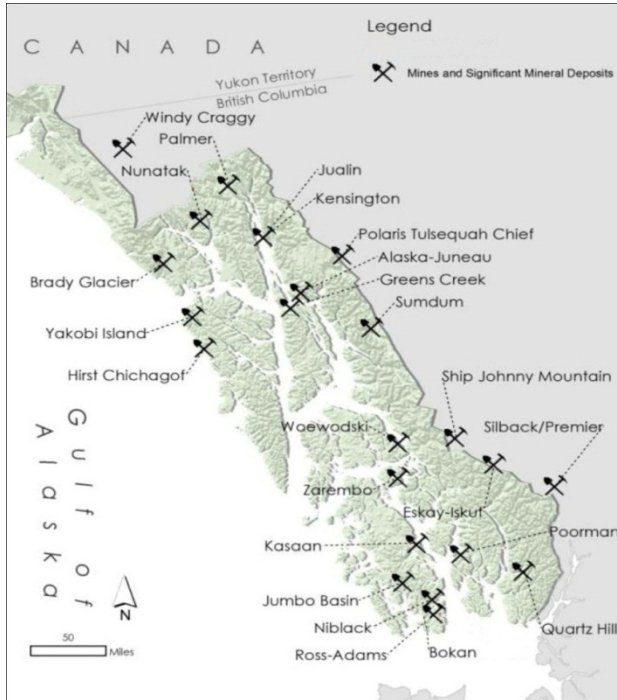


## Natural Resources and Mining



Source: Alaska Department Natural Resources Division of Geological & Geophysical Surveys.

The city of Juneau was originally founded on gold mining in 1880, and Southeast Alaska continues to be one of the most mineral rich areas of North America. The Juneau gold belt stretches from Windham to Berners Bay, approximately 90 miles across the heart of the Alaska panhandle. The region's mineral deposits are large and diverse. They include gold, silver, lead, zinc, copper, molybdenum, platinum, limestone, marble, uranium and rare earth minerals. There are also substantial quantities of rock, sand and gravel for use in construction around the region. With the 2010 opening of the Kensington Gold Mine in Juneau and the recent increases in the price of gold and other metals, the Southeast mining industry has been booming. In 2011, there were 647 mining

jobs in Southeast Alaska on a payroll of nearly \$60 million. This represents a 17% increase in employment from 2010, and a 57% increase from 2009, when there were just 413 mining jobs in the region. The Southeast mining industry is expected to grow in the future as ventures such as the Niblack and Bokan projects continue to develop.

### Southeast Alaska Mining Employment, 2009 - 2011

Annual Average Employment 2011	647
Annual Average Employment 2010	536
Annual Average Employment 2009	413
Change in Employment 2009-2011	57%
Change in Employment 2010-2011	21%
Total Payroll 2011	\$59,570,418
Total Payroll 2010	\$50,965,783
Total Payroll 2009	\$37,980,160
Change in Wages 2009-2011	57%
Change in Wages 2009-2010	17%
Average Wage 2011	\$92,071

Source: Alaska Department of Labor and Workforce Development

In 2011, mining accounted for 1.8% of regional jobs, and 3.9% of regional wages. Mining jobs are known to have some of the best wages of any regional sector. In 2011, the average annual regional mining wage was \$92,048, which is about two and a half times the average private sector wage.

### ***Greens Creek Mine***

The Hecla Greens Creek Mine, Juneau's top private employer with 363 permanent year round employees is located on Admiralty Island near Juneau. Of the total, 236 (65%) are residents of Southeast. In 2011, Greens Creek produced 6.5 million ounces of silver, continuing the downward trend that began in 2000. However, the mine remains the second largest silver producer in North America and the sixth largest silver producer in the world. Greens Creek is a high-grade, silver-gold-zinc-lead enriched deposit. The primary mining methods used are cut-and-fill and long-hole stoping.

In the course of more than two decades of operation, Greens Creek has produced over 200 million ounces of silver, nearly 2 million ounces of gold, and almost 1.8 billion tons of zinc and lead combined. Over the years, Greens Creek has consistently replaced the ore mined and has kept a 9-10 year mine life ahead of it. The mine has identified approximately 100 million ounces of silver reserves.<sup>22</sup>

### ***Kensington Gold Mine***

After two decades of efforts, the Coeur Alaska owned Kensington Mine began producing gold in June of 2010 using long-hole open stoping and drift and fill mining. It is suspected that there is 1.5 million ounces of gold available in total and the company anticipates that the Kensington mine will be able to produce an average of 125,000 ounces of gold per year through its expected 10 year lifespan. In its first year of modern gold mining, Kensington only produced 43,143 ounces of gold, but in 2011, that number increased to 88,420. In 2011, the mine employed a total of about 248, of which 152 (61%) are residents of Southeast.

### ***Herbert Glacier Project***

Grande Portage Resources Ltd. announced in June 2012 that it began drilling exploration at the Herbert Glacier Gold project just 20 miles north of Juneau. Grand Portage and Quaterra Resources, Inc. have formed a 65%/35% joint venture for exploration and development of the property. Initial deposits are estimated at 245,145 ounces of gold. Grand Portage considers Herbert Glacier one of Alaska's "most promising districts"<sup>23</sup> in terms of its potential to become a mine. Gold was first identified at the Herbert Glacier site by miners in the 1880s, but the extensive ice cover discouraged investigation for 100 years, until 1986-1987. Exploration at that time showed promising results, but interest in it went dormant until Quattera Resources acquired the prospect in 2007.

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<sup>22</sup> [http://www.hecla-mining.com/operations/operations\\_greencreek\\_reservesresources.php](http://www.hecla-mining.com/operations/operations_greencreek_reservesresources.php)

<sup>23</sup> <http://www.grandportage.com/s/herbertglacier.asp>

### ***Bokan Mountain***

Another potential opportunity in mining comes from increasing interest in rare earth elements (REEs). Bokan Mountain, located on southern Prince of Wales Island, approximately 37 miles southwest of Ketchikan, is thought to hold about 3.8 million tons of ore containing rare earth elements. Rare earth elements are a group of 17 minerals that are highly valued due to their applications in modern technology and their unique energy properties. REEs, have become vital components in computer hard drives, cell phones, hybrid vehicles, and other clean energy technology. As the global demand for REEs grows, the worldwide supply is starting to dwindle. What makes the Bokan Mountain deposit special is the size of the deposit (it is the largest heavy rare earth deposit in the U.S.), coupled with the proximity to deep water, and the prior mining infrastructure and permitting. These traits increase accessibility and ease of transport, making it a prime location to resume ore extraction. Bokan Mountain deposits are currently being explored by UCore for rare earth elements such as dysprosium and they will be publishing their preliminary economic assessment, including a full business plan, by the end of 2012. They have started applying for permits already and mining production is predicted to start by the end of 2015 or early 2016. UCore is currently recruiting and training workers and estimates the operation will provide about 220 jobs. Bokan Mountain produced 1.3 million pounds of uranium between 1957 and 1971 and is the only uranium mine in Alaska.<sup>24</sup>

### ***Niblack Project***

The Niblack Project, a copper-zinc-gold-silver deposit also located on Prince of Wales Island 27 miles southwest of Ketchikan, is in advanced exploration stage. The Niblack site has a history of mining and exploration going back to the early 1900s. Approximately 25,000 tons of ore was mined between 1902 and 1908. Exploration resumed in 1974. Heatherdale Resources LTD has been conducting an “aggressive” active drilling exploration program since 2009 and reports excellent results, finding enough good quality copper, zinc, silver, and gold to have encouraged two resource base expansions. The latest expansion in November of 2011 puts the current resource indication at 5.6 million tons of high grade ore, with an additional 3.4 million tons of slightly lower grade ore. In July 2012, the company reaffirmed their intended construction to begin in the second half of 2015, but no mine permit applications have yet been filed as they are waiting on the results of a preliminary economic assessment being conducted this year. The ore likely will be milled at a nearby location to the mine site.<sup>25</sup>

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<sup>24</sup> <http://ucore.com/projects/bokan-mountain-alaska>

<sup>25</sup> Personal communication to JEDC by Heatherdale Resources LTD.

## Timber Industry

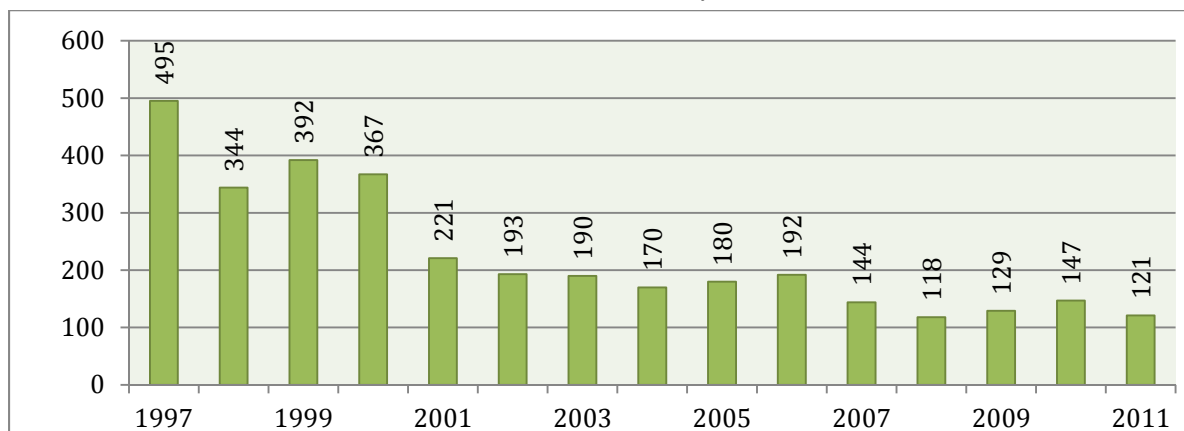
Employment in the timber industry has increased by about 50 jobs between 2010 and 2011. In 2011, the total Southeast Alaska timber harvest was 121 million board feet (mmbf). The harvest in the state for this same year was 180 mmbf.

### Timber Industry Employment and Wages Southeast Alaska, 2011

	Employment	Total Wages	Average Annual Wages
Forestry & Logging	212	\$10,820,232	\$51,079
Wood Products Manufacturing	50	\$1,387,248	\$36,806
Total	262	\$12,207,480	\$46,593

Source: Alaska Department of Labor and Workforce Development, Quarterly Census of Employment and Wages.

### Total Southeast Timber Harvest, 1997-2011 in MMBF



Source: Alaska Forest Association.