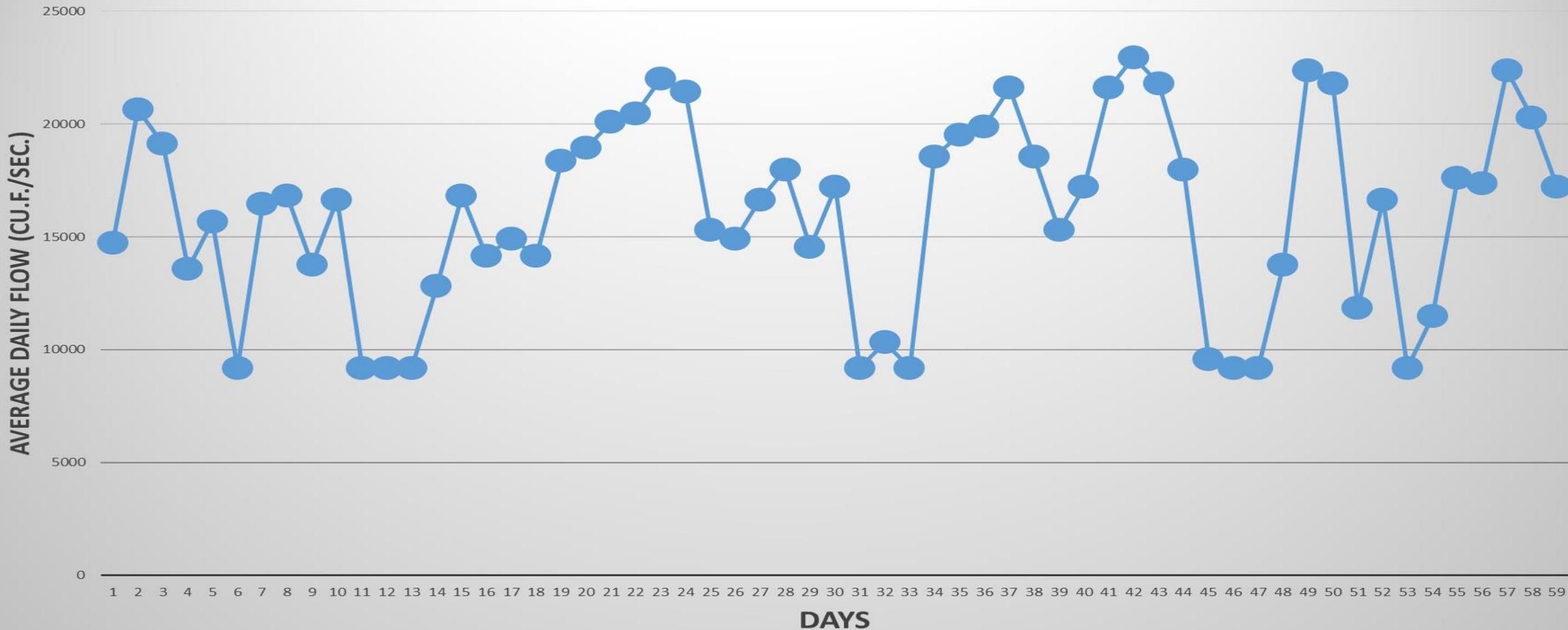


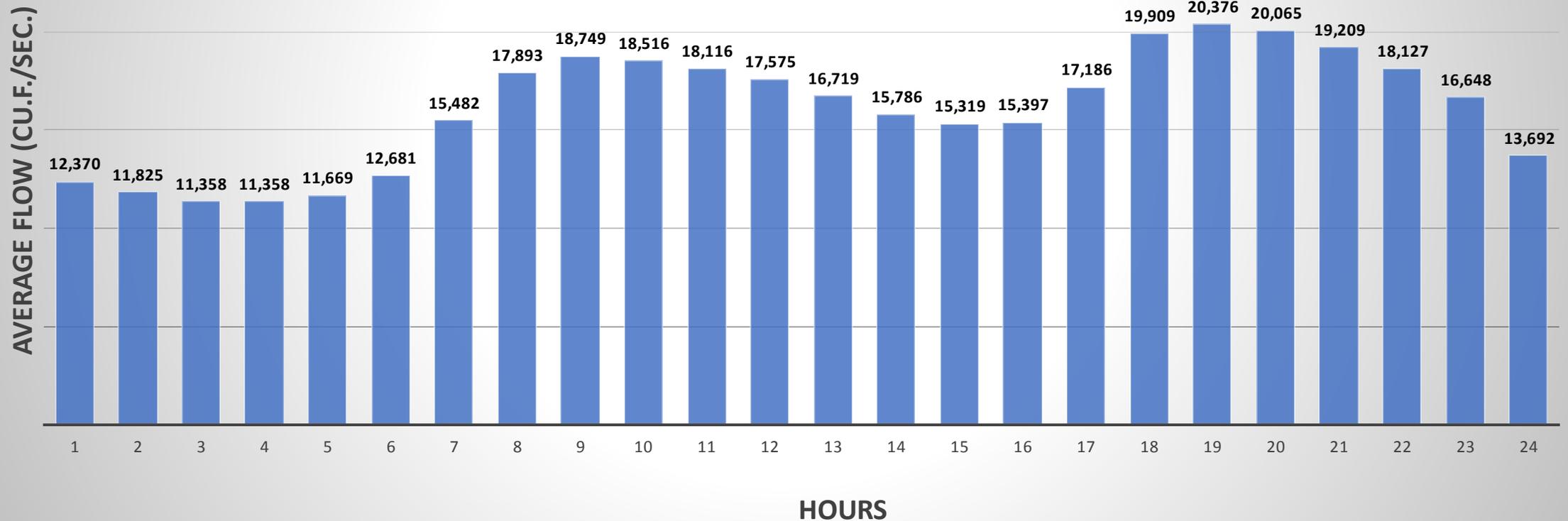
BETSIAMITES RIVER : MEAN DAILY WATER FLOW (CU.F./SEC.) - JANUARY, FEBRUARY 2014



**MEAN DAILY WATER FLOW VARIATION:  
TOTAL INCOMPATIBILITY WITH BASIC SALMON HABITAT REQUIREMENTS**

# BETSIAMITES RIVER: MEAN HOURLY WATER FLOW

## JANUARY, FEBRUARY 2014



A SALMON RIVER EXCLUSIVELY MANAGED FOR PEAK LOAD PRICING:  
SPRING FLOOD TO WINTER LOW FLOW CONDITIONS IN A SINGLE DAY

# BETSIAMITES RIVER, WATER FLOW REGIME:

SALMON PRECARIOUS SURVIVAL CONDITIONS - JANUARY, FEBRUARY 2014

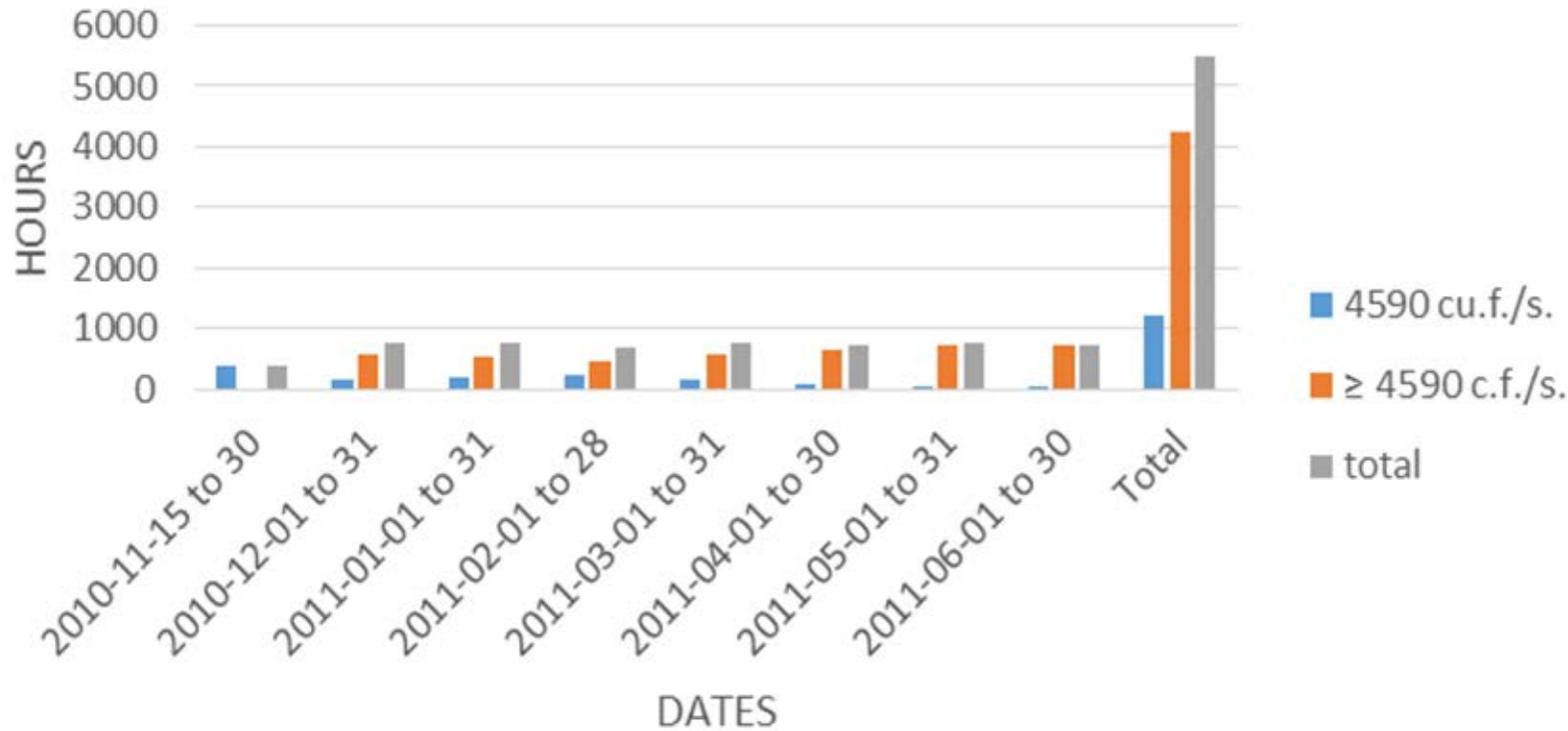
- ▶ River flow variation occurrences: 1 to 7 times / 24 hrs.
- ▶ Mean frequency of river flow variation: 4.03 times / 24 hrs.
- ▶ Five turbines and their related pre-established surging flow range:

- ▶ 4 590 cu. feet / sec
- ▶ 9 180 cu. feet/sec
- ▶ 13 770 cu. feet/sec
- ▶ 18 360 cu. feet/sec
- ▶ 22 950 cu. feet/sec



- ▶ Five different water levels varying from 1 to 7 times daily ( $\pm 5$  feet).
- ▶ Current velocity varying from 1 to 7 times daily.

Salmon Sensitive Life Stages : Spawning, Egg,  
Alevin, Fry (Nov. 15 to June 30)



Nov. 2010 to June  
2011: Occurrence of  
4,590 cu. feet/sec.

Water flow: 22% of  
salmon's most  
sensitive life period

AT 4,590 CU. FEET/SEC: 40% OF THE SPAWNING GROUNDS  
ARE DRIED UP



ACTIVE EROSION PROCESS ON RIVER BANKS CAUSED 5 FEET  
FLUCTUATION OF THE DRAWDOWN ZONE MANY TIMES DAILY



**DESTRUCTION OF THE RIVER SHORE ECOTONE:  
ACTIVE CLAY BANK SLUMPING INTO BETSIAMITES SALMON RIVER**



## CLOGGED SALMON SPAWNING GROUND

UNSTABLE CLAY CLIFFS CREATED BY 5 FEET FLUCTUATION OF THE  
DRAWDOWN ZONE MANY TIMES DAILY