Quinault River
Automated Salmon Counter
Case Study – Quinault River Salmon Counter

AUTOMATED SYSTEM IN A REMOTE, RUGGED LOCATION

OBJECTIVE: Count adult sockeye salmon during upriver migration to Lake Quinault

Over 20 sites were reviewed to find optimal monitoring location

Unmanned location with no available power source

Fluctuating water levels
CONCEPT OF OPERATION

Split beam transducer on rotator mounted on adjustable track and trolley
Raises, lowers, and rotates to accommodate variable water level while maintaining proper aim
CONCEPT OF OPERATION

Custom fabricated aluminum track
Gravity mounted with cement pier blocks. Required no pile driving and minimal river bank disturbance
CONCEPT OF OPERATION

Transducer with Integrated Orientation Sensor

Dual-axis ROS PT25 rotator

BioSonics software integrates positional information and provides 100% accurate aiming
CONCEPT OF OPERATION – AUTONOMOUS POWER SYSTEM

Customized trailers each outfitted with deep cycle batteries and inverter charger
2 trailers rotated weekly provide 24/7 power
CONCEPT OF OPERATION – REMOTE OPERATION

Surface electronics housed in equipment trailer
DT-X echosounder & control computer with RAID data storage
Modem for wireless communication
CONCEPT OF OPERATION – AUTOMATION

Automatic data processing
Fish count reports emailed daily
Managers receive real time info
Minimal manpower and no physical sampling

Watchdog software monitors system parameters:

- Power
- Data storage capacity
- Aiming and water level
**Case Study – Quinault River Salmon Counter**

**BIOSONICS UNIQUE ADVANTAGEs**

- Experience with tidal energy projects and other remote, rugged environments
- Proven, scientifically defensible results
- True 3-D tracking capabilities
- Unique software for classification and automated pre-processing

Comprehensive solutions can include:

- System design
- Installation
- Data processing
- Analysis & reporting
BioSonics is...

A consulting, engineering and manufacturing firm with over 30 years experience.

Specialized in the application of hydroacoustic technology for monitoring and assessment of aquatic biological resources.

A turnkey solutions provider of sonar systems and services including study design, installation, data processing, and reporting.

Relied upon by resource managers, researchers, regulatory agencies, and power producers worldwide.

Please contact us for more information

Tel:  (206) 782 2211
Email:  info@biosonicsinc.com