libname save 'C:\Documents and Settings\eggolb\My Documents\SAS data\creel\2017';

libname save2 'C:\Documents and Settings\eggolb\My Documents\SAS data\summary\';

filename formats 'C:\Documents and Settings\eggolb\My Documents\sas programs\summary\lmformat.sas';

\* THIS PROGRAM DOES;

\* 1) CALCULATES EFFORT, HARVEST, CATCH AND RATES FOR RAMP, PIER, SHORE;

\* AND STREAM FISHERIES;

\* 2) ALL NORMAL SPECIES ARE OUTPUT;

\* 3) ALTERED SITES FILE TO SEPERATE GREEN BAY/DOOR CO INTO NORTH AND;

\* SOUTH OF FISH CREEK TO COINCIDE WITH WM ZONES.HAD TO CHANGE SMU;

\* IN SITES FILE. NOW ITS BACK TO NORMAL MODE;

\* 4) ENDSAS AFTER HARVEST UPDATE;

\* 5) ADDED SALMONID EFFORT;

\* 6) CHANGE DESTINATION TO U6 FOR BIG JOBS, PRINTER AT WILSON ST;

\* 7) TOOK OUT CREEL REPORT BECAUSE IT INTERFERRED WITH CALCULATIONS;

\* THIS WAS DONE ON 4/15/98;

\*ROC PRINTTO PRINT=NEWOUT;

%INCLUDE FORMATS/NOSOURCE2;

OPTIONS MISSING='0' PAGESIZE=**138** LINESIZE=**150**;\*PAGESIZE = 132 CAUSED TABLES TO BLEED OVER;

%LET SDATE=01/01/2017; \*OVERALL START DATE OF ANALYSIS;

%LET FDATE=12/31/2017; \*OVERALL END DATE OF ANALYSIS;

TITLE 'LAKE MICHIGAN 2017 CREEL SURVEY';

\* CREATES A SAS DATA FILE = CALENDAR, THAT CONTAINS THE NUMBER OF

WEEKEND/HOLIDAYS (CODE=2) AND WEEKDAYS (CODE=1) IN EACH MONTH. THE

LIST IS BY SITECODE (COUNTY||SITE) SINCE THE SURVEY PERIODS CAN

DIFFER BETWEEN SITES ;

**DATA** CALENDAR;

LENGTH DAYTYPE $ **1**;

LENGTH MONTH DAY **3**;

DATE1=INPUT(SYMGET('SDATE'),MMDDYY8.);

DATE2=INPUT(SYMGET('FDATE'),MMDDYY8.);

DO DATE=DATE1 TO DATE2;

MONTH=MONTH(DATE);

DAY=DAY(DATE);

WDAY=WEEKDAY(DATE);

IF WDAY=**1** OR WDAY=**7** THEN DAYTYPE='1'; ELSE DAYTYPE='2';

IF MONTH=**1** AND DAY=**1** THEN DAYTYPE='1'; \* NEW YEARS DAY;

IF MONTH=**5** AND **25**<=DAY<=**31** AND WDAY=**2** THEN DAYTYPE='1'; \*MEM DAY;

IF MONTH=**7** AND DAY=**4** THEN DAYTYPE='1'; \* JULY 4TH;

IF MONTH=**9** AND **1**<=DAY<=**7** AND WDAY=**2** THEN DAYTYPE='1'; \*LABOR DAY;

IF MONTH=**11** AND **22**<=DAY<=**28** AND WDAY=**5** THEN DAYTYPE='1'; \*T-DAY;

KEEP DATE MONTH DAYTYPE;

OUTPUT;

END;

\*CREATE TWO DATA SETS - ONE WITH ALL DATES FOR EACH SITE AND ONE WITH

THE SITE NAME AND STATISTICAL MANAGEMENT UNIT FOR EACH SITECODE;

**DATA** DATES (KEEP= FTYPE SITECODE DATE)

NAMES (KEEP= FTYPE SITECODE SITENAME SMUX);

SET SAVE.SITES;

LENGTH SITECODE $ **5** SMUX $ **5** FTYPE $ **1**;

IF '1'=SUBSTR(SITE,**1**,**1**) OR '2'=SUBSTR(SITE,**1**,**1**) OR '3'=SUBSTR

(SITE,**1**,**1**) OR '4'=SUBSTR(SITE,**1**,**1**);

FTYPE=SUBSTR(SITE,**1**,**1**);

SITECODE=COUNTY||SITE;

IF SUBSTR(SITE,**1**,**1**)='4' THEN SMUX=SITECODE;

IF SUBSTR(SITE,**1**,**1**) NE '4' THEN SMUX=SMU;

YEAR=INPUT(SYMGET('SDATE'),MMDDYY8.);\* STARTING YEAR;

YEAR=YEAR(YEAR);

YEAR1=INPUT(SYMGET('FDATE'),MMDDYY8.); \*ENDING YEAR;

YEAR1=YEAR(YEAR1);

IF MONTH1 NE **.** THEN DO;

OUTPUT NAMES;

DATE1=MDY(MONTH1,DAY1,YEAR);

DATE2=MDY(MONTH2,DAY2,YEAR1);

DO DATE=DATE1 TO DATE2;

OUTPUT DATES;

END;

END;

IF MONTH3 NE **.** THEN DO;

DATE3=MDY(MONTH3,DAY3,YEAR);

DATE4=MDY(MONTH4,DAY4,YEAR1);

DO DATE=DATE3 TO DATE4;

OUTPUT DATES;

END;

END;

**PROC** **SORT** DATA=NAMES; \*SAS DATASET CONTAINING SITE NAMES AND SMU;

BY FTYPE SITECODE;

**PROC** **SORT** DATA=DATES; \*SAS DATASET CONTAINING DATES;

BY DATE FTYPE SITECODE;

**DATA** CALENDAR;

MERGE CALENDAR(IN=A) DATES(IN=B);

BY DATE;

IF A AND B;

**PROC** **SUMMARY** NWAY;

CLASSES FTYPE SITECODE MONTH DAYTYPE;

VAR DATE;

OUTPUT OUT=CALENDAR N=DAYS;

**DATA** CALENDAR; \*DATASET CONTAINING THE NUMBER OF DAYS IN THE MONTH;

SET CALENDAR;

KEEP FTYPE SITECODE MONTH DAYTYPE DAYS;

\*ROC PRINT; \*TURN OFF UNLESS A PRINTOUT OF DAYTYPE AND DAYS IS NEEDED;

\*ITLE2 'NUMBER OF DAYS IN EACH DAYTYPE BY MONTH AND SITECODE';

\*AR SITECODE MONTH DAYTYPE DAYS;

**DATA** PARTYSIZ;

SET SAVE.INTS;

IF FTYPE='4';

LENGTH SITECODE $ **5** SSP ANGLERS **3**;

SITECODE=COUNTY||SITE;

SSP=MONTH;

IF MONTH LE **5** THEN SSP=**4**;

IF MONTH GE **9** THEN SSP=**9**;

IF MONTH GE **11** THEN SSP=**10**;

ANGLERS=RES+NONRES;

KEEP SITECODE SSP DAYTYPE ANGLERS FTYPE;

**PROC** **SUMMARY** NWAY;

CLASSES FTYPE SITECODE SSP DAYTYPE;

VAR ANGLERS;

OUTPUT OUT=PARTYSIZ MEAN=;

**PROC** **SORT**;

BY FTYPE SITECODE SSP DAYTYPE;

**DATA** COUNTS; \*READ COUNT FILE ASSUMING MISSING VALUES ARE ZEROS;

SET SAVE.COUNTS;

IF FTYPE='1' OR FTYPE='2' OR FTYPE='3' OR FTYPE='4';\*KEEP ALL COUNTS;

DATE=MDY(MONTH,DAY,YEAR);

LENGTH SITECODE $ **5**;

LENGTH COUNTY $ **2**;

SITECODE=COUNTY||SITE;

COUNTY=SUBSTR(SITECODE,**1**,**2**);

SSP=MONTH;

IF MONTH LE **4** THEN SSP=**4**;

IF MONTH GE **9** THEN SSP=**9**;

IF MONTH GE **11** THEN SSP=**10**;

IF MONTH=**1** THEN DO; \*ONLY ROOT ROVER IS SAMPLED BEFORE MARCH;

DAYLEN=**10**;

GO TO CONT;

END;

IF MONTH=**2** THEN DO; \*ONLY ROOT RIVER IS SAMPLED BEFORE MARCH;

DAYLEN=**10**;

GO TO CONT;

END;

IF MONTH=**3** THEN DO;

DAYLEN=**14**;

\*IF COUNTY='15' THEN DAYLEN=12.5;\*THIS MAY CHANGE;

IF COUNTY='05' OR COUNTY='43' OR COUNTY='38' THEN DAYLEN=**12.5**;

\*IF COUNTY='52' AND SITE='475' THEN DAYLEN=10;

GO TO CONT;

END;

IF MONTH=**4** THEN DO;

DAYLEN=**14**;

IF COUNTY='05' THEN DAYLEN=**13.5**;

\*IF COUNTY='52' AND SITE='475' THEN DAYLEN=10;

GO TO CONT;

END;

IF MONTH=**5** THEN DO;

DAYLEN=**15**;

IF COUNTY='05' THEN DAYLEN=**14**;

IF COUNTY='43' OR COUNTY='38' THEN DAYLEN=**15.5**;

\*IF COUNTY='52' AND SITE='475' THEN DAYLEN=10;

GO TO CONT;

END;

IF MONTH=**6** OR MONTH=**7** OR MONTH=**8** THEN DO;

DAYLEN=**16.5**;

IF COUNTY='31' OR COUNTY='15' THEN DAYLEN=**16.0**;

IF COUNTY='05' OR COUNTY='43' OR COUNTY='38' THEN DAYLEN=**15.5**;

GO TO CONT;

END;

IF MONTH=**9** THEN DO;

DAYLEN=**14.5**;

IF COUNTY='36' OR COUNTY='31' OR COUNTY='15' THEN DAYLEN=**13.5**;

IF COUNTY='05' OR COUNTY='43' OR COUNTY='38' THEN DAYLEN=**14**;

\* IF COUNTY='52' AND SITE='475' THEN DAYLEN=10;

GO TO CONT;

END;

IF MONTH=**10** THEN DO;

DAYLEN=**12.5**;

IF COUNTY='36' OR COUNTY='31' OR COUNTY='15' THEN DAYLEN=**12**;

IF COUNTY='05' THEN DAYLEN=**12.5**;

IF COUNTY='43' OR COUNTY='38' THEN DAYLEN=**13**;

\*IF COUNTY='52' AND SITE='475' THEN DAYLEN=10;

GO TO CONT;

END;

IF MONTH=**11** THEN DO;

DAYLEN=**9**;

IF COUNTY='31' OR COUNTY='15' THEN DAYLEN=**11**;

IF COUNTY='05' OR COUNTY='43' OR COUNTY='38' THEN DAYLEN=**11.5**;

GO TO CONT;

END;

IF MONTH=**12** THEN DO; \*ONLY ROOT RIVER IS SAMPLED BEYOND NOVEMBER;

DAYLEN=**9**; \*DAYLEN MATCHES WITH ROUTE TIME;

GO TO CONT;

END;

CONT:;

COUNT=COUNT\*DAYLEN;

\*KEEP FTYPE SITECODE MONTH DAYTYPE DATE COUNT;

**PROC** **SORT**;

BY FTYPE SITECODE SSP DAYTYPE;

**DATA** COUNTS;

MERGE COUNTS(IN=A) PARTYSIZ(IN=B);

BY FTYPE SITECODE SSP DAYTYPE;

IF A;

**DATA** COUNTS;

SET COUNTS;

IF FTYPE='4' THEN DO;

IF ATYPE='2' OR ATYPE='3' THEN DO;

IF ANGLERS=**.** THEN ANGLERS=**0**;

COUNT=COUNT\*ANGLERS;

END;

END;

DROP ANGLERS;

**PROC** **SUMMARY** NWAY; \*COLLECTS DAILY STATISTICS;

CLASSES FTYPE SITECODE DATE;

VAR COUNT;

ID DAYTYPE MONTH;

OUTPUT OUT=COUNTS MEAN= VAR=VAR2 N=MI;

**DATA** COUNTS; \*CORRECTION FOR DIFFERENT # COUNTS PER DAY;

SET COUNTS;

VAR2=VAR2/MI;

**PROC** **SUMMARY** NWAY;

CLASSES FTYPE SITECODE MONTH DAYTYPE;

VAR COUNT VAR2 MI;

OUTPUT OUT=COUNTS MEAN(COUNT)=MEAN VAR(COUNT)=VAR1

SUM(VAR2 MI)=VAR2 NCNTS N(COUNT VAR2)=N N2;

**PROC** **SORT**;

BY FTYPE SITECODE MONTH DAYTYPE;

**DATA** COUNTS; \*ADD TOTAL NUMBER OF DAYS IN PERIOD TO FILE;

MERGE CALENDAR(IN=A) COUNTS(IN=B);

BY FTYPE SITECODE MONTH DAYTYPE;

IF A AND B;

**DATA** COUNTS;

SET COUNTS;

IF N>**0** THEN MCNTS=N2/N; ELSE MCNTS=**0**; \*PROP OF DAYS WITH MULT.COUNT;

IF MCNTS GE **0.5** THEN DO; \*ENOUGH DAYS TO ESTIMATE WITHIN-DAY VARIANCE;

VAR1=VAR1\*(DAYS-N)/DAYS/N;

VAR2=VAR2/N2/DAYS;

VARMEAN=VAR1+VAR2;

END;

ELSE DO; \*INSUFFICIENT DAYS TO ESTIMATE WITHIN-DAY VARIANCE;

VAR1=VAR1/N;

VAR2=**.**;

VARMEAN=VAR1;

END;

EFFORT=ROUND(MEAN\*DAYS);

VAREFF=VARMEAN\*DAYS\*DAYS;

LABEL MEAN='MEAN PARTY COUNT'

DAYS='TOTAL DAYS'

N='SAMPLED DAYS'

NCNTS='NUMBER OF COUNTS'

N2='DAYS WITH MULTIPLE COUNTS'

VAR1='BETWEEN-DAY VARIANCE'

VAR2='WITHIN-DAY VARIANCE'

VARMEAN='VARIANCE OF MEAN'

VAREFF='VARIANCE OF TOTAL'

EFFORT='TOTAL EFFORT';

**DATA** COUNTS; \*ADDS SITENAME, SMU AND SSP TO EFFORT ESTIMATES;

MERGE COUNTS(IN=A) NAMES(IN=B);

BY FTYPE SITECODE;

IF A;

LENGTH SSP **3**;

SSP=MONTH;

IF MONTH LE **4** THEN SSP=**4**;

IF MONTH GE **9** THEN SSP=**9**;

IF MONTH GE **11** THEN SSP=**10**;

LABEL SMUX='STATISTICAL MANAGEMENT UNIT'

SSP='STATISTICAL SURVEY PERIOD';

\*PROC PRINT SPLIT=' ';

\*FORMAT DAYTYPE $DAYTYPE.;

\*BY COUNTY;

\*TITLE 'EFFORT ESTIMATES IN PARTY HOURS';

\*SUM EFFORT VAREFF;

\*ID SITENAME SITECODE;

\*VAR MONTH DAYTYPE MEAN DAYS N N2 NCNTS VAR1 VAR2 VARMEAN VAREFF EFFORT;

**DATA** INTS;

SET SAVE.INTS;

IF FTYPE='1' OR FTYPE='2' OR FTYPE='3' OR FTYPE='4';\*KEEP ALL INTS;

LENGTH SITECODE $ **5** ANGLERS **4**;

SITECODE=COUNTY||SITE;

STOP=HMS(HOUR,MINUTE,**0**);

START=HMS(SHOUR,SMINUTE,**0**);

DATE=MDY(MONTH,DAY,YEAR);

IF STOP NE **.** AND START NE **.** THEN DO;

IF STOP>START THEN HOURS=(STOP-START)/**3600**; ELSE DO;

IF FTYPE='2' OR FTYPE='3' THEN

HOURS=(STOP+**24**\***3600**-START)/**3600**; ELSE HOURS=**0**;

END;

END;

IF ACTIVITY='5' THEN ACTIVITY='1';

ANGLERS=ROUND(RES+NONRES);

HOURS=ROUND(HOURS,**.01**);

INDHRS=ANGLERS\*HOURS;

IF FTYPE='2' OR FTYPE='3' OR FTYPE='4' THEN HOURS2=HOURS;

IF FTYPE='2' OR FTYPE='3' OR FTYPE='4' THEN HOURS=HOURS\*ANGLERS;

IF ACTIVITY='2' THEN ANGHRS=**0**;

ELSE ANGHRS=INDHRS;

**PROC** **SORT**;

BY FTYPE SITECODE;

**DATA** INTS; \*ADDS SITENAME, SMU AND SSP TO EFFORT ESTIMATES;

MERGE INTS(IN=A) NAMES(IN=B);

BY FTYPE SITECODE;

IF A;

LENGTH SSP **3**;

SSP=MONTH;

IF MONTH LE **4** THEN SSP=**4**;

IF MONTH GE **9** THEN SSP=**9**;

IF MONTH GE **11** THEN SSP=**10**;

LABEL SMUX='STATISTICAL MANAGEMENT UNIT'

SSP='STATISTICAL SURVEY PERIOD';

**DATA** INTS;

SET INTS;

FORMAT SMUX $SITES. DAYTYPE $DAYTYPE. FTYPE $FTYPE. SSP SSP.;

**PROC** **SORT**;

BY FTYPE SMUX SSP DAYTYPE;

**PROC** **TABULATE** FORMAT=**7.0**;

TITLE2 'NUMBER OF INTERVIEWS BY MONTH, AREA AND DAYTYPE';

BY FTYPE;

CLASSES SMUX SSP DAYTYPE;

TABLE SMUX ALL, (SSP ALL)\*DAYTYPE/RTS=**15** MISSTEXT='0';

\*ATA REPORT; \*CREATES NEW DATA SET FOR CLERK PERFORMANCE REPORT;

\* SET INTS;

\*ROC SUMMARY NWAY; \*COUNTS NUMBER OF COMPLETE/INCOMPLETE INTERVIEWS;

\* CLASSES FTYPE SITECODE MONTH DAYTYPE STATUS;

\* VAR YEAR;

\* OUTPUT OUT=REPORT N=INTS;

\*ATA REPORT; \*PUTS # OF COMPLETE AND INCOMPLETE INTS ON SAME RECORD;

\* SET REPORT;

\* RETAIN INTS1 INTS2;

\* BY FTYPE SITECODE MONTH DAYTYPE;

\* IF FIRST.DAYTYPE THEN DO;

\* INTS1=0;

\* INTS2=0;

\* END;

\* IF STATUS='1' THEN INTS1=INTS;

\* IF STATUS='2' THEN INTS2=INTS;

\* KEEP FTYPE SITECODE MONTH DAYTYPE INTS1 INTS2;

\* IF LAST.DAYTYPE THEN DO;

\* OUTPUT;

\* END;

\*ATA COUNTS; \*COMBINE # INTS WITH # COUNTS;

\*MERGE REPORT COUNTS;

\*BY FTYPE SITECODE MONTH DAYTYPE;

\*COUNTY=SUBSTR(SITECODE,1,2);

\*STDEFF=SQRT(VAREFF);

\*ORMAT SMUX $SITES. SSP SSP. DAYTYPE $DAYTYPE. FTYPE $FTYPE. MONTH MON.;

\*LABEL INTS1='COMPLETE TRIP INTERVIEWS'

INTS2='INCOMPLETE TRIP INTERVIEWS'

STDEFF='ST DEV';

\*PROC SORT;

\* BY COUNTY SITECODE;

\*PROC PRINT LABEL;

\*TITLE2 'SITE-SPECIFIC COUNT, INTERVIEW AND EFFORT SUMMARY';

\*FORMAT EFFORT COMMA10. STDEFF COMMA12.1;

\*BY COUNTY;

\*ID SITENAME SITECODE;

\*VAR MONTH DAYTYPE DAYS N NCNTS N2 INTS1 INTS2 EFFORT STDEFF;

\*ROC SUMMARY; \* PROCEDURE TO PRINT CLERK REPORT FOR TYPE OF;

\* CLASS MONTH FTYPE; \* INTERVIEW - COMPLETE OR INCOMPLETE;

\* VAR INTS1 INTS2;

\* OUTPUT OUT=REPORT2 SUM=;

\*ROC TABULATE;

\* CLASS MONTH FTYPE;

\* VAR INTS1 INTS2;

\* TABLE MONTH ALL,FTYPE\*(INTS1 INTS2)\*ALL/RTS=11;

\* KEYLABEL SUM=' ';

\* LABEL INTS1='COMPLETE INTERVIEWS'

INTS2='INCOMPLETE INTERVIEWS';

**PROC** **SUMMARY** NWAY DATA=COUNTS;\*COLLECT MARGINAL TOTALS BY SSP AND SMU;

CLASSES FTYPE SMUX SSP DAYTYPE;

VAR EFFORT VAREFF;

ID SITECODE;

OUTPUT OUT=COUNTS SUM=;

**PROC** **SUMMARY** NWAY DATA=INTS;

CLASSES FTYPE SMUX SSP DAYTYPE;

VAR HOURS HOURS2 INDHRS ANGHRS ANGLERS;

ID SITECODE;

OUTPUT OUT=EFFORT SUM=;

**DATA** EFFORT;

SET EFFORT;

IF FTYPE='1' THEN PARTY=ROUND(INDHRS/HOURS,**.01**);

IF FTYPE='2' OR FTYPE='3' OR FTYPE='4'

THEN PARTY=ROUND(INDHRS/HOURS2,**.01**);

ANGPROP=ROUND(ANGHRS/INDHRS,**.01**);

KEEP FTYPE SMUX SSP DAYTYPE PARTY ANGPROP SITECODE;

**DATA** EFFORT;

MERGE EFFORT COUNTS;

BY FTYPE SMUX SSP DAYTYPE;

**DATA** EFFORT;

SET EFFORT;

IF FTYPE='1' THEN DO;

INDHRS=ROUND(EFFORT\*PARTY);

VINDHRS=VAREFF\*PARTY\*\***2**;

WEIGHT=ROUND(EFFORT\*PARTY);

END;

ELSE DO;

INDHRS=EFFORT;

VINDHRS=VAREFF;

WEIGHT=ROUND(EFFORT\*PARTY);

IF PARTY=**.** THEN DO;

INDHRS=**.**;

VINDHRS=**.**;

END;

END;

ANGHRS=ROUND(INDHRS\*ANGPROP);

VANGHRS=VINDHRS\*ANGPROP\*\***2**;

LABEL PARTY='PERSONS/ PARTY'

INDHRS='TOTAL INDIVIDUAL HOURS'

VINDHRS='VARIANCE INDIVIDUAL HOURS'

ANGHRS='TOTAL ANGLING HOURS'

VANGHRS='VARIANCE ANGLING HOURS';

**PROC** **SUMMARY**; \*COLLECT MARGINAL TOTALS;

CLASSES FTYPE SMUX SSP DAYTYPE;

VAR EFFORT VAREFF PARTY INDHRS VINDHRS ANGHRS VANGHRS ANGPROP WEIGHT;

ID SITECODE;

OUTPUT OUT=EFFORT SUM=;

**DATA** EFFORT;

SET EFFORT;

LENGTH YEAR **4**;

YEAR=**2017**;

IF (SMUX=**.** OR SSP=**.** OR DAYTYPE=**.**) AND EFFORT NE **0**

THEN PARTY=ROUND(WEIGHT/EFFORT,**.01**);

IF (SMUX=**.** OR SSP=**.** OR DAYTYPE=**.**) AND INDHRS NE **0**

THEN ANGPROP=ROUND(ANGHRS/INDHRS,**.01**);

IF SMUX=**.** THEN SMUX='99999';

IF SSP=**.** THEN SSP=**99**;

IF DAYTYPE=' ' THEN DAYTYPE='9';

IF FTYPE =' ' THEN DELETE;

SDINDHRS=SQRT(VINDHRS);

SDANGHRS=SQRT(VANGHRS);

LABEL SDINDHRS='ST. DEV.'

SDANGHRS='ST. DEV.';

**PROC** **SORT**;

BY FTYPE;

**PROC** **TABULATE** FORMAT=COMMA12.0;

TITLE2 'ESTIMATES OF FISHING EFFORT BY MONTH AND AREA';

CLASSES SMUX SSP DAYTYPE;

BY FTYPE;

VAR EFFORT PARTY INDHRS SDINDHRS ANGHRS SDANGHRS ANGPROP;

TABLE SMUX,SSP\*DAYTYPE,EFFORT PARTY\*F=COMMA12.2 INDHRS

SDINDHRS\*F=COMMA12.2 ANGHRS SDANGHRS\*F=COMMA12.2

ANGPROP\*F=COMMA12.2/RTS=**30** ROW=FLOAT CONDENSE MISSTEXT='\*\*\*'

BOX=\_PAGE\_;

KEYLABEL SUM=' ';

**DATA** EFFORT2;

SET EFFORT;

LENGTH HARBOR **3**;

IF SMUX='99999' THEN DELETE;

IF SSP=**99** THEN DELETE;

IF DAYTYPE='9' THEN DELETE;

HARBOR=**.**;

COUNTY=SUBSTR(SITECODE,**1**,**2**);

IF PARTY=**.** THEN PARTY=**0**;

IF ANGPROP=**.** THEN ANGPROP=**0**;

FORMAT FTYPE SMUX SSP DAYTYPE;

KEEP YEAR FTYPE SMUX SSP DAYTYPE COUNTY HARBOR

EFFORT PARTY INDHRS SDINDHRS ANGHRS SDANGHRS ANGPROP;

\*DATA TOTEFF; \* ACTIVATE AFTER DATA VERIFICATION;

\* SET SAVE2.creel\_sum\_effort\_1986\_present;

\*DATA SAVE2.creel\_sum\_effort\_1986\_present;

\* SET TOTEFF EFFORT2;

**DATA** COUNTS;

SET EFFORT;

LENGTH SPECIES $ **3**;

SPECIES='B01'; OUTPUT;

SPECIES='I00'; OUTPUT;

SPECIES='I05'; OUTPUT;

\* SPECIES='I12';\* OUTPUT;

SPECIES='I14'; OUTPUT;

SPECIES='I16'; OUTPUT;

SPECIES='I19'; OUTPUT;

SPECIES='I20'; OUTPUT;

SPECIES='I21'; OUTPUT;

SPECIES='I22'; OUTPUT;

SPECIES='I23'; OUTPUT;

SPECIES='I28'; OUTPUT;

\* SPECIES='J01';\* OUTPUT;

SPECIES='L02'; OUTPUT;

SPECIES='L03'; OUTPUT;

\* SPECIES='M12';\* OUTPUT;

\* SPECIES='N02';\* OUTPUT;

\* SPECIES='O00';\* OUTPUT;

\* SPECIES='O05';\* OUTPUT;

\* SPECIES='O08';\* OUTPUT;

\* SPECIES='R01';\* OUTPUT;

\* SPECIES='V01';\* OUTPUT;

SPECIES='V03'; OUTPUT;

\* SPECIES='W04';\* OUTPUT;

\* SPECIES='W06';\* OUTPUT;

\* SPECIES='W09';\* OUTPUT;

SPECIES='W11'; OUTPUT;

\* SPECIES='W12';\* OUTPUT;

\* SPECIES='W14';\* OUTPUT;

SPECIES='X15'; OUTPUT;

SPECIES='X22'; OUTPUT;

\* SPECIES='Y01'; \*OUTPUT;

/\* USE THE FOLLOWING TO GET HARVEST OF NON-REPORTED SPECIES FOR

GLFC HARVEST-OF-SPECIES REPORT. NEED TO TURN ON IN 2 PLACES.\*/

/\*

\* SPECIES='B01';\* OUTPUT;

\* SPECIES='I00';\* OUTPUT;

SPECIES='I05'; OUTPUT;

SPECIES='I12'; OUTPUT;

\* SPECIES='I14';\* OUTPUT;

\* SPECIES='I16';\* OUTPUT;

\* SPECIES='I19';\* OUTPUT;

\* SPECIES='I20';\* OUTPUT;

\* SPECIES='I21';\* OUTPUT;

\* SPECIES='I22';\* OUTPUT;

\* SPECIES='I23';\* OUTPUT;

\* SPECIES='I28';\* OUTPUT;

SPECIES='J01'; OUTPUT;

\* SPECIES='L02';\* OUTPUT;

SPECIES='L03'; OUTPUT;

SPECIES='M12'; OUTPUT;

SPECIES='N02'; OUTPUT;

SPECIES='N08'; OUTPUT;

SPECIES='N09'; OUTPUT;

SPECIES='O00'; OUTPUT;

SPECIES='O05'; OUTPUT;

SPECIES='O08'; OUTPUT;

SPECIES='R01'; OUTPUT;

SPECIES='V01'; OUTPUT;

\* SPECIES='V03';\* OUTPUT;

SPECIES='W04'; OUTPUT;

SPECIES='W06'; OUTPUT;

SPECIES='W09'; OUTPUT;

\* SPECIES='W11';\* OUTPUT;

SPECIES='W12'; OUTPUT;

SPECIES='W14'; OUTPUT;

\* SPECIES='X15';\* OUTPUT;

\* SPECIES='X22';\* OUTPUT;

SPECIES='Y01'; OUTPUT;\*/

**PROC** **SORT**;

BY FTYPE SMUX SSP DAYTYPE SPECIES;

**DATA** TEMPLATE;

SET INTS;

KEEP SITECODE MONTH SSP SMUX FTYPE ACTIVITY HOURS SPECIES HARVEST CATCH

PERCENT ANGLERS DAYTYPE OBS SPCATCH SPHARV ANGHRS;

LENGTH SPECIES $ **3**;

OBS=\_N\_;

CATCH=**0**;

HARVEST=**0**;

PERCENT=**0**;

SPCATCH=**0**;

SPHARV=**0**;

SPECIES='B01'; OUTPUT;

SPECIES='I00'; OUTPUT;

SPECIES='I05'; OUTPUT;

\*SPECIES='I12';\* OUTPUT;

SPECIES='I14'; OUTPUT;

SPECIES='I16'; OUTPUT;

SPECIES='I19'; OUTPUT;

SPECIES='I20'; OUTPUT;

SPECIES='I21'; OUTPUT;

SPECIES='I22'; OUTPUT;

SPECIES='I23'; OUTPUT;

SPECIES='I28'; OUTPUT;

\* SPECIES='J01';\* OUTPUT;

SPECIES='L02'; OUTPUT;

SPECIES='L03'; OUTPUT;

\* SPECIES='M12';\* OUTPUT;

\* SPECIES='N02';\* OUTPUT;

\* SPECIES='O00';\* OUTPUT;

\* SPECIES='O05';\* OUTPUT;

\* SPECIES='O08';\* OUTPUT;

\* SPECIES='R01';\* OUTPUT;

\* SPECIES='V01';\* OUTPUT;

SPECIES='V03'; OUTPUT;

\* SPECIES='W04';\* OUTPUT;

\* SPECIES='W06';\* OUTPUT;

\* SPECIES='W09';\* OUTPUT;

SPECIES='W11'; OUTPUT;

\* SPECIES='W12';\* OUTPUT;

\* SPECIES='W14';\* OUTPUT;

SPECIES='X15'; OUTPUT;

SPECIES='X22'; OUTPUT;

\* SPECIES='Y01';\* OUTPUT;

/\* TURN ON THE FOLLOWING FOR GLFC HARVEST REPORT\*/

/\*

\* SPECIES='B01';\* OUTPUT;

\* SPECIES='I00';\* OUTPUT;

SPECIES='I05'; OUTPUT;

SPECIES='I12'; OUTPUT;

\* SPECIES='I14';\* OUTPUT;

\* SPECIES='I16';\* OUTPUT;

\* SPECIES='I19';\* OUTPUT;

\* SPECIES='I20';\* OUTPUT;

\* SPECIES='I21';\* OUTPUT;

\* SPECIES='I22';\* OUTPUT;

\* SPECIES='I23';\* OUTPUT;

\* SPECIES='I28';\* OUTPUT;

SPECIES='J01'; OUTPUT;

\* SPECIES='L02';\* OUTPUT;

SPECIES='L03'; OUTPUT;

SPECIES='M12'; OUTPUT;

SPECIES='N02'; OUTPUT;

SPECIES='N08'; OUTPUT;

SPECIES='N09'; OUTPUT;

SPECIES='O00'; OUTPUT;

SPECIES='O05'; OUTPUT;

SPECIES='O08'; OUTPUT;

SPECIES='R01'; OUTPUT;

SPECIES='V01'; OUTPUT;

\* SPECIES='V03';\* OUTPUT;

SPECIES='W04'; OUTPUT;

SPECIES='W06'; OUTPUT;

SPECIES='W09'; OUTPUT;

\* SPECIES='W11';\* OUTPUT;

SPECIES='W12'; OUTPUT;

SPECIES='W14'; OUTPUT;

\* SPECIES='X15';\* OUTPUT;

\* SPECIES='X22';\* OUTPUT;

SPECIES='Y01'; OUTPUT;\*/

**PROC** **SORT**;

BY OBS FTYPE SPECIES;

**DATA** INTS; \*EXPAND EACH INTERVIEW RECORD TO MULTIPLE RECORDS, ONE FOR;

SET INTS; \*EACH SPECIES, MAKES LATER CALCULATIONS EASIER;

ARRAY H (**12**) BRNK RNBK LTK COHK CHNK YPK WAEK OTHK1-OTHK5;

ARRAY C (**12**) BRNC RNBC LTC COHC CHNC YPC WAEC OTHC1-OTHC5;

ARRAY P (**12**) BRNP RNBP LTP COHP CHNP YPP WAEP OTHP1-OTHP5;

KEEP OBS FTYPE SPECIES HARVEST CATCH PERCENT SPHARV SPCATCH SPHOURS;

OBS=\_N\_;

DO I=**1** TO **12**;

IF H(I)=**.** THEN HARVEST=**0**; ELSE HARVEST=H(I);\*ASSUMES BLANKS IN FILE;

IF C(I)=**.** THEN CATCH=**0**; ELSE CATCH=C(I); \*ARE ZERO CATCHES ;

IF P(I)=**.** THEN PERCENT=**0**; ELSE PERCENT=P(I);

IF I=**1** THEN SPECIES='I21'; \*FOR THE INTERVIEW FILE, IT IS ASSUMED;

IF I=**2** THEN SPECIES='I19'; \*THAT ALL BLANK FIELDS FOR SPECIES;

IF I=**3** THEN SPECIES='I23'; \*CATCH AND HARVEST ARE ZEROS - EXCEPT;

IF I=**4** THEN SPECIES='I14'; \*IF CATCH<HARVEST THEN CATCH IS SET TO;

IF I=**5** THEN SPECIES='I16'; \*MISSING VALUE;

IF I=**6** THEN SPECIES='X15';

IF I=**7** THEN SPECIES='X22';

IF I=**8** THEN SPECIES=OTHSPEC1;

IF I=**9** THEN SPECIES=OTHSPEC2;

IF I=**10** THEN SPECIES=OTHSPEC3;

IF I=**11** THEN SPECIES=OTHSPEC4;

IF I=**12** THEN SPECIES=OTHSPEC5;

SPHARV=**.**;

SPCATCH=**.**;

SPHOURS=**.**;

IF PERCENT GT **0** THEN DO;

SPHARV=HARVEST;

SPCATCH=CATCH;

IF SPCATCH<SPHARV THEN SPCATCH=SPHARV;

SPHOURS = ANGHRS\*PERCENT/**100**;

END;

IF HARVEST>**0** OR CATCH>**0** OR PERCENT>**0** THEN OUTPUT;

END;

IF BRNP>**0** OR RNBP>**0** OR LTP>**0** OR COHP>**0** OR CHNP>**0** OR (OTHSPEC1='I22'

AND OTHP1>**0**) OR (OTHSPEC2='I22' AND OTHP2>**0**) THEN DO;

PERCENT=**100**;

IF BRNP<**100** OR RNBP<**100** OR LTP<**100** OR COHP<**100** OR CHNP<**100** OR

(OTHSPEC1='I22' AND OTHP1<**100**) OR (OTHSPEC2='I22' AND OTHP2<**100**) THEN DO;

IF BRNP<**100** AND BRNP>**0** THEN PERCENT=BRNP;

IF RNBP<**100** AND RNBP>**0** THEN PERCENT=RNBP;

IF LTP<**100** AND LTP>**0** THEN PERCENT=LTP;

IF COHP<**100** AND COHP>**0** THEN PERCENT=COHP;

IF CHNP<**100** AND CHNP>**0** THEN PERCENT=CHNP;

IF (OTHSPEC1='I22' AND OTHP1<**100** AND OTHP1>**0**) THEN PERCENT=OTHP1;

IF (OTHSPEC2='I22' AND OTHP2<**100** AND OTHP2>**0**) THEN PERCENT=OTHP2;

END;

ELSE DO;

PERCENT=**100**;

END;

SPHOURS = ANGHRS\*PERCENT/**100**;

SPECIES="I00"; HARVEST=**.**;CATCH=**.**;SPHARV=**.**;SPCATCH=**.**;

OUTPUT;

END;

**PROC** **SORT**;

BY OBS FTYPE SPECIES;

**DATA** INTS;

UPDATE TEMPLATE(IN=A) INTS(IN=B);

BY OBS FTYPE SPECIES;

IF A;

**DATA** RATES; \*CALCULATE CATCH RATES;

SET INTS;

IF CATCH=**.** THEN CHOURS=**.**; ELSE CHOURS=HOURS;

DROP OBS;

**PROC** **SORT**;

BY FTYPE SMUX SSP DAYTYPE SPECIES;

OPTIONS NONOTES NOSOURCE;

**PROC** **CORR** DATA=RATES OUTP=CCOVAR COV NOPRINT NOCORR;

BY FTYPE SMUX SSP DAYTYPE SPECIES;

VAR CATCH; \*CALCULATE COVARIANCE BETWEEN CATCH AND EFFORT;

WITH CHOURS;

**DATA** CCOVAR;

SET CCOVAR;

IF \_TYPE\_='COV';

IF CATCH=**.** THEN CCOVAR=**0**; ELSE CCOVAR=CATCH;

KEEP FTYPE SMUX SSP DAYTYPE SPECIES CCOVAR;

**PROC** **CORR** DATA=RATES OUTP=HCOVAR COV NOPRINT NOCORR;

BY FTYPE SMUX SSP DAYTYPE SPECIES;

VAR HARVEST; \*CALCULATE COVARIANCE BETWEEN HARVEST AND EFFORT;

WITH HOURS;

**DATA** HCOVAR;

SET HCOVAR;

IF \_TYPE\_='COV';

IF HARVEST=**.** THEN HCOVAR=**0**; ELSE HCOVAR=HARVEST;

KEEP FTYPE SMUX SSP DAYTYPE SPECIES HCOVAR;

OPTIONS NOTES SOURCE;

**PROC** **SUMMARY** NWAY DATA=RATES; \*SUM TOTAL CATCH, HARVEST AND HOURS;

CLASSES FTYPE SMUX SSP DAYTYPE SPECIES;\*RATES WILL BE PER PARTY HOUR;

VAR CATCH HARVEST CHOURS HOURS SPCATCH SPHARV SPHOURS ANGHRS;

ID SITECODE;

OUTPUT OUT=RATES SUM= VAR=VCATCH VHARVEST VCHOURS VHOURS VSPCATCH

VSPHARV VSPHOURS N(CATCH HARVEST)=NC NH;

**DATA** RATES; \*CALCULATE PARTY CATCH AND HARVEST RATES/HOUR;

MERGE RATES CCOVAR HCOVAR;

BY FTYPE SMUX SSP DAYTYPE SPECIES;

**DATA** RATES; \*AVOIDS POSSIBLE MATCH-MERGE ERROR;

SET RATES;

SCATCH=CATCH/CHOURS; \*RATIO ESTIMATE OF PARTY CATCH RATE;

MCATCH=CATCH/NC;

MCHOURS=CHOURS/NC;

IF MCATCH=**0** THEN VSCATCH=**0**;

ELSE VSCATCH=(VCATCH/MCATCH\*\***2**)+(VCHOURS/MCHOURS\*\***2**)-

(**2**\*CCOVAR/MCATCH/MCHOURS);

VSCATCH=(SCATCH\*\***2**)\*VSCATCH/NC; \*VARIANCE OF CATCH RATE RATIO;

SHARV=HARVEST/HOURS; \*RATIO ESTIMATE OF PARTY HARVEST RATE;

MHARV=HARVEST/NH;

MHOURS=HOURS/NH;

IF MHARV=**0** THEN VSHARV=**0**;

ELSE VSHARV=(VHARVEST/MHARV\*\***2**)+(VHOURS/MHOURS\*\***2**)-

(**2**\*HCOVAR/MHARV/MHOURS);

VSHARV=(SHARV\*\***2**)\*VSHARV/NH; \*VARIANCE OF HARVEST RATE RATIO;

IF SPHOURS > **0** THEN SPCRATE=SPCATCH/SPHOURS;

IF SPHOURS > **0** THEN SPHRATE=SPHARV/SPHOURS;

IF SPHOURS = **0** THEN SPCRATE=**0**;

IF SPHOURS = **0** THEN SPHRATE=**0**;

SPPROP=SPHOURS/ANGHRS;

KEEP FTYPE SMUX SSP DAYTYPE SPECIES SCATCH SHARV VSCATCH VSHARV

SPCRATE SPHRATE SPPROP SITECODE;

**DATA** HARVEST; \*MERGE RATE AND EFFORT FILES;

MERGE RATES COUNTS;

BY FTYPE SMUX SSP DAYTYPE SPECIES;\*SEPARATE RECORD FOR EACH SPECIES;

**DATA** HARVEST; \*AVOIDS POSSIBLE MATCH-MERGE ERROR;

SET HARVEST;

HARVEST=ROUND(EFFORT\*SHARV); \*HARVEST AND VARIANCE;

VHARV=EFFORT\*\***2**\*VSHARV + SHARV\*\***2**\*VAREFF - VSHARV\*VAREFF;

CATCH=ROUND(EFFORT\*SCATCH); \*CATCH AND VARIANCE;

VCATCH=EFFORT\*\***2**\*VSCATCH + SCATCH\*\***2**\*VAREFF - VSCATCH\*VAREFF;

SPEFFORT=ROUND(ANGHRS\*SPPROP);

SPHARV=ROUND(SPEFFORT\*SPHRATE);

SPCATCH=ROUND(SPEFFORT\*SPCRATE);

**DATA** HARVEST;

SET HARVEST;

IF SMUX='99999' THEN DELETE;

IF SSP=**99** THEN DELETE;

IF DAYTYPE=**9** THEN DELETE;

IF FTYPE='9' THEN DELETE;

**PROC** **SUMMARY**; \*SUM CATCH AND HARVEST ACROSS DAYTYPES;

CLASSES FTYPE SMUX SSP SPECIES;

VAR CATCH VCATCH HARVEST VHARV EFFORT SPHARV SPCATCH SPEFFORT ANGHRS;

ID SITECODE;

OUTPUT OUT=HARVEST SUM=;

**DATA** HARVEST; \*CALCULATE STANDARD DEVIATIONS;

SET HARVEST;

IF SMUX=**.** THEN SMUX='99999';

IF SSP=**.** THEN SSP=**99**;

IF DAYTYPE=' ' THEN DAYTYPE='9';

\* IF FTYPE =' ' THEN FTYPE ='9'; \*FOR GRAND TOTAL;

IF FTYPE =' ' THEN DELETE;

IF SPECIES=' ' THEN DELETE;

YEAR=**2017**;

SDHARV=SQRT(VHARV);

SDCATCH=SQRT(VCATCH);

IF CATCH>**0** THEN CRATE=ROUND(CATCH/ANGHRS,**.0001**);

IF CATCH=**0** THEN CRATE=**0**;

IF CATCH=**.** AND ANGHRS=**.** THEN CRATE=**.**;

IF HARVEST>**0** THEN HRATE=ROUND(HARVEST/ANGHRS,**.0001**);

IF HARVEST=**0** THEN HRATE=**0**;

IF HARVEST=**.** AND ANGHRS=**.** THEN HRATE=**.**;

IF SPCATCH>**0** THEN SPCRATE=ROUND(SPCATCH/SPEFFORT,**.0001**);

IF SPCATCH=**0** THEN SPCRATE=**0**;

IF SPCATCH=**.** AND SPEFFORT=**.** THEN SPCRATE=**.**;

IF SPHARV>**0** THEN SPHRATE=ROUND(SPHARV/SPEFFORT,**.0001**);

IF SPHARV=**0** THEN SPHRATE=**0**;

IF SPHARV=**.** AND SPEFFORT=**.** THEN SPHRATE=**.**;

IF HARVEST GT **0** THEN

CVHARV=SDHARV/HARVEST\***100**; ELSE CVHARV=**.**;

IF CATCH GT **0** THEN

CVCATCH=SDCATCH/CATCH\***100**; ELSE CVCATCH=**.**;

LABEL HARVEST='TOTAL HARVEST'

SDHARV='ST DEV HARVEST'

CVHARV='CV (%)'

CVCATCH='CV (%)'

CATCH='TOTAL CATCH'

SDCATCH='ST DEV CATCH'

CRATE='GENERAL CATCH/HOUR'

HRATE='GENERAL HARVEST/HOUR'

SPCATCH='SPECIES SPECIFIC CATCH'

SPHARV='SPECIES SPECIFIC HARVEST'

SPCRATE='SPECIFIC CATCH/HOUR'

SPHRATE='SPECIFIC HARVEST/HOUR'

SPEFFORT='DIRECTED ANGLING EFFORT';

**PROC** **SORT**;

BY FTYPE SMUX SSP SPECIES;

**DATA** HARVEST; \*ASSIGN ZEROS TO MISSING DATA SO SAS 9.3 TABULATE COMMAND PRINTS OUT MISSING PAGES;

SET HARVEST;

IF HARVEST=**.** THEN HARVEST=**0**;

IF CVHARV=**.** THEN CVHARV=**0**;

IF CATCH=**.** THEN CATCH=**0**;

IF CVCATCH=**.** THEN CVCATCH=**0**;

IF HRATE=**.** THEN HRATE=**0**;

IF CRATE=**.** THEN CRATE=**0**;

IF SPEFFORT=**.** THEN SPEFFORT=**0**;

IF SPHRATE=**.** THEN SPHRATE=**0**;

IF SPCRATE=**.** THEN SPCRATE=**0**;

**PROC** **TABULATE** MISSING FORMAT=COMMA9.0;

FORMAT SPECIES $SPECIES.;

TITLE2 'MONTHLY HARVEST ESTIMATES BY AREA';

CLASSES SPECIES SMUX SSP;

BY FTYPE;

VAR HARVEST CVHARV;

TABLE SMUX, SPECIES, SSP\*(HARVEST CVHARV\*F=**3.0**)\*SUM/

RTS=**20** ROW=FLOAT CONDENSE PRINTMISS BOX=\_PAGE\_;

KEYLABEL SUM=' ';

**PROC** **TABULATE** FORMAT=COMMA9.0;

FORMAT SPECIES $SPECIES.;

TITLE2 'MONTHLY CATCH (INCLUDING RELEASED FISH) ESTIMATES BY AREA';

CLASSES SMUX SPECIES SSP;

BY FTYPE;

VAR CATCH CVCATCH;

TABLE SMUX,SPECIES, SSP\*(CATCH CVCATCH\*F=**3.0**)\*SUM/

RTS=**20** ROW=FLOAT CONDENSE BOX=\_PAGE\_;

KEYLABEL SUM=' ';

**PROC** **TABULATE** FORMAT=COMMA12.0;

FORMAT SPECIES $SPECIES.;

TITLE2 'MONTHLY HARVEST RATE ESTIMATES BY AREA';

TITLE3 'GENERAL RATES ARE BASED ON ALL HOURS OF FISHING';

CLASSES SMUX SPECIES SSP;

BY FTYPE;

VAR HRATE;

TABLE SMUX,SPECIES, SSP\*(HRATE\*F=**12.4**)\*SUM/

RTS=**20** ROW=FLOAT CONDENSE BOX=\_PAGE\_;

KEYLABEL SUM=' ';

**PROC** **TABULATE** FORMAT=COMMA12.0;

FORMAT SPECIES $SPECIES.;

TITLE2 'MONTHLY CATCH RATE (INCLUDING RELEASED FISH) ESTIMATES BY AREA';

TITLE3 'GENERAL RATES ARE BASED ON ALL HOURS OF FISHING';

CLASSES SMUX SPECIES SSP;

BY FTYPE;

VAR CRATE;

TABLE SMUX,SPECIES, SSP\*(CRATE\*F=**12.4**)\*SUM/

RTS=**20** ROW=FLOAT CONDENSE BOX=\_PAGE\_;

KEYLABEL SUM=' ';

**PROC** **TABULATE** FORMAT=COMMA12.0;

FORMAT SPECIES $SPECIES.;

TITLE2 'ESTIMATES OF SPECIES SPECIFIC FISHING EFFORT BY MONTH AND AREA';

CLASSES SMUX SPECIES SSP;

BY FTYPE;

VAR SPEFFORT;

TABLE SMUX,SPECIES, SSP\*(SPEFFORT)\*SUM/

RTS=**20** ROW=FLOAT CONDENSE BOX=\_PAGE\_;

KEYLABEL SUM=' ';

**PROC** **TABULATE** FORMAT=COMMA12.0;

FORMAT SPECIES $SPECIES.;

TITLE2 'MONTHLY HARVEST RATE (SPECIES SPECIFIC) ESTIMATES BY AREA';

TITLE3 'SPECIFIC RATES ARE BASED ON HOURS FISHED FOR THAT SPECIES';

CLASSES SMUX SPECIES SSP;

BY FTYPE;

VAR SPHRATE;

TABLE SMUX,SPECIES, SSP\*(SPHRATE\*F=**12.4**)\*SUM/

RTS=**20** ROW=FLOAT CONDENSE BOX=\_PAGE\_;

KEYLABEL SUM=' ';

**PROC** **TABULATE** FORMAT=COMMA12.0;

FORMAT SPECIES $SPECIES.;

TITLE2 'MONTHLY CATCH RATE (SPECIES SPECIFIC, INCLUDING RELEASED FISH)

ESTIMATES BY AREA';

TITLE3 'SPECIFIC RATES ARE BASED ON HOURS FISHED FOR THAT SPECIES';

CLASSES SMUX SPECIES SSP;

BY FTYPE;

VAR SPCRATE;

TABLE SMUX,SPECIES, SSP\*(SPCRATE\*F=**12.4**)\*SUM/

RTS=**20** ROW=FLOAT CONDENSE BOX=\_PAGE\_;

KEYLABEL SUM=' ';

**DATA** HARVEST2;

SET HARVEST;

LENGTH HARBOR **3**;

IF SMUX='99999' THEN DELETE;

IF SSP=**99** THEN DELETE;

HARBOR=**.**;

COUNTY=SUBSTR(SITECODE,**1**,**2**);

FORMAT FTYPE SMUX SSP DAYTYPE SPECIES;

KEEP YEAR FTYPE SMUX SSP DAYTYPE COUNTY SPECIES HARBOR

HARVEST VHARV CATCH VCATCH CRATE HRATE SPCRATE SPHRATE

SPHARV SPCATCH SPEFFORT ANGHRS;

\*DATA HARVEST3; \* ACTIVATE AFTER DATA VERIFICATION ;

\* SET SAVE2.creel\_sum\_harvest\_1986\_present;

\*DATA SAVE2.creel\_sum\_harvest\_1986\_present;

\* SET HARVEST3 HARVEST2;

**DATA** LENGTHS;

SET SAVE.LENGTHS;

IF FTYPE<'5';

IF SPECIES='I14' OR SPECIES='I16' OR SPECIES='I19' OR SPECIES='I20' OR

SPECIES='I21' OR SPECIES='I22' OR SPECIES='I23' OR SPECIES='I28' OR

SPECIES='L02' OR SPECIES='V03' OR SPECIES='W11' OR SPECIES='X15' OR

SPECIES='X22' OR SPECIES='I05' OR SPECIES='B01' OR SPECIES='L03';

DATE=MDY(MONTH,DAY,YEAR);

SITECODE=COUNTY||SITE;

**PROC** **SORT**;

BY FTYPE SITECODE;

**DATA** LENGTHS;

MERGE LENGTHS(IN=A) NAMES(IN=B);

BY FTYPE SITECODE;

IF A;

LENGTH SSP **3**;

SSP=MONTH;

IF MONTH LE **4** THEN SSP=**4**;

IF MONTH GE **9** THEN SSP=**9**;

IF MONTH GE **11** THEN SSP=**10**;

LABEL SMUX='STATISTICAL MANAGEMENT UNIT'

SSP='STATISTICAL SURVEY PERIOD'

LENGTH='LENGTH (IN.)';

**DATA** LENGTHS;

SET LENGTHS;

LENGTH=ROUND(LENGTH);

IF LENGTH>**0**;

FORMAT SMUX $SITES. DAYTYPE $DAYTYPE. FTYPE $FTYPE. SSP SSP.

SPECIES $SPECIES.;

**PROC** **SORT**;

BY FTYPE SPECIES;

**DATA** LENGTHS2;

SET LENGTHS;

BY FTYPE SPECIES;

NUMBER=**1**;

OUTPUT;

IF FIRST.SPECIES THEN DO;

DO LENGTH=**0** TO **50**;

NUMBER=**0**;

OUTPUT;

END;

END;

**PROC** **SUMMARY** NWAY;

CLASSES FTYPE SPECIES LENGTH;

VAR NUMBER;

OUTPUT OUT=LENGTHS SUM=;

**PROC** **SUMMARY** NWAY DATA=LENGTHS2;

CLASSES FTYPE SPECIES;

VAR NUMBER;

OUTPUT OUT=TOTAL SUM=TOTAL;

**DATA** LENGTHS;

MERGE LENGTHS TOTAL;

BY FTYPE SPECIES;

**DATA** LENGTHS;

SET LENGTHS;

IF TOTAL=**0** THEN PERCENT=**0**; ELSE PERCENT=NUMBER/TOTAL;

**DATA** HARVEST;

SET HARVEST;

\* IF FTYPE='9';

IF SMUX='99999';

IF SSP=**99**;

**PROC** **SORT**;

BY FTYPE SPECIES;

**DATA** ALL;

MERGE HARVEST LENGTHS;

BY FTYPE SPECIES;

**DATA** ALL;

SET ALL;

HARVEST2=HARVEST\*PERCENT;

**PROC** **TABULATE** FORMAT=COMMA9.0;

CLASSES FTYPE SPECIES LENGTH;

VAR HARVEST2;

TABLE FTYPE, LENGTH ALL, SPECIES\*HARVEST2/RTS=**8**;

TITLE2 'TOTAL SPORT HARVEST BY INCH GROUP';

TITLE3 'BASED ON MEASUREMENTS ON THE CATCH RECORD FORM';

KEYLABEL SUM=' ';

**RUN**;