State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawaii 96813

June 26, 2015

Board of Land
and Natural Resources
Honolulu, Hawaii

Request for Approval of Special Activity Permit 2016-07 for
Dr. Samuel Kahng, Hawaii Pacific University, to Conduct Research Using Core Samples from State Regulated Stony Corals in Oahu, Kauai, and Maui to Study Historical Proxies for Climate Change

The applicant proposes to conduct activities relating to research on historical proxies offshore at various sites on Oahu, Maui, Lanai and Kauai. The research involves the taking of coral core samples from the common stony corals *Porites* spp. (*Porites lobata, Porites evermanni, Porites lutea*) for analysis. The core samples are 5.5 cm diameter by 1m to 4m long; up to 15 samples are authorized. Coral cores are sampled using an underwater pneumatic drill with extensions to collect complete cores.

During the permit review process, several concerns were raised by DAR Aquatic Biologists over the risks and impacts of this method of coral sampling. The special conditions within the permit have been designed to minimize the impact of this sampling method and optimize the potential benefits.

We are providing the concerns and our efforts to mitigate for these concerns for your review in order to give you the most complete information for your deliberations. The following concerns have been raised by DAR Aquatic Biologists (Oahu/Maui).

1. Concern: The risk of injury or death of old growth (up to 400 years old) coral colonies outweighs the benefits of the information to be gained.

Response: While coral corings have been conducted in Hawaii in the past, there has been no formal documentation of the post sampling recovery rates or characteristics. Visual surveys have indicated that many colonies sampled recover quickly and, in cases of slow recovery, colonies exhibit slow regrowth only at coral-core-site scar and not across the entire colony. Based on this visual and other information, major impacts to colonies are not anticipated, and the risk of death is likely to be low. The scientific value of the core samples (historical records of environmental data) is considered to out-weigh the risk to the overall health of the colony. This research will also provide documentation of the impacts of coral coring on large coral colonies on Oahu for potential long-term monitoring for future coring requests.

2. Concern: DAR is unsure of what the actual impacts of coral core sampling on coral colonies will be. Visual surveys and observations from past researchers provided

varied results ranging from the coral-core-site scar never recovered, the "plug" installed to seal the scar became dislodged which creates vectors for disease, bioerosion, parasitism and algal infestation to complete recovery of the coral colony and coral-core-site scar.

Response: DAR is requiring photo-documentation of sampling process for all colonies on Oahu and post sampling photo-documentation of all colonies and coral-core-scar sites at 6 months and 1 year post-collection on Oahu. DAR is also requesting and recommending post sampling photo-documentation of all colonies and coral-core-scar sites at 3 years post-collection on all islands. This is being requested instead of required due to the permit being valid for only one year. Additionally DAR is requesting various best management practices to be employed during sampling including minimal contact with coral colonies while sampling, proper installment and sealing of plug into coral core entry site with Z-spar (non-toxic underwater adhesive) and disinfection of sampling gear between colonies.

3. Concern: New sampling of coral cores will not provide additional information, because coral cores have already been collected in the past by other researchers.

Response: Select collection of new coral cores is necessary to increase sample size and to decrease variance within analysis of current samples. Decreasing variance between samples will produce more accurate results of the historical log of environmental parameters that can be researched for historical climate trends or predictions. Additionally, previous samples may have been collected with different purposes in mind, such as sedimentation rates or effects of land or riparian inputs on reefs, compared to the samples to be collected under this permit for climate change indicators. Attempts will be made to use previously collected cores and to share these cores, where feasible and practical.

4. Concern: Certain locations are currently experiencing environmental stress and would be slow to recover from sampling activities. These areas are more vulnerable because they are close to shore and in shallow water. These areas are also under resource stress due to fishing and other anthropogenic activities. We should restrict sampling at these sites.

Response: DAR is requesting to avoid sites that have displayed slow recovery or recent environmental stress. Permit conditions will place limits on depth of collection and quantity of samples. The applicant has been instructed to sample in deeper waters at Olowalu, Maui in order to mitigate for greater impacts that occur in shallow water due to higher temperatures, sedimentation, groundwater input, and anthropogenic activities.

The Maui DAR biologist has requested that no coring occur in Kehekili Herbivore Fisheries Management Area because the area is designated to be managed for recovery from overfishing and nutrification of the reef from land based sources resulting in algal overgrowth.

Maui DAR staff also requested that the sampling be limited to two (2) sampling of core samples be conducted at 21ft or deeper in Olowalu-Ukumehame.

5. Concern: Staff questioned how the sampling could directly be applicable to DAR/DLNR's management efforts. Some staff did not believe that the potential information to be gained from this study outweighed the risk of death of the colony.

Response: There is no published study in Hawaii that provides information on the recovery of coral colonies in which cores have been collected. Based on past observations, the Division has deduced that major impacts are not likely to occur from sampling and the value of historical records of environmental data collected from these cores is considered to out-weigh the risk to the overall health of the colony. Coral cores from certain areas will provide a historical log of temperature, salinity, nutrient input and other environmental variables. Isotope analysis of O^{16}, O^{18} and N^{15} will provide a historical log of monthly to yearly changes in salinity, precipitation, and/or sources of nutrient input.

Analysis of these historical trends would provide the Department with more information to better plan for climate change. Additionally, analysis of coral cores will lend information to determine the novelty or regularity of recent temperature events and the compounding impacts of anthropogenic activities.

However, because of lack of published studies in Hawaii that provide information regarding the recovery, DAR would like to restrict or implement special conditions regarding coring activity in areas where coral colonies are already at higher stress levels (Olowalu-Ukumehame and Kahekili Herbivore Fisheries Management Area).

Biologists request that no coring occur in the Kehekili Herbivore Fisheries Management Area because the area is specifically created to study how the herbivores eat and control algae overgrowth at a reef that is experiencing nutrification from land based sources.

6. Concern: Sampling should be prohibited during the warmer summer months when sea surface temperatures are higher and coral bleaching events are likely to occur as these conditions may lead to slow recovery of sampled coral colonies.

Response: There is no study that examined the recovery rates of coral colonies from sampling conducted during summer months or periods with bleaching events. Because there is no information on recovery of sampled corals during a bleaching event, DAR would like to restrict the coring to the cooler weather months in which bleaching events are unlikely to occur. Historically, bleaching events have occurred in Hawaii between August and October so DAR would like to restrict samplings to between November and July.

RECOMMENDATION: The Department Recommends

Based on the Departments exemption determination (attached) and the application and record in this matter, the Board DECLARES, FINDS, and DECIDES:

1) That the actions covered by this permit will have little or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment;
2) To delegate the Chairperson to sign the declaration of exemption on behalf of the Board, for purposes of recordkeeping requirements of chapter 343, HRS, and chapter 11-200, HAR; and
3) To authorize and approve, with stated conditions, the proposed special activity permit.

Respectfully submitted,

Alton Miyasaka
Acting Administrator

APPROVED FOR SUBMITTAL:

SUZANNE D. CASE
Chairperson

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

W. ROY HARDY
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 26, 2015

TO: Division of Aquatic Resources File

THROUGH: Suzanne D. Case, Chairperson

FROM: Alton Miyasaka, Acting Administrator
Division of Aquatic Resources

SUBJECT: Declaration of Exemption from the Preparation of an Environmental Assessment under the Authority of Chapter 343, HRS, and Chapter 11-200, HAR, for a Special Activity Permit to Dr. Samuel Kahng, Hawaii Pacific University, Oceanography Department.

The following permitted activities are found to be exempted from preparation of an environmental assessment under the authority of Chapter 343, HRS and Chapter 11-200, HAR:

Project Title: Special Activity Permit to Dr. Samuel Kahng, Hawaii Pacific University, Oceanography Department, for the taking of core samples from the regulated marine coral *Porites spp. (Porites lobata, Porites evermanni, Porites lutea)* in the waters off the islands of Oahu, Maui, Lanai and Kauai.

Permit Number: SAP 2016-07.

Project Description: The permit, as described below, would authorize the taking of core samples from the regulated marine coral *Porites spp. (Porites lobata, Porites evermanni, Porites lutea)* from June 26, 2015 through June 25, 2016. The taking of corals is prohibited under section 13-95-70, Hawaii Administrative Rule, unless authorized by a permit issued under section 187A-6, Hawaii Revised Statutes. The study sites where the *Porites lobata* will be sampled are in the waters off Oahu, Maui, Lanai and Kauai. The coral cores shall be taken, the hole capped with a cement plug and sealed with Z-spar to minimize potential for disease, bio-erosion, parasitism or alien species footholds in the cores. Comprehensive pre and post photo-documentation will be conducted to in order to monitor any potential impact from the collection of coral cores.

The purpose of the study is to obtain core samples from within old growth coral colonies to determine age of the colony and to collect a historical log of monthly to yearly changes in precipitation, salinity, and nutrient input via isotope analysis of O^{16}, O^{18} and N^{15}. Isotope analysis will identify thresholds and ranges of variability in the hydro-climatological system, evaluate recent

trends, establish links to climate change and establish trends in land based or anthropogenic nutrient input. Collection of these fifteen cores from the islands of Oahu, Maui, Lanai and Kauai will additionally increase sample size cores previously collected and decrease variance within analysis of current samples. Decreasing variance between samples will produce more accurate analysis of the historical log of environmental parameters that can be researched for historical climate trends or predictions. Additionally past samples may have been collected for different types of analysis or research objectives (sedimentation) or may have been collected from areas that are not optimal for providing cores collected for alternate analysis (proximity to land or riparian inputs).

Consulted Parties: Russell Sparks, Aquatic Biologist DAR – Maui; Dave Gulko, Aquatic Biologist DAR – Oahu, Alton Miyasaka, Aquatic Biologist DAR – Oahu

Exemption Determination: After reviewing HAR § 11-200-8, including the criteria used to determine significance under HAR § 11-200-12, DLNR has concluded that the activities under this permit would have minimal or no significant effect on the environment and that issuance of the permit is categorically exempt from the requirement to prepare an environmental assessment based on the following analysis:

1. All activities associated with this permit have been evaluated as a single action. Since this permit involves an activity that is precedent to a later planned activity, i.e., the repeated methodology of removal of coral samples throughout the permit period, the categorical exemption determination here will treat all planned activities as a single action under § 11-200-7, HAR.

2. The Exemption Class for Scientific Research with no Serious or Major Environmental Disturbance Appears to Apply. HAR § 11-200-8(a)(5) exempts the class of actions that involve "basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource." This exemption class has been interpreted to include research on historical groundwater changes, such as those being proposed.

The proposed activities here appear to fall squarely under the exemption classes identified under HAR §§11-200-8(a)(1), 11-200-8(a)(5) and as described under the 1976 exemption list class items. As discussed below, no significant disturbance to any environmental resource is anticipated. Thus, so long as the below considerations are met, an exemption class should include the action now contemplated.

3. Cumulative Impacts of Actions in the Same Place and Impacts with Respect to the Potentially Particularly Sensitive Environment Will Not be Significant. Even where a categorical exemption appears to include a proposed action, the action cannot be declared exempt if "the cumulative impact of planned successive actions in the same place, over time, is significant, or when an action that is normally insignificant in its impact on the environment may be significant in a particularly sensitive environment." HAR § 11-200-8(b) To gauge whether a significant impact or effect is probable, an exempting agency must consider every phase of a proposed action, any expected primary and secondary consequences, the long-term and short-term effects of the action, the overall

and cumulative effect of the action, and the sum effects of an action on the quality of the environment. HAR § 11-200-12.

Significant cumulative impacts are not anticipated as a result of this activity, and numerous safeguards further ensure that the potentially sensitive environment of the project area will not be significantly affected. All activities will be conducted in a manner that does not diminish marine resources, qualities, and ecological integrity, or have any indirect, secondary, cultural, or cumulative effects.

Since no significant cumulative impacts or significant impacts with respect to any particularly sensitive aspect of the project area are anticipated, the categorical exemptions identified above should remain applicable.

4. Overall Impacts will Probably have a Minimal or No Significant Effect on the Environment. Any foreseeable impacts from the proposed activity will probably be minimal, and further mitigated by general and specific conditions attached to the permit. Specifically, all research activities covered by this permit will be carried out with strict safeguards for the natural, historic, and cultural resources, other applicable law and agency policies and standard operating procedures.

Conclusion. Upon consideration of the permit to be approved by the Board of Land and Natural Resources, the potential effects of the above listed project as provided by Chapter 343, HRS, and Chapter 11-200, HAR, have been determined to be of probable minimal or no significant effect on the environment and exempt from the preparation of an environmental assessment.

_____ _____

Suzanne D. Case, Date
Board of Land and Natural Resources

State of Hawai'i
Department of Land & Natural Resources
Division of Aquatic Resources
1151 Punchbowl Street, Room 330
Honolulu, Hawai'i 96813

SPECIAL ACTIVITY PERMIT
(SAP) 2016-07
Issued 6/26/2015
Expires 6/25/2016

The State of Hawaii BOARD OF LAND AND NATURAL RESOURCES ("Board") through its DEPARTMENT OF LAND AND NATURAL RESOURCES ("Department") hereby grants and issues a SPECIAL ACTIVITY PERMIT (SAP) to:

SAMUEL KAHNG ("Permittee")
Hawaii Pacific University
41-202 Kalaniana'ole Hwy
Waimanalo, HI 96795

For take of the regulated marine life, subject to the numbers, sizes, and locations as listed in the table below;

COMMON NAME	SPECIES	LIMITS see Special Conditions	LOCATIONS see Special Conditions
Lobe Coral, Brown Lobe Coral, Giant Porites	*Porites* spp. (*Porites lobata, Porites evermanni, Porites lutea*)	5 cores (5.5 cm x 0-4 m) from colonies >1 m	Oahu (Kailua-Lanikai, Waimanalo, Ka'a'awa-Punalu'u, Waikiki-Ala Moana, Honolulu)
Lobe Coral, Brown Lobe Coral, Giant Porites	*Porites* spp. (*Porites lobata, Porites evermanni, Porites lutea*)	5 cores (5.5 cm x 0-4 m) from colonies >1 m	Kaua'i (Anahola-Kapa'a, Makauena, Lihue, Hanapepe, Kekaha)
Lobe Coral, Brown Lobe Coral, Giant Porites	*Porites* spp. (*Porites lobata, Porites evermanni, Porites lutea*)	5 cores (5.5 cm x 0-4 m) from colonies >1 m	Maui/Lana'i (Lahaina, Kihei, Hauola Gulch, Kunoa Gulch, Kaanapali, Olowalu-Ukumehame)

This Permit authorizes the Permittee and assistants designated through this Permit to engage in activities otherwise prohibited by law, which TAKE, CATCH, POSSESS, TRANSPORT, OR KILL certain aquatic life from waters of the State, but subject to the conditions stated here.

This Permit is authorized pursuant to Hawaii Revised Statutes, §171-6, 171-7, 187A-2. 187A - 6, 188-68, 190-1 and 190-4, other applicable laws, and the Hawaii Administrative Rules ("HAR") implementing these statutes.

This Permit is subject to the following terms and conditions.

CONDITIONS

Part I. GENERAL

A. This Permit is effective when the following processes have been completed.

1. Each assistant must be listed at the end of this Permit.

2. The Permittee and each assistant must read the Permit completely; acknowledge that he or she understands and agrees to abide by the conditions of the Permit, and sign both copies of the Permit as provided.

3. The Permit becomes valid when signed by an authorized representative of the Department and the Department returns one validated copy to the Permittee.

4. The Permittee agrees to notify the Division of Aquatic Resources ("Division") immediately of any change in assistants. Additional persons may be added as assistants in the manner provided in this Permit.

5. The Permittee agrees to obtain the Division's prior written approval before conducting any activity which would be prohibited if not authorized under this Permit (i.e. request in advance changes to permit conditions).

6. This Permit does not in any manner render the Department or the State of Hawai'i liable in any way for claims of personal injury or property damage which may arise or result from activity authorized by this Permit. The Permittee or all assistants agree to hold the Board and State harmless against any and all claims of injury, death or damage resulting from acts or omissions under this Permit.

7. This Permit conveys authority ONLY of the Department's jurisdiction over aquatic resources: The Permittee is and remains responsible for obtaining all other permission from other applicable authorities, including owners of and tenants of private lands; other divisions of the Department; other local, State and Federal agencies. This permit authorizes activities involving aquatic organisms protected by Federal law only with appropriate Federal authorization.

8. The Permittee and each assistant are individually responsible and accountable for his or her actions while performing activities authorized by this Permit. The Permittee is also responsible and accountable for the actions of each assistant.

9. This Permit is not transferrable and not assignable to another person.

10. The Permittee or assistant must carry a copy of this permit on location while performing activities authorized by this Permit.

11. Authority granted by this Permit ends on the "Expiration Date" on the first page of this permit; within one month of the expiration date, the Permittee agrees to return this permit to the Division with a Collecting Report completed for the full duration of this permit, reporting results of all activities under this permit in the form provided with this permit.

12. The Permittee and assistants agree to provide access to data obtained under this permit upon request of the Division, to provide the Division one copy of each report prepared with such data and published for distribution, and to allow Department staff to inspect on Permittee's premises organisms collected under this permit.

13. Violation of any condition of this permit by any person may be cause for immediate revocation of the permit; the person responsible may be subject to penalty as provided by law; violation may be cause also for denial of future permit applications.

14. The Permittee may request change of a condition or conditions of this permit by writing to the Division; if approved by the Department, the Division will issue an attachment ("Amendment") which shall become part of, and amend terms of, this permit. The Department may impose additional conditions to, or restrictions of, this permit by written notice to the Permittee.

Part II. SPECIAL CONDITIONS

A. General Statement: This permit authorizes take and transport of coral core samples as listed in the table on page 1 and subject to the other conditions of this permit.

B. Gear: Permittee is authorized to use pneumatic (air) drill to sample coral cores. All components of pneumatic drill should be cleaned of lubricants or chemicals before deployment in water to minimize leaching. Permittee must minimize impact of gear and field technicians on coral colonies. **No extraneous gear (tools, air tanks, hoses, etc.) will be placed on coral colony** during activity. **Researchers will minimize bodily contact with coral colonies** (including standing on while drilling, holding for support, etc.).

C. Locations: Collecting activities under this permit is limited to waters of Oahu, Maui, Lanai and Kauai as listed in the table on page 1. **Permittee will not sample colonies where coral cores have already been collected on Oahu.** GPS locations of previous sampling areas are attached in appendix.

D. Activities: Activities under this permit shall abide by the following conditions.

1. Collecting and transport activities under authority of this permit must be supervised directly, on site, by either the permittee or their appointed representative (who must be a signatory of this permit).

2. Coral samples may be transported (with appropriate **CITES** or **import permits**) to the Coral Reef Environmental Earth Science Lab, Hokkaido University, in Sapporo, Japan for laser ablation and radio & stable isotopic analyses. Coral samples may additionally be transported (with appropriate **import permits**) to Texas A&M, College Station, Texas for similar analyses.

3. Coral Core Samples **must be made available** to other researchers for analyses requested through DAR Special Activity Permitting process after all initial research has been conducted and finalized by permittee and original collectors.

3. An Aquatic Invasive Species (AIS) Mitigation Plan will be filed with the Division prior to conducting any collection under this permit. The Plan will include methods and protocols to minimize AIS or disease movement through gear, supplies and activities of the permittee. **Permittee must take actions to sample colonies without visible disease and take precautions to sterilize sampling equipment between collection periods.** Permittee may possess bleach on vessel ONLY to disinfect collection gear and dive gear during or after sampling.

4. This permit authorizes extractive activity (core samples) on coral colonies measuring larger than 1 m longest diameter. Specific efforts will be made to avoid unnecessary damage to any large (> 0.5 m) colonies.

5. **Coral core entry sites must be sealed off with plugs that remain flush with coral colony surface in order to maximize regrowth of polyps.** Researcher will utilize epoxy to smooth over or fill any rough or open edges around plug in order to minimize risk of introducing disease, parasitism, or settlement of sand in open spaces around exposed core sample site. Epoxy used should be graded as safe to coral health and benign to the normal processes of coral reproduction.

5. No coral species other than those listed on this permit will be collected or impacted by any activities conducted under this permit.

6. The Division may require the Permittee to accommodate the presence of an observer specified by the Division during permitted activities. A record will be kept of each collection comprising specific location (GPS), date, species and amount collected. Photo-documentation will be made prior to and immediately after collection. These records will be made available to the Division upon request.

D. Notice:

1. Collecting generally - the Permittee must give notice, in form specified by the Department, to DAR (808-587-2277) and to the Department's Division of Conservation and Resources Enforcement (DOCARE, 808-453-6780), at least 2 hours prior to initial commencement of any series of collection activities taken place under this permit.

2. Mass mortality - the Permittee must notify DAR Oahu (587-0100) within one day of

   a. Any instance of major damage caused to coral or other marine natural resources as a result of collection or other research activities conducted under this permit.

   b. Fragmentation - This permit **does not authorize** fragmentation of coral colony

   c. Rare Species - The following *Porites* species require special permission from the Division prior to collection under this permit:

Porites pukoensis, *Porites duerdeni*, *Porites studeri*. The following *Montipora* species require special permission from DAR prior to collection under this permit: *Montipora dilitata*. The following *Pocillopora* species require special permission from DAR prior to collection under this permit: *Pocillopora ligulata, Pocillopora molokensis*.

3. Gear and Methods: Use of any chemical substances pursuant to Section 188-23, Hawai'i Revised Statutes, electrical shocking devices, or explosives remains expressly prohibited.

4. Use of Organisms: Organisms collected under authority of this permit may not be used for personal consumption or sale; organisms collected under this permit may not be traded, bartered or loaned to other individuals, institutions or entities;

    a. Written approval must be obtained from the Division prior to

        i. Purchasing or any other acquisition of regulated organisms (regardless of origin) alive from any other party,

        ii. Transporting any live organism (regulated or not) between islands.

        iii. Exchanging or donating any organisms collected under this permit to any other person, party or organization;

    b. The permittee may not convey in any fashion (including, but not limited to, selling, trading, or giving) any regulated coral (live or dead) to any person or party in Hawai'i that does not already have a permit from the Department authorizing possession of same and without direct, written approval from the Division;

5. Annual Report: Upon expiration, the permittee must provide to the Division a final written report summarizing results of collecting activity carried out under this permit and the analysis of the data:
    a. The annual report should provide a written explanation as to how the collection (and other activities) of a fully-protected marine species is benefiting the State of Hawai'i in general and specifically, the improved management of the species.

    b. The final report must describe, in form specified by the Department,

i. Species name and total numbers/sizes of all regulated specimens collected under this permit.

ii. Results of isotope analysis and age data.

iii. **GPS coordinates/documentation** of location of each sample or action conducted.

iv. **Photo-documentation**:

a. Documentation of coral coring should be conducted for all colonies **on Oahu where coral is sampled**. Documentation photo-sets of coral should include **4 photos for each case of documentation (one photo of coral colony as a whole before core sample, one photo of coral core site before sampling, one photo of coral core site immediately after sampling and sealed with plug, and one picture of actual core sample.**

b. Post-Documentation of all sampled colonies on Oahu should occur at 1 year post sampling, and consist of 4 photos for each case of documentation (one photo of the coral colony as a whole, one photo of the sampled core site, one photo of polyp regrowth over the sealed plug site and one photo (if applicable) of any disease or degradation to colony that may have resulted from core sampling activity. DAR recommends and requests identical post-documentation at 3 years post sampling for all colonies on all islands.

c. An inventory of organisms (dead or alive) present at the facility or with the permittee the end of the report period, in form acceptable to the Division, must accompany the annual report;

d. The annual report is due at the Division's Honolulu office within three months (90 days) after expiration of the permit or as otherwise instructed by the Division, and is required prior to any renewal of this permit.

6. Ownership of Biogenetic Resources. The State holds legal title to the natural resources and biogenetic resources gathered from state lands, including submerged lands. See Haw. Op.Atty.Gen. Opinion No. 03-03 (April 11, 2003).

Biogenetic resources refers to the genetic material or composition of the natural resources and other things connected to, or gathered from public lands. See Davis v. Green, 2 Haw. 327 (1861); United States v. Gerber, 999F.2d 1112 (7th Cir. 1993).

7. Use of Tissue Samples and Biogenetic Resources. The permittee may not convey in any fashion (including, but not limited to, selling, trading, or giving) any tissue samples to any person or party in Hawai`i that does not already have a permit from the Department authorizing possession of same and without written approval from DAR.

8. **Use of Biopsies**: Tissue samples taken under authority of this permit may be used only for scientific study or educational purposes **ONLY**, except as authorized by prior written approval of DAR.

a. **This permit authorizes** Samuel Kahng to **transport** tissue samples out of Hawai'i to the following institutions and **authorizes (supplemental to any CITES or import permits necessitated)** the following institutions to **receive** tissue samples (preserved by drying) from **Samuel Kahng**:

i. Coral Reef Environmental Earth Science Lab, Hokkaido University, Sapporo, Japan
ii. Texas A&M, College Station, Texas

The permittee may not convey in any fashion (including, but not limited to, selling, trading, or giving) any tissue samples to any person or party in Hawai'i which does not already have a permit from the Department authorizing possession of same and without written approval from DAR.

VALIDATING SIGNATURE

SUZANNE D. CASE, Chairperson
Board of Land and Natural Resources

cc: DLNR Division of Conservation and Resources Enforcement

ACKNOWLEDGING SIGNATURES

By signature below, I attest that I have read and understand the General and Special Conditions of Special Activity Permit SAP 2016-07 and that, further, I agree to comply with all of these conditions when collecting under authority of this permit.

_____

SAMUEL KAHNG
Primary Permittee

Designated Assistants

Sign	Sign
Sign	Sign
Sign	Sign
Sign	Sign
Sign	Sign

Additional Assistants

Sign	Sign
Sign	Sign
Sign	Sign
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