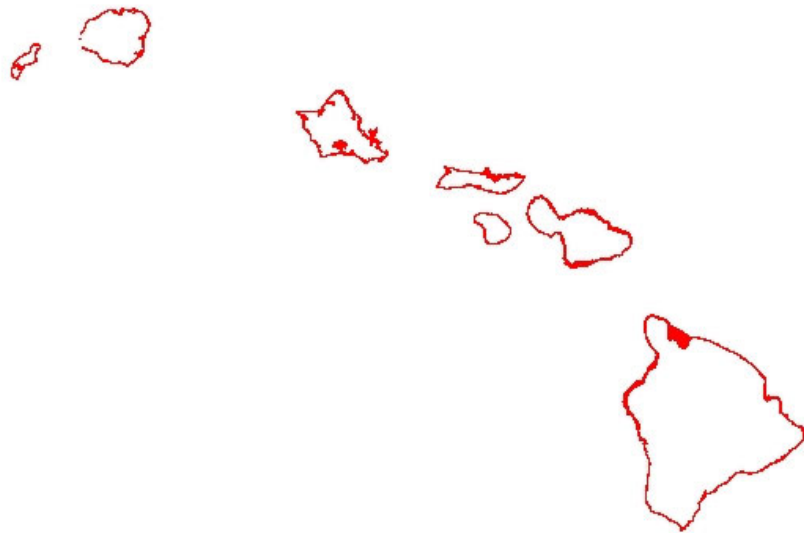

CUMULATIVE EFFECTS/IMPACTS ASSESSMENT GUIDANCE IN SPECIAL MANAGEMENT AREA PERMITTING

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Cumulative Effects/Impacts Assessment Guidance in Special Management Area Permitting

1. Purpose/Background

Special Management Area (SMA) permit is a discretionary permit, which requires a decision-making body to exercise judgment prior to its approval. Considering potential cumulative effects in SMA permitting is required by the Hawaii Coastal Zone Management (CZM) Law, Hawaii Revised Statutes (HRS) Chapter 205A. Pursuant to HRS §205A-22, the determination of whether an action may have a substantial adverse environmental or ecological effect and therefore require a SMA Use Permit, must take into account potential cumulative effects as one of the key elements. Further, whenever the county authority finds that any excluded use, activity, or operation may have a cumulative impact, or a significant environmental or ecological effect on a SMA, that use, activity, or operation shall be defined as a “development” for the purpose of SMA permitting. For example, as the result of cumulative effects/impacts, repeated improvements to an existing single-family residence on a shoreline parcel could be defined as a “development” and trigger a SMA permit.

The National Oceanic and Atmospheric Administration’s (NOAA) Office for Coastal Management (OCM) periodically conducts Section 312 evaluations on the performance of federally approved coastal zone management programs of the states and territories. According to the NOAA OCM *Evaluation Findings – Hawaii Coastal Zone Management Program August 2008 to August 2018*, both stakeholders and county partners in the State of Hawaii expressed that “[I]t has been extremely hard to determine cumulative impacts in the special management area permitting process, and community members are frustrated, and that refined guidance would be helpful in making decisions.”

In response to OCM’s evaluation findings and recommendations, the State of Hawaii Office of Planning and Sustainable Development¹ (OPSD), the lead agency for the Hawaii CZM Program, has worked with the County Planning Departments to study cumulative impact assessments for better decisions in SMA permitting. The OPSD has applied the following approaches and procedures to conduct this study:

- Review the requirements of cumulative impact assessments and available guidance from the National Environmental Policy Act (NEPA) and Hawaii Environmental Policy Act (HEPA)
- Request for guidance references for cumulative impact assessments from other coastal management programs via the Coastal States Organization

¹ The name of the Office of Planning was changed to the Office of Planning and Sustainable Development, enacted by Act 153, Session Laws of Hawaii (SLH) 2021.

- Research the Final Environmental Assessments (EAs) and Final Environmental Impact Statements (EISs) under the HEPA to review cumulative impact assessments in environmental documents
- Discuss cumulative impact assessments in SMA permitting with the county planning departments for their input
- Recommend the parameters and criteria of cumulative impact assessments for SMA permitting

Based on the subject study, the OPSD is issuing this cumulative effects/impacts assessment guidance for use by the County Planning Departments, which includes:

- Cumulative effects/impacts²
- Principles of cumulative effects/impacts assessment and analysis
- Spatial and temporal parameters of cumulative effects/impacts assessment in SMA permitting
- **SMA criteria in cumulative effects/impacts assessment** (emphasis added)
- Determining significance of cumulative effects/impacts, and the checklist

The purpose of this guidance is to provide policy and implementation support to assist the counties to better assess and determine cumulative effects/impacts in their SMA permitting. Following this guidance is not mandatory, and this guidance does not have the force and effect of law and shall not supersede state or county laws and rules relating to the CZM. The counties are responsible for defending their consideration of cumulative effects/impacts in SMA permitting.

2. Cumulative effects/impacts

The Council on Environmental Quality's (CEQ) regulations for implementing the NEPA defined cumulative impact as "the impact on the environment that results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions." (40 CFR §1508.7). On July 16, 2020, CEQ issued its new rule updating the regulations for federal agencies to implement the NEPA in the first comprehensive update since 1978. "Cumulative impact" defined in 40 CFR §1508.7 was repealed³, and an agency's analysis of effects shall be consistent with CFR §1508.1 paragraph (g) as follows:

(g) *Effects or impacts* means changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives, including those effects that occur at the same time and place as the proposed action or alternatives and may

² "Effects" or "impacts" used in this guidance are synonymous, as stated in Hawaii Administrative Rules Chapter 11-200.1.

³ Cumulative effects analysis is no longer required as part of a NEPA review under CEQ's final rule, issued July 16, 2020. However, as posted by Federal Register on October 7, 2021, CEQ proposes to revise §1508.1(g)(3) by restoring, with minor modifications, the definition of "cumulative impacts" from the 1978 NEPA Regulations and striking the current provision that repealed that definition.

include effects that are later in time or farther removed in distance from the proposed action or alternatives. (40 CFR §1508.1)

Hawaii Administrative Rules (HAR) Chapter 11-200.1 under the HEPA, HRS Chapter 343, continues the requirement of cumulative effects/impacts assessment, and defines Cumulative impact as “the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes other actions.” All EAs/EISs are supposed to provide cumulative impact assessments for their proposed actions.

According to the CEQ handbook on *Considering Cumulative Effects under the National Environmental Policy Act* (CEQ, 1997), the primary purpose of cumulative effects/impacts analysis is to determine the magnitude and significance of the environmental consequences of a proposed action in the context of cumulative effects of other past, present, and future actions. Significance of cumulative effects/impacts depends on how they compare with the environmental baseline and relevant resource threshold such as regulatory standards. Cumulative effects are usually categorized into eight scenarios for assessment as follows (CEQ, 1997):

- 1) time crowding – effects of frequent and repetitive actions on the environment;
- 2) time lags – delayed effects of a proposed action;
- 3) space crowding – effects of spatial density on the environment;
- 4) cross-boundary – effects occurring away from the source;
- 5) fragmentation – effects or changes in landscape pattern;
- 6) compounding effects – effects arising from multiple pathways;
- 7) indirect effects – secondary effects; and
- 8) triggers or thresholds – effects defined by agency laws, policies or regulations.

3. Principles of cumulative effects/impacts assessment

Analyzing cumulative effects/impacts is challenging, primarily because of the difficulty of defining the geographic (spatial) and time (temporal) boundaries. No single formula is available for determining an appropriate scope and extent of a cumulative impact analysis. However, *Guidance for Preparers of Cumulative Impact Analysis – Approach and Guidance* (Caltrans, 2005) states that the following principles have gained a general acceptance:

- 1) Cumulative effects are caused by the aggregate of past, present, and reasonably foreseeable future actions.
- 2) Cumulative effects are the total effect, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken, no matter who has taken the actions.
- 3) Cumulative effects need to be analyzed in terms of the specific resource, ecosystem, and human community being affected.
- 4) It is not practical to analyze the cumulative effects of an action on the universe, and the list of environmental effects must focus on those that are truly meaningful.

- 5) Cumulative effects analysis on natural systems must use natural ecological boundaries and analysis of human communities must use the actual sociocultural boundaries to ensure including all effects.
- 6) Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects.
- 7) Cumulative effects may last for many years beyond the life of the action that caused the effects.
- 8) Each affected resource, ecosystem, and human community must be analyzed in terms of its capacity to accommodate additional effects, based on its own time and space parameters.

As required by HAR §11-200.1-10, a group of actions proposed by an agency or an applicant shall be treated as a single action when:

- 1) The component actions are phases or increments of a larger total program;
- 2) An individual action is a necessary precedent to a larger action;
- 3) An individual action represents a commitment to a larger action; or
- 4) The actions in question are essentially identical and a single EA or EIS will adequately address the impacts of each individual action and those of the group of actions as a whole.

The *Hawaii Environmental Policy Act Citizen's Guide* (2014) recommends that when considering the significance of potential environmental effects, the proposing or approving agency should consider the sum of the effects on the quality of the environment. A proposed action must be described in its entirety, and shall not be broken up into component parts, which if each is taken separately, may have minimal impact on the environment. An action shall be determined to have a significant effect on the environment if it may be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions. For example, pools or septic tanks or other ancillary or accessory structures/uses to a residence structure should be included in a larger development as a single action.

According to *Stormwater Impact Assessments: connecting primary, secondary and cumulative impacts to Hawaii's Environmental Review process, May 2013*, the methodology of cumulative impact assessments should address the following issues:

- 1) Cumulative effects need to be analyzed in terms of the specific resource, ecosystem, or human community being affected.
- 2) Cumulative effects on natural systems must use natural ecological boundaries.
- 3) Cumulative effects are caused by the aggregate of past, present, and reasonably foreseeable future actions.
- 4) Each affected resource, ecosystem, and human community must be analyzed in terms of its capacity to accommodate additional effects, based on its own time and space parameters.

4. Spatial and temporal parameters to scope past, present and future actions in SMA permitting

In accordance with the definition of “cumulative impact” previously defined in CEQ’s rule *or* in HAR Chapter 11-200.1, and the research on the Final EAs/EISs available from Office of Environmental Quality Control⁴ (OEQC) online library, spatial and temporal boundaries are two critical parameters to scope past, present, and reasonably foreseeable future actions that need to be taken into account in cumulative impact assessments. *Principally*, spatial and temporal scopes for assessments depend on the scale of a proposed action, and on target resources and/or environment. Each affected resource, ecosystem, and human community should be analyzed in terms of its capacity to accommodate additional effects, based on its own time and space parameters. *Ideally*, spatial and temporal scopes for cumulative effect/impact assessments should be expanded to the point at which a specific coastal resource is no longer significantly affected, or the impacts are no longer of interest to affected parties. However, categorizing and determining the geographic and temporal scope of cumulative effects/impacts in the SMA permitting process can significantly divert the county planning departments from focusing their time and resources on the most significant effects. Given that existing cumulative effects/impacts analysis guidance from CEQ and HEPA is not provided in the context of the SMA, there remains ambiguity in its application and implementation. This SMA-oriented guidance seeks to narrow down the spatial and temporal scopes of the cumulative effect/impact assessments.

With respect to spatial scope, setting the consideration at an existing defined boundary such as the SMA boundary within the county jurisdiction would reduce uncertainty in assessing an appropriate scope. The SMAs designated by the counties generally begin at the shoreline and extend to the nearest highway or several miles inland. Other factors, such as salinity and tidal influences on bodies of surface water, also affect a SMA boundary. Pursuant to HRS §205A-23, as amended, the SMA in each county shall be as shown on such maps filed with the county authority as of June 8, 1977. To narrow down the scoping to a meaningful assessment and include what counts for cumulative effect/impact assessments in SMA permitting, it would be appropriate and feasible to apply the SMA boundary as a spatial parameter if no critical issues on coastal resources or environment are raised beyond the SMA. The OPSD recommends a geographic radius up to the SMA inland boundary from the shoreline as the minimum spatial scope to assess the incremental impacts of a proposed action on the SMA when added to other past, present, and reasonably foreseeable future actions.

Besides geographic scope, temporal scale is another crucial parameter to scope past and future actions to assess cumulative effects/impacts resulting from a proposed action. “Reasonably foreseeable” actions are those that are likely to occur, rather than those that are merely possible or subject to speculation. Reasonably foreseeable future actions are those that have the potential to overlap spatially or temporally with a proposed project. It is recognized that a SMA Use Permit is usually granted to complete a proposed

⁴ The Office of Environmental Quality Control has been renamed as “Environmental Review Program” within the OPSD, enacted by Act 152, SLH 2021.

development within 5 years from the issued date with potential time extension. In addition to including the effects/impacts that occur at the same time and place as the proposed action, the OPSD suggests that a minimum of 5 years or more as practicable before the application of a proposed action serve as a basic temporal parameter to scope past actions within a SMA for the purpose of cumulative effects/impacts assessment in SMA permitting.

The timeframe of a long-range plan such as the county general plan and/or community plan, or the expected lifespan of a proposed project, whichever is longer, could be utilized as a maximum temporal scale to scope foreseeable future actions. To assess cumulative effects/impacts in a feasible way, the OPSD recommends a range as the temporal scale to scope foreseeable future actions in the SMA permitting process. The range would be from 5 years or more as practicable from the application of a proposed project as the minimum, and up to the lifespan of a structure or the operational life of a proposed project as the maximum.

5. SMA criteria in cumulative effects/impacts assessment

With spatial and temporal scopes, cumulative effect/impact assessments in the SMA permitting process must be conducted under the provisions of the Hawaii CZM Law. The objectives and policies in the CZM law provide overarching guidance to the counties in their administration of the SMA permit system. These CZM objectives and policies cover:

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| — Recreational resources | — Coastal hazards |
| — Historic resources | — Managing development |
| — Scenic and open space resources | — Public participation |
| — Coastal ecosystems | — Beach and coastal dune protection |
| — Economic uses | — Marine and Coastal resources ⁵ |

Under the CZM objectives and policies, the SMA guidelines, articulated in HRS §205A-26, apply specifically to the SMA permitting process. The SMA guidelines must all be factored into the assessment of any development proposed within the SMA. Compliance with the SMA guidelines must be achieved before an SMA permit can be approved.

Therefore, the OPSD recommends that the counties apply temporal and spatial parameters with SMA criteria, as presented in **Table 1**⁶, to account for cumulative effects/impacts of a proposed action on a SMA as follows:

- Minimum 5 years or more as practicable before the application to scope past actions

⁵ *Coastal resource* means any coastal wetland, beach, dune, (shoreline), barrier island, reef, estuary, or fish and wildlife habitat, pursuant to the National CZM Act of 1972, as amended.

⁶ Each county may further develop its own cumulative effects/impacts assessment template.

- Minimum 5 years or more as practicable from the application, and up to the lifespan of a proposed project to scope foreseeable future actions
- Extension to SMA inland boundary as a geographic radius to scope other actions
- Extension beyond the SMA boundary for a specific coastal resource, if necessary
- Effects on coastal resources/SMA under the CZM objectives and SMA guidelines

Using the minimum spatial and temporal scales recommended by this document as guidance, the counties may identify and/or apply their own temporal and spatial scales for a specific project, based on available geographic information system (GIS) data layers, site visits, and a history of site. Please keep in mind that a cumulative impact, or a significant environmental or ecological effect on *a special management area* (emphasis added) is required for a SMA assessment pursuant to HRS §205A-22.

This cumulative effect/impact assessment guidance is limited to SMA permitting within the county jurisdiction under the CZM provisions and SMA guidelines. Effects/impacts should not be considered if they are remote in time, geographically remote, or the product of a lengthy causal chain.

Table 1. Criteria of Cumulative Effects/Impacts Assessment in SMA Permitting

CZM Criteria ¹		Spatial Scope - minimum radius to SMA inland boundary	Temporal Scope ²			Effects/ Impacts from the Proposed Action
			Past actions - minimum 5 years past or more as practicable from the application	Present actions	Future actions - minimum 5 years or more as practicable from the application, and up to the lifespan of the project	
1	Coastal recreational resources					
2	Historic resources					
3	Scenic and open space					
4	Coastal ecosystems					
5	Economic uses					
6	Exposure to coastal hazards					
7	Beach/dune protection					
8	Marine resources					
9	Bay, estuary, salt marsh, river mouth, slough or lagoon					
10	Fishing ground, wildlife habitats, or agricultural uses of land					

¹Criteria from the CZM objectives HRS Chapter §205A-2 and SMA guidelines HRS §205A-26, as amended.

²a) Identify past, present, or foreseeable future actions in the vicinity of a proposed project from the EAs/EISs OEQC's online library by searching for the keyword "island" and "year"; b) Search for available information for past, present and planned actions within the SMA in the vicinity of a proposed project from the respective county planning department, with available GIS data layers; and c) Scope foreseeable future actions from community plans, capital improvement projects, and land use designations as applicable.

6. Determining “Significant effect” and “Cumulative impact”

Although not defined under HRS Chapter 205A, “Significant effect” and “Cumulative impact” are defined under the Hawaii Environmental Impact Statement law, HRS Chapter 343, and HAR Chapter 11-200.1, Environmental Impact Statement Rules, as follows:

"Significant effect" means the sum of effects on the quality of the environment, including actions that irrevocably commit a natural resource, curtail the range of beneficial uses of the environment, are contrary to the State's environmental policies or long-term environmental goals as established by law, or adversely affect the economic welfare, social welfare, or cultural practices of the community and State (HRS §343-2).

“Cumulative impact” means the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (HAR §11-200.1-2).

Furthermore, HAR §11-200.1-13 has established significance criteria, including qualitative and quantitative thresholds, for determining whether an action may have a significant effect on the environment. The significance criteria include:

- Irrevocably commit a natural, cultural, or historic resource;
- Curtail the range of beneficial uses of the environment;
- Conflict with the state's environmental policies or long-term environmental goals;
- Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and state;
- Have a substantial adverse effect on public health;
- Involve adverse secondary impacts, such as population changes or effects on public facilities;
- Involve a substantial degradation of environmental quality;
- Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions;
- Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat;
- Have a substantial adverse effect on air or water quality or ambient noise levels;
- Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;
- Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies; or
- Require substantial energy consumption or emit substantial greenhouse gases.

The definitions and criteria for determining “significant effect” and “cumulative impact” set forth above are applicable in SMA permitting. The county authorities and county

planning departments may apply these definitions and criteria to assess potential effects/impacts resulting from any uses, activities, or operations within a SMA in making determinations relative to SMA use permits, minor permits, and SMA permit exemptions. However, for the purpose of SMA permit decision-making, application of the significance criteria should be constrained to the CZM objectives and policies and SMA guidelines.

Eligible actions for SMA exemption, or developments that are eligible for the SMA minor permit, based on a valuation of less than \$500,000, should be subject to some form of assessment to show that the proposed action has no substantial adverse environmental or ecological effect, taking into account potential cumulative effects on a SMA. County-specific review and assessment protocols are encouraged to support a standardized assessment and reporting process.

If significant cumulative effects/impacts on a SMA resulting from a proposed development are reasonably foreseeable, site-specific mitigation measures in the planning phase, design phase, construction phase, and/or operational phase should be proposed and implemented to mitigate potential incremental impacts added by the proposed development in response to the CZM criteria illustrated in **Table 1**. For example, site-specific mitigation measures in SMA permitting to achieve consistency with the CZM objectives and policies and SMA guidelines may include:

- Provision and maintenance of public shoreline access
- Preservation/protection of archaeological sites, wetlands, and other sensitive areas
- Protection of life and property from coastal hazards as defined in HRS Chapter 205A
- Protection of beach and coastal dunes
- Boundary setbacks and building height restrictions to preserve coastal views
- Drainage improvements to control siltation in coastal waters
- Prohibition of artificial lighting from directly illuminating the shoreline and ocean waters
- Restriction, including frequency and intensity, on the improvements to an existing structure such as a single-family residence, on a shoreline parcel.

Cumulative effects/impacts assessment has been required by the NEPA and HEPA for several decades. In accordance with CEQ's new rule issued in 2020 and OPSD's research on EAs/EISs, however, it is noted that both NEPA and HEPA have faced difficulty in providing guidance as to how to conduct cumulative effect/impact assessments to meet the requirement. The lack of feasible spatial and temporal parameters has made assessing cumulative effects/impacts extremely challenging not only in SMA permitting, but also in evaluating EAs and EISs. In response to OCM's evaluation, the OPSD has conducted research on all Final EAs/EISs (1,103 total) from August 2008 to April 2020 via the online EAs/EISs library at <https://planning.hawaii.gov/erp/>. In very few cases, these Final EAs and EISs specifically discussed or applied spatial and temporal parameters to scope the past, present and foreseeable future actions in cumulative effect/impact assessments. Approximately 96% of Final EAs and EISs simply referred to the definition of cumulative

impact, and then made a statement of no adverse cumulative effects/impacts for their proposed projects.

EA/EIS review crosses jurisdictional bounds, and studies all environmental effects/impacts associated with the action. If an EA or EIS serves as a supporting document for a SMA use permit application, the OPSD suggests that the subject EA or EIS specifically include cumulative effects/impacts assessment on the coastal resources/environment under HRS Chapter 205A, and discuss site-specific mitigation measures in design, construction, and operation to mitigate any adverse cumulative effects/impacts from a proposed development.

7. Recommendation

This guidance is for the counties to consider potential cumulative effects/impacts from a proposed action which may or may not be “development” as defined in HRS §205A-22. To ensure and/or defend a consideration of cumulative effects/impacts in SMA permitting, the OPSD recommends that a SMA use assessment provide:

1. A checklist about the incremental impacts on coastal resources/environment resulting from a proposed action under the SMA criteria as illustrated in **Table 1** provided by this guidance. Counties are encouraged to develop their own implementation policies and tools to further standardize cumulative effects/impacts assessment in SMA permitting.
2. A location map of past, present, and reasonably foreseeable future actions that have been identified under appropriate and feasible spatial and temporal parameters for the purpose of cumulative effects/impacts assessment. Within a spatial and temporal scopes, the location map should also include all repeated repairs and component actions that are phases or increments of a larger action.

References

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