

Testimony on zoning change request by Makena Resort Corp.

**ARE ENDANGERED BIOLOGICAL RESOURCES THREATENED BY REZONING
MAKENA RESORT PROPERTY?**

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SUMMARY:

The documents in the public record are inadequate to document whether endangered species exist in Makena Resort Property, or the extent of endangered dryland forest ecosystems remaining on the property.

The County Council should place the following conditions on any rezoning of Makena Resort Corp. property:

1) A thorough flora and fauna survey should be conducted during the months of January through April by recognized independent experts on Hawaiian biota, listing all endemic and indigenous species and their distribution on the property.

2) All areas with remnant native forest, including any groves of wiliwili trees, should be either protected by the most appropriate means:

- Removed from the rezoning request;**
- Rezoned as Conservation District;**
- Protected by conservation easements;**
- Set aside as park, taking priority over land that would be artificial, lawn-centered park;**
- Donated to an appropriate entity for preservation, as was done with One Palauea Bay and the University of Hawai'i.**

3) Makena Resort Corp. should work with one or more organizations involved with conserving native species to develop a biologically sound plan for preserving its forest resources:

- The Maui Nui Botanical Garden,**
- The Native Hawaiian Plant Society,**
- The US Geological Survey Biological Resources Division.**

The Makena Resort Corp. property is in an area known to have remnant native dryland forests. The Hawaiian dryland forests are listed among the 21 most endangered ecosystems in the United States (Noss, 2001). "Native dry forests are considered the most endangered ecosystem on the

Hawaiian Islands with less than 10% remaining statewide." (Hawaii Army National Guard, 1999)

Will the proposed development by the Makena Resort Corp. destroy any of this highly endangered dryland forest ecosystem? My finding is this:

There is no document in the public record that can answer the question of whether endangered species, or endangered dryland ecosystems, are threatened by development of the Makena Resort Corp. property.

The relevant public record consists of these documents:

1974 Environmental Impact Statement on the Seibu Makena Master Plan

1998 Makena Resort Wastewater Reclamation System Environmental Assessment

2003-2004 Correspondence with the Maui County Council from Makena Resort Corp.

1) I believe that the documentation in the public record could not withstand a legal challenge if any party were to bring suit under the Endangered Species Act, because no study has been thorough enough to rule-out the existence of endangered species on the property;

2) Even in the absence of listed endangered species, the County Council has a responsibility to preserve Maui's irreplaceable natural resources, and should ensure that any rezoning is conditioned upon protection of remnant endangered dryland forest.

The Public Record on Flora and Fauna of Makena Resort:

Roy Figueroa kindly provided we with the best information that Makena Resort Corporation has on their flora and fauna. This is the 1974 Environmental Impact Statement, which lists a total of 4 endemic species. Two of the species names are misspelled, and two are not endemic, but indigenous.

So, the 1974 study appears to be quite incomplete. In fact, the study itself states that it is incomplete:

"Since a minimum of field work was conducted and a short time-frame imposed on the study, the present survey should be considered only a reconnaissance, and the information presented representative only of conditions and species present at this time of the year [June 15, 22, 23, 1974]."

The more recent Environmental Assessments for road and the waste water treatment facility, and recent statements by Makena Resort Corp. to the Maui County Council, say only that no listed endangered species are present. These assessments cover only a small part of the area requested for rezoning, in any case.

In the neighboring property of Wailea 670, 100 yards across the Makena Resort boundary, I have myself seen 12 endemic species of native plants. One of these species, *Canavalia pubescens*, is currently registered as a Candidate Endangered Species. Another, *Lipochaeta rockii*, has also

been proposed for endangered species listing. There is every reason to suspect that these species are present on Makena Resort property. Their absence from the record is additional evidence of its incompleteness.

Conservation Considerations:

The following **listed endangered species** have been found in the remnant dryland forests of the Kihei/Makena area, and may possibly exist on Makena Resort property:

Abutilon menziesii

Bonamia menziesii

Hibiscus brackenridgei brackenridgei

The following **candidate endangered species** also are found in this region and may possibly exist on Makena Resort Property:

Acacia koaia

Canavalia pubescens

These species have been found on Wailea 670 and Palauea. They represent the last population of these species in the entire Makena area. Any populations of these species in Makena Resort should be preserved. Their population sizes are given:

Chamaesyce celastroides lorifolia - Akoko (one individual)

Lipochaeta rockii - Nehe (approx. 150 individuals)

Canavalia pubescens - Awikiwiki (approx. 30 individuals) - A candidate endangered species

Myoporum sandwicense - Naio (approx. 30 individuals)

Senna gaudechaudii - Uhi uhi (approx. 20 individuals)

RECOMMENDATIONS:

The County Council should place the following conditions on any rezoning of Makena Resort Corp. property:

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APPENDIX

Definition of Remnant Native Forest:

An area should be considered remnant native forest if it contains wiliwili trees (*Erythrina sandwicense*).

In some rare cases, remnant forest may contain other native species without wiliwili trees in the vicinity. In these cases, the area should be considered remnant native forest if it contains any of the following native species, which are not known to propagate in the degraded kiawe/buffel grass habitat:

Abutilon menziesii - Ko'oloa 'ula
Acacia koaia - Koai`a
Achyranthes splendens splendens
Argemone glauca - Pua Kala
Boerhavia herbstii - `Alena
Boerhavia repens - `Alena
Bonamia menziesii
Canavalia pubescens - `Awikiwiki
Capparis sandwichiana - Maia pilo
Chamaecyse celastroides var. lorifolia - `Akoko
Chenopodium oahuense - Aweoweo
Diospyros sandwicense - Lama
Dodonaea viscosa - `A`ali`i
Doryopteris decipiens - Iwa `iwa
Hibiscus brackenridgei brackenridgei - Ma`o Hau Hele
Ipomoea indica - Koali awa
Ipomoea tuboides - Hunakai
Lipochaeta rockii - Nehe
Myoporum sandwicense - Naio
Nesoluma polynesianum - Keahi
Notorichium sandwicense - Kului
Panicum konaense - Konakona
Panicum pellitum - Konakona
Panicum ramosius - Konakona
Portulaca villosa - `Ihi
Reynoldsia sandwicensis - Ohe Makai
Senna gaudichaudii - Heuhiuhi

The following native species are found introgressing into kiawe/buffel grass habitat, and should

not be considered markers of remnant native forest areas:

Plumbago zeylanica - *Ilie`e*

Sicyos hispidus - *Anunu*

Sicyos pachycarpus - *Anunu*

Sida fallax - *Ilima*

Waltheria indica - *Uhaloa*

References:

Reed F. Noss, Edward T. LaRoe III, J. Michael Scott. 2001. Endangered Ecosystems of the United States: A Preliminary Assessment of Loss and Degradation.
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