

MLPA Master Plan Science Advisory Team
Draft Potential Impacts of Military Activities in Military Use Areas in the
MLPA South Coast Study Region
Draft Revised May 16, 2009

The military uses specific areas in the MLPA South Coast Study Region for training purposes along the mainland coast, and at San Nicolas and San Clemente islands and Begg Rock (Figure 1). For purposes of public safety and military training, three areas have been proposed by the military as pending closures at San Nicolas and San Clemente Islands (Figure 2). At its April 16, 2009 meeting in Dana Point, California, the Marine Life Protection Act (MLPA) Blue Ribbon Task Force (BRTF) discussed the pending military closures and requested additional information from the MLPA Master Plan Science Advisory Team (SAT) to inform further discussion of military use areas and pending military closures at the BRTF May 18-19, 2009 meeting. The BRTF requested the SAT to provide an analysis of how military activities may affect the ability of the pending military closures or proposed MPAs in military activity areas to meet the ecological goals of the MLPA.

Figure 1. Military use areas in the MLPA South Coast Study Region.

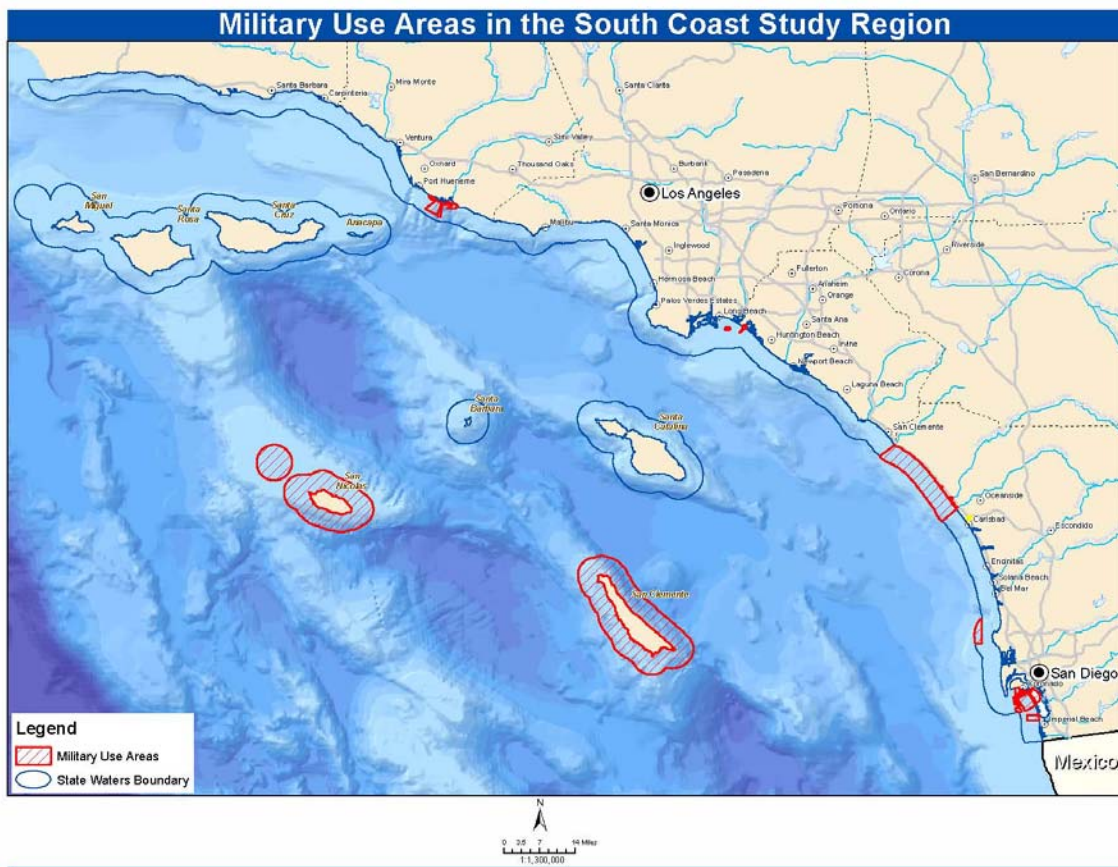
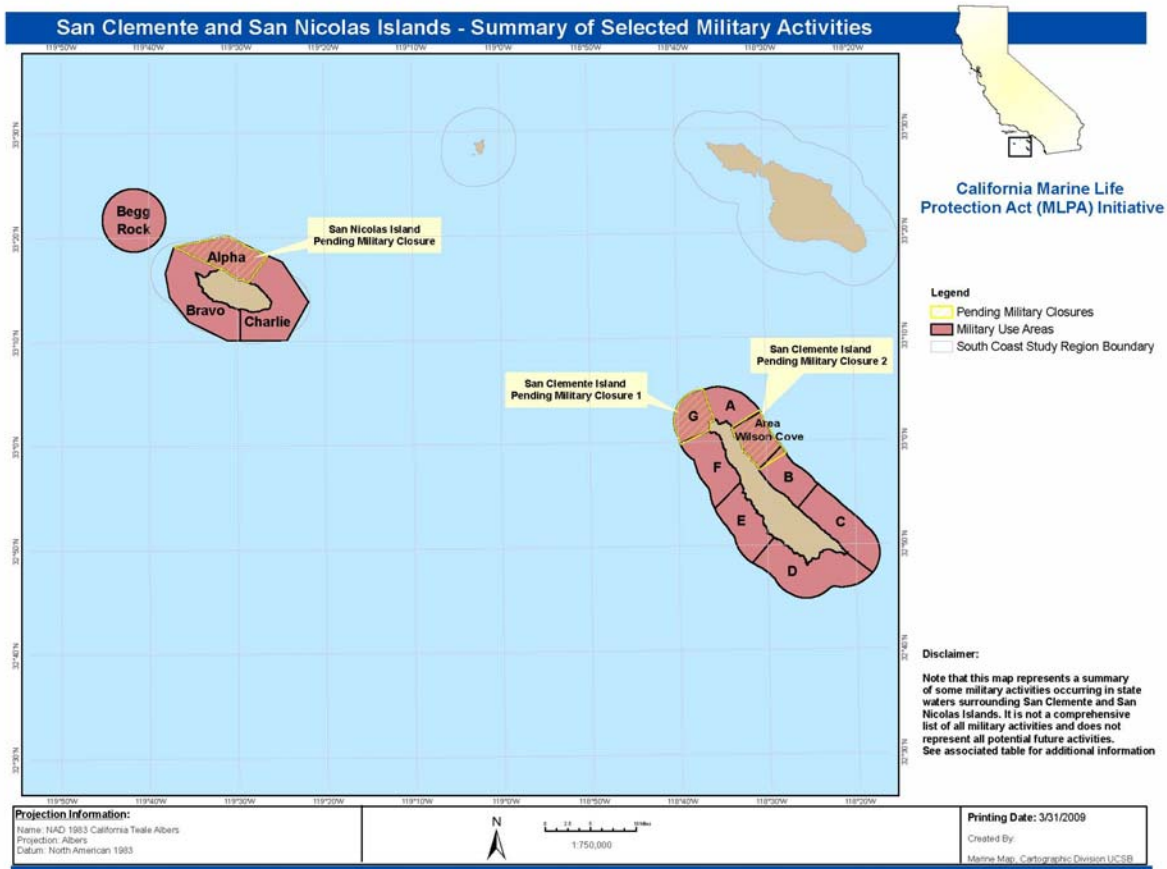


Figure 2. Military use areas at San Nicolas Island, Begg Rock and San Clemente Island.



Working with the military representatives from the MLPA South Coast Regional Stakeholder Group (SCRS), the SAT Military Use Areas Work Group developed a matrix (Table 1) which provides a list of many of the military activities that occur within each of the areas illustrated above in Figure 2. The work group developed a series of “impact categories” (described below), which are based on how an activity could interact with the surrounding environment.

In determining how an activity might impact the ecosystem several factors are considered, including alteration of habitat, disturbance to marine life and contact with the seafloor. Another important consideration is the frequency with which an activity occurs. MPAs or closures, which have activities that directly impact the seafloor and regularly occur, are less likely to contribute to meeting the goals of the MLPA than areas with infrequent use. Similarly, areas with a high number and frequency of lower impact activities may be more detrimental than a single activity occurring only infrequently in the same area. Therefore, it is important to consider the type of impact, frequency of activities, and the habitat affected when determining how military activities in these areas affect the ability of an area to contribute to the goals of the MLPA.

The military SCRSG representatives assisted the work group in determining the frequency with which each activity occurs for each area in Figure 2, the habitats in which each activity occurs, whether or not the activity impacts the seafloor, and in assigning each activity to one of the impact categories described below.

Impact Categories of Military Activities

Numerous military activities occur in each of the military use areas in the south coast study region. To elucidate how the ecosystem could be impacted in each military use area and compare among different activities, the military areas work group created a descriptive system of “impact categories.” The frequency, intensity, and duration of each activity were considered when assigning an activity to one of four categories. Activities that damage habitat or marine life were assigned to the highest impact category, while those that do not contact the seafloor and cause only temporary disturbances to marine life were assigned to the lowest impact category.

Category A represents activities causing direct and acute damage to seafloor habitat or marine life, or creating direct disturbance likely to reduce survival or reproduction. Activities assigned to Category B likely contact the seafloor and may cause damage to habitat or marine life, though they do not do so in an immediately destructive manner like activities in Category A. Category C represents activities that probably do not contact or directly damage the habitat, but that can be damaging to marine life. Finally, activities that have very limited or no contact with the seafloor and cause only temporary disturbance or displacement of marine life were assigned to Category D.

Examples of Category A activities are amphibious assault training, ship-to-shore live fire exercises, and torpedo operations. Each of these activities directly contacts marine habitat and causes reduced survival of marine life. (For a list of military activities and their assigned impact categories, see Table 1 at the end of the document). Activities assigned to Category B include underwater activities to recover missiles and inert bombing exercises. Category C includes underwater missile launches and active SONAR use, and Category D includes small boat training, diver and swimmer operations, and low altitude aircraft flyovers.

Category A activities likely are not consistent with meeting the ecological goals of the MLPA due to damage caused to the marine ecosystem. Category B and C activities may or may not be consistent with meeting the ecological goals of the MLPA because of the potential for damage to the ecosystem. Realized impacts of Category B and C activities depend on number, type and frequency of activities in these categories. Areas where Category D activities occur may be consistent with meeting the ecological goals of the MLPA.

For each military area and for the military areas along the mainland the sum of activities for each impact category is provided in Table 2. As described above activities impacting habitats or marine life are less likely to be consistent with MPA designation. Thus, it is less likely that MPAs in areas with a greater count of activities in impact categories A, B, and C would contribute to meeting the goals of the MLPA as much as areas in which only activities of impact category D occur.

The frequency of each activity is an important factor in determining how great the impact will be in a certain area. Activities that take place only rarely will likely have a lower impact on the ecosystem than activities that occur frequently. The SCRSG military representatives provided as much information as possible about the frequency of each activity in each military use area.; this information is summarized in Table 2. For each impact category, the highest frequency activity is reported, though other activities in the same impact category might occur less frequently. It is also important to note that certain activities could occur daily for three weeks and then not at all for two weeks, for example. These activities were counted as having a daily frequency, even though the activity does not actually occur every day.

Table 2. Potential impacts of military activities on military use areas.

Location	Impact Categories (Frequency)			
	A	B	C	D
San Clemente Island A	6 (d)	4 (d)	1 (d)	12 (d)
San Clemente Island Pending Military Closure 2 (Wilson Cove)	0	3 (d)	2 (d)	17 (d)
San Clemente Island B	0	4 (d)	5 (d)	15 (d)
San Clemente Island C	18 (d)	6 (d)	10 (d)	13 (d)
San Clemente Island D	18 (d)	7 (d)	10 (d)	14 (d)
San Clemente Island E	5 (d)	6 (d)	5 (d)	12 (d)
San Clemente Island F	6 (d)	7 (d)	5 (d)	13 (d)
San Clemente Island Pending Military Closure 1 (Area G, SWAT I)	0	0	0	10 (d)
San Nicolas Island Alpha Pending Closure	0	1 (m)	2 (q)	2 (w)
San Nicolas Island Bravo	0	1 (m)	2 (m)	2 (m)
San Nicolas Island Charlie	0	3 (m)	1 (q)	2 (m)
Begg Rock	0	1 (q)	2 (m)	2 (m)
Camp Pendleton	7 (d)	3 (d)	2 (q)	7 (m)
San Diego - Coronado and Silver Strand	5 (d)	4 (d)	2 (d)	11 (d)
ARPA Area off La Jolla	0	1 (d)	1	0
San Diego - Point Loma	2 (d)	2 (d)	1	2 (d)
*Point Mugu	0	0	1	3
*Seal Beach	1	0	0	1
*Vandenberg	0	0	2	3

Impact Categories:

A: direct and acute damage to seafloor habitat or marine life or causes direct disturbance likely to reduce survival/reproduction

B: likely contacts the seafloor and may cause damage to habitat or sea life, though does not do so in such an immediately destructive manner

C: activities probably do not contact or directly damage the seafloor and habitat but can be damaging to marine life

D: does not contact the seafloor or if so only in a limited way and likely causes disturbance or temporary displacement of marine life but does not necessarily reduce survival

Frequencies: (d): Daily, (w): weekly, (m): monthly, (q): quarterly, (y): yearly

**Frequency of activities in Point Mugu, Seal Beach and Vandenberg, not yet evaluated.*

Conclusions

The military areas clearly receive heavy and frequent use and many of the activities that occur in these areas may have ecological impacts on the local marine environment. The set of activities included in this analysis represent only a subset of all of the activities that currently occur. The SCRSG military representatives working with the SAT work group noted that the frequency and number of different activities may increase in the future. The military has a high investment in infrastructure at Wilson Cove and SWAT I, thus activities will likely remain consistent in coming years at these sites. Additionally, the SCRSG military representatives highlighted that San Clemente Island experiences daily activities, and the use of unencumbered, contiguous training space is very important to the military. It is important to note that the military complies with existing and applicable environmental regulations and laws.

The three pending military closures do not have any activities classified as category "A," the category with the highest potential impact. Other areas, including San Clemente Islands Areas C and D, Camp Pendleton and military use areas at San Diego, have multiple activities from impact category "A."

San Clemente Island Pending Military Closure 1 (Area G, SWAT I) is likely to provide the greatest protection for marine habitats and species because only activities from the lowest potential impact category ("D") occur in this area. However, some of these activities occur daily.

San Nicolas Island Pending Military Closure (Area Alpha) is likely to provide some protection because of 5 activities, 2 are categorized as "D," 2 activities are categorized as "C" and 1 activity is categorized as "B." Although some category "D" activities in the pending military closure at San Nicolas Island occur weekly, all other activities in this area occur at most monthly. Military activities in state waters around Begg Rock are similar to those in Area Alpha with the exception that the category "B" activity at Begg Rock occurs only quarterly.

San Clemente Island Pending Military Closure 2 (Wilson Cove) may provide some protection for marine habitats and species within the area. However, a greater number of military activities occur in this area on a daily basis. While most are categorized as "D," and are likely to have minimal impacts, some are categorized as "C" (2) and "B" (3) and may have the potential to cause harm or damage to habitats, plants and animals in the area. Additionally, some activities in each category occur on a daily basis, which could create a greater impact than if the same activities occurred less frequently. Finally, as noted by the SCRSG military representatives, the frequency and number of activities in this and other areas may increase to an unknown degree in future years.

Table 1. Military Activities in the South Coast Study Region: Type of activity, location, frequency, intensity, habitat type where activity occurs, and seafloor contact.

Description of Military Activities	Type of Activity	Location of Activity	Frequency	Intensity	Habitat Type Where Activity Occurs	Contact with Seafloor?	Impact Category
	Acoustics, Aircraft, Anchoring, Beach launch, Demolition, Discharge, Disposal, Dredging, Explosives, Live Fire, Metal Debris or Pier	Aerial, Surface or Underwater	Daily, Weekly, Monthly, Quarterly or Yearly	Low, Intermediate or High	Beach, Rocky shore, Hard bottom, Soft bottom or Kelp forest	Yes or No	A,B,C or D
Explosive ordnance disposal operations	Disposal	Underwater	Daily			Yes	A
Mine training operations	Disposal	Underwater	Daily	Intermediate	Hard bottom, Soft bottom	Yes	A
Torpedo operations	Explosives	Underwater	Daily		Hard bottom, Soft bottom	Yes	A
Underwater detonations (up to 20 lbs NEW)	Explosives	Underwater	Daily			Yes	A
Amphibious Assault Training Operations (many types)	Land	Surface	Daily		Beach	Yes	A
Fire Support Areas (offshore surface danger zones for live-firing exercises into SHOBA)	Live Fire	Surface	Daily			Yes	A
Naval Surface Fire Support (ship-to-shore live fire exercises with large 5" inch shells)	Live Fire	Surface	Daily			Yes	A
Ship-to-shore and shore-to-shore gunnery exercises	Live Fire	Surface	Daily			Yes	A
Surface to Surface GUNEX	Live Fire		Daily	High		Yes	A
Air-to-surface GUNEX	Live Fire		Daily	High		Yes	A

*MLPA Master Plan Science Advisory Team
Draft Potential Impacts of Military Activities in Military Use Areas in the MLPA South Coast Study Region
(Revised May 16, 2009)*

Description of Military Activities	Type of Activity	Location of Activity	Frequency	Intensity	Habitat Type Where Activity Occurs	Contact with Seafloor?	Impact Category
Mine neutralization	Live Fire		Daily	High		Yes	A
Permanent shallow water minefield for mine countermeasure neutralization training	Mines	Surface and Underwater	Daily	High	Hard bottom, Soft bottom	Yes	A
Air-to-surface bombex	Live Fire		Weekly	High		Yes	A
Underwater detonations (up to 500 lbs NEW)	Explosives	Underwater	Monthly			Yes	A
Expeditionary Fires Ex	Live Fire		Monthly	High		Yes	A
Integrated ASW Course Phase II (integrated anti-submarine warfare operations for multiple ships and helicopters)		Surface and Underwater	Monthly			Yes	A
Bombing exercises (water)	Explosives	Aerial, Surface, Underwater	Yearly	Intermediate	Hard bottom, Soft bottom	Yes	A
USMC Battalion Landings (over water entrance to Amphibious Vehicle Maneuver Corridor)		Surface	2x/year			Yes	A
Dredging the entrance channel for Seal Beach Naval Ordnance Center & for the CPen Del Mar Boat Basin	Dredging	Underwater	7-10 years		Soft bottom	Yes	A
Sand mining ops	Live Fire			High		Yes	A
Logistics over the shore	Strategic Sealift	Surface and subsurface	Daily				B

*MLPA Master Plan Science Advisory Team
Draft Potential Impacts of Military Activities in Military Use Areas in the MLPA South Coast Study Region
(Revised May 16, 2009)*

Description of Military Activities	Type of Activity	Location of Activity	Frequency	Intensity	Habitat Type Where Activity Occurs	Contact with Seafloor?	Impact Category
Research, Development, Test and Evaluation (RDT&E)		Surface and Underwater	Daily	High	Beach, Hard bottom, Soft bottom	Yes	B
Shallow water training range permanent instrumentation for anti-submarine warfare exercises		Surface and Underwater	Daily			Yes	B
Sonobuoy test and evaluation	Aircraft, Acoustics	Aerial, Surface, Underwater	Weekly	Intermediate	Hard bottom, Soft bottom	Yes	B
Landing Craft Air Cushion (LCAC) landing site	Beaching	Surface	Weekly			Yes	B
Anti-surface missile	Live Fire		Weekly	High		Yes	B
ASW Tracking w/IEER	SONAR		Weekly	High		Yes	B
Bombing exercises (inert)	Debris	Aerial, Surface, Underwater	Monthly	Intermediate	Hard bottom, Soft bottom	Yes	B
Missile intercepts, nearshore, surface targets remotely operated.	Missiles	Surface	Monthly	Intermediate ; more intense in Alpha and Bravo than Charlie	Hard bottom, Soft bottom	Yes	B
Fuel offloading facilities.	Mooring Buoys	Underwater	Quarterly	Intermediate	Soft bottom	Yes, for maintenance only	B
Underwater activities to recover missiles.		Underwater	Yearly	Intermediate	Hard bottom, Soft bottom	Yes	B
Active SONAR	Acoustics	Underwater	Daily			No	C

*MLPA Master Plan Science Advisory Team
Draft Potential Impacts of Military Activities in Military Use Areas in the MLPA South Coast Study Region
(Revised May 16, 2009)*

Description of Military Activities	Type of Activity	Location of Activity	Frequency	Intensity	Habitat Type Where Activity Occurs	Contact with Seafloor?	Impact Category
Air-to-ground bombing	Explosives	Surface	Daily			No	C
Mine countermeasures	SONAR		Daily	High		No	C
Sensor Accuracy Test (SAT)	Acoustics		Weekly			No	C
Weapon System Accuracy Trials (WSAT)	Acoustics		Weekly			No	C
Missile launch zone. Missiles have booster rockets to get them up to speed that fall into the ocean and are not recovered.	Metal debris	Arial, surface, underwater	Weekly	High; most intense at Mugu, more intense in Bravo than Alpha	Hard bottom, Soft bottom, Kelp forest	Yes	C
Artillery firing	Live Fire	Surface	Monthly			No	C
Stinger missile firing operations	Live Fire	Surface	Monthly			possibly	C
Mine training range for aerial mining exercises (water targets)	Mines	Surface and Underwater	Monthly			Yes	C
Missile intercepts with falling debris.	Metal debris	Underwater	Quarterly	Low	Hard bottom, Soft bottom, Kelp forest	Yes	C
Large missile strikes	Explosives	Aerial, Surface, Underwater	Yearly	Intermediate	Hard bottom, Soft bottom	No	C
Underwater missile launches	Explosives	Aerial, Surface, Underwater	Yearly	Intermediate	Hard bottom, Soft bottom	No	C
Acoustic trials (ACTRL)	Acoustics	Underwater	Daily		Hard bottom and sandy bottom	No	D

*MLPA Master Plan Science Advisory Team
Draft Potential Impacts of Military Activities in Military Use Areas in the MLPA South Coast Study Region
(Revised May 16, 2009)*

Description of Military Activities	Type of Activity	Location of Activity	Frequency	Intensity	Habitat Type Where Activity Occurs	Contact with Seafloor?	Impact Category
Low altitude aircraft overflights.	Aircraft	Aerial	Daily	Intermediate	Beach, rocky shore, Hard bottom, Soft bottom, Kelp forest	No	D
Maritime Interdiction	Boarding	Surface	Daily				D
Tactical Recon and Surveillance	Boat ops	Surface/land	Daily				D
Fleet Training Exercises (FTX) w/land based pyrotechnics	Live Fire	Surface	Daily			No	D
Land-based small arms fire surface danger zone	Live Fire	Surface	Daily			No	D
Over-the-beach live-fire (insertion/extraction)	Live Fire	Surface	Daily		Beach	No	D
Rifle Range safety zone, small arms fire.	Live Fire	Surface	Daily	High	Soft bottom	No	D
Small arms range surface danger zone	Live Fire	Surface	Daily	High	Soft bottom	No	D
Sniper surface danger zone	Live Fire	Surface	Daily			No	D
Small boat training		Surface	Daily			No	D
Naval Special Warfare & SEAL maneuver operations		Surface and Underwater	Daily	Low		No	D
Basic through advanced Naval Special Warfare		Land	Daily				D
Security Zone around Pt. Mugu NAS, no entry, lightly patrolled.			Daily				D

*MLPA Master Plan Science Advisory Team
Draft Potential Impacts of Military Activities in Military Use Areas in the MLPA South Coast Study Region
(Revised May 16, 2009)*

Description of Military Activities	Type of Activity	Location of Activity	Frequency	Intensity	Habitat Type Where Activity Occurs	Contact with Seafloor?	Impact Category
Small boat mooring to buoys	Anchoring	Surface and Underwater	Daily (PL); Monthly (WC & D)	High	Hard bottom, Soft bottom	No	D
Surface Ship Radiated Noise Measurements (SSRNM)	Acoustics	Surface	Weekly		Hard bottom and sandy bottom	No	D
Large anchorage & on/off loading.	Anchoring	Surface and Underwater	Weekly			No	D
At-Sea Bearing Accuracy Tests (ASBAT)		Surface	Weekly			No	D
Parachute drop zone		Surface	Weekly			No	D
Barge loading/offloading (in Wilson Cove)	Pier	Surface	weely				D
Laser testing area, proposed; both shooting at SNI and shooting from SNI.	Laser	Surface	Monthly	Intermediate ; more intense in Alpha	Beach, rocky shore, Hard bottom, Soft bottom	Possibly	D
Pier operations.	Pier	Surface	Monthly	Intermediate	Hard bottom, Soft bottom	No	D
Diver & Swimmer operations		Surface and Underwater	Monthly	Intermediate	Beach, rocky shore, Hard bottom, Soft bottom	Yes	D
Demolition pit	Explosives	On land	Daily				NA
Grenade pit	Explosives	On land	Daily				NA

Notes: *Impact categories are (A) direct and acute damage to seafloor habitat or marine life or causes direct disturbance likely to reduce survival/reproduction. (B) likely contacts the seafloor and may cause damage to habitat or sea life, though does not do so in such an immediately destructive manner, (C) activities probably do not contact or directly damage the seafloor and habitat but can be damaging to marine life, and (D) does not contact the seafloor or if so only in a limited way and likely causes disturbance or temporary displacement of marine life but does not necessarily reduce survival.*