

# RECLAMATION

*Managing Water in the West*

**Fontenelle Working Group Meeting**

**August 18, 2011**



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U.S. Department of the Interior  
Bureau of Reclamation

# Fontenelle Reservoir Current Status

As of 8/17/11

## Storage

Live Capacity	345,000 AF
Capacity on 8/17/11	<u>321,000 AF</u> (93% full)

## Pool Elevation

Reservoir Elev. (Max)	6506 ft
Elevation on 8/17/11	<u>6503 ft</u>
Elevation below (Max)	3 ft

## Inflow and Release

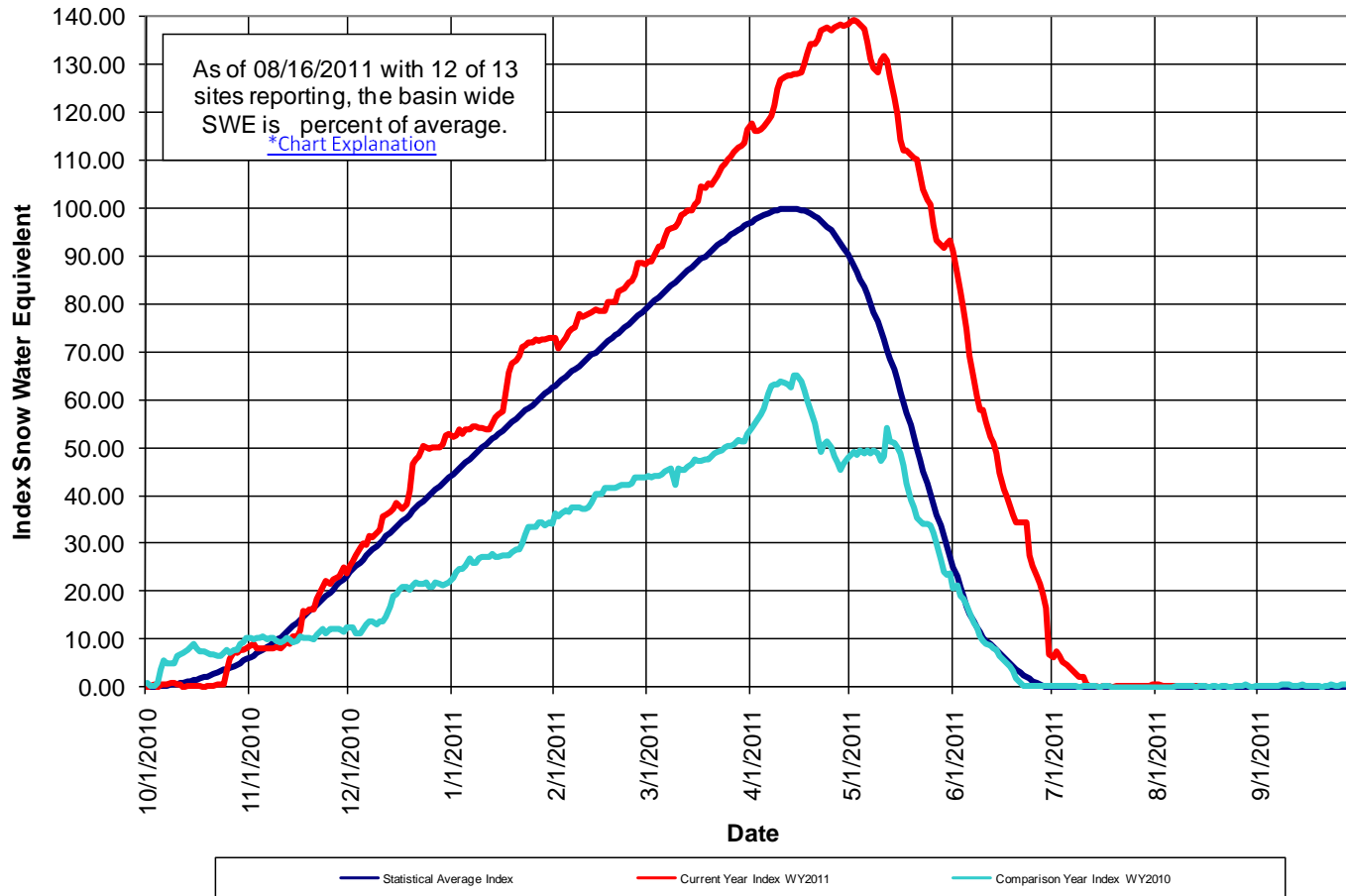
Average Inflow on 8/17/11	1600 cfs
Current Release on 8/17/11	1500 cfs
<i>Expect to ramp down releases next week</i>	

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# Observed Snowpack

## Water Year 2011

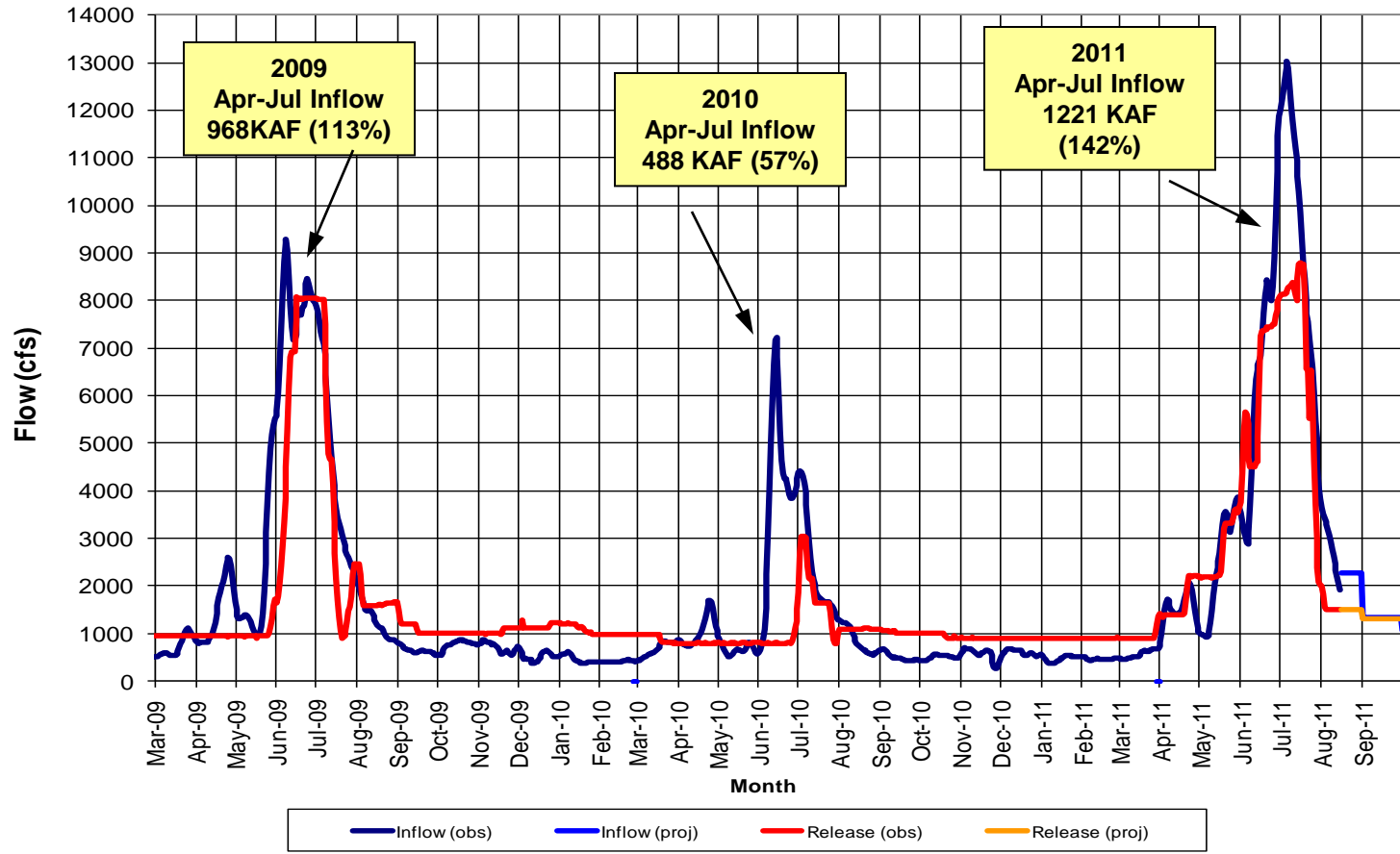
**Upper Green River Basin Snotel Tracking**  
Aggregate of 13 Snotel Sites above Fontenelle Reservoir



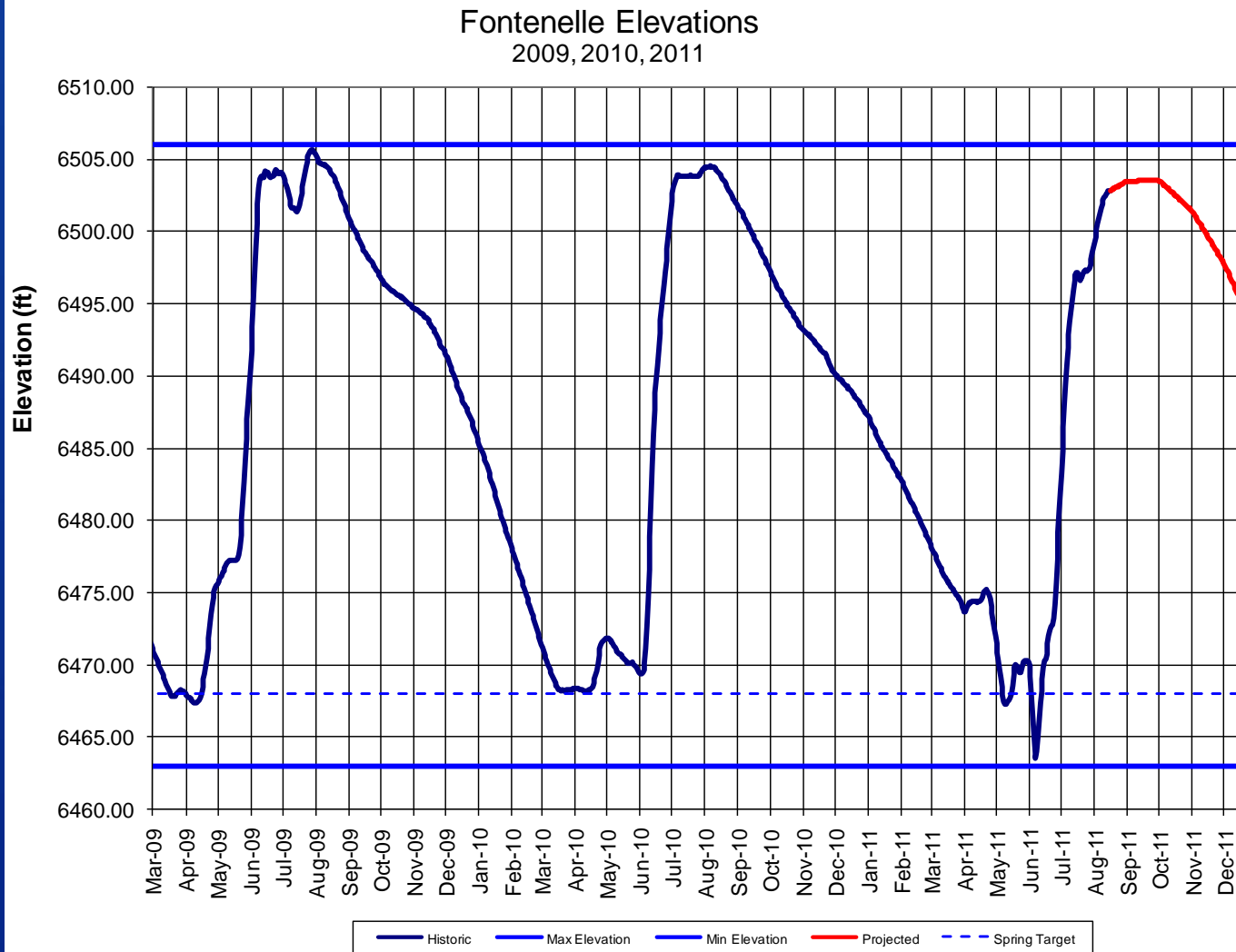
Data Provided by the Natural Resource Conservation Service

# Observed Inflow and Release

Fontenelle Inflow and Release  
2009, 2010, 2011



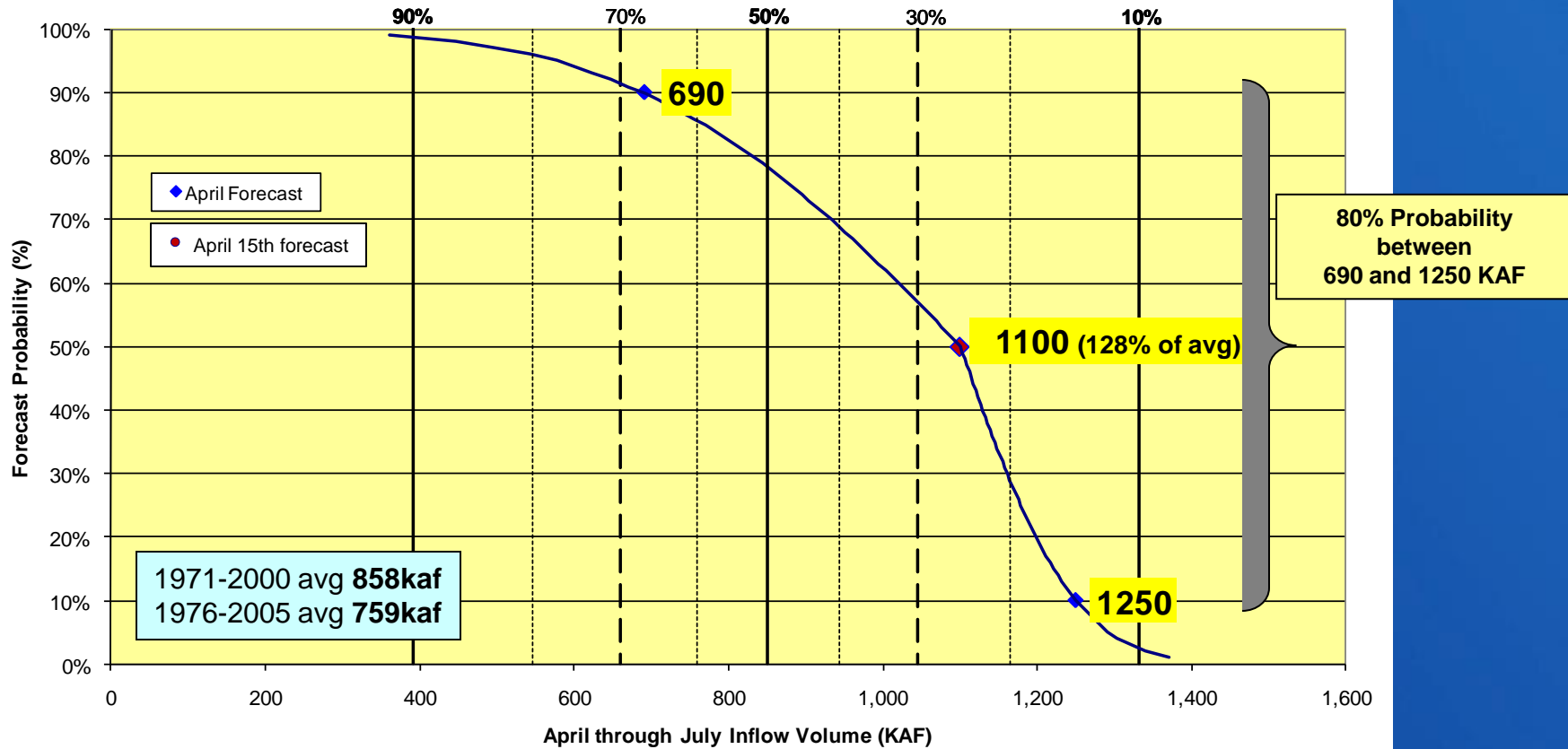
# Observed Reservoir Elevation



# April Forecast

Presented at April Working Group Meeting

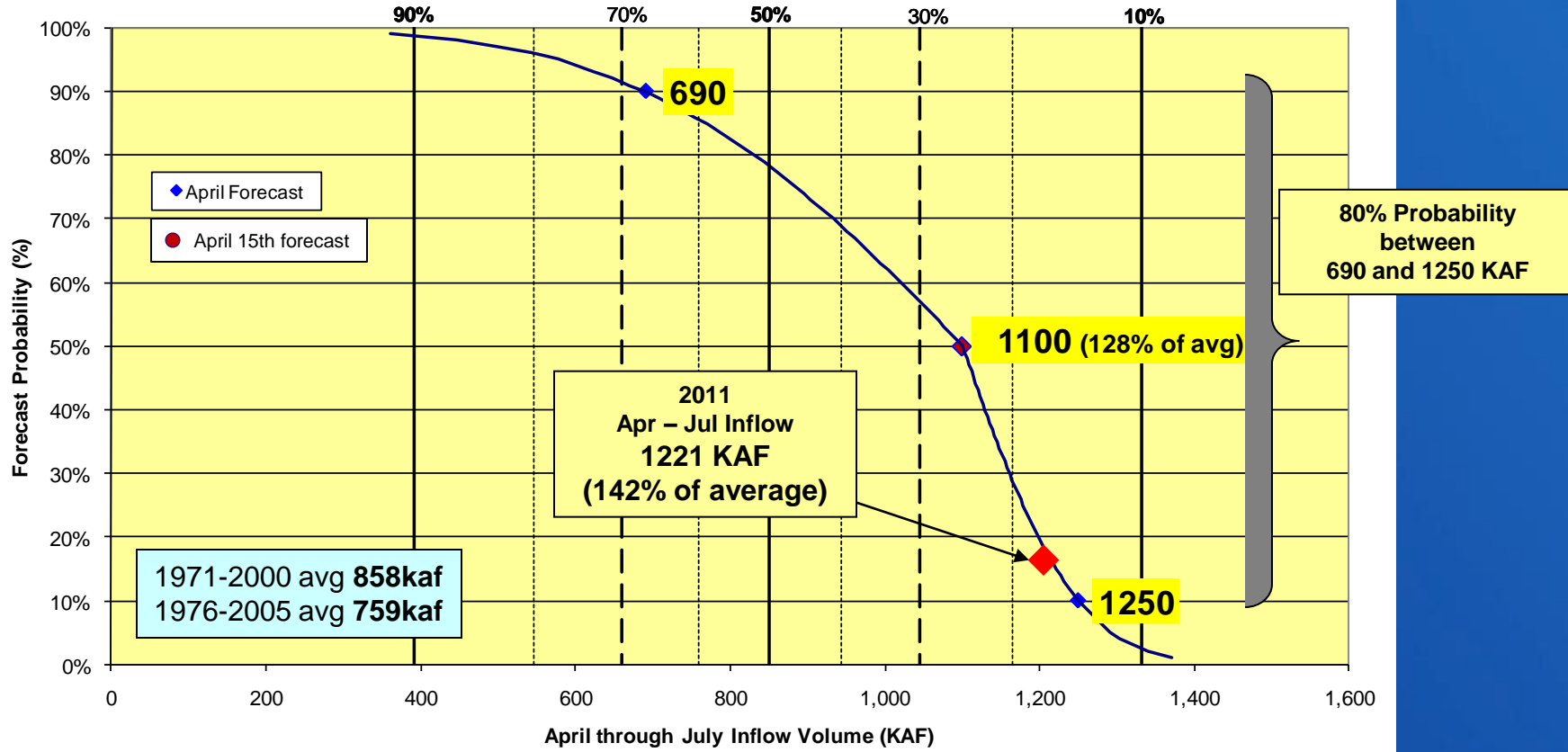
Fontenelle Reservoir  
April - July Forecasted Inflow  
Related to Exceedance Percentages for Historic Period (1971-2000)



# Observed Inflow

## 2011 April - July runoff season

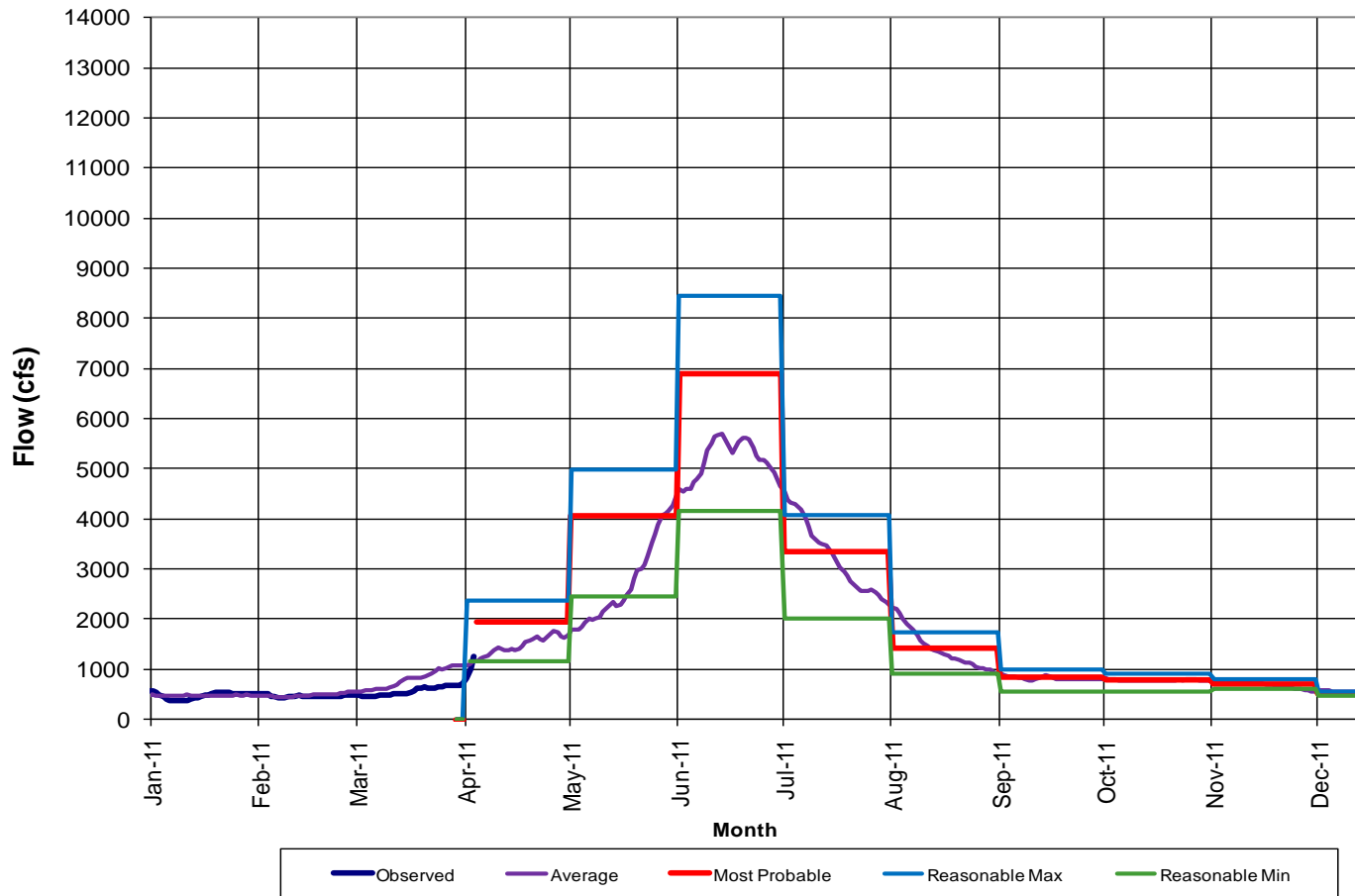
Fontenelle Reservoir  
April - July Forecasted Inflow  
Related to Exceedance Percentages for Historic Period (1971-2000)



# Projected 2011 Inflow Scenarios

Presented at April Working Group Meeting

Fontenelle Inflow Scenarios  
Based on April 1 Forecasts

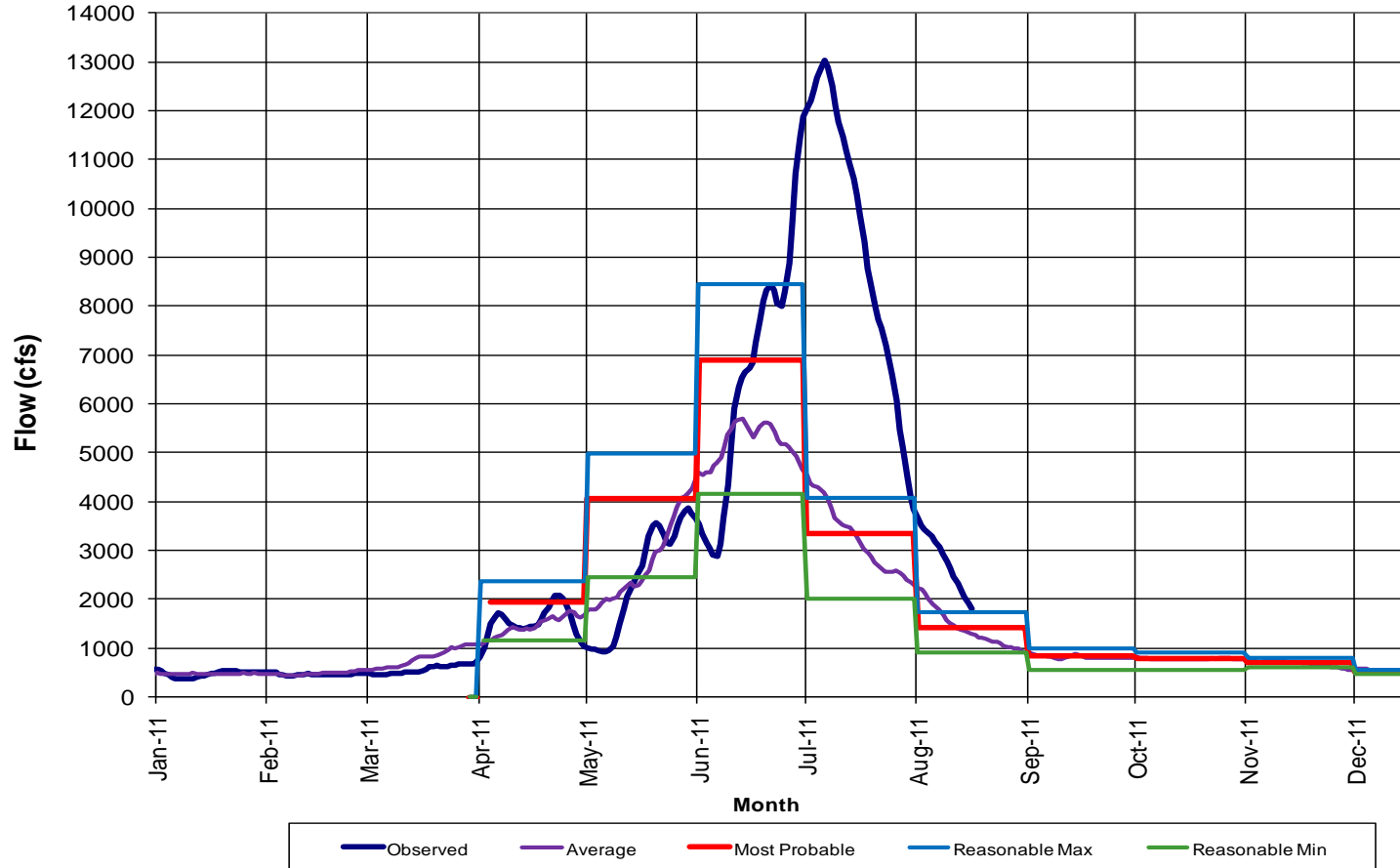




# Observed 2011 Inflow

As of Aug 17, 2010

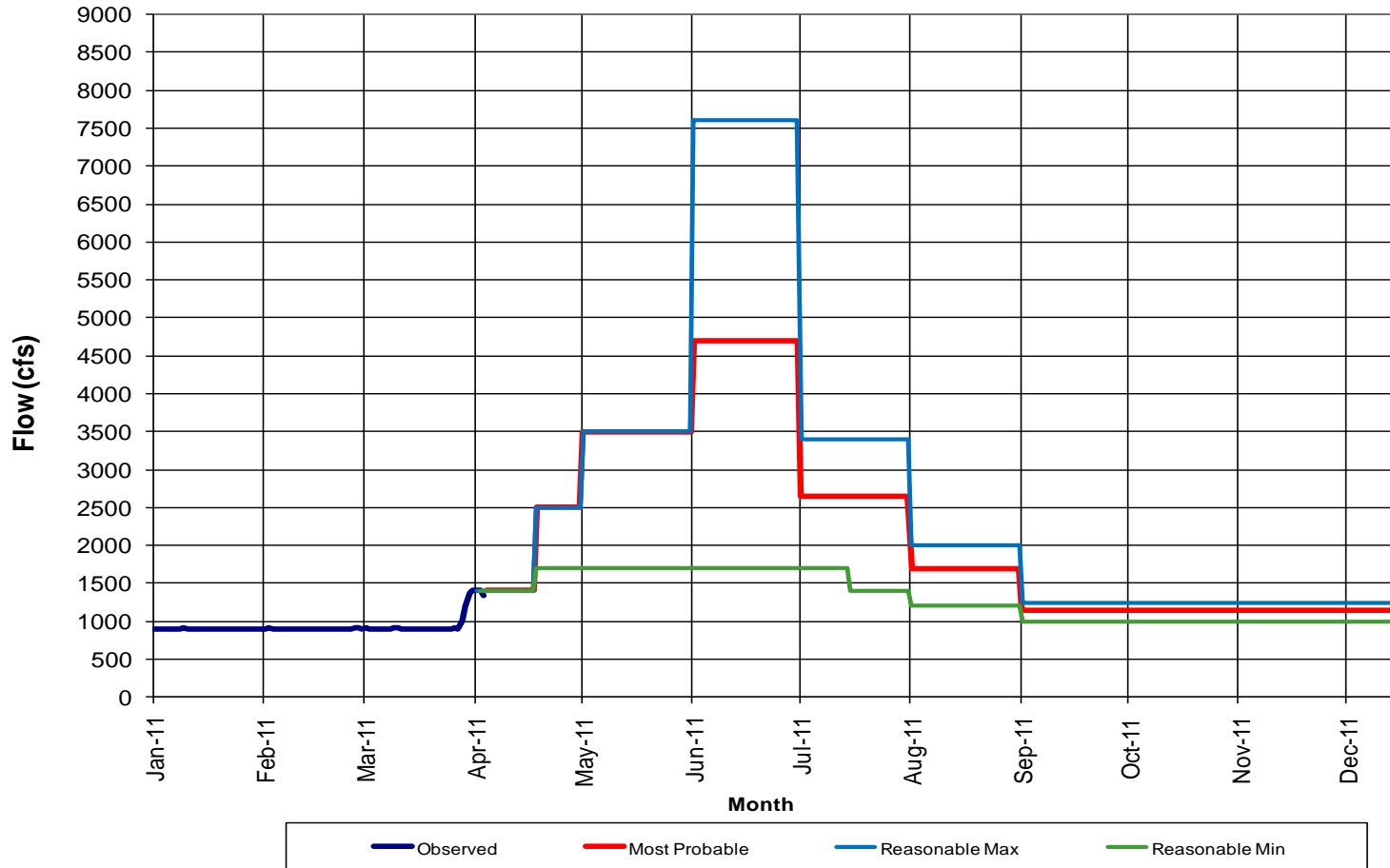
## Fontenelle Inflow Scenarios



# Projected 2011 Release Scenarios

Presented at April Working Group Meeting

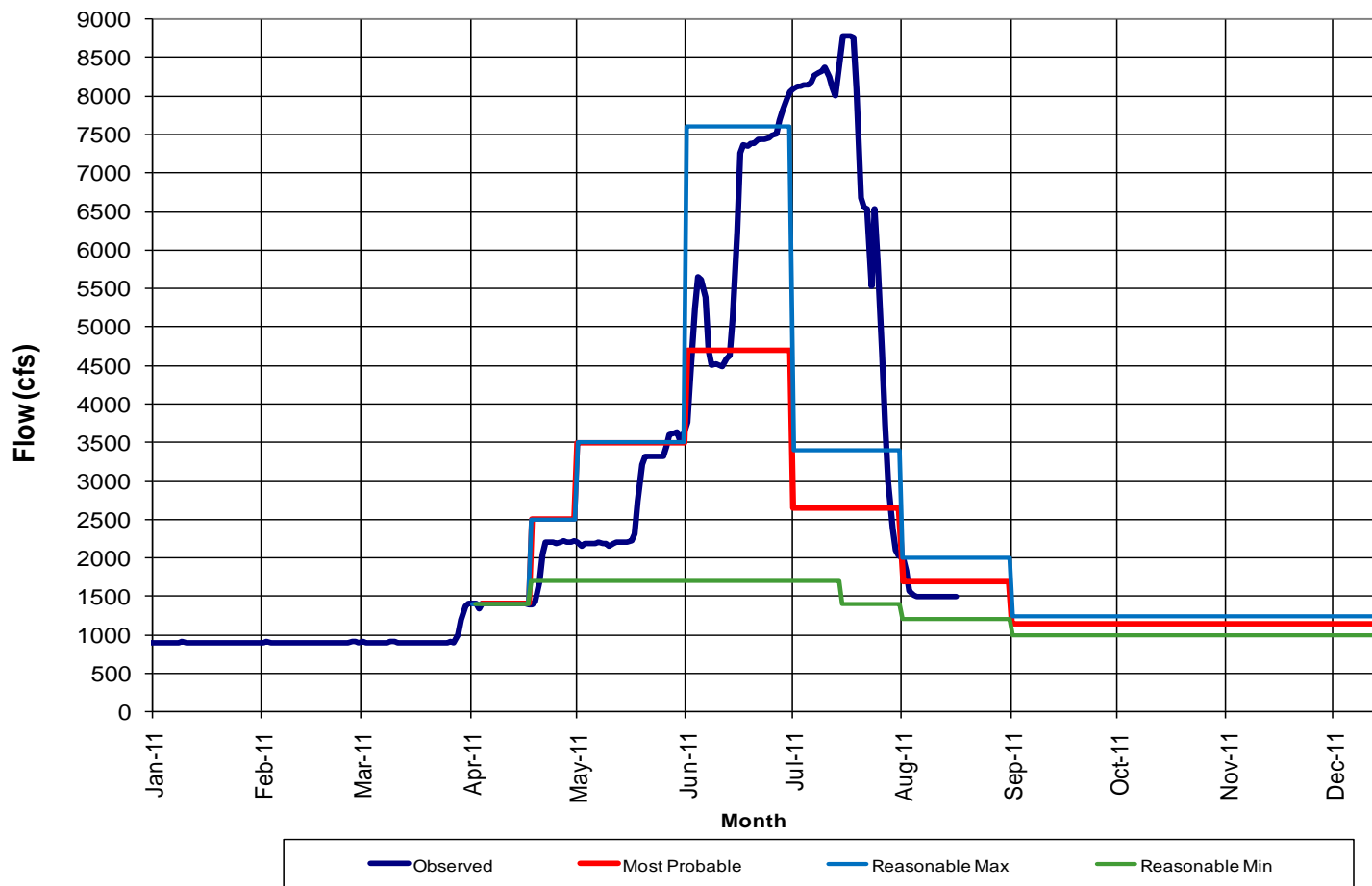
Fontenelle Release Scenarios  
Based on April 1 Forecasts



# Observed 2011 Release

As of Aug 17, 2011

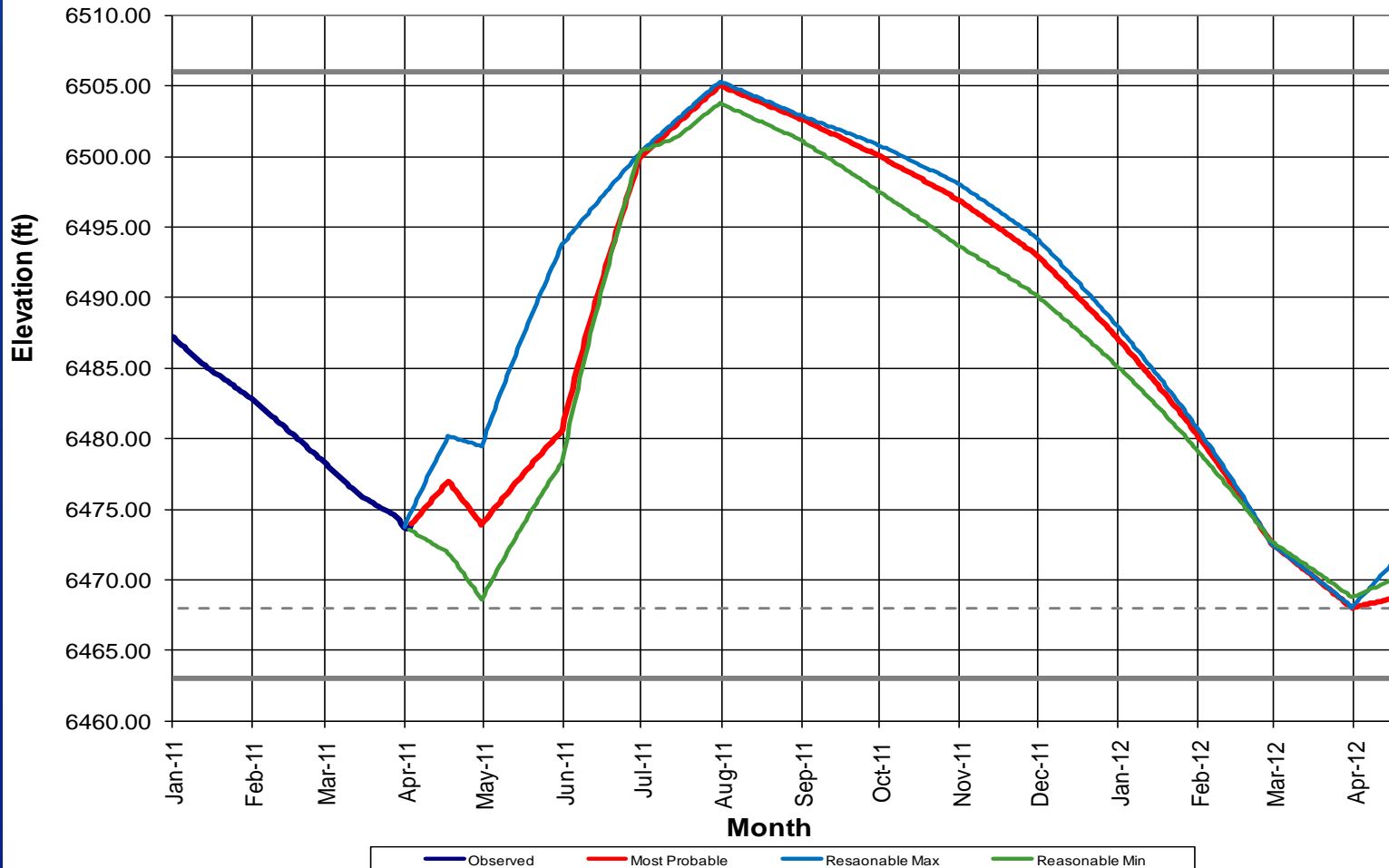
### Fontenelle Release Scenarios



# Projected Elevation Scenarios

Presented at April Working Group Meeting

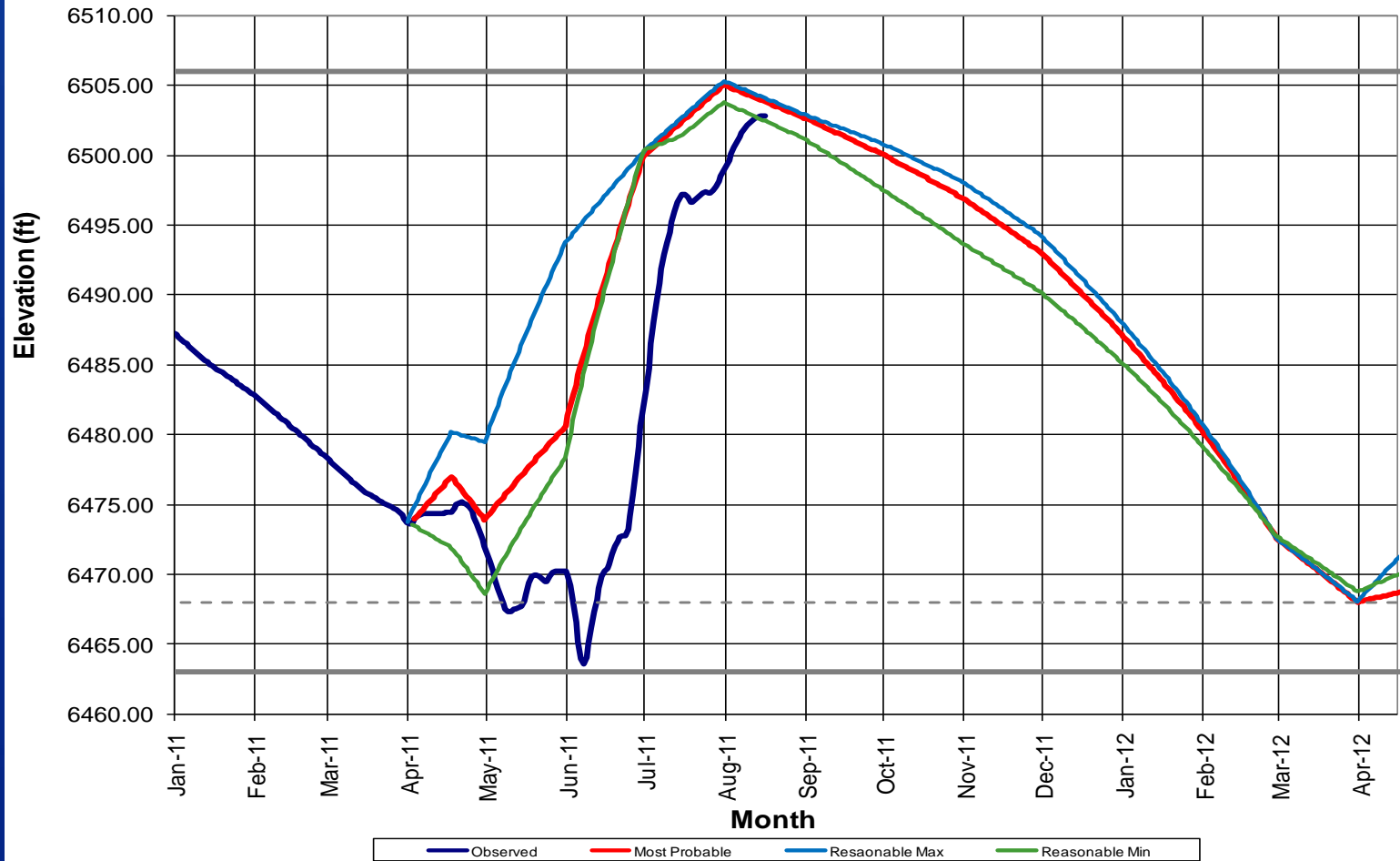
Fontenelle Elevation Scenarios  
Based on April 1 Inflow Forecasts



# Observed Elevation

As of Aug 17, 2011

## Fontenelle Elevation Scenarios



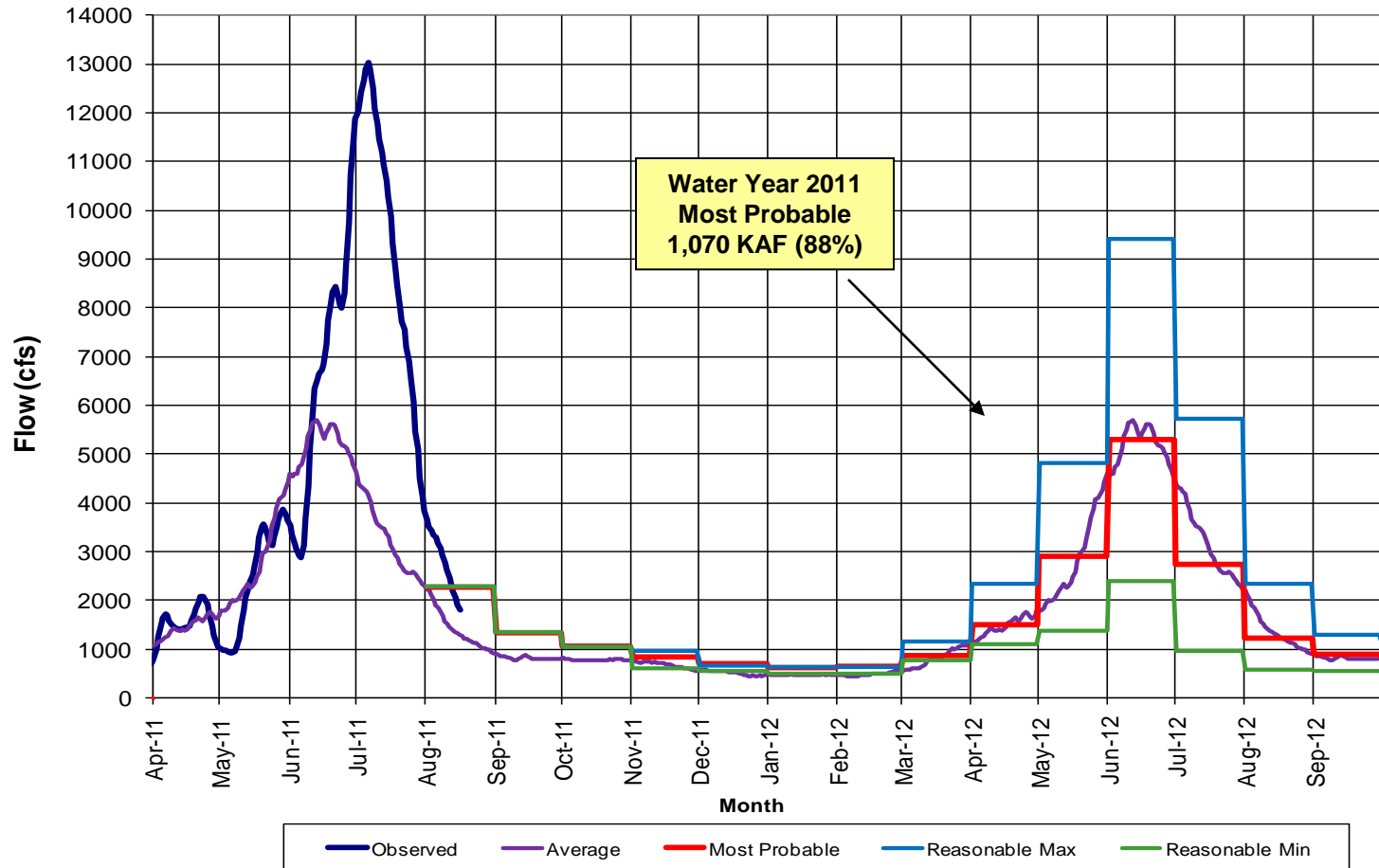
# Water Year 2012 Projected Operations

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# Inflow Scenarios

## Water Year 2012

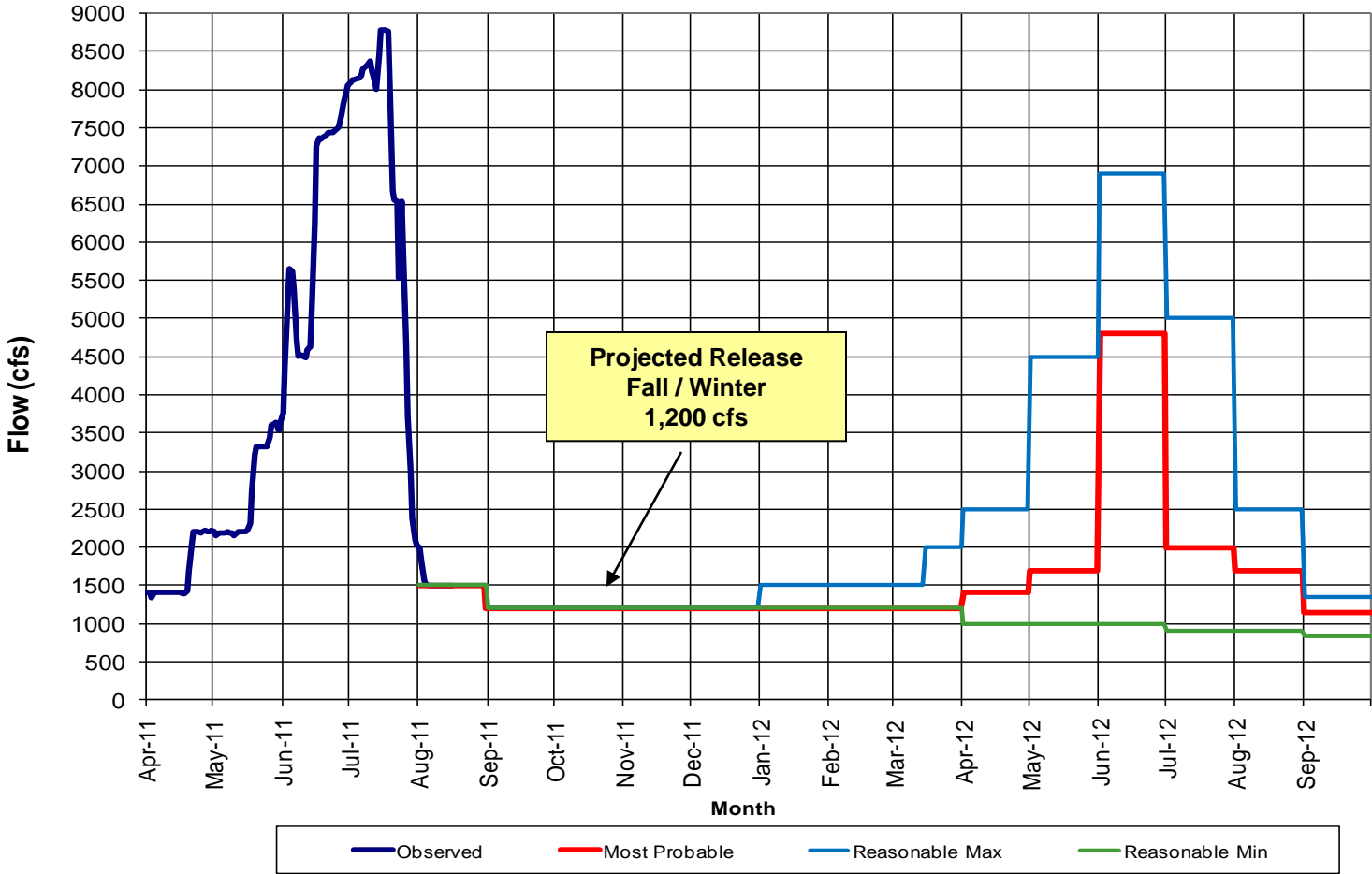
Fontenelle 2012 Inflow Scenarios  
Based on August Inflow Forecasts



# Release Scenarios

## Water Year 2011

Fontenelle 2012 Release Scenarios  
Based on August Inflow Forecasts

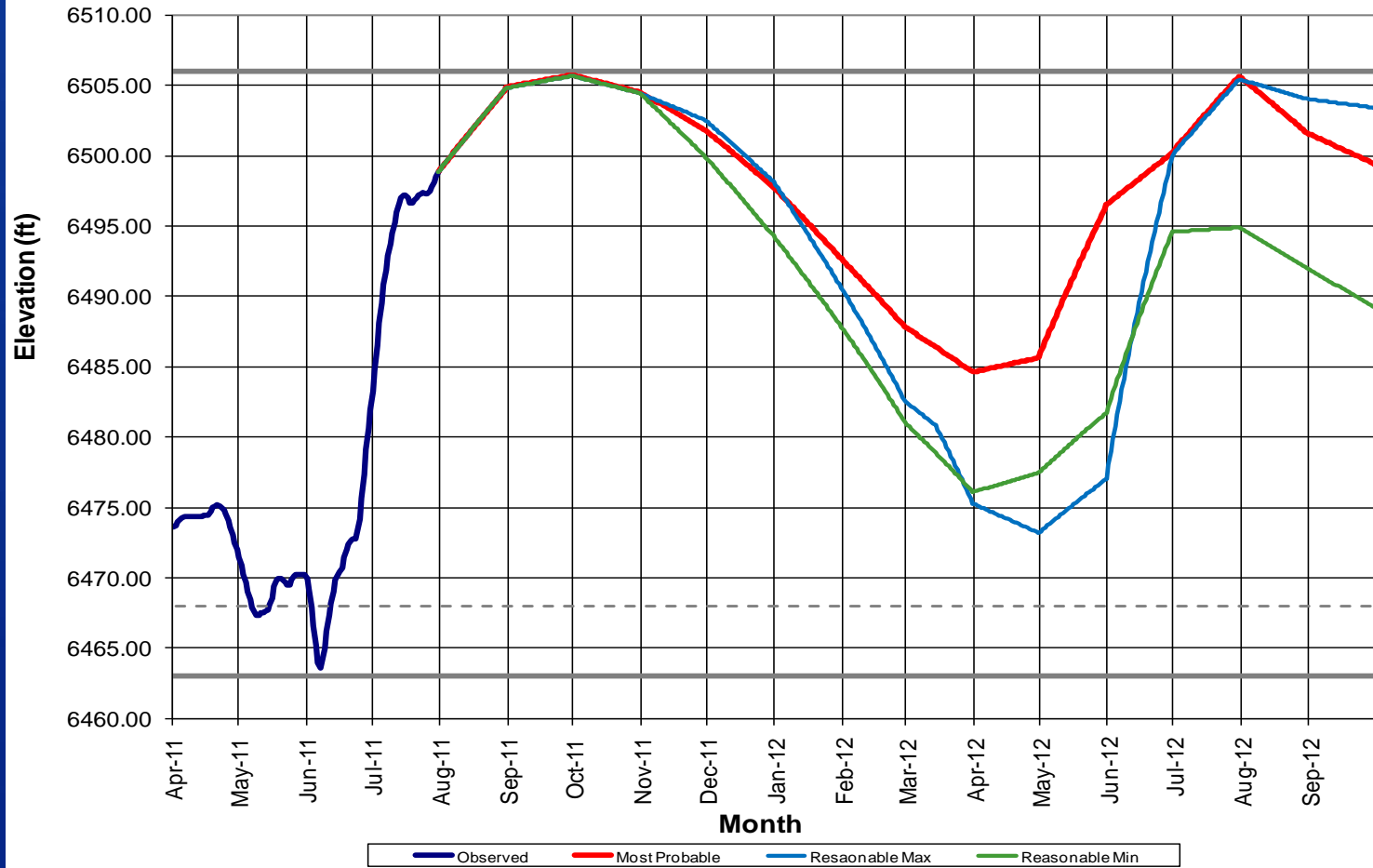




# Elevation Scenarios

## Water Year 2011

Fontenelle 2012 Elevation Scenarios  
Based on Aug '12 Inflow Forecasts



# Other Topics for Discussion

## 1. Fontenelle Reservoir Maintenance

- Spillway maintenance begins August 29
  - Request to keep reservoir 2-3 ft below spillway crest
- Annual maintenance Oct 24-Nov 18
  - Annual inspections, will be bypassing water during this time

## 2. Other Items?

# Fontenelle Working Group Meeting August 2011



Green River at La Barge, WY 6/20/2009

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Extra Slides Follow

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# Historic Inflow Statistics

## Period of Record 1971-2000

### ANNUALIZED MONTHLY INFLOW VOLUME(THOUSAND-ACRE-FEET)

Month	95%	90%	80%	70%	60%	50%	40%	30%	20%	10%	5%	Average
OCT	32	<b>34</b>	37	41	44	48	52	57	64	<b>74</b>	84	<b>52</b>
NOV	29	<b>33</b>	38	41	43	45	47	49	51	<b>53</b>	55	<b>44</b>
DEC	26	<b>28</b>	30	32	33	34	35	36	38	<b>39</b>	41	<b>33</b>
JAN	24	<b>26</b>	29	30	31	32	33	34	35	<b>37</b>	38	<b>31</b>
FEB	23	<b>25</b>	27	28	29	30	31	32	33	<b>34</b>	35	<b>29</b>
MAR	37	<b>40</b>	43	46	48	51	54	57	61	<b>67</b>	72	<b>52</b>
APR	60	<b>64</b>	73	79	86	92	99	107	116	<b>129</b>	141	<b>93</b>
MAY	69	<b>104</b>	143	169	189	207	223	240	257	<b>280</b>	296	<b>196</b>
JUN	98	<b>148</b>	212	261	304	345	388	434	491	<b>571</b>	640	<b>355</b>
JUL	38	<b>74</b>	119	151	180	207	234	264	300	<b>350</b>	393	<b>212</b>
AUG	30	<b>43</b>	60	72	82	91	100	110	121	<b>135</b>	147	<b>91</b>
SEP	26	<b>32</b>	39	44	49	53	57	62	67	<b>74</b>	79	<b>53</b>
<b>ANNUAL</b>	490	<b>651</b>	849	993	1,118	1,235	1,354	1,482	1,633	<b>1,845</b>	2,022	<b>1,243</b>
<b>APR-JUL</b>	264	<b>391</b>	546	660	758	851	944	1,045	1,164	<b>1,331</b>	1,471	<b>857</b>

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# Historic Inflow Statistics

## Period of Record 1976-2005

ANNUALIZED MONTHLY INFLOW VOLUME(THOUSAND-ACRE-FEET)												
Month	95%	90%	80%	70%	60%	50%	40%	30%	20%	10%	5%	Average
OCT	30	<b>31</b>	33	36	39	43	47	53	61	<b>73</b>	86	<b>49</b>
NOV	29	<b>31</b>	34	37	39	41	43	46	49	<b>53</b>	57	<b>41</b>
DEC	28	<b>28</b>	29	30	31	32	33	34	36	<b>38</b>	41	<b>32</b>
JAN	25	<b>26</b>	27	28	29	30	31	32	34	<b>37</b>	39	<b>30</b>
FEB	23	<b>24</b>	25	26	27	28	29	30	31	<b>33</b>	35	<b>28</b>
MAR	39	<b>41</b>	43	45	48	50	53	56	60	<b>66</b>	72	<b>52</b>
APR	49	<b>56</b>	66	73	81	88	95	104	114	<b>129</b>	143	<b>89</b>
MAY	35	<b>71</b>	112	140	162	182	202	222	245	<b>275</b>	299	<b>176</b>
JUN	86	<b>121</b>	170	210	248	286	327	374	432	<b>519</b>	598	<b>307</b>
JUL	18	<b>50</b>	91	122	150	177	205	235	273	<b>327</b>	374	<b>185</b>
AUG	19	<b>31</b>	46	58	68	78	89	100	114	<b>134</b>	152	<b>82</b>
SEP	23	<b>27</b>	33	38	42	46	51	56	62	<b>72</b>	80	<b>48</b>
<b>ANNUAL</b>	<b>403</b>	<b>535</b>	<b>708</b>	<b>842</b>	<b>963</b>	<b>1,081</b>	<b>1,204</b>	<b>1,341</b>	<b>1,510</b>	<b>1,757</b>	<b>1,975</b>	<b>1,121</b>
<b>APR-JUL</b>	<b>188</b>	<b>297</b>	<b>438</b>	<b>545</b>	<b>641</b>	<b>733</b>	<b>829</b>	<b>935</b>	<b>1,063</b>	<b>1,251</b>	<b>1,413</b>	<b>758</b>

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# Historic Inflow Statistics

## Period of Record 1981-2010

ANNUALIZED MONTHLY INFLOW VOLUME(THOUSAND-ACRE-FEET)												
Month	95%	90%	80%	70%	60%	50%	40%	30%	20%	10%	5%	Average
OCT	26	<b>28</b>	32	36	40	44	49	54	62	<b>73</b>	84	<b>48</b>
NOV	26	<b>30</b>	35	38	41	43	46	48	50	<b>53</b>	55	<b>42</b>
DEC	24	<b>26</b>	29	30	31	33	34	35	36	<b>38</b>	40	<b>32</b>
JAN	21	<b>24</b>	27	28	30	31	32	34	35	<b>37</b>	38	<b>30</b>
FEB	20	<b>22</b>	25	26	27	28	29	30	32	<b>33</b>	34	<b>28</b>
MAR	36	<b>40</b>	44	48	50	53	55	58	62	<b>66</b>	71	<b>53</b>
APR	55	<b>56</b>	62	68	74	81	88	97	108	<b>126</b>	142	<b>85</b>
MAY	47	<b>74</b>	105	128	147	164	182	201	224	<b>255</b>	282	<b>164</b>
JUN	93	<b>120</b>	162	198	234	271	311	358	419	<b>514</b>	601	<b>299</b>
JUL	26	<b>51</b>	85	112	137	162	189	220	259	<b>318</b>	371	<b>178</b>
AUG	15	<b>25</b>	39	51	62	72	83	95	109	<b>130</b>	147	<b>77</b>
SEP	18	<b>23</b>	30	35	39	44	49	54	61	<b>70</b>	78	<b>46</b>
<b>ANNUAL</b>	406	<b>520</b>	675	798	913	1,026	1,147	1,284	1,456	<b>1,713</b>	1,944	<b>1,081</b>
<b>APR-JUL</b>	220	<b>301</b>	414	506	592	678	770	876	1,010	<b>1,213</b>	1,396	<b>726</b>

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