

STATE OF HAWAII-DAR

1. Fisheries

*Bottomfish Fisheries*

Council staff will be reporting on the August 28, 2017 meeting with the Governor regarding the joint management of Bottomfish in the Main Hawaiian Islands.

*Pelagic Fisheries*

No report

*Precious Corals*

No report

2. Resource Protection

*Marine Protected Areas (MPAs)*

No report

*Papahānaumokuākea Marine National Monument*

There were 11 permits issued between June - September 2017. Breakdown by permit type is: 5-Research, 3-Conservation and Management, 2-Native Hawaiian Practices, and 1-Education

*MLCDs*

MLCDs and control sites are surveyed for fish and coral cover. Routinely the fish surveys are conducted two to three times a year. During this period, six of the 11 MLCDs were surveyed for fish. Benthic surveys were also conducted on Maui and Hawaii islands.

*Size Limits/Bag Limits*

No report

*Artificial Reefs*

A meeting was held during this reporting period with the Chairperson of DLNR, DAR administrator, DAR biologists, UH artificial reefs researcher, and NOAA EFH administrator on the general benefits of artificial reefs and the conditions under which such reefs can be expected to provide benefits. Following the meeting, the Chair signed the transmittal letter and the application for a 404 permit to the Army Corps of Engineers. The application included a commitment from the State to conduct further studies on the benefits of the proposed project. The Chair also signed a letter asking the Department of Health to extend the 401 Water Quality Certification that is needed before the Corps will issue a 404 permit. The permit application is currently be reviewed by the Corps.

3. Ecosystem and Habitat

*FADs*

During the period of June 2017 to Sept 2017 activity was low for the FAD Program. Time was spent preparing to replace missing FADs as listed.

During June 2017, six FADs were replaced as detailed below:

- BO – Barbers Point, Oahu (replaced on 6/17)
- R – Makaha, Oahu (replaced on 6/20)
- S – Pokai Bay, Oahu (replaced on 6/20)
- EK – Hanalei, Kauai (replaced on 6/21)
- WK – Wailua, Kauai (replaced on 6/21)
- CK – Makahuena Point, Kauai (replaced on 6/21)

During July 2017, two FADs were reported missing as detailed below:

- T – Makapuu, Oahu (missing on 7/3)
- B – Milolii, Hawaii (missing on 7/11)

During August 2017, one FAD was reported missing as detailed below:

- P – Penguin Bank, Oahu (missing on 8/12)

No activity for September 2017

### *Coastal Areas, Reefs*

#### U. S. Coral Reef Task Force

The DAR Coral Reef Conservation Grant for the years of 2018-19 has been approved for the 2018 grant cycle. A total of \$715,000 will be made available, effective 10/1/17.

The U.S. Coral Reef Task Force Fall Conference was held on August 5-11, 2017 in Florida. Discussions focused on ocean warming, coral bleaching, and watershed restoration projects. Several site visits were also included during this conference, which centered on threats to Florida's coral reefs and potential solutions to these threats. However, decision making on key issues was a challenge due to the uncertainty of the current federal administration's stance on coral reef resources. The Chairs of the U.S. Coral Reefs Task Force are all currently serving in an acting capacity and decision-making was deferred.

### *Coral Reef Ecosystem Management*

#### Analysis of Coral Reef Ecosystem Post-Bleaching Change and Recovery in West Hawaii

As mentioned in prior reports, West Hawaii suffered catastrophic coral cover loss (> 50 % on average across depth zones) in the fall of 2015. Certain coral species (e.g. *Porites meandrina*) lost > 90 % of their population. This loss in coral cover forecasts a subsequent loss in habitat for reef-associated fish and invertebrate communities in the coming years due to natural bioerosional processes on dead coral structure. DAR Kona has continued to evaluate the status of living corals and reef complexity at 26 permanent monitoring sites. The results of the 2017 spring benthic survey will be available in the coming months, and will include analysis on changes in coral cover and post-bleaching larval recruitment.

Additionally, our team continued to survey nearshore fish communities, providing data for an analysis of fish community response to changes in coral cover and habitat, and to compare changes in the fish community within existing management zones.

Beginning in July 2017, West Hawai'i was under a NOAA Coral Bleaching Watch due to elevated and prolonged sea temperatures for the third consecutive summer. Fortunately to date in 2017, minimal coral bleaching has been observed by the DAR Kona team or the Eyes of the Reef community reporting network (EOR).

### Enhanced management to promote coral recovery in West Hawaii

In response to the bleaching, DAR worked with the Hawaii Coral Reef Initiative (HCRI) to develop a Coral Bleaching Recovery Plan to identify management interventions most likely to promote coral recovery and resiliency following the mass bleaching event. Establishing a network of permanent no-take Marine Protected Areas (MPAs) and establishing a network of Herbivore Fishery Management Areas (HFMA) were the top ranked actions arising from the expert judgment assessments and the literature analysis.

Currently, these top-ranked actions are being evaluated by DAR for forthcoming rule proposals, particularly for implementation in high priority areas such as West Hawaii, West Maui, Kaneohe Bay, Maunalua Bay and North Kauai.

### *Subsistence/Recreational*

#### Moomomi CBSFA

Moomomi, located on the North Shore of Molokai, is an area where a Community Based Subsistence Fishing Area (CBSFA) was proposed more than twenty years ago. Dozens of community meetings have been held in recent years to try to reach consensus on what should be in the rules and an accompanying management plan. “Scoping meetings” on the proposed rules were held in early 2017 on Molokai, Oahu and Maui. In addition, a DAR-hosted informal Talk Story session was held on August 10, 2017 to obtain comments on the proposed rules and other topics. This meeting was held in the Kalanimoku Building on Punchbowl Street and was attended by about 30 fishermen. Potential changes to the original proposal that were discussed include allowing commercial fishing for deep 7 bottomfish and pelagic species, removing the exemption for commercial take of taape and akule, and reducing the size of the CBSFA.

### *Hawaii Marine Recreational Fishing Survey (HMRFS)*

The HMRFS program continues to collect non-commercial fisheries data for the State of Hawaii. From June 2017 through September 2017, the program surveyed approximately 900 anglers fishing from the shoreline and private boats on Kauai, Oahu, Maui, Molokai and Hawaii. Due to funding limitations, the HMRFS staff was reduced to part-time status (0.5 FTE) for State Fiscal Year 2017 - 2018 or until additional funds become available. Results of these surveys are pending review.

### *Fisheries Development*

No report

## 4. Other Issues

### *Statistical Unit Activities*

#### **Commercial Marine Licenses**

The new 2017-2018 bottomfish fishing year will begin on September 1, 2017. All bottomfishers must register their fishing vessels with DLNR-DAR to participate in the main Hawaiian Islands Deep-7 bottomfish fishery. On July 1, 2017, bottomfishers began applying to renew or obtain new Bottomfish Vessel Identification Registrations. As of 9/20/2017, 804 bottomfish vessel I.D. registrations were processed.

#### **Commercial Fisheries Reports**

The 2016-2017 Deep 7 Bottomfish fishing year ended on August 31, 2017. As of 9/25/2017, 338 commercial bottomfish fishers made 2,307 trips and landed 234,299 pounds of Deep 7 bottomfish, or 73.7%, of the Annual Catch Limit (ACL) of 318,000 pounds.

The 2017-2018 Deep 7 Bottomfish fishing year began on September 1, 2017 with a new ACL of 306,000 pounds. As of 9/25/17, 89 licensed bottomfishers made 147 trips and landed 15,783 pounds of Deep 7 bottomfish. This is 5.2% of the ACL.

The Hawaii Information Consortium (HIC) completed connecting their virtual file server to DLNR-DAR's workstation via the state New Generation Network (NGN). This network connection will enable DLNR-DAR to gain access to the master Commercial Marine License System (CMLS) and Online Fishing Report (OFR) website My Structure Query Language (MySQL) database files. The Western Pacific Fisheries Information Network (WPacFIN) programming staff is testing their database scripts to access the MySQL OFR database.

DLNR-DAR and WPacFIN agreed upon a work schedule to develop the replacement desk top MySQL database application for the fishing and fish dealer report database applications. The online auction dealer report MySQL database and Aquarium Fish Catch report data entry applications will be developed and implemented before the end of the year. All other non-aquarium fish reports that are stored on the OFR MySQL database will be developed starting in January 2018.

#### *Alien Species Projects*

##### **Kaneohe Bay Algae Removal and Control**

##### State Aquatic Invasive Species (AIS) Management

The AIS Management team has been using mechanical suction devices ("Super Sucker") in conjunction with sea urchin biocontrol experiments to control alien algae on coral reefs in Kaneohe Bay for several years. Due to a natural decline in invasive algae in Kaneohe Bay that occurred in 2015, no algae was removed during this period with the Super Sucker. 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, with approximately 912 urchins released during this reporting period.

##### **Kaneohe Bay Fish/Benthic Monitoring**

AIS team participated in a biodiversity assessment of Kaneohe Bay organized by Smithsonian MarineGeo. A new expansion of the invasive algae *Avrainvillea amadelpha* (mud weed) was discovered during this survey to include the area around Mokulii (China Man's Hat) Island and extending down the coast towards Kahana Bay. Management options are being evaluated.

##### **Japan Tsunami Marine Debris Response**

DAR continues to log marine debris reports and suspected Japanese Tsunami Debris. A poster on the finding of the Japan Tsunami Marine Debris (JTMD) Response effort was presented at the Hawaii Conservation Conference on July 18-20. Over 90 percent of the species identified on JTMD were non-native species. 50 species were alien species. Rafts of fiberglass and extruded plastics and other non-biodegradable materials are thought to pose the largest risk of introduction of invasive species.

##### **Ballast Water/Hull Fouling**

Grants from USFWS and HISC were secured for another year to fund the development of Hawaii's Ballast Water and Hull Fouling Programs. Unregulated cleaning of vessels in-water is a concern to the environment due to the potential release of harmful chemicals in anti-fouling paint and alien marine species. However, in-water cleaning is also a concern, especially as it relates to biosecurity. Unfortunately, few alternatives exist in Hawaii. In this scenario, the vessel

owner/operator may decide to clean anyway or may not clean at all. Mature adult mollusks and other potentially invasive organisms on ship hulls may release propagules into the environment wherever the vessel goes. DLNR is currently working with state agency partners and vessel operators to identify a reasonable solution to address vessel in-water cleaning concerns.

### *Management Changes*

#### **Commercial License Fee Change**

The Department will hold statewide public hearings on proposed increases to commercial marine license annual fees and marine dealer reporting requirements. DAR is proposing Rules to increase the Commercial Marine License fees from \$50 to \$150. The new revenues generated will be used to make needed improvements to the licensing website and computerized processing of reports. The dealer reports will have new deadlines for when the reports are due, depending on the fishery. For example, bottomfish dealers will be required to submit their reports more frequently to match the more frequent fisher reports to better track the annual catch limits for this fishery.

More information on the hearing schedule and background information may be found at (<http://dlnr.hawaii.gov/dar/announcements/public-hearings-scheduled-on-proposal-to-increase-commercial-marine-license-fees/>)

#### **Moratorium on the issuance/renewal of Aquarium Fish permits**

On September 6, 2017, the Hawaii Supreme Court ruled that aquarium collecting pursuant to permits issued under HRS §188-31 and DLNR's administrative rules for the use of fine meshed nets and traps, is subject to the environmental review procedures provided in the Hawaii Environmental Policy Act (HEPA). The court could not determine however whether recreational aquarium collection is exempt from HEPA. The case was remanded to the circuit court for further proceedings.

In light of the ruling and until further guidance is received, DLNR discontinued issuance of new aquarium fish permits and the renewal of existing aquarium fish permits, effective September 7, 2017. The Aquarium Permit issuance functions for the public and administrative Commercial Marine Licensing System websites were turned off. No new licenses have been issued since then nor are existing licenses being renewed.

#### **West Hawai'i Aquarium Fishery**

The Hawai'i marine aquarium fishery is currently the most economically valuable commercial inshore fishery in the State with average reported landings over the last two fiscal years in excess of \$2 million which does not include ancillary economic values from wholesaling, retailing, shipping, equipment, fuel purchases, etc.

As noted in DLNR's 2015 Report to the Legislature, the West Hawai'i aquarium fishery has undergone substantial and sustained expansion over the past 38 years. Total catch and value increased by 22% and 45% respectively since FY 2000. Approximately 70% of the fish caught in the State and 67% of the value comes from West Hawai'i.

The West Hawai'i Regional Fishery Management Area (WHRFMA) was created by legislative Act 306 in 1998 largely in response to longstanding and widespread conflict surrounding commercial aquarium collecting. The overall goals of Act 306 were to effectively manage fishery activities, enhance nearshore resources and reduce conflict. Four management objectives were mandated: 1) prohibit aquarium collecting in a minimum of 30% of West Hawai'i coastal

waters, 2) establish a day-use mooring buoy system, 3) establish no-take reef fish reserves and 4) designate areas which prohibit gill nets.

In order to accomplish the mandates of Act 306, with required substantive community input, a community advisory group, the West Hawai'i Fishery Council (WHFC) was convened by DAR in 1998. The first accomplishment of the WHFC was the designation of a network of nine Fish Replenishment Areas (FRAs), comprising 35.2% of the coastline. Aquarium collecting is prohibited within the FRAs. The FRAs became effective December 31, 1999.

The West Hawai'i Aquarium Project (WHAP) has been monitoring West Hawai'i reefs since 1999 and a number of long-term studies extend over multiple decades. Over 18 plus years of monitoring, a total of over 8,000 transects have been conducted for the WHAP project in addition to hundreds of other surveys for related projects. This information is utilized to monitor the condition of the West Hawai'i's reefs and the impact of aquarium collecting.

Concerns over continued expansion of the aquarium fishery and harvesting effects in the open areas prompted DLNR to establish in 2013 a 'White List' of 40 fish species which can be taken by aquarium fishers. All other species of fish and all invertebrates are off limits to collecting.

The no-aquarium collecting Fish Replenishment Areas (FRAs), implemented in 1999, have been very successful in increasing populations of Yellow Tang (*Zebrasoma flavescens*) which is the most heavily targeted aquarium fish, presently accounting for 81% of the total catch. Fifteen years after closure, the population of Yellow Tang has increased 137% in the FRAs 44% in the Open Areas.

Overall Yellow Tang abundance in the 30'-60' depth range over the entire West Hawai'i coast has increased 94% (over 2.1 million fish) from 1999/2000 to 2015/2016 to a current estimated population of 4.4 million fish.

There were no significant differences in the abundance of adult Yellow Tang in open vs. closed areas based on shallow water (10'-20' depths) jet boot surveys conducted in 2006 and 2010. Total estimated coastwise population of adult Yellow Tang in this depth range was estimated to be >2.5 million individuals.

The FRAs have also been very successful in increasing Goldring Surgeonfish (Kole - *Ctenochaetus strigosus*) populations. This species is the second most aquarium collected species, representing 9% of the total catch. The number of Kole increased significantly in all management areas, including Open Areas (up 83%), from 1999/2000 to 2015/2016. Overall Kole abundance in 30'-60' depth range over the entire West Hawai'i coast increased 86% (over 3.7 million fish) during this time period with a current population of about 8.1 million fish.