National Park Service
U.S. Department of the Interior
Glen Canyon National Recreation Area
Arizona

# ADOT De- icing Materials Building in Page, AZ

## Environmental Assessment

**August 2007**

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### Summary

The Arizona Department of Transportation's (ADOT) Page maintenance yard is responsible for maintaining 486 miles of road in north- central Arizona. The maintenance yard is located within an easement which is managed by ADOT within the boundary of Glen Canyon National Recreation Area (GLCA). As part of roadway maintenance, de- icing materials are used on roadways and are currently stored either off site, in 40 pound bags on pallets in an existing storage building, or on a concrete slab surrounded by cinder blocks. This project proposes construction of a de- icing storage building to contain de- icing materials with a catch basin and a storage tank to collect any runoff material and prevent salts from leaching into the soil or running off site. Materials collected in the storage tank maybe used for roadway de- icing or brought to a wastewater treatment plant for disposal. The maintenance yard currently does not have the facilities to contain and capture runoff de- icing materials. The proposed de- icing materials building will allow for the storage and containment of de- icing materials. The materials to be stored in this facility consist of salts (sodium chloride, potassium chloride, and magnesium chloride) and sand. The project site is within the existing fenced ADOT maintenance yard on highly disturbed ground and near other existing maintenance buildings. This Environmental Assessment evaluates two alternatives: Alternative A – a No Action alternative and Alternative B - an action alternative. The No Action alternative describes the current condition as if no de- icing building was constructed, while the action alternative addresses the construction of the de- icing building along with a pavement apron, containment basin, grading and drainage.

The Environmental Assessment has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide the decision- making framework that 1) analyzes a reasonable range of alternatives to meet objectives of the proposal, 2) evaluates potential issues and impacts to Glen Canyon National Recreation Area's resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. Resource topics analyzed in this document because of the potential impacts resulting in greater than minor effects from the project include Soils and Geology, Water Resources, and Threatened and Endangered Species. All other resource topics have been dismissed because the project would result in negligible or minor effects to those resources. No major effects are anticipated as a result of this project. Public scoping was conducted to assist with the development of this document and no issues or concerns were identified.

## Public Comment

If you wish to comment on the Environmental Assessment, you may enter them online at the National Park Service website Planning, Environment, and Public Comment (http://parkplanning.nps.gov/) or mailed to: Arizona Department of Transportation, Michael Daehler, 1611 W Jackson St., Mail Drop EM02, Phoenix, AZ 85007. Comments may also be e-mailed to *mdaehler@azdot.gov* or faxed 602-712-3066. This Environmental Assessment will be on public review until September 16, 2007. Before including your address, phone number, e- mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

# TABLE OF CONTENTS

## LIST OF FIGURES



## Appendices

Arizona Game and Fish "California Condor in Arizona" Brochure
Public Scoping Letter
Press Release
Arizona Department of Environmental Quality Letter
Arizona Game and Fish Online Environmental Review Tool
Preliminary Initial Site Assessment
ADOT Maintenance and Facility Best management Practices (BMP)

# PURPOSE AND NEED

## Introduction

Glen Canyon National Recreation Area (NRA) encompasses more than 1.2 million acres of land and water in northern Arizona and southeastern Utah. The southern boundary is contiguous with Navajo Nation lands. Other boundaries adjoin Grand Canyon National Park, Capitol Reef National Park, Canyonlands National Park, and Rainbow Bridge National Monument, all managed by the National Park Service (NPS). The recreation area also adjoins areas administered by the Bureau of Land Management (BLM), including Grand Staircase–Escalante National Monument and Vermilion Cliffs National Monument (which includes the Paria Canyon Wilderness).

The principal feature of the area is Lake Powell, which was formed by the Glen Canyon Dam on the Colorado River. At full pool, approximately 3,700 feet above mean sea level (amsl), the lake occupies approximately 163,000 surface acres, with about 1,960 miles of shoreline. The reservoir stores approximately 27 million acre- feet of water.

The ADOT maintenance yard in Page, Arizona was established in 1958 on an easement from the Bureau of Land Management. This easement transferred to the National Park Service in 1972 with the establishment of Glen Canyon National Recreation Area. The maintenance yard is located north of Page on US 89 at milepost 551. The ADOT staff working at the maintenance yard are responsible for maintaining 486 miles of road in north- central Arizona.

The purpose of this Environmental Assessment and Assessment of Effect is to examine the environmental impacts associated with the proposal to construct a new de- icing materials building at the ADOT Page maintenance yard. This Environmental Assessment / Assessment of Effect has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (CEQ) (40 CFR 1508.9), and the National Park Service Director's Order (DO)- 12 (*Conservation Planning, Environmental Impact Analysis, and Decision- making*).

## Purpose

The purpose of this project is to provide an appropriate structure for the storage of de-icing materials at the Arizona Department of Transportation (ADOT) Page maintenance yard. In the past ADOT has primarily used cinders on the roadway as a de- icing material. ADOT is now transitioning from cinders to salts because in many cases salts work better than cinders as the salt keeps snow from firmly sticking to the pavement. Salts also last longer than cinders and work in a broader range of conditions. Cinders can be crushed by traffic and produce airborne dust, which contributes to pollution and

health concerns. Cinders are easily blown off roadways by traffic, can cause damage to vehicle windshields and paint, and require repeated applications.

When storing salts, there is the potential for these materials to run off site and to leach into the soil in the area where they are being stored. The Page maintenance yard currently does not have an adequate storage facility to collect potential runoff material. The proposed de- icing materials building with a catch basin and storage tank would prevent salts from running offsite or leaching into the soil.

## Need

During winter months it is sometimes necessary to use de- icing materials on the state roadways to prevent ice from forming on roads. These de- icing materials, salt and sand, require storage in a structure that protects them from the elements. As ADOT transitions from cinders to salts, it becomes necessary to store these materials in a structure that will prevent leaching or ground contamination.

Aerial Photograph of ADOT Maintenance Yard in Page, Arizona – 5/17/06. Yellow Box represents the approximate location of Proposed De- icing Materials Building in the southwest corner of the yard.

**Figure 1 – Project Location Map**

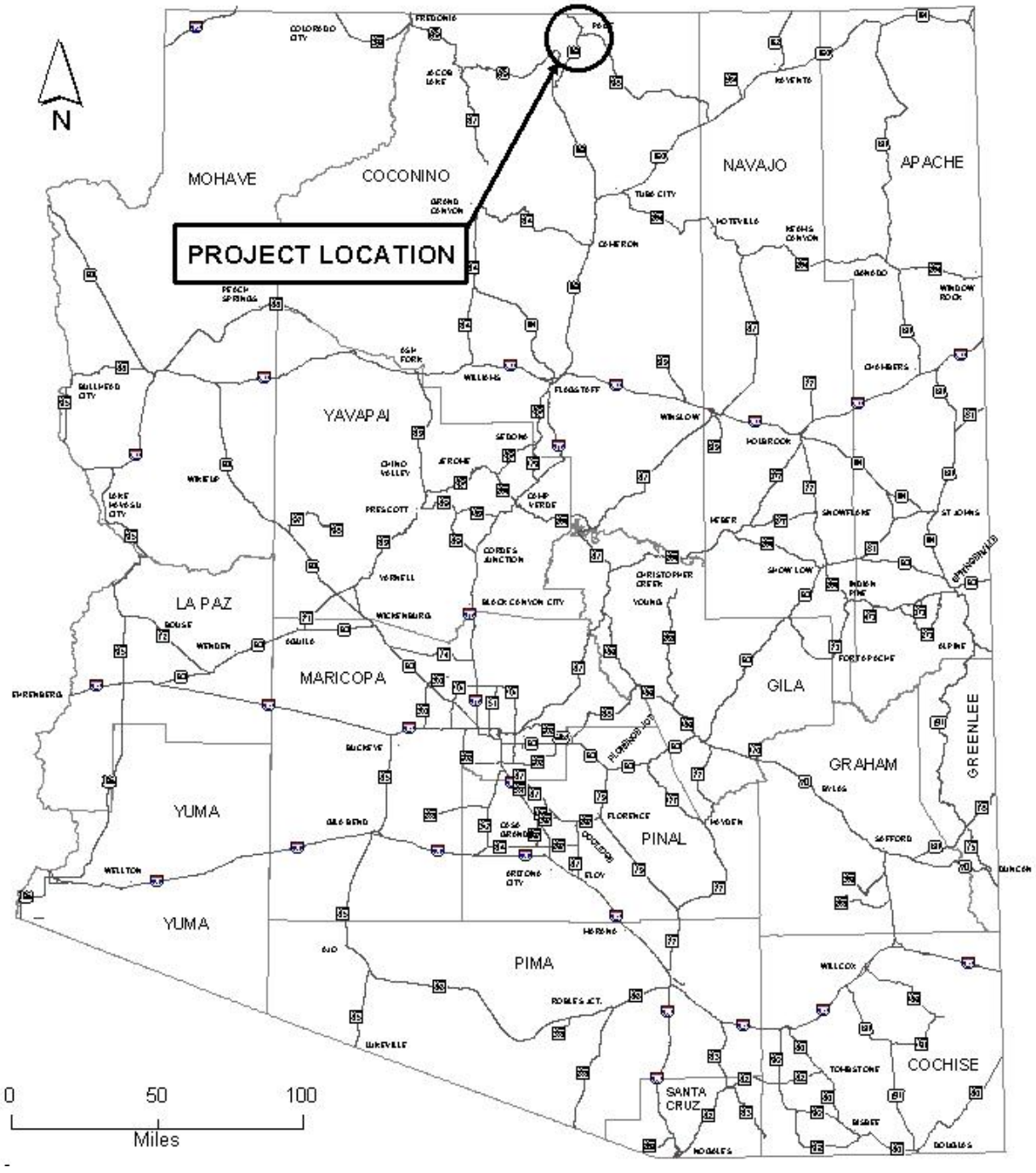
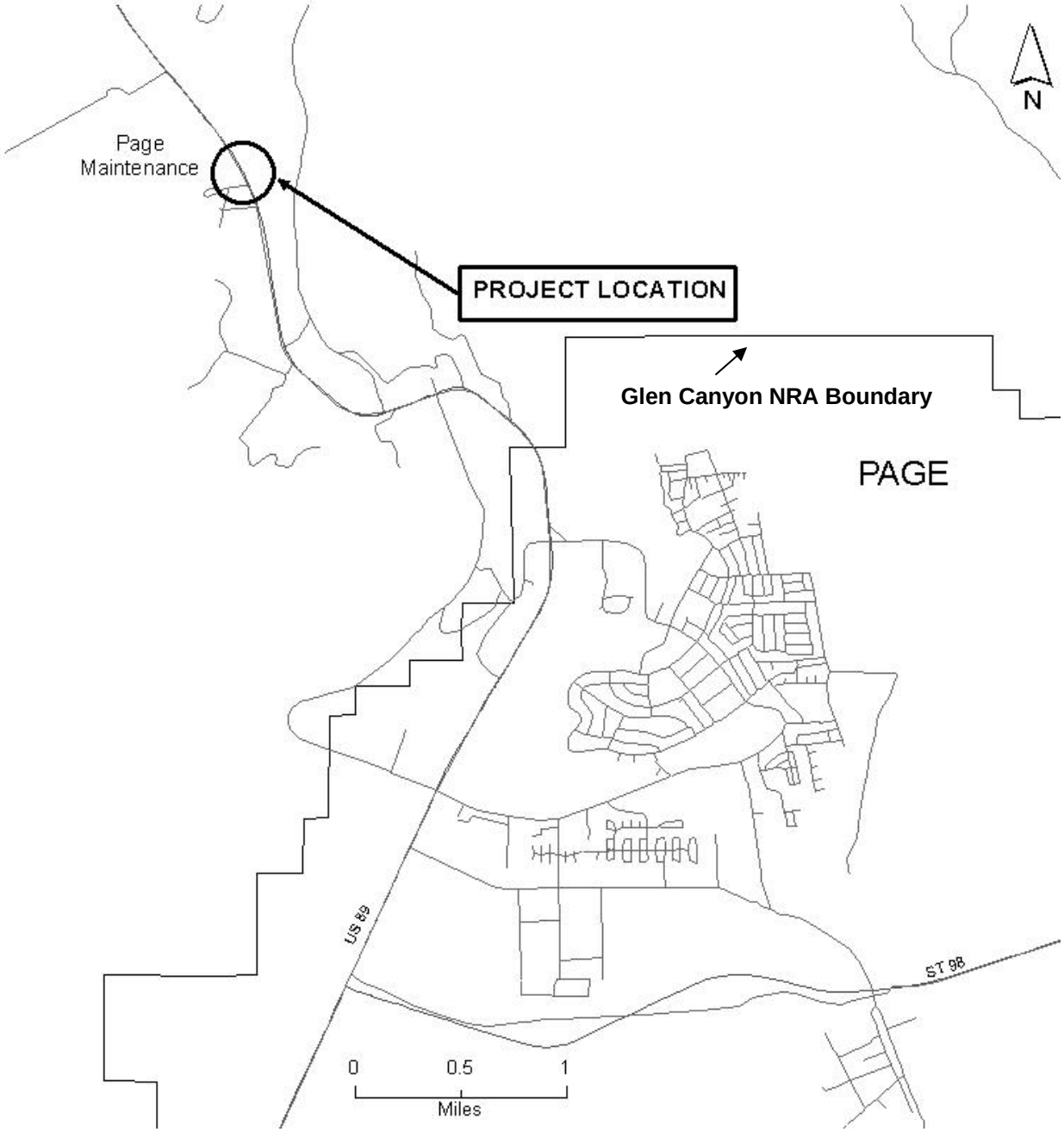


**Figure 2 – Vicinity Map**



## Public Scoping

Scoping is an early and open process to determine the breadth of environmental issues and alternatives to be addressed in an environmental assessment/assessment of effect. Scoping has been conducted with the appropriate NPS staff and external scoping with the public and interested and affected groups and agencies.

This interdisciplinary process defined the purpose and need, identified potential actions to address the need, determined what the likely issues and impact topics would be, and identified the relationship, if any, of the proposed action to other planning efforts at the NRA.

A press release describing the proposed action was issued on March 16, 2007. American Indian tribes traditionally associated with the lands of the Glen Canyon NRA and others with whom park staff regularly consults were also apprised by letter of the proposed action on March 16, 2007. Public scoping notifications were also posted on the Planning, Environment,& Public Comment (PEPC) webpage for the National Park Service at (http://parkplanning.nps.gov/) (see appendix for the text of both).

During the 30- day scoping period no public responses were received.

## Impact Topics Retained for Further Analysis

Impact topics for this project have been identified on the basis of federal laws, regulations, and orders, National Park Service *2001 Management Policies*; and National Park Service knowledge of resources at Florissant Fossil Beds National Monument. Impact topics that are carried forward for further analysis in this Environmental Assessment / Assessment of Effect are listed below along with the reasons the impact topic is further analyzed. For each of these topics, the following text also describes the existing setting or baseline conditions (i.e. affected environment) within the project area. This information will be used to analyze impacts against the current conditions of the project area in the *Environmental Consequences* chapter.

### Threatened and Endangered Species

The species from the U.S. Fish and Wildlife Service (USFWS) threatened, endangered species list was obtained from the USFWS website and reviewed by a qualified biologist from ADOT to determine species potentially occurring in the project vicinity.

Additionally, a list of species potentially occurring within the project area was obtained using the Arizona Game and Fish Department (AGFD) On- Line Environmental Review Tool. A list was provided by AGFD identifying the following species as occurring in the project area: Bald Eagle (*Haliaeetus leucocephalus*) wintering population. The California

condor (*Gymnogyps californianus*) was listed by the NPS as a species of concern within the project area. For these reasons, the topic of threatened and endangered species has been carried forward for further analysis.

**Water Resources**

National Park Service policies require protection of water quality to be consistent with the Clean Water Act. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters". To enact this goal, the U.S. Army Corps of Engineers has been charged with evaluating federal actions that result in potential degradation of waters of the United States and issuing permits for actions consistent with the Clean Water Act. The U.S. Environmental Protection Agency also has responsibility for oversight and review of permits and actions, which affect waters of the United States.

The proposed project area does not contain surface waters, and is mostly dry, except for periodic runoff during storm events. Water quality, water quantity, and drinking water are not expected to be affected by the project. Due to this being a construction project this topic has been carried forward for further analysis.

**Soils**

According to the National Park Service's *2001 Management Policies*, the National Park Service will preserve and protect geologic resources and features from adverse effects of human activity, while allowing natural processes to continue (NPS 2000). These policies also state that the National Park Service will strive to understand and preserve the soil resources of park units and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.

The proposed construction of a new de- icing materials building would be located in an area that does not contain significant topographic or geologic features. Further, the general location for the new de- icing materials building has been previously disturbed by the activities associated with the maintenance yard. Minor modifications of the topography maybe required to facilitate a level surface on which to construct the building which would have a negligible to minor effect to the topography of this area. The building construction would also require excavation which would displace and disturb soils, primarily in the footprint of the new building.

Given that there are no significant topographic or geologic features in the project area, and because the area has been previously disturbed, the proposed actions would result in negligible to minor, temporary and permanent adverse effects to topography, geology, and soils. Because this is a construction project, this topic has been carried forward for further analysis.

## Impact Topics Dismissed From Further Analysis

Some impact topics have been dismissed from further consideration, as listed below. The rationale for dismissing these specific topics is stated for each resource.

### Land Use

The construction of a de- icing materials storage building within the Page maintenance yard is consistent with the current land use. There will be no new impacts or changes to topography or vegetative community. Therefore land use was dismissed from further consideration.

### Visual Resources

Under the preferred alternative, there would be no impact to visual resources as a result of a new structure within the Page maintenance yard. This new structure would be consistent with the current visual setting of the maintenance yard and would be no more visible than any other building within the ADOT facilities to the visitors of the National Recreation Area (NRA). Therefore, visual resources have been dismissed as an impact topic.

### Prime and Unique Farmlands

In August 1980, the Council on Environmental Quality (CEQ) directed that federal agencies must assess the effects of their actions on farmland soils classified by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) as prime or unique. Prime or unique farmland is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. According to NRCS, none of the soils in the project area are classified as prime and unique farmlands. Therefore, the topic of prime and unique farmlands was dismissed as an impact topic in this document.

### Socioeconomic Environment

The proposed action would neither change local and regional land use nor impact the public road to the maintenance yard because the maintenance yard is not currently accessible to the public, businesses or other agencies. The project area is more than one- half mile south of the nearest road. An informal trail to the project area would be closed to park visitors for a period of one to two days, which would have negligible impacts upon park visitation. Therefore, socioeconomic environment will not be addressed as an impact topic in this document.

### Environmental Justice

Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low- Income Populations," requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low- income populations and communities. The proposed action would not have disproportionate health or environmental effects on minorities or low- income populations or communities as defined in the Environmental Protection Agency's Environmental Justice Guidance (1998) because these population do not occur in the project area. Therefore, environmental justice was dismissed as an impact topic in this document.

### Air Quality

The federal 1970 Clean Air Act stipulates that federal agencies have an affirmative responsibility to protect a park's air quality from adverse air pollution impacts. Glen Canyon NRA is in class III air shed and the project would not significantly contribute to existing emissions. The air quality issue was eliminated from further consideration because construction activities would not significantly impact air quality.

### Clean Water Act Sections 404 and 401

The proposed construction activity does not involve the discharge of dredged or fill material into waters of the US; therefore, no Clean Water Act Section 404 permit or Section 401 certification is required.

### Floodplains

The project is located in an area that has not been delineated on the Federal Emergency Management Agency Flood Insurance Rate Map for the 100- year floodplain. Impacts to floodplains typically occur when the topography within a floodplain is substantially modified either by placement or removal of materials within the floodplain. Because this is a construction project within an existing maintenance yard, this project will not substantially modify the floodplain topography in the project area. Therefore, no impacts to floodplains are anticipated.

### Wild and Scenic Rivers

There are no wild or scenic rivers in the vicinity of this project; therefore, there will be no impact to any wild or scenic rivers as a result of this project.

## Wetland and Riparian Areas

There are no wetlands or riparian area in the project area; therefore, there will be no impact to wetlands or riparian areas as a result of this project.

## Hazardous Materials

A hazardous materials site assessment was conducted for the project area. No hazardous materials concerns were identified. No further hazardous materials assessment is required. If suspected hazardous materials are encountered during construction, work will cease at that location and the ADOT Engineer will be contacted to arrange for proper assessment, treatment, or disposal of those materials (Preliminary Initial Site Assessment in appendix).

## Cultural Resources

The area within the Page maintenance yard has been disturbed to such an extent that any cultural resources could not have retained integrity: therefore the proposed action does not have the potential to affect cultural resources. Glen Canyon NRA has a programmatic agreement with Arizona State Historic Preservation Office (SHPO) which allows the park's cultural resources team to forgo direct consultation with SHPO in situations where no cultural resources were located during an inventory. In these situations the project information is submitted to SHPO by the park staff in a bi- annual report. Additionally, ADOT also has a programmatic agreement with the Arizona SHPO, which allows them to make a determination of no adverse impacts and forego further consultation. These situations are also submitted to the SHPO by ADOT in a quarterly report.

As outlined in both agreements, if previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location and shall take all reasonable steps to secure the preservation of those resources. The ADOT Engineer will contact the ADOT Environmental Planning Group, Historic Preservation Team at 602- 712- 7767 and the GLCA Cultural Resource Specialist at 928- 608- 6200 immediately and they will make arrangements for proper treatment of those resources.

# ALTERNATIVES CONSIDERED

## Alternatives Carried Forward

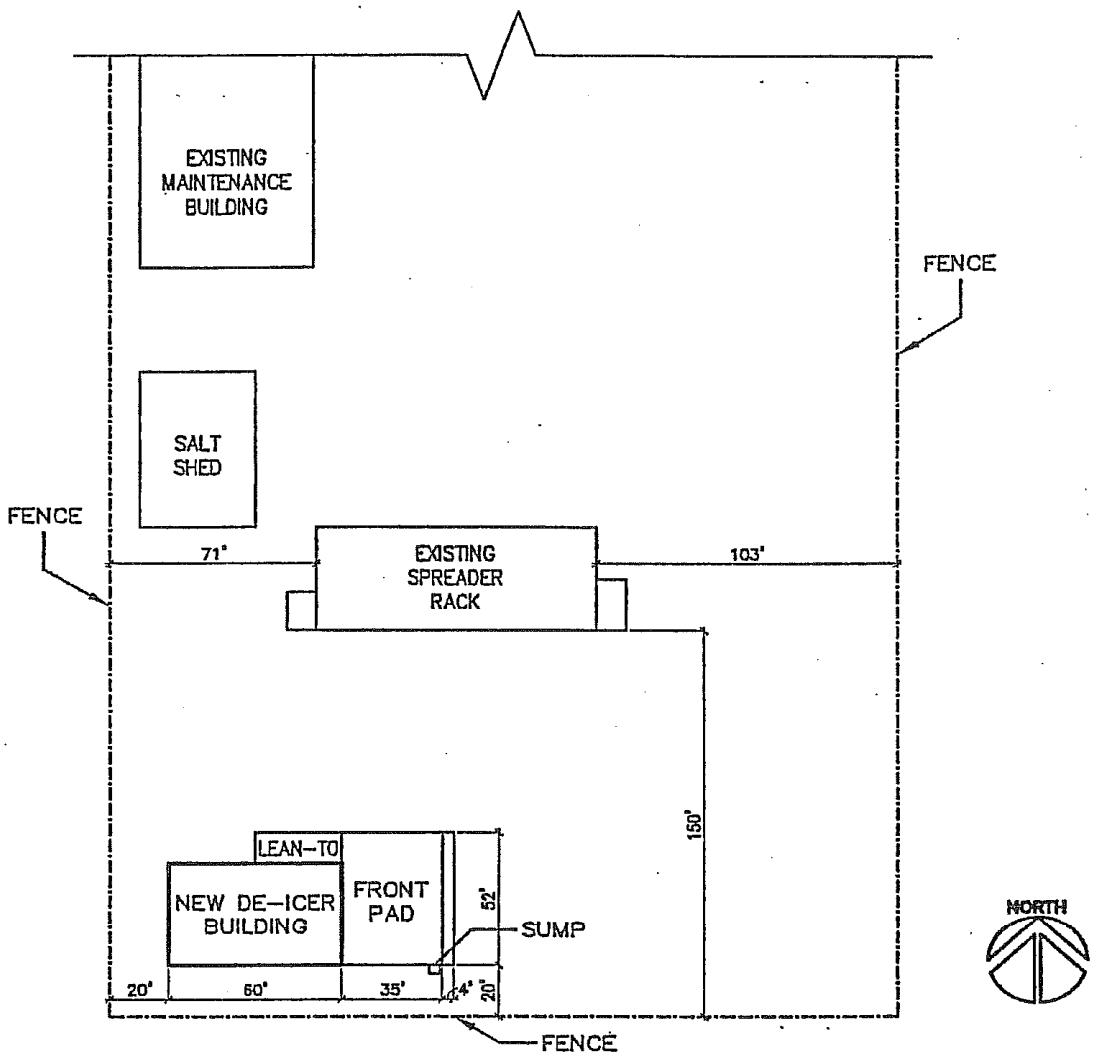
### No Action Alternative

With the no- action alternative ADOT would not construct a de- icing materials building at the Page, AZ maintenance yard. The needed de- icing materials would have to be stored at other ADOT facilities and would not be readily available in the Page, AZ area. There would be no new or additional environmental consequences associated with the no- action alternative

### Preferred Alternative
### Alternative B – Construct New De- icing Materials Building

(Alternative B is the preferred alternative) and includes the construction of a 60- x 40- foot de- icing materials building, a 52- x 35- foot concrete pad in front of the new building, and catch basin with a collection tank to collect any run- off material. This would make the needed de- icing materials readily available.

**Figure 3 – Preferred Alternative – Construct New De- icing Materials Building**




# SITE PLAN

NOT TO SCALE

A FIRE EXTINGUISHER WILL BE PROVIDED AT EACH OVERHEAD DOOR BY THE DISTRICT.

THE NEW BUILDING IS FOR STORAGE OF SAND AND DE-ICING MATERIALS. MATERIALS ARE LOADED INTO DUMP TRUCKS FOR DELIVERY. NO OTHER TASKS WILL BE CONDUCTED IN THIS BUILDING. NO ONE WILL OCCUPY THE BUILDING FOR LONGER THAN ONE HOUR AT A TIME DURING THE ABOVE NOTED TASK.

## Mitigation Measures

The following mitigation measures have been developed to minimize the degree and/or severity of adverse effects, and would be adhered to during implementation of the preferred alternative:

- To prevent the introduction of invasive species seeds, all construction equipment shall be washed at the contractor's storage facility prior to entering the construction site.

- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation debris prior to leaving the construction site.

- During Phase IV of the final design, the Arizona Department of Transportation project manager will contact the Arizona Department of Transportation Environmental Planning Group hazardous materials coordinator (602.712.7767) to determine the need for additional site assessment.

- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location and shall take all reasonable steps to secure the preservation of those resources. The ADOT Engineer will contact the ADOT Environmental Planning Group, Historic Preservation Team, at 602- 712- 7760 and the GLCA Cultural Resource Specialist at 928- 608- 6200 immediately and they will make arrangements for proper treatment of those resources.

- If prior to the ignition of a Debris Pile Burn, a Condor is spotted directly on or over the project site, activities will cease until the bird leaves or is driven off by a Glen Canyon NRA biologist.

- Project workers and supervisors are instructed to avoid interaction with Condors and to immediately contact the appropriate Park personnel (Mr. John Spence, at 928- 608- 6267 if and when Condor(s) settle at the project site.

- During construction, the project site will be cleaned up at the end of each day (e.g., trash removed, scrap materials picked up) to minimize the likelihood of Condors visiting the site.

- During construction, all dead animals found within 500- feet of the project zone will be immediately disposed of by placing in the carcass the nearest available dumpsters.

- To prevent water contamination and potential poisoning of Condors during construction, a Spill Prevention and Cleanup Plan will be developed and implemented for this project prior to construction. It will include provisions for immediate clean- up of any hazardous substance, and will define how each hazardous substance will be treated in case of leakage or spill. This plan needs to consider possible leakage from support vehicles as well as the drill rig(s). Please forward a digital copy on CD of the plan for approval prior to construction to the Glen Canyon NRA Environmental Specialist, Ms. Barbara Wilson. Her address is Glen Canyon National Recreation Area, P.O. Box 1507, Page, AZ 86040.

- All project personnel will be given a copy of the current Arizona Game and Fish Department brochure entitled "California Condors in Arizona". A copy is available in the appendices.

- Project personnel are strictly prohibited from hazing Condors (chasing, flapping arms, throwing objects, honking horn, etc.)

## Identification of the Environmentally Preferred Alternative

The Council on Environmental Quality defines the environmentally preferred alternative as "…the alternative that will promote the national environmental policy as expressed in the National Environmental Policy Act's §101." Section 101 of the National Environmental Policy Act states that "… it is the continuing responsibility of the Federal Government to …

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."

The no- action alternative would fail to meet the requirements of policies 2 and 3. The state highway system provides many vital links for visitors to access the Glen Canyon NRA. Without de- icing materials in close proximity to these roadways there is a greater risk to health and/or safety, and a potential for undesirable or unintended consequences, such as ice forming on the roadway.

The preferred alternative does not degrade or diminish the current environment of the maintenance yard beyond that of the no action alternative. The preferred alternative more fully meets the requirements of policies 1- 6.

# ENVIRONMENTAL CONSEQUENCES

This chapter analyzes the potential environmental consequences, or impacts, that would occur as a result of implementing the proposed project. Topics analyzed in this chapter include Threatened, Endangered, And Sensitive Species. Direct, indirect, and cumulative effects, as well as impairment are analyzed for each resource topic carried forward. Potential impacts are described in terms of type, context, duration, and intensity. General definitions are defined as follows, while more specific impact thresholds are given for each resource at the beginning of each resource section.

- ***Type*** describes the classification of the impact as either beneficial or adverse, direct or indirect:

  - Beneficial: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.

  - Adverse: A change that moves the resource away from a desired condition or detracts from its appearance or condition.

  - Direct: An effect that is caused by an action and occurs in the same time and place.

  - Indirect: An effect that is caused by an action but is later in time or farther removed in distance, but is still reasonably foreseeable.

- ***Context*** describes the area or location in which the impact will occur. Are the effects site- specific, local, regional, or even broader?

- ***Duration*** describes the length of time an effect will occur, either short- term or long- term:

  - Short- term impacts generally last only during construction, and the resources resume their pre- construction conditions following construction.

  - Long- term impacts last beyond the construction period, and the resources may not resume their pre- construction conditions for a longer period of time following construction.

***Intensity*** describes the degree, level, or strength of an impact. For this analysis, intensity has been categorized into negligible, minor, moderate, and major. Because definitions of intensity vary by resource topic, intensity definitions are provided separately for each impact topic analyzed in this Environmental Assessment.

**Cumulative Effects:** The Council on Environmental Quality (CEQ) regulations, which implements the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), requires assessment of cumulative impacts in the decision- making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non- federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for both the No Action and Preferred Alternatives.

Cumulative impacts were determined by combining the impacts of the preferred alternative (constructing a de- icing materials building at the ADOT Page, AZ maintenance yard) with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Glen Canyon National Recreation Area and, if applicable, the surrounding region. The geographic scope of this analysis includes elements within the ADOT Maintenance Yard, as well as the area surrounding the Highway 89 corridor where it traverses Glen Canyon NRA. The temporal scope includes project within a range of 10 years. Given this, the following projects were identified for the purpose of conducting the cumulative effects analysis, listed from past to future:

- **Wahweap Wastewater Treatment and Disposal Facilities Upgrade, 2002:** 7 miles of pipeline were installed between the existing Wastewater Treatment Facility for Wahweap and the City of Page Municipal Wastewater Treatment Plant. Once the pipeline was connected, the park stopped treating raw sewage and removed all equipment and treatment ponds. A large portion of the pipeline was installed along the US 89 Right of Way that the Arizona Department of Transportation has with the National Park Service.

- **Greenhaven Wastewater System Improvement Project, 2007:** Greenhaven, a residential neighborhood locate 3 miles north of the ADOT Maintenance yard, is proposing to install 6 miles of sewer pipeline within the US 89 Right of Way ADOT has with the National Park Service. This pipeline will connect with the pipeline installed for the Wahweap Wastewater Treatment and Disposal Facilities Upgrade. The connection will be made within the boundaries of Glen Canyon NRA near the South Entrance portal.

- **Page / LeChee Water Intake Project, 2009:** The City of Page proposes to install a water intake and pipeline to move water from Lake Powell to the city's water treatment facility. The Intake, which will be located on the south side of Colorado River channel, near Glen Canyon Dam. The intake and approximately 3500 feet of pipeline will be located on Right of Way supplied by Glen Canyon NRA to the City of Page. Once the pipeline reaches US 89, it will traverse the Right of Way that ADOT has with the City of Page.

**Impairment:** National Park Service's Management Policies, 2001 require analysis of potential effects to determine whether or not actions would impair park resources (NPS 2000b). The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values. However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values.

Although Congress has given the National Park Service the management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values. An impact to any park resource or value may constitute an impairment, but an impact would be more likely to constitute an impairment to the extent that it has a major or severe adverse effect upon a resource or value whose conservation is:

1. necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;

2. key to the natural or cultural integrity of the park; or

3. identified as a goal in the park's general management plan or other relevant National Park Service planning documents.

Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. A determination on impairment is made in the Conclusion section for each of the resource topics carried forward in this chapter.

## Threatened, Endangered, and Sensitive Species

### Methodology

The species from the U.S. Fish and Wildlife Service (USFWS) threatened, endangered, proposed, and candidate species list for Coconino County and was reviewed by a qualified biologist (Justin White/ADOT). The only two species known to occur within the project area are the California condor (*Gymnogyps californianus)* and the Bald Eagle (*Haliaeetus leucocephalus*), which is a wintering population that is only found on the

immediate shoreline of Lake Powell. California condors are known to frequent the US 89 corridor from Horseshoe bend Overlook to Lone Rock Beach. This approximately 13 miles of US 89 includes the ADOT maintenance yard. The Arizona Game and Fish Department's Heritage Data Management System and Project Evaluation Program (PEP) was also consulted via the Internet to generate a list of threatened and endangered species, and "species of concern" for Coconino County, Arizona that occur within two miles of the project location. The PEP listed only the wintering population of Bald Eagles. In consultation with the USFWS, Glen Canyon NRA biologists have developed a standard list of mitigation measures for construction projects, which have been incorporated into this document and will be incorporated into all construction plans and specifications.

**Intensity Level Definitions**

*Negligible*:An action that would not affect any individuals of a sensitive species or their habitat within Glen Canyon NRA.

*Minor*: An action that would affect a few individuals of sensitive species or have very localized impacts upon their habitat within Glen Canyon NRA. The change would require considerable scientific effort to measure and have barely perceptible consequences to the species or habitat function.

*Moderate*:An action that would cause measurable effects on: (1) a relatively moderate number of individuals within a sensitive species population, (2) the existing dynamics between multiple species (e.g., predator- prey, herbivore- forage, vegetation structure-wildlife breeding habitat), or (3) a relatively large habitat area or important habitat attributes within Glen Canyon NRA. A sensitive species population or habitat might deviate from normal levels under existing conditions, but would remain indefinitely viable within the monument.

*Major*:An action that would have drastic and permanent consequences for a sensitive species population, dynamics between multiple species, or almost all available critical or unique habitat area within Glen Canyon NRA. A sensitive species population or its habitat would be permanently altered from normal levels under existing conditions, and the species would be at risk of extirpation from the monument.

**Impact Analysis of Alternative B (Preferred Alternative)**

All potential impacts resulting from the preferred alternative would be limited to the ADOT maintenance yard. Since the maintenance yard is already a heavily disturbed area, and is currently being used for roadway maintenance activities, any potential impacts would be negligible. As condors are often attracted to human activity, the mitigation measures would ensure that individuals of this species will not be affected by the preferred alternative.

### Cumulative Effects

The cumulative impacts associated with the preferred alternative are negligible. There are no plans to expand the maintenance yard beyond its current boundaries and maintenance yard in already a highly disturbed area and does not have any suitable habitat for Threatened, Endangered or Sensitive species. The mitigation measures developed with the USFWS for the California condor have been or will be instituted by contractor building those projects identified as past, present, and/or reasonably foreseeable future actions. While condors are known to frequent the US 89 corridor, no condors have been seen at or above any construction projects completed within the last 10 years within this area.

### Impact Analysis of No Action Alternative

The No Action Alternative would have a negligible effect on Threatened, Endangered, or Sensitive species. If salts were to continue to be stored at the maintenance yard without an appropriate structure with a catch basin it may be possible for salt to run off site and possibly increase the salinity of Lake Powell waters; this in turn may affect the availability of wintering bald eagles to obtain sufficient prey in areas of high salinity. If salts were no longer going to be stored at the maintenance yard then there would be no effect on Threatened, Endangered, or Sensitive species.

### Cumulative Effects

The cumulative impacts associated with the no action alternative are negligible. There are no plans to expand the maintenance yard beyond its current boundaries and maintenance yard in already a highly disturbed area and does not have any suitable habitat for Threatened, Endangered, or Sensitive species. If salts were to continue to be stored without an appropriate facility there could be an increase in the salinity of the soils and water in the area which may have a negligible effect on Threatened, Endangered, or Sensitive species. This effect would not or has not increased with the construction or planned construction of present and/or foreseeable future projects as they would not contribute more salt to the environment.

### Conclusion

Both the No Action Alternative and the Preferred Alternative would not result in any new or cumulative impacts on Threatened, Endangered, or Sensitive species, Since there are no adequate areas in or around the maintenance yard for Bald Eagles to perch, the lack of water directly in or around the maintenance yard, and due to the highly disturbed nature of the maintenance yard, any affects on this species would be

negligible. US Fish and Wildlife Service along with the NPS have developed mitigation measure to prevent adverse effects to the California condor. These mitigation measures will be given to construction personnel to insure there will be negligible effects on the California condor.

# Water Quality

### Methodology

NPS policies require protection of water quality in accordance with the Clean Water Act. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The US Army Corps of Engineers (USACE) has been charged with evaluating federal actions that result in potential degradation of waters of the United States and issuing permits for actions consistent with the Clean Water Act. The US Environmental Protection Agency also has responsibility for oversight and review of permits and actions, which affect waters of the United States.

ADOT is currently operating under a Phase I National Pollutant Discharge Elimination System (NPDES) Permit and carries out a number of best management practices (BMPs). ADOT has developed a *Maintenance and Facilities Best Management Practices (BMP) Manual* specifically to address activities at the maintenance yards. Included in this manual are BMPs to address the management of liquid and solid de- icing materials.

All ADOT construction projects must comply with federal, state and local water quality regulation and permit requirements. To control storm water runoff during the construction process, ADOT has developed standard details and special provisions for BMPs to be used on ADOT construction projects. These are outlined in the *ADOT Erosion and Pollution Control Manual for Highway Design and Construction*.

### Intensity Level Definitions

*Negligible*: Impacts would not be detectable. Water quality parameters would be well below all water quality standards for the designated use of the water. No vegetation or wildlife effects associated with altered water quality would be evident.

*Minor*: Impacts would be measurable, but water quality parameters would be well within all water quality standards for the designated use. State water quality and anti-degradation policy would not be violated. Changes in vegetation or wildlife use and health associated with water quality would be slight but measurable.

*Moderate*: Changes in water quality would be measurable and readily apparent, but water quality parameters would be within all water quality standards for the designated use. State water quality and anti- degradation policy would not be violated. Changes in

vegetation and/or wildlife use and health associated with water quality would be measurable and readily apparent. Mitigation would be necessary to offset adverse effects, and would likely be successful.

*Major*: Changes in water quality would be readily measurable, and some parameters would periodically be approached, equaled, or exceeded. State water quality regulations and anti- degradation policy may be violated. Changes in vegetation and/or wildlife use and health associated with water quality would be measurable and readily apparent, even to a casual observer. Extensive mitigation measures would be necessary and their success would not be assured.

**Impact Analysis of Alternative B (Preferred Alternative)**

The construction of the de- icing materials building would have a negligible effect on water quality. The maintenance yard is highly disturbed and BMP's would be used to control storm water runoff during the construction process. Additionally, the building has been designed to contain on- site, all storm water runoff that would come in contact with the de- icing materials being stored in the building, including the loading ramp.

**Cumulative Effects**

The cumulative impacts associated with the Preferred Alternative are negligible. The soils in the area are heavily compacted and the increase in storm water runoff associated with the non- permeable surface of the de- icing materials building would be negligible. The new de- icing materials building would have no beneficial or adverse, long or short term, direct or indirect, local or regional effect on water quality at the park. BMP's would be used during and after construction to address water quality issues. All other past, present and foreseeable projects would also be constructed using best management practices and erosion control plans in association with required NPDES permits and none of these projects will be constructed within the same time frame.

**Impact Analysis of No Action Alternative**

The No Action Alternative would have a negligible effect on water quality. The maintenance yard is currently using BMP's to address storm water runoff and would continue to do so.

**Cumulative Effects**

The cumulative impacts associated with the no action alternative are negligible. Currently there are no plans to expand the maintenance yard beyond its existing boundaries and maintenance yard in already a highly disturbed area. The maintenance yard is currently using BMP's to address storm water runoff and would continue to do so. All other past, present and foreseeable projects would also be constructed using best

management practices and erosion control plans in association with required NPDES permits and none of these projects will be constructed within the same time frame.

### Conclusion

Both the No Action Alternative and the Preferred Alternative would not result in any new or cumulative impacts on Water Quality. The proposed project area does not contain surface waters, and is mostly dry, except for periodic runoff during storm events. Water quality, water quantity, and drinking water are not expected to be affected by the project.

## Soils

### Methodology

The Page maintenance yard is dominated by Pagina- Wahweap complex, 3 to 16 percent slopes (7e). The parent material for these soils is Alluvium and/or eolian sands derived from sandstone. The surface layer is characterized by fine sand with a sandy loam with sandy textures below. The NRCS (2007) classifies these soils as being suitable for grazing, forest land, or wildlife habitat. Soil productivity is moderate to high, and erosion potential is moderate.

### Intensity Level Definitions

The affected environment for soils and geology is limited to the property parcel where the Page maintenance yard is located. The parameters used for intensity analysis are soil productivity and total area of disturbance or restoration.

*Negligible:* Soil productivity or soil fertility would not be affected or the effect would be below or at the lower end of detection. Any effects to soil productivity or soil fertility would be slight and not measurable.

*Minor*: The effects to soil productivity or soil fertility would be detectable, but small. The area affected would be local.

*Moderate*: The effect to soil productivity or soil fertility would be readily apparent. Effects would result in a change in soils over a relatively wide area or multiple locations.

*Major*: The effect on soil productivity or soil fertility would be readily apparent and would substantially change the character of soils over a large area.

*Short- term:* After implementation, would recover in less than 3 years.

*Long- term:* After implementation, would take more than 3 years to recover or effects would be permanent.

### Impact Analysis of No Action Alternative

There would be no impact on soils around the maintenance yard, since no actions that would affect soil resources are proposed under this alternative. There is a potential for a minor impact if ADOT continued to store salts at the maintenance yard without a proper facility to catch runoff material. The results of this would be an increase in soil salinity, which could impact soil productivity off- site.

### Cumulative Impacts of the No Action Alternative

The maintenance yard is a heavily disturbed area that would continue to be used for other roadway maintenance activities. There would be no new ground disturbance under the No Action Alternative, and therefore no new impacts added to impacts from past, present and foreseeable projects, there would be no cumulative effects resulting from the No Action Alternative.

### Impact Analysis of Alternative B (Preferred Alternative)

The preferred alternative proposes the construction of a 60' x 40' de- icing materials building on a 95' x 56' concrete pad. The soils affected by the project are currently heavily disturbed and compacted from maintenance activities and productivity is currently very poor. The addition of a new structure would during the life time of the building take the soil directly beneath out of productivity.

### Cumulative Impacts of the Preferred Alternative

The overall cumulative impact of past, present, and future activities (listed above) in combination with the impacts from the Preferred Alternative would be negligible, localized, and long- term. Soil productivity at each of the project sites would be affected both during construction and operation of the facilities in question until they were removed. The projects are located in an area of where man- made intrusions are limited to the roadway surface and the maintenance yard. The majority of the soil around the various project areas is highly productive and would not cumulatively be affected.

### Conclusion

Due to the highly disturbed nature of the maintenance yard there would be negligible effects to soils as a result of either alternative. The No Action Alternative would not be contributing to impacts of past, present, and future actions, there would be no cumulative impacts from the No Action Alternative. Only if ADOT were to continue storing salts without a proper facility to catch runoff material would a minor increase in soil salinity be observed. The Preferred Alternative would have long- term negligible effect on the soils from the construction of the project. Due to the soils in the area being highly disturbed from maintenance activities, there would be no cumulative impacts associated with the preferred alternative.

# CONSULTATION AND COORDINATION

## External Scoping

External (public) scoping was conducted to inform various agencies and the public about the proposal to construct a new de- icing materials building at the ADOT Page, AZ maintenance yard and to generate input on the preparation of this Environmental Assessment. The scoping letter was sent to local news organizations, governmental agencies, and local Native American tribes. It was also posted on the NPS Planning, Environment and Public Comment (PEPC) website. With this press release, the public was given 30 days to comment on the project beginning March 16, 2006.

The following agencies and Native American tribes were sent scoping information or were contacted for information regarding the project:

Federal Agencies
U.S. Fish and Wildlife Service
Bureau of Land Management
Bureau of Reclamation
U.S. Army Corp of Engineers
Western Area Power Administration
National Park Service
U.S. Environmental Protection Agency

State Agencies
Arizona Game and Fish
Arizona State Historic Preservation Office
Arizona Department of Water Resources
Arizona Department of Environmental Quality
Arizona Department of Transportation
Utah Department of Wildlife resources
Utah Division of Water Quality
Utah State Parks

Affiliated Native American Groups
White Mesa Ute Council
Hopi Tribe
San Juan Southern Paiute Tribe
Kaibab Paiute Tribe
Navajo Nation

During the 30- day scoping period a letter was received from the Arizona Department of Environmental Quality. (Letter is in the Appendix)

## List of Recipients

The Environmental Assessment will be released for public review in August 2007. Copies of the document will be available for review on the NPS Planning, Environment and Public Comment (PEPC) website at www/parkingplanning.nps.gov. A limited number of copies will also be available at the reception desk at the park headquarters building at 691 Scenic View Drive.

The Environmental Assessment is subject to a 30- day public comment period ending September 16, 2007. During this time, the public is encouraged to submit their written comments to the National Park Service address provided at the beginning of this document. Following the close of the comment period, all public comments will be reviewed and analyzed, prior to the release of a decision document. The National Park Service will issue responses to substantive comments received during the public comment period, and will make appropriate changes to the Environmental Assessment as needed.

## List of Preparers

**Preparers:**

- Michael Daehler, Environmental Planner, Arizona Department of Transportation – Environmental Planning Group, Phoenix, AZ
- Liza Ermeling, Landscape Architect and Project Manager, Facilities and Maintenance Division, Glen Canyon NRA, Page, AZ
- Barbara Wilson, Environmental Specialist, Facilities and Maintenance Division, Glen Canyon NRA, Page, AZ

# REFERENCES


ADOT 2000 *Erosion and Pollution Control Manual for Highway Design and Construction*, Arizona Department of Transportation, 2000

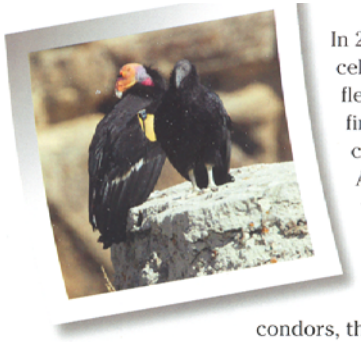
ADOT 2000 *Maintenance and Facilities Best Management Practices (BMP) Manual,* Arizona Department of Transportation, 2000

NPS 2001 *Director's Order # 12: Conservation Planning, Environmental Impact Analysis, and Decision- Making,* National Park Service, 2001

NPS 2000 *Management Policies*, National Park Service, U.S. Department of the Interior, December 2000.

NRCS 2007 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey [Online WWW]. Available URL: "http://websoilsurvey.nrcs.usda.gov/app/" [Accessed 09 August 2007].

## Appendices



In 2003 Arizona celebrated the fledging of the first wild condor chick—the first in Arizona in more than 100 years.

If you would like to try to see Arizona's condors, they visit the Grand Canyon's South Rim in summer and frequent the Colorado River corridor near Marble Canyon in winter. For a good chance to see condors year-round, visit the Vermilion Cliffs viewing site. Drive north from Flagstaff on Highway 89, and turn left onto Highway 89A toward Jacob Lake and the Grand Canyon's North Rim. Drive approximately 40 miles—past Marble Canyon, Vermilion Cliffs, and Cliff Dwellers—and turn north onto House Rock Valley Road (BLM Road 1065) just past the House Rock Valley chain-up area. Travel approximately three miles on this dirt road to the condor kiosk and shaded viewing area on the right. Look for condors at the release site atop the cliffs to the east.

## Help Protect Arizona's Condors

Never attempt to feed or approach a condor. They are naturally curious birds, so be aware that they may investigate and could damage the belongings of hikers and backpackers. When possible, hunters in northern Arizona, specifically in game management units 9, 10, 12A, 12B, 13A, and 13B, should use non-lead ammunition. Condors can incidentally ingest lead that is left-over in carcasses or gut piles. If using lead ammunition, please attempt to remove all animals and animal parts from the field.

If you see someone harassing a condor, call the Arizona Game and Fish Department at (800) 352-0700 or The Peregrine Fund Condor Field Office at (928) 355-2270.

## Reintroduction Partners

Arizona Game and Fish Department
U.S Fish and Wildlife Service
The Peregrine Fund
Grand Canyon National Park
Bureau of Land Management
U.S. Forest Service
Utah Department of Natural Resources
The Phoenix Zoo

Photography by Chris Parish and Christie Van Cleve

**azgfd.gov**

Arizona Game and Fish Department
2221 W. Greenway Road
Phoenix, AZ 85023
(602) 942-3000

The Arizona Game and Fish Department prohibits discrimination on the basis of race, color, sex, national origin, age, or disability in its programs and activities. If anyone believes they have been discriminated against in any of the AGFD's programs or activities, including its employment practices, the individual may file a complaint alleging discrimination directly with the AGFD Deputy Director, 2221 W. Greenway Rd., Phoenix, AZ 85023, (602) 942-3000 or U.S. Fish and Wildlife Service, 4040 N. Fairfax Dr., Suite 130, Arlington, VA 22203. If you require this document in an alternative format, please contact the AGFD Deputy Director as listed above or by calling TTY at (800) 367-8939.

# California Condors in Arizona

## California Condors *(Gymnogyps californianus)*

Flying free once again, these highly endangered birds have been reintroduced in Arizona, California, and Mexico. The largest flying land bird in North America, condors weigh up to 25 pounds and have a wingspan of nearly 10 feet. They can soar and glide at speeds up to 50 miles an hour and may travel 100 miles or more a day in search of food. Related to turkey vultures, condors are opportunistic scavengers that feed on large dead mammals such as deer, elk, bighorn sheep, range cattle and horses.

## Condor Characteristics

Male and female condors look alike. Their feathers are black except for a white triangle-shaped patch beneath their wings. These patches, visible in flight, are a key identification characteristic. Adults have pinkish-orange, featherless heads and ivory-colored bills. Juveniles have dark-colored heads and black bills until they are 3 to 4 years old.

Condors are long-lived birds, surviving up to 60 years in the wild. They become sexually mature at 6 to 7 years of age and mate for life. Condors are cavity-nesting birds—most nest sites have been found in caves, on rock ledges or in tree cavities—but they do not build nests. Every other year the female lays a single egg directly on the floor of the nest site. The nestling emerges after 56 days and fledges in five to six months. The parents share incubation and feeding responsibilities; they feed the nestling by regurgitating partially digested food. Young condors may stay in the nesting area for up to a year.

## The California Condor is Endangered

In prehistoric times, condors ranged from Canada to Mexico along the western seaboard, and as isolated populations in New York and Florida. Discoveries of bones, feathers and eggshells suggest the birds were residents in the Grand Canyon. A dramatic range reduction occurred about 10,000 years ago, coinciding with the late Pleistocene extinction of large mammals, such as mastodons, giant sloths, camels, and saber-toothed cats, which condors fed on. By the time Europeans arrived in western North America, condors had retreated to a stronghold along the Pacific coast from British Columbia to Baja California.

The birds maintained a population there for some time, perhaps sustained by large sea mammals that washed up on shore, but settlement of the West, shooting, poisoning from lead and DDT, egg collecting, and general habitat degradation began to take their toll. After the mid-1880s Arizona had only scattered reports of condors with the last sighting near Williams in 1924. By the late 1930s, condors remained only in California; by 1982 the total population had dwindled to 22 birds.

## Saving the California Condor

The work to save condors started in the 1970s, one of the first wildlife recovery efforts ever attempted. In captive breeding facilities at the Los Angeles Zoo, San Diego Wild Animal Park, the Peregrine Fund, and the Oregon Zoo condor numbers grew from 22 birds in 1987 to more than 200 in 2004. Reintroduction of captive-bred condors began in 1992 in California, 1996 in Arizona and 2003 in Baja California, Mexico. Today there are more than 80 free-flying condors.

## Arizona's Condors

The rugged sandstone Vermilion Cliffs, Arizona's condor reintroduction site, provide the necessary remoteness, ridges, ledges and caves favored by condors. Six condors were released there in December 1996, and six to eight birds each year thereafter. By 2004, 40 condors were flying free in Arizona. Each has been fitted with radio transmitters and numbered wing tags, and biologists monitor them daily.