



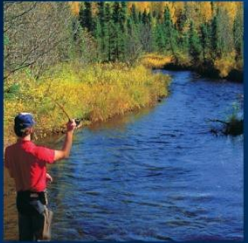
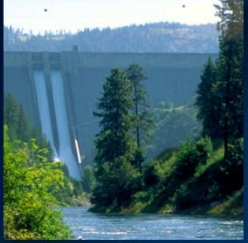
## Update on Return Flows and Milner to King Hill Reach Gains

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Presented by Jennifer Sukow, P.E., P.G.

June 30, 2011

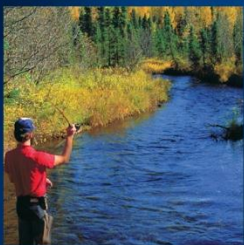




## Revisions to Kimberly to Lower Salmon Falls Reach Gain Calculations

- Base flow separation in perennial return flow channels was re-analyzed
- Measured return flows from 2002-2008 used in revised calculations
- Historic (1980-2001) return flow fractions for TFCC revised to average of measured 2002-2008 returns
- Measured return flows for TFCC and NSCC were used to assign return flows to appropriate river reach
- Spring runoff in Rock Creek drainage was deducted from returns and reach gain

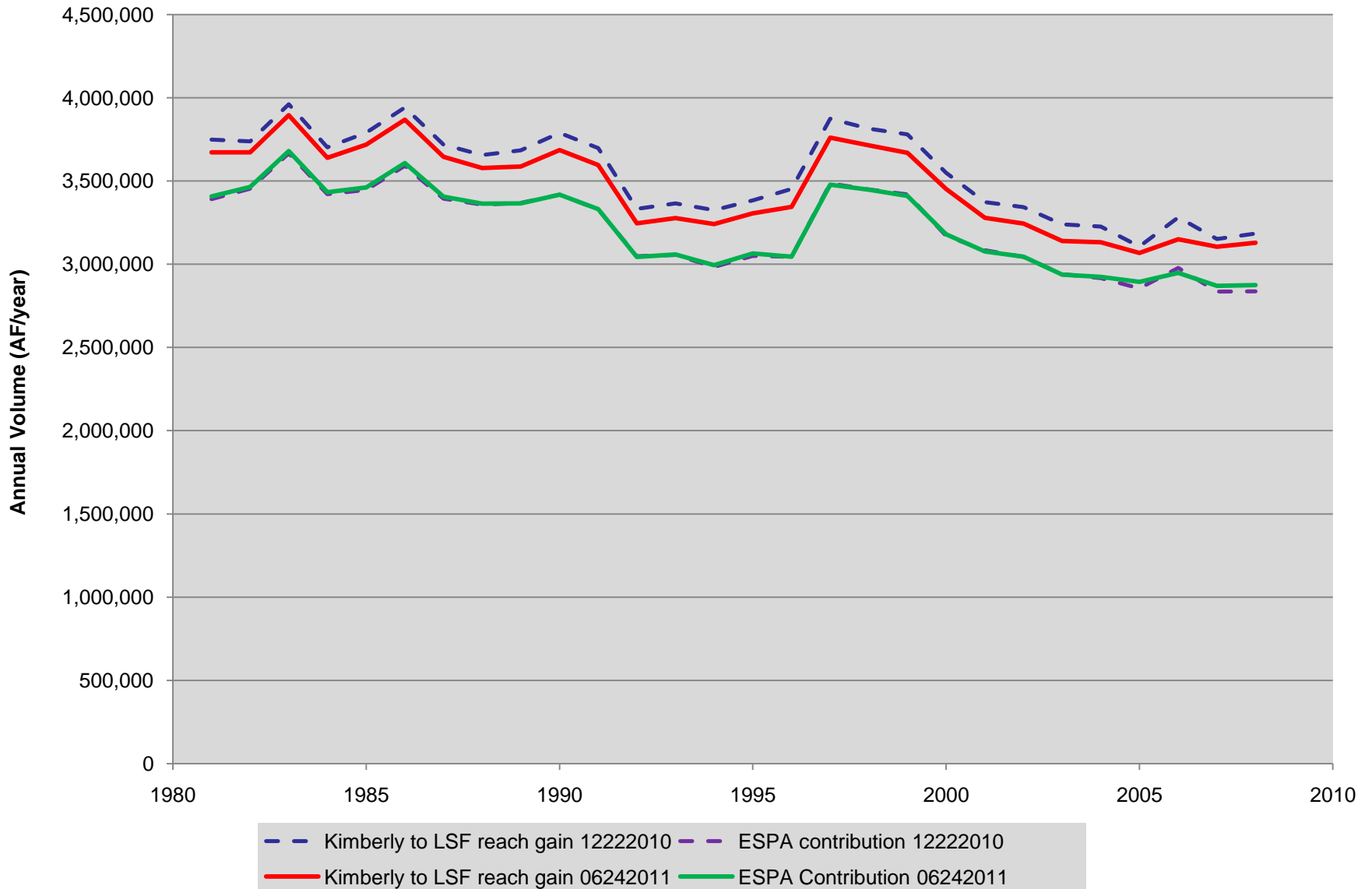




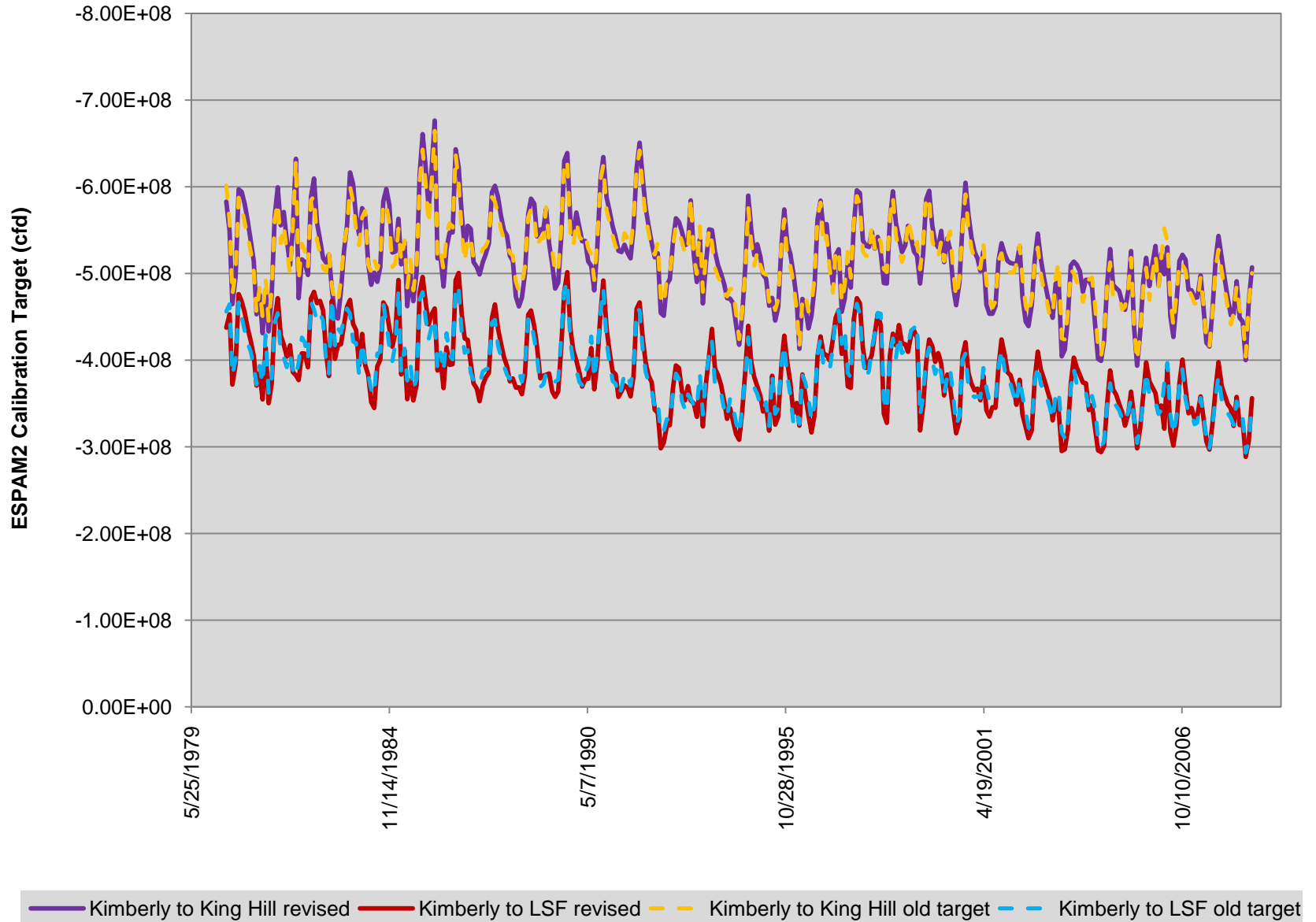
## Updates to Return Flow Fractions (Milner to King Hill, annual summary)

- Northside returns
  - 1980-1987: 11.0% of diversions
  - 1988-2001: 4.6%
  - 2002: 3.9%
  - 2003: 3.6%
  - 2004: 3.1%
  - 2005: 2.6%
  - 2006: 4.5%
  - 2007: 3.3%
  - 2008: 3.3%
  - 2009: 4.2%
  - 2010: 3.7%
- 2002-2007 are scaled up based on new drains included in 2008-2010 data
- Southside returns
  - 1980-2001: 20.5% of diversions
  - 2002: 21.7%
  - 2003: 21.0%
  - 2004: 21.8%
  - 2005: 19.0%
  - 2006: 22.2%
  - 2007: 16.7%
  - 2008: 18.5%
  - 2009: 24.0%
  - 2010: 25.6%
- 2002-2004 are scaled up based on new drains included in 2005-2010 data

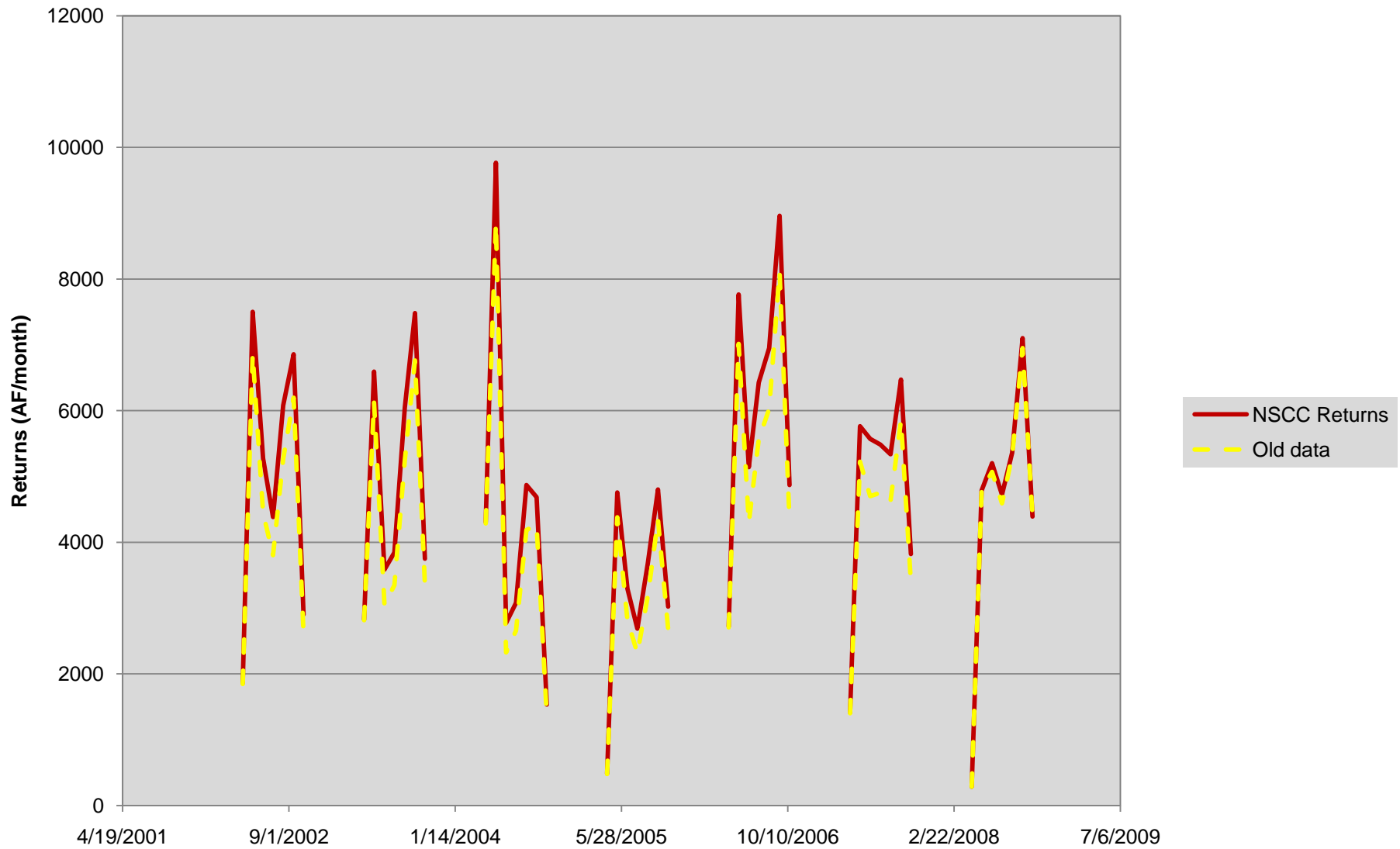
# Revised Groundwater Reach Gain and ESPA Contribution

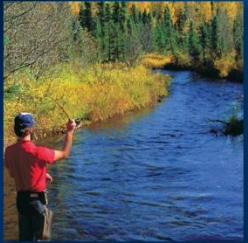
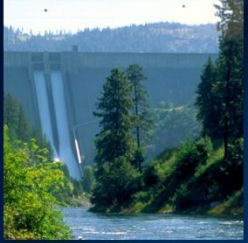


# Revised Calibration Targets



# Revised Northside Return Flow Calibration Target

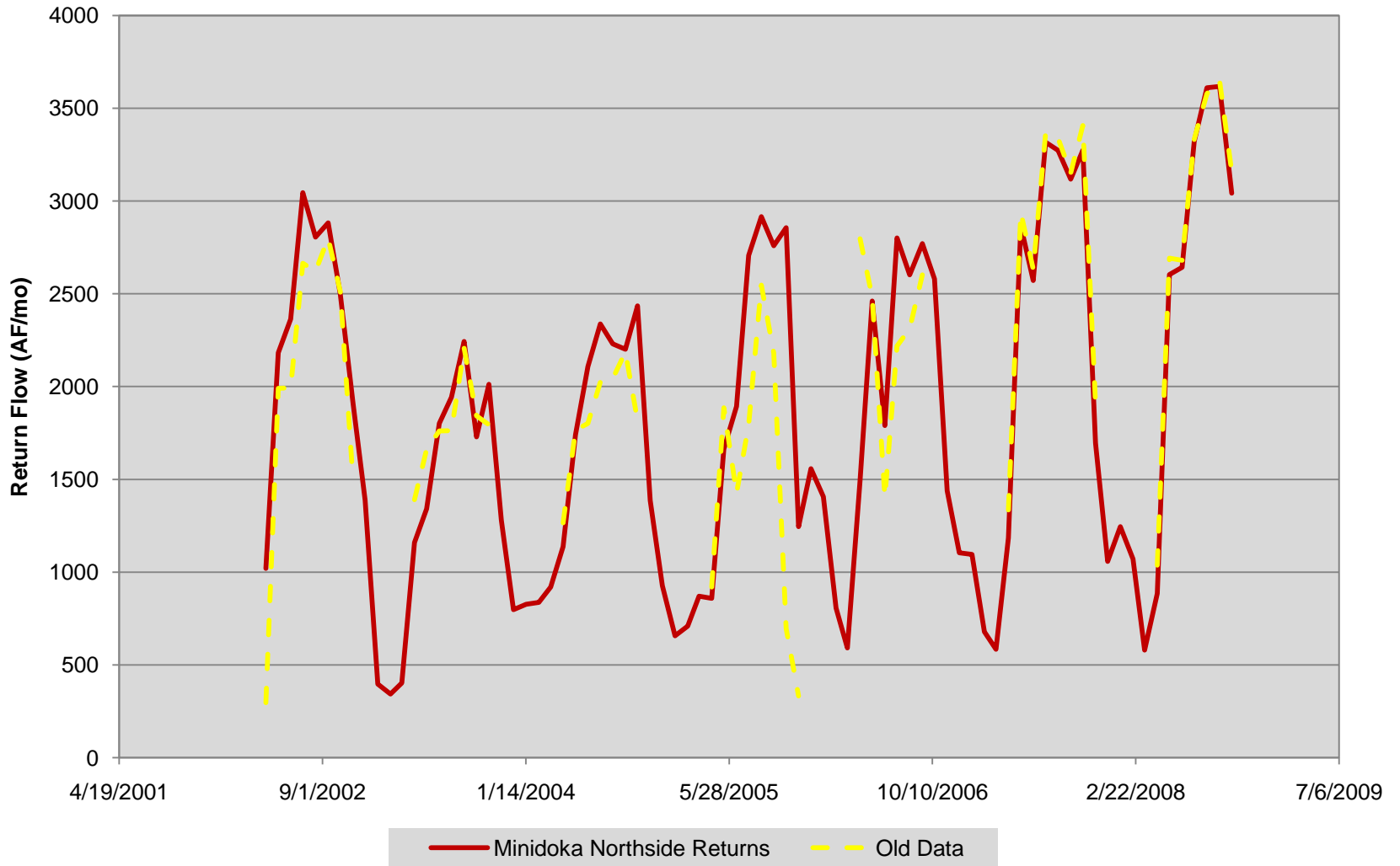




## Revisions to other calibration targets

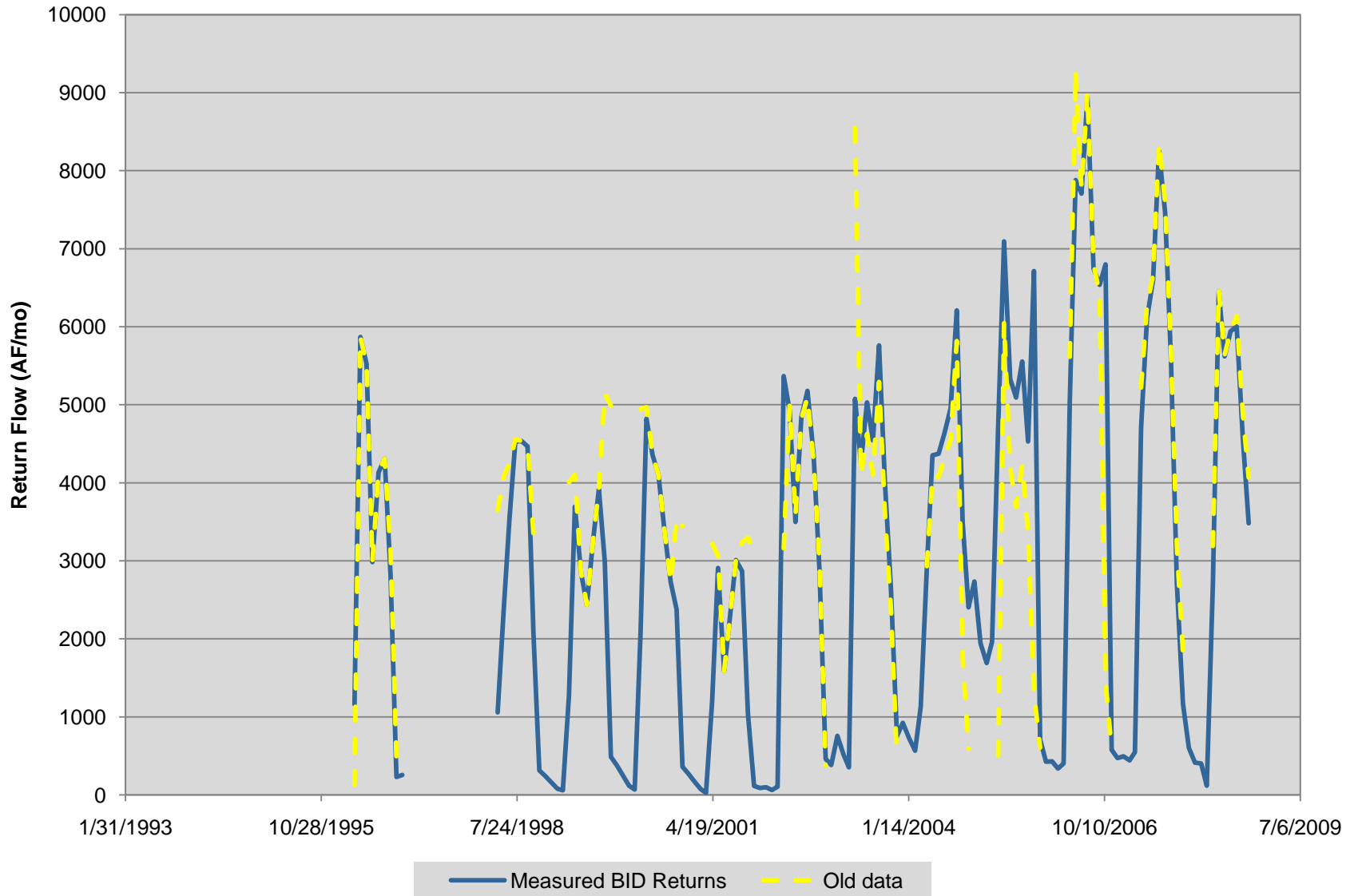
- Base flow separation in perennial return flow channels was re-analyzed for return flow stations at Minidoka and Burley
- Return flow targets for these entities will be revised
- These returns discharge to the Snake River between Minidoka and Milner (not a reach gain target in ESPAM)

# Revised Minidoka Return Flow Calibration Target

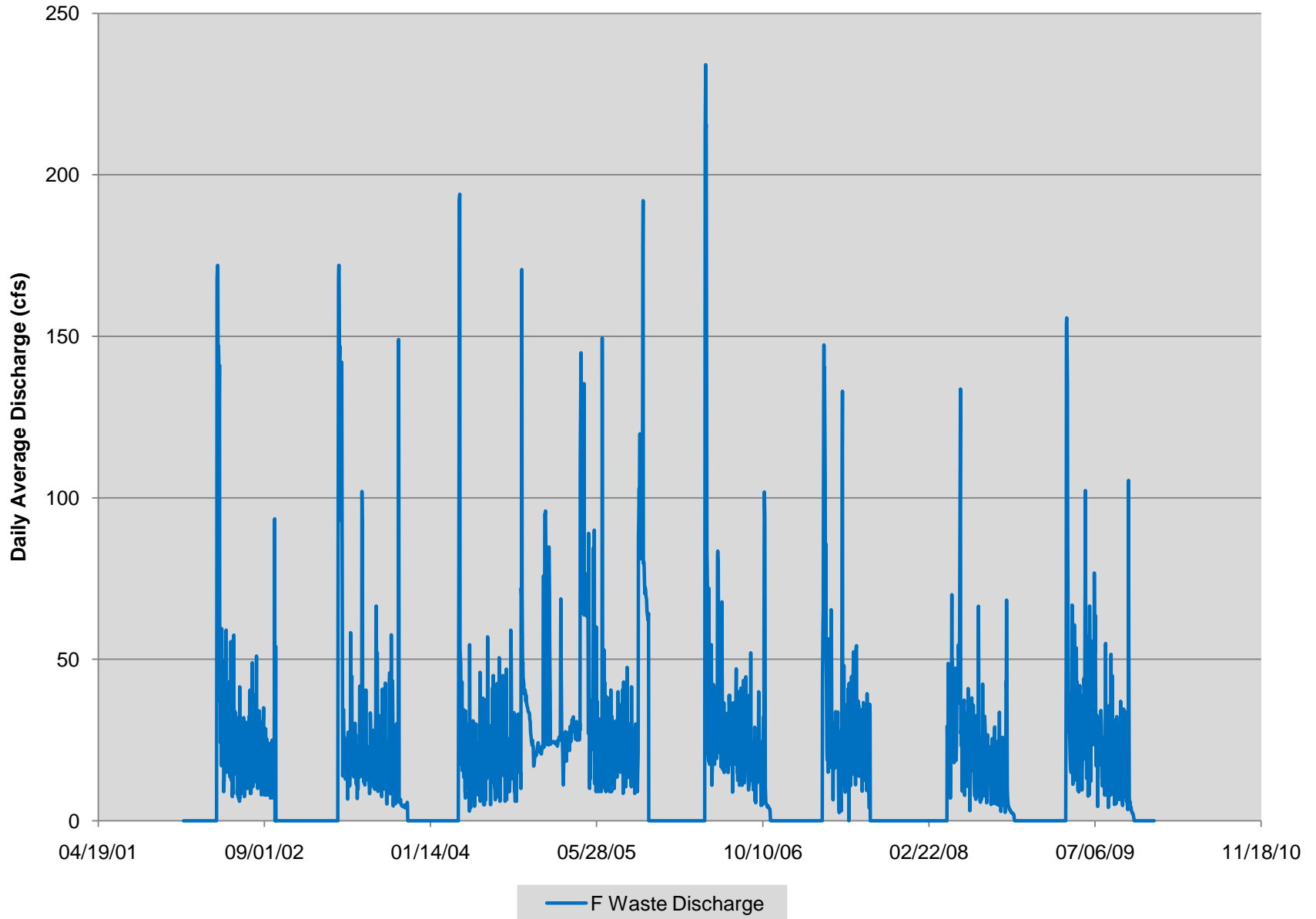




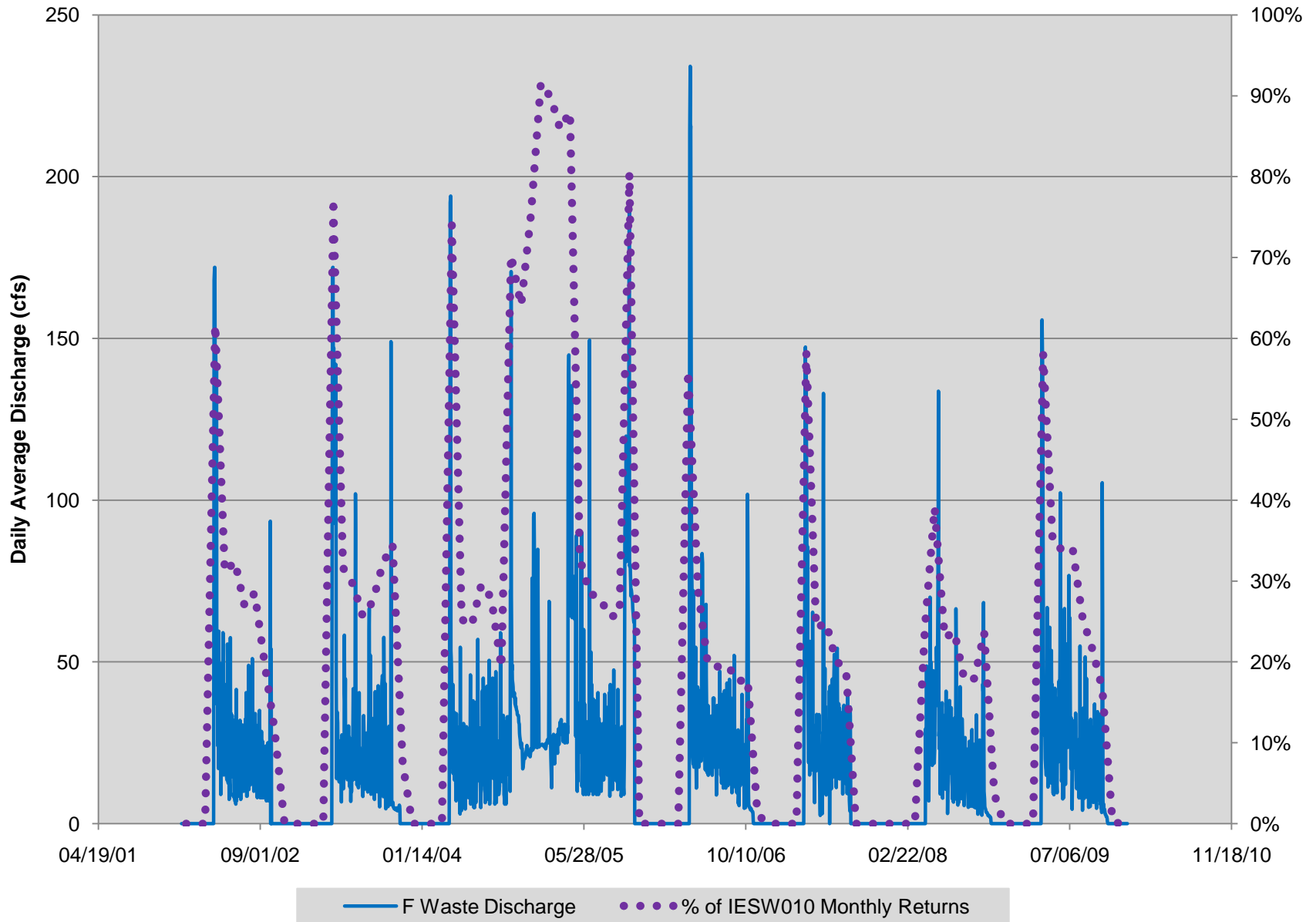
# Revised BID Return Flow Calibration Target



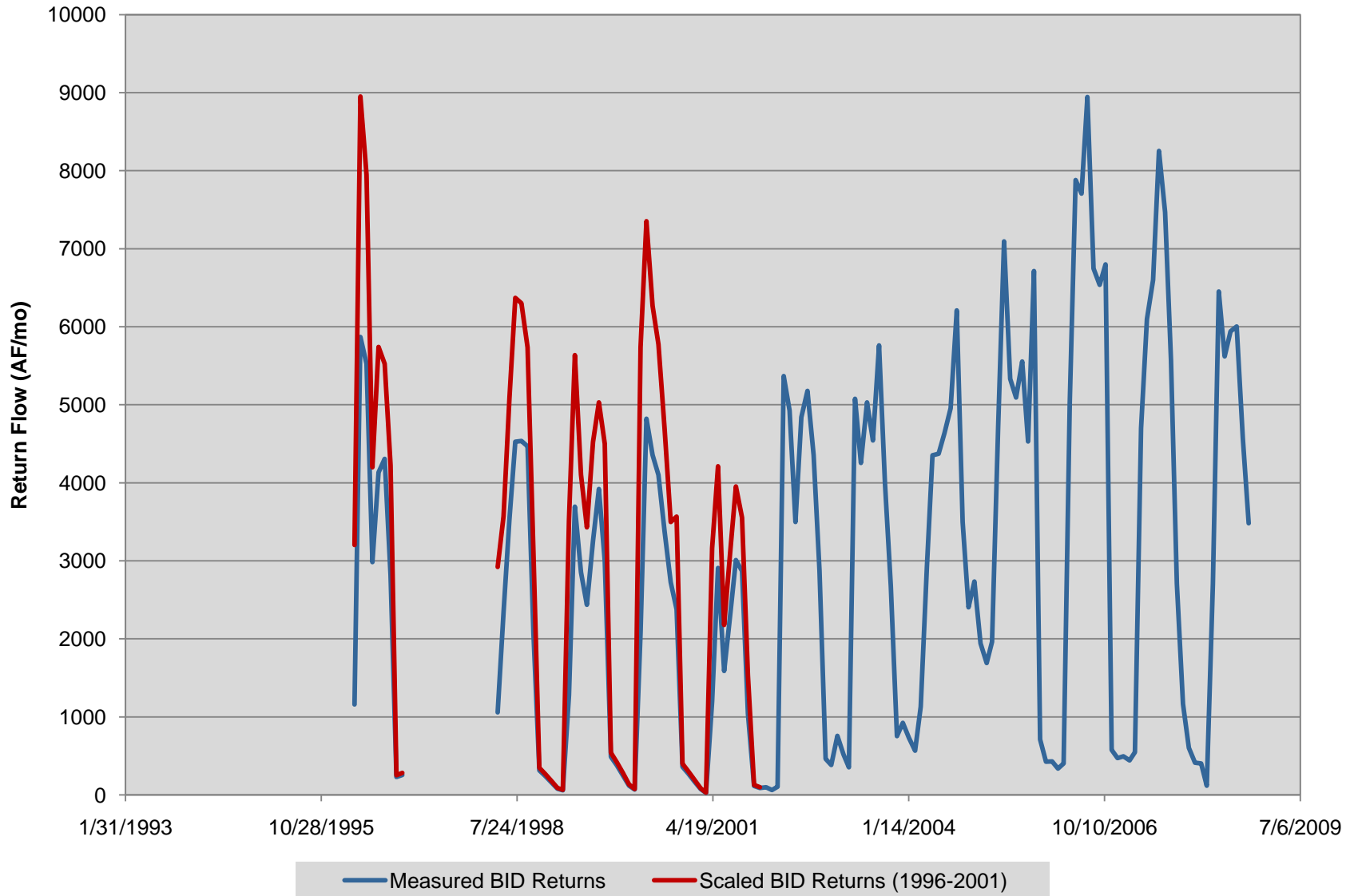
# Revised BID Return Flow Calibration Target



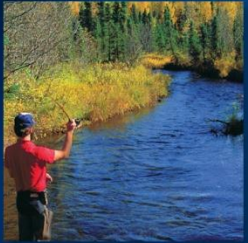
# Revised BID Return Flow Calibration Target



# Revised BID Return Flow Calibration Target

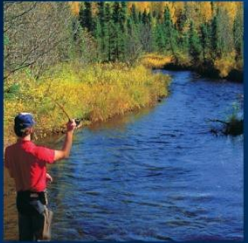
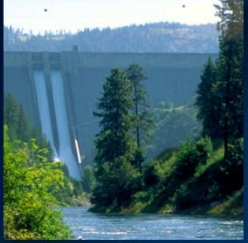






## Pending revisions to other calibration targets

- Base flow separation in perennial return flow channels is being re-analyzed for return flow stations at Aberdeen Springfield
- Return flow targets for these entities will be revised
- Near Blackfoot to Neeley reach gain will be revised



Questions/Comments?