SAIPAN SHORE-BASED CREEL SURVEY DOCUMENTATION

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CONTENTS

Page

LIST OF TABLES

Tables Page

1.0 INTRODUCTION

The purpose of this manual is to document the CNMI[1] Department of Land and Natural Resources Division of Fish & Wildlife (DFW) Shore-based Creel Survey Program and to provide standard guidelines for this program. This manual may be used by creel survey program managers, data collection technicians, data entry technicians, data managers, and programmers to guide their work and to train new staff. This manual can also be provided to users outside of DFW who want to learn more about the island creel survey programs. DFW also has a Boat-based Creel Survey Program that monitors fishing activity that originates from boats. A similar manual is available for that program (see Oram, Risa. et al., 2010. *"Saipan Boat-based Creel Survey Documentation"*).

The objective of the Saipan Shore-based Creel Survey Program is to quantify participation, effort, methods used, and catch from near shore fishing to support management CNMI's marine fishery resources. Effective management of these resources requires the collection and analysis of shore-based fishery data. The Saipan Shore-based Creel Survey Program is one of the major data collection systems used by the DFW to survey near shore fishery resources. This survey was formerly known as the Saipan Inshore Creel Survey. The preferred term is "shore based" because it covers all fishing done from shore regardless of where the fishing occurred, for example, inside or outside the reef or lagoon. This is an important distinction because where the fishing activity is initiated (shore vs. boat) determines how the fishing is accounted for in the survey systems. For instance, the fishing activity of a small boat (without a motor) that is easily launched from the shoreline to hold gear (net, coolers, floating devices) is included in the Shore-based Creel Survey Program.

DFW had an early creel survey data collection program in 1984 and 1990 to 1994, however since the methods were not standardized, the data collected in that program is not being used. The early program was terminated due to a lack of resources. In May 2005 the DFW fishery staff reinitiated the Shore-based Creel Survey Program following an 11-year hiatus. With the assistance of the Western Pacific Fisheries Information Network (WPacFIN) program at the Pacific Islands Fisheries Science Center (PIFSC), data processing software and a database were developed to process these survey data. Data expansion software was also developed to create annual expanded (estimated) landings for this fishery.

This manual covers data collection procedures for the CNMI Shore-based Creel Survey Program, including: survey sites, survey methodology, survey scheduling, and quality assurance and quality control procedures. Survey forms and maps used by the pare shown in the Appendices.

[1] Commonwealth of the Northern Mariana Islands, also known as Saipan

2.0 SURVEY METHODOLOGY

Saipan's Shore-based Creel Survey is a stratified, randomized data collection program. This program collects two types of data to estimate catch and effort information and to monitor fishing activity of the shore-based fishery: 1) Participation Counts to collect effort data, and 2) Interviews to collect catch and effort data. The data collected are expanded at a stratum level (expansion period [quarterly or annually], day type [weekday or weekend], day or night, and gear type) to create the estimated landings by gear type for this fishery.

3.0 SURVEY SITES

The Shore-based survey currently covers just the Western Lagoon of Saipan. The Western Lagoon starts from the northwest (Wing Beach) and extends to the southwest (Agingan Point) of Saipan. This encompasses over 20 accessible and highly active shoreline access points (see "Appendix 1 Shore-based Survey Sites Map"). Other accessible areas are not covered at this time due to existing limited resource availability and logistical constraints. Also, the unsurveyed portion of the island is less accessible and less frequently fished.

4.0 DATA COLLECTION

Saipan's Shore-based Creel Survey Program uses a Shore-based Participation Count that involves counting the number of people fishing at the scheduled survey route, where their trip originated from the shoreline and not using a boat; and a Shore-based Interview that involves interviewing fishermen to determine catch, method used, lengths and weights of fish, species composition, catch disposition, and if any fish were not kept (bycatch).

4.1 Participation Count

The Saipan Shore-based Participation Counts (also locally referred to as PAR) collect fishing effort information by counting the number of fishermen fishing along Saipan's western coastline, on a minimum of 32 surveys per quarter (8 weekend/holidays (WE/H) days, 8 WE/H nights, 8 weekdays (WD), and 8 WD nights per quarter). Participation data are used to calculate the fishing effort (per hour) at the stratum level (expansion period [quarterly or annually], day type [weekday or weekend/holiday], day or night, and gear type). In addition, the data are used to calculate the adjustment ratio of sampled versus non-sampled ports to create an island-wide expanded estimate of landings.

Staff drive along the designated survey route (see "Appendix 1 Shore-based Survey Sites Map") and make visual observations of fishing activity occurring. Participation data are recorded on a Shore-based Participation Survey Form (see "Appendix 2 Shore-based Participation Count Survey Form"). Any activity that involves a motorized vessel is not counted unless the vessel is used primarily for transporting such items as gill nets, surround nets, and drag nets and was launched from a beach, not a boat ramp.

The Participation Count Survey Form includes:

- Date of survey.
- Type of day – weekday (WD) or weekend/holiday (WE/H).
- Interviewer's name.
- Shift start and end time (military).
- Start location of survey.
- Time of fishing observation (military).
- Number of fishers.
- Number of gears.
- Fishing method.
- Reef zone fished.
- Weather conditions, including clouds.
- Surf conditions.
- Tide.
- Fishermen's ethnicity (if possible).

Each of the access points are visited only once for about 10 minutes and all shore-based fishing activities are recorded. Travel time between two observation posts are limited to safe driving practices.

4.2 Interview

The Saipan Shore-based Interviews (also locally referred to as Creel) collect data on fish catch by interviewing fishermen after they return from their fishing trip, or in some cases, while they are still fishing. Data collected during interviews are used to analyze fishing effort and species composition, for example, interview data are used to calculate catch per unit (hours fished) effort (CPUE) at the stratum level (expansion period [quarterly or annually], day type [weekday or weekend], day or night, and gear type). Detailed species composition and length-weight information are collected and used to calculate length-weight regression analyses, and to create estimated landings for individual species. Interview data are collected, as a minimum, 32 surveys per quarter (8 weekend/holidays [WE/H] days, 8 WE/H nights, 8 weekday [WD] days, and 8 WD nights per quarter.) (See Table 1). Interview data are also used to validate other DFW fishery-independent data collection programs.

On a scheduled survey day, staff interview fishermen who fish along the coastline to collect creel data. Data are recorded on a Shore-based Interview Survey Form (see "Appendix 3 Shore-based Interview Survey Form").

The Interview Survey Form includes:

- Whether this was an opportunistic interview or not.
- Interview number.
- Date of interview.
- Type of day – weekday (WD) or weekend/holiday (WE/H).
- Number of fishermen.

- Interviewer's name.
- Time of interview.
- Start time and stop time of fishing.
- Day before (when the fisher has been fishing since the day before the interview, for example, the fisher started fishing at 7 PM Sunday night and the interview was conducted at 2 PM on Monday afternoon).
- Day after (when the fisher will be done fishing the day after the interview, for example, the interview is conducted at 12 PM on Friday and the fisher is planning to stay overnight fishing until 6 PM on Saturday).
- Break hours taken during fishing.
- Fishing method.
- Number of gears.
- Location.
- Reef zone.
- Weather including cloud cover.
- Surf.
- Tide.
- Fishermen's ethnicity.
- Percent of fish unsold; percent of fish sold; and buyer.
- Fish species name or code.
- Fish length in centimeters and fish weight in kilograms.
- Total number of fish (actual or estimated).
- Total weight of fish (actual, calculated, or estimated).
- Bycatch – if any fish were thrown back; bycatch species name; fishing method; released alive or dead; approximate length and/or weight of bycatch, total number of fish for each species (actual or estimated); total weight of fish (actual or estimated).

Staff attempt to complete as many interviews for different methods as possible during the survey period. Staff interview fishermen using the least-encountered fishing methods first. Even while conducting a participation count — if staff see a fisherman who is finished fishing with a method that is difficult to obtain (that has fewer than three interviews in the past quarter) — staff should conduct an interview during the participation count.

4.2.1 Fish Identification, Measure, and Weight

During the interview, staff ask if they may examine the catch to measure and weigh the fish caught. For smaller catches, staff attempt to measure, weigh, identify, and count all the fish (time permitting). At times, fishers will allow staff to obtain both length and weight information, especially for rarely seen specimens. This is important for improving length-weight regressions. For large catches, staff attempt to quickly identify and count all the different species and measure at least three individual fish per species. For each species measured, the individual fish are randomly selected with no preference for size. For species with two or more definite size categories (e.g., 3-5 lbs of vs. 15-20 lbs of tuna), at least three individual fish per size category are measured. When an interview is difficult to obtain (e.g.,

the fisherman is a rush), staff attempt to estimate the fish catch by species level or by family level (e.g., miscellaneous reef fish, miscellaneous bottomfish).

Several standard units of measurement are used. All fish are measured with measuring boards or tapes, weighed with scales, and the data is recorded in millimeters/centimeters and grams. For finfish with forked tails, fork length (FL) is the standard unit of measurement. For species with rounded or truncated tails, FL equals total length.

4.2.2 A Complete Interview

A complete interview accounts for all of the catch and ensures that there are no missing or erroneous data. It is important to have a complete measure of all the catch per interview since these data are used to determine the average catch per unit (hours fished) effort (CPUE) calculation. If the staff are unable to count all of the catch during an interview, they do not have the whole landing for that period of fishing activity. When all catch cannot be measured individually during the interview (e.g., the fisher was in a rush or uncooperative), staff attempt to 1) estimate the total number of fish per species, or if they cannot do that, then 2) estimate the total weight of the entire catch per species. If not all fish are measured, and an estimate of species composition and weight per species cannot be made, this entails an incomplete interview and is not used in the data expansion process.

5.0 SURVEY SCHEDULING

Although this document is primarily concerned with the Saipan Shore-based Creel Survey Program, it is important to mention the Boat-based scheduling methodology because the two programs are interrelated (sharing staff and resources). Scheduling for both of these programs usually occurs on a quarterly basis. These two types of surveys (Boat-based and Shore-based) are not conducted on the same days. Since the Boat-based fishery is more active than the Shore-based fishery and the Boat-based survey requires a full-day survey, scheduling is conducted for the Boat-based Creel Survey Program first, followed by the Shore-based Creel Survey Program. This means that the dates that were selected during the Boat-based Survey are removed from the selection pool for the Shore-based Program.

Scheduling for the Shore-based Program was set up with the limited logistical resources in mind. It has been designed and implemented to get the best representative samples as possible with the available resources. Consequently, the minimum scheduling times are not statistically ideal samples, but are constrained by local resources.

5.1 PIP/IPI Survey Type

For the Shore-based survey, the Participation (P) Count data are collected separately from the Interview (I) data. For example, during a survey day, it normally requires two hours to make a complete run. A run consists of driving from one end of the survey route to the other end and collecting either Participation Count or Interview information.

Saipan Shore-based Creel Survey

In the initial survey design, staff would make a run to collect Participation Count and on the way back they would conduct the Interviews. Since staff are scheduled for eight-hour shifts, and some time is needed for preparation and wrap-up for each survey day, the staff are actually only collecting six-hours of data for each scheduled survey day. Due to this time constraint, and the need to collect participation and interview data for all time periods in any given quarter, new "survey types" were created to address these issues. These are the "PIP" and "IPI" (or Participation-Interview-Participation and Interview-Participation-Interview). On a particular survey day, staff start either with a "P", and follow with an "I" and complete it with a "P", or vice-versa with an I-P-I. This PIP and IPI data collection pattern is also a part of the random scheduling.

There are four shifts, divided into two day-time shifts (6:01 – 12:00 and 12:01 – 18:00) and two night-time shifts (18:01 – 24:00 and 00:01 – 6:00).

A weekend/holiday is normally defined as either a weekend or a government-recognized holiday. Weekends and holidays are grouped together as a single stratification for scheduling and data expansion purposes. Weekends and holidays start from Friday evening at 18:01 and end on Sunday evening at 18:00, and include the evening shifts (18:01 – 24:00 and 00:01 – 06:00) before a government-recognized holiday. For example, when a holiday falls on a weekday, the night shift (18:01 – 24:00 and 00:01 – 06:00) on the day preceding a holiday is considered a weekend/holiday. However, no survey is scheduled for the 00:01 – 06:00 shift due to government restrictions about working on holidays so this shift is not part of the scheduling selection. Furthermore, there is a restriction on working overtime due to lack of funding .

A weekday is normally defined as starting on Sunday evening at 18:01 and lasts until Friday evening ending at 18:00 and includes the evening shifts (18:01-24:00) on a government-recognized holiday. However, no survey is scheduled for this shift due to government restrictions about working on holidays so this shift is not part of the scheduling selection.

Scheduling for the Shore-based Creel Survey is stratified first by day type (weekend/holiday or weekday). A schedule is created to provide a robust coverage of participation counts and interviews for all two-hour segments of the day and night. Next, the schedule is stratified by survey type (PIP, IPI), and finally by shift times as shown in Table 1.

Table 1. Shore-based Participation and Interview Survey Schedule

Location	Day Type	Survey Types	Minimum Surveys per Quarter	Shift Times
Western Side of Island	Weekend / Holiday (WE/H)	PIP, IPI	4	06:01-12:00
			4	12:01-18:00
			4	18:01-24:00
			4	00:01-06:00
	Weekday (WD)	PIP, IPI	4	06:01-12:00
			4	12:01-18:00
			4	18:01-24:00
			4	00:01-06:00

5.2 Scheduling Order

The scheduler first prints out two copies of blank calendars for each month to be scheduled. One copy of each month is set aside for writing the schedule onto as the dates are chosen. The other copy of each month is cut into small pieces so that one date is on each piece of paper (e.g., June 06). These dates are separated into weekends/holidays and weekdays and are placed into two separate containers (one for weekends/holidays and one for weekdays). Care should be taken for the evening shift (18:01 – 24:00) before a holiday, and the Sunday evening shift (18:01 – 24:00) since these are counted as weekend/holidays and weekdays respectively. The scheduler accomplishes this by cutting the date pieces of paper into two halves, so the appropriate shifts can go to the right container (e.g., WE/H or WD). In order to schedule the shift times, the scheduler first writes down the four shift times on four different pieces of paper and puts them into the shifts container.

The weekend/holiday dates are chosen first from the weekend/holiday date container. Next, a survey type is randomly selected (either the PIP or IPI run sequence). For this example we will assume that PIP is selected first. Next, the shift times are selected to go with the PIP. The scheduler then selects a weekend date from the WE/H day type container. These selected survey types, dates, and shifts are then written on the shore-based calendar. The scheduler continues selecting shifts and weekend dates until all four shifts have been scheduled. By this time there should be no more shift pieces of paper in the shift container. Now all the shift papers are placed back into the shift container and the process is repeated for the IPI schedule.

Finally, the scheduler repeats the entire process one more time. This provides a total of 16 surveys for the weekend/holiday schedule, which includes 2 surveys for each survey type (PIP/IPI) for each shift (see Table 1). This concludes the weekend/holiday scheduling.

Weekdays are scheduled in a similar fashion, resulting in a total of 16 surveys for the weekday, which includes 2 surveys for each survey type (PIP/IPI) for each shift. This concludes the weekday scheduling.

Scheduling problems arise when a shore-based 00:01 – 06:00 shift is chosen the day after a boat-based shift is scheduled. This is because the boat-based staff gets off at 02:00, and the shore-based staff begins at 00:01. Since there are limited staff (and it is possible that the same people could be scheduled for the boat-based and shore-based shifts), this would mean that the same staff are scheduled for two overlapping hours. If this happens, the scheduler puts that shift back in the container and chooses another one.

5.3 Filling in with PPP Survey Type

After the schedule is complete, the scheduler inputs this information into the shore-based data processing system. The scheduler then runs a report in this system that shows the total number of participation runs scheduled for each two-hour period for the quarter (see "Appendix 4 PPP Intermediate Report"). When reading the totals from left to right for each two-hour period (00:00 – 02:00 on over to 22:00 – 24:00), the goal is to make certain that the total number of P's have a minimum of 4 counts for each of the 2-hour periods. If the total number of P's are not relatively equal, additional "PPP" (or Participation-Participation-Participation) survey shifts are added. This is to ensure that we have enough participation information being represented for all two-hour periods.

5.4 Determine the Starting Point of the Survey

The Shore-based Participation Count is conducted on the same day as the Shore-based Interview, although this is not critical for data expansion purposes. A surveyor begins at a predetermined end of the survey route (e.g., North), and continues on to the opposite end (e.g., South). The starting point for the participation routes are alternated each time a participation run is conducted. So if a staff member is scheduled for a weekday shore-based "12:00 – 18:00 PIP" shift beginning "North", the staff would work from 12:00 until 18:00 starting with a participation run beginning at site 30 Wing Beach on the north side. They would then drive to the opposite end to Site 4 Agingan Point on the south side, completing the participation run. Once on the south end, the staff turns around and drives back along the route to the north side, conducting interviews along the way, completing the interview run once they reach the north end. Finally, the staff do another participation run leaving the north side and continuing to the opposite south side. So this shift actually looks like this: Participation (N to S) – Interview (S to N) – Participation (N to S). A shorthand way of writing this on a calendar is PIP N. The participation runs determine the starting point, so for this example both participations runs will start on the north side (hence the N).

The next weekday shift that occurs after this particular shift will have its participation run starting in the opposite direction. Each subsequent shift is alternated like this. Using the example given above, the next shift begins in the South. So if IPI S is scheduled, staff would actually start in the north for an interview run, heading south, then the participation run starts on south (hence the S) and continues to the north. The final interview run would start on the north and continue until reaching the south. Interviews can be done starting any place and going anywhere. However participation runs are important for determining the directions and

structure. For each new shift, it is important to follow this alternating starting point for the Participation runs for statistical purposes.

6.0 DATA QUALITY CONTROL

The Shore-based Creel Survey Program in Saipan employs several methods to ensure quality assurance and quality control of the data collected. Some of the primary methods are described below.

Every new staff member coming on board are trained to identify fish before going into the field to collect data. However staff do not use scientific names at this time. If they encounter a fish that they are unable to identify, they refer to fish identification books and posters.

Data collection technicians are responsible for gathering all the necessary survey forms and filling in all the fields during the survey period. To expedite this, staff usually assemble multiple copies of the shore-based forms into bundles ahead of time and staple them together. Because they are not sure how many interviews they will get for each shift, staff take 15-20 interview forms to accompany their bundle of other shore-based forms each time. At the end of the shift, they review their sheets, ensuring that the forms are complete and legible. The staff then staple all the sheets for one day and put them in the project leader's inbox.

The project leader reviews the participation and interview forms and ensures they are complete before entering the data into the computer. Data entry occurs as soon as possible after the data are collected. Occasionally data collection technicians are asked to enter the data. In this case, the project leader spot checks the data entry compared to the paper form to ensure that the data is entered in correctly. The project leader backs up the database on a routine basis.

After the project leader or staff are finished reviewing the forms and entering them into the computer, staff staple the forms together and organize them by month in the file cabinet. The file cabinet currently contains survey forms since 2000. The project leader scans and archives the older data forms using the Document Imaging Archival System (DIAS), developed by WPacFIN.

7.0 REPORTS

The WPacFIN data processing application generates data-entry validation reports, maintenance reports, and various data summary reports, including expanded catch and effort reports (see "7.1 Shore-based Expanded Catch and Effort Report"), and Expanded Species Composition reports (see "7.2 Shore-based Expanded Species Composition").

7.1 Shore-based Expanded Catch and Effort Report

The following is an example annual expanded report that shows the estimated landings by gear, type of day, day and night.

Division of Fish & Wildlife
Saipan

November 15, 2009
12:54 PM

Page: 1
Weight Unit: Kg

Inshore Creel Survey Expansion Summary
Calendar Year: 2006 (Survey Data: 01/05 - 12/30/2006)

Day Shift (6:00 AM - 5:59 PM)

Method	Num of Int.	Pool Flag	Num of Runs	Avg Person	Avg Gear	Expanded Data (CV %) Gear-hr	CPUE (Kg/gr-hr)	Estimate Catch (Kg)
Weekday - 246 Days								
6:00 - 11:59								
Spear/Snorkel	26		39	1.34	1.34	1,983 (21)	0.6358 (12)	1,261 (12)
Hook And Line	996		53	13.80	14.79	21,826 (12)	0.1013 (8)	2,211 (8)
Cast Net	115		49	2.50	2.49	3,676 (5)	0.2930 (14)	1,077 (14)
12:00 - 17:59								
Spear/Snorkel	34		48	1.67	1.67	2,469 (6)	0.6293 (11)	1,554 (11)
Hook And Line	996		51	14.74	15.18	22,402 (12)	0.1062 (7)	2,380 (7)
Cast Net	120		51	1.76	1.73	2,553 (6)	0.3097 (13)	791 (13)
Weekend/Holiday - 119 Days								
6:00 - 11:59								
Spear/Snorkel	11		31	1.72	1.72	1,228 (11)	0.5233 (14)	642 (14)
Hook And Line	672		36	30.57	32.61	23,282 (16)	0.0734 (7)	1,708 (7)
Cast Net	90		36	2.83	2.76	1,974 (11)	0.9366 (26)	1,848 (26)
12:00 - 17:59								
Spear/Snorkel	12		39	3.20	3.20	2,284 (4)	0.5425 (12)	1,239 (12)
Hook And Line	672		39	20.62	21.52	15,367 (15)	0.0692 (8)	1,064 (8)
Cast Net	90		39	1.97	1.97	1,408 (7)	0.7416 (31)	1,044 (31)
Combined Type of Day - 365 Days								
6:00 - 11:59								
Spear/Snorkel	37		70	1.47	1.47	3,211 (12)	0.5928 (9)	1,903 (9)
Hook And Line	1,668		89	19.27	20.60	45,108 (10)	0.0869 (6)	3,919 (6)
Cast Net	205		85	2.61	2.58	5,649 (5)	0.5178 (22)	2,925 (22)
12:00 - 17:59								
Spear/Snorkel	46		87	2.17	2.17	4,753 (6)	0.5876 (8)	2,793 (8)
Hook And Line	1,668		90	16.66	17.25	37,769 (9)	0.0912 (5)	3,444 (5)
Cast Net	210		90	1.83	1.81	3,961 (4)	0.4632 (23)	1,835 (23)

7.2 Shore-based Expanded Species Composition

The following is an example annual expanded report that shows the estimated species composition by species and gear.

Division of Fish & Wildlife
Saipan

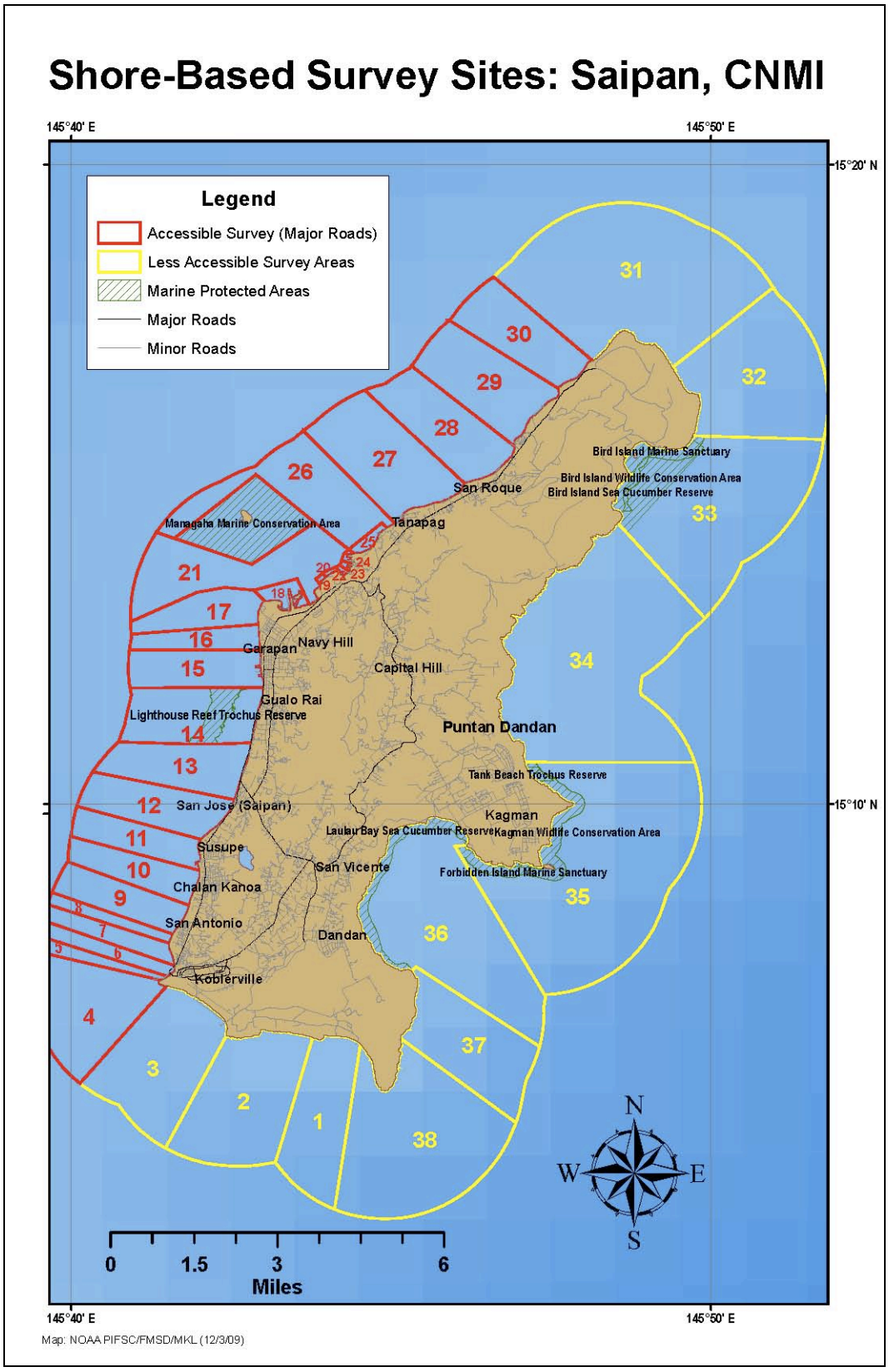
November 15, 2009
12:55 PM

Page: 1
Weight Unit: Kg

Inshore Creel Survey Expansion: Species Composition
Calendar Year: 2006 (Survey Data: 01/05 - 12/30/2006)

Species Name	Total	Spear/Snorkel	Hook And Line	Cast Net
Day				
105 EE: Juvenile Jacks	2,874		2,360	515
353 Blackspot Emperor	1,932	328	1,604	
102 Bigeye Scad	1,893		362	1,531
321 Goatfish (juvenile-misc)	1,735	7	126	1,603
106 Mullet	1,588	174	737	676
318 Surgeonfish (misc.)	977	951	25	2
506 Octopus	624	624		
170 Needlefish	608	5	603	
303 Cigar Wrasse	390		390	
314 Parrotfish (misc.)	388	331	45	12
329 Mojarra	342		117	225
319 Orangespine Unicornfish	333	333		
310 Emperor (mafute/misc.)	315	247	68	
312 Squirrelfish	279	279		
322 Goatfish (misc.)	261	85	56	120
380 Bluebanded Surgeonfish	249	249		
384 Bluespine Unicornfish	248	248		
354 Yellowstripe Emperor	226		226	
342 Triggerfish (misc.)	220	123	97	
103 Mackerel Scad	169	169		
150 Sharks	98		98	
338 Angel/butterfly	85	81	4	
316 Snapper (misc. shallow)	76		76	
234 Honeycomb Grouper	70	70		
320 Unicornfish (misc.)	65		65	
313 Soldierfish (misc.)	64	64		
163 Trumpetfish	62		62	
351 Longnose Emperor	62	62		
238 Saddleback Grouper	58	54	4	
302 Wrasse	53		51	2
101 Leatherback	48		48	1
309 Rudderfish (guilli)	48	48		
371 Dash & Dot Goatfish	46		10	36
390 Tripletail Wrasse	42	42		
213 Jobfish (uku)	38	38		
130 Scorpionfishes	33	33		
332 Damselfish	30		21	8
206 Grouper (misc.)	29	29		
402 Barracuda	23		6	17
104 Jacks (misc.)	22		22	
110 Yellow Spotted Trevally	22		22	
195 Lizardfish misc.	17		14	4
113 Bluefin Trevally	15		15	
300 Reef Fish	12	11	1	
116 Snubnose pompano	12		9	3

APPENDIX 1 SHORE-BASED SURVEY SITES MAP



APPENDIX 2 SHORE-BASED PARTICIPATION COUNT SURVEY FORM

SAIPAN SHORE-BASED PARTICIPATION FORM Page____/____

Division of Fish and Wildlife

Date_____Weekday / Weekend / Holiday Interviewer _____

(MM/DD/YY)

Shift Start Time_____ End Time_____ Start Location_____

(Military) (Name)

Location	(Military) Time	# Fishers	# Gears	Method	Reef Zone	Weather	Clouds	Surf	Tide	Ethnic

(Rev:20050415)

APPENDIX 3 SHORE-BASED INTERVIEW SURVEY FORM

SAIPAN SHORE-BASED INTERVIEW FORM
Division of Fish and Wildlife

Interview #_____

OPPORTUNISTIC: Y or N

Date _____ (MM/DD/YY) WD / WE / HD # Fishermen _____ Interviewer _____

Interview Time _____ (Military) Start Time _____ (Military) Day Before __ Stop Time _____ (Military) Day After __ Break Hours _____

Method	Gear Units	Location	Reef Zone	%Unsold	%Sold	Buyer
1. Trolling (Boat)						
2. Bottom (Boat)						
3. Atulai (Boat)						
4. Spear Snorkel						
10. Hook and Line						
11. Octopus Hooking						
12. Cast Net						
16. Gleaning						
17. Fish Weir						
18. Traps						
20. Other _____						

Weather _____
Cloud _____
Surf _____
Tide _____
Ethnicity: _____

Species Name	Length (cm)	Wt. (kg)	Length (cm)	Wt. (kg)	Length (cm)	Wt. (kg)	Total Actual(1)	Number Est.(3)	Total Actual (1)	Weight Calc. (2)	Est. (3)

BYCATCH: Did you release or throw back any fish? ( ) NO ( ) Yes (if yes, list below)

Species Name	Method	Bycatch Type		Length (cm)	Wt. (kg)	Length (cm)	Wt. (kg)	Total Number		Total Weight	
		Released Alive(1)	Released Dead(2)					Actual (1)	Est. (3)	Calc.(2)	Est. (3)

REMARKS:

(rev.7/9/05)

APPENDIX 4 PPP INTERMEDIATE REPORT

This report is used to check the total number of participation runs scheduled for each two-hour period in the quarter.

Division of Fish & Wildlife
Saipan
Sample Days Schedule

Sample Days Schedule

Date	Day Typ_Day	0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-16	16-18	18-20	20-22	22-24	Night Typ_Day
01/15/2010	1							1		1				2
01/16/2010	2							1		1				2
01/17/2010	2				1		1							1
01/21/2010	1					1								1
01/22/2010	1	1		1										2
01/24/2010	2					1								1
01/26/2010	1	1		1										1
01/28/2010	1					1								1
01/30/2010	2	1		1										2
02/02/2010	1				1		1							1
02/03/2010	1		1											1
02/05/2010	1								1					2
02/06/2010	2	1		1										2
02/09/2010	1				1		1							1
02/10/2010	1							1		1				1
02/12/2010	1								1					2
02/14/2010	2								1					1
02/16/2010	1											1		1
02/17/2010	1										1		1	1
02/18/2010	1							1		1				1
02/20/2010	2										1		1	2
02/21/2010	2								1					1
02/24/2010	1								1					1
02/26/2010	1											1		2
02/27/2010	2					1								2
03/01/2010	1		1											1
03/03/2010	1		1											1
03/04/2010	1										1		1	1
03/05/2010	1								1					2
03/07/2010	2											1		1
03/09/2010	1							1		1				1
03/10/2010	1											1		1
03/12/2010	1				1		1							2
03/13/2010	2										1		1	2
03/15/2010	1								1					1
03/16/2010	1	1		1										1
03/17/2010	1	1		1										1
03/18/2010	1					1								1
03/19/2010	1							1		1				2
03/22/2010	1											1		1
03/25/2010	1										1		1	1

April 2, 2010 -- 1:36 PM Page: 1

Division of Fish & Wildlife
Saipan
Sample Days Schedule

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Date	Day Typ_Day	0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-16	16-18	18-20	20-22	22-24	Night Typ_Day
03/26/2010	1							1		1				2
03/27/2010	2	1		1										2
03/28/2010	2				1		1							1
03/29/2010	1								1					1
03/30/2010	1					1								1
Total		7	3	7	5	6	5	7	8	7	5	5	5	

April 2, 2010 -- 1:36 PM Page: 2