Preliminary CAMP Modeling Results

Environmental Sub-Committee

Purpose of Modeling Effort

Environmental Impacts

- Determine changes to river flows, spring discharge and reservoir storage as a result of CAMP implementation
- Help identify impacts (positive or negative) to fish, wildlife, water quality and other environmental related concerns during CAMP implementation

Modeling Procedures and Major Assumptions

- Utilized the Snake River Planning Model, the Recharge Water Availability Tool, and the Eastern Snake Plain Ground Water Model

- Modeled hydrologic conditions for years 1980 through 2005 under current management practices and level of development (Base Case), and CAMP alternatives

- CAMP alternatives include
  - ❑ Soft Conversions- Conversion of ground water irrigated acres to surface water when available
  - ❑ Hard Conversions- Conversion of A and B from ground water to surface water when available
  - ❑ Recharge- Recharge on five canals
  - ❑ Walcott Expansion- Increase storage by 50,000 Acft
  - ❑ High Lift Exchange- Phased in purchase of high lift pump water below King Hill to replace approximately 160,000 Acft of storage above Milner for flow augmentation
  - ❑ CREP- Idled 100,000 acres of ground water irrigated cropland

Modeling Procedures and Major Assumptions

- Planning model integrates reach gains, diversions, assigned flows and reservoir storage to calculate river flows and reservoir releases
- The planning model does not calculate diversions based on priority however model results were checked and adjusted to insure that senior diversions were fulfilled before diversions to CAMP alternatives
- Recharge, CREP, high lift exchange and soft conversions phased in over 10 years
- Assumed Minidoka Dam expansion and A&B conversions commence at full capacity at year 10

Modeling Procedures and Major Assumptions

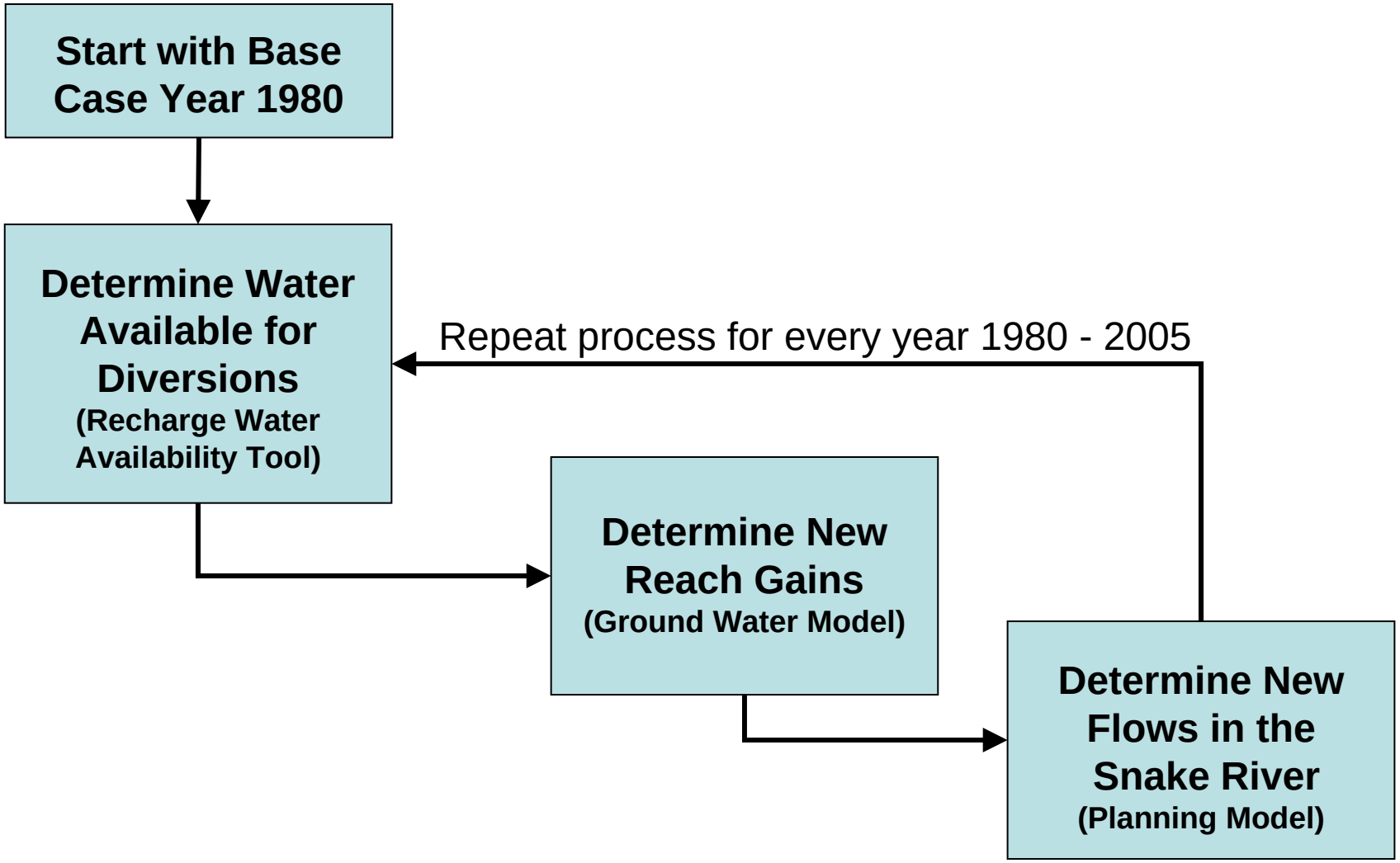
- Priority of diversions for recharge and system conversions occurred in the following order: North Side Canal and Milner Gooding Canal, Aberdeen Springfield, Great Western and Egin.

- Results should be considered as preliminary and used for comparison purposes only

- Modeled 3 scenarios in addition to the Base Case:
  - Full CAMP
  - Full CAMP without CREP
  - CREP Only

Model Process

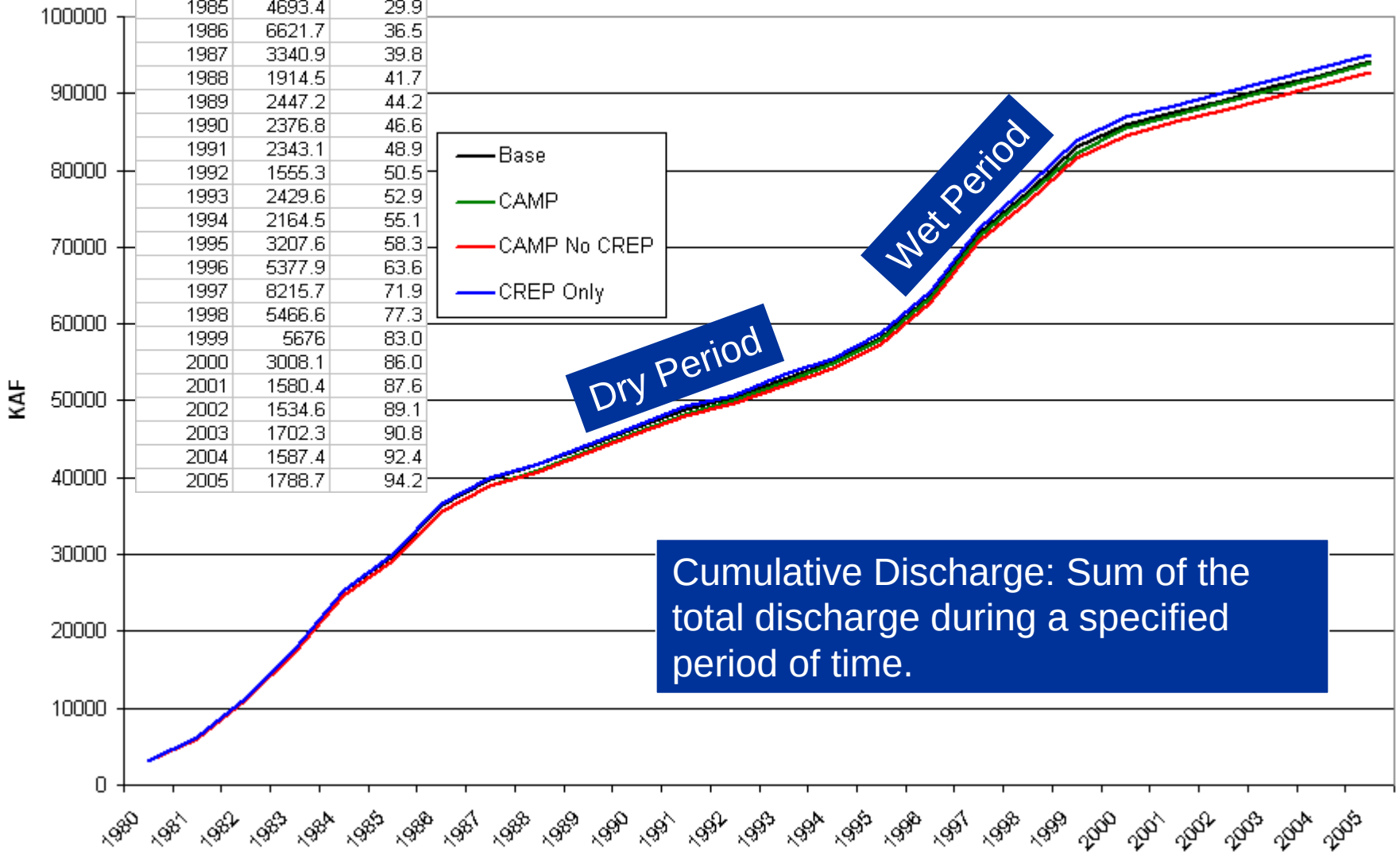
Accounting for Yearly Changes in Water Availability



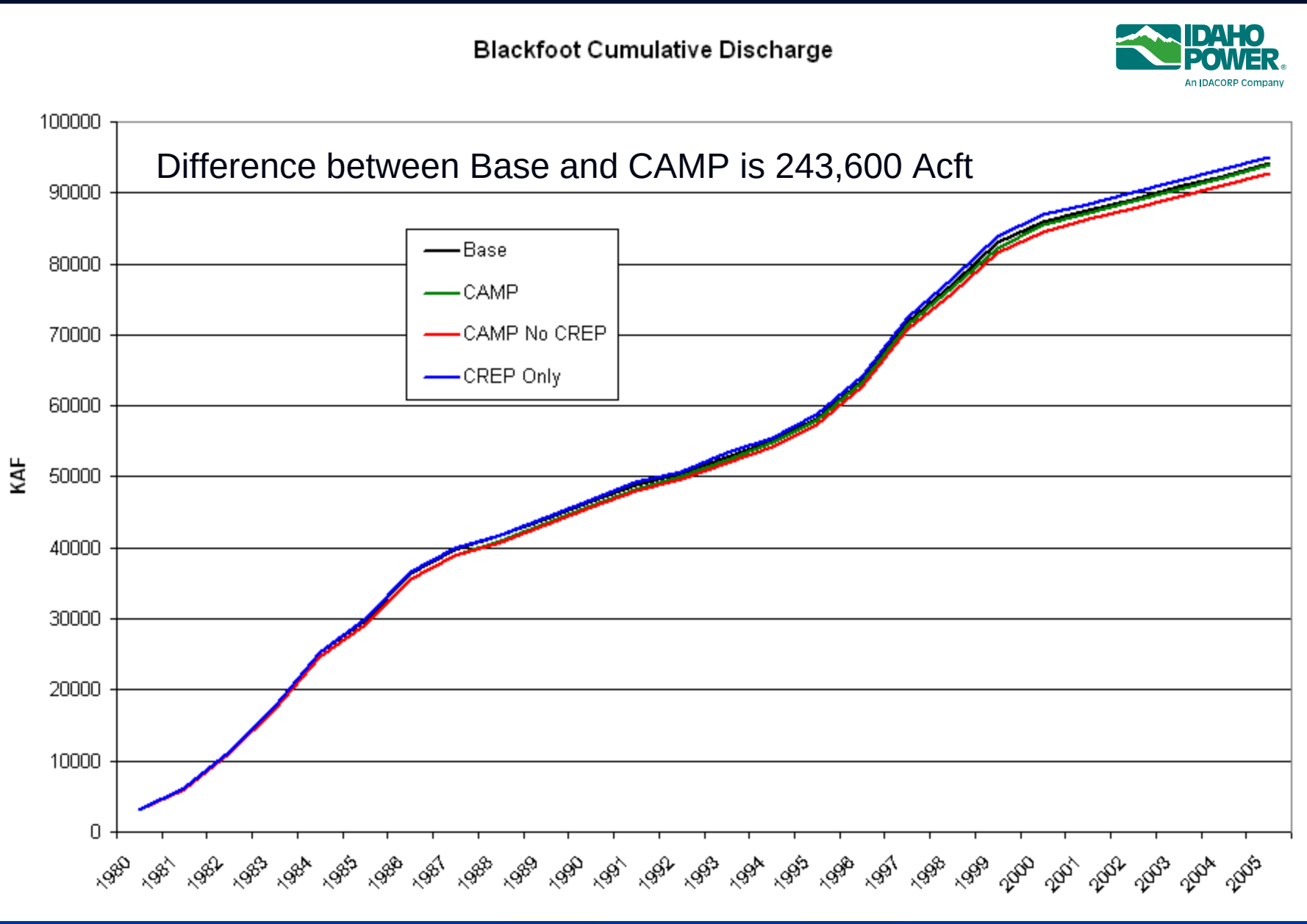
Hydrologic Data

- Cumulative discharge graphs
- Flows at four points on the Snake River for low (1992), medium (1999) and high (1984) hydrologic conditions
- End of month (EOM) reservoir storage for American Falls and Palisades
- Spring discharge increases

Year	Kaf/year	Cum (maf)
1980	3171.3	3.2
1981	2987.6	6.2
1982	5214.5	11.4
1983	6422.1	17.8
1984	7374.9	25.2
1985	4693.4	29.9
1986	6621.7	36.5
1987	3340.9	39.8
1988	1914.5	41.7
1989	2447.2	44.2
1990	2376.8	46.6
1991	2343.1	48.9
1992	1555.3	50.5
1993	2429.6	52.9
1994	2164.5	55.1
1995	3207.6	58.3
1996	5377.9	63.6
1997	8215.7	71.9
1998	5466.6	77.3
1999	5676	83.0
2000	3008.1	86.0
2001	1580.4	87.6
2002	1534.6	89.1
2003	1702.3	90.8
2004	1587.4	92.4
2005	1788.7	94.2



Cumulative Discharge: Sum of the total discharge during a specified period of time.


Blackfoot Cumulative Discharge
IDAHO POWER
An IDACORP Company
Difference between Base and CAMP is 243,600 Acft
Base
CAMP
CAMP No CREP
CREP Only
KAF
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
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1980
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1982
1983
1984
1985
1986
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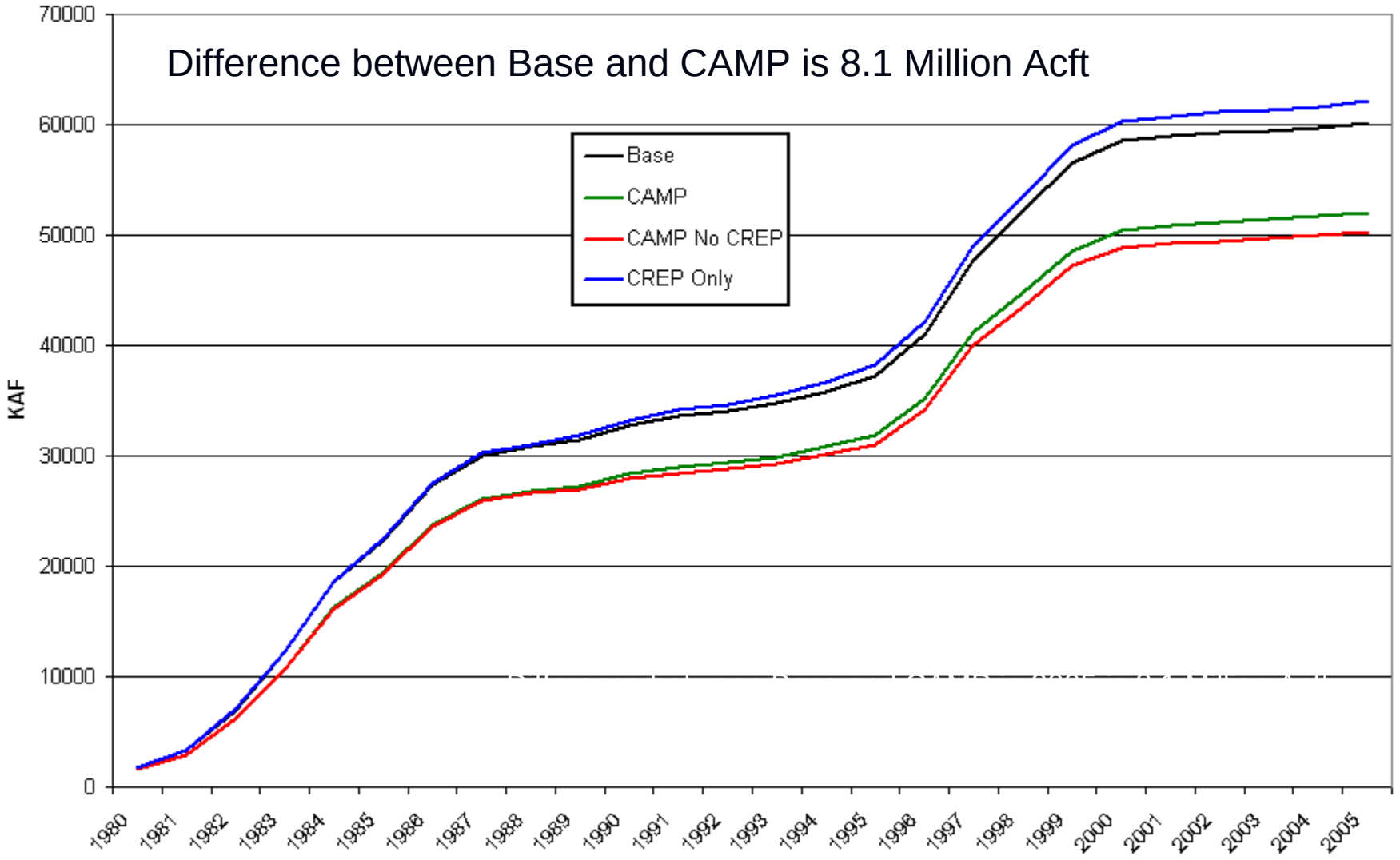
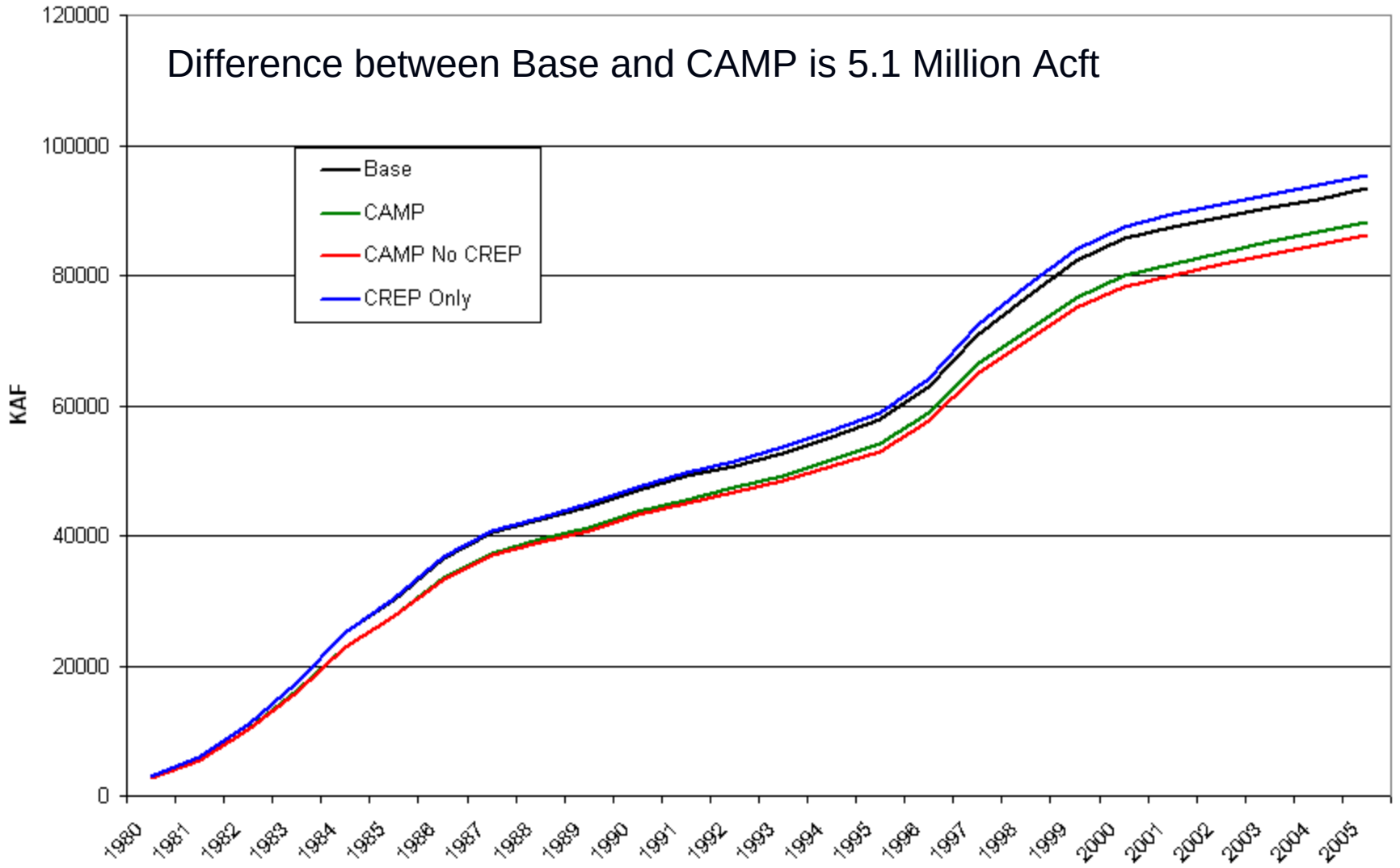
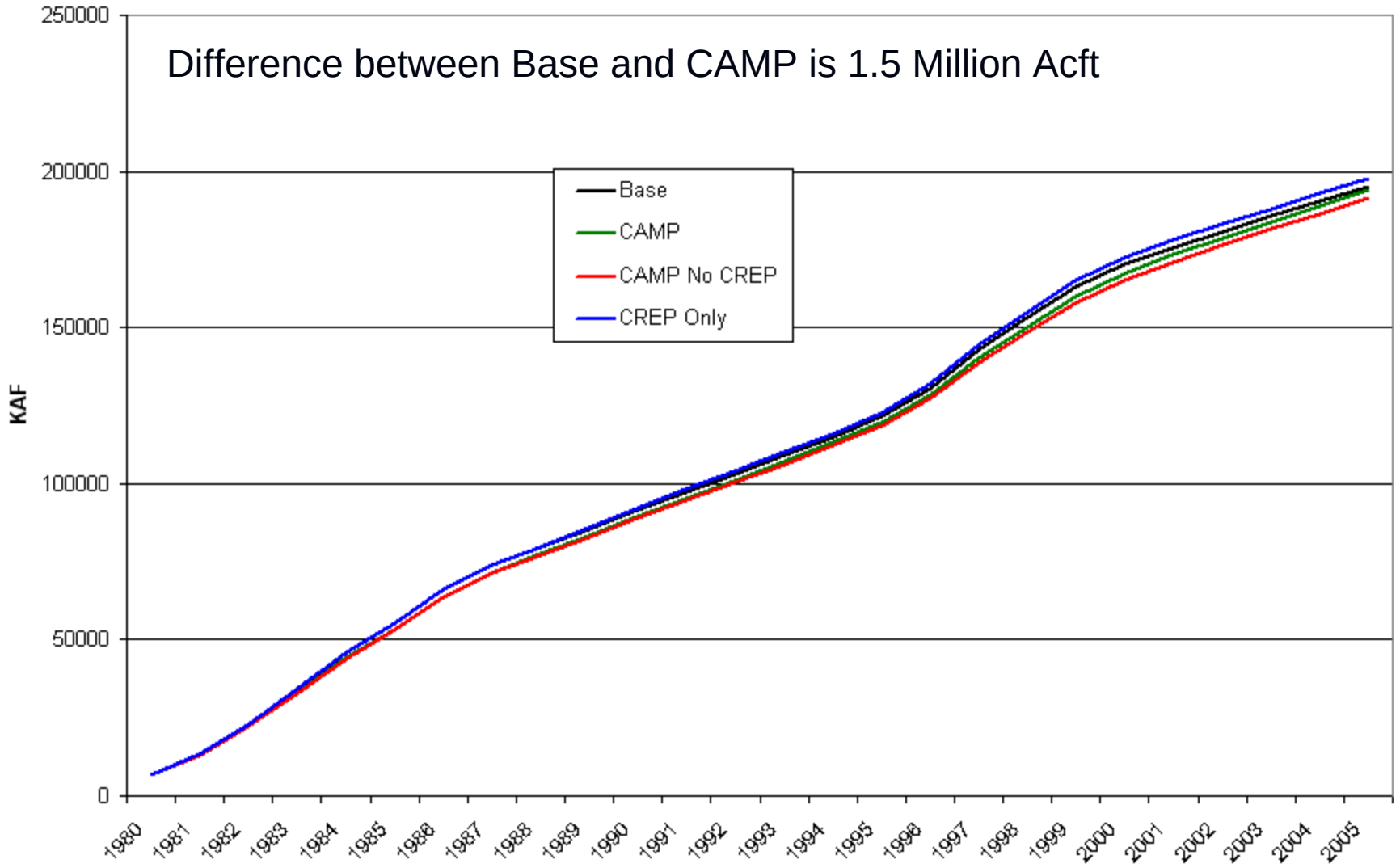
Milner Cumulative Discharge

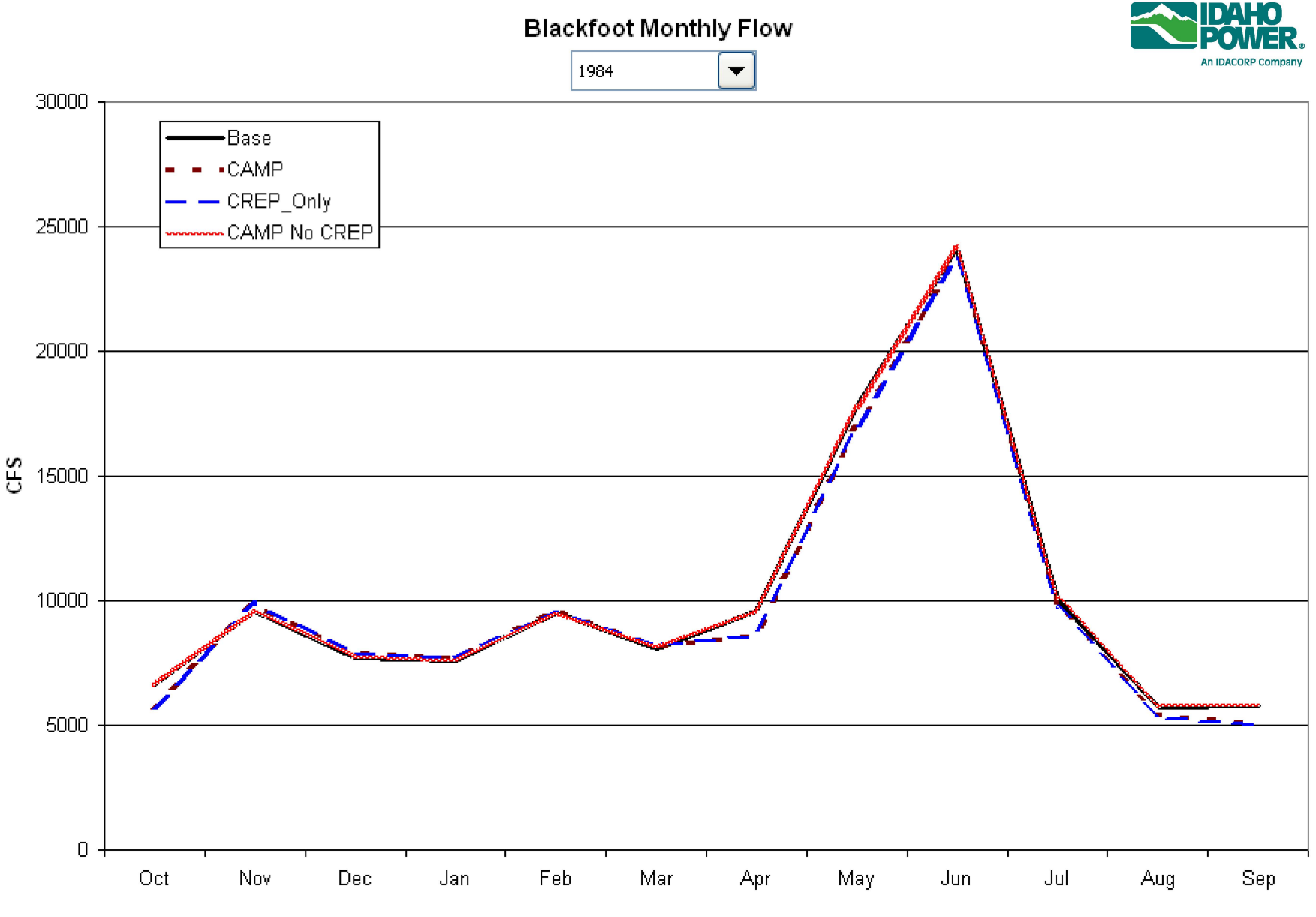


Buhl Cumulative Discharge



King Hill Cumulative Discharge




Blackfoot Monthly Flow
1984
IDAHO POWER
An IDACORP Company
Base
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CREP_Only
CAMP No CREP
CFS
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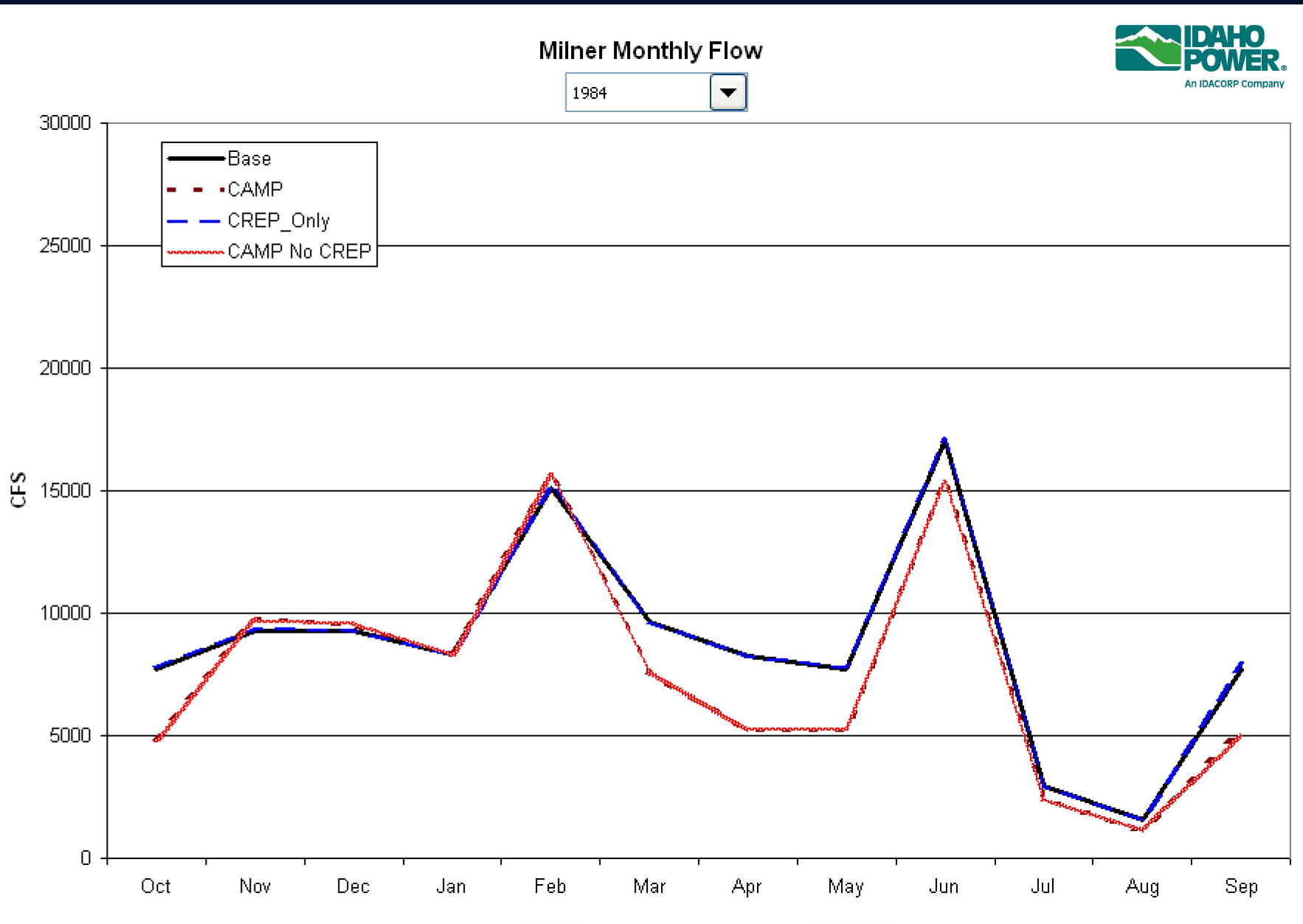
Milner Monthly Flow
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An IDACORP Company
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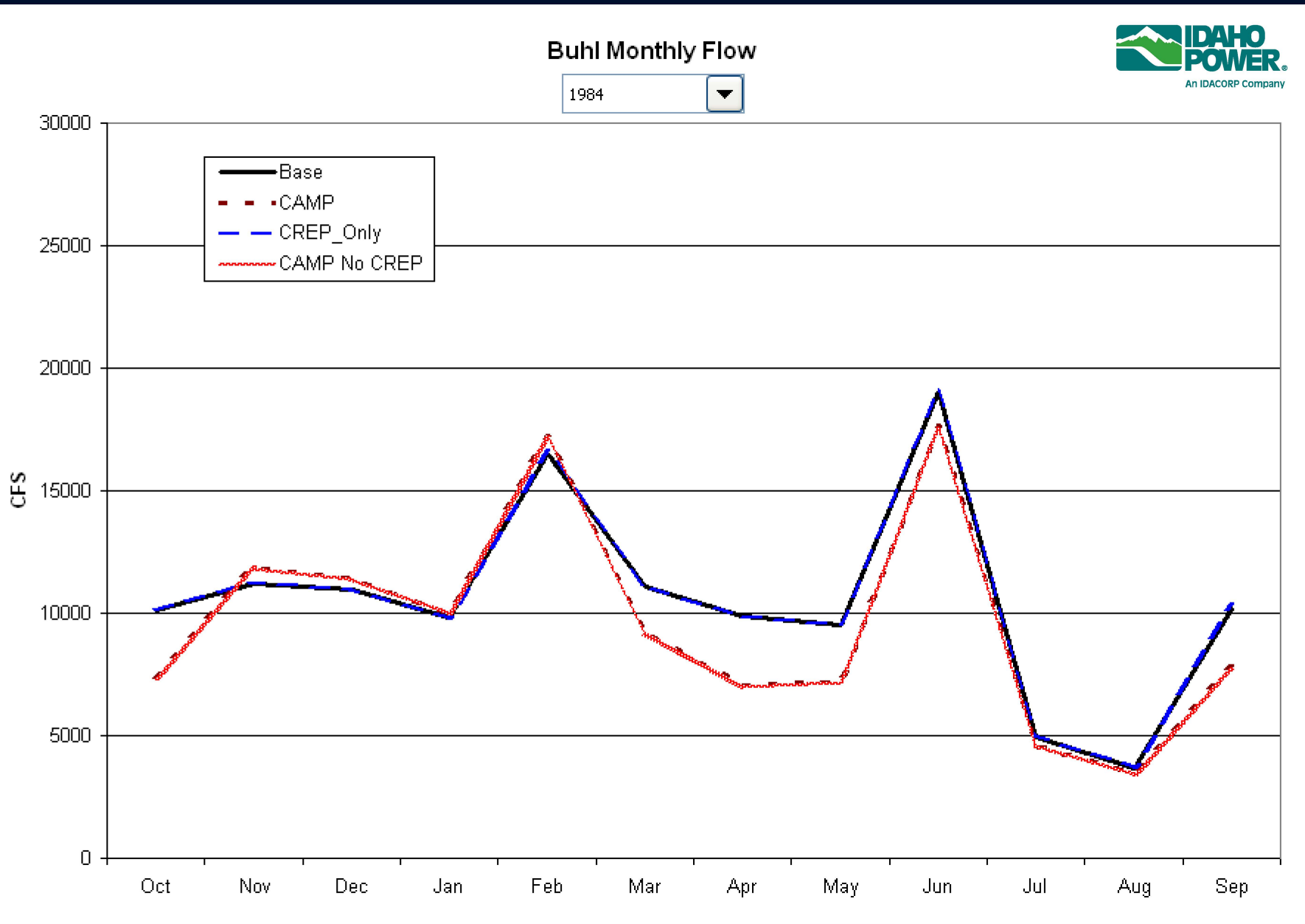
Buhl Monthly Flow
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An IDACORP Company
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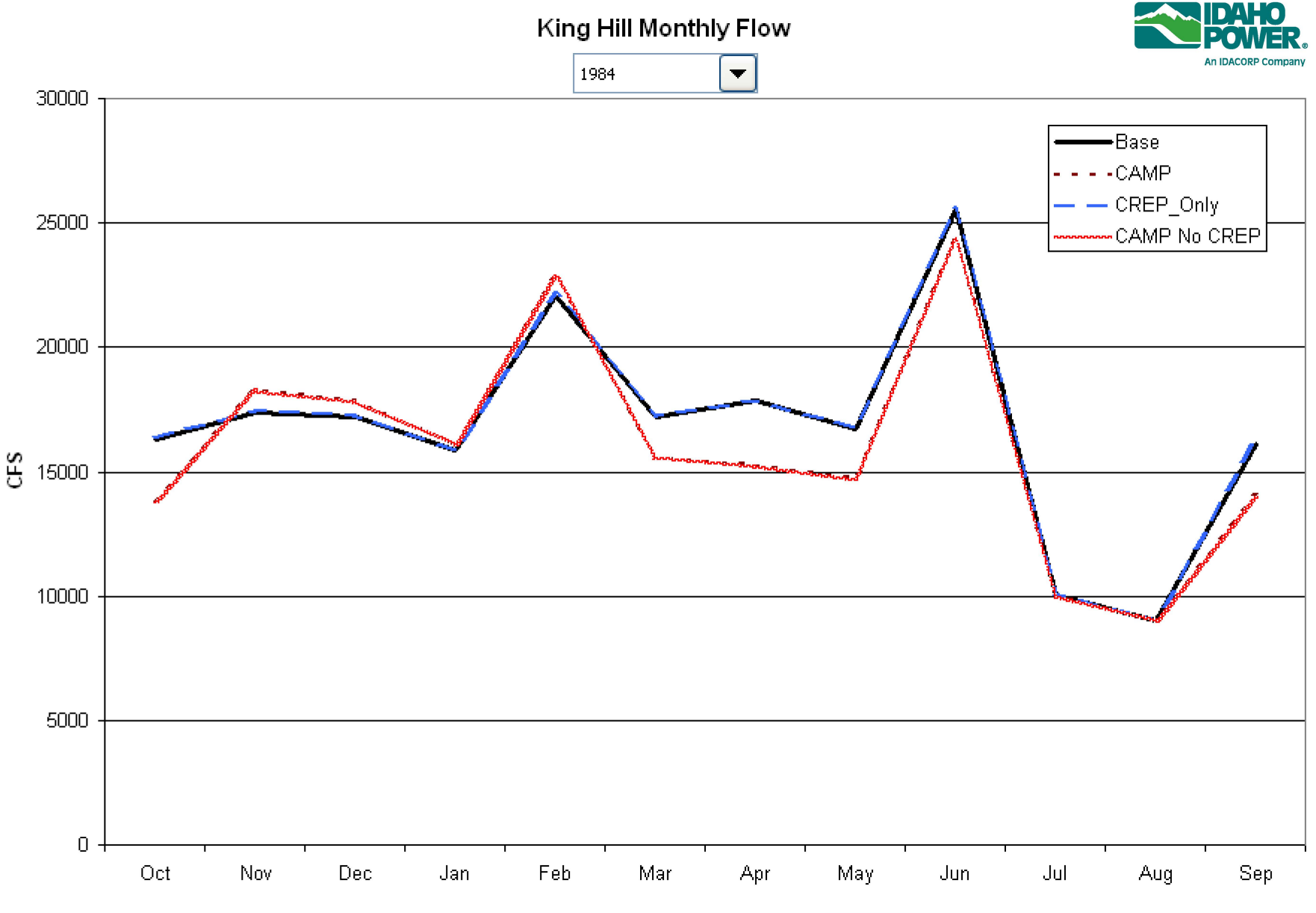
King Hill Monthly Flow
1984
IDAHO POWER
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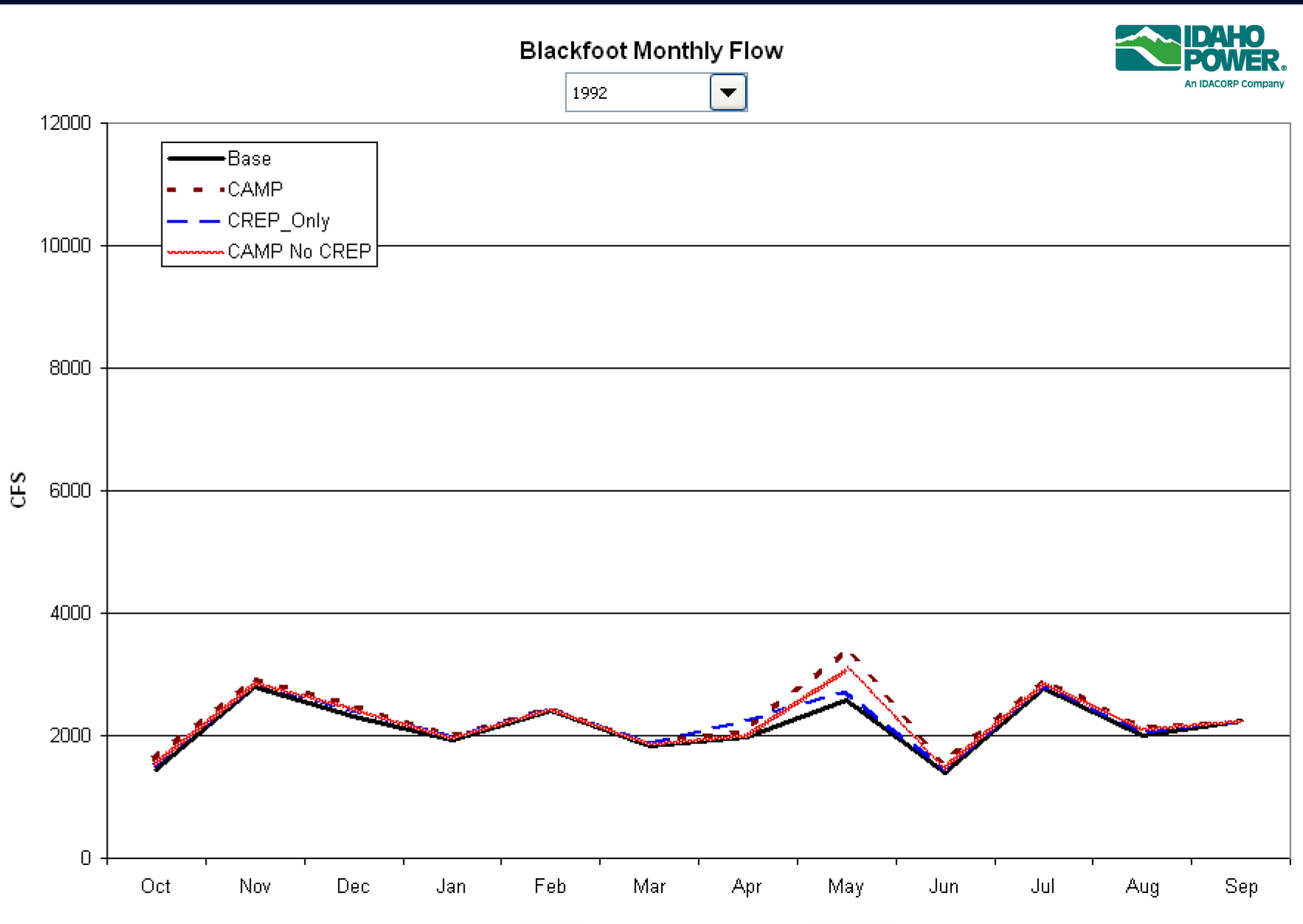
Blackfoot Monthly Flow
1992
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An IDACORP Company
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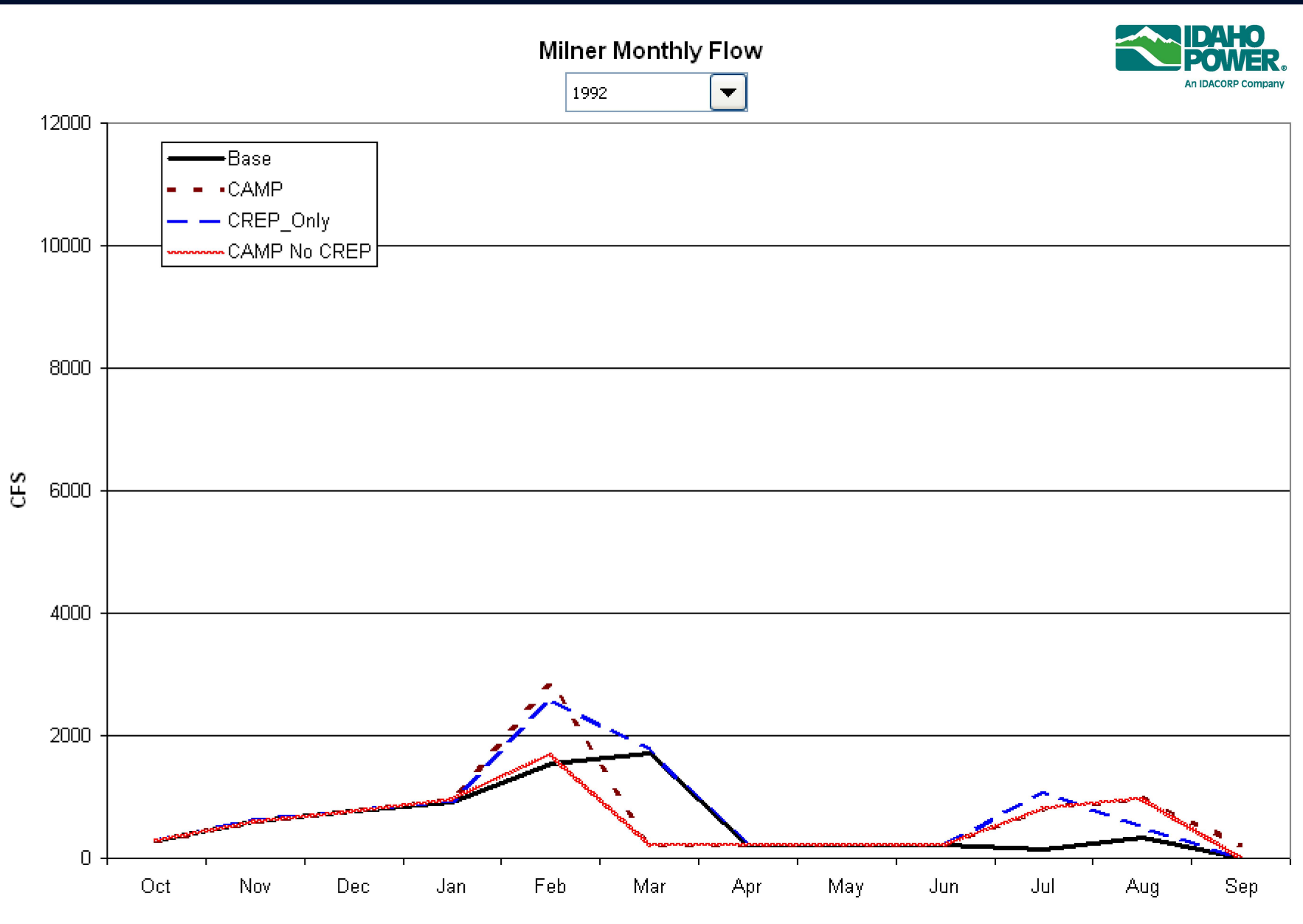
Milner Monthly Flow
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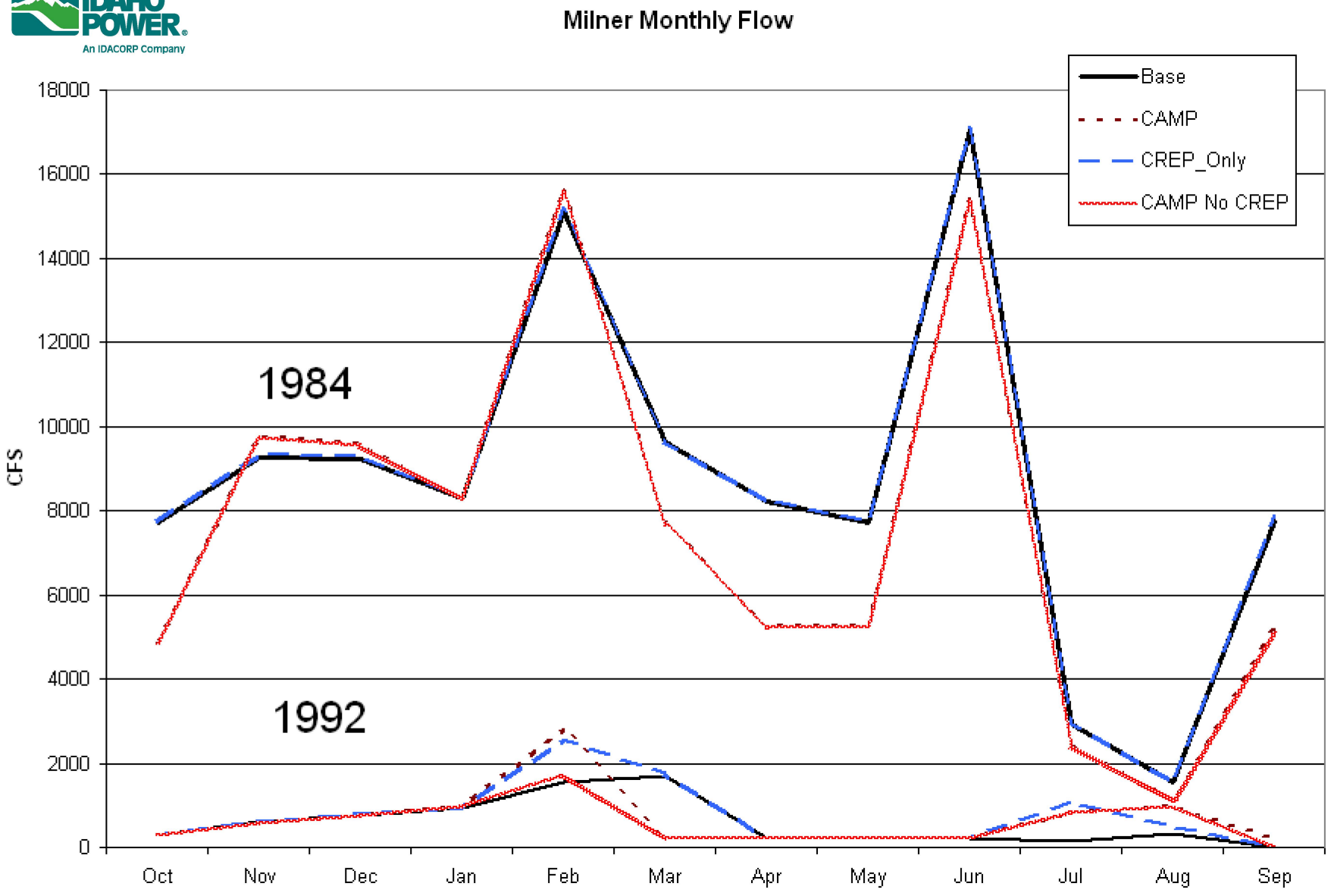
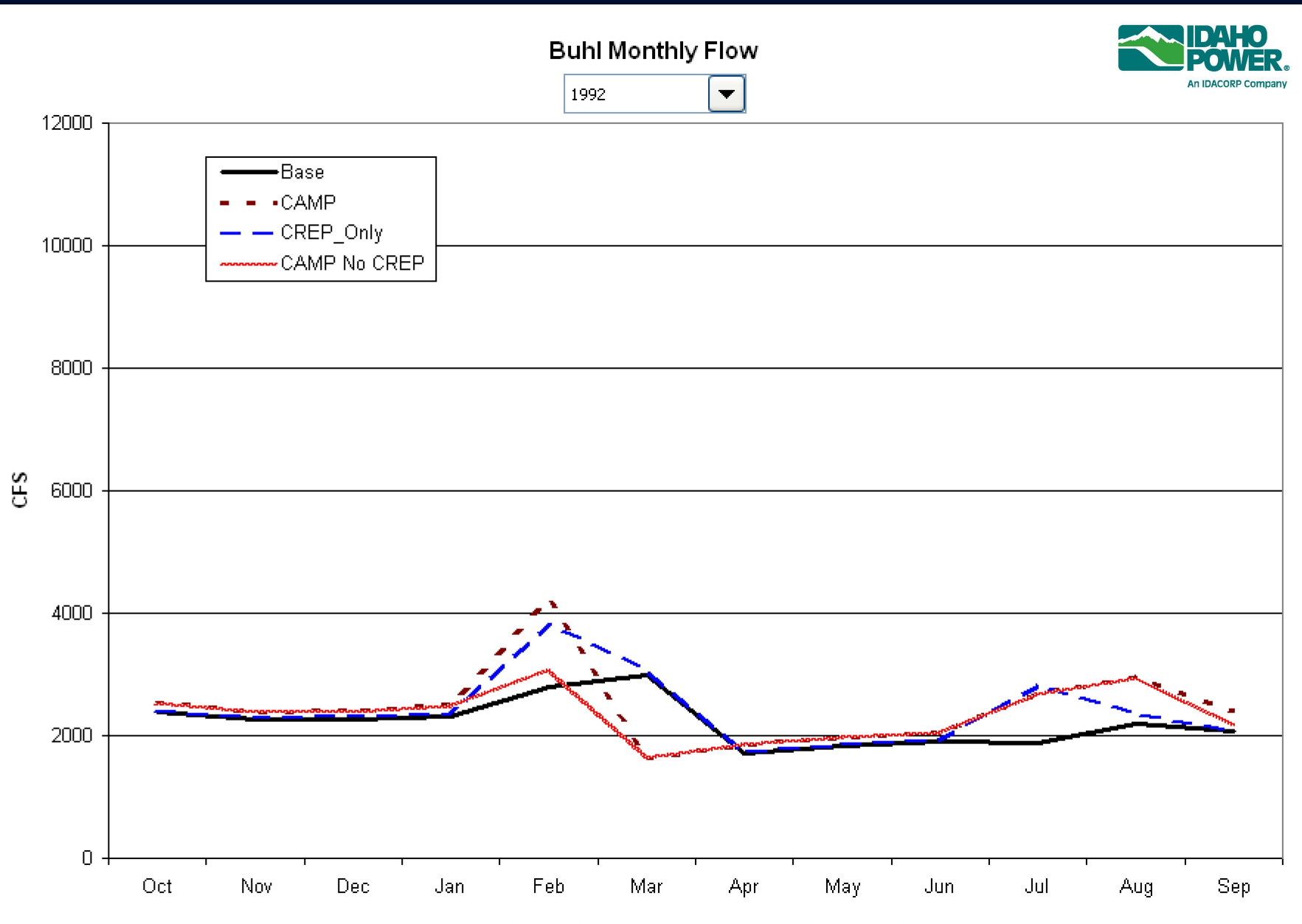
IDAHO POWER
An IDACORP Company

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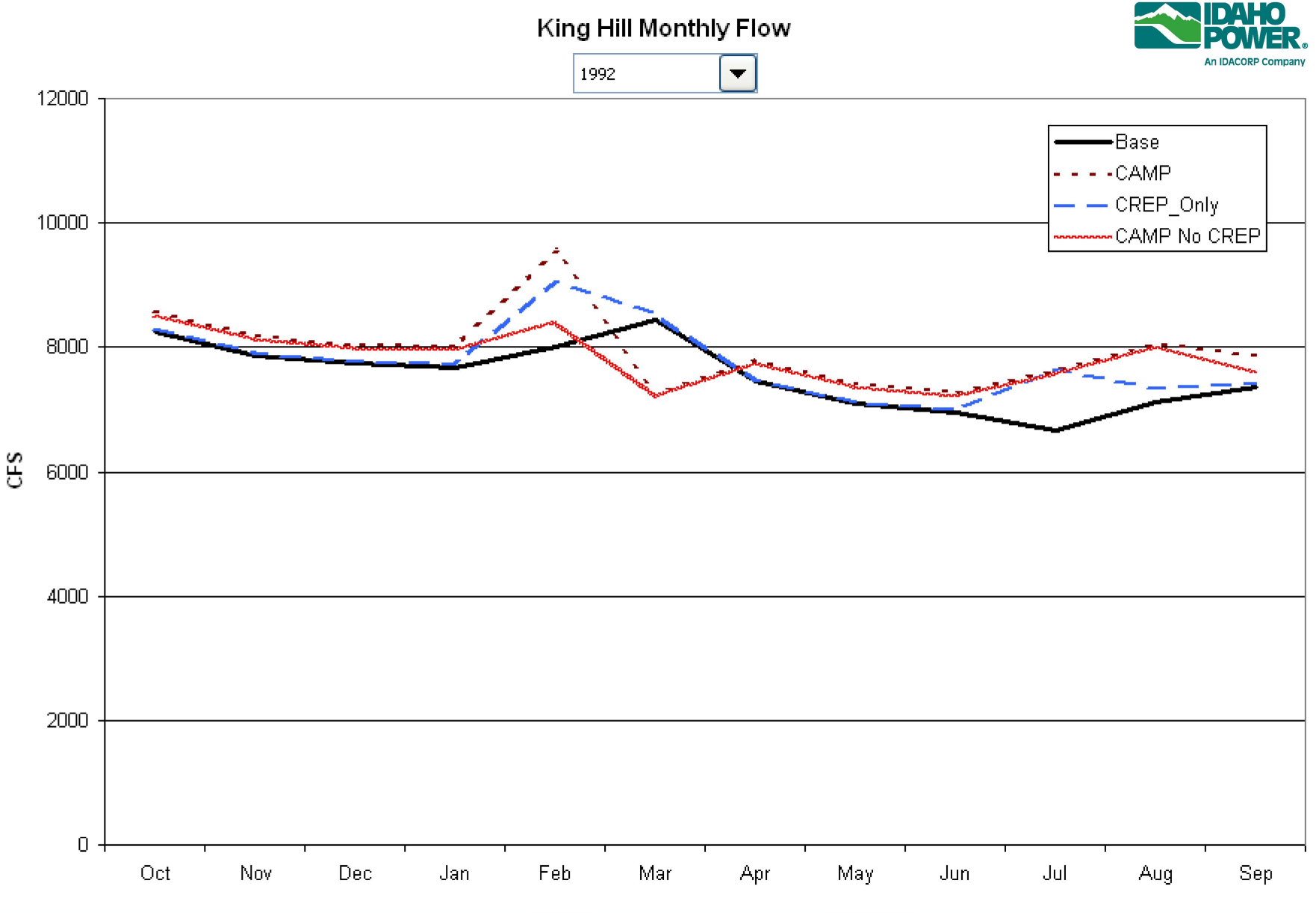
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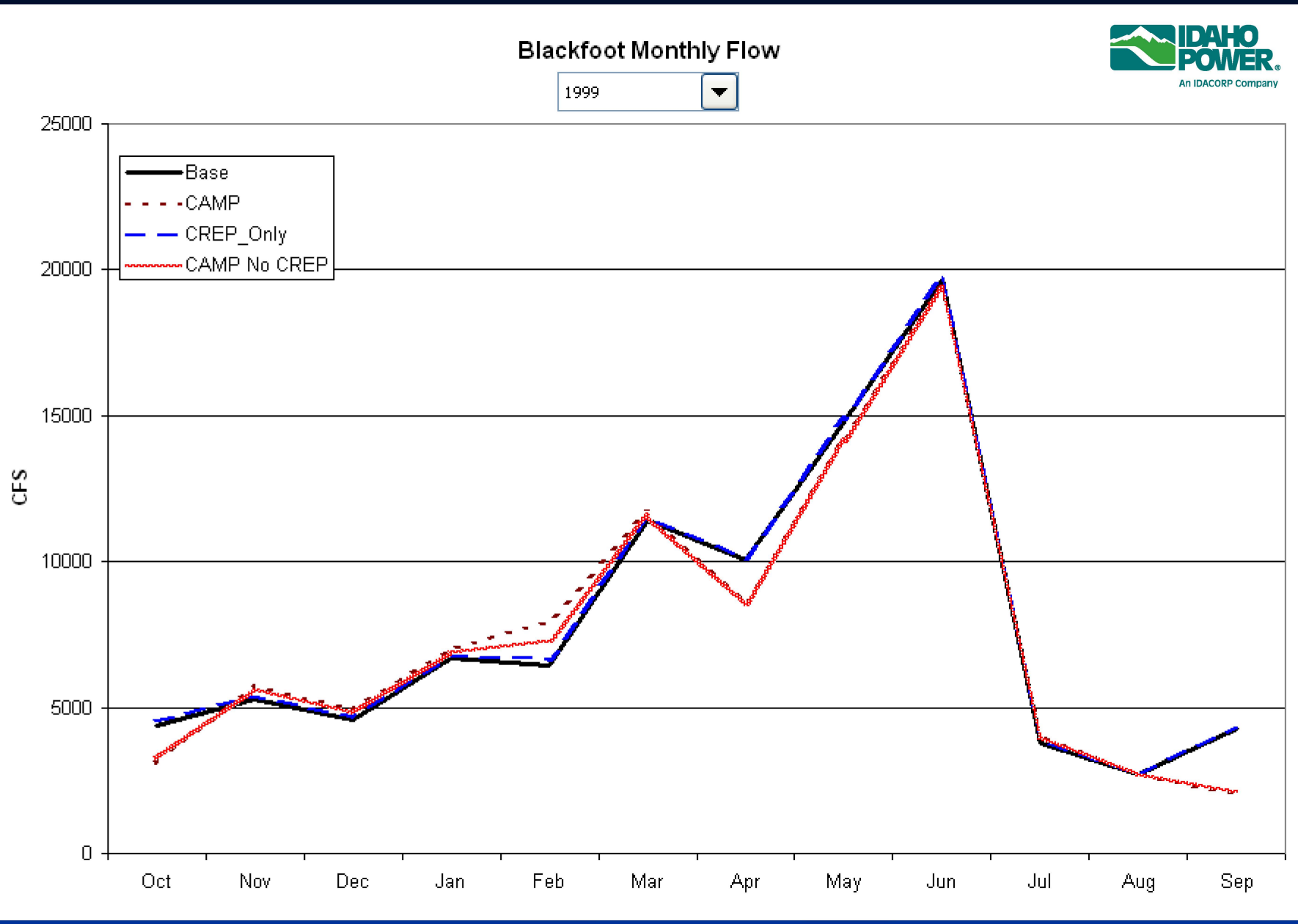
Blackfoot Monthly Flow
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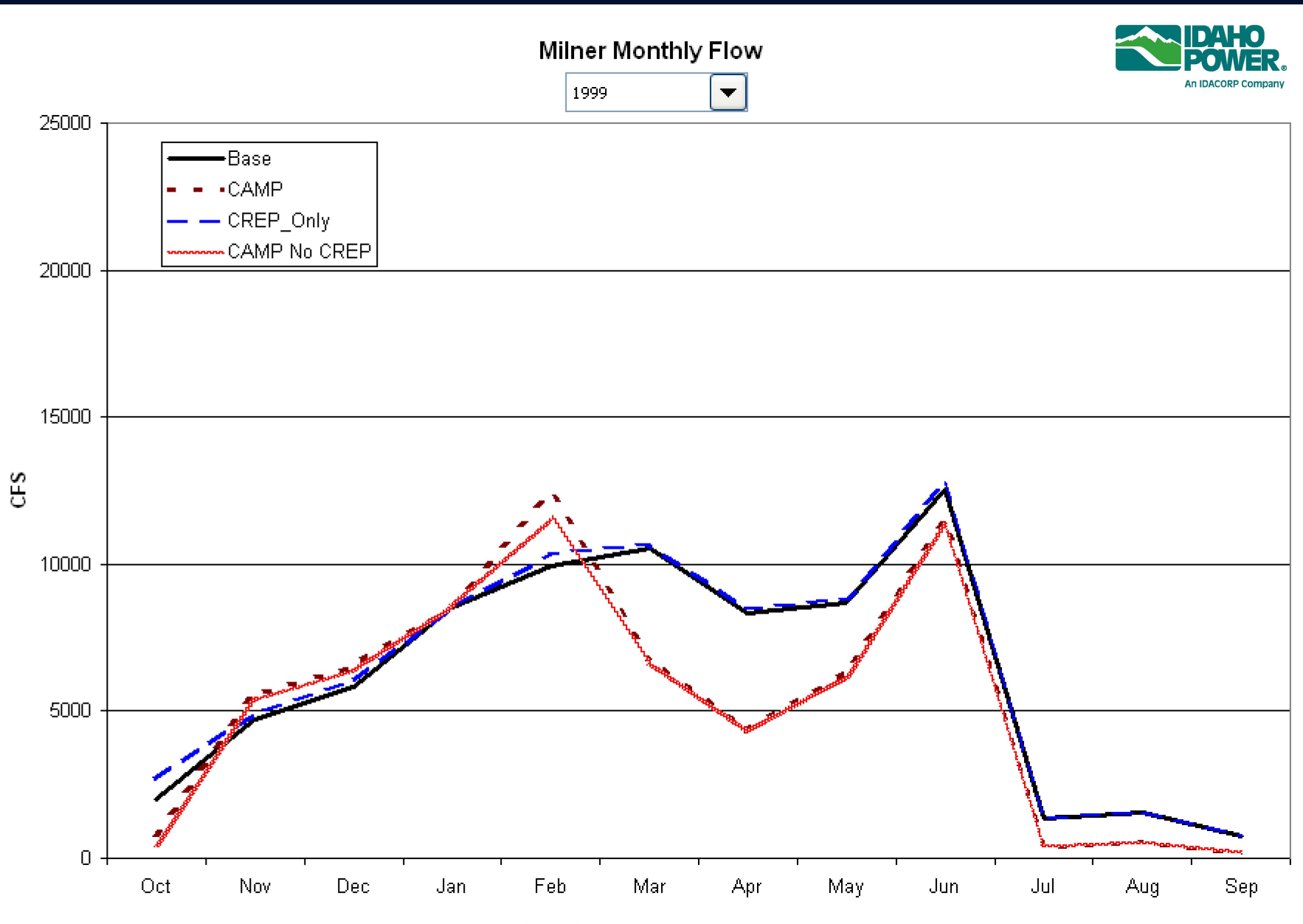
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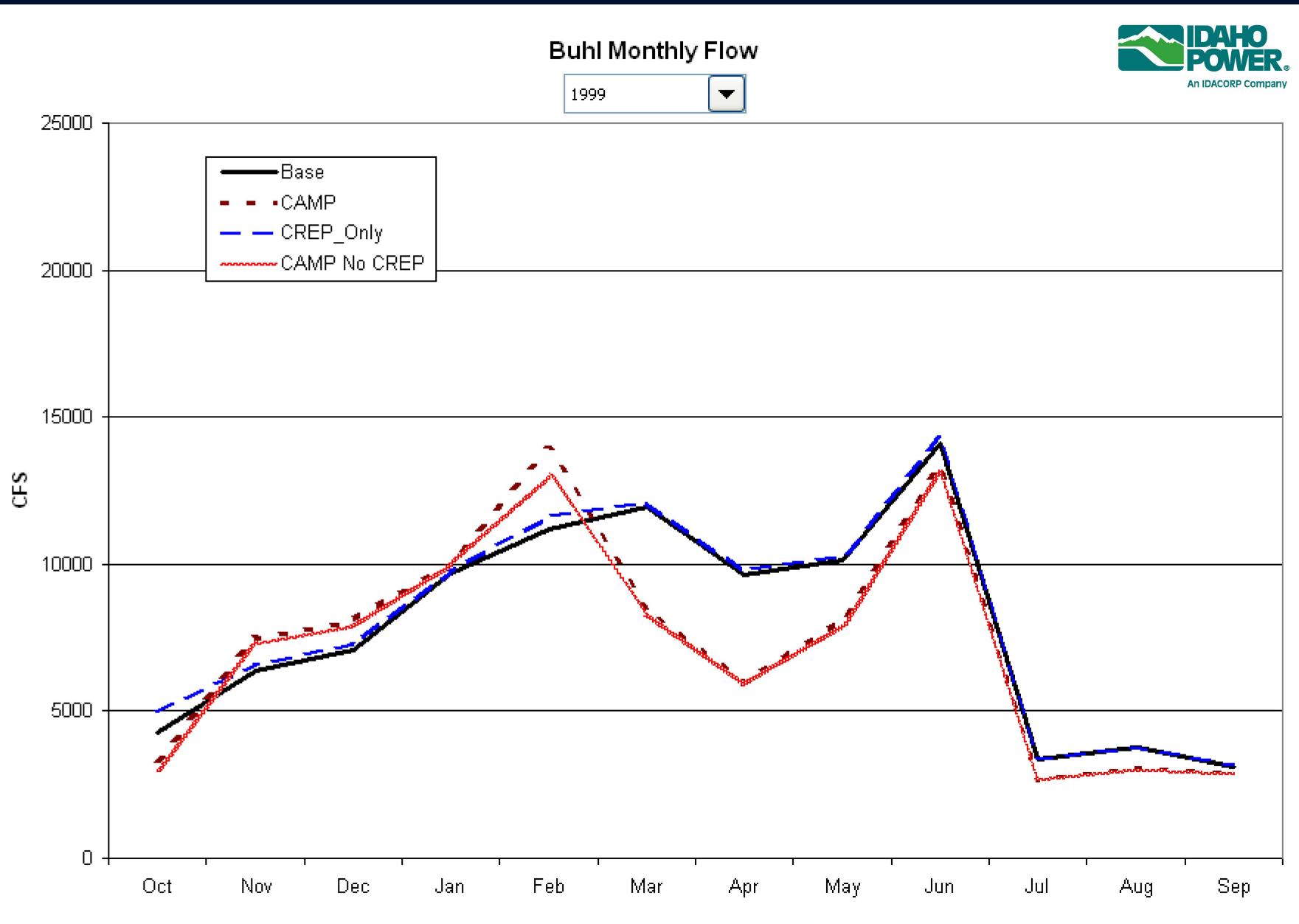
Buhl Monthly Flow
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IDAHO POWER
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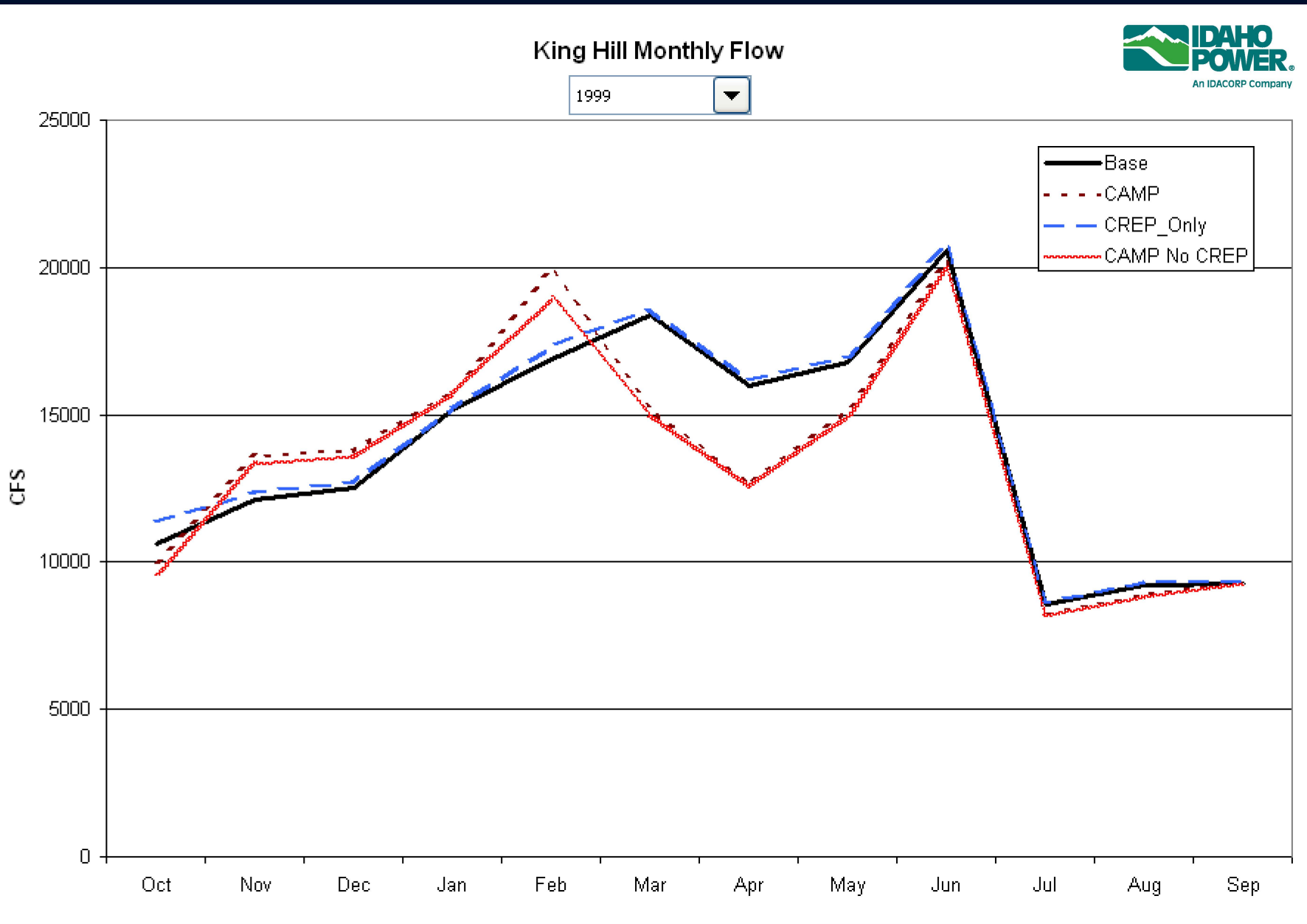
King Hill Monthly Flow
1999
IDAHO POWER
An IDACORP Company
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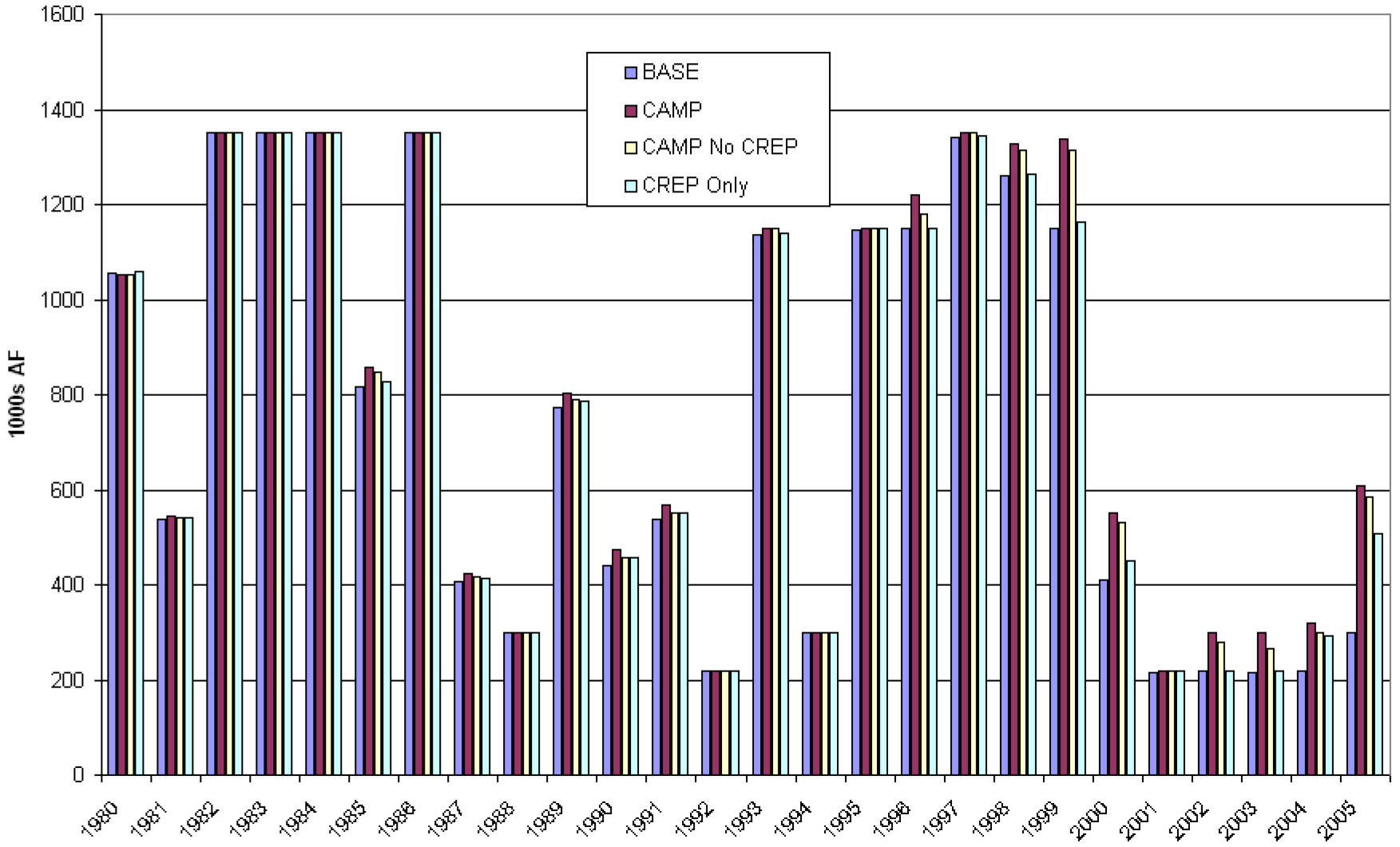
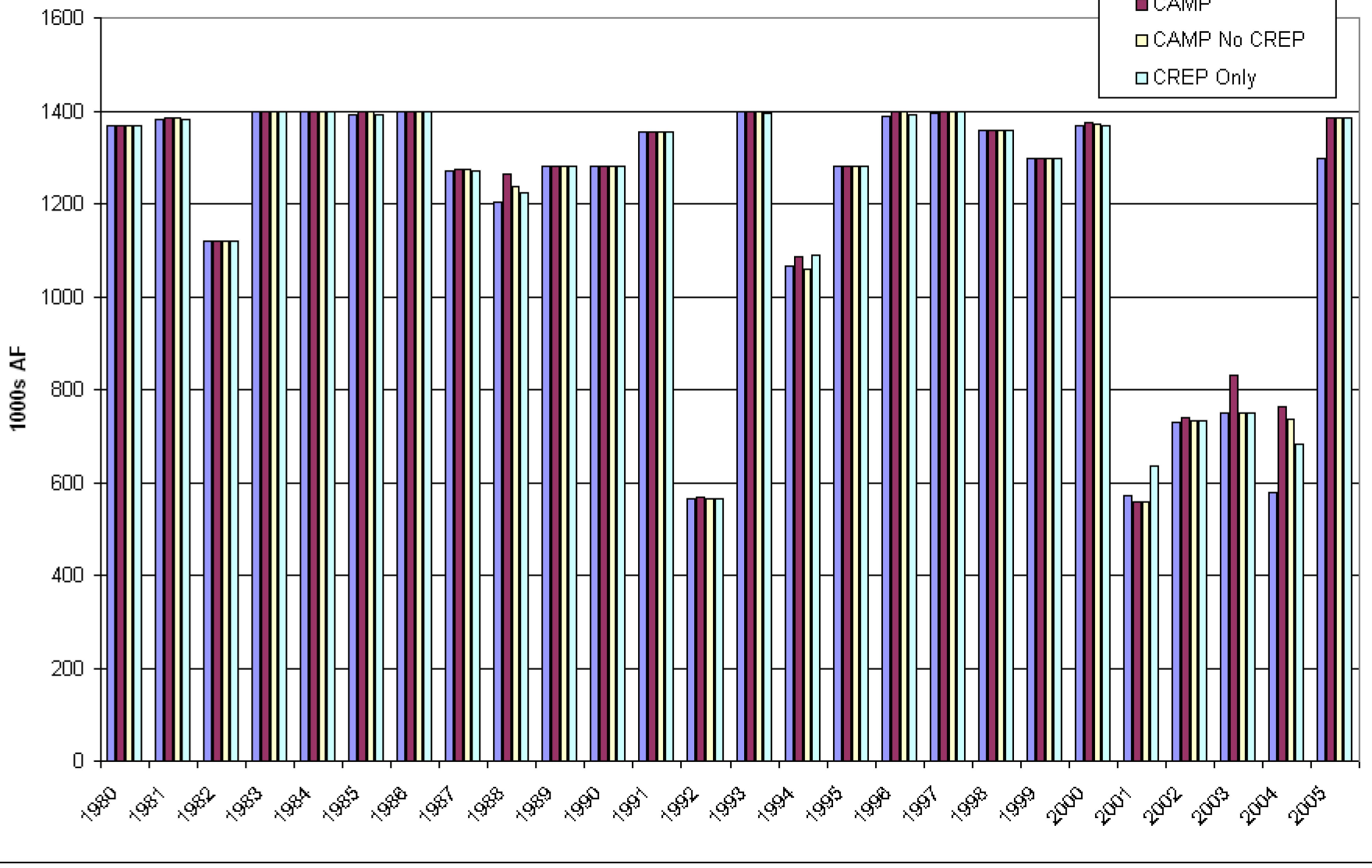
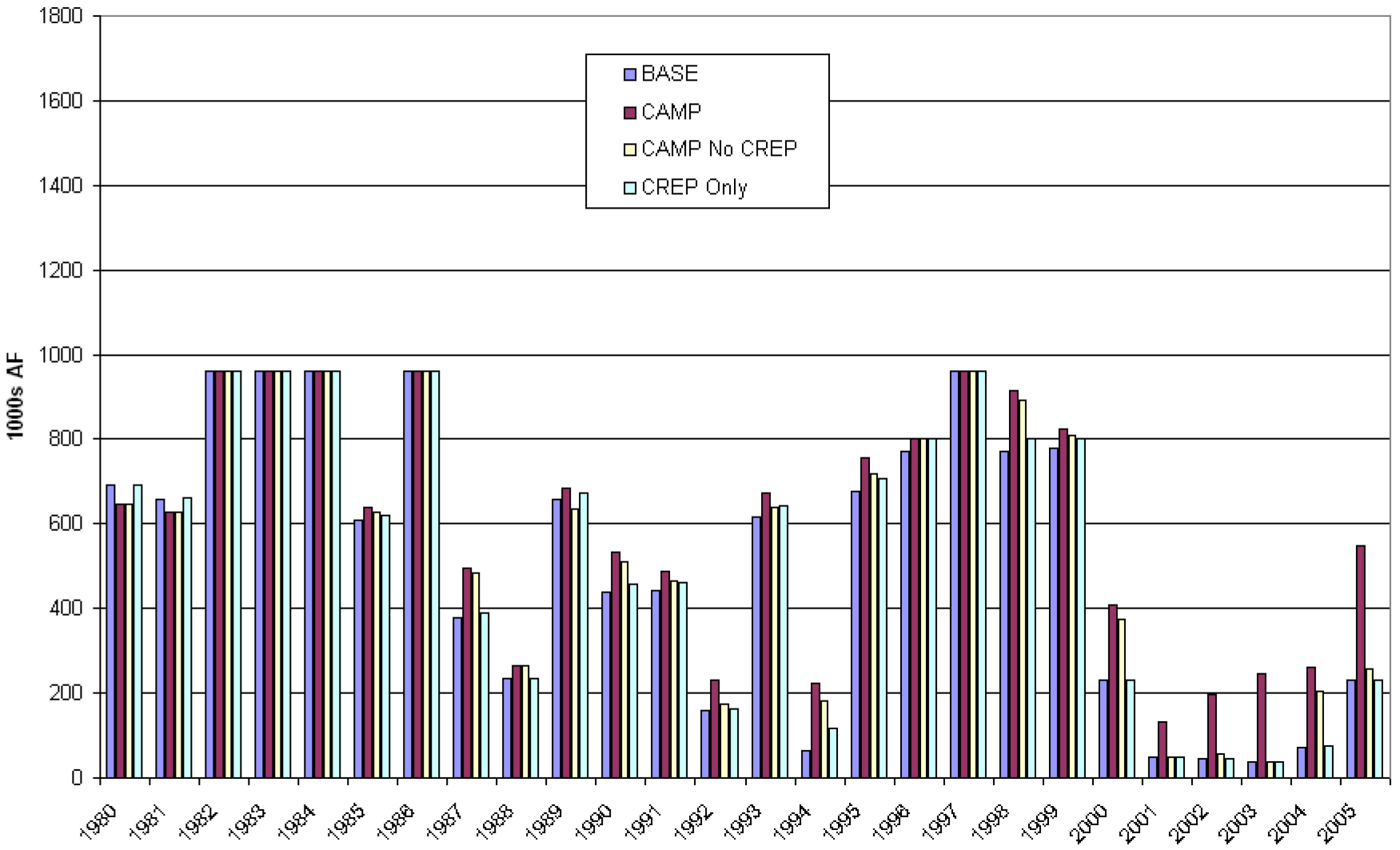
EOM Storage for September at Palisades



IDAHO POWER
An IDACORP Company

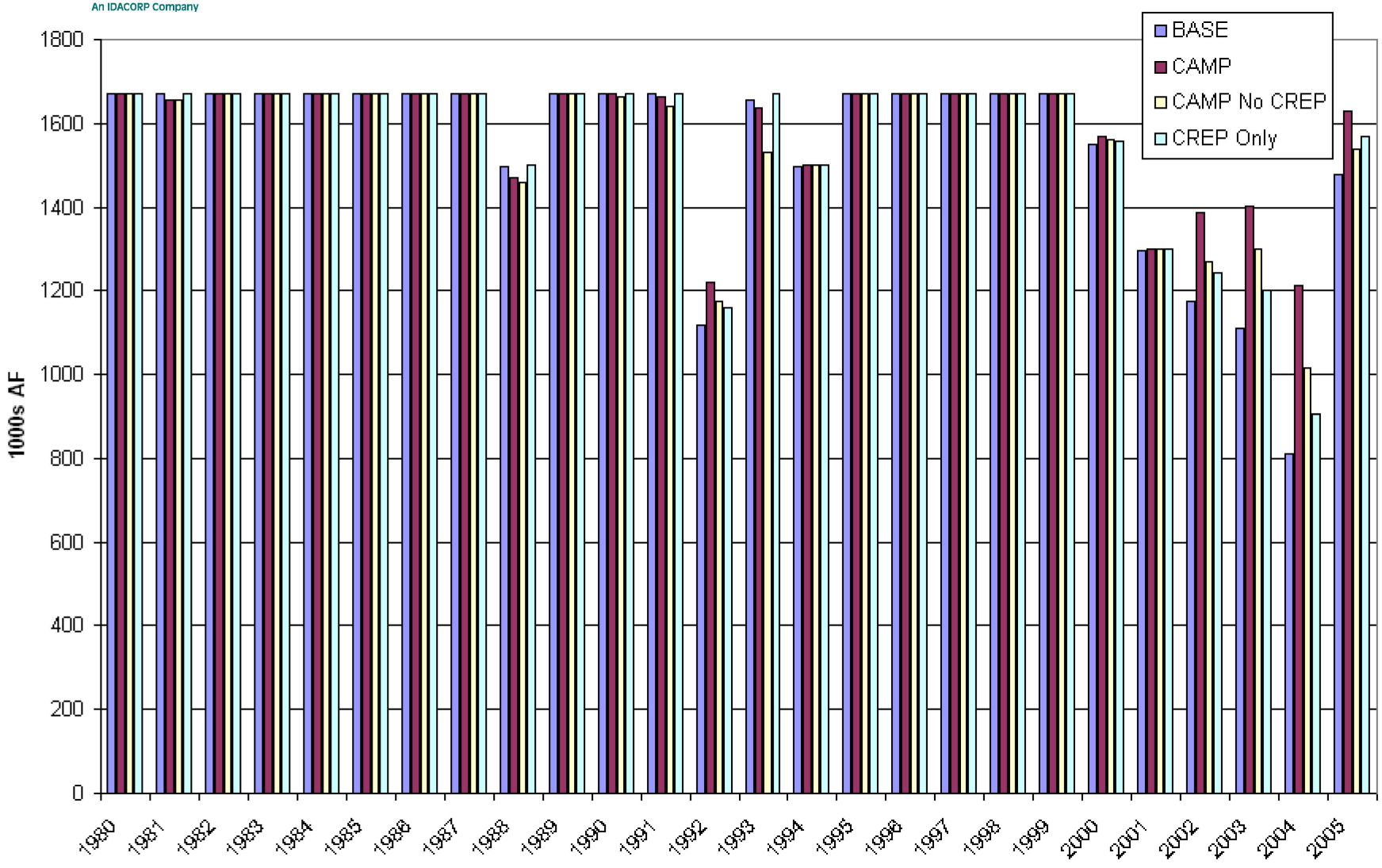


EOM Storage for September at American Falls

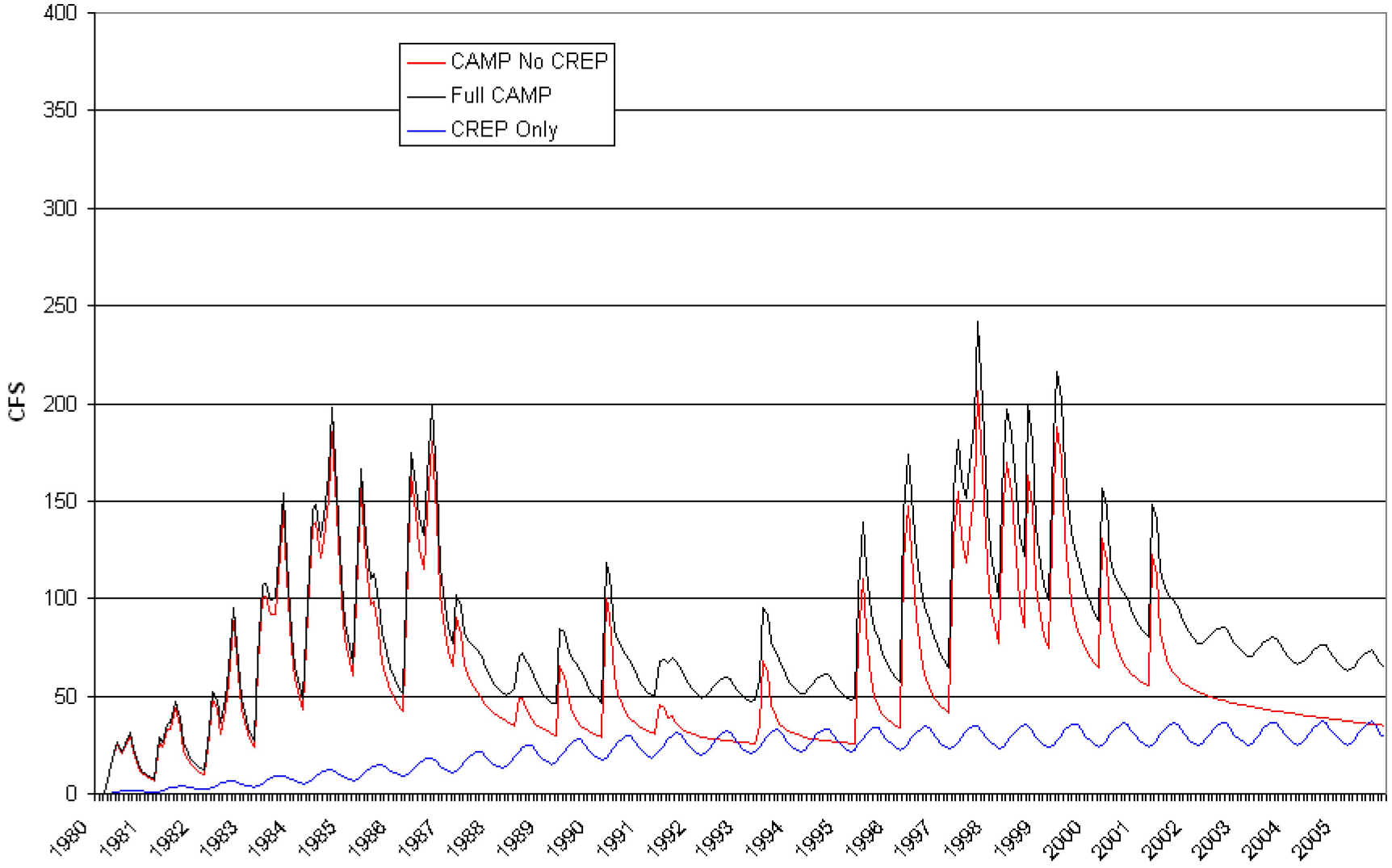


IDAHO POWER
An IDACORP Company

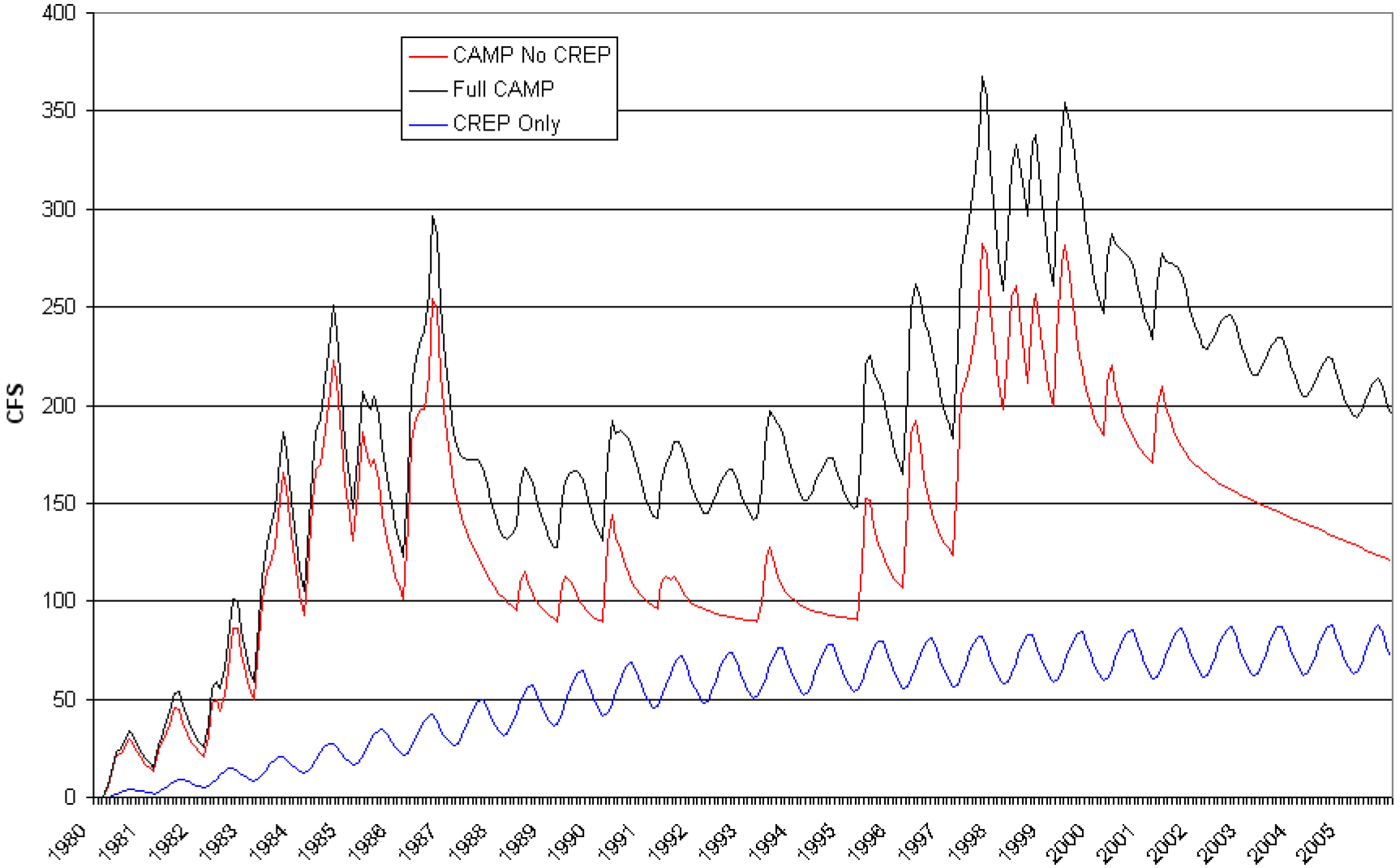
EOM Storage for May at American Falls



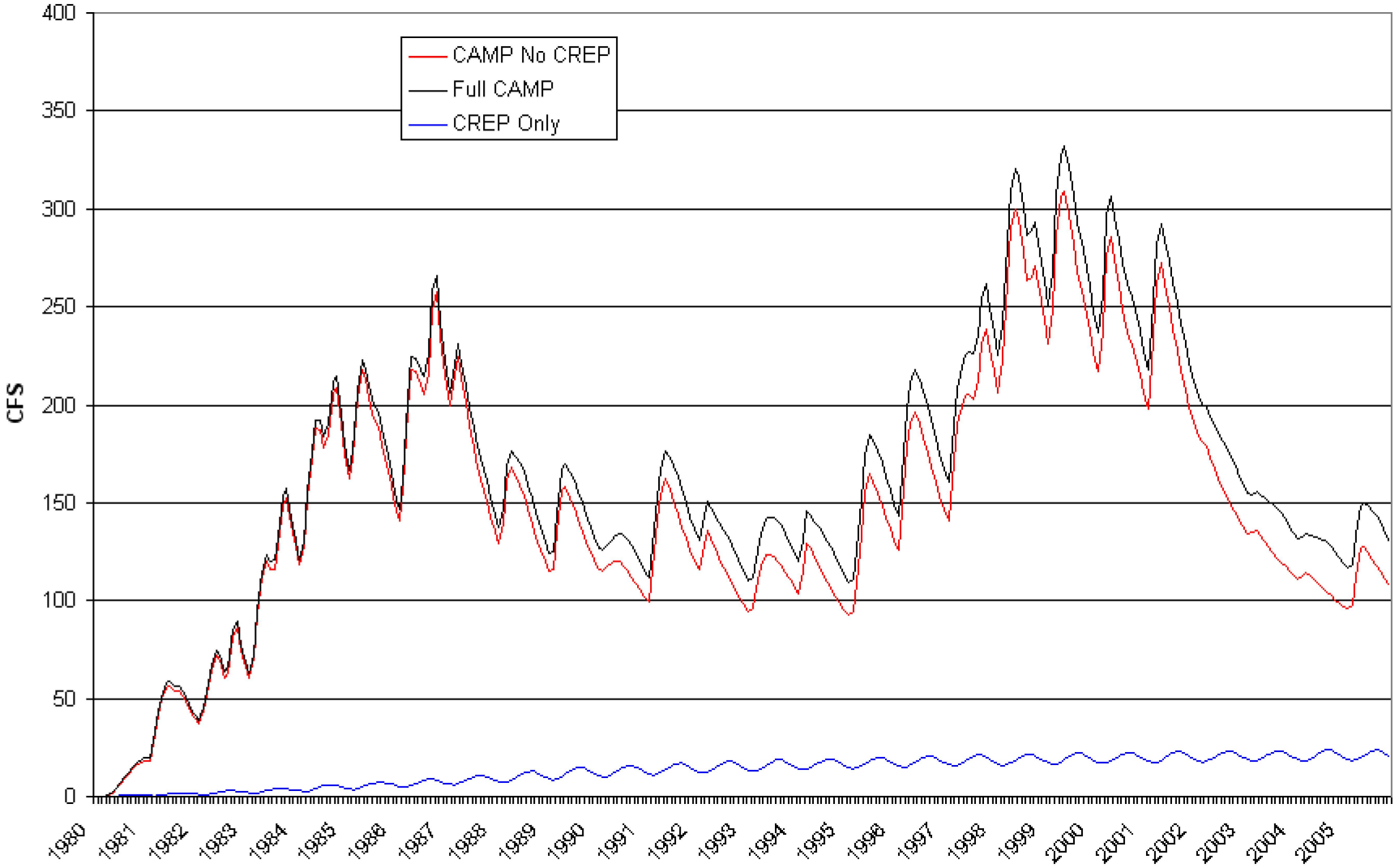
Spring Discharge Increases
Shelly to Blackfoot



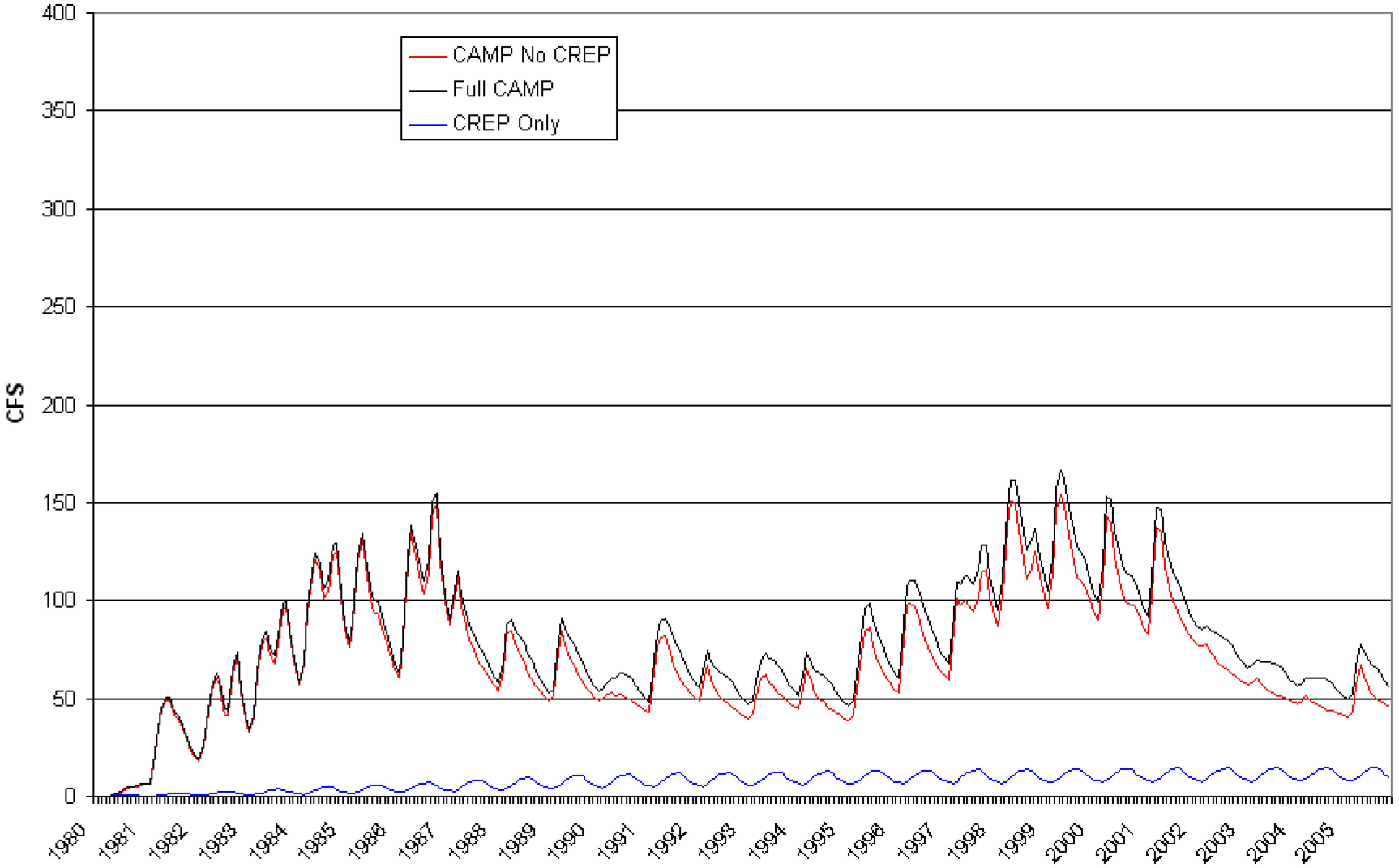
Spring Discharge Increases
Blackfoot to Neely



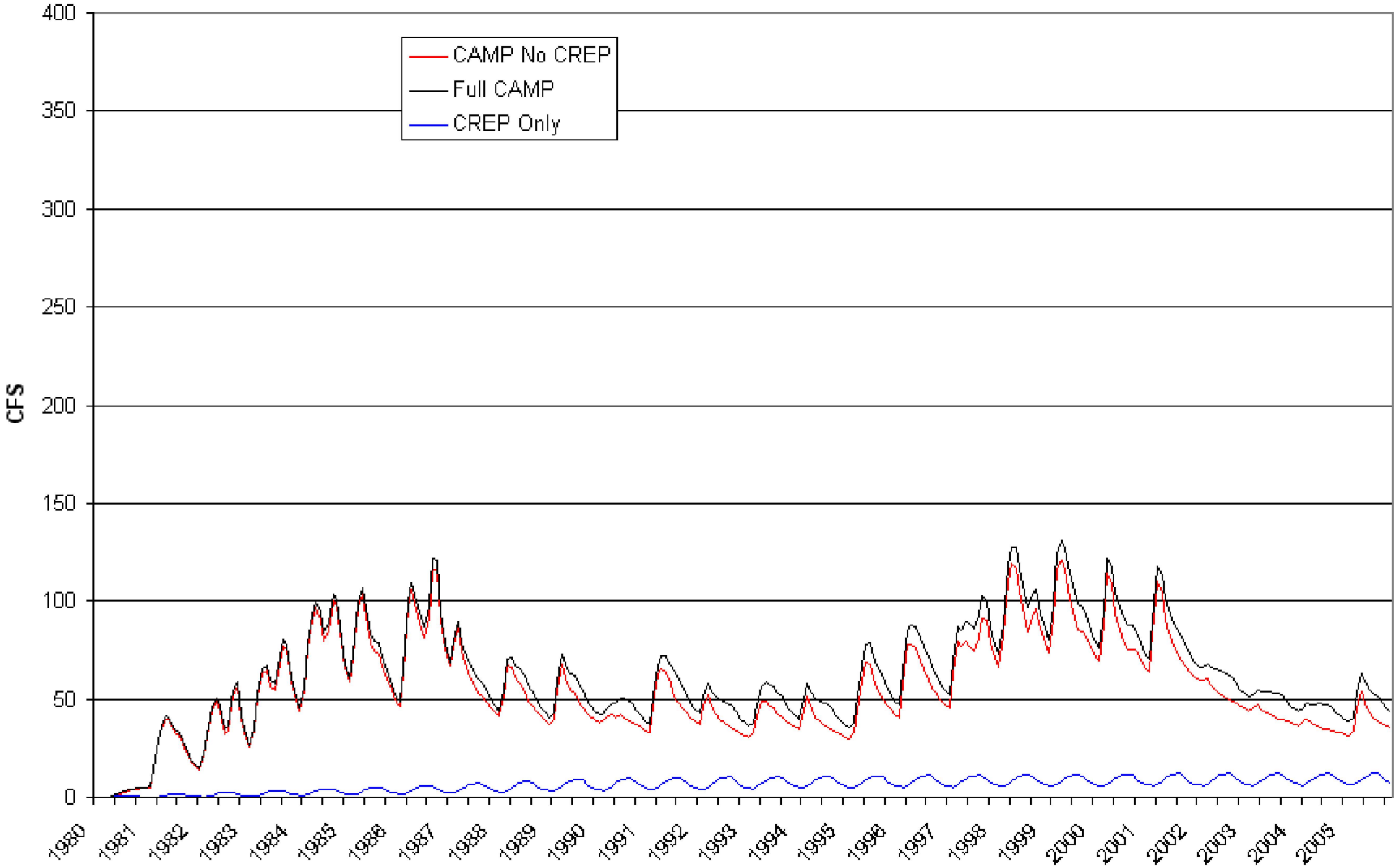
Spring Discharge Increases
Devils Washbowl to Buhl



Spring Discharge Increases
Buhl to Thousand Springs



Spring Discharge Increases
Thousand Springs to Malad



Questions?

Preliminary CAMP Modeling Results

Fish and Wildlife Sub-Committee