

# Trans-Alaska Pipeline System's 40th Anniversary

---

 [csis.org/analysis/energy-fact-opinion-trans-alaska-pipeline-systems-40th-anniversary](https://www.csis.org/analysis/energy-fact-opinion-trans-alaska-pipeline-systems-40th-anniversary)

Newsletter

Share

Energy Fact & Opinion

June 19, 2017

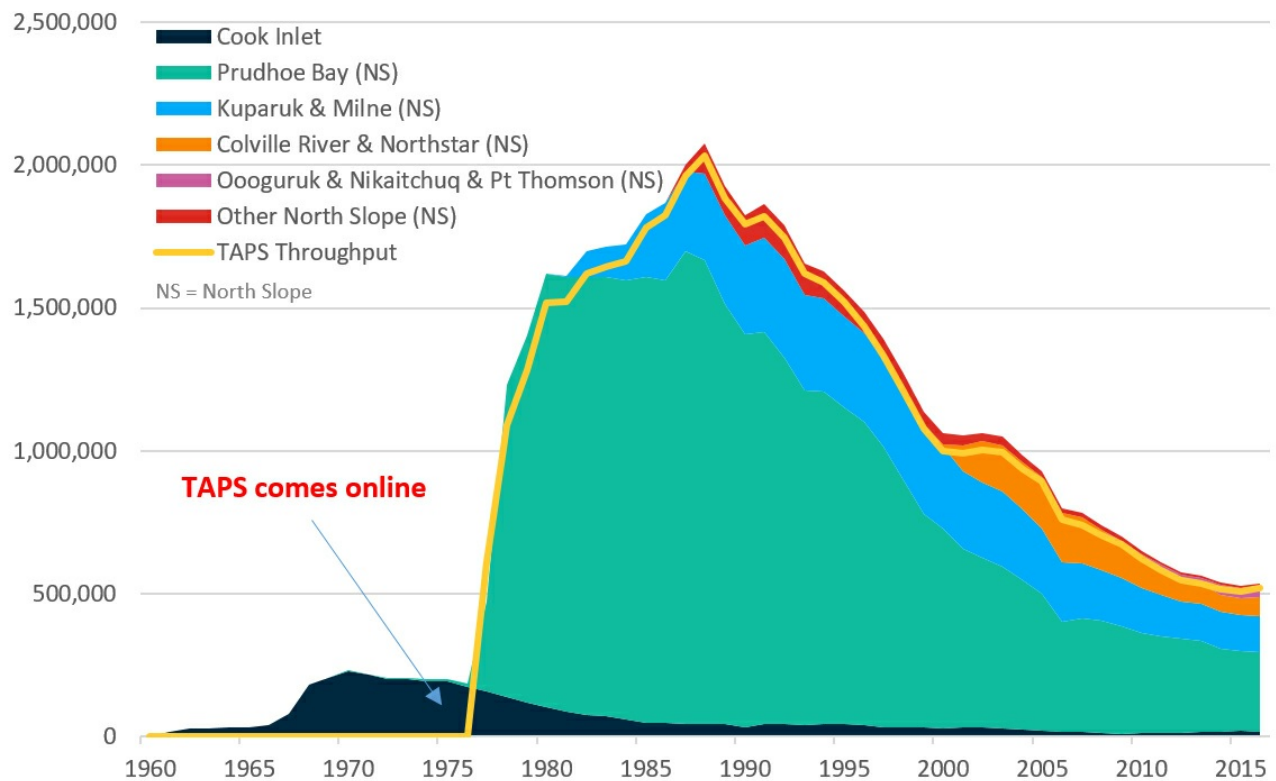
## Fact:

---

- The Trans-Alaska Pipeline System (TAPS), one of the largest pipelines in the world, celebrates its 40-year operational anniversary.
- Oil first flowed through the 800-mile, 48-inch diameter of pipe on June 20, 1977. Since then, over 17 billion barrels of oil have been transported from Prudhoe Bay on the frozen North Slope to the northernmost ice-free port in North America at Valdez.
- The pipeline was designed to transport over 2.1 mb/d and utilized capacity peaked in 1987 at approximately 2 mb/d. Today, however, only one-quarter of the pipeline's capacity is utilized with North Slope production standing at just 0.55 mb/d.
- Advancements in technology and the existing infrastructure offered by TAPS have meant that new discoveries can be developed quite efficiently. Despite this, the ten-year forecast for North Slope production is set at a 4.2 percent average year-on-year rate of decline.
- To tackle this decline, the administration is taking steps to open areas of the National Petroleum Reserve-Alaska (NPR), the Arctic National Wildlife Refuge (ANWR), and the Chukchi and Beaufort Seas to drilling operations that have previously been off limits.

## **Alaskan Crude Oil and NGL Production and Trans-Alaskan Pipeline System Throughput 1960–2016 (Yearly)**

## Barrels/Day



Source: Alyeska Pipeline Service Company and Alaska Oil and Gas Conservation Commission (AOGCC) Data (June 2017)

## Opinion:

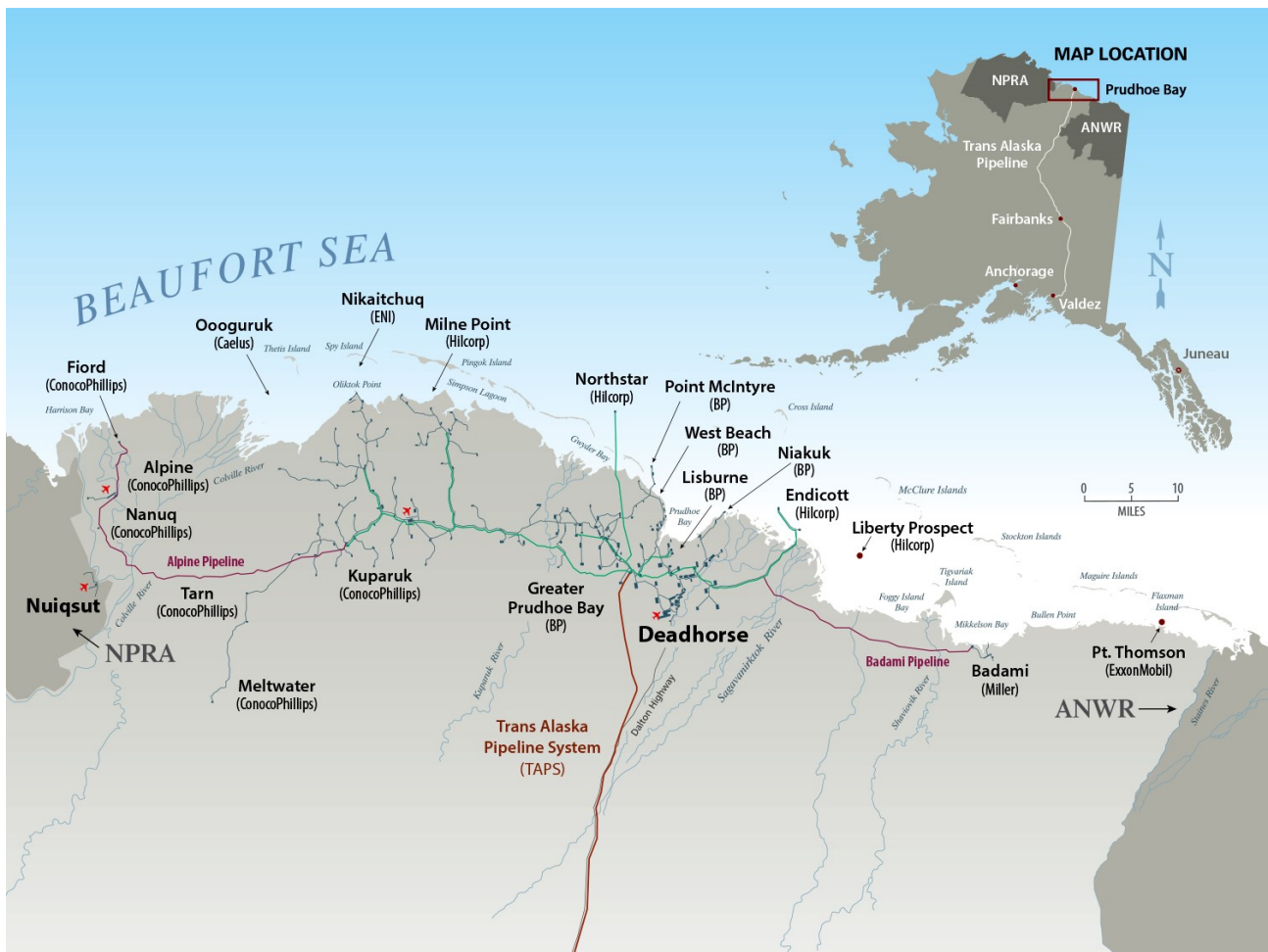
Construction of TAPS still stands as one of the great engineering feats. Traversing the length of Alaska's rugged and inhospitable terrain, it was one of the largest pipeline systems in the world at the time of its construction. In addition to contending with the dangers of fault lines and avalanches, the pipeline crosses three mountain ranges, travels across 13 river bridges, and 75 percent of the land that the pipeline passes through is covered by permafrost. However, the most significant barrier that the pipeline faced was a federal court injunction brought forward by an environmental movement spurred by the 1969 Santa Barbara oil spill, which converged on blocking TAPS and in turn delayed construction, before the 1973–1974 Arab oil embargo propelled Congress to vote in its favor. With this, minimizing environmental impacts—by protecting fish, wildlife and water sources, while paying heed to native land claims—also posed major challenges.

At its peak, TAPS transported approximately 20 percent of U.S. crude oil production before steadily declining to account for a level of less than 5 percent today. The Trans-Alaska Pipeline, in delivering over 17 billion barrels of oil in its 40-year history, has had tremendous economic impacts on the 49th state. Aside from the billions of dollars invested and thousands of jobs created from the pipeline's construction and continued maintenance, the state of Alaska now sources revenues from the pipeline for its Permanent Fund, which pays dividends to Alaskans. The pipeline has been a fundamental driver of investment in Alaska for decades and in particular for exploration and production activity on the North Slope. The pipeline and

its associated infrastructure continue to be a major strategic asset for the Alaskan economy, providing for favorable conditions for exploration and production activity in the region.

The outlook for production from the North Slope remains uncertain, however, and particularly so given the low price of oil. While the forecast of a 4.2 percent year-on-year average decline is not as steep as the over 5 percent average seen since 1988, if these forecasts prove correct then North Slope production in 2026 would stand at just 331 kb/d. This figure casts a shadow of uncertainty over the future of the pipeline, as low-flow impact studies by the Alyeska Pipeline Service Company report that the minimum throughput of oil to avoid technical risks that could result in shutdown is 350 kb/d (other studies by BP have put this figure at 70 kb/d). This rate of decline is also important for economic reasons. As production declines, operating costs are spread over fewer barrels of oil and in a low-price/low North Slope production scenario there will be a threshold at which the pipeline becomes uneconomical to operate. As such, either economic or technical factors could result in a complete shutdown, which is a real possibility given the forecasts of steep production decline. These forecasts, however, exclude projects planned beyond five years out and the potential for greater levels of production that planned regulatory amendments by the new administration may bring.

Secretary of the Interior Ryan Zinke on May 31 signed a secretarial order that calls for production to be opened in areas that have previously been off limits in the National Petroleum Reserve-Alaska (NPRA) west of Prudhoe Bay. United States Geological Survey (USGS) estimates that the reserve contains 895 million barrels of economically recoverable oil. The federally managed Arctic National Wildlife Refuge (ANWR) east of Prudhoe Bay has also attracted the attention of the administration with crude oil reserve estimates standing at 10.4 billion barrels. As such, Ryan Zinke's secretarial order, which also called for North Slope resource estimates to be updated, specifically included the coastal plain of the ANWR (1002 Area). The administration is also planning to commence a regulatory process of rewriting the five-year plan for oil and gas leasing in federal waters, which includes areas of the Beaufort and Chukchi seas along the coast of Alaska.



Source: BP America

There is an estimated 23 billion barrels of technically recoverable crude oil in the Arctic Ocean's Beaufort and Chukchi Seas. However, the regulatory process involved in rewriting the five-year plan to open leasing in these waters could take two to three years to complete and for the moment at least, there does not appear to be a high level of interest among operators to drill in these waters. Many operators abandoned leases in the Chukchi Sea last year and while some operators have shown interest in exploring the federal waters in the Beaufort Sea, they may face challenges from environmental backlash, which is expected to rise in lieu of the proposed regulatory amendments. This may also be the case if the 1002 Area is opened to leasing. The ANWR, at one time, attracted the same level of environmental opposition seen recently with pipelines such as Keystone XL and the Dakota Access Pipeline (DAPL), and so any proposed drilling activity in the wildlife refuge will likely attract the attention of a large group of environmentalists and wildlife conservationists. Given current oil prices, it is debatable whether any of these regulatory reforms will lead to a substantial increase in North Slope activity. Even with the forecast rate of decline of North Slope production, it is likely that TAPS will survive until it is 50 but beyond that, its future is uncertain.

All content © 2018. All rights reserved.