



Navajo Transitional
Energy Company

Coexisting with Industry: Ferruginous Hawk Nesting at a Navajo Mine

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Navajo Transitional Energy Company – Navajo
Mine

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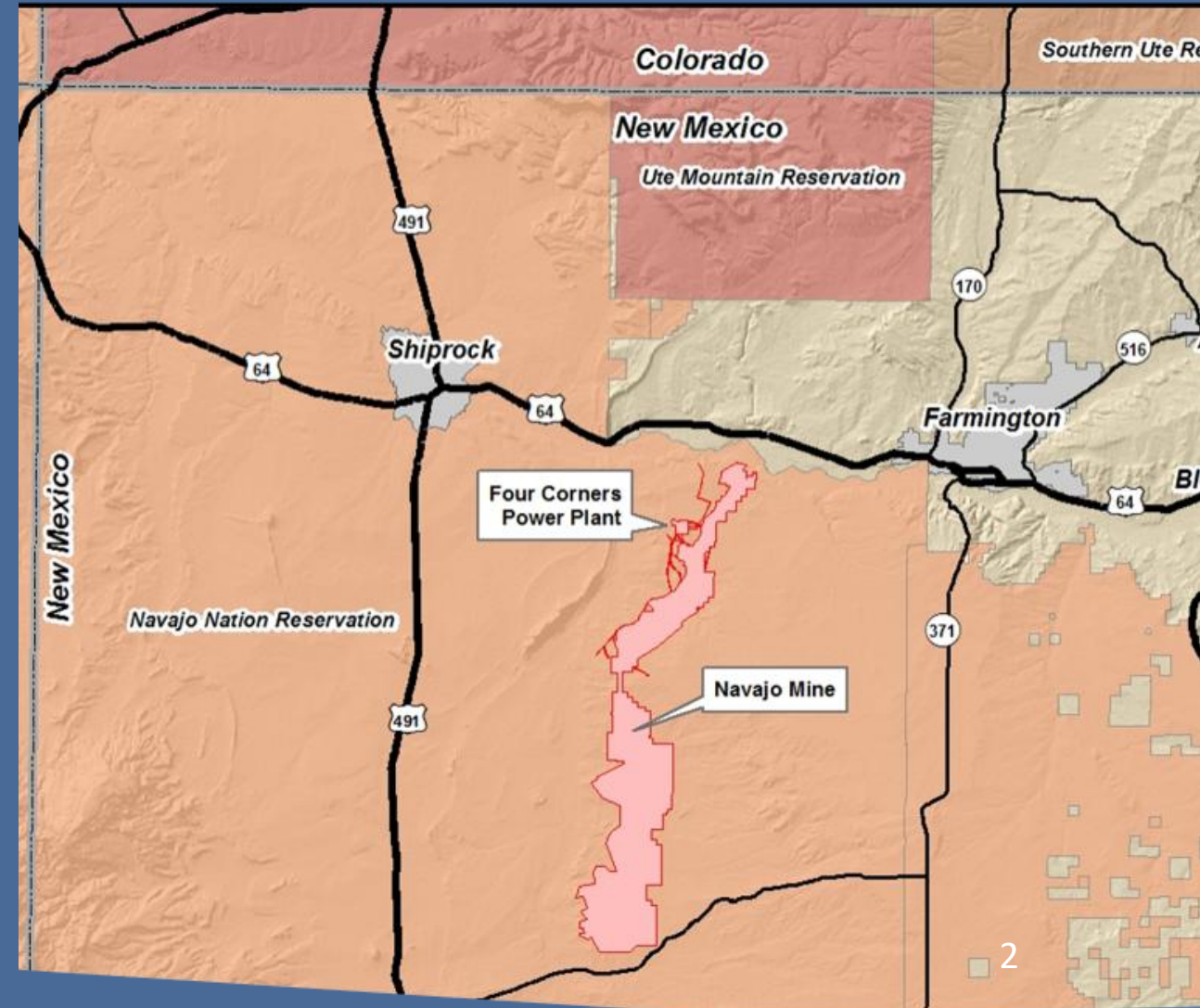
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Navajo Transition Energy Company - Navajo Mine

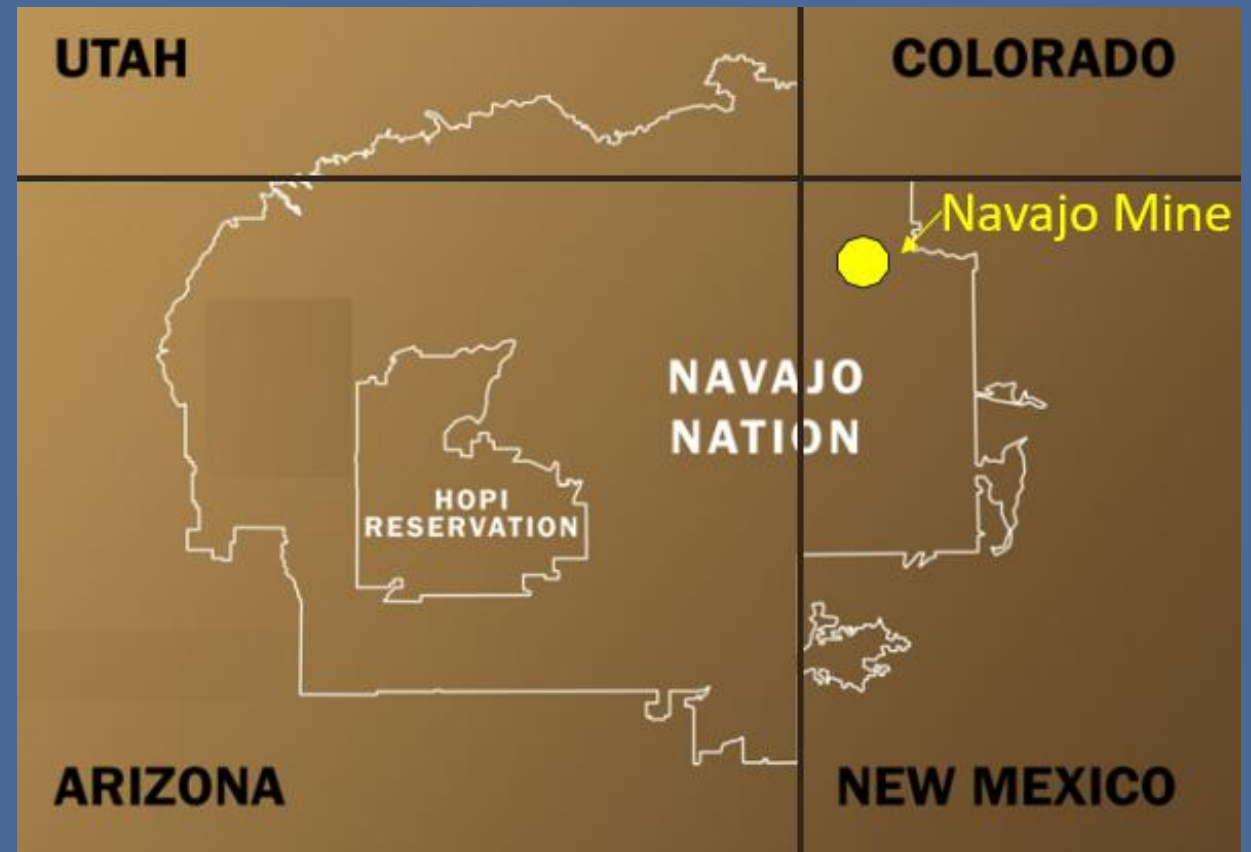


- Located in the Southwestern Corner of New Mexico on Navajo Reservation in Fruitland, New Mexico.
- New Mexico is a high-desert state with diverse terrain and a dry, mostly sunny, arid to semi-arid climate.
- Operations began in 1963, approximately 35,000-acre lease area.
- Produces 5 million tons/year.
- Navajo Mine workforce is 75% Navajo staffed in professional and hourly positions.



Navajo Nation: Land and Culture

- Navajo reservations population is approximately 400,000.
- Navajo culture, beliefs and traditional values are a continued practice on the reservation.
- Navajo people belief in Hózhó (Harmony and Balance)
 - Importance in daily life, health, and work.
- The Navajo Nation is a self-governing nation with its own government and laws.



Ferruginous Hawk Characteristics

- **Adult:**
 - Mostly white underparts and wings.
 - Rufous-colored legs (feathered to feet).
- **Immature:**
 - Whitish feathered fronts.
 - Lightly banded tail.
- **Habitat & Diet**
 - Lives in badlands, desert grasslands, and desert scrub.
 - Nests mostly on rocky high points (pinnacles, buttes, short cliffs <30 m or ~ 100 ft)
 - Rabbits (cottontail, jackrabbit)



Habitat Location & Types

- **Nesting Preferences**
 - Natural pinnacle formations.
 - Spoil pile near mining pit areas.
 - Rock outcrop on mining highwalls.
- **Nesting Territories**
 - Established territories in proximity of nesting sites in spoil piles and highwalls.
 - Located in and around the mine lease area.
- **Nesting Surveys**
 - Conducted annually specifically for ferruginous hawks
 - In coordination with NNFWS, nesting territories were mapped out to observations.



The Balance Among Humans and Raptors

- **Cultural Importance**
 - The ferruginous hawk is important to the Navajo Nation as a symbol of guidance and protection, and efforts are made to protect it and its habitat.
- **Ecological Importance**
 - Maintain balance in the ecosystem for present and future reclaimed area.
- **Agency Protections Navajo Nation Department of Fish and Wildlife**
 - Developed management guidelines to protect the Ferruginous Hawk.
- **Reclaimed Landscape**
 - Spoil piles may support continued hawk occupancy during post-mining reclamation.



Ferruginous Hawk Status & Regulatory Protection

Category	Navajo Nation Fish & Wildlife (NNFW)	U.S. Fish & Wildlife Service (USFWS)
Jurisdiction	Navajo Nation	United States (federal)
Cultural Importance	Culturally important to Navajo people	Not specified
Ecological Role	Important predator for ecosystem balance	Not specified
Conservation Status	Listed as Group 3 – Threatened	Not listed under the Endangered Species Act
Conservation Classification	Tribal classification system	Identified as a Bird of Conservation Concern
Legal Protection	Managed under Navajo Nation Department of Fish & Wildlife policies	Protected under the Migratory Bird Treaty Act
Managing Authority	Navajo Nation Department of Fish & Wildlife	U.S. Fish & Wildlife



The Human Balance Approach

- Coordinate with regulatory agencies to continue mining activities and nesting success.
- Establish protective buffers to support nesting success.
- Conduct regular annual and raptor surveys and follow up.
- Collaborate with the mine workforce to support the success of the ferruginous hawk through effective communication.



Example of nesting preferences in mine spoil piles

- **Height:** Approximately 111 feet
- **Slope:** Approximately 30-45 degrees
- **Material Type:** Spoil material
- **Nest Composition:** Piñon and juniper tree limbs, animal hair, and natural grasses.



Possible Key Influences on Spoil Pile Nesting

- Close to existing established territories.
- Noise levels continuous but do not deter nesting.
- Limited impact from ground predators (foxes, coyotes).
- Reduced predator presence in areas with workforce activity.



Possible Key Influences on Spoil Pile Nesting (cont.)

- Gives them higher viewpoint to see wide view.
- Creates thermal air currents to aid in possible flight transitions compared to rock outcrop nesting.
- Fledging's may have a higher success rate of fledging vs outcrop nesting.



Spoil Nesting Success Years Outlook

- **2024**
 - 1 nest successful – 4 fledging's documented
- **2025**
 - 1 nest successful – 4-3 fledglings documented
- **2026**
 - 2 nest in progress – unknown



Advancing Opportunities for Wildlife Data and Information Research

- Conduct a long-term study on nesting behaviors (banding, tracking or gps packs).
- Compare nesting success on rock outcrops vs. spoil piles.
- Monitor nest platforms installed near established territories.



Questions?

