



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Director's Office  
P.O. Box 944209  
Sacramento, CA 94244-2090  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

**GAVIN NEWSOM, Governor**  
**CHARLTON H. BONHAM, Director**



**DATA SHARING AGREEMENT  
BETWEEN THE  
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW)  
AND THE  
REGENTS OF THE UNIVERSITY OF CALIFORNIA, ON BEHALF OF ITS  
SANTA BARBARA CAMPUS (UCSB)  
CONCERNING THE RELEASE AND USE OF CONFIDENTIAL FISHERIES  
INFORMATION**

**WHEREAS**, Fish and Game Code Section 8022 (a) states that the receipts, reports, or other records filed with CDFW pursuant to California Fish and Game Code Section 7700 – Section 8070 are confidential.

**WHEREAS**, Fish and Game Code Section 8022 (b) states that CDFW may release these confidential data to any public or private postsecondary institution engaged in research.

**WHEREAS**, UCSB is a public postsecondary institution engaged in research.

**WHEREAS**, CDFW is willing to disclose the confidential information to UCSB, and UCSB is willing to receive the information on the terms and conditions described herein.

**NOW, THEREFORE**, CDFW and UCSB hereby agree that their interactions shall be guided by provisions of this Data Sharing Agreement (Agreement).

**1.0 Purpose**

This Agreement is entered into by and between CDFW and UCSB to establish the content, use, and protection of data needed by Dr. Christopher Free for the purpose of developing species distribution models for all harvested species in California for use in models predicting shifts in distribution driven by climate change. Additional details regarding this work are provided in Attachment A.

**2.0 Period of Agreement**

The Agreement shall be in effect from the date of last signature and shall extend for a period of two years or until completion or termination of the project work identified in Attachment A, whichever is soonest. This Agreement

may be extended by consent and signature of both parties and may be terminated in writing by either party.

### **3.0 Definitions**

*Parties* means CDFW and UCSB.

*CDFW* includes its officers, employees, agents and any other representatives.

*UCSB* includes any individuals employed or contracted by, or studying at UCSB who are working on the research described in Attachment A. UCSB's authorized recipient for the Information is Christopher Free.

*Information* includes collectively any receipts, reports, or other records filed with CDFW pursuant to California Fish and Game Code §7700 - §8070, and the information contained in them, which is furnished by CDFW to UCSB pursuant to this Agreement.

### **4.0 Intended Use of Data**

UCSB agrees to use the Information from CDFW's Data Source, including the Marine Landings Data System (MLDS), Automated License Data System (ALDS) or the Pacific States Marine Fisheries Commission's Pacific Fisheries Information Network (PacFIN), and Marine Logs System (MLS) for the strict purpose as described in section 1.0.

#### **4.1 Description of Data:**

CDFW shall provide California marine commercial fisheries landings receipt data, commercial vessel registration and permit data, and logbook data as described in Attachment B. CDFW reserves the right to edit, add, delete or change any data field contained in the Attachment B as CDFW considers necessary to the functions of CDFW or as applicable to comply with federal and state laws without notice to UCSB.

If the Information is used for any purpose other than authorized under this Agreement, UCSB's further access to any CDFW confidential data may be denied, and this Agreement may be terminated immediately.

### **5.0 Data Transfer**

All data that are transferred through internal and external networks shall adhere to National Institute of Standards and Technology (NIST) Special Publication (SP) 800-53 System and Communications Protection (SC) 8, *Transmission Confidentiality and Integrity*. All data that are transferred by means other than internal and external networks shall adhere to NIST SP 800-53, Media and Protections 5, *Media Transport*.

### **6.0 Constraints on Use of Data**

CDFW is the exclusive owner of the Information subject to this Agreement. UCSB will in all respects treat it as the proprietary information of CDFW in accordance with all procedures reasonably necessary to protect CDFW's proprietary rights therein, consistent with the legal authorities available to UCSB. UCSB will maintain the confidentiality of the information consistent with legal authorities available to UCSB, including but not limited to the applicable California state laws. In the event that UCSB receives a formal request for the Information pursuant to the California Public Records Act (PRA) (Government Code sections 7920-7931) or any other applicable law, UCSB will notify CDFW at least 10 days prior to responding to the request. Pursuant to Fish and Game Code Section 8022 and Government Code sections 7927.705, 7930.005, and 7930.125, this Information is not a public record under the PRA and is exempt from disclosure.

**6.1** UCSB shall only use the Information for the purposes identified in section 1.0.

**6.2** UCSB shall restrict disclosure of the Information solely to those individuals studying with or working for UCSB who have a need to know such information in order to accomplish the identified purposes.

**6.3** UCSB shall advise such individuals, before they receive access to the Information, of UCSB's obligations under this Agreement. UCSB shall take steps to ensure that all such individuals shall comply with the provisions of this Agreement, including requiring: all agents (contractors) to sign a non-disclosure agreement consistent with the provisions of this Agreement; and all employees and other individuals working on the research to sign a statement affirming that they have read this Agreement and will maintain its obligations.

**6.4** Any information published or otherwise shared, outside of those receiving the information pursuant to sections 3 or 6.3 above, will only be as summaries, so as not to disclose the individual record or business of any person, and before publishing, UCSB shall provide these summaries to CDFW for its review. CDFW will review summaries in consideration of the "Rule-of-Three" thresholds to ensure confidentiality is maintained consistent with Fish and Game Code Section 8022. All records summarized for public disclosure must be the aggregate of at least three data points in each given category that identifies an individual or business, for example three individual persons with commercial fishing licenses, three individual fishing vessels, or three individual fish businesses.

**6.5** Publication of any results based upon this Information will include proper attribution to CDFW.

**6.6** The following disclaimer will be included in the data attribution:

CDFW collects data from various sources for fisheries management purposes, and data may be modified at any time to improve accuracy

and as new data are acquired. CDFW may provide data upon request under a formal agreement. Data are provided as-is and in good faith, but CDFW does not endorse any particular analytical methods, interpretations, or conclusions based upon the data it provides. Unless otherwise stated, use of CDFW's data does not constitute CDFW's professional advice or formal recommendation of any given analysis. CDFW recommends users consult with CDFW prior to data use regarding known limitations of certain data sets.

**6.7** Data received under this Agreement, backups of these data, and all related materials that contain any portion of these confidential data will be removed from computer equipment after it has been used for its stated purposes.

## **7.0 Data Security**

To protect CDFW data from unauthorized physical and electronic access and to ensure the confidentiality, availability and integrity of all data shared, UCSB shall meet or exceed industry best practices for physical security, data security, network security, and access controls, both technically and procedurally, including compliance with Federal Information Processing Standards (FIPS) Publication 200, *Minimum Security Requirements for Federal Information and Information Systems*, and National Institute of Standards and Technology (NIST) Special Publication 800-53, *Security and Privacy Controls for Federal Information Systems and Organizations*.

UCSB will apply security patches and upgrades, and keep antivirus software up-to-date on all systems on which data may be used.

In the event that CDFW data are improperly accessed or breached, UCSB shall take measures to prevent further access to CDFW data or further breach incidents. In addition, UCSB will notify CDFW within 24 hours of discovering any unauthorized access. CDFW shall have the right to participate in the investigation of a security incident involving its data or conduct its own independent investigation, and UCSB shall cooperate in such investigations. Despite any preventive measures taken by UCSB, CDFW retains the right to terminate this Agreement consistent with section 10.0 of this Agreement.

UCSB shall be responsible for all costs incurred by CDFW due to security incident resulting from UCSB's failure to perform or negligent acts of its personnel, and resulting in an unauthorized disclosure, release, access, review, or destruction; or loss, theft or misuse of data. If CDFW determines that notice to the individuals whose data has been lost or breached is appropriate, UCSB will bear any and all costs associated with the notice or any mitigation selected by CDFW. These costs include, but are not limited to, staff time, material costs, postage, media announcements, and other identifiable costs associated with the breach or loss of data.

## **8.0 Compliance with Applicable Laws and Regulations**

The validity, construction, and performance of this Agreement are governed by the laws of the State of California.

UCSB shall comply with all applicable state and federal laws and regulations protecting the Information that is provided pursuant to this Agreement including the privacy of personal information. UCSB agrees to be bound by California law for any activities related to the scope of this agreement.

## **9.0 Amendments and Alterations to this Agreement**

This Agreement constitutes the entire agreement between CDFW and UCSB for the purpose described in Attachment A, and no other statements or representations, written or oral, shall be deemed to exist or to bind the parties for the stated purpose. CDFW and UCSB may amend this Agreement at any time, provided that the amendment is with the consent of both parties, in writing, and signed by authorized persons.

## **10.0 Termination of the Agreement**

This Agreement may be terminated at any time, for cause, by CDFW; may be terminated for any reason by either party with a 30-day written notice; and in any case terminates as described in section 2.0, unless extended pursuant to section 2.0 or section 9.0.

In the event this Agreement is terminated, UCSB shall return to CDFW all the Information covered by this Agreement as well as any backups and all related materials that contain any portion of the Information. Once the Information and related materials are transferred to CDFW, UCSB shall sanitize the data in accordance with NIST SP 800-53 MP-6, *Media Sanitation*. CDFW may request independent confirmation of data sanitation.

UCSB's obligations of confidentiality and restrictions on use of the Information pursuant to this Agreement shall continue in full force and effect, and shall survive termination of this Agreement.

## **11.0 Dispute Resolution**

Except as otherwise provided in this Agreement, should a bona fide dispute arise between CDFW and UCSB regarding subjects of this Agreement, it is the expectation of both UCSB and CDFW that the parties shall meet and resolve the issue through discussion and negotiation. If the Parties are unable to resolve the dispute through good faith discussions, the Parties reserve the right to seek legal remedies as appropriate.

## **12.0 Miscellaneous Provisions**

**12.1** It is expressly understood that the confidentiality of the Information is statutory in nature and cannot be waived by any act or omission of CDFW.

**12.2** This Agreement constitutes the entire understanding between CDFW and UCSB with respect to the subject and purpose described in section 1.0 and supersedes any prior or contemporaneous understandings or agreements, whether oral or written.

### **13.0 Notices**

Any notices made in connection with this Agreement shall be in writing and sent certified mail or by recognized overnight courier to the following individuals and addresses:

For CDFW:

Dr. Craig Shuman, Regional Manager  
California Department of Fish and Wildlife  
Marine Region  
1933 Cliff Drive, Suite 9  
Santa Barbara, CA 93109  
Telephone: (916) 445-6459  
E-mail: [Craig.Shuman@wildlife.ca.gov](mailto:Craig.Shuman@wildlife.ca.gov)

For UCSB:

Jenna Nakano, MTA/NDA Officer  
UCSB Office of Technology &  
Industry Alliances  
342 Lagoon Road  
Santa Barbara, CA 93106-2055  
Telephone: (805) 893-2367  
E-mail: [nakano@tia.ucsb.edu](mailto:nakano@tia.ucsb.edu)

### **14.0 Independent Capacity**

The employees or agents of each party who are engaged in the performance of this Agreement shall continue to be employees or agents of that party and shall not be considered for any purpose to be employees or agents of the other party.

University of California, Santa Barbara (UCSB)

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**SIGNATURE PAGE**

This Agreement may be executed through original signature or digital signature. Execution in original signature may be provided in counterparts, with each Party signing a copy of this Signature Page, each of which is an original and all of which taken together form one completely executed document. Original signature that are transmitted via facsimile or email (e.g. PDF or similar file types) are valid. Digital signature is the preferred signature format. Any digital signature will be completed through a CDFW-initiated DocuSign process, with all signatures completed within a single envelope. In signing, the signatories attest they are each duly authorized to execute this agreement.

DocuSigned by:



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DATE: 2/8/2024

Chad Dibble, Deputy Director  
Wildlife and Fisheries Division  
California Department of Fish and Wildlife  
P O Box 944209  
Sacramento, CA 94244-2090

DocuSigned by:



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DATE: 2/7/2024

Stephen Adams, Chief Information Officer  
Data and Technology Division  
California Department of Fish and Wildlife  
P.O. Box 944209  
Sacramento, California 94244-2090

DocuSigned by:




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DATE: 2/7/2024

Jenna Nakano, MTA/NDA Officer  
UCSB Office of Technology & Industry Alliances  
342 Lagoon Road  
Santa Barbara, CA 93106-2055

DocuSigned by:



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Craig Shuman

2/7/2024

Marine Regional Manager

Read and Acknowledged:

University of California, Santa Barbara (UCSB)

Page 8

DocuSigned by:

*Christopher Free*

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DATE: 2/5/2024

Authorized Data Recipient  
Christopher Free  
2400 Bren Hall  
Bren School, UC Santa Barbara  
Santa Barbara, CA 93106-5131

DocuSigned by:

*Anita Giraldo Ospina*

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DATE: 2/5/2024

Authorized Data Recipient  
Anita Giraldo Ospina  
Marine Science Institute, UC Santa Barbara  
Santa Barbara, CA 93106-5131

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*Jenn Caselle*

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Authorized Data Recipient  
Jenn Caselle  
Marine Science Institute, UC Santa Barbara  
Santa Barbara, CA 93106-5131

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*Cori Lopazanski*

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DATE: 2/5/2024

Authorized Data Recipient  
Cori Lopazanski  
Bren School, UC Santa Barbara  
Santa Barbara, CA 93106-5131

DocuSigned by:

*Yutian Fang*

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DATE: 2/5/2024

Authorized Data Recipient  
Yutian Fang  
Bren School, UC Santa Barbara  
Santa Barbara, CA 93106-5131

DocuSigned by:

*Tracey Mangin*

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Authorized Data Recipient  
Tracey Mangin



University of California, Santa Barbara (UCSB)

Page 9

Bren School, UC Santa Barbara

Santa Barbara, CA 93106-5131

DocuSigned by:



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Authorized Data Recipient

Ellen Willis-Norton

Bren School, UC Santa Barbara

Santa Barbara, CA 93106-5131

2/6/2024

DATE: \_\_\_\_\_

## **Appendix A**

### **Project Description**

We plan to develop species distribution models (SDMs) for all harvested species in California and to use these models to project distribution shifts under climate change. We will use these projections to understand how climate change will shift (1) protection of species within Marine Protected Areas (MPAs) and (2) the location of fishing grounds. We will use landings receipts and logbooks to map historical fishing grounds and their distribution relative to climate variability. Specifically, we will fit kernel density models to distributions of annual fishing effort (defined using logbooks and landing receipts) to map annual fishing grounds. We will measure various metrics from the predicted fishing grounds to track changes through time. These metrics will include: the center of gravity, the southern-most latitude, the northern-most latitude, the maximum distance from shore, the area, and the latitudinal range. We will examine how fishing grounds have shifted through time and the extent to which these shifts are explained by oceanographic conditions using regression. We will also use machine learning methods, likely random forests, to predict fishing grounds based on static variables such as depth and distance to port and dynamic variables like sea surface temperature to project fishing grounds forward in time. We will define fleets using the requested permit records where a fleet will be identified by permit type of other pertinent métiers. We will also use logbooks and the CPFV microblock data to develop fisheries-dependent abundance indices to train SDMs for species without sufficient fisheries-independent monitoring information. The SDMs will use regression (GLM or GAM) or machine learning (random forest or boosted regression trees) to predict species distribution based on variable such as depth, distance from shore, latitude, bottom substrate, sea surface temperature, dissolved oxygen, salinity, and primary productivity. We will use these models to forecast species distributions through the end of the century using down-scaled climate models. We will measure various metrics similar to those used for the fishing grounds to describe the rate of these shifts. For this reason, we request all available logbook data, which we believe to be available for the CPFV, gillnet, trawl, lobster, dive (urchin/cucumber), & market squid fisheries. Finally, we will use the fisheries-dependent indices of abundance generated from the logbook data to generate data-limited estimates of stock status. Specifically, we will evaluate the utility of the Bayesian depletion model developed by Richerson et al. (2020) to estimate the pre-season abundance of legal-sized male Dungeness crab, rock crab, and California spiny lobster.

### **Anticipated timeline (January 1, 2024 – Dec 31, 2025):**

Jan 2024-May 2024: Create indices of relative abundance

May 2024-Dec 2024: Develop species distribution models and forecasts

Jan 2024-May 2024: Develop reconstructions of fishing grounds

May 2024-Dec 2024: Develop vessel distribution models and forecasts

May 2024-May 2025: Develop R package for Bayesian depletion model and test on Dungeness crab, rock crab, and California spiny lobster

Jan 2025-Dec 2025: Write and revise papers

**Appendix B****COMMERCIAL FISHING DATA  
FILE LAYOUT  
CDFW & UCSB**

<b>General Description</b>	Commercial landings and revenues data, commercial vessel registration and permit data, and logbook data (1980-2022)
<b>1. Observation Requested</b>	i. Marine Landings Data System (MLDS) landings records 1980 – 2022 (or same data received from PacFIN) ii. ALDS vessel registration data 1980 – 2022 (or same data received from PacFIN) iii. Marine Logs System (MLS) - Commercial Passenger Fishing Vessel (CPFV), Gillnet, Trawl, Lobster, Dive, Squid Vessel, Squid Light Boat logbook records 1980 – 2022 iv. Private Charter (PC) - California Recreational Fisheries Survey (CRFS) 2004 – 2022
<b>2. Delivery Timeline Request</b>	As soon as possible
<b>Process:</b>	Various
<b>File Name:</b>	To be determined
<b>Format:</b>	To be determined
<b>Data Field Provided</b>	i. Marine Landings Data System (MLDS) data  <b>Landing Receipt Data Extract:</b> Landing Date Serial Number Fish License Number (CFL) Vessel ID State Permit ID Groundfish Permit ID Port ID Port Name Block ID Fish Business ID Species ID Species Name Pounds Unit Price Total Value Primary Gear ID Primary Gear Name Gear ID Gear Name Condition ID Condition Name Use ID Use Name  ii ALDS Data  <b>Vessel Registration and Permit Data:</b>

VesselID
CF/Doc
VesselName
Passengers
YearBuilt
Length
Beam
HorsePower
Tonnage
HomePort
VesselPermit
PermitIssueDate
PermitIssueOffice
RegIssueDate
RegIssueOffice
VesselYear
LicenseStatus

## iii. Marine Logs System (MLS) data

**CPFV Log:**

LogMonth
LogDay
LogYear
LogDate
LogDateFlag
DateReceived
DateReceivedFlag
NoActivityMonth
SerialNumber
SerialNumberFlag
VesselID
VesselIDFlag
VesselName
PortCode
PortCodeFlag
TargetSpeciesLingcod
TargetSpeciesOther
TargetSpeciesRockfishes
TargetSpeciesSalmon
TargetSpeciesSharks
TargetSpeciesStripedBass
TargetSpeciesSturgeon
TargetSpeciesTuna
TargetSpeciesPotluck
TargetSpeciesMiscCoastal
TargetSpeciesMiscOffshore
TargetSpeciesMiscBay
DateSubmitted
FishingMethodTrolling
FishingMethodMooring
FishingMethodAnchored
FishingMethodDrifting
FishingMethodDiving
FishingMethodLightTackle
FishingMethodOther

	BaitUsedAnchoviesLive BaitUsedAnchoviesDead BaitUsedSardinesLive BaitUsedSardinesDead BaitUsedSquidLive BaitUsedSquidDead BaitUsedOtherLive BaitUsedOtherDead TripType TripTypeFlag NonPaying BirdInteraction BirdInteractionFlag DescendingDevice DescendingDeviceFlag Block BlockFlag DepartureTime DepartureTimeFlag ReturnTime ReturnTimeFlag HoursMinutesFished HoursFished HrsMinutesFishedFlag NumberOfFishers NumberOfFishersFlag Depth Temperature TemperatureFlag SpeciesCode SpeciesFlag Species NumberKept NumberKeptFlag NumberReleased NumberReleasedFlag NumberLostToSeaLions NumberLostToSeaLionsFlag NumberOfCrewFished OperatorName NumberOfFishCaughtByCrew
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**Gillnet Log:**

	Current_Name BoatNo Vessel_Num Permit Fishing_Date Tarspc Drift_Set FG_Blocks Depths Net_Length Mesh_Size Bouy_Line_Depth
--	--

Hours\_Net\_Soaked  
Common\_Name  
Status  
NoCatch  
Weights  
Predator

**Trawl Log:**

SerialNumber  
VesselID  
FederalDocNumber  
VesselName  
CrewSize  
DepartureDate  
DepartureTime  
ReturnDateString  
ReturnTime  
DeparturePortCode  
ReturnPortCode  
TowMonth  
TowDay  
TowYear  
TowNumber  
TowHours  
SetTime  
SetLatitude  
SetLongitude  
UpTime  
UpLatitude  
UpLongitude  
AverageDepth  
NetType  
TargetStrategy  
Pounds  
ConvertedPounds  
SpeciesCode  
PacFINSpeciesCode  
Revenue  
Region  
Block  
IsEFPTrip  
IsObservedTrip  
LandingReceipt  
LandingDate  
Comments

**Lobster Log:**

LogDateString  
SerialNumber  
VesselID  
VesselName  
FisherLicenseID  
FisherLastName  
FisherFirstInitial  
Block

Depth  
LegalsRetained  
ShortsReleased  
TrapsPulled  
MultiDayReceivered  
NumTrapsDeployed  
LandingReceipt  
CrewMemberID  
TrapLocation  
LatitudeDec  
LongitudeDec  
NightsInWater

**Dive Log:**

LogGroupMonth  
LogGroupYear  
LogSerialNum  
Vessel  
PermiteeID  
PermitteeName  
LogDateString  
DiveNumber  
CDFWBlock  
Position  
LatitudeDec  
LongitudeDec  
Landmark  
MniDepthFeet  
MaxDepthFeet  
DiverHours  
PortCode  
DealerName  
Remarks  
DiveSpeciesPounds  
LandingReceiptNumber

**Squid Vessel Log:**

LogSerialNumber  
VesselID  
VesselName  
CaptainID  
CaptainName  
VesselPermitNumber  
Comments  
LogDateString  
SetNumber  
StartTime  
EndTime  
ElapsedTime  
SetPosition  
SetLatitude  
SetLongitude  
Temperature  
BottomDepth  
CatchEstimate

	<div>LtdByMarketOrder</div> <div>LightBrailSetUpon</div> <div>ByCatch</div> <div>LandingReceipts</div> <div><b>Squid Light Boat Log:</b></div> <div>SerialNumber</div> <div>VesselID</div> <div>VesselName</div> <div>CaptainID</div> <div>CaptainName</div> <div>PermitNumber</div> <div>Comments</div> <div>LogDateString</div> <div>Location</div> <div>GeneralLocation</div> <div>LocationDescription</div> <div>Lat_DD</div> <div>Long_DD</div> <div>HoursSearching</div> <div>HoursLighting</div> <div>Seiner</div> <div>EstTonnageRemaining</div> <div>BirdsPresent</div> <div>MammalsPresent</div> <div>StartTime</div> <div>EndTime</div> <div>ElapsedTime</div> <div>BottomDepth</div> <div>AmountSold</div> <div>LandingReceipt</div> <div>AmtForLiveBait</div> <div>ByCatch</div> <div> iv. Private Charter (PC) - California Recreational Fisheries Survey (CRFS)</div> <div><b>il</b></div> <div>ADD_HRS</div> <div>AREA</div> <div>AREA_X</div> <div>BNAME</div> <div>CATCH</div> <div>CNTRBTRS</div> <div>CNTY</div> <div>CNTY_RES</div> <div>DATE1</div> <div>DIST</div> <div>EDATE</div> <div>FFDAYS2</div> <div>FFDAYS12</div> <div>FIRST</div> <div>F_BY_P</div> <div>GEAR</div> <div>HRSF</div> <div>ID_CODE</div>
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INTSITE
ISLAND
LEADER
MODE_F
MODE_FX
NUM_TYP2
NUM_TYP3
NUM_TYP4
NUM_TYP6
NUM_TYP8
NUM_TYP9
PARTY
PRT_CODE
PVT_RES
REG_RES
SALMON
SEP_FISH
SHORT
ST
STATUS
ST_RES
SUB_REG
TELEFON
TIME
UID
WAVE
YEAR
ZIP
areaB
assnid
boatn
coastal
crfs
daysf
depdate
deptime
district
etime
gearB
geara
kayak
keyref
lang
lboats
ldtype
ltype
mboats
missed
mmskiped
mmstfshn
month
nfboats
nolic
num_typ0
numtyp8a

numtyp8b  
numtyp8c  
port  
prim1  
prim2  
ref  
sfcode  
survey  
tcntarea  
trp12mo  
Z

**i2**

ADD\_HRS  
AREA  
AREA\_X  
CNTRBTRS  
CNTY  
DATE1  
DISPO  
DIST  
GEAR  
HLOC  
HRSF  
ID\_CODE  
INTSITE  
MODE\_F  
MODE\_FX  
NUM2  
NUM\_FISH  
NUM\_TYP2  
SALMON  
SHORT  
SP\_CODE  
ST  
STATUS  
SUB\_REG  
TIME  
WAVE  
YEAR  
assnid  
crfs  
depthn  
district  
hloc2  
locn  
month  
prim1  
prim2  
recn  
sfcode  
spn  
Survey

**i3**

## University of California, Santa Barbara (UCSB)

Page 19

ADD_HRS
AREA
AREA_X
CNTRBTRS
CNTY
DATE1
DISP3
DIST
FSHINSP
F_SEX
GEAR
HLOC
HRSF
ID_CODE
INTSITE
LNGTH
MODE_F
MODE_FX
NUM3
NUM_TYP3
OLD_WGT
SALMON
SHORT
SP_CODE
ST
STATUS
SUB_REG
TIME
WAVE
WGT
WGT_FLAG
YEAR
assnid
crfs
dd
depthn
district
hloc3
lenflag
locn
maxlen
measn
month
nrs
prim1
prim2
rec
recn
scan_rslt
sfcode
spn
survey
t_len
tag

**i3d**

ALPHA5  
ASSNID  
COMMON  
ID\_CODE  
ODFWSP  
RECFINSP  
area\_x  
assn  
assnn  
cnty  
code  
dispd  
intsite  
lngth  
maxlen  
mode\_fx  
month  
old\_len  
old\_wgt  
pwgt  
recn  
recs  
sampdate  
sex  
sp\_code  
st  
stop  
sub\_reg  
wgt  
wgt\_flag  
Year

**i4**

ADD\_HRS  
AREA  
AREA\_X  
CNTRBTRS  
DATE1  
DIST  
HRSF  
ID\_CODE  
INTSITE  
LEADER  
MODE\_F  
MODE\_FX  
ST  
SUB\_REG  
TIME  
WAVE  
YEAR  
assnid  
district  
month

**i6**

ADD\_HRS  
AREA  
AREA\_X  
DATE1  
DIST  
HRSF  
ID\_CODE  
MODE\_F  
MODE\_FX  
PARTY  
PRT\_CODE  
ST  
SUB\_REG  
TIME  
WAVE  
YEAR  
assnid  
district  
month

**i8**

AREA\_X  
CNTY  
HACATCH  
HGFORMAT  
HGSIZE  
HLCHART  
HLDEPTH  
HLDEPTH2  
HLFINDER  
HLGPS  
HLOC  
HLSITE  
HNORTH  
HSITE  
HSNAME  
HWEST  
INTSITE  
MODE\_FX  
NEAR\_NMILE  
ST  
SUB\_REG  
SURTYPE  
WAVE  
YEAR  
ZONE  
ZONE\_CODE  
assnid  
b1only  
b2only  
barea  
block1  
block2  
box1a

	<div>box1b box1c box2a box2b box2c crfs district hgsiz2 id_code island lat locnum lon month reason Survey</div> <div><b>i8a</b> FIRST anglers area assn assnid assnn boatnum cnty date intsite intvuer landing month numlocs numsp prim1 prim2 st survey trptyp year</div> <div><b>i8b</b> Variable assn delete elat elon etemp etime ftype gformat locnum maxdepth mindepth month obsang</div>	
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	<p>pinniped plbait plfish plgear pltime prmove sitename slat slon stemp stime year</p> <p><b>i8c</b> assn alpha5 locnu spnum kept retdaliv retdddead</p>
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Per Federal Information Processing Standards Publication 199, these data have the FIPS Classification = {(confidentiality, high), (integrity, moderate), (availability, low)}.