



# SUSITNA-WATANA HYDRO

*Clean, reliable energy for the next 100 years.*

[Susitna-WatanaHydro.org](http://Susitna-WatanaHydro.org)



House and Senate Transportation Committees  
Sara Fisher-Goad, executive director  
January 22, 2015

# 2014 Licensing Milestones

- Initial Study Report (ISR) Filed with FERC
  - More than 8,000 pages
  - 2013 results for 51 studies
- 32 Technical Memorandums on 2014 Environmental Study Results Filed with FERC
- Data collection completed on 13 FERC-approved studies
- Report to the Legislature made available January 20, 2015

# 2014 Environmental Program

## **Safe and Effective Field Season**

- More than 200 in the field, with one OSHA-recordable incident

## **Increasing Understanding of Susitna Basin**

- Advancing the state of science for agencies to better manage resources (fish, wildlife, birds)
- Publicly-available data and imagery
- Multi-agency collaboration



# 2014 Environmental Program

Advancing the State of Science for agencies to better manage resources:

- Wildlife, recreation, subsistence surveys
- Documented distribution of invasive Northern Pike in the Lower Susitna River
- Contributed more than 4,500 tissue samples to the ADF&G Gene Conservation Lab
- Expanded distribution data for Chinook salmon and Lake and Rainbow Trout

Partnerships to maximize value of state investments, especially in fisheries research

# 2014 Environmental Program

## Data collection and trends similar to 1980s

- Fish distribution
- Chinook salmon only documented anadromous fish above Devils Canyon
- Water chemistry and seasonal changes in chemistry
- Geomorphically stable river system
- Magnitude of bird migration and breeding distribution

## Defining potential areas of impacts

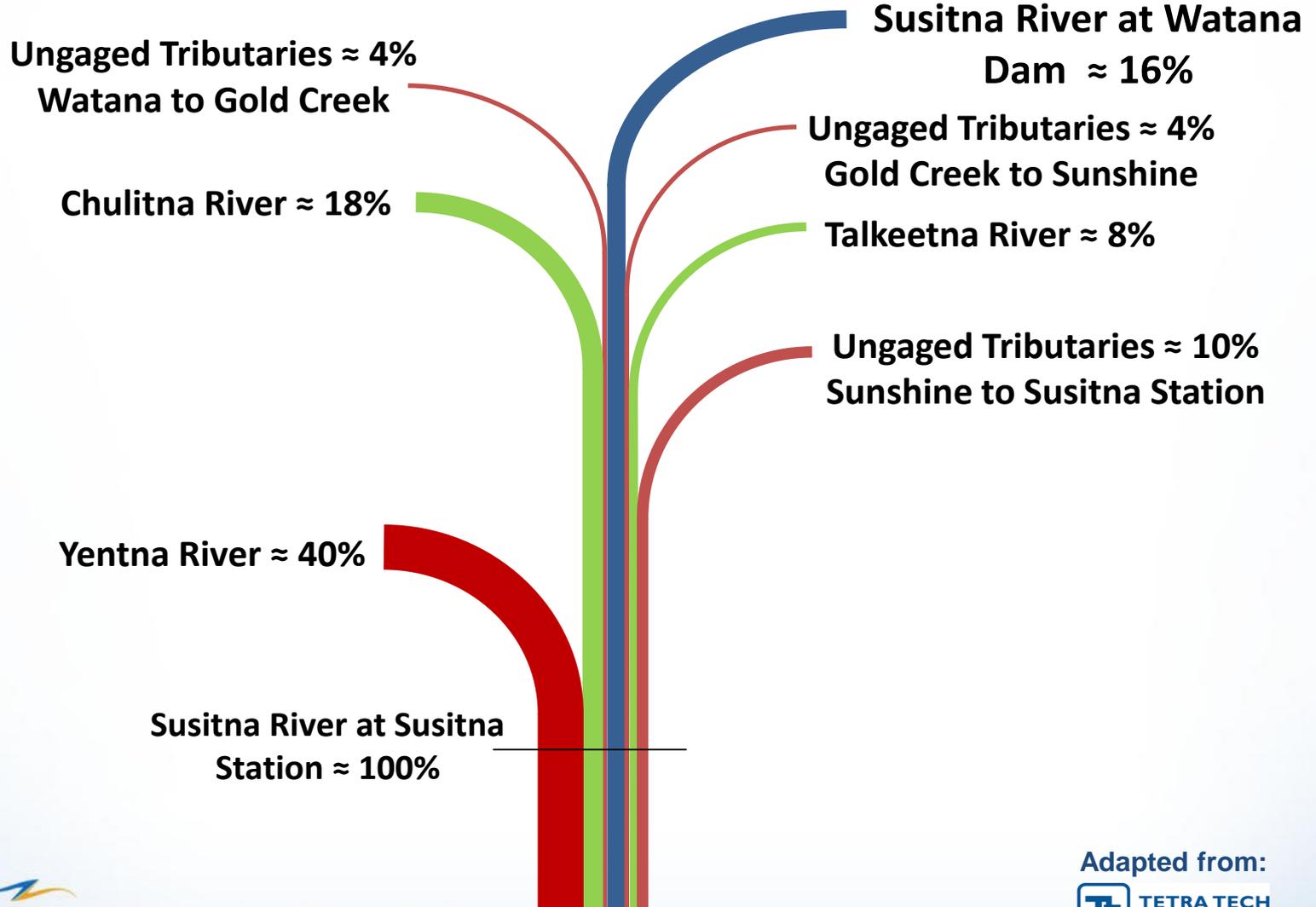
- Insignificant water quality or geomorphic impacts below Yentna River Confluence- No further modeling proposed
- Minor impacts on main channel geomorphology in Middle River-Dam site to Chulitna River



# The Susitna River is a Stable System



# Average Annual Flow Contributions



# Chinook Salmon and Devils Canyon

## Tagged Chinook Salmon and Devils Canyon

Only one salmon species has been documented within 30 miles of the project site.

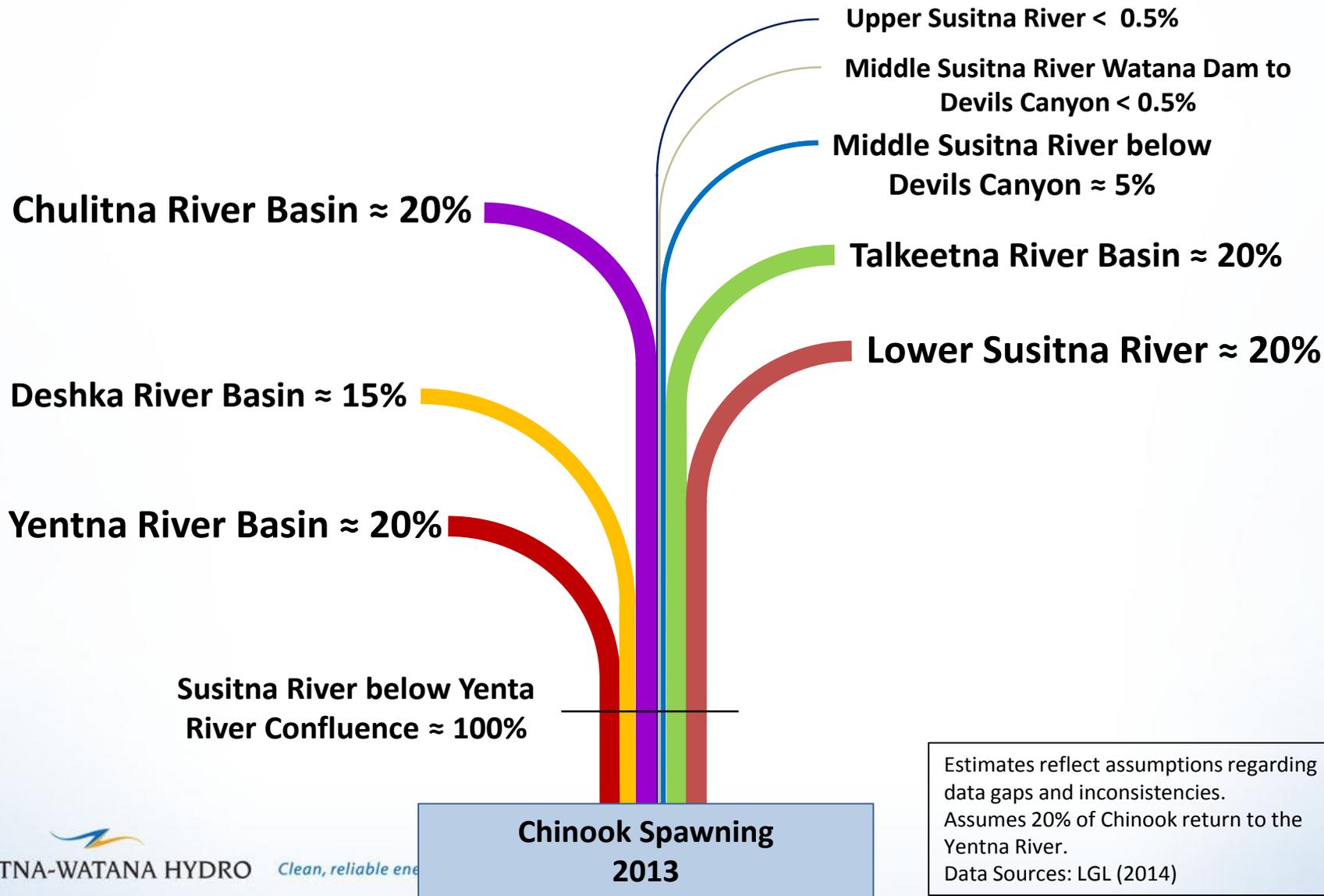


# Salmon, Tributaries and Devils Canyon

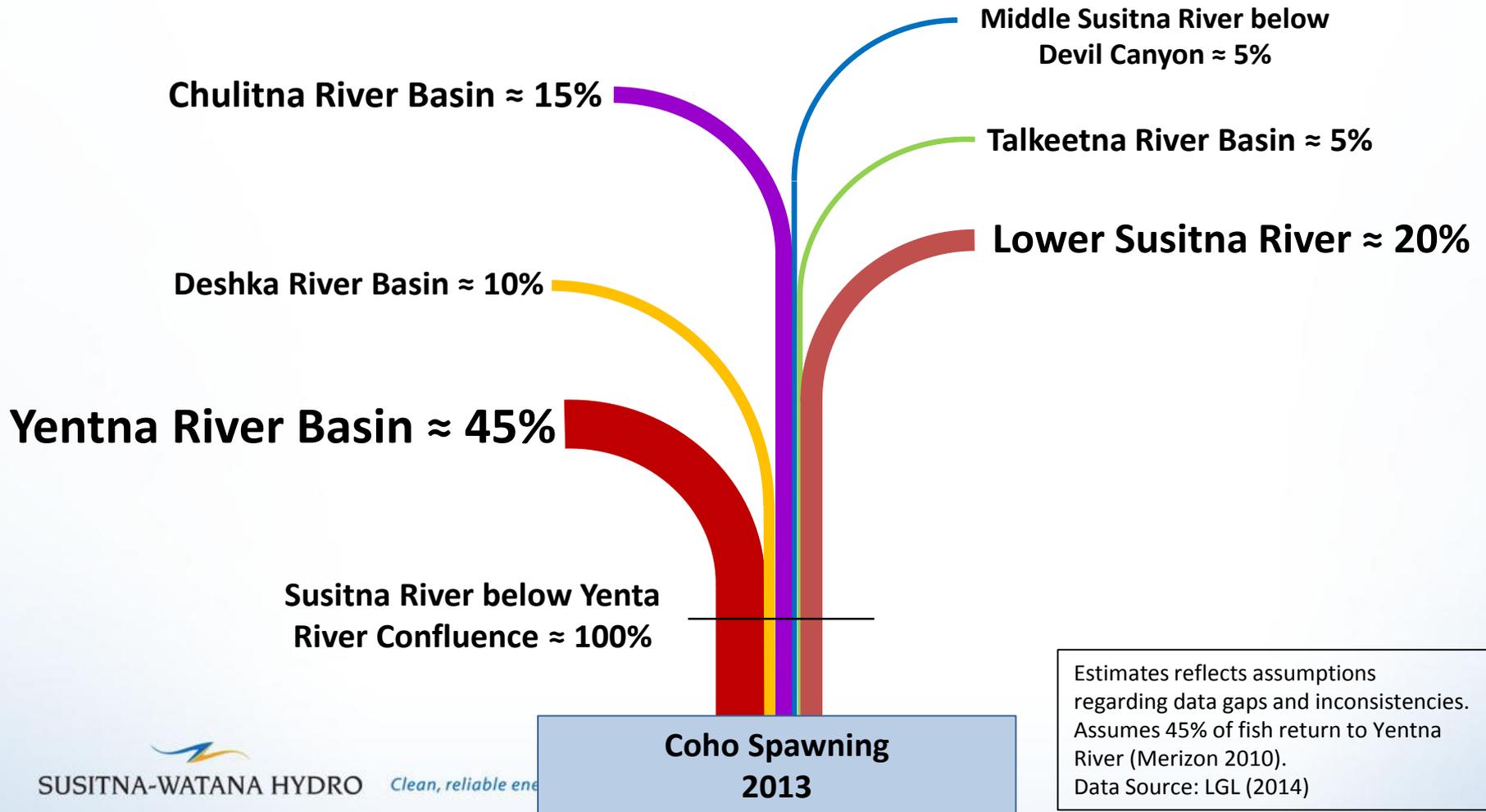
- Salmon spawn in tributaries and off-channel habitats
- Chinook Salmon only anadromous fish documented above Devils Canyon
  - Less than 0.5% total Susitna River Chinook escapement
- 97-99% of Chinook tagged in Lower River spawned in tributaries
  - 0.6 to 2.7% spawn in mainstem Susitna River, below Three Rivers Confluence
- 93-97% of Coho tagged in Lower River spawned in tributaries
  - 2.8 to 6% spawn in mainstem Susitna River below Three Rivers Confluence



# 2013 Chinook Salmon Spawning Contributions by Basin



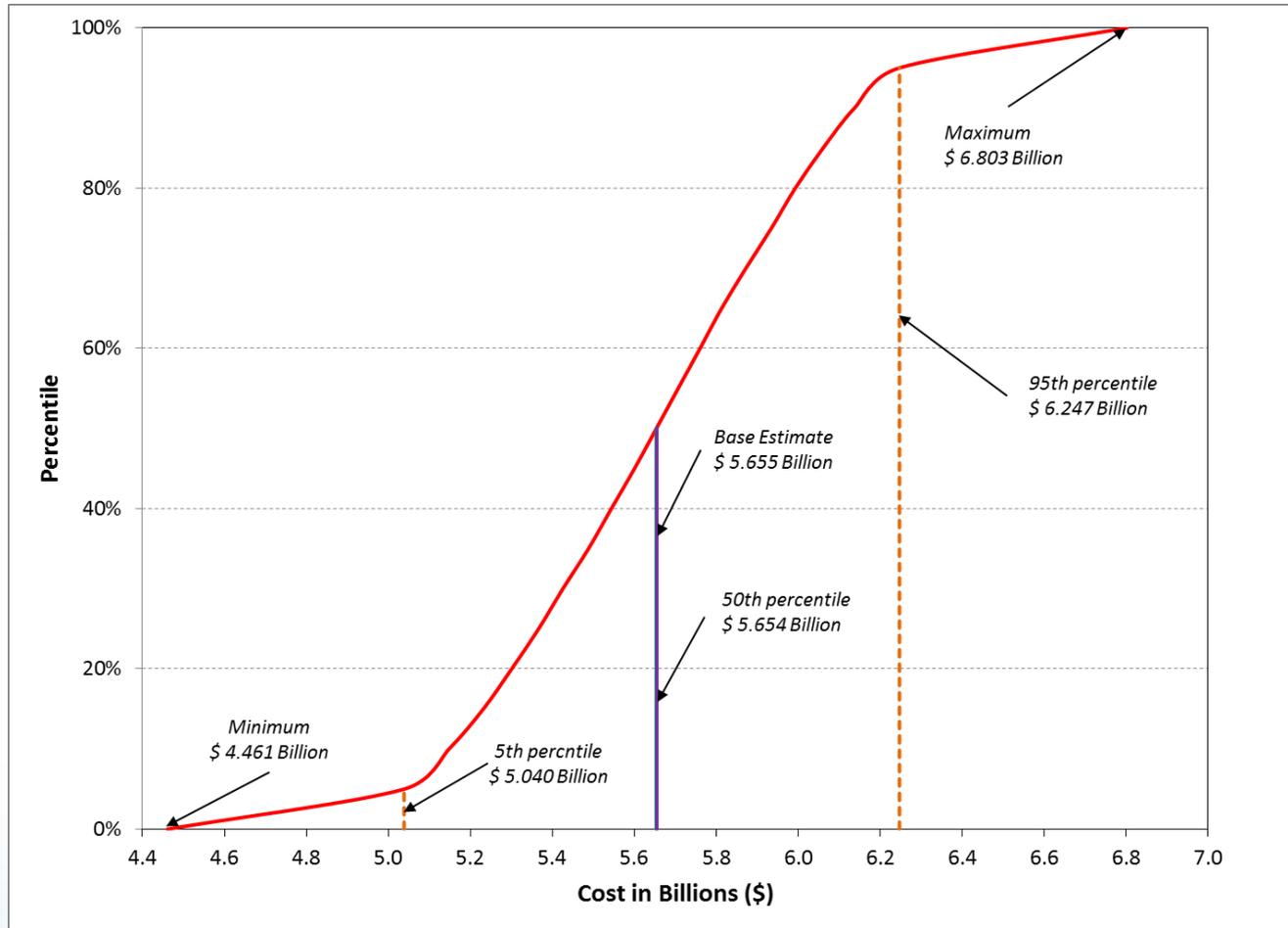
# 2013 Coho Salmon Spawning Contributions by Basin



# 2014 Engineering Accomplishments

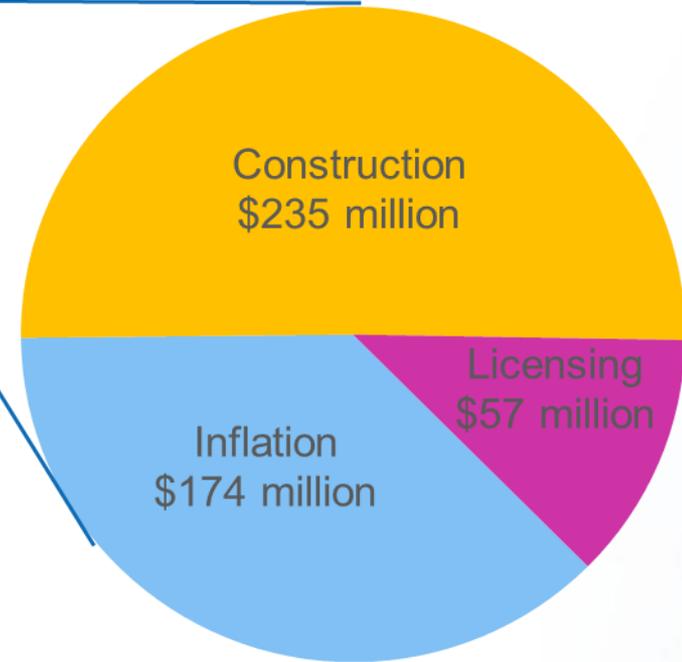
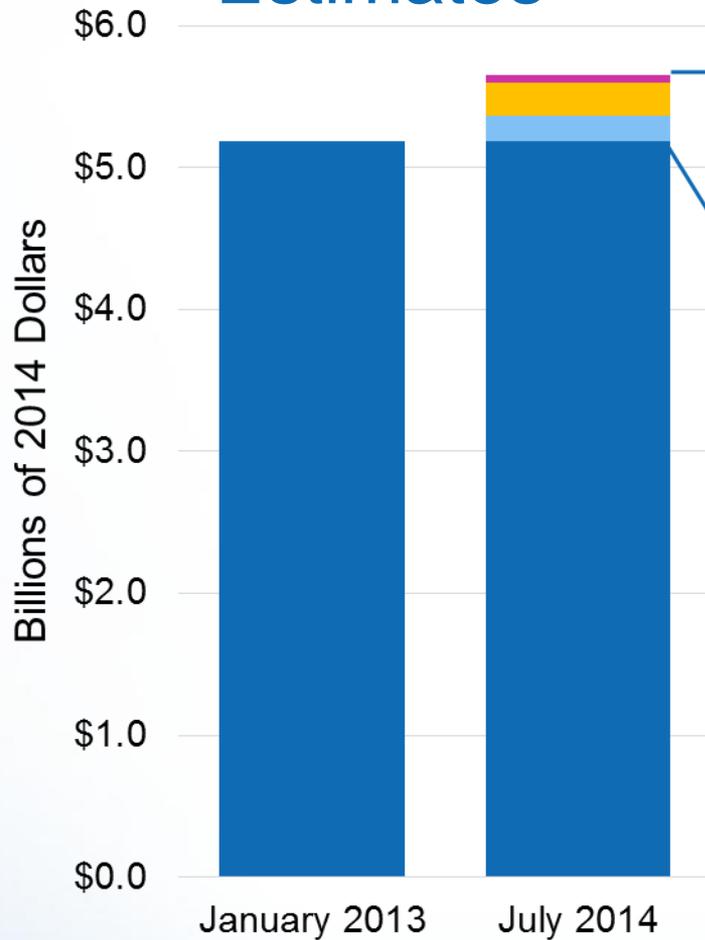
- Board of Consultants Endorsed Roller Compacted Concrete and Dam Configuration
- 2014 drilling confirmed no active faults found at dam site
- Mean Annual Energy - 2,800 Gigawatt Hours
- Engineering Feasibility Report - January 2015

# Project Cost Range



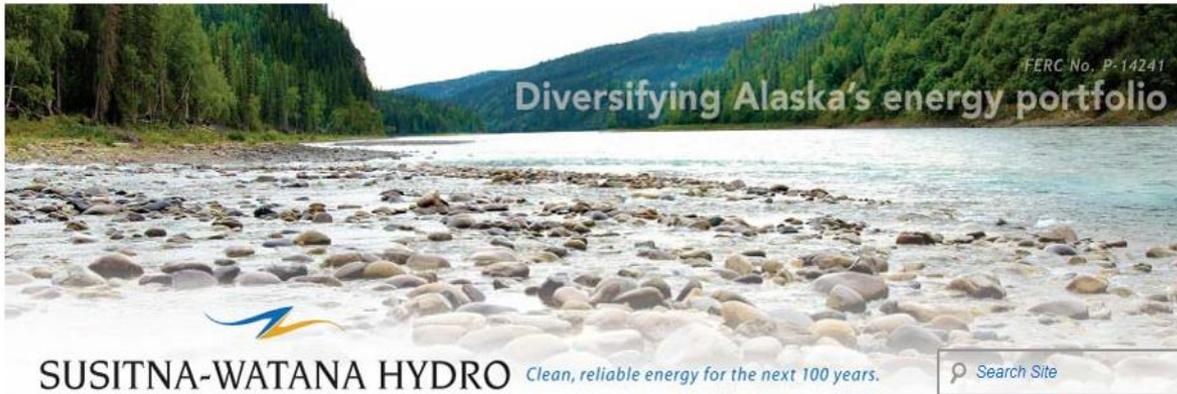
# Comparing Cost Estimates

# Components of Cost Update



# Comparing 3 Finance Options

- **Bond & RUS Financing**
  - AEA Revenue Bonds (30 years, 5% interest, refinanced)
  - RUS financing remainder of construction (35 years, 4% interest)
  - \$0.074/kWh 50 year average real price
- **All Bond Financing**
  - All construction financed with AEA Revenue Bonds (30 years, 5% interest, refinanced)
  - \$0.083/kWh 50 year average real price
- **State Loan & RUS**
  - State loans (30 year repayment beginning after RUS is paid off, 0% interest)
  - RUS financing remainder of construction (35 years, 4% interest)
  - Similar to Bradley Lake model
  - \$0.041/kWh 50 year average real price



Home | Project | Study Plan | FAQ | Documents | Meetings | News | Contact | Why Hydro?



### Project Highlights

**Location:** River mile 184, above Devils Canyon

**Size:** 750-foot high dam

**Reservoir:** 41-miles long, 2-miles wide (at widest)

**Estimated Supply:** Nearly 50 percent of Railbelt electrical demand

**Installed Capacity:** 600 MW

**Annual Energy:** 2,800,000 MWh

**Licensing:** Federal Energy Regulatory

# Susitna-WatanaHydro.org

