

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

February 25, 2022

Board of Land and Natural Resources  
State of Hawaii  
Honolulu, Hawaii

**REQUEST TO OPEN THE EIGHT REMAINING CLOSED MAIN HAWAIIAN ISLAND  
BOTTOMFISH RESTRICTED FISHING AREAS; AND REQUEST TO DELEGATE TO  
THE CHAIRPERSON THE AUTHORITY TO IMPLEMENT THE DECISION**

Submitted for the Board's review is a request to open the eight remaining closed Bottomfish Restricted Fishing Areas (BRFAs) to both commercial and non-commercial take of Deep-7 bottomfish species including hapu'upu'u (*Epinephelus quernus*), kalekale (*Pristipomoides sieboldii*), lehi (*Aphareus rutilans*), 'ōpakapaka (*P. filamentosus*), 'ūkīkī (*P. zonatus*), 'ula'ula (*Etelis carbunculus*), and 'ula'ula koa'e (*E. coruscans*). The Division of Aquatic Resources (DAR) believes that opening of all twelve of the BRFAs (four opened as of July 2019), will not adversely affect the overall sustainability of the Main Hawaiian Island (MHI) Deep-7 fishery, and will be a benefit to local commercial and non-commercial bottomfishers. DAR believes that without the BRFAs, Annual Catch Limit (ACL)-based management informed by the National Marine Fisheries Service (NMFS) Pacific Islands Fisheries Science Center (PIFSC) stock assessment along with mandatory bottomfish vessel registration, expedited catch reporting, expedited dealer reporting, gear restrictions, commercial size limits, and non-commercial bag limits can together effectively manage the fishery. No-take protected areas, if well-enforced, can play important roles in fisheries management especially when additional management options are limited. However, given the array of management tools implemented and refined since the inception of the BRFAs in 1998, the benefit of these vast no-take areas is increasingly outweighed by the burden to local fishers.

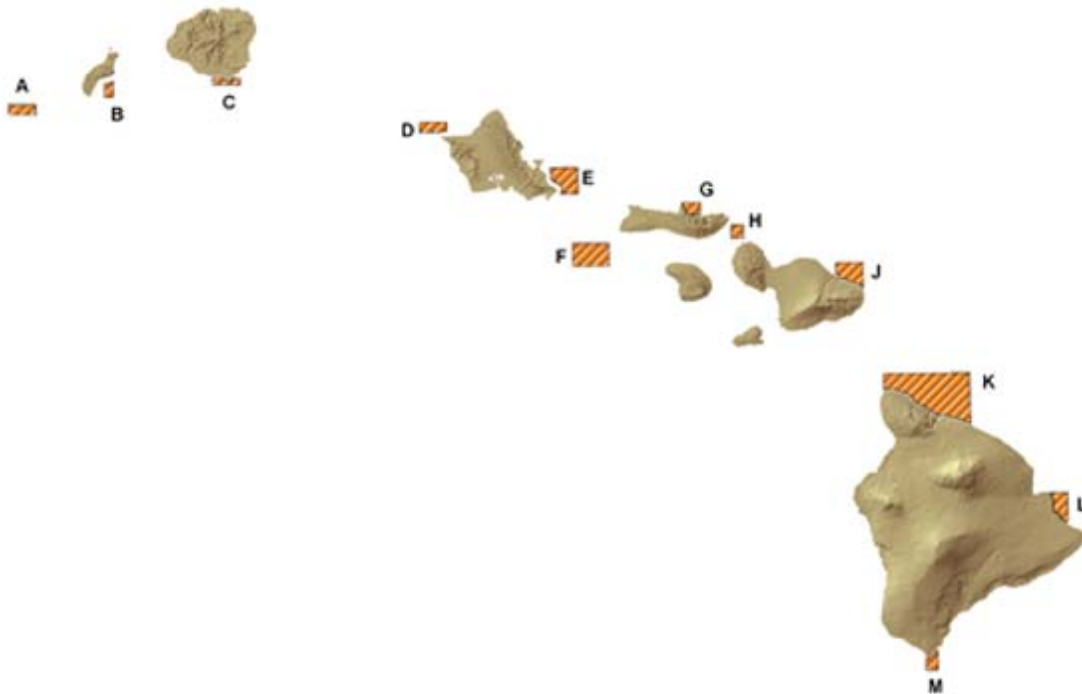
**Joint State and Federal Deep-7 Management Regime**

Because the MHI Deep-7 fishery exists in both state and federal waters, it is currently managed under a cooperative, joint state and federal approach. The State gathers commercial bottomfish fishing data from state licensed commercial fishers and shares these data with PIFSC, for its analysis. The Science and Statistical Committee (SSC) of the Western Pacific Regional Fisheries Management Council (WPRFMC) also reviews these data and the analysis conducted by PIFSC, then provides recommendations to the WPRFMC. WPRFMC takes the SSC recommendations into consideration to establish an ACL as required under federal law. The NMFS Pacific Islands Regional Office (PIRO) reviews the Council's decisions and, if consistent with federal law, implements them into federal regulations. The State, PIRO, and the WPRFMC develop complementary regulations based on the best scientific information available and agree on one set of regulations to make compliance easier for the fishers.

### **History of the BRFAs**

In light of federal stock assessment findings, including that ‘ula‘ula (more commonly referred to locally as ehu) and ‘ula‘ula kōa‘e (more commonly referred to locally as onaga) had spawning potential ratios (SPRs) less than 20%, both species were listed as “recruitment overfished” following a revision of the then Magnusson Fisheries Act in 1996. The designation mandated that immediate action be taken to rebuild both stocks. DAR in response began work on the introduction of HAR §13-94 (Bottomfish Management) to address the issues. Effective on June 1, 1998, HAR §13-94 introduced multiple management measures including gear restrictions (§13-94-6), non-commercial bag limits (§13-94-7), a bottomfish fishing vessel registration (§13-94-9), establishment of a control date (§13-94-10), restrictions relating to seasons (§13-94-11), and the creation of nineteen BRFAs (§13-94-8). The intent of the original nineteen BRFAs was to protect 20% of the designated Essential Fish Habitat (EFH) for both ehu and onaga.

In 2005, a review of the nineteen original BRFAs was conducted. Using new bathymetric mapping technology, it was determined that the existing BRFAs only protected approximately 5% of ehu and onaga EFH. In response, on July 1, 2007, the nineteen original BRFAs were redrawn and replaced by the twelve BRFAs in place today (Figure 1). The specific goals of the revised BRFAs were to: 1) reduce fishing mortality of MHI bottomfish stocks by 15%, 2) rebuild bottomfish populations on habitats inside the BRFAs, and 3) improve bottomfish populations in adjacent open fishing areas via larval export and/or adult spillover from the BRFAs.



*Figure 1. Map of the MHI with 12 revised BRFAs introduced in 2007.*

In 2018, PIFSC released a new benchmark Deep-7 stock assessment for the MHI. Like the preceding 2011 benchmark stock assessment and its update in 2014, the 2018 stock assessment used the same underlying assessment methodology. However, based on recommendations made

by an independent panel of experts following the 2014 update, the authors modified their methodologies. Among the key changes were improved data filtering and standardization techniques resulting from a series of workshops that included DAR, WPRFMC, NOAA, and the fishing community. The 2018 stock assessment was also the first Deep-7 assessment to include a fishery-independent survey component, in this case an independent underwater stereo camera survey known as the Bottomfish Fishery-Independent Survey in Hawaii (BFISH). The 2018 stock assessment ultimately concluded that the MHI Deep-7 species complex was neither overfished, nor experiencing overfishing. Catch values relative to probabilities of overfishing were notably higher than those produced in the 2014 stock assessment. This was largely the function of a greater estimated biomass, i.e., the base population was estimated to be notably larger than previously thought. Based on these findings, an ACL of 492,000 lbs. of reported Deep-7 species catch became effective on July 24, 2019 for fishing years (September-August) 2019, 2020, and 2021. In comparison, the ACLs for fishing years 2016 through 2018 were 326,000 lbs., 318,000 lbs., and 306,000 lbs. respectively.

Following the 2018 benchmark stock assessment, DAR formally requested on January 11, 2019 that the Board provide authority to open four BRFAs (C, F, J, and L) to commercial and non-commercial fishing. The proposal to open just four of the twelve BRFAs was based on an abundance of caution and desire to take a conservative approach to the opening. To facilitate tracking of fishing inside the opened BRFAs, DAR proposed modifications to the commercial fishing reporting system, the results of which could be analyzed to determine the potential efficacy of the BRFA's in comparison to adjacent open areas. In January 2019, the BLNR voted to open the four BRFA's. On July 1, 2019, BRFAs C, F, J, and L were opened to commercial and non-commercial Deep-7 take. To date, the other eight BRFAs (A, B, D, E, G, H, K, and M) remain closed to all Deep-7 fishing.

### **Current Performance and Management of the MHI Deep-7 Fishery**

Over the past ten fishing years the MHI Deep-7 fishery has landed an average of 232,586 lbs. of mixed Deep-7 species per year, or less than 50% annually of the current 492,000-lb. ACL (Figure 2). MHI Deep-7 catch has been in steady decline recently as the result of multiple factors including (but not limited to) a declining statewide trend in commercial fishery participation and effort, frustrations over increasing incidence of depredation by sharks, and the social and economic impacts of COVID-19. Though the MHI Deep-7 fishery may rebound in coming years, likelihood that catch will near the 492,000-lb. ACL is low. Since 1948, annual MHI catch of Deep-7 has only exceeded 492,000 lbs. five times during a period of peak catch between 1985 and 1989.

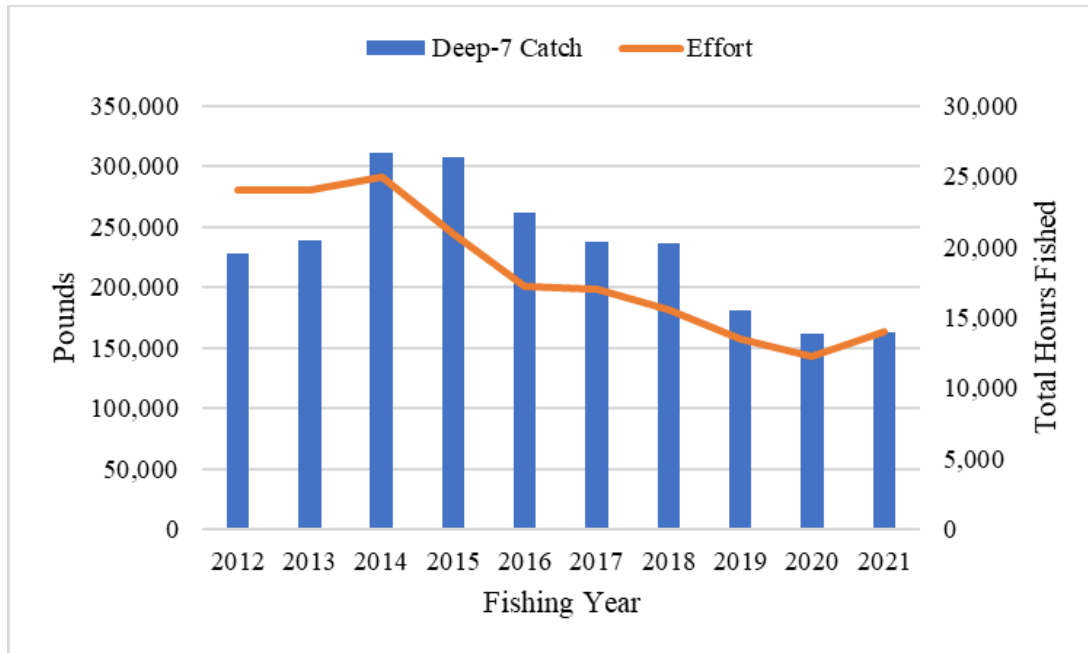


Figure 2. Annual catch (lbs.) and effort (hrs.) for the MHI Deep-7 fishery, Fishing years 2012-2021.

The 2022 MHI Deep-7 fishing season is currently underway. The 2021 update to the 2018 stock assessment again found the MHI Deep-7 species complex not overfished nor experiencing overfishing. The stock assessment found relatively unchanged risk of overfishing, and as a result, the WPRFMC took final action at the 186<sup>th</sup> Council Meeting, recommending that the preceding ACL of 492,000 lbs. remain in place for the 2022, 2023, and 2024 seasons. As before, catch is tracked using commercial fishing reports required to be submitted to DAR no more than five days after each trip.

### **Data and Results from Four Reopened BRFAs**

Upon reopening of BRFAs C, F, J, and L on July 1, 2019, DAR required commercial fishers to report fishing activities and catch in the newly opened BRFAs. Despite extensive initial outreach efforts, including mailing letters to all registered bottomfishers and posting announcements and reporting instructions on the DAR website, DAR received very few reports of fishing in the four opened BRFAs. Due to the paucity of data, DAR is unable to make any conclusions about the efficacy of BRFAs at this time.

### **Authority to Act**

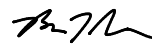
Subsection 13-94-8(d), HAR, provides that the Board may establish or amend the BRFAs by formal action at a publicly noticed meeting. The subsection also provides that Exhibit A (Attachment 1), a map of the BRFAs, may be amended by Board action and a copy of the amended Exhibit A filed with the Office of the Lieutenant Governor.

**RECOMMENDATIONS:**

That the Board:

1. Open the following eight BRFA's to commercial and recreational fishing for deep-7 bottomfish: A, B, D, E, G, H, K, and M; and
2. Delegate to the Chairperson the authority to implement this action.

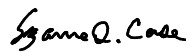
Respectfully submitted,



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BRIAN J. NEILSON, Administrator  
Division of Aquatic Resources

APPROVED FOR SUBMITTAL



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