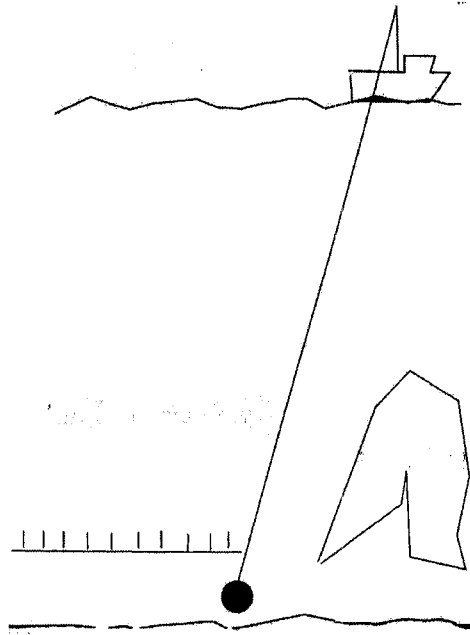


Shrimp Fly Troll Gear:
A Preliminary Report
On
Test Fishing Conducted Under EFP # 41
May 2004 and June 2005



Prepared for:
GOA Plan Team Meeting
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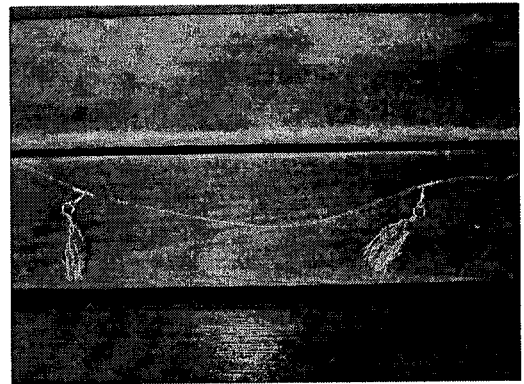
Introduction:

The Alaska Longline Fishermen's Association (ALFA) recently completed test fishing of prototype hook and line gear capable of harvesting underutilized species of rockfish in the southeast outside area (SEO) with minimal bycatch. Pacific ocean perch (POP), the pelagic shelf rockfish (PSR) complex and the other slope rockfish (OSR) complex have not been effectively targeted by commercial fishing operations since a 1998 prohibition on the use of trawl gear in the SEO area. For example, in 2003 approximately 1,600 mt of (POP), 4,000 mt of (OSR) and 800 mt of (PSR) complex remained un-harvested.

Based on the test fishing¹, a gear type new to Southeast Alaska called "shrimp fly troll gear" appears to have commercial potential for silvergrey rockfish (OSR complex), yellowtail, dusky and black rockfish.

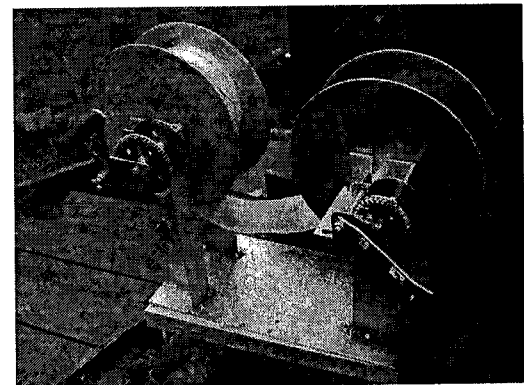
Methods:

Shrimp fly troll gear has been used to commercially fish for several rockfish species in California and Oregon. Monofilament longlines with up to 200 artificial lures called "shrimp flies" are attached to a troll wire and slowly trolled through a school of fish. After each pass, the longline is brought to the surface using a troll gurdie and hauled onboard using a small drum. The fish are removed and the gear is overhauled before being set again.



To test the shrimp fly troll gear, ALFA built several 50 hook shrimp fly "trains." Each train consisted of a 400 lb. test monofilament main line 11 fathoms long. A shrimp fly lure was attached to the train every 15" with a # 2 branch swivel and a split ring. The shrimp flies were tied using a # 6 stainless hook with nylon flashabou seized to the shank.

Deck equipment for handling the trains consisted of a troll gurdie with a 70 lb lead weight to bring the train down to depth, and two aluminum reels (hand or hydraulic powered) to set and retrieve the train. The first reel held the shrimp fly train, the second reel held a layer of plastic carpet runner which was fed onto the first reel to lay between each turn of the shrimp fly train while winding. The plastic separated the hooks from the underlying layer thus preventing tangles.



¹ See Southeast Outside Rockfish: *Hook-and-Line Techniques for Harvest of Underutilized Stock: Phase One Summary* for additional details on the gear types tested.

In May of 2004 and June of 2005, The F/V Joseph a 42' troller was chartered for a total of 12 days to test fish the shrimp fly troll gear. Test fishing was conducted under an Exempted Fishing Permit (EFP # 41) which allowed up to 179 mt. of groundfish to be taken in this project. An independent, qualified observer on was board to document catch and bycatch.

Results:

Test fishing occurred at 19 stations along an 80 mile stretch of the outer coast of Baranof Island (Figure 1). Stations were selected based on local knowledge and areas of high abundance identified from trawl surveys. The gear was deployed a total of 108 times in depths ranging from 8 -122 fathoms (Figure 2). Depth off-bottom was generally 2-5 fathoms when targeting silvergrey/POP, and 2 to 15 fathoms when targeting black, yellowtail and dusky rockfish. **It should be noted that during the 108 deployments, not a single halibut or sablefish was caught.** (Figure 3)

Consistently high CPUE was observed for silvergrey rockfish using the shrimp fly gear (Figure 4). Once the fishing technique of trolling up to a school and drifting through it while slowly jigging the gear was developed, catches of 25 to 35 fish on a 50 hook train were not uncommon. This high CPUE was achieved on two separate charter days in 2004, and again in 2005. A total of 4,226 lbs. of silvergrey was harvested during the test fishing. Bycatch of other rockfish species when targeting silvergrey's was minimal (Figure 5).

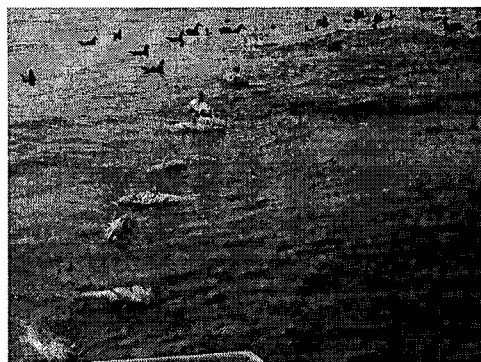
Black, dusky and yellowtail rockfish (PSR complex) also appear to be exploitable using shrimp fly gear with catches of 10 to 20 fish on a 50 hook train being common. (Figure 6). Although black rockfish are currently available for harvest using jig gear, the skipper of the F/V Joseph expressed an interest in using the shrimp fly gear because of its ability to fish deeper water and marginally rougher weather. CPUE for dusky and yellowtail rockfish were much less consistent (Figure 7). One tow on a deep water pinnacle yielded 20 dusky and 4 yellowtail on the 50 hook train, but this was not repeatable. A total of 580 lbs. of black, yellowtail and dusky rockfish were harvested during test fishing. Bycatch of other rockfish species was again minimal when targeting black rockfish or the PSR complex (Figure 8 & 9).

Surprisingly, POP, one of the primary target species of the project, was not caught in any quantity. The Captain of the F/V Joseph believes that POP schools were not seen during the four days spent testing the gear in deep water, and that further testing at different times of the day may yield better results with POP.

In response to concerns over juvenile rockfish interception, size data were collected after each successful tow (Figure 10). The data indicate that juvenile rockfish were not disproportionately targeted by the gear. In fact, some of the silvergrey rockfish caught approached record size.

Finally, seabird interaction was monitored during test fishing by the observer. Interaction was minimal on the near-shore sets. However on the deep water sets, there

were significant numbers of seabirds around the boat. No seabirds were hooked during the test fishing and there was little interaction during deployment of the gear. The birds did not seem interested in the artificial lures. Upon retrieval, however, seabirds frequently attacked the fish as they floated on the surface awaiting retrieval.



Markets

The Exvessel value of the species caught during this project ranged between \$0.15 and \$0.35/lbs. (Figure 11) This price was lower than \$0.30 to \$0.40/lbs paid for round, bled, iced rockfish caught incidental to the halibut fishery. The lower price was largely due to uncertainty in the size of deliveries associated with the test fishing and the timing of the deliveries with respect to other fisheries such as salmon. Local processors see some room for growth in the ex-vessel price of the directed fishery as markets develop and supply becomes consistent.

Management Considerations:

Shrimp fly troll gear appears to have potential to commercially harvest several underutilized species in the SEO area with extremely low bycatch of traditional species. This success depends on locating distinct schools of fish and enticing them to bite on an artificial lure. The low ex-vessel value of these species will likely keep this fishery as an entry level fishery or a fill-in fishery between salmon and other seasons.

Unresolved management issues include gear type classification and possible limitations on the number of hooks deployed to minimize seabird interactions. An appropriate TAC for silvergrey should be established as part of the OSR complex or as a stand alone ABC/TAC. A directed fishery can only be developed if the OSR complex is taken off bycatch status in the SEO area. Finally, consideration should be given to limiting the fishery to shrimp fly gear and artificial lures to minimize bycatch of halibut, sablefish, and other rockfish species.

ALFA is requesting the Plan Team review the above information, identify conservation issues and management approaches for this gear type, and if possible, identify the steps necessary to permit the use of shrimp fly troll gear in Southeast.

Figure 1

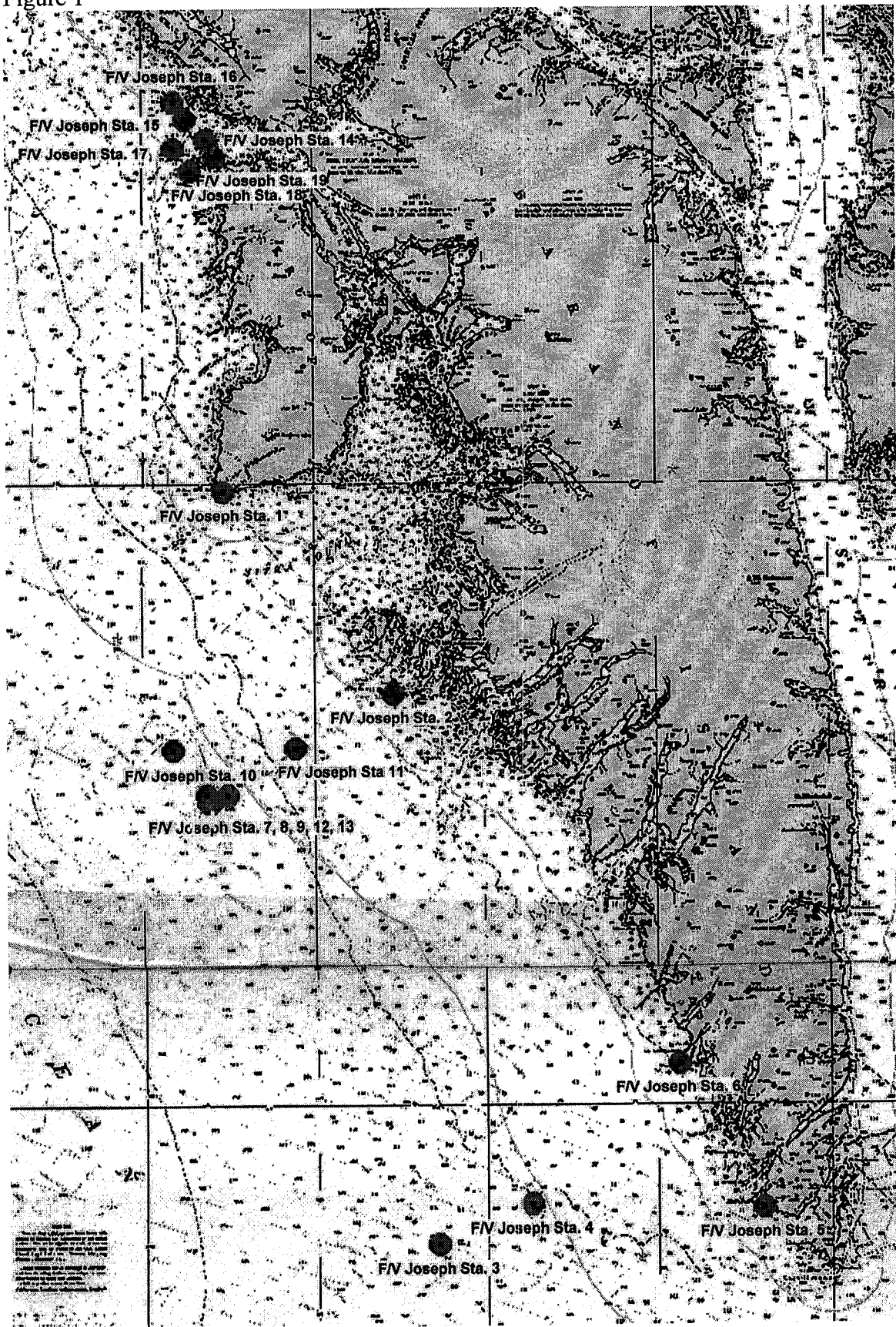


Figure 2

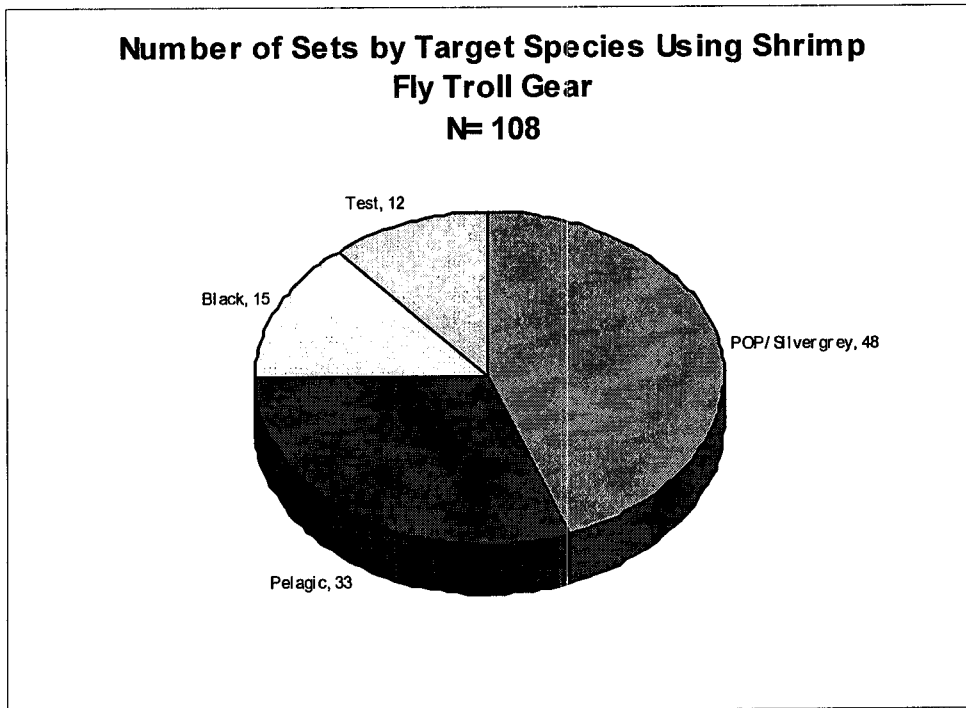


Figure 3

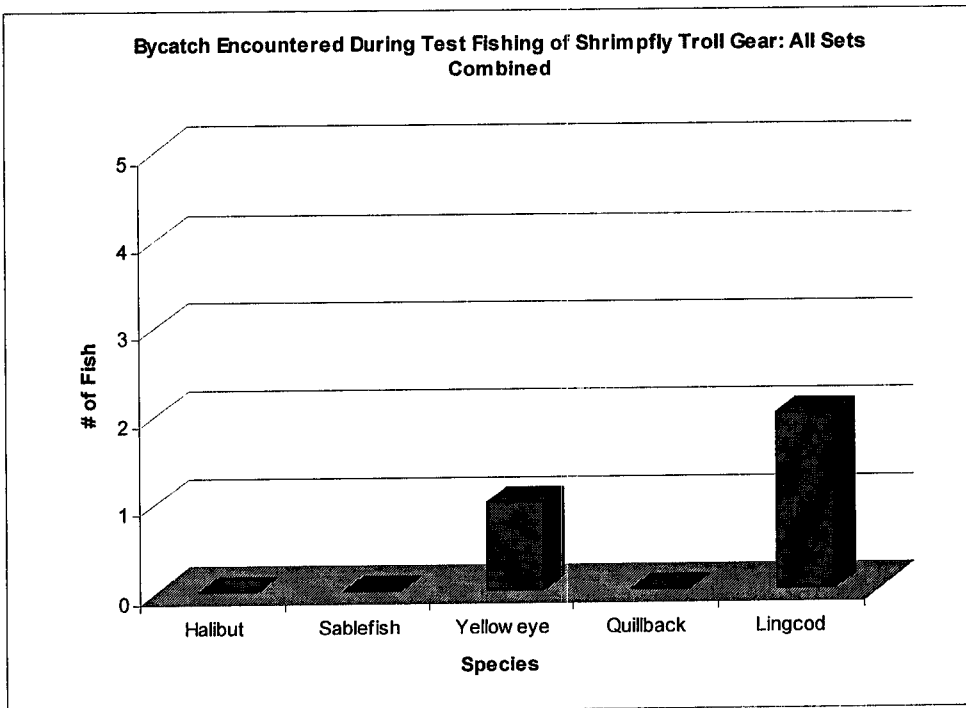


Figure 4

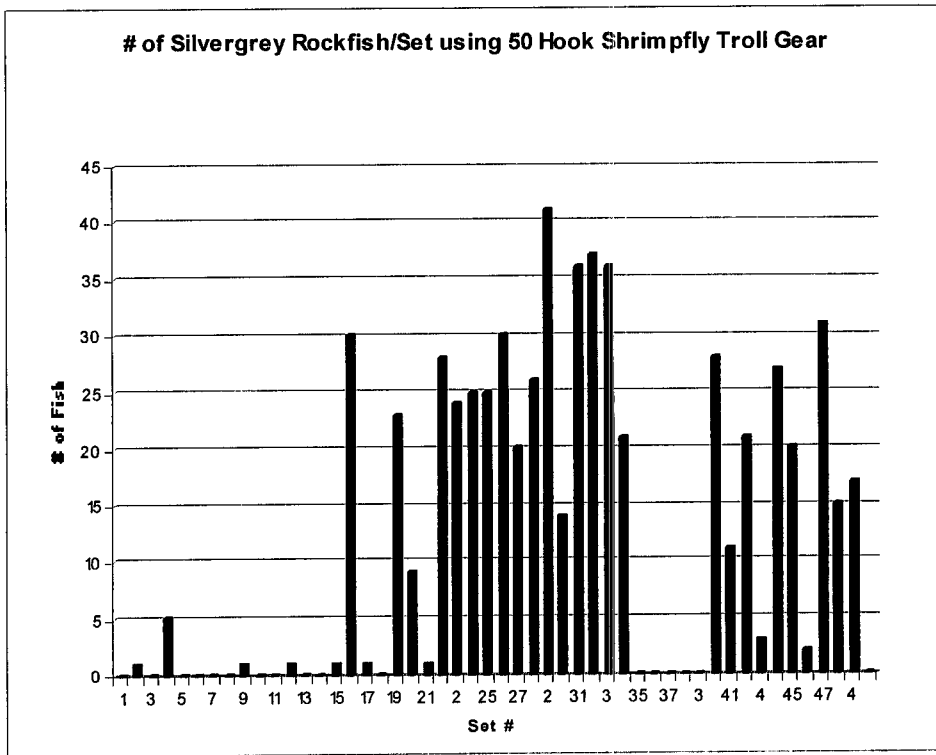


Figure 5

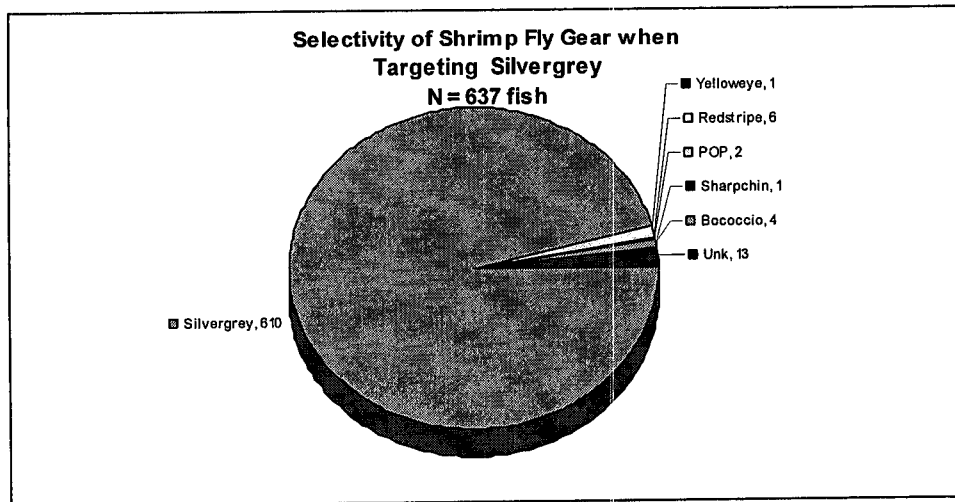


Figure 6

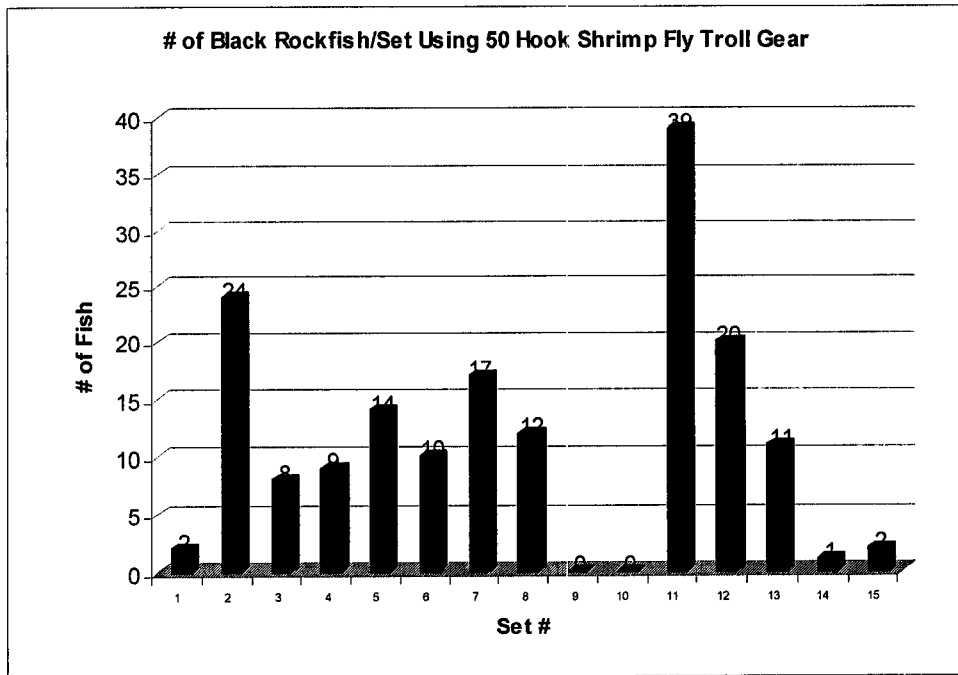


Figure 7

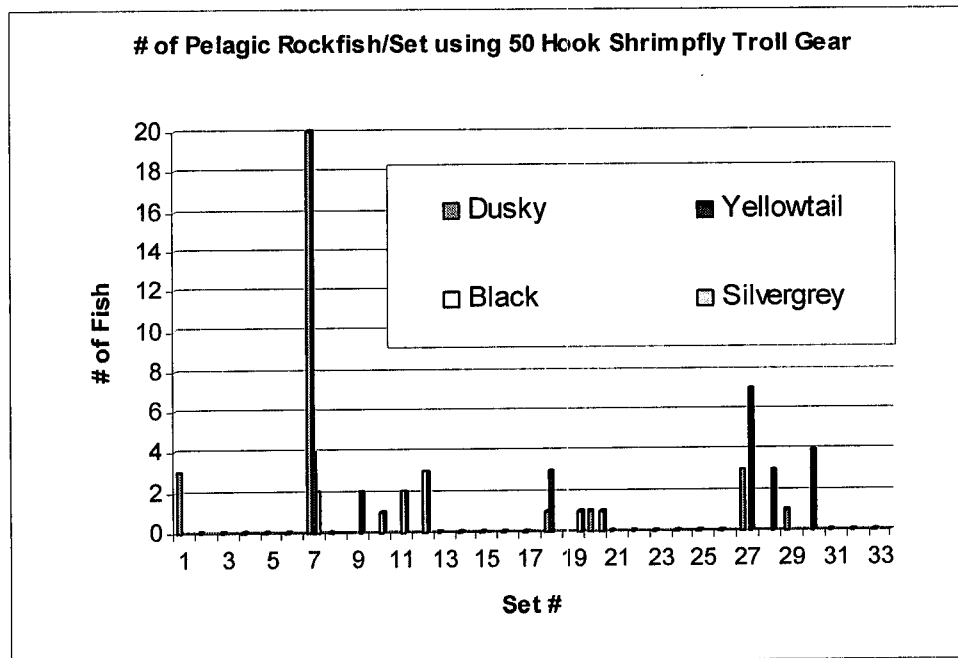


Figure 8

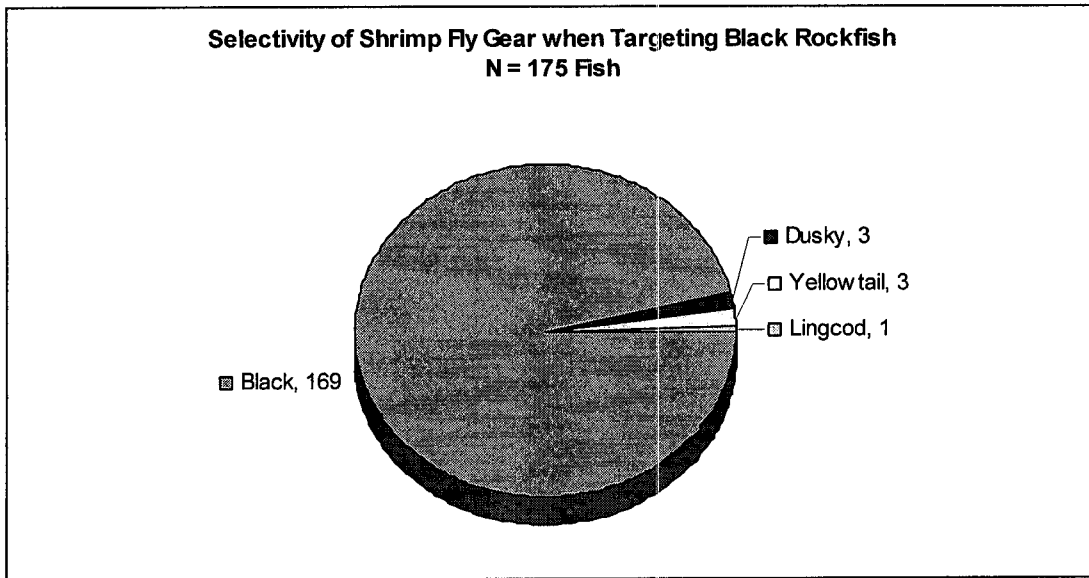


Figure 9

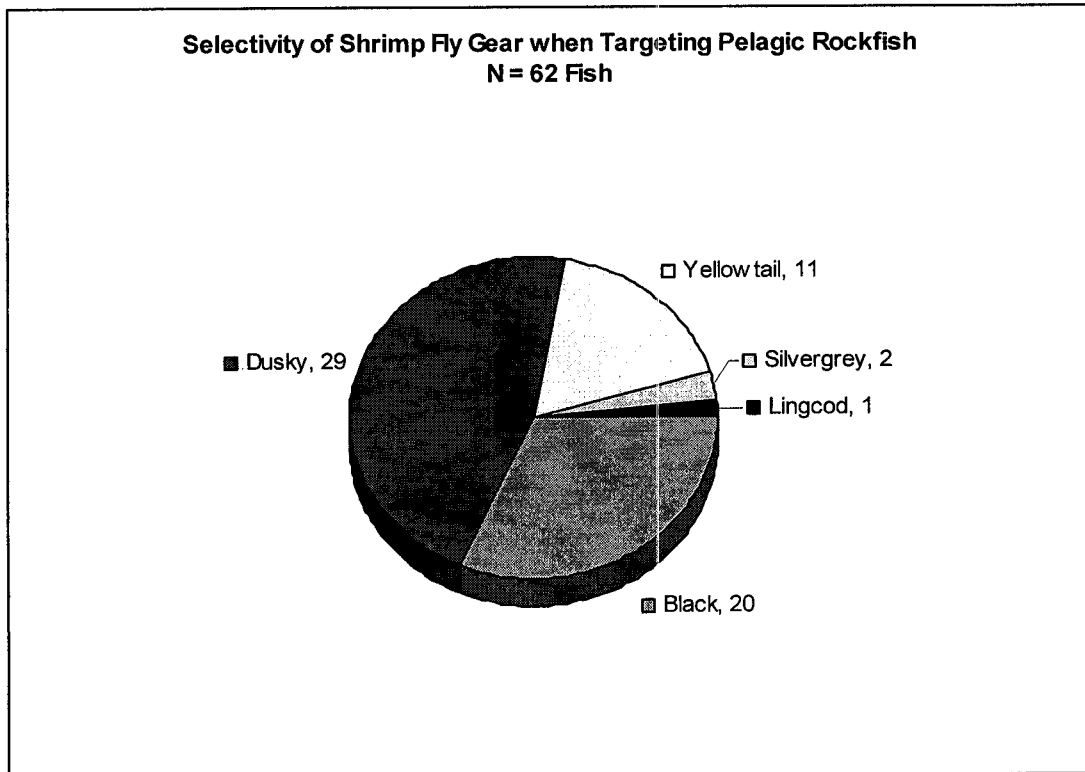


Figure 10

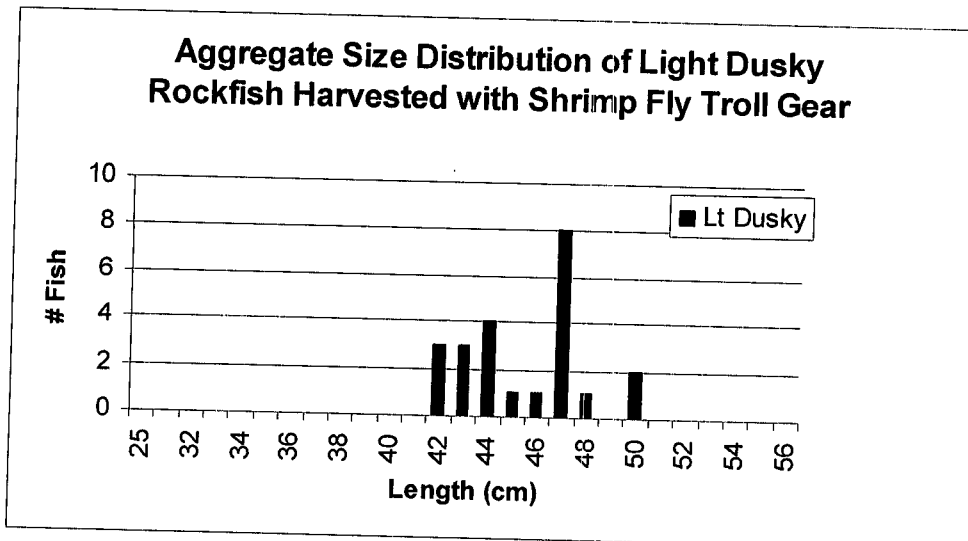
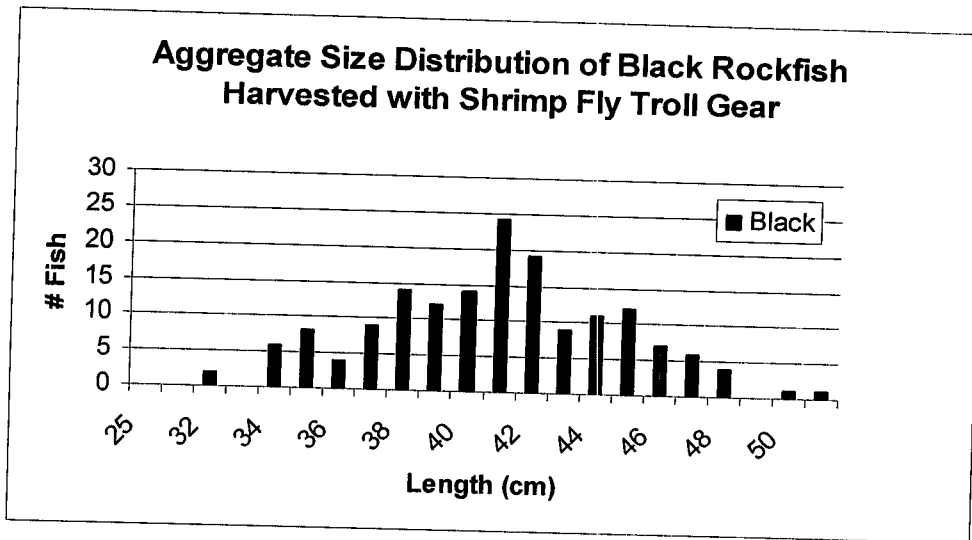
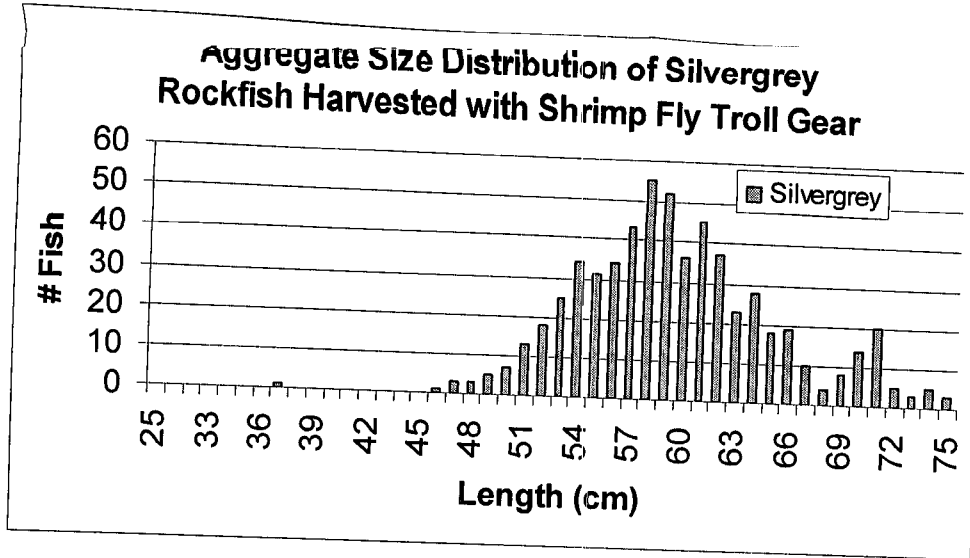


Figure 11

Species	2004			2005		
	Lbs.	Price/Lbs.	Total	Lbs.	Price/Lbs.	Total
silvergrey	3,153	\$0.15	\$472.95	1,073	\$0.25	\$268.25
black	483	\$0.35	\$169.05	27	\$0.25	\$6.75
yellowtail	19	\$0.15	\$2.85	14	\$0.25	\$3.50
dusky	78	\$0.15	\$11.70	11	\$0.25	\$2.75
Bocaccio	27	\$0.15	\$4.05			
Redstripe	12	\$0.15	\$1.80			
POP	2	\$0.15	\$0.30			
Yelloweye	6	\$1.00	\$6.00			
Total			\$668.70			\$281.25