

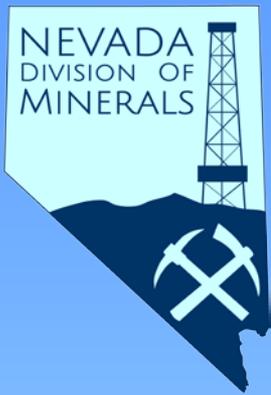
Nevada Division of Minerals

*An Update on Agency Activities
and
What Explorationists Should Watch For in 2021*

**Nevada Mineral Exploration Coalition
Annual Mineral Exploration Summit
October 20, 2020**

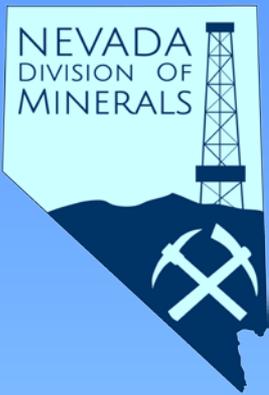
Michael Visher, Administrator





Who are we?

- Fee-funded agency, with two offices and 11 employees, 8 of which are geologists with experience in the exploration side of the mineral industry
- Report to the Commission on Mineral Resources, composed of 7 Governor-appointed members
- State regulator for fluid minerals (oil and gas, geothermal, dissolved mineral resource exploration)



What do we do for you?

- 1. *Inform*** the Governor, Legislature, state and federal agencies and the public on matters relating to the mineral industry:
 - Mining registry and annual production
 - Industry activities and outlook
 - Impacts from proposed land withdrawals, land use plans, new legislation or regulations
 - Critical minerals
 - Surveys, publications and maps

Nevada Gold

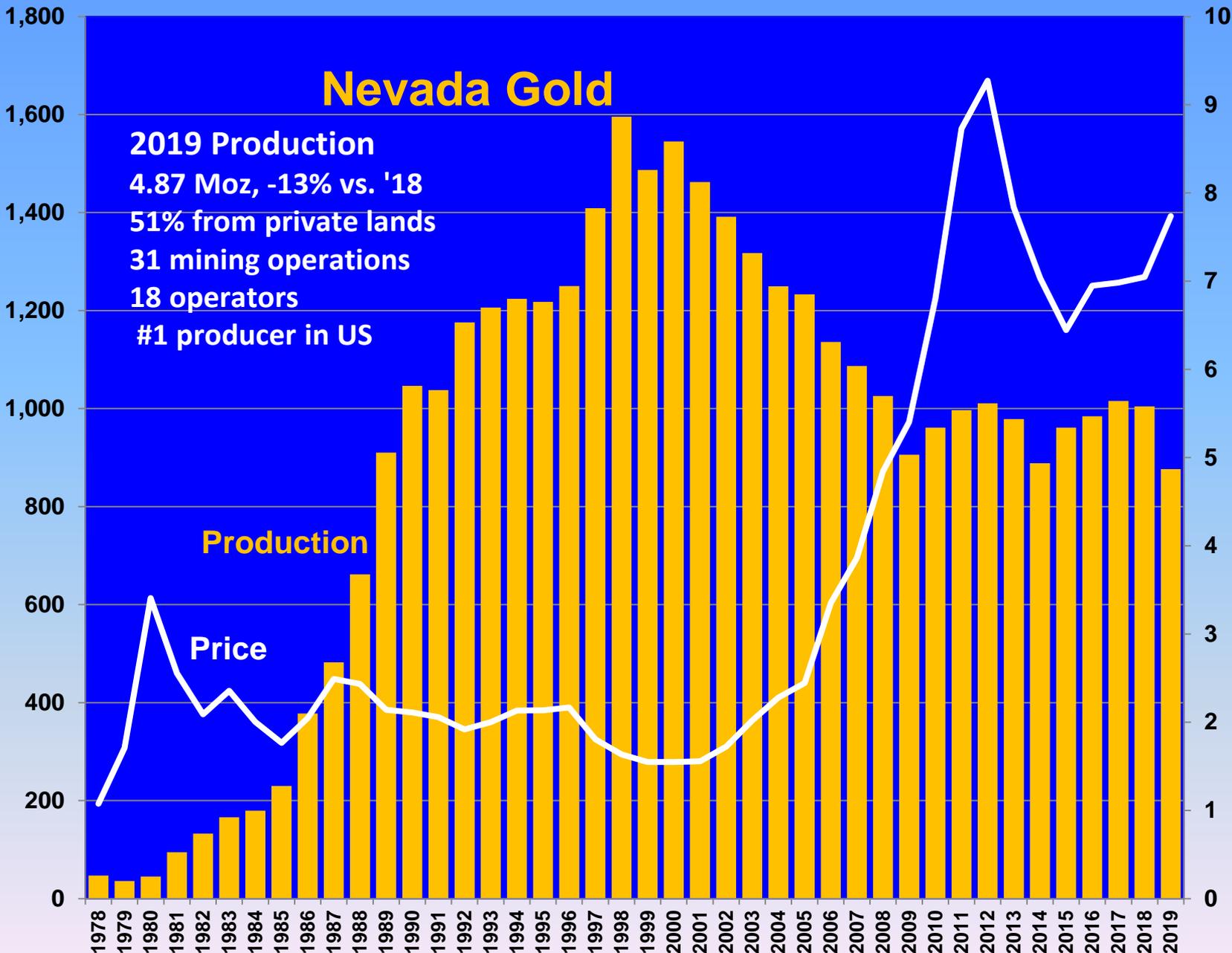
2019 Production
4.87 Moz, -13% vs. '18
51% from private lands
31 mining operations
18 operators
#1 producer in US

Gold price, \$/troy ounce

Production

Price

Gold production, millions of troy ounces

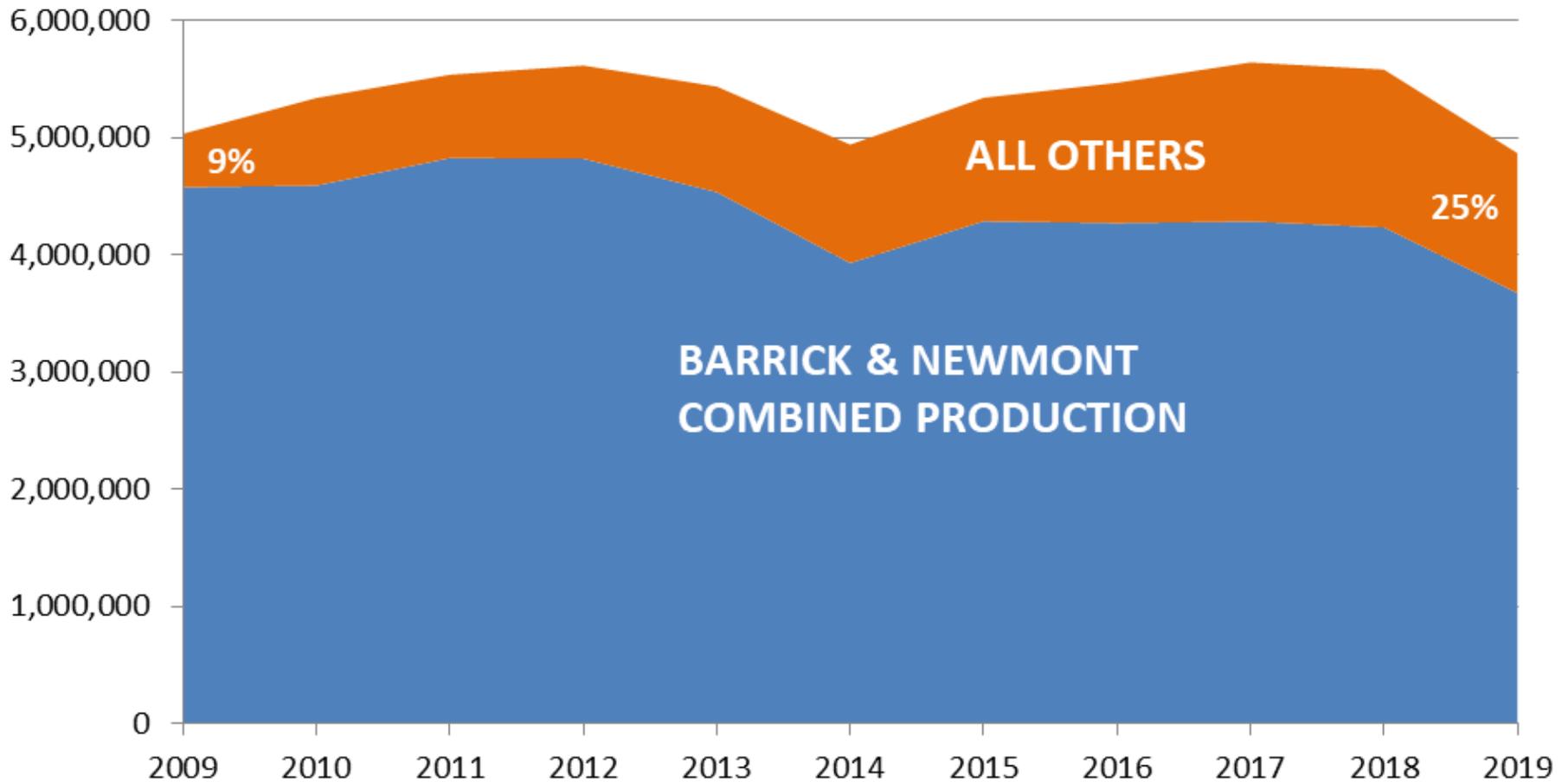


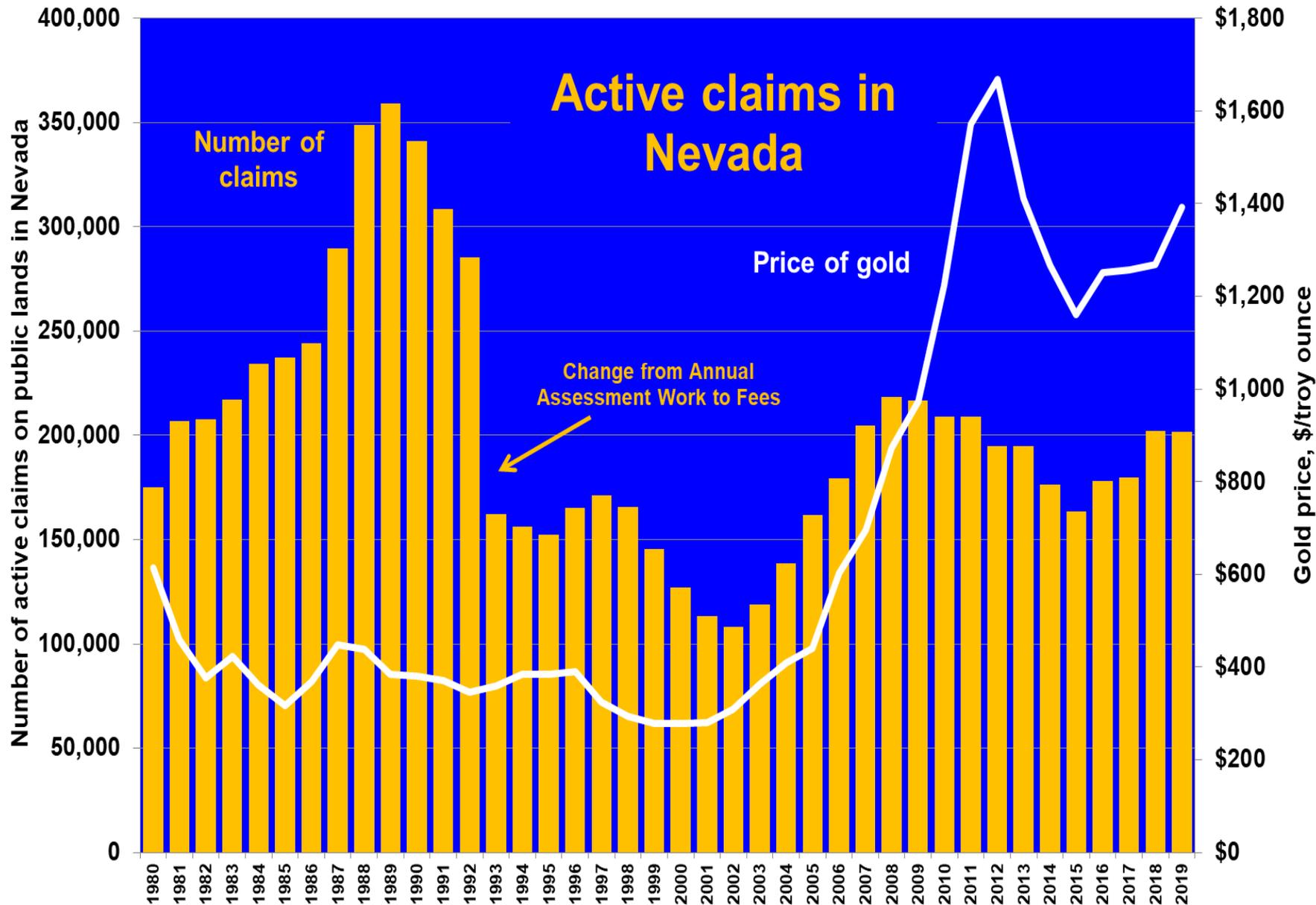
2019 NEVADA METAL PRODUCTION

2019 NEVADA METAL PRODUCTION, BY PRODUCER - Final				
Ranked by gold production				
Operator	Gold (ozs)	Silver (ozs)	Copper (lbs)	Moly (lbs)
Nevada Gold Mines	3,673,631	1,070,177	30,585,072	
Kinross	538,528	954,345		
SSR Mining	220,227	4,223		
Jerritt Canyon Gold	117,985	NR		
Hecla (Klondex)	66,166	181,741		
KGHM International	51,277	67,634	113,132,886	766,699
Florida Canyon Mining (Alio Gold)	43,305	30,877		
Fiore Gold	40,499	NR		
Coeur	35,401	3,761,060		
McEwen Mining	30,709	614		
Rawhide Mining	14,381	140,187		
Gold Resource Corp.	10,810	9,574		
Hycroft Mining	8,916	56,783		
Premier Gold (40% of S. Arturo)	8,412	NR		
Mineral Ridge Gold	3,863	2,324		
Ruby Hill Mining	3,356	2,540		
Borealis Mining	605	387		
Toquima Gold	15	NR		
Totals	4,868,086	6,282,466	143,717,958	766,699

Nevada Gold Mines Production Comparison

2009 - 2019 Annual Gold Production in Nevada





EXPLORATION ON PUBLIC LAND STARTS WITH THE LOCATING OF A MINING CLAIM

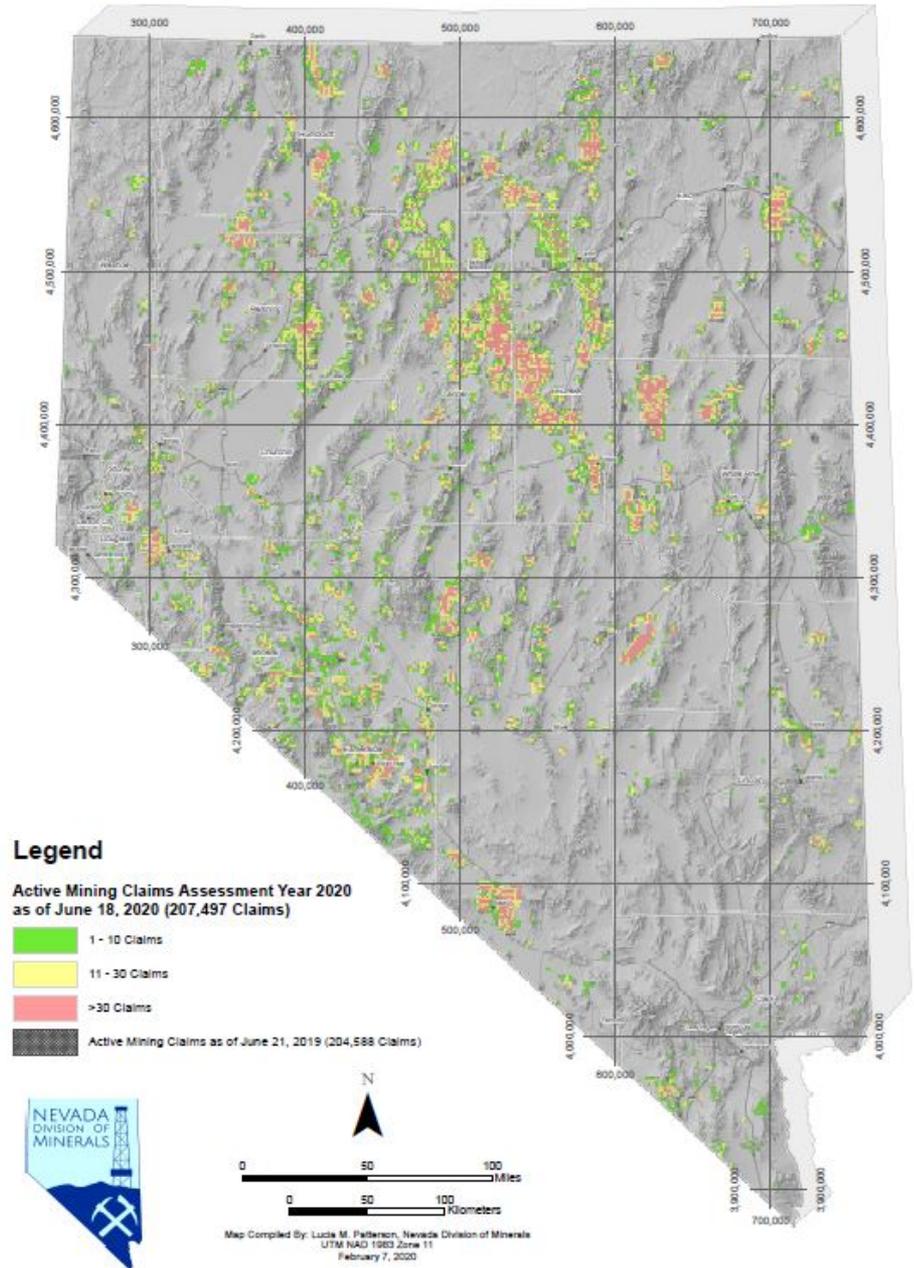
207,497 Active Mining
Claims in Nevada
as of 6/18/2020,
an increase of 1.4%
from 6/21/2019

Annual Maintenance/Holding Fees:

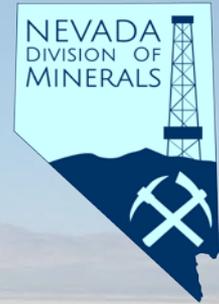
BLM - \$165 per 20 acre claim (\$34M
paid by NV claimants in FFY 2019)

County - \$12 per claim, \$10 of which
is remitted to the Division of
Minerals and represents 77% of all
our funding.

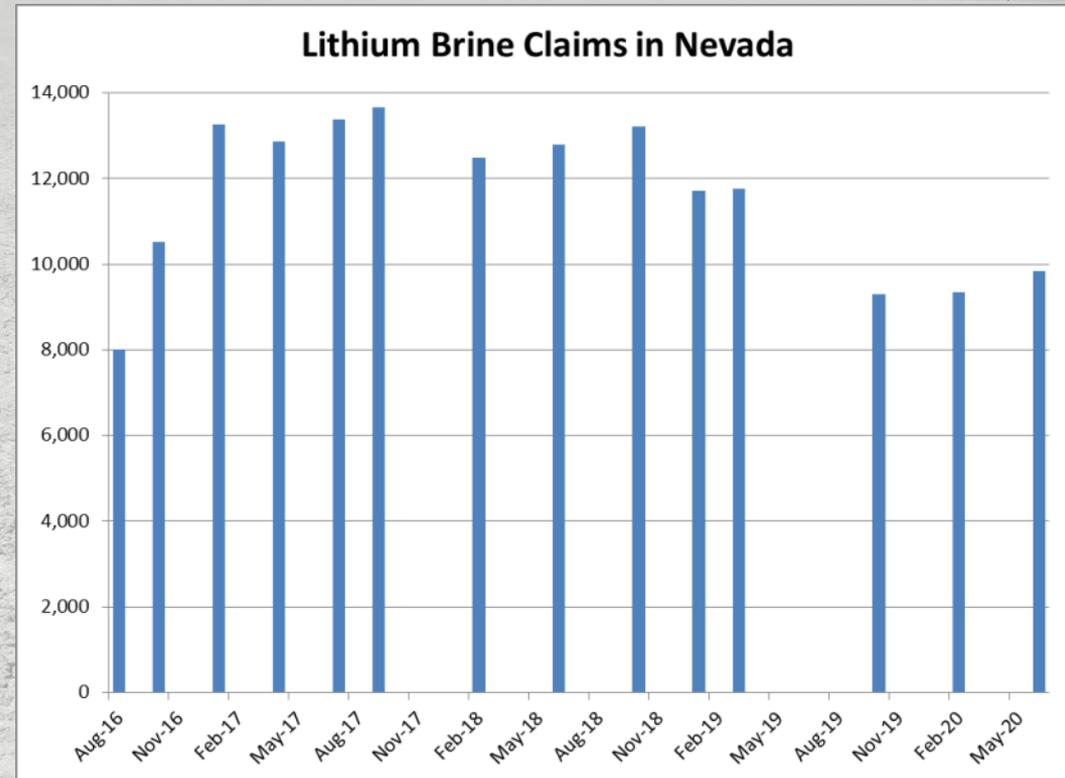
Distribution of Mining Claims in Nevada BLM LR2000 Data as of June 18, 2020



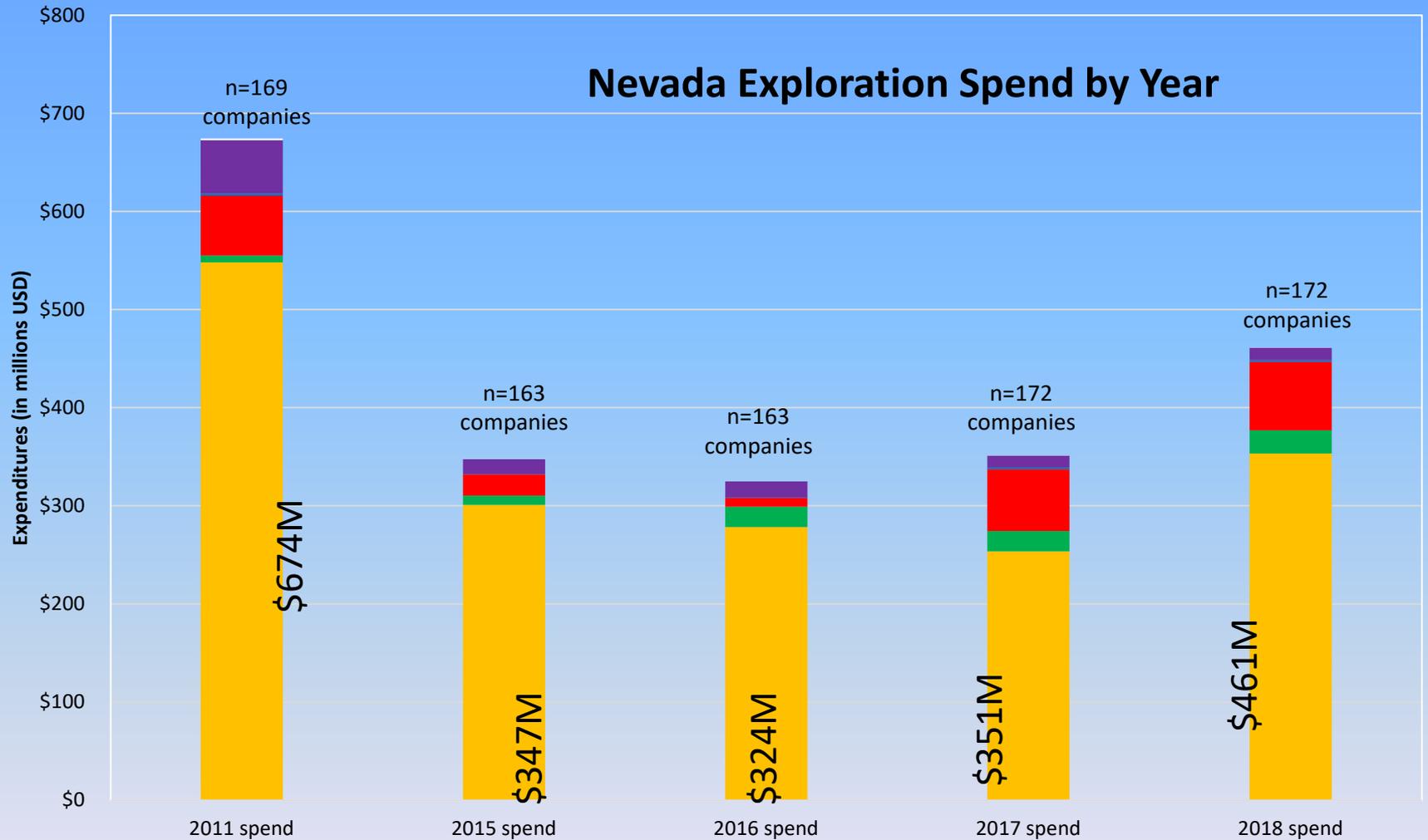
Dissolved Mineral Resource Exploration Activity



- Lithium is a locatable mineral on Federal land under the General Mining Law
- Placer claims are used to locate potential lithium brine deposits, such as at Albemarle's Silver Peak mine.
- Similar playas have seen significant claim staking and exploration since 2013.

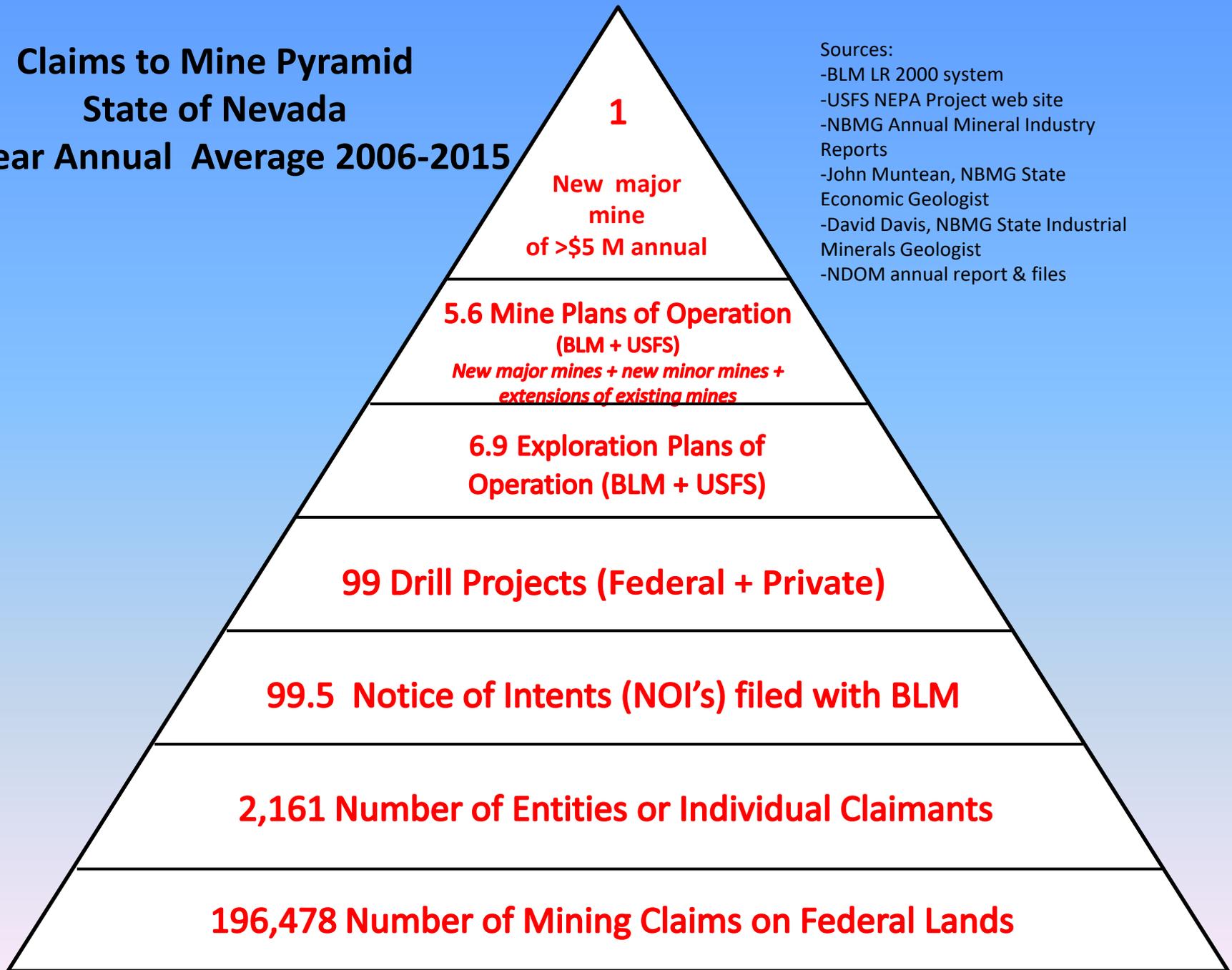


Nevada Exploration Survey



Precious metals Energy metals Base metals Industrial minerals Geothermal Petroleum

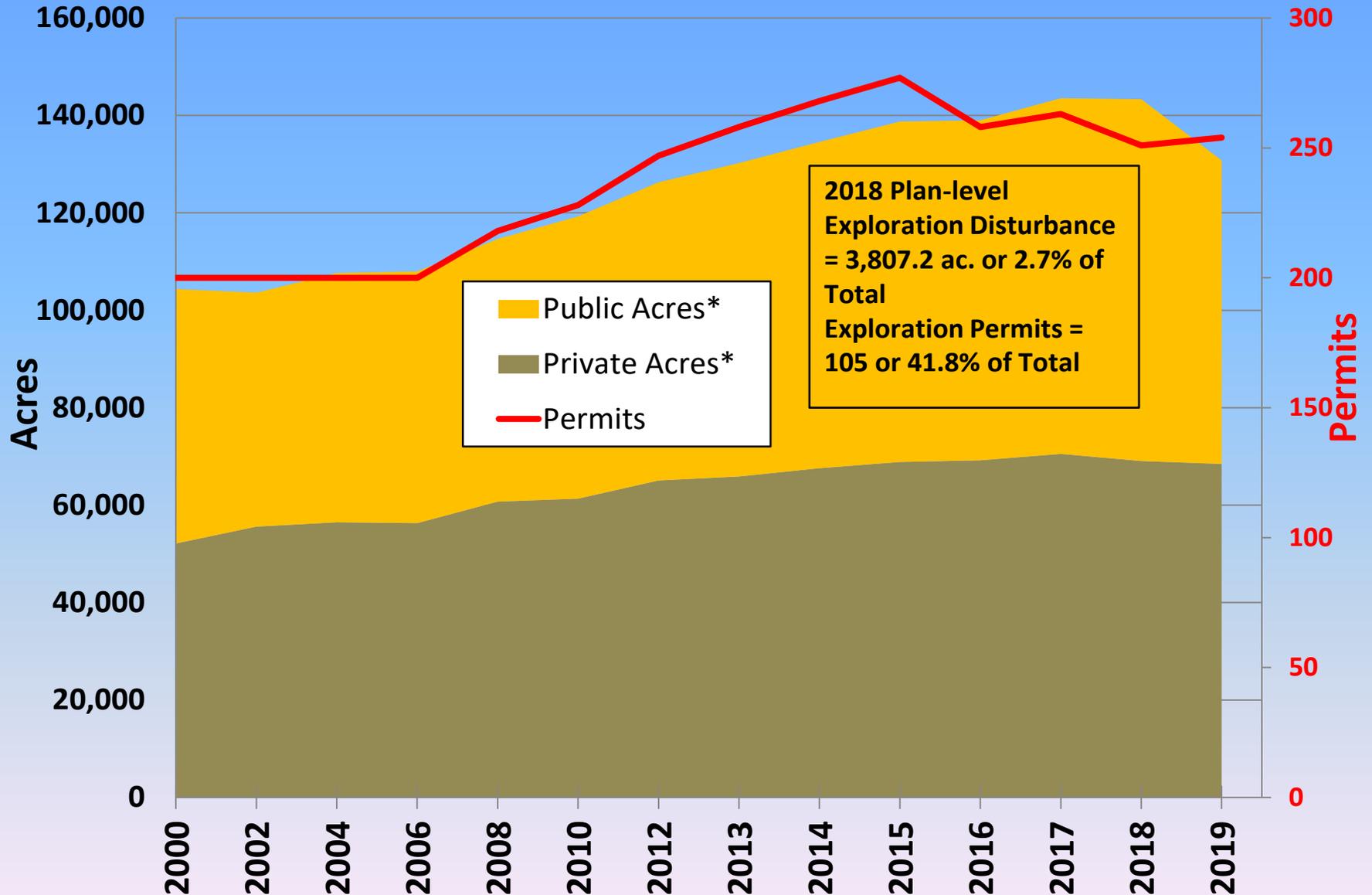
**Claims to Mine Pyramid
State of Nevada
10-Year Annual Average 2006-2015**



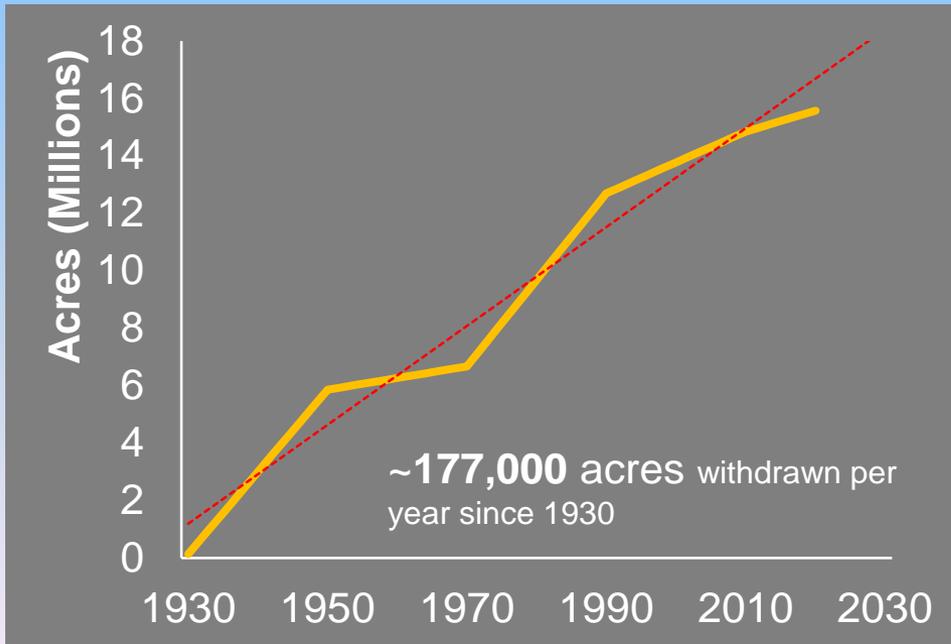
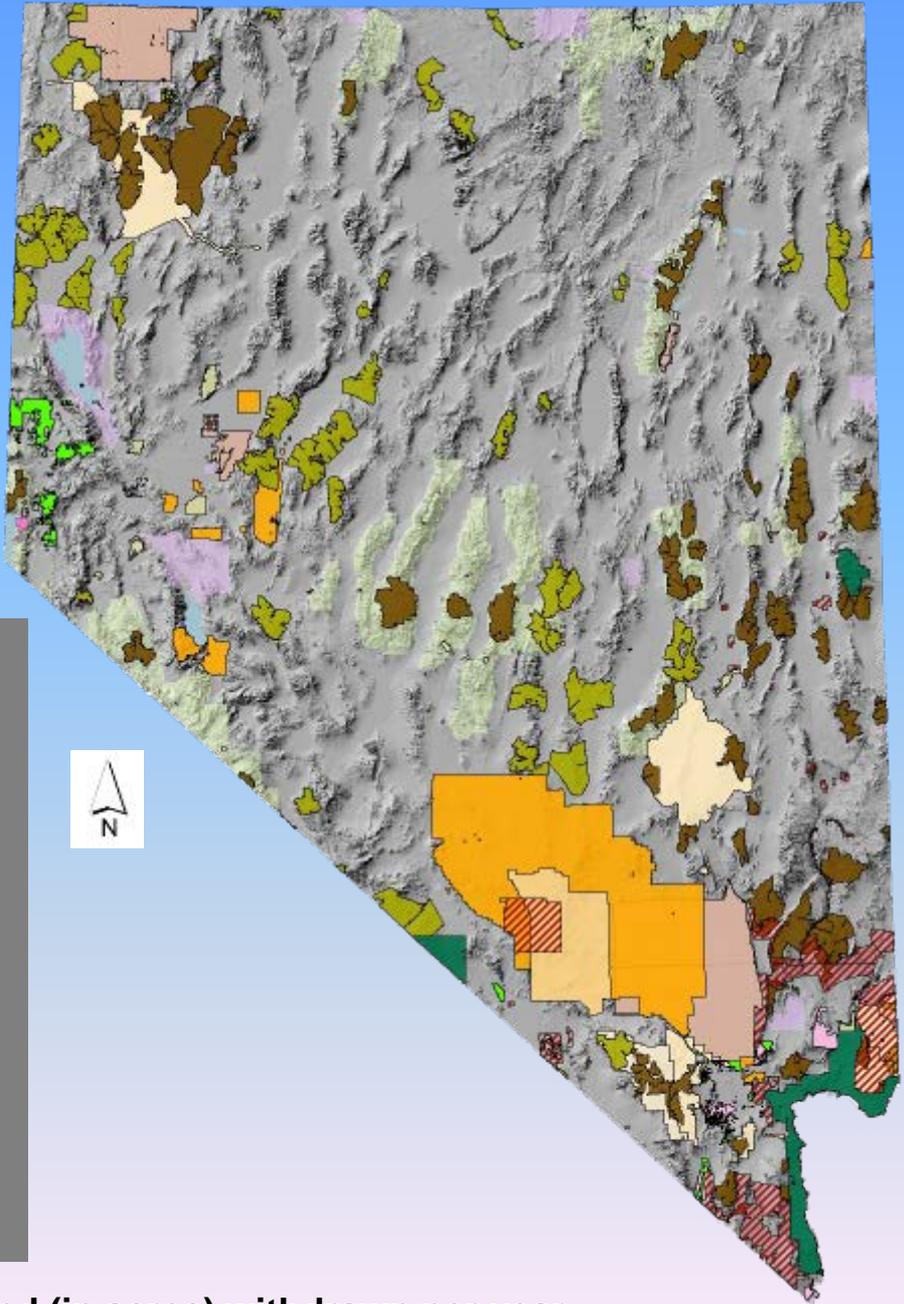
Sources:

- BLM LR 2000 system
- USFS NEPA Project web site
- NBMG Annual Mineral Industry Reports
- John Muntean, NBMG State Economic Geologist
- David Davis, NBMG State Industrial Minerals Geologist
- NDOM annual report & files

CUMULATIVE MINING PERMITS AND DISTURBANCE ACREAGE IN NEVADA



Nevada Land Withdrawals as of May, 2018



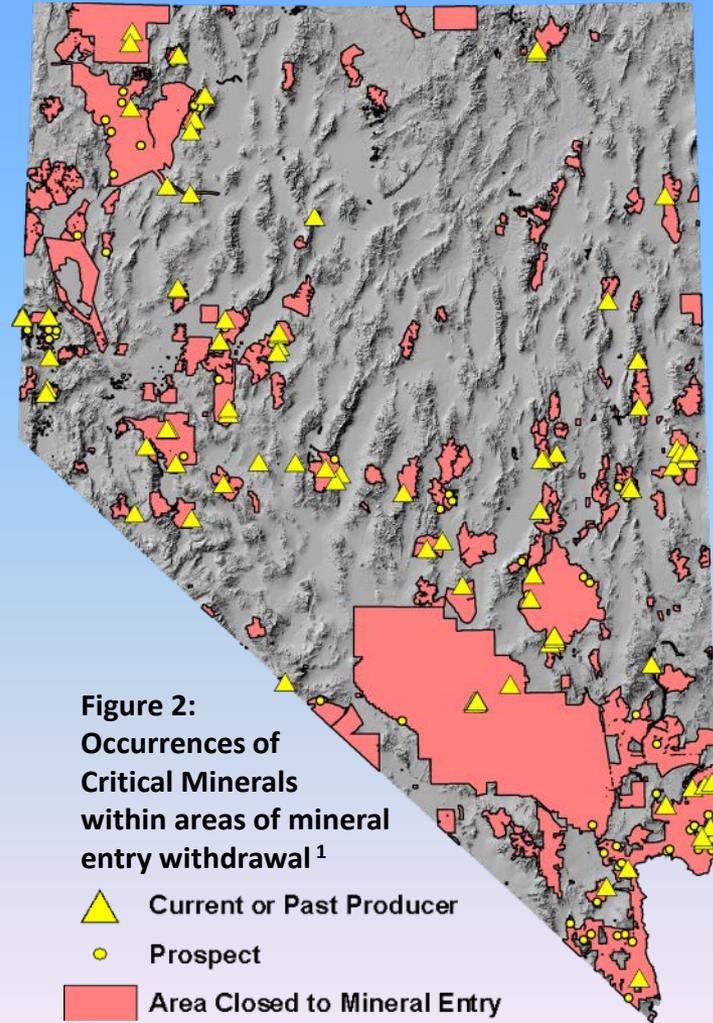
Line graph displaying the trend in the amount of land (in acres) withdrawn per year.

Critical Minerals Affected by Mineral Entry Withdrawals

- | | |
|---------------------|-----------------------|
| ➤ Aluminum | ➤ Manganese* |
| ➤ Antimony* | ➤ Niobium |
| ➤ Arsenic* | ➤ PGM |
| ➤ Barite* | ➤ Potash |
| ➤ Beryllium* | ➤ REE |
| ➤ Bismuth | ➤ Rhenium |
| ➤ Cesium & Rubidium | ➤ Scandium |
| ➤ Chromium | ➤ Strontium |
| ➤ Cobalt | ➤ Tantalum |
| ➤ Fluorspar* | ➤ Tellurium |
| ➤ Gallium | ➤ Tin |
| ➤ Germanium | ➤ Titanium |
| ➤ Graphite | ➤ Tungsten* |
| ➤ Helium | ➤ Uranium* |
| ➤ Indium | ➤ Vanadium |
| ➤ Lithium* | ➤ Zirconium & Hafnium |
| ➤ Magnesium* | |

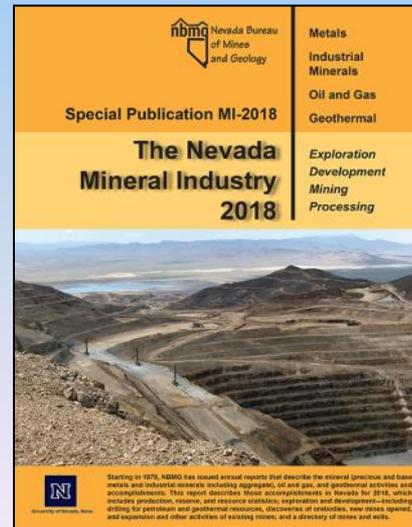
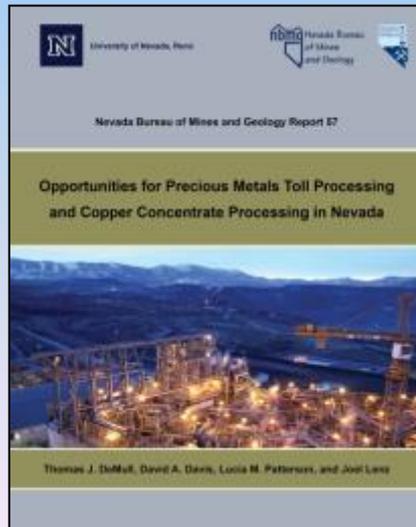
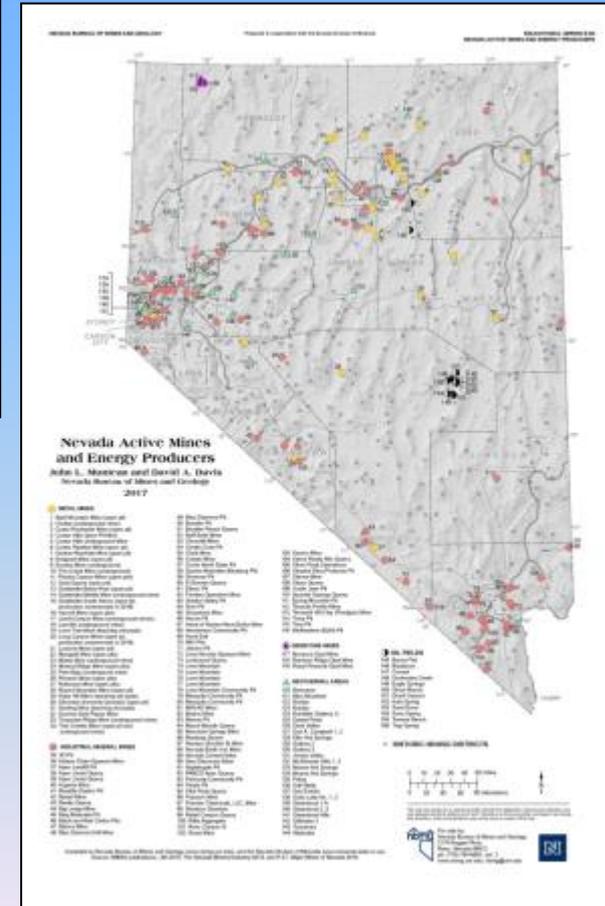
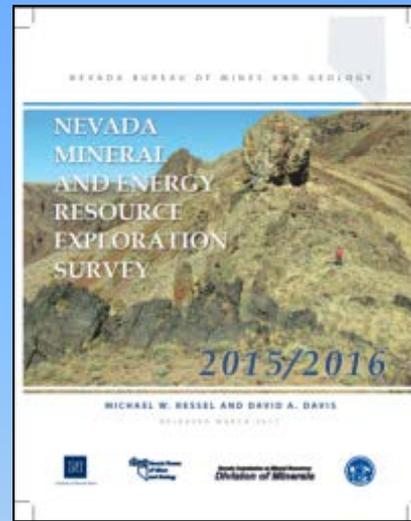
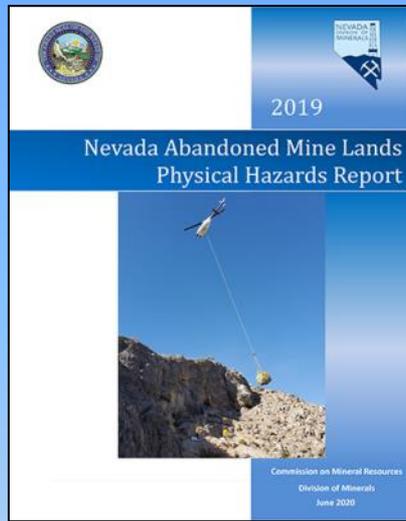
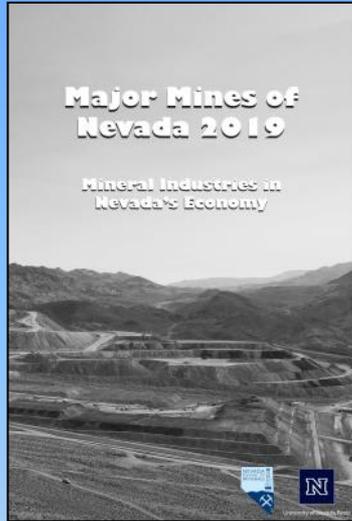
Bold indicates known occurrences

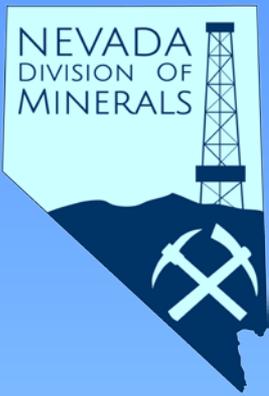
***** indicates past or present production



¹ USGS Mineral Resources Data System, (2016). <https://mrdata.usgs.gov/mrds/>

Publications





What do we do for you?

2. Assist in the process of exploration:

- NDOM Open Data Site
 - Claims, Notices, Plans, Mineral Occurrences
- NBMG Nevada Mineral Explorer Web App
 - One stop shop consolidating decades of data in one location
- Reclamation Performance Bond Pool

NDOM Open Data Site



Nevada Division of Minerals Open Data Site

Pages

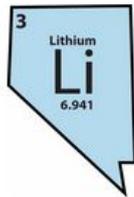
Visit our Data Gallery Page to View Download Data

Visit one of our pages to view interactive maps and download data. Hover over any of the photos below and click on text box that appears

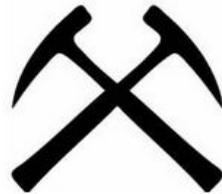
For a general overview that includes demonstrations on the Open Data Site, [CLICK HERE](#)

To visit the Nevada Division of Minerals Home Page, [CLICK HERE](#)

To return to the Open Data Home Page, [CLICK HERE](#)



Inferred Active Lithium Placer
Claims in Nevada & DMRE



Active mining claims in Nevada



Nevada Claims, Notices, & POO



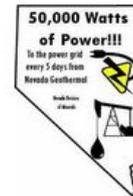
Nevada Mineral Producers,
Commodities & Occurrences



Nevada Public Lands Issues



Mining in Nevada



OGG Drilling, Production, and
Leases



Education & Outreach

The Nevada Mineral Explorer

Nevada Mineral Explorer FAQ Nevada Bureau of Mines and Geology Nevada Division of Minerals

Find address or place

Information

Nevada Mineral Explorer

This web application was developed as a tool for explorationists to identify and discover mineral resources throughout Nevada. Data in this web application are organized by category (upper right-hand side of map). Each category is indicated with a different symbol, which are outlined below.

[User's guide](#)
[Video Presentation and Demo](#)
[Presentation PDF](#)

To view different categories, click on the icon for category type

 **Occurrences & Production** - active mines and energy producers, MRDS.

Exploration & Development

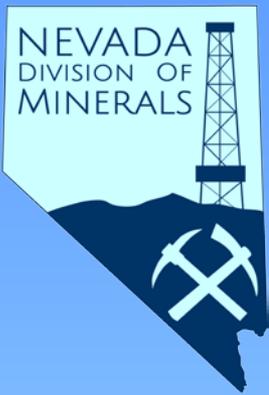
Layers

- Exploration Plans (NDOM)
- Mining Plans (NDOM)
- Notices (NDOM)
- Drill Projects: 2005-2018 (NBMG)

The map displays various mineral occurrences across Nevada, including the San Joaquin Valley, Sierra National Forest, and Death Valley National Park. The interface also includes a search bar, navigation tools, and a layers panel on the right.

Reclamation Performance Bond Pool

- An established \$2.5M statewide bond with BLM allows for expedited notice-level bonding, ~1 hour
- Regulations updated 12/31/2019:
 - For notice-level bonds, annual premium reduced from 3% to 2%
 - For plan-level bonds, the premium amount refunded upon exit increased from 0% to a maximum amount of 75%



What do we do for you?

3. *Educate* the public on the importance of mining and minerals in our modern society:

- Agency staff performed 480 presentations in 2019, including 348 in K-12 classrooms
- Since March, 15 videos have been created to facilitate distance learning
- 30 live virtual classroom presentations since 9/29
- New page (in progress) devoted to the Mining Industry
 - Infographics and interactive viewer providing information on: employment, wages, exploration, permitting, surface disturbance, production, economics, and reclamation

Nevada Mining Industry



Nevada Division of Minerals Open Data Site

Mining in Nevada

The purpose of this page is present general information on the mining industry in Nevada from exploration to production, its regulatory oversight as well as its economic impacts and environmental stewardship. With a large and diverse mineral endowment, Nevada ranks #1 in US mineral production yet even today most people are surprised at the complexity and innovation involved in the process of modern mineral extraction and how commonplace and necessary these minerals are to society. Information on this page is intended to educate on the topics of exploration, permitting, surface disturbance, employment, production, economics, and reclamation.

Mining Employment in Nevada - 2019

Lucia M. Patterson, Nevada Division of Minerals

Percent of total Wages Paid (Private & Government) Attributable to Mining

0% Carson City, Douglas, Lincoln

0.07% Clark

0.17% Washoe

0.49% Churchill

0.62% Storey

6.77% Lyon

17.97% Nye

18.87% Elko

23.47% Mineral

43.39% Humboldt

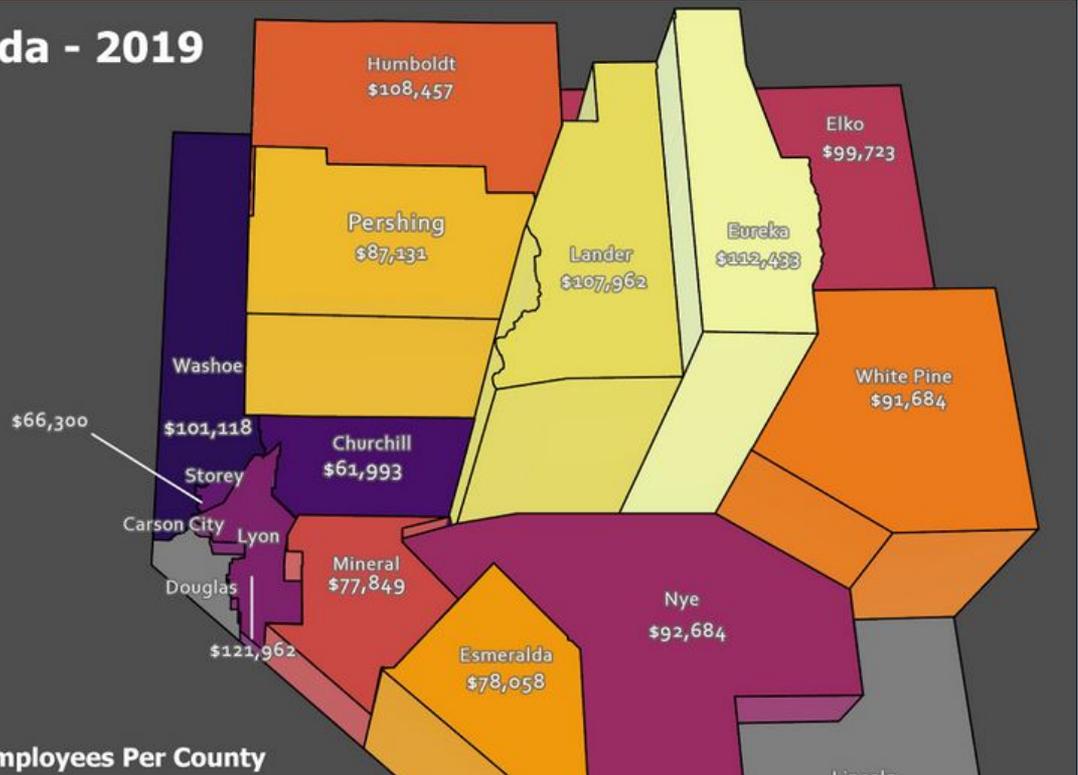
48.55% White Pine

52.61% Esmeralda

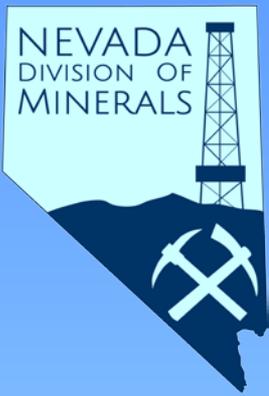
52.69% Pershing

80.28% Lander

96.43% Eureka



2019 Average Number of Mining Employees Per County



What do we do for you?

3. *Showcase* the benefits of exploring and investing in Nevada, as well as outstanding examples of environmental stewardship:

- Staff informational exhibits at GSN, AEMA, AME Roundup, and PDAC
- Assist the Governor’s Office of Economic Development in outreach efforts
- Nevada Excellence in Mine Reclamation Awards

PDAC



Excellence in Mine Reclamation Award

- Purpose - to recognize and share examples of successes in the areas of reclamation, closure, planning, and wildlife protection and enhancement in Nevada
- Requires unanimous approval from Committee consisting of representatives from BLM, USFS, NDEP, NDOW and NDOM
- Not limited to mining operations; help us acknowledge the good reclamation work being done by the exploration community

2020 Award Winner

KGHM Robinson Mine

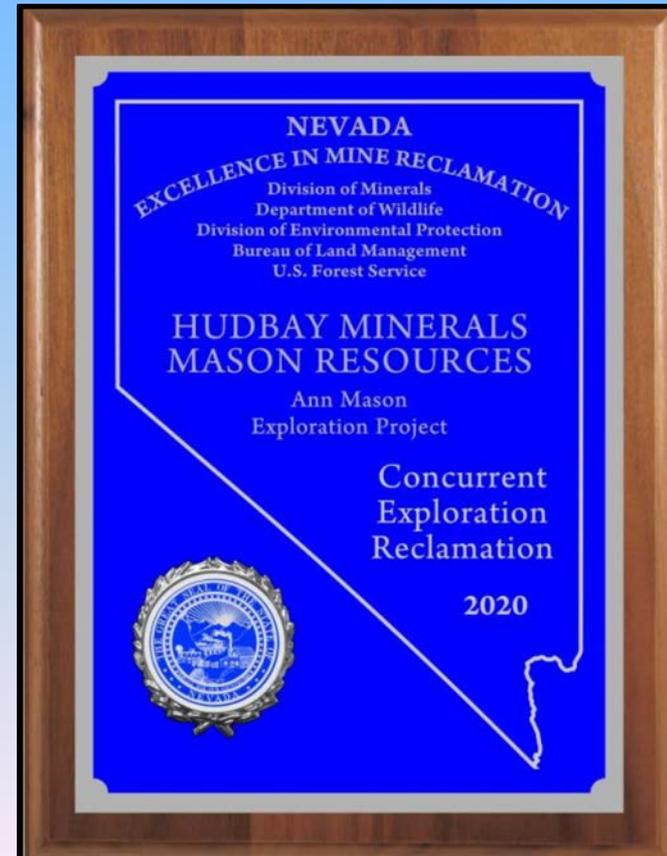
Lane City Waste Rock Facility

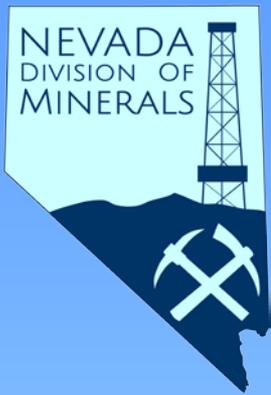


2020 Award Winner

Hudbay Minerals/Mason Resources

Mason Exploration Project



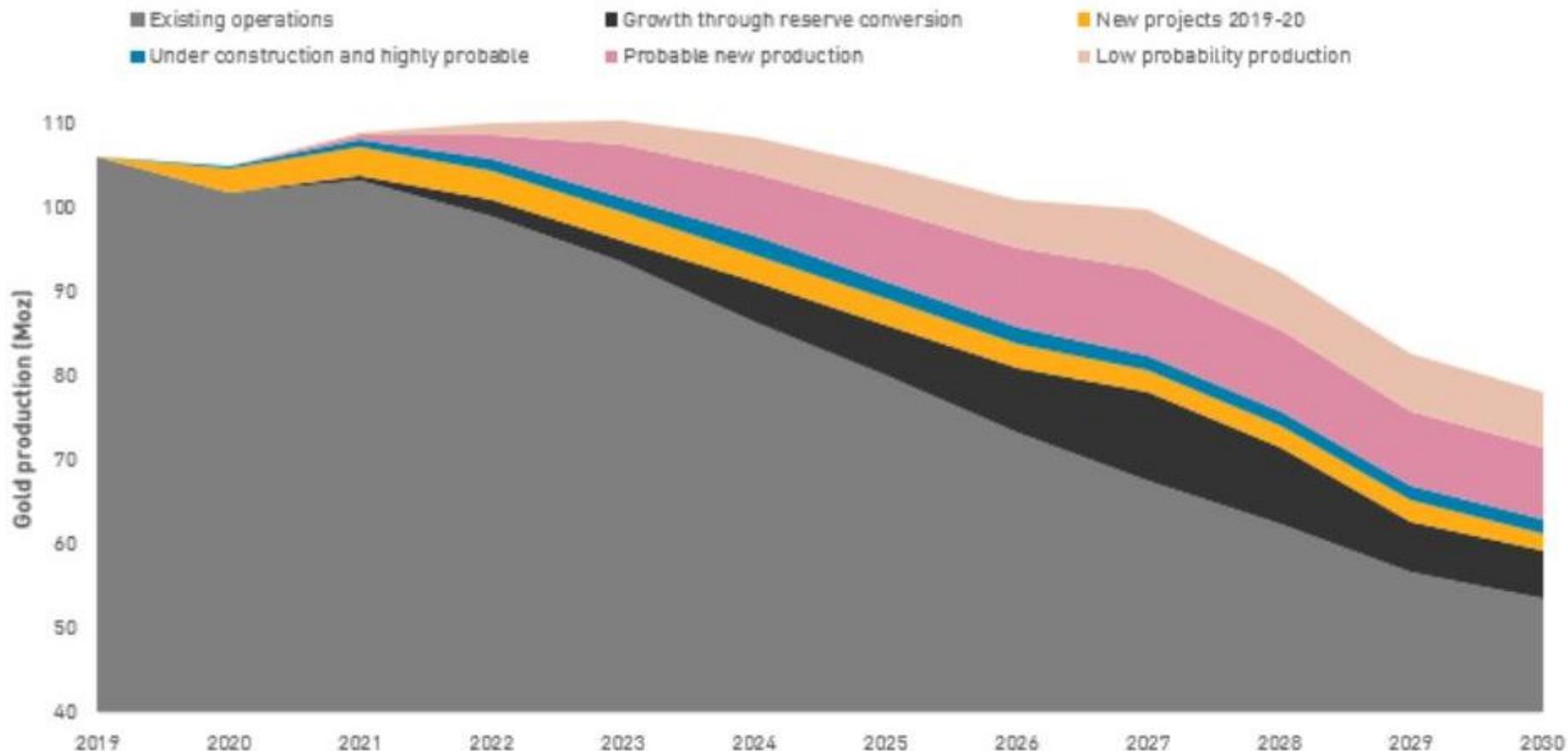


What should you be watching for in 2021?

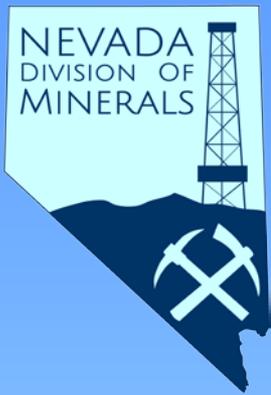
- **New legislators requiring knowledge of the industry and what you do; establish one-on-one communication**
- **Continued pressure on the industry to pay more, along with unintended consequences**
- **Continued updates and new content to our open data sites**
- **NDOM contracted site characterization and analysis of AML features proposed for hard closure**
 - **~150 sites/yr**
 - **Assessment and assays to be made available on the Nevada Mineral Explorer**
- **After industry recovery from the pandemic, there will (eventually) be renewed demand for exploration successes**

Diminishing pipeline for Au production

Gold production from new and existing sources, 2019-30



Data as of April 7, 2020.
Source: S&P Global Market Intelligence



What should you be watching for in 2021?

- **Escalation in investor interest on the value of environmental, social and corporate governance (ESG)**
 - **Proactively create your story before one is initiated against you**
- **More involvement at the community and county levels**
 - **NDOM to add more information on open data site attributable to individual counties**
 - **NDOM will reach out to county commissions and planning agencies to inform and educate them on natural resource assets and economic development opportunities**

NDOM Homepage

- Under “Current Information”
 - Links to our Distance Learning Educational Videos
 - Recent Presentations
- Under “Important Links - Open Data Site”
 - Interactive web mapping application to display and download information related to the minerals industry.
 - Location of mining claims, current and historical exploration activity and mineral production.
 - Public lands issues
 - The new Nevada Mineral Explorer for explorationists (co-developed with NBMG)
 - New Mining Industry page

The screenshot shows the official website of the Nevada Division of Minerals. At the top, there is a navigation bar with the state seal and the text "State of Nevada Commission on Mineral Resources Division of Minerals". To the right, there are search options and a "PRINT" button. Below the navigation bar, there is a main content area featuring a large photograph of a meeting in progress. The caption for this photo reads: "Commission on Mineral Resources at July 9th meeting in Guinn Room, Capitol Building, Carson City. (posted 8/4/2020)". To the right of the photo is a "Current Information" section with several links: "Distance Learning - Educational Videos", "2017/2018 Survey of Nevada's Mineral and Energy Exploration Industry (flyer) &", "Opportunities for Precious Metals Toll Processing and Copper Concentrate Processing in Nevada, NBMG Report No 57 &", "Recent Presentations page", and "Information Related to Proposed Land Use Plans and Withdrawals". Below this, there are sections for "Public Workshop(s) and Hearings(s)", "Employment Announcement(s)", "Education Workshop(s)", "Request for Information and Public Records", "Important Links, Nevada Division of Minerals", "Other Important Links", and "Programs". The "Programs" section at the bottom features six icons representing different areas: "ABANDONED MINE LANDS", "BOND POOL", "DISSOLVED MINERAL RESOURCE EXPLORATION", "EDUCATION & OUTREACH", "GEOTHERMAL", and "MINING".

State of Nevada
Commission on Mineral Resources
Division of Minerals

ENHANCED BY Google

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ADA Assistance PRINT

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NEVADA DIVISION OF MINERALS

Commission on Mineral Resources at July 9th meeting in Guinn Room, Capitol Building, Carson City. (posted 8/4/2020)

Current Information

- Distance Learning - Educational Videos
- 2017/2018 Survey of Nevada's Mineral and Energy Exploration Industry (flyer) &
- Opportunities for Precious Metals Toll Processing and Copper Concentrate Processing in Nevada, NBMG Report No 57 &
- Recent Presentations page
- Information Related to Proposed Land Use Plans and Withdrawals

Public Workshop(s) and Hearings(s)

- None at this time

Employment Announcement(s)

- None at this time

Education Workshop(s)

- 36th Annual Northern Nevada Earth Science Education Workshop 2020
 - Cancelled due to COVID-19
 - Nevada Mining Association's Mineral Education Workshops page: <https://www.nevadamining.org/teacherworkshop/>

Request for Information and Public Records

- NDOM Request for Information form & - Use for general information requests.
- NDOM Request for Public Records form - & - Use when requesting records specific to the agency.

Important Links, Nevada Division of Minerals

- Open Data Site-GIS files, NDOM
- State and Federal Permits Required Before Mining or Milling Can Begin - February 2015 &
- YouTube Channel, NDOM

Other Important Links

- Comparison of Federal and State Small Exploration and Small Mining Project Authorities &
- Nevada Bureau of Mines and Geology

Programs

- ABANDONED MINE LANDS
- BOND POOL
- DISSOLVED MINERAL RESOURCE EXPLORATION
- EDUCATION & OUTREACH
- GEOTHERMAL
- MINING