

Tagging News

News from the ORI Cooperative Fish Tagging Project

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From the Tagging Officer...

Gareth Jordaan

Over the past year there have been a number of positive events that have taken place around the South African coastline that involve potential benefits for linefishing. Some of these include: (1) 20 new or extended Marine Protected Areas (MPAs) gazetted on the 23rd May 2019, which will help protect our decreasing fish stocks; (2) the new "Fish for Life" Responsible Angling booklet launched by WWF (which was supported by local anglers), that shares a national set of guidelines for responsible angling practices; and (3) the fifth South African Marine Linefish Symposium which took place in the Eastern Cape in July 2019. Scientists and students at the symposium presented on some of the excellent linefish research being done around the country, with the ORI-CFTP frequently being recognised and complimented. As a "newbie" coming into this position, it has been great for me to see how well-known and supported the Tagging Project is and how the important data, that you all contribute to, is being used to better understand and manage our linefish species. The ORI-CFTP wouldn't be where it is today if it wasn't for you, our tagging members, and the example you pass on to others, so a big THANK YOU to all of you!

That said, welcome to the 32nd edition of the Tagging News. The Tagging News has been communicating the results of the cooperative efforts between fishery scientists and anglers for more than three decades and has successfully promoted ethical angling, while tracking the growth rates and movement patterns of common linefish species caught along the southern African coast.

With our new website having been live for just over a year now, there has been some positive and helpful feedback with regard to the new, interactive features. Unfortunately, we have been plagued by several "gremlins" wreaking havoc with the website and we appreciate the patience shown by our members as we have tried to work through and fix these issues. Besides the website being updated, some other upgrades have also been done to our [Tagging Manual](#) and the [Priority Species List](#), which can be found under the Media Releases tab on our website. Going forward, tagging members are encouraged to record sex data from the various shark and ray species that they tag or recapture (this can be seen externally by the presence of claspers in males). A tick box has been added to the new tag cards, where this information can be recorded.

Eight of our 444 active tagging members in 2018 tagged more than 100 fish, with our top tagger for the second year in a row, Kobus Niehaus, tagging a remarkable 334 fish, closely followed by Kevin Humphreys (327) ([see table on page 5](#)). However, more important are the number of fish recaptured. In 2018 Kobus Niehaus had 32 (10%) of the fish he has tagged over all recaptured. Similarly, Mark Galpin, Mathew Weedman and Piet Oosthuizen each had 17 of the fish they had tagged recaptured, (i.e. 10%, 18%, 18%) respectively. Remember, it's not always about the number of fish you tag but rather about the way in which you handle and tag them! For those members wanting to brush up on their tagging technique, please email the Tagging Officer (oritag@ori.org.za) who will gladly assist you with an explanation, or refer to our tagging manual online. Please also remember to always clean your tagging applicators by rinsing them in disinfectant or alcohol.

The number of fish tagged during 2018 (10 837) was lower than average but was higher than the number tagged in 2017 (10 054; see graphs on page 4), which is encouraging. The Pondoland MPA tagging project was up and running again in 2018, possibly contributing to the increase in total tag releases (and recaptures). Annual changes in the number of fish tagged can be expected with natural fluctuations in fish populations and available tagging opportunities. The number of new members in 2018 (136) was similar to 2017 (137) which indicates that our greater presence on social media (follow us on Facebook at ORI TAG) and the introduction of the new tagging website (www.oritag.org.za) has helped improve the number of anglers interested in joining the project compared to previous years. The average number of fish tagged per member increased from 22 fish in 2017, to 25 fish in 2018, still remaining amongst the top 10 highest averages in the project's history. **The total number of fish tagged on the project to date is 332 023, a remarkable achievement!** Such successful long-term citizen science projects are few and far between and we hope to keep this exciting project going for as long as possible.

Although the number of reported recaptures (940) was the fifth highest in the Tagging Project's history, the percentage of 2018's total tagged fish was still considerably lower (8.67%) compared to recent years. If you do hear of any fellow anglers catching a tagged fish, please offer to assist them in reporting the right information timeously to ORI (via email / WhatsApp / Facebook / telephone / sms / website etc.).

South Africa's national fish, the galjoen, was once again the top tagged fish in 2018 (1 326) and overall. The giant guitarfish/sandshark returned to the top 10 species tagged with a total of 251 tag releases compared to last year's 178. This is most likely due to the hype about the threatening conservation status of this species, and the increased effort in tagging this animal for further research. The resident reef fish species, the bronze bream, moved up the ranks again and made it into the top 5 species tagged with nearly 100 more tag releases than 2017. The copper / bronze whaler and smoothhound shark replaced the long-standing positions of the raggedtooth and dusky shark in the top 10 tagged species with a remarkable 299 and 271 individuals tagged respectively ([see figure on page 4](#)).

We sincerely hope that you enjoy this exciting issue of the Tagging News. We would like to say a big THANK YOU once again to all our tagging members for their ongoing support (and patience) over the last couple of months where we had website issues. Thank you as well to the numerous anglers who have provided information on tag recaptures. The long-term success of this project is entirely thanks to your on-going contributions towards the wise use and conservation of our marine linefish species. Please feel free to distribute the Tagging News to your fellow anglers. For the latest tagging information and other interesting updates please 'like' us on Facebook at ORI TAG.

We wish you tight lines and happy tagging.

South Africa's new coastal MPAs, a brief explanation for recreational anglers

By Bruce Mann

On the 23 May 2019 South Africa declared 20 new or extended marine protected areas (MPAs) in the South African Exclusive Economic Zone (EEZ). This brought spatial protection up from 0.4% to 5% of the EEZ and, while still short of the 10% recommended by the Convention for Biological Diversity's Aichi Target 11 for 2020, it represents a substantial step forward for marine conservation in South Africa. Of the 20 new MPAs, nine include shelf habitats on or near to the coast that will directly affect recreational anglers. These include iSimangaliso, uThukela, Aliwal, Protea, Amathole, Addo, Agulhas Banks, Robben Island and Namaqua.

Past research in South Africa and elsewhere has shown that large, well enforced, no-take MPAs that include good reef habitat, allow resident reef fish to increase in abundance and size over time. They also protect healthier, fitter and more fecund fish and facilitate spillover into adjacent fished areas. This is extremely important, especially in the face of climate change, as it allows reef fish populations to have greater resilience and the ability to adapt. Assuming that the new MPAs can be properly enforced and that they are respected by recreational anglers and commercial fishermen, they will provide significant protection for targeted linefish species, especially resident, overexploited species.

However, some anglers have expressed dismay at the declaration of the new MPAs as they feel that their favourite sport or pastime is being restricted. So, let's have a look at the new MPAs to better understand what they mean for recreational angling. To start off with, we need to understand that virtually all our larger MPAs are zoned for multiple forms of use. Most of the MPAs are zoned separately for inshore (shore-based) and offshore (boat-based) activities. The strange shape of our MPAs is because, where possible, the boundaries were set using lines of latitude or longitude which enables more effective law enforcement. There are four types of zones that affect recreational anglers namely a Restricted Zone (a no-take or no fishing zone), a Controlled Pelagic Zone (an offshore zone where pelagic game-fishing is allowed but no bottom-fishing), a Controlled Catch and Release Zone (an inshore zone where only catch and release shore fishing is permitted) and a Controlled Zone (where all types of recreational fishing are permitted). Many stakeholder meetings were held prior to the declaration of the MPAs and opportunity was given to stakeholders to submit their comments on the draft MPAs before they were declared. This has enabled many of the legitimate concerns of anglers to be incorporated into the final design of the MPAs.

We suggest that every recreational angler should get a copy of the relevant government gazette declarations of the MPAs in your area and study them carefully so that you understand where you can and cannot fish (see links below). Hopefully, in time, maps will be made available either as brochures or electronically for boat anglers which can be installed on a GPS.

The first reaction by many anglers is that the new MPAs are all well and good but how are "they" going to enforce them? As recreational anglers most of us are well aware of the poor state of many of our prime angling fishes, there are simply not as many as there used to be. Similarly, we also know about the lack of capacity in both our national and provincial environmental management agencies. The bottom line is that unless we as anglers take on custodianship of the new MPAs and adopt a responsible attitude, which includes self-policing, the new MPAs will not have the desired effect and will simply become "paper parks". The new MPAs are there to help our linefish stocks recover so that ultimately there will be enough fish for all of us and our future generations. It really is up to us to make them work!

If you would like to know more about our MPAs have a look at the website www.marineprotectedareas.org.za. The maps and regulations are available on our website www.saambr.org.za. On facebook- Marine Protected Areas SA has information about our MPAs and more information on linefish can be found at EduOceans-Fun Fishy Facts.

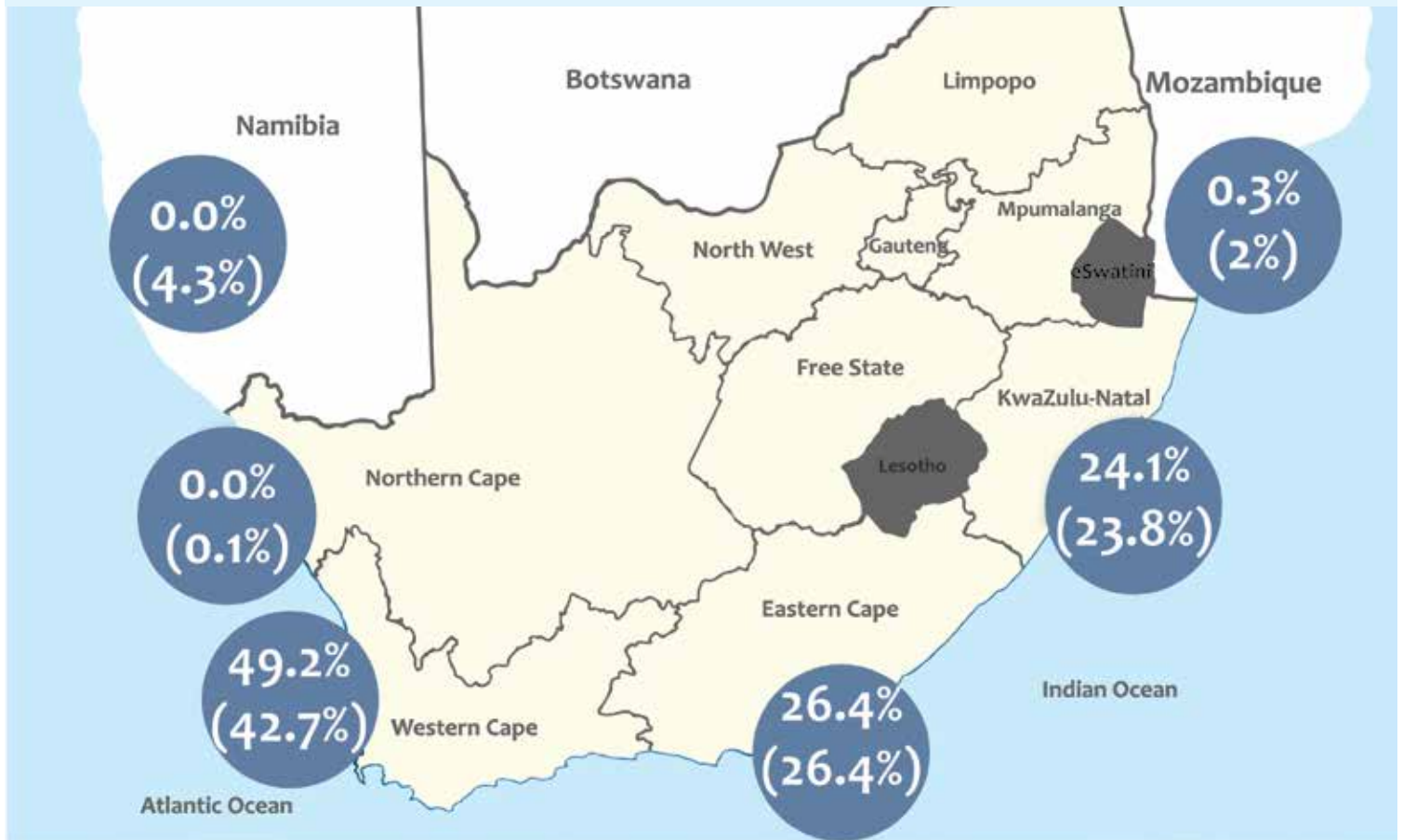


South Africa's Marine Protected Areas

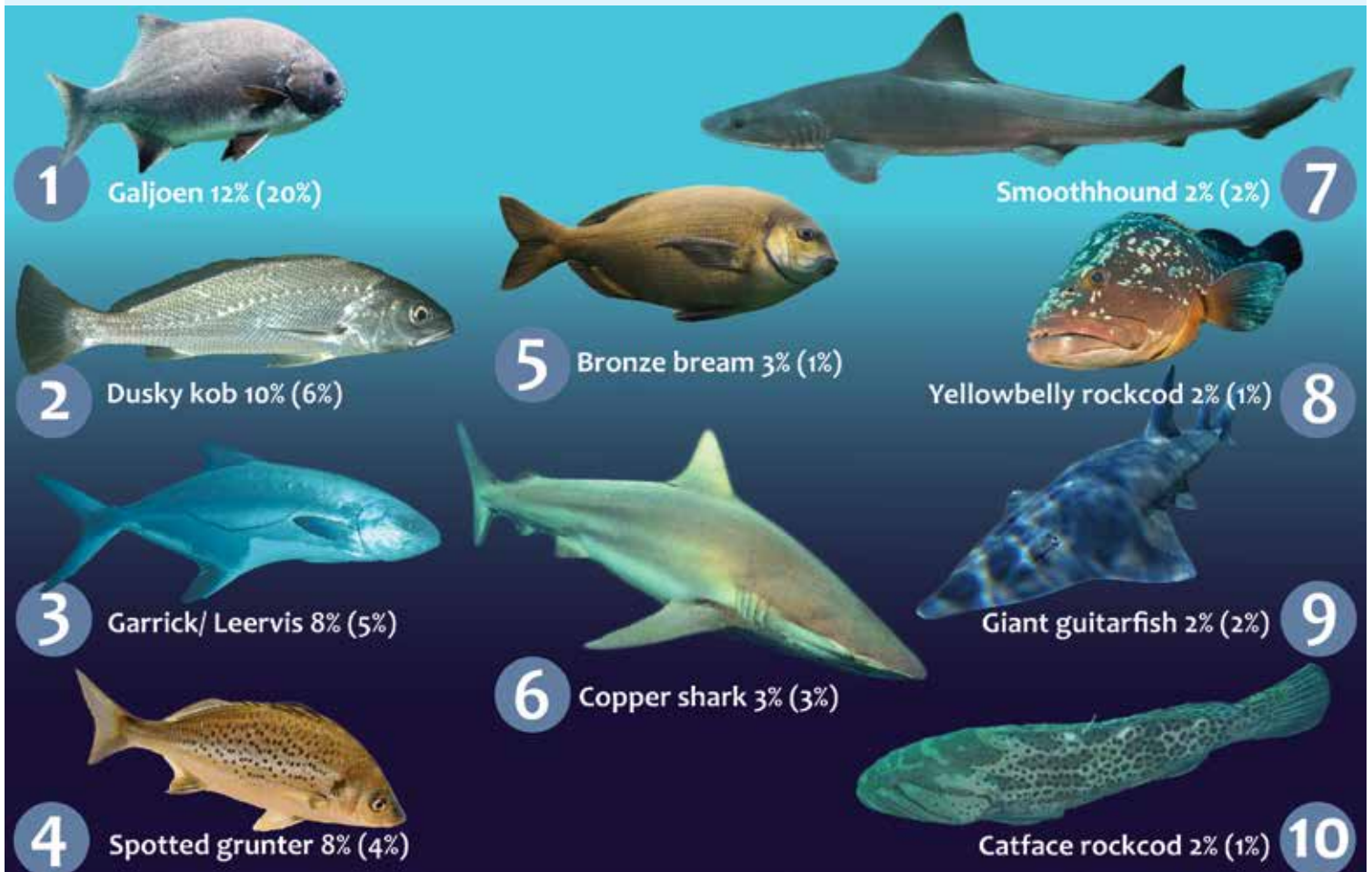
Research Tagging in Marine Protected Areas

Marine Protected Areas (MPAs)	Period	2018		Overall	
		Total	# Recapt.	Total	# Recapt.
De Hoop Marine Protected Area (Western Cape)	1985-current	1516	187	59079	4361
Dwesa-Cwebe Marine Protected Area (Eastern Cape)	2009-current	551	17	3238	102
Goukamma Marine Protected Area (Western Cape)	2001- current	41	3	762	28
iSimangaliso Marine Protected Area (KwaZulu-Natal)	1995-current	584	56	9866	1309
Pondoland Marine Protected Area (Eastern Cape)	2006-current	364	59	4525	1154

Percentage of fish tagged along the Southern African coast in 2018 (percentages in brackets indicate overall distribution of tagging since 1984)



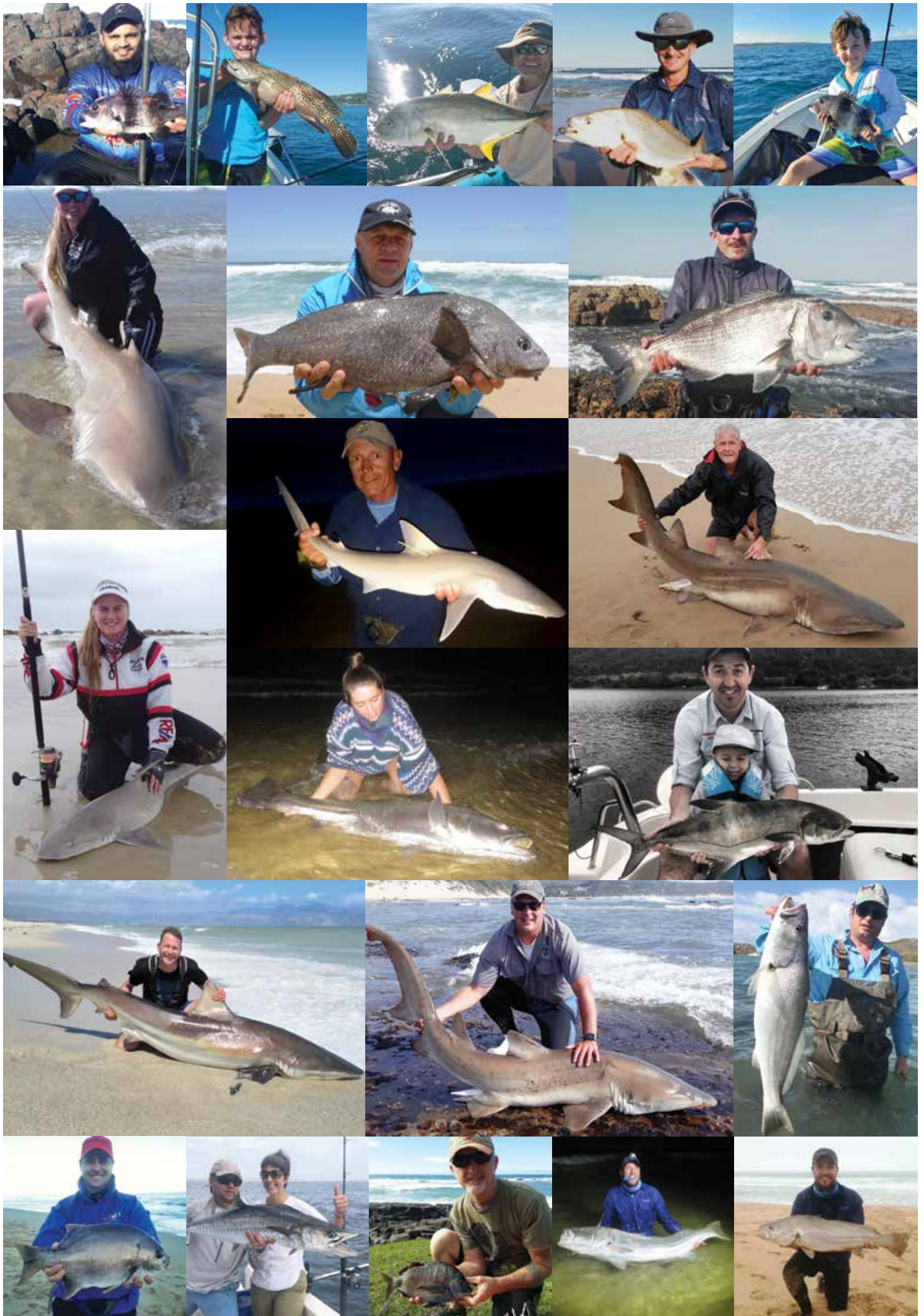
Top 10 species tagged in 2018 (percentages in brackets indicate overall composition of tagging since 1984)



Top Taggers: 10 or more fish tagged in 2018

Member Name	2018	Total tags	Recaps. In 2018	Total Recaps.	% Recapt.
KOBUS NIEHAUS	334	1823	32	90	5%
KEVIN HUMPHREYS	327	1800	7	94	5%
DONAVAN COLE	188	793	4	14	2%
WILLIAM FERREIRA	187	257	9	12	5%
MARK GALPIN	173	314	17	23	7%
NIC DE KOCK	138	1923	4	118	6%
ROBERT KYLE	102	1755	5	195	11%
MATHEW WEEDMAN	97	443	17	52	12%
PIET OOSTHUIZEN	95	563	17	117	21%
JJ STRYDOM	85	105	3	3	3%
SHAWN MEY	84	1043	7	58	6%
BRADLEY SPARG	82	2276	7	131	6%
GORDON MARCHAND	74	813	6	66	8%
ROUX SWART	73	277	3	20	7%
RIEKERT VAN HEERDEN	73	516	0	17	3%
JUSTIN MCCARTHY	73	450	0	32	7%
POENA BRUWER	71	151	5	5	3%
PIERRE STEYN	70	136	2	2	1%
CHARLES LILFORD	70	2741	4	127	5%
PIETER DU TOIT	66	127	0	4	3%
BERRIE FERREIRA	64	671	9	24	4%
DION GOVINDER	62	318	8	41	13%
JACQUES OOSTHUIZEN	61	296	10	74	25%
DIRK HERTZOG	58	159	4	8	5%
CLIFFORD HART	57	2610	0	170	7%
SIEG NEUMANN	56	57	1	1	2%
LOUIS ALLISON	52	478	1	38	8%
JUNAID ISMAIL	52	194	4	26	13%
PIETER MULLER	51	684	2	28	4%
WALTER BRIAN MULLINS	50	134	3	7	5%
ROGER DAVISON	49	49	3	3	6%
JOSHUA TIMM	48	88	3	4	5%
DONOVAN SOLOMON	44	217	8	50	23%
BRENDAN O'CONNELL	42	408	11	68	17%
KEOLIN MOODLEY	41	67	2	2	3%
CLINTON WOODLEY	40	91	0	1	1%
BRAD CARR	40	925	2	69	7%
GRAHAM HEIM	40	186	0	3	2%
STEFAN VAN HUYSSTEEN	36	140	1	4	3%
BRETT HARRIS	36	111	1	4	4%
DAVE IRVINE	35	421	3	66	16%
FRANCOIS KEMP	35	56	0	0	0%
GERRIE GROBLER	35	556	0	30	5%
RUAN VAN DER WALT	35	162	3	8	5%
CHRISTOPHER PIKE	34	203	2	12	6%
JACQUES-PIERRE GELDENHUYS	33	408	4	24	6%
KAREL VRYENHOEK	32	145	0	9	6%
SHAUN VAN ZYL	32	291	1	9	3%
JOHN LUEF	31	446	1	51	11%
JEFF ASHERWOOD	30	478	12	31	6%
CHRIS MULLER	30	400	1	18	5%
KOOS SMITH	30	778	2	31	4%
KIRK WEBBER	30	292	1	15	5%
KEVIN RUDOLPH	29	106	3	13	12%
GARETH GOUGH	29	415	2	28	7%
MATTHEW NOTHARD	29	41	0	0	0%
RYAN TAYLOR	29	357	2	36	10%
DEAN HART	28	50	0	0	0%
MARK KAPLEN	28	69	2	3	4%
CORNE ERASMUS	28	144	1	8	6%
CRAIG NELSON	28	626	2	39	6%
EDUARD STEYLS	27	147	0	3	2%
JOHN DALE	27	208	3	13	6%
BARRY TEDDER	27	188	0	4	2%
GARETH BEAUMONT	27	334	0	7	2%
JOHAN DE JAGER	27	442	11	62	14%
PAUL VAN NIMWEGEN	26	211	0	16	8%
DON MARX	26	172	2	9	5%
KYLE HANSEN	26	364	6	23	6%
CORNILES VEUGELERS	26	190	3	15	8%
CHARLES DE LA HARPE	25	378	0	45	12%
CHRIS WILKINSON	25	207	3	11	5%
MIKE DOHLHOFF	25	369	4	23	6%
BOB SHEPHERD	25	645	1	24	4%
JULIAN PYBUS	25	559	2	24	4%
RUSSEL BERMAN	24	144	0	5	3%
CRAIG CARRUTHERS	24	92	1	4	4%
ARTHUR MANN	24	125	1	22	18%
CORNELIS REIMAN	24	494	1	20	4%
PATRICK MORRIS	23	842	4	56	7%
RAY THOMPSON	23	668	0	40	6%
MAARTEN MOLENAAR	23	615	5	34	6%
DYLAN DE LANGE	22	33	0	0	0%

Member Name	2018	Total tags	Recaps. In 2018	Total Recaps.	% Recapt.
GORDON SAVILLE	22	1058	3	57	5%
GARETH STEVENS	21	34	2	3	9%
MATTHEW MCIVER	21	95	2	3	3%
VAUGHN REILLY	21	179	0	25	14%
JONATHAN SCOTT	21	528	2	25	5%
WERNER POTGIETER	21	97	2	2	2%
RIAN & THEA-MARI VAN DER SANDT	20	303	0	16	5%
RAYMOND CAMPBELL	20	129	1	10	8%
SHALVIN NAIDOO	20	78	2	3	4%
JACQUES DE LA HARPE	20	1051	1	77	7%
MICHAEL PARRIS	19	19	2	2	11%
DAVE HUMAN	19	346	0	24	7%
STEPHAN OLIVIER	18	19	0	0	0%
TREVOR BROWNE	18	50	0	0	0%
PIETER TERBLANCHE	18	172	1	3	2%
RUSSELL HAND	17	719	0	84	12%
GEORGE NIEUWOUDT	17	61	0	0	0%
JACQUES H MATTHYSEN	17	40	7	7	18%
CARLO VAN TONDER	17	85	0	2	2%
STUART HAYNES	17	34	1	1	3%
WARREN POTTS	17	195	0	12	6%
GUY NICHOLSON	17	59	0	1	2%
WILLA BOTHMA	17	119	2	9	8%
STEFAN OOSTHUIZEN	17	348	1	28	8%
GARY THOMPSON	17	134	0	4	3%
NICHOLAS PIENAAR	17	17	0	0	0%
EUGENE OWEN	16	91	0	4	4%
ELTON DU PLESSIS	16	30	0	0	0%
JUSTIN KEEPING	16	23	0	1	4%
WERNER LABUSCHAGNE	16	94	4	5	5%
GREGORY MULLER	16	154	1	5	3%
RICHARD HARTWELL	16	126	1	4	3%
CASPER DE CLERCQ	16	533	0	23	4%
PIETER VAN DER MERWE	16	20	1	1	5%
NITESH RAMLUCKAN	15	16	0	0	0%
CHARL MARAIS	15	770	0	50	6%
WALTER MATHEE	15	260	0	11	4%
NIEL MALAN	15	188	0	5	3%
JOHAN CLOETE	15	46	2	5	11%
SIAN PRETORIUS	15	35	0	1	3%
GRAHAM POLLARD	15	197	0	7	4%
JASON BRINK	15	252	3	9	4%
DAVID MULLER	14	108	1	2	2%
SHAUN DAFEL	14	14	0	0	0%
DUANE CLAASSEN	14	17	3	3	18%
PAUL CURRIE	14	118	2	7	6%
BRETT ANTHONY MARLIN	14	21	0	0	0%
PIETER SCHOLTZ JNR.	13	125	1	2	2%
RYAN FRENCH	13	16	0	0	0%
PAUL COCKS	13	21	2	2	10%
RODNEY MICHAELS	13	13	0	0	0%
MICHAEL FARQUHAR	13	95	0	8	8%
JASON HAXTON	13	22	0	0	0%
ROBERT PACE	13	29	5	5	17%
PIETER ROSSOUW	13	98	1	7	7%
MARIO JORDAAN	13	13	0	0	0%
ISAIAH EMMANUEL VARATHAN	12	30	2	3	10%
JOHN COATES	12	308	0	15	5%
LISTON DAVIDOWITZ	12	227	2	14	6%
MELVIN GOVENDER	12	30	0	2	7%
RENALDO OLIVIER	12	22	0	0	0%
DANIEL LA GRANGE	12	133	2	6	5%
LAWRENCE SMITH	12	437	0	22	5%
MICKEY FAUEL	12	53	1	4	8%
JAKE LORD	12	106	1	7	7%
ANDREW PARSONS	12	1655	2	71	4%
BASIL WOODROFFE	11	123	1	15	12%
STRINIVASEN NAICKER	11	130	0	6	5%
JOHANN VENTER	11	11	0	0	0%
RICHARD MULLER	11	247	0	5	2%
BERTUS PRETORIUS	11	11	0	0	0%
COENIE GROENEWALD	11	271	2	21	8%
RYAN FOSTER	11	11	0	0	0%
TEAGAN BOK	10	10	0	0	0%
SIMON WALKER	10	5092	2	387	8%
ROY CHINNASAMI	10	41	0	1	2%
LEON VAN DER MESCHT	10	10	0	0	0%
JOHN LINDSAY	10	313	0	17	5%
NICOLAS SWART	10	15	0	0	0%
BYRON MADDISON	10	43	0	1	2%
JOHN LINDSAY	10	313	0	17	5%
RICHARD MULLER	10	246	0	5	2%





Main fish species tagged up to 31 December 2018

Species	No. Tagged since 1984	Recaptured since 1984		Km travelled		Days free	
		No.	%	Avg.	Max.	Avg.	Max.
Galjoen	66036	4597	7%	42	1892	430	5815
Dusky kob	21035	1448	7%	27	1625	328	4370
Leervis / Garrick	16761	1171	7%	226	2060	318	3208
Dusky shark	14516	1235	9%	60	1374	102	2772
Spotted grunter	13527	367	3%	11	823	272	2950
Copper / Bronze whaler shark	9883	322	3%	162	1790	435	3981
Spotted gullyshark	9338	625	7%	29	911	529	6332
Blacktail	9088	221	2%	6	358	271	2715
Elf / Shad	8999	347	4%	268	1676	163	1437
White steenbras	7615	381	5%	37	804	286	2262
Blackspotted smoothhound	7270	215	3%	45	582	563	4405
Lesser guitarfish	6483	73	1%	44	726	344	2572
Raggedtooth shark	6391	902	14%	192	2966	736	8256
Slinger	5138	197	4%	25	1110	223	2814
Giant guitarfish	5095	366	7%	31	360	333	2639
Roman	5064	319	6%	4	294	339	3549
Largespotted pompano	4023	75	2%	12	270	247	1372
Black musselcracker	3884	293	8%	18	528	533	6809
Broadnose sevengill shark	3755	230	6%	80	1154	501	4332
Diamond / Butterfly ray	3740	31	1%	191	1756	410	2184
Bronze bream	3688	121	3%	18	799	196	1465
Sailfish	3589	29	1%	61	1060	150	727
Giant kingfish	3586	141	4%	16	419	369	2226
Yellowbelly rockcod	3567	601	17%	8	355	355	2674
Catface rockcod	3561	757	21%	6	525	175	2867
Blue stingray	3371	11	0%	35	234	310	1085
Zebra / Wildeperd	3299	74	2%	2	52	235	1399
White musselcracker	2808	84	3%	59	843	524	2313
Speckled snapper	2765	948	34%	2	200	281	2376
Carpenter	2603	24	1%	46	290	932	4766
Bardman / Belman	2360	34	1%	1	17	457	4870
Santer / Soldier	2237	158	7%	18	490	236	1683
Sharpnose stingray	1893	7	0%	7	24	167	465
Striped catshark	1753	133	8%	6	381	335	2597
Red steenbras	1699	167	10%	118	923	836	8080
Ladyfish / Springer	1699	34	2%	22	412	337	1426
Unidentified hammers	1697	10	1%	74	218	219	955
Natal stumpnose	1670	50	3%	13	230	237	1451
Smooth hammerhead	1650	21	1%	139	384	577	3075
Perch / River bream	1559	217	14%	1	42	369	1583
Albacore / Longfin tuna	1511	36	2%	304	1008	412	2585
River snapper	1488	284	19%	3	391	308	2403
King mackerel / Cuda	1384	57	4%	387	1552	566	2604
Brassy / Greenspot kingfish	1344	77	6%	11	757	290	1441
Dageraad	1331	91	7%	23	592	364	1568
Westcoast steenbras	1304	78	6%	61	280	253	1449
Cavebass	1298	201	15%	10	514	325	2284
Grey grunter	1298	76	6%	1	15	226	1099
Scotsman	1239	318	26%	24	1211	475	2839
Cape stumpnose	1221	8	1%	9	56	188	732
Duckbill ray	1159	10	1%	17	123	573	1427
Souffin shark / Vaalhaai	1071	28	3%	120	1034	736	3586
Blacktip shark	1064	40	4%	90	1288	213	1148
Silver kob	1056	37	4%	29	548	244	839
Skipjack tuna	1033	1	0%	1061	1061	464	464
Scalloped hammerhead	1006	17	2%	128	629	344	2943
Yellowfin tuna	993	14	1%	804	5645	319	1314
Cape yellowtail / Geelstert	972	40	4%	174	1746	293	1287
Stone bream	962	9	1%	75	524	242	563
Milkshark	939	25	3%	90	363	187	772
Geelbek	886	10	1%	113	904	336	2569
Leopard catshark	869	111	13%	11	722	326	4431
Squaretail kob	864	57	7%	64	266	145	2043
Black marlin	851	3	0%	1382	3633	163	240
Blacktip kingfish	823	27	3%	4	54	146	545
Bigeye kingfish	817	38	5%	12	163	246	2751
Honeycomb stingray	800	18	2%	1	8	313	2543
Eagleray	693	6	1%	10	49	495	1582
Natal seacatfish	682	227	33%	0	22	350	2586
Spinner shark	681	24	4%	92	1055	195	1295
Seventy-four	680	25	4%	51	521	489	2845
Hardnosed smoothhound	590	9	2%	87	340	344	870
Striped marlin	567	2	0%	805	848	202	379
Dark shyshark	567	127	22%	4	86	123	1097
Potato bass	560	29	5%	2	22	336	2639
Tiger shark	547	25	5%	281	4067	380	1823
Janbruin	547	15	3%	1	12	102	279
Great white shark	508	17	3%	290	1543	346	959
Halfmoon rockcod	486	90	19%	1	49	491	2511
Bull shark	481	31	6%	75	539	334	2599
Bonefish	464	4	1%	10	34	122	354
Queen mackerel	462	3	1%	4	12	376	1044
Blue marlin	438	0	0%				
Southern pompano	418	26	6%	62	464	151	848
Brown shyshark	413	28	7%	9	102	288	997
Pickhandle barracuda	393	57	15%	2	44	273	1856
White stumpnose	382	5	1%	3	7	245	463
Red stumpnose	379	9	2%	13	107	834	1998
Puffadder shyshark	369	34	9%	1	20	201	1363
Hottentot	369	14	4%	1	10	278	1078

Species	No. Tagged since 1984	Recaptured since 1984		Km travelled		Days free	
		No.	%	Avg.	Max.	Avg.	Max.
Talang queenfish	360	16	4%	1	10	193	630
Lemonfish	342	15	4%	0	2	219	749
Flapnose houndshark	332	42	13%	1	43	673	3013
Sandbar shark	331	6	2%	166	345	250	536
Eastern little tuna	317	0	0%				
Bartail flathead	300	8	3%	2	18	501	1947
Banded galjoen	297	7	3%	0	1	232	507
Blackspot shark	284	8	3%	29	192	214	708
Spearnose skate	278	9	3%	1	3	208	462
Bluefin kingfish	275	10	4%	13	94	140	260
Bluntnose spiny dogfish	273	4	1%	189	669	615	1476
St. Joseph	266	1	0%	1342	1342	218	218
Snapper kob	242	10	4%	20	132	170	378
Blue hottentot	239	7	3%	0	0	108	199
Blue emperor	236	18	8%	32	307	318	975
Malabar rockcod	219	31	14%	1	8	219	1540
Unidentified guitarfishes	209	7	3%	2	7	114	320
White seacatfish	203	4	2%	14	21	595	1895
Whitespotted smoothhound	195	5	3%	6	15	678	1627
Greyspot guitarfish	182	1	1%	6	6	51	51
Snoek	181	1	1%	136	136	491	491
Englishman	168	9	5%	1	6	281	640
Javelin grunter	165	16	10%	9	70	378	2940
Dolphinfish	157	1	1%	64	64	66	66
Unidentified kingfish	154	3	2%	0	0	133	366
Spotted eagleray	150	3	2%	205	597	518	850
Striped threadfin	139	2	1%	5	9	51	63
Short-tail stingray	136	4	3%	60	231	627	2412
Unidentified rockcods	133	17	13%	3	21	251	1047
Smallspotted pompano	129	4	3%	3	13	211	439
Green jobfish	128	6	5%	0	0	229	373
Tomato rockcod	114	19	17%	2	22	209	574
Cock grunter	111	5	5%	14	65	144	490
Moustache rockcod	108	35	32%	36	1200	469	2990
Great barracuda	104	23	22%	0	1	170	467
Flathead mullet	102	1	1%	738	738	738	738
Russell's snapper	101	3	3%	0	1	328	896
Grey reef shark	100	2	2%	0	0	357	697
Thorntail stingray	99	2	2%	0	0	295	357
Cape gurnard	96	2	2%	0	0	207	377
Eel-catfish	95	1	1%	1	1	47	47
Atlantic bonito	91	0	0%				
Maasbanker	88	0	0%				
Whitebarred rubberlip	87	1	1%	1	1	176	176
Sliteye shark	85	2	2%	291	565	1334	2652
Spotted spiny dogfish	81	1	1%	36	36	120	120
Oxeye tarpon	81	0	0%				
Swordfish	78	1	1%	9	9	1263	1263
Longfin kingfish	70	1	1%	12	12	453	453
Bigeye stumpnose	70	2	3%	2	3	33	38
Longfin yellowtail	69	0	0%				
Banded catshark	67	8	12%	16	55	423	1155
Striped mullet	66	1	2%	1	1	230	230
Java shark	60	2	3%	14	18	67	76
Yellowspotted kingfish	60	0	0%				
Sailfin rubberlip	59	0	0%				
Blue kingfish	59	0	0%				
Largecomb sawfish	57	13	23%	4	50	705	6216
Round ribbontailray	56	2	4%	4	8	45	74
Doublespotted queenfish	55	0	0%				
Cape moony	55	0	0%				
Needlescaled queenfish	55	1	2%	0	0	227	227
Greater yellowtail / Amberjack	54	1	2%	77	77	27	27
Sand steenbras	54	2	4%	0	0	40	79
Yellowtail scad	51	0	0%				
Prodigal son / Cobia	48	1	2%	36	36	479	479
Marbled electric ray	48	0	0%				
Dusky rubberlip	47	2	4%	92	183	1495	2345
Thintail thresher	47	0	0%				
Concertina-fish	47	0	0%				
Shortfin mako	45	5	11%	24	69	253	786
Panga	45	0	0%				
Swallowtail rockcod	44	4	9%	0	0	7	11
Minstrel rubberlip	43	1	2%	37	37	679	679
Spadefish	43	1	2%	118	118	2724	2724
False thornback skate	42	2	5%	0	0	194	340
Yellowfin emperor	41	4	10%	0	0	441	1187
Shortbill spearfish	40	0	0%				
Wreckfish	39	2	5%	4	7	231	388
Blue shark	38	0	0%				
Steenstjie	37	0	0%				
Koester	36	1	3%	0	0	1176	1176
Manta	35	1	3%	6	6	39	39
Tiger catshark	34	12	35%	1	9	443	1199
Bludger	34	0	0%				
German	34	0	0%				
Tripletail	32	0	0%				
Twinspot snapper	31	5	16%	2	4	139	363
Milkfish	31	0	0%				

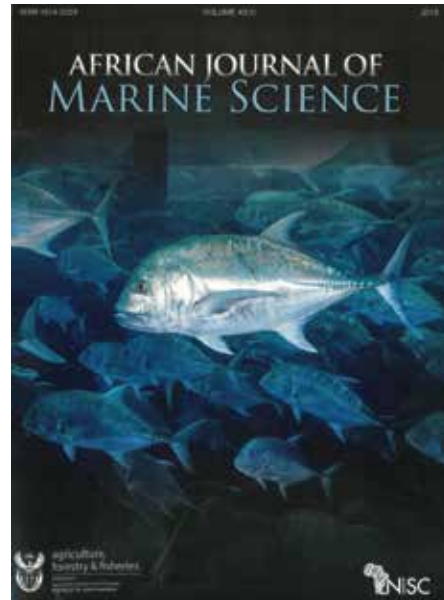
Priority species for tagging are highlighted in blue

Quantifying and understanding the largest aggregation of giant trevally on record

By Ryan Daly

Giant trevally (locally known as giant kingfish) are large (up to 80 kg) keystone predators that are prized by recreational anglers for their size and strong fighting abilities. Giant trevally also form predictable spawning aggregations during which time they can be especially vulnerable to overexploitation. However, very little is known about their aggregations and there are very few records of giant trevally aggregations in the western Indian Ocean. Thus, understanding the location and timing of giant trevally aggregation events are critical for the effective conservation and management of the species. In 2018 we described the largest known aggregation of giant trevally on record in the Ponta do Ouro Partial Marine Reserve in southern Mozambique. Unbelievably, the aggregation was made up of almost 2500 fish with an estimated biomass of ~30 tonnes. Realising the importance of the aggregation, we initiated an acoustic tagging project to understand more about the aggregation timing and where all the fish taking part in the aggregation came from. Incredibly, we found that fish taking part in the aggregation were travelling up to 1200 km between aggregation events (i.e. Ponta do Ouro to Port St Johns and back), which is considerably further than has been recorded for this species elsewhere in the world. Interestingly, the majority of fish taking part in the aggregation in Mozambique crossed the border to South Africa. We also found that the aggregation timing was associated with the lunar phase and was seasonally highly predictable. These results highlighted the fact that the aggregation could be extremely vulnerable to exploitation and that specific management plans are required to protect the aggregation. Furthermore, our results suggested that the conservation of the giant trevally aggregation in Mozambique will be key to ensuring the future health of the giant trevally population in South Africa, highlighting the importance of transboundary conservation. Going forward we will

continue to monitor the giant trevally aggregation and work to ensure that this unique event of one of our most charismatic game fishes is protected.



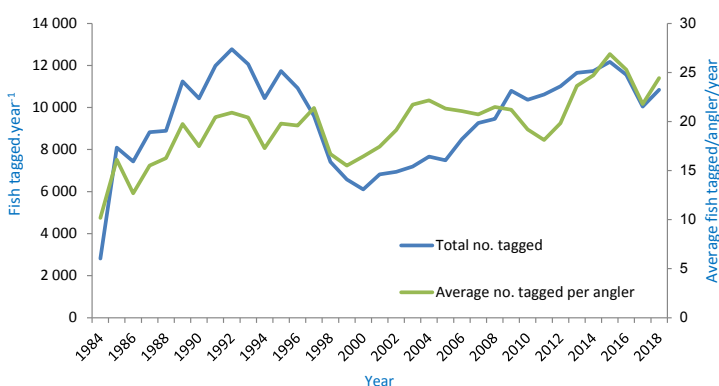
The results of our first study “Quantifying the largest aggregation of giant trevally on record” were published in the African Journal of Marine Science in 2018 (Volume 40) and a picture of the aggregation made the cover for the journal.



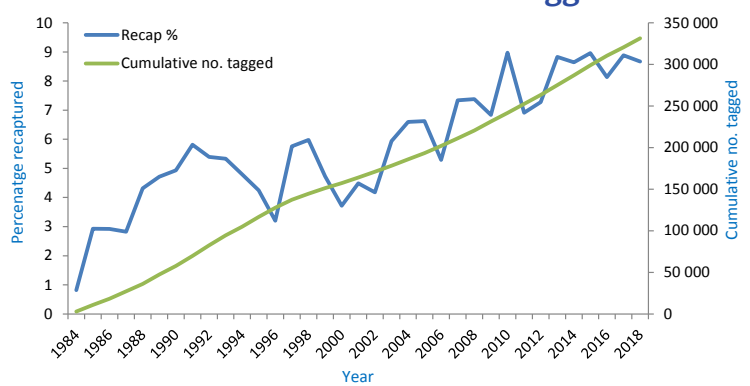
Individual giant trevally taking part in the mass aggregation in the Ponta do Ouro Partial Marine Reserve.

ORI Cooperative Fish Tagging Project Statistics

Fish tagged per year and per angler



% fish recaptured per year and cumulative number of fish tagged



Top 10 most exciting recaptures from 2018

Species	Tag Date	Tag locality	Tag Size	Tagger	Recap. Date	Recap. locality	Re-cap. Size	Recapturer	Dist. (km)	Km Per Day	Days/ Years free	Growth (mm)	Comments
Black marlin	2018/03/06	Sodwana / Jesser Pt / Deep Gat	-	David and Rob Knudson	2018/11/01	Tanzania	1500	Hamisi Bao	3633	15.1	240 (0.7)	Un-known	Only our third black marlin recapture, moved north into tropical waters
Flapnose houndshark	2010/01/24	Casino offshore reef	1200	ORI Scientist	2018/04/25	Casino offshore reef	1200	ORI Scientist	0	0.0	3013 (8.3)	0	Long time at liberty, probably resident. Little known about this species.
Galjoen	2006/05/10	Lekkerwater	331	DEA Scientist	2018/10/25	Lekkerwater	545	DEA Scientist	0	0.0	3752 (10.3)	214	Long time at liberty. Probably remained resident in the De Hoop MPA.
Leervis/ Garrick	2013/04/10	Gourits River	550	Gordon Saville	2018/08/25	Amatikulu River	1075	Tjaart van der Walt	1302	0.7	1963 (5.4)	525	Showed typical migratory behaviour. Long time at liberty for this species.
Cape yellowtail	2014/10/30	Rooikrans	610	Cornelis Reiman	2018/02/02	Skipskop	1400	Unknown	332	0.3	1191 (3.3)	790	Fast growth rate characteristic of this species.
Raggedtooth shark	2001/11/06	Green Point L/H / Aliwal Shoal	1700	KZN Sharks Board	2018/12/12	Richards Bay	2080	KZN Sharks Board	213	0.0	6245 (17.1)	380	Extremely long time at liberty.
Red steenbras	2014/04/18	Sardinia Bay	470	Werner Coetzee	2018/12/28	Haga Haga / Marsh Strand	840	Jordan Lentz	329	0.2	1715 (4.7)	370	Typical northward migration of this species but with relatively fast growth.
Scotsman	2013/10/17	Mtentu offshore reef	329	ORI Scientist	2018/11/03	Richards Bay	609	ORI Scientist	350	0.2	1843 (5.0)	280	Moved northwards up the KZN coast, probably to spawn.
Spotted gullyshark	2005/09/07	Lekkerwater	1090	DEA Scientist	2018/09/19	Koppie Alleen	1545	DEA Scientist	11	0.0	4760 (13.0)	455	Long time at liberty. Probably remained within the De Hoop MPA.
White steenbras	2013/06/30	Die Plaet (Struisbaai)	500	Stefan Oosthuizen	2018/05/24	Kings Beach / Humewood / Ledges	920	Unknown	642	0.4	1789 (4.9)	420	Long time at liberty. Moved north up the coast. Fast growth for this species.

Project News: Fine-tuning the movement patterns of the giant guitarfish

By Bruce Mann and Stuart Dunlop

Guitarfishes, also known as sandsharks or wedgefishes, which share a body form somewhere between a musical instrument and a shark, are a unique family of rays comprising 55 species found in most oceans. Unfortunately, they have been identified as being one of the most vulnerable families of cartilaginous fish in the world. This is primarily due to their highly prized fins which are used in the Asian shark-fin soup trade. Despite guitarfishes being of significant importance to this and other fisheries around the world, there is a paucity of information on their movement behaviour, reproductive biology, nursery areas, breeding areas, age and growth.



Stuart Dunlop, about to release a tagged giant guitarfish. Photo: Jade Maggs

A few years ago the Oceanographic Research Institute (ORI) identified the need for further research on these species and in 2016, in collaboration with the Acoustic Tracking Array Platform (ATAP), Save our Seas Foundation (SOSF) and the KwaZulu-Natal Sharks Board (KZNSB), they started a project tracking the movements of giant guitarfish (*Rhynchobatus djiddensis*) along the east coast of South Africa using acoustic tags/transmitters. Each tag, which is inserted into the abdominal cavity of the fish, emits a unique signal with a date and time stamp that is detected by receivers that are moored to the seafloor at various localities along the coast. Unlike conventional tag-recapture studies, the use of acoustic telemetry allows scientists to collect continuous data on the spatial and temporal movement of fish, which is vital for successful conservation and management of a species.

To date the project has been very successful with the tag and release of 19 giant guitarfish including 11 males and eight females, ranging in length from 1220 mm total length (TL) to 2770 mm TL. Of the 19 individuals tagged, nine have been detected at various receivers stationed along the KwaZulu-Natal and southern Mozambique coast.

Six of these individuals have shown fairly localised movement (< 50 km) to date and have remained within the general vicinity of where they were originally tagged. However, the other three individuals showed substantial movements covering 100s of kilometres. Interestingly, the smaller individuals (1370-1950 mm TL) including three males and three females showed limited movement, while the larger individuals (1690-2770 mm TL), including one male and two females, showed greater movements.

There was some evidence of seasonality with the larger individuals tending to move north in winter and south in summer. The largest female tagged (2770 mm TL), was detected just over 16 hours after of the tagging event and four days later she had moved approximately 100 km in a north-easterly direction and was detected off Ponto do Ouro in southern Mozambique. Such a find is concerning as guitarfishes are heavily exploited in Mozambique for their fins. Longshore movement of adults into Mozambique could therefore explain why the population numbers of this species have decreased in South African waters.



A large haul of giant guitarfish carcasses seized from an illegal fishing vessel operating off southern Mozambique. Photo: KwaZulu-Natal Sharks Board

A second large female (2060 mm TL) moved approximately 250 km from the original tagging site at Nonoti to Sodwana Bay between March and July 2017. She remained in the iSimangaliso Wetland Park for three months before returning to Tinley Manor in November 2017. She stayed in this area until the end of March 2018 and then again moved back to the Park and was recorded off Leven Point in July 2018. During her second visit to the Park she was recorded on receivers placed in the deep water canyons off Leven Point and Leadsman Shoal indicating that she undertook forays into deeper water.

Only one male has shown extensive movement up and down the coast between Ifafa and Richards Bay, sometimes at a considerable speed. In two and a half years this male has moved over 650 km, with an average speed of 1.3 km per day.

Given the susceptibility of this species to capture by multiple gear types, the known heavy fishing pressure from local and foreign vessels in parts of its range (Kenya, Tanzania and Mozambique) and the limited information on its life history, it is paramount that further research be conducted on this vulnerable species. By passively tracking various individuals from the population using acoustic tags it is hoped that the movement behaviour of the giant guitarfish will become better understood, and that the data will be used to implement/identify suitable management strategies going forward. This is particularly important if individuals are indeed migrating to Mozambican waters, in which case transboundary management strategies will need to be considered.

Focus species: White steenbras (*Lithognathus lithognathus*)

Movement:

Partly migratory (Bennett et al. 2017). Juveniles remain resident within estuaries for up to 2-3 years. Juveniles then move into the surf-zone but continue to remain resident. Once reaching maturity some fish appear to undertake an eastward spawning migration while others remain resident.

Total number tagged: 7 610

Number recaptured: 390 (5.1%)

Longest distance moved:

804 km (from Lekkerwater, Western Cape to Kayser's Rocks, Eastern Cape)

Longest time free: 2 262 days or 6.2 years (1999 to 2005)

Max age: 25- 30 years

Max size: 26.3 kg; 137.6 cm TL

Breeding location:

Historically, spawning aggregations used to occur off the Bashee River mouth in the Eastern Cape. However, these aggregations no longer take place but other spawning areas along the Eastern Cape coast are likely.

Breeding season:

Late winter,
July- August.

Angler: Ruan Van Der Walt

Growth:

Relatively slow growth rate, males and females reach maturity after 6 years (65 cm TL).

Feeding:

Sub-adults and adults feed in the marine environment, while juveniles feed in the estuarine environment. They feed mainly on cracker-shrimps, blood worms, small crabs, periwinkles and bivalve molluscs.

Distribution:

The main portion of the stock is found in near-shore coastal waters and in estuaries along the Eastern and Western Cape coasts with this species rarely being found in KwaZulu-Natal waters.



Reference: RH Bennett, PD Cowley, A-R Childs, CG Attwood, L Swart & TF Næsje. 2017. Movement patterns of an endangered fishery species, *Lithognathus lithognathus* (Sparidae), and the role of no-take marine protected areas as a management tool. African Journal of Marine Science, 39(4): 475-489, DOI: 10.2989/1814232X.2017.1404493

Special thanks

We would like to express our sincere gratitude for the financial support received from the **South African Association for Marine Biological Research (SAAMBR)** and the **KZN Department of Economic Development, Tourism and Environmental Affairs (EDTEA)**, without which we would not have been able to continue this important project. Most of all we would like to thank all of our active tagging members for their on-going contributions towards linefish research and conservation. **Hallprint@ Australia** is thanked for their excellent service and on-going supply of high quality tags and applicators. **Stefan Oosthuizen** is thanked for his donation to the ORI Tagging Project in 2018. **Neels Koekemoer** is thanked for his assistance in fitting handles to the tag applicators. Lastly, we thank all of the other sponsors who have contributed in some way over the past 34 years, there are simply too many to mention.

How to access the ORI Tag website

- Go to www.oritag.org.za where you will be able to log into your new profile.
- Enter your membership code as your username and use the same password as before.
- The tagging instruction booklet and this edition of the Tagging News are also available on the website.
- Furthermore, the electronic datasheets for tag release and recapture submissions via email/fax are also available for download if you would prefer to continue using these instead of entering your own data online.
- Members who are no longer active are encouraged to consider returning unused tags to ORI so that we can reissue them.

The Tagging News is edited by Gareth Jordaan, Bruce Mann and Colette Bodenstaff

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