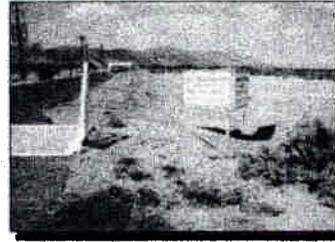
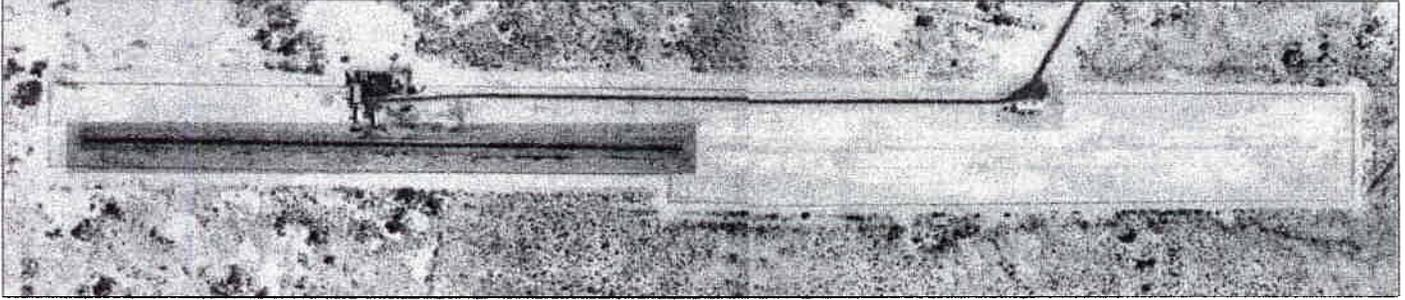


Naval Space Surveillance Station Gila River



INTEGRATED NATURAL RESOURCE MANAGEMENT PLAN **ENVIRONMENTAL ASSESSMENT • June 2001**

Final Submittal

Prepared for:
Naval Space Surveillance Station
Gila River, AZ



DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY

FINDING OF NO SIGNIFICANT IMPACT FOR IMPLEMENTATION OF AN
INTEGRATED NATURAL RESOURCE MANAGEMENT PLAN AT NAVAL SPACE
SURVEILLANCE STATION, GILA RIVER, ARIZONA

Pursuant to section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality regulations (40 CFR Parts 1500-1508) implementing the procedural provisions of NEPA, the Department of the Navy gives notice that an Environmental Assessment (EA) has been prepared and an Environmental Impact Statement is not required for the implementation of a compliance-based Integrated Natural Resource Management Plan (INRMP) for Naval Space Surveillance Station (NSSS) Gila River, Arizona.

The proposed action is to modify the existing natural resources management practices at NSSS Gila River to develop and implement an INRMP consistent with the military use of the property and the goals and objectives established in the Sikes Act Improvement Act (SAIA). The goal of the proposed action is to implement an ecosystem-based conservation program that provides for conservation and rehabilitation of natural resources in a manner that is consistent with the military mission; integrates and coordinates all natural resources management activities; and provides for sustainable multipurpose uses of natural resources.

NSSS Gila River encompasses an approximately 25.5-acre site located on the Gila River Indian Reservation in Pinal County, Arizona. The Navy leases this site from the U.S. Department of the Interior, Bureau of Indian Affairs. The station currently has a low natural resource value because the majority of its grounds are either mowed or graded bare to reduce risk of wildfires and the station is surrounded by fences that restrict wildlife access. Additionally, because of security reasons the Station is not accessible to the public.

The following management alternatives were considered for the proposed action: the "no action" alternative; a compliance and stewardship-based INRMP; and a compliance-based INRMP. The No Action alternative is continued implementation of the objectives and practices under the existing natural resource management programs at NSSS Gila River and therefore, will not fulfill the goals and objectives established in the SAIA. For this reason, the No Action alternative was rejected. The compliance and stewardship-based INRMP includes stewardship and administrative measures that are unlikely to be implemented due to budget limitations. For this reason, the compliance and stewardship-based INRMP was rejected. The proposed compliance-based INRMP would implement those natural resources management actions necessary to comply with existing federal laws, regulations, and military mission requirements, as well as some stewardship measures to improve erosion control and enhance wildlife habitat and management.

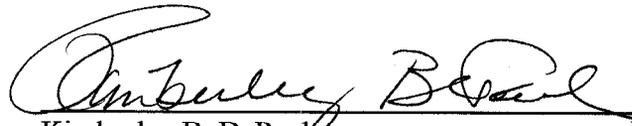
There will be no significant impacts upon any federally listed threatened or endangered species, critical habitat, wetlands, or archeological or historic resources. No federally listed threatened and endangered species, critical habitat, wetlands or cultural resources have been identified at NSSS Gila River. Additionally, there will be no significant impacts to water quality, air quality

or the health and safety of children or minority and low-income populations. Since the proposed INRMP includes many measures designed to protect, enhance and restore natural resources at NSSS Gila River, there are expected to be beneficial impacts from the proposed action.

Based upon the information gathered during the preparation of the EA, the Navy finds that the implementation of an INRMP for NSSS Gila River would not significantly impact human health or the environment.

The EA prepared by the Navy addressing this action is on file and interested parties may obtain a copy from Naval Space Command, 5280 Fourth Street, Code N43 Attn: Mr. George Buffkin, Building 1700, Dahlgren, VA 22448-5300, Telephone (540) 653-5553. A limited number of copies of the EA are available to fill single copy requests.

9/26/01
Dated



Kimberley B. DePaul
Head, Environmental Planning and NEPA Compliance
Environmental Protection, Safety and Occupational Health Division
Deputy Chief of Naval Operations (Logistics)

Proposed Action: Implementation of an Integrated Natural Resources Management Plan at the Gila River Naval Space Surveillance Station, Arizona

Lead Agency: Department of the Navy

Type of Statement: Final Environmental Assessment

For Further Information: George Buffkin, Code N43
Naval Space Command
5280 Fourth Street
Dahlgren, VA 22448-5300

email: gbuffkin@nsc.navy.mil

Abstract: Gila River Naval Space Surveillance Station encompasses an approximately 25.5-acre (10.3-hectare) site leased by the Department of the Navy from the Bureau of Indian Affairs and the Gila River Indian Reservation in Pinal County, Arizona. The Station currently has a low natural resource value, in large part because the vast majority of its grounds are either mowed or graded bare to reduce the risk of wildfires and because the Station is surrounded by fences which restrict wildlife access. Additionally, because the Gila River Naval Space Surveillance Station is located within an Indian Reservation, and because of security concerns, the Station is not accessible to the public. Implementing an Integrated Natural Resource Management Plan (INRMP) would improve the quality of on-Station natural resources and help Station personnel to avoid causing adverse environmental effects during operations. Under either the 1998 Draft INRMP Implementation Alternative or the Modified Implementation Alternative, the preferred alternative, none of the natural resource management measures would result in insignificant environmental impacts. However, due to the requirement that the Station continue to be mowed and graded to reduce wildfire danger, the natural resource values at the Station would remain low. Furthermore, Gila River Naval Space Surveillance Station will remain closed to public access for security reasons.

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EXECUTIVE SUMMARY

The Department of the Navy has prepared this Environmental Assessment (EA) to address the proposed implementation of an Integrated Natural Resources Management Plan (INRMP) at Gila River Naval Space Surveillance Station. There is currently no natural resources management plan in place at Gila River Naval Space Surveillance Station (NSSS Gila River, or “Station”), although the Station is operated in compliance with applicable federal natural resource laws, regulations, and Executive Orders.

NSSS Gila River is located in south central Arizona and is part of the Naval Space Command’s (NAVSPACECOM) fully integrated Space Surveillance System. This Station is one of nine such facilities in the southern United States that comprise the Space Surveillance System. The proposed INRMP provides a natural resources management strategy for ongoing operations at the 25.5 acre (10.3 hectare) Station.

The goal of an INRMP is to implement an ecosystem-based conservation program that provides for conservation and rehabilitation of natural resources in a manner that is consistent with the military mission; integrates and coordinates all natural resources management activities; and provides for sustainable multipurpose uses of natural resources. The management objectives are to integrate wildlife management and land management at the Station, as practicable and consistent with the military mission and established land uses.

There are few substantive issues related to the military use of NSSS Gila River, primarily due to (A) the relatively isolated nature of the Station, which is located within the Gila River Indian Reservation; (B) the small size of the Station (25.5 acres [10.3 hectares]); (C) the lack of amenities that would make access to the Station desirable to the public; and (D) the low level of natural resources present on station. In consideration of these factors and the conditions present at NSSS Gila River, the INRMP focuses on the following:

- providing noxious weed control through direct removal and native planting
- reducing mowing to improve the value of on-Station vegetation for wildlife
- implementing wildlife protection and management measures to reduce the effects of military operations (e.g., reducing tractor speed during mowing to improve the chances of observing and avoiding snakes and lizards in the path of the tractor)
- contingency planning for possible flooding
- reducing insecticide use

This EA addresses implementation of the 1998 Draft INRMP for NSSS Gila River that includes compliance measures (which are required) and stewardship measures (which are optional). In addition, the proposed 1998 Draft INRMP contains administrative measures which would help

provide a better understanding of wildlife use at the Station and allow better coordination with other agencies, but which would not have any noticeable effect on the physical or human environment.

Implementation of the 1998 Draft INRMP would benefit natural resources at NSSS Gila River, especially with regard to biological resources. This alternative would also have beneficial impacts because it would address potential flooding risks at the Station. None of the natural resource management measures that would be implemented under this alternative would result in significant environmental impacts, in large part because these measures were specifically designed to improve the quality of natural resources on-Station.

This EA also addresses implementation of a modified INRMP implementation alternative, the preferred alternative, and the No Action alternative. The modified INRMP alternative would implement most of the measures included in the 1998 Draft INRMP; however, it would exclude some of the stewardship and administrative measures. The modified INRMP implementation alternative would also improve biological resource values and address potential flood risks, and it would not result in any significant environmental impacts.

The No Action Alternative is continued implementation of the objectives and practices under the existing natural resource management programs at NSSS Gila River. On-going practices used for the management of natural resources at NSSS Gila River would continue and there would be no change to the objectives of the current natural resources management programs. Although the No Action Alternative would not realize the natural resource management benefits of an INRMP, it would also not result in adverse environmental impacts.

1.0 INTRODUCTION/PURPOSE AND NEED

The Department of the Navy has prepared this Environmental Assessment (EA) to address the proposed implementation of an Integrated Natural Resources Management Plan at Gila River Naval Space Surveillance Station. This EA addresses implementation of a 1998 Draft Integrated Natural Resources Management Plan (INRMP), a Modified INRMP implementation alternative, and the No Action alternative (see Chapter 2.0, Alternatives). There is currently no natural resources management plan in place at Gila River Naval Space Surveillance Station (NSSS Gila River, or “Station”), although the Station is operated in compliance with applicable federal natural resource laws, regulations, and Executive Orders (See Section 1.3, Environmental Documentation).

NSSS Gila River is located in south central Arizona and is part of the Naval Space Command’s (NAVSPACECOM) fully integrated Space Surveillance System. This Station is one of nine such facilities in the southern United States that comprise the Space Surveillance System (see Figure 1-1). The system uses radio frequency (RF) energy to detect satellites in both low and high orbit. The proposed INRMP provides a natural resources management strategy for the ongoing operations at the 25.5 acre (10.3 hectare) Station.

The purpose and need for the proposed action and the environmental documentation process are discussed below. Subsequent chapters within this EA describe the three alternatives (including the No Action Alternative), the affected environment, and the environmental consequences that would occur with the implementation of each alternative.

1.1 LOCATION

NSSS Gila River is located in Pinal County, Arizona, just east of State Route 347 (see Figure 1-2). The Station is approximately 3 miles (5 kilometers) north of the small city of Maricopa and approximately 25 miles (40 kilometers) south of Phoenix. The site occupies 25.5 acres (10.3 hectares) of the approximately 372,000-acre (150,550-hectare) Gila River Indian Reservation (see Figure 1-3). The Navy leases this small portion of the Reservation from the U.S. Department of the Interior, Bureau of Indian Affairs.

1.2 PURPOSE AND NEED

The purpose of this action is to meet statutory requirements under the Sikes Act Improvement Act (Public Law 105-85, Div. B, Title XXIX, Nov. 18, 1997, 111 State 2017-2019, 2020-2022).

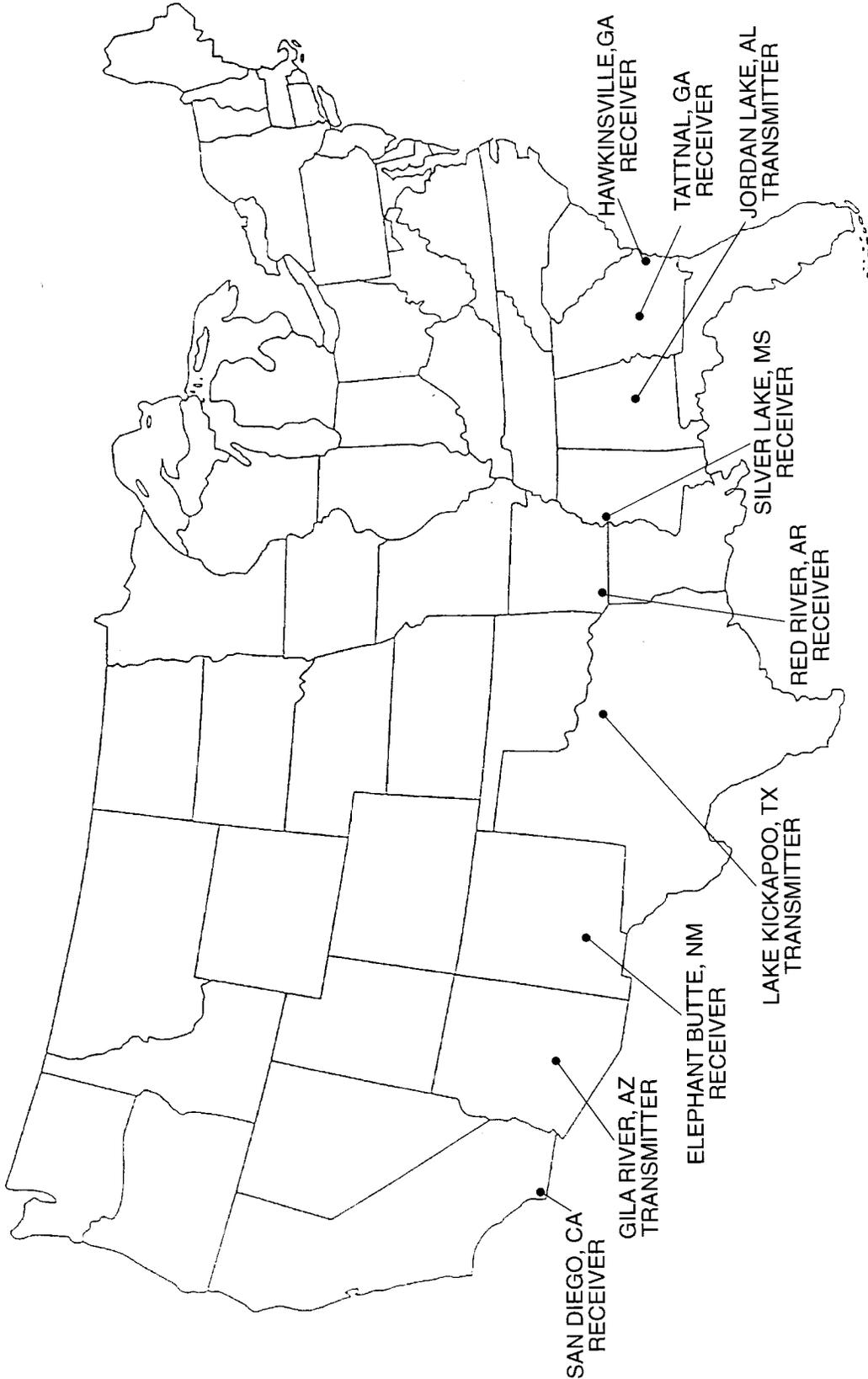
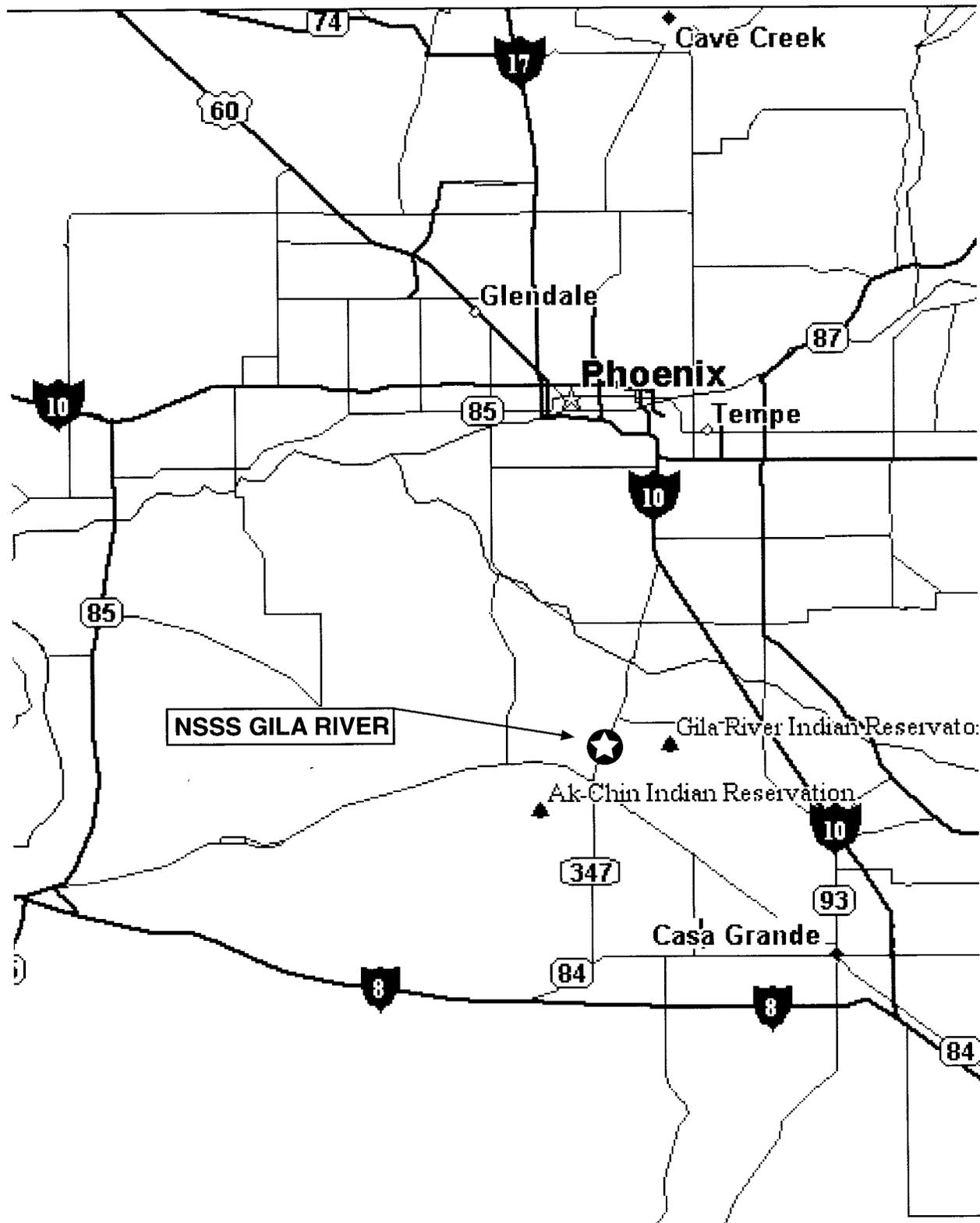


Figure 1-1
Naval Space Surveillance System Stations



**Figure 1-2
Regional Location**



In November 1997, the Sikes Act (16 U.S.C. § 670A *et seq.*) was amended to require the Secretary of Defense to carry out a program to provide for the conservation and rehabilitation of natural resources on military installations. To facilitate this program, the amendments require

the Secretaries of the military departments to prepare and implement INRMPs for each military installation in the United States unless the absence of significant natural resources on a particular installation makes preparation of a plan inappropriate.

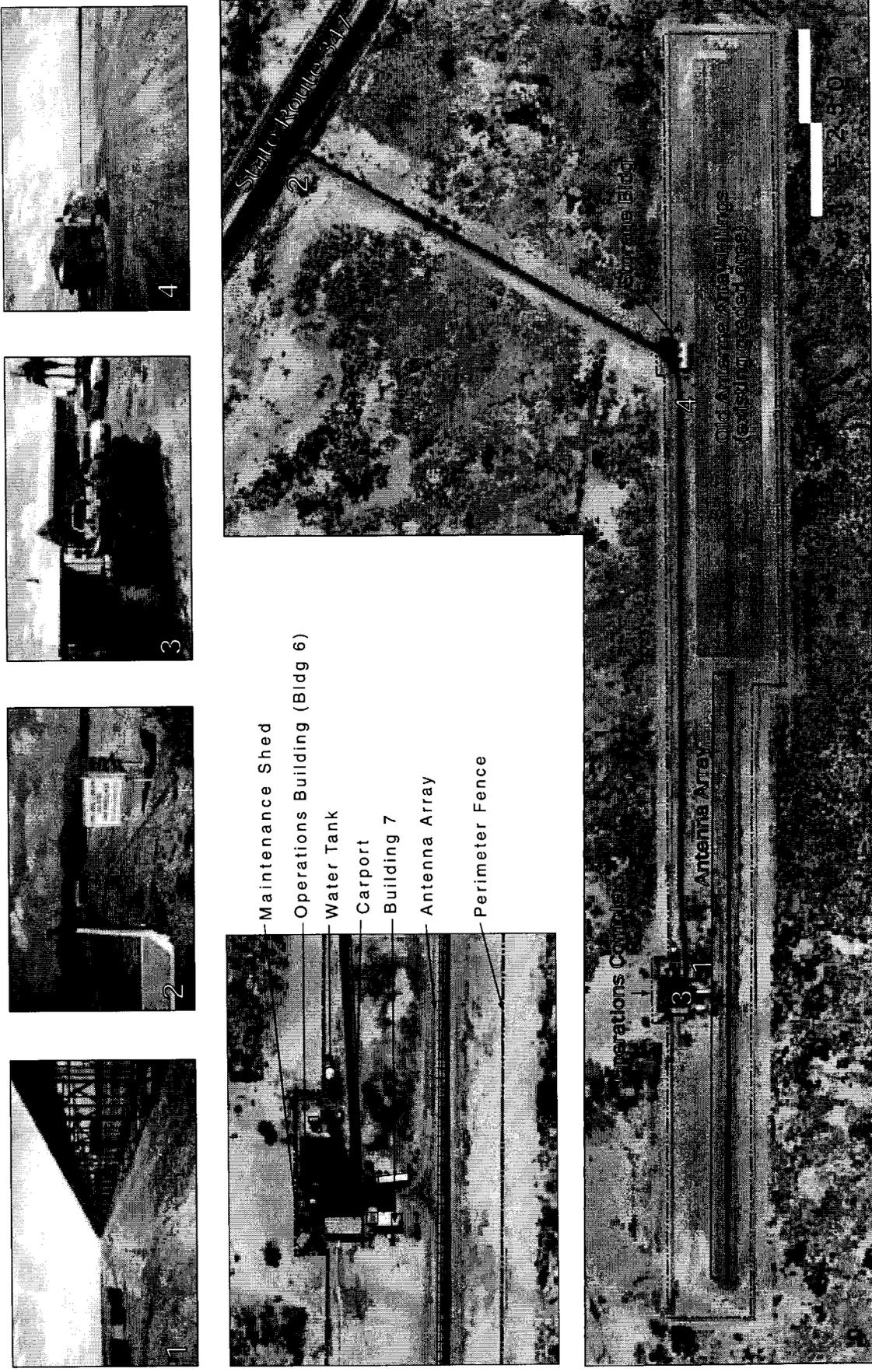
The principal use of military installations is to ensure the preparedness of the Armed Forces. The Sikes Act Improvement Act requires each installation to prepare an INRMP that provides for the following management activities, to the extent that such activities are consistent with use of the installation for military preparedness:

- the conservation and rehabilitation of natural resources on the installation;
- the sustainable multipurpose utilization of the resources, to include hunting, fishing, trapping, and nonconsumptive uses; and
- subject to safety requirements and military security, public access to the installation to facilitate such uses.

As required by the Sikes Act Improvement Act, the plan must, to the extent appropriate and applicable, provide for:

- fish and wildlife management, land management, forest management, and fish- and wildlife-oriented recreation;
- fish and wildlife habitat enhancement or modification;
- wetland protection, enhancement, and restoration where necessary for support of fish, wildlife, or plants;
- integration of, and consistency among, the various activities conducted under the plan;
- establishment of specific natural resource management goals and objectives and time frames for proposed action;
- sustainable use by the public of natural resources to the extent that the use is not inconsistent with the needs of fish and wildlife resources;
- public access to the military installation that is necessary or appropriate for the sustainable use of natural resources, subject to requirements necessary to ensure safety and military security;
- enforcement of applicable natural resource laws (including regulations);

Figure 1-3 Site Map



- no net loss in the capability of the installation's lands to support the military mission of the installation; and
- such other activities as the Navy has determined are appropriate.

In preparing this plan, as required by the Sikes Act Improvement Act, NAVSPACECOM has worked in cooperation with the Phoenix office of the U.S. Fish and Wildlife Service (USFWS) and the Arizona Game and Fish Department (AGFD) so that the plan will reflect the mutual agreement of these parties concerning conservation, protection, and management of fish and wildlife resources on the installation. Additionally, as required by the Sikes Act Improvement Act, the plan has been provided for public comments and the installation has taken those comments into account in preparing the plan. Draft copies of this Environmental Assessment were provided to the USFWS and the AGFD for review and comment (see Appendix B).

1.3 ENVIRONMENTAL DOCUMENTATION

The Department of the Navy has prepared this EA in compliance with the National Environmental Policy Act (NEPA) of 1972 (40 CFR § 4332 (1996)) and its Council on Environmental Quality Regulations (40 C.F.R. §§ 1500-1508 (1994)). Under NEPA, an EA is used to analyze the consequences of a proposed federal action and is intended to provide information to both decision-makers and the public. This EA also follows the guidelines contained in the Navy's Environmental and Natural Resources Program Manual (OPNAVINST 5090.1b).

In addition to NEPA, numerous other federal laws and regulations are applicable to the natural resources present within Department of the Navy facilities. Laws and regulations specifically related to environmental issues addressed in this EA are discussed below.

- **Clean Water Act.** The Clean Water Act (CWA) of 1972 (33 U.S.C. § 1251 (1996)) is the major federal legislation concerning the improvement of the nation's water resources. It provides for the development of municipal and industrial wastewater treatment standards and a permitting system to control wastewater discharges into surface waters. State operation of the program is encouraged, and in Arizona, the Arizona Department of Environmental Quality (ADEQ) is the state agency responsible for carrying out the CWA.
- **Clean Air Act.** The Federal Clean Air Act (CAA) of 1970 (42 U.S.C. § 7401, amendments of 1977, 1990, and 1993) sets forth National Ambient Air Quality Standards (NAAQS) for several criteria pollutants. The NAAQS for the criteria pollutants must not be exceeded more than once per year. The criteria pollutants regulated under the CAA are ozone (O₃), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter less than ten microns in diameter (PM₁₀), and lead (Pb). The CAA requires individual states to adopt standards that set acceptable pollution

concentrations equal to or less than the federal standards. The State of Arizona standards for these pollutants are the same as the federal standards. In Arizona, the ADEQ is the implementing agency for federal air quality regulations.

- **Endangered Species Act.** The Endangered Species Act (ESA) of 1973 (16 U.S.C. § 1531 (1996)) protects threatened and endangered species by prohibiting federal actions that would jeopardize the continued existence of such species or by minimizing actions that would result in the destruction or adverse modification of any critical habitat of such species. The ESA requires that consultation regarding the protection of such species be conducted with the USFWS prior to project implementation. During the project design process, the USFWS evaluates potential impacts of proposed actions on threatened or endangered species. The USFWS is asked to certify or concur with the sponsoring agency's findings that the proposed activity will not adversely affect endangered species, and the USFWS findings are issued in the form of a Biological Opinion (BO).
- **Fish and Wildlife Conservation Act of 1980.** The Fish and Wildlife Conservation Act (16 U.S.C. § 2901-2911, as amended 1986, 1988, 1990 and 1992), commonly known as the Nongame Act, encourages states to develop conservation plans for nongame fish and wildlife of ecological, educational, aesthetic, cultural, recreational, economic or scientific value. States may be partially reimbursed for the costs of developing, revising or implementing conservation plans approved by the Secretary of the Interior. Amendments adopted in 1988 and 1989 also direct the Secretary of the Interior to undertake certain activities to research and conserve migratory nongame birds.
- **Federal Insecticide, Fungicide and Rodenticide Act (Federal Environmental Pesticide Control Act).** This Act (7 U.S.C. § 136-136y, as amended 1972, 1973, 1975, 1978, 1983, 1984, 1988, 1990, 1991 and 1996) controls the sale, distribution and application of pesticides. Pesticides must be registered with the Administrator of the U.S. Environmental Protection Agency (EPA), who is given authority to suspend or cancel registrations for pesticides which cause unreasonable adverse effects on the environment. The Act also requires that pesticides be labeled in an approved manner and that they be used in a manner consistent with its labeling. Other provisions of the Act provide for registration of establishments producing pesticides, certification of pesticide applicators, regulations to promote safe storage and disposal, and the issuance of stop sale orders, recall orders and other enforcement measures, as well as authority to delegate enforcement of pesticide use restrictions to the states. Recent amendments added provisions regarding minor use pesticides, antimicrobial pesticides, public health pesticides, reduced risk pesticides, and integrated pest management.

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2.0 PROPOSED ACTION AND ALTERNATIVES

This chapter describes the proposed action and the three alternatives evaluated in detail in this EA: implementation of the 1998 Draft INRMP, a modified INRMP implementation alternative, and the No Action Alternative.

2.1 PROPOSED ACTION

The proposed action is to modify the existing natural resources management practices at NSSS Gila River to develop and implement an INRMP consistent with the military use of the property and the goals and objectives established in the Sikes Act (as amended). The goal of the INRMP is to implement an ecosystem-based conservation program that provides for conservation and rehabilitation of natural resources in a manner that is consistent with the military mission; integrates and coordinates all natural resources management activities; and provides for sustainable multipurpose uses of natural resources. The management objectives are to integrate wildlife management and land management at the Station, as practicable and consistent with the military mission and established land uses.

There are few substantive issues related to the military use of NSSS Gila River, primarily due to (A) the relatively isolated nature of the Station, which is located within the Gila River Indian Reservation; (B) the small size of the Station (25.5 acres [10.3 hectares]); (C) the lack of amenities that would make access to the Station desirable to the public; and (D) the low level of natural resources present on station. Substantial grazing by feral horses occurred at the NSSS Gila River site prior to the Station's construction in 1958, eliminating most native vegetation and reducing the natural resource values at the site. Currently, frequent mowing is conducted for fire prevention within portions of the Station, and pesticides are applied on a monthly basis. All of these actions have served to further reduce the Station's natural resource values. The INRMP focuses on the following issues:

- noxious weed control
- mowing regime
- wildlife protection and management
- flood plain management
- insecticide use

2.2 ALTERNATIVES

2.2.1 Implementation of the 1998 Draft INRMP

The proposed 1998 Draft INRMP for NSSS Gila River includes compliance measures (which are required) and stewardship measures (which are optional). In addition, the proposed 1998 Draft

INRMP contains administrative measures which would help provide a better understanding of wildlife use at the Station and allow better coordination with other agencies, but which would not have any noticeable effect on the physical or human environment.

Under this alternative, NAVSPACECOM would implement all of the compliance measures included for NSSS Gila River. NAVSPACECOM would also strive to achieve all of the optional stewardship and administrative measures, as funding became available. These 1998 Draft INRMP measures are described below.

Compliance Measures

Compliance measures have been identified with regard to exotic weed control, floodplain management, sensitive wildlife species, animal damage control and feral animal removal, migratory birds, construction and maintenance, and landscaping and grounds maintenance. The relatively minor erosion problems at NSSS Gila River would be addressed through stewardship measures described later in this section.

Exotic Weed Control

The objective of the exotic weed control program is to control the spread of bermuda grass and to eradicate any noxious weeds that occur on the Station. This would be achieved through implementation of the following measures:

- Direct removal of a small patch of bermuda grass that has begun to spread outside of Station boundaries. Upon removal, native drought-tolerant grasses would be planted; or
- Monitor the spread of bermuda grass and implement the appropriate control measures. Begin the removal and replacement process at a later date.

As required, the use of pesticides or insecticides would be undertaken in compliance with OPNAVINST 5090.1B, Chapter 13, Pesticide Compliance Ashore.

Floodplain Management

Based on past flood events, including the overflow of Santa Cruz Wash in 1983, the need for contingency floodplain management was identified for NSSS Gila River. The 1998 Draft INRMP requires contingency planning for possible flooding. These measures include:

- Keeping sandbags on hand.
- Considering other means of diverting water away from high-value facilities.
- Evaluating 100-year flood studies. Based on this evaluation, causes and sources of flood impacts would be identified and alternatives would be developed to minimize these

impacts.

- Ensuring that any development does not increase flood damage potential.

Sensitive Wildlife Species

Under this 1998 Draft INRMP component, staff procedures would be formalized regarding the proper treatment of sensitive wildlife species at the Station. The procedures would ensure that staff would not handle any wildlife (especially sensitive or rare species such as the Gila monster) and that the ADGF would be contacted if the handling of wildlife is considered necessary.

Animal Damage Control and Feral Animal Removal

Staff personnel would be responsible for reporting feral animal sightings to the appropriate authorities. The existing fence around the Station would continue to prohibit feral horses from entering the property. Operational activities would be limited to periodic maintenance of the fence.

Migratory Birds

The 1998 Draft INRMP seeks to protect the sustainability of migratory bird populations at the Station and preserve and maintain their habitat through the implementation of the several measures, including compliance measures, stewardship measures, and administrative measures. The compliance measures are described below.

Compliance measures that would improve migratory bird habitat and use of the Station include restricting access into, and disturbance of, any identified nesting and breeding grounds during critical periods. Household pets would be restrained during the peak nesting for those bird species that nest on or near the ground (generally March through August). In addition, Station personnel would be encouraged to report any sightings of feral animals to the USDA, Animal Damage Control, or the local authorities.

These measures should be considered in light of the fact that there are few suitable nesting sites on-Station due to the lack of appropriate habitat. Nests are removed from the antenna array for safety reasons and the fence is generally not suitable for supporting nests.

Construction and Maintenance

The most comprehensive ground-disturbing activity at the Station is the routine mowing operations for fire control purposes. As a precaution against wildfires, a 50-foot-wide (15-meter-wide) firebreak is currently maintained around the fence line and a large area in the

southern portion of the Station is mowed on a regular basis. Under the 1998 Draft INRMP, the large area in the southern portion of the station would no longer be mowed. This would reduce firebreak clearing activities by 8.6 acres (3.5 hectares) to only those areas deemed necessary for adequate fire control and safety. Accordingly, only 5.2 acres (0.5 hectares) of vegetation would continue to be cleared around the fence line, road, antenna array and storage building. The firebreak along the outside/inside of the fence line would be 50 feet (15 meters) wide. The following new restrictions would also apply to mowing activities:

- A slow speed limit will be set for the tractor used to pull the mowing apparatus (drag).
- All tractor drivers will be instructed to be aware of lizards and snakes that could be in the path of the drag.

In addition to the restrictions on tractor operations, new vehicular speed limits would be established for the Station access road. The limit would be 5 miles per hour (mph) (8 kilometers per hour [kph]) within the Station and 10 mph (16 kph) on the access road between the Station and SR 347.

Under the 1998 Draft INRMP, Station personnel would be required to follow a vehicle maintenance schedule for the fire-fighting truck. This measure would ensure the reliability of the truck and its water tank in the event of an emergency.

Landscaping and Grounds Maintenance

A new policy strategy for landscaping would be implemented which would only use drought-tolerant, native species. Facilities and landscaping would be designed to be compatible with the Sonoran desert environment and to compliment climatic and biological conditions. Landscaped screening would be provided for environmental protection and the appearance of the entrance would be upgraded.

Under the existing condition, pest management at NSSS Gila River is conducted by a contractor and consists generally of the following steps:

- Conditions conducive to insect and rodent infestations are reported to Station staff to see if corrective measures can be applied to minimize the need for active pest removal.
- Where practical, non-chemical means are used to remove infestations, such as using vacuums or brooms to remove webs and using sticky traps to catch insects.
- Pesticides are applied as needed to all structures, adjacent landscaped areas, and the 48 conduit boxes on the transmitter antenna array.
- The inspection and application of pesticides is conducted on a monthly basis; however, pesticides are not necessarily applied to each location each month. Instead, pesticides are

applied as needed, based on the judgement of the pest control contractor during the monthly service visits.

As described in the 1998 Draft INRMP, the use of insecticides described above would be minimized by practicing integrated pest management techniques. The following actions would be implemented to modify the current practices:

- Cease spraying around the antenna array. Workers would wear boots and gloves during routine inspections of the arrays to protect them from spiders and scorpions.
- Reduce spray interval at the main building and storage buildings to once every other month. Monitor the results for a trial period and adjust spraying accordingly.

Reducing insecticide use would also benefit wildlife on-Station. Rodents frequently eat insects which have been sprayed with insecticide (as these dying insects are frequently the easiest to catch), and raptors eat the insecticide-laden rodents. Pesticides can bio-accumulate in raptors in this manner. (The level of insecticide accumulation in animal tissue is often higher in predators such as raptors that are near the top of the food chain.)

Stewardship Measures

Stewardship measures have been identified to improve erosion control, habitat and ecosystem management, wildlife population management, habitat protection and habitat enhancement measures for migratory birds, and land and grounds maintenance. Because stewardship measures are voluntary these measures would be implemented as funding became available.

Soil Erosion

Although erosion is not a major concern at the Station, some wind erosion may be caused by frequent grading for fire control. Under this alternative, alternatives to soil disturbance and complete vegetation removal would be investigated.

Habitat and Ecosystem Management

Under this component of the INRMP, a “wildlife refuge” would be established on approximately 8.6 acres (3.5 hectares) in the southern half of the Station (see Figure 2-1). This land, which is currently mowed periodically for fire prevention, would be revegetated with native plants. The objective of this refuge would be to restore the natural community and wildlife habitat on the Station, while maintaining effective fire protection. Because routine vegetation removal would be discontinued in this area, it would allow native plants to re-establish. Under this component, the existing firebreaks around the fence line, road, antenna array and storage building would

continue to be mowed on a regular basis.

In addition, all oleander shrubs would be removed and replaced with native shrubs or trees.

Wildlife Population Management

The small size, fencing, and lack of vegetation on the Station deters wildlife. For wildlife that enters the Station, the fencing and antenna array function as shade and perching locations. The bermuda grass provides a source of food for wildlife that traverses the property. Increasing the native plant cover in the southern portion of the Station would provide habitat that could not be affected by feral horses, and that would attract wildlife.

Migratory Birds

The stewardship measures for conserving neotropical migratory bird resources at NSSS Gila River include habitat protection and habitat enhancement measures.

Habitat Protection

- Continue to limit the use of pesticides at the Station.
- Support research and consider the needs of neo-tropical migrants whenever possible.
- Establish raptor roosts to encourage foraging of small animals.
- Take measures to prevent noxious weeds from taking over native habitats.
- Protect areas of dense vegetative cover.

Habitat Enhancement

Efforts would be undertaken to enhance suitable urban or native habitats to encourage migratory stopover. Such measures would include the use of artificial nest boxes and the planting of appropriate native plants for windbreaks.

Landscaping and Grounds Maintenance

In addition to the compliance measures for landscaping and grounds maintenance, a “picnic area” would be constructed which would include large shade trees, smaller shrubs, and native perennial grasses (if viable).

Administrative Measures

Administrative actions would improve coordination with state and federal resources agencies and

help the Department of the Navy and its contractors develop a better understanding of the wildlife which utilize NSSS Gila River. They would not, however, have a noticeable effect on the physical or human environment except that they would presumably lead to better decision-making with regard to natural resources at the Station. These administrative measures, as discussed below, would be implemented as funding became available.

Wildlife Inventories

Upon establishment of native vegetation in the “wildlife refuge” in the southern portion of the Station, biological surveys would be conducted in the southern portion of the Station. In addition to these on-Station surveys, surveys would be conducted outside of the Station in the same areas that were surveyed for biological resources in 1996. The results of these surveys would be compiled into a comprehensive species list and compared to the baseline data.

Migratory Birds

NAVSPACECOM is responsible for consulting with the Maricopa Audubon Society to determine the best resources for identification of bird species at the Station (e.g., field guides, binoculars, etc.). These materials would be purchased and used to identify bird species, which would be conducted during peak migratory and other significant periods. Observations would be compiled with existing data (e.g., 1997 informal survey results) and recorded on a species list for the Station.

The 1998 Draft INRMP recognizes the need to determine the status, health, and habitat use of neo-tropical migratory birds and raptors, emphasizing certain target or indicator species not currently considered sensitive. The necessary data would be collected through cooperative assistance from wildlife agencies, organizations, and volunteers.

In order to stimulate awareness of migratory bird stewardship strategies, educational materials regarding the Station’s migratory birds and management practices would be prepared or collected. Station personnel would be provided with species lists and instructed as to how they can assist in the migratory bird stewardship process.

The Station is requested to participate in the Partners in Flight program, which encourages the management of Department of Defense lands to support neotropical migratory birds, offering these birds migratory stopover areas for resting and feeding, and suitable sites for nesting and rearing their young (see <http://www.dodpif.org/site.htm> for additional information on Partners in Flight).

Planning and Administration

The goal of this component is to provide the organizational capacity, support, and communication necessary for effective daily administration of the INRMP and NSSS Gila River's natural resources. The 1998 Draft INRMP calls for Station management personnel to:

- Remain abreast of changing land use issues at the Gila Indian Reservation, including any management of feral horses, that may effect the Station.
- Identify and ensure that projects are prioritized and funding is allocated to support compliance requirements.
- Rely on the best science available for understanding ecosystem composition, structure and function, and the impacts of land use.
- Encourage appropriate staff to participate in natural resources management job training activities and professional meetings.
- Provide for enforcement of natural resource laws and regulations by professionally trained personnel.
- Provide a management framework to outline specific tasks or tactics in accomplishing the goals and objectives of the INRMP, on a quarterly and annual basis.
- Provide further strategic elements, as appropriate.

2.2.2 Modified Draft INRMP Implementation Alternative – Preferred Alternative

Under this alternative, NAVSPACECOM would modify implementation of the 1998 Draft INRMP in order to entail all of the measures included in Section 2.2.1, except as described below.

Compliance Measures

Construction and Maintenance

The following construction and maintenance compliance measures listed in Section 2.2.1 would be implemented under this alternative: reduction in firebreak clearing, restrictions on tractor operations, and new vehicular speed limits.

Landscaping and Grounds Maintenance

All landscaping requirements described in Section 2.2.1 would be implemented with the following exception: the current schedule for application of pesticides on the antenna and supporting structures would continue.

Stewardship Measures

As described in Section 2.2.1, these measures are optional and subject to funding availability. Under the modified INRMP implementation alternative, NAVSPACECOM and its contractors would strive to implement the stewardship measures identified below.

Soil Erosion

The speed limit for the tractor and drag apparatus described under the compliance measures would reduce wind erosion at the Station. No additional measures would be implemented for erosion control.

Habitat and Ecosystem Management

The 8.6-acre (3.5 hectare) area at the southern end of the Station would no longer be mowed; rather, a firebreak would be maintained both inside and outside of the fence (50 feet [15 meters] in width as described in the compliance measure for construction and maintenance). The remaining area that would no longer mowed would be allowed to revegetate naturally to the extent it does not affect safety requirements at the Station.

Existing non-native vegetation at the Station (including oleander shrubs) would not be removed; however, only native vegetation would be used for future plantings.

Migratory Birds

Selected migratory bird stewardship measures described in Section 2.1.1 would be implemented under this alternative, including:

- Continue to limit the use of pesticides at the Station as described in the compliance measures for Landscaping and Grounds Maintenance.
- Take measures to prevent noxious weeds from taking over native habitats.
- Protect areas of dense vegetative cover.

The remaining migratory bird-related stewardship measures (raptor roosts, etc.) described in Section 2.2.1 would not be implemented.

Landscaping and Grounds Maintenance

The picnic area would not be constructed under this alternative.

Administrative Measures

Under the modified INRMP implementation alternative, wildlife identification field handbooks and other methods to identify wildlife species on Station would be provided at NSSS Gila River. This would include means of identifying federally listed threatened and endangered species. Station personnel would report any sightings of the above to appropriate authorities (e.g., USFWS and AGFD).

2.2.3 No Action Alternative

The No Action alternative is continued implementation of the objectives and practices under the existing natural resource management programs at NSSS Gila River. On-going practices used for the management of natural resources at NSSS Gila River would continue and there would be no change to the objectives of the current natural resources management programs. Existing natural resource management practices at NSSS Gila River consist of various operation and maintenance activities which are described below.

Surface disturbance in and around the NSSS Gila River consists primarily of periodic grading and mowing for weed abatement and the maintenance of fire breaks around the perimeter fence, the Station buildings, and associated facilities.

A firebreak 50 feet (15 meters) wide is maintained around the Station by clearing all vegetation from outside the perimeter fence. The southern half of the station is also mowed on a periodic basis, as well as the areas immediately surrounding the road, antenna array, and storage building. Mowing and grading take place approximately once or twice per month.

Current landscaping maintenance consists of periodic watering and mowing of the bermuda grass around the main facilities, and occasional pruning of the oleander bushes. Insecticides are applied as described in Section 2.2.1 under the heading "Landscaping and Ground Maintenance."

Routine maintenance on the Station involves checking the antenna array for small defects (e.g., vacuum leaks) or problems that could hinder the transmitter.

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3.0 AFFECTED ENVIRONMENT

This chapter addresses those existing conditions at NSSS Gila River that may be affected by the proposed action.

3.1 PHYSICAL/NATURAL ENVIRONMENT

3.1.1 Geology/Topography/Soils

NSSS Gila River is located at an elevation of 1,145 feet (350 meters) above mean sea level. Major nearby topographical features include Maricopa mountain, a large rocky outcrop about 2.2 miles (3.5 kilometers) north of the Station, and the Sierra Estrella mountain range approximately 6 miles (10 kilometers) to the west. The Station itself is flat and void of any significant topographic features.

Specific soil and geologic data for the Station are not available. The most recent U.S. Geological Service (USGS) surveys did not cover the Gila River Indian Reservation; however, a generalized description provided by the USGS indicates that the NSSS Gila River lies atop a flood plain that consists of loamy soils that are deep and well drained. The general soil types in this flood plain are classified as Glenbar and Gilman. These deep loamy soils extend to a depth of one and one-half meters or more. They were formed in alluvium deposited over older alluvium derived from mixed sources.

Erosion at NSSS Gila River is not a concern because it is nearly flat (slopes of zero to one percent) and is not near any major drainages or sources of water. The closest major drainage is the main channel of the Santa Cruz Wash which is located approximately 0.6 mile (1 kilometer) from the Station.

3.1.2 Hydrology

The Station lies atop a natural floodplain. The Santa Cruz Wash located north and south of the Station drains north into the Gila River. In 1983, during a 100-year flood¹, the Santa Cruz Wash overflowed the banks, flooding nearby roads but not the Station. There is also a small drainage about 820 feet (250 meters) northeast of the Station. This drainage is apparently used as a watering hole for feral horses. Even during the summer this drainage has running water and ponds have formed along the stream. The drainage is most likely fed by an upstream guzzler (a man-made rainwater collection system designed for desert environments).

¹ A "100-year flood" refers to a flood that has a statistical probability of occurring only once every 100 years.

3.1.3 Air Quality

Existing Air Quality

The Pinal County Air Quality Control District maintains an air quality monitoring station at the Casa Grande airport, approximately 22 miles (36 kilometers) from NSSS Gila River. Air quality in the Station area is in attainment with all of the National Ambient Air Quality Standards described in Section 1.3 of this EA.

Climate

Hot summers and cool winters prevail in this portion of western Pinal County in the Sonoran Desert. During the summer, the average temperature is 91 degrees Fahrenheit (°F) (33 degrees Celsius [°C]), and the hottest month on average is July, at 115 °F (46 °C). Winter days are warm, although the temperature drops below freezing most nights in the winter. In winter, the average temperature is 53 °F (11.7 °C) and the average daily minimum is 37 °F (2.8 °C). The coldest month on average is January, at 51 °F (10.6 °C).

The average annual precipitation is 9 inches (22 centimeters). Rainfall is scant in most months; however, heavy rain can occur during the summer. Scattered thunderstorms develop in the moist air that occasionally sweeps in from the Gulf of Mexico. There are roughly 23 days of thunderstorms each year, most of which occur in late summer. May receives the least amount of rainfall, on average 0.1 inches (3 millimeters), and August receives the most at 1.8 inches (4.5 centimeters). In the winter, snow rarely occurs.

3.1.4 Water Quality

There are no surface water resources at NSSS Gila River. Water is supplied to the Station via an on-site well, although it is not potable. The well is located at the old building near the main entrance, and the water is piped to the main facilities. A 15,000-gallon (66,000 liter) water tank adjacent to the main building holds the water above ground. The well may eventually be deepened or the water may be treated to make it potable. Until potable water is derived from the well, however, water will continue to be imported to the Station for drinking and cooking.

3.1.5 Biological Resources

NSSS Gila River is almost completely devoid of native vegetation, largely because the majority of the Station's 25.5 acres (10.3 hectares) are periodically cleared by a large drag for fire prevention. A small buffer of 50 feet (15 meters) around the Station is also cleared for fire prevention. Non-native species comprise most of the vegetation at the Station, including bermuda grass (*Cynodon dactylon*), oleander shrubs (*Nerium* sp.), and a date palm (*Phoenix* sp.). Bermuda grass has been planted around the main buildings and covers approximately 0.35 acre (0.14 hectare) of the Station.

Study of aerial photos indicates that the bermuda grass is beginning to spread, and has even sprouted outside of the Station fence line. About 15 oleander shrubs, forming a broken hedge, are near the main buildings and provide some wind protection. Two large date palms and one large desert fan palm (*Washingtonia filifera*) are located in the same general area. The desert fan palm is the only palm native to the southwest and is also the only native plant at the Station. It probably did not originally occur on the Station as it prefers steep side canyons near water.

The terrain surrounding the Station is flat dominated by scattered saltbrush (*Atriplex* sp.) and mesquite stands (*Prosopis* sp.). Two species of cacti, pencil cholla (*Opuntia ramosissima*) and other *Opuntia* species, are present at a low density. Annual and perennial grasses are sparse, due to the presence of feral horses.

The small drainage located roughly 250 meters (820 feet) northeast of the Station is entirely dominated by mesquite. This drainage is used as a watering hole for feral horses, which serves as a year-round source of drinking water.

Wildlife

The sparse amount of wildlife found on the Station is due to its small size, complete fencing, and vegetation clearing. Little vegetation exists for food sources or cover, and thus most wildlife exists outside the Station where vegetation is present. Both herbivores and insectivores cannot use the Station land as both the plants, and insects that feed on the plants, are absent. The presence of feral horses grazing outside the Station boundary may also contribute to the relatively low biodiversity of wildlife in the area.

Mammals

During a 1997 survey of the Station, only two mammalian species were detected, captured, or observed within the confines of NSSS Gila River. Both of these species, the black-tailed jackrabbit (*Lepus californicus*) and round-tailed ground squirrel (*Spermophilus tereticaudus*), were probably present on the Station because they feed on crab grass. Other mammalian species confirmed near the Station (within 1,640 feet [500 meters]), but never observed within Station boundaries, were two species of kangaroo mice (*Dipodomys ordii* and *D. merriami*), the desert pocket mouse (*Perognathus penicillatus*), the white-throated woodrat (*Neotoma albigula*), and coyote (*Canis latrans*). All of these species have the potential to occur on the Station. Noticeable missing were any mice of the genus *Peromyscus*, although four to five species have the potential to occur.

Station personnel have encountered the American badger (*Taxidea taxus*) and the kit fox (*Vulpes velox*) within the confines of the Station. The badger probably burrowed under the fence, and the kit fox either burrowed or jumped over the fence. There is a gap in the fence at a secondary gate on the west side of the Station that may also allow animals to enter the property. Jackrabbits have been observed entering the property here. The collared peccary (*Tayussa tajuca*), more commonly known as the Javelina, is present in the surrounding area, although it was not observed during the biological

3.0 Affected Environment

surveys. Station personnel have observed Javelia in the area, although not on the Station. Feral horses (*Equus caballus*) owned by the Indian Reservation are present outside the perimeter fence.

Herpetofauna (Reptiles)

Inside the Station, the only reptiles detected during the 1997 surveys were the regal horned lizard (*Phrynosoma regalis*) and the western whiptail (*Cnemidophorus tigris*); however, numerous other species were captured immediately outside the Station. These included five Iguanid lizards, two species of rattlesnakes, and one amphibian, a gecko. Two gila monsters (*Heloderma suspectum*) and a coral snake were seen at NSSS Gila River by Station personnel between 1988 and 1998.

Avifauna (Birds)

No specific avian surveys were conducted as part of the 1997 biological surveys; however, incidental sightings were recorded during other surveys. The palm trees have hosted nesting owls and an occasional cactus wren. These trees offer a high roosting and nesting area with good cover and concealment that is not typical of the desert floor environment. Otherwise, very few birds use the Station, apparently because it has little else to offer in the form of roosting or nesting sites.

Sensitive Species

NSSS Gila River must protect and manage any plant or animal species listed as Endangered or Threatened under the Federal Endangered Species Act (ESA) that occur within its property or use the property in any way. Protection of state-listed rare and endangered species on U.S. Navy land is not required by legal mandate; however, the U.S. Navy encourages cooperation with the state to protect such species. Additionally, the Station is obligated to protect avian species as part of its stewardship mandate. No federal- or state-listed Threatened or Endangered plant or wildlife species have been observed or are expected to occur at NSSS Gila River, and there is no USFWS-designated critical habitat for Threatened or Endangered species at the Station.

Plants

No sensitive plants species are expected to occur within the Station or in the immediate surrounding.

Wildlife

Wildlife of special concern that occur or could potentially occur at the Station are included in Table 3-1. The mesquite mouse (*Peromyscus merriami*), is a state species of special concern, and has the potential to occur near the Station, especially due to the presence of a large forest-like tract of mesquite trees along the agricultural canal just a few hundred yards north and east of the Station. These mice usually occur in the heavy mesquite thickets, but also inhabit the open low desert floor, especially where mesquite trees are located.

The gila monster is not a listed species under the ESA, but is a species protected by the State of Arizona.

Table 3-1. Wildlife of Special Concern Occurring or Potentially Occurring on NSSS Gila River

Species	Typical Habitat	Observations	Status
BIRDS			
Burrowing owl (<i>Athene cunicularia hypugaea</i>)	grasslands, agricultural fields, & desert grasslands	A	SSC
Loggerhead shrike (<i>Lanius ludovicianus</i>)	variable, including open desert	A	SSC
Swainson=s hawk (<i>Buteo swainsoni</i>)	variable, including open desert	A	SSC
MAMMALS			
Mesquite mouse (<i>Peromyscus merriami</i>)	low desert, mesquite flats/ mesquite forests	A	SSC
REPTILES			
Gila Monster (<i>Heloderma suspectum</i>)	mostly rocky uplands but also low desert floor	B	SSC

Source: U.S. Navy 1998

A = potential to occur (has never been documented on or near the Station)

B = seen by station personnel in the 1980s

SSC = State Species of Special Concern

3.2 MAN-MADE ENVIRONMENT

3.2.1 Land Use

Historic Land Use

The Station was built in 1958 at its current location within the Gila River Indian Reservation. Between 1958 and 1965, an older transmitter antenna array and smaller building served as the Station's main components, which were both located on the southern portion of the property. In 1965, construction of a new antenna array and main building were initiated on the northern half of the Station, which allowed satellite surveillance to continue while the new facilities were under construction. After completion, operations moved to the new building, and the old building has been used as storage since then. In 1971, the out-dated original antenna array was removed, although the concrete foundations used to support the poles remain.

the Station, which allowed satellite surveillance to continue while the new facilities were under construction. After completion, operations moved to the new building, and the old building has been used as storage since then. In 1971, the out-dated original antenna array was removed, although the concrete foundations used to support the poles remain.

Existing Land Use

The Station is completely enclosed with a fence topped with barbed wire. The main entrance is a remote controlled gateway that operates on a runner. Access is by an encoded key card, or by intercom to the main building. There are two small developed areas within the station boundary. Immediately inside of the main gate is the old Station building that is now used as a storage facility. From the main gate, a single lane paved road runs adjacent to the fence line for approximately 1,600 feet (500 meters) and ends in a parking lot to the main building and facilities. The main building serves as headquarters for the Station and houses the electronic equipment and computers. Behind the main building are small storage sheds that house field maintenance equipment, such as the mower and grader. This developed area is situated adjacent to the center of the linear transmitter antenna array. The array is approximately 1,600 feet (500 meters) long and 5 feet (1.5 meters) wide.

The Station resembles an airfield from the air, and is labeled as such on the USGS topography map for Maricopa. For this reason, there are warning signs at the northern and southern ends of the Station. Large concrete casts on the ground spell out AHAZ@ and are painted red to alert pilots not to land at the Station.

The northern half of the Station is used mainly as a buffer area around the antenna array and to house personnel and equipment needed to operate and maintain the Station. The southern half of the Station is mostly bare ground. This area is periodically cleared for fire prevention purposes. Table 3-2 describes the existing land uses at the Station.

Table 3-2. Existing Land Uses

LAND USE	AREA	
	Acres	Hectares
Developed (buildings, storage sheds, paved roads)	3.59 ¹	1.45
Antenna Array	0.59	0.24
Landscaping	0.35	0.14
Bare ground	21.0	8.50
Total	25.53	10.33

1 This includes a 2.5 acre security buffer around the operations building.

The land surrounding the Station is part of the Gila River Indian Reservation. The immediately adjacent area is open, undeveloped land used for horse grazing. There are a few agricultural fields on the Reservation, none of which are in the immediate vicinity of the Station.

Planned Land Use

The existing lease agreement between the U.S. Navy and Gila River Indian Reservation encompasses 25.5 acres of land. This includes the portions of the Station that were recently expanded to construct four U.S. Army map service monuments and a “security buffer” around the operations building. Within the next five to ten years, a new transmitter and maintenance garage may be constructed at NSSS Gila River. This transmitter may replace or work in tandem with the exiting transmitter. At this time, no additional land acquisitions are anticipated to accommodate the new array or garage.

3.2.2 Traffic

NSSS Gila River is located approximately 650 feet (200 meters) west of State Route 347. A paved access road leads from State Route 347 to the Station. Inside the Station, a single-lane paved road parallels the fence line for approximately 1,600 feet (500 meters) and terminates in a small parking lot at the main building. Use of the access road is typically limited to Station personnel. Due to the relatively small number of people who work at NSSS Gila River, Station personnel do not have noticeable effect on local traffic levels.

3.2.3 Noise

Station noise levels were not measured for this assessment, but they are considered low based on the nature of the activities conducted on-Station and the relative isolation of NSSS. On-Station noise generation is generally limited to vehicle noise, including the noise of the small tractor used to drag and mow the Station grounds. Vehicle noise from State Route 347 can also be heard at the Station. Other minor noise sources at the Station include transmitter maintenance activities. The transmitter does not generate audible noise levels. There are no land uses in the immediate vicinity of NSSS Gila River that would be sensitive to noise.

3.2.4 Aesthetics

Due to its isolated location, small size, lack of visually imposing facilities, and minimal number of viewers, NSSS Gila River has a negligible visual effect on the surrounding community. The Station is surrounded by open desert, and the closest views to NSSS Gila River are from State Route 347 (see Figure 1-3, Site Map). The closest visible structure from SR 347 is a storage building located at the Station entrance approximately 1,135 feet (345 meters) from the road.

3.2.5 Cultural Resources

Regulatory Background

Cultural resources are prehistoric and historic period sites, structures, districts, or other places with evidence of human activity that are considered significant to a community, cultural or ethnic group. Significant cultural resources are referred to as historic properties under federal law and meet one or more of the criteria for nomination to the National Register of Historic Places (NRHP).

Federal laws and regulations including the National Historic Preservation Act (42 U.S.C. § 4332), the Archeological Resources Protection Act (16 U.S.C. § 470aa), the Native American Graves Protection and Repatriation Act (25 U.S.C. § 3001), and the American Indian Religious Freedom Act (42 U.S.C. §1996) identify the Navy's regulatory requirements and responsibilities concerning cultural resources. These include the need to provide an inventory of resources that are potentially eligible for the NRHP, to evaluate these resources for eligibility, and to consider effects federal projects may have on eligible resources. In addressing impacts, an agency may elect to avoid the resource or mitigate adverse effects through measures such as data recovery.

Cultural Background

The prehistory of the region has been divided into major periods: the Paleo-Indian (circa 10,000 to 6,500 B.C.), the Southwest Archaic (6500 B.C to A.D. 300), and the Formative (A.D. 300 to contact with European settlers) (Gumerman and Haury 1983). In the Basin and Range portion of Arizona, which encompasses NSSS Gila River, the beginning of the Formative period is marked by the introduction of ceramics. In the southern deserts there was the development of a distinct group known as the Hohokam. Hohokam occupation can be further broken into four divisions: the Pioneer period (A.D 300 to 700), the Colonial period (A.D. 700 to 900), the Sedentary period (A.D. 900 to 1150), and the Classical period (A.D.1500 to 1450) (Altschul 1994). Much of the early research regarding the Hohokam was focused on a settlement at nearby Snaketown (Gladwin et al. 1937). However, interest in the Hohokam culture and Snaketown has continued (e.g., Haury 1976; Wilcox et al. 1981).

Attempts to reconstruct the prehistory of central Arizona include questions regarding the genetic or cultural connection between prehistoric peoples and the Pima who were occupying the area along the Gila River at the time of contact (Ezell 1983). The Pima, who called themselves the River People, were largely dependent on agriculture prior to Spanish contact (Castetter and Bell 1942; Gilpin and Philips n.d.). Traditional Pima farming relied on flood waters of the Gila River to spread over the lower terrace. These floods were produced by runoff from upstream, but the flow was highly variable (Hackenberg 1983).

Early recorded history was documented by missionaries, traders, and explorers as they traversed the area in the late 1700s and early 1800s (Ezell 1983). Later records were provided by military scouts, government officials, and railroad workers to the late 1800s. In 1858, the 372,000-acre (150,550-

hectare) Gila River Indian Reservation was established and occupied by people from the Pima (Akimel O'odham) and the Maricopa tribes. By the turn of the century railroads had replaced most wagon transportation in the area, making desert commerce a viable option for many businessmen and families (Stein 1994; Janus Associates Incorporated 1989). With the coming of the railroad, the founding of towns and cities throughout the region opened the desert to business opportunities and the establishment of military installations.

Inventory

The cultural resources inventory for this project is based on existing data. Information regarding the location of resources and previous survey investigations was obtained through a record search at Arizona State Museum, Northern Arizona Museum, the State Historic Preservation Office, and the Bureau of Land Management were also contacted regarding any pertinent information they have in their files.

The records search indicated that (approximately the eastern half) of NSSS Gila River was subject to survey in the early 1970s. The survey, which covered over 50,000 acres (20,200 hectares), was conducted using an airplane and pedestrian survey at a 165-foot (50-meter) interval (Wood 1971, 1972a).

One archeological site is documented within a 1-mile (1.6-kilometer) radius of the project. Site AZ T:16:44 is situated approximately 0.5 mile (0.8 kilometers) southeast of the project. The site was recorded in 1972 by Wood as a containing ceramic sherds, some of which were collected (Wood 1972b).

The U.S. Navy is currently in the process of evaluating the potential historic resource value of the nine stations which comprise the Naval Space Surveillance System. The Navy is also currently (June 2000) awaiting a tribal permit to commence with an archaeological survey at NSSS Gila River.

3.2.6 Public Facilities/Access/Recreation

NSSS Gila River is located within an Indian Reservation, completely enclosed by a barbed-wire fence, and protected by a resident dog. Based on these factors, there are no public facilities or public recreational opportunities at the Station. There are also only very limited recreational opportunities for authorized personnel within the Station. There is ample room for running or jogging within the fence line, but no formal recreational facilities exist at the Station. Although NSSS Gila River is not open to the public, trespassers sometimes encroach onto the neighboring Reservation.

3.2.7 Safety and Environmental Health

The primary safety and environmental health issues at NSSS Gila River are the threat of wildfires and hazards associated with the transmitter. To reduce the potential risk of wildfires, a firebreak 50

feet (15 meters) wide is maintained around the Station by clearing all vegetation around the perimeter fence. The southern half of the Station is also mowed or dragged on a periodic basis, as well as the areas immediately surrounding the road, antenna array and storage building.

The transmitter does not pose a radiation risk to personnel at ground level (U.S. Navy 1996). Station personnel who perform maintenance must observe precautions when working above the level of the ground screen (i.e., a screen located approximately 8 to 20 feet [2 to 6 meters] above the ground level which prevents ground-based emissions from interfering with the transmitter). Typically, the transmitter is shut off during maintenance or repair efforts that require personnel to work above the ground screen level.

3.2.8 Utilities

As described above, potable water is delivered to the Station for drinking or cooking. There is a 2,000-gallon (8,800 liter) underground tank at the site, however this tank is not used due to a leak. Above ground storage tanks are therefore used to store the potable water that is delivered to the site. Electricity is provided by the County of Pinal via utility poles from the access road, which lead underground to the main building. Telephone services also follow this route.

The station is on a septic system. In 1994, a new system was constructed and installed just northwest of the main building near the edge of the fence.

3.2.9 Socioeconomics

As discussed above, the Station is located on the Gila River Indian Reservation in Pinal County. Based on the 1990 Census, 9.3 percent of the County's population was comprised of Native Americans, compared to the state average of 6.8 percent (U.S. Census 1990). The 1998 population estimate for the County was 146,929 (U.S. Census 1999), of which 11,550 lived on the Reservation. As of July 1996, the median income for the County was \$26,082, whereas the State average was \$31,736.

The Commanding Officer of NAVSPACECOM employs NSSS personnel through an operations and maintenance contract. NSSS Gila River is operated entirely by a civilian labor force, currently totaling nine employees, with no on-site military or federal civil service employees. The current Station staff live in local communities, primarily the Phoenix metropolitan area, with a minority living in the communities of Maricopa and Casa Grande. During the daytime, the Station is manned by a Station Manager, Technical Supervisor, Maintenance Mechanic, and a part-time secretary. At all other times, at least one Electronic Technician is on duty to ensure operation of the antennas and computer system, and to take immediate corrective action if the system experiences an error.

The U.S. Navy recently signed a new lease with Department of the Interior, Bureau of Indian Affairs. The lease fee was increased from \$4,300 to \$4,812 per month to compensate for the additional leased area.

Based on NSSS Gila River's relatively small size, operational requirements, and number of staff, its effect on the local and regional economies is negligible.

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4.0 ENVIRONMENTAL CONSEQUENCES

As described in Chapter 2.0, the INRMP includes compliance (mandatory), stewardship (voluntary), and administrative measures. By definition, the administrative measures would not have a noticeable effect on the human or physical environment. Accordingly, this analysis of environmental consequences focuses on the potential impacts of the compliance and stewardship measures for each alternative.

4.1 PHYSICAL/NATURAL ENVIRONMENT

4.1.1 Geology/Topography/Soils

Implementation of the 1998 Draft INRMP

The INRMP was developed to improve natural resource management, including soil conservation. The measures included in the 1998 Draft INRMP would help reduce erosion through the reduction of tractor speeds for mowing and dragging. (Lower tractor speeds would help reduce the generation of wind-borne dust.) Also, firebreak clearing activities would be reduced by 8.6 acres (3.5 hectares), thus reducing ground disturbance at the Station. As a result, this alternative would benefit soil resources. None of the compliance or stewardship measures would adversely affect the soil at NSSS Gila River, primarily because none of them would involve more than minor, if any, ground disturbance. For similar reasons, none of the measures would affect the geology or topography of the Station.

Modified INRMP Implementation Alternative

This alternative would have beneficial effects on soil resources and no effect on geology or topography for reasons identical to those described above.

No Action Alternative

Under the No Action Alternative, NSSS Gila River would continue to experience wind-related erosion from firebreak clearing and mowing activities. Although the level of erosion would be greater than the INRMP alternatives, it would not constitute a significant soil impact. The No Action Alternative would not cause any impacts to geology or topography.

4.1.2 Hydrology

Implementation of the 1998 Draft INRMP

There are no surface water resources at NSSS Gila River and none of the proposed compliance or stewardship measure would alter the use of the groundwater present under the Station. The

nearby Santa Cruz Wash does pose a potential threat to flooding at the Station; however, the 1998 Draft INRMP includes contingency floodplain management measures to address these issues. These measures are designed for on-Station floodproofing and protection which would not affect the hydrology of the Santa Cruz Wash. Accordingly, this alternative would have no impact on hydrology.

Modified INRMP Implementation Alternative

The modified INRMP implementation alternative would not affect hydrology for reasons identical to those described for implementation of the 1998 Draft INRMP.

No Action Alternative

Under the No Action Alternative, there would be no change in groundwater use. Because the Station is relatively small, has no residential quarters, and does not irrigate its grounds, it has minimal water use requirements. Although flooding would continue at the Station, the Santa Cruz Wash would not be affected under the No Action Alternative. Thus, the No Action Alternative would not impact hydrology at NSSS Gila River.

4.1.3 Air Quality

Implementation of the 1998 Draft INRMP

Implementing the 1998 Draft INRMP would have a negligible effect on the emission of air pollutants or the air quality near the Station. Only minor vehicle use would be required to implement the compliance and stewardship measures. For example, a pickup truck or similar vehicle would probably be required to haul landscaping materials to the Station. The emissions of these occasional trips would have an immeasurably small effect on air quality in the region. By reducing tractor speeds during mowing and dragging, the generation of dust would be reduced on-Station. While beneficial, this would also be a negligible effect. Thus, there would be essentially no air quality impact as a result of this alternative.

Modified INRMP Implementation Alternative

This alternative would not impact air quality for reasons similar to those described above.

No Action Alternative

Under the No Action Alternative, there would be no change in operations at NSSS Gila River, and the Station's nominal generation of air pollutants would remain less than significant.

4.1.4 Water Quality

Implementation of the 1998 Draft INRMP

There are no surface water resources at NSSS Gila River, and none of the proposed 1998 Draft INRMP measures would affect groundwater. Due to the proximity of the Santa Cruz Wash, the reduction in insecticide use could have a minor, beneficial impact on the quality of runoff from the site. Overall, the measures included in the 1998 Draft INRMP would have a less than significant impact on water quality in the area.

Modified INRMP Implementation Alternative

This alternative would have a minor, beneficial impact on water quality for similar reasons to those described for implementation of the 1998 Draft INRMP.

No Action Alternative

Operations at NSSS Gila River currently do not create water quality impacts, and there is no known hazardous material contamination of groundwater at the Station. Because there would be no change in Station operations, and because Station operations are not currently degrading water quality, the No Action Alternative would not have a water quality impact.

4.1.5 Biological Resources

Implementation of the 1998 Draft INRMP

Implementing the 1998 Draft INRMP would improve the biological resource value of NSSS Gila River, and it would minimize the effects of Station operations on the surrounding environment. By reducing the area of firebreak mowing and revegetating 8.6 acres (3.5 hectares) with native plants, the amount of habitat suitable for wildlife use would be increased. The noxious weed control measures would help reduce the presence of the Bermuda grass and other nonnative plants at the Station.

The reduction in insecticide use would correspondingly reduce the amount of insecticides ingested by rodents (which often eat poisoned insects) and the rodents' predators. As described in Section 2.2.1, insecticides can ultimately concentrate in predators at the top of the food chain, such as raptors. The sensitive wildlife species, habitat and ecosystem management, and construction and maintenance measures are specifically intended to improve the quality of habitat within the Station and to reduce impacts to wildlife. For example, by driving the tractor slower and making sure the driver is aware of lizards or snakes in the path of the drag, impacts to wildlife from ongoing operations may be reduced. Similarly, the decrease in mowed area would allow for an increase in area available for wildlife habitat.

For these reasons, implementing the 1998 Draft INRMP would have a beneficial impact on biological resources.

Modified INRMP Implementation Alternative

This alternative would also have a beneficial impact on biological resources, although the benefits would be incrementally less than would be associated with implementing the 1998 Draft INRMP. In particular, there would be less of a reduction in insecticide use and no raptor perches would be installed. Also, the 8.6-acre (3.5-hectare) area that is no longer subject to routine mowing would not be replanted with native vegetation; rather, it would be allowed to naturally revegetate. Overall, this alternative would still improve the biological resource value of the Station and reduce its effects on wildlife. The bulk of the compliance and stewardship measures included in the 1998 Draft INRMP would still be implemented under this alternative. As a result of these factors, this alternative would have a beneficial impact on biological resources.

No Action Alternative

Under the No Action Alternative, the benefits of an INRMP would not be realized. Although NSSS Gila River's operations would continue to limit biological resources values within its perimeter fence, the Station has only a negligible effect on regional biological resources. The Station does not encompass any unique habitat, and it does not provide habitat for any federally listed species. Continuing current operations without an INRMP would not benefit biological resources in the region, but it would also not result in a significant biological resources impact.

4.2 MAN-MADE ENVIRONMENT

4.2.1 Land Use

Implementation of the 1998 Draft INRMP

None of the 1998 Draft INRMP measures propose changes in land use or the construction of new facilities (with the exception of minor items such as raptor perches). Additionally, none of the measures would change off-Station land uses. (The only measure addressing off-Station activity calls for a 10 mile per hour [16 kilometer per hour] speed limit on the Station access road.) Accordingly, this alternative would not impact existing land uses at or around NSSS Gila River. The 1998 Draft INRMP would also not significantly affect the ability of NAVSPACECOM to implement any of the planned land uses described in Section 3.2.1, although some of the native vegetation established in the southern 8.6 acres (3.5 hectares) of the Station may be removed in the future to accommodate the potential new transmitter. Because installation of the new transmitter would take priority over maintaining the vegetated area, this would not cause a land use impact.

Modified INRMP Implementation Alternative

This alternative would not impact land use for the same reasons described for implementation of the initial INRMP.

No Action Alternative

Under the No Action Alternative, there would be no change in operations at NSSS Gila River and there would be no impact to existing or planned land uses.

4.2.2 Traffic

Implementation of the 1998 Draft INRMP

Implementing some of the measures would require a minor amount of material to be delivered to the Station. For example, a pickup truck would probably be required to bring raptor perches or landscaping materials to the Station. These infrequent trips by single vehicles would not have a noticeable effect on traffic.

Modified INRMP Implementation Alternative

This alternative would not impact traffic for reasons similar to those described above. Because the modified implementation alternative would not include the installation of raptor perches or native plant revegetation, it would generate nominally less traffic than implementation of the 1998 Draft INRMP.

No Action Alternative

Under the No Action Alternative there would be no change in the amount of traffic generated by Station operations and no traffic impacts.

4.2.3 Noise

Implementation of the 1998 Draft INRMP

Some of the 1998 Draft INRMP measures would generate short term, localized noise emissions. Examples of this would include the noise generated by installing raptor perches or landscape planting. This level of activity would probably require only one vehicle, a few Station personnel or other contractors, and minor construction noise (such as hammering). These noise impacts would not be significant given their short duration and the lack of sensitive noise receptors in the area.

Modified INRMP Implementation Alternative

This alternative would generate less than significant noise impacts for reasons similar to those described for implementation of the 1998 Draft INRMP. Because the modified implementation alternative would involve less planting and would not include the installation of raptor perches, it would result in nominally less noise generation than implementation of the 1998 Draft INRMP.

No Action Alternative

Current operations do not generate significant noise impacts, and this would not change under the No Action Alternative.

4.2.4 Aesthetics

Implementation of the 1998 Draft INRMP

The proposed compliance and stewardship measures would have only a minimal effect on the appearance of NSSS Gila River. The raptor perches and picnic area would represent the only noticeable built structures. The modified mowing program and native plant revegetation would provide the Station with a slightly more natural appearance. Depending on the location and types of vegetation, the “picnic area” would also provide a more natural appearance to the Station. Overall, however, the most dominant visual features of the Station would be the antenna arrays and the operations building. The appearance of these facilities, which are only intermittently visible from near by State Route 347, would not change and this alternative would have a less than significant aesthetics impact.

Modified INRMP Implementation Alternative

This alternative would have even less of an aesthetic impact than implementation of the 1998 Draft INRMP because it would not include the installation of raptor perches, landscaping, or “picnic area.” Accordingly, the aesthetic impacts of this alternative would be less than significant.

No Action Alternative

Under the No Action Alternative the Station would remain a visually unobtrusive military facility which would not have an aesthetic impact.

4.2.5 Cultural Resources

Implementation of the 1998 Draft INRMP

One archeological site has been documented within a 1-mile (1.6-kilometer) radius of the project. Site AZ T:16:44 is situated approximately 0.5 mile (0.8 kilometers) southeast of the Station. The site was recorded in 1972 by Wood as a containing ceramic sherds, some of which were collected (Wood 1972b). None of the INRMP compliance or stewardship measures would affect this area. Because the entire Station has not been surveyed, however, it is not possible to determine whether ground-disturbing activities could affect archeological resources. Given the high level of past ground disturbance at the Station, it is improbable that any such resources would remain intact within Station boundaries. Because the potential for affecting archeological resources (if present) exists, mitigation has been identified to avoid cultural resource impacts. Specifically, prior to the installation of any landscaping or facilities that require ground disturbance (e.g., raptor perches, picnic area), the U.S. Navy will conduct a pedestrian archeological survey of the proposed activity's area of potential effect. Any archeological resources detected during the survey will be avoided unless those resources are determined to be ineligible for the National Register of Historic Places. As mitigated, impacts to archeological resources would be less than significant.

None of the compliance or stewardship measures would affect built facilities at NSSS Gila River (i.e., the antenna array or operational buildings). Accordingly, implementing the 1998 Draft INRMP would have no effect on whether NSSS Gila River, either individually or as part of the overall Space Surveillance System, is eligible for the National Register of Historic Places. Based on these factors, implementing the 1998 Draft INRMP would have no cultural resources impact.

Modified INRMP Implementation Alternative

Because this alternative does not involve the installation of raptor perches or picnic area, and because it does not involve actively planting the southern 8.3 acres (3.5 hectares) of the Station, it does not have the same potential to affect archeological resources (if present). Similar to implementation of the 1998 Draft INRMP, this alternative would not affect any built facilities at the Station. Based on these factors, the modified implementation alternative would not cause cultural resource impacts, and it would not require mitigation.

No Action Alternative

Under the No Action Alternative there would be no impacts to archaeological resources because there would be no new ground-disturbing activities and the antenna array and operational buildings would remain in use. Accordingly, the No Action Alternative would not affect cultural resources.

4.2.6 Public Facilities/Access/Recreation

Implementation of the 1998 Draft INRMP

With implementation of the 1998 Draft INRMP, NSSS Gila River would remain inaccessible to the public and there would be no public facility, public access, or recreation impacts.

Modified INRMP Implementation Alternative

Under the modified INRMP implementation alternative, NSSS Gila River would remain inaccessible to the public and there would be no public facility, public access, or recreation impacts.

No Action Alternative

Under No Action Alternative, NSSS Gila River would remain inaccessible to the public and there would be no public facility, public access, or recreation impacts

4.2.7 Safety and Environmental Health

Implementation of the 1998 Draft INRMP

None of the 1998 Draft INRMP measures would pose a safety or health risk. The measures are all designed to improve natural resources management, they involve little to no construction activity, and none would generate hazardous wastes or other environmental health risks. Accordingly, this alternative would not generate a safety or environmental health impact.

Modified INRMP Implementation Alternative

None of the measures included in the modified INRMP implementation alternative would pose a safety or health risk. The measures are all designed to improve natural resources management, they involve little to no construction activity, and none would generate hazardous wastes or other environmental health risks. Accordingly, this alternative would not generate a safety or environmental health impact.

No Action Alternative

Under the No Action Alternative, there would be no change to the existing, safe operations at NSSS Gila River. Accordingly, the No Action Alternative would not generate a safety or environmental health impact.

4.2.8 Utilities

Implementation of the 1998 Draft INRMP

The proposed compliance and stewardship measures would involve only limited construction that would not affect existing utilities, and none of the measures would increase the demand for utility service at the Station.

Modified INRMP Implementation Alternative

The compliance and stewardship measures included in the modified INRMP implementation alternative would involve only limited construction that would not affect existing utilities, and none of the measures would increase the demand for utility service at the Station.

No Action Alternative

Under the No Action Alternative there would be no changes to existing utilities at NSSS Gila River, and there would be no change in the demand for utility service. Accordingly, the No Action Alternative would not impact utilities.

4.2.9 Socioeconomics

Implementation of the 1998 Draft INRMP

Implementation of the 1998 Draft INRMP would not have a measurable socioeconomic impact. This alternative would not affect the number of contractor personnel employed at NSSS Gila River or living in the region. Minor expenditures would be required for some of the stewardship measures such as installing raptor perches or landscaping features. These expenditures would be economically negligible even in the small communities near the Station. Accordingly, the socioeconomic impacts of this alternative would be less than significant.

Implementation of the 1998 Draft INRMP would not adversely affect any human population; accordingly, it would not result in disproportionate impacts to minority or low income populations, and it would not affect the U.S. Navy's ability to comply with Executive Order 12898, "Environmental Justice."

Modified INRMP Implementation Alternative

The modified INRMP implementation alternative would not have measurable socioeconomic impact. This alternative would not affect the number of contractor personnel employed at NSSS Gila River or living in the region. Minor expenditures would be required for some of the stewardship measures; however, this alternative does not include the installation of raptor

perches, landscaping, or “picnic area”. The required expenditures would be economically negligible even in the small communities near the Station. Accordingly, the socioeconomic impacts of this alternative would be less than significant.

The modified INRMP implementation alternative would not adversely affect any human population; accordingly, it would not result in disproportionate impacts to minority or low income populations, and it would not affect the U.S. Navy’s ability to comply with Executive Order 12898, “Environmental Justice.”

No Action Alternative

Under the No Action Alternative operations at NSSS Gila River would not change and there would be no socioeconomic impacts.

4.3 CUMULATIVE IMPACTS

This cumulative impact analysis addresses the incremental effects of the proposed action in conjunction with related past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over time (see CEQ Regulations Implementing NEPA, 40 C.F.R.§1508.7). In order to be considered cumulative impacts, the effects must meet the following criteria: the effects would occur in a common locale or region; the effects would not be localized (i.e., they would contribute to effects of other actions); the effects would impact a particular resource in a similar manner; and the effects would be long-term (short-term impacts would be temporary and would not typically contribute to significant cumulative impacts).

Past and present actions at NSSS Gila River have led to the existing conditions that are described in Section 3.0 and which provide the basis for the analysis in Sections 4.1 and 4.2 of this document. Accordingly, the following cumulative impact analysis addresses the effects of reasonably foreseeable future actions at NSSS Gila River.

4.3.1 Reasonably Foreseeable Future Actions

Potential future actions at NSSS Gila River are listed below, with the anticipated year of implementation shown in parentheses.

- construction of a new maintenance garage (between 2002 and 2007).
- construction of a new high security fence and lighting around the operations building (between 2003 and 2007)
- construction of a new space surveillance transmitter to replace or work in tandem with the exiting transmitter (between 2006 and 2007).

- repair approximately 1 mile (1.0 kilometers) of Station access road (between 2006 and 2007).

4.3.2 Impact Analysis

As described in Sections 4.1 and 4.2, the impacts of the either the 1998 Draft INRMP or the modified implementation alternative would generally be beneficial, reflecting the intent of an INRMP to improve the natural resources at the Station. Where adverse impacts have been identified, they would be negligible (i.e., the traffic impacts of infrequent truck trips, the minor construction-related noise) or mitigated to less than significant levels (i.e., cultural resources).

Because the INRMP would remain in place for the foreseeable future, it is expected that the implementation of INRMP measures would coincide with the construction and operation of the potential future actions listed in Section 4.3.1. Based on the nature of the impacts associated with the INRMP measures (i.e., they are generally either beneficial or negligible), they would not be expected to incrementally contribute to a significant environmental impact when considered cumulatively with the potential future actions. For example, the occasional truck trips generated by the INRMP measures would not be expected to push the traffic impacts of any future projects over the significance threshold. Because cultural resource impacts would (as mitigated) be avoided, the INRMP measures would not incrementally, add to any future cultural resources impacts associated with the potential future actions.

In consideration of the types of impacts associated with implementation of the INRMP and the reasonably foreseeable future actions at and around NSSS Gila River, the proposed action would not incrementally contribute to any cumulatively significant impacts.

4.4 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS

The proposed action would irreversibly commit minor resources to natural resource management projects, such as the material, labor, and energy expended to install raptor perches or plant landscaping materials. The vast majority of the proposed INRMP measures would, however, be reversible. For example, the changes in firebreak clearing activities could easily be altered at a future date and insecticide spraying schedules could be returned to their pre-INRMP status.

4.5 LOCAL SHORT-TERM USE AND LONG-TERM PRODUCTIVITY

The proposed action is intended to improve the long-term natural resource values of NSSS Gila River. In light of these factors, the proposed action (and the modified INRMP implementation alternative in particular) would not cause short-term uses which adversely affect long-term productivity.

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5.0 LIST OF PREPARERS

This Environmental Assessment (EA) was prepared by the **Naval Facilities Engineering Command, Southwest Division**. Key Navy personnel who contributed to the preparation of this EA include:

- Debra Theroux, Southwest Division, Planner-In-Charge
- BUC(SCW) Rodney Gardner, USN, Naval Space Command
- CDR Keith Chapman, USN, Naval Space Command
- George Buffkin, Naval Space Command
- Coralie Cobb, Southwest Division, Natural Resource Specialist
- Kirstin Collins, Southwest Division, Archaeologist

The U.S. Navy's prime contractor on this EA was **KTU+A**. KTU+A prepared the visual resources analysis and report figures. Key personnel from KTU+A who contributed to this EA include:

- Michael Singleton, Principal
- Elizabeth Nedeff, Project Manager

KEA Environmental, Inc. provided project management, overall document preparation, and all analyses except for visual resources. Key personnel from KEA who contributed to this EA include:

- Michael Schwerin, Project Manager
- Eric Wilson, Senior Environmental Analyst
- Rebecca Apple, Sr. Archaeologist
- Cheryl Bowden-Renna, Staff Archaeologist
- Regeina Howard, Word Processor

The descriptions of the proposed action and the affected environment incorporate a substantial amount of information from the Integrated Natural Resources Management Plan, Gila River Naval Space Surveillance Station, prepared for the U.S. Navy by **Tierra Data Systems**.

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6.0 LIST OF PERSONNEL AND AGENCY CONTACTS

During the preparation of the Gila River Naval Space Surveillance Station Integrated Natural Resource Management Plan (INRMP), the U.S. Navy and its contractors coordinated with personnel from the Phoenix office of the U.S. Fish and Wildlife Service and with the Arizona Department of Game and Fish. Personnel from Chugach Telecommunication and Computer, Inc., the U.S. Navy's contractor at NSSS Gila River, were also interviewed during preparation of the INRMP to determine existing operational and natural resource management practices at the Station.

During preparation of this EA, the following agencies and personnel were also contacted:

Arizona Game and Fish Department*

- Russel Haughey, Habitat Program Manager, Region VI

Chugach Telecommunication and Computer, Inc.

- Dale F. Rubel
- Ronald D. Black

Pinal County Air Quality Management District

- Mike Rodgers, Deputy Director

U.S. Fish and Wildlife Service, Arizona Ecological Services Field Office*

- David Harlow, Field Supervisor

* Draft copies of this Environmental Assessment were provided to these agencies for review and comment (see Appendix B).

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U.S. Navy

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8.0 ACRONYMS AND ABBREVIATIONS

ADEQ	Arizona Department of Environmental Quality
AGFD	Arizona Game and Fish Department
BO	Biological Opinion
CAA	Clean Air Act
CWA	Clean Water Act
DON	Department of the Navy
EA	Environmental Assessment
EPA	(U.S.) Environmental Protection Agency
ESA	Endangered Species Act
INRMP	Integrated Natural Resource Management Plan
NAAQS	National Ambient Air Quality Standards
NAVSPACECOM	Naval Space Command
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
NSSS	Naval Space Surveillance Station
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Service

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Appendices

Appendix A: Native Plants List

Appendix B: Review Comments from the U.S. Fish and Wildlife Service and Arizona Game and Fish Department

APPENDIX A: NATIVE PLANTS LIST

APPENDIX A. NATIVE PLANT LIST

This appendix lists native southwestern plants suitable for future landscaping at Naval Space Surveillance Station (NSSS) Gila River. This list was derived from the following brochures published by the Arizona Native Plant Society: *Desert Shrubs*, *Desert Ground Covers and Vines*, *Desert Trees*, *Desert Grasses*, and *Desert Bird Gardening*. This list is not all inclusive, and other native plants may be used for future landscaping efforts at the Station.

TREES

Blue palo verde (*Cercidium floridum*)*
Desert ironwood (*Olneya tesota*)*
Desert willow (*Chilopsis linearis*)*
Foothills palo verde (*Cercidium microphyllum*)
Southern live oak (*Quercus virginiana*)
Southwestern sweet acacia (*Acacia minuta smallii*)
Whitethorn acacia (*Acacia constricta*)*

SHRUBS

Arizona rosewood (*Vauquelinia californica*)
Brittle bush (*Encelia farinosa*)*
Bush lantana (*Lantana camara*)
Creosote (*Larrea divaricata*)
Desert honeysuckle (*Anisacanthus thurberi*)
Evergreen sumac (*Rhus choriophylla*)
Fairy duster (*Calliandra eriophylla*)
Hop bush (*Dodonaea viscosa*)
Jojoba (*Simmondsia chinensis*)
Little leaf cordia (*Cordia parvifolia*)
Mountain marigold (*Tagetes lemmoni*)
Pine-leaf milkweed (*Asclepias linaria*)
Wright's bee bush (*Aloysia wrightii*)
Yellow trumpet bush (*Tecoma stans* var. *angustata*)

* Identified by the Arizona Plant Society and Tucson Audobon Society as being useful trees and shrubs for attracting birds.

GROUND COVERS

Calylophus (*Calylophus hartwegii*)
Trailing indigo/smoke bush (*Dalea greggii*)

GRASSES

Green sprangletop (*Leptochloa dubia*)
Plains bristlegrass (*Setaria macrostachya*)
Plains lovegrass (*Eragrostis intermedia*)
Spidergrass (*Aristida ternipes*)

VINES

Janusia (*Janusia gracilis*)
Snapdragon vine (*Maurandya antirrhiniflora*)
Texas virgin bower (*Clematis drummondii*)
White virgin's bower (*Clematis ligusticifolia*)

**APPENDIX B: REVIEW COMMENTS FROM THE U.S. FISH AND
WILDLIFE SERVICE AND ARIZONA GAME AND FISH DEPARTMENT**

APPENDIX B

REVIEW COMMENTS FROM THE U.S. FISH AND WILDLIFE SERVICE AND ARIZONA GAME AND FISH DEPARTMENT

Copies of the Screencheck Final Environmental Assessment were provided to the Arizona Ecological Services Field Office of the U.S. Fish and Wildlife Service and to the Arizona Game and Fish Department.

The U.S. Fish and Wildlife Service submitted a letter indicating that the Final INRMP will provide a suitable level of protection for resources at NSSS Gila River. A copy of that letter follows.

The Arizona Game and Fish Department provided a letter indicating that they support the proposed action, but cautioning that care be taken in selecting the native plant seed mix for the Station. A copy of the Arizona Game and Fish Department letter follows the U.S. Fish and Wildlife Service letter.



United States Department of the Interior

U.S. Fish and Wildlife Service
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 640-2720 FAX: (602) 640-2730



In Reply Refer To:

AESO/SE

December 4, 2000

Mr. Michael C. Stroud
Natural and Cultural Resources Lead
Southwest Division
Naval Facilities Engineering Command
Department of the Navy
1220 Pacific Highway
San Diego, California 92132-5190

Dear Mr. Stroud:

The Fish and Wildlife Service has reviewed your Final Environmental Assessment for the Naval Space Surveillance Station, Gila River Integrated Natural Resources Management Plan, and we have the following comments for your consideration.

We believe that implementation of the proposed management plan will provide a suitable level of protection for resources on the facility. We have no other comments on the document.

Thank you for providing us with the opportunity to review this document. If we may be of further assistance, please contact Ms. Sherry Barrett in our Tucson office at (520) 670-4617.

Sincerely,

David L. Harlow
Field Supervisor

cc: Tucson Sub-Office, Arizona Ecological Services Office, Fish and Wildlife Service, Tucson, AZ

USN NSSS LAF



THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT

2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
(602) 942-3000 • WWW.AZGFD.COM

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August 23, 2000

Michael Stroud
Natural and Cultural Resources Lead
Department of the Navy
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190

Dear Mr. Stroud:

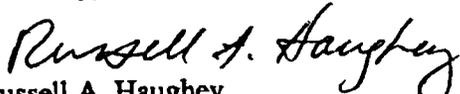
The Department has reviewed the Integrated Natural Resource Management Plan EA for the Naval Space Surveillance Station and we provide the following comments.

The Department supports the Proposed Action. Due to the fairly low quality habitat the small size of the facility we think that the habitat restoration and wildlife management measures outlined in the Preferred Alternative will be adequate to improve the value of the site to wildlife. We do suggest that care be taken in selecting a native seed mix for the site, as some plant species commonly used in Arizona for revegetation (salt bush, brittlebush) will often reestablish so successfully that they will soon dominate the site, exclude other native species, and present a fire hazard.

We would like to compliment the U.S. Navy on the quality of this document. It is clear that, for the size of the project, this plan and EA were well researched and thought-out.

Thank you for the opportunity to comment on this project. If you have any questions, please call me at (480)981-9400 X 222.

Sincerely,


Russell A. Haughey
Habitat Program Manager, Region VI

RH:rh

cc: Rod Lucas, Region VI Supervisor
John Kennedy, Project Evaluation Program Supervisor, Habitat Branch

8-21-00(09)

