

SUSITNA HYDROELECTRIC PROJECT

PROJECT SUMMARY

House Energy Committee

March 11th, 2010

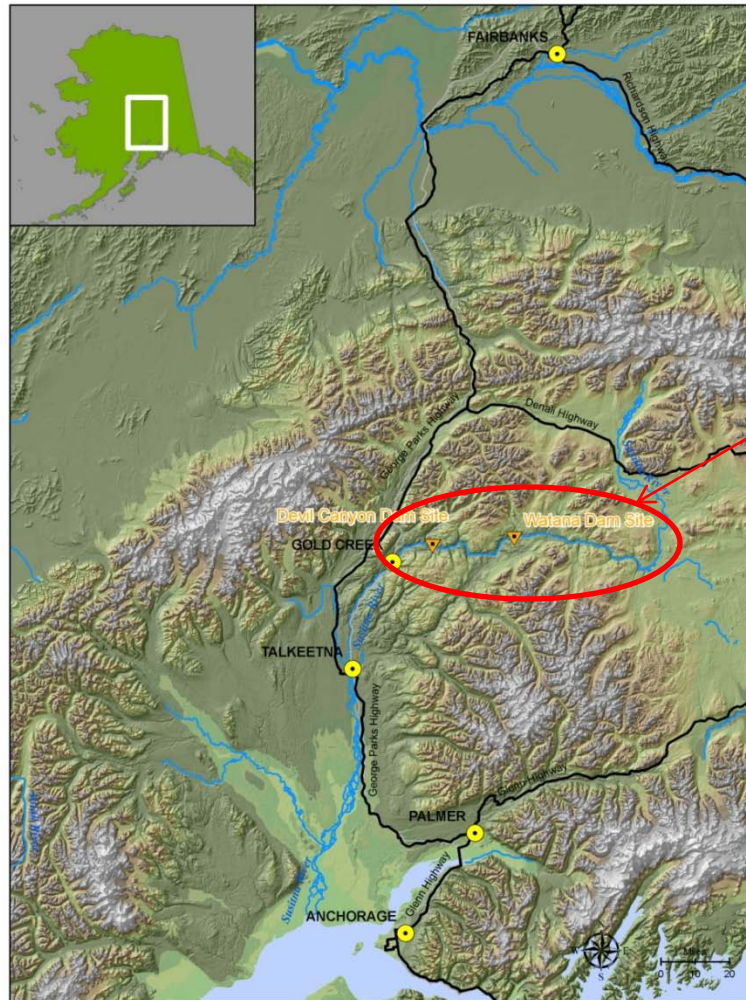


MAJOR POWER GENERATION PROJECTS RECOMMENDED BY THE RAILBELT INTEGRATED RESOURCE PLAN (RIRP)

- ✗ DSM/EE Programs (2011)
- ✗ Nikiski Wind (2011)
- ✗ HCCP (2011)
- ✗ Fire Island Wind (2012)
- ✗ Southcentral Power Plant (2013)
- ✗ Glacier Fork Hydro (2014)
- ✗ Anchorage and GVEA MSW (2015/2017)
- ✗ GVEA North Pole GT Addition(2018)
- ✗ Mt. Spurr Geothermal (2020)
- ✗ **Parallel pursuit of Chakachamna/Susitna/Glacier Fork**
- ✗ Multiple transmission projects

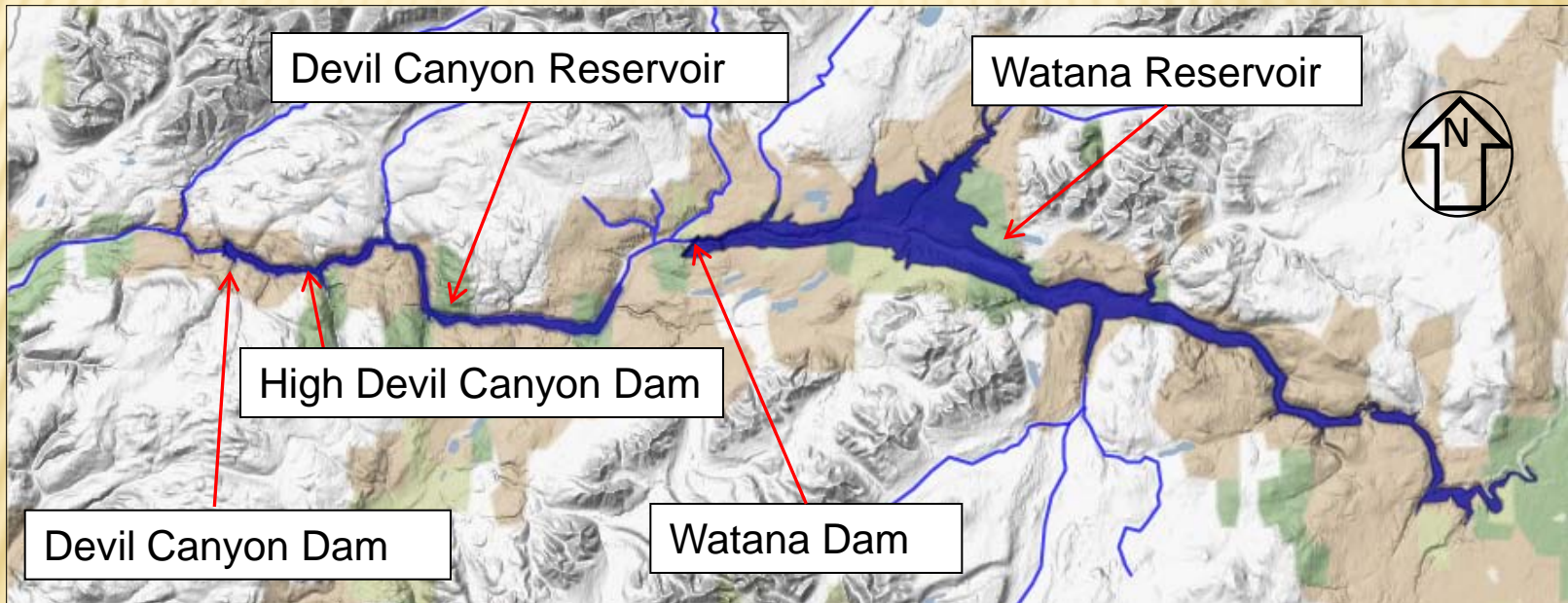


SUSITNA PROJECT LOCATION



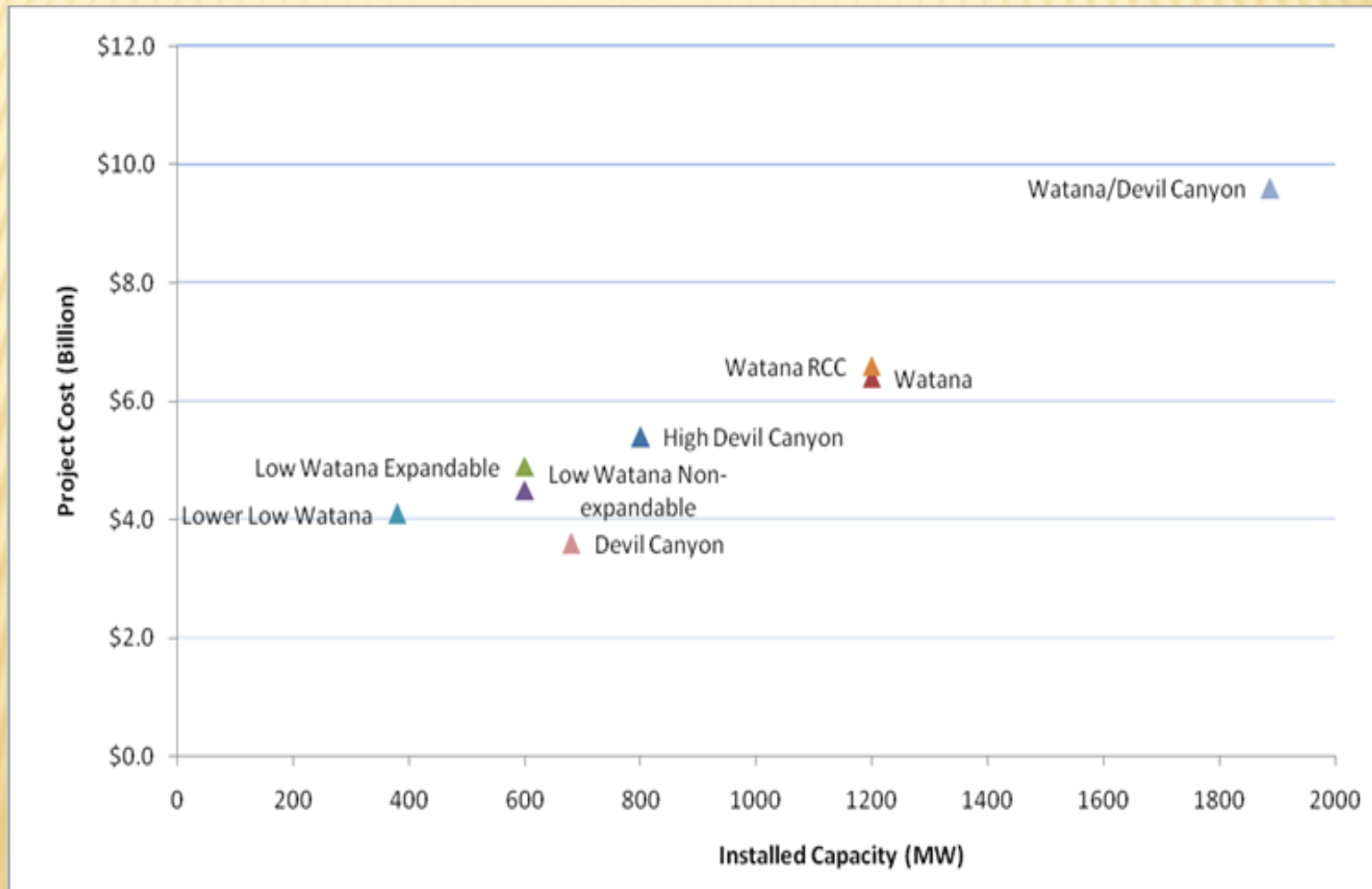
Susitna Hydro
project area

Potential Project Sites



RIRP Project Susitna Evaluation

- Identify a range of single dam alternatives
 - Estimate energy & cost

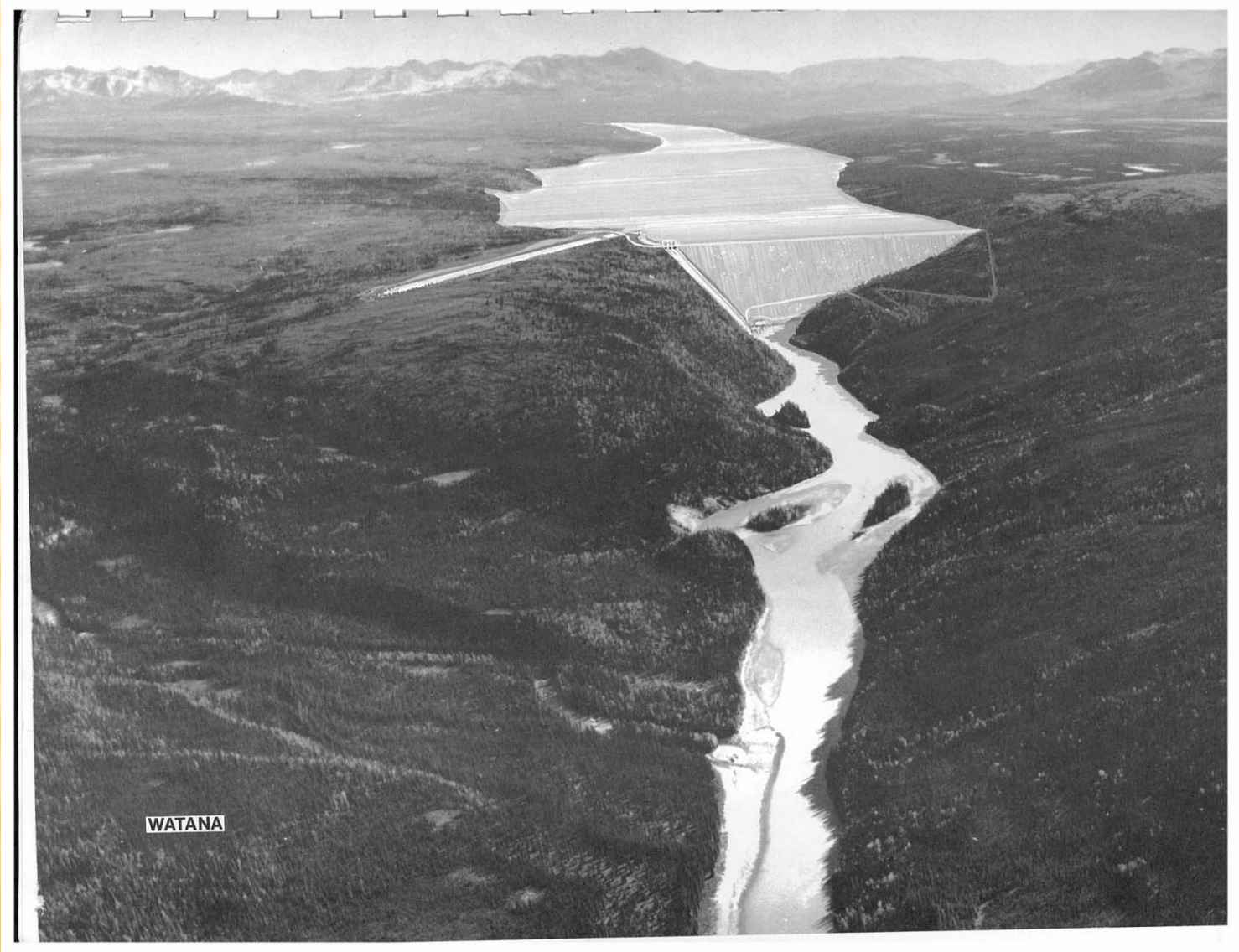


Study Results

Alternative	Dam Type	Ultimate Capacity (MW)	Construction Cost (\$ Billion)	Energy GWh/yr	Schedule (years from start of Licensing)
Lower Low Watana	Rockfill	380	\$4.1	2,100	13-14
Low Watana Non-expandable	Rockfill	600	\$4.5	2,600	14-15
Low Watana Expandable	Rockfill	600	\$4.9	2,600	14-15
Watana	Rockfill	1,200	\$6.4	3,600	15-16
Watana RCC	RCC	1,200	\$6.6	3,600	14-15
Devil Canyon	Concrete Arch	680	\$3.6	2,700	14-15
High Devil Canyon	RCC	800	\$5.4	3,900	13-14
Watana/Devil Canyon	Rockfill/Concrete Arch	1,880	\$9.6	7,200	15 - 20
Staged Watana/Devil Canyon	Rockfill/Concrete Arch	1,880	\$10.0	7,200	15 - 24

Option selected by RIRP model

ROCK-FILLED EMBANKMENT DAMS



FOCUSED QUESTIONS

- ❖ Project Timeline – 15 years from start of licensing
- ❖ Total Cost of Project – \$4.9 B
- ❖ Project Cost includes Transmission to Grid
- ❖ Cost of Power to Consumers
 - ❖ Levelized cost of power for 100 years (2010 dollars) - \$0.15/kwh
- ❖ Amount of Power Supplied to Railbelt - 2600 Gwh/year
- ❖ Likelihood of Completion – High, majority of technical and environmental issues resolved in 1980's
- ❖ Licensing Roadblocks – Next step for project is to engage stakeholders to explore project issues and concerns.

CONCLUSIONS

- Of the renewable resources in the railbelt region, the Susitna project is the most studied and best understood.
- Project is considered to be technically feasible.
- Project has potential to expand to meet future loads.
- Large hydro provides dispatchable energy and stabilizes the grid.
- Environmental and seismic risk is considered manageable.
- Long term stable cost of power.