



Preliminary CAMP Modeling Results

Medium Packages

- Demand Reduction Emphasis
- Recharge Emphasis

Fish and Wildlife Sub-Committee

CAMP Meeting
July 23, 2008
Burley, Idaho

Purpose of Modeling Effort

Fish and Wildlife Impacts

- Determine changes to river flows and reservoir storage as a result of implementation of the medium scenarios
- Help identify key stream reaches and issues that may impact fish and wildlife during CAMP implementation
- Help identify potential benefits to fish and wildlife or opportunities to improve fish and wildlife resources through the CAMP process
- Cooperative effort between Idaho Power and the Idaho Department of Water Resources

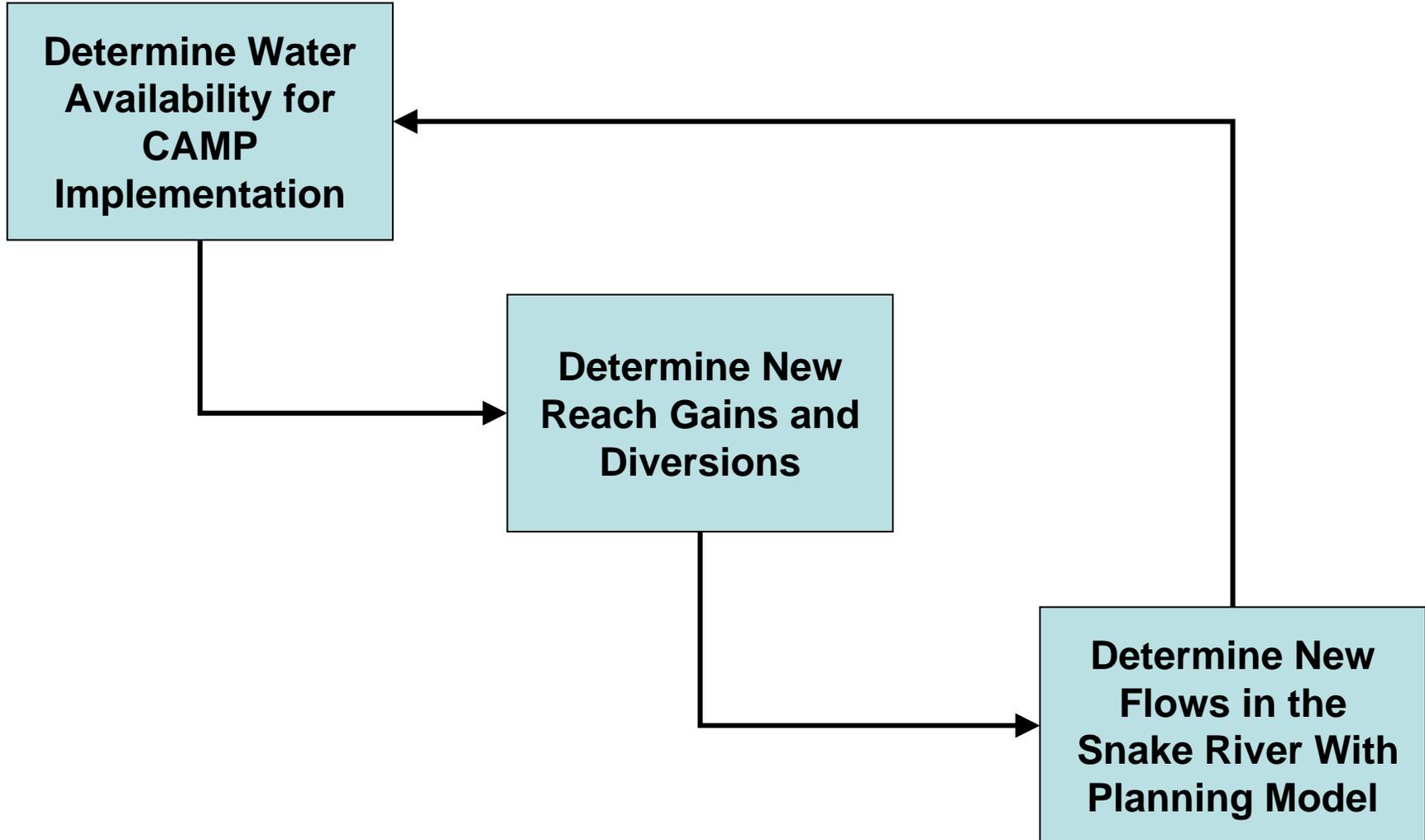
Modeling Procedures and Major Assumptions

- Utilize the Eastern Snake Plain Ground Water Model, Snake River Planning Model, Recharge Water Availability Tool and spreadsheet interfaces
- Modeled years 1980 through 2005 under current management conditions
- 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
- Modeling was done to insure new diversions for implementation of CAMP practices did not result a shortage of water for irrigation

Modeling Procedures and Major Assumptions

- The ESPA Ground Water Model shows gains over existing flows and does not infer trends of spring discharge
- Practices were not phased in but implemented at full capacity in year one.
- Priority of Diversions were Milner, Aberdeen Springfield, Great Western and Egin.
- Data should be considered as preliminary and best understood through comparisons to a modeled base case scenario, as presented here.

Model Process
Accounting for Yearly Changes in Water
Availability



Modeling Procedures and Major Assumptions

- **Medium Package Targets**
 - **Medium Package Recharge Emphasis**
 - Soft Conversions - 100,000 Acft/yr
 - Recharge - 400,000 Acft/yr
 - Demand Reduction - 100,000 Acft/yr
 - Total Package – 600,000 Acft/yr

 - **Medium Package Demand Reduction Emphasis**
 - Soft Conversions - 100,000 Acft/yr
 - Recharge - 150,000 Acft/yr
 - Demand Reduction - 350,000 Acft/yr
 - Total Package – 600,000 Acft/yr

- The modeling does not constitute an endorsement of any scenario or address the feasibility of any practice.

Modeling Procedures and Major Assumptions

- Modeled Eight Scenarios
 - Medium Package Recharge Emphasis
 - No Target for Demand Reduction
 - Lower Target for Demand Reduction
 - Mid Target for Demand Reduction
 - Upper Target for Demand Reduction

 - Medium Package Demand Reduction Emphasis
 - No Target for Demand Reduction
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Modeling Procedures and Major Assumptions

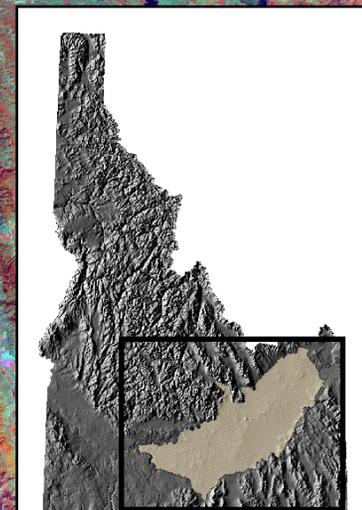
Targeted Demand Reductions

- Analysis was done to determine the impact of targeting demand reduction on the Eastern Snake River Plain
- Areas targeted were
 - Lower
 - Mid
 - Upper

No Target

Legend

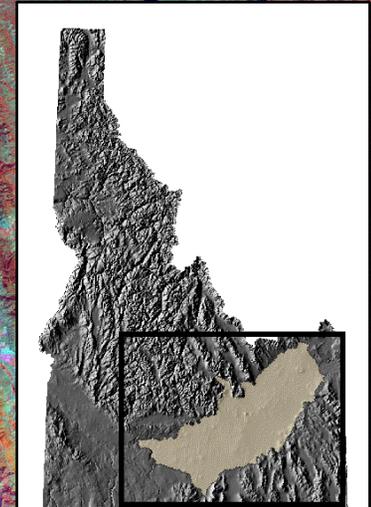
-  Demand Reduction Cells
-  ESAP Model Reaches
-  DrainCells
-  ESPA Model Boundary



Lower Target

Legend

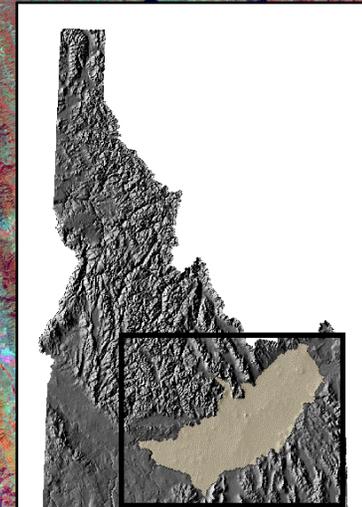
-  Demand_low
-  ESAP Model Reaches
-  DrainCells
-  ESPA Model Boundary



Mid Target

Legend

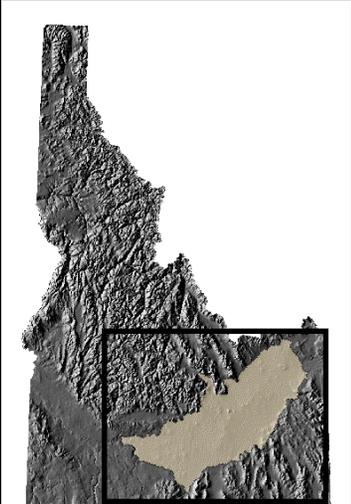
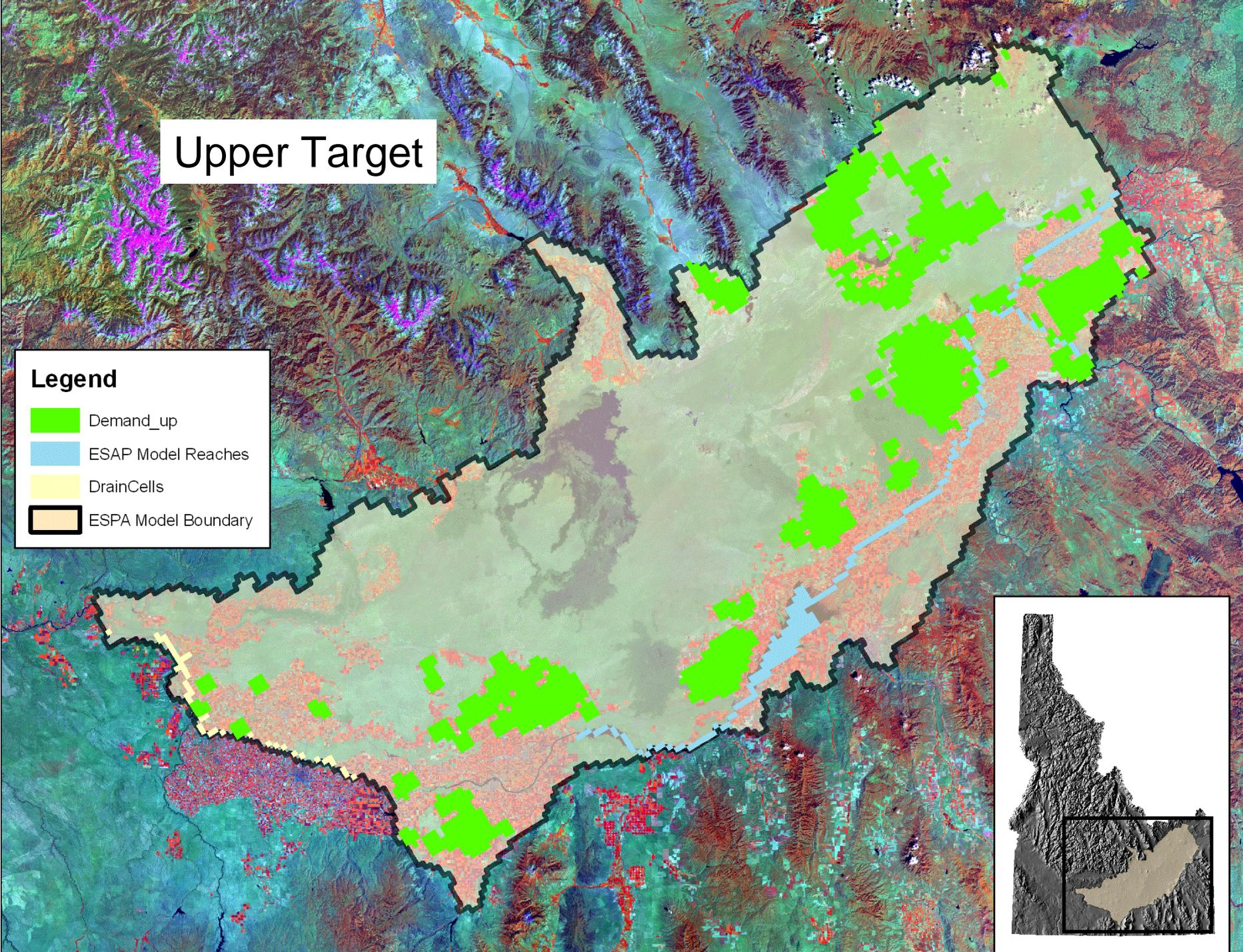
-  Demand_mid
-  ESAP Model Reaches
-  DrainCells
-  ESPA Model Boundary



Upper Target

Legend

-  Demand_up
-  ESAP Model Reaches
-  DrainCells
-  ESPA Model Boundary



Hydrologic Data

- Average Annual Diversions for the No Target scenarios
- Cumulative discharge graphs for the No Target scenarios
- Modeled flows at three points on the Snake River for the No Target Scenarios
- End of Month (EOM) reservoir storage for American Falls and Palisades for the No Target Scenarios
- Reach gain increases for all scenarios

Hydrologic Data

Medium Package Recharge Emphasis Average Annual Practice Application (Acft/yr)					
Demand Reduction Targets		No Target	Upper Target	Mid Target	Lower Target
	Planned				
Recharge	400,000	507,011	512,141	506,271	479,038
Soft Conversions	100,000	51,303	51,413	51,081	51,066
Wood River Recharge	*22,565	22,565	22,565	22,565	22,565
Total Demand Reduction	100,000	99,633	99,683	99,633	99,633
Total	600,000	680,512	685,802	679,550	652,302

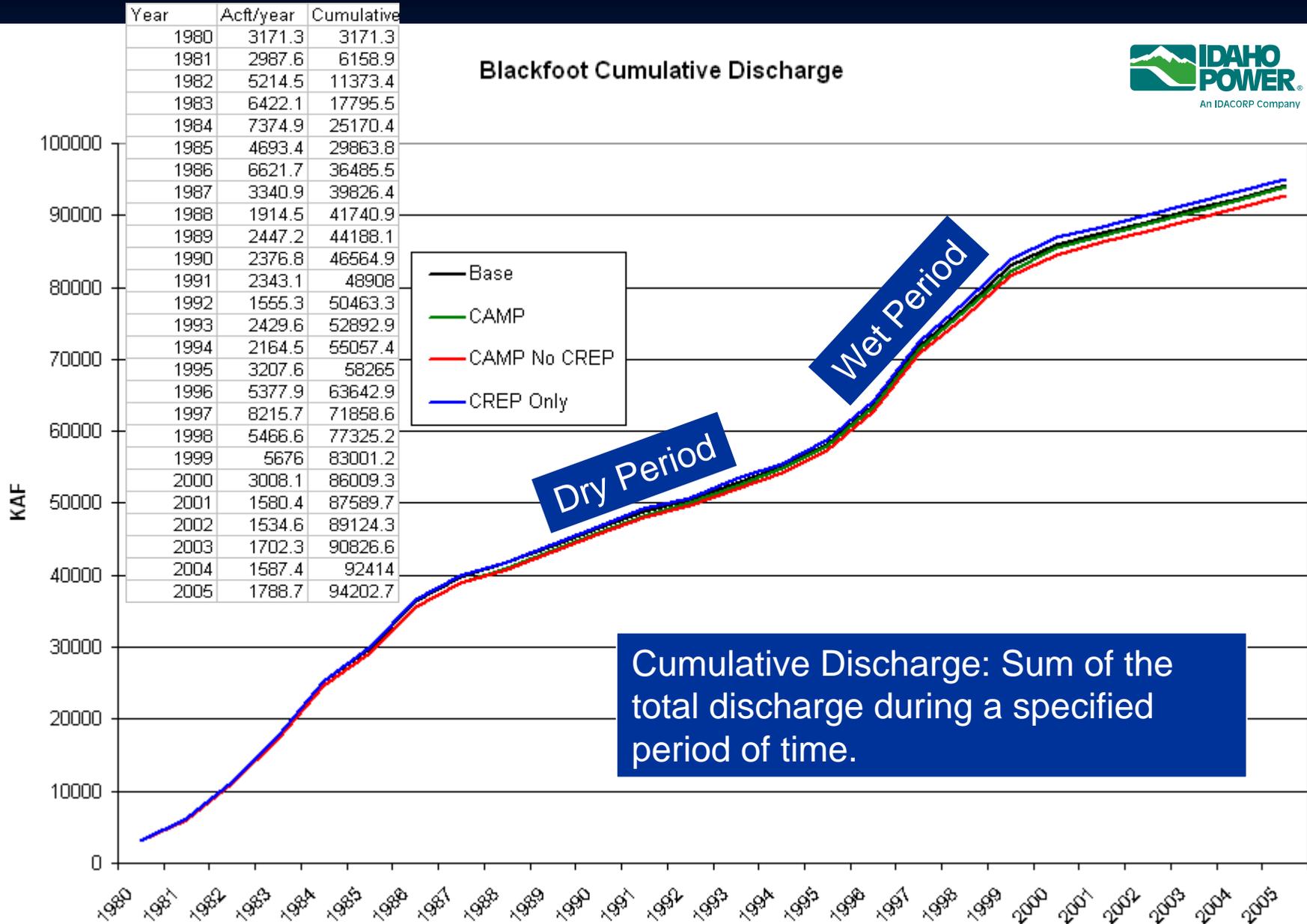
*Not included in 600,000 KAF total

Hydrologic Data

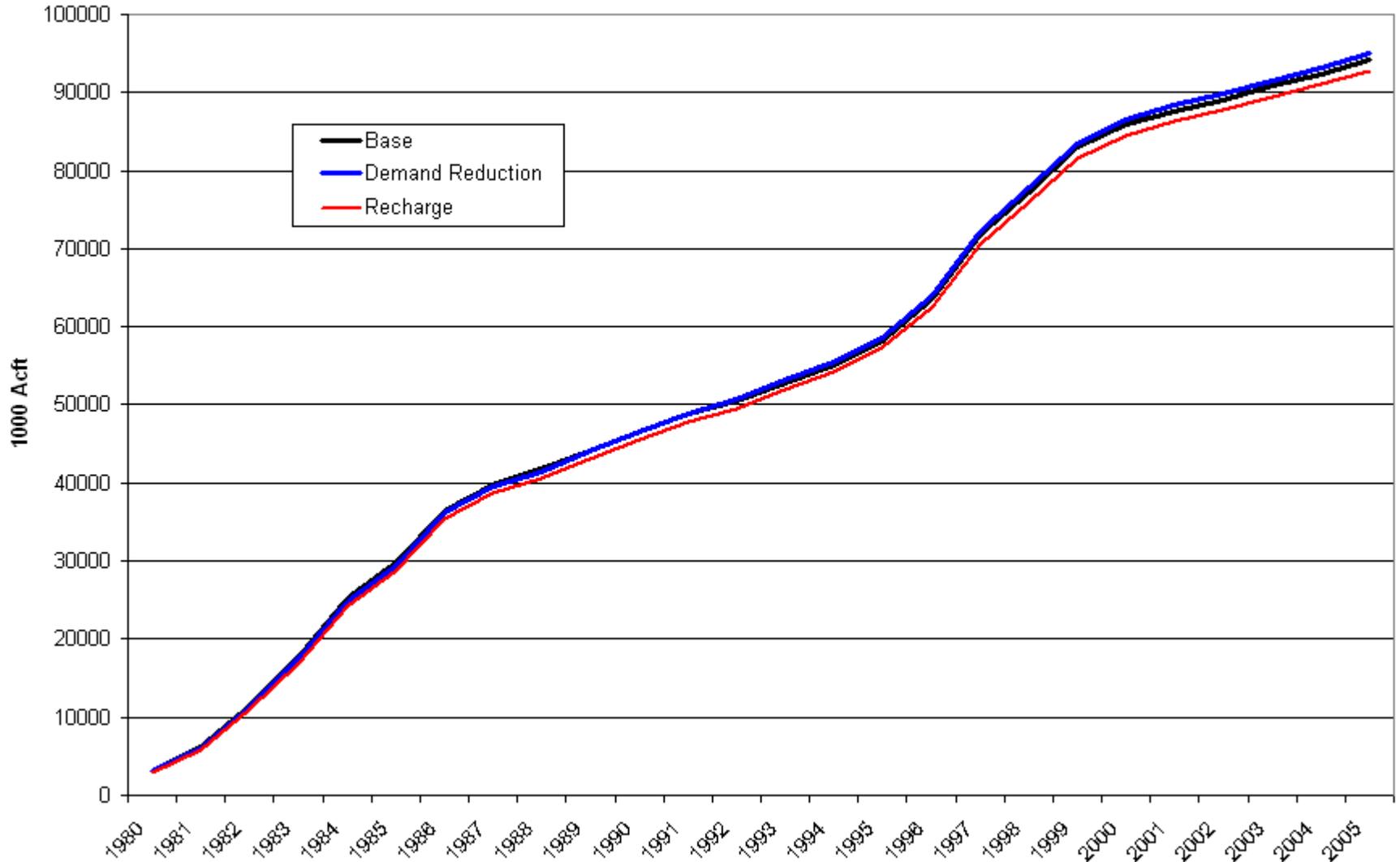
Medium Package Demand Reduction Emphasis Average Annual Practice Application (Acft/yr)					
Demand Reduction Targets		No Target	Upper Target	Mid Target	Lower Target
	Planned				
Recharge	150,000	286,291	277,479	259,123	268,093
Soft Conversion	100,000	61,088	59,867	56,496	57,937
Wood River Recharge	*22,565	22,565	22,565	22,565	22,565
Total Demand Reduction	350,000	348,715	348,715	348,715	348,715
Total	600,000	718,659	708,625	686,899	697,310

*Not included in 600,000 KAF total

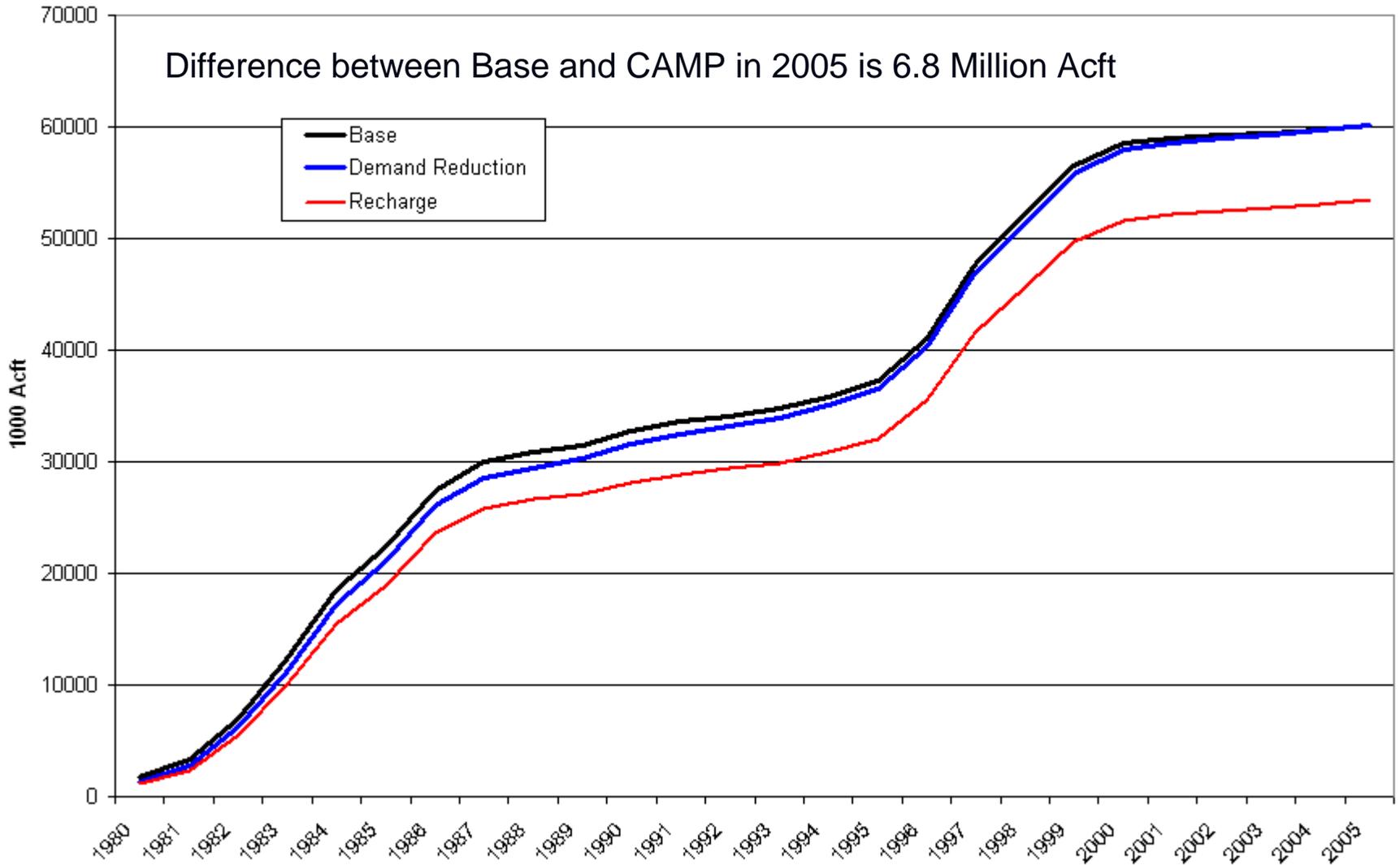
Blackfoot Cumulative Discharge



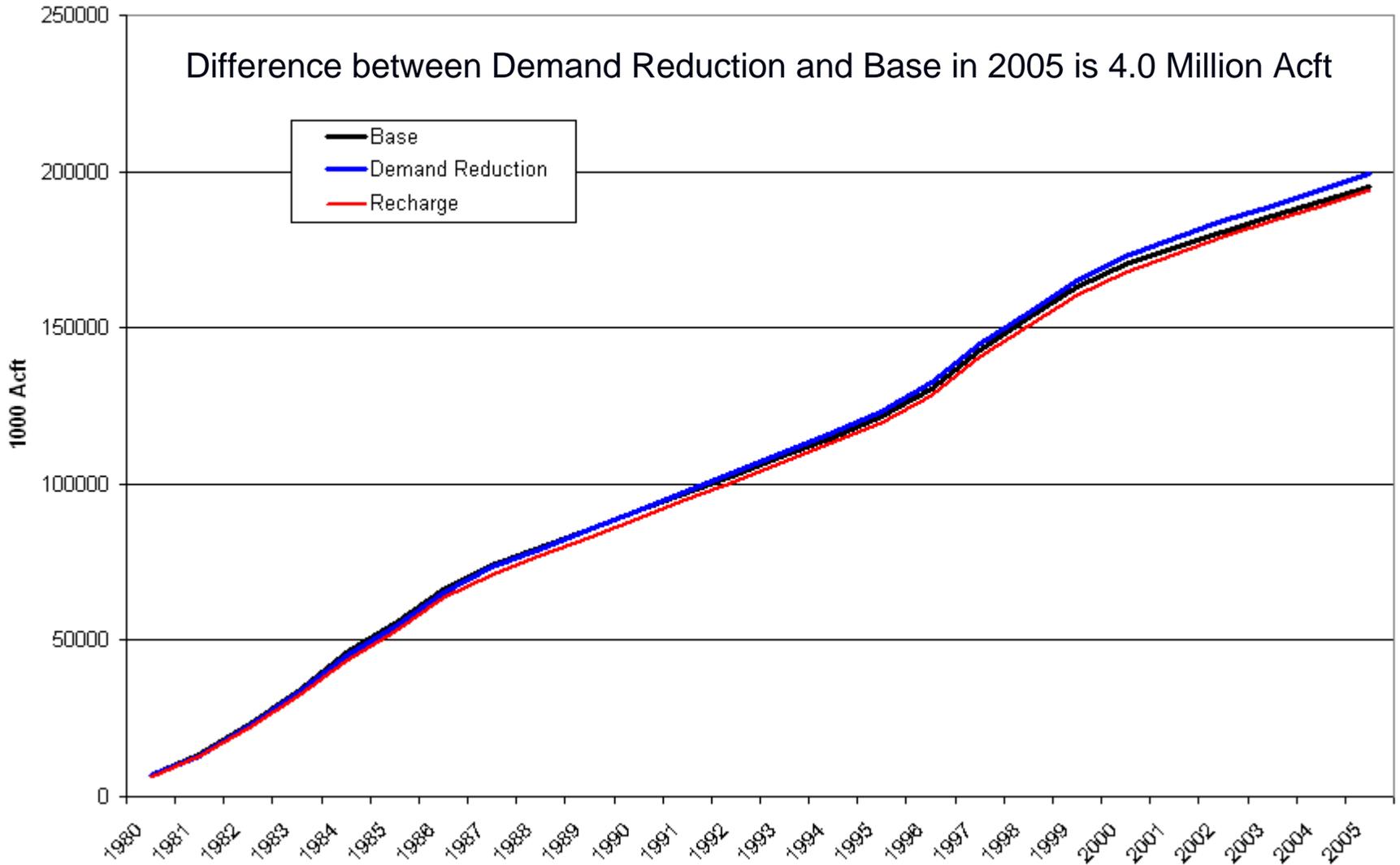
Cumulative Discharge at Blackfoot Medium Package Analysis



Cumulative Discharge at Milner Medium Package Analysis



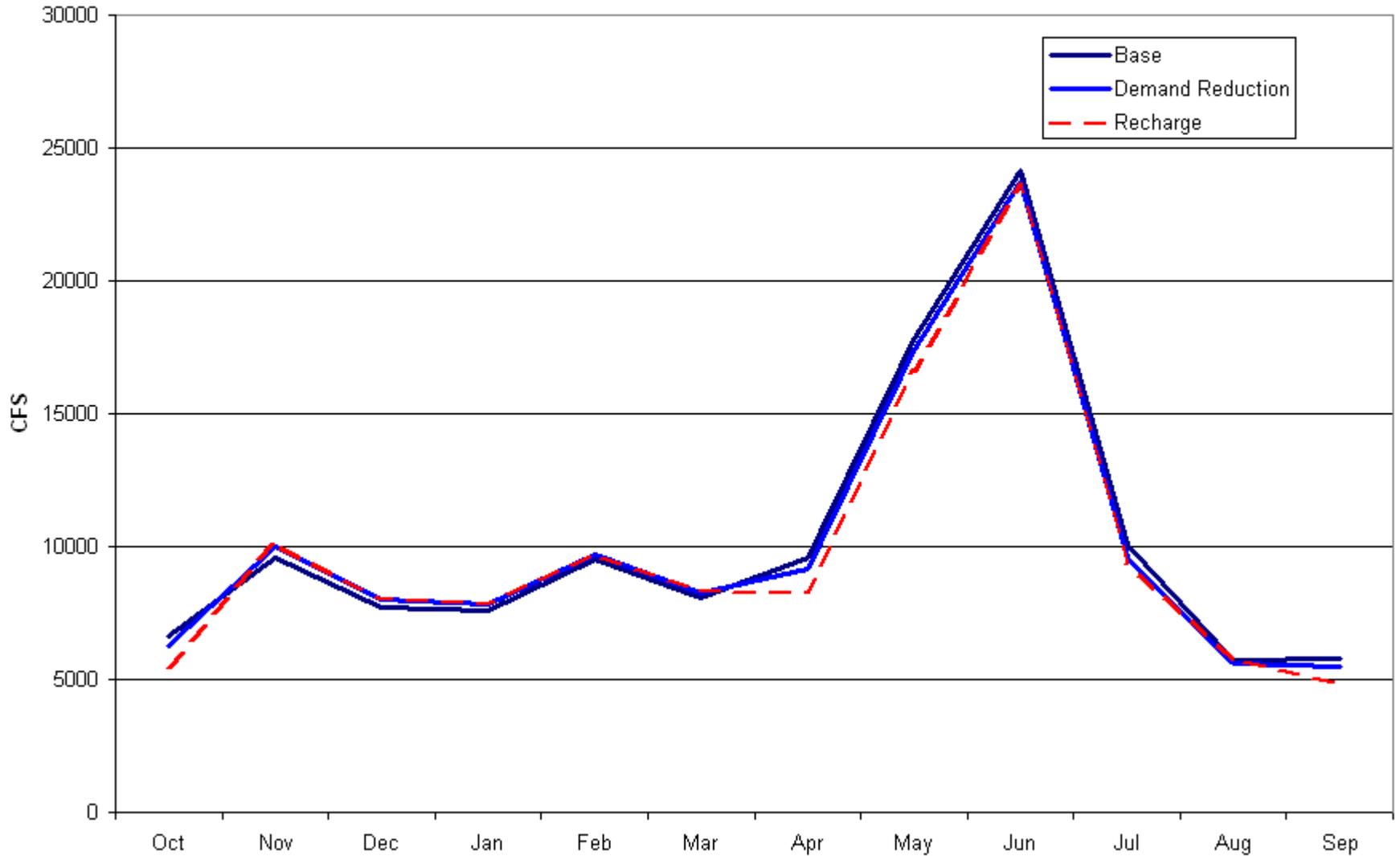
Cumulative Discharge at King Hill Medium Package Analysis



1984



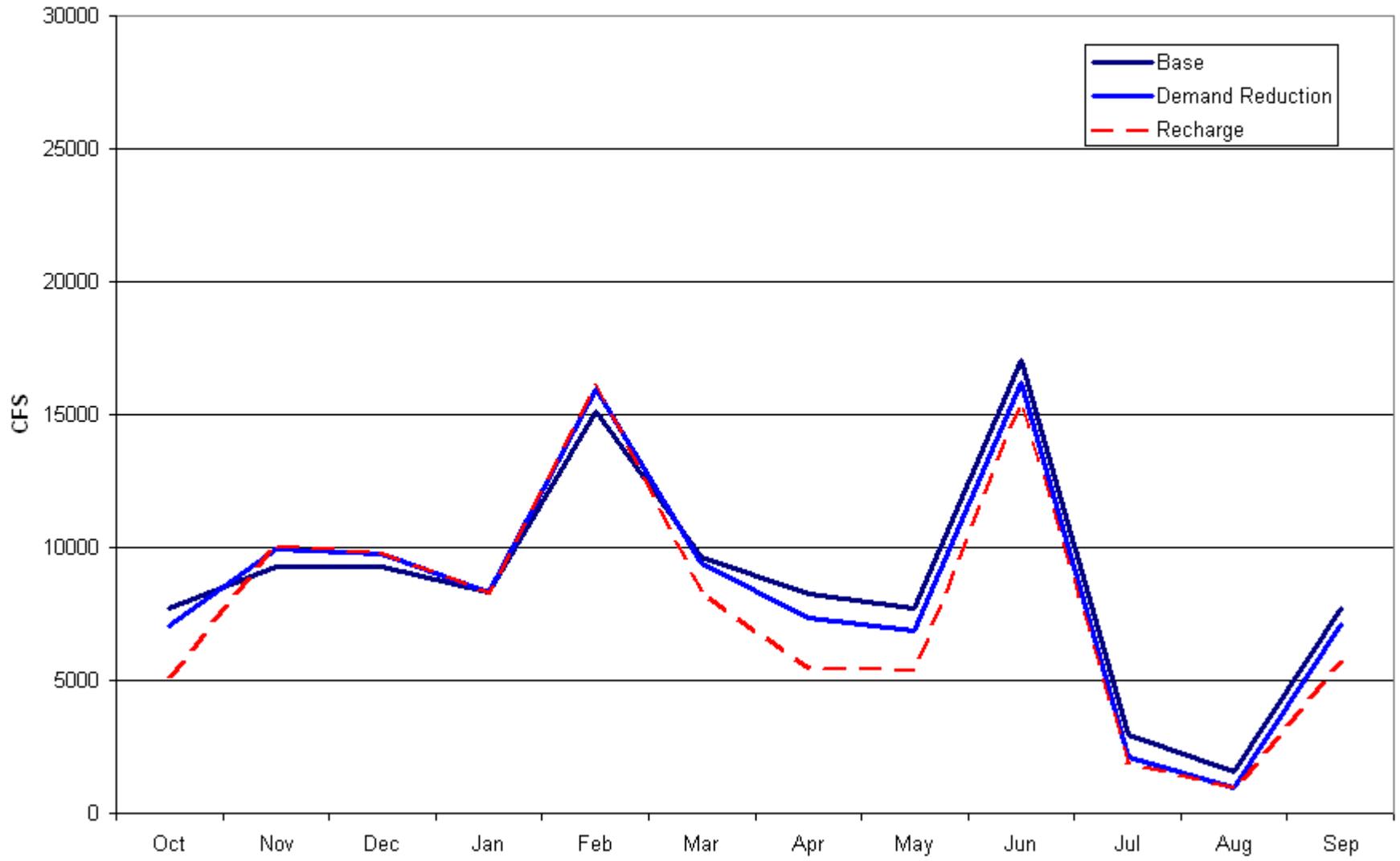
Blackfoot Comparison of Base and Medium Packages



1984



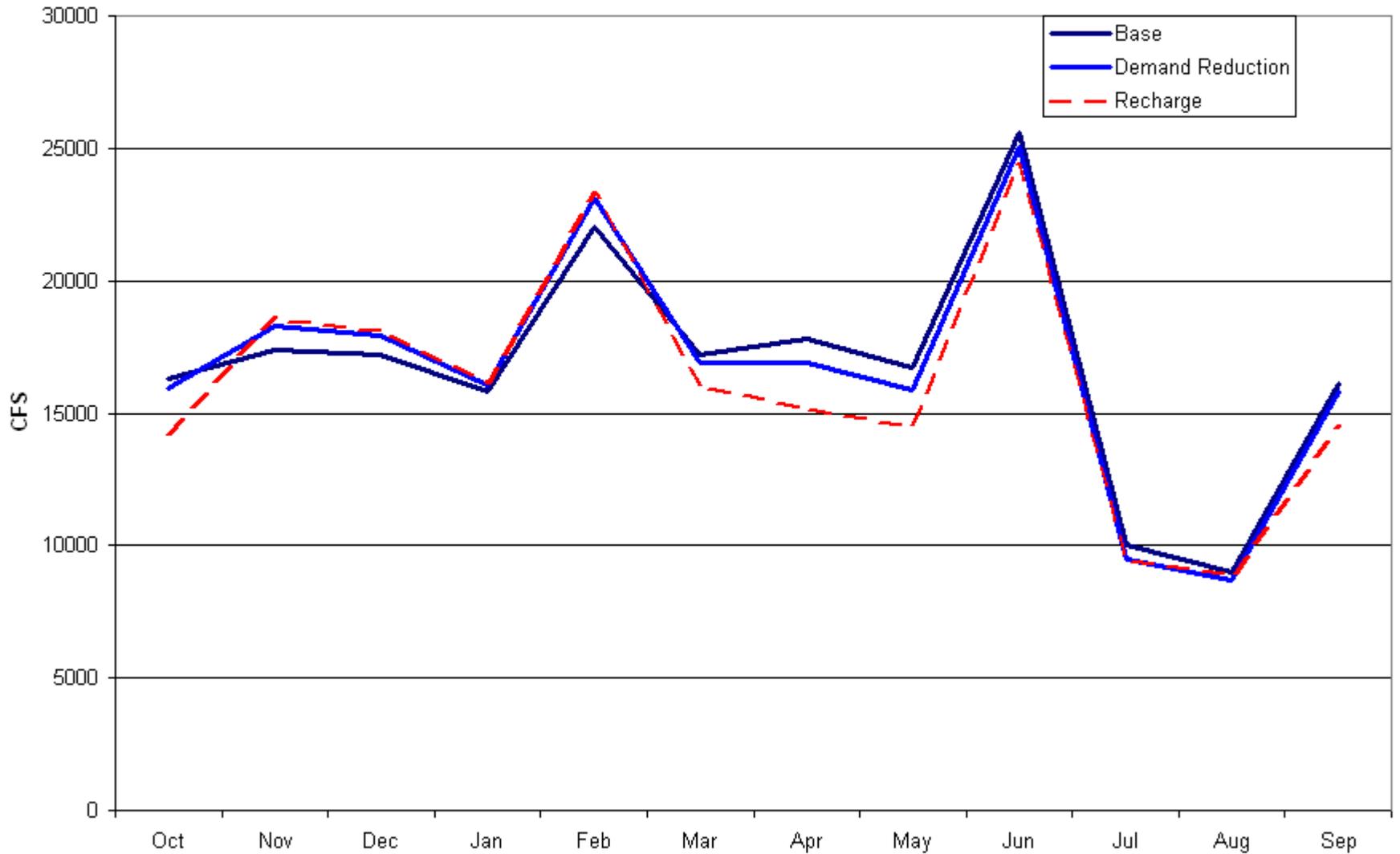
Milner Comparison of Base and Medium Packages



1984



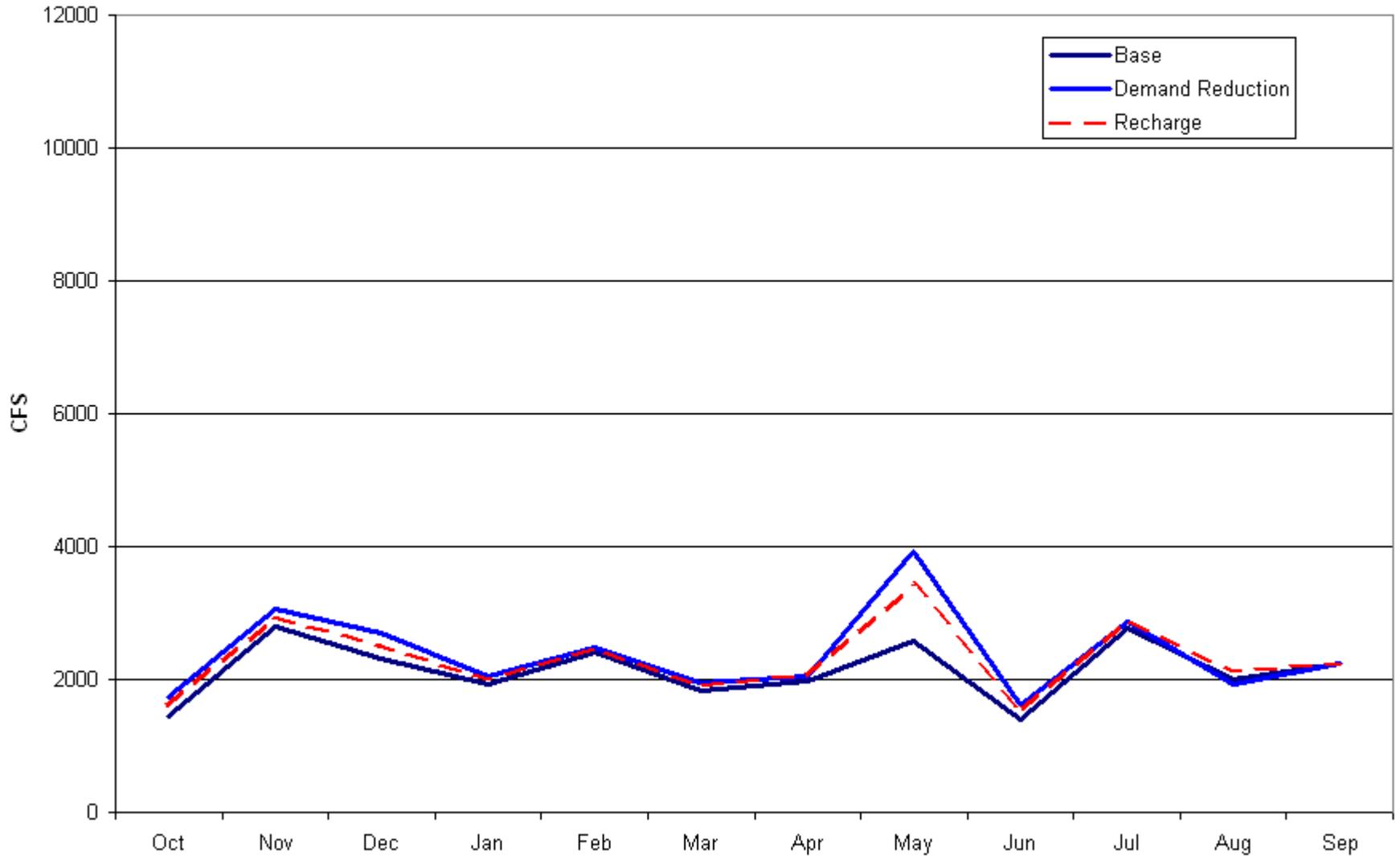
King Hill Comparison of Base and Medium Packages



1992



Blackfoot Comparison of Base and Medium Packages

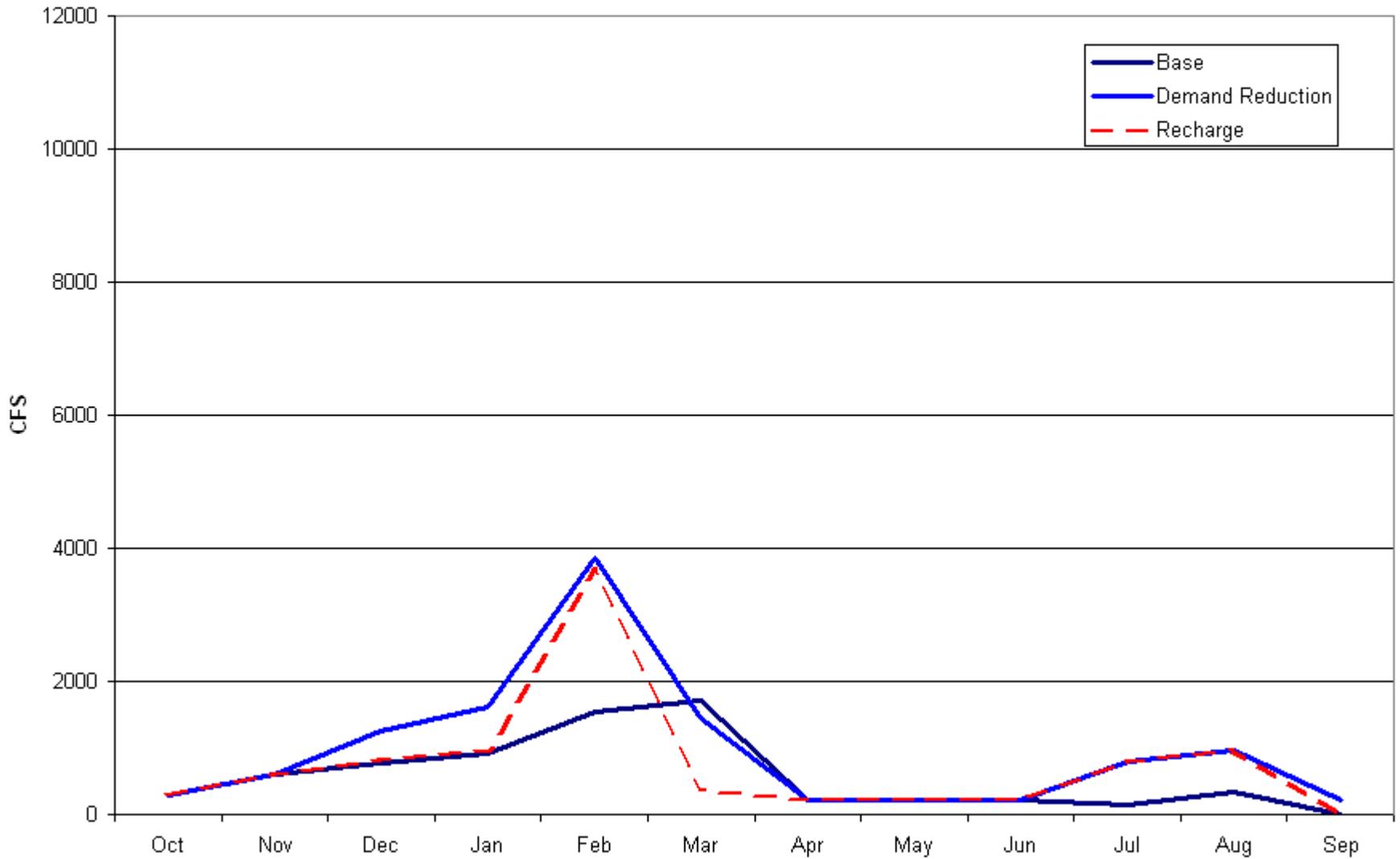


1992



Milner

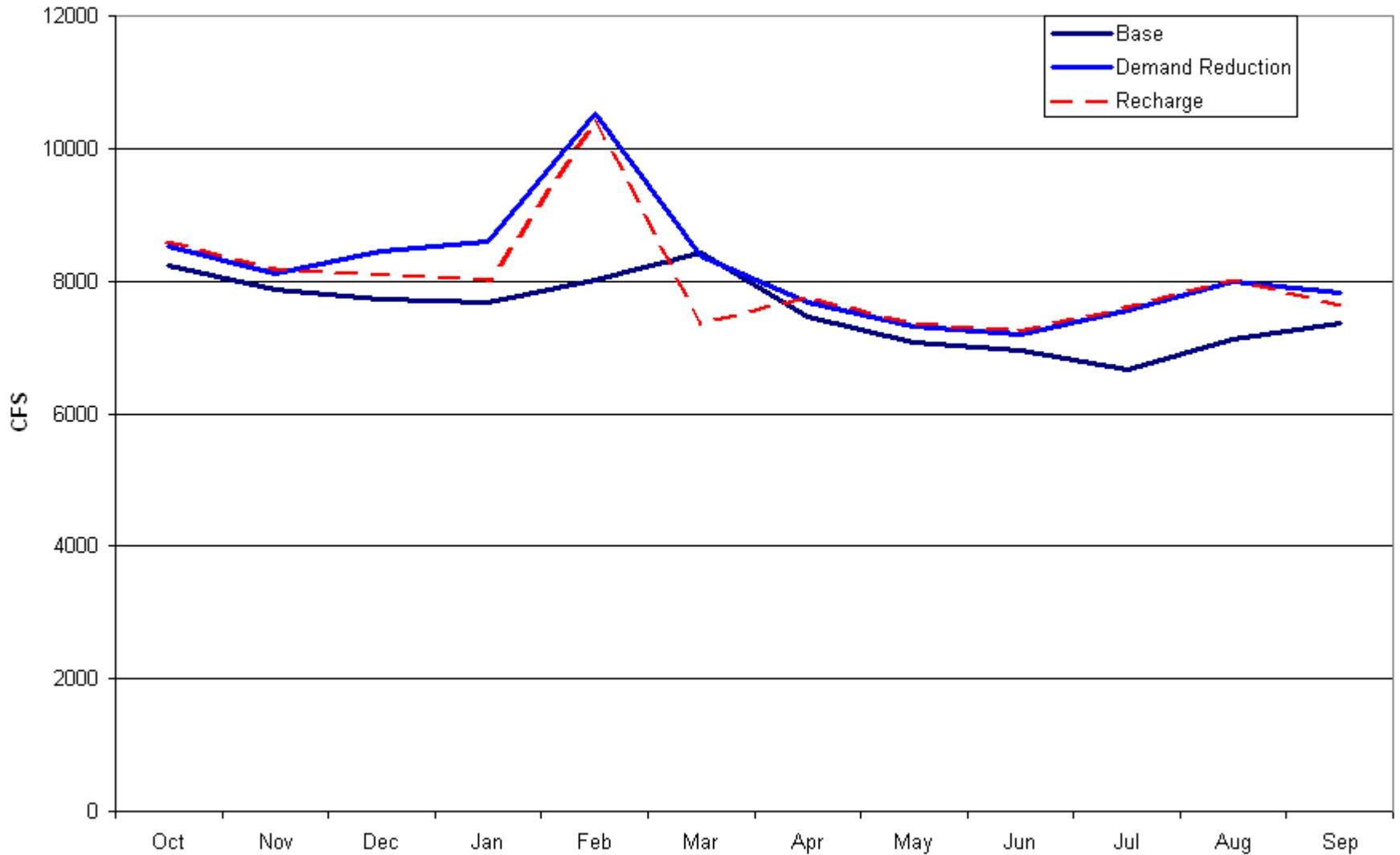
Comparison of Base and Medium Packages



1992



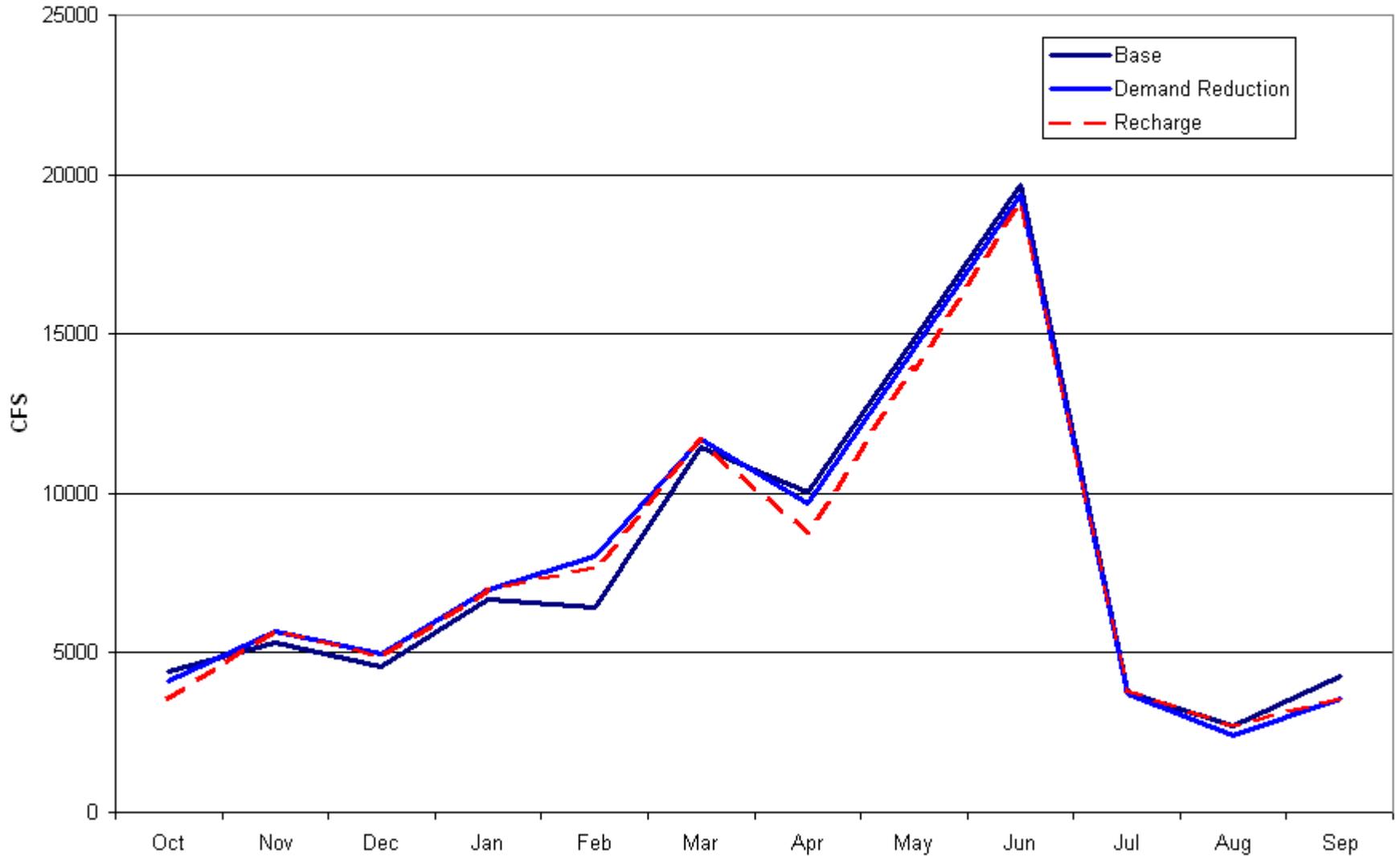
King Hill Comparison of Base and Medium Packages



1999



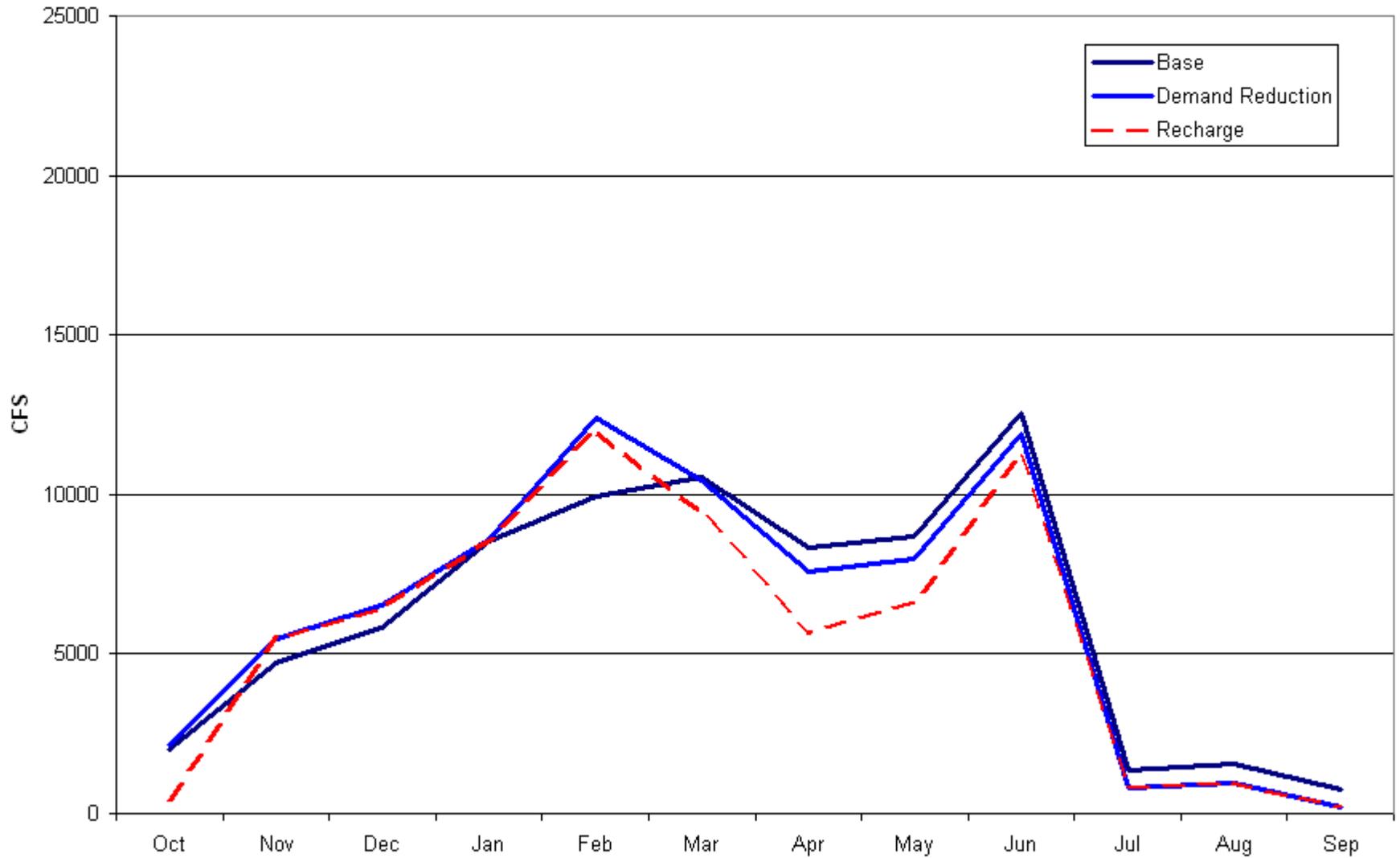
Blackfoot Comparison of Base and Medium Packages



1999



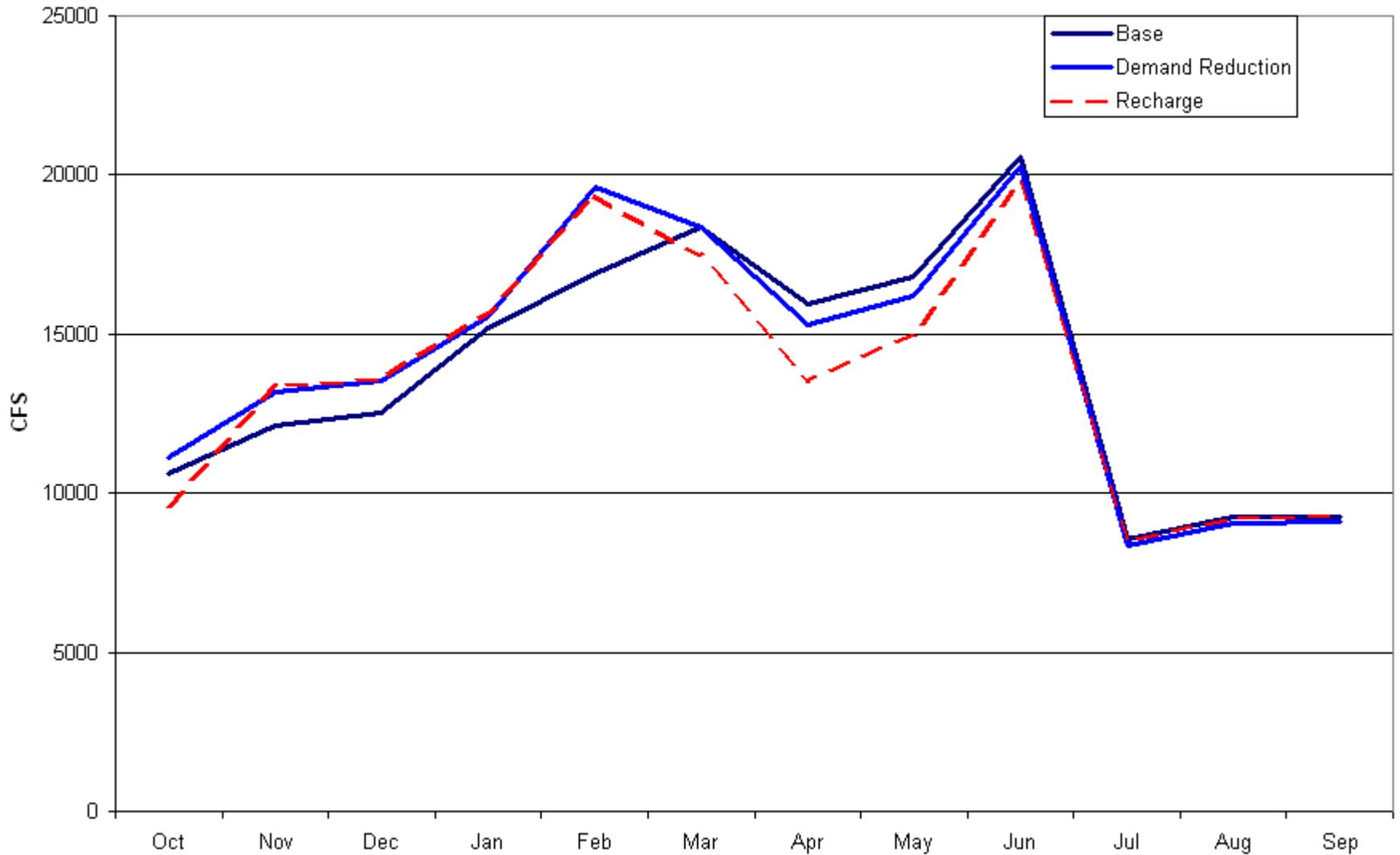
Milner Comparison of Base and Medium Packages



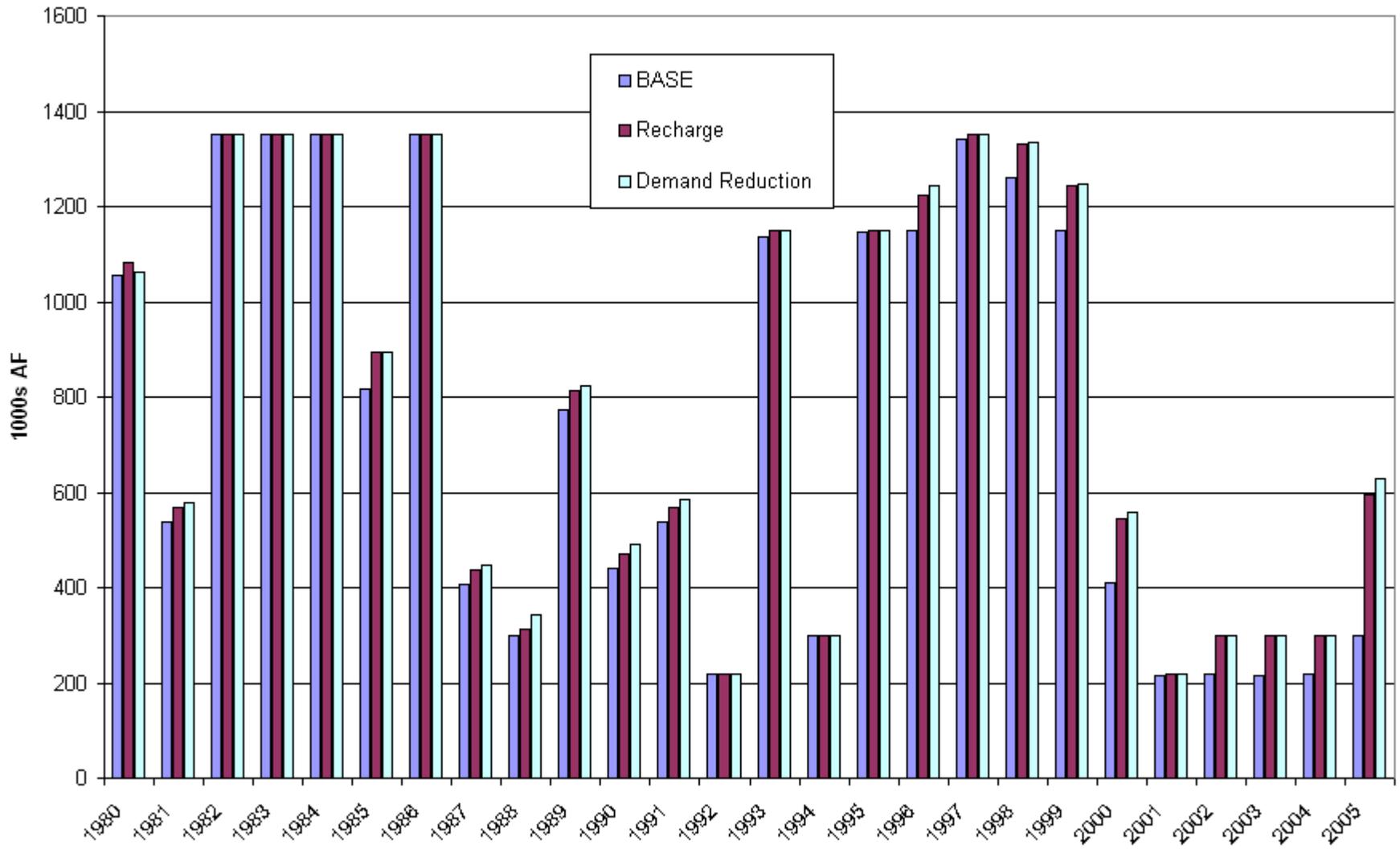
1999



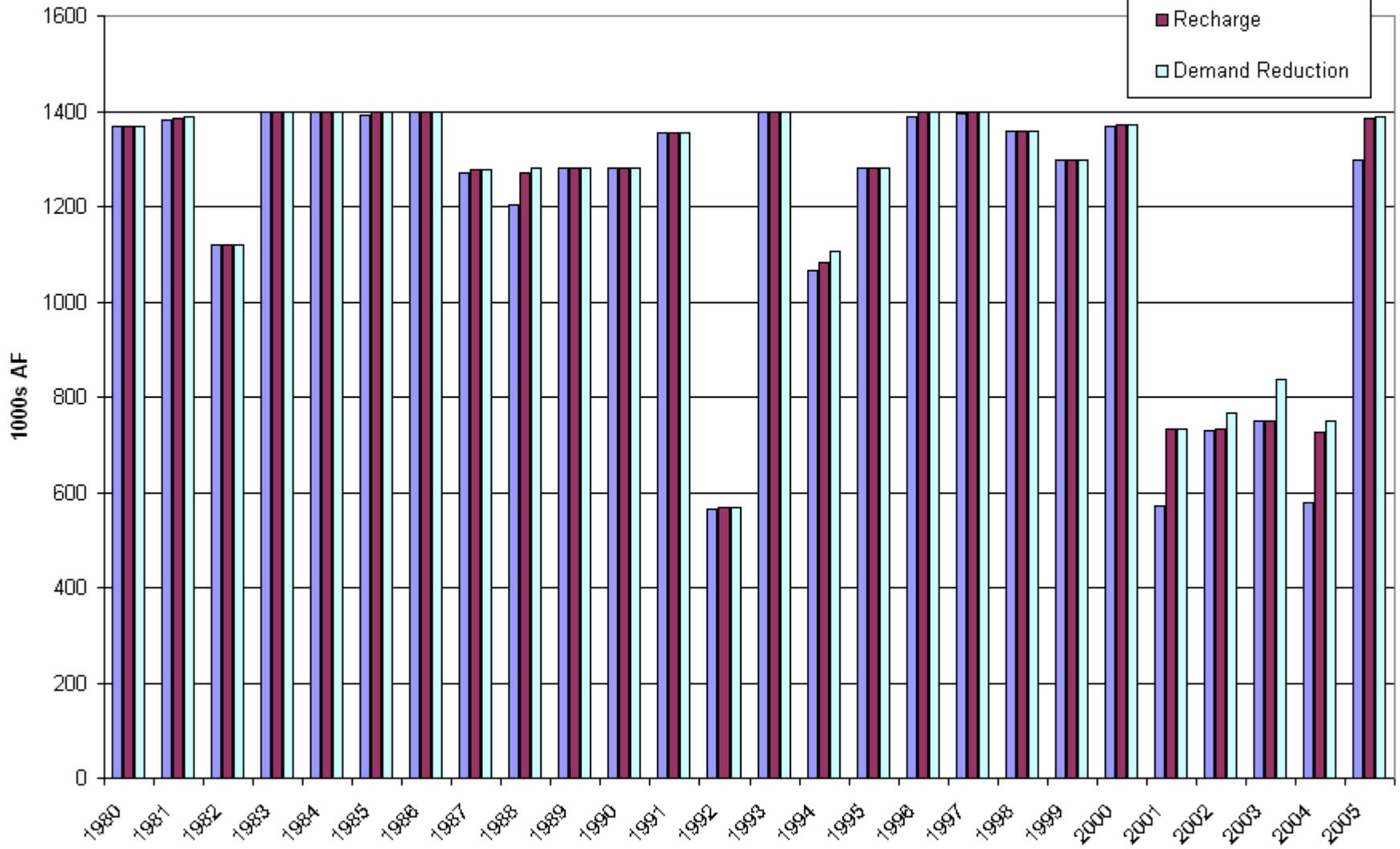
King Hill Comparison of Base and Medium Packages



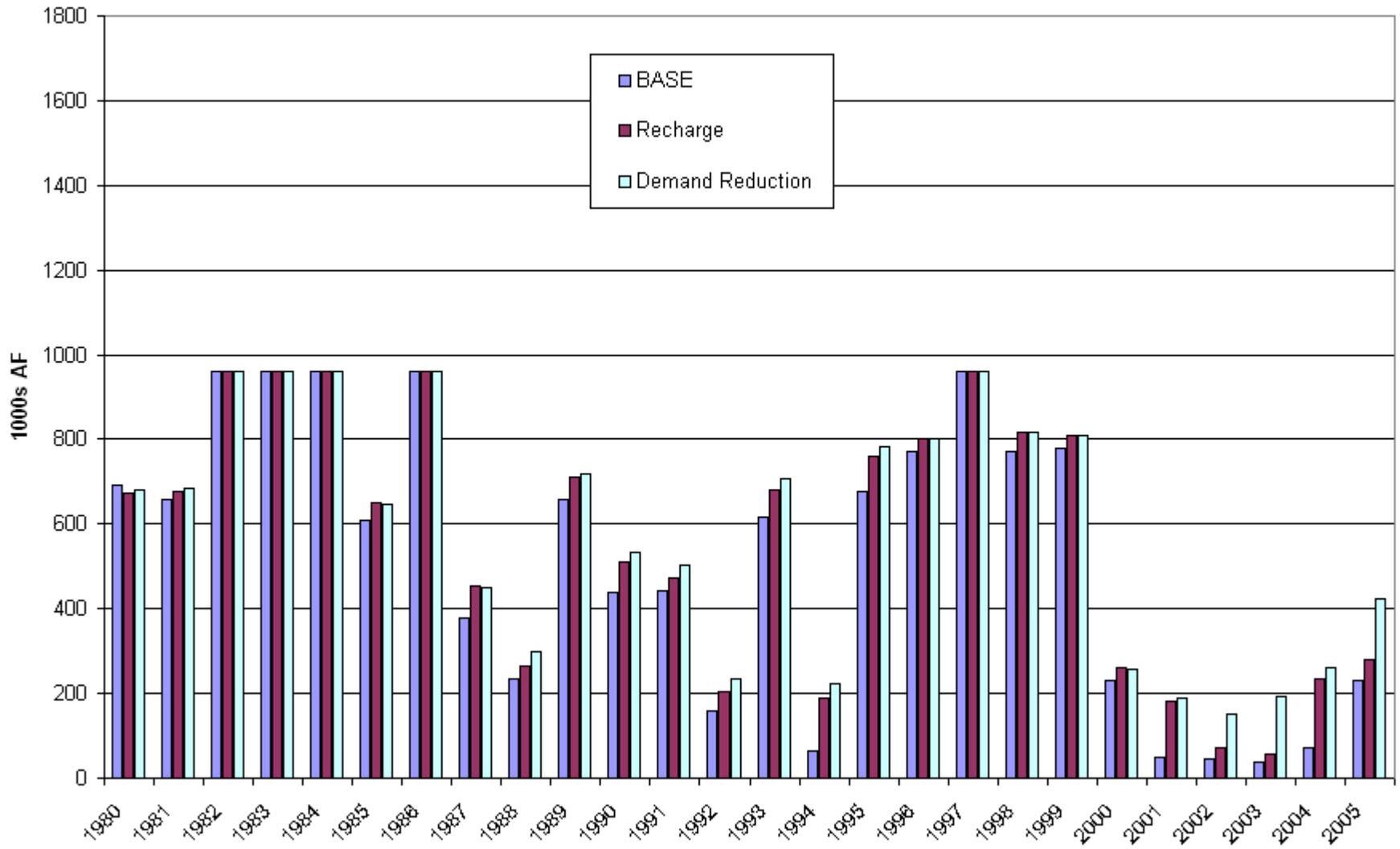
EOM Storage for September at Palisades Comparison of Medium Packages



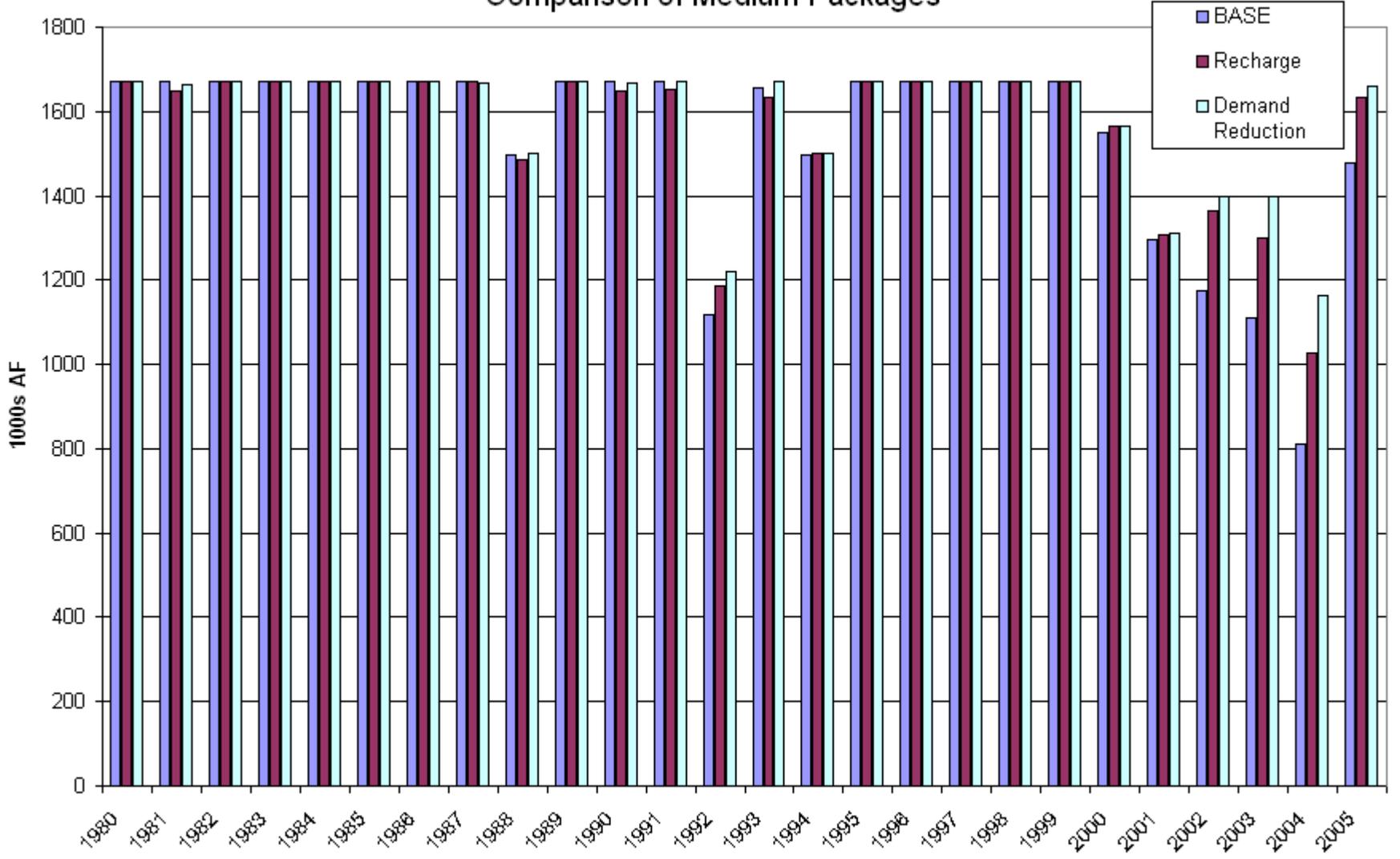
EOM Storage for June at Palisades Comparison of Medium Packages



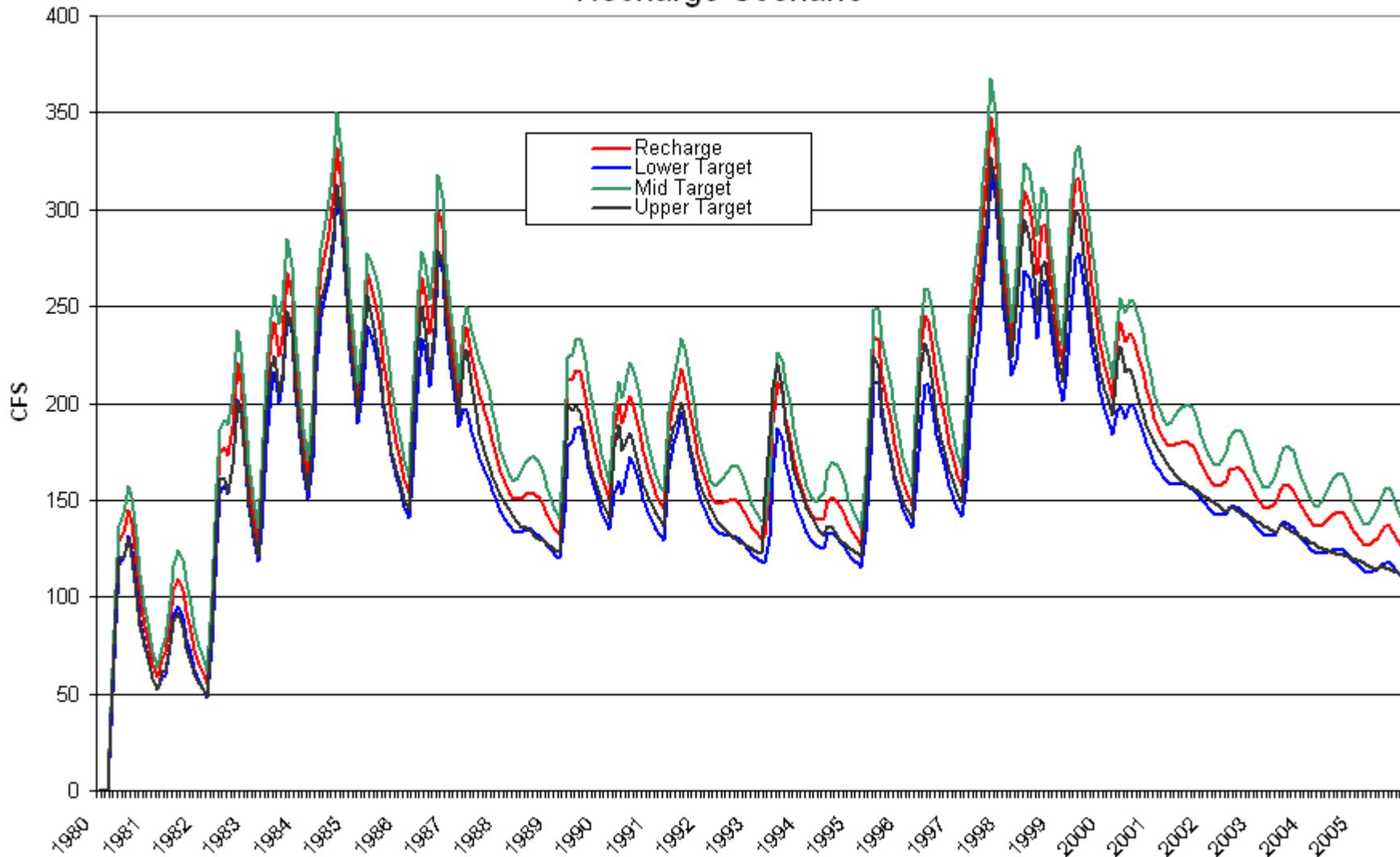
EOM Storage for September at American Falls Comparison of Medium Packages



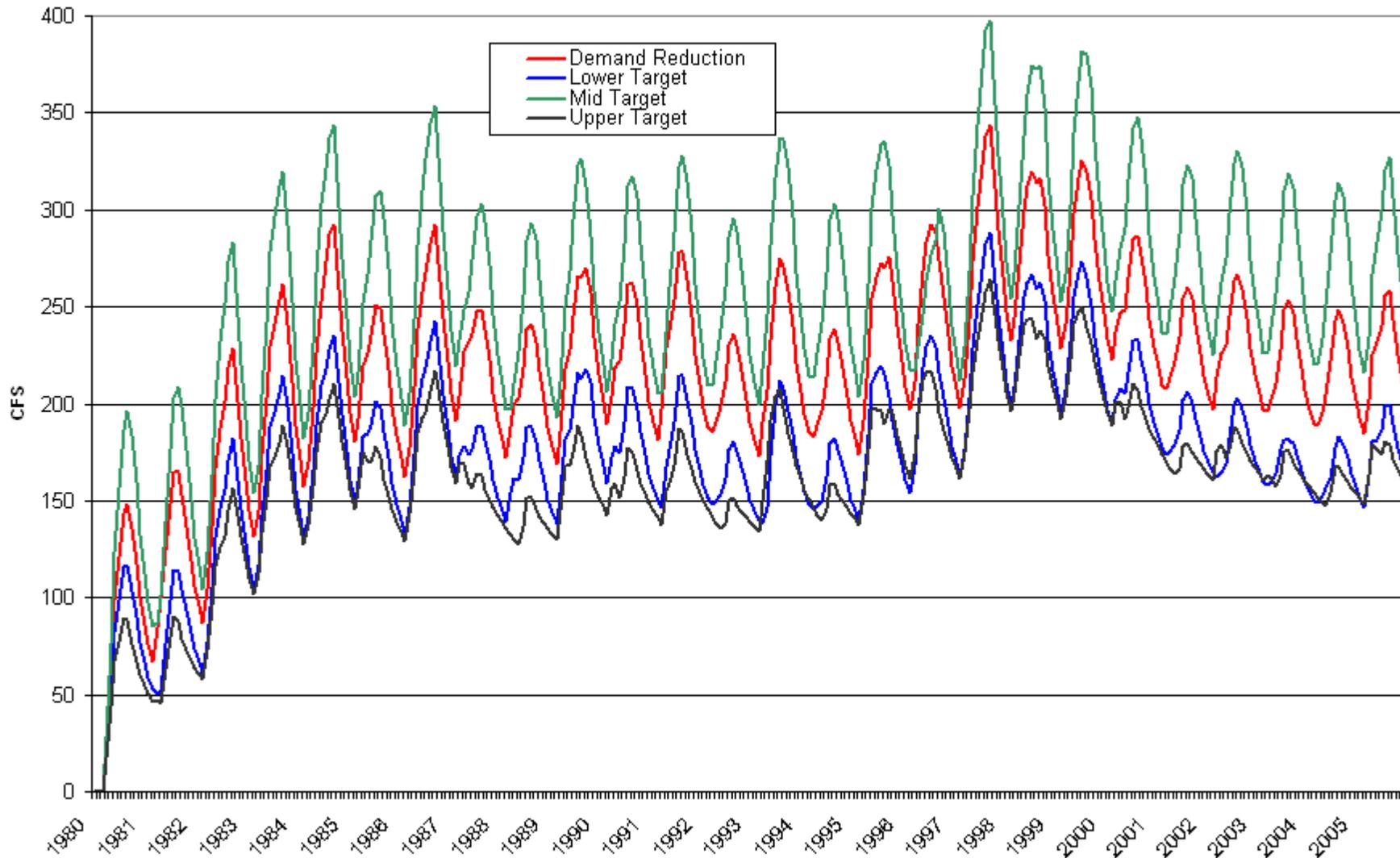
EOM Storage for May at American Falls Comparison of Medium Packages



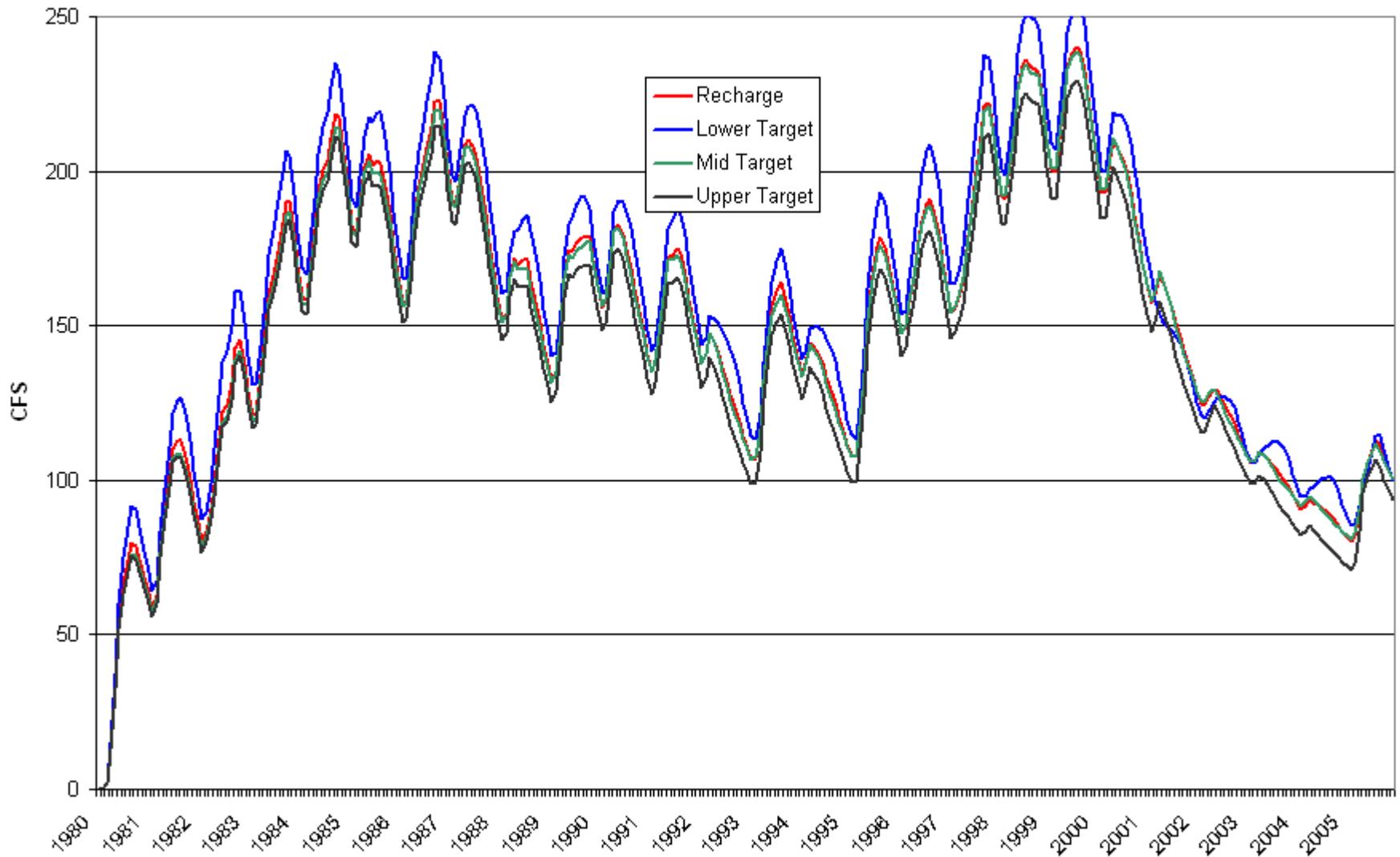
Blackfoot to Neeley - Increases in Spring Discharge Recharge Scenario



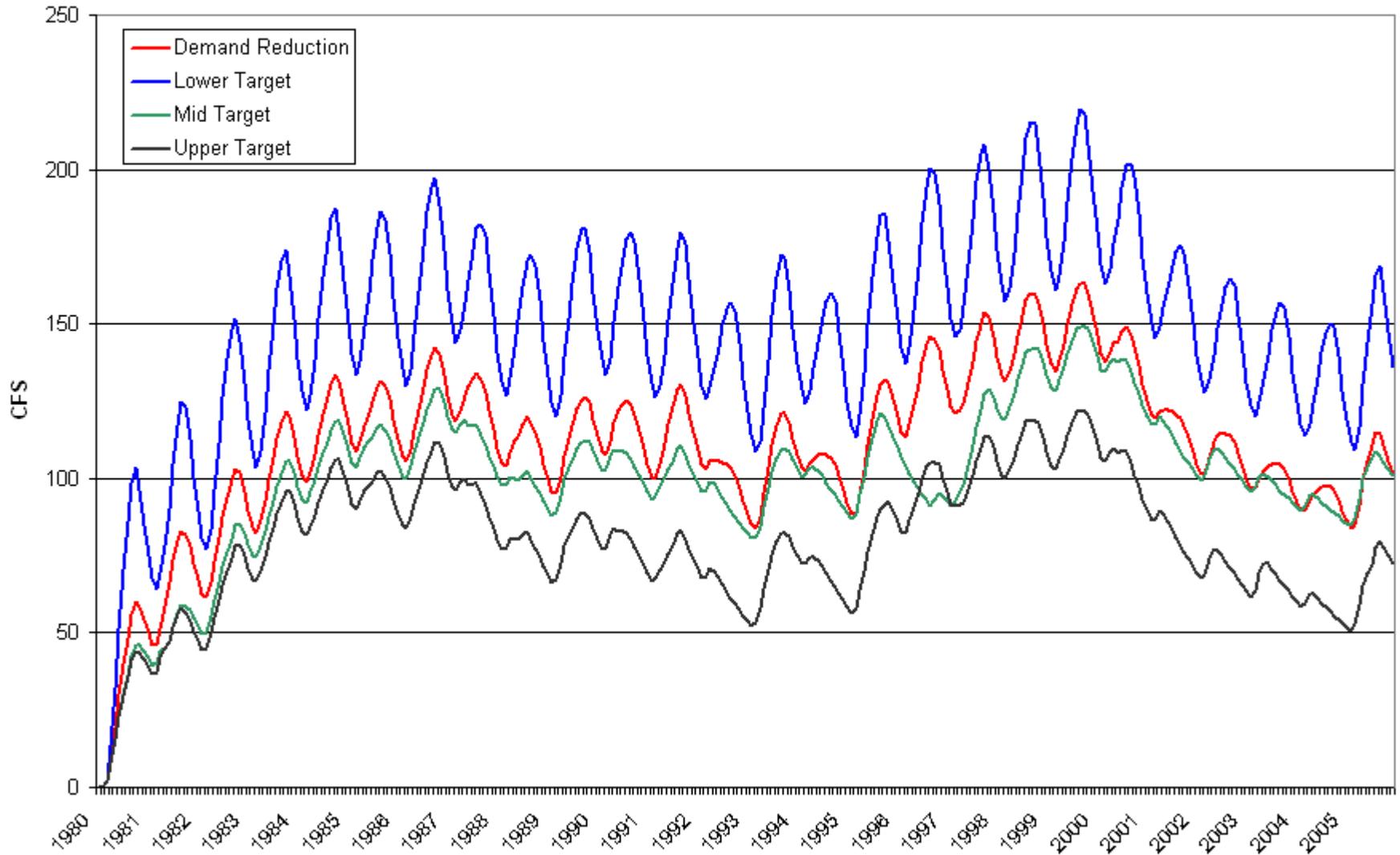
Blackfoot to Neeley - Increases in Spring Discharge Demand Reduction



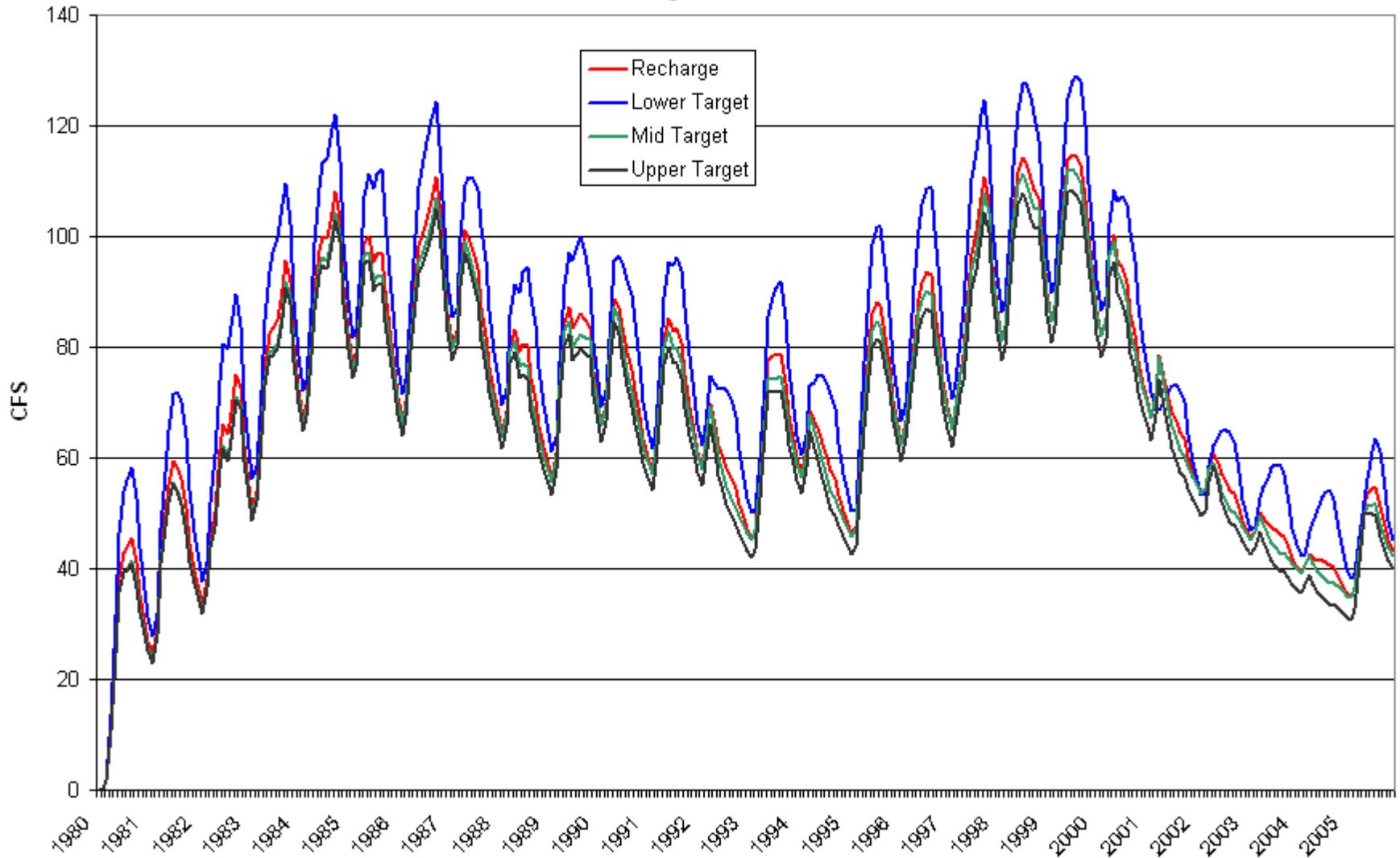
Devils Washbowl to Buhl - Increase in Spring Discharge Recharge Scenario



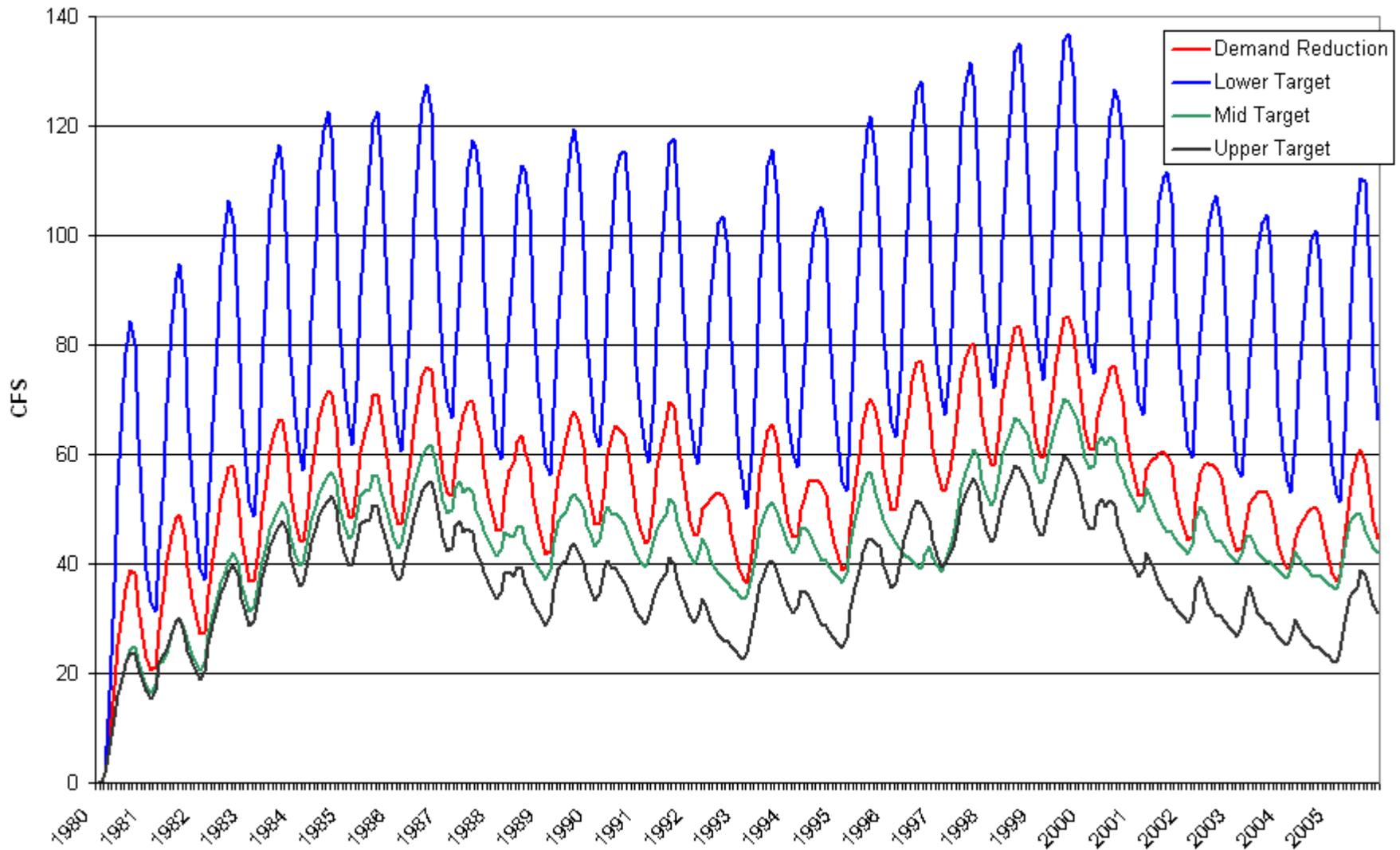
Devils Washbowl to Buhl - Increase in Spring Discharge Demand Reduction



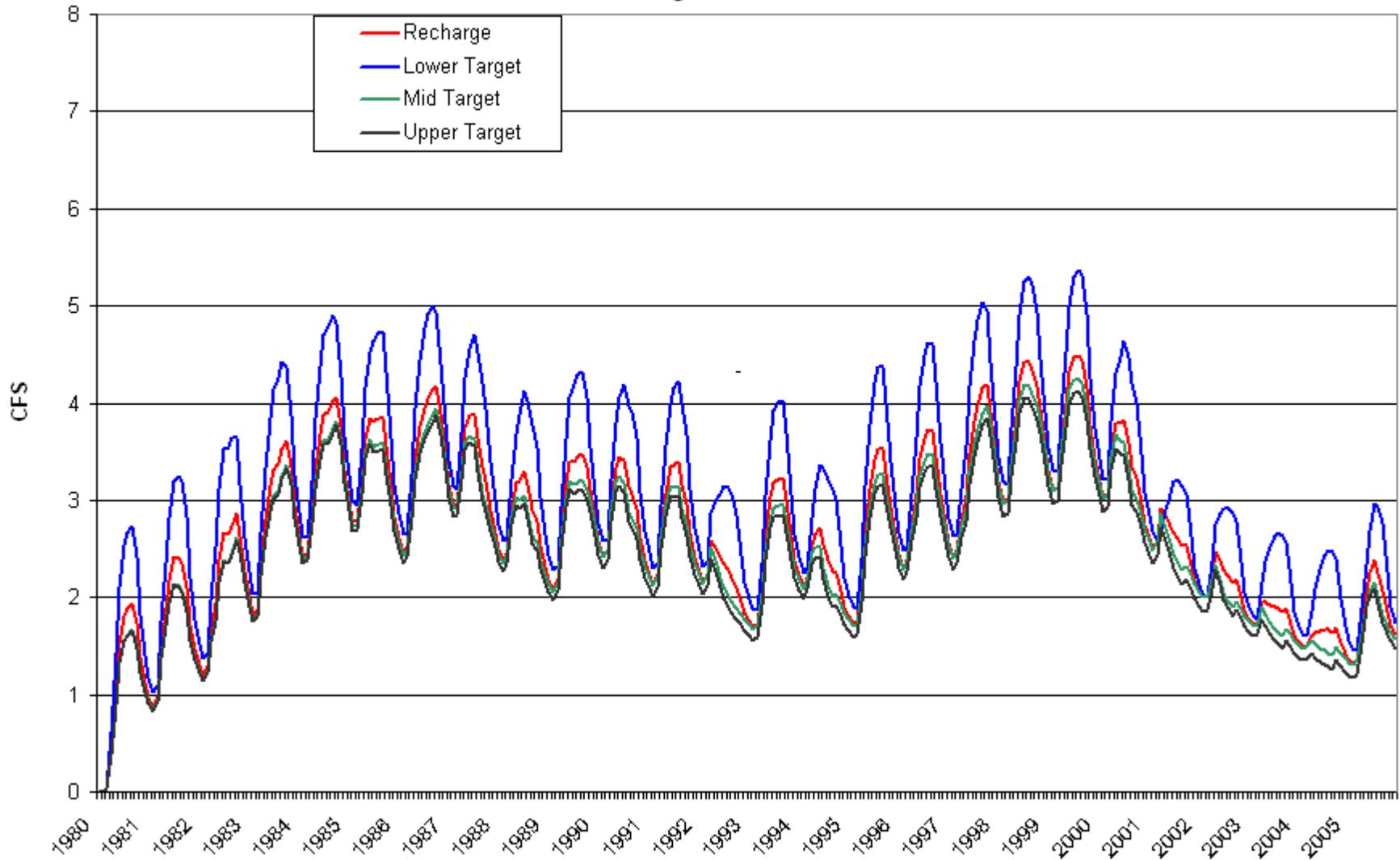
Buhl to Thousand Springs - Increase in Spring Discharge Recharge Scenario



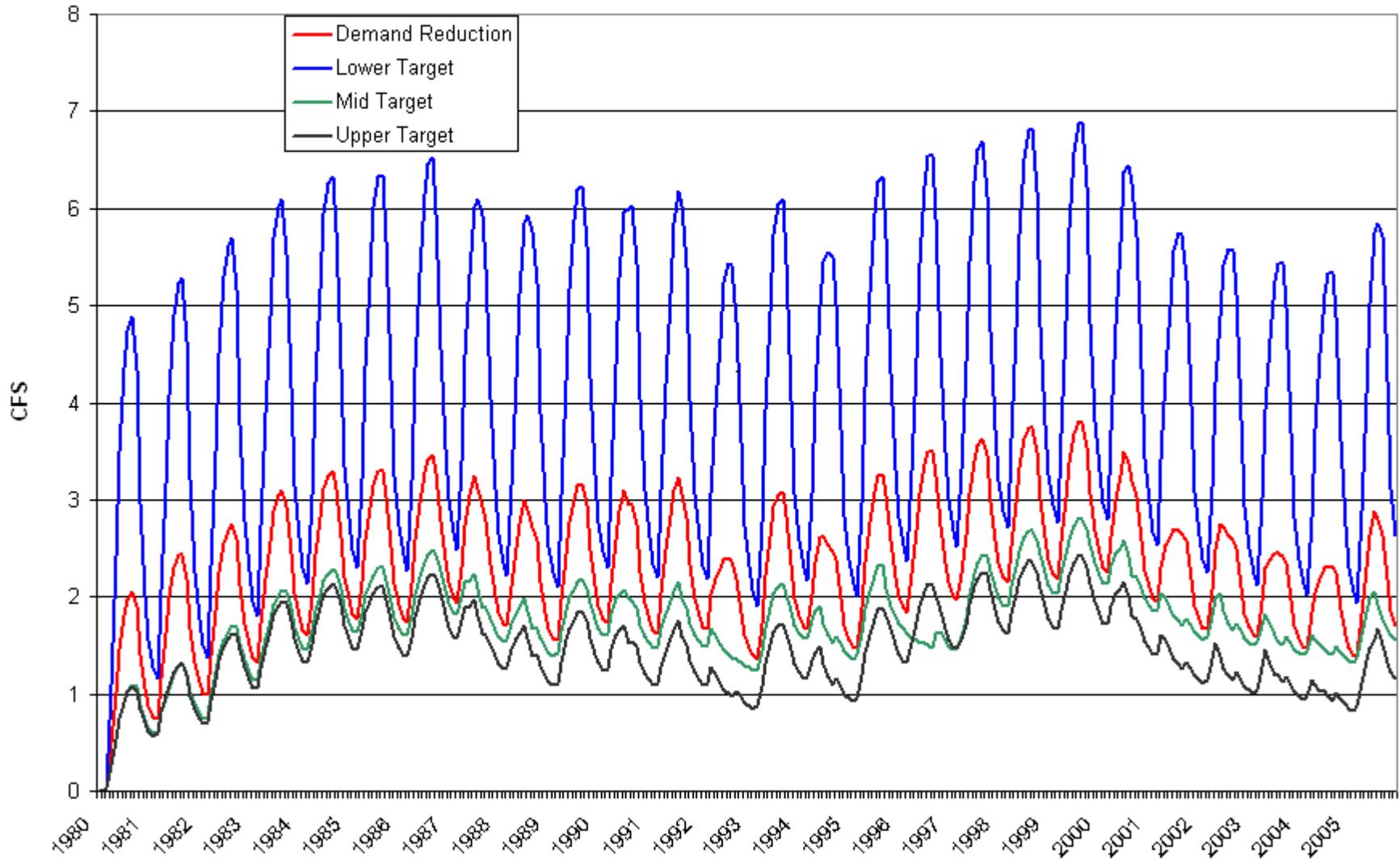
Buhl to Thousand Springs - Increase in Spring Discharge Demand Reduction



Thousand Springs to Malad - Increase in Spring Discharge Recharge Scenario



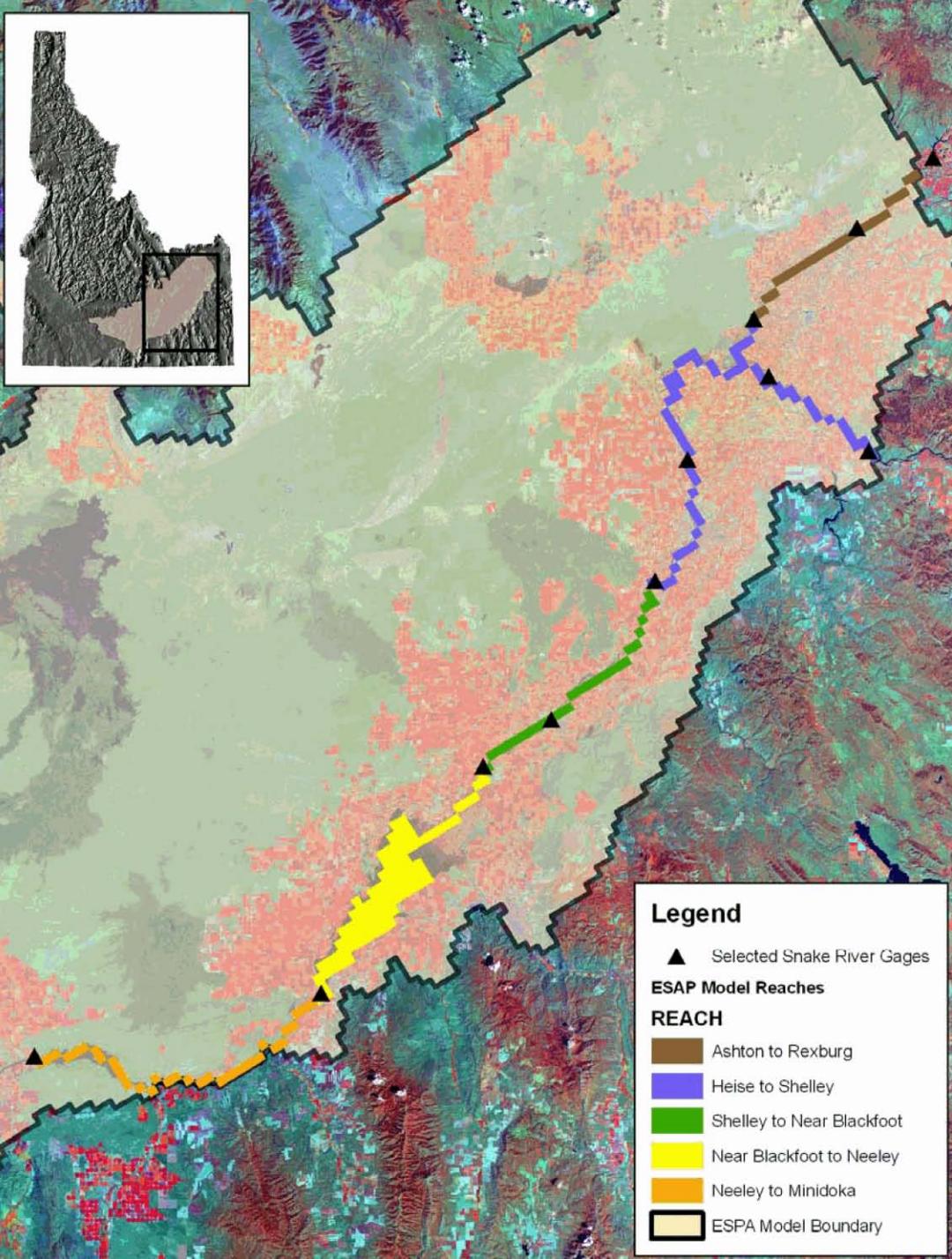
Thousand Springs to Malad - Increase in Spring Discharge Demand Reduction





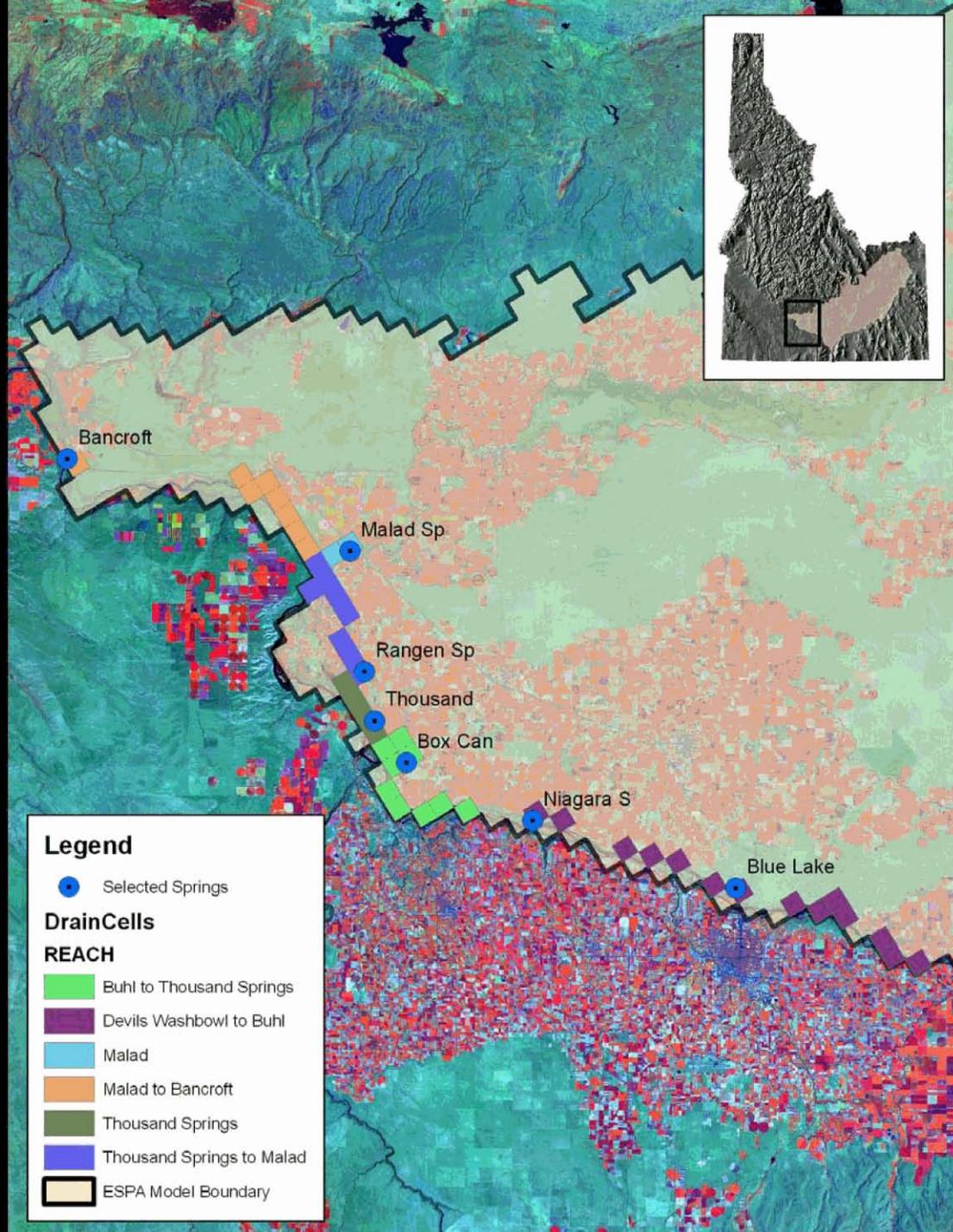
Questions?

**Preliminary CAMP
Modeling Results
Medium Packages**
Fish and Wildlife Sub-Committee



Legend

- ▲ Selected Snake River Gages
- ESAP Model Reaches**
- REACH**
- Ashton to Rexburg
- Heise to Shelley
- Shelley to Near Blackfoot
- Near Blackfoot to Neeley
- Neeley to Minidoka
- ESPA Model Boundary



Bancroft

Malad Sp

Rangen Sp

Thousand

Box Can

Niagara S

Blue Lake