

Goal 2.4 | Mauka to makai watershed management

Action No.	Description	Type	Priority	Timing	County Lead Agency	Cost (\$1,000)	Funding Source(s)
	Runoff and Drainage						
4.01	Update and implement the Maui Meadows Subdivision Drainage Master Plan utilizing natural infrastructure and nature-based systems to the fullest extent possible.	CIP	Medium	On-going	DPW	TBD	County
4.02	Update and implement the Kihei Drainage Master Plan for flood prevention to address coastal water quality protection and sensitive ecosystems management in South Maui. Update the plan with the findings presented in the Ecological Alternatives Analysis prepared by EcoSolutions LLC (2020) and the recommendations of the Southwest Maui Watershed Plan. Take into account the impacts that upland developments have downstream. Prioritize natural infrastructure, nature-based solutions, green infrastructure and low impact development where feasible, and consult with Native Hawaiian Organizations.	Project	Medium	Mid	DPW	500	County
4.03	Develop a Stormwater Quality Management Program Plan in South Maui, with programs and practices that protect water quality from stormwater runoff.	Project	High	Long	DPW	TBD	County
4.04	Develop and monitor programs to regularly maintain and clear sediment basins and culverts in the mauka/upland areas within both direct and indirect alignment of South Maui to minimize the potential damage from downstream flooding.	Program	Medium	On-going	DPW	N/A	N/A
4.04a	Develop programs to regularly monitor and enforce the clearing of gulches, sediment basins and culverts on public and private properties in South Maui.						

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	Runoff and Drainage						
4.05	Design and implement green infrastructure modifications, natural infrastructure and nature-based solutions along South Kihei Road to mitigate stormwater runoff and minimize damage from flooding.	CIP	Medium	Mid	DPW	200	County
4.06	Provide resources for upland forest, including dryland forest conservation, invasive species control, and restoration projects to improve forest cover and functions, and reduce downstream flooding. Support the protection of soils and mitigate erosion through feral ungulate fencing and invasive species control and management.	Project	Medium	Short	OM	2,000	Federal
4.06a	Identify and prioritize returning streams that have been diverted, like the Kanaio stream in Maalaea, to their original natural path in order to remedy the runoff and drainage problems that such diversions have caused.						
4.06b	Develop concept for and implement regional stormwater park in collaboration with County Parks, DPW, large landowners and the community.						
4.06c	Implement the Southwest Maui Watershed Plan.						
4.06d	Establish a watershed advisory group which includes participation from Stakeholders Mauka to Makai including agencies that manage or regulate lands, residents and landowners, interested community groups and NGOs.						
4.06e	Establish and implement a watershed wide water quality monitoring program to measure the quality of runoff and the mass loading of pollutants from the major gulches, streams, and waterways.						

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	Runoff and Drainage						
4.06f	Create and implement a Watershed Management Program which requires the Department of Planning and Department of Public Works to comply with the watershed plans and practices when issuing permits.						
	Restoration						
4.07	Create and implement a wetland preservation and restoration program for South Maui to reduce flood impacts from stormwater runoff, improve coastal water quality to protect sensitive ecosystems and expand open space areas.	Program	Medium	Mid	PD	TBD	County, State
4.08	Continue to support, fund and expand Wetland Restoration Projects. Develop and implement low impact pedestrian managed access, where appropriate, near wetland restoration projects.	Project	Medium	Short	DPW	300	County
4.09	Develop and implement a comprehensive dune restoration program plan, identifying methods, funding, stewardship, restrictions and monitoring for South Maui with a focus on the North Kihei area.	Project	Ongoing	Mid	PD	TBD	County, State
4.09a	Develop and implement a program plan for sand dune preservation at Haycraft Park and Mā'alaea Bay Beach.						
4.10	Expand funding for Continue to fund a Dune Management Coordinator roles position for the island of Maui and fund the implementation of strategies for sand dune protection.	Program		On-going	PD	400	County, State
4.11	Create a South Maui Ridge to Reef Initiative (R2R) or other entities such as a non-profit to leverage resources across several agencies and community groups to implement actions to reduce land-based pollution that impacts coral reefs.	Program	Medium	Mid	OM	TBD	Private

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	Runoff and Drainage						
4.12	Obtain funding and implement a program Continue to support Department of Health Quality Assurance Program Plan to water quality monitoring and care for all South Maui nearshore waters.	Program	Medium	Mid	OM	TBD	State
4.12a	Provide resources for the protection and rehabilitation of riparian zones and feral ungulate fencing and native plants.						
4.12b	Accelerate funding for R-1 reuse on the landscape to mitigate for axis deer damage, recharge depleted aquifers and provide forage for livestock (local food security).						
4.12c	Acquire wetland parcels, if necessary under the threat of condemnation, such as TMK 3-9-001-162, 3-9-062-019, 3-9-001-164, 3-9-001-007, 3-9-059-001, 3-9-058-061, and 3-9-046-011 and designate as Open Space-protected lands in perpetuity.						
4.12d	Explore the feasibility of obtaining the areas identified through the wetlands mapping study or other similar studies through conservation easements or acquiring through negotiation or under the threat of condemnation wetlands including but not limited to gulches, continuous, intermittent, and ephemeral streams, streams beds and flood plains and other flood prone parcels and designate as open space protected lands in perpetuity.						
4.13	Develop and implement a mitigation plan for Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties within South Maui that includes raising building elevation, relocation, flood proofing, transfer of development rights, or buyout.	Project	Medium	Mid	DPW	TBD	County, State, Federal

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Runoff and Drainage							
4.14	Identify and adopt amendments to the Maui County Code flood hazard ordinance to implement more strict NFIP Substantial Improvement regulations for properties in SFHA, including modifying the timeframe to 20 years to make it more difficult for older improvements to “expire” and no longer count towards the substantial improvement timeline.	Program	Medium	Mid	DPW	50	County
4.15	Coordinate with Maui County Floodplain Manager to pursue funding opportunities from organizations like FEMA’s Building Resilient Infrastructure and Communities program for community-wide flood mitigation projects implementation of nature-based solutions and natural infrastructure to enhance ecosystems and reduce flood risks.	Project		On-going	DPW	TBD	Federal
4.15a	Identify and implement a pilot flood mitigation project that include implementation of nature-based solutions and natural infrastructure to enhance ecosystems and reduce flood risks mauka to makai. Evaluate the results for other projects.						
4.16	Leverage existing erosion and sea level rise studies, including kilo ‘āina, to develop and implement localized beach management and coastal adaptation plans including managed retreat.	Project	High	Mid	PD	TBD	County
Miscellaneous							
4.16a	Create a data base of impacts from coastal hazards, such as flooding, wave run-up, erosion and other relevant data to inform mitigation and avoid future impacts.						
4.16b	Create, implement, and fund plans to allow native seed banks the time needed to grow and spread, adding to long term coastal resilience and preventing runoff.						