

Fall 2021 Production Forecast

Senate Finance Committee

Presented by Maduabuchi Pascal Umekwe, Ph.D.
Division of Oil & Gas
Alaska Department of Natural Resources
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Agenda

- **Introduction**
- **Background:**
  - FY2021 in Review
  - DNR Production Forecasting Approach
- **Fall 2021 Forecast Results**
- **Summary**

Background: FY2021 in Review

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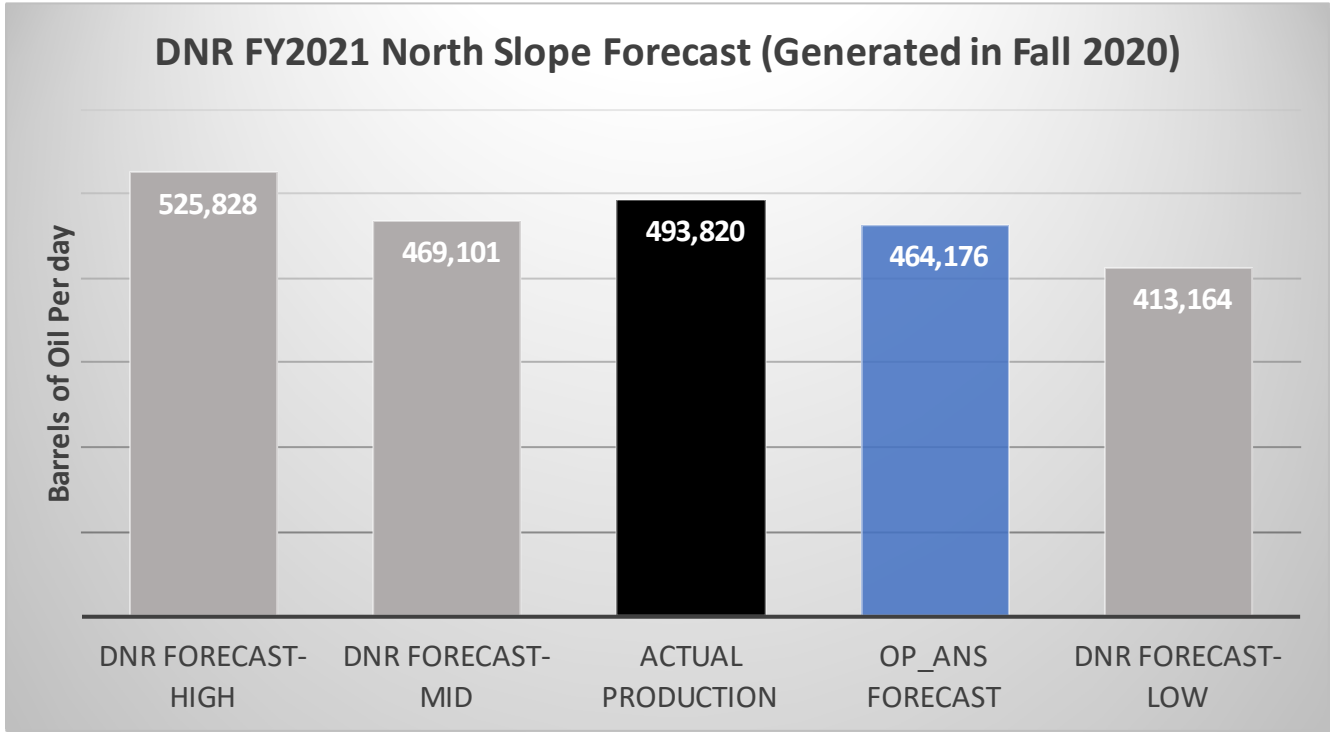
FY 2021 as forecasted by DNR in Fall 2020: How did we do?

- **DNR forecast proved reliable for State revenue planning, as actual FY 2021 production came in within DNR's forecasted range.**
  - DNR expected case forecast was ~5% under actual FY 2021 production
- **New factors to watch for that are currently shaping the forecast horizon**
  - Strong Environmental Social and Governance (ESG) influences introduce a new terrain for capital allocation decisions in the Arctic, especially for early-stage oil projects under development/evaluation
  - Current Production: Varied operator responses to the many phases of the covid-19 pandemic influencing several aspects of field management and redevelopment efforts

- **North Slope Outlook for FY 2021 (July 2020 through June 2021)**
- **Actual production falls within DNR's forecast range**



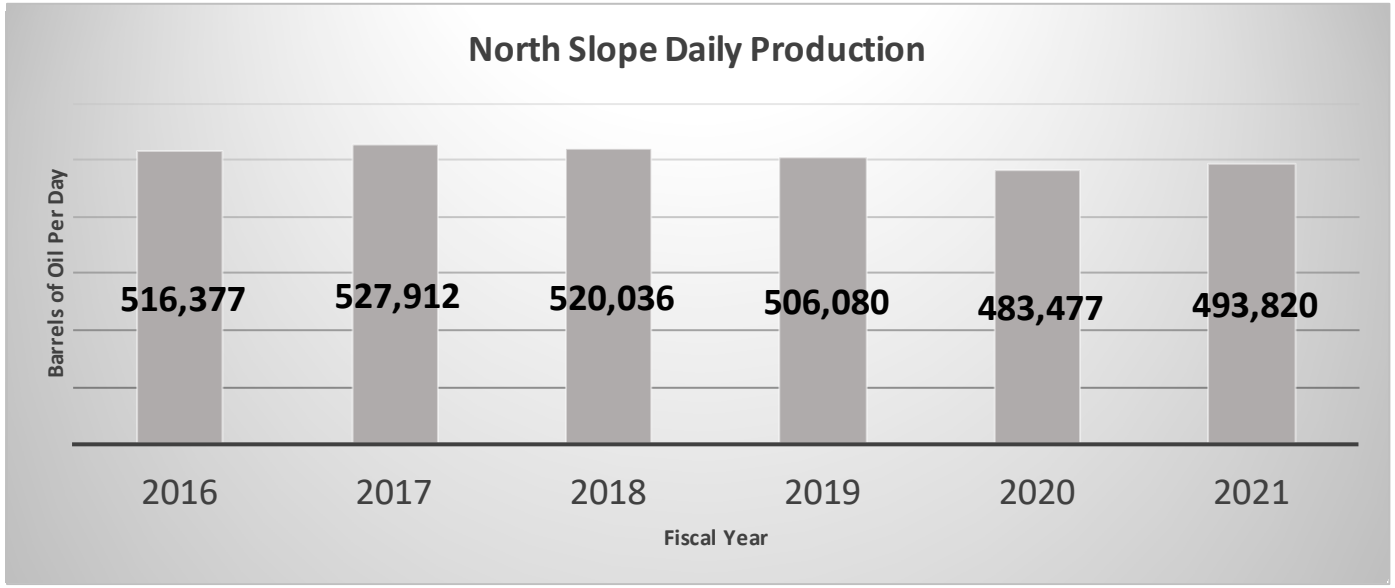
FY 2021 Summary: North SLOPE

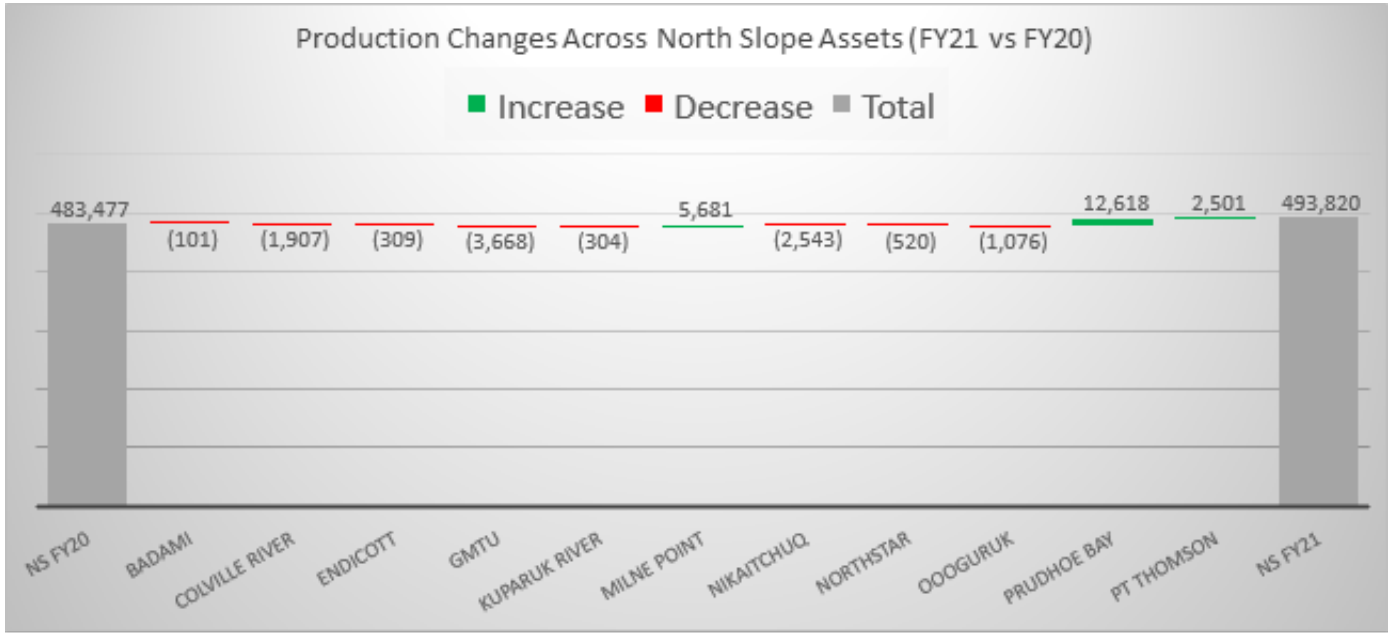
Highlights (FY2021 vs FY2020)

- All fields are generally expected to see a year-on-year decline
- Compared to FY2020, in FY 2021 North Slope production increased by ~2% (~10,000 bopd)

- **Increases**
  - GPBU: 5% production growth due to well/facility optimization efforts
  - MPU: 20% production growth due to consistent drilling efforts
  - PTU: Over 40% growth; improved facility reliability

- **Decreases**
  - KRU: Production essentially held flat at FY20 levels
  - GMT1: Over ~50% drop. Reservoir challenges persist
  - Oooguruk: Absence of drilling since 2016



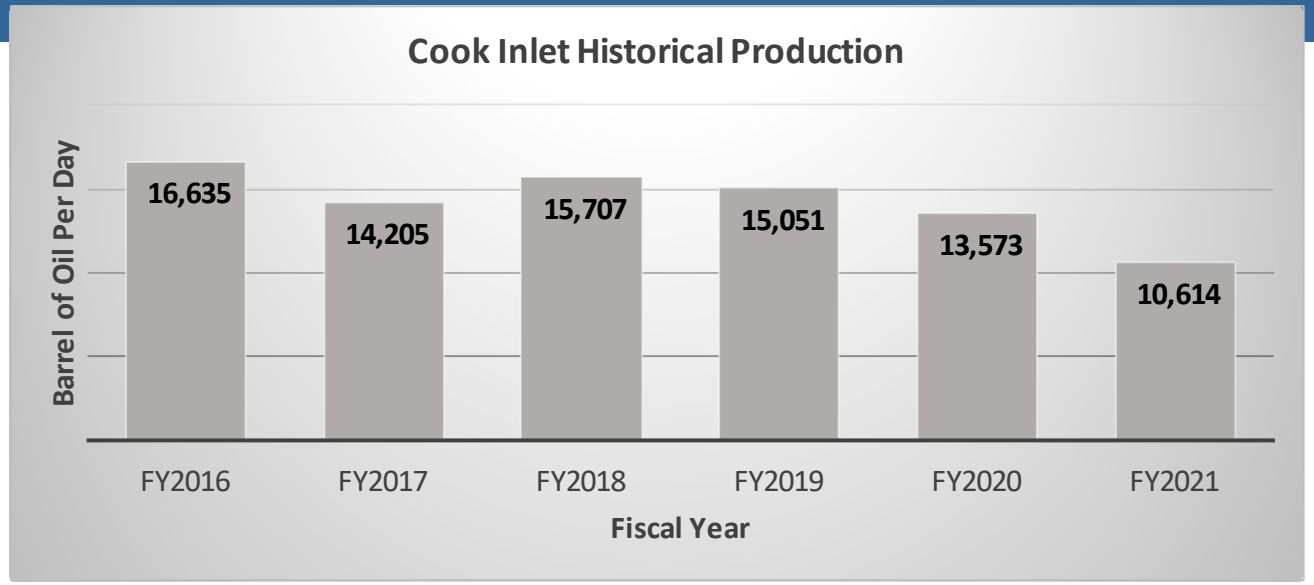


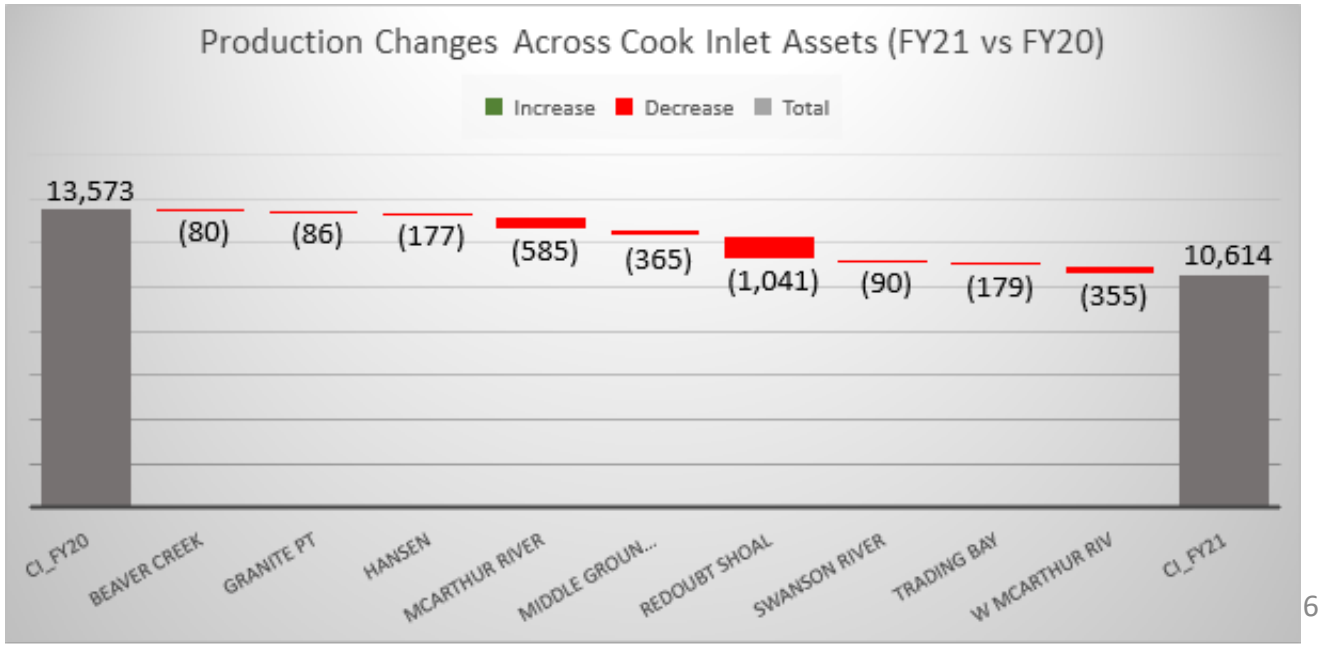
FY 2021 Summary: Cook Inlet

Highlights (FY2021 vs FY2020)

- Oil from the Cook Inlet basin critical to the supply of in-state refineries, as well as yielding revenues from Royalty-in-Kind sales
- Compared to FY2020, in FY2021 Cook Inlet production decreased by ~22% (~3000 bopd)
- All fields are generally expected to see a year-on-year decline

- **Decreases**
  - Redoubt Shoal & McArthur River: Fields were taken offline in June 2020 due to pandemic-related price crash. Fields brought back online in September/October 2021.





STATUS UPDATE OF KEY FUTURE PROJECTS: NORTH SLOPE

	Status: January 2021	Status: January 2022	Production Rate Estimates
CRU – Fiord West Kuparuk	6 wells planned	Extended reach drilling (Doyon 26 "The Beast")	Reaching ~20,000 BOPD
CRU - CD5 2nd Expansion	Ongoing drilling by YE 2020 after Covid-related interruption	Ongoing; 3 injectors drilled so far by Nov 2021	Reaching over 10,000 BOPD
CRU – Narwhal	NA	First oil Dec 2021. Produced ~1600 BOPD. More drilling expected from CD4 to total ~12 wells and full dev't of 20 to 40 wells from CD8 in ~2028.	Initial peak from single start-up well: 1,000 to 5,000 BOPD; full peak DNR estimates >32,000 BOPD
GMT2	GMT2 First oil YE 2021	First oil, Nov 2021 (1,326 BOPD); 4 wells drilled by Nov 2021	Peak rate: 35,000 to 40,000 BOPD; 2022 update: 30,000 BOPD.
Pikka	-Now planned for 2-phases; start of production (Phase 1: 2025); -To move to FEED 2021; FID & 15% AK divestment YE2021 through 2022	-Ongoing FEED; start of production (Phase 1: 2025; Phase 2 FID expected by ~2024/2025); Santos/Oil Search Merger completed	Peak design capacity rate, Phase 1: 80,000 BOPD
Willow	Plan to submit Supplemental EIS. Record of decision achieved, FEED FID expected YE 2021 Announced first oil: 2025-2026	Addressing AK District Court remand; likely to target a new BLM Record of Decision anticipated by YE 2022. Construction expected to start Q12023. First oil post 2025/2026	Peak rate: 130,000 BOPD

DNR Fall 2021 Production Forecasting Approach

Recap: No Change in methodology from last year's forecast [Fall 2020 Forecast]

DNR Forecast Process: Projects/Pools included in Forecast

- **DOG performed ground-up Decline Curve forecasts for all producing pools (Public).**
  - Forecast of Current Production uses AOGCC publicly available data
  - ~37 pools (ANS and CI) , producing as of 6/30/2021
- **DOG engaged with operators through DOR-arranged in-person and written interviews**
- **20 projects under development/under evaluation were considered/researched/reviewed (Confidential)**
  - Forecast for these projects use confidential information from operators
  - Future production from these projects were adjusted and risked for scope of contribution, chance of occurrence and start date
- **No modifications in forecast approach between Fall 2020 and Fall 2021 forecasts**

Categories of Production: Ongoing/current vs future production

Ongoing/Current production

- **Current Production (CP)**
  - Features and considerations:
    - Well and facility uptime
    - Operator spending to maintain base production
    - Reservoir management

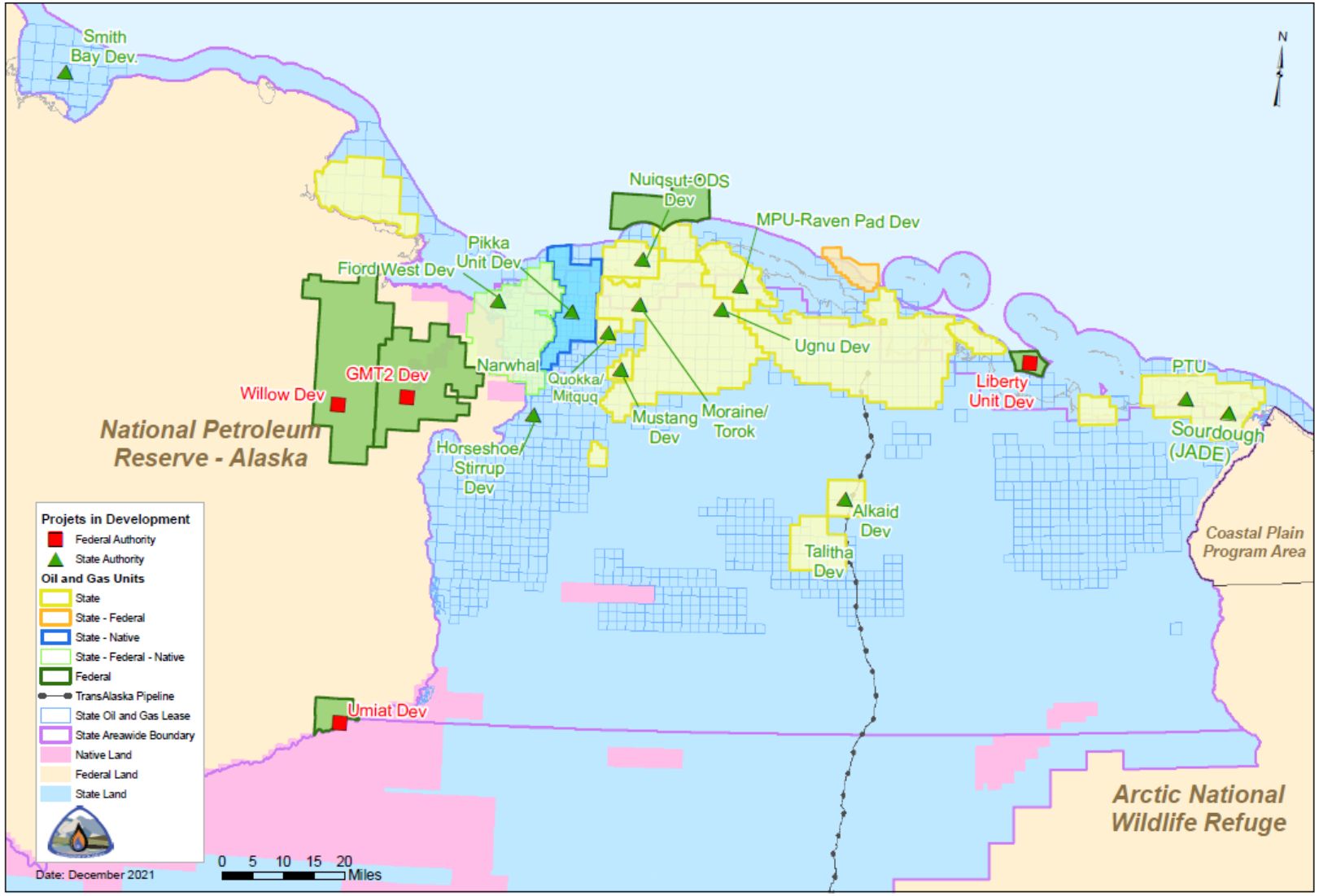
Future production

- **Projects Under Development (UD) and Under Evaluation (UE):**
  - Rate contribution:
    - Uncertainty in future well performance
    - Uncertainty in project scope
  - Project occurrence and timing:
    - Uncertainty in timing (incl. outright project cancellation/deferral)
      - Commerciality risk (economic, regulatory etc)

Major projects [under evaluation/development] considered in fall 2021 forecast

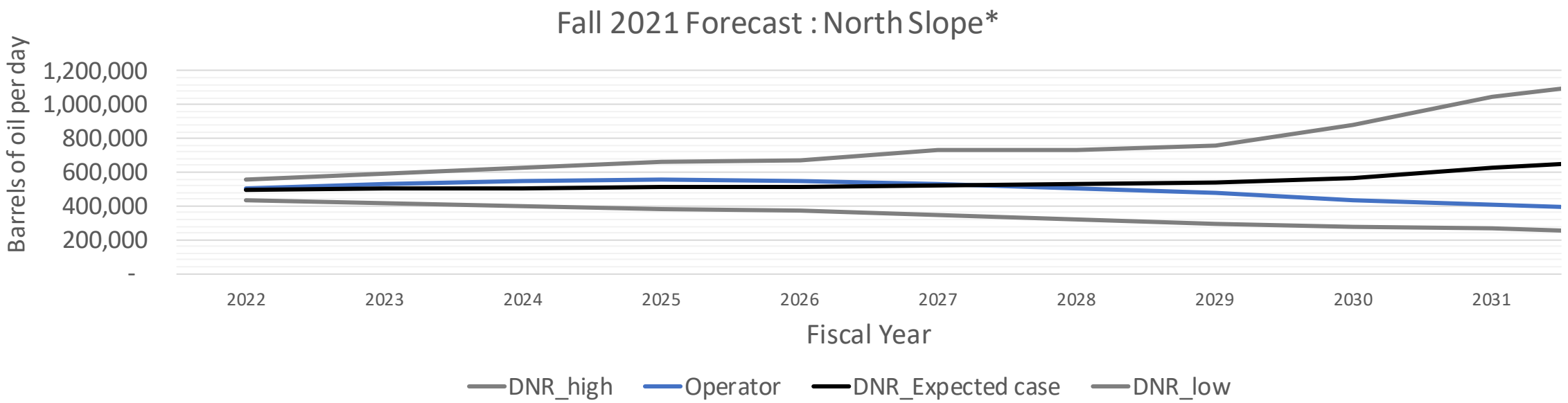
Generalized characteristics

- Projects that were not online as at end of FY2021 (data cut-off date of 6/2021)
- Higher risk factors than currently producing fields
- Known discoveries with identifiable operators
- Require major investments



Fall 2021 Production Forecast Results

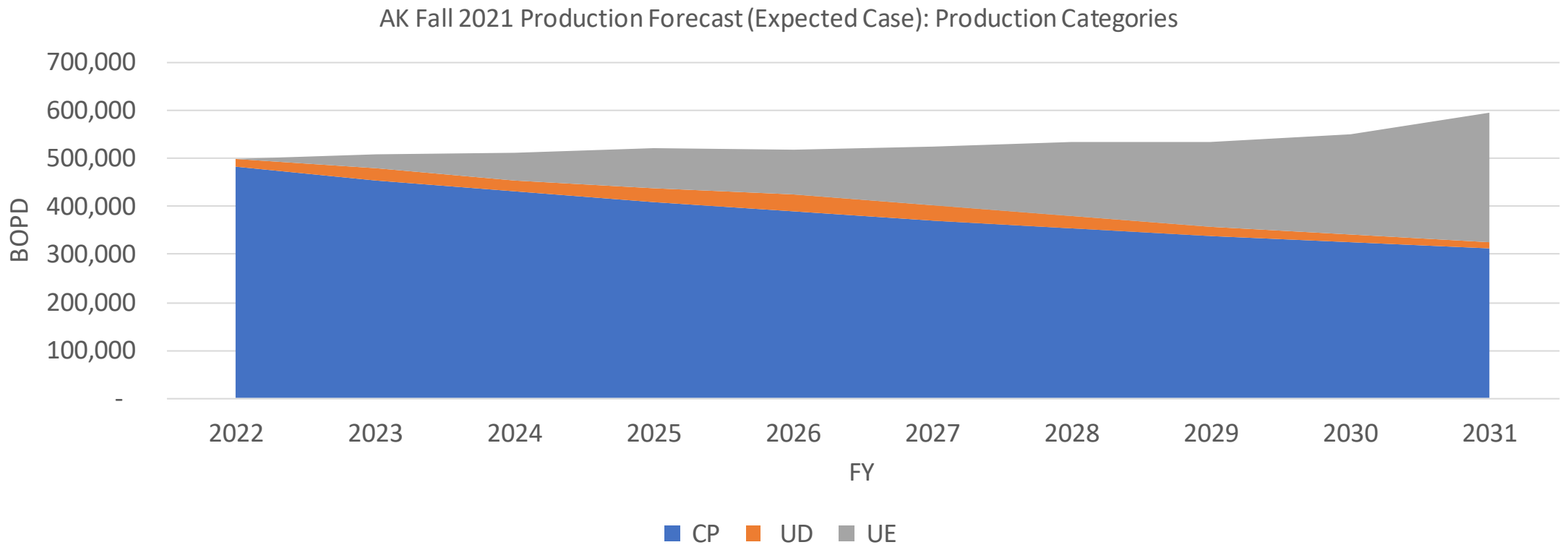
Fall 2021: North Slope Annualized Forecast



- Short Term:
  - DNR forecasts FY2022 annualized average daily statewide production at 500 MBOPD, and North Slope production at 492 MBOPD, with a range of 430 MBOPD and 555 MBOPD
- Long term:
  - Long term forecast reliability is gauged by general ballpark comparison between DNR and operators' aggregate forecasts. Operators' long-term outlook falls within DNR's long term forecast range
  - Specific differences are expected and do highlight DNR's ground-up uncertainty analysis on all included projects
- Outlook on production assumes that operators' plans and other project drivers stay unchanged

- *Comparison of DNR vs Operator Forecasts across the same group of NS fields.*
- *Excludes DNR's forecasts for non-producing units; operators' numbers in charts also excludes not-yet producing fields*

Alaska Statewide Oil Production Forecast – Fall 2021 Expected Case and categories of production



- *Current Production (CP) remains backbone of state production in near and medium term*
- *Under Development (UD) segment represents production expected from wells drilled in FY2022*
- *Under Evaluation (UE) begins to play a more significant role in production in the next 5-10 years*

- *Production outlook depends on several factors including operators' plans, oil price, fiscal system*

Fall 2021 Production Forecast - Summary

- DNR Forecast continues to use the best information available to DNR/DOR, to generate production outlook for oil fields within the state, with a focus on generating accurate near-term, and realistic long-term, forecasts.

- Fall 2021 Forecast is a static view on production; DNR's outlook is updated annually (Fall and Spring) to incorporate latest operator plans and the State's official updated price outlook.

- DNR's Fall 2021 outlook shows mean annual production of approximately 500 MBOPD across much of the outlook period, based on the current snap-shot of operators' plans.

- Production from projects under evaluation reflects uncertainty in operators' plans towards return to pre-pandemic activity levels, specific project uncertainties, as well as project scope and timing risks.

THANK YOU

Thank you on behalf of the DOG Fall 2021

Production Forecasting Core Team:

John Burdick, Linda Liu, Travis Peltier, Shaun Peterson, Chalinda Weerasinghe, Glenn Lau, Maduabuchi Pascal Umekwe, Ph.D.