

**RAC 071918**

**STATE OF HAWAII, DEPARTMENT OF LAND AND NATURAL RESOURCES,  
DIVISION OF AQUATIC RESOURCES**

1. FISHERIES

**BOTTOMFISH FISHERIES**

At the 172<sup>nd</sup> Western Pacific Fisheries Management Council (WesPac) meeting in March 2018, Dr. Bruce Anderson, Administrator of the Division of Aquatic Resources (DAR) announced that DAR is considering opening six of the 12 Bottomfish Restricted Fishing Areas (BRFA). Currently DAR is working on a method to determine the influence that opening six BRFAs will have on the fishery.

**PELAGIC FISHERIES**

No report

2. RESOURCE PROTECTION

**MARINE PROTECTED AREAS (MPAs)**

No report

**PAPAHANAUMOKUAKEA MARINE NATIONAL MONUMENT**

Permits issued between February 2018 - April 2018 include:

PMNM-2018-014 Littnan (Conservation and Management)

PMNM-2018-013 Eagle (Education)

PMNM-2018-004 Burgett (Conservation and Management)

**MARINE LIFE CONSERVATION DISTRICTS (MLCDs)**

MLCDs and control sites are surveyed for fish and habitat. Routinely the fish surveys are conducted two to three times a year. During this period, seven of the 11 MLCDs were surveyed for fish. No benthic surveys were conducted during this reporting period.

**ARTIFICIAL REEFS**

The Kalaeloa artificial reef project has been scrapped due to the presence of resources in the proposed area. The presence of these resources would make obtaining the necessary permits a monumental task.

Annual surveys were conducted at the Maunalua Bay and Waianae artificial reefs during this reporting period.

### 3. ECOSYSTEM & HABITAT

#### FISH AGGREGATION DEVICES (FADs)

During the period of February 2018 to April 2018 activity was high for the FAD Program.

During February 2018, two FADs were reported missing as detailed below:

DD – Opana Point, Maui (off-station off Kahului, Maui on 2/26)

HK – Hakalau, Hawaii (missing on 2/26)

During March 2018, one FAD was reported missing, two FADs were recovered and five FADs were replaced as detailed below:

JJ – Kamohio, Kahoolawe (missing on 3/15)

X – Kahuku, Oahu (recovered off Hanamaulu, Kauai on 3/7)

DD – Opana Point, Maui (recovered off Kahului, Maui on 3/10)

P – Penguin Bank, Oahu (replaced on 3/26)

F – Kailua-Kona, Hawaii (replaced on 3/27)

B – Milolii, Hawaii (replaced on 3/27)

NL – Nuu Landing, Maui (replaced on 3/27)

N – Cape Haiwa, Molokai (replaced on 3/28)

During April 2018, one FAD was reported missing, five FADs were replaced as detailed below:

DK – Anahola, Kauai (missing on 4/30)

J – Wailee, Oahu (replaced on 4/4)

II – Haleiwa, Oahu (replaced on 4/4)

Z – Kipukai, Kauai (replaced on 4/5)

PP – Koloa, Kauai (replaced on 4/5)

KK – Kekaha, Kauai (replaced on 4/5)

#### COASTAL AREAS, REEFS

##### U. S. Coral Reef Task Force (USCRTF)

At this time, no changes to report. The next USCRTF meeting will be in American Samoa August 10 to 16, 2018 (Hawaii dates).

#### CORAL REEFS ECOSYSTEM MANAGEMENT

##### West Hawaii Shallow Water Resource Fish Surveys

Kona DAR conducted Shallow Water Resource Fish Surveys in West Hawaii from February 27 to April 24, 2018. The objective of the surveys was to document the abundance of adult resource fish species in shallow water habitats along the coastline where they are typically most abundant during the day. Each

survey consists of a timed 10 min swim by two divers both surveying a single 5 m wide transect belt within a depth range of 2-6 m. One of the divers tows a floating GPS unit which allows determination of survey distance.

For most species, only individuals larger than 15 cm are counted and binned in 5-cm size classes. One diver counts surgeonfishes, goatfishes, and introduced species. Select surgeonfish (*Acanthurus achilles*, *Acanthurus nigricans*, *Acanthurus triostegus*) are counted if larger than 10 cm due to their relatively smaller size as adults. The other diver counts parrotfishes, wrasses, other resource fish, and selected rare butterflyfishes of interest.

72 Sites were surveyed along the coast from Lapakahi (North Kohala) to Manuka (Kau) and were selected to include sites previously surveyed in 2009 using the same methodology. The total distance surveyed was 15,380 m (50,459 ft.), for a total surveyed area of 76,900 m<sup>2</sup>.

Surveys will be compared to similar surveys conducted in 2008, 2009, 2011 and 2014. Originally these sites were selected at random in a stratified manner along the 80-mile survey region. Data from the recent surveys has been entered and statistical analyses are currently underway.

#### Kahekili Herbivore Fisheries Management Area (KHFMA) Assessment Summary

In response to concerns about declining coral cover and recurring macroalgal blooms, in 2009 the State of Hawaii established the KHFMA. Within the KHFMA, herbivorous fishes and sea urchins are protected, but other fishing is allowed. As part of a multi-agency monitoring effort, we conducted surveys at KHFMA and comparison sites around Maui starting 19 months before closure, and continuing to present (9 years post herbivore management). Mean parrotfish and surgeonfish biomass both increased within the KHFMA by 331% and 71% respectively. Most of those gains were of small-to-medium sized species, whereas large-bodied species have not recovered, likely due to low levels of poaching. With greater biomass of herbivores within the KHFMA, cover of crustose coralline algae (CCA) has also increased from ~2% before closure to ~12% in 2016, and macroalgal cover has remained low throughout the monitoring period. Concurrent with these changes in herbivore fish biomass there were no changes in biomass of unprotected fish families within the KHFMA, and there were no similar changes in parrotfish or CCA at comparison sites around Maui. It is not yet clear how effective herbivore protection might eventually be for the KHFMA's ultimate goal of coral recovery. Coral cover declined over the first few years of surveys from 39.6% in 2008, to 32.9% in 2012, with almost all of that loss occurring by 2010 (1 year after closure). Coral cover subsequently stabilized and may have slightly increased from 2012 through early 2015. However, a region-wide bleaching event in 2015 led to some additional coral mortality further dropping cover to 32.3% in 2016. The lessons learned from the

KHFMA are being applied as we plan for future management actions in order to help Hawaii's coral reef recover from current and future bleaching events.

#### 4. SUBSISTENCE & RECREATIONAL

##### HAWAII MARINE RECREATIONAL FISHING SURVEY (HMRFS)

The HMRFS program continues to collect non-commercial fisheries data for the State of Hawaii. From February through April 2018, 573 angler intercepts were completed for both the shoreline and private boat modes from Kauai, Oahu, Maui, Molokai and Hawaii. The MRIP Pacific Islands Regional Implementation Plan was approved by the MRIP operations team. A workshop is being planned for August 2018 to review the Plan and begin the certification process of the proposed survey design changes for HMRFS.

##### MOOMOMI COMMUNITY-BASED SUBSISTENCE FISHING AREA

On April 13, the Board of Land and Natural Resources approved DAR to hold public hearings on the proposed adoption of a new chapter to establish the Moomomi Community-Based Subsistence Fishing Area, Molokai to manage and protect fish stocks and to reaffirm traditional and customary native Hawaiian subsistence fishing practices along the northwest coast of Molokai. The proposed rule would establish new bag limits, size limits, seasonal closures, and/or gear restrictions for uhu, kumu, kole, moi, spiny lobster, opihi, and limu; prohibit night diving and SCUBA spearfishing; prohibit commercial fishing, with exceptions for bottomfishing for deep 7 bottomfish and trolling for all species; and establish special regulations restricting activities that disturb the marine environment in Kawaaloo Bay. Public hearings have not been scheduled yet, but will be held on Kauai, Oahu, Molokai, Lanai, Maui, and Hawaii island. A public notice will be published at least 30 days in advance of the hearings with information about hearing dates, times, and locations.

#### 5. 30x30

- We will be having a symposium next week at the Hawaii Conservation Conference on Wed. July 25th 2-3pm, which is an afternoon free to all attendees. Hope to see you there!
- The 30x30 team is beginning to produce draft results for a spatial analysis to identify potential areas of interest for future marine managed areas. Using the best available existing datasets, the team has been using a software called Marxan to find areas around the main Hawaiian islands that contain important marine features while balancing fishing and ocean use opportunities.
- These results as well as next steps and milestones for scoping and rulemaking over the next 3-5 years is being developed into a report, the Roadmap to 30x30, and will be ready to share publicly by January 2019.
- Based on feedback from the steering committee and exploring lessons learned for similar past initiatives (California MPA process, Great Barrier Reef re-zoning process), we

anticipate an intensive scoping process beginning in 2019 with informational meetings followed by smaller, participatory meetings where comments and feedback.

- We hope to have a page on the DAR website about this project ready by end of July or early August. In the meantime, for any comments and questions please use and share our new email address: [marine30x30@hawaii.gov](mailto:marine30x30@hawaii.gov)

## 6. OTHER ISSUES

### STATISTICAL UNIT ACTIVITIES

#### Commercial Marine Licenses

The Pet Industry Joint Advisory Council (PIJAC), intervenor for the defendants on the Supreme Court decision on September 6, 2017 to declare an injunction on the Commercial Aquarium Permit is preparing an Environmental Assessment (EA) on the lawful collection of aquarium species from nearshore habitats. The EA is needed to satisfy the Hawaii Environmental Policy Act requirement that Aquarium Permit applicants file an EA or environmental impact statement with the Department of Land and Natural Resources (DLNR). DLNR and NOAA Fisheries is cooperating with PIJAC's request to use fisheries dependent data and nearshore creel survey information to compile the EA.

A Bill to issue commercial vessel license as a subtype of the Commercial Marine License did not pass during the past 2018 Legislative Session. DLNR will continue to issue the Commercial Marine license to individual fishers.

#### Commercial Fisheries Reports

The current 2017-2018 Deep 7 Bottomfish fishing year began on September 1, 2017 with an Annual Catch Limit (ACL) of 306,000 pounds. As of 5/7/18, 331 licensed bottomfishers made 1,896 trips and landed 205,978 pounds of Deep 7 bottomfish. This is 67.3% of the ACL.

The Hawaii Enterprise Technology System state office approved the statement of work from the state web portal vendor, Hawaii Information Consortium, for system design specifications to develop an online fish dealer report system for DLNR-DAR. The online dealer report system project is scheduled to begin in May 2018 and end with launching the system in fall 2019.

In April 2018, the DLNR Chairperson revoked the Commercial Marine License for 76 fishers because they did not comply with the Commercial Fishing Report requirement.

## AQUATIC INVASIVE SPECIES (AIS) MANAGEMENT

### Kāneʻohe Bay AIS Control, Monitoring, and Restoration Efforts

Due to a natural decline in invasive algae in Kaneohe Bay that occurred in 2015, no super sucker algae removal was conducted during this period. Ongoing invasive algae monitoring indicates that the target species (*Kappaphycus* spp. and *Eucheuma* spp.) have not rebounded significantly since the crash. Sea urchin biocontrol continues in the bay. The AIS team completed annual surveys of Priority Reefs Restoration using Cape Flattery funds and completed the final phase of monitoring for the NOAA Estuary Habitat Restoration Grant.

### Coral Relocation Projects

The AIS team, in cooperation with the DAR Coral Nursery, relocated corals that were posing navigation hazards to vessels in both Waianae and Heeia Small Boat Harbors in April.

### Kauaʻi *Salvinia molesta* eDNA Project

The AIS team assessed the distribution of *Salvinia molesta* on Kauai using environmental DNA (eDNA) sampling techniques. Water samples were collected from 24 perennial streams on the windward side of Kauai to determine the presence or absence of *S. molesta*. The results were used to create a *S. molesta* distribution map for Kauai watersheds. Next steps are to further determine the inland extent of *S. molesta* to guide focused management control efforts, as well as create informational signs for boat ramps to prevent further spread.

### West Maui Reef Resilience Survey

One AIS technician and other DAR staff participated in the West Maui Reef Resilience Surveys, headed by The Nature Conservancy. These surveys are part of a long-term effort to assess variables that may indicate the ability of reefs to be resilient under times of stress. These surveys also assessed the effects of the Kahekili Herbivore Fisheries Management Area, which was originally created to control invasive algae and improve overall reef resilience.

### Ballast Water

In February, Hawaii Invasive Species Council (HISC) adopted the HISC 18-1 Resolution on vessel in-water cleaning operations and in April, a similar resolution (Hawaii Concurrent Resolution 130) was adopted by the Hawaii Legislature. The Resolution require DLNR, Department of Health (DOH), and Department of Transportation (DOT), agencies with overlapping jurisdictions on in-water vessel hull cleaning, to collaborate on a solution. The Resolutions recognize that DLNR is mandated to prevent the introduction and transfer of aquatic non-indigenous species into & within the State via managing vectors of transfer specific to ballast water and vessel biofouling. The Resolution also recognize that DOH is mandated to implement water quality standards during hull cleaning operations conducted in the water (ie: hull scrubbing) because antifouling paint containing copper oxide, for example, could be released during

cleaning and negatively impact marine life and human health in the vicinity. The DOT is mandated to enforce DOH's water quality standards. DOT is currently not allowing vessel in-water cleaning operations in commercial harbors, nor is cleaning allowed in recreational harbors according to the Division of Boating and Ocean Recreation (DOBOR). This is troublesome because if all vessels followed this policy, most vessel hulls would possess an exorbitant amount of biofouling between dry-dockings, which for many commercial vessels occur every 5-years. This increases the biosecurity risk of the vessel in transferring these aquatic aliens to another island or onto reefs, in addition to significantly increasing the vessel's drag and consequently its carbon emissions. Therefore, DLNR is currently coordinating a solution with the help of DOH and DOT as well as other important stakeholders to allow microfouling cleaning to occur and to support the testing of In-water Cleaning Debris Capture Systems used for capturing macrofouling and paint released during in-water cleaning operations.