

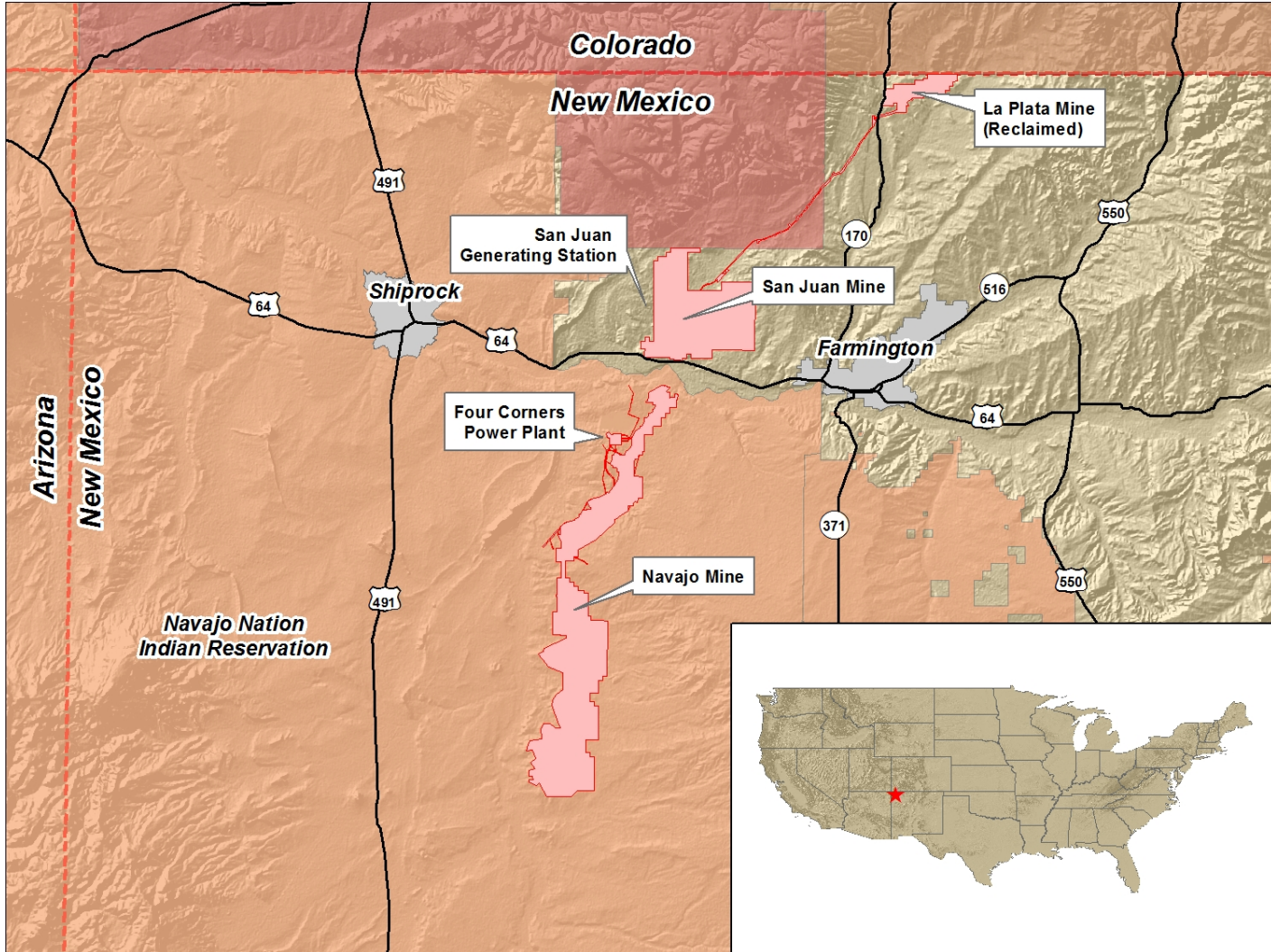


Transitioning From Clean Water Act Nationwide Permitting To Individual Permitting

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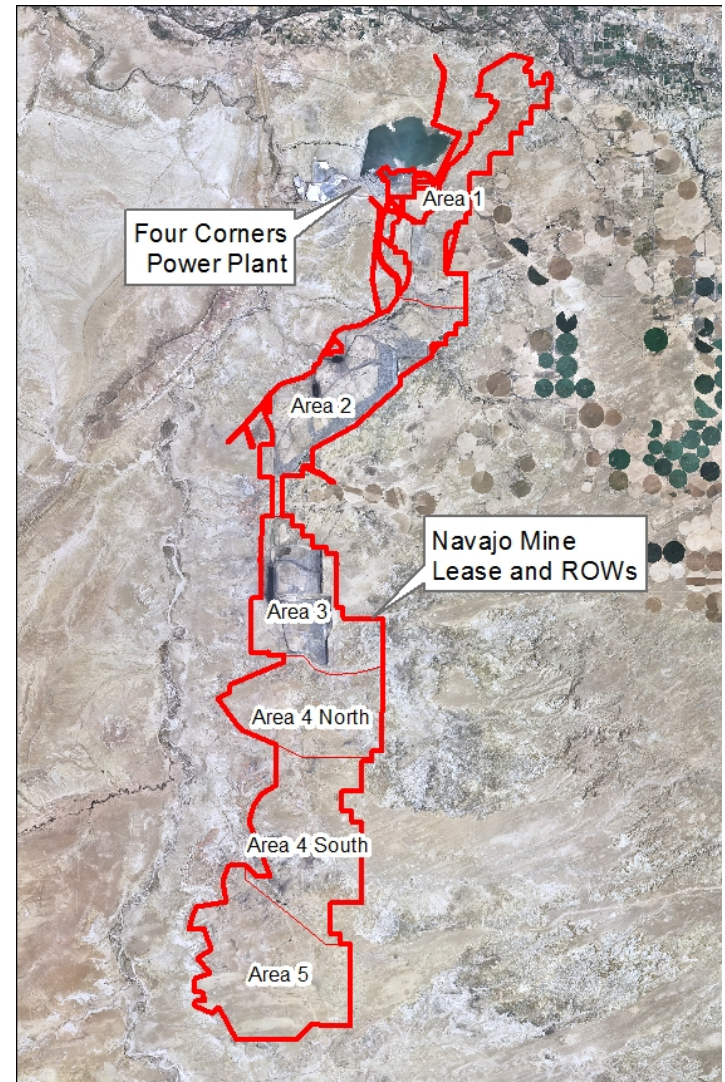
Location



BHP Navajo Coal Company (BNCC)

Navajo Mine

- Operations began in 1963
- 13,355 ha lease
- Average annual production of 8.5 to 9 million tons
- Sole supplier to Four Corners Power Plant (FCPP)
- Existing contract with FCPP through 6 July 2016



Waters of the United States (WUS)



Waters of the United States (WUS)



Definition

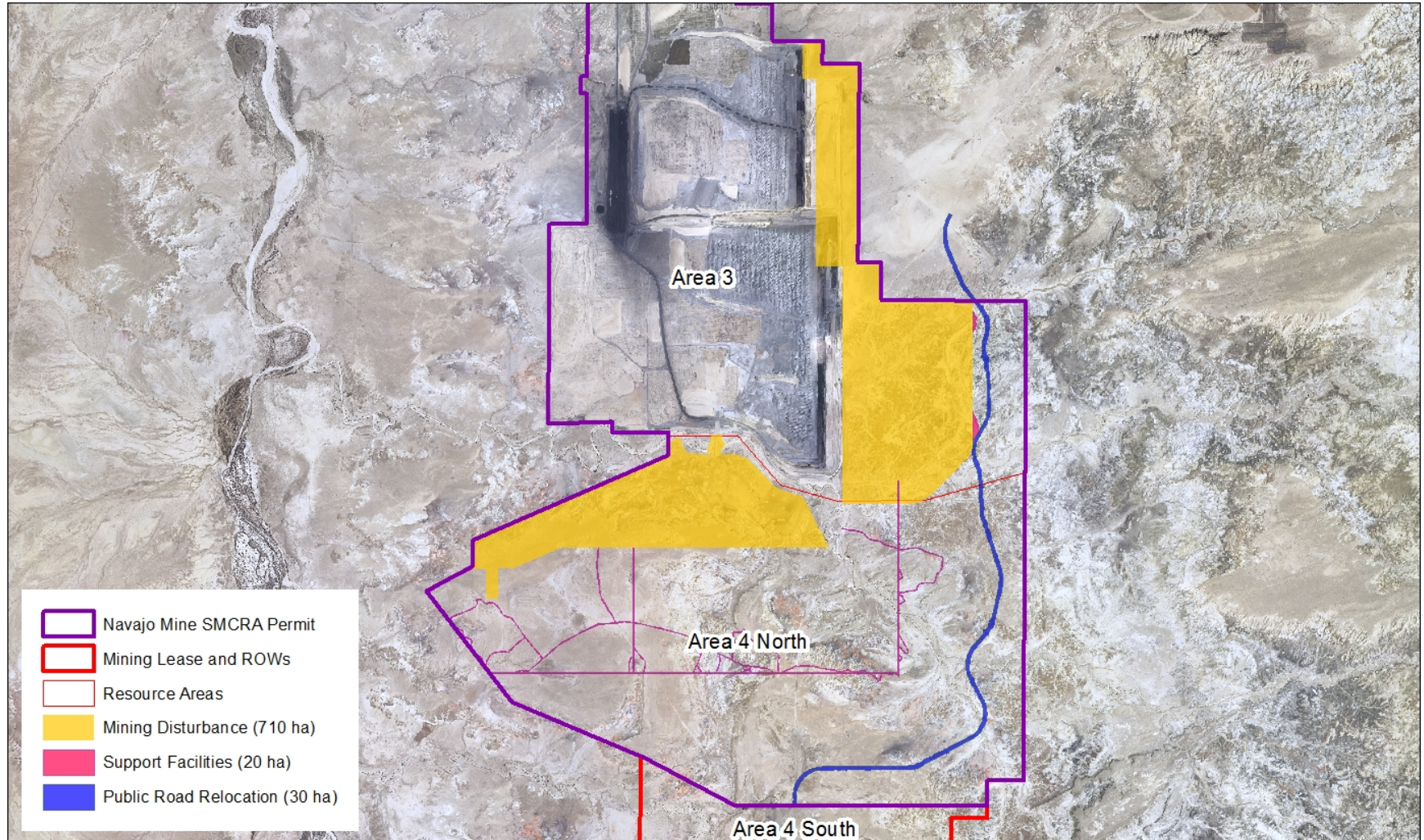
Waters of the U.S (WUS) are all waters, including lakes, impoundments, rivers, streams and their tributaries, and wetlands which could be used for interstate, or foreign, commerce and recreation. (see 40 Code of Federal Regulations 230.3(s) for a full definition)

Permitting

Impacts to WUS are permitted through either Nationwide Permits (NWP) or Individual Permits (IP).

- NWPs are valid for and must be renewed every 5 years.
 - Minimal impact acreage,
 - Short duration project, and
 - Minimal public interest.
- IPs permit impacts for the entire project.
 - More than minimal impact acreage,
 - Long-term projects, and
 - Significant public interest.

Pre-2016 Mining and Reclamation



Jurisdictional Determination

Jurisdictional Determination (JD)

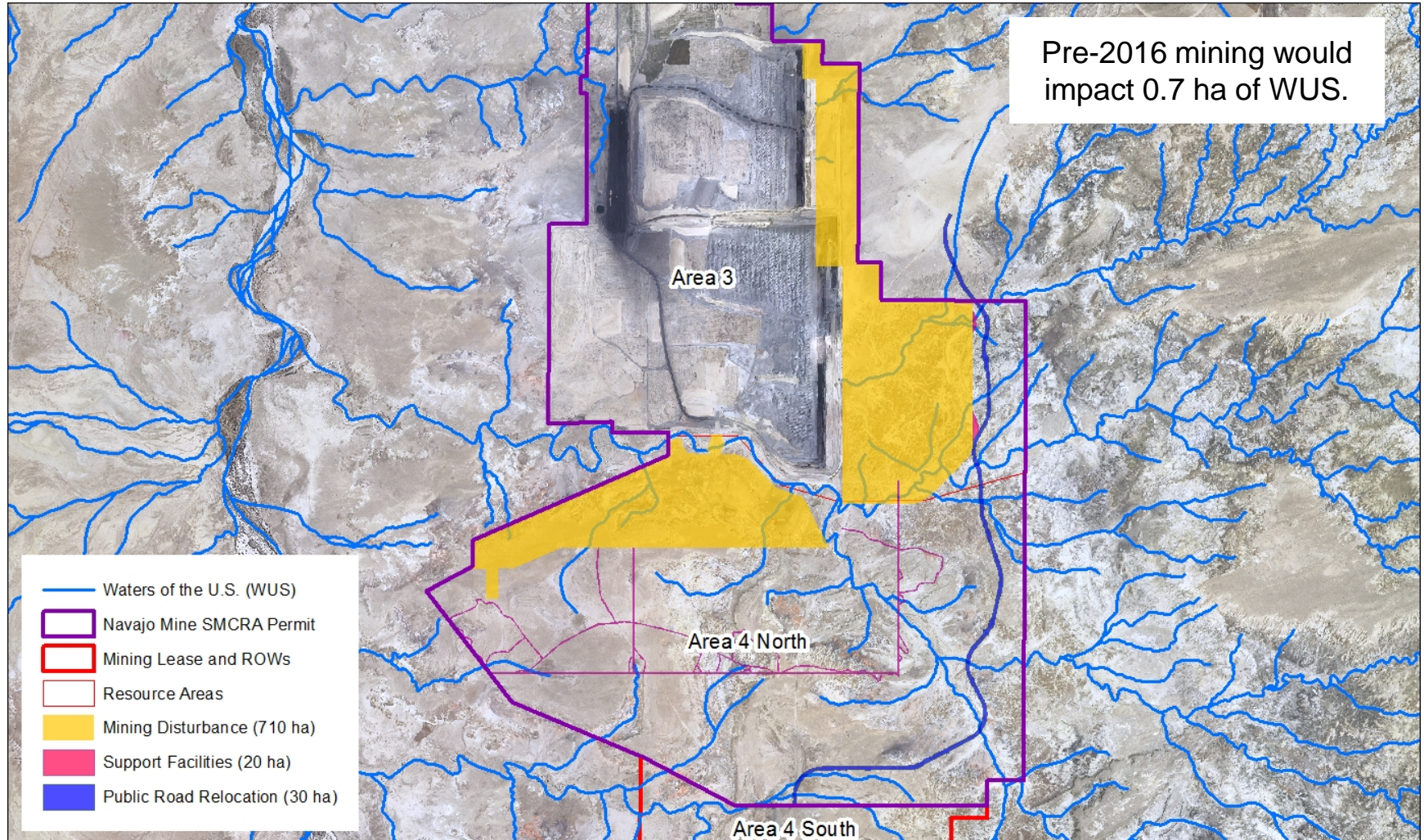
- Issued by the USACE and requires U.S. Environmental Protection Agency (USEPA) concurrence,
- Formal agency decision and can be challenged and appealed, and
- Generally takes longer for both USACE and USEPA approvals.

Preliminary Jurisdictional Determination (PJD)

- Issued by USACE, does not require USEPA concurrence,
- Non-binding, indicates there may be WUS present on-site,
- All WUS are treated as jurisdictional WUS for purposes of calculating impacts, and
- Applicant may complete a approved/ formal JD at a later date.

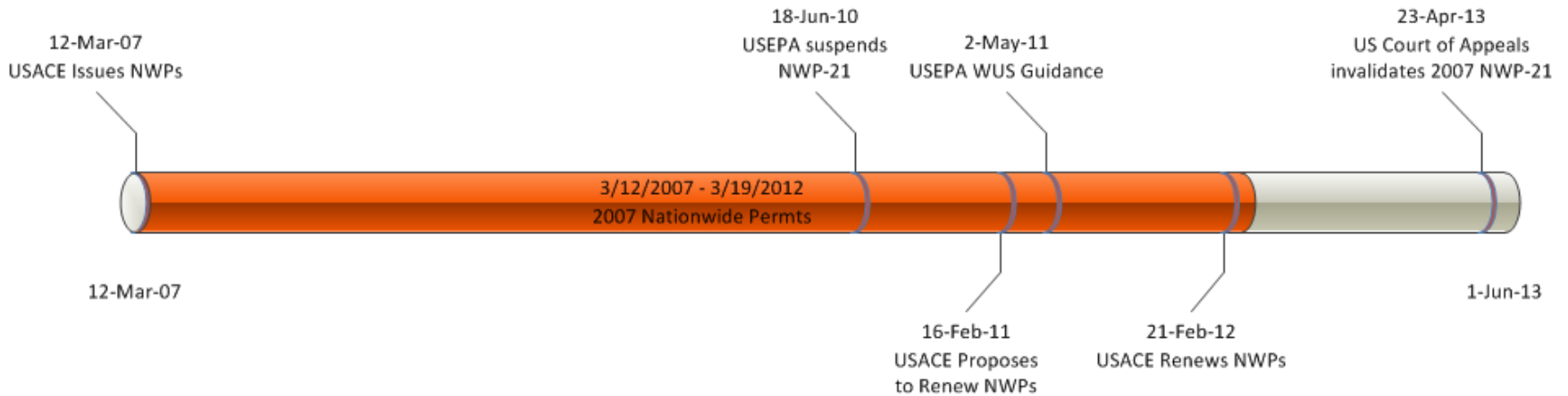
The PJD indicated the Pre-2016 mining activities would impact 0.7 ha of WUS.

Results of the Preliminary Jurisdictional Determination

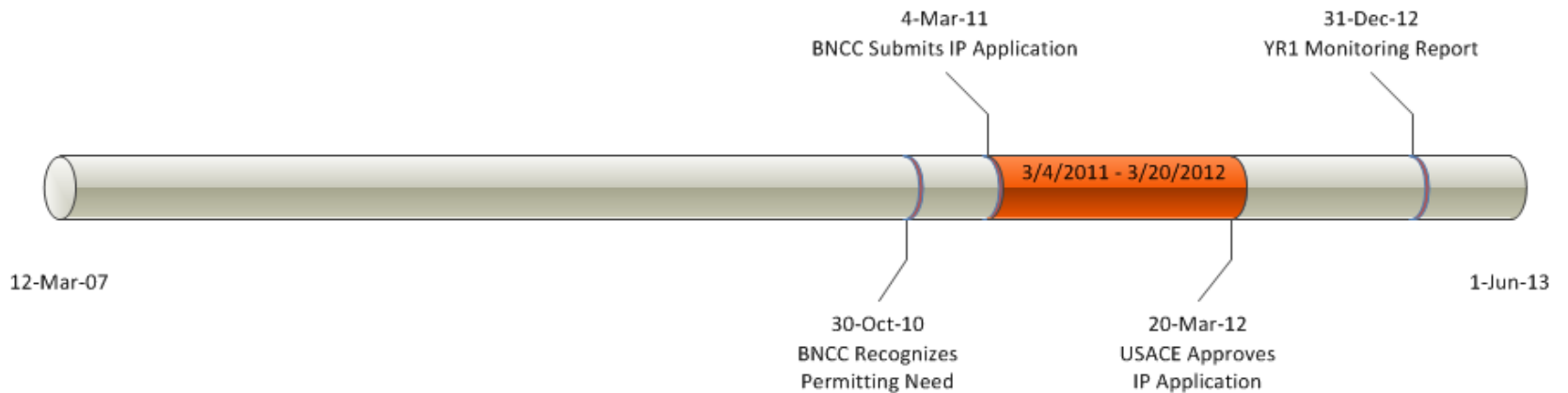


Timelines

Regulatory



Operational



USACE Permit SPA-2011-122

- Issued on 20 March 2012 to BHP Navajo Coal Company,
- Authorizes impacts to 0.7 ha of WUS for Pre-2016 mining activities, and
- Final mitigation ratio 3.9:1 (2.73 ha of mitigation for 0.7 ha of impact).

Permit Conditions

- Implement the *Lower Chinde Habitat Mitigation and Monitoring Plan* to mitigate the impacts to the WUS,
- Conduct annual monitoring, and
- Meet the performance standards of the mitigation plan after 5 years.

Lower Chinde Habitat Mitigation and Monitoring Plan



Lower Chinde Habitat Mitigation and Monitoring Plan

Mitigation Plan Components

- Monitoring well installation,
- Exotics removal, and
- Riparian enhancement.



Lower Chinde Habitat Mitigation and Monitoring Plan

Monitoring Well Installation

- Installed 4 monitoring wells for water level sampling.

Exotics Removal

- Removed of 3.7 ha of tamarisk (*Tamarix ramosissima*), Russian olive (*Elaeagnus angustifolia*), and Canada thistle (*Cirsium arvense*),
- Exotics removed with mechanical and chemical methods, and
- Follow up herbicide treatments will continue for 5 years.



Lower Chinde Habitat Mitigation and Monitoring Plan

Riparian Enhancement

Plantings installed a year after exotics removal.

Planting to consist of native species including Plains cottonwood (*Populus deltoides*), coyote willow (*Salix exigua*), New Mexico olive (*Forestiera neomexicana*), sumac (*Rhus trilobata*), and *Ribes spp.*

Willow plantings will potentially enhance endangered southwestern willow flycatcher (*Empidonax traillii extimus*) habitat.



Sumac containerized stock



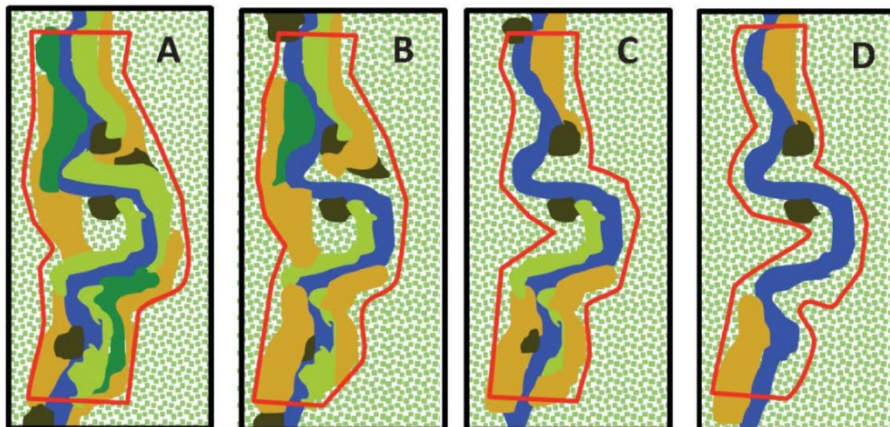
Willow pole plantings

Lower Chinde Habitat Mitigation and Monitoring Plan

Mitigation Performance Standards

Performance Standard	Threshold
Perennial exotic species	Less than 1% cover of perennial exotic species
Annual exotics species	Less than 3% cover of annual exotic species
Riparian Areas	<ul style="list-style-type: none"> - 8-10 co-dominate species, - A Horizontal Interspersion score of at least “B”, - No exotic species identified as co-dominant, and - Minimum 45% survival in year 5 for planted shrubs and trees.

Horizontal Interspersion



From California Wetlands Monitoring Workgroup (CWMW). 2013. California Rapid Assessment Method (CRAM) for Wetlands, Version 6.1 pp. 67

Benefits of Transitioning to an IP Versus a NWP

- Relieves operational burden of verifying NWP every 2 years,
- Relieves operational burden of renewing NWP permits every 5 years, and
- Provides long-term permitting stability (unless permit is revoked by USEPA).
 - An IP allows operator to permit a complete project, in this case all new mining impacts related to Pre-2016 mining operations.
 - A NWP only allows an operator to permit the impacts for the term of the NWP and provides no future certainty after that NWP term.

Challenges of Transitioning to an IP Versus a NWP

- Requires in-depth review of future mining operations and alternatives,
- Permitting triggers National Environmental Policy Act (NEPA), and
- Surface Mining Control and Reclamation Act (SMCRA) reclamation drainages may no longer be acceptable as Clean Water Act mitigation measures.

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