

Fish Passage and Survival at Lower Snake and McNary Dams

AMT presentation

Walla Walla District COE

April 8, 2008

Summary of Survival, Passage Efficiency by Passage Route at Snake River and McNary Dams

Spring Chinook

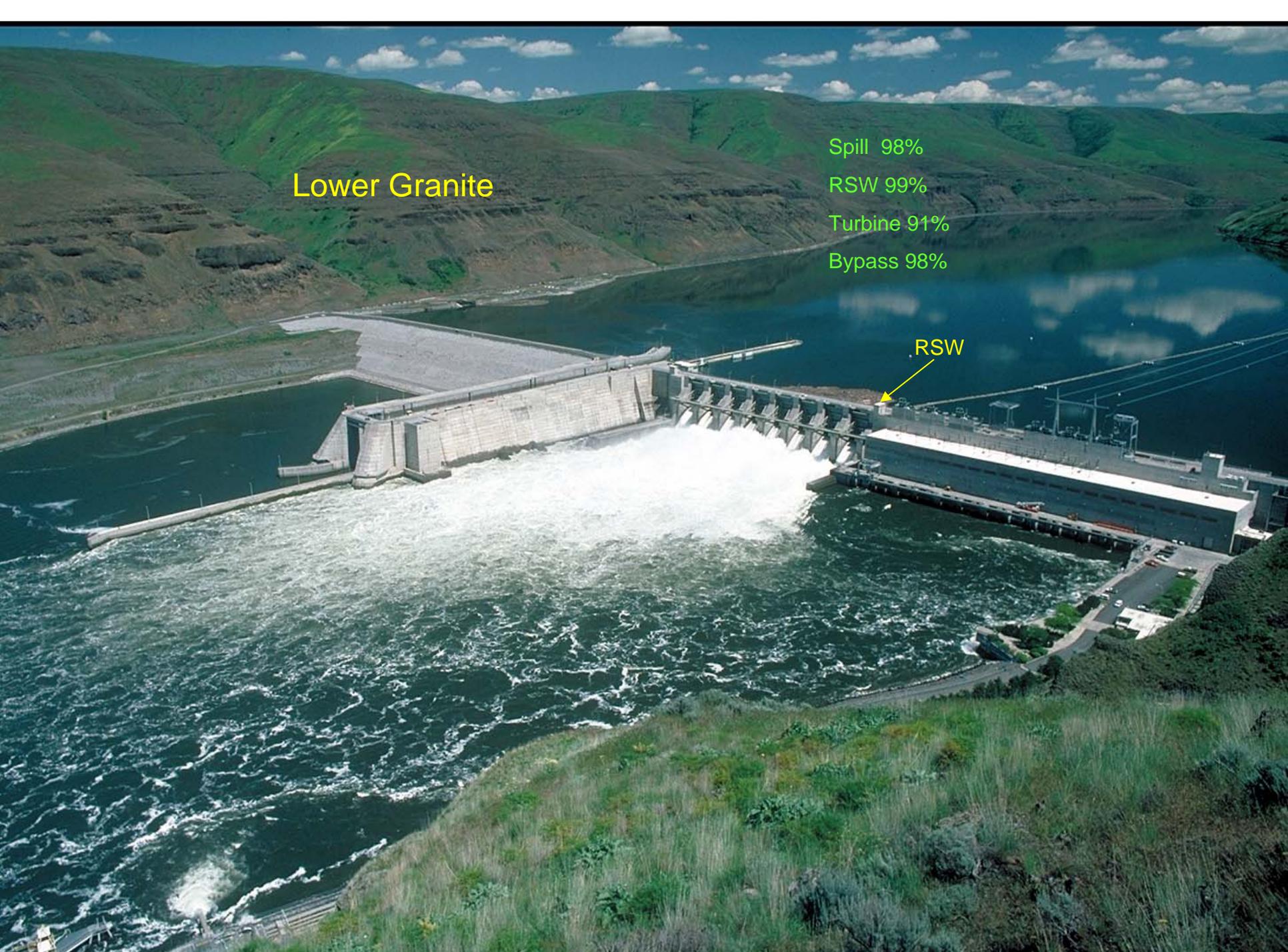
Hydroelectric Dam		Surface Passage		Juvenile Fish Bypass		Spillway		Turbine		Overall Survival
		Passage Efficiency	Survival	Passage Efficiency	Survival	Passage Efficiency	Survival	Passage Efficiency	Survival	
Lower Granite		30%	99%	29%	98%	29%	98%	12%	91%	98%
Little Goose		NA	NA	15%	99%	82%	99%	3%	89%	99%
Lower Monumental	With gauge	39% *	98%	18%	94%	36%	96%	7%	88%	96%
	Without gauge	29% *	98%	18%	94%	46%	96%	7%	88%	96%
	Without RSW	NA	NA	18%	94%	75%	96%	7%	88%	95%
Ice Harbor	BIOP	42%	96%	5%	97%	51%	97%	2 %	87%	96%
	Reduced	59%	95%	16%	98%	16%	98%	9 %	87%	95%
Ice Harbor	BIOP	33%	95%	19%	98%	47%	96%	8 %	87%	96%
	Reduced	51%	95%	15%	97%	22%	97%	5 %	87%	95%
McNary		25%	94%	29%	92%	32%	97%	14%	83%	94%

*=expected

Lower Granite

Spill 98%
RSW 99%
Turbine 91%
Bypass 98%

RSW



Little Goose

Spill 99%
Turbine 91%
Bypass 98%

TSW



Lower Monumental

Spill 96%
Turbine 88%
Bypass 94%

RSW



Ice Harbor

- Spill 96-98%
- RSW 95-96%
- Turbine 87%
- Bypass 97-98%

RSW



McNary Dam

Spill 97%

TSW's 94%

Turbine 83%

Bypass 92%

TSW's

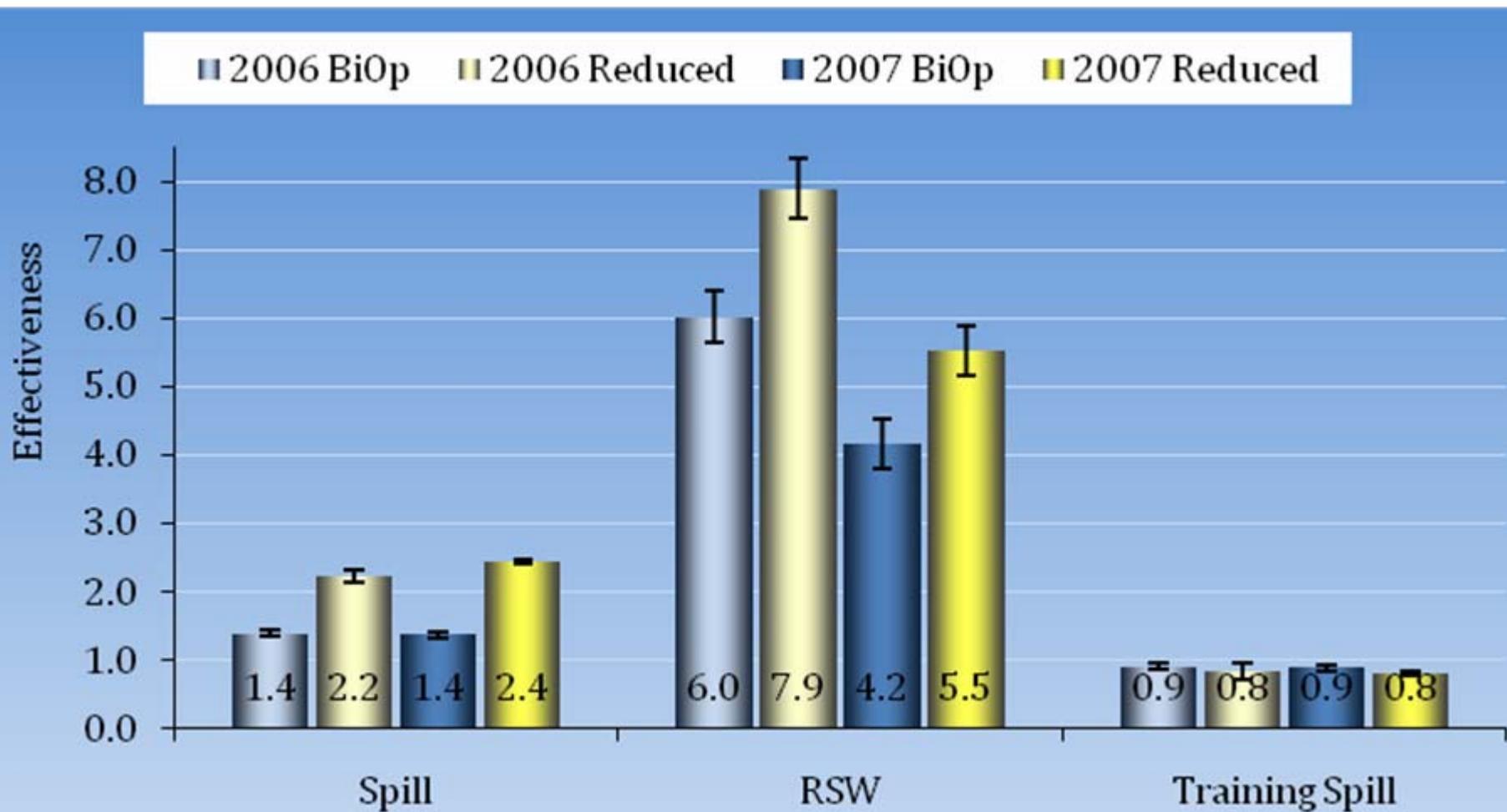


Ice Harbor

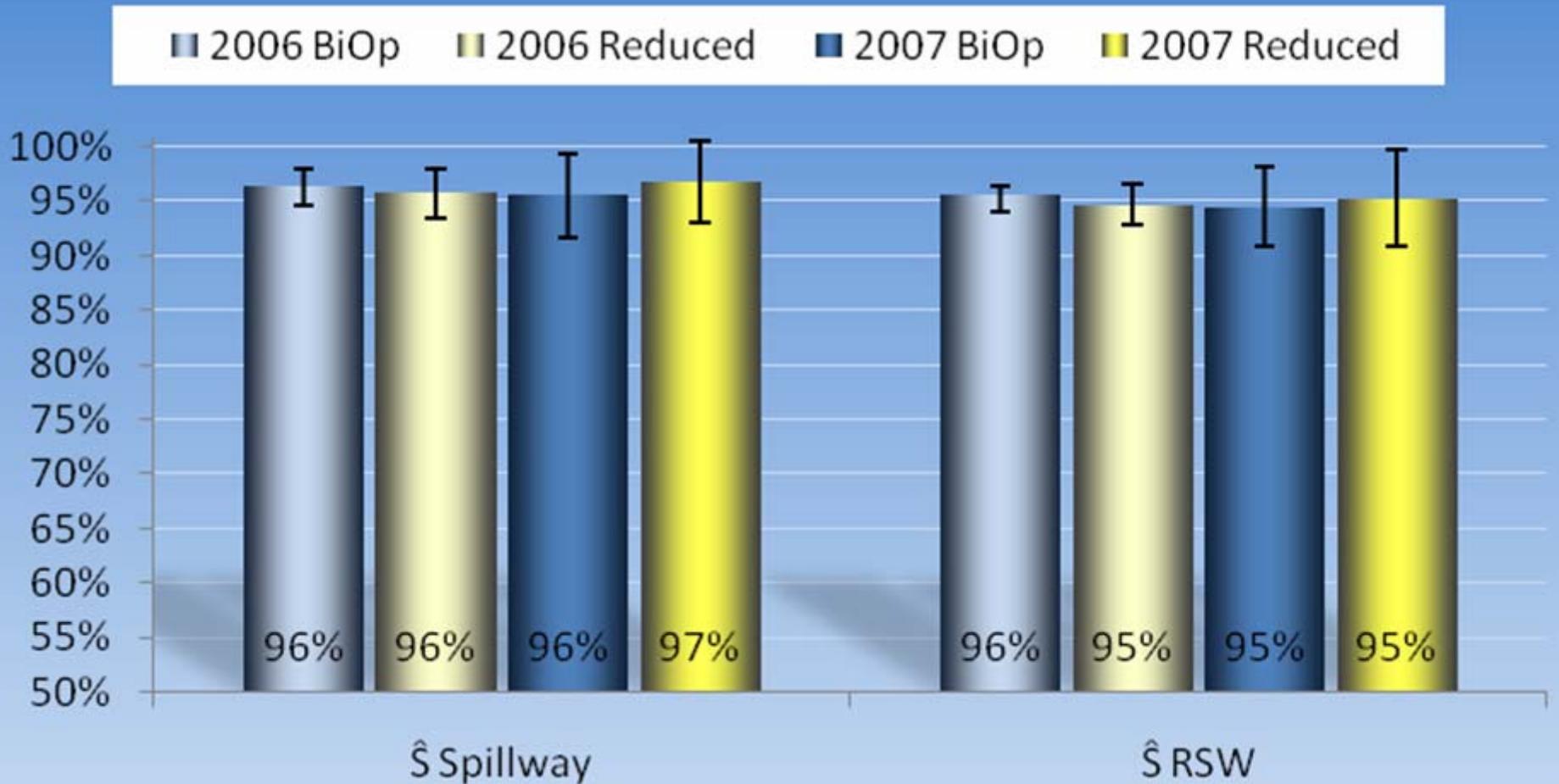
RSW



Ice Harbor



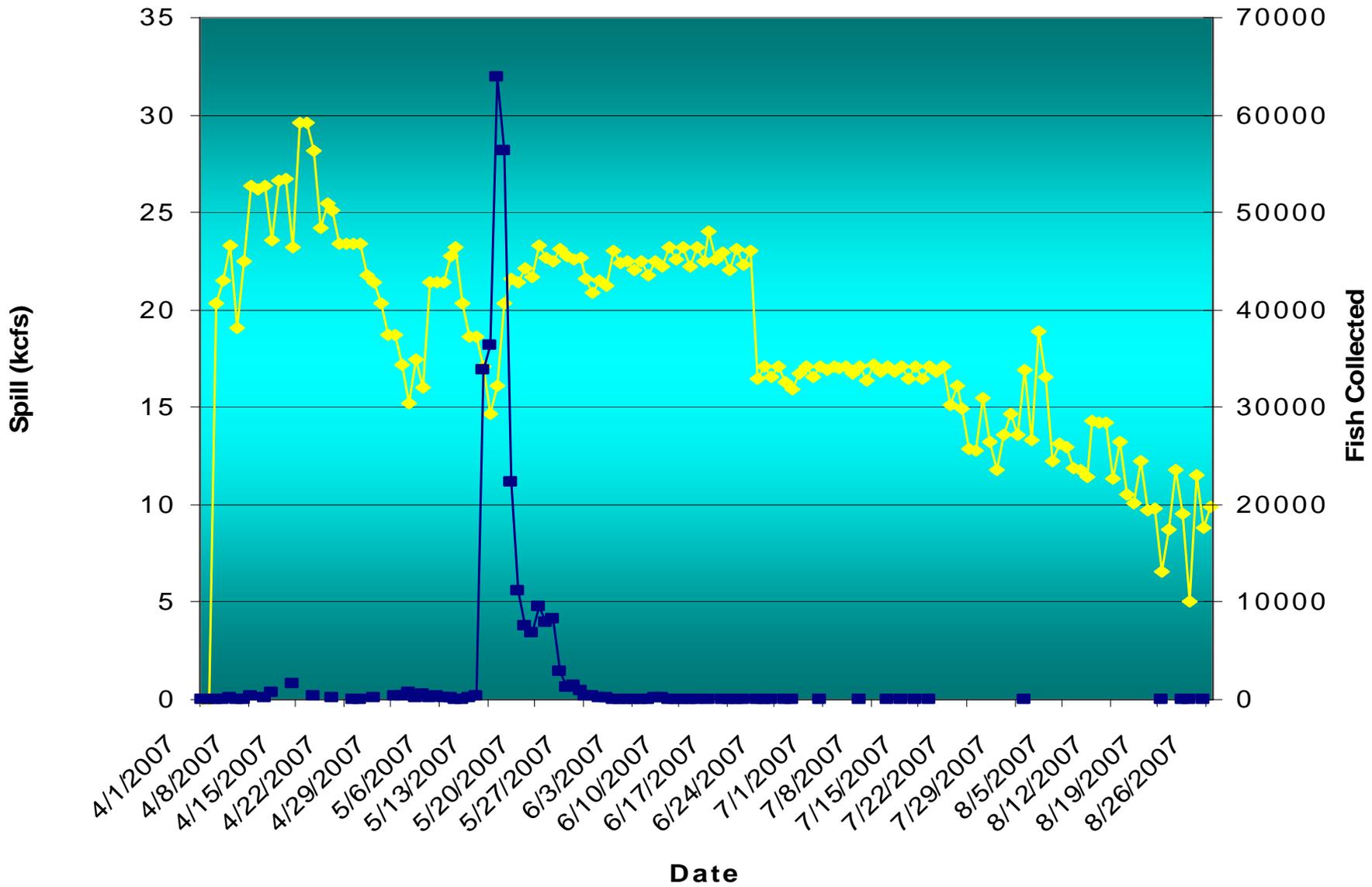
Ice Harbor



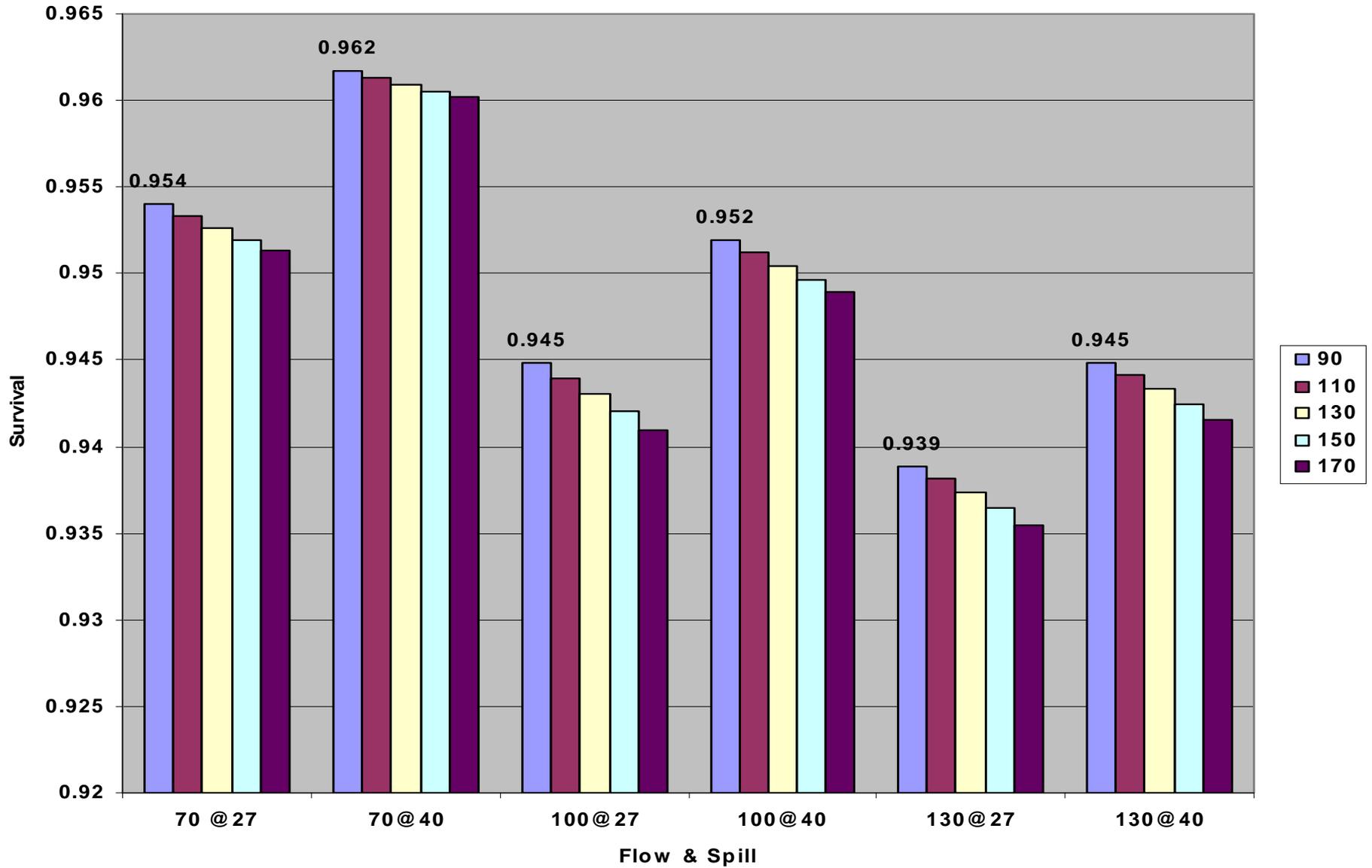
Lower Monumental



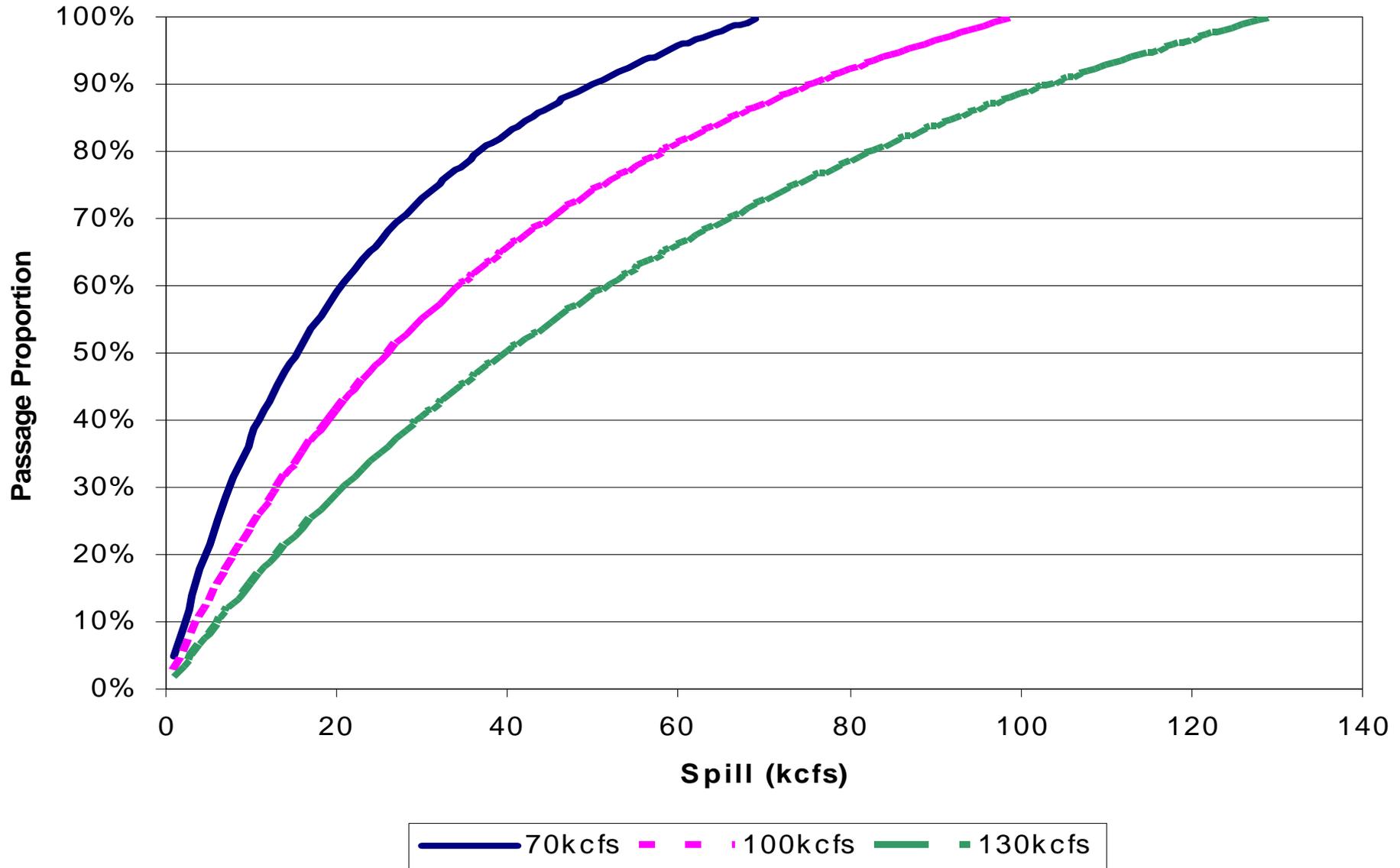
Fish Collected vs Spill 2007 Lower Monumental



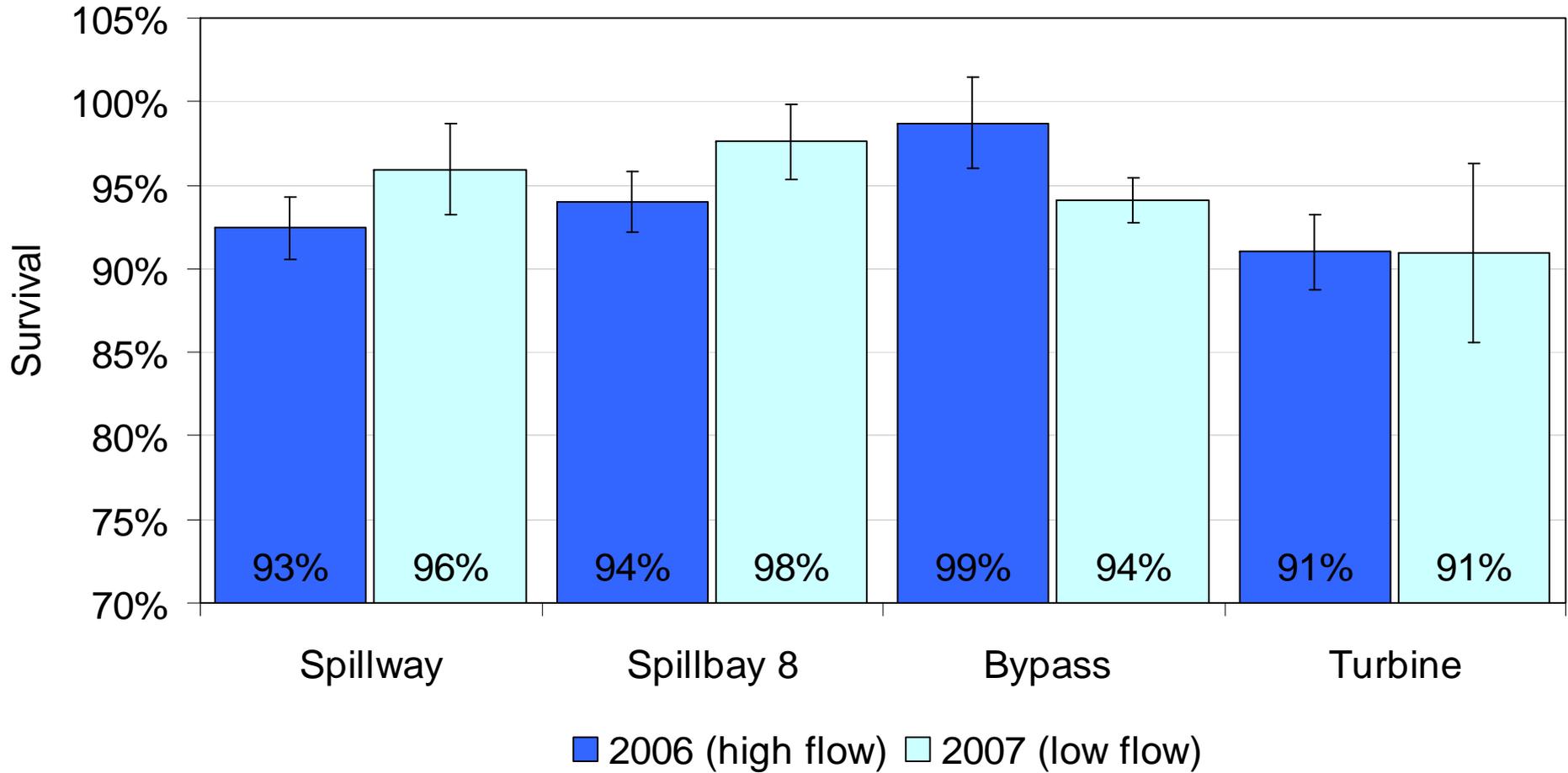
S/S Chinook: Lower Monumental InRiver Survivals @ 3 Flows, 2 Spills, 5 Julian Dates



Chinook Spill Passage Efficiency Lower Monumental



Lower Monumental



Effect of spill pattern

- A flat and bulk spill pattern will be tested during spring 2008 with the RSW and should provide inference on whether spill pattern influences TDG detectability on the LMN tailrace gauge

Conclusions

- Higher level of spill not likely to change overall survival at Lower Monumental
- A greater quantity of spill will distribute fish more broadly across the spillway for passage, reducing RSW efficiency
- Ice Harbor 2006-2007 results suggest that increased quantities of spill have not increased survival

Data Sources are: USGS
(2006,2007), NOAA Fisheries
(2003,20005,2006,2007)
Research Reports and
Preliminary Data Summaries