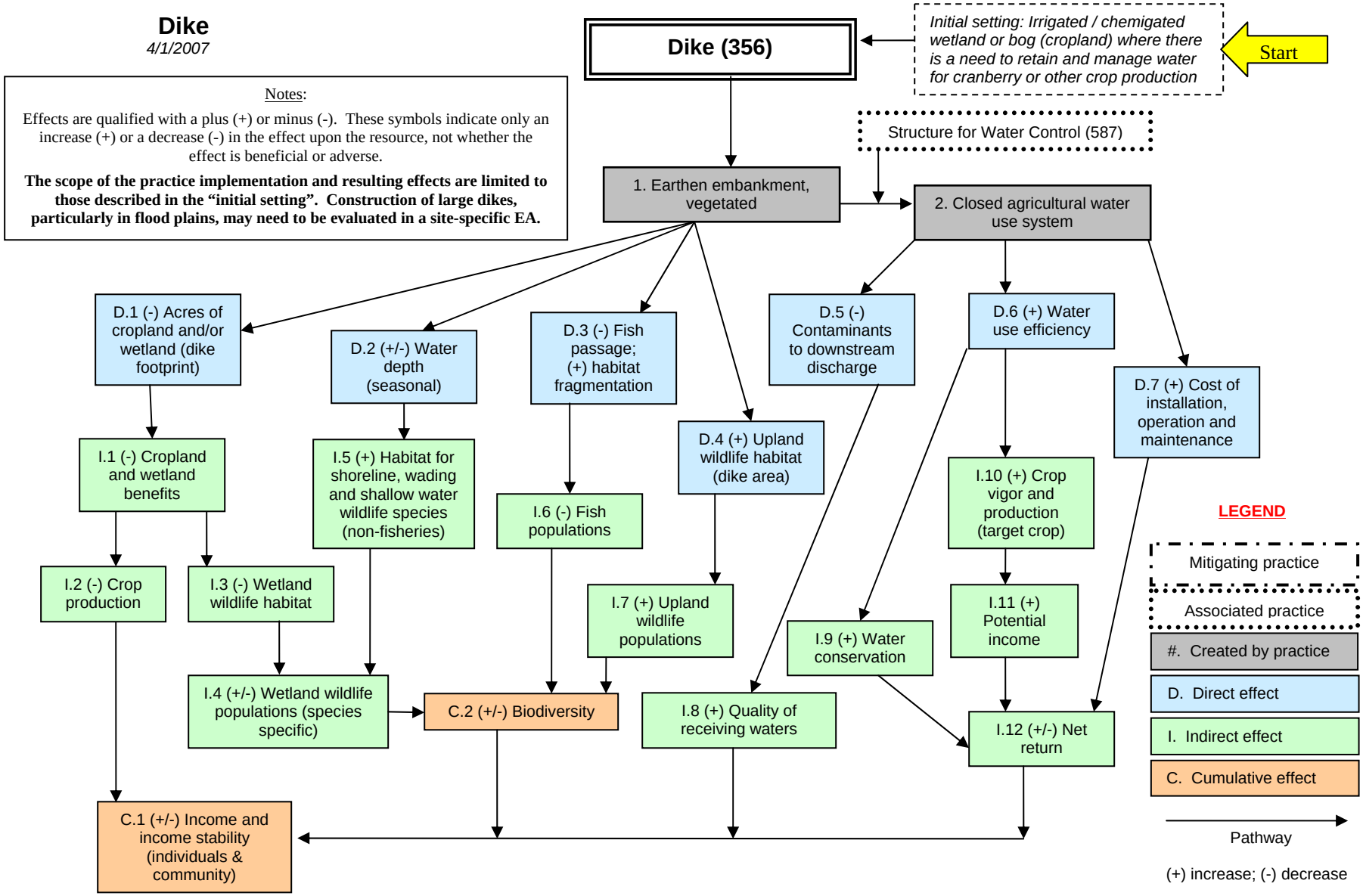

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EARLY SUCCESSIONAL HABITAT DEVELOPMENT/MANAGEMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 647

EARLY SUCCESSIONAL HABITAT DEVELOPMENT/MANAGEMENT

Early successional habitat development/ management is the removal, reduction, or manipulation of plant communities to benefit wildlife or other natural communities dependent upon an early stage of plant succession.

PRACTICE INFORMATION

This practice can be applied on a variety of land uses to increase plant community diversity and provide habitat for early successional species. This is usually accomplished by periodic vegetative disturbance, which may be mechanical, chemical, biological, or a combination of these techniques. Early successional habitat development and management is applied to accomplish one or more of the following:

- Create the desired plant community;
- Reduce competition for space, moisture and sunlight to favor the desired species;
- Manage noxious woody plants;
- Restore vegetation to control erosion and sedimentation, improve water quality, and enhance stream flow;
- Maintain or enhance wildlife habitat including habitat for threatened and endangered species;
- Improve forage accessibility, quality, and quantity for domestic and wild animals; and
- Protect life and property from wildfire.

COMMON ASSOCIATED PRACTICES

Early successional habitat development/ management is commonly used in a Conservation Management System with the following practices: Field Borders, Forage Harvest Management, Land Clearing, Pest Management, Tree and Shrub Planting, and Upland Wildlife Habitat Management.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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Early Successional Habitat Development/Management

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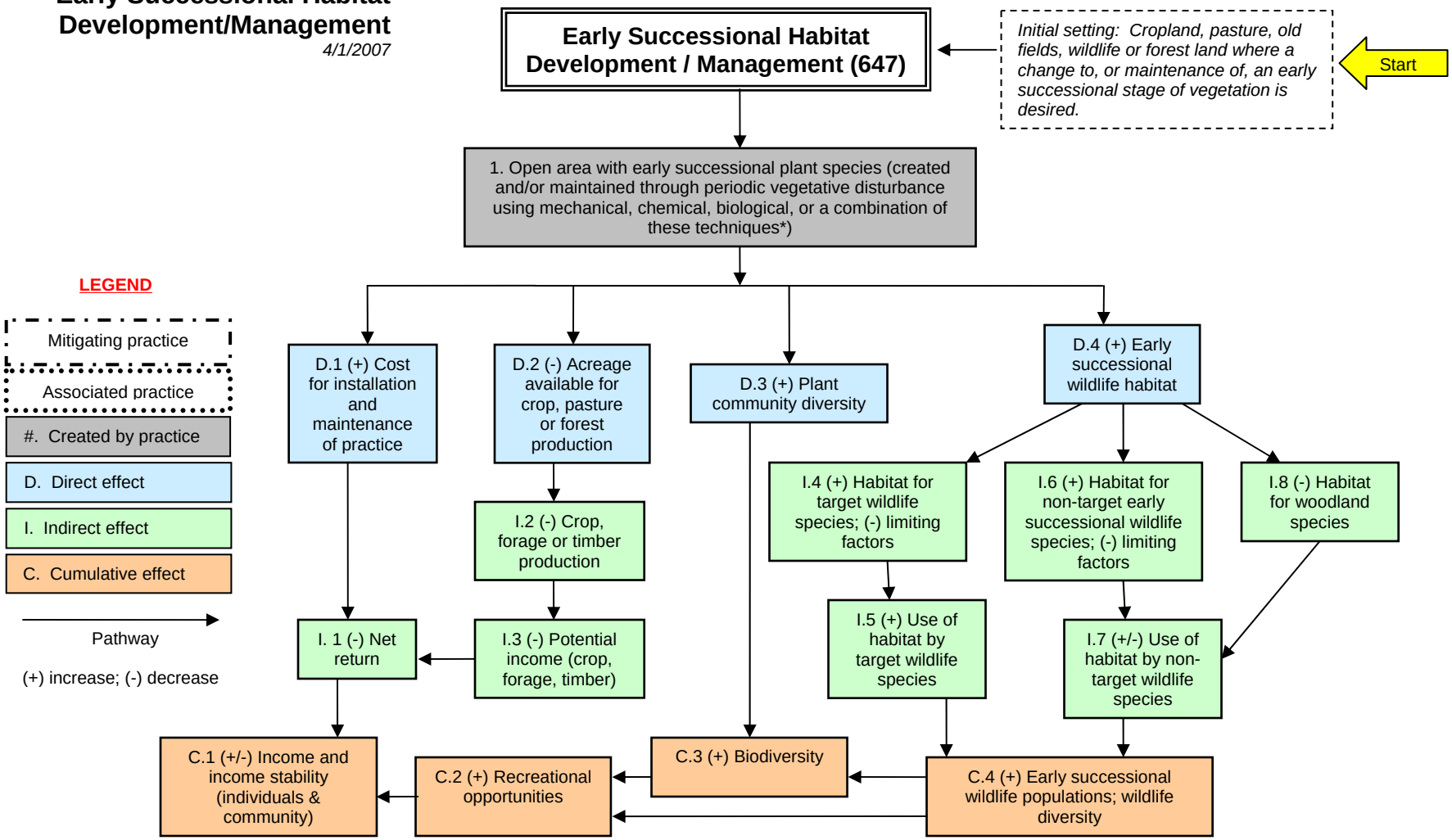

Notes:

Effects are qualified with a plus (+) or minus (-). These symbols indicate only an increase (+) or a decrease (-) in the effect upon the resource, not whether the effect is beneficial or adverse.

* See network diagrams for individual component practices for impacts (e.g., Prescribed Burning).

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FENCE

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 382

FENCE

A fence is a constructed barrier to livestock, wildlife, or people

PRACTICE INFORMATION

This practice may be applied to any area where livestock and/or wildlife control is needed, or where access to people is to be regulated.

A wide variety of types of fencing has developed. However, fencing material and construction quality is always designed and installed to assure the fence will meet the intended purpose and longevity requirements of the project.

The standard fence is constructed of either barbed or smooth wire suspended by posts with support structures. Other types include woven wire for small animals, electric fence as a cost efficient alternative, and suspension fences which are designed with heavy but widely-spaced posts and support structures. Designs for most types of fences are available at the local NRCS field office.

Things to consider when planning a fence include the following:

1. For ease of maintenance, avoidance of as much irregular terrain as possible;
2. Wildlife movement needs;
3. State and local laws that may apply to boundary fences;
4. Livestock handling, watering and feeding requirements;
5. Soil erosion potential and feasibility of fence construction when planning fences on steep or irregular terrain.

COMMON ASSOCIATED PRACTICES

Fence is commonly used in a Conservation Management System with the following practices:

- Prescribed Grazing,
- Use Exclusion.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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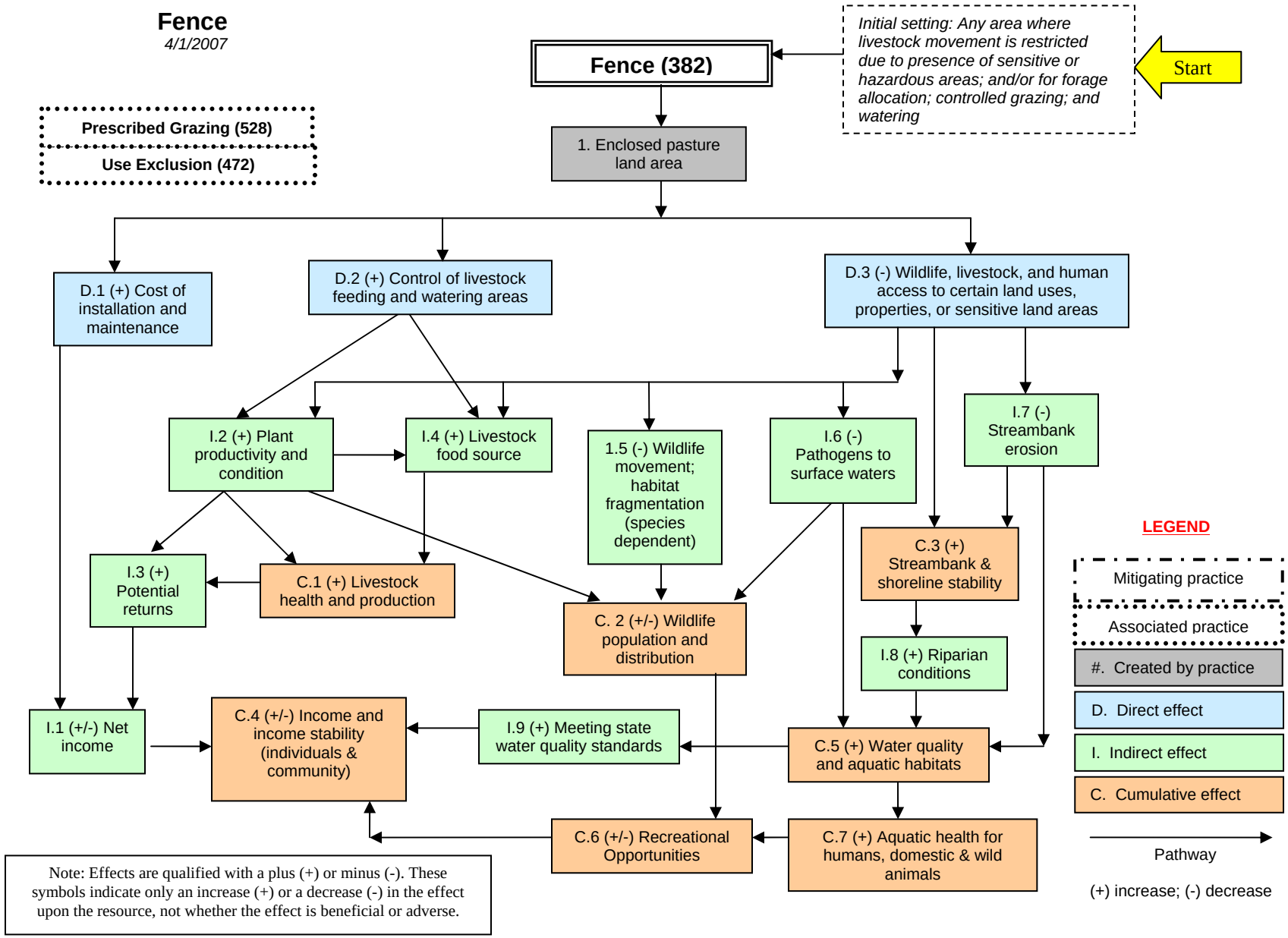

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FIELD BORDER

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 386

FIELD BORDER

Field borders are strips of permanent vegetation established at the edge or around the perimeter of a field.

PRACTICE INFORMATION

This practice can be used in at the edges of cropland fields, on recreation land or other land uses where agronomic crops are grown. Field borders can:

- Connect grassed waterways, riparian forest buffers, other vegetated areas and buffers, for ease of maintenance, harvest, and/or wildlife use;
- Establish a setback for other conservation practices;
- Protect field edges used for equipment turning, loading and unloading, and travel lanes; and
- Control competition by woody vegetation from adjacent areas.

Field borders are multi-purpose practices that will serve one or more of the following functions:

1. Reduce wind and water erosion;
2. Protect soil and water quality;
3. Assist in management of harmful insect populations;
4. Provide wildlife food and cover;
5. Provide tree or shrub products;
6. Increase carbon storage in biomass and soils; and
7. Improve air quality.

COMMON ASSOCIATE PRACTICES

Field borders are often used in a Conservation Management System conjunction with:

- Any form of tillage utilizing residue management;
- Conservation Crop Rotations;
- Early Successional Habitat Development/Management; and
- Upland or Wetland Wildlife Habitat Management

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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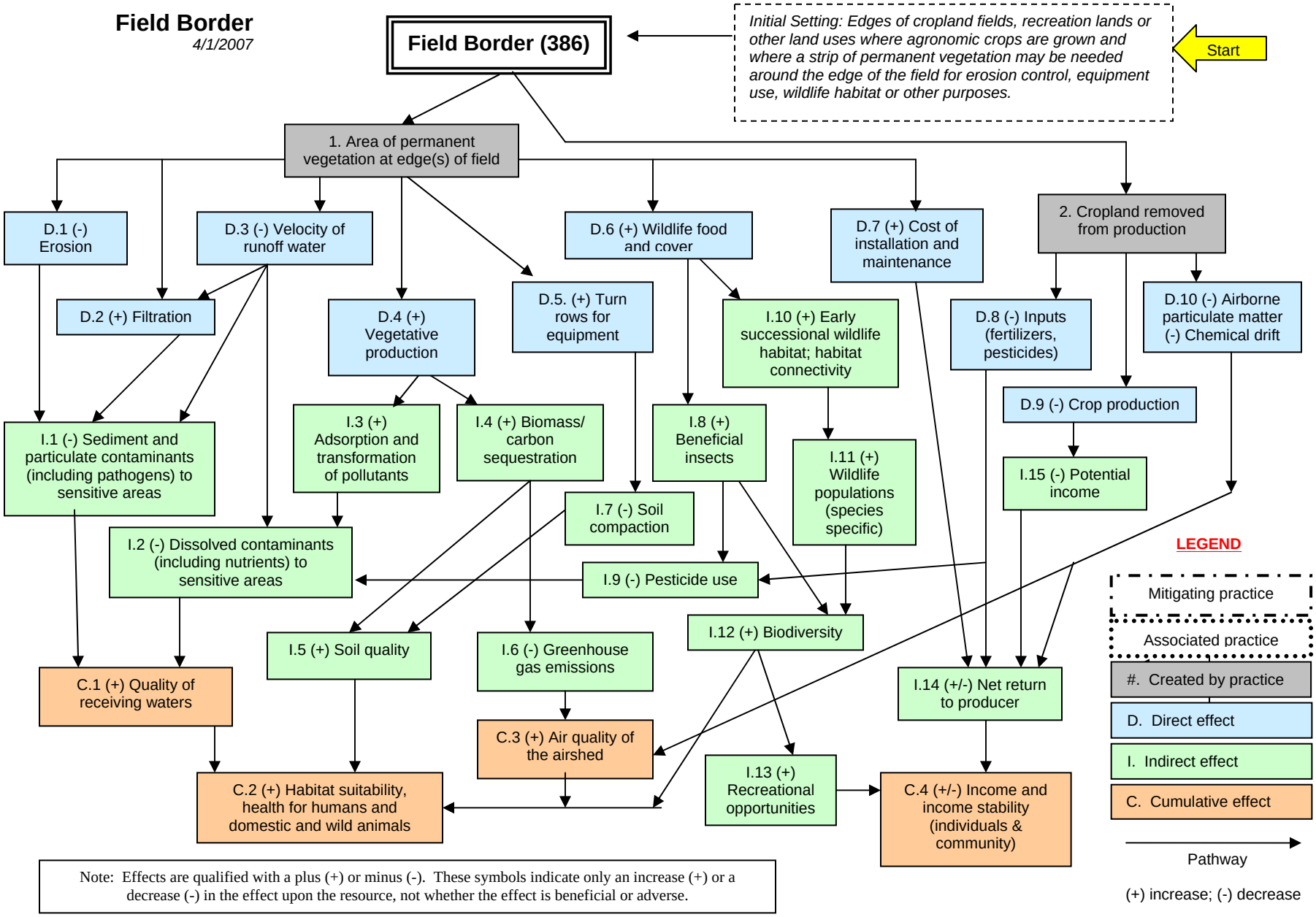

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The diagram above identifies the effects expected to occur when this practice is applied according to NRCS practice standards and specifications. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowners and are presumed to have been obtained. All income changes are partially dependent upon market fluctuations which are independent of the conservation practices. Users are cautioned that these effects are estimates that may or may not apply to a specific site.

FIREBREAK

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 394

Photo by Steve Nix. Citation credit: http://forestry.about.com/od/fireinforests/ig/wildfire-/The-Fire-Break.htm

FIREBREAK

A permanent or temporary strip of bare or vegetated ground designed to allow for the removal and management of fuel to prevent the progress of forest fires and provide access to inner areas of the forest to fight such fires.

PRACTICE INFORMATION

This is best designed with a qualified/certified forester. It is applied on forest land where protection from fire is needed or prescribed burning is recommended.

The vegetation in the firebreak should be fire-resistant and non-invasive. An alternative is to maintain the firebreak as bare ground.

The firebreaks need to be of sufficient length and width to contain a possible fire. Knowledge of forest fire history and behavior is helpful in locating the break.

Erosion control measures must be incorporated into the design where the firebreaks will be installed on sloping ground. Vehicle access should be limited as much as possible to prevent damage to the firebreak that would hinder access during emergencies.

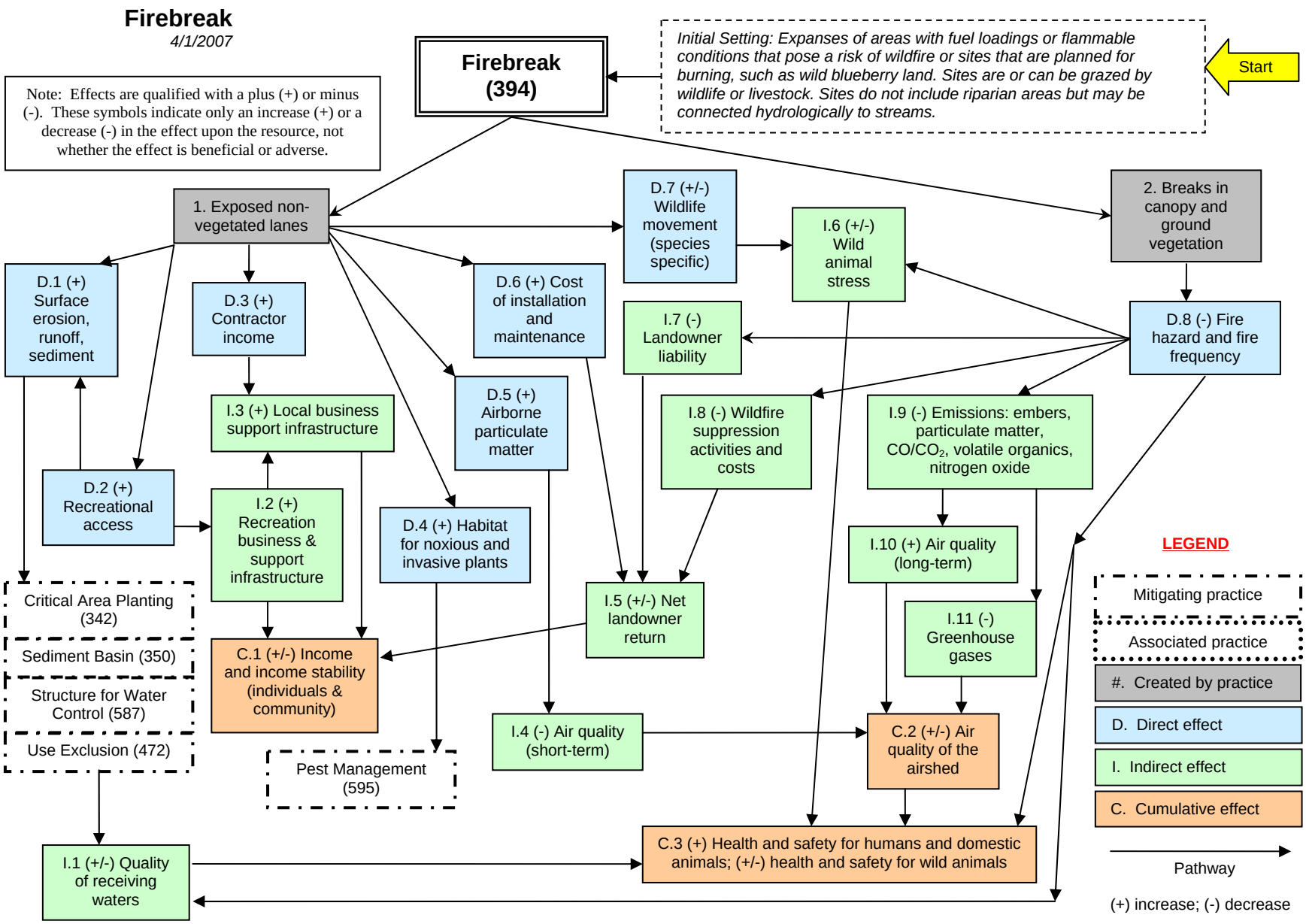
COMMON ASSOCIATED PRACTICES

Firebreaks are commonly used in a Conservation Management System with the following practices:

- Prescribed Burning;
- Forest Trails and Landings;
- Forest Stand Improvement;
- Tree and Shrub Planting.

For more information refer to the practice standard in the NRCS Field Office Technical Guide and associated specifications and design criteria.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowners and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.



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FISH PASSAGE

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 396

FISH PASSAGE

Fish Passage is the modification or removal of barriers that restrict or prevent movement or migration of fish. A fish passage allows fish to move upstream and downstream.

PRACTICE INFORMATION

The purpose of this practice is to allow upstream and downstream movement of fish past barriers where feasible or desirable.

This practice applies to all rivers, streams, and outlets of ponds or lakes where barriers impede desired fish passage. Modification or removal of barriers, particularly on large river systems, may significantly affect hydrology, for example by creating impoundments or increasing seasonal inundation in the floodplain. The context and intensity of these impacts must be considered when planning any project involving a fish passage.

COMMON ASSOCIATED PRACTICES

Fish Passage is commonly used in a Conservation Management System with the following practices:

- Obstruction Removal,
- Riparian Buffer,
- Streambank and Shoreline Protection,
- Stream Habitat Improvement and Management.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowner and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.

Fish Passage

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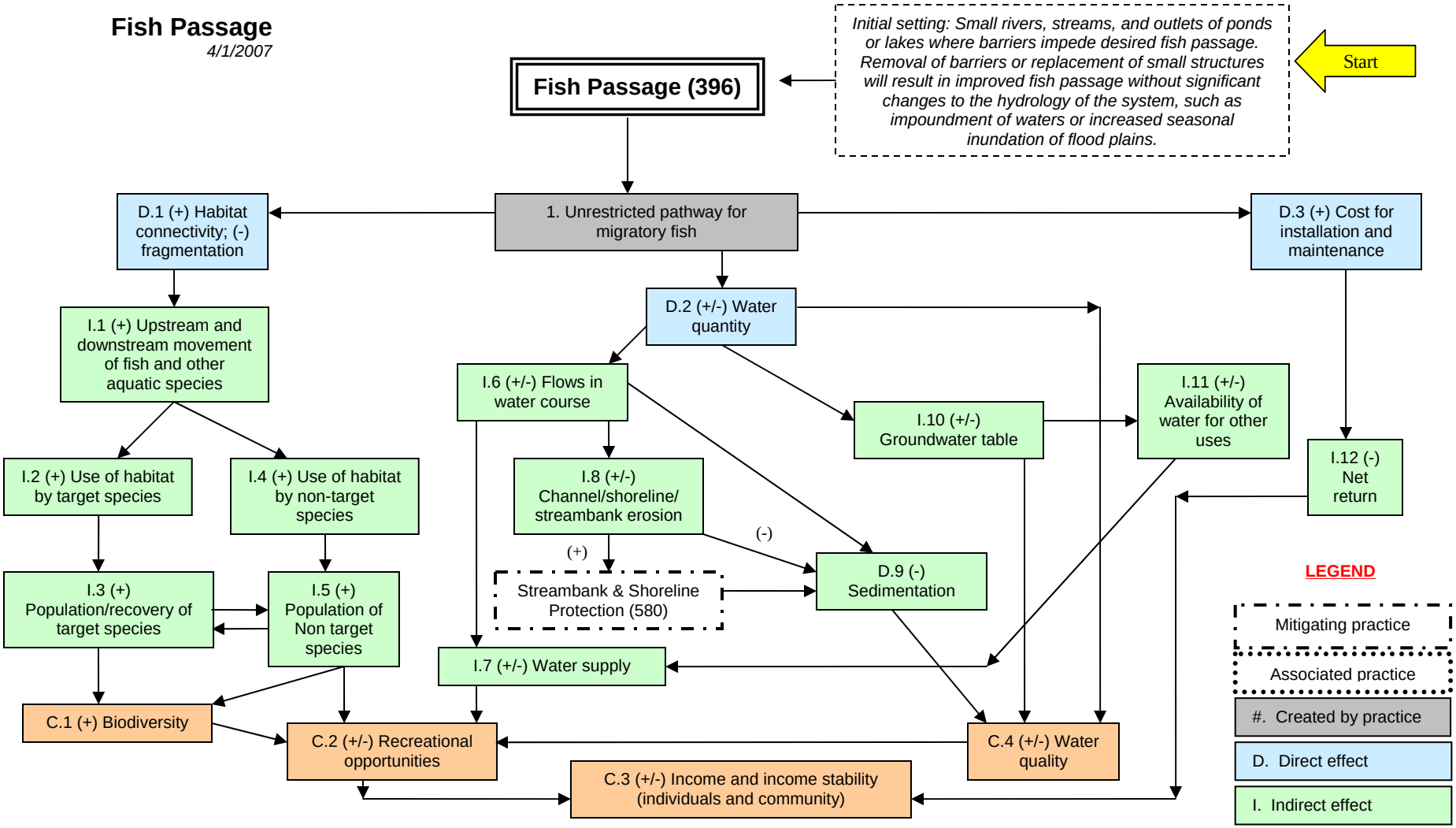

Notes:

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The scope of the practice implementation and resulting effects are limited to those described in the "initial setting". Projects involving larger river systems, impoundment of waters, increased seasonal inundation of flood plains, or any other changes to the hydrologic system may need to be evaluated in a site-specific EA.

The diagram above identifies the effects expected to occur when this practice is applied according to NRCS practice standards and specifications. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowner and are presumed to have been obtained. All income changes are partially dependent upon market fluctuations which are independent of the conservation practices. Users are cautioned that these effects are estimates that may or may not apply to a specific site.

FOREST STAND IMPROVEMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 666

FOREST STAND IMPROVEMENT

Forest Stand Improvement involves the manipulation of forest species composition, stand structure and stocking by cutting or killing selected trees and/or understory vegetation.

PRACTICE INFORMATION

This practice is applied on forest land where competing vegetation hinders development and stocking of preferred tree and understory species. Preferred species are retained to achieve the intended purpose. The primary purpose of Forest Stand Improvement is to increase the quantity and quality of the forest products that can be realized in a stand through silvicultural activities such as thinning, pruning or the removal of undesirable species. Such activities enable the harvesting of forest products and help stand regeneration. The practice can also improve forest health and help to restore natural plant communities.

Implementation of the practice requires that the harvest-regeneration strategy will be identified for all planned forest improvements. This is best done with a qualified/certified forester.

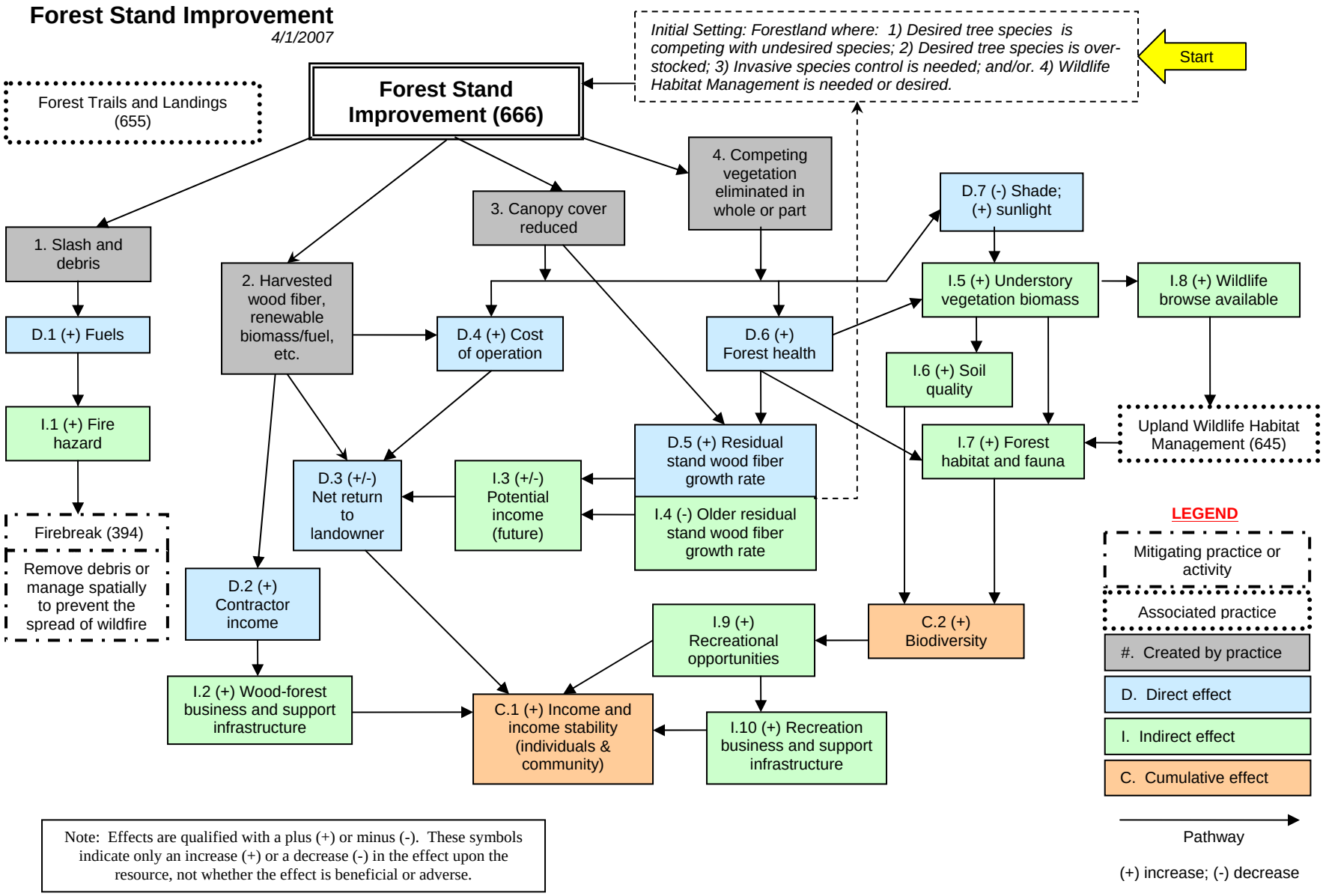
COMMON ASSOCIATED PRACTICES

Forest Stand Improvement is commonly used in a Conservation Management System with the following practices:

- Forest Trails and Landings,
- Firebreak,
- Early Successional Habitat Development and Management,
- Upland Wildlife Habitat Management.

Refer to the practice standard in the NRCS Field Office Technical Guide and associated specifications and design criteria for more information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowners and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.



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FOREST TRAILS AND LANDINGS

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 655

FOREST TRAILS AND LANDINGS

A Forest Trail or Landing is a temporary or infrequently used route, path or cleared area within a forest.

PRACTICE INFORMATION

Forest Trails and Landings are installed and/or maintained for infrequent access to conduct management activities, such as Forest Stand Improvement, pruning, fire suppression, or harvest of forest products. The conservation objective is to allow suitable access while minimizing onsite and offsite damage to other natural resources.

Planning and application of this practice requires the following considerations:

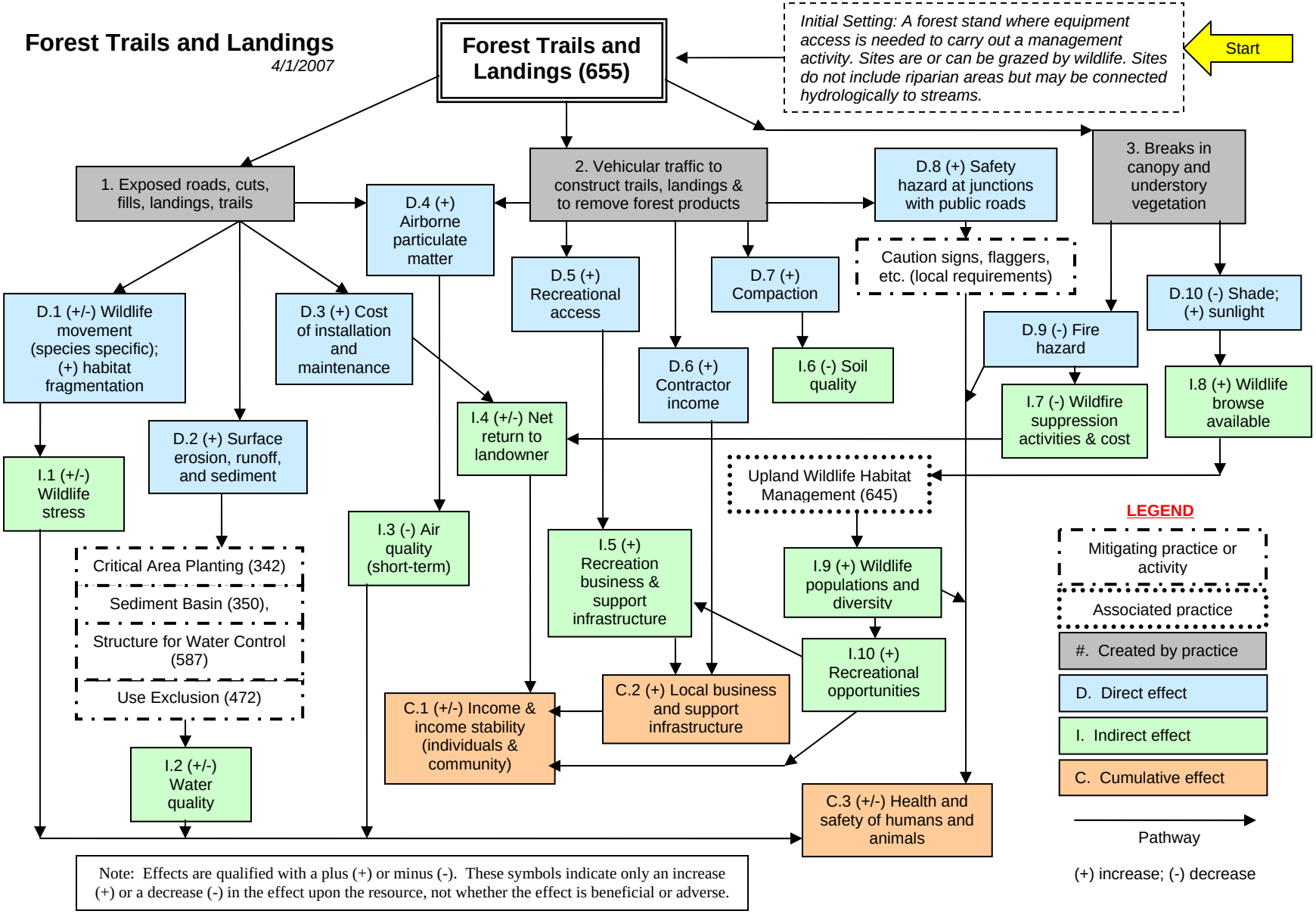
1. Timing and use of equipment to maintain site productivity is maintained and minimize soil disturbance;
2. Management of slash, debris and vegetative material left onsite so as not to present an unacceptable fire or pest hazard.
3. Proper design of water bars, dips and other drainage measures;
4. Seeding of trails and landings for erosion control;
5. Planting of vegetation that provides wildlife food and cover;
6. Location of trails and landings to preserve aesthetic qualities of the area.
7. Periodic removal of refuge and garbage; and
8. Closing the trails after the management activity to help control erosion and reduce maintenance costs.

COMMON ASSOCIATED PRACTICES

Forest Trails and Landings is commonly used in a Conservation Management System with other forest management practices such as Forest Stand Improvement, Tree and Shrub Pruning, Firebreak, Upland Wildlife Habitat Management, and others.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowners and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.



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HEAVY USE AREA PROTECTION

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 561

HEAVY USE AREA PROTECTION

Heavy use area protection is the establishment of a stable surface with suitable materials and any needed structures to protect areas heavily impacted by livestock, vehicles or development.

PRACTICE INFORMATION

Heavy use area protection is a practice usually applied on agricultural land or developed land used intensively by livestock, vehicles, and people. Treatment provided by this practice is primarily for erosion control but also addresses other types of natural resource degradation including aesthetics.

The prescribed surface treatment is designed to accommodate the specific type of traffic expected to occur. Surface treatment may involve pavement for vehicle traffic, or vegetation may provide sufficient protection for people and animal traffic.

Impermeable surfaces such as pavement increase runoff. Therefore, provision for drainage is always considered when planning this practice.

COMMON ASSOCIATED PRACTICES

The practice is commonly used in a Conservation Management System with practices such as Prescribed Grazing, Nutrient Management, Waste Storage Facility, Roof Runoff Structure, Wastewater Treatment Strip, Filter Strip, and others.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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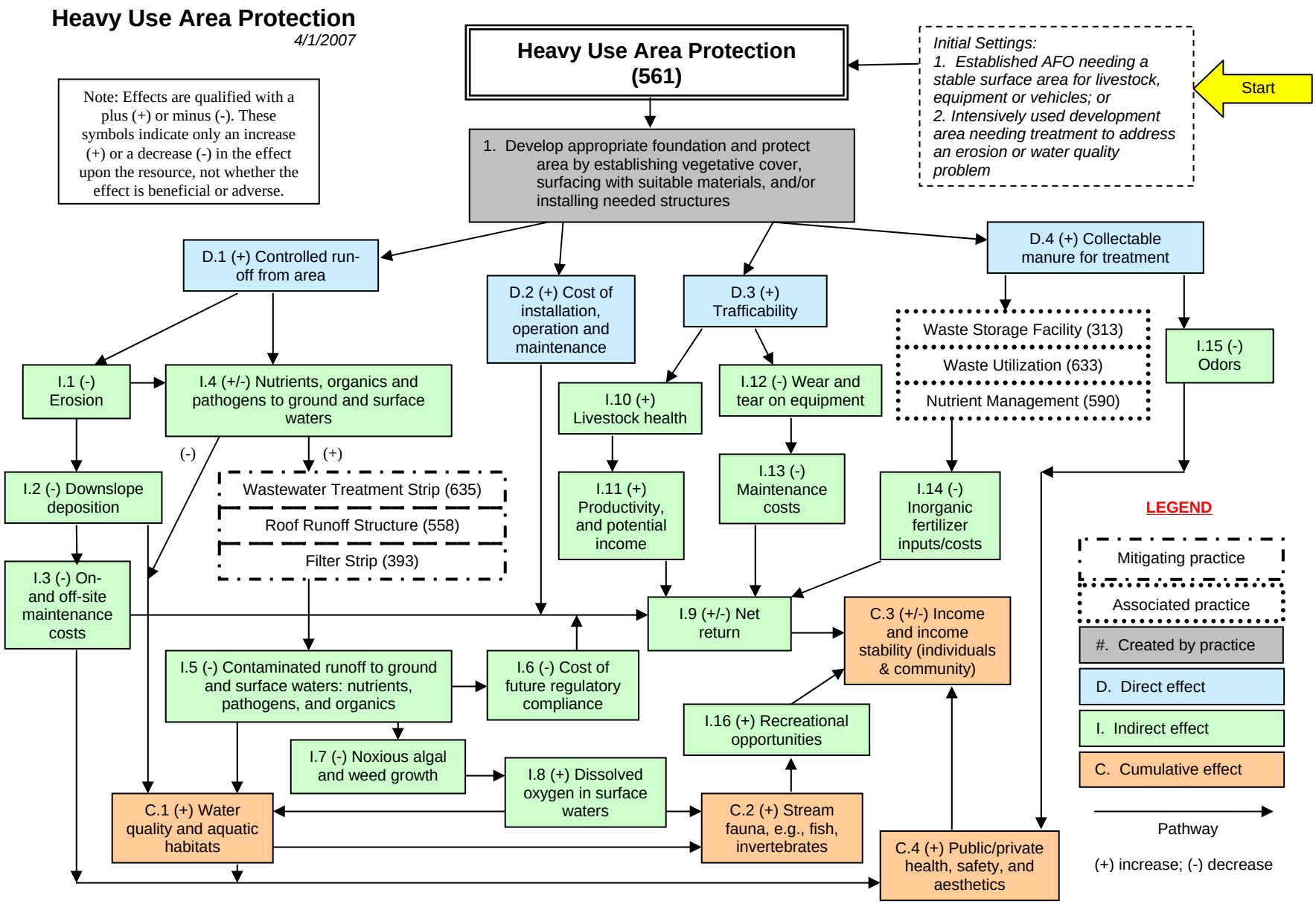

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HEDGEROW PLANTING

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 422

HEDGEROW PLANTING

Hedgerows are dense woody vegetation planted in a linear design to achieve a natural resource conservation purpose.

PRACTICE INFORMATION

Hedgerow Plantings are established to provide food, cover and corridors for terrestrial wildlife, food and cover for aquatic organisms that live in watercourses, intercept airborne particulate matter, reduce chemical drift and odor movement, provide screens and barriers to dust and noise, and improve landscape appearance.

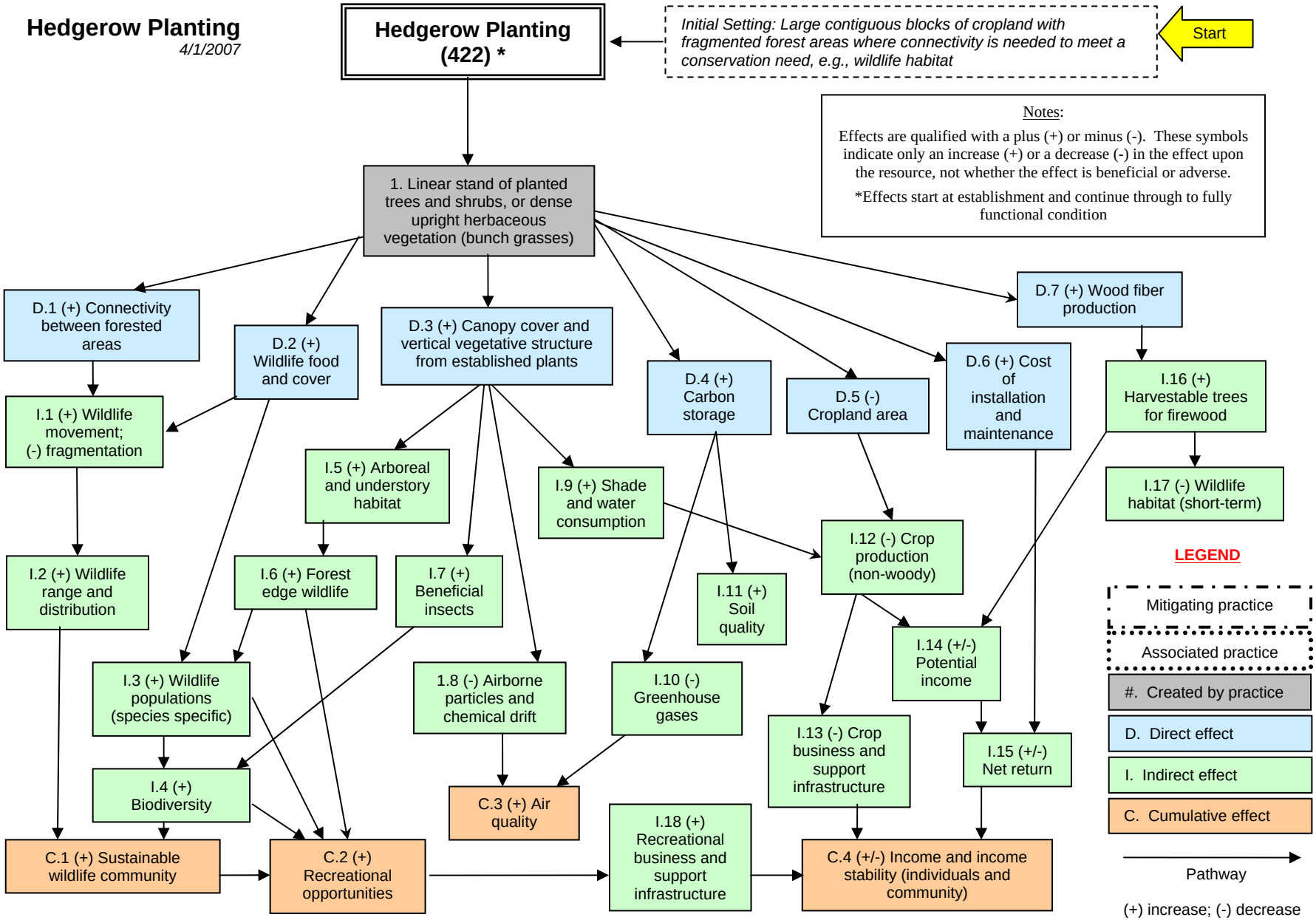
Hedgerows containing a mixture of native shrubs and small trees provide the greatest environmental benefits. It is important to consider the amount of shading a hedgerow will provide at maturity. Shading may impact growth of adjacent plants, microclimate, and aesthetics.

COMMON ASSOCIATED PRACTICES

Hedgerows are commonly used in Conservation Management Systems with Tree Planting, Upland Wildlife Habitat Management, and other conservation practices, depending upon the purpose for the practice.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowner and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.



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HERBACEOUS WIND BARRIERS

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 603

HERBACEOUS WIND BARRIERS

Herbaceous Wind Barriers are rows or narrow strips of upright, perennial vegetation established across the prevailing wind direction.

PRACTICE INFORMATION

This practice is normally applied on cropland. The primary purpose is to reduce soil erosion generation from wind. The practice also protects growing crops from damage from wind-borne soil particles and may be used with other crop management practices to further reduce erosion, build soil quality, and improve yields. Herbaceous wind barriers also help in the management of snow distribution for plant available soil moisture and provide wildlife food and cover.

Installation of the practice requires that the vegetation be stiff and be resistant to lodging during inclement weather/seasons. The plant material must also have good leaf retention and not pose a competitive threat to adjacent crops.

Installation requires careful analysis of the predominant wind direction during the most susceptible time for wind erosion and crop damage. This will determine the alignment of the strips. As such, field shape, size, crop types, and machinery types and size are important considerations in planning

COMMON ASSOCIATED PRACTICES

Herbaceous Wind Barriers are commonly used in a Conservation Management System with the following practices:

- Conservation Cropping Sequence,
- Cover Crop,
- Residue Management (any type),
- Upland Wildlife Habitat Management.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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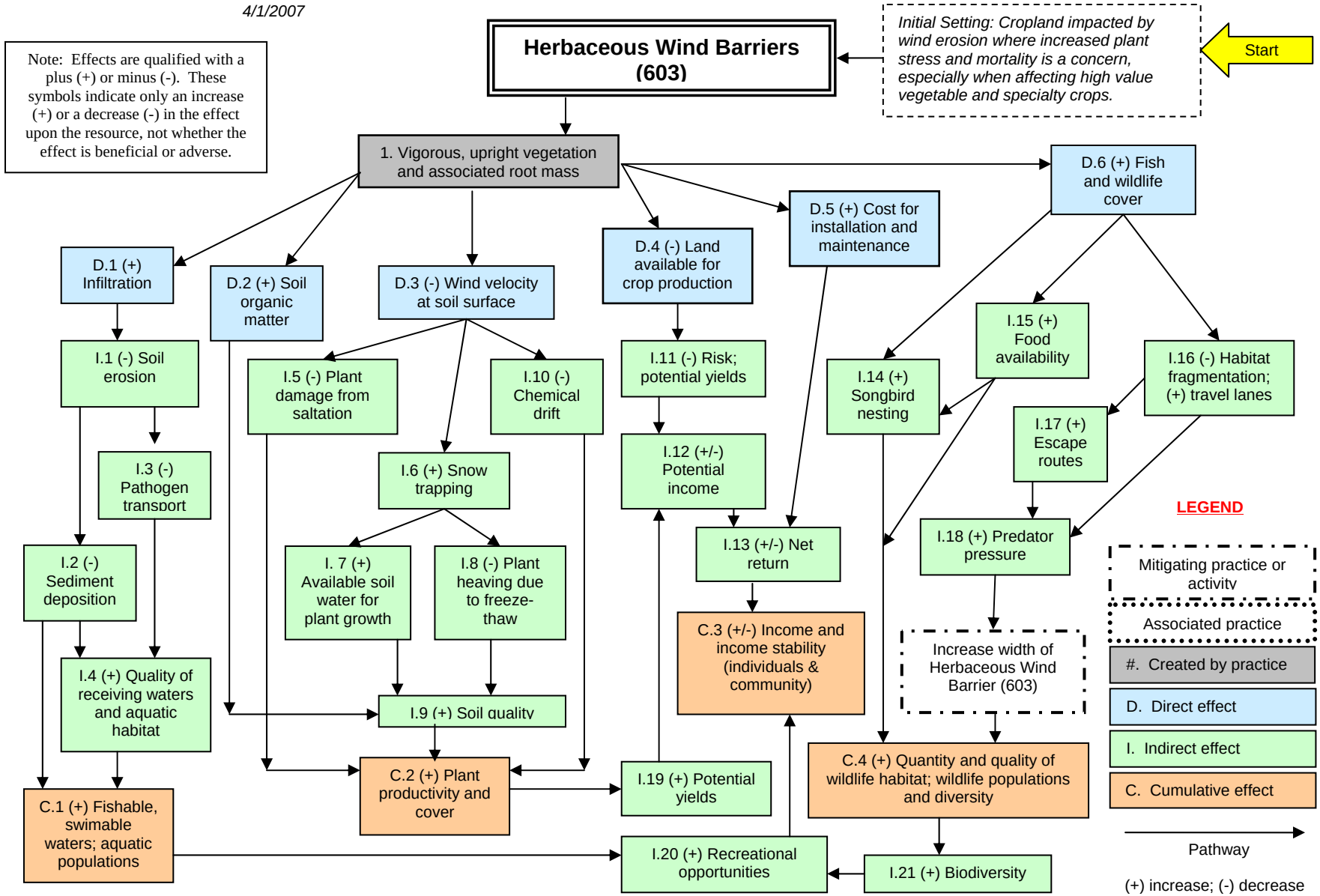
Herbaceous Wind Barriers

4/1/2007



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IRRIGATION STORAGE RESERVOIR

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 436

IRRIGATION STORAGE RESERVOIR

An Irrigation Storage Reservoir is a water storage structure made by constructing a dam, embankment or pit.

PRACTICE INFORMATION

The purpose of Irrigation Storage Reservoirs is to conserve water by holding it in storage until it is used to meet crop irrigation requirements, and on cranberries for flooding and debris flushing. It is used on cropland where there is insufficient water supply to meet the irrigation requirements for part or all of the irrigation season, where water is available for storage from surface runoff, stream flow, or a subsurface source, and where a suitable site is available for the reservoir.

Planning consideration is given to short-term and construction-related effects; effects on the water budget; downstream flows or aquifers that would affect other water uses or have undesirable environmental, social or economic effects; erosion, sediment, soluble contaminants and contaminants attached to sediment in runoff; water temperature changes downstream that could affect aquatic and wildlife communities; wetlands or water-related wildlife habitats; and cultural resources.

COMMON ASSOCIATED PRACTICES

This practice is commonly used in a Conservation Management System with the following practices

- Pumping Plant,
- Irrigation Water Conveyance,
- Irrigation System,
- Irrigation Water Management.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowners and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.

Irrigation Storage Reservoir

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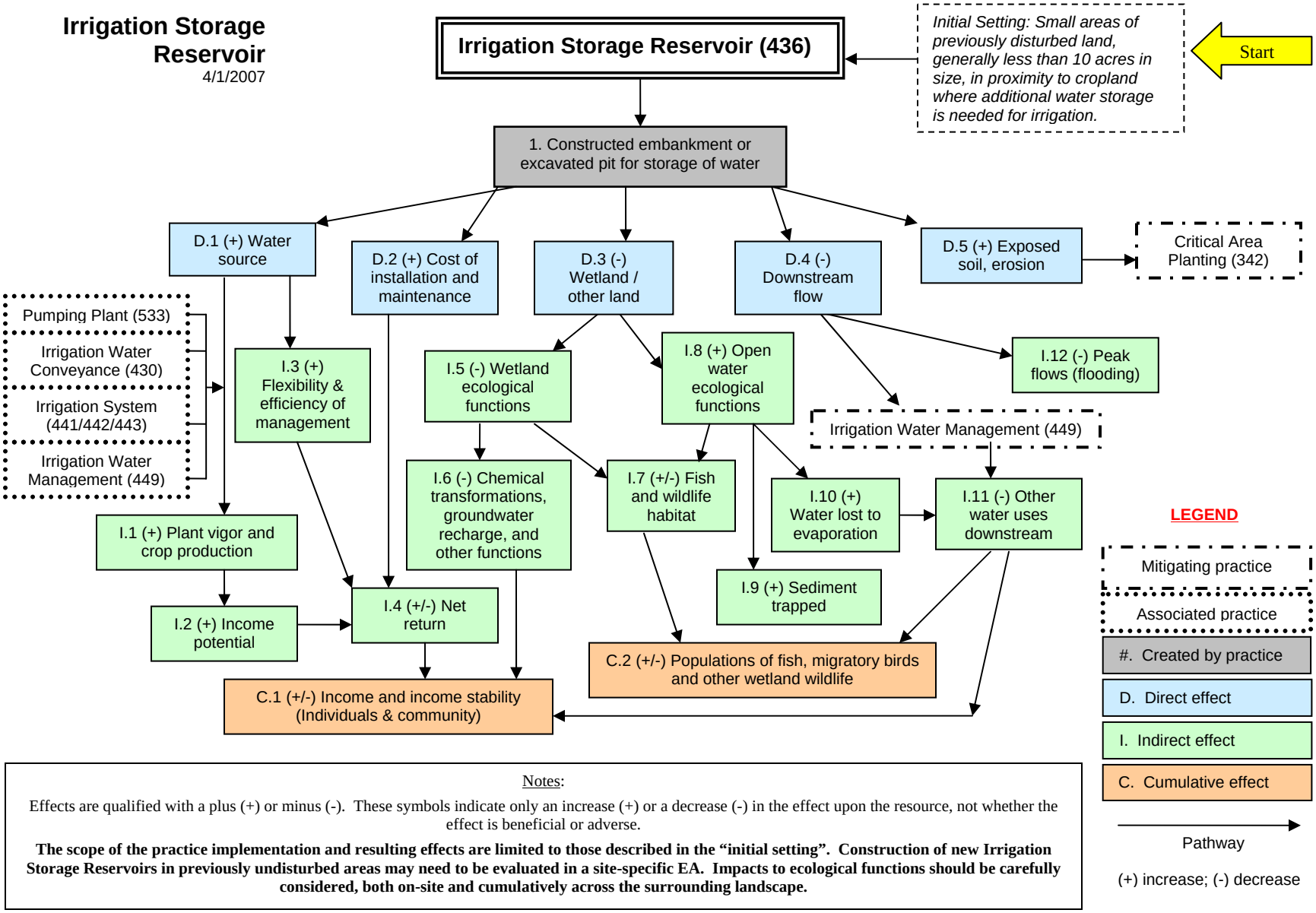

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The scope of the practice implementation and resulting effects are limited to those described in the "initial setting". Construction of new Irrigation Storage Reservoirs in previously undisturbed areas may need to be evaluated in a site-specific EA. Impacts to ecological functions should be carefully considered, both on-site and cumulatively across the surrounding landscape.

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IRRIGATION SYSTEM, MICROIRRIGATION

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 441

MICROIRRIGATION

A Microirrigation System, also known as drip or trickle irrigation, is used for distribution of water directly to the plant root zone by means of surface or subsurface applicators.

PRACTICE INFORMATION

Microirrigation systems may be installed as part of a Conservation Management System to efficiently and uniformly apply irrigation water and/or chemicals directly to the plant root zone to maintain soil moisture for optimum plant growth, without excessive water loss, erosion, reduction in water quality, or salt accumulation.

Microirrigation is suited to orchards, vineyards, row crops, windbreaks, greenhouse crops, residential and commercial landscape systems. These systems can be used on steep slopes where other methods would cause excessive erosion or on areas where other application devices interfere with cultural operations.

Microirrigation can influence runoff and deep percolation by raising the soil moisture level and decreasing available soil water storage capacity. The movement of dissolved substances below the root zone may affect groundwater quality. As with all irrigation, there may be effects to downstream flows or aquifers and the amount of water available for other water uses.

COMMON ASSOCIATED PRACTICES

The practice is commonly used in a Conservation Management System with the following practices:

- Water Well (642)
- Irrigation Storage Reservoir (436)
- Pumping Plant (536)
- Irrigation Water Conveyance (430)
- Irrigation Water Management (449)

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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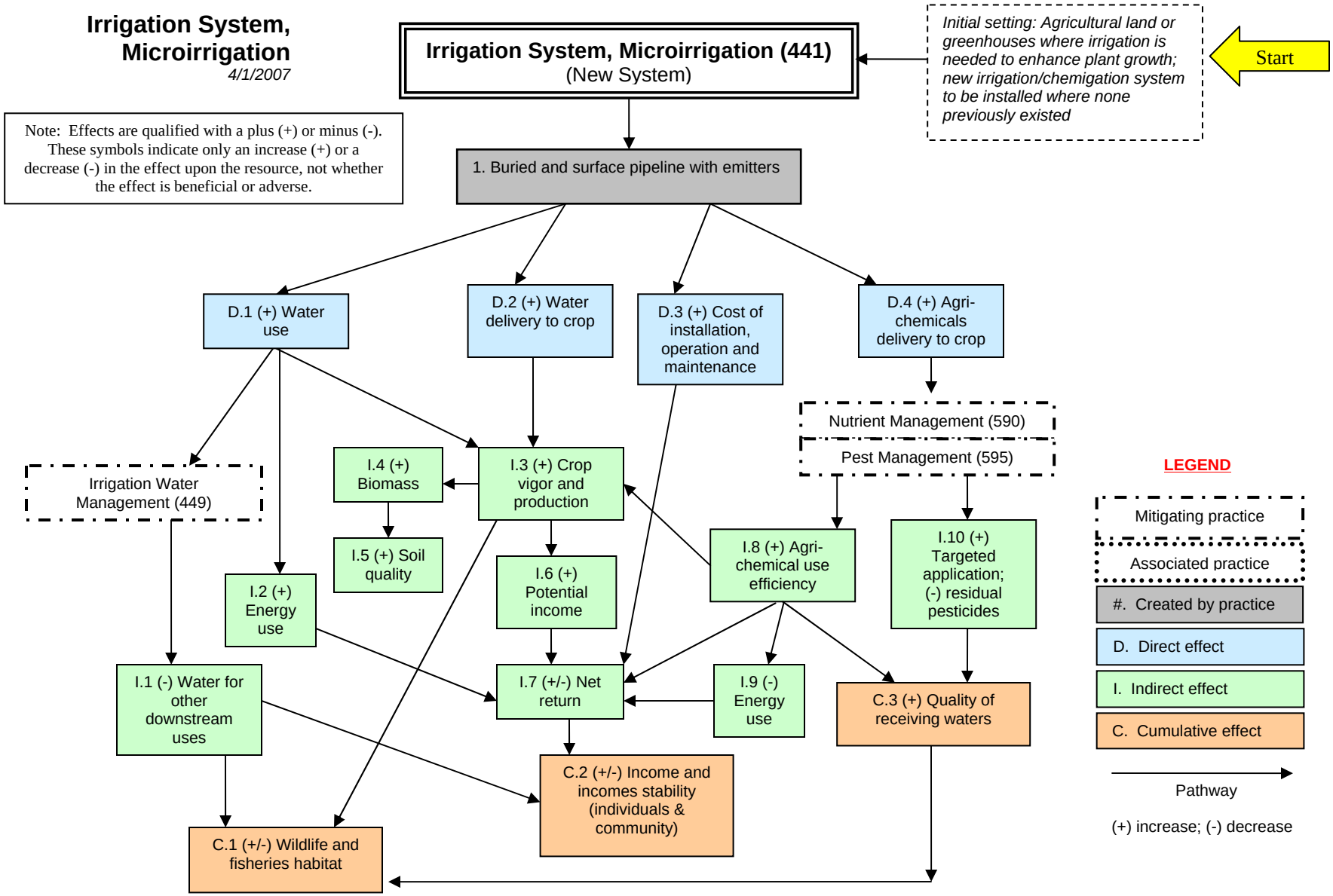

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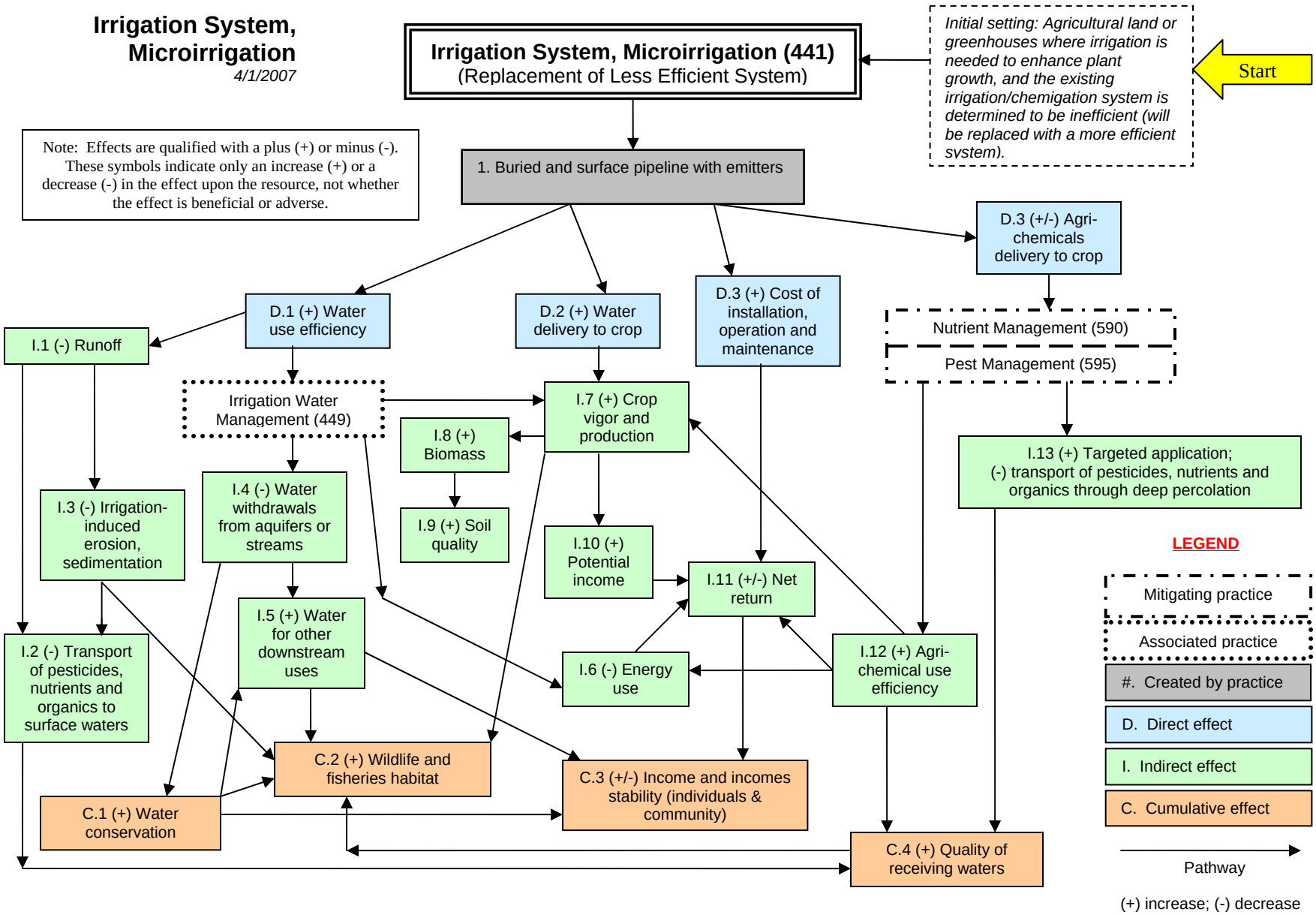

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IRRIGATION SYSTEM, SPRINKLER

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 442

SPRINKLER IRRIGATION SYSTEM

An irrigation system in which all necessary equipment and facilities are installed for efficiently applying water by means of nozzles operated under pressure.

PRACTICE INFORMATION

Sprinkler irrigation systems are used to achieve one or more of the following purposes:

- Efficient and uniform application of irrigation water to maintain adequate soil water for plant growth and production without causing excessive water loss, erosion, or water quality impairment;
- Control of and/or modification of climate;
- Application of chemicals, nutrients and/or waste water;
- Reduction of particulate matter emissions to improve air quality.

Common sprinkler systems applied in New England include fixed solid-set, big gun, periodic move, and traveling sprinkler systems. Application rate and depth of application are based on the specific soils and crops. Runoff, translocation, and deep percolation are minimized. Distribution patterns, spacing and operating pressure control the application rate. Systems used for chemigation or fertigation must meet industry accepted washoff and total rinse-out times.

COMMON ASSOCIATED PRACTICES

The practice is commonly used in a Conservation Management System with the following practices:

- Irrigation Water Conveyance,
- Irrigation Water Management.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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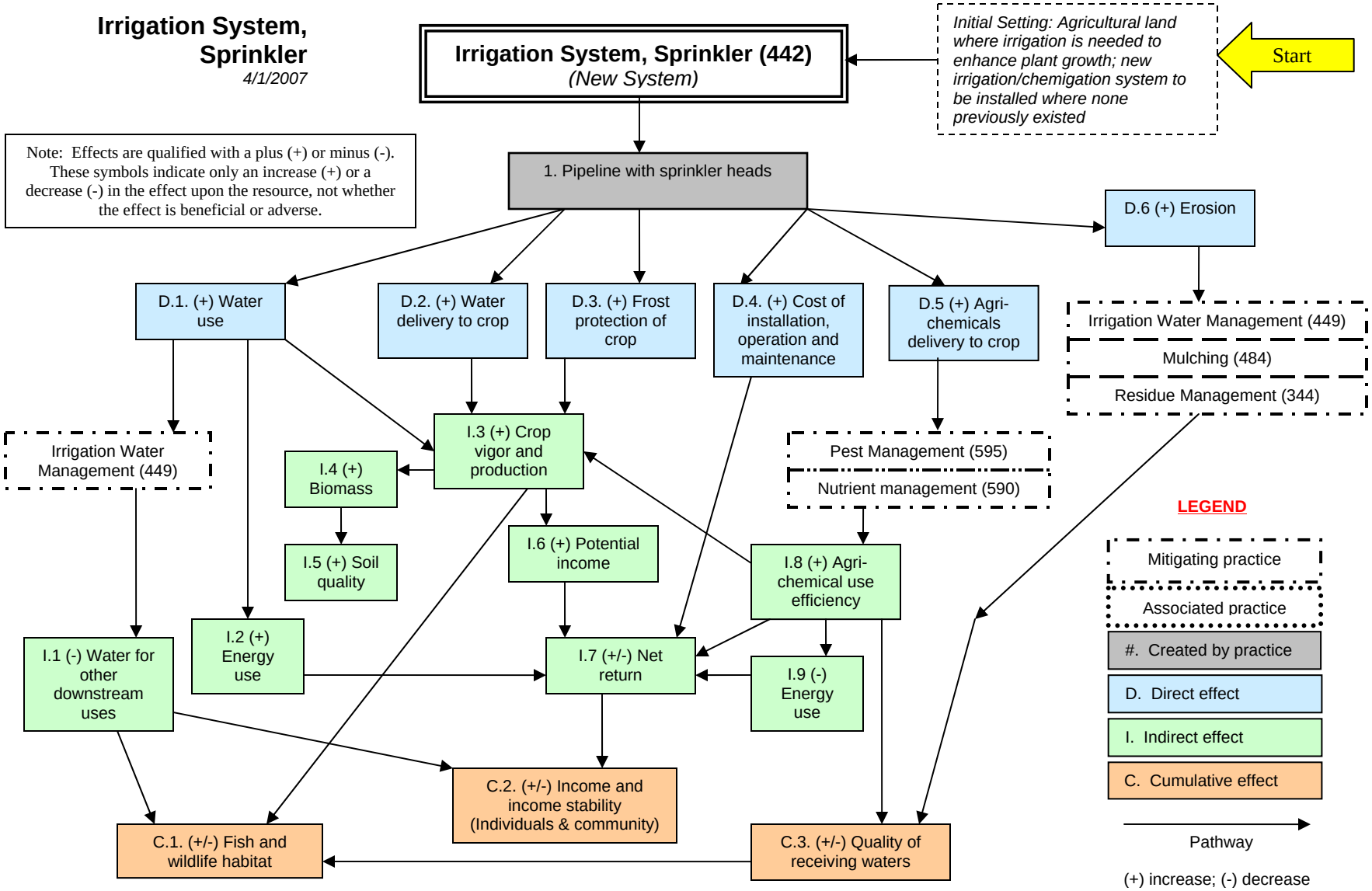

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Irrigation System, Sprinkler
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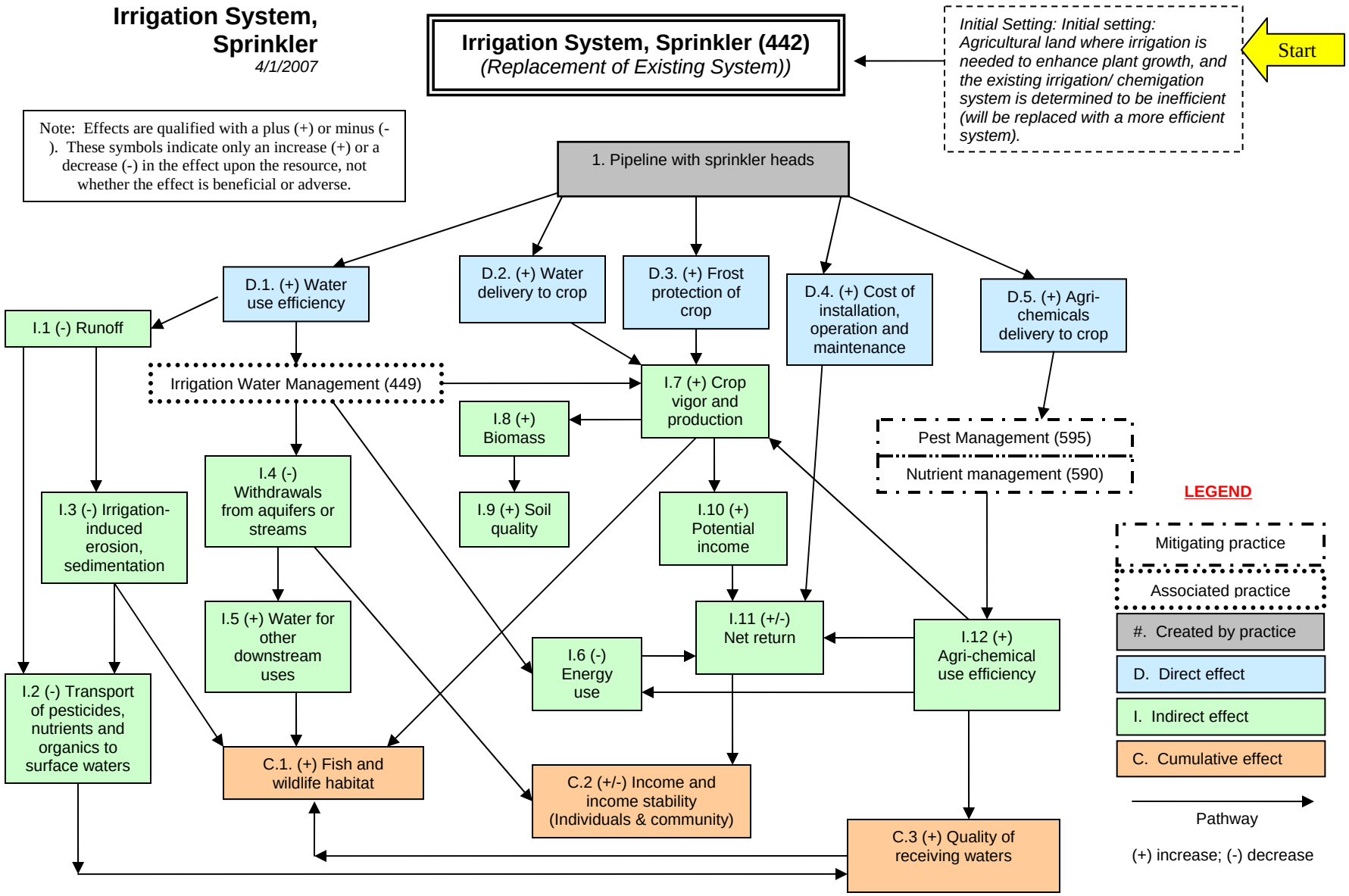

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IRRIGATION SYSTEM, TAILWATER RECOVERY

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 447

TAILWATER RECOVERY

An Irrigation Tailwater Recovery System is an irrigation system in which all facilities utilized for the collection, storage, and transportation of irrigation tailwater for reuse have been installed.

PRACTICE INFORMATION

Tailwater recovery involves the collection of recoverable irrigation runoff flows and is applied to conserve irrigation water supplies and/or improve offsite water quality. It applies to systems where recoverable irrigation runoff flows can be anticipated under current or expected management practices.

Facilities are needed to store the collected water and to convey water from the storage facility to a point of entry back into the irrigation system. Additional storage may be required to provide adequate retention time
for the breakdown of chemicals in the runoff waters or to provide for sediment deposition. Allowable retention times are specific to the particular chemical used.

Seepage from a storage facility is controlled through natural soil or commercial liners, soil additives or other approved methods when chemical-laden waters are stored. Protection of system components from storm events and excessive sedimentation are also considered in the planning and design of a system.

COMMON ASSOCIATED PRACTICES

The practice is commonly used in a Conservation Management System with practices such as Pumping Plant, Irrigation Water Conveyance, Pond Sealing or Lining, and Irrigation Water Management.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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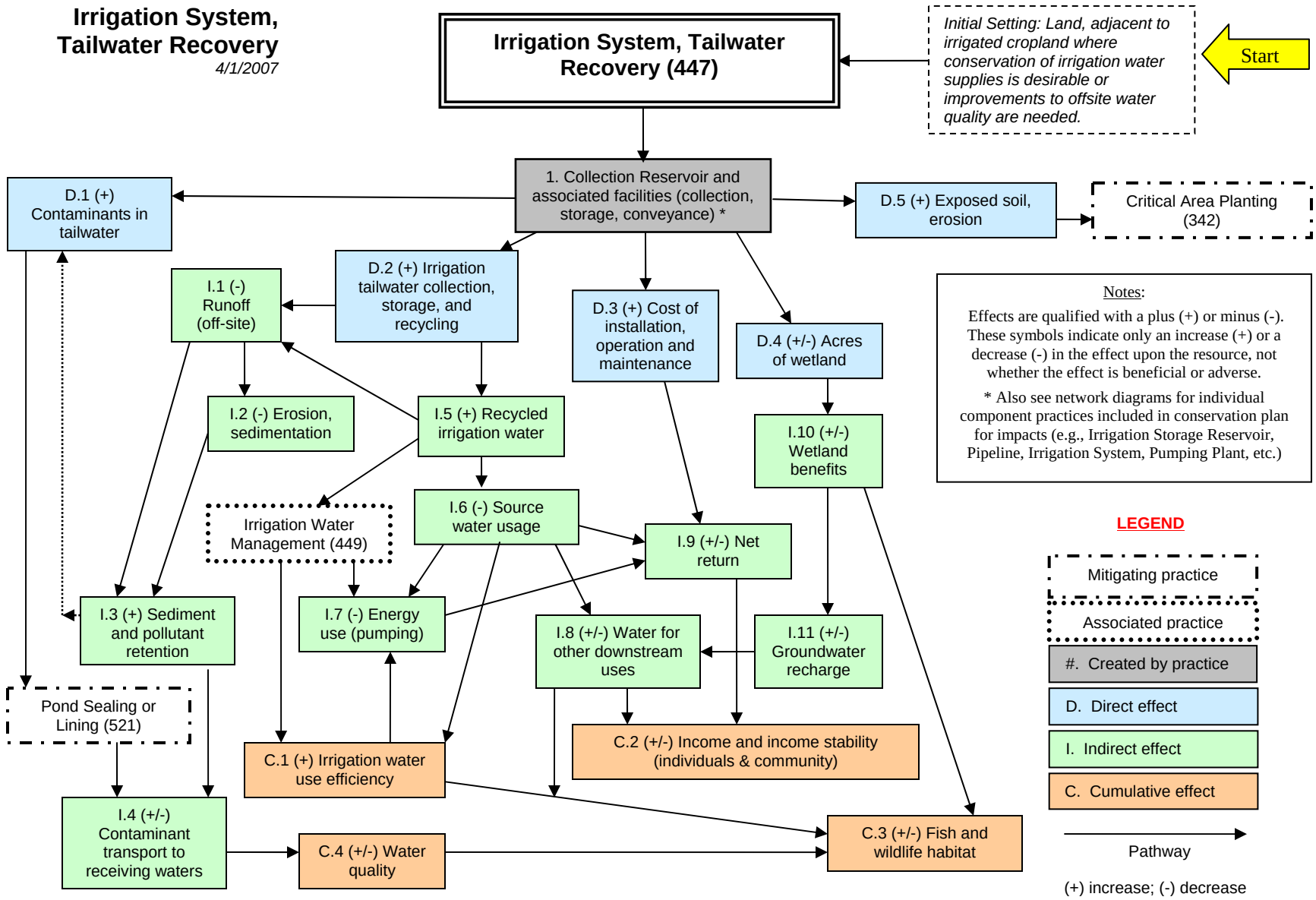

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IRRIGATION WATER CONVEYANCE, STEEL PIPELINE

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 430FF

IRRIGATION WATER CONVEYANCE, STEEL PIPELINE

Irrigation Water Conveyance is a pipeline and associated appurtenances installed as an integral part of an irrigation system.

PRACTICE INFORMATION

The purpose of this practice is to reduce erosion, conserve water, and protect water quality. Underground pipelines serve as an integral part of the irrigation water distribution system, and significantly improve the overall efficiency of the system.

Steel tubing underground pipelines are acceptable for irrigation water conveyance. This practice requires proper design and installation to function properly. The pipe must be coated with plastic tape on the exterior surfaces. The interior surface will be subject to excessive pitting if high levels of copper are present in the water. In addition, if other types of metal are joined to the Steel pipe, the metal must be separated with rubber or plastic insulators to reduce galvanic corrosion.

These pipelines may have vents open to the atmosphere, or sealed pressure-relief valves and/or air-and-vacuum-relief valves to properly vent the system.

COMMON ASSOCIATED PRACTICES

The practice is commonly used in a Conservation Management System with the following practices:

- Irrigation Water Management,
- Pumping Plant for Water Control,
- Irrigation System, Micro-irrigation,
- Irrigation System, Sprinkler,
- Irrigation Storage Reservoir,
- Water Well.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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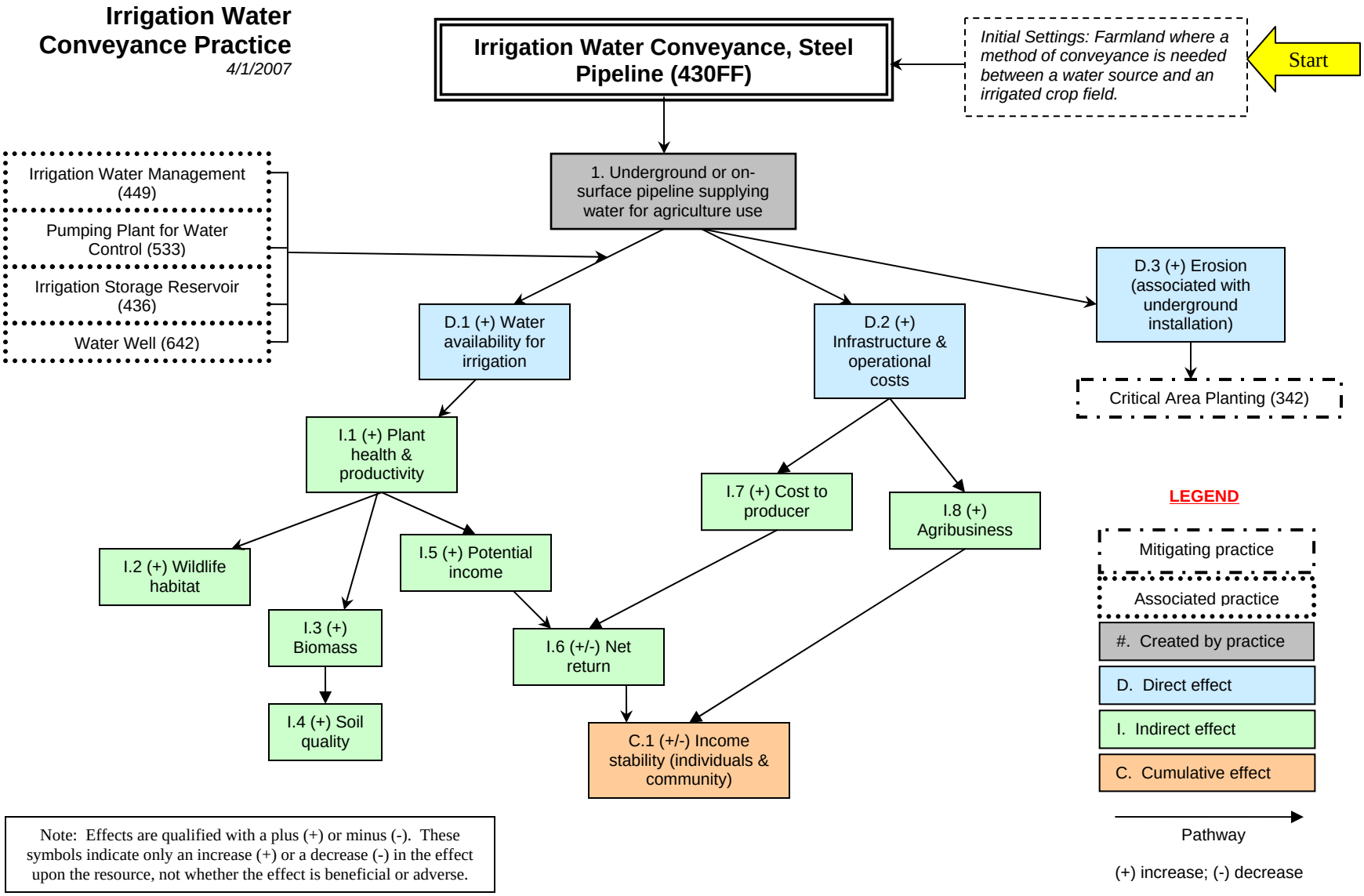

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LAND CLEARING

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 460

LAND CLEARING

Land clearing is removing trees, stumps, and other vegetation to allow needed land use adjustments and improvements in the interest of conservation. Land clearing is used to prepare land for the establishment of habitat for wildlife species.

PRACTICE INFORMATION

This practice applies to wooded areas where the removal of trees, stumps, brush, and other vegetation is needed to establish, re-establish or maintain desired habitat for wildlife.

This practice *is not* for purposes of clearing, filling, and/or draining wetlands for the purpose of growing commodity crops or any other purpose.

An undisturbed area at least 50-feet wide will be left between the area being cleared and all wetlands, water bodies, and perennial streams. Temporary vegetation should be established as necessary until the planned land use is in place. Avoid clearing when soil moisture conditions are high to reduce compaction.

COMMON ASSOCIATED PRACTICES

Land Clearing is commonly used in a Conservation Management System with the following practices:

- Brush Management,
- Obstruction Removal,
- Restoration and Management of Declining Habitats,
- Upland Wildlife Habitat Management
- Early Successional Habitat Development and Management,
- Forest Stand Improvement,
- Forest Trails and Landings.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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Land Clearing

4/1/2007

Notes:
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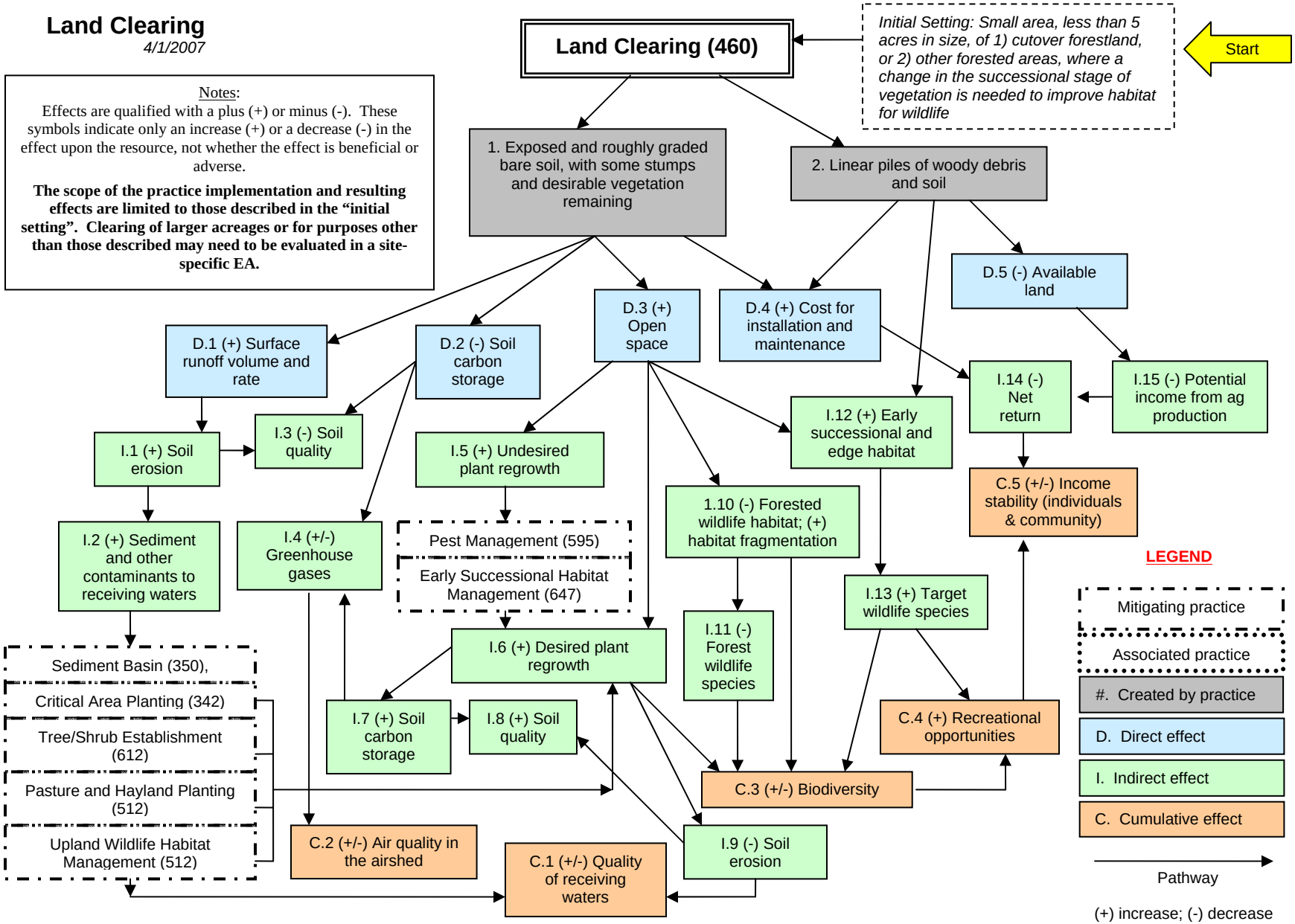

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LAND SMOOTHING

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 466

LAND SMOOTHING

Land smoothing is removing irregularities on the land surface.

PRACTICE INFORMATION

Land smoothing is used to improve surface drainage, provide for more uniform cultivation, and improve equipment operation and efficiency.

For cranberry bogs, land smoothing is used to construct a more level bog to reduce the amount of flooding water needed for cranberry production. It applies where leveling is included in an overall irrigation water management plan, and where it will reduce the amount of water required to adequately flood the bog for harvesting, trash removal, winter protection, pest control, or other purposes.

COMMON ASSOCIATED PRACTICES

The practice is commonly used in a Conservation Management System with the following practices:

- Dike,
- Structure for Water Control,
- Irrigation Water Management.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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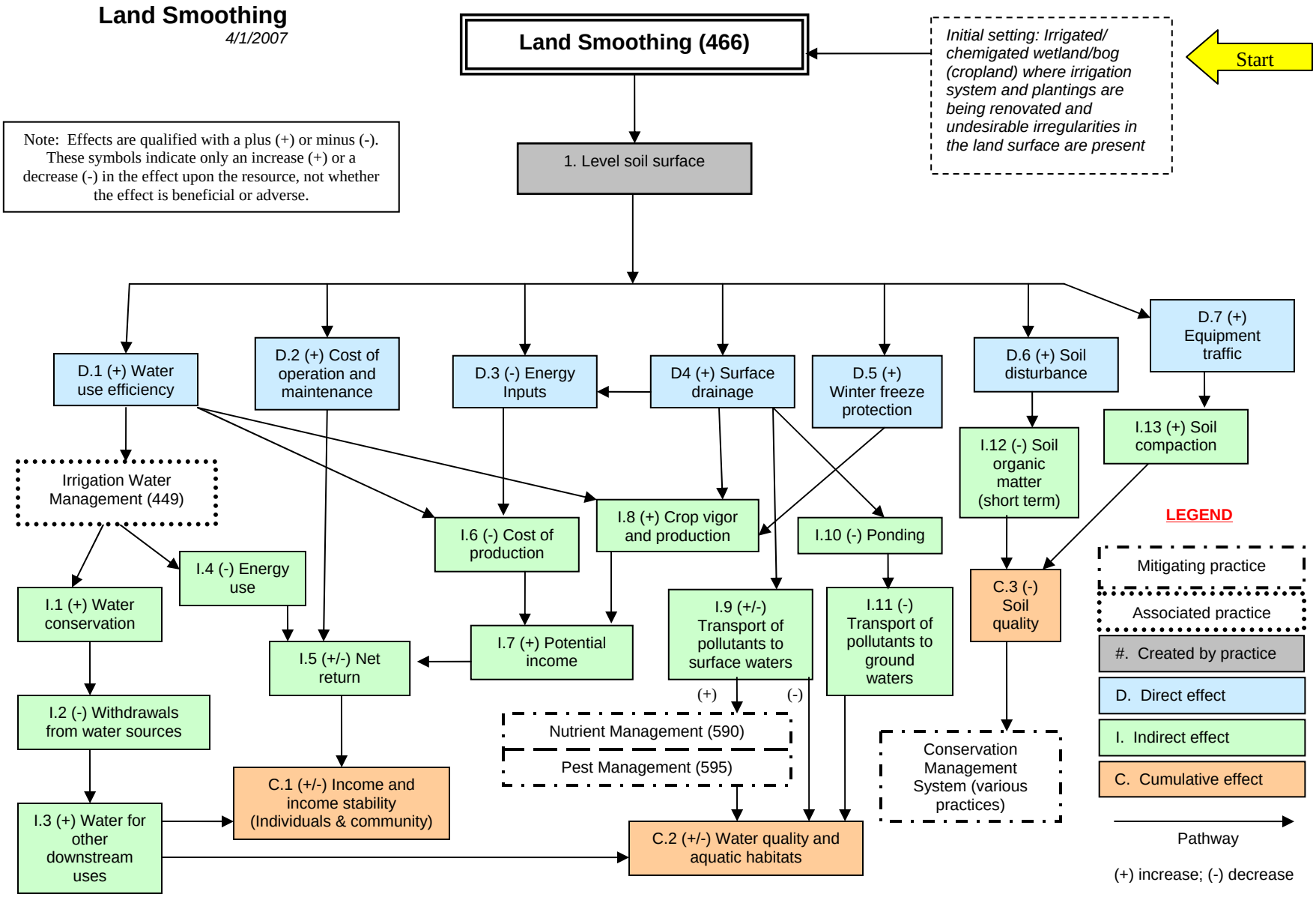
Land Smoothing

4/1/2007



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LINED WATERWAY OR OUTLET

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 468

LINED WATERWAY OR OUTLET

A Lined Waterway or Outlet has an erosion-resistant lining of concrete, stone, or other permanent material. The lined section extends up the side slopes to a designed depth. The earth above the permanent lining may be vegetated or otherwise protected for safe water disposal.

PRACTICE INFORMATION

Lined waterways or outlets are constructed to convey runoff in areas having concentrated runoff, steep grades, wetness, prolonged base flow, seepage or piping and where lining is needed to control erosion. Lined waterways can be used where limited space is available for the design width, which requires higher velocities and lining. Lined waterways can also be used where soils are highly erosive or other soil or climatic conditions preclude using vegetation only.

Important wildlife habitat, such as woody cover or wetlands, should be avoided or protected if possible when siting the lined waterway. If trees and shrubs are incorporated, they should be retained or planted in the periphery of the grassed portion of the lined waterways so they do not interfere with hydraulic functions and roots do not damage the lined portion of the waterway. Mid- or tall bunch grasses and perennial forbs may also be planted along waterway margins to improve wildlife habitat. Waterways with these wildlife features are more beneficial when connecting other habitat types; e.g., riparian areas, wooded tracts and wetlands.

COMMON ASSOCIATED PRACTICES

Lined Waterways or Outlets are commonly used in a Conservation Management Systems with practices such as Grade Stabilization Structures, Diversions, and Terraces.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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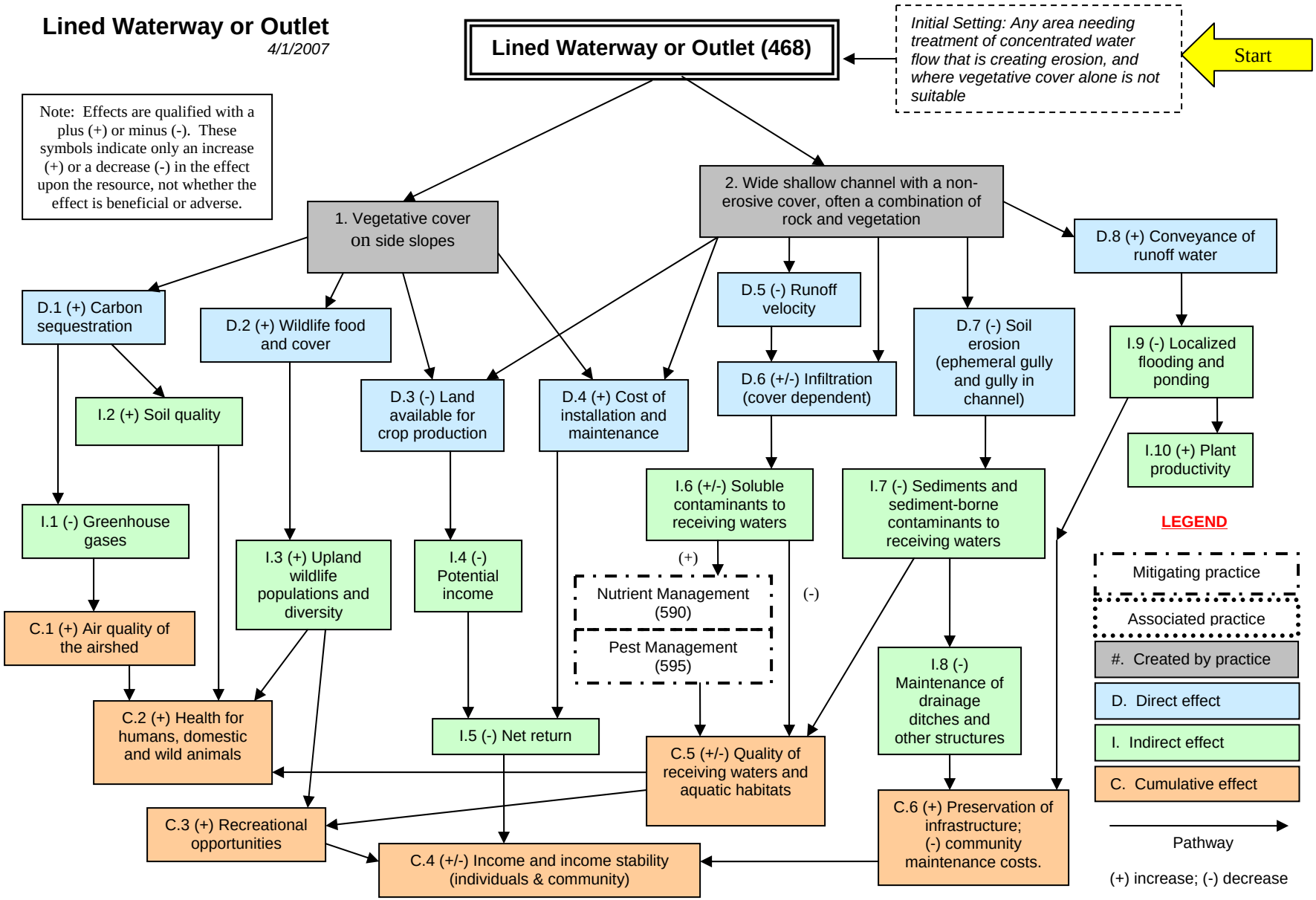

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MULCHING (with Organic Materials)

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 484

MULCHING

Mulching is applying a protective cover of plant residues or other suitable material not produced on the site to the soil surface.

PRACTICE INFORMATION

Mulching is used to help control soil erosion, protect crops, conserve moisture, moderate soil temperature, prevent soil compaction and crusting, reduce runoff, and suppress growth of weeds. The practice is utilized on sites subject to erosion and high runoff rates that need the additional protection from material brought in from off the site. The material may be manufactured and commercially available, or it may be hay or crop residues hauled to the site and applied. Selection of materials is dependent upon site condition and the availability of materials.

This is a high input practice used primarily on construction sites. However, the practice is often used in production of specialty crops including grapes, other fruits, and vegetables.

COMMON ASSOCIATED PRACTICES

Mulching is often used in conjunction with other practices. It is commonly used in Conservation Management Systems with a new vegetative seeding, Critical Area Planting, Nutrient Management, Pest Management, Irrigation Water Management, and Contour Farming.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowners and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.

Mulching, Organic Materials

4/1/2007

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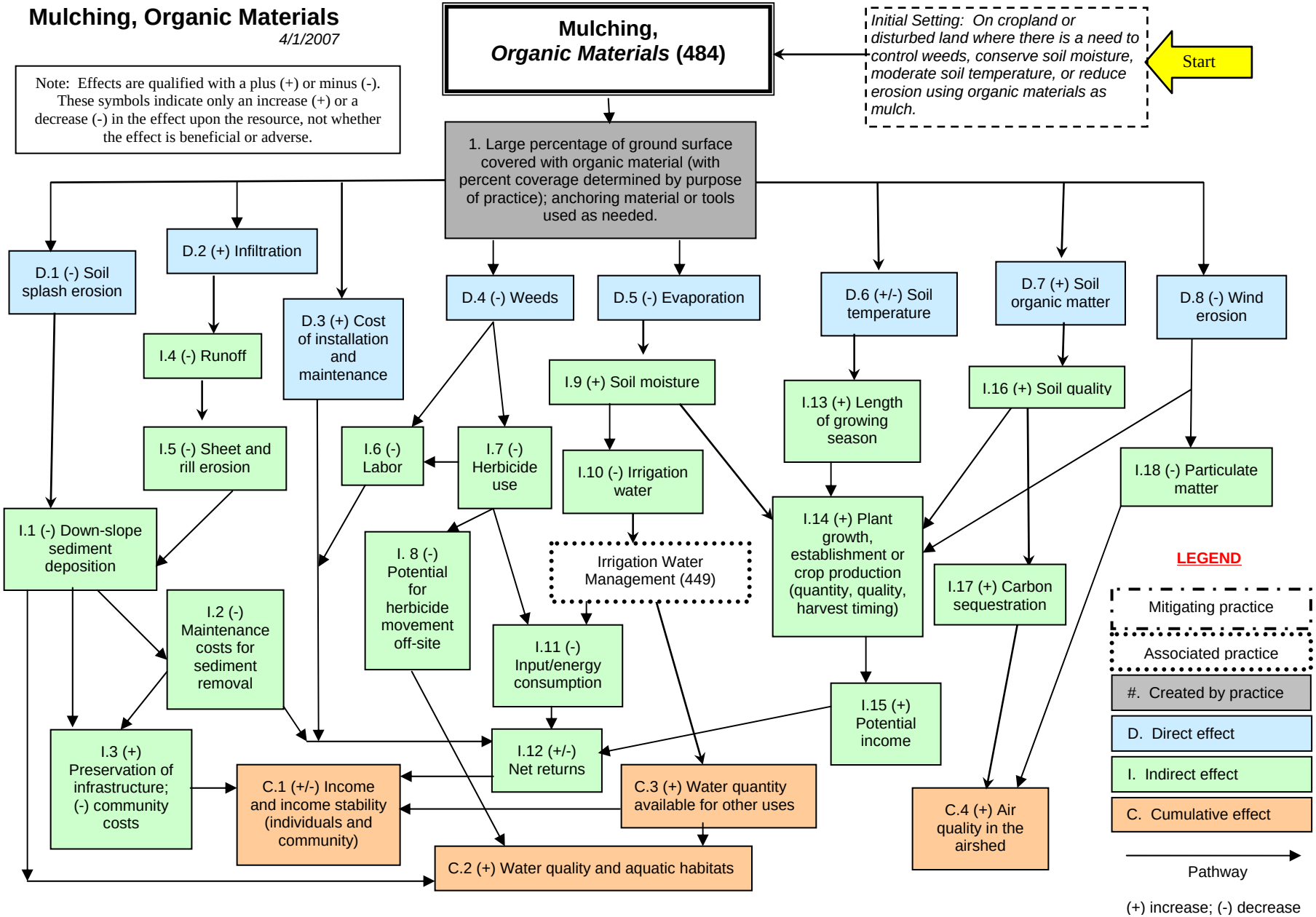

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MULCHING (with Plastic)

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 484

MULCHING

Mulching is applying a protective cover of plant residues or other suitable material not produced on the site to the soil surface.

PRACTICE INFORMATION

Mulching is used to help control soil erosion, protect crops, conserve moisture, moderate soil temperature, prevent soil compaction and crusting, reduce runoff, and suppress growth of weeds. The practice is utilized on sites subject to erosion and high runoff rates that need the additional protection from material brought in from off the site. The material may be manufactured and commercially available, such as plastics or fabrics. Selection of materials is dependent upon site condition and the availability of materials. Manufactured mulches should be applied according to the manufacturer's specifications.

Mulching is a high input practice used primarily on construction sites. However, plastic and fabric mulches are often used on cropland in the production of specialty crops including grapes, other fruits, and vegetables.

COMMON ASSOCIATED PRACTICES

Mulching is often used in conjunction with other practices. It is commonly used in Conservation Management Systems with a new vegetative seeding, Critical Area Planting, Nutrient Management, Pest Management, Irrigation Water Management, and Contour Farming.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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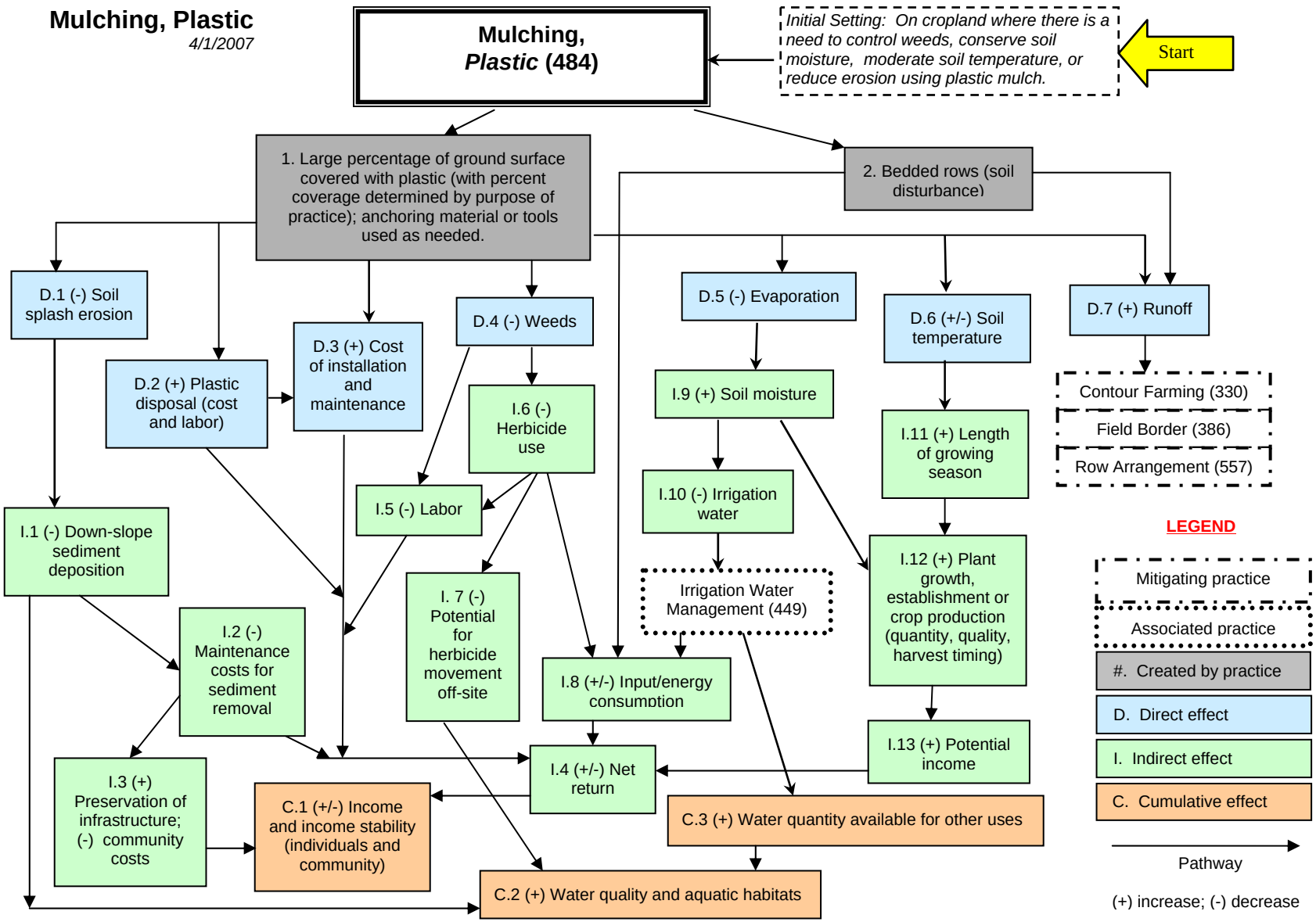

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OBSTRUCTION REMOVAL

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 500

OBSTRUCTION REMOVAL

Obstruction Removal is the removal and disposal of unwanted, buildings, structures, vegetation, landscape features, and other materials.

PRACTICE INFORMATION

This practice applies to land where existing obstructions interfere with planned use and development described in the landowner's conservation plan.

The purpose of this practice is the safe removal and disposal of unwanted obstructions and materials in order to apply conservation practices or facilitate planned use of abandoned mine lands, farms, ranches, construction sites, and recreation areas.

Obstruction removal must be planned, designed, and carried out to meet all federal, state, and local laws and regulations.

Appropriate erosion control practices must be applied on disturbed areas. Debris such as broken concrete and masonry, structural steel and wood, stones, stumps, slash, and sterile or toxic soil will be disposed of so that they will not impede subsequent work or cause damage offsite. Disposal may be by burning, burying, or removing to an approved landfill in an environmentally acceptable manner.

COMMON ASSOCIATED PRACTICES

Obstruction Removal is commonly used in a Conservation Management System with practices such as Access Road, Conservation Cover, Critical Area Planting, Fish Passage, Pipeline, Tree/Shrub Establishment, Pasture and Hayland Planting, and Irrigation Systems.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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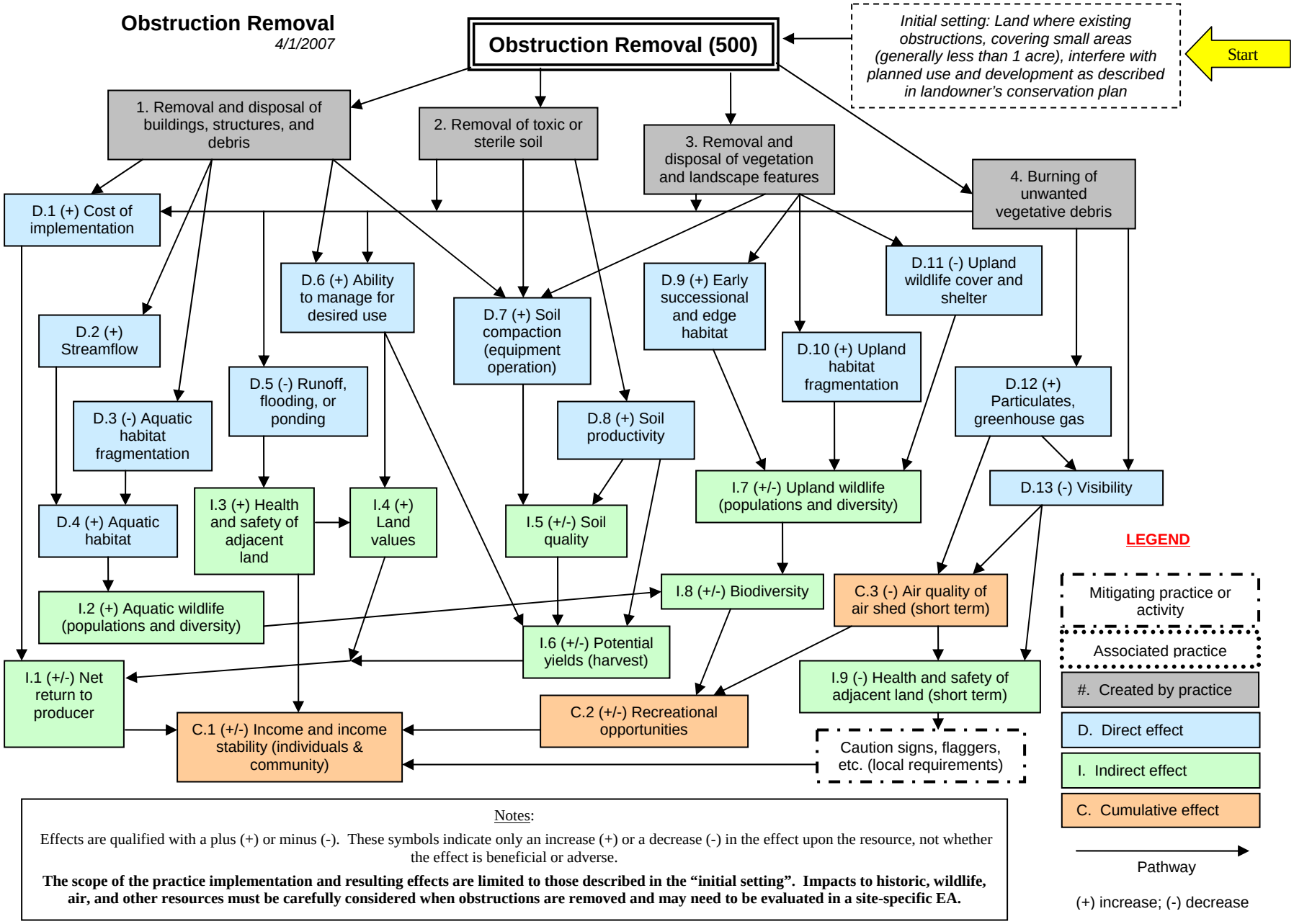

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OPEN CHANNEL

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 582

OPEN CHANNEL

Open channel is the construction or improvement of a channel, either natural or artificial, in which water flows with a free surface.

PRACTICE INFORMATION

This practice is designed to provide discharge capacity required for flood prevention, drainage, or other authorized water management purposes. It is used in New England primarily for by-pass canals to protect streams that flow through cranberry bogs. Stream flow is temporarily diverted around the bog through a series of dikes, water control structures and open channel so the bog can be managed as a closed system, capable of containing pesticides and other agri-chemicals for their required holding times for water pollution control.

This practice applies to earthen channel construction or modification where stability requirements can be met, an adequate outlet for the modified channel reach is available for discharge by gravity flow or pumping, and excavation or other channel work does not cause significant erosion, flooding or sedimentation. The impact of the proposed construction on water quality, fish and wildlife habitat, forest resources, and quality of the landscape must be evaluated, and the techniques and measures necessary to overcome any undesirable effects must be included as part of the planned work,

COMMON ASSOCIATED PRACTICES

The practice is commonly used in a Conservation Management System with Dikes and Structures for Water Control.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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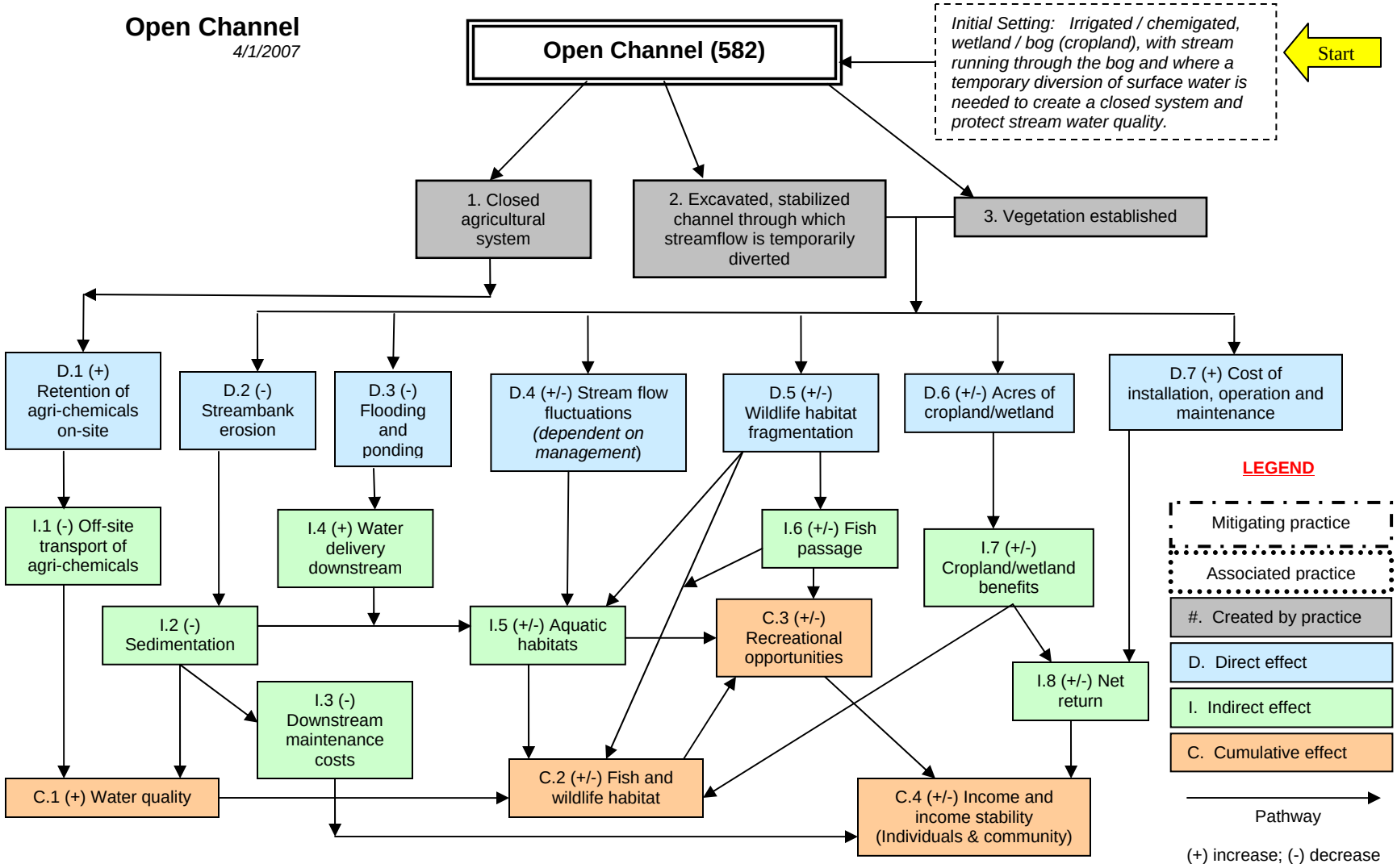

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PEST MANAGEMENT – CONTROL OF INVASIVE SPECIES

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 595

PEST MANAGEMENT - INVASIVES

Pest Management includes the management and control of non-native invasive plants to reduce adverse effects on plant growth, crop production, wildlife habitat, and other natural resources.

PRACTICE INFORMATION

Pest Management is applied to enhance the quantity and quality of commodities and/or minimize negative impacts of pest control on soil resources, water resources, air resources, plant resources, animal resources, and/or humans. It can be used for the control of invasive species to achieve these objectives. An invasive species is not native to a particular ecosystem. These species generally spread readily and are difficult to control.

Control of invasive plants includes appropriate cultural, biological, and chemical methods, and combinations of these. It is important to learn about life cycles and alternative control techniques when dealing with these difficult species. As with any chemicals, users should always follow label instructions when applying pesticides.

COMMON ASSOCIATED PRACTICES

Pest Management is commonly used in a Conservation Management System on various land uses with practices such as:

- Upland Wildlife Habitat Management,
- Wetland Wildlife Habitat Management,
- Brush Management,
- Early Successional Habitat Management,
- Conservation Crop Rotation,
- Cover Crop,
- Nutrient Management,
- Filter Strip,
- Field Border,
- Riparian Forest Buffer.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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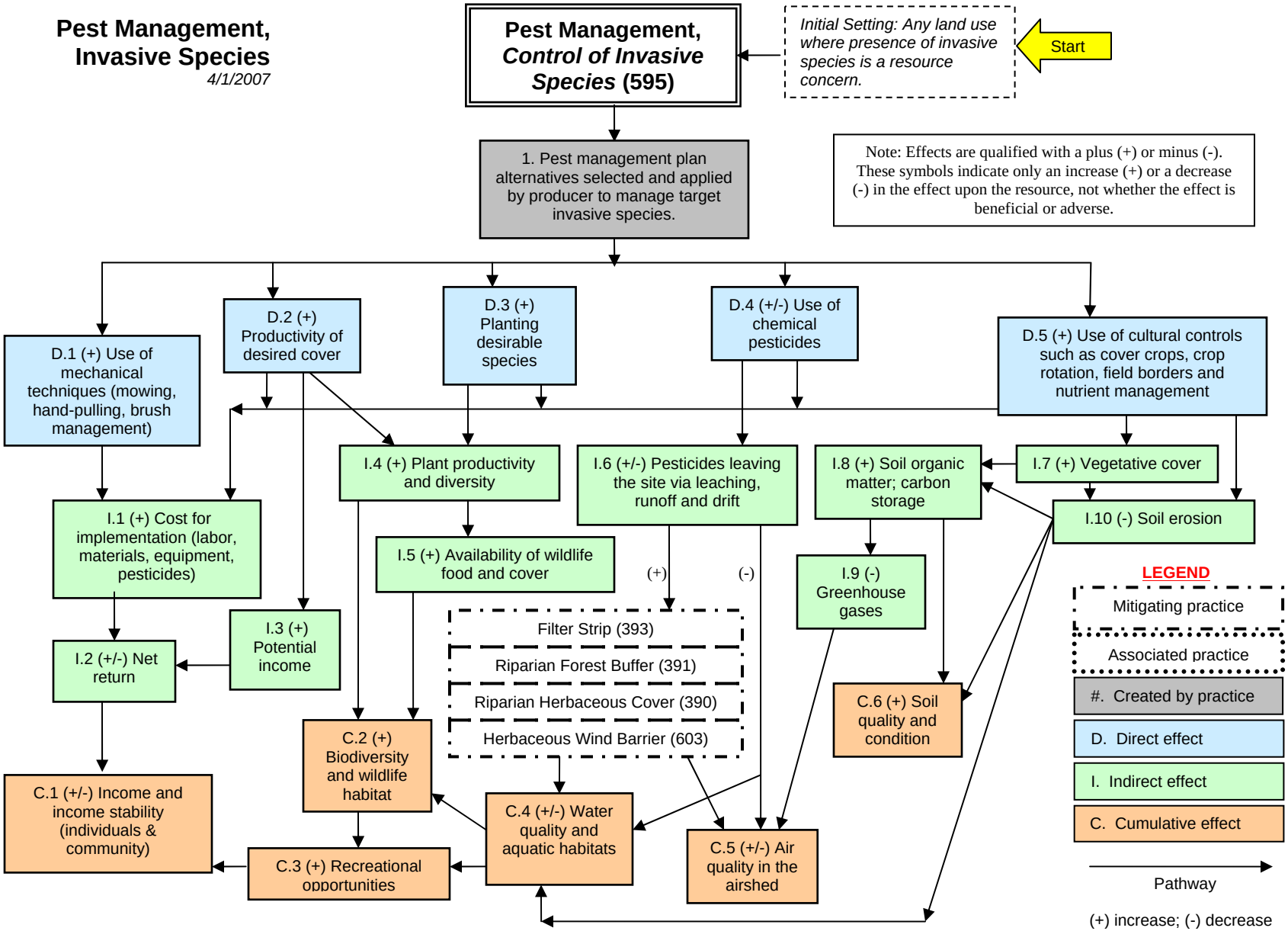

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PIPELINE

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 516

PIPELINE

A Pipeline is used to convey water for livestock, recreation or wildlife.

PRACTICE INFORMATION

The practice is applicable where water needs to be piped to another location(s) for management purposes, to conserve the supply, or for reasons of sanitation.

The purpose of a Pipeline is simply to convey water from the source of supply to the point(s) of use. The objective is usually to decentralize the location of drinking or water storage facilities.

Pipelines installed under this practice are generally for livestock management purposes. A single water source can provide livestock water to several locations and be very effective in improving management of a grazing unit. Pipelines are also used on recreation and wildlife lands to provide or distribute drinking water facilities for humans as well as wildlife.

COMMON ASSOCIATED PRACTICES

Pipelines are commonly used in Conservation Management Systems with the following practices:

- Animal Trail and Walkway,
- Prescribed Grazing,
- Watering Facility,
- Water Well.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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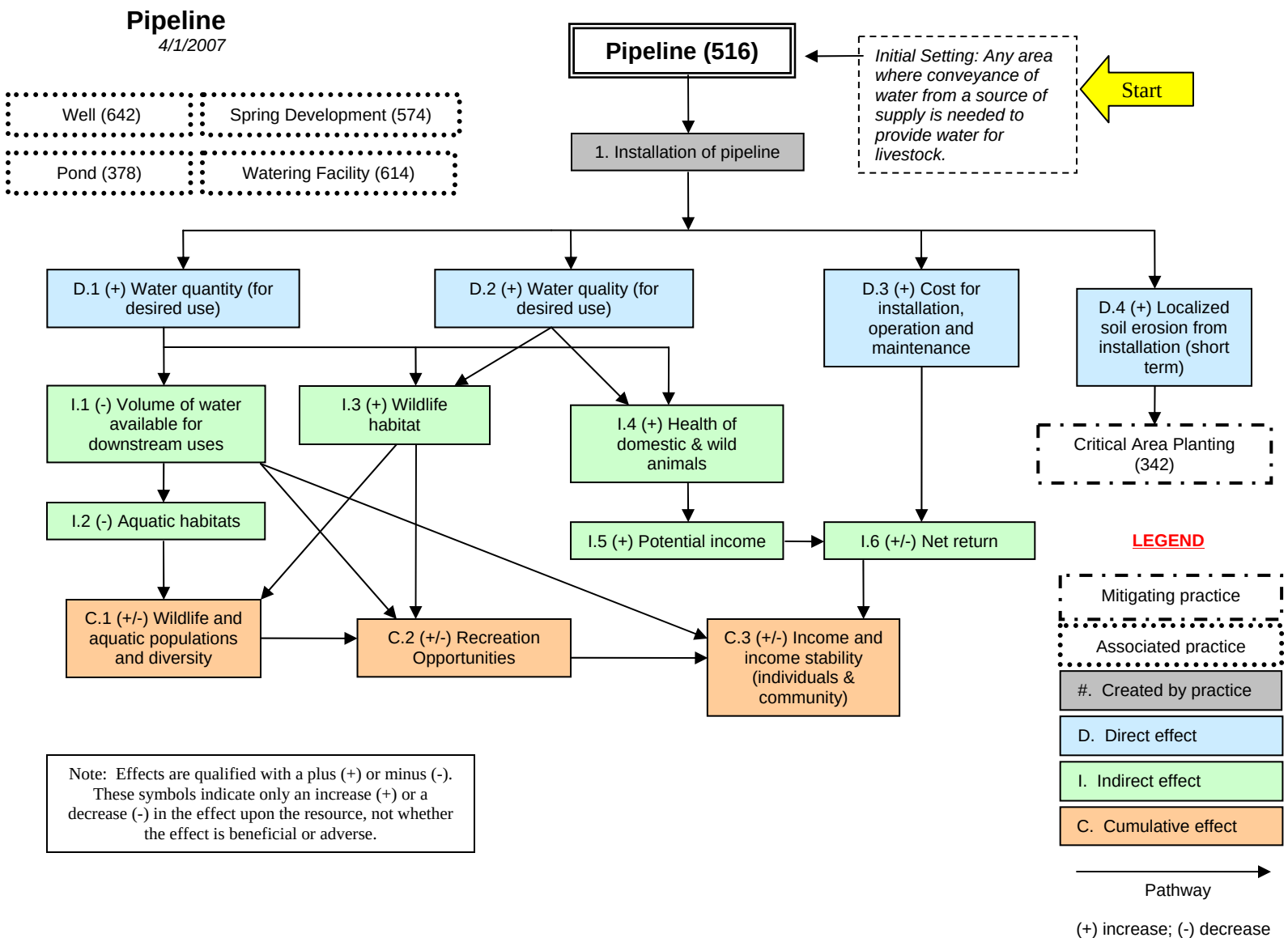

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PRESCRIBED FORESTRY

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 409

PRESRIBED FORESTRY

Prescribed Forestry is the management of forested areas for forest health, wood and/or fiber, water, recreation, aesthetics, wildlife habitat, and plant biodiversity.

PRACTICE INFORMATION

Prescribed forestry activities to achieve the intended purpose(s) are designed according to a specific forest prescription. This prescription addresses the owner's objectives while perpetuating a sustainable forest ecosystem based on ecological parameters such as forest types, soil types, past harvest history, natural community types and successional trends.

The forest prescription often includes the following items.

- Timing and use of equipment for management of the forest area is planned so that site plant productivity is maintained, soil disturbance is held to a minimum and water quality is maintained.
- Slash, debris and vegetative material left onsite do not present an unacceptable fire or pest hazard.
- Trails and landings are maintained to prevent soil erosion and sedimentation problems.
- Consideration is given to planting new vegetation or managing existing vegetation to provide wildlife food and cover.

COMMON ASSOCIATED PRACTICES

Prescribed Forestry is commonly used in a Conservation Management System with the following practices: Forest Trails and Landings, Forest Stand Improvement, Tree/Shrub Establishment, Critical Area Planting, Stream Crossing, Early Successional Habitat Development/Management, and Upland Wildlife Habitat Management.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information

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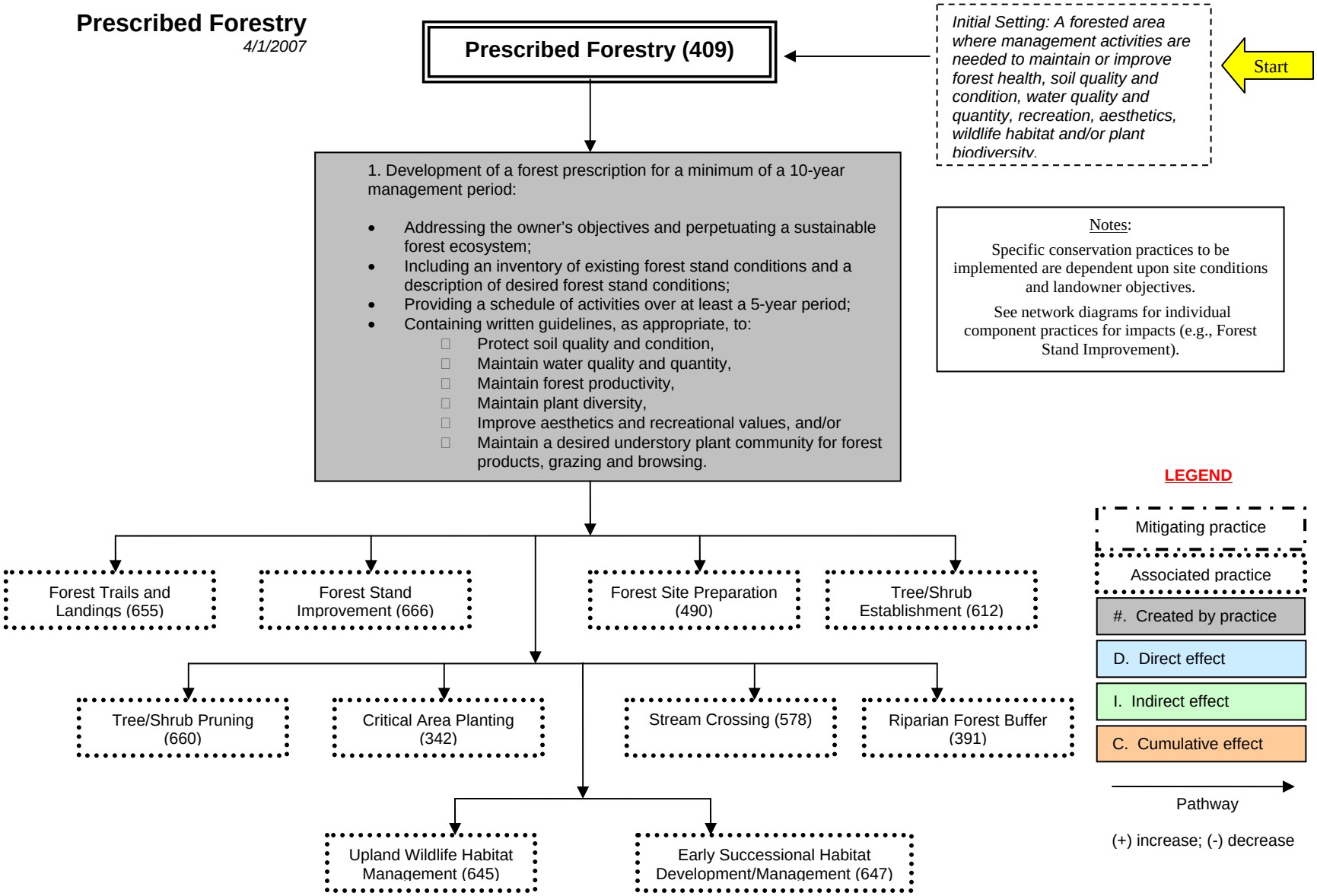
Prescribed Forestry

4/1/2007



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PRESCRIBED GRAZING

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 528

PRESCRIBED GRAZING

Prescribed Grazing is the controlled harvest of vegetation with grazing animals, managed with the intent to achieve a specific objective.

PRACTICE INFORMATION

Prescribed grazing may be applied on all lands where grazing and/or browsing animals are managed. A prescribed grazing schedule is prepared for all fields and pastures to be grazed. Removal of herbage by the grazing animals is in conformity with realistic yield goals, plant growth needs, and management goals. Duration and intensity of grazing is based on desired plant health and expected productivity of the forage species to meet management objectives. In all cases enough vegetation is left to prevent accelerated soil erosion.

Application of this practice manipulates the intensity, frequency, duration, distribution, and season of grazing to:

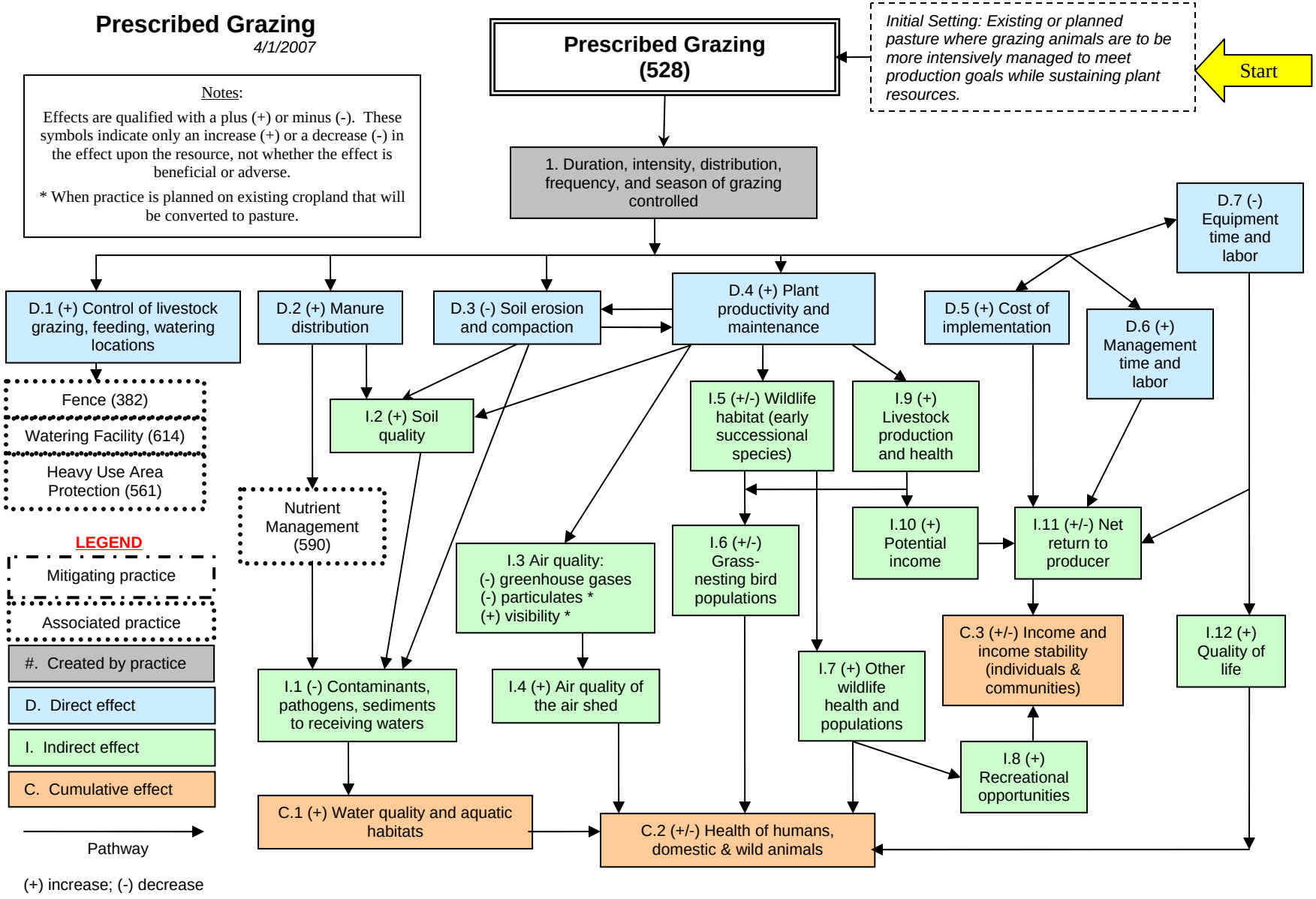
1. Improve water infiltration and use;
2. Maintain or improve riparian and upland area vegetation;
3. Protect stream banks from erosion;
4. Manage for uniform deposition of manure away from water bodies; and
5. Promote ecologically and economically stable plant communities which meet landowner objectives

COMMON ASSOCIATED PRACTICES

Prescribed Grazing is commonly used in a Conservation Management System with the following practices: Pasture and Hay Planting, Feed Management, Fence, Watering Facility, Heavy Use Area Protection, Pipeline, Well, Pond, Spring Development, Nutrient Management, Pest Management, Use Exclusion, Animal Trails and Walkways, and Stream Crossing.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowners and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.



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PUMPING PLANT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 533

PUMPING PLANT

A Pumping Plant is a facility installed to transfer water for a conservation need.

PRACTICE INFORMATION

Pumping plants provide a dependable water source or disposal facility for water management. This practice applies wherever water must be pumped to accomplish a conservation objective, which may include but is not limited to:

- Water supply for irrigation, recreation, livestock or wildlife;
- Maintenance of critical water levels in swamps, marshes, open water, or for newly constructed wetlands and ponds;
- Transfer of wastewater for utilization as part of a waste management system;
- Facilitation of drainage by the removal of surface runoff or ground water.

COMMON ASSOCIATED PRACTICES

The practice is commonly used in a Conservation Management System with the following practices:

- Irrigation Water Conveyance,
- Irrigation System,
- Pipeline,
- Watering Facility,
- Manure Transfer.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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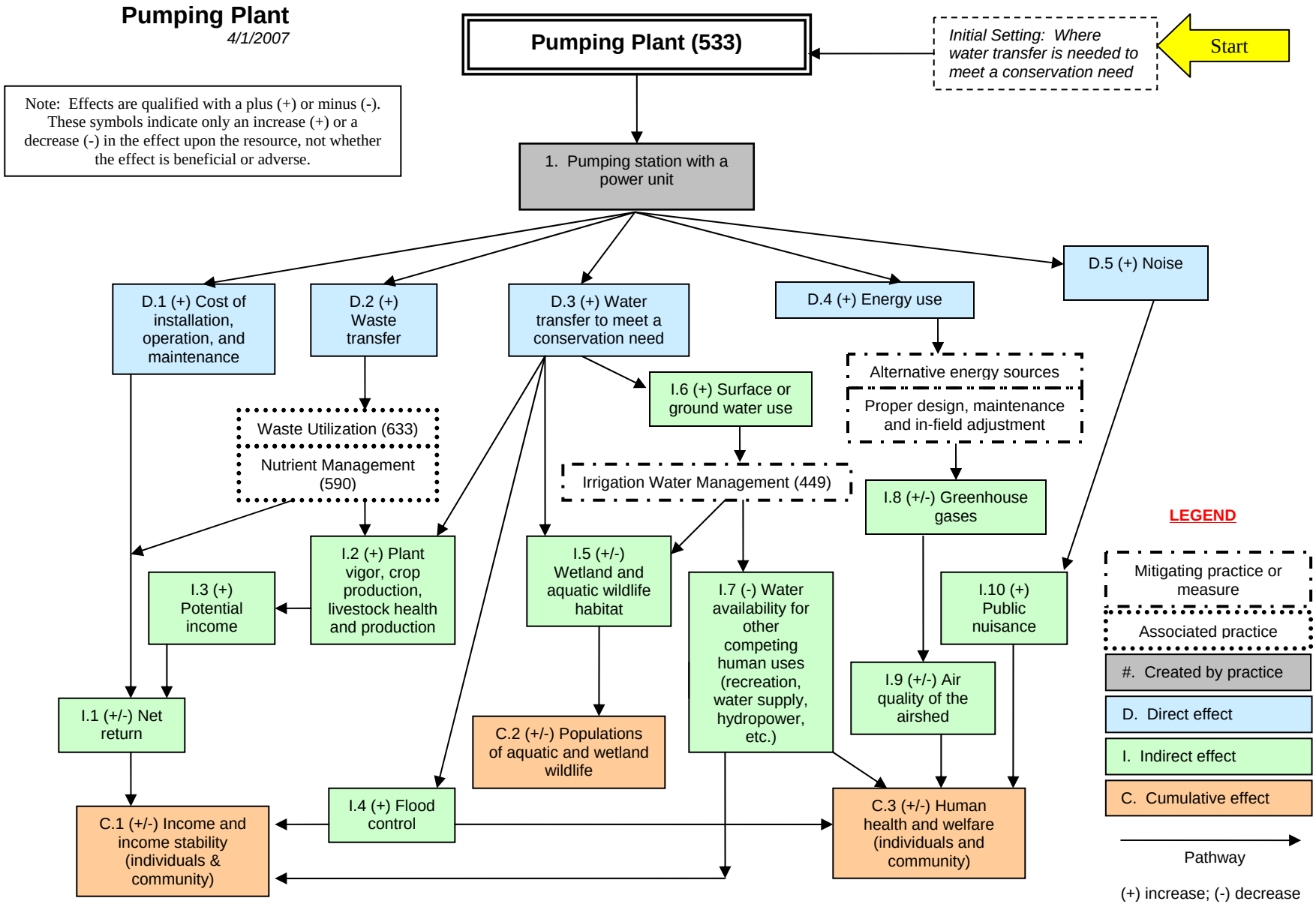
Pumping Plant

4/1/2007



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RECREATION TRAIL AND WALKWAY

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 568

RECREATION TRAIL AND WALKWAY

Recreation Trails and Walkways are pathways prepared especially for pedestrian, equestrian, and cycle travel.

PRACTICE INFORMATION

Recreation trails and walkways are prepared paths, trails, and walkways that are needed for effective and safe use of a recreation resources.

Recreation trail and walkways are designed to save and maintain key trees and other vegetation having scenic value, providing shade, reducing erosion and runoff, providing dens and food for wildlife, or adding to the visual quality of the area. Sustained grades are dictated by good judgment for the purpose intended, considering the topography, but must not exceed 10 percent. Where general public use is anticipated, roads are designed to meet applicable federal, state and local criteria.

Walkways and trails are constructed to a planned guide and cross section. All drainage structures and surfacing is installed according to plans and detailed specifications. Safety features, including signs and guardrails, safety fences at key locations, and removal of existing fences, must be included according to the plans. Construction operations are carried out in such a manner that erosion and air and water pollution are minimized and held within legal limits.

COMMON ASSOCIATED PRACTICES

Recreation Trails and Walkways are commonly used in Conservation Management Systems with the following practices:

- Upland Wildlife Habitat Management,
- Wetland Wildlife Habitat Management,
- Use Exclusion.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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Recreation Trail and Walkway

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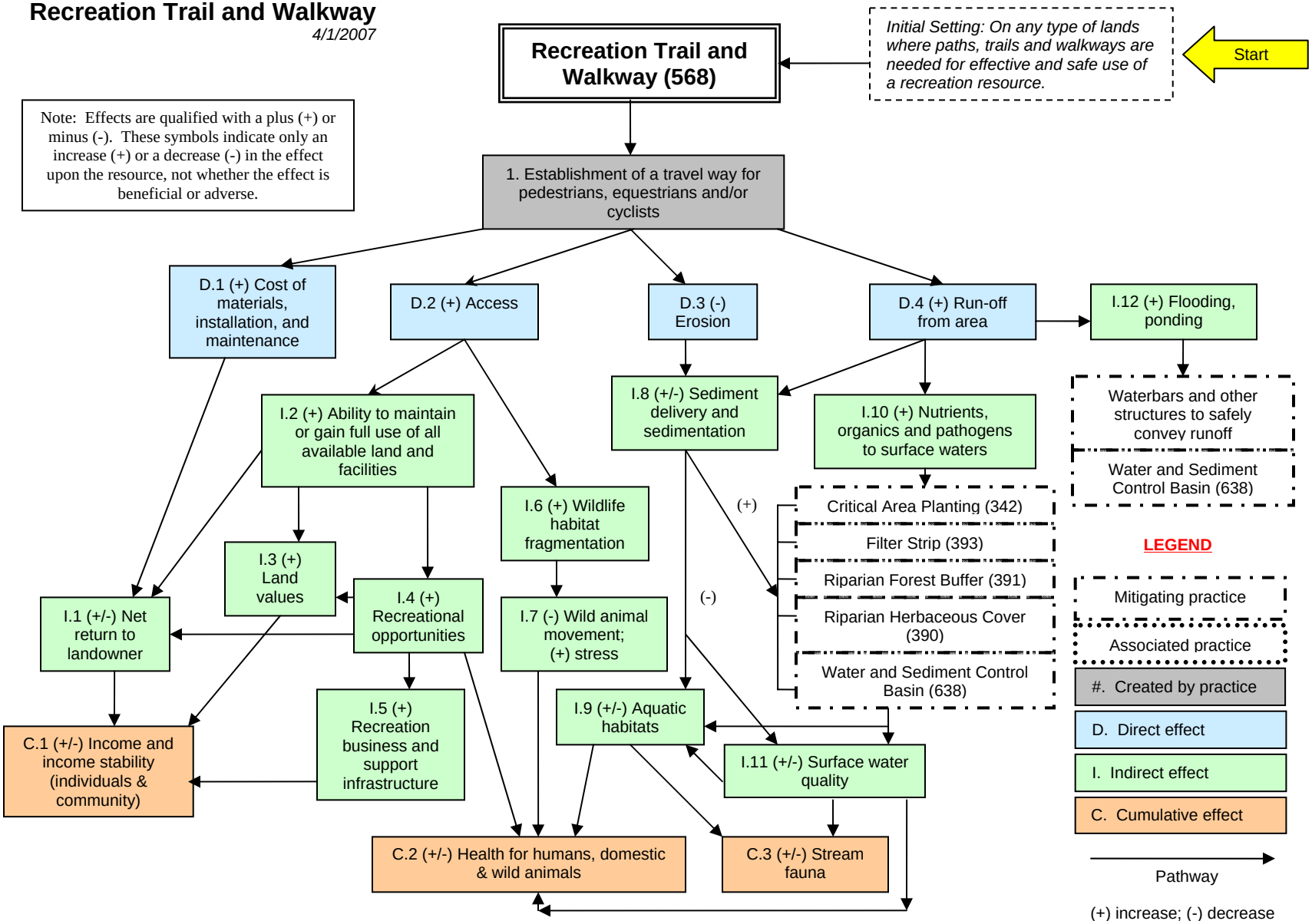

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RESTORATION AND MANAGEMENT OF RARE OR DECLINING HABITATS

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 643

RESTORATION AND MANAGEMENT OF RARE OR DECLINING HABITATS

Restoration and Management of Rare or Declining Habitats is the re-creation and conservation of rare or declining native vegetated communities and their associated wildlife species.

PRACTICE INFORMATION

This practice applies to any landscape which once supported or currently supports the habitat to be restored or managed.

The purposes of this practice are to:

- Restore land or aquatic habitats degraded by human activity,
- Provide habitat for rare and declining wildlife species by restoring and conserving native plant communities,
- Increase native plant community diversity, and
- Manage unique or declining native habitats.

(Note: NRCS uses the term “wildlife” to include all animals, terrestrial and aquatic).

COMMON ASSOCIATED PRACTICES

Restoration and Management of Rare or Declining Habitats is commonly used in a Conservation Management System with the following practices:

- Animal Trails and Walkways,
- Brush Management,
- Conservation Cover,
- Early Successional Habitat Development/Management,
- Tree and Shrub Establishment,
- Prescribed Burning,
- Wildlife Upland Habitat Management,
- Wetland Wildlife Habitat Management.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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Restoration and Management of Rare or Declining Habitats
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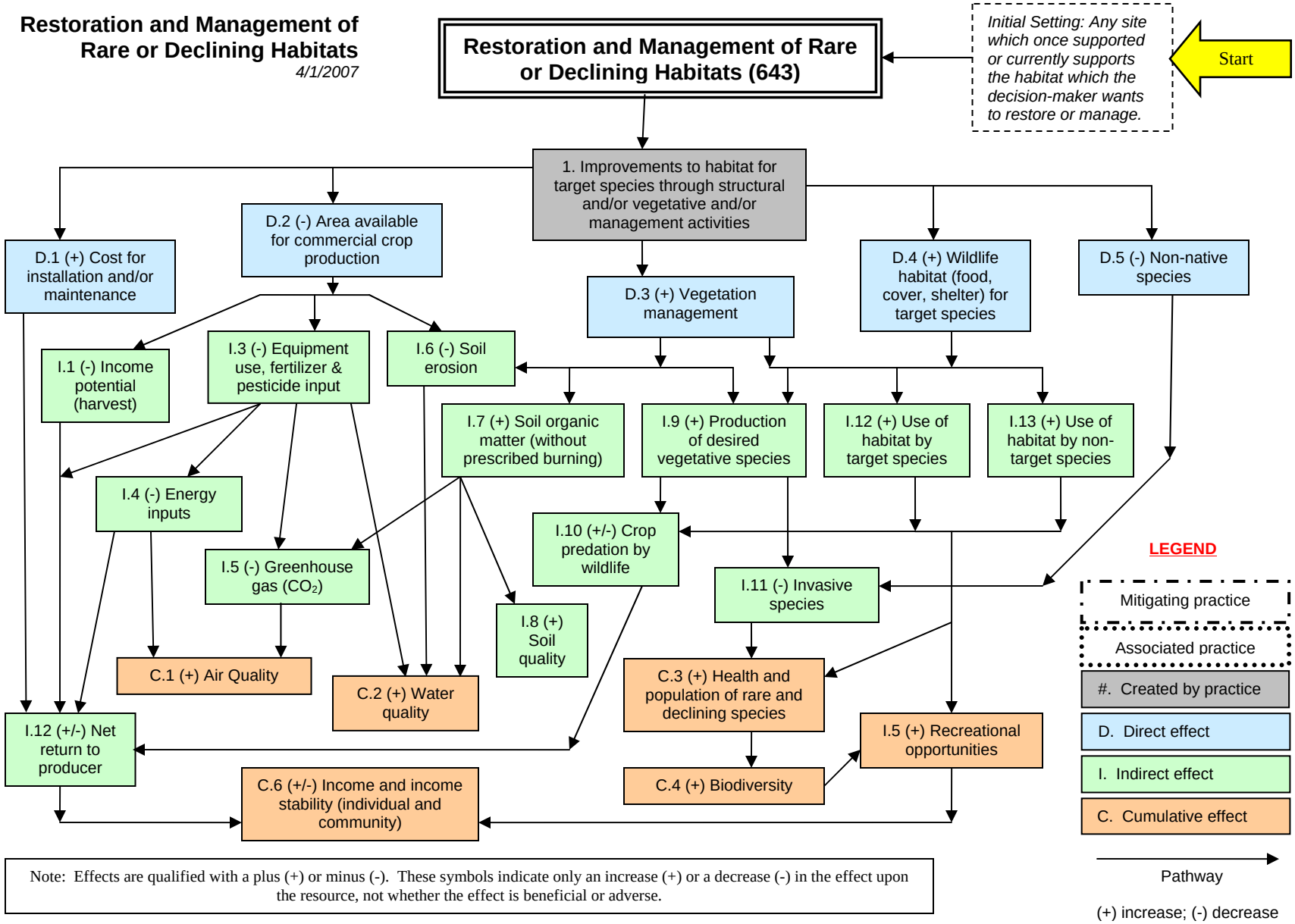

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RIPARIAN HERBACEOUS COVER

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 390

RIPARIAN HERBACEOUS COVER

Riparian herbaceous cover is establishment and maintenance of grasses, grass-like plants and forbs that are tolerant of intermittent flooding or saturated soils and that are established or managed in the transitional zone between terrestrial and aquatic habitats.

PRACTICE INFORMATION

This practice is used on lands along water courses or at the boundary of water bodies or wetlands where: the natural or desired plant community is dominated by herbaceous vegetation; the ecosystem has been disturbed and the natural plant community is missing, changed or has been converted to agricultural crops, lawns or other high maintenance vegetation; or invasive species dominate.

The purpose(s) of this practice include:

- Provision of food, shelter, shading substrate, access to adjacent habitats, nursery habitat and pathways for movement by resident and non-resident aquatic, semi-aquatic and terrestrial organisms;
- Improvement and protection of water quality;
- Stabilization of stream banks and shorelines; and
- Increased net carbon storage in the biomass and soil.

COMMON ASSOCIATED PRACTICES

Riparian Herbaceous Cover is commonly used in a Conservation Management System with other practices such as Conservation Cover, Fence, Use Exclusion, Tree and Shrub Establishment, Wetland Wildlife Habitat Management, Prescribed Grazing, Streambank and Shoreline Protection, Stream Crossing, and Watering Facility.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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Riparian Herbaceous Cover

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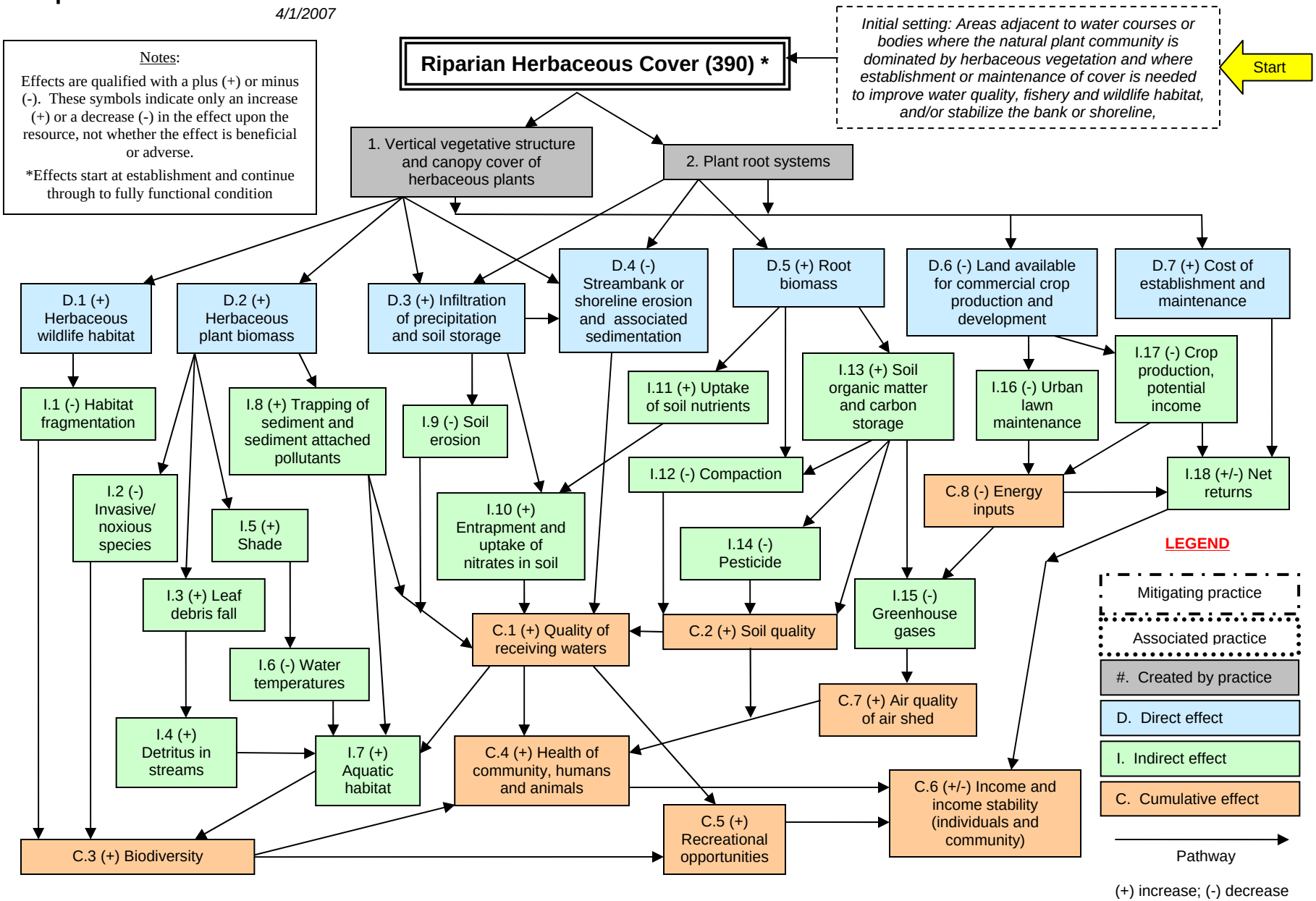

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ROW ARRANGEMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 557

ROW ARRANGEMENT

Row arrangement is a system of crop rows established on planned grades and lengths.

PRACTICE INFORMATION

The purpose of this practice is to provide adequate drainage, reduce erosion, control runoff water, and permit optimum use of rainfall and irrigation water.

Row arrangement utilizes furrows to slow runoff and allow more moisture to infiltrate the soil. Arranging rows on the contour can increase erosion if the rainfall amount exceeds the ability of the contours to control runoff. Therefore, this practice is usually planned in conjunction with other practices needed for support in the event that runoff exceeds the carrying capacity of the contours.

Local standards and specifications generally cover the following items:

1. Alignment requirements when planned and applied with practices such as terraces, diversions, and contour strips;
2. Alignment requirements when contour farming is applied without protection from supporting practices (see above);
3. Established tolerances for deviation from true contour, row grade and row length.

COMMON ASSOCIATED PRACTICES

Row Arrangement is commonly used in a Conservation Management System with the following practices:

- Grassed Waterway,
- Underground Outlet,
- Lined Waterway or Outlet,
- Diversion.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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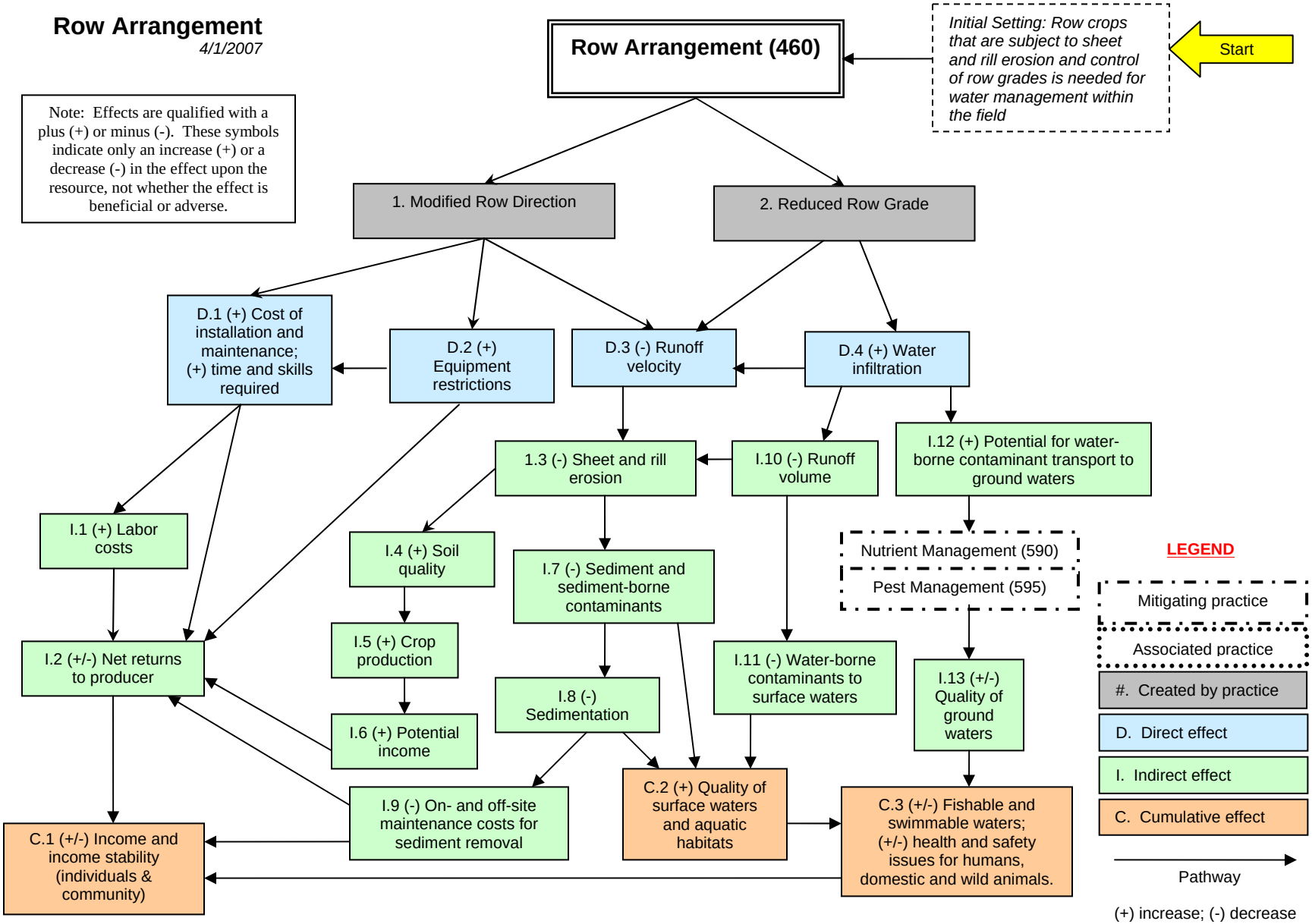

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SEDIMENT BASIN

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 350

SEDIMENT BASIN

A Sediment Basin is a constructed basin designed to collect and store waterborne debris or sediment.

PRACTICE INFORMATION

Sediment Basins are used where physical conditions, ownership, management, or economics preclude treatment of a sediment source by use of other conservation practices. Sediment basins are often installed on construction or mining sites to protect the natural resources until vegetation or structures are installed to control sources of sediment. Other practices are sometimes needed with a sediment basin to protect natural resources.

The purposes of a Sediment Basin are to:

- Preserve the capacity of reservoirs, culverts, ditches, canals, diversions, waterways, and streams;
- Prevent excessive down-slope deposition;
- Trap sediment originating from construction sites; and
- Reduce or abate damage to natural resources from pollution or deposition of sediment.

COMMON ASSOCIATED PRACTICES

Sediment Basins may be component practices of a required storm water management plan and/or erosion and sediment control plan. They are commonly used in Conservation Management Systems with practices such as Critical Area Planting, Mulching, and water control structures.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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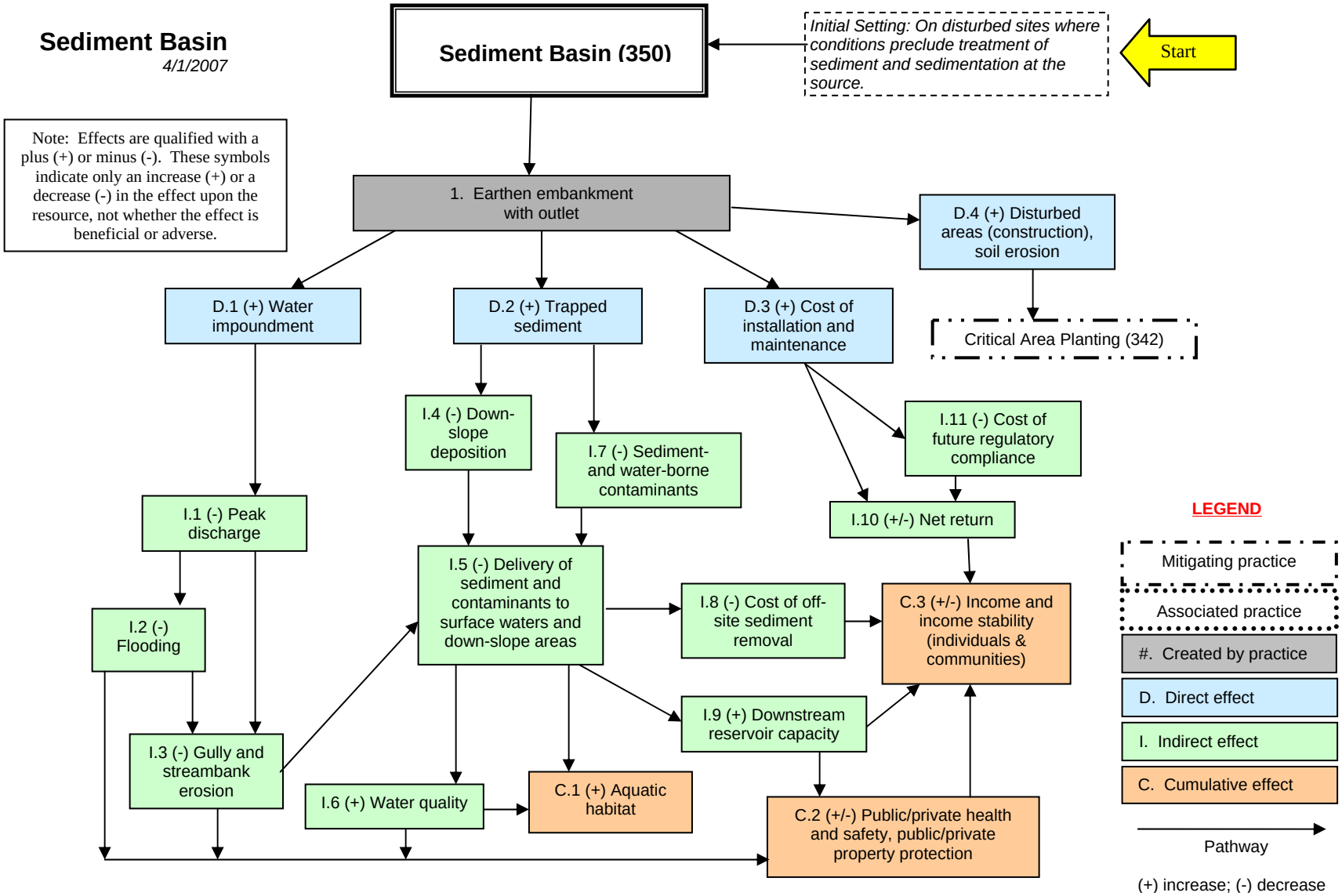

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SHALLOW WATER DEVELOPMENT AND MANAGEMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 646

SHALLOW WATER DEVELOPMENT AND MANAGEMENT

Shallow Water Development and Management is the inundation of lands to provide habitat for fish and/or wildlife.

PRACTICE INFORMATION

This practice is applicable to lands where water can be impounded or regulated by diking, excavating, ditching and/or flooding. It can also be used to provide refuge habitats for native fish during high flow periods.

The purpose is to provide habitat for wildlife such as shorebirds, waterfowl, wading birds, mammals, fish, reptiles, amphibians, and other species that require shallow water for at least a part of their life cycle.

Site selection is important to successfully carrying out this practice. Soils must have a low permeability or seasonal high water table. The site must be free of hazardous materials, and the water supply must be adequate to maintain water levels between 1 to 18 inches in depth over the majority of the area during the inundation period. Operation and maintenance is very important to ensure that this practice functions as intended throughout its expected life.

COMMON ASSOCIATED PRACTICES

Shallow Water Development and Management is commonly used in a Conservation Management System with the following practices:

- Dike,
- Structure for Water Control
- Irrigation Water Conveyance,
- Pipeline,
- Pond,
- Wetland Wildlife Habitat Management.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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Shallow Water Development and Management

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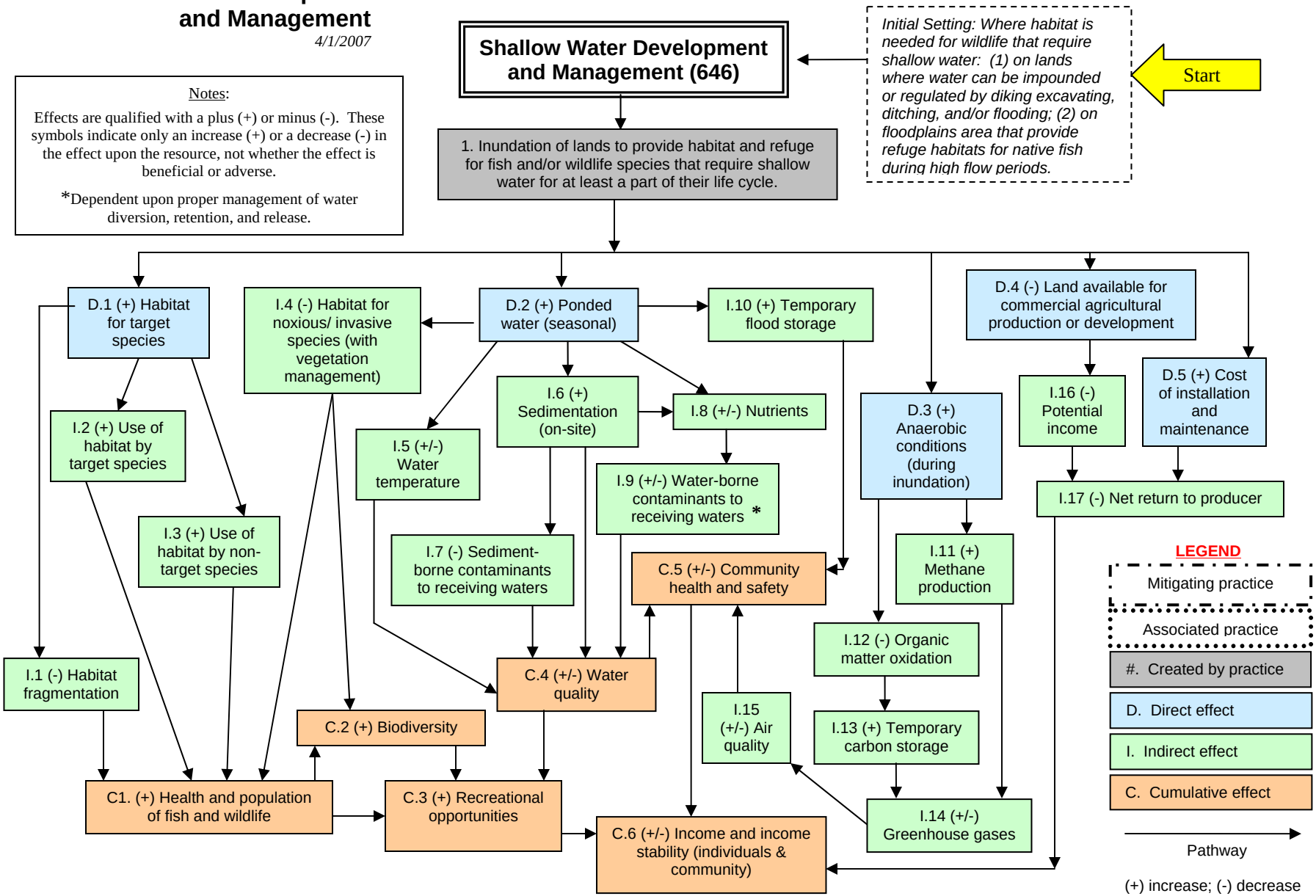

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SOLID/LIQUID WASTE SEPARATION FACILITY

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 632

SOLID/LIQUID WASTE SEPARATION FACILITY

A Solid/Liquid Waste Separation Facility is a filtration or screening device, settling tank, basin, or channel installed to separate a portion of solids from a liquid waste stream.

PRACTICE INFORMATION

The purpose of this practice is to remove solids from the liquid waste stream as a primary treatment process and allow further treatment processes to be applied such as composting and anaerobic digestion. Partially digested feed may be used as a feed supplement or for bedding. Cleaner liquids may better facilitate irrigation techniques.

This practice is part of an agricultural comprehensive nutrient management plan (CNMP) to improve or protect water quality, air quality, livestock health, and meet operation management objectives. The facility is strategically located in the barnyard area.

Required local, state or federal permits and approvals must be obtained prior to construction of this practice. Minimum separating distances from residences, property lines, water courses and wells must be considered.

COMMON ASSOCIATED PRACTICES

The practice is commonly used in a Conservation Management System as part of a CNMP with practices such as Nutrient Management, Composting Facility, Anaerobic Digester, Waste Storage Facility, Waste Utilization, Manure Transfer, and Waste Treatment.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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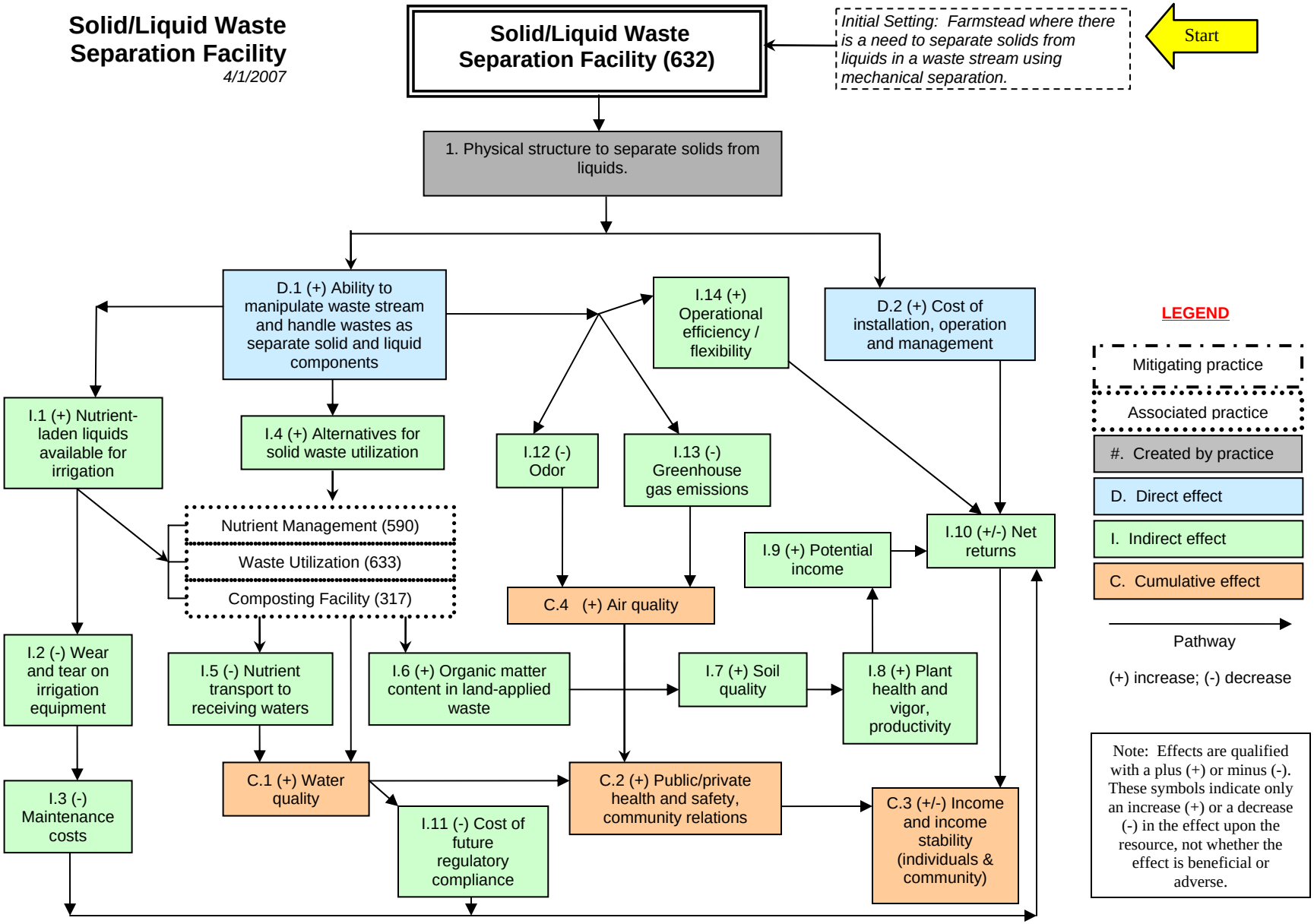

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SPRING DEVELOPMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 574

SPRING DEVELOPMENT

Spring Development is improving springs and/or seeps by excavating, cleaning, capping, or providing collection and storage facilities.

PRACTICE INFORMATION

The purpose of Spring Development is to improve distribution of water for livestock, recreation and wildlife. The practice also applies to irrigation when the quantity and quality of water are suitable for irrigating crops. Spring development involves cleaning and/or enlarging the discharge opening of the spring. Other appurtenances might be needed such as a collection device to channel the water, and a spring box to provide a small amount of storage as well as a sediment trap and connection point for an outlet pipe(s). The outlet pipe(s) may then lead to a storage facility such as a trough or tank.

Prior to Spring Development an investigation of site conditions must be completed, including ecological functions and potential losses to these functions that may occur. Consideration should be given to how diversion of water from the spring may affect streamflow in the watershed and whether the spring can be developed to preserve conditions that support unique habitats in the landscape.

COMMON ASSOCIATED PRACTICES

Spring Development is commonly used in a Conservation Management System with practices such as Watering Facility, Pipeline, Irrigation Water Management, and Critical Area Treatment.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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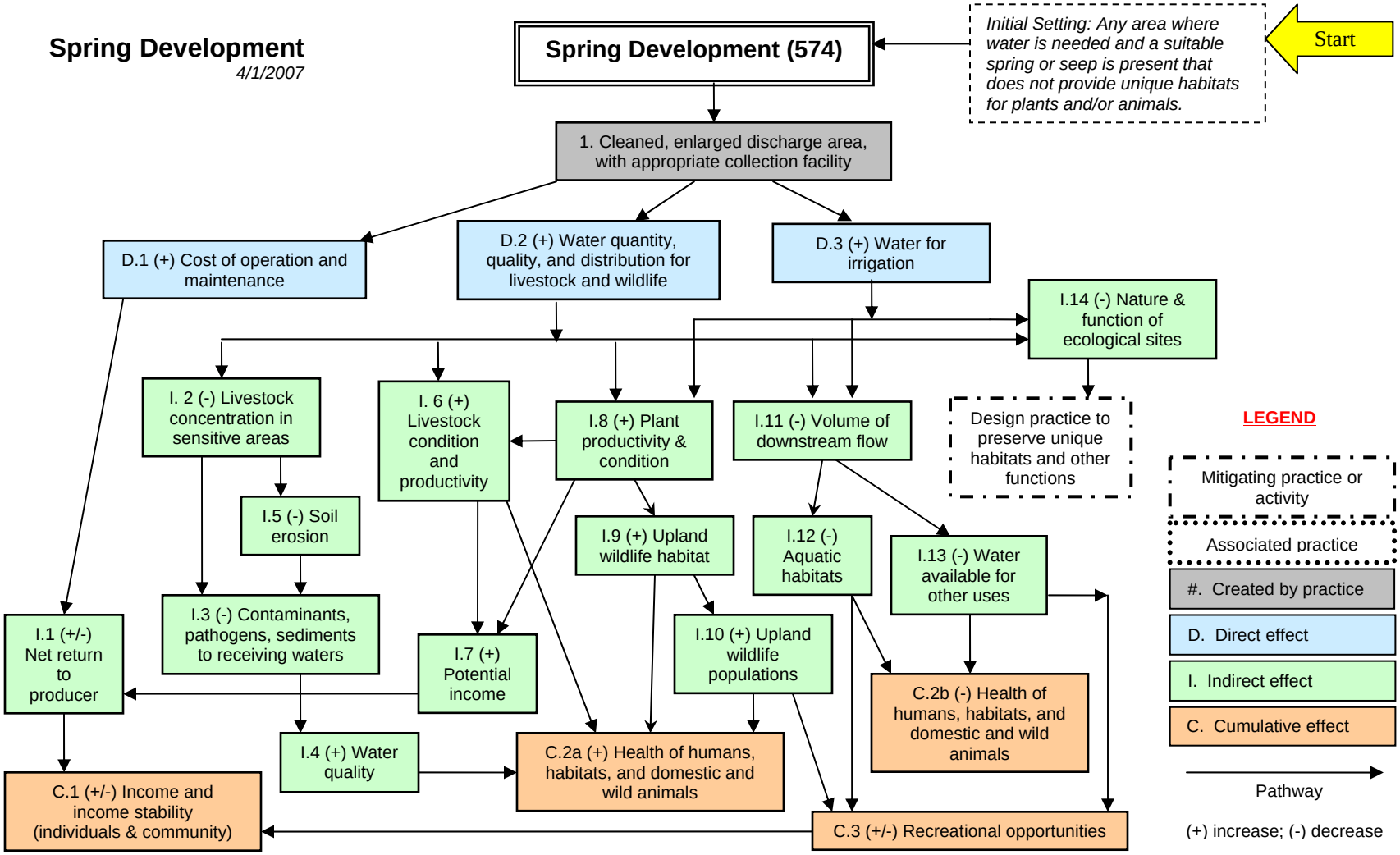

Notes:

Effects are qualified with a plus (+) or minus (-). These symbols indicate only an increase (+) or a decrease (-) in the effect upon the resource, not whether the effect is beneficial or adverse.

The scope of the practice implementation and resulting effects are limited to those described in the "initial setting". If unique habitats supporting plant and animal species exist in a spring to be developed, particularly where there have been numerous disruptions of similar habitats across the landscape, impacts upon the habitat and options for development to preserve unique ecological functions may need to be evaluated in a site-specific EA. Various regulations and policies for the protection of wetlands should also be considered.

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STREAMBANK AND SHORELINE PROTECTION

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 580

STREAMBANK AND SHORELINE PROTECTION

Streambank and Shoreline Protection is the stabilization and protection of streambanks, constructed channels, and shorelines of lakes, reservoirs, or estuaries.

PRACTICE INFORMATION

This practice applies to streambanks of natural or constructed channels and shorelines of lakes, reservoirs, or estuaries where they are susceptible to erosion.

The purpose(s) of this practice include:

- Preventing the loss of land or damage to land uses, or other facilities adjacent to the banks;
- Protecting historical, archeological, and traditional cultural properties, while accommodating the natural fluvial processes within the stream segment and shoreline reach;
- Maintaining the flow or storage capacity of the water body;
- Reducing the off-site or downstream effects of sediment resulting from bank erosion; and
- Improving or enhancing the stream corridor for fish and wildlife habitat, aesthetics, and recreation.

Various materials may be used for protection of streambanks and shorelines. An extensive site assessment must be conducted to determine, among other factors, if the causes of instability are local or systemic in nature. This information is used in selecting the most appropriate treatment to achieve the desired objectives. Treatments must be functional and stable for the design flow and sustainable for higher flow conditions.

COMMON ASSOCIATED PRACTICES

Streambank and Shoreline Protection is commonly used in a Conservation Management System with various conservation practices, including Riparian Forest Buffer, Riparian Herbaceous Buffer, Critical Area Planting, Fish Passage, Pipeline, Fence, Use Exclusion, and Watering Facility.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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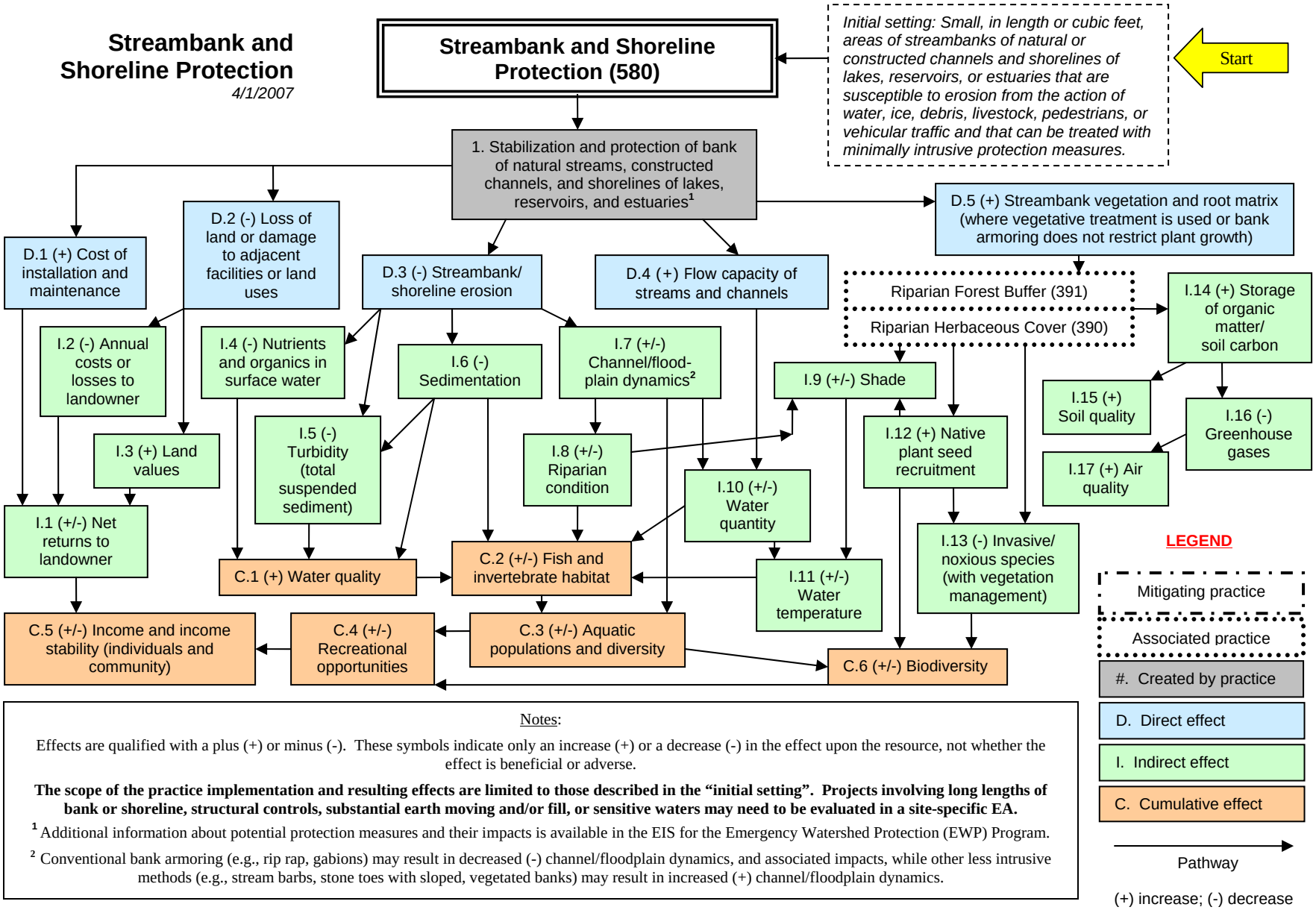

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The scope of the practice implementation and resulting effects are limited to those described in the "initial setting". Projects involving long lengths of bank or shoreline, structural controls, substantial earth moving and/or fill, or sensitive waters may need to be evaluated in a site-specific EA.

[1] Additional information about potential protection measures and their impacts is available in the EIS for the Emergency Watershed Protection (EWP) Program.

[2] Conventional bank armoring (e.g., rip rap, gabions) may result in decreased (-) channel/floodplain dynamics, and associated impacts, while other less intrusive methods (e.g., stream barbs, stone toes with sloped, vegetated banks) may result in increased (+) channel/floodplain dynamics.

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STREAM CROSSING

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 578

STREAM CROSSING

A Stream Crossing is a stabilized area or structure constructed across a stream to provide a travel way for people, livestock, equipment, or vehicles.

PRACTICE INFORMATION

This practice applies to all land uses where an intermittent or perennial watercourse exists and a ford, bridge, or culvert type crossing is desired for livestock, people, and /or equipment.

Stream crossings are located in areas where the streambed is stable or where grade control can be provided to create a stable condition. Avoid sites where channel grade or alignment changes abruptly, excessive seepage or instability is evident, or where large tributaries enter the stream.

A properly designed and installed stream crossing provides a way for normal passage of water, fish and other aquatic animals within the channel during all seasons of the year.

COMMON ASSOCIATED PRACTICES

Stream crossings are commonly planned in Conservation Management Systems with a variety of practices, including Critical Area Treatment, Access Road, Forest Trails and Landings, Animal Trails and Walkways, Prescribed Grazing, Watering Facilities, Fencing, and Fish Passages.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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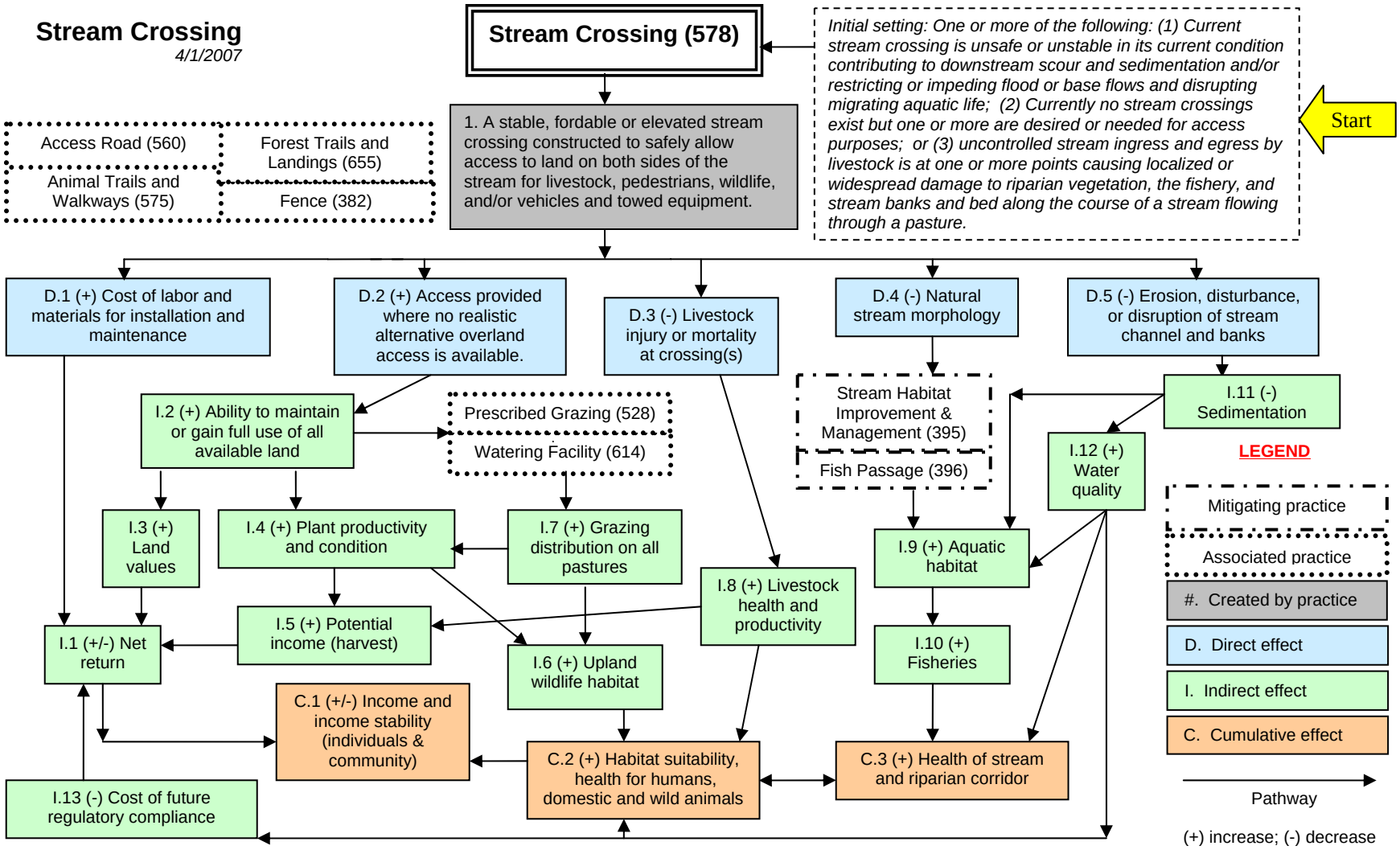

Notes:

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The scope of the practice implementation and resulting effects are limited to those described in the "initial setting". Stream Crossings that involve construction of substantial structures, alteration of the natural channel profile, or protected resources may need to be evaluated in a site-specific EA.

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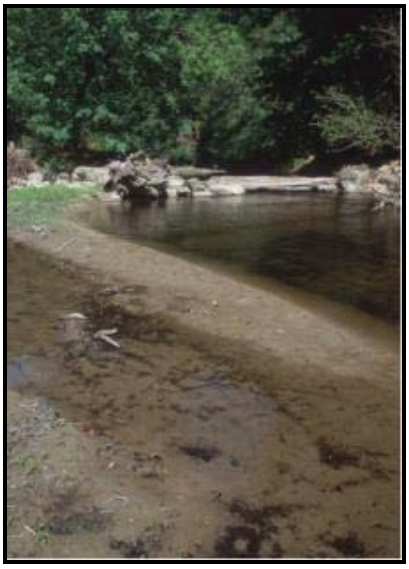
STREAM HABITAT IMPROVEMENT AND MANAGEMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 395



STREAM HABITAT IMPROVEMENT AND MANAGEMENT

Stream Habitat Improvement and Management is the maintenance, improvement, and restoration of physical, chemical, and biological functions of a stream.

PRACTICE INFORMATION

This practice applies to streams and their adjoining backwaters, floodplains, associated wetlands and riparian areas where geomorphic conditions or habitat deficiencies limit survival, growth, diversity, and/or reproduction of aquatic species.

The purposes of this practice include providing:

- Suitable habitat for desired aquatic species and diverse aquatic communities; and
- Stream channel and associated riparian conditions that maintain ecological processes and connections of diverse stream habitat types important to aquatic species.

Planned stream habitat improvements will be based on an assessment of watershed, stream and riparian conditions. Riparian corridors adjoining the stream must be managed as well as the in-stream habitat. Establishment of an ecologically self-sustaining stream-riparian system consistent with the watershed conditions and geomorphic setting should be emphasized.

COMMON ASSOCIATED PRACTICES

Stream Habitat Improvement and Management is commonly used in a Conservation Management System with practices such as Riparian Forest Buffer, Riparian Herbaceous Cover, Fish Passage, Streambank and Shoreline Protection, Animal Trails and Walkways, Fence, and Use Exclusion.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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Stream Habitat Improvement and Management

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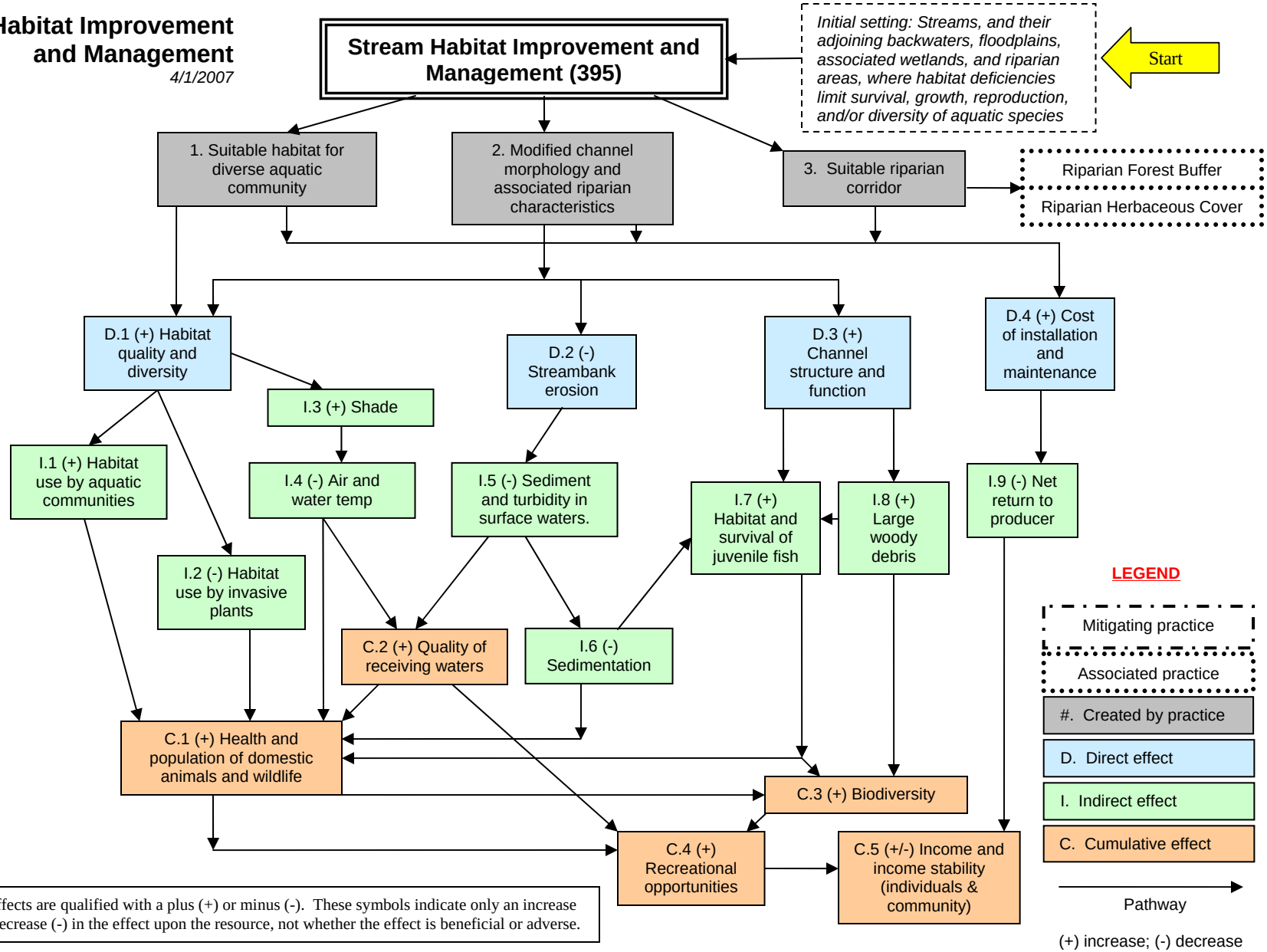

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STRIPCROPPING

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 585

STRIPCROPPING

Stripcropping is growing crops in a systematic arrangement of strips in a field to reduce soil erosion, reduce particulate emissions into the air and improve water quality.

PRACTICE INFORMATION

This practice is used on cropland and certain recreation and wildlife lands where field crops are grown. The crops are arranged so that a strip of grass or close-growing crop is alternated with a clean tilled strip or a strip with less protective cover. Generally the strip widths are equal across the field. On sloping land where sheet and rill erosion are a concern, the strips are laid out on the contour or across the general slope. Where wind erosion is a concern, the strips are laid out as close to perpendicular as possible to the prevailing erosive wind direction.

Stripcropping is a multi-purpose practice that has one or more of the following effects:

1. Reduced sheet and rill erosion;
2. Reduced wind erosion;
3. Increased infiltration, available soil water;
4. Reduced dust emissions into the air;
5. Improved water quality;
6. Improved visual quality of the landscape;
7. Improved wildlife habitat.

COMMON ASSOCIATED PRACTICES

Stripping cropping is commonly planned as part of Conservation Management System with a Conservation Crop Rotation, Nutrient Management, Pest Management, Diversion, Grassed Waterway, Underground Outlet, and other conservation practices

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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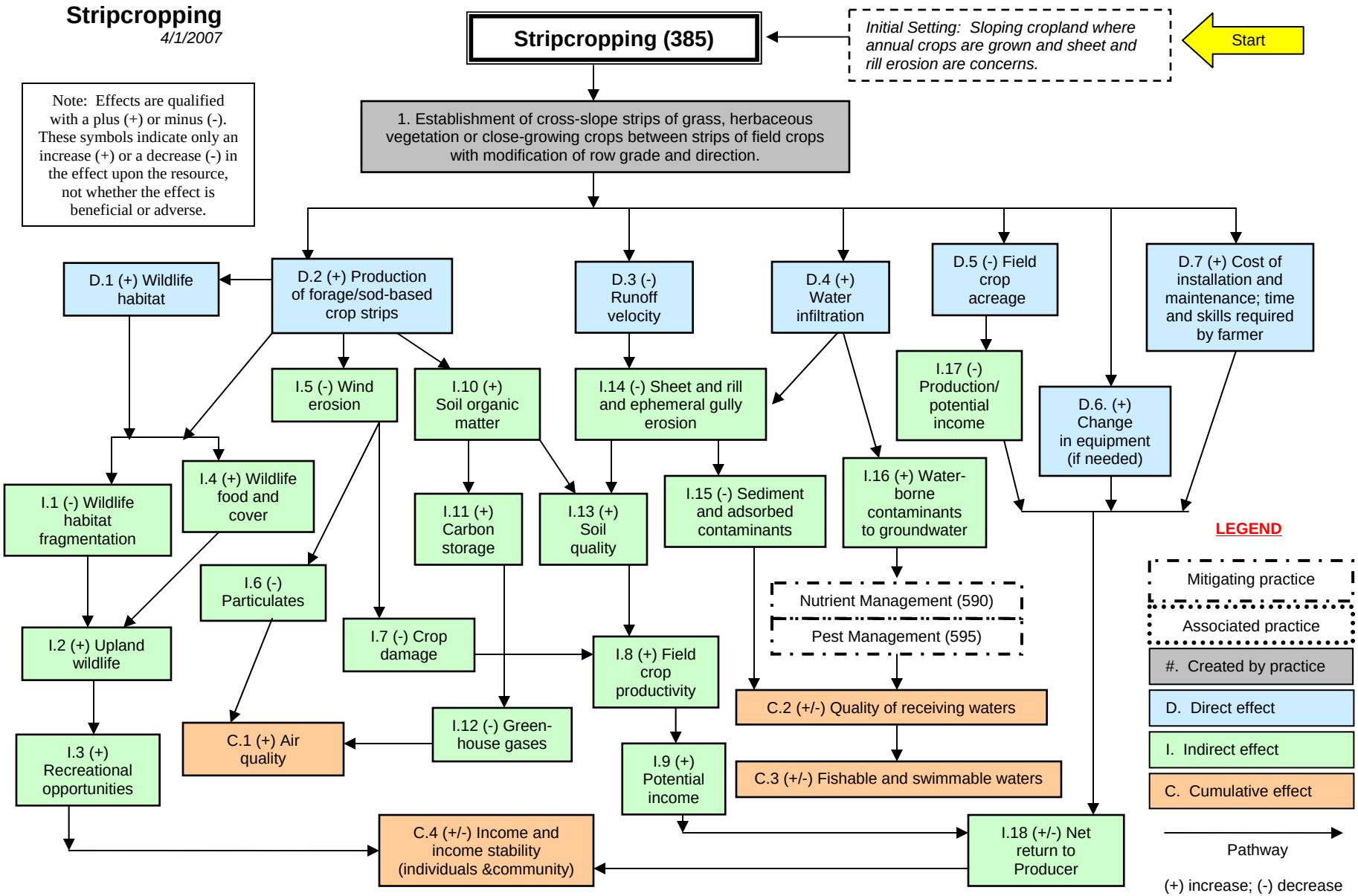

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STRUCTURE FOR WATER CONTROL

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 587

STRUCTURE FOR WATER CONTROL

A Structure for Water Control is placed in irrigation, drainage, or other water management systems to convey water, control the direction or rate of flow, or maintain water surface elevation.

PRACTICE INFORMATION

Structures for water control are used to control the stage, discharge, distribution, delivery, or direction of flow of water in open channels or water use areas. They are also used for water quality control, such as sediment reduction or temperature regulation, or for protection of fish and wildlife and other natural resources.

Water control structures are used as outlets on cranberry bogs and irrigation pits to manage the level of water for harvesting, winter flooding, trash removal, pest control or other purposes. When used to control the division of chemigation water, this practice will reduce the amount of suspended chemicals attached to organic material and soil particles entering surface waters. It allows for the biological treatment of dissolved chemicals when water is detained in the system for the required holding period. Chemicals that remain in the system may be bound up in the soil organic matter; however, soils that are low in organic matter may have a tendency to allow for the leaching of dissolved chemicals into the ground water.

COMMON ASSOCIATED PRACTICES

The practice is commonly used in Conservation Management Systems with Dikes, Open Channels, Land Smoothing, Shallow Water Management for Wildlife, Wetland Wildlife Habitat Management, Wetland Enhancement, or Wetland Restoration.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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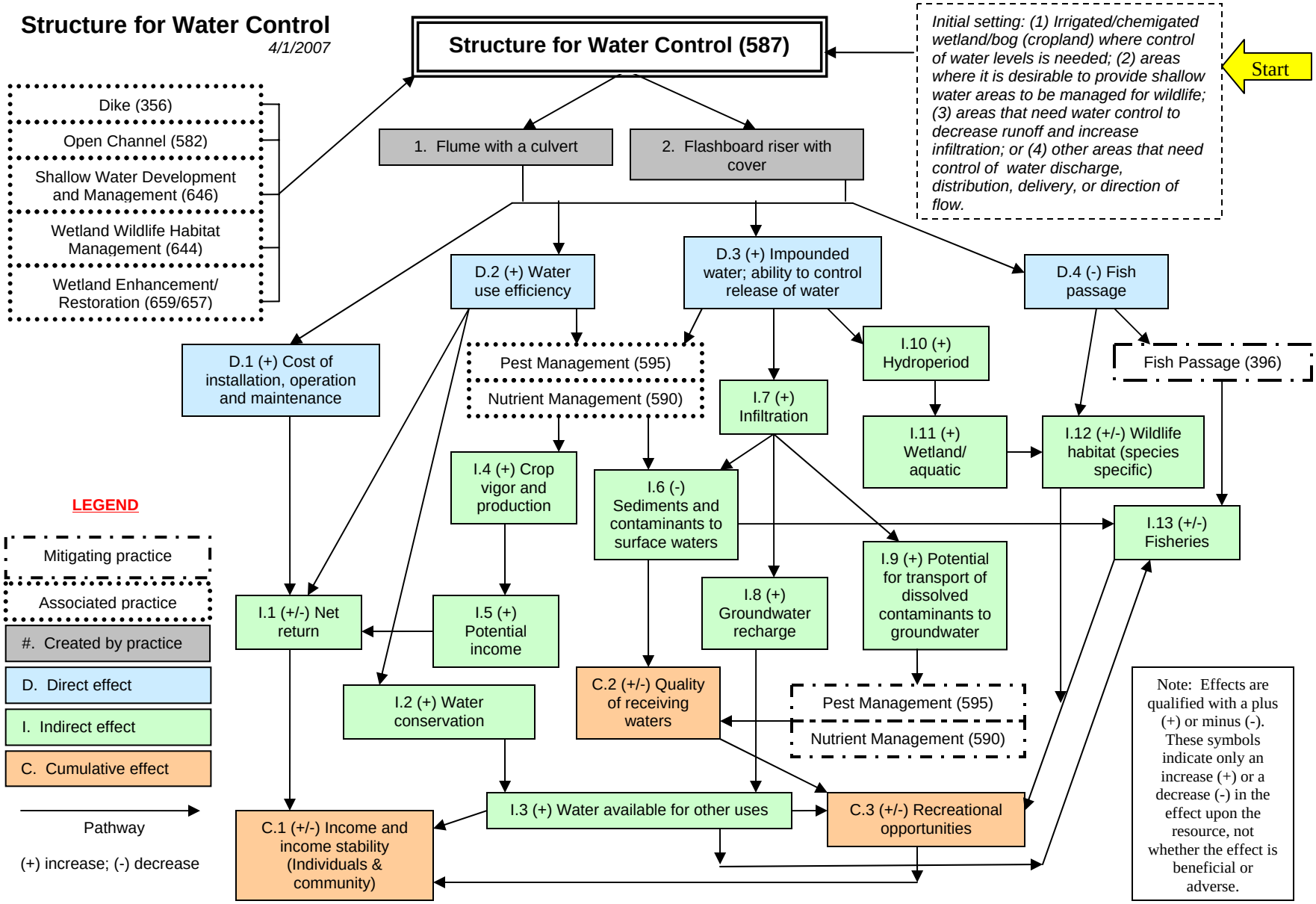

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SUBSURFACE DRAIN

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 606

SUBSURFACE DRAIN

A subsurface drain is a conduit, such as corrugated plastic tubing, tile, or pipe, installed beneath the ground surface to collect and/or convey drainage water.

PRACTICE INFORMATION

The purpose of a subsurface drain is to:

- Improve the environment for vegetation;
- Reduce erosion;
- Improve water quality;
- Regulate ground water and water table flows;
- Collect ground water for beneficial uses;
- Remove water from heavy use areas such as recreation areas, or around buildings; and/or
- Regulate water to control health hazards caused by pests.

Subsurface drainage is used in areas having a high water table where the benefits of lowering the water level are worth the expense. The practice also applies to areas that will benefit from controlling ground water and/or surface runoff. The soil must meet certain suitability requirements and an adequate outlet must be available to assure the drain will function properly.

COMMON ASSOCIATED PRACTICES

A Subsurface Drain is commonly applied as part of a Conservation Management System with Pest Management, Nutrient Management, Surface Drain (Main or Lateral), Underground Outlet, Critical Area Treatment, Drainage Water Management, and other conservation practices.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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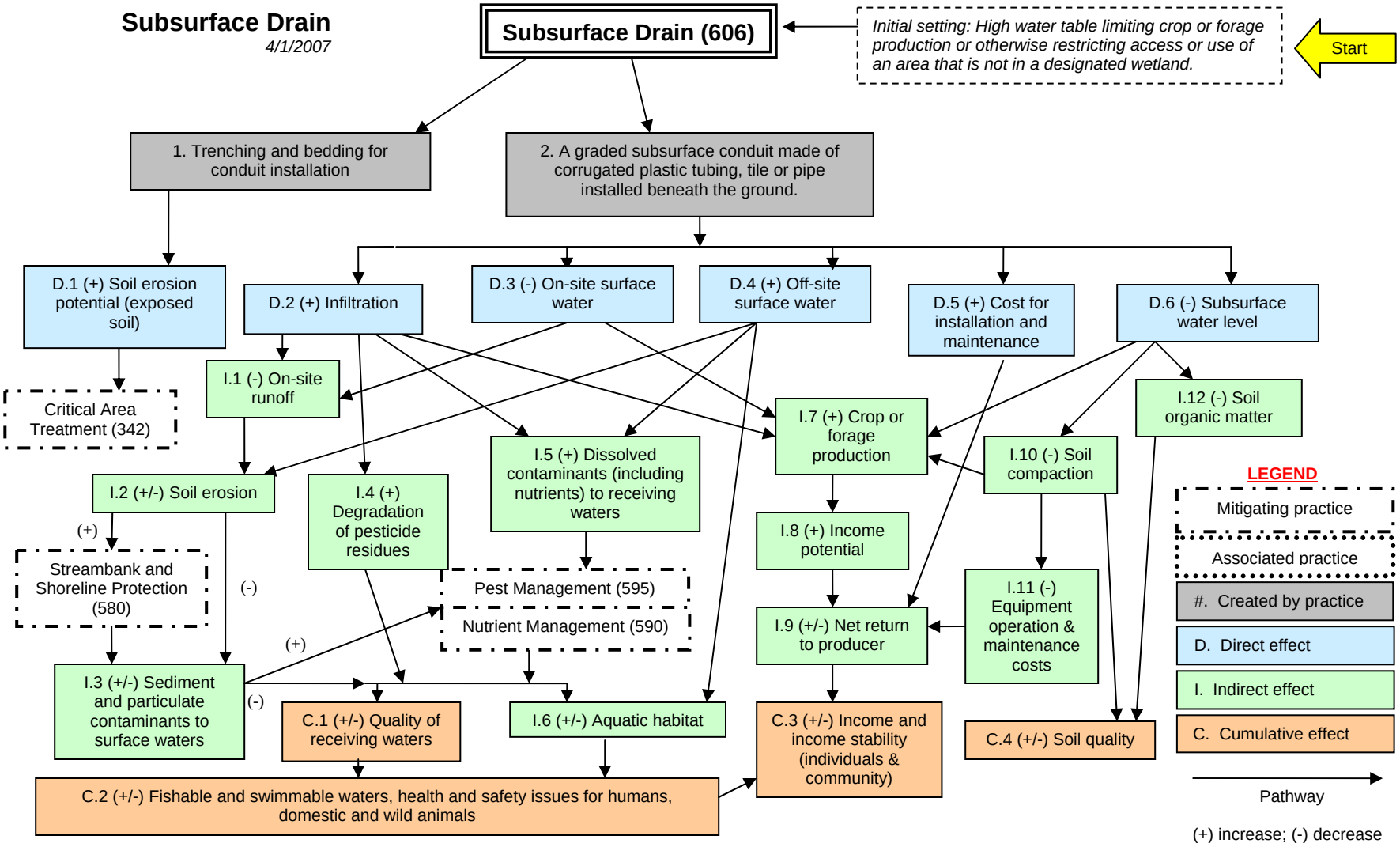

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The scope of the practice implementation and resulting effects are limited to those described in the "initial setting". Any drainage practice has the potential for impacts to receiving aquifers and surface waters. Large drainage projects may need to be evaluated in a site-specific EA.

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SURFACE DRAINAGE, FIELD DITCH

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service –Practice Code 607

SURFACE DRAINAGE, FIELD DITCH

A Field Ditch installed for surface drainage is a graded ditch for collecting excess surface or subsurface water in a field.

PRACTICE INFORMATION

The purpose of this practice is to:

- Drain surface depressions;
- Collect or intercept excess surface water, such as sheet flow from natural and graded land surfaces or channel flow from furrows, and carry it to an outlet; or
- Collect excess subsurface water and carry it to an outlet.

Applicable sites are flat or nearly flat and have soils that are slowly permeable or otherwise collect water. Adequate outlets for the disposal of drainage waters are required. This practice applies to small drainage ditches within a field, but not to main or lateral ditches, or grassed waterways. Compliance with Federal, State, and local laws and regulations is required.

COMMON ASSOCIATED PRACTICES

Drainage field ditches are planned as integral parts of a drainage system for the field served. They are commonly used in Conservation Management Systems with Surface Drainage, Main or Lateral, Nutrient Management, Pest Management, Diversions, and other conservation practices.

Refer to the practice standard found in the local Field Office Technical Guide and associated job sheets for further information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowner and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.

Surface Drainage, Field Ditch

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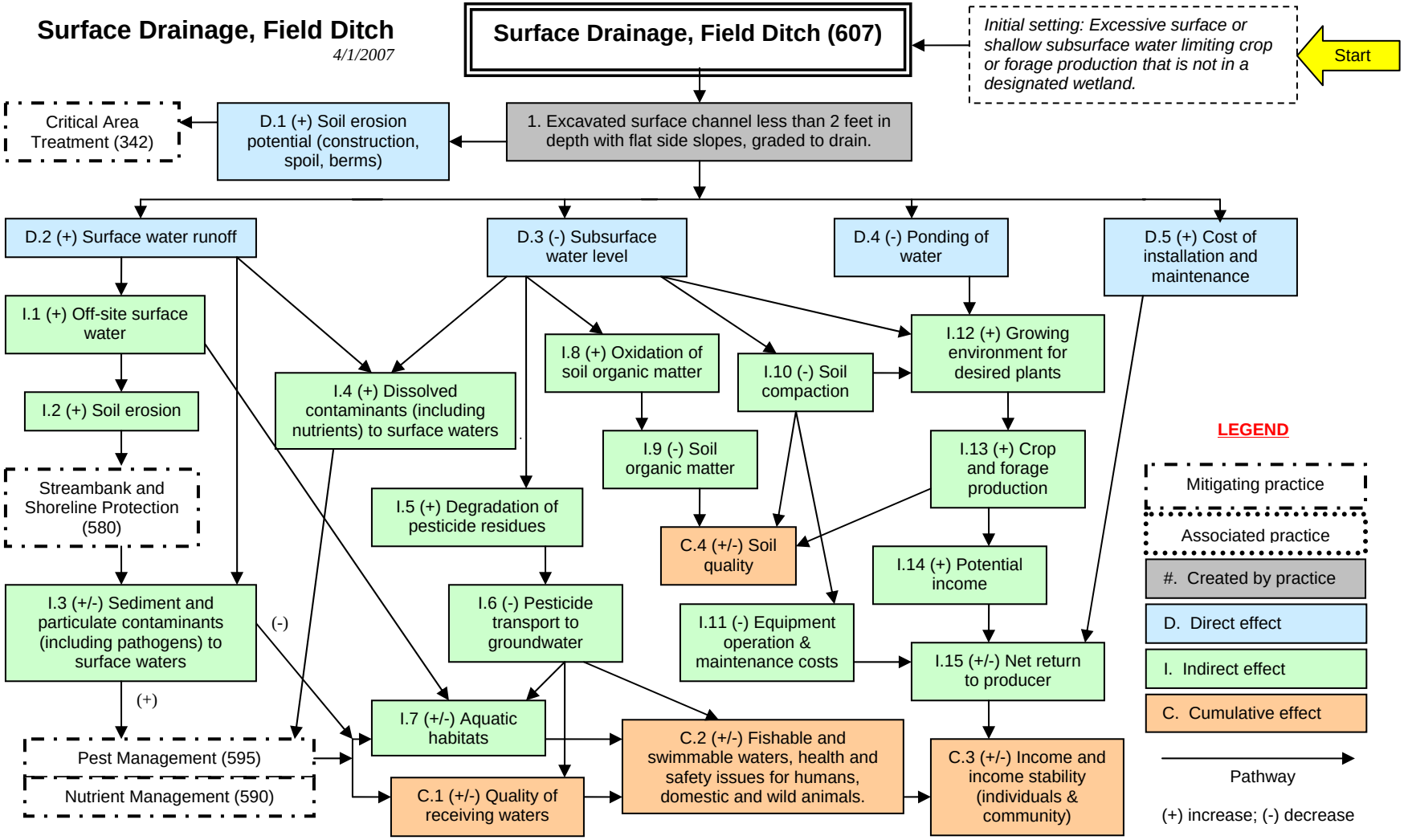

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SURFACE DRAINAGE, MAIN OR LATERAL

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 608

SURFACE DRAINAGE, MAIN OR LATERAL

A Main or Lateral is an open drainage ditch constructed to a designed size and grade that receives drainage waters from other drainage structures.

PRACTICE INFORMATION

This practice is used in conjunction with Surface Drainage, Field Ditch, or Subsurface Drain for conveyance and disposal of excess surface and subsurface water and control of groundwater levels.

Sites for this practice are suitable for agriculture and have an outlet for the drainage water by either gravity or pumping. Mains and laterals are located and designed to serve as integral parts of a surface or sub-surface drainage system that meets conservation and land use needs.

COMMON ASSOCIATED PRACTICES

Other practices commonly used in Conservation Management Systems with Mains or Laterals include Surface Drainage, Field Ditch, Subsurface Drain, Channel Vegetation, Nutrient Management, Pest Management, Critical Area Planting, and other conservation practices.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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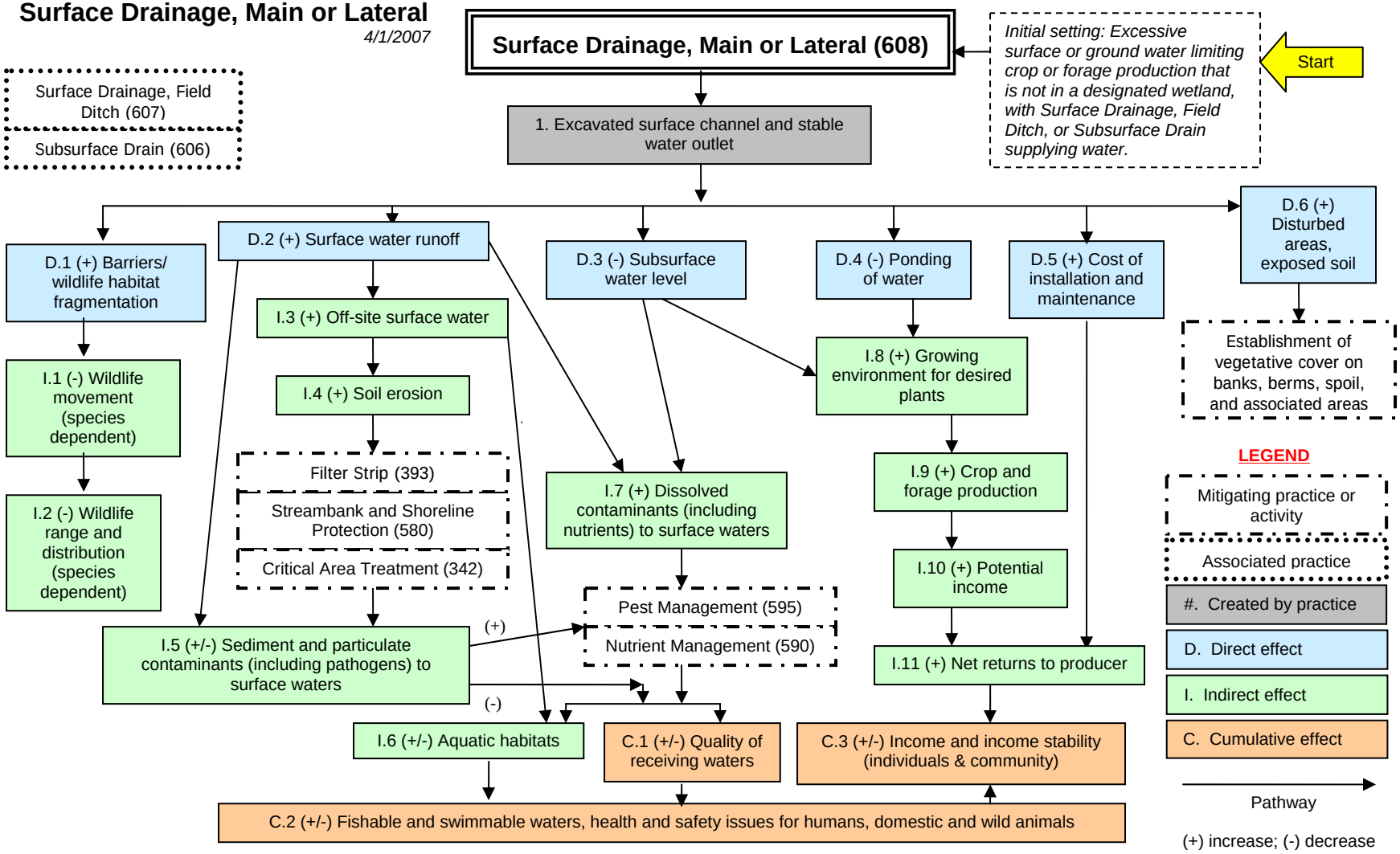
Surface Drainage, Main or Lateral

4/1/2007



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TREE/SHRUB PRUNING

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 660

Photos credited to Forestry Images: Forest Health, Natural Resources & Silviculture Images http://www.forestryimages.org/

TREE/SHRUB PRUNING

Tree or Shrub Pruning is the removal of all or parts of selected branches from trees and shrubs.

PRACTICE INFORMATION

The purpose of the practice is to improve the function, health, appearance, and quality of the plants. Safety is also a reason for pruning trees and shrubs. This practice applies to crop trees of high value as well as trees planted for aesthetics, wildlife, recreation, windbreaks, and other purposes.

The timing of the pruning operation should be appropriate to the growth characteristics of the plants. In addition, nesting and breeding requirements of birds should be considered.

Other wildlife species may or may not be adversely affected by pruning. In urban areas, special attention must be given to safety precautions.

COMMON ASSOCIATED PRACTICES

Tree/Shrub Pruning is commonly used in a Conservation Management System with the following practices:

- Forest Stand Improvement,
- Forest Trails and Landings,
- Upland Wildlife Habitat Management,
- Wetland Wildlife Habitat Improvement,
- Early Successional Habitat Development and Management.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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Tree/Shrub Pruning

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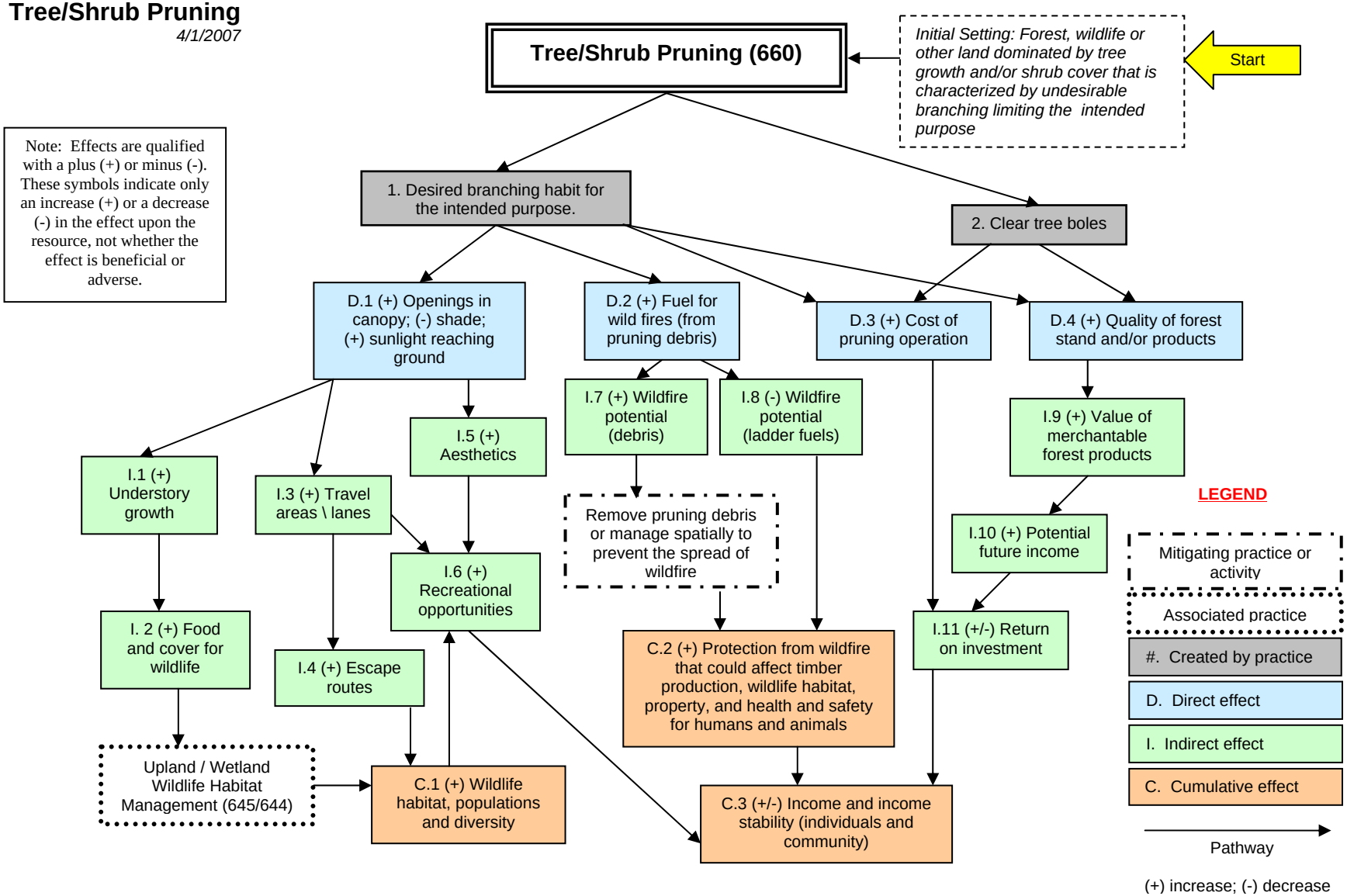

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UNDERGROUND OUTLET

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service –Practice Code 620

UNDERGROUND OUTLET

An underground outlet is a conduit installed beneath the surface of the ground to collect surface water and convey it to a suitable outlet.

PRACTICE INFORMATION

The purpose of the practice is to dispose of excess water from structures such as terraces, diversions, and surface drains without causing damage by erosion or flooding. An underground outlet can be installed when a buried outlet is needed or when surface outlets are impractical because of stability problems, climatic conditions, land use, farmability, or equipment traffic.

The outlet must be sufficiently stable for all anticipated flow conditions and designed for the maximum anticipated water surface. Outlets should not be placed in areas of active erosion.

COMMON ASSOCIATED PRACTICES

Underground outlets are commonly used in Conservation Management Systems with Filter Strips, Diversions, Surface Drains (Field Ditch and Main or Lateral), Roof Runoff Structure, Terraces, Nutrient Management, Pest Management, and other conservation practices.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications for further information.

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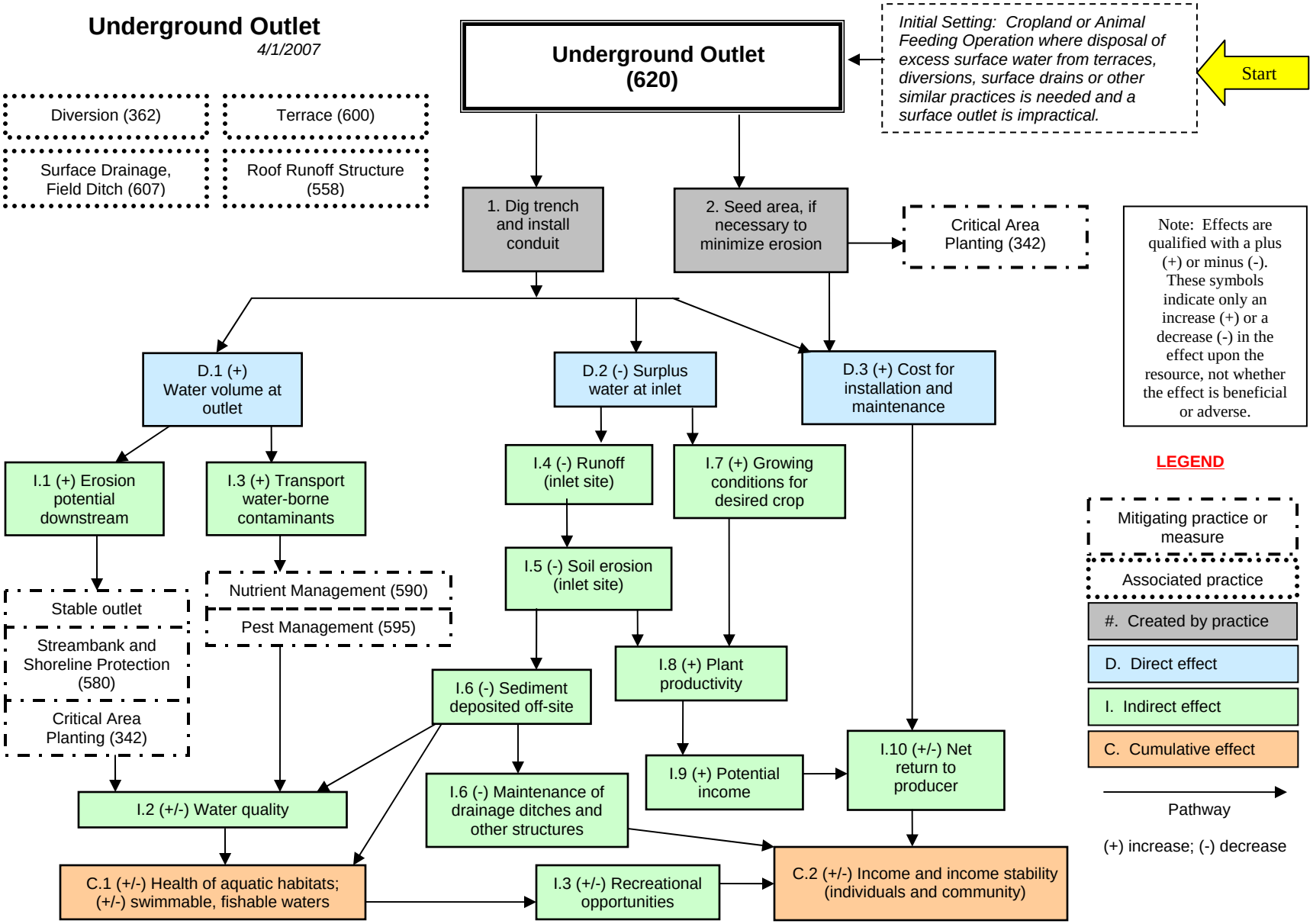

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UPLAND WILDLIFE HABITAT MANAGEMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 645

UPLAND WILDLIFE HABITAT MANAGEMENT

Upland Wildlife Habitat Management is creating, maintaining, or enhancing areas to provide food, cover and habitat connectivity for upland wildlife.

PRACTICE INFORMATION

The population dynamics of wildlife are highly dependent on food, water, and cover. The purpose of this practice is to treat habitat concerns identified during the NRCS conservation planning process to enable movement, or provide shelter, cover and food to sustain wild animals that inhabit uplands during a portion of their life cycle. The practice applies to all areas where a need to improve upland wildlife habitat has been identified.

Upland Wildlife Habitat Management usually involves the establishment or manipulation of vegetative communities. Common activities include planting permanent or seasonal vegetation, disking strips within existing vegetation, mowing, burning, and herbicide treatments.

COMMON ASSOCIATED PRACTICES

Upland Wildlife Habitat Management is commonly used in Conservation Management Systems with one or more of the following component practices:

- Prescribed Burning,
- Prescribed Grazing,
- Brush Management,
- Tree/Shrub Establishment,
- Forest Stand Improvement,
- Early Successional Habitat Development / Management,
- Use Exclusion,
- Field Border.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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Upland Wildlife Habitat Management

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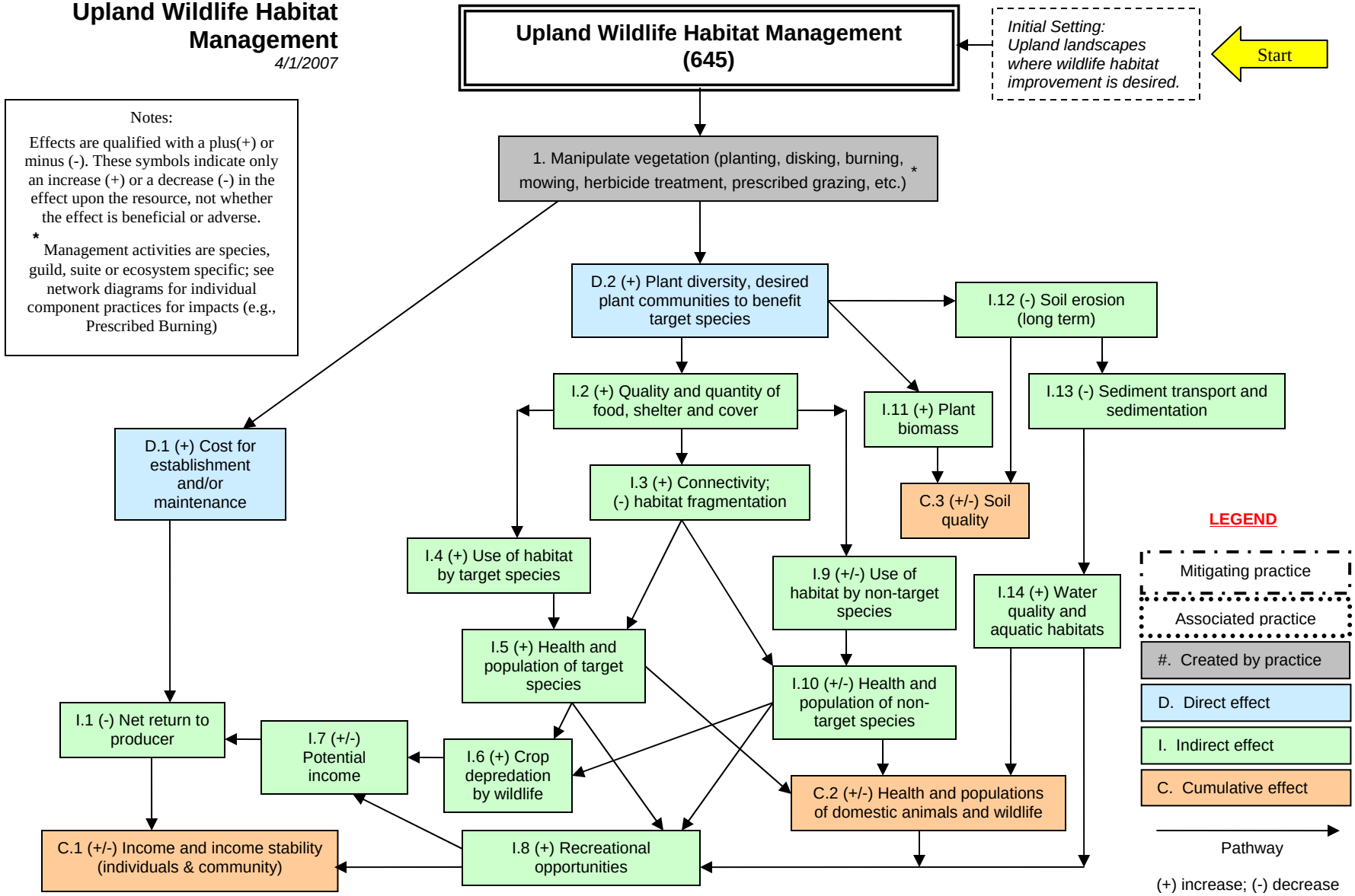

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WASTE TREATMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 629

WASTE TREATMENT

Waste Treatment is the mechanical, chemical, or biological treatment of agricultural waste.

PRACTICE INFORMATION

The purpose of the practice is to change the form or composition of waste as part of an agricultural waste management system. The composition or form of the waste is modified to provide additional utilization alternatives. This includes: the separation of liquids and solids (e.g., milk room waste) for further processing or for effective transport and subsequent utilization or treatment in a subsurface drain field; the dilution of raw agricultural waste (e.g., silage leachate), which contains excess or unavailable nutrients for land application based on crop utilization requirements. Value added by-products can be produced to offset treatment costs. Planned mitigating practices include Pest Management, Nutrient Management, and Waste Utilization.

COMMON ASSOCIATED PRACTICES

The practice is commonly used in a Conservation Management System with the following practices: Waste Storage Facility, Waste Treatment Lagoon, Manure Transfer, Subsurface Drain, Heavy Use Area and Wastewater Treatment Strip.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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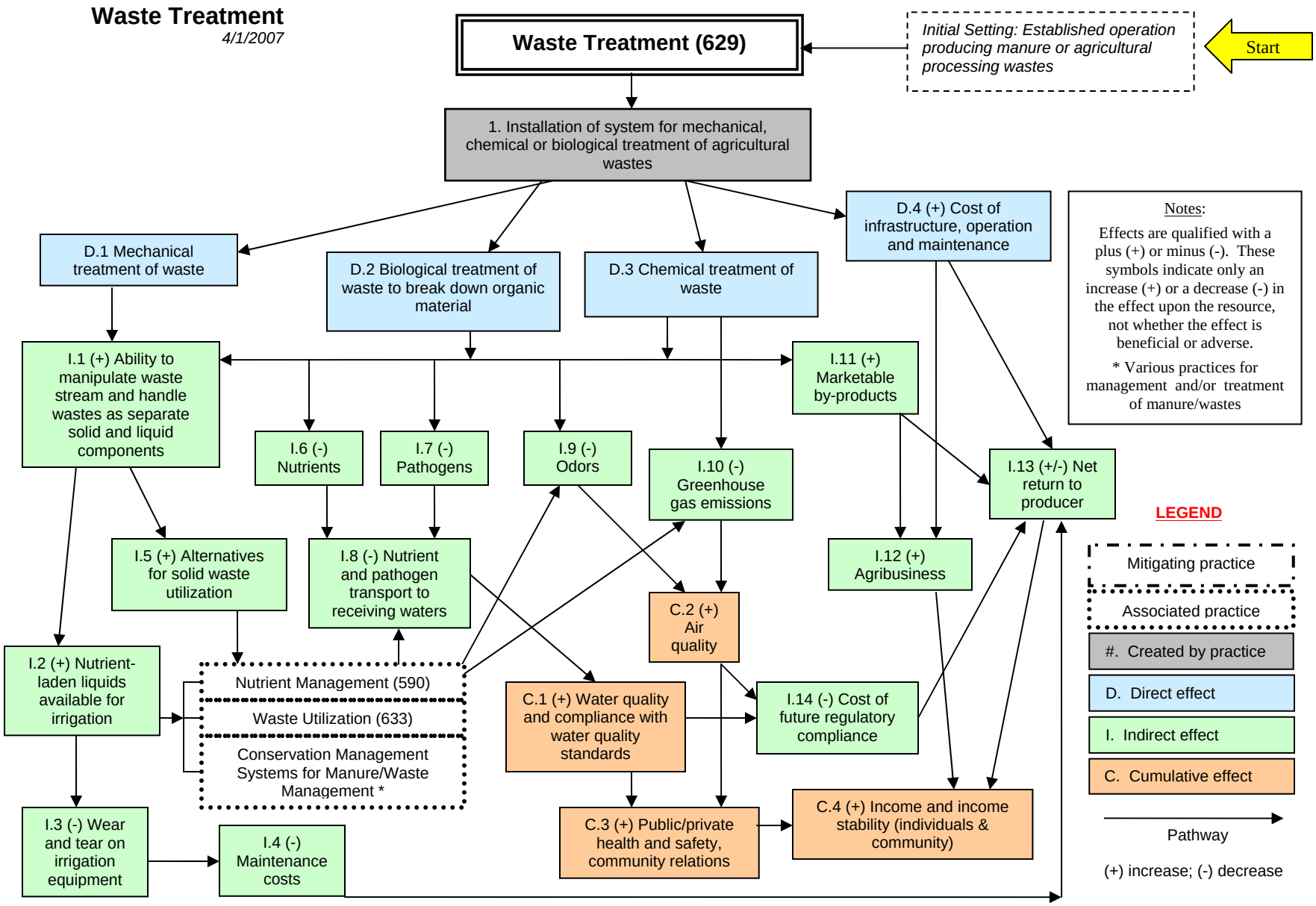

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WASTEWATER TREATMENT STRIP

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service –Practice Code 635

WASTEWATER TREATMENT STRIP

A Wastewater Treatment Strip is a component of an agricultural waste management system consisting of a strip or area of herbaceous vegetation for the treatment of contaminated runoff.

PRACTICE INFORMATION

This practice is used to improve water quality by reducing loading of nutrients, organics, pathogens, and other contaminants associated with animal manure and other wastes and wastewater by treating agricultural wastewater and runoff from livestock holding areas. More than one treatment strip may be needed.

In order for the wastewater treatment strip to work properly, discharge to and through it must be sheet flow. Some means, such as a ditch, curb, or gated pipe, is provided to disperse concentrated flow and ensure sheet flow across the width of the treatment strip. Permanent herbaceous vegetation, consisting of a single species or a mixture of grasses, legumes and/or other forbs adapted to the soil and climate, is established in the treatment strip. The Wastewater Treatment Strip must receive regular maintenance for it to operate as planned.

COMMON ASSOCIATED PRACTICES

A Wastewater Treatment Strip is commonly planned as part of Conservation Management System with a Waste Storage Facility, Waste Utilization, Heavy Use Area Protection, Critical Area Planting, Nutrient Management, Solid/Liquid Separation Facility and other conservation practices.

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Wastewater Treatment Strip

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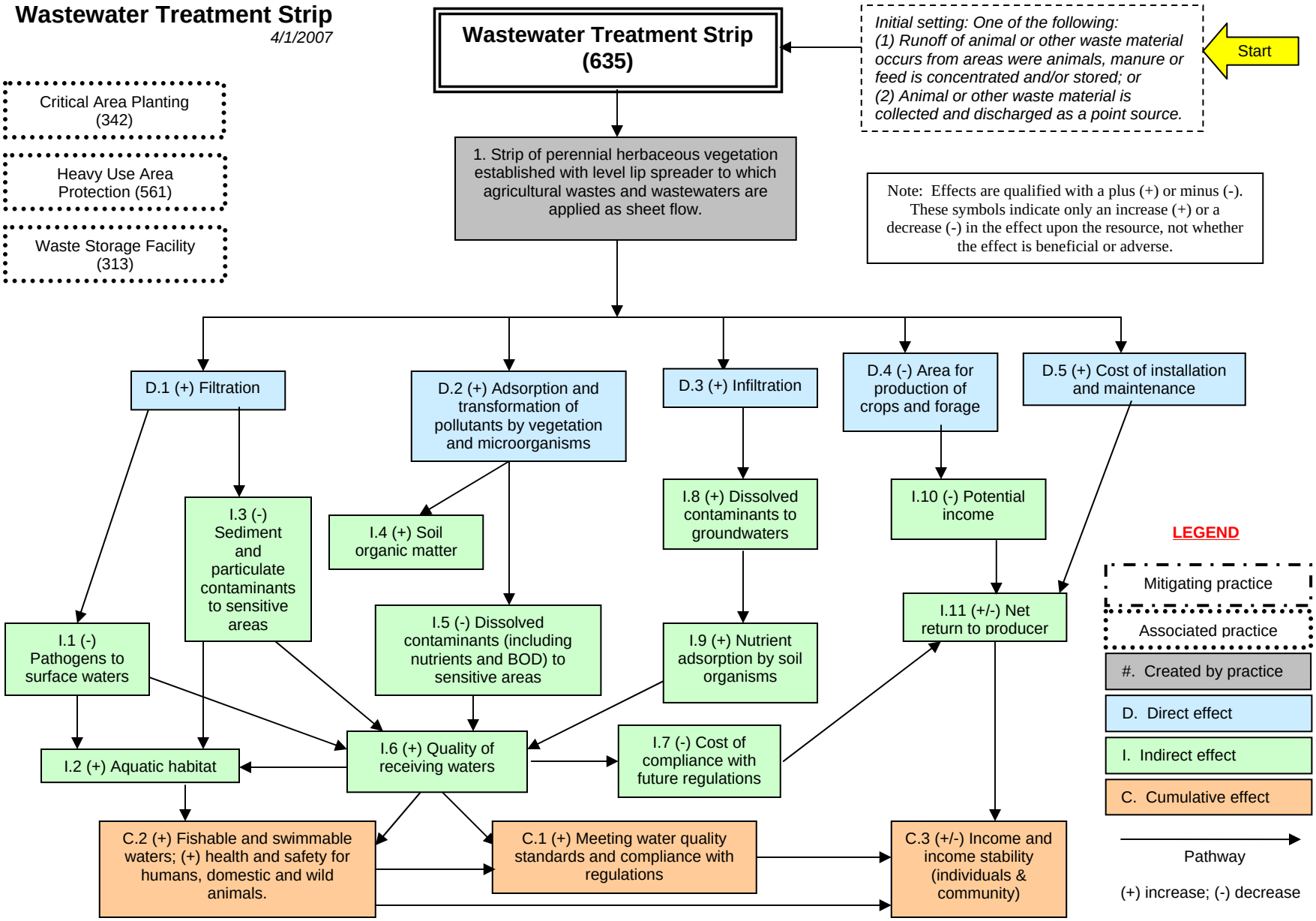

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WATER AND SEDIMENT CONTROL BASIN

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Code 638

WATER AND SEDIMENT CONTROL BASIN

A Water and Sediment Control Basin is an earthen embankment or combination ridge and channel constructed across the slope and minor water courses to form a sediment trap and water detention basin.

PRACTICE INFORMATION

The purpose of this practice is to improve the farmability of sloping land, reduce erosion, trap sediment, reduce and manage runoff, and improve water quality. This practice applies to sites where:

1. The topography is generally irregular or undulating;
2. Water concentrates and causes gullies to form;
3. Sheet and rill erosion can be controlled by other conservation practices;
4. Runoff and sediment are causing damage to land, crops, water, and/or facilities;
5. Soil and site conditions are suitable;
6. Adequate outlets can be provided for disposal of runoff water.

Water and Sediment Control Basins are generally installed on land that is relatively steep and undulating where past erosion has caused channels to form, permanently altering the terrain. Therefore, contour farming, stripcropping, terraces and other practices that involve farming on the contour may not be suitable on fields where this practice is used.

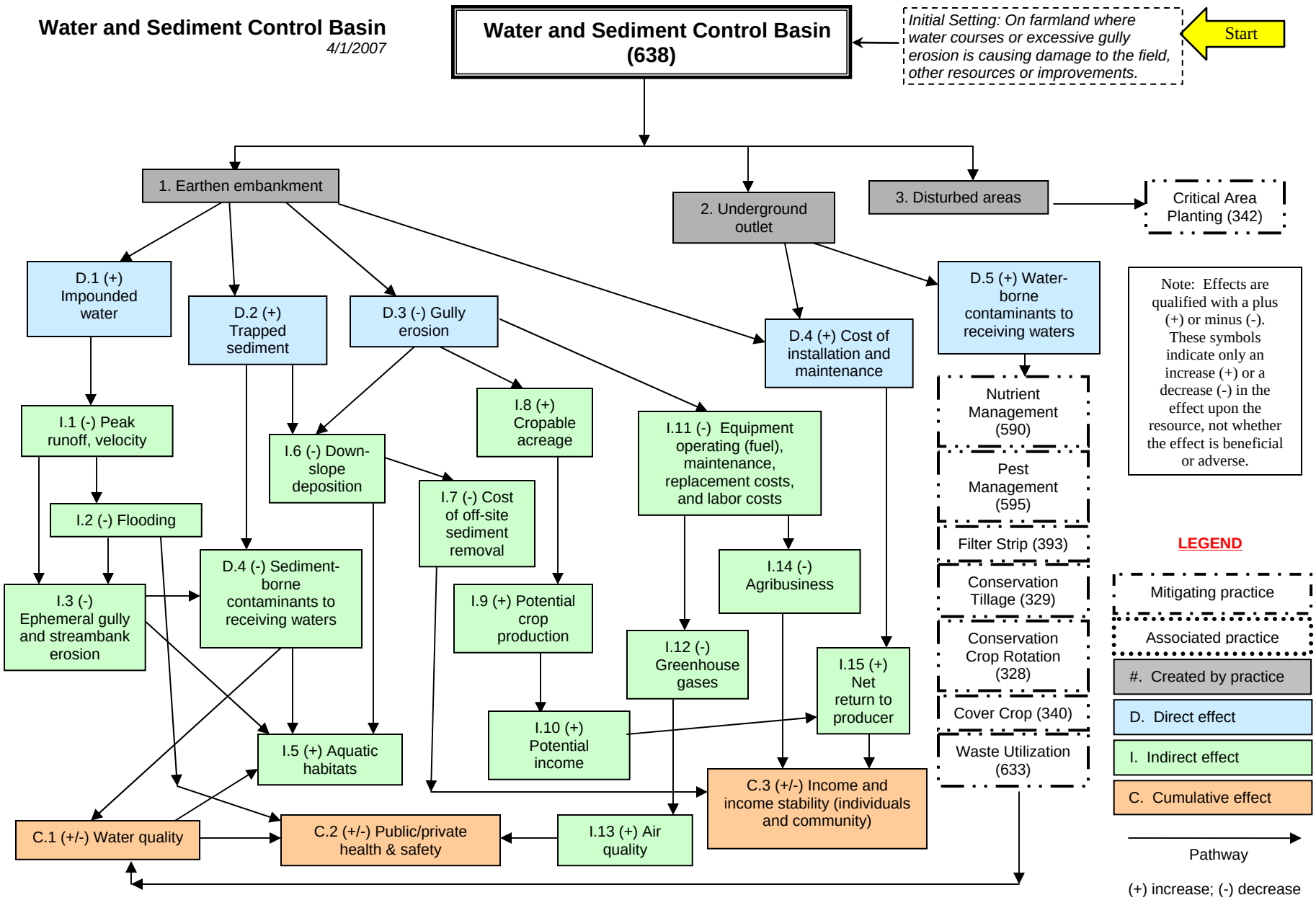
COMMON ASSOCIATED PRACTICES

Sheet and rill erosion may continue to be a problem following installation of Water and Sediment Control Basins. Additional practices are needed to protect the sloping upland areas of the fields. Water and Sediment Control Basins are commonly used in Conservation Management Systems with practices such as Crop Rotation, Conservation Tillage, and Cover Crops to reduce sheet and rill erosion, as well as Critical Area Planting, Filter Strip, and Nutrient Management to protect down-slope water quality.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

The following page identifies the effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, soil, etc. All appropriate local, State, Tribal, and Federal permits and approvals are the responsibility of the landowners and are presumed to have been obtained. Users are cautioned that these effects are estimates that may or may not apply to a specific site.

Water and Sediment Control Basin
4/1/2007



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WATER WELL

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 642

WATER WELL

A Water Well is a hole drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer to provide water for livestock, wildlife, irrigation, human, and other uses.

PRACTICE INFORMATION

This practice applies on all sites where the underground supply of water is sufficient in quantity and quality for the intended purpose. Monitoring or observation wells or wells installed for injection purposes are not included.

This practice requires proper design and installation to function properly. If practicable, wells should be located in higher ground and up gradient from sources of contamination or flooding. The potential for adverse interference with existing nearby production wells should be evaluated in planning. Other concerns that should be considered in planning include the potential for groundwater overdraft, the long-term safe yield of the aquifer, and potential effects of installation and operation of the well on cultural, historical, archeological, or scientific resources at or near the site.

COMMON ASSOCIATED PRACTICES

Once a well has been installed, a distribution system, watering system, and/or irrigation system are usually needed. Wells are commonly used in a Conservation Management Systems with the following practices:

- Pumping Plant,
- Pipeline,
- Watering Facility,
- Irrigation System.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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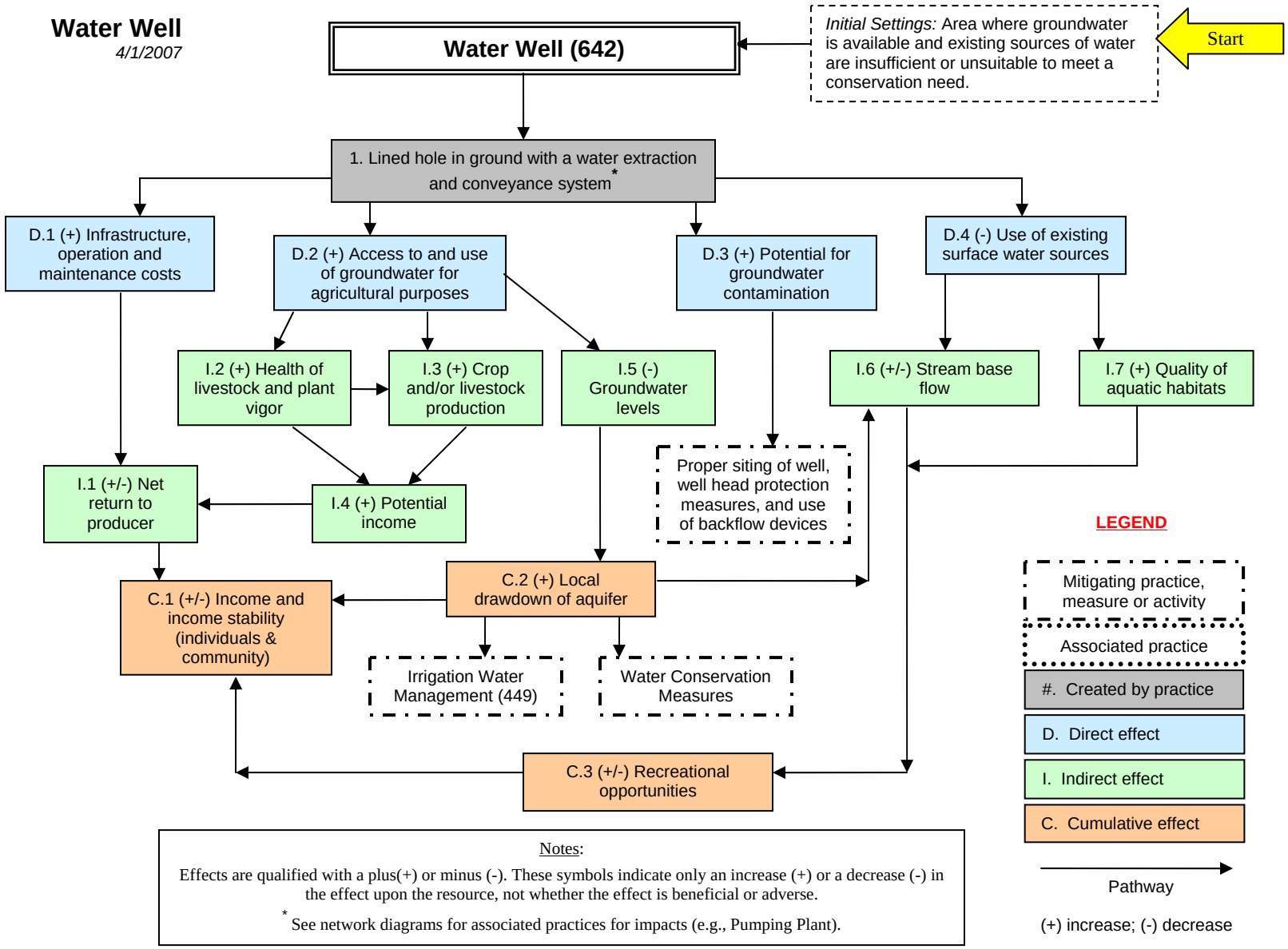

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WETLAND ENHANCEMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - Practice Code 659

WETLAND ENHANCEMENT

Wetland Enhancement is the rehabilitation or re-establishment of a degraded wetland, and/or the modification of an existing wetland to favor specific wetland functions.

PRACTICE INFORMATION

This practice applies on any degraded or non-degraded existing wetland where the objective is specifically to enhance selected wetland functions. This practice is not used on degraded wetlands when the soils, hydrology, vegetative community, and biological habitat are returned to original conditions or where a wetland is created on a site that historically was not a wetland.

The purpose of this practice is to provide specific wetland conditions by:

1. Hydrologic enhancement (depth duration and season of inundation, and/or duration and season of soil saturation); and/or
2. Vegetative enhancement (including the removal of undesired species, and/or seeding or planting of desired species).

Native vegetative species should be used in the enhancement whenever possible. Manipulation of water levels can be used to control unwanted vegetation. Haying or grazing can also be used to manage vegetation.

COMMON ASSOCIATED PRACTICES

Wetland Enhancement is commonly used in a Conservation Management System with the following practices: Dike, Structure for Water Control, Fence, Fish Passage, Pipeline, Pond, and Use Exclusion.

Refer to the practice standard in the local Field Office Technical Guide and associated Job Sheets for further information.

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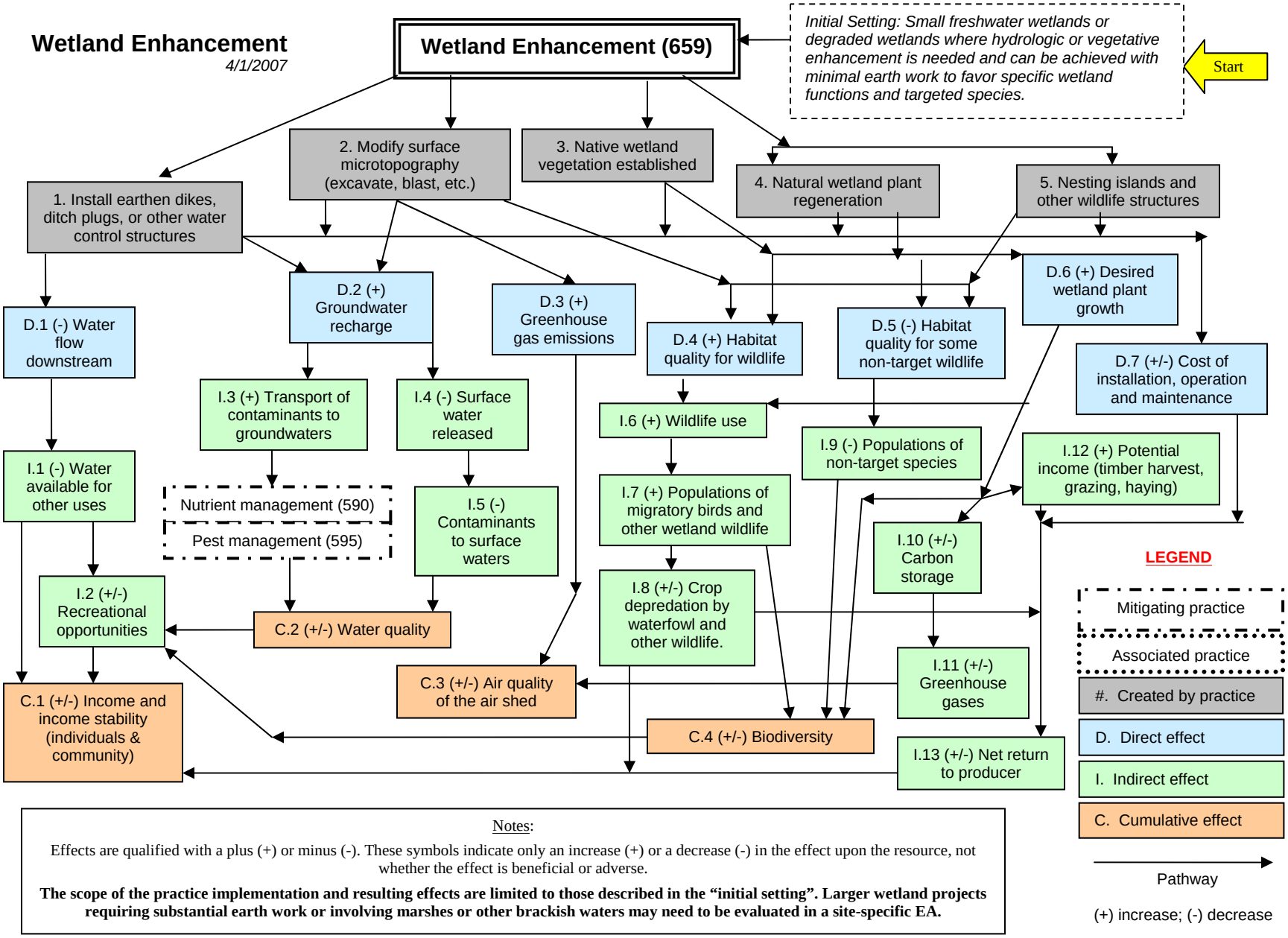

Notes:

Effects are qualified with a plus (+) or minus (-). These symbols indicate only an increase (+) or a decrease (-) in the effect upon the resource, not whether the effect is beneficial or adverse.

The scope of the practice implementation and resulting effects are limited to those described in the "initial setting". Larger wetland projects requiring substantial earth work or involving marshes or other brackish waters may need to be evaluated in a site-specific EA.

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WINBREAK/SHELTERBELT ESTABLISHMENT or RENOVATION

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service – Practice Codes 380 and 650

WINDBREAK/SHELTERBELT ESTABLISHMENT or RENOVATION

Windbreaks or Shelterbelts are single to multiple rows of trees and possibly shrubs planted in a linear fashion. They are established upwind of the areas to be protected.

PRACTICE INFORMATION

Windbreaks and shelterbelts are primarily used to reduce soil erosion from wind, to protect crops, livestock areas, and farmsteads from wind and related temperature effects, to help control snow deposition and trapping, and to help improve air quality by reducing and intercepting drifting chemicals and odors produced from livestock farms.

Windbreak/Shelterbelt Establishment involves the planting of vegetation to serve the purposes noted above. The effectiveness of a windbreak or shelterbelt is dependent on the height of the mature plants. Therefore, it may take 20 years or more for the practice to become fully functional.

Windbreak/Shelterbelt Renovation involves widening, partial replanting, removing, and replacing selected trees and shrubs to improve an existing windbreak or shelterbelt. A period of years may also be needed for proper renovation.

These practices can be applied in any area where there is sufficient linear length to establish the windbreak on the lee side of the area to be protected. It is important during planning to consider the dominant wind direction during weather events that cause damage.

COMMON ASSOCIATED PRACTICES

Windbreaks and shelterbelts are commonly used in a Conservation Management System with practices such as: Conservation Crop Rotation, Cover Crop, Residue Management, Tree/Shrub Planting, and Upland Wildlife Habitat Management.

Refer to the practice standard in the local Field Office Technical Guide and associated specifications and Job Sheets for further information.

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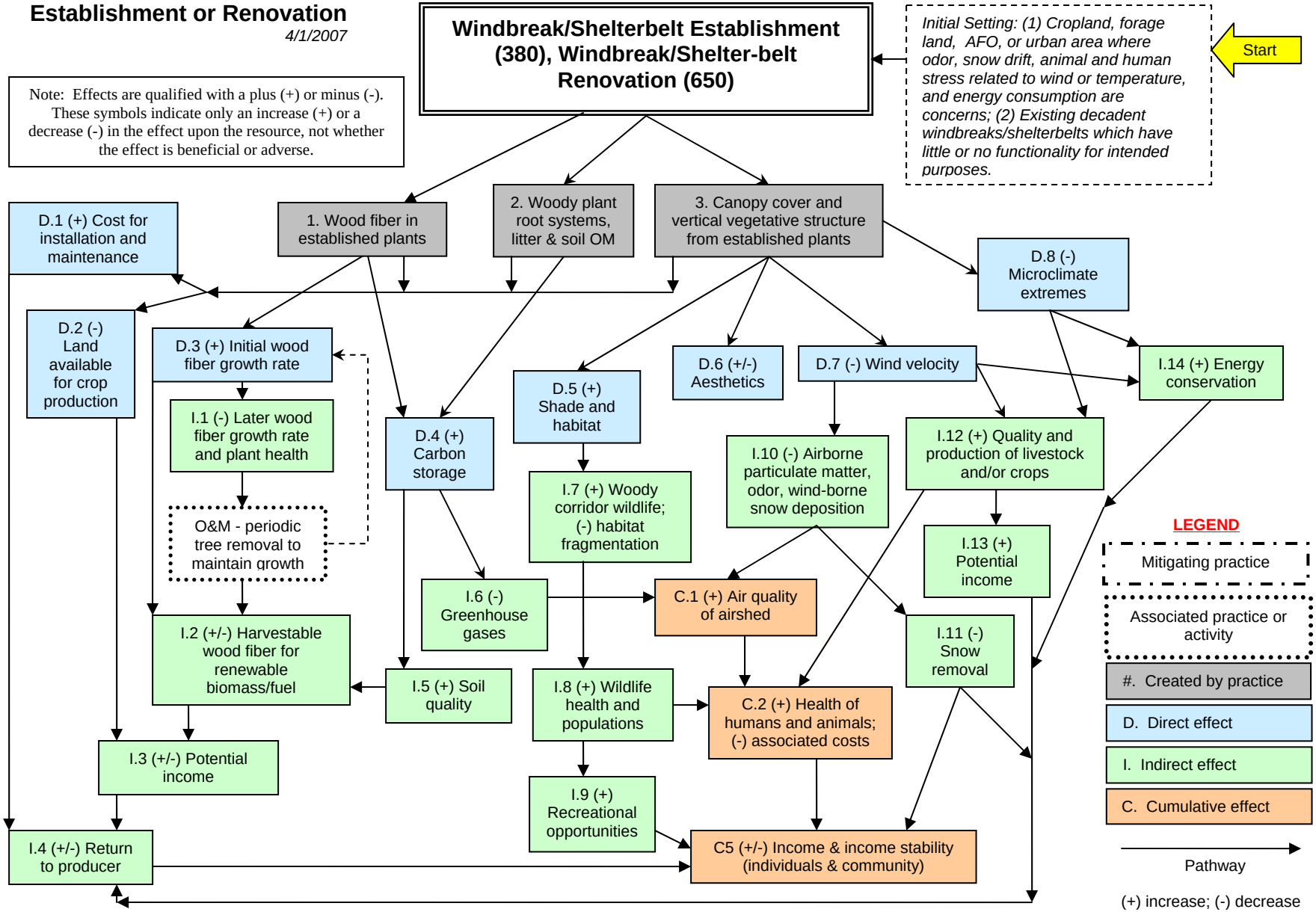
Windbreak/Shelterbelt Establishment or Renovation

4/1/2007



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