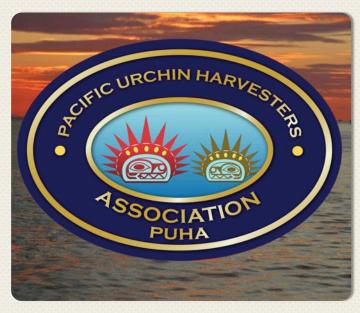


PUHA NEWSLETTER









Presidents Report Mike Featherstone

The 2021 season is now fully underway with mixed results between the south and north fisheries. The south coast red production has been steady and better than previous years, while the north has been slower with good quality difficult to find. In the north slightly over 5% of the

TAC (451,000) has been achieved, where the south almost 35% (715,000) has been landed. Overall, only 11% of the TAC has been landed, (you can see a complete comparison of the last 6 years landings in Darin's report). In the south, the tweaks to the red quota areas

have been positive. The boundary changes provided better access to areas with better quality. Much thanks to all the fishermen who participated in the Quota Planning session last spring and providing the detailed information to our DFO managers.



PRESIDENTS REPORT



MARKETING REPORT



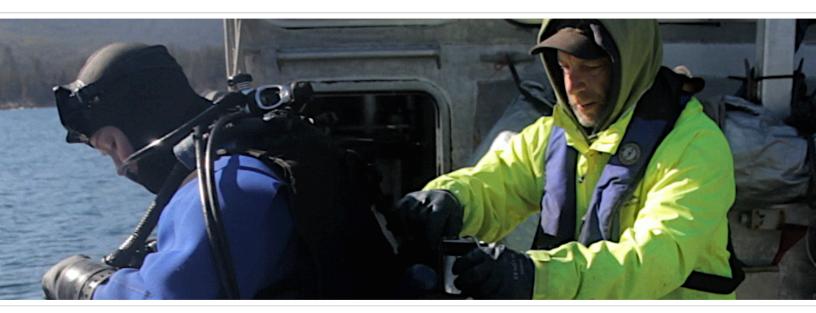
D&D PACIFIC REPORT



Presidents Report / Mike Featherstone Page 2

On a positive note, in the north, the kelp is looking better, and the urchins are full and eating. Although the urchins are not quite ready, the next few months should produce good quality product. It looks like a La Nina is developing, which should keep the waters cool. This is positive for the kelp, however, it may be a stormy winter.

For the green fishery, the urchins are behind previous years, in terms of maturity. The urchin roe is just not quite ready. As a result, current landings are lower than last season. The other Asian markets, Hong Kong, Korea, Taiwan, and China have been reasonably strong, particularly in the run up to the Mid-Autumn Moon Festival. The Mid-Autumn Festival is also called the Moon Festival or the Mooncake Festival. It traditionally falls on the 15th day of the eighth month of the Chinese lunar calendar, which is in September or early October on the Gregorian calendar. In 2021, the Mid-Autumn Festival fell on September 21st (Tuesday). Chinese people have a 3-day public holiday from September 19th to 21st, however the celebrations tend to extend for over a week or longer and there is excitement and preparations a few weeks prior to the holiday.



Two external factors have hampered supply and production. The first is the shortage of labour, many plants simply can't operate at full capacity due to the current labour shortage. There are complaints from other sectors, mostly notably the restaurant and hospitality sector, that the shortage is due to the Government support programs. Many workers in these sectors simply make as much or more money by simply staying home. We will see if this situation improves once the support programs wind down later this month. The second factor is flights, there are a limited number of flights to many Asian destinations and compounding the problem is the increased use of air for more companies to ship their products by air. Further exasperating the problem, flights often get cancelled and product is bumped. This is particularly challenging for fresh sea urchin due to the limited shelf life, not to mention live crab and geoduck. As far as Sea Cucumber, which typically ships by sea, exporters have resorted to air shipments as well, due to the long waits and delays for containers to be offloaded.









Presidents Report / Mike Featherstone Page 3

The Northern Shelf BioRegion MPA - NSB Process is continuing. In complete contrast to the Gwaii Haanas MPA. this advisory group has completely ignored all the recommendations put forth by industry, further to that the economic impacts have been so miscalculated or downgraded it borders on complete incompetence. At this point, the geoduck and sea urchin fisheries stand to bear the greatest impacts. Particularly frustrating is the fact that stopping sea urchin fishing is going to guarantee the ecological goals for kelp forests and bio-diversity will never be met. The process seems to be totally political and not science based. The powers that be should stop hiding Reconciliation behind Conservation and just speak the truth!

It's early October and many of the urchin fishermen have switched to Cucs, by the end of the month urchin fishing should really start to roll.

Best wishes to all!

https://vancouversun.com/news/canada/la-ninaexpected-to-bring-bitterly-cold-winter-weather-tocanada-by-december/wcm/ec632d54-59cd-4d64aa24-6966f224df39

https://www.vancouverisawesome.com/bc-news/ hong-kong-bans-air-canada-flights-from-vancouverfor-2-weeks-4521527

La Niña expected to bring 'bitterly cold' winter to western Canada

Much of Canada can expect the coldest winter since 2013-14, says meteorologist



Oct 15, 2021 • 2 days ago • 4 minute read • 🔲 7 Comments



Hong Kong bans Air Canada flights from Vancouver for 2 weeks

The ban is in effect from Oct. 16 to 29

a day ago By: Kirsten Clarke















Presidents Report / Mike Featherstone Page 4

Industry News

Historic First Nations Agreement: https://www.seafoodnews.com/Story/1205310/Ottawa-to-Implement-Historic-Fisheries-Agreement-With-West-Coast-First-Nations

Ocean's role in CO2: https://phys.org/news/2021-10-microbiology-ocean-role-carbon.html

We need Kelp Forests: https://www.maritime-executive.com/editorials/rainforests-of-the-sea-why-kelp-could-help-save-the-planet

Urchin Pasta: https://www.seriouseats.com/sea-urchin-uni-pasta-recipe

Urchin Slayers: https://www.wired.com/story/urchin-slayers-are-trying-to-save-the-underwater-rainforest/

Covid lockdowns: https://www.cnbc.com/2021/08/16/japan-to-extend-covid-19-state-of-emergency-lockdown.html

La nina?: https://www.theweathernetwork.com/ca/news/article/la-nina-to-emerge-in-aug-oct-season-u-s-weather-service-savs

https://www.theguardian.com/environment/2021/apr/12/sea-cucumbers-organised-crime-smuggling-aphrodisiac-biodiversity-sri-lanka-india

Purples destroy Kelp Forests: https://www.npr.org/2021/03/31/975800880/in-hotter-climate-zombie-urchins-are-winning-and-kelp-forests-are-losing

Kelp and Climate change: https://environment-review.yale.edu/underwater-forests-new-opportunity-climate-change-mitigation

https://www.euronews.com/living/2021/03/10/why-kelp-forests-are-crucial-in-the-

fight-against-climate-change

Kelp Forests collapsing: https://www.smithsonianmag.com/smart-news/satellite-imagery-shows-northern-california-kelp-forests-have-collapsed-180977214/

Sea otters: https://phys.org/news/2021-03-sea-otters-remnants-healthy-kelp.html
Ocean Acidification: https://www.alaskawild.org/blog/acidification-and-the-arctic-ocean/

Urchins: https://phys.org/news/2021-02-sea-urchins-long-held-assumptions-marine.html



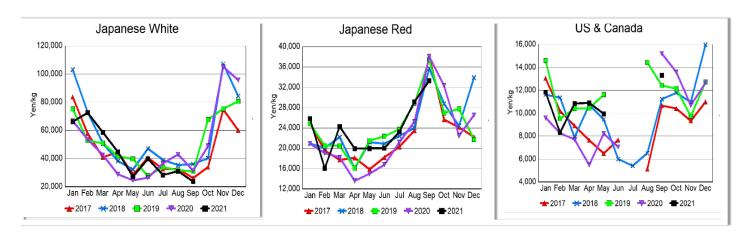




Most everybody is now getting back at it and I have no doubt that most of us are more than likely really hoping that this year will be better than last- in more ways than one. Just to quickly recap last year: on the harvest side, the catch of reds, at 4.98 M lbs. -just north of 48% of the TAC- was at its lowest level looking back to at least 2015-16. The greens however again put on a good show with just under 550 k-lbs or about 95% of the TAC, coming in. So far this season things are looking pretty much the same: reds were at 11.6% (1.2 M lbs.) of the TAC on Oct 12 last year and are at 10.8% (1.13 M lbs.) on the 10th this year while greens were at 31.6% (182.5 K-lbs.) last year compared to 25.9% (167.5 K-lbs.) this year on those same dates.

Just in case anyone is interested- the latest forecast for Pacific Ocean conditions from NOAA (https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf) suggests conditions moved from La Nina (cool) last winter through neutral over the summer and are going back into La Nina for this winter. That at least should be good for the kelp and may also indicate the similar weather trends this year.

Something that has to be of some interest here is that Hokkaido urchin stocks suffered badly this past summer as the area had an unusual heatwave that wiped out over 90% of the urchins around Kushiro and over 50% around Hamanaka. Newly seeded juveniles were also affected and fishing impacts are expected to last for the next 4 or so years. The Kuriles are in the same area and may also have been affected but trade data that might indicate that is not expected to be available for another couple of months because the Russian fleet in the area is generally shut down through to the end of September each year and there is a 1 month lag on the data. Impacts have not apparently shown up in the average Maranaka auction prices - as below- or other market data I follow yet - but I expect they will.



Moving on: starting with something else that is one of those known knowns: we got approved for the Agrimarketing funding through to the end of next fiscal- March 31, 2023. We are preparing for the first show we will be exhibiting at in October, though we will be using in-country representatives as no one I have talked to is real enthusiastic about travelling to China. We are sharing an information counter with the PSCHA and UHA as part of the BC booth so we can jointly and cost effectively extend a presence into this show as a sort of Dive Fisheries of BC. I am currently putting together the exhibit materials (pictures and video) for our show webpage and on display at our information counter and will be getting the training and contact collection materials together over the next few days. This is of course a bit experimental but there are occasions when you just have to do what you can.

I am thinking - well yeah - OK with a bit of luck, more like hoping that the Boston show in March will be a go as an in-person event, even though the continuing bumps from COVID make that uncertain. My thinking right now is that it is a little better than even odds – and improving. That's a good thing too as after that we have ambitious travel plans for next year - Barcelona in April, Hong Kong and possibly Japan in September, China/Singapore/South Korea/Vietnam in October- November and then Boston again in March 2023. However, a lot of that is going to depend on seeing the end to the pandemic and none of the trips are yet a lock.



The fact is that COVID is still causing a lot of disruption around the world. The official death toll globally ranges from about 5.4 million people to upwards of 20 M, depending on the source. Given the contrast in competing narratives on events and the way positions on them are hardening, it is hard to imagine that the disruptions are going to be resolved and disappear anytime soon. Nobody is happy about that but when science saying new mutations are a direct function of the number of active cases is disputed with counterarguments that the remedies are themselves causing the mutations, the upshot in either case is that mutated versions are likely to continue and keep throwing curve balls at us. More encouragingly perhaps, game theory and evolutionary science also suggest that diseases pretty much characteristically evolve so while they spread more easily/readily, they also tend towards becoming less deadly over time - so the infected "hosts" live longer allowing further spread. The new Delta variant follows the first of those pretty well though maybe not the second so much.

At any rate, everybody is tired of the whole thing and more people and countries are resigning themselves to simply living with it so they can just get on with it. That was really showing up earlier in the spring as a lot of people were chomping at the bit to get out and about as worries about the disease faded with the onset of warmer weather. Even though it didn't quite work out as expected, all sorts of projections on economic growth were being upgraded at that time to reflect a welcome return to "normal", with economic growth hitting levels not seen in the West since 1984 when the world was coming off a brutal recession. This was (for those of us with longish memories) a recession initiated by the US Federal Reserve raising and holding the Fed rate to around 20% for over a year to strangle inflation running into double digits. The shock worked and inflation was snuffed



out- but it was hard on a lot of people, businesses and even countries.

The reason I bring this up is because there is a lot of chatter now about how stagflation is again raising its ugly head because there is again lots of money chasing around scarce goods. In this case it is congested supply lines for those goods limiting supply which is especially bad in the face of unexpectedly robust demand. Shipping costs have consequently increased, by more than a factor of 5 in many cases, and ships, trucks, planes, trains and unloading docks are totally backed up - waiting sometimes for weeks instead of days for service. Some companies are of course killing it - shipping profits for example in the second quarter are up 3,400% from the same period last year- but associated efficiency costs now cascading widely.

Part of the problem is the wide adoption of Just In Time manufacturing methods over the past few decades but we are now seeing the downside as whole factories are shut down because they have no parts. Many are increasingly desperate to get things up and running, some reportedly even offering bribes, and expectations for increasing inflation and rising interest rates are again on the table. Those would be particularly painful now as governments, companies and individuals have borrowed heavily over the past decade based on expectations that interest rates would remain low and stable. Its hard to accept the inevitability of it all though because the fact is that if things go back to what they were in the "Good Old Days" (i.e the late 1970's) as some are predicting, it will be nothing short of calamitous for just about everyone everywhere.

As it has turned out, it seems matters and people got ahead of themselves and the Delta variant slammed into a lot of plans pretty hard. In many areas cases again rose, economic activity took another pause and tempers started rising- again. Given all the other things that are going on these days, it is kind of easy to get discouraged and see it all as par for the course. However, another part wonders if this is more simply another twisting of "the narrative" for reasons other than the constructive kind. That, after all, is what much of our new "News" metaverse does: stoke emotions to near hysteria, creating fear and distrust so people remain glued to their screens keep the money and support rolling in for the content creators and their sponsors. I recall being the eastern US a few years ago when there was a storm approaching, one which according to all the broadcasters promised to be the greatest Nor'easter since the early whenever and which strongly counselled that the whole city should hunker down until it passed. It turned out to be a blizzard alright but it was pretty much wrapped up within 12-14 hours. It left maybe a couple feet of snow and most people we talked afterwards were totally underwhelmed- again.



I suspect the same is happening with many narratives we are seeing these days as the world apparently goes to hell in a handbasket. Myself I do not see an approaching Armageddon. We are undoubtedly facing lots of problems, some of which are potentially threatening, some profoundly so to not just our way of life but increasingly to business, trade, and our lives in general. I could put in another couple of pages of detail on that- but I'm pretty sure I'd lose most everyone, so I included a bunch of links at the end showing how there is a lot going on just on case some want to read more about it. There is also however a rising tide of people, organized and individual, around the world with knowledge, science and technology backed by patience, understanding, compassion and resources of many types turning their attention to solve the problems we face. Some of these are new problems while others are characterized as longstanding scars that have been with us for generations. Whatever the case, the point is that there are more people now recognizing them and seeking ways to reconcile our past and current realities so we can have a better future. I believe we - as in humanity- can pull off the feat of saving our civilization and our world and that we will pull it off spectacularly.



Coming back down to Earth, I believe that even with these problems and concerns, logistical backlogs and associated manufacturing glitches: most people are, as the old saying goes, staying calm and carrying on. Of course, those keeping their heads are taking note and will learn lessons so they/we can adjust to make our lives and practices more resilient, but most are still generally hunkering down until things sort themselves out. As the old saying goes- it is really hard to make predictions- especially about the future-but, as you guess, I have enough faith in people everywhere to say that I think we will muddle through - though patience is still warranted.

I will just finish off with a bit of a nod to the NSB MPA Network process. It has basically been on hold since early summer and nothing much has changed since my last report on it back in the May newsletter. I am expecting to hear some news about upcoming meetings soon and am just hoping not too much has changed on the government/governance side in the meantime. The same pretty much goes for the Kuu project- a lot of the people involved have busy summer seasons in the field and are just now finishing up what they have to do so our first meeting is coming up in early November. I am expecting to get some information on the Decadal Management Review for the California MPA network by researchers from California. I will also be keeping in touch with the California Sea Urchin Commission on what they are hearing about the process at various stages before it wraps up in late 2022 or early 2023.

That's about it for now- stay safe. And good fishing eh.







Links for those wanting more:

2021_07_03- Washing Post: Climate change has gotten deadly. It will get worse

2021 07 03- NY Times: How to Destroy Truth

2021_07_03- PhysOrg: Global Climate Change and weather

2021 07 07- Nikkei Asia: Asia's new COVID waves

2021_07_07- New Atlas: Mixed up membrane desalinates water with 99.99 percent efficiency

2021 07 08- SCMP: Hong Kong returns to its old self: economically rich but politically neutral

2021_07_21- Nikkei Asia: China's domination of global finance about to take a quantum leap

2021 07 23- Seafood Source: Ray Hilborn on MPA's

2021 07 27- PhysOrg: Kelp collapse trend

2021_08_04- NYT: What if humans just can't get along any more?

2021 08 05- SCMP: Why the backbone of China's economic machine is falling apart

2021_08_05: Nikkei Asia: Japan's longevity crunch can shape a new, kinder capitalism

2021 08 05: Nikkei Asia: Bangkok's streets expose Southeast Asia's new divides

2021_08_13- Nikkei Asia: Analysis: Xi aims to mobilize the masses with populist crackdowns

2021_08_24- NYT: Work is a False Idol

2021_08_26- Nikkei Asia: Analysis: Xi's leftward shift to a socialist China is for real

2021 08 27- Nikkei Asia: 'Nationalist consumption' boosts Chinese fashion industry

2021_08_28- G&M: Rent-a-robot: a new answer to labour shortages in smaller factories

2021 09 04- Nikkei Asia: Hong Kong's troubles are deeper than even its own leaders realize

2021 09 04- CBC: Sea cucumber die off around Nanaimo

2021 09 04- Nikkei Asia: A bad turn in China?

2021_09_08- G&M: Beijing's frosty response to U.S. initiatives could lead to more confrontation

2021 00 00- NVT: 'Reversing Gears': China Increasingly Rejects English, and the Worl



2021 09 09- NYT: 'Reversing Gears': China Increasingly Rejects English, and the World

2021 09 09- Nikkei Asia: George Soros' China haymaker leaves BlackRock bleeding

2021_09_10- WAPO: Biden and China's Xi speak for a second time amid rising tensions

2021 09 11- Nikkei Asia: Will Xi move on Taiwan? History warns he might

2021_09_13- Mother Jones: Purple-Urchin Slayers Trying to Save Pacific Kelp Forests states categorically in this article that the existence of the MPA's prevented control of the urchins which led directly to the destruction of the kelp and the subsequent loss of ecological value for the area around Monterey. Of course there are arguments for leaving nature to heal itself- we know the sorts of groups in which that opinion prevails. This might be another half decent piece of info to support our position on the NSB.

2021 09 16- PhysOrg: Imaging in murky water

2021 09 16- PhysOrg: Anoxia drives fish into shallower water

Urner Barry Reporter- Fall 2021: Transport- is all fouled up all over the place. If it isn't a shortage of planes, trucks, drivers or shipping staff, it's high priced pallets, fuel, containers, packaging, and/or backed up and overloaded ports, transfer stations and even equipment maintenance services. With all that and more affecting efficiency and capacity, and no reprieve in sight, it might be a difficult season.

Factoid: death by suicide for US farmers in 2017 was 43 per 100 K- nearly 2x that of all other professions. Got a suspicion that 2021 is going to be considerably higher- what with the drought on top of COVID - so if you know people in drought affected areas, do your bit and check in with them to see how they are doing.

2021 09 21- Nikkei Asia: How Evergrande could turn into 'China's Lehman Brothers'

2021 09 21- Nikkei Asia: China's entry to CPTPP trade pact could be closer than you think

2021 09 23- Nikkei Asia: The new population bomb

2021_09_26- WAPO: In case you though it was over- US constitutional crisis already here

2021 09 27- NYT: This might be China's "Babaru" moment

2021 09 27- G&M: The global economy looks solid, but these are the big risks ahead

2021 09 27- Nikkei Asia: China's fiscal deficit follows Evergrande, power crunch as next worry

2021 09 27- Cleantechnica: What you won't hear about in the news about auto chip shortages

2021 10 05- NYT: A Scary Energy Winter Is Coming



2021 10 07- Nikkei Asia: Evergrande problems signal basic shift in China's economic model

2021_10_08- WAPO: What if, instead of confronting China's rise, we must manage its decline?

2021_10_09- Nikkei Asia: Hokkaido sea urchin and salmon decimated amid rare red tide

2021_10_09- SCMP: From Mao to now: Shambaugh compares and contrasts China's leaders





RED SEA URCHIN FISHERY - To October 1st, 2021

North Coast Fleet

- A revised North Coast Protocol was approved for this season. Past seasons have shown a trend in the hail program being taxed with vessels who open / close then repeat QMAs within 5-7 days of each request
 - The new protocol will open a block of QMAs at a time and the fleet(s) will work within the block until they have surveyed/harvest all areas
 - Online at D&D's website
 - RSU 2021-22 NC PROTOCOL.pdf (d-dpacificfisheries.com)
- Vessels started fishing September 2nd
 - Landings consistent around quality and weather
 - 2-day packer loads on average
- Banks Island QMAs produced minimal quality and the fleet moved to the Dundas block of QMAs until weather shut the fleet down
- The fleet has since fished in all blocks and is currently in the Aristazabal block on a 2-day packer cycle

South Coast Fleet

- Commenced August 1st in
 - Victoria
 - o Comox
 - o Campbell River
- Other vessels started and landing out of Steveston with a packer
- Harvest was consistent in August and into September with Kelsey Bay starting to see landings
- Some vessels fishing greens at the same time
- Minimal activity while the Sea Cucumber fishery is active

General

- o Breaches to the conditions of licence minimal to the start of the season
- Hails to harvest and Hails to offload are the primary issues
- Issues around processing with minimal staff due to the COVID holiday is being reported across the fishing sector

Figure 1 – RSU Landings by Season to Date - 5-Year Trend

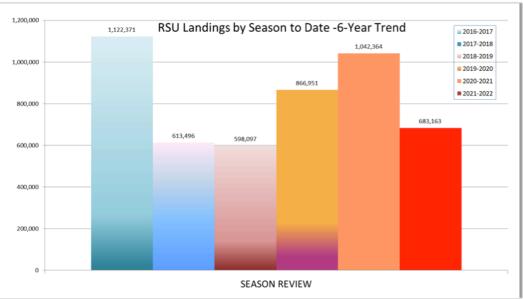
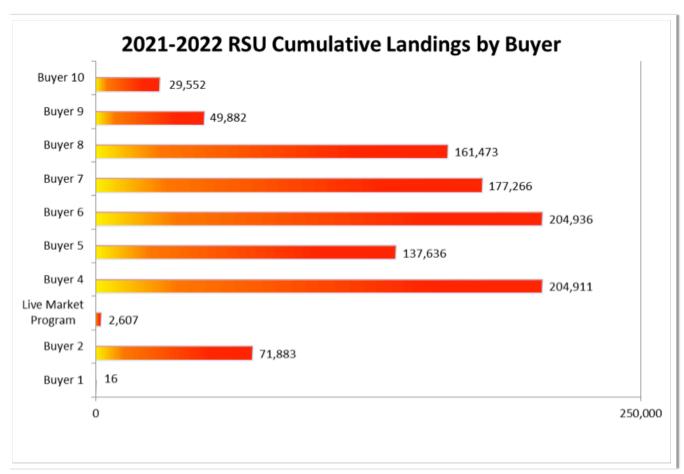


Figure 2 – RSU Cumulative Landings by Buyer





D&D Pacific Report/Darin Macey Page 13

2021-22 GSU FISHERY- To October 1st 2021

- The 2021-22 GSU season started quiet compared to the past few seasons
- Harvest out of the Victoria QMAs did not happen in September due to quality
- Campbell River and Kelsey Bay commenced harvest and continued up to the start of the sea cucumber fishery
 - Minimal activity continues
- Adherence to Conditions of Licence overall good
- New Exploratory QMAs created this season on the Sunshine Coast and Comox

FIGURE 3 – GSU HISTORICAL LANDINGS BY MONTH 6-SEASONTREND TO OCTOBER 1ST 2021

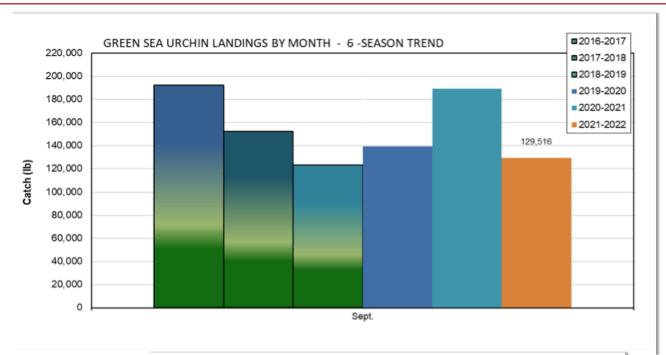




Figure 4 – GSU Landings by Buyer To October 1st 2021

