U.S. Army Corps of Engineers
Institute for Water Resources

On the Web:
http://www.iwr.usace.army.mil

For More Information:
+1 (703) 428-9090

December 30, 2013

Reports Finds Decrease in USACE Capital and Raises Concerns about Sustaining Future Water Resources Services

ALEXANDRIA, VIRGINIA. The Institute for Water Resources (IWR) recently released a report that examines the value of U.S. Army Corps of Engineers (USACE) water resources infrastructure. The report measures the value of USACE projects from 1928 to 2011 in 2011 dollar values.

The 2011 value of USACE capital stock is estimated at $191.4 billion, representing a decline of nearly 27 percent from its peak value in 1982. This decline represents reduced investment as well as the shift from massive, multipurpose projects to smaller, single purpose projects. The capital stock value increased at an average of $5.35 billion per year from 1936 to its peak of $264.4 billion in 1982. At this point, the pattern of appreciation in capital stock shifted to a pattern of decline, and USACE capital stock value lost just over $2.4 billion annually between 1982 and 2011.

USACE Capital Consists of Infrastructure that Sustains Water Resources Services

USACE capital considered in this study includes infrastructure such as dams, levees, harbors and waterway improvements, locks, channels, hydroelectric generating works, and recreation facilities, but excludes restored ecosystem habitat. This capital stock provides an annual stream of water resources services for the nation in the form of transportation costs savings, flood damages prevented, electric power production and recreation opportunities that contribute to national economic prosperity, global competitiveness, and the health, safety and quality of life of U.S. citizens.

Each year, USACE investments enhance this capital stock while the effects of wear and tear, even assuming proper maintenance, subtract from its value. Tracking the total value of USACE capital stock is one way of assessing capability of sustaining water resources services or benefits.

Study Employs Established Methodology and Improves on Past Efforts to Estimate Value

The study employs the Perpetual Inventory Method (PIM). The PIM is a well-established methodology used to evaluate the productive capacity of a capital stock portfolio in the absence of disaggregated, "bottom up" data. This study incorporated several improvements over previous capital stock studies, including the inclusion of major rehabilitation and dredging data, and more realistic service life and capital deterioration assumptions.

Decline in USACE Capital Stock Raises Questions about Sustaining Water Resources Services

The analysis of USACE water resources capital stock suggests that investments in USACE water resources infrastructure have not kept pace given its assumptions of deterioration and retirements built into the PIM model. The estimated capital stock value of that infrastructure has shown a pattern of decline since the 1980s and could affect the sustainability of future water resources services.

Consistent with these findings, the U.S. Army Corps of Engineers Civil Works Program Five-Year Development Plan for FY 11-15 reported performance issues associated with services provided by key business programs dependent on capital stock including inland navigation, deep draft navigation and hydropower production.

Additional Investment Needed to Sustain Current Capital Stock Value

Under the current study assumptions, $6.9 billion in annual investment in infrastructure would be required over the next ten years to sustain the capital stock value near its current level.   Anything less will result in further declines. It should be understood that new investments must meet contemporary benefit-cost criteria including current demand, supply, environmental and policy priorities. For more information, see the full report.

Learn More

For more information, visit www.iwr.usace.army.mil.