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3.20 CUMULATIVE EFFECTS

The assessment of potential cumulative effects considers other independent projects that may have similar timeframes or occur in the surrounding area, regardless of the implementing agency or entity pursuing a project. These independent projects include various local and regional transportation infrastructure projects, as well as private land use development.

3.20.1 Regulatory Context

Title 40 CFR Part 1508.1 defines cumulative effects as follows:

> Cumulative effects, which are effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or not) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over time.

According to Hawaiʻi Administrative Rules Chapter 200.1, cumulative impacts are impacts on the environment that result from the incremental impact of a proposed action when added to other past, present, and reasonably foreseeable future actions, whether undertaken by an agency or person. Cumulative impacts can result from individual minor actions that may become cumulatively significant over time. Cumulative impacts are described here in order to connect other separate actions that are reasonably foreseeable and the cumulative impacts those actions may have in conjunction with the Honoapiʻilani Highway Improvements Project (the Project).

3.20.2 Independent Projects Occurring within a Similar Timeframe or Geography

3.20.2.1 Projects within Project Area

Reopening of the Olowalu Landfill

As noted in Section 3.1, Land Use and Zoning, the closed Olowalu Landfill at the northern end of the project area has temporarily been reopened to accommodate debris removal from the Lāhainā wildfire clean-up and rebuilding effort. This is a short-revocable use authorized by the State of Hawaiʻi Department of Land and Natural Resources; the landfill would not be in use during the Project and would not have a cumulative effect in addition to the Project, specifically that there would be no incremental truck traffic associated with the landfill in the general traffic stream. Transporting the debris to the landfill is expected to be completed in January 2025.[1]

Subdivision of Olowalu Lands

In May 2000, a Final Environmental Assessment (FEA) was published to facilitate the Subdivision of Olowalu Lands project.[2] The project consisted of the consolidation and subsequent subdivision of approximately 733 acres of land within the vicinity of Olowalu, both mauka and makai of the existing

[1] https://www.mauirecovers.org/. Accessed February 2024.

[2] https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2000-06-23-MA-FEA-Subdivision-Olowalu.pdf. Accessed July 2023.

Honoapi‘ilani Highway, which created 41 distinct parcels. This subdivision is separate from a much larger proposal for about 1,500 dwelling units that was not approved. The project also created a cultural reserve surrounding the Olowalu Stream, and approximately 60 acres of privately owned greenway within the subdivision area. The project is permitted to allow development of approximately 22 single family dwellings and 21 recreational dwelling units, for a total of 43 dwelling units. The project was anticipated to be complete by 2005; however, it has only been partially constructed.

Ukumehame Subdivision – Phase I and II

In May 2005, an FEA was published to facilitate the Ukumehame Subdivision – Phase I and II project.[3] The project consisted of the consolidation and subsequent subdivision of approximately 439 acres of land within the vicinity of Ukumehame, mauka of the existing Honoapi‘ilani Highway, which created 48 distinct parcels. The project designated parcels fronting the existing Honoapi‘ilani Highway, totaling approximately 100 acres, for a future County of Maui park and future State highway right-of-way, and one 77-acre river corridor lot encompassing the Ukumehame Stream owned by the Ukumehame Homeowners Association serving as a cultural buffer. The remaining 45 agricultural lots were anticipated to be developed with approximately 90 dwelling units. While the project was anticipated to be complete by 2010, it has only been partially constructed.

Olowalu Reef Restoration

In 2017, West Maui’s Olowalu reef was declared a Mission Blue Hope Spot – a place that is critical to the health of the ocean. The reef at Olowalu is regularly inundated with soil sediments carried to the ocean from nearby streams. These sediments smother live corals and prevent new corals from growing, making the reef more vulnerable to other stressors such as algal growth, disease, and marine heat waves.

The Nature Conservancy is working with the National Oceanic and Atmospheric Administration, the Hawai‘i Divisions of Aquatic Resources (DAR) and Forestry and Wildlife (DOFAW), County, State, and private landowners, and the broader community to identify and implement actions to reduce harmful sediments on the reef.[4]

Currently, the Olowalu Reef Restoration project is developing solutions to improve resilience along the Olowalu coast. These measures may include the restoration of natural features including, beaches, dunes, and wetlands. While the implementation of these measures has not yet occurred, the project recognizes the Honoapi‘ilani Highway Improvements Project may provide an opportunity to reduce sediments from upland areas.

3.20.2.2 Projects Outside the Project Area

Villages of Leiali‘i – Village 1-B Subdivision

In December 2022, a draft Environmental Assessment was published for the Villages of Leiali‘i – Village 1-B Subdivision project, which would consist of the development of up to a maximum of approximately 250 dwelling units designated for Department of Hawaiian Home Lands (DHHL) Native

[3] https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2005-05-23-MA-FEA-Ukumehame-Subdivision-Phase-1-and-2.pdf. Accessed July 2023.

[4] https://www.nature.org/en-us/get-involved/how-to-help/places-we-protect/olowalu/. Accessed November 2024.

Hawaiian beneficiaries, across 51 acres in Lāhainā, Maui.[5] This project has been fastracked as part of the Lāhainā redevelpment and is anticipated to be complete and occupied by 2030. Therefore, it is considered in this assessment of cumulative effects.

Department of Hawaiian Home Lands Honokōwai Master Plan

In February 2022, a Finding of No Significant Impact was issued for the DHHL Honokōwai Master Plan project, which would consist of the development of up to a maximum of approximately 1,181 dwelling units across 777 acres in Honokōwai ahupuaʻa, north of Kāʻanapali and the project area.[6] Phased development facilitated by the DHHL Honokōwai Master Plan project is anticipated to occur after 2028. The first phase would consist of approximately 56 subsistence agricultural homesteads, and the second phase would consist of approximately 394 single-family and subsistence agricultural homesteads. The remaining dwelling units would be anticipated to be constructed and occupied after Phases I and II. This project has been fastracked as part of the Lāhainā redevelpment and for purposes of this assessment, it is anticipated to be complete and occupied by 2045 and is therefore considered in this assessment of cumulative effects.

Honoapiʻilani Highway, Puamana to Honokōwai (Lāhainā Bypass)

The Honoapiʻilani Highway, Puamana to Honokōwai project would facilitate construction of a major bypass road (Lāhainā Bypass) parallel and mauka to the existing Honoapiʻilani Highway.[7] The project is anticipated to be completed in five phases to address regional traffic congestion within Lāhainā but is not listed in the State Transportation Improvement Program. The first two phases (1A and 1B-1) were completed in 2013 with a connection from Keawe Street to Hokiokio Place. Phase 1B-2 was completed in 2018 and extended the bypass from Hokiokio Place to its current southern terminus with the existing Honoapiʻilani Highway. The future Phase 1-C would extend the bypass farther north from its current terminus at Keawe Street to Kakaalaneo Drive, with a midway connection to Honoapiʻilani Highway via a "Kāʻanapali Connector Road" in an area south of Kāʻanapali Parkway. The future Phase 1-D would extend the bypass farther north beyond Honokōwai.

Rebuilding Lāhainā

Beginning on August 8, 2023, in response to wildfires in West Maui, including the areas of Lāhainā, the Acting Governor of Hawaiʻi declared a State of Emergency.[8] The wildfires burned thousands of acres of land and caused significant loss of life and property in West Maui. On August 10, 2023, President Biden declared these wildfires a major disaster, which made individual assistance, requested by the Governor of Hawaiʻi, available to affected individuals and households in Maui County.[9] Since then, the Governor of Hawaiʻi has issued several additional emergency proclamations related to the wildfires, and the Legislature of the State of Hawaiʻi has appropriated funding for

5 https://files.hawaii.gov/dbedt/erp/Doc_Library/2022-12-23-MA-DEA-DHHL-Villages-of-Leialii-Village-1-B.pdf. Accessed July 2023.

6 https://files.hawaii.gov/dbedt/erp/Doc_Library/2022-02-08-MA-FEA-DHHL-Honokowai-Master-Plan.pdf. Accessed July 2023.

7 https://hidot.hawaii.gov/wp-content/uploads/2018/01/Lahaina-Bypass-FEIS.pdf. Accessed July 2023.

8 https://governor.hawaii.gov/wp-content/uploads/2023/08/2307199-1.pdf#new_tab. Accessed October 2023.

9 https://www.whitehouse.gov/briefing-room/presidential-actions/2023/08/10/president-joseph-r-biden-jr-approves-hawaii-disaster-declaration-3/. Accessed October 2023.

expenditure by or under the direction of the Governor for the immediate relief of the conditions created by the emergency.[10] In the immediate future, efforts would be focused on emergency relief to individuals and households affected by the wildfires, followed by clean-up and recovery.

Given its significance for both history and economic opportunity, Lāhainā redevelopment is the focus of considerable public policy as well as public and private investment. Therefore, over the long term, it is anticipated that West Maui would return to pre-fire levels of economic activity and travel demand, and would ultimately resume the anticipated long-range growth forecasts established by the Maui County Metropolitan Planning Organization. For the purposes of this assessment, Lāhainā would be anticipated to be substantially rebuilt by the 2045 analysis year of this Draft Environmental Impact Statement.

3.20.3 Cumulative Effects

3.20.3.1 Potential Effects of the Project Contributing to Cumulative Effects

As set forth in Chapter 3, Affected Environment and Environmental Consequences, the Project would not be anticipated to generate changes in traffic or additional population and economic growth beyond what is already known or anticipated as part of long-term growth forecasts. Though the newly realigned highway in the project area would generally be designed to allow for four lanes in the future (areas of potential viaduct use may remain as a two-lane single structure), the regional capacity of the highway is constrained by the Pali section between Mā'alaea and Ukumehame, which is characterized by cut rock where the cost of widening is prohibitive and there are no plans for capacity enhancement. Additionally, the Project does not include land use actions or create access to undeveloped lands that would change regional development patterns. As a result, the Project alone would not generate demand for water supply, sanitary sewage, electricity and telecommunications, or solid waste and sanitation services.

3.20.4 Cumulative Effects Assessment

As described in the FEA for the Subdivision of Olowalu Lands project, temporary potential construction-related impacts to noise and air quality were identified, but no significant long-term impacts were determined to be expected as a result of that project.[11]

As described in the FEA for the Ukumehame Subdivision – Phase I and II project, temporary potential construction-related impacts to noise and air quality were identified, but no significant long-term impacts were determined to be expected as a result of that project.[12] In addition, a new stormwater drainage system was proposed to manage stormwater runoff generated in the analysis area.

As described in the draft Environmental Assessment for the Villages of Leiali'i – Village 1-B Subdivision project, temporary potential construction-related impacts to noise and air quality were identified, which

10 https://governor.hawaii.gov/wp-content/uploads/2023/09/2309064.pdf#new_tab. Accessed October 2023.

11 https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2000-06-23-MA-FEA-Subdivision-Olowalu.pdf. Accessed July 2023.

12 https://files.hawaii.gov/dbedt/erp/EA_EIS_Library/2005-05-23-MA-FEA-Ukumehame-Subdivision-Phase-1-and-2.pdf. Accessed July 2023.

would be mitigated through the implementation of construction best management practices (BMPs). The project identified long-term environmental impacts in the form of changes to existing landforms related to ground-altering construction activities. However, the identified impacts, in consideration of the project's benefit of providing needed affordable housing, were not considered significant.[13]

As part of the Olowalu Reef Restoration project, the restoration of natural features including, beaches, dunes, and wetlands would be anticipated to result in a beneficial effect to natural resources. While it is possible the restoration of natural features would result in new habitat for threatened or protected species, such as nēnē, ae'o, and Hawaiian coot, the primary purpose of the project is to reduce sediment discharge from upland areas. No significant adverse long-term impacts would be anticipated as a result of the Olowalu Reef Restoration project. As described in Section 3.10, Flora and Fauna, Endangered Species, coordination with the USFWS is ongoing, the results of which would allow for the adoption of additional avoidance and minimization measures, if necessary, and will be reported in the Final EIS.

Research by Lepczyk, et al. indicates that strategies to reduce vehicle strikes for nēnē should combine attempts to change driver behavior and change animal behavior (Lepczyk et al., 2019).[14] Among the study's recommendations to change driver behavior, high visibility signage, such as proposed permanent signage in the Ukumehame area, alerts drivers to potential presence of birds, reducing vehicle strikes. Among the study's recommendations to change animal behavior, is to have vegetation management on road shoulder and edges to reduce herbivory by birds. As part of routine maintenance, HDOT will maintain vegetation-free shoulders up to 15-feet from road guardrails, which provide an additional deterrence to nēnē crossing. Furthermore, underpasses are recommended as useful to allow nēnē to traverse beneath the roadbed, as nēnē are among the most terrestrial of all geese species (USGS, 2019).[15] The proposed viaduct structure would allow nēnē to safely travel across potential wetland habitats underneath the roadway. Therefore, no significant adverse long-term impacts would be anticipated for potential increases in nēnē populations as a result of the Olowalu Reef Restoration project.

In a *Report to the U.S. Fish and Wildlife Service for Hawaiian Stilt* by the University of Hawaii-Manoa, it was reported that proximity to urban areas were associated with increased risks of depredation as predators, such as cats, preferred urban areas. Proximity to roads was not an important predictor of nest abandonment and proximity to interior roads within wetlands were not associated with an increase in depredation risk (University of Hawaii-Manoa, 2021).[16] As the Project is not anticipated to result in an increase in additional population growth, and predatory species management practices, such as the removal of cat feeding stations, are proposed, no significant adverse long-

[13] https://files.hawaii.gov/dbedt/erp/Doc_Library/2022-12-23-MA-DEA-DHHL-Villages-of-Leialii-Village-1-B.pdf. Accessed July 2023.

[14] Lepczyk CA, Fantle-Lepczyk JE, Misajon K, Hu D, Duffy DC (2019) Long-term history of vehicle collisions on the endangered Nēnē (*Branta sandvicensis*). PLOS ONE 14(2): e0210180. https://doi.org/10.1371/journal.pone.0210180

[15] https://www.usgs.gov/pacific-island-ecosystems-research-center/science/tracking-nene-movements-across-park-boundaries . Accessed November 2011.

[16] https://scholarspace.manoa.hawaii.edu/server/api/core/bitstreams/2acba449-4c64-45c9-a30f-8e98e0e334cc/content. Accessed November 2024.

term impacts would be anticipated for potential increases in ae‘o populations as a result of the Olowalu Reef Restoration project.

According to the USFWS *Recovery Plan for Hawaiian Waterbirds, Second Revision*, predation by introduced animals may be the greatest threat to Hawaiian coot populations (USFWS, 2011).[17] The Project has committed to a multitude of invasive species control protocols, including those provided by the USFWS and the Culture Collection of Algae and Protozoa. Examples, such as the prohibition of cat feeding stations noted above, would help to reduce predators throughout the project area. Additionally, spanning of potential wetland habitat in Ukumehame with the proposed viaduct structure minimizes effects to potential wetlands to the greatest extent possible, preserving potentially suitable habitat for Hawaiian coot. Therefore, no significant adverse long-term impacts would be anticipated for potential increases in Hawaiian coot populations as a result of the Olowalu Reef Restoration project.

As described in the FEA for the DHHL Honokōwai Master Plan project, temporary potential construction-related impacts to noise and air quality were identified, which would be mitigated through the implementation of construction BMPs. No significant long-term impacts were determined to be expected as a result of that project.[18]

As described in the Final Environmental Impact Statement for the Honoapi‘ilani Highway, Puamana to Honokōwai project, temporary potential construction-related impacts to noise and air quality were identified, which would be mitigated through the implementation of construction BMPs. Potential long-term impacts were identified to ambient air quality and noise; however, both would be anticipated to remain acceptable based on State standards, and additional noise mitigation was identified through the installation of noise barriers at specific locations.

Based on this information, the potential impacts of those past, present, and reasonably foreseeable actions are primarily localized, temporary in duration, and would largely be mitigated through implementation of BMPs for each project noted above. While these temporary conditions may occur concurrently with the Honoapi‘ilani Highway Improvements Project, they would be localized or occur in the same areas as active highway construction. In addition, the Project would result in potential effects of a similar nature and would implement construction BMPs for air quality and noise during construction, as well as include procedures for protecting archaeological and historic resources. The Project would not result in potential unmitigated significant adverse impacts, and the potential impacts of past, present, and reasonably foreseeable actions would be mitigated; therefore, the Project would not be anticipated to result in potential cumulative effects.

[17] https://www.federalregister.gov/documents/2012/01/19/2012-926/endangered-and-threatened-wildlife-and-plants-recovery-plan-for-hawaiian-waterbirds-second-revision. Accessed November 2024.

[18] https://files.hawaii.gov/dbedt/erp/Doc_Library/2022-02-08-MA-FEA-DHHL-Honokowai-Master-Plan.pdf. Accessed July 2023.