

DIRECT, INDIRECT, AND CUMULATIVE IMPACTS

Potential Direct and Indirect Impacts

Valued Environmental Components Analyzed	Modernize Training Ranges				Future Range Projects	Modernize Training Support Infrastructure (Roads and Utilities)	Modernize Training Support Facilities (Cantonment Area)	No Action (Do Not Modernize PTA)
	Construct and Operate the IPBA							
	IPBA at Western Range Area	IPBA at Charlie's Circle	IPBA South-west of Range 20	No Action Do Not Build IPBA				
Land Use and Recreation	○	⊗	○	○	⊙	○	○	○
Airspace	○	○	○	○	○	○	○	○
Visual Resources	○	○	○	○	○	○	⊙	○
Air Quality	⊗	⊗	⊗	○	⊗	⊙	⊗	○
Noise	⊙	⊙	⊙	○	⊙	⊙	⊗	○
Traffic and Transportation	⊙	⊙	⊙	○	⊙	⊙+	⊙	○
Water Resources	⊙	⊙	⊙	○	⊙	⊗	⊗	○
Geology and Soils	⊙	⊙	⊗	○	⊙	⊙	⊗	○
Biological Resources	⊗	⊗	⊗	○	⊗	⊗	⊗	○
Cultural Resources	⊗	⊗	⊗	⊗	⊗	⊗	⊗	○
Hazardous Materials and Waste	⊗	⊗	⊗	○	⊗	⊗	⊗	○
Depleted Uranium	○	○	○	○	⊙	○	○	○
Socioeconomics and Env. Justice	⊙+	⊙+	⊙+	○	⊙+	⊙+	⊙+	○
Public Services and Utilities	⊙	⊙	⊙	○	⊙	⊙+	⊙+	⊙
Wildfires	⊗	⊗	⊗	○	⊗	⊙	⊙	○
Sustainability	⊙	⊙	⊙	○	⊙	○	⊙+	○

⊗ = Significant impact ⊗ = Significant impact mitigable to less than significant ⊙ = Less than significant impact ○ = No impact + = Beneficial impact

The table is a snapshot of the potential direct and indirect environmental impacts to resources analyzed in the Programmatic EIS. These impact ratings represent the highest level of impact that could potentially occur to each resource assessed. Many minor or less than significant impacts were also found to occur to most resources as a result of modernization. All of the potential impact ratings for each resource area are found at the beginning of each resource section in Chapter for of the Programmatic EIS.

The Army is consulting with the State Historic Preservation Officer (SHPO) and the U.S. Fish and Wildlife Service (USFWS) on the proposed IPBA. Until the results of consultations are determined, the Army considers impacts to cultural resources and threatened or endangered species as potentially significant. If the consultation determines that the potential impacts are not as significant, or may be mitigated, the Final Programmatic EIS will be revised to reflect those determinations.

Potential Cumulative Impacts

Valued Environmental Components Analyzed	Modernize PTA Infrastructure, Ranges, and Cantonment Area	Other Projects Outside PTA Boundaries	No Action
	Land Use and Recreation	⊙	⊗
Airspace	○	○	○
Visual Resources	⊙	⊙	○
Air Quality	⊙⊗	⊙⊗	○
Noise	⊙⊗	⊗	○
Traffic and Transportation	⊙	⊙⊗	○
Water Resources	⊙⊗+	⊙⊗	○
Geology and Soils	⊙⊗	⊗⊗	○
Biological Resources	⊙⊗⊗+	⊙⊗	○
Cultural Resources	⊗	⊗	○
Hazardous Materials and Waste	⊙⊗	⊗	○
Depleted Uranium	○	○	○
Socioeconomics and Env. Justice	⊙+	⊙+	○
Public Services and Utilities	⊙	⊙	⊙
Wildfires	⊙⊗⊗+	⊗⊗	○
Sustainability	⊙	⊙+	○

The Army considered multiple past, present, and reasonably foreseeable future projects occurring on Hawaii Island that individually and cumulatively may impact several natural and human resources in the region surrounding PTA.

This table shows a range of potential cumulative impacts from minor to significant because the Army proposes projects that start and stop over a ten year timeframe, and occur in different parts of the installation. The potential cumulative impacts from all Army, Federal, State, and Local projects reviewed will vary when the timeframe and location of each project is considered.