





# Preliminary Quantities

Removal of Top Spill Bulkhead Prototype and portions of Tainter Gates	540 Tons
Tremie Concrete	4,000 CY
Precast Concrete Modules	700 CY
Concrete	16,000 CY
Pier Tail Steel	75 Tons
Excavation (Rock / Sediment)	75 CY

# Project Features

- Nominal full bypass flow of 27,000 cfs from 3 bays at 9,000 cfs each.
- On/Off operation in each bay using modified existing tainter gates.
- Length of 204.75 feet from upstream to downstream end of pier tails.
- Nominal exit chute width of 44 feet for each bay.
- Discharge flow elevated to minimize total dissolved gas (TDG) and tailrace scour.

# Priest Rapids Bypass Cost Estimate

<b>Item Description</b>	<b>Estimated Cost</b>
Bulkheads (forebay and tailrace)	\$5,160,000
Training Wall (Direct construction costs)	\$2,059,600
Ogees and Aprons (Direct construction costs)	\$11,988,500
Tainter Gate Modifications	\$227,000
Total Spillway Modifications (3 spill bays)	\$12,292,000
Mobilization, overhead, etc.)	\$8,000,000
Total	<b>\$27,375,000</b>

# Generation Benefits from the Priest Rapids Bypass

**Generation Difference with New Bypass  
456,480 MWh**

**Value of Increased Generation  
\$18,259,200**

**Conclusion - New Bypass would pay for  
itself in less than 2 years**



Construction to start Sept. 2011,  
completed April 2014.



Thank You

*and any Questions ??*



# FERC Fish Passage Workshop

Rocky Reach Project  
Public Utility District No. 1 of Chelan  
County  
Wenatchee, Washington



CHELAN COUNTY



**FERC**  
FEDERAL ENERGY REGULATORY COMMISSION

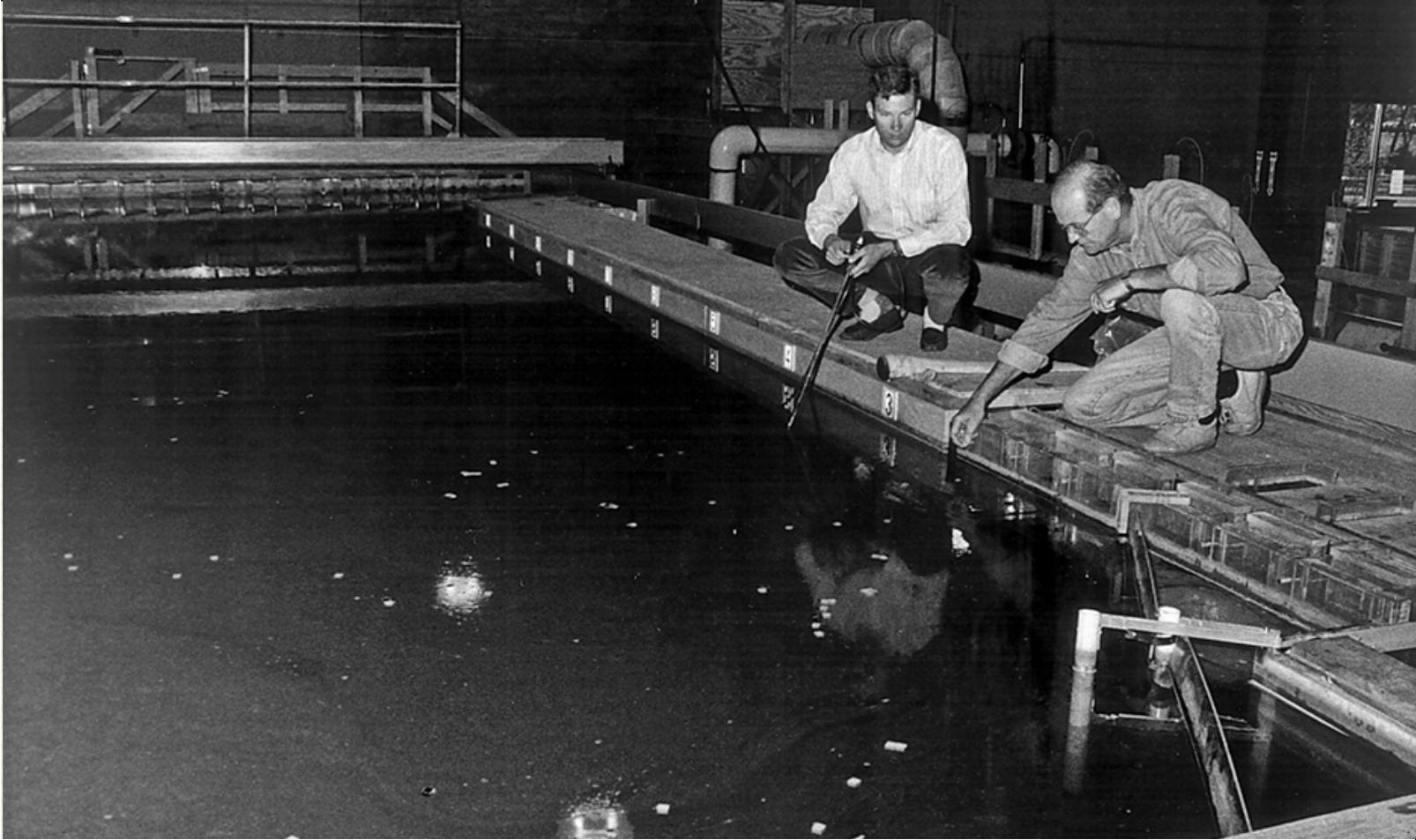
*September, 2011*



# Rocky Reach Project

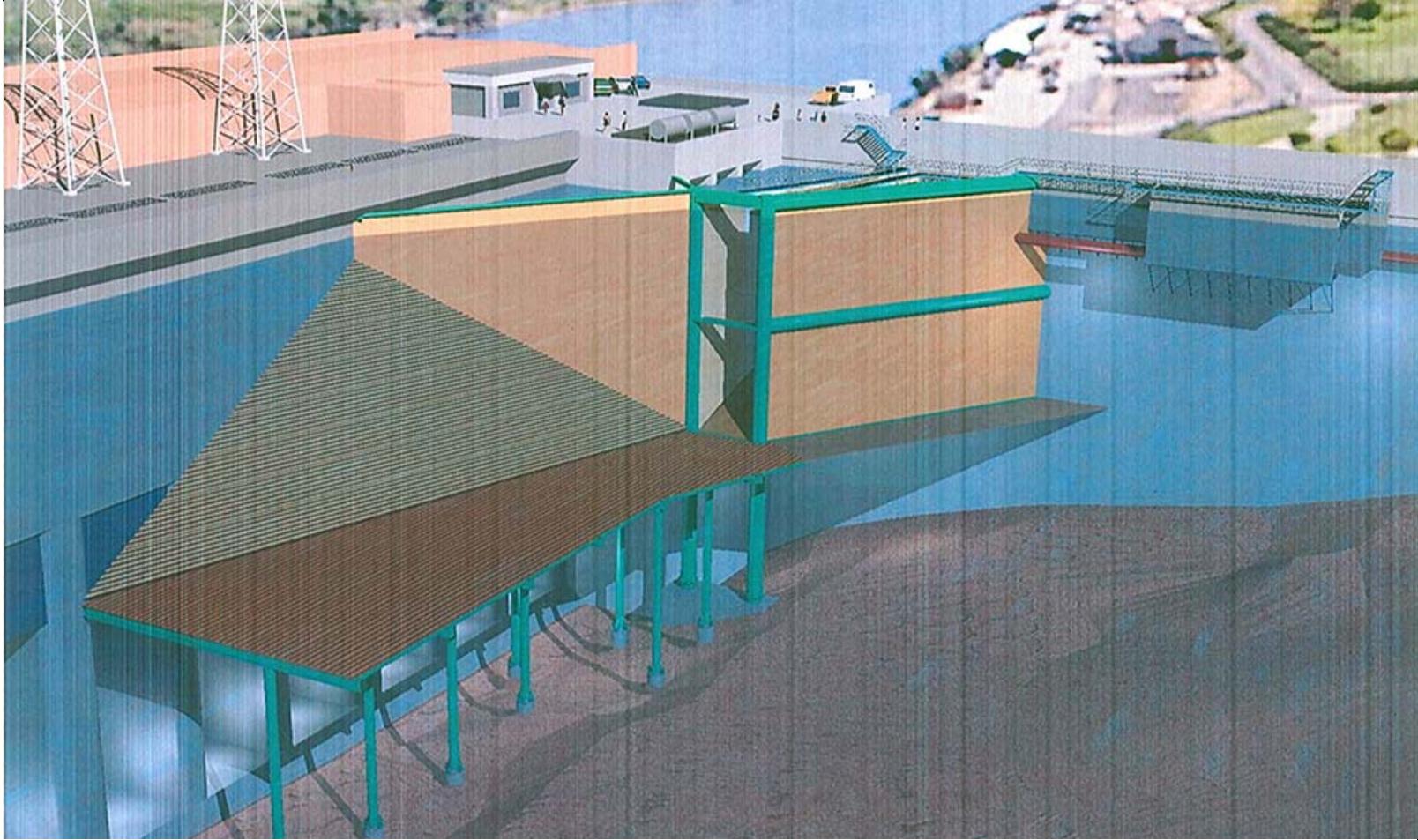


## Rocky Reach Forebay (1961)



## Rocky Reach Forebay

1:30 scale hydraulic model



## Single entrance

“Collector” concept



Two entrance

“Collector” concept

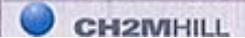
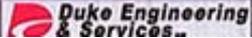


## Prototype collector in action



Chelan County Public Utility District  
Wenatchee, WA 98801  
(509) 663-8121 or 1 (888) 663-8121

**ROCKY REACH JUVENILE FISH BYPASS - 2003**  
VOLUME 4 of 19  
SECTION H - DRAWINGS  
SURFACE COLLECTOR - SCHEDULE A  
Bid No. 01-50



# Final design

“Permanent” surface collector configuration

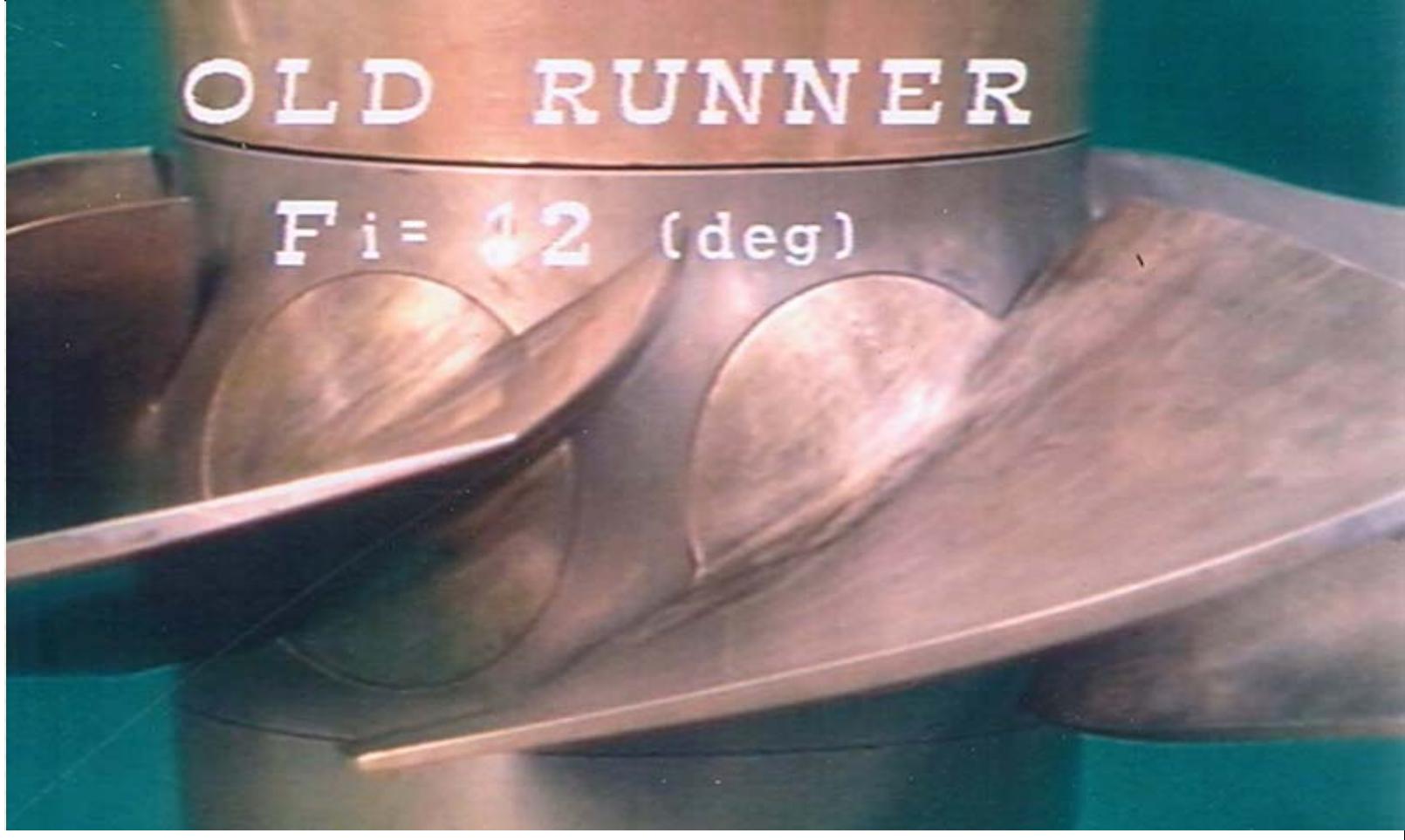


## Rocky Reach Project Tailrace



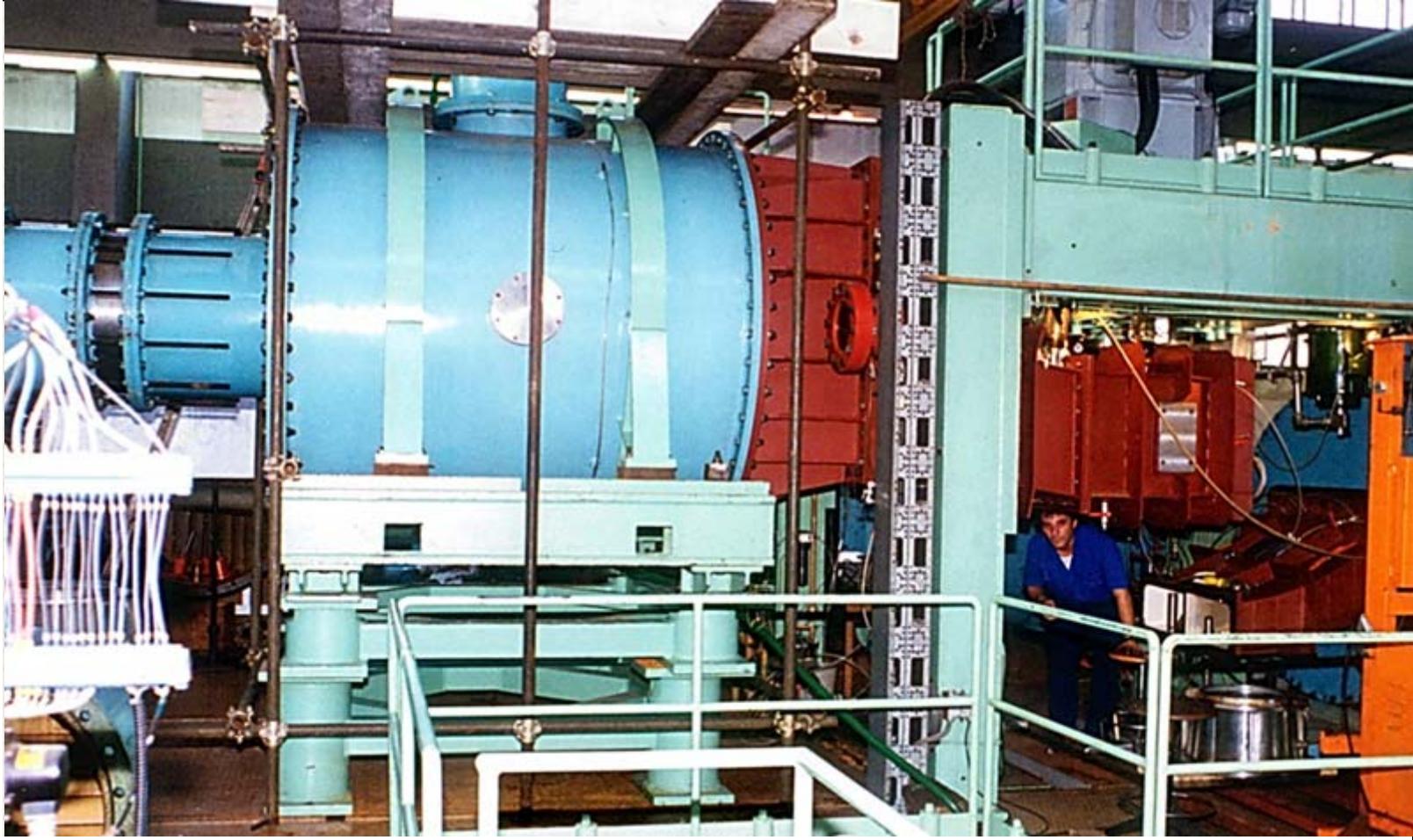
As constructed

Fish bypass outfall location

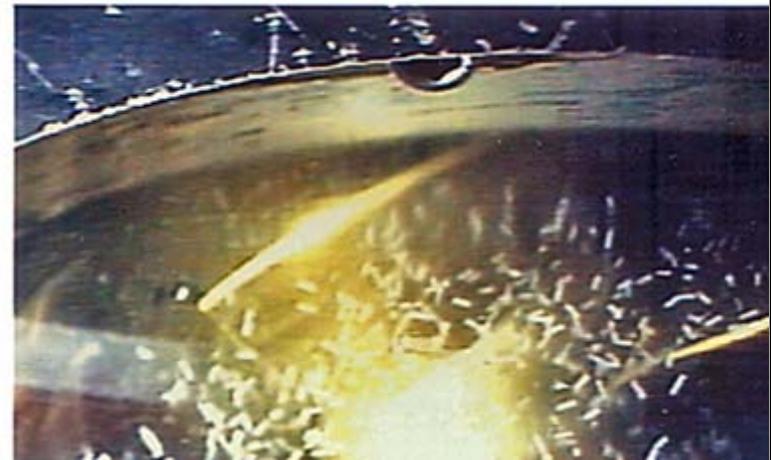
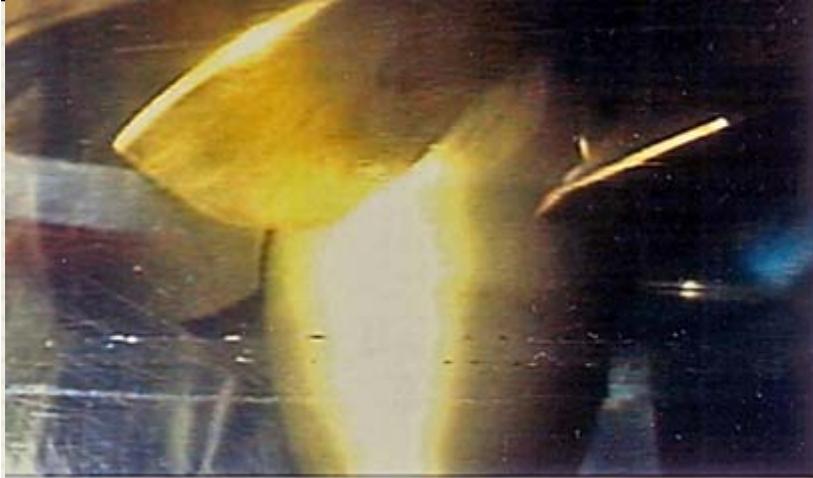


## Rocky Reach original turbine

(Model scale)

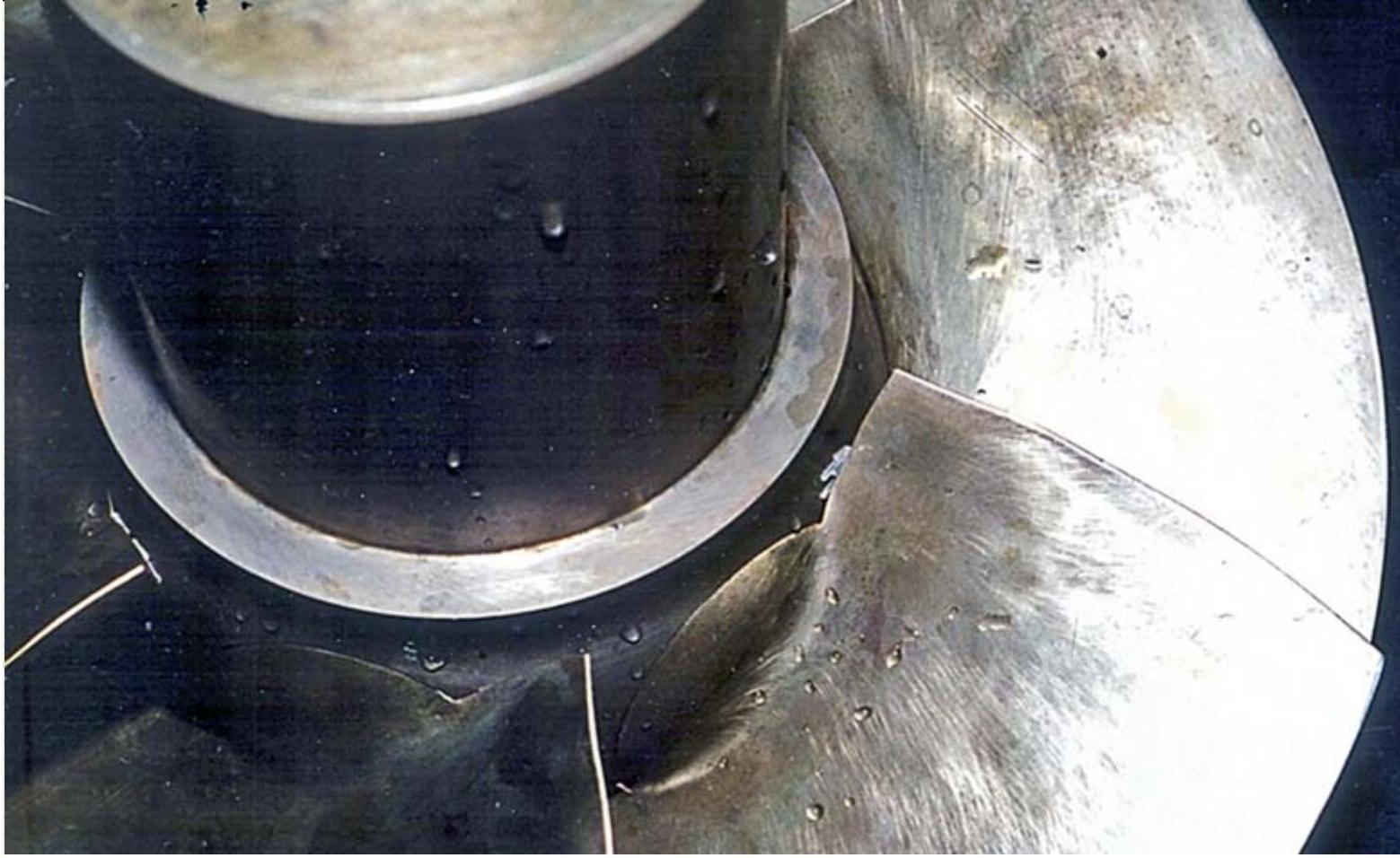


## Turbine model test machinery

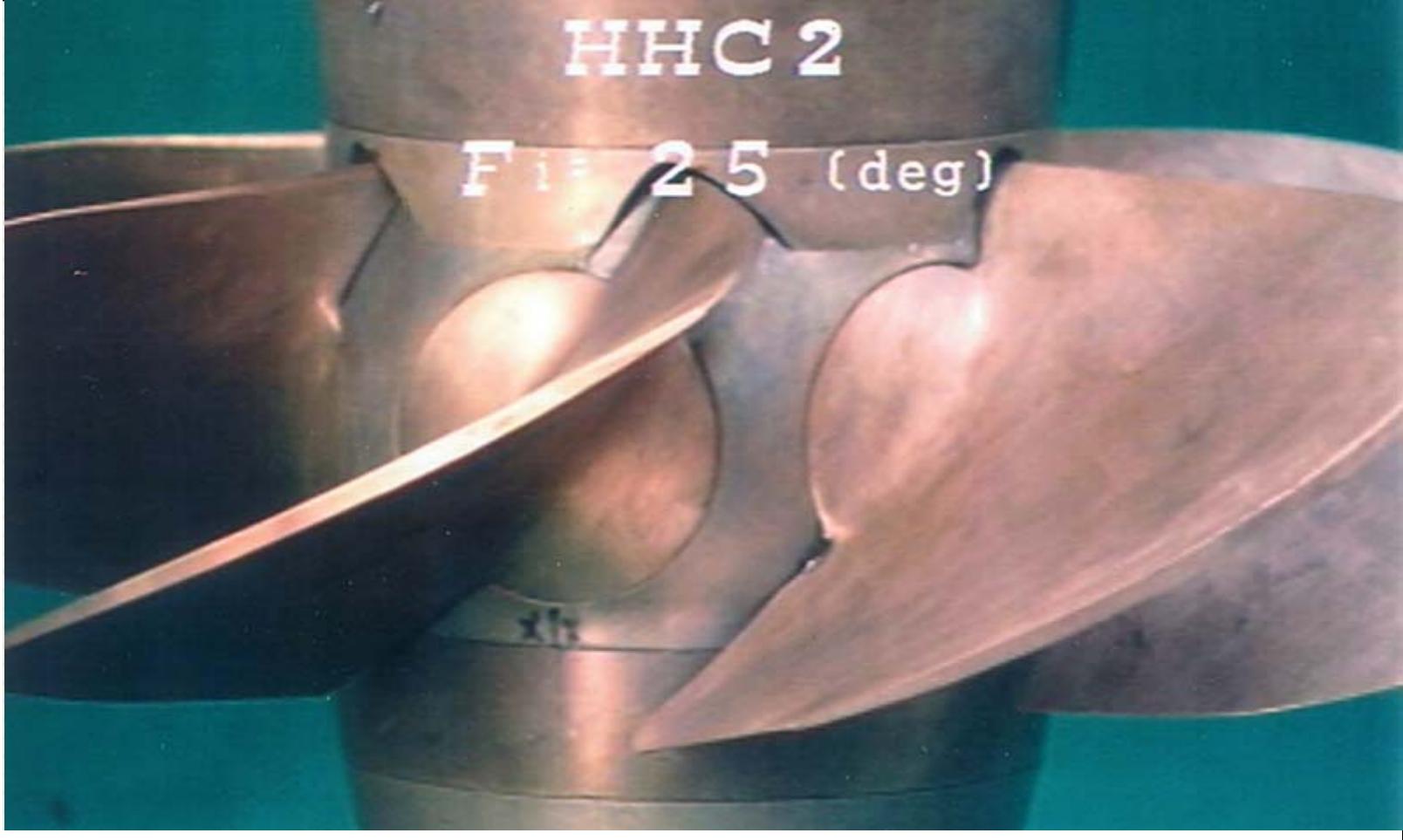


## Rocky Reach “original turbine”

View in test stand with simulated fish release

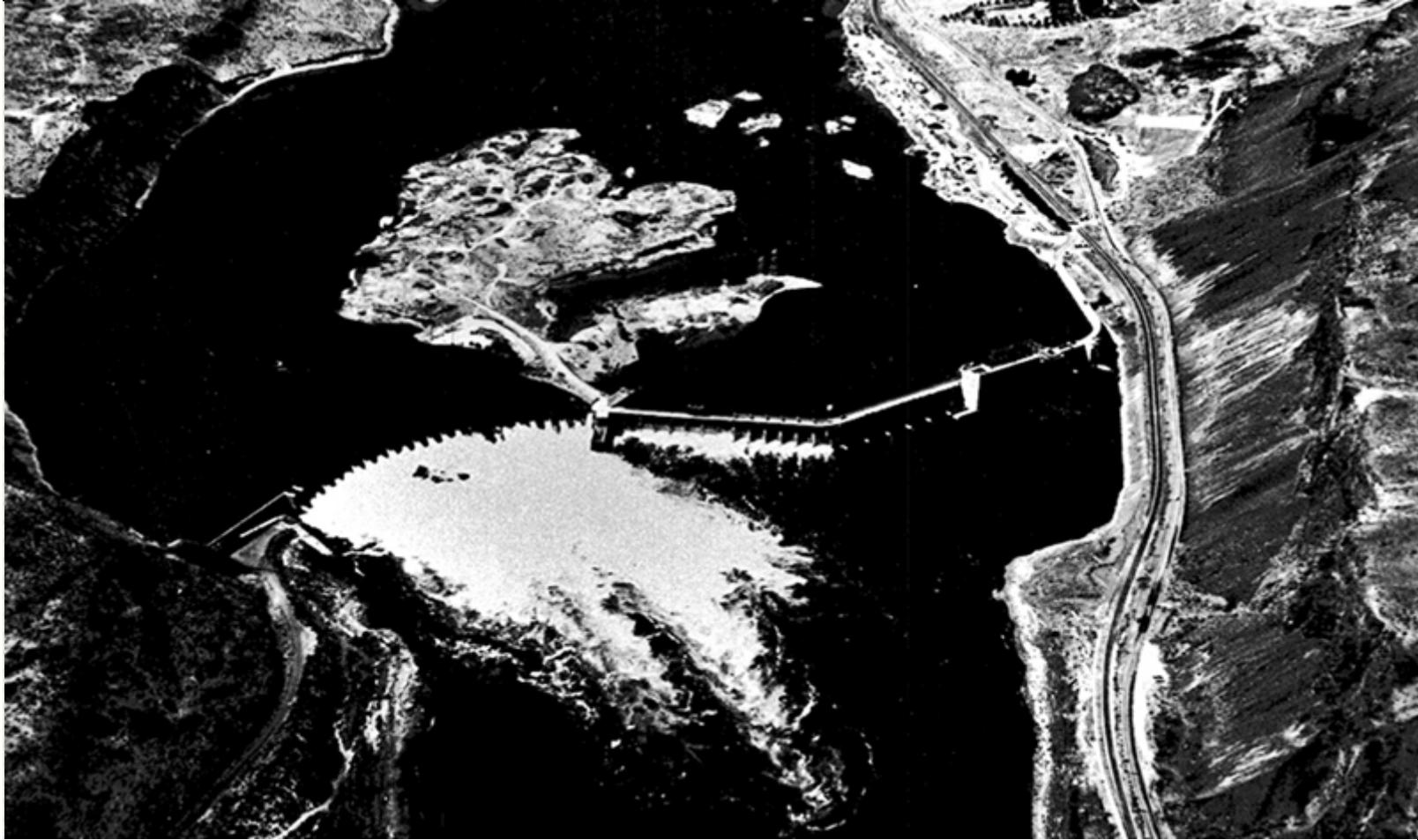


Simulated fish trapped within turbine leading haps



## New turbine design

(Model scale)



## Rock Island Project

Pre-Powerhouse 2 overflow spillway



## Rock Island Spillway notched gate

(Gate Closed)