



# **HYDROPOWER POTENTIAL & PROJECT ECONOMICS**



# BLACK CANYON HYDROELECTRIC PROJECT

## AVERAGE MONTHLY GENERATION ESTIMATES

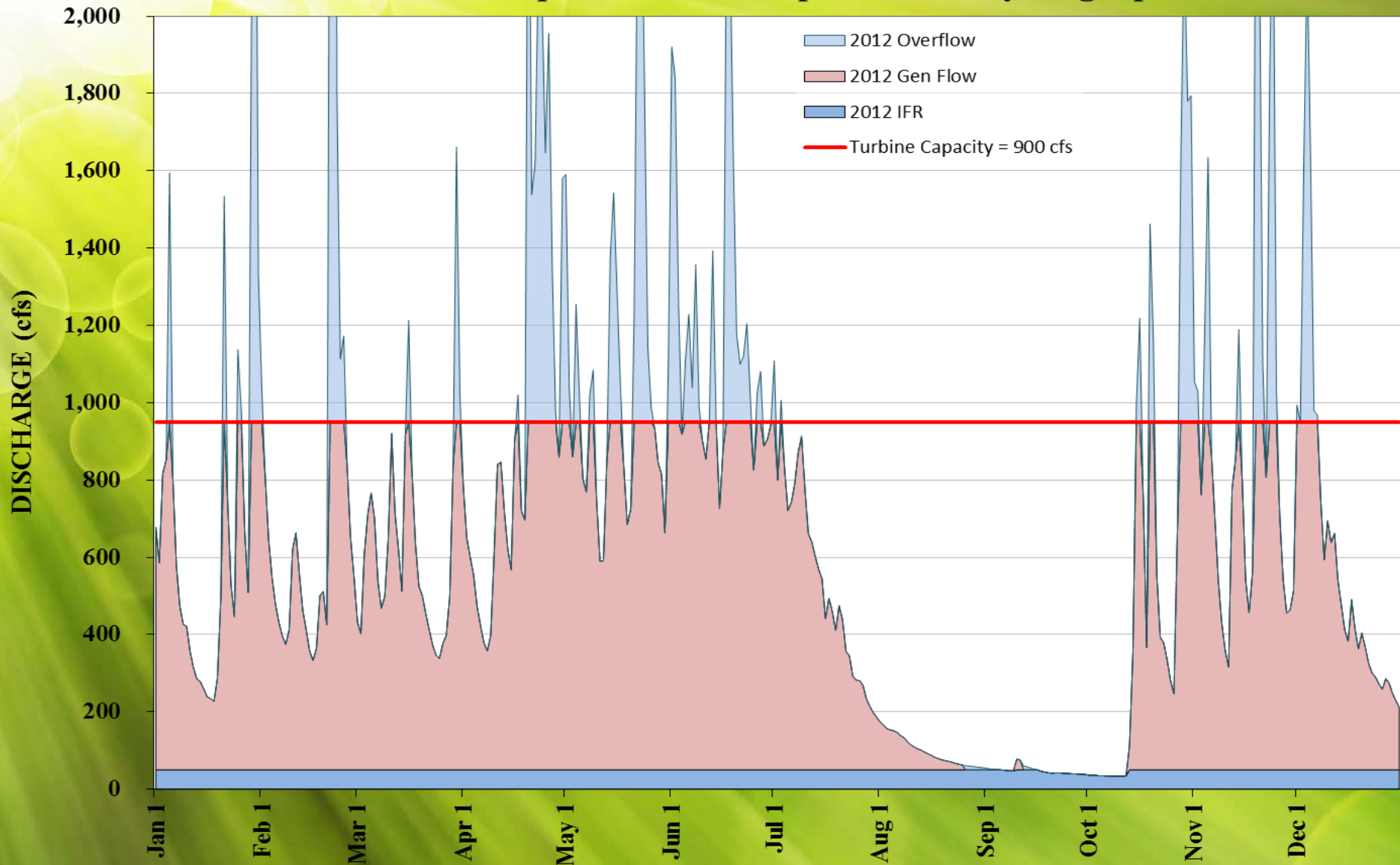
Month	Generation (MWh)	Month	Generation (MWh)
<b>January</b>	12,384	<b>July</b>	5,897
<b>February</b>	9,161	<b>August</b>	1,584
<b>March</b>	10,401	<b>September</b>	2,463
<b>April</b>	12,467	<b>October</b>	7,380
<b>May</b>	14,679	<b>November</b>	11,757
<b>June</b>	12,607	<b>December</b>	10,943
<b>Average Annual Generation</b>			111,718

ASSUMES DIVERSION OF 900 CFS AND INSTREAM FLOW  
REQUIREMENT OF 50 CFS (*ALSO REFLECTS CHANGES TO PROJECT  
DESCRIPTION*)



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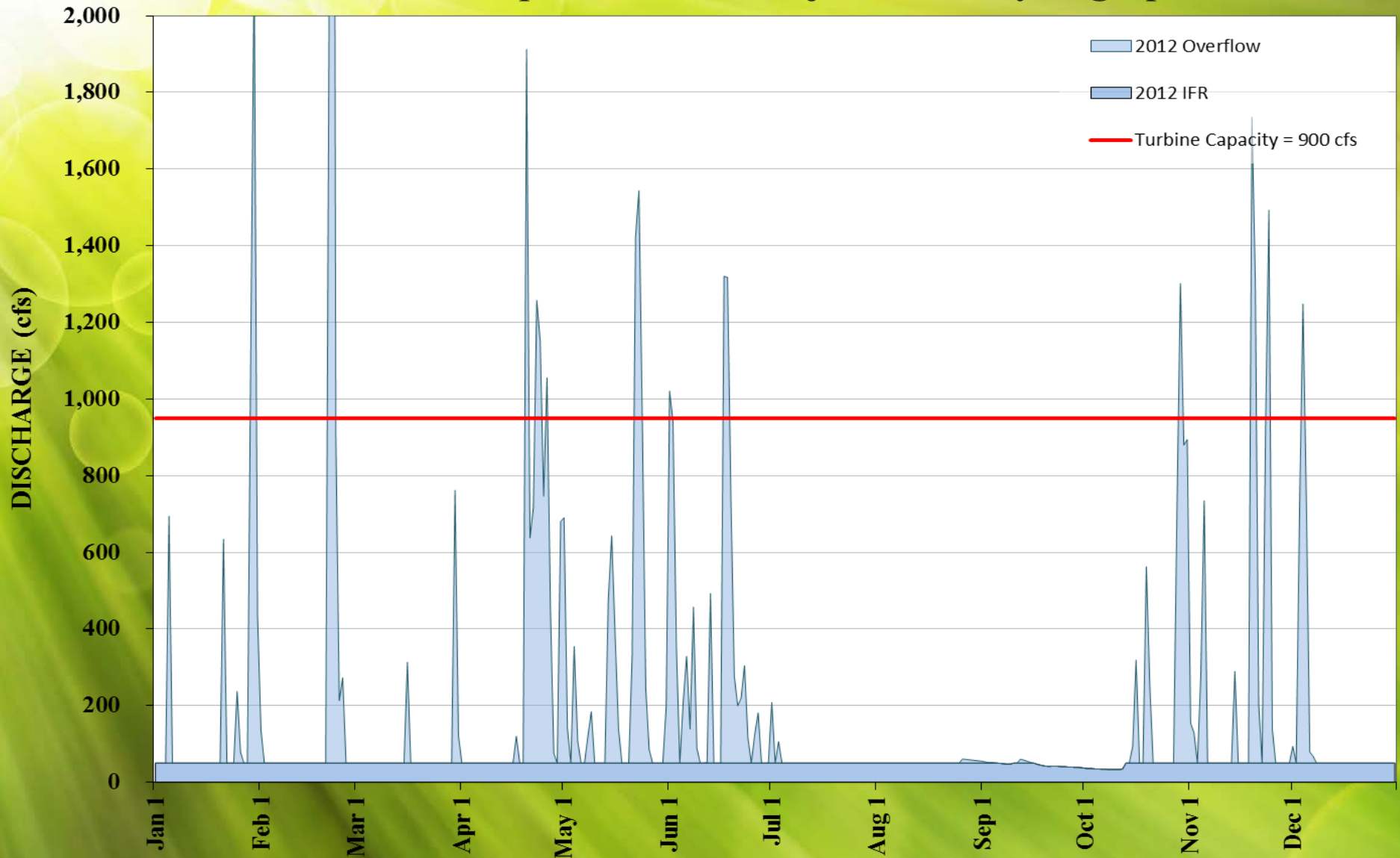
## North Fork Snoqualmie River Operational Hydrograph, 2012





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## North Fork Snoqualmie River Project Reach Hydrograph, 2012







## DEVELOPMENT COST

- **estimated development cost for the Project is approximately \$2,640 per installed kilowatt of capacity**
- **an approximate total cost of \$ 66 MM**
- **estimated annual O & M cost is approximately \$951,000 per year**
- **Beginning energy rate required to support the development of the project is \$70/MWh**
- **energy rate increasing annually at a rate of 2.5%**



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## INSTREAM FLOW REQUIREMENTS

IFR (cfs)	Average Annual Generation (MWhr)	Average Annual Lost Generation (MWhr)	Average Annual Lost Revenue	Average Lost Revenue over 20-yr PPA
35	<b>115,024</b>	-	-	
50	<b>111,718</b>	<b>3,306</b>	<b>\$ 264,480</b>	<b>\$5,289,600</b>
75	<b>106,474</b>	<b>8,550</b>	<b>\$ 684,000</b>	<b>\$13,680,000</b>
100	<b>101,495</b>	<b>13,529</b>	<b>\$ 1,082,320</b>	<b>\$21,646,400</b>

Ramping rate restrictions for the Project will be the result of agency consultation and review of relevant resource reports. At this time no recommendations have been made and therefore the cost of lost generation due to ramping rates has not been investigated.



## RECREATIONAL FLOWS

Recreation Flows (cfs)	Frequency (days/week)	Avg. Annual Lost Gen. (MWhr)	Avg. Annual Lost Revenue	Avg. Lost Revenue over 20-yr PPA
350 - 500	2 - sat/sun	4,078	\$ 326,240	\$6,524,800
500 - 700	2 - sat/sun	4,145	\$ 331,600	\$6,632,000
700 - 1,100	2 - sat/sun	3,669	\$ 293,520	\$5,850,400
350 - 1,100	2 - sat/sun	8,092	\$ 647,360	\$12,947,200

NOTE: the cost of providing recreational flows will be affected by any ramping rate restrictions, so the true cost of lost generation to provide recreational flows will include any time required to provide recreation flows and then return to normal generation. This analysis assumes that there are no ramping rate restrictions.