August 2008

IRRIGATION WATER MANAGEMENT

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service—Practice Code 449

IRRIGATION WATER MANAGEMENT

Irrigation and water management is determining and controlling the rate, amount, and timing of irrigation water in a planned and efficient manner.

PRACTICE INFORMATION

The purpose of this practice is to effectively use available irrigation water in managing and controlling the moisture environment of crops and other vegetation. The objectives are to promote a desired response, minimize soil erosion, minimize loss of plant nutrients, and protect both the quantity and quality of water resources.

This practice is applicable to all areas that are suitable for irrigation and have a water supply of suitable quality and quantity. In addition, a suitable irrigation system must be available and the irrigator needs to have the knowledge and capability to manage irrigation water. The following knowledge is required to properly manage irrigation water:

- How to determine when to apply water based on the rate of use by the crops at various stages of growth
- How to measure or estimate the amount of water required for each irrigation
- The time needed for the soil to absorb the required amount of water
- How to detect changes in intake rate
- How and when to adjust stream size, application rate, and irrigation time to compensate for changes in the soil or topography that effect intake rate
- How to recognize erosion caused by irrigation
- How to evaluate the uniformity of water application

COMMON ASSOCIATED PRACTICES

Irrigation Water Management is commonly used in a Conservation Management System with practices such as Nutrient Management (590), Pest Management (595), Irrigation Water Conveyance practices, and Pumping Plant (533).

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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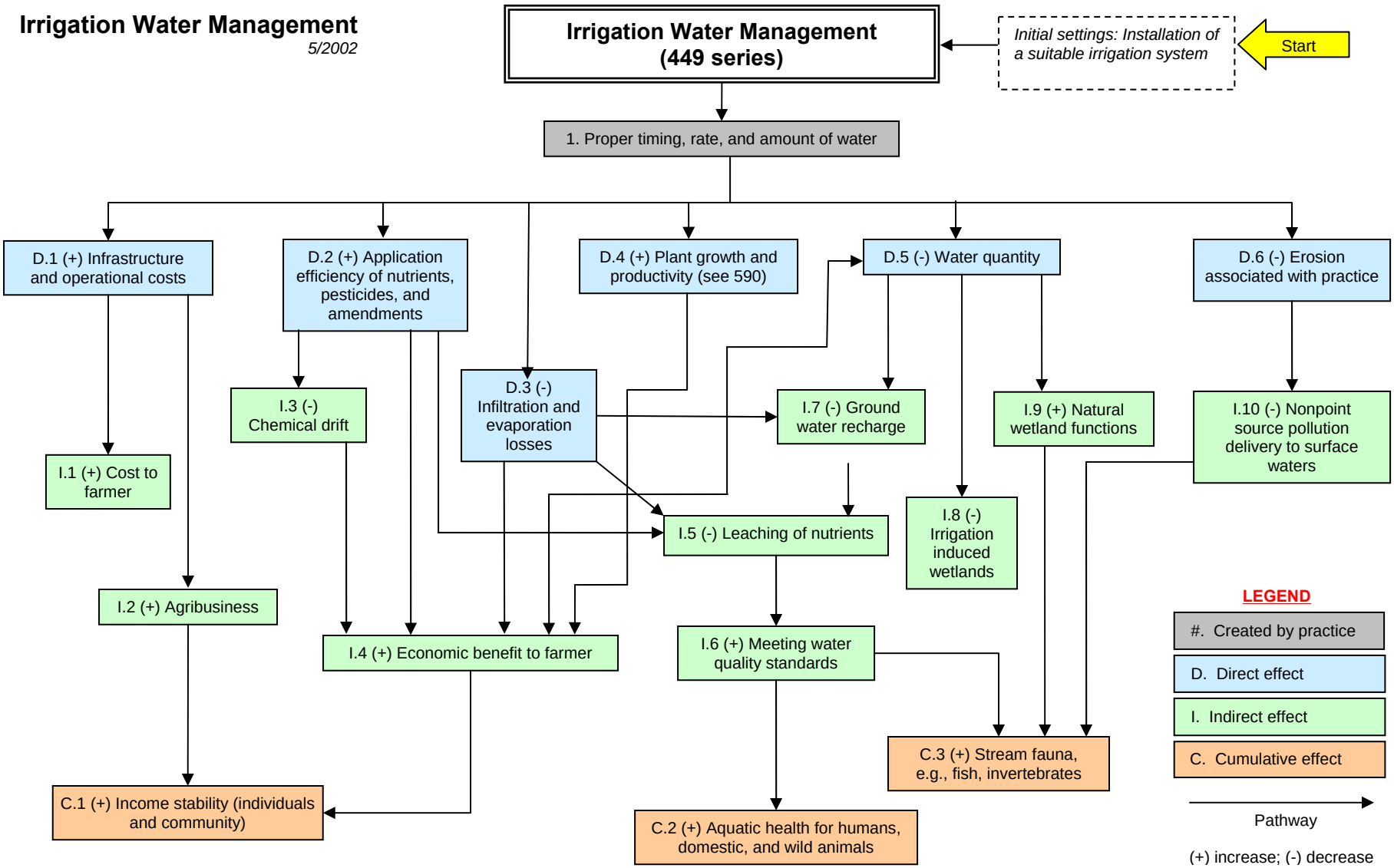

Note: Effects are qualified with a plus (+) or minus (-). These symbols indicate only an increase (+) or a decrease (-) in the effect upon the resource, not whether the effect is beneficial or adverse.

The 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.