

4.8 RECREATION

Section 4.8 describes the potential impacts to recreational resources as a result of the proposed action. Restrictions on physical access to recreational resources during the construction and operational phases of the various alternative actions are the most quantifiable and direct anticipated impact. Recreation sites offshore that are encumbered by danger zones would also be subject to impacts from training. These impacts would be more pronounced on the island of Tinian because the island is populated and relies heavily on tourism. Visitors and residents regularly visit recreational, historical, and cultural sites around Tinian. A reduction in access to these sites may have an impact to tourism. Indirect impacts to the enjoyment of recreational resources may also occur, particularly to those resources located outside the Military Lease Area. Pagan is officially uninhabited and does not contain any official recreational areas, although there have been discussions about developing Pagan as an eco-tourism destination and a staging area for visitors to the Marianas Trench National Marine Monument area.

4.8.1 Approach to Analysis

The impact analysis used available data (e.g., field reconnaissance, agency and stakeholder interviews, commercial recreation and tour operator's interviews, existing documentation) and conservative assumptions (e.g., no access at all during the live-fire training periods on Tinian and Pagan) for reduction in recreational use under each alternative. Information from the socioeconomic impact analysis in Section 4.15, *Socioeconomics and Environmental Justice* was also used to prepare this recreational resource analysis. Existing baseline data for the impact analysis are limited because the CNMI agencies and organizations do not collect comprehensive visitor data (e.g., user counts, visitor satisfaction, user comments, and visitor demands).

Both direct and indirect impacts were analyzed. Direct impacts include the following:

- The extended closure and loss of public access, either permanently or intermittently, to recreational resources during construction or operation.
- Training noise considered incompatible with land uses such as parks and playgrounds (as described in Section 4.5, *Noise*).
- Modification to and reduction in quantity, quality, and diversity of recreational opportunities and options.
- Potential destruction, damage or modification to the physical condition of recreational resources located within training areas.

Indirect impacts include the following:

- Increased demand for, and pressure on, recreational resources outside the Military Lease Area.
- Change in the quality of the visitor experience as a result of: (1) permanent or intermittent restricted access to recreational opportunities, and (2) modified or improved access corridors.
- Increase in user conflicts as recreational sites outside of the Military Lease Area experience increased crowding and modified usage.

As discussed in Section 3.8.2, *Regulatory Framework*, several entities are responsible for the management and maintenance of tourist sites and recreational areas on Tinian and Pagan. However, the

island of Tinian and the CNMI government have no specific regulatory standards or guidance with regard to recreational resources. Therefore, for the purpose of this analysis, the project alternatives would cause a significant impact to recreational resources if they would:

- Substantially limit or prohibit access to recreational resources
- Substantially permanently or intermittently reduce the number of available recreational opportunities
- Substantially reduce or exceed the capacity of a recreation resource
- Cause substantial conflicts between recreation users
- Cause substantial physical deterioration of recreational resources
- Result in a substantial modification to the user experience across each recreation site
- Have noise impacts at recreation sites greater than the following, which are based on the noise zones used to determine land use compatibility with parks and playgrounds (see Section 3.5.2, *Noise, Regulatory Framework*):
 - 75 decibels A-weighted (small-caliber weapons and aircraft noise)
 - 70 decibels C-weighted (large-caliber weapons)
 - 104 decibels Peak

4.8.2 Resource Management Measures

Resource management measures that are applicable to recreational resources include the following:

- The DoN would provide proposed training schedules to the U.S. Coast Guard who would issue and broadcast a Notice to Mariners that will identify the location of the danger zones and direct vessel operators to navigate clear of the danger zones during specified time periods.
- Trained observers, or surface radar, would scan the danger zones prior to and during live-fire training to ensure that there are no vessels or individuals within or approaching the danger zone. If vessels or individuals are at risk from operation of the range, the vessel would be contacted via marine radio and instructed to vacate the area and/or alter its course to avoid the danger zone. If required, the range would suspend activities until the vessel has cleared the danger zone.
- The DoN would develop and implement a construction management plan and appropriate traffic management strategies to minimize impacts of construction on access to recreational resources near the construction areas.
- The DoN would prepare an access plan that would detail provisions for public access to the RTA. These provisions would include a range control facility and dedicated range scheduler that would be in place to assess public access in real-time and provide advance notice of restricted public access dates, times, and areas. Range control and the scheduler would coordinate public access directly with the Tinian Mayor's Office and other interested parties, such as ranchers and entities within the tourism industry. The access plan would also detail access procedures that would be implemented to ensure safety and provide guidance and direction.

4.8.3 Tinian

As discussed in Section 3.8, *Recreation*, Tinian contains the following recreational opportunities:

- Twelve historic and cultural sites
- Eight beaches and parks
- Ocean-based resources, including snorkeling and diving (five sites), recreational fishing, and boating
- Scenic points
- Seven annual events

The majority of these recreational opportunities are located within the Military Lease Area. Specifically, there are 10 historic and cultural sites, 6 beaches and parks, 3 scenic points, and 5 annual events located within the Military Lease Area. In addition, four of the five dive sites would be encumbered by danger zones.

4.8.3.1 Tinian Alternative 1

4.8.3.1.1 Construction Impacts

The construction phase would include various forms of grading, drainage engineering, land clearing, utility installation, and roadway improvements. Construction would take place over a period of 8 to 10 years and would be intermittent. Construction materials and equipment would come through the Port of Tinian and through Tinian International Airport. Materials would be delivered to the construction sites via surface roadways, primarily along an upgraded 8th Avenue. Materials would also be delivered via 72nd Street, 86th Street, and the former runways of North Field.

Introducing slow-moving construction vehicles to the roadways in the Tinian RTA and constructing roads and training facilities would impact the public's access to all recreational resources in the Military Lease Area. The increased traffic and slow operation of construction vehicles could result in negative impacts to visitor access to, and their overall experience of these resources. As previously mentioned, construction would take place on an intermittent basis over a period of 8 to 10 years. Therefore, construction activities would not impede access on a daily basis for the entire construction period.

Use of these roads during construction would require roadway improvements to support heavy construction vehicles. These roadway improvements and upgrades would remain in place upon completion of construction. Therefore, depending on location, Tinian Alternative 1 would improve access to various recreational resources during those times the resources are accessible to the public. This improved access to recreational resources is discussed in detail in the *Roadway and Access Improvements* section below.

Dive sites are primarily accessed via tourist boat operators based at the Port of Tinian; therefore, access to dive sites would not be impacted by land-based construction projects. Boating and diving could be impacted by the increased port congestion and disruption of port traffic, as a result of construction materials passing through the port, and the construction of port and associated roadway improvements. However, increased activity at the port associated with construction would be relatively short-lived and the effects would be temporary.

Unai Chulu would require in-water construction of a landing ramp and removal of areas of limestone on the beach to facilitate access for Amphibious Assault Vehicles. The beach would be closed during construction, which would displace potential visitors. However, the closure would be temporary, and construction is only expected to last up to 8 months.

As discussed in Section 4.3, *Water Resources*, construction activities would disturb sediments and increase turbidity, which could cause an indirect impact to nearshore waters at nearby beaches or dive spots. The construction would be relatively short-lived, and the effects would be temporary; therefore, the indirect impact to nearby beaches or dive sites would be reduced and potentially eliminated.

Tinian Alternative 1 construction activities would preclude access to Unai Chulu during the construction period. As discussed in Section 3.8.4.2, *Beaches and Parks*, Unai Chulu is the only beach within the Military Lease Area that is recommended by the Tinian Dynasty to visitors. It is also known to attract visitor groups for entertainment and picnics. Due to the loss of access, Tinian Alternative 1 construction activities would have a significant impact to Unai Chulu. Although construction would limit or prohibit access to recreational resources within the construction area, this impact would be temporary. Therefore, Tinian Alternative 1 construction activities would result in less than significant direct or indirect impacts to recreational resources.

4.8.3.1.2 Operation Impacts

Tinian Alternative 1 operations would have direct impacts to recreational resources. The most substantial impact to recreation from the training operations would be the closure of the Military Lease Area for up to 20 weeks of training per year, with some areas inaccessible to the public on a year-round basis (i.e., the entire High Hazard Impact Area, the Munitions Storage Area, the base camp, all fenced and gated training areas, Surface Radar, and the range Observation Posts). In general, public access would be allowed to all other locations when training is not occurring. It is envisioned that public access to some or all areas of the RTA, with the exceptions mentioned above, would occur during a couple of daylight hours on a nearly daily basis during the 20 weeks of live-fire training. A range control facility and dedicated range scheduler would be in place to assess public access in real-time and to provide advance notice of public access dates, time frames, and areas. Range control and the scheduler would coordinate public access directly with the Tinian Mayor's Office and other interested parties, such as ranchers and entities within the tourism industry. Access procedures would be implemented to ensure safety and provide guidance and direction. Since the majority of the recreational opportunities on Tinian are located within the Military Lease Area, the limited access would substantially reduce recreational opportunities. The specific impacts and level of significance for each category of recreational resources are discussed in the subsections, below.

4.8.3.1.2.1 Historic and Cultural Sites

Ten of the 12 historic and cultural sites on Tinian are located within the Military Lease Area. Of these 10 historic and cultural sites, 8 would be inaccessible 20 weeks per year during training. Two resources, the Shinto Shrine and the Hinode American Memorial, are located within the proposed High Hazard Impact Area (Range Complex A); therefore, they would be inaccessible year-round. In addition, the High Hazard Impact Area would receive artillery, mortars, aerial gunfire, missiles, rockets, and inert aviation ordnance, which would lead to the physical damage and/or destruction of these two resources.

Since 10 of the 12 historic and cultural sites on Tinian are within the Military Lease Area, Tinian Alternative 1 operations would reduce recreational opportunities associated with historic and cultural sites. As discussed in Section 3.8.4, *Tinian*, there were over 54,000 visitors to Tinian in 2013, and the majority of the visitors are there to visit the historic and cultural sites (DoN 2014).

Tinian Alternative 1 operations would result in the following significant impacts to historic and cultural sites:

- Substantially limit or prohibit access to 10 of the 12 historic and cultural sites on Tinian
- Substantially reduce the number of available recreational opportunities associated with historic and cultural sites on an intermittent basis
- Cause substantial physical deterioration to two historic and cultural sites

Therefore, Tinian Alternative 1 operations would result in significant direct impacts to historic and cultural sites during operation.

Potential mitigation measures, which are detailed below, include scheduling of training events to avoid holidays and annual events and mitigation measures determined as part of the Section 106 process. However, even with mitigation measures, impacts to recreation opportunities (i.e., visitation) to historic and cultural sites would be significant due to intermittent reduction of public access during the 20 weeks of live-fire training, particularly access to the North Field National Historic Landmark and other World War II-era sites.

Potential Mitigation Measures include:

- In as much as possible, training would be scheduled around peak tourist holidays, such as the three World War II anniversaries.
- There is no mitigation currently proposed to minimize this impact to the Shinto Shrine and Hinode American Memorial. The DoN is consulting with the CNMI Historic Preservation Officer and other interested parties regarding impacts to the Shinto Shrine and Hinode American Memorial as part of the Section 106 process (see Appendix N, *Cultural Resources Technical Memo* for a discussion of the consultation process). Potential mitigation will be determined through this consultation process.

Mitigation monitoring would not be required for the development of an access plan or scheduling of training events to avoid holidays. Mitigation monitoring would be required for mitigation measures determined through the Section 106 consultation process. It is likely that these proposed potential mitigation measures would be implemented since tourism is the base of the Tinian economy and visitors tend to participate in multiple activities while on Tinian that include island tours within the Military Lease Area (see Section 3.15, *Socioeconomics and Environmental Justice*).

4.8.3.1.2.2 Beaches and Parks

There are eight beaches and parks open to the public on Tinian. Five of these beaches are located within the Military Lease Area and would be closed periodically during some portion of each training week up to 20 non-continuous weeks per year. These include the following:

- Unai Lam Lam
- Unai Babui

- Unai Chulu
- Unai Dankulo
- Unai Masalok

All but Unai Dankulo would be used for tactical amphibious training that would involve combat swimmers and small boats coming ashore. In addition to small boat and swimmer training, Unai Babui, Unai Chulu, and Unai Masalok would include amphibious landing training using Landing Craft Air Cushion vessels. With resource management measures (see [Section 4.8.2, Resource Management Measures](#)), including restoration of beach topography with hand-held tools, tactical amphibious training involving the swimmers, small boats, and Landing Craft Air Cushion vessels would not result in substantial changes to the physical shoreline and wave activity.

Unai Chulu would also include a landing area for Amphibious Assault Vehicles. Unai Chulu would be altered to allow Amphibious Assault Vehicles to come ashore. However, the in-water landing ramp and cleared area of the beach would not impede recreational users from utilizing the resource during non-training times.

There are three publicly accessible beaches and parks on Tinian located outside the Military Lease Area: Kammer Beach, Taga Beach, and Tachogna Beach. These are the most visited beaches on Tinian by both tourists and residents because they are located in San Jose and are near the Dynasty Hotel and Casino where 90% of the visitors to Tinian stay (DoN 2014). These beaches are also the only beaches on Tinian that have shaded picnic sites and pavilions. With other beaches and recreation sites closed in the Military Lease Area during training, these beaches may experience an increase in visitors, including tourists and residents. This could result in the increased use of facilities, parking, and crowding of the shoreline and nearshore waters. The potential crowding and modified usage of beaches and parks outside the Military Lease Area could result in an increase in user conflicts and competition for limited recreational resources. However, because the beaches and parks within the Military Lease Area are generally not heavily frequented, the increase in visitors to the beaches and parks outside the Military Lease Area would be small. Therefore, the capacity of the beaches and parks outside the Military Lease Area to absorb additional users would likely not be exceeded, nor is it expected that there would be substantial conflicts between recreation users. Nevertheless, Tinian Alternative 1 operations would result in the following significant impacts to beaches and parks:

- Substantially limit or prohibit access to five of the eight beaches and parks on Tinian
- Substantially reduce the number of available recreational opportunities associated with beaches and parks on an intermittent basis

Therefore, Tinian Alternative 1 operations would result in significant direct impacts to the recreational use of beaches during operation. Tinian Alternative 1 operations would result in less than significant indirect impacts to beaches outside the Military Lease Area due to increased use of these beaches during training periods when beaches within the Military Lease Area are inaccessible.

4.8.3.1.2.3 Ocean-based Resources

The presence of danger zones, which would be located over shorelines and open ocean areas, would require the closure of offshore areas to the public during active training periods (i.e., up to 20 non-

continuous weeks per year). This would include four popular snorkeling and diving sites located just offshore of the west coast of Tinian:

- Dump Coke North
- Dump Coke South
- Tinian Grotto
- Fleming Point

The intermittent, temporary loss of access during active training periods (i.e., 20 non-continuous weeks per year) to four of the five popular snorkeling and diving sites would increase demand on the remaining one remaining snorkeling and dive site: Two Corals. This indirect impact could in turn change the quality of the visitor experience because of overcrowding of this location, although it is not expected to exceed the capacity of the resource. However, the increased use of Two Corals could result in a substantial increase in user conflicts and negatively impact the quality of the visitor experience to these sites.

Additionally, shoreline locations used for recreational fishing are primarily located south of Dump Coke South and north of the Two Corals (Turtle Cove) diving sites on the west side of Tinian. All of these recreational shoreline fishing locations would be within danger zones and closed to the public during training activities (i.e., 20 non-contiguous weeks per year).

Tinian Alternative 1 operations would result in the following significant impacts to ocean-based resources:

- Substantially limit or prohibit access to four of the five popular snorkeling and diving sites
- Substantially limit or prohibit access to popular shoreline fishing locations
- Substantially reduce the number of available recreational opportunities associated with ocean-based resources on an intermittent basis
- Cause substantial conflicts between users of ocean-based resources due to overcrowding
- Result in a substantial modification to the user experience of ocean-based resources

Therefore, Tinian Alternative 1 operations would result in significant direct and indirect impacts to ocean-based recreational resources during operation.

4.8.3.1.2.4 Scenic Points

As discussed in Section 3.12, *Visual Resources*, there are several scenic points on Tinian, including Mount Lasso and Ushi “Cross” Point. Many of the scenic points also include a historic or cultural component and are described in Section 3.8.4.1, *Historic and Cultural Sites*. Impacts to these sites are discussed above in [Section 4.8.3.1.2.1, Historic and Cultural Sites](#).

The Blow Hole is located within the Military Lease Area; therefore, access to the Blow Hole would be restricted 20 non-continuous weeks per year during training events. The Blow Hole is one of the most recognized and visited sites on the island of Tinian. There is no other accessible natural feature similar to it that replicates the experience for a visitor.

Tinian Alternative 1 operations would result in the following significant impacts to scenic points:

- Substantially limit or prohibit access to scenic points

- Substantially reduce the number of available recreational opportunities associated with scenic points on an intermittent basis

Therefore, Tinian Alternative 1 operations would result in significant direct impacts to scenic points during operation.

4.8.3.1.2.5 Annual Events

The annual Tinian Hot Pepper Festival, also known as the Pika Festival, along with other festivals and sporting events, are held at various locations on Tinian throughout the year. Closing various Tinian recreational resources for up to 20 weeks per year during training operations could result in a reduction of visitor attendance at these events, which would result in a decrease in quality of the visitor experience. Training operations and the closure of the Military Lease Area which is used for festivals and sporting events could impact annual events. Additionally, depending on dates and durations of training operations, danger zone restrictions could also impact the hosting of recreational and sport fishing events.

Tinian Alternative 1 operations would result in the following significant impacts to annual events:

- Substantially limit or prohibit access to areas used for annual events
- Result in a substantial modification to the user experience of visitors to annual events

Therefore, Tinian Alternative 1 operations would result in significant direct and indirect impacts to annual events from lack of access into the Military Lease Area.

Through implementation of proposed potential mitigation measures, including development of a training schedule and coordination with event sponsors, impacts to annual events would be less than significant.

Potential Mitigation Measures include:

- In as much as possible, training would be scheduled around peak tourist holidays, such as the three World War II anniversaries, and annual events. In as much as possible, the DoN would coordinate with event sponsors to ensure that training events do not occur during annual events.

Mitigation monitoring would not be required. It is likely that the proposed potential mitigation measures would be implemented since tourism is the base of the Tinian economy and visitors tend to participate in multiple activities while on Tinian that include island tours within the Military Lease Area (see Section 3.15, *Socioeconomics and Environmental Justice*).

4.8.3.1.2.6 Training Noise Impacts

As discussed in Section 4.5, *Noise*, there would be potential noise impacts associated with training activities. Noise would originate from small-caliber weapons, large-caliber weapons, and aircraft. Although noise levels within the Military Lease Area would exceed the thresholds for compatible use with recreation areas, these areas would be closed to the public during training (i.e., noise-producing events).

Noise levels above the threshold for compatible use at recreation areas outside the Military Lease Area and surface danger zones would include the following:

- Noise from large-caliber weapons would be greater than 70 decibels C-weighted over a small area of the Pacific Ocean between Ushi “Cross” Point and the Blow Hole (see Figure 4.5-3). Boating and recreational fishing may occur within this area during training events.
- Peak sound levels would be greater than 115 decibels over both the Philippine Sea on the west side of the Military Lease Area, the Pacific Ocean on the east side of the Military Lease Area, and north of Tinian to Saipan (see Figure 4.5-5).

Sustained sound levels from large-caliber weapons and Peak sound levels during training may result in a loss of enjoyment for boaters and potential success for fishermen. However, there are other boating and fishing areas around the southern part of Tinian that could be utilized during training events. Therefore, Tinian Alternative 1 operations would result in less than significant direct impacts to recreational resources from noise.

4.8.3.1.2.7 Roadway and Access Improvements

There are two primary roads leading from San Jose into the Tinian RTA: 8th Avenue and Broadway Avenue. While some of the major roads and trails in the Military Lease Area may be accessible when training is not occurring, Broadway Avenue from just south of the Shinto Shrine to north of the American Memorial traffic circle would be closed to the public on a year-round basis. This closure would prevent access to recreational resources via Broadway Avenue north of the American Memorial traffic circle, even when those northern resources are open to the public. Visitors’ sole access to the northern sites would be via 8th Avenue.

As described in Section 2.4, *Tinian Alternatives*, numerous trails and roadways would be improved or upgraded as an action common to all Tinian alternatives. Although some of the roadways would not be intended for public use, some roadways would be improved for public access. Specifically, road improvements for public use within the Military Lease Area would provide beneficial impacts as follows:

- 8th Avenue, repair existing road for public use. This upgrade would improve north-south travel and access to the Seabees Monument, Japanese Internment Camp, Mount Lasso, 509th Composite Group Camp, and the North Field National Historic Landmark, as well as Unai Chulu, Unai Babui, and Unai Lam Lam
- Riverside Drive and Lennox Avenue, repair existing road for public use. This upgrade would improve access to Unai Chulu, Unai Babui, and Unai Lam Lam
- 86th Street, repair existing road for general use. This upgrade would improve east-west cross connections between 8th Avenue and Broadway Avenue

The closure of Broadway Avenue would impede access to recreational resources north of the American Memorial traffic circle; however, access would be available via 8th Avenue. Additionally, improved roadways would facilitate better access to recreational sites within the Military Lease Area and result in a beneficial impact when public access is permissible. Therefore, the closure of Broadway Avenue would result in a less than significant indirect impact to recreational resources.

4.8.3.2 Tinian Alternative 2

4.8.3.2.1 Construction Impacts

The impacts to recreational resources from construction activities associated with Tinian Alternative 2 would be the same as those described for Tinian Alternative 1. See [Section 4.8.3.1, Tinian Alternative 1](#), for a discussion of impacts. Construction activities associated with Tinian Alternative 2 would result in less than significant direct or indirect impacts to recreational resources.

4.8.3.2.2 Operation Impacts

The impacts to recreational resources from Tinian Alternative 2 operations would be similar to those described for Tinian Alternative 1. See [Section 4.8.3.1, Tinian Alternative 1](#), for a discussion of impacts. However, noise impacts to recreational resources from Tinian Alternative 2 operations would be slightly different from those associated with Tinian Alternative 1.

Impacts to recreational resources from noise associated with Tinian Alternative 2 operations would be mostly the same as those described for Tinian Alternative 1. Under Tinian Alternative 2 noise from large-caliber weapons greater than 70 decibels C-weighted would expand further over the Philippine Sea on the west side of Tinian than it would for Alternative 1. However, this area is within the danger zone and would be closed to the public during training events and would not result in additional impacts to recreational resources. Therefore, Tinian Alternative 2 operations would result in less than significant impacts to recreational resources from noise.

Tinian Alternative 2 operations would have direct and indirect significant impacts to recreational opportunities associated with historic and cultural sites, beaches and parks within the military lease area, ocean-based resources, and scenic points.

Tinian Alternative 2 would have significant impacts to annual events. Through implementation of potential mitigation measures, including coordination with event sponsors, impacts to annual events would be less than significant.

Tinian Alternative 2 operations would result in less than significant impacts to beaches and parks outside the military lease area.

Tinian Alternative 2 would result in less than significant impacts from the closure of Broadway Avenue. The other roadway and access improvements would have beneficial impacts to recreational resources.

4.8.3.3 Tinian Alternative 3

4.8.3.3.1 Construction Impacts

The impacts to recreational resources from construction activities associated with Tinian Alternative 3 would be the same as those described for Tinian Alternative 1. See [Section 4.8.3.1, Tinian Alternative 1](#), for a discussion of impacts from construction activities. Construction activities associated with Tinian Alternative 3 would result in less than significant direct or indirect impacts to recreational resources.

4.8.3.3.2 Operation Impacts

The impacts to recreational resources from the Tinian Alternative 3 operations would be the same as those described for Tinian Alternative 1, with the exception of impacts associated with training noise. See [Section 4.8.3.1](#), *Tinian Alternative 1*, for a discussion of impacts to recreational opportunities associated with historic and cultural sites, beaches and parks, ocean-based resources, scenic points and annual events, as well as roadway and access improvements. See [Section 4.8.3.2](#), *Tinian Alternative 2*, for a discussion of training noise impacts.

Tinian Alternative 3 operations would have direct and indirect significant impacts to recreational opportunities associated with historic and cultural sites, beaches and parks, ocean-based resources, scenic points, and annual events. Through implementation of proposed potential mitigation measures, including coordination with event sponsors, impacts to annual events would be less than significant.

Tinian Alternative 3 operations would have less than significant indirect impacts to recreational resources from noise. Although noise from large-caliber weapons greater than 70 decibels C-weighted would expand outside the Military Lease Area, the area that would be impacted is within the danger zone and would be closed to the public during training events.

Tinian Alternative 3 operations would result in less than significant indirect impacts from the closure of Broadway Avenue. The other roadway and access improvements would have beneficial impacts to recreational resources.

4.8.3.4 Tinian No-Action Alternative

Areas within the Military Lease Area that are in use during the periodic non-live-fire military training exercises that have and would continue to occur on Tinian would not be accessible to the public. These periodic non-live-fire military training exercises are of short duration and any lack of access would be temporary and not be significant to the overall recreational use of the Military Lease Area. As addressed in the Guam and CNMI Military Relocation EIS (DoN 2010a), four planned live-fire military training ranges would be established on Tinian. There would be less than significant impacts on access to recreational pursuits (see Table 9.2-4; DoN 2010a). Also, less than significant impacts to recreational resources would be incurred by the Mariana Islands Range Complex training (see Section 3.17.4; DoN 2010b). Therefore, under the no-action alternative, less than significant impacts to recreational resources would be anticipated.

4.8.3.5 Summary of Impacts for Tinian Alternatives

Table 4.8-1 provides a comparison of the potential impacts to recreational resources for the three Tinian alternatives and the no-action alternative.

Table 4.8-1. Summary of Impacts for Tinian Alternatives

Resource Area	Tinian (Alternative 1)		Tinian (Alternative 2)		Tinian (Alternative 3)		No Action Alternative	
	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation
Recreation (Construction Only)	LSI	Not applicable	LSI	Not applicable	LSI	Not applicable	LSI	Not applicable
Historic and Cultural	Not applicable	SI	Not applicable	SI	Not applicable	SI	Not applicable	LSI
Beaches and Parks	Not applicable	SI	Not applicable	SI	Not applicable	SI	Not applicable	LSI
Ocean-based Resources	Not applicable	SI	Not applicable	SI	Not applicable	SI	Not applicable	LSI
Scenic Points	Not applicable	SI	Not applicable	SI	Not applicable	SI	Not applicable	LSI
Annual Events	Not applicable	SI mitigated to LSI	Not applicable	SI mitigated to LSI	Not applicable	SI mitigated to LSI	Not applicable	LSI
Training Noise Impacts	Not applicable	LSI	Not applicable	LSI	Not applicable	LSI	Not applicable	LSI
Roadway and Access Improvements	Not applicable	BI/LSI	Not applicable	BI/LSI	Not applicable	BI/LSI	Not applicable	LSI

Legend: BI = beneficial impact; LSI = less than significant impact; SI = significant impact. Shading is used to highlight the significant impacts.

4.8.3.6 Summary of Potential Mitigation Measures for Tinian Alternatives

Table 4.8-2 provides a summary of the proposed mitigation measures for recreational resources for the three Tinian alternatives.

Table 4.8-2. Summary of Potential Mitigation Measures for Tinian Alternatives

Impacts	Category	Potential Mitigation Measures	Tinian Phase	
			Construction	Operation
RECREATION				
<p><u>Historic and Cultural Attractions</u> Due to restricted access, there would be significant impacts to: recreational opportunities associated with historic and cultural attractions (10 of 12 sites). These impacts would remain significant even with the implementation of the proposed mitigation measures.</p>	SI	<ul style="list-style-type: none"> In as much as possible, training would be scheduled around peak tourist holidays, such as the three World War II anniversaries. There is no mitigation currently proposed to minimize this impact to the Shinto Shrine and Hinode American Memorial. The DoN is consulting with the CNMI Historic Preservation Officer and other interested parties regarding impacts to the Shinto Shrine and Hinode American Memorial as part of the Section 106 process (see Appendix N, <i>Cultural Resources Technical Memo</i> for a discussion of the consultation process). Potential mitigation will be determined through this consultation process and could include documentation and relocation of the Shinto Shrine and Hinode American Memorial. 		X
<p><u>Annual Events</u> Closure of recreational areas on Tinian during training operations could result in reduced event attendance. Impacts would be mitigated to less than significant with implementation of the proposed mitigation measures.</p>	SI mitigated to LSI	In as much as possible, the DoN would coordinate with event sponsors to ensure that training events do not occur during annual events.		X

Legend: LSI = less than significant impact; SI = significant impact. Shading is used to highlight the significant impacts.

Note: Mitigation measures only change the significance of impacts where noted.

4.8.4 Pagan

4.8.4.1 Pagan Alternative 1

Pagan is officially uninhabited and does not contain any official recreational areas. Nevertheless, as noted in Section 3.8, *Pagan*, there have been discussions about developing Pagan as an eco-tourism destination and a staging area for visitors to the Marianas Trench National Marine Monument area.

4.8.4.1.1 Construction Impacts

The type and extent of construction on Pagan would be limited, as there would be no permanent buildings proposed as part of either alternative on Pagan. Construction would occur over an 8 to 10 year period; however, the majority of the construction would occur in the first few years as part of training activities. The public would be restricted from accessing areas where construction is occurring. These access restrictions would be temporary and intermittent. Therefore, Pagan Alternative 1 would result in less than significant impacts to recreational resources during construction activities.

4.8.4.1.2 Operation Impacts

Pagan Alternative 1 operations would result in the permanent closure of the High Hazard Impact Area, restricted access and intermittent closure of the northern portion of the island, and establishment of a 3-mile (4.8-kilometer) perimeter danger zone offshore of the northern part of the island during 16 weeks of training per year. The closure of the northern portion of the island during training events would preclude any recreational activities during that time. As discussed in Section 3.8.5, *Pagan*, the island is officially uninhabited and there are no formally identified recreational facilities or activities on Pagan. However, there are occasional recreational visitors to the island. These are generally individuals from other islands in the CNMI who may use the island for hunting, camping, or other cultural and spiritual pursuits. Other visitors are part of ecotourism groups with a pre-planned agenda and have only occurred three times over the past year, as discussed in Section 3.8.5, *Pagan*.

Since there are no formally identified recreational facilities on Pagan, and Pagan only hosts occasional recreational visitors, Pagan Alternative 1 operations would not substantially limit or prohibit access to recreational resources, nor would it substantially reduce the number of recreational opportunities. Therefore, Pagan Alternative 1 operations would result in less than significant impacts to recreational resources during operation.

4.8.4.2 Pagan Alternative 2

4.8.4.2.1 Construction Impacts

The impacts to recreational resources resulting from Pagan Alternative 2 construction activities would be the same as those discussed in [Section 4.8.4.1.1, Pagan Alternative 1, Construction Impacts](#). Implementation of Pagan Alternative 2 would result in less than significant impacts to recreational resources during construction.

4.8.4.2.2 Operation Impacts

The impacts to recreational resources resulting from Pagan Alternative 2 operations would be similar to those discussed in [Section 4.8.4.1.2, Pagan Alternative 1, Operation Impacts](#). However, less of southern Pagan would be encumbered by the surface danger zones, which would allow visitors additional areas of access. Therefore, Pagan Alternative 2 operations would result in less than significant impacts to recreational resources during operation.

4.8.4.3 Pagan No-Action Alternative

There would be no impacts to the recreational opportunities on Pagan under the no-action alternative. There would be the same potential for use of Pagan for periodic eco-tourism visits under this alternative as currently exists.

4.8.4.4 Summary of Impacts for Pagan Alternatives

[Table 4.8-3](#) provides a comparison of the potential impacts to recreational resources for the two Pagan alternatives and the no-action alternative.

Table 4.8-3. Summary of Impacts for Pagan Alternatives

<i>Resource Area</i>	<i>Pagan (Alternative 1)</i>		<i>Pagan (Alternative 2)</i>		<i>No-Action Alternative</i>	
	Construction	Operation	Construction	Operation	Construction	Operation
Recreation (General)	<i>LSI</i>	<i>LSI</i>	<i>LSI</i>	<i>LSI</i>	<i>NI</i>	<i>NI</i>

Legend: LSI = less than significant impact; NI = no impact.