



‘Ō’ IO TAGGING PROJECT

Fisheries Ecology Research Lab, University of Hawaii



Volume 2, Issue 1



Photo provided by Cpt. Mike Hennessey

HIGHLIGHTS:

- ◇ 2500+ ‘ō’io tagged
- ◇ Tags on 5 islands
- ◇ 700+ anglers participating
- ◇ 56 recaptures

CONTENTS:

- ◇ Tagging data
- ◇ Angler tagging list
- ◇ Project events
- ◇ A unique tagging story
- ◇ Tagging tips
- ◇ Project members
- ◇ How you can help

Aloha anglers,

The ‘Ō’io Tagging Project has gone through many changes and we are continuously expanding and updating the program. Our project was recently awarded a grant by the Harold Castle Foundation and we are very excited to



Volunteer angler Ladd Yoshimura tags a sizeable ‘ō’io.

see this tagging project enter the new year strong. We are also collaborating with the Pacific Island Fisheries Group to better serve the fishing community. All of us at the Fisheries Ecology Research Lab appreciate



the efforts of everyone who has participated in this exciting project in the past and we look forward to future successful years.



Jarron Cole releases an ‘ō’io after a memorable fight

TAGGING DATA SUMMARY

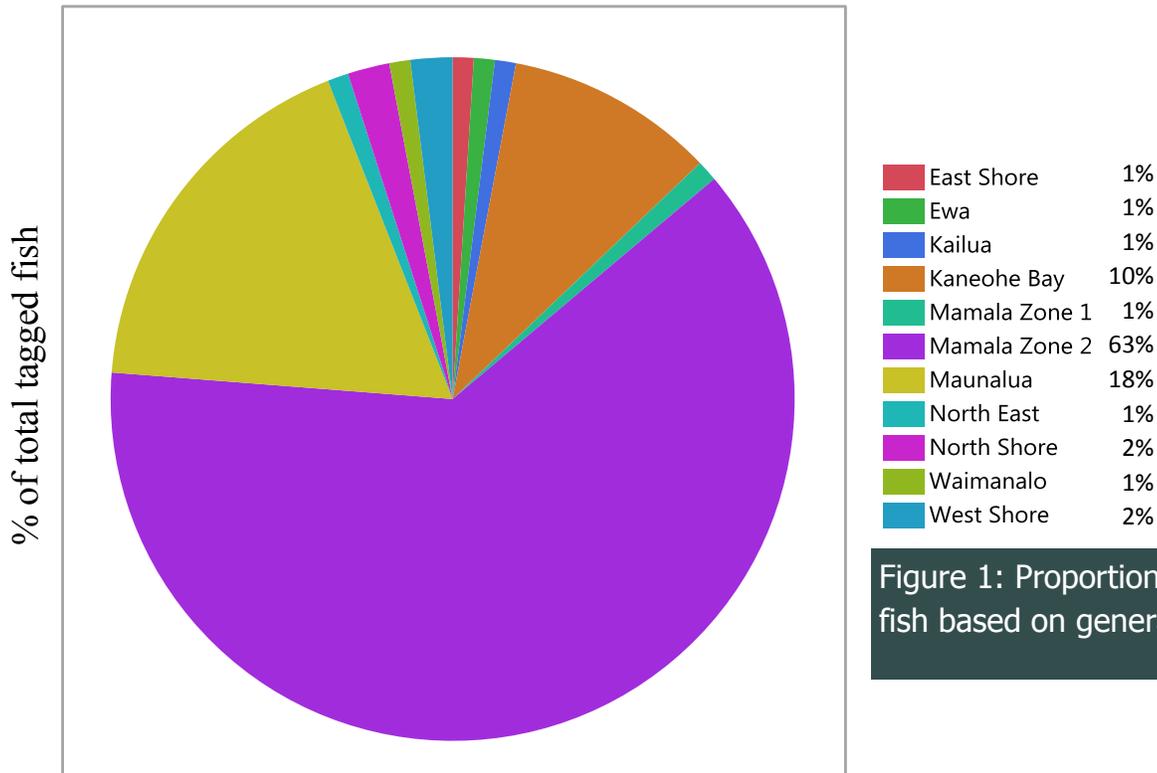


Figure 1: Proportion of all tagged fish based on general locations.

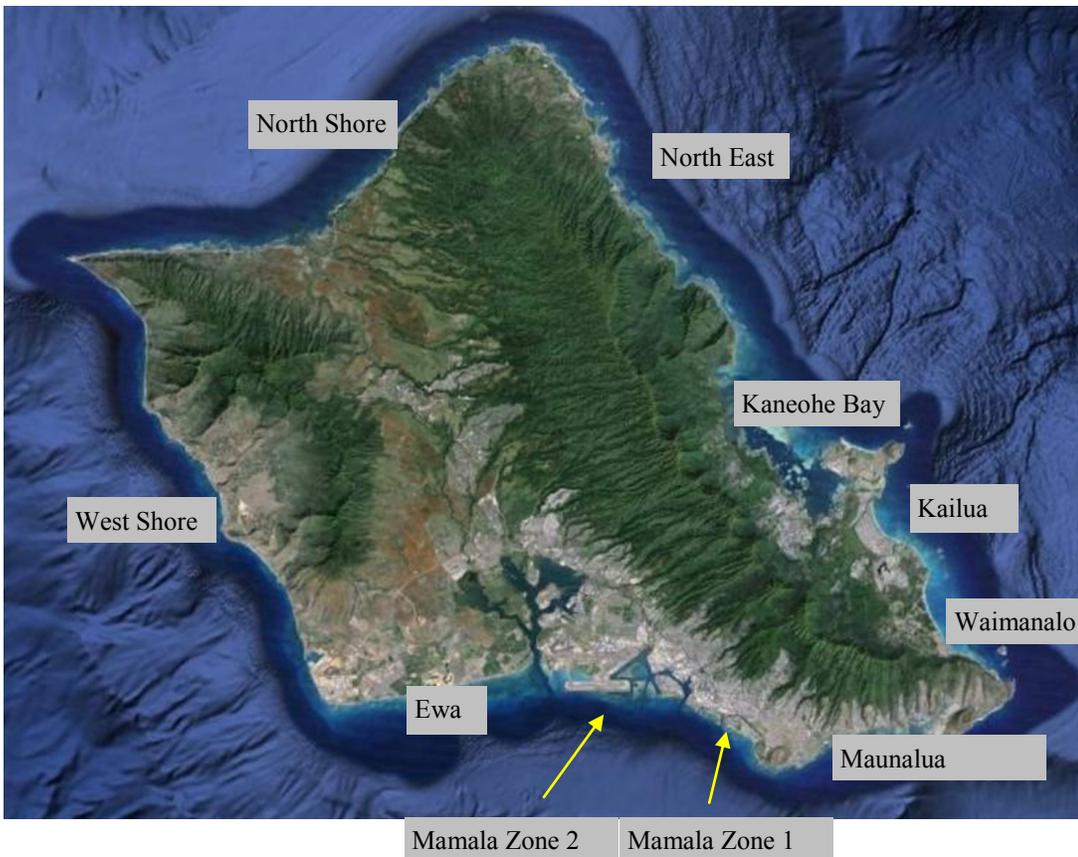


Figure 2: Mamala Zone 1 encompasses Ala Moana and Waikiki. Mamala Zone 2 includes fishing grounds from Honolulu Harbor to Pearl Harbor.

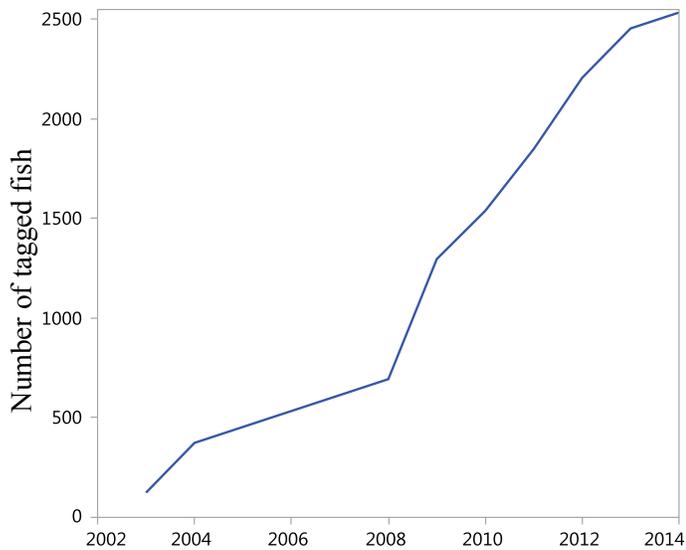


Figure 3: Cumulative count of tagged fish since 2003. The tagging project recently passed 2500 fish tagged.

The first taggers were fly fishermen and fly fishing guides. The large increase since 2008 was a result of shorecasters joining the project, as many of them practice catch and release. We also began participating in shoreline fishing tournaments and other outreach events to expand the reach of our project. More recently, volunteers from outer islands (Moloka'i, Big Island, Kaua'i, Maui) have begun participating in the project.

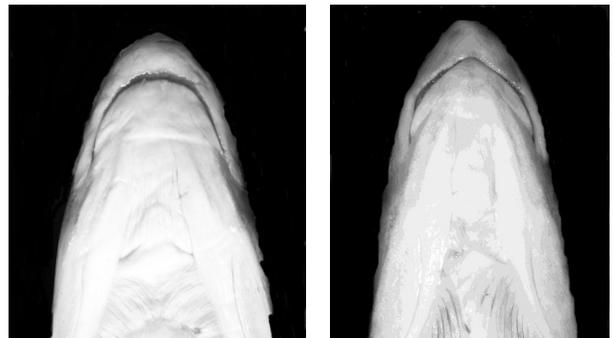
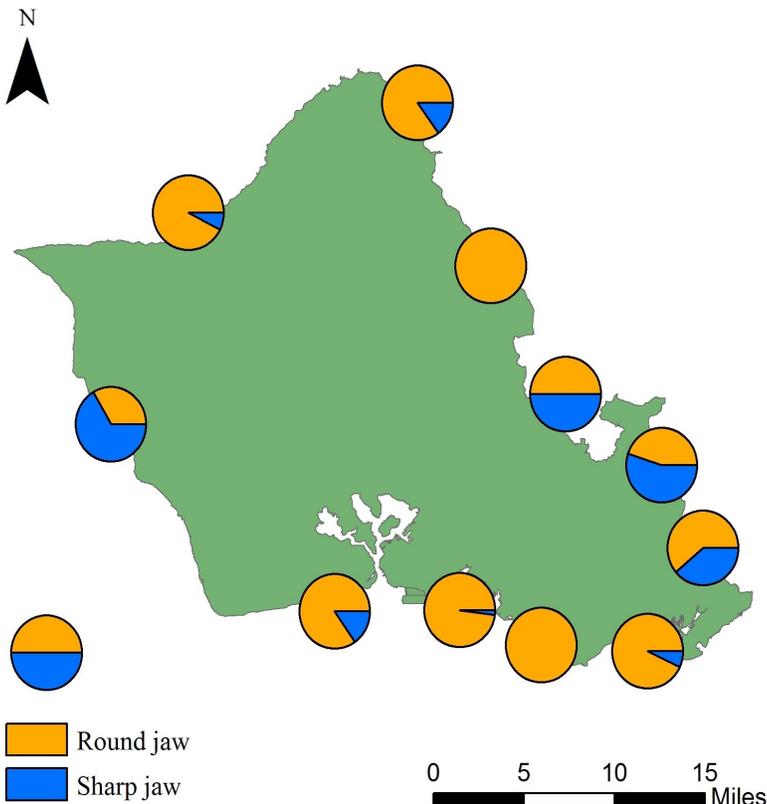


Figure 4: Jaw morphology differences between the round jaw (left) and the sharp jaw 'ō'io (right)

Figure 5: Distribution of 'ō'io catch for both species around Oahu. Round jaws are most frequently caught on the south shore on shallow flats. West and East shores have a more mixed catch of sharp and round jaws.

TAG RECOVERIES

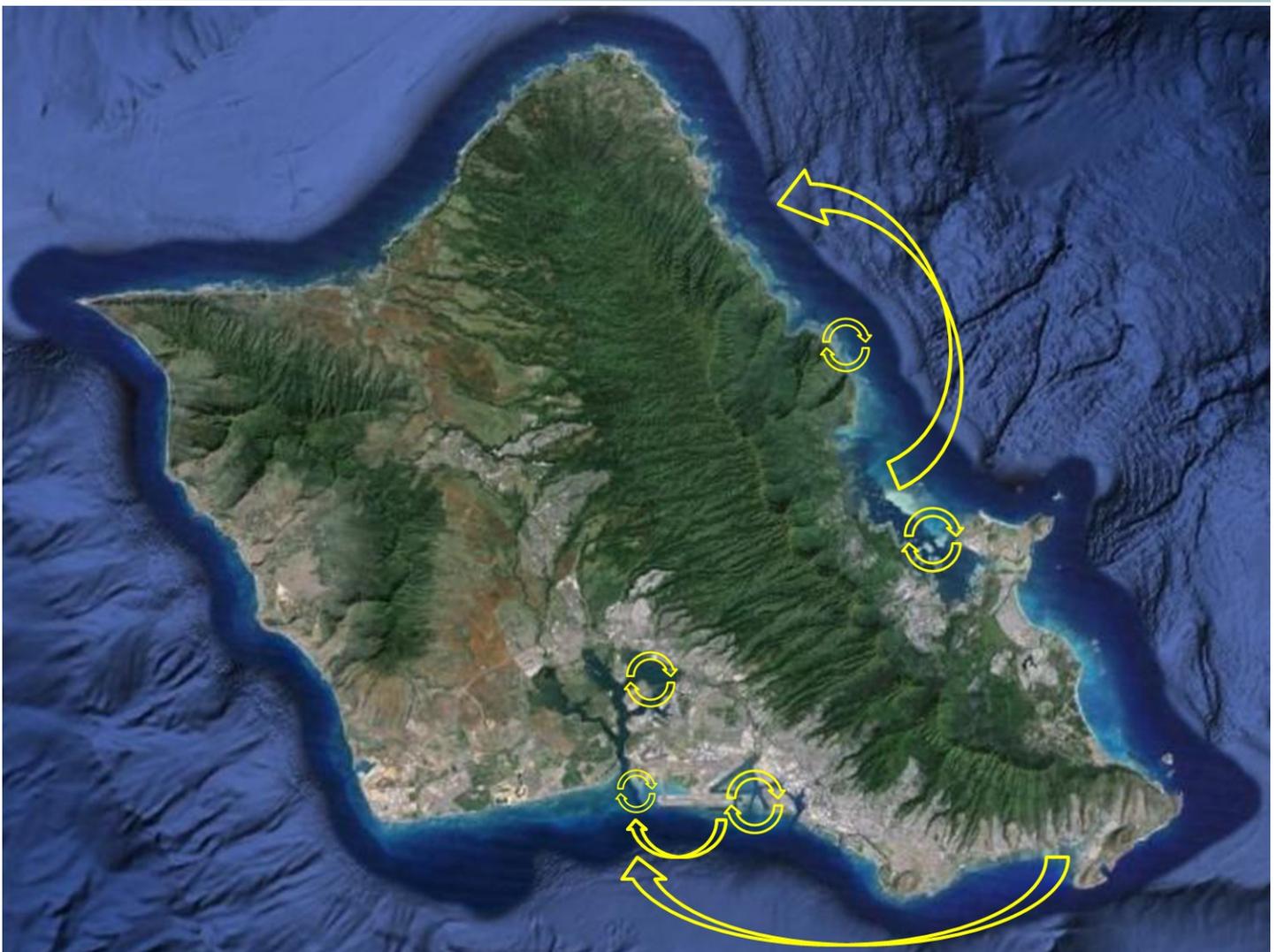


Figure 6: General trends from recaptured 'ō'io.

Of the 2530 fish tagged, 56 have been recaptured and 13 of these were in 2013 alone. Our recapture rates are beginning to increase with volunteers putting in more fishing hours. The majority of the 'ō'io recaptured are caught within one mile of their original tagging location. This is especially true for 'ō'io originally caught on the flats around Hickam, Keehi Lagoon, and Maunalua Bay. Almost all of these 'ō'io are recaptured on the same flat or within one mile of the original tagging location. Time at large ranges from 12 days to over two years. With more recapture data, we can derive growth rates and movement patterns. Volunteer numbers and tagged fish continue to increase on a regular basis and will hopefully lead to more recaptured fish.

TAGGING LIST

Goya, Les	549	Filous, Alex	10	Garcia, Abel	4	Paguirigan, Randy	2
Lum, Doug	254	Yoshimura, Ladd	10	Hironaka, Robert	4	Shimizu, Skyle	2
Kaulia, Asa	139	Allison, Michael	9	Kadooka, Chris	4	Shiroma, Ron	2
Hill, Dave	72	Kim, Mike	9	Kishimoto, Troy	4	Tang, Roland	2
Kevin	62	Pollock, Kydd	9	Marks, Michael	4	Wada, Derek	2
Lee, Steven	51	Chamizo, Daniel	8	Schaffer, Tom	4	Washiashi, Miles	2
Calso, William	50	Hieda, Kevin	8	Shitag, Cody	4	Agcaoili, Rocky	1
Dan B	49	Kitagawa, Kyle	8	Tsui, Ricky	4	Arizo, Darryl	1
Otaguro, Kelvin	48	Lars	8	Wright, Chat	4	Campos, Everett	1
Gonslaves, Mark	47	Ogino, Vincent	8	Yost, Parker	4	Carreira, Lou	1
Hennessy, Mike	41	Sawamura, Wesley	8	Au, Calvin	3	Chimizo, Daniel	1
Clay	39	Vidinha, Paul	8	Cruz, Frank	3	Chock, Korey	1
Komatsu, Nolan	32	Ching, Clay	7	Dawson, Bobby	3	Damato, Cody	1
Reeves, Steve	28	Lani, Bowe	7	Galino, Rob	3	Duffield, Terrance	1
Shimizu, Al	28	Shitag, Brandon	7	Harold	3	Hatori, Jason	1
Hernandez, Grant	26	Adachi, Ted	6	Ho, Sean	3	Icari, Winston	1
Tam, Clay	23	Bardouche III, Joe	6	Huang Chi Kuo	3	Imai, Rodney	1
Tang, Robert	22	Hall, Dan	6	K, Russ	3	Jerald, Sujai	1
DeNolfo, Louie	21	Jose	6	Kanemoto, Brent	3	Kane, Nathan	1
Tom, Steven	21	Kushima, Blake	6	Maeda, Jarryd	3	Kanuha, Dean	1
Sean	20	Mihata, Garner	6	Mondoy, Pernell	3	Koyanagi, Kyle	1
Anderson, Bruce	19	Nakao, Kevin	6	Nakagawa, Brent	3	Kurahara, John	1
Sayegusa, Derek	19	Tachikawa, Miles	6	Parenio, Joseph	3	Li, Chun-I	1
Kamikawa, Keith	18	Tomei, John	6	Rivera, Hector	3	Lum, Marshall	1
Toyofuku, Jay	18	Ty	6	Romig, Jim	3	Medeiros, Derek	1
Dean	17	Yamamoto, Bruce	6	Shitag, Mel	3	Moriki, Matthew	1
Nagamine, Paul	16	Jeshiro, Darren	5	Sugiyama, Derek	3	Moromoto, Randall	1
Russ K	16	Kimoshita, Greg	5	Thornburg, Kenneth	3	Niesz, Sean	1
Leong, Steve	15	Kuboyama, Sam	5	Lafrance, Abraham	2	Nishioka, Kyle	1
Ongjoco, Philip	15	Murakawa, Paul	5	Chang, Douglas	2	Oishiro, Darren	1
Lopez, Jason	14	Sakai, Brian	5	Cheape, Jesse	2	Oshiro, Patrick	1
Tyrone	14	Taketa, Mitchell	5	Chock, Aaron	2	Park, Darren	1
Healing, Eugene	13	Todt, Jason	5	Clemens, Jeremy	2	Peiler, Dustin	1
Ishikawa, Darren	13	Alesna, Dal	4	Duda, Bill	3	Tomaceer, Isaiah	1
Kawamoto, Kurt	12	Asuncion, Zach	4	Harding, Kimberlee	2	Quartero, Micheal	1
Komagome, Lloyd	12	Au, Timothy	4	Horak, John G.	2	S, Richard	1
Tsukamoto, Eric	12	Boone, Adrian	4	Kauahi, Rick	2	Shibukawa, Robert	1
Murakami, Rosten	11	Cabilao, Robin	4	Kiyosaki, Joel	2	Tanouye, Kris	1
Dan	10	Campos, Keola	4	Lautherboren, Russ	2	Yamamoto, Glenn	1
Dano, Gary	10	Funai, Brian	4	Miyamoto, Earl	2	Yamata, Glenn	1
						Young, Harold	1

Table 1: Number of tagged fish per angler

PROJECT EVENTS

- In 2010 the 'Ō'io Tagging Project began sponsoring tagging categories in shoreline fishing tournaments. In 2010 and 2011 we participated in ATLAPAC's Weighmaster's Obake Shootout held in October and in their annual 'ō'io tournament held in December
- In 2012 we expanded and sponsored a tagging category in the EastSide Challenge Fishing Tournament, January 27-29, 2012 at He'eia Kea Small Boat Harbor
- With the help of Matt Ramsey, NOAA Fisheries Extension Agent, the 'Ō'io Tagging Project participated in a fishing tournament organized by a senior at Lehua High School for his classmates and family as his senior project
- The project had its first outer island event at the Lihue Kmart Shoreline Fishing Tournament in July of 2012. There was a huge turnout of anglers that signed up to participate in the tagging project and generously donated samples from their catch.



Huang-Chi Kuo winner of a Penn spinning reel at ATLAPAC's Weighmaster's Obake Shootout 2012.



Anglers at tournament weigh-ins donated 'ō'io head and guts



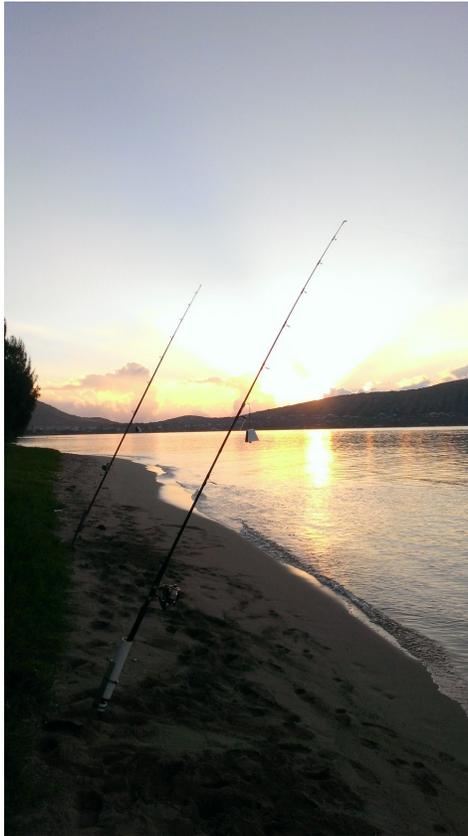
Project members Mary Donovan and Eva Schemmel at Ocean Expo 2012. Helping the keiki make 'ō'io gyotaku t-shirts.

Through 2012 and 2013 many fishing clubs and organizations have graciously allowed us to hold informational booths and sampling stations at their shoreline fishing tournament weigh-ins: Kakaako Kasting Club, ATLAPAC, Hawai'i Fishing and Seafood Festival, Hawai'i Ocean Expo and New Hope Hawai'i Kai Fishing Derby

A UNIQUE TAGGING STORY

Les Goya has been an avid volunteer of the 'Ō'io Tagging Project for almost six years and has perfected his methods for catching and tagging 'ō'io. On some outings, he will catch and tag close to 20 'ō'io. He is currently at the top of the tagging list with over 500 'ō'io tagged! Surprisingly, his respectable number of tagged 'ō'io is not the only exciting and interesting part to his story.

For having tagged such a large amount of 'ō'io, Les has not recaptured a single one of his own tagged fish. He has several favorite fishing locations that he frequents on almost a weekly basis, yet has not gotten a single recapture. Our results show that 'ō'io are often recaptured within one mile of their original tagging location. It does not seem unreasonable that he would recapture at least one of his 500 tagged fish considering how frequently he fishes and how often he returns to the same spots. Finally in June and September of 2013, two of his fish were recaptured by two different anglers close to where they were originally tagged. It took five years for two of his hundreds of tagged 'ō'io to be recaptured.



Les mainly targets fishing grounds surrounding sand flats rather than fishing directly on the flats where most fishermen focus their effort. The 'ō'io that Les catches are usually between 11-19 inches and in the 1-3 pound range, with an occasional 4 pounder. He normally tags and releases fish under 3 pounds, which has been a lot of 'ō'io! Fishermen that have been out to the flats know that the 'ō'io on the flats are generally much bigger than the 1-3 pound 'ō'io that Les catches. The 'ō'io on the flats are usually 3-4 pounds and larger.

We can only speculate as to why Les has not recaptured any of his fish, even though other anglers who have tagged far fewer 'ō'io have had their 'ō'io recaptured. Les properly handles and tags his fish, ruling out that they are all dying upon release. Perhaps he is accessing a unique population of 'ō'io or these smaller fish exhibit different movements than their larger counterparts that migrate on and off the flats in sync with tides. Regardless of the reason, Les will continue to fish his favorite spots when he has the time and enjoy some fish cake when he gets a good sized 'ō'io. Keep it up Les, it looks like you will remain at the top of the tagging list for the foreseeable future!



The 'ō'io Les catches are normally 1-4 pounds. This big 10 pounder definitely surprised him and made lots of fish cake!

A TAGGING PERSPECTIVE FROM AN EXPERIENCED ANGLER



Soft nets minimize scale damage and allow you to contain the fish while tagging



An applicator pointing to the correct placement of an 'ō'io tag just under the dorsal fin

When you are fishing with a buddy you can both work together to safely handle and tag a nice fish. However, if you are fishing solo, tagging a fish by yourself can often be challenging. We would like to share a few tips we have developed to help the tagging process go more smoothly when you are fishing by yourself.

Organizing your equipment before fishing will save you time and effort. The best way that I have found to reduce handling time and make it easy on you and the fish is to pre-load your tags in the applicator and pre-record the tag number in the booklet. This way, you do not have to fumble with loading tags and remembering the tag number after the adrenaline-filled moment of landing an 'ō'io.



When landing the fish, be sure to wet your hands before touching the fish. You can control the fish by maintaining a grasp on the leader to bring it close, but be sure not to stick your fingers in the gills or squeeze the fish too hard which will damage internal organs. Cradle the fish and turn it upside down to keep it calm and identify the species by looking at the jaw structure. Measuring the fish can be done in the water to minimize air exposure. Anglers often mark their rod with measurements so it can be used to quickly get the fork length. If you lift the fish for a photo, do it quickly while supporting the fish's body with both hands making sure to keep air exposure to less than 1 minute.

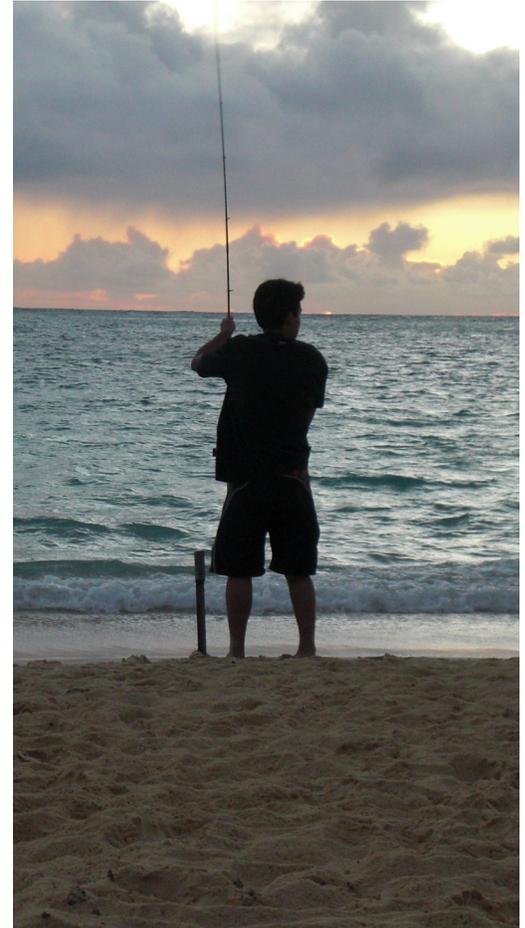
It is important to keep the fish in the water as much as possible to reduce the amount of time the fish's gills are exposed to air. This is often easier to do when you are wading on the shallow flats, but keeping the fish in the water can also be done in a shallow and calmer section of your favorite baitcasting spot.

THINGS TO KEEP IN MIND

With a bit of practice, tagging can be quick and easy and can be done with little harm to the fish.

Factors that can effect 'ō'io survival:

- Fight time duration
- Air exposure: when exposed to 1 minute of air, stress levels can rise 3 times higher than fish not exposed to air
- Fish exposed to 3 minutes of air required over 10 times longer to regain their equilibrium than fish only exposed for 1 minute.
- High water temperatures can increase physical stress, and increase “resting” time periods especially following exertion.
- Available cover for fish to rest
- Bleeding at the hook site
- Amount of predators in the area



When tagging 'ō'io:

- Keep your catch in the water
- Limit air exposure to less than 1 minute
- If predators are observed in the area keep 'ō'io in a live well, cooler or other suitable container until the fish has regained its equilibrium or the predator leaves the area. If necessary, move the fish to another area



A beautiful 'ō'io released by Bill Duda.

PROJECT MEMBERS



Dr. Alan Friedlander is the head of the Fisheries Ecology Research Lab at UH. For more than 30 years he has worked on fish and fisheries throughout Hawaii, the Pacific Islands, and the Caribbean. Alan was responsible for revitalizing the 'Ō'io Tagging Project in 2008.



Keith Kamikawa grew up in Kaneohe and has been a shore fishermen most of his life. He received his Bachelors of Science from the School of Aquatic and Fishery Sciences at the University of Washington in Seattle. In September 2012 he joined the Fisheries Ecology Research Lab as a marine technician engaging in community outreach and studying 'ō'io diet. Keith just completed his first year in the marine biology master program and is now the coordinator for the 'Ō'io Tagging Project.



Mary Donovan is a PhD student with the Fisheries Ecology Research Lab where she has been working for the last 5 years. Mary recently finished her master's degree at UH Manoa where she studied the age and growth of roi (peacock grouper) populations across the Main Hawaiian Islands. Mary has brought her expertise in fish age and growth to the 'ō'io tagging project to work on determining the age of both species of 'ō'io. Mary also enjoys spending time at tournaments and talking story with fishermen.



Fishing has been Alex Filous' lifetime passion and he loves fishing for 'ō'io on the flats or dunking bait with friends on the beach. Alex is a 2nd year master student in the Zoology Program at UH and is working with other tagging projects in Maui and Moloka'i studying the movements of apex predators such as sharks and ulua. He received honorable mention for the prestigious Steven Berkeley Marine Conservation Fellowship awarded by the American Fisheries Society.



Eva Schemmel is a PhD student with the Fisheries Ecology Research Lab where she is studying aspects of reproduction in Hawaiian reef fishes, including seasonality of spawning in 'ō'io, kole, manini, and kala. Eva received her Bachelor's degree from Hawai'i Pacific University and a master's degree from Oregon State University. Eva is interested in traditional fishing and resource management practices and the utility of Hawaiian Moon Calendars for local management of Hawaiian fishes.



Kimberlee Harding was the previous coordinator for the 'Ō'io Tagging Project (2008-2012) and established the protocols and relationships that make the tagging project what it is today. Kim studied the 'ō'io fishery, diet and life history, and movement for her masters project at Hawai'i Pacific University starting in 2008. She has since moved on from the project, but remains in touch with project staff.

HOW YOU CAN HELP

This project depends upon the help of volunteers like you. The following information is needed:

- 1) Date of the fishing trip
- 2) The times you started and finished fishing
- 3) Location
- 4) Species caught
- 5) Fork Length
- 6) Time each fish was caught
- 7) Weight (optional)



Please call 808-735-8290 (and leave a voice mail if no one answers) as soon as possible to report this information. Recaptures can also be recorded on our website: <http://www.hawaii.edu/oiotaggingproject>.

Information on the specific location where fish are caught will be kept confidential. Tagged fish should then be gently released. Fish showing undue stress, damage or inability to swim should not be released even if they are tagged. If the fish cannot be released, put it on ice and call the phone number above. The fish can be used in a diet and growth study.

IF YOU CATCH A TAGGED FISH:

- 1) Record all of the above information
- 2) Record the 4 or 5 digit tag number printed on the tag
- 3) If the information on the tag cannot be read, re-tag the fish with a new tag and clip off the old tag
- 4) Report the recapture fish by use of the website or tagging line phone number

CONTACT US!

<http://www.hawaii.edu/oiotaggingproject>

Or by calling 808-735-8290

Or e-mail Hawaii.oio.tagging.project@gmail.com

www.facebook.com/oiotaggingproject

REPORT A RECAPTURED TAGGED FISH & RECIEVE A T-SHIRT!

EDITORS MESSAGE

Much has happened since the project first started. **The project has grown from 30 volunteers in 2008 to over 700 in 2014.** In 2013 we really started expanding to outer islands, mainly Kaua'i, Maui , Big Island and Moloka'i. There are **over 2500 fish tagged** and there were 13 recaptures in 2013 alone. We will be publishing 'ō'io life history information in scientific journals and our lab will keep submitting articles to Hawai'i Fishing News. The tagging project will keep up its presence at fishing tournaments, festivals and expos in the near future so please stop by when you see our sign! Thanks to everyone for their support and contribution to making this project a continuous success because the project would not be afloat without volunteers like yourself.



Keith Kamikawa displays a tagged 'ō'io ready for release.



Kaylyn McCoy with her first 'ō'io.