
Chapter 7:

Relationship Between Local Short-Term Uses of
Humanity's Environment and the Maintenance and
Enhancement of Long-Term Productivity

7. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF HUMANITY'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

This section discusses the relationship between the Proposed Action's short-term uses of the environment and how those uses may compromise or enhance the long-term productivity of that environment. Explored are the economic, social and cultural gains anticipated from the Proposed Action which are weighed against how the Proposed Action may narrow or expand other comparable long-term opportunities the environment offers, including avoidance of any risks posed to health and safety.

7.1 Tradeoffs Among Short- and Long-Term Gains and Losses

The Proposed Action is a Water Lease for a 30-year commitment of government-owned water collected by the EMI Aqueduct System from the License Area for various uses, including domestic and agricultural uses served by the MDWS in Upcountry Maui, the KAP and the Nāhiku community in East Maui; diversified agricultural operations on approximately 30,000 acres in Central Maui; and, preservation of the EMI Aqueduct System. While the utilization of the present configuration of the EMI Aqueduct System has been in place since 1923, this Water Lease authorize the use of less water than was diverted in the past because the Water Lease must be in compliance with the CWRM D&O that was issued in June 2018.

Considering the Water Lease as a short-term use of humanity's environment, the beneficial gains over the term of the Water Lease include the benefits accrued to the various recipients of the water described above for domestic, commercial and agricultural uses. The Water Lease will maintain the lifestyle and livelihood of those who receive their water through the MDWS. These include the communities and agricultural users served by the MDWS in Upcountry Maui and Nāhiku. In Central Maui the Water Lease will provide irrigation water for Mahi Pono to develop diversified agriculture on former sugar land, with associated economic gains from the sale of crops and job creation, and increased local food sustainability.

The CWRM D&O established IIFS, which includes water arising on both State- and privately - owned lands within East Maui. Therefore, as to those streams subject to the CWRM D&O, the maximum amount of water that can be awarded through the Water Lease is the amount of water that is available for diversion after implementation of the CWRM D&O. Through the CWRM D&O, the CWRM ordered full restoration of ten streams, primarily for taro growing areas for irrigation and for community and non-municipal domestic uses. Flow in one "habitat" stream was fully restored while five other "habitat streams" were ordered to have 64% of their BFQ₅₀ restored, which generally represents the H₉₀, based on the biological diversity and habitat that already exists. Seven streams were ordered to have 20% of their BFQ₅₀ restored to provide connectivity for migrating stream fauna. While the Water Lease would have a term of 30 years, the CWRM D&O and the associated benefits to the kalo growing areas, communities and environment, would not be affected by that term and, if not otherwise revised by the CWRM, it will continue indefinitely.

7.2 Extent to which the Proposed Action Forecloses Future Options

The Proposed Action is a Water Lease for a 30-year commitment of governmental-owned water for various uses described in this DEIS, and as summarized in the preceding section.

Therefore, if the Water Lease is awarded based on this DEIS, any proposed uses of the surface water that deviate significantly from those described herein would be foreclosed. For example, Mahi Pono could not use water obtained from the Water Lease to pursue urban development in the Central Maui agricultural fields without restarting the process for obtaining a new Water Lease, including preparation of a supplemental or new EIS.

The Proposed Action would not foreclose different uses of water obtained through the EMI Aqueduct System after the 30-year term of the Water Lease expires.. All laws regarding the issuance of a new Water Lease at that future time would be applicable.

7.3 Narrows the Range of Beneficial Uses

As discussed in the preceding section, awarding of the Water Lease based on this DEIS would foreclose options that deviate significantly from those described herein. Some of those uses could be considered beneficial. While such options may be foreclosed during the 30-year term of the Water Lease, they could be pursued through a subsequent Water Lease.

As previously discussed, the amount of government-owned water that may be diverted out of the License Areas has been limited by the CWRM D&O. If the Water Lease is not awarded, government-owned water would be returned to the streams, adding to the minimum required streamflow in streams subject to the CWRM D&O. For the ten streams that are fully restored, their productivity would remain unchanged and no additional benefit would be gained. For the five "habitat streams" that had 90% of their habitat restored through the CWRM D&O, any additional flow restored would only provide only a marginal improvement in habitat. The seven streams ordered to have 20% of the BFQ₅₀ restored for "connectivity" (CWRM D&O, COL 30) are those with low biological ratings and or do not have the potential to improve drastically with increased flows. Any additional flows restored to these streams would also have marginal benefit.

7.4 Environmentally Significant Consequences

The proposed Water Lease would also provide the lessee access into the License Area during the term of the Water Lease to operate and maintain the EMI Aqueduct System, which is a resource that requires maintenance to retain its integrity as a continually working water system for over 134 years since its initial construction. Should the Water Lease not be awarded, the EMI Aqueduct System could be abandoned and deteriorate over time, losing its value as an important piece of infrastructure and a historical resource. However, if EMI finds that it is economically feasible to maintain the EMI Aqueduct System to divert non-governmental water this historic resource could be preserved for as long as it is maintained.

In addition to the historic EMI Aqueduct System, the License Area has a rich archaeological landscape and post-contact history, as discussed in Section 4.5. While the Proposed Action would provide the lessee access into the License Area during the term of the Water Lease to operate and maintain the EMI Aqueduct System, such activities would not result in the partial or total destruction or alteration of historic properties. If the Water Lease is not awarded, EMI could abandon the EMI Aqueduct System and relinquish its management activities in the License Area. As a result, there is a potential that unmanaged access could adversely and irreversibly affect documented and undocumented historic and cultural resources in the License Area. If EMI were to continue to maintain the EMI Aqueduct System to divert non-

governmental water, their role in managing access into the License Area would determine the extent to which access could increase the risk of detrimentally affecting historic and cultural resources.

Access for the operation and maintenance of the EMI Aqueduct System, as well as other sanctioned and unsanctioned activities such as hiking, hunting and gathering in the License Area have introduced alien species of flora and fauna, primarily in the vicinity of the access roadways, as discussed in Section 4.4. The establishment of these alien species in this area have likely irreplaceably displaced some native species, which are a biological and cultural resource. As a result of the Proposed Action, it is possible that additional alien species could be unintentionally introduced and if they are particularly invasive, more native species could be displaced. Section 4.4. discusses mitigation measures that would reduce the potential for adverse impact by invasive alien species. If the Water Lease is not awarded, EMI could abandon the EMI Aqueduct system and relinquish its management activities in the License Area. With less control over access, the potential for introducing alien species in the License Area would likely increase. If EMI continues to maintain the EMI Aqueduct System to divert non-governmental water, their role in managing access in License Area would determine the extent to which such access could increase the potential for introducing invasive alien species that could displace native species.

With the awarding of the Water Lease, a reduction from current stream flows would occur over time as more water is used for irrigation to support diversified agriculture in Central Maui. However, the use of steam water for diversified agriculture will always be limited by the amount of diversion allowed by the CWRM D&O.

Under the Proposed Action, a portion of the water awarded through the Water Lease will be used for diversified agriculture on the approximately 30,000 acres of land in Central Maui. If the Water Lease is not awarded, EMI may find it economically feasible to continue maintaining the EMI Aqueduct System to divert non-governmental water for a reduced diversified agricultural operation in Central Maui. In such a scenario, Mahi Pono would be unable to take full advantage of the potential long-term productivity that the fields of Central Maui offer for diversified agriculture. If EMI finds that it is economically unfeasible to maintain the EMI Aqueduct System without the Water Lease, there will be little opportunity to realize the potential long-term agricultural productivity of the fields of Central Maui. The only remaining water source would be the existing groundwater wells which have low SY without input from imported irrigation water provided by the EMI Aqueduct System.

If agriculture in the Central Maui fields is abandoned, the natural arid conditions would return. According to the SWCA's Terrestrial Flora and Fauna Report, there would be succession of weedy plants with few or no native species. More frequent wildfires may occur while reservoirs would dry up and fill in, eliminating nest and foraging habitat for endangered Hawaiian waterbirds and foraging habitat for migrant shorebirds and migrant waterfowl. On the other hand, the potential for tree tobacco to colonize abandoned fields would be beneficial for the endangered Blackburn's sphinx moth because it would increase available breeding habitat.

7.5 Long-term Risks to Health and Safety

If the Water Lease is not awarded, and even if EMI finds it economically feasible to continue maintaining the EMI Aqueduct System to divert non-governmental water for diversified agriculture in Central Maui, there may not be enough water to allocate much or any to the MDWS. In Upcountry Maui, the loss would exacerbate the effects of drought when other surface water sources are unreliable. For the KAP and the Nāhiku community served the MDWS, this could eliminate their primary source of water. Insufficient water for these areas, will likely affect the availability of water for sanitary functions like wastewater disposal, washing and bathing which could pose long-term risks to health.

If agriculture in the Central Maui fields is abandoned, the natural arid conditions would return. Exposed soils in the Central Maui fields would be susceptible to wind erosion and airborne dust could create a nuisance or potential health hazard under windy conditions. Dry windy conditions would also increase the potential for wildfires, which could pose a public safety hazard.