

VS Id#	Vital Sign Category			Vital Sign	Network Rank	AMME
H10	Park Use & Activities			Subsistence Farming/Agriculture	1.2	
H12	Park Use & Activities			Coral/Sand Mining Harvest	1.2	
H17	Management Zones			Wilderness Areas - HAVO, HALE, other Unofficial	1.1	
M23	Marine Ecosystems	Intertidal	Community	Intertidal - Hard Bottom	2.2	
P09	Climate & Air Quality			Climate Representations - 2- & 3- dimensional	1.7	
P16	Soil, Water, & Nutrient Dynamics			Soil Crust Change (Arid-Semi-arid habitats)	0.9	
P19	Soil, Water, & Nutrient Dynamics			Groundwater dynamics	2.4	
P34	Geology	Hazards		Volcanic Unrest - Ground Deformation	1.4	
P35	Geology	Hazards		Volcanic Unrest - Lava Flows	1.2	
P38	Geology	Hazards		Mass Geologic Wasting	1.6	
P40	Geology	Landforms		Dune Change (erosion & accretion)	0.9	
P41	Geology	Landforms		Permafrost on Big Island summits	0.0	
P42	Geology	Landforms		Cave Environmental conditions	2.0	
P43	Geology	Landforms		Cave Geology: non-karst	2.2	
P44	Geology	Landforms		Cave Geology: karst	0.9	
T04	Terrestrial Ecosystems	Vegetation	Landscape	Fire Effects & Dynamics: Vegetation and Landscape Level	2.5	
T09	Terrestrial Ecosystems	Vegetation	Community	Recovery/Change of Native Vegetation with Feral Ungulate Control	2.4	
T29	Terrestrial Ecosystems	Consumers	Population	Terrestrial Invertebrate Species Protection (T, E, S-o-C Species)	2.9	
T32	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Feral Ungulates	2.4	
T41	Terrestrial Ecosystems	Cave Systems	Community	Cave & lava tube communities	2.0	
F2	Freshwater Ecosystems	Consumers	Community	Aquatic and Riparian Species (vertebrate and invertebrate) Biodiversity	3.5	4.8
H04	Land Use			Alien Invasive Species Points of Entry	3.4	4.5
P21	Water Quality			Marine Water Quality Core parameters	3.3	4.5
P22	Water Quality			Surface Water Quality Core parameters	3.6	4.5
P25	Water Quality			Surface Water Quality Supplemental parameters	3.5	4.5
P29	Water Quality			Ground Water Quality - Toxics & contaminants	2.8	4.5
P31	Water Quality			Surface Water Quality - Toxics & contaminants	3.7	4.5
T17	Terrestrial Ecosystems	Vegetation	Population	Alien Incipient Invasive Plants	3.7	4.5
T21	Terrestrial Ecosystems	Consumers	Community	Recovery/change of Native Wildlife and habitats (including wetlands) with restoration of native vegetation	3.2	4.5
T34	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Predatory Terrestrial Vertebrates	3.4	4.5
T06	Terrestrial Ecosystems	Vegetation	Community	Terrestrial Plant Biodiversity	3.6	4.4
T16	Terrestrial Ecosystems	Vegetation	Population	Established Alien Species - Plants	4.0	4.3
T37	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Predatory Terrestrial Vertebrate	3.3	4.3
T40	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Vertebrates	2.6	4.3
M27	Marine Ecosystems	Intertidal	Population	Established Alien Species - Intertidal Marine	2.5	4.2
M28	Marine Ecosystems	Intertidal	Population	Alien Incipient Invasives - Intertidal Marine	2.6	4.2
P17	Soil, Water, & Nutrient Dynamics			Flowing surface water hydrology	2.7	4.2
P18	Soil, Water, & Nutrient Dynamics			Wetlands (incl. anchialine pools) hydrology	3.2	4.2
P20	Water Quality			Ground Water Quality Core parameters	2.8	4.2
P23	Water Quality			Ground Water Quality Supplemental parameters	2.6	4.2
P26	Water Quality			Ground Water Quality - Microbiology	2.9	4.2
P28	Water Quality			Surface Water Quality - Microbiology	2.9	4.2
P32	Water Quality			Marine Water Quality - macroinvertebrates	2.8	4.2
T13	Terrestrial Ecosystems	Vegetation	Population	Native Plant Species Protection (T, E, S-o-C species)	4.0	4.2
T19	Terrestrial Ecosystems	Consumers	Community	Terrestrial Vertebrate (including off-shore islets refugia) Biodiversity	3.3	4.1
H05	Land Use			Water Use(s) Within & Surrounding Parks	3.0	4.0
M12	Marine Ecosystems	Benthic	Population	Alien Incipient Invasives - Benthic Marine	2.8	4.0
P24	Water Quality			Marine Water Quality Supplemental parameters	2.9	3.9
P27	Water Quality			Marine Water Quality - Microbiology	2.8	3.9
P30	Water Quality			Marine Water Quality - Toxics & contaminants	3.0	3.9
T23	Terrestrial Ecosystems	Consumers	Population	Forest Birds and Bats (includes T & E spp.)	3.1	3.9
F1	Freshwater Ecosystems	Producers		Community dynamics of primary producers	2.5	3.8
M22	Marine Ecosystems	Intertidal	Community	Intertidal Biodiversity - Vertebrates, Invertebrates, and Algae	3.1	3.8
H15	Park Use & Activities			Reef Fisheries Harvest	2.6	3.6
T27	Terrestrial Ecosystems	Consumers	Population	Shorebirds and Waterbirds (including T & E spp.)	3.3	3.6
P39	Geology	Landforms		Coastal Shoreline Change (erosion & accretion)	3.2	3.5
M09	Marine Ecosystems	Benthic	Population	Established Coral Disease & Pathogens (including bleaching)	2.4	3.5
T08	Terrestrial Ecosystems	Vegetation	Community	Recovery/Change of Native Vegetation with Alien Plant Control	3.5	3.4
M11	Marine Ecosystems	Benthic	Population	Established Alien Species - Benthic Marine	2.7	3.4
M20	Marine Ecosystems	Water column (motile)	Population	Marine Species Protection (T, E, S-o-C species)	3.3	3.4
T14	Terrestrial Ecosystems	Vegetation	Population	Established Plant Disease & Pathogens	2.9	3.4
T25	Terrestrial Ecosystems	Consumers	Population	Invertebrate Charismatic or Species of Concern	3.2	3.4
H07	Park Use & Activities			Litter/debris	3.1	3.3
H09	Park Use & Activities			Footprint & Visitor Use Patterns	3.3	3.3
H16	Management Zones			Management Zone uses	3.1	3.3
M13	Marine Ecosystems	Water column (motile)	Community	Water Column Marine Vertebrates and Invertebrates Biodiversity	2.8	3.3
M15	Marine Ecosystems	Water column (motile)	Population	Established Marine Animal (other than turtles) Disease & Pathogens	1.9	3.3
M18	Marine Ecosystems	Water column (motile)	Population	Water Column Marine Invertebrates	2.8	3.3
M19	Marine Ecosystems	Water column (motile)	Population	Fish Growth/Size and Age Structure, and Recruitment	3.2	3.3
T07	Terrestrial Ecosystems	Vegetation	Community	Long-term Plant Succession	3.5	3.3
M04	Marine Ecosystems	Benthic	Community	Subtidal - Hard Bottom (coral reef, colonized basalt, etc.)	2.7	3.2
M05	Marine Ecosystems	Benthic	Community	Subtidal - Soft Bottom (sand flat, seagrass bed)	2.4	3.2
M07	Marine Ecosystems	Benthic	Population	Benthic Marine Invertebrates and Algae	2.7	3.2
M08	Marine Ecosystems	Benthic	Population	Coral Growth/Size and Age Structure, and Recruitment	2.6	3.2
M10	Marine Ecosystems	Benthic	Population	Alien Incipient Coral Disease & Pathogens	2.5	3.2
M24	Marine Ecosystems	Intertidal	Community	Intertidal - Soft Bottom (sand beach, mudflat, mangrove)	2.6	3.2
T15	Terrestrial Ecosystems	Vegetation	Population	Alien Incipient Plant Disease & Pathogens	2.6	3.2
H06	Land Use			Land Use(s) Within & Surrounding Parks	3.4	3.1
P10	Soil, Water, & Nutrient Dynamics			Ocean/Physical Dynamics: Currents, Sea Level, Tides/Swell	2.7	3.1
P14	Soil, Water, & Nutrient Dynamics			Soil Quality- Chemical	1.9	3.1
P15	Soil, Water, & Nutrient Dynamics			Soil Quality- Physical	2.3	3.1
M01	Marine Ecosystems	Benthic	Landscape	Coral Growth (erosion & accretion)	2.7	3.1
P33	Water Quality			Surface Water Quality - macroinvertebrates	2.6	3.1
M02	Marine Ecosystems	Benthic	Landscape	Benthic Habitats	2.6	3.0
M03	Marine Ecosystems	Benthic	Community	Benthic Marine Invertebrates and Algae Biodiversity	2.8	3.0
P11	Soil, Water, & Nutrient Dynamics			Biogeochemical Cycles - Nutrient Cycling	2.5	3.0
P12	Soil, Water, & Nutrient Dynamics			Soil Erosion	2.9	3.0
M16	Marine Ecosystems	Water column (motile)	Population	Established Turtle Disease & Pathogens	2.9	3.0
P08	Climate & Air Quality			Extreme events (weather & ocean)	3.0	2.9
F6	Freshwater Ecosystems	Consumers	Population	Alien Incipient Invasives - Predatory Freshwater (vertebrate and invertebrate)	2.8	2.9
M17	Marine Ecosystems	Water column (motile)	Population	Established Alien Species - Water Column Marine	2.5	2.9
M21	Marine Ecosystems	Water column (motile)	Population	Alien Incipient Invasives - Water Column Marine	2.1	2.9
M26	Marine Ecosystems	Intertidal	Population	Intertidal Marine Invertebrates, Fish, and Algae	3.0	2.9
T18	Terrestrial Ecosystems	Consumers	Community	Terrestrial Invertebrate Biodiversity	2.9	2.8
T24	Terrestrial Ecosystems	Consumers	Population	Herps (native)	1.7	2.8
P06	Climate & Air Quality			Solar radiation	2.7	2.8
T26	Terrestrial Ecosystems	Consumers	Population	Seabirds (including T & E spp.)	3.5	2.7
F3	Freshwater Ecosystems	Consumers	Population	Freshwater Animals Disease & Pathogen	2.2	2.5
M06	Marine Ecosystems	Benthic	Population	Benthic Reef Fisheries / Collected species (inverts: sea cucumbers, pololo worm, corals; etc)	2.7	2.5

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H02	Viewscapes / Lightscapes			Viewsheds	2.7	2.4
P01	Climate & Air Quality			Visibility	2.9	2.4
P07	Climate & Air Quality			Weather & Climate	3.4	2.4
H08	Park Use & Activities			Marine Recreational Activities & Groundings/Anchor Damage	2.5	2.2
P02	Climate & Air Quality			Atmospheric Deposition: Wet (direct & occult) and Dry	2.1	2.1
P05	Climate & Air Quality			Atmospheric Particulates: Climate Change Indicators, Human Pollutants, Natural-Volcanic	2.2	2.1
F4	Freshwater Ecosystems	Consumers	Population	Amphidromous Fauna Size-Age Structure, Reproduction and Recruitment	2.1	2.0
T20	Terrestrial Ecosystems	Consumers	Community	Recovery/Change of Native Invertebrates Communities with Native Plant Restoration	2.5	2.0
H03	Viewscapes / Lightscapes			Lightscape & Night sky	2.7	1.9
T30	Terrestrial Ecosystems	Consumers	Population	Established Disease & Pathogens of Terrestrial Vertebrates	2.5	1.9
T33	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Invasive Terrestrial Invertebrate Pests of natural systems	2.4	1.8
P03	Climate & Air Quality			Atmospheric Gases: Climate Change Indicators, Human Pollutants, Natural-Volcanic	2.2	1.8
F5	Freshwater Ecosystems	Consumers	Population	Established Alien Species - Predatory Freshwater (vertebrate and invertebrate)	2.9	1.7
T02	Terrestrial Ecosystems	Vegetation	Landscape	Ecozone Boundaries	2.1	1.6
T31	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Disease & Pathogens of Terrestrial Vertebrates	2.5	1.6
T28	Terrestrial Ecosystems	Consumers	Population	Terrestrial Invertebrates Associated with Habitat Quality	2.7	1.5
P13	Soil, Water, & Nutrient Dynamics			Soil Quality - Biological	1.7	1.4
T39	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Terrestrial Invertebrates	2.2	1.4
H13	Park Use & Activities			Culturally Significant Plant Harvest	2.5	1.3
H14	Park Use & Activities			Culturally Significant Vertebrate Species Harvest	1.6	1.3
T10	Terrestrial Ecosystems	Vegetation	Community	Recovery/Change of Native Vegetation with Invasive Alien Invertebrate Control	1.8	1.3
H11	Park Use & Activities			Bio-prospecting Harvest	1.9	1.2
P36	Geology	Hazards		Seismicity of Non-Volcanic Origin	1.9	1.0
P37	Geology	Hazards		Seismicity of Volcanic Origin	1.8	1.0
T03	Terrestrial Ecosystems	Vegetation	Landscape	Landscape Fragments, Patch Size, Land Cover	2.6	1.0
T36	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Terrestrial Invertebrate Pests (human structures)	1.9	1.0
H01	Soundscapes			Alien, Natural, Human Soundscapes	2.6	0.8
T38	Terrestrial Ecosystems	Consumers	Population	Alien Incipient Invasives - Fungi	2.0	0.8
T35	Terrestrial Ecosystems	Consumers	Population	Established Alien Species - Terrestrial Invertebrate Pests (agricultural)	1.8	0.6
T01	Terrestrial Ecosystems	Vegetation	Landscape	Soil and Pollen Landscape History	2.3	0.4
T05	Terrestrial Ecosystems	Vegetation	Landscape	Forest Dieback	1.5	0.4
P04	Climate & Air Quality			Marine Aerosols	1.4	0.3
M14	Marine Ecosystems	Water column (motile)	Population	Water Column Reef Fisheries	2.2	0.0
M25	Marine Ecosystems	Intertidal	Population	Intertidal Reef Fisheries / Collected species (limu, opahi, crabs, fish, etc.)	2.3	0.0
T11	Terrestrial Ecosystems	Vegetation	Population	Invertebrate Biocontrol of Plants	1.7	0.0
T12	Terrestrial Ecosystems	Vegetation	Population	Plant Pathogen Biocontrol of Plants	1.6	0.0
T22	Terrestrial Ecosystems	Consumers	Population	Invertebrate Biocontrol of Invertebrates	1.7	0.0