



State of Alaska's Salmon and People

SASAP

SASAP Synthesis Overview

Dan Rinella – U.S. Fish and Wildlife Service

Rachel Donkersloot – Alaska Marine Conservation Council

AlaskaSalmonandPeople.org

Framing Challenges

Alaska's salmon-dependent communities and management systems face **unprecedented challenges**:

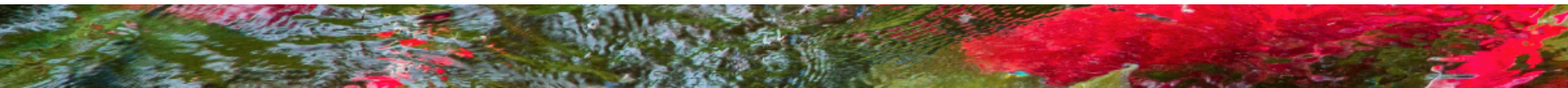
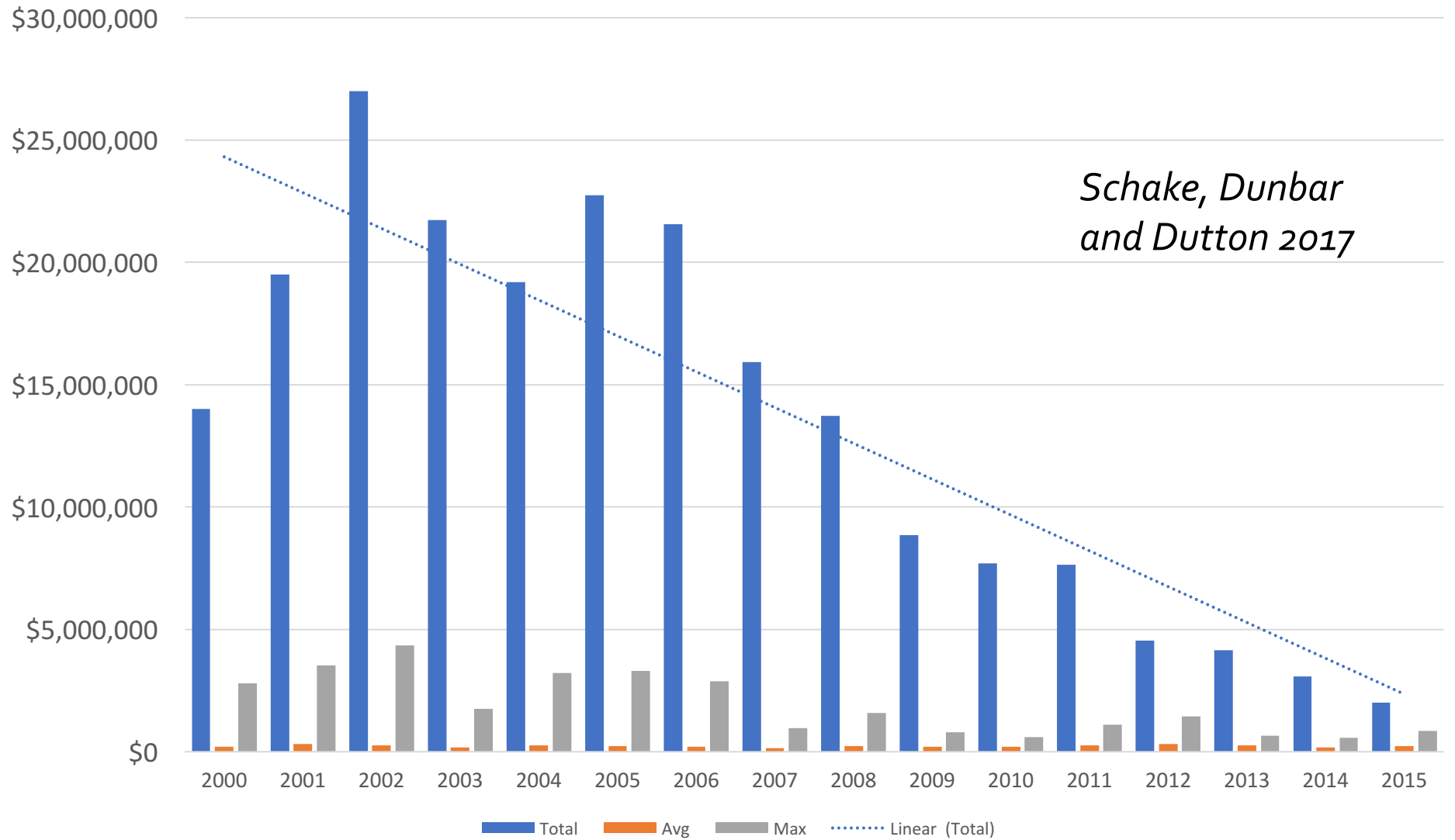
- Climate change/Ocean acidification/Blobs/HABs
- Incompatible habitat development
- Increasing hatchery production
- Inequitable allocation
- Underdeveloped public-private-community partnerships
- Increasing market competition from farmed salmon
- Declining local value from AK fisheries
- Insecure data storage, inadequate sharing and access
- Significant research and management funding cutbacks

New / integrated approaches, partnerships and systems thinking needed



Salmon Funding Trends

Alaska Sustainable Salmon Fund Annual Awards 2001 - 2015



SASAP Genesis

SASAP Mission

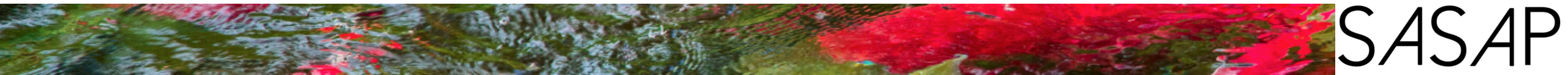
- Create an equitable decision-making platform for all stakeholders by addressing data gaps in Alaska's salmon system through information synthesis, collaboration, and stakeholder engagement

SASAP Goals

- Connect knowledge across disciplines, agencies, cultures, users, and regions
- Create new institutional capacity to generate interdisciplinary salmon knowledge
- Produce useful and relevant salmon information

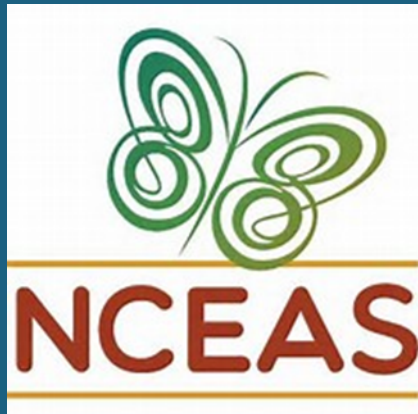
Critical Questions

1. What do we know (state of the knowledge)?
2. What do we not know (data gaps)?
3. How can we better integrate and share what we know?



Why NCEAS?

www.nceas.ucsb.edu



- NSF Center 1995-2013
- UCSB Research Unit 2014
- >500 synthesis projects
- NSF Long Term Ecological Research Network Communication Office
- NSF Arctic Data Center
- Science for Nature and People Partnership (SNAPP)
- Gulf of Alaska Synthesis
- Long-term Foundation partner



Courtesy: LTER Network Office

State of Alaska's Salmon and People (SASAP)

SASAP
Co PI: Frank Davis (NCEAS)
Co PI: Ian Dutton (NII)

Round 1
PI: Peter Westley (UAF)

Round 2
5 Working Groups

Governance
Lead
Steve Langdon
Co-Leads
Taylor Brelsford & James Fall
Members
Molly Cunfer & Meagan Krupa
Advisors
Wilson Justin, Nicole Kimball, Michael Williams

Sociocultural & Economics
Lead
Courtney Carothers
Co-Leads
Jessica Black & Tobias Schwoerer
Members
Caroline Brown, Patricia M. Clay, Rachel Donkersloot, Gunnar Knapp, Liza Mack, Julie Raymond-Yakoubian, Danielle Ringer, Rob Sanderson Jr., Ben Stevens, Alex Whiting

Biophysical
Lead
Peter Westley
Co-Lead
Dan Rinella
Members
Rebecca Shaftel, Leslie Jones, Madeline Jovanovich, Matt Sloat
Advisors
Rich Brenner, Bert Lewis, Stephanie Quinn-Davidson, Jennifer Shriver

Well-Being and Alaska Salmon Systems
PI: Rachel Donkersloot

Using participatory modeling to empower community engagement in salmon science
PI: Michael Jones

Consistency, causes, and consequences of declining size and age of Alaskan salmon
PI: Eric Palkovacs

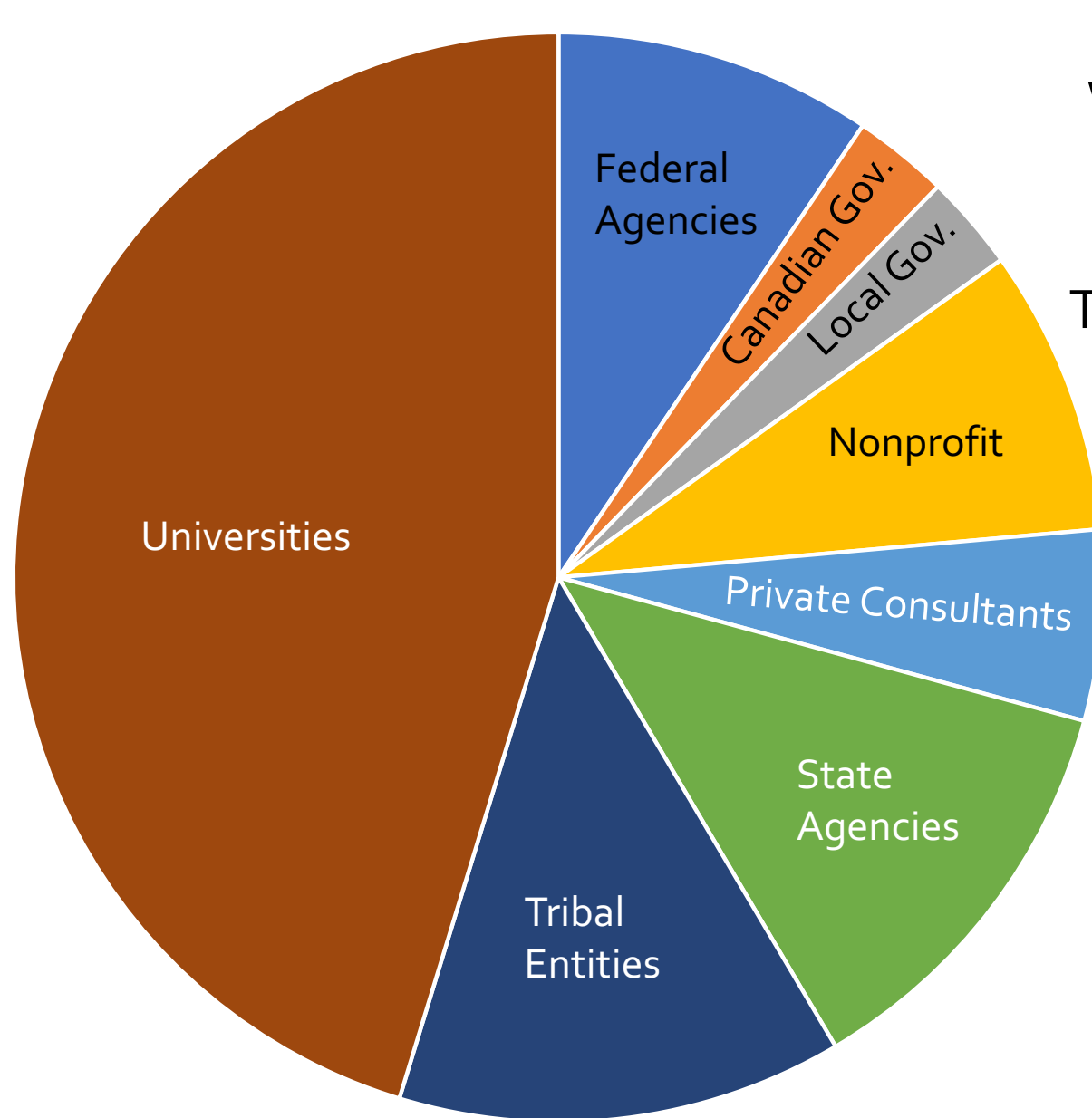
Interacting effects of ocean climate and at-sea competition on Alaskan salmon
PI: Peter S. Rand, Kristin Gorman, & Robert Campbell

Kenai Lowlands Salmon Research Synthesis and Design of Tools for Integrated Watershed Management
PI: Coowe Walker

NCEAS Support
SASAP Co-PI: Frank Davis
Post Doc: Jorge Cornejo
Director of Computing: Mark Schildhauer
Director of Informatics Research & Dev: Matt Jones
Scientific Programmer: Julien Brun, Jared Kibele
Project Data Coordinator: Jeanette Clark & Jesse Goldstein

Nautilus Impact Investing (NII)
SASAP Co-PI: Ian Dutton
Data Support: Madeline Jovanovich
Communications: Sarah Warnock

SASAP Organizations/ Affiliations



Eight
Working Groups
106
Total Participants

NCEAS Support Staff

Matt Jones, Director of Informatics and R&D *(Juneau)*

Responsible for deliverables. Driving the Data Task Force project; providing technical training and guidance on tools to assist Working Groups in managing, tracking, and archiving data.

Mark Schildhauer, Director of Computing (just retired) *(Santa Barbara)*

Drives how NCEAS infrastructure is used and assists Working Groups in utilizing infrastructure. Fosters a culture of sharing knowledge (codes, data formats, etc.) that have been useful to other WGs.

Julien Brun, Scientific Programmer *(Santa Barbara)*

Assists Working Groups in the use of NCEAS analytical & collaborative tools and infrastructure.

Jeanette Clark, Project Data Coordinator *(Santa Barbara)*

Jesse Goldstein, Project Data Coordinator *(Santa Barbara)*

Jorge Cornejo, SASAP Post Doc *(Santa Barbara)*

Graduate student interns

~6 FTE trained by the Projects Data Coordinator and responsible for GitHub ticketing, tracking down data, metadata cleaning, etc.

Jared Kibele, Scientific Programmer 50% SASAP, 50% DTF;

Software Developer Part time, to help develop the salmon data portal as a part of the KNB

Salmon Data Task Force

Co PI: Matt Jones (NCEAS)

Co PI: Ian Dutton (NII)

Ethnography Study *University of Washington*

Human Centered Design & Engineering

David Ribes, Associate Professor

Sarah Inman, PhD Student

Charles Hahn, PhD Student

Subcontracts

AK Dept of Fish & Game (ADFG)

US Fish & Wildlife Service (USFWS)

NOAA National Marine Fisheries Service (NMFS)

Board of Fish Records – Meagan Krupa & Molly Cunfer

Nautilus Impact Investing

Ian Dutton, SASAP & Data Task Force Co PI *(Anchorage)*

Responsible for securing data, integration of SASAP/DTF

Madeline Jovanovich, Coordinator *(Fairbanks)*

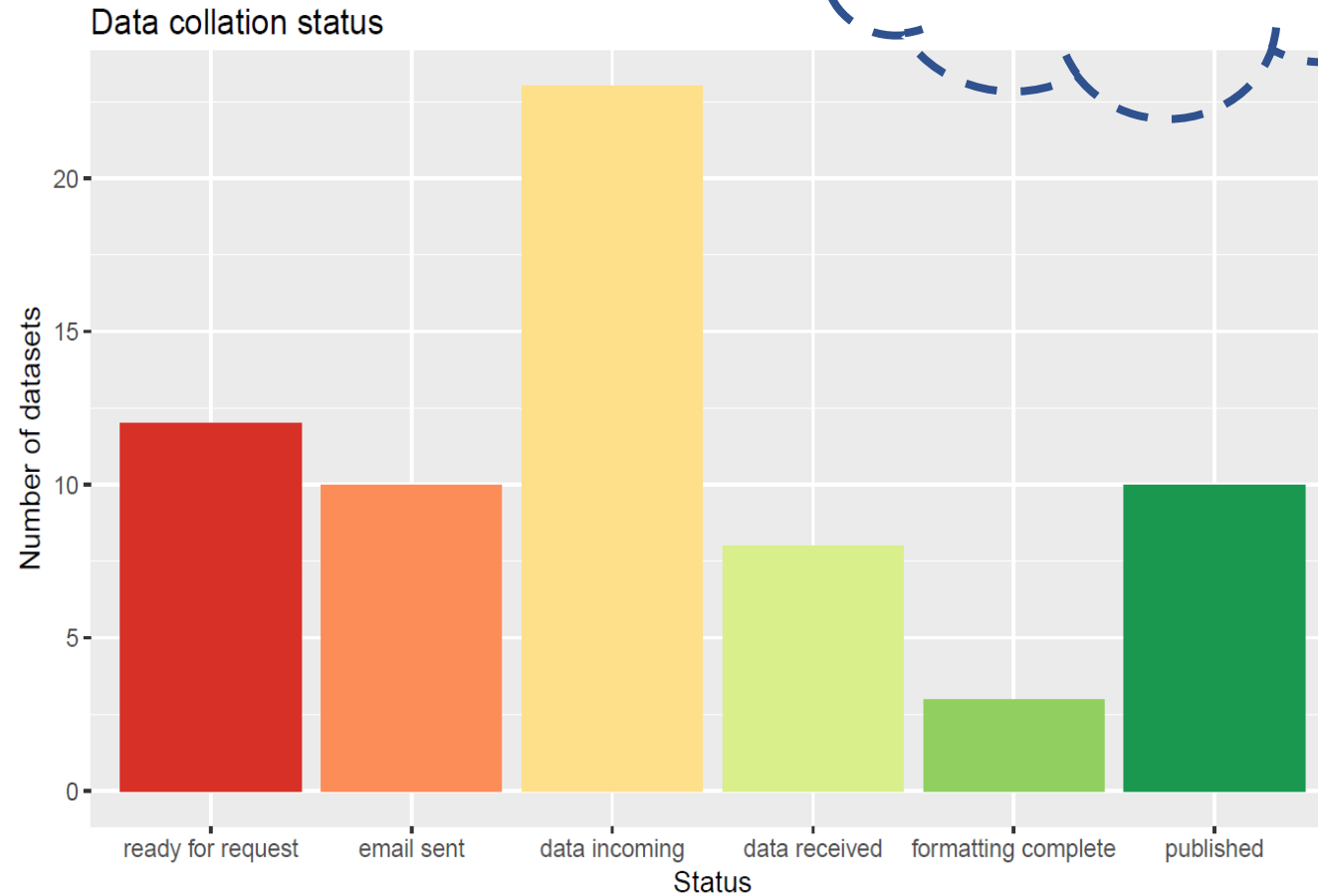
Assist coordination between all SASAP working groups and data task force; assists working groups with data needs

Data, Data Everywhere...

148 datasets identified by working groups initially

66 datasets being acquired/cleaned, etc.

*Age, Sex, Length Data
14 million lines
- from 13 different
sources in ADF&G*



#pages scanned =
96,781

#hours digitizing = 181.5

#boxes: 185



#staples removed = 3.7
billion

#paper cuts: 43

Gallons of coffee consumed: 12-50

Examples of Published Datasets

Data Description	Archive Link
CFEC Permit values	https://knb.ecoinformatics.org/#view/urn:uuid:a058c862-34be-4a99-a024-2027164c0eed
CFEC permit holder database	https://knb.ecoinformatics.org/#view/urn:uuid:cfb72b77-a8db-4555-8e01-63e346241e44
USGS Stream Temperature	https://knb.ecoinformatics.org/#view/urn:uuid:216759e1-8d13-49da-a7b4-8a6686a2c161
USGS Streamflow	https://knb.ecoinformatics.org/#view/urn:uuid:8f58a1fb-25fb-41c7-abf8-d708fb077b92
High-Seas Salmon Tag Recovery Database	https://knb.ecoinformatics.org/#view/urn:uuid:4ee77426-8633-4df4-ad0d-71756b8afe37
Well Locations	https://knb.ecoinformatics.org/#view/urn:uuid:4f136a49-2b6a-4918-a71f-100e92819689
Salmon Wholesale Prices (COAR)	https://knb.ecoinformatics.org/#view/urn:uuid:c24ca3d8-3390-4dd8-bef7-db97e14a0a39
Commercial Salmon Exvessel Values	https://knb.ecoinformatics.org/#view/urn:uuid:45e51431-83a0-47d2-975d-840537a337ed
Coastal Habitat Injury Assessment	https://goa.nceas.ucsb.edu/#view/doi:10.5063/F100001W
Salmon Commercial Harvest	https://knb.ecoinformatics.org/#view/urn:uuid:e6cf5331-a5c3-4e3b-889d-f44e15001780

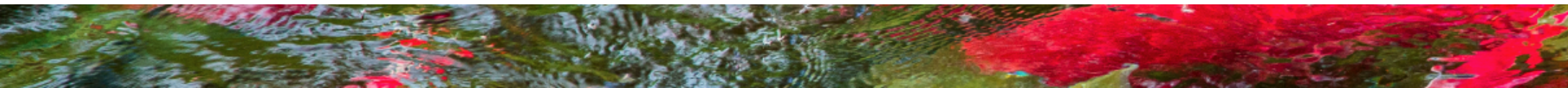
Biophysical data sets and indicators

Data set examples

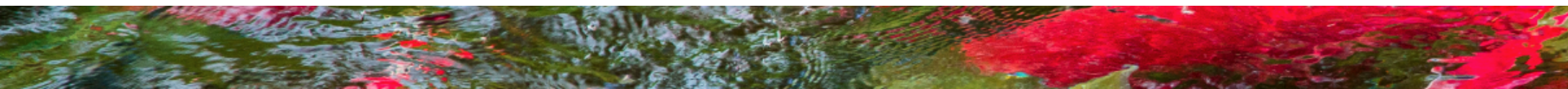
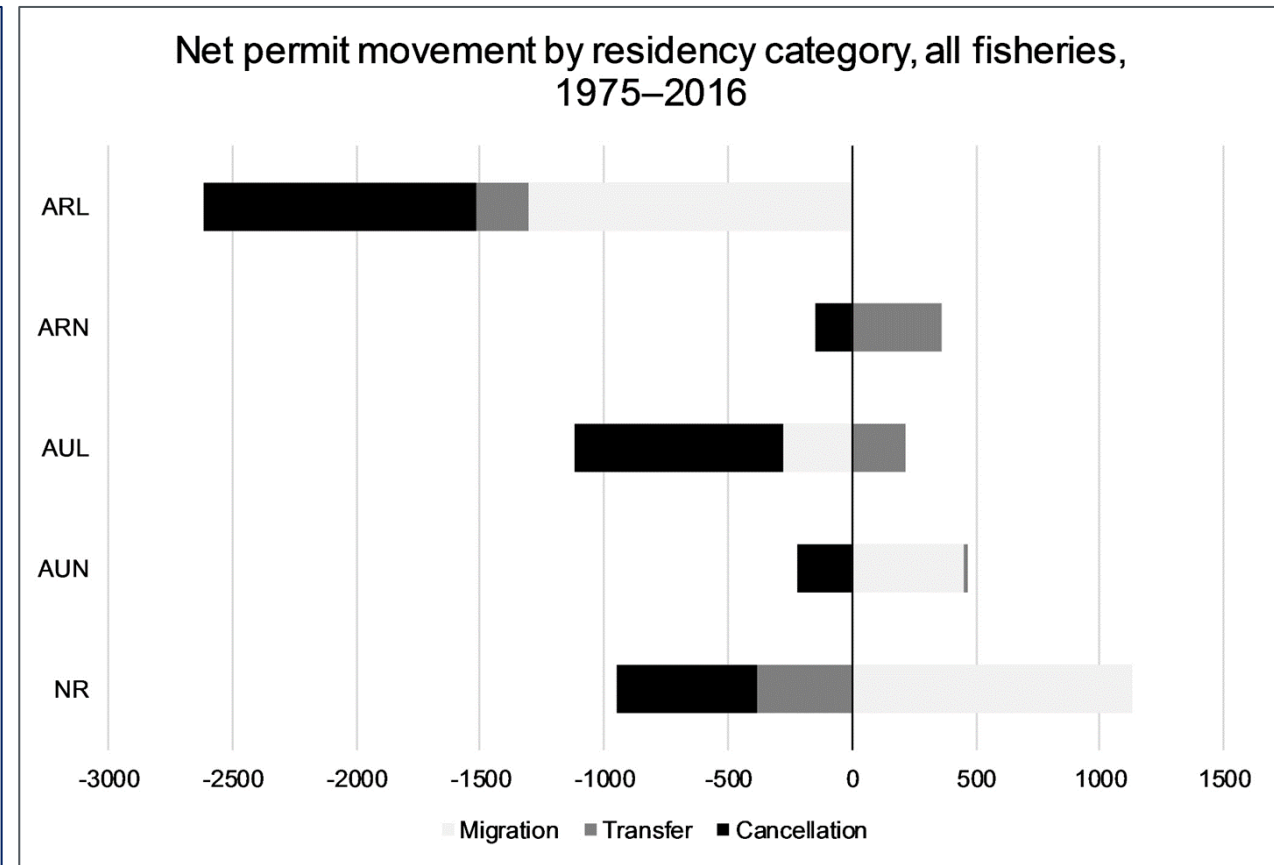
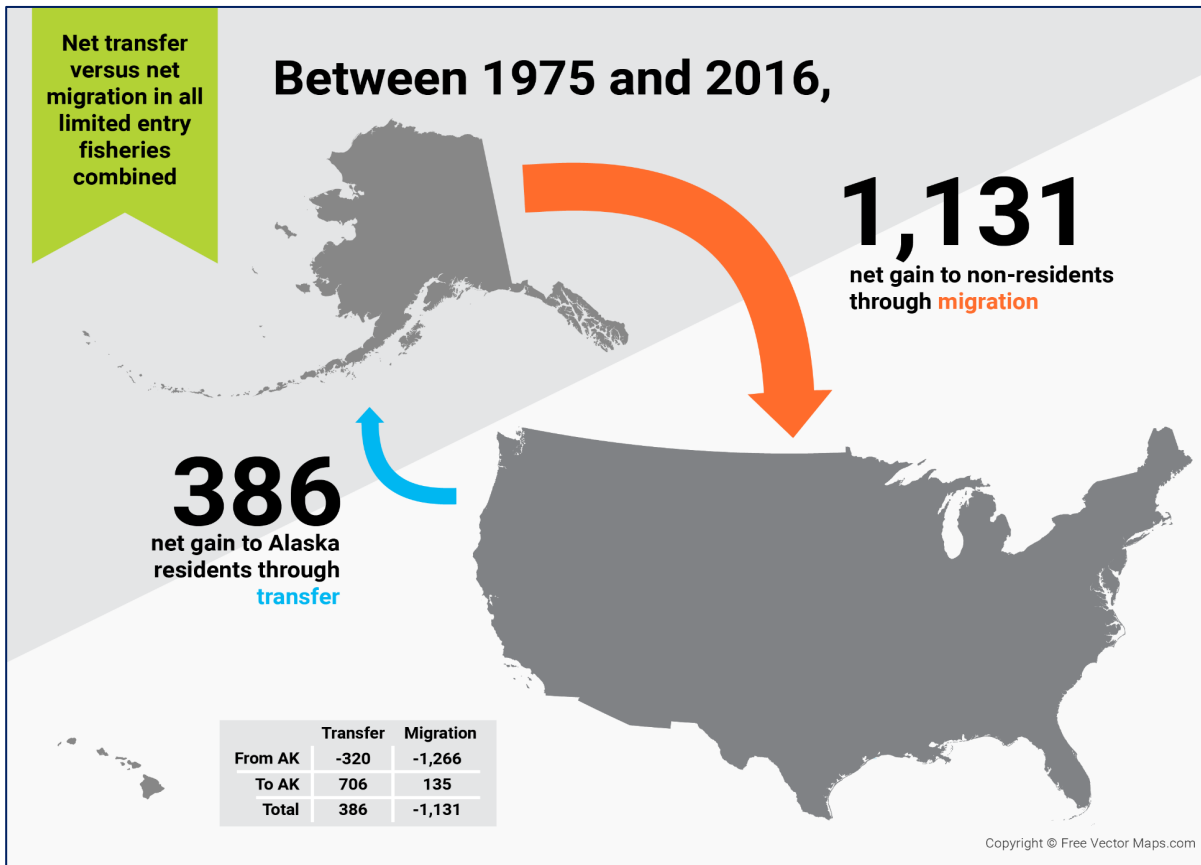
- Age, sex, length
- Daily weir counts
- Hatchery releases/returns
- Riverscape Analysis Project

Indicator examples

- Productivity
- Age structure/size at maturity
- Run timing
- Hatchery influence
- River habitat complexity
- Permafrost cover/thaw

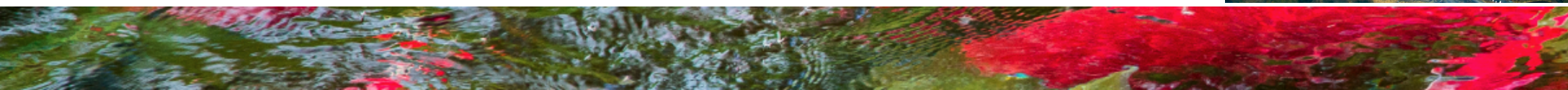


Measuring well-being in the context of AK salmon systems



Key Questions

- How do salmon-human connections contribute to various forms of well-being?
- How have well-being concepts been incorporated into fishery management decision-making processes?
- What well-being measures can or should be applied to governance of Alaska's salmon resource? What information gaps currently exist?
- What can be done to enhance well-being in the context of Alaska salmon systems?



Project Workgroup

Rachel Donkersloot, AMCC

Courtney Carothers, UAF

Jessica Black, UAF

Danielle Ringer, Research Assistant

Steve Langdon, UAA emeritus

Sara Breslow, Center for Creative Conservation

Caroline Brown, Div of Subsistence, ADF&G

Patricia Clay, NOAA Fisheries

Jim Fall, Div of Subsistence, ADF&G

Liza Mack, UAF

Rob Sanderson Jr, Central Council Tlingit & Haida
Indian Tribes of Alaska

Julie Raymond-Yakoubian, Kawerak

Ann Fienup-Riordan, Calista Elders Council

Carlos Garcia-Quijano, Univ of Rhode Island

Melissa Poe, NOAA Affiliate/ WA Sea Grant

Katherine Reedy, Idaho State University

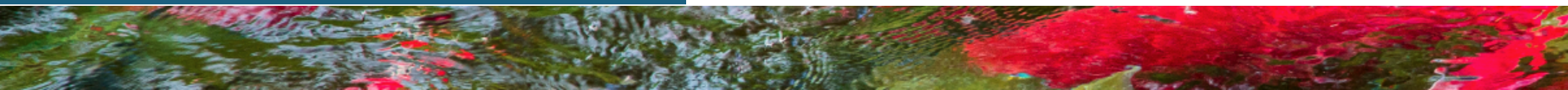
Andrea Akalleq Sanders, First Alaskans Institute

Freddie Christiansen, Commercial fishermen, Old
Harbor Village Council member

Wilson Justin, Cheesh-Na Tribal Council

Jonathan Samuelson, Georgetown Tribal Member,
Kuskokwim River Inter-Tribal Fish

Commission Member



SASAP

Well-being indicators

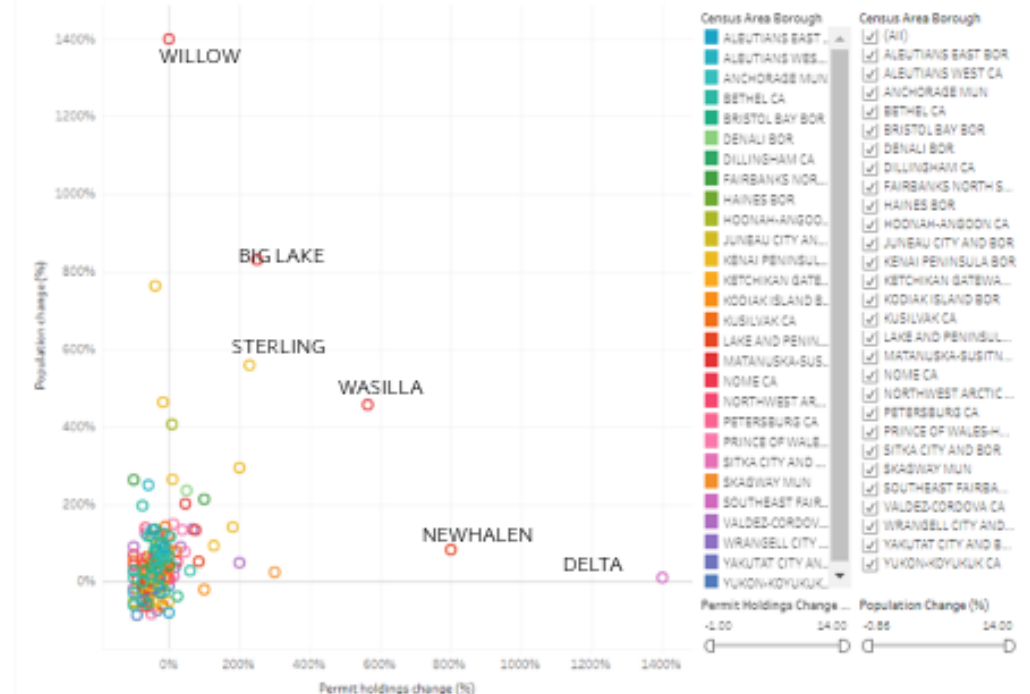
- Defining well-being (October 2017):

“A way of being with others that arises when people and ecosystems are healthy, when individuals, families, and communities equitably practice their chosen ways of life and enjoy a self-defined quality of life now and for future generations.”

- Example indicators (n = 230):

- # of locally held salmon permits
- local permit holders under the age of 40
- % of population living below poverty line
- # of households harvesting salmon for subsistence
- proportion of food to come from subsistence
- % of residents who agree that they have input into resource management decisions
- satisfaction with opportunities to fish and hunt
- satisfaction with salmon management
- satisfaction with sharing and helping in your community

Change in permit holdings vs. population change, 1980-2015
For all Alaskan communities that were initially allocated salmon permits



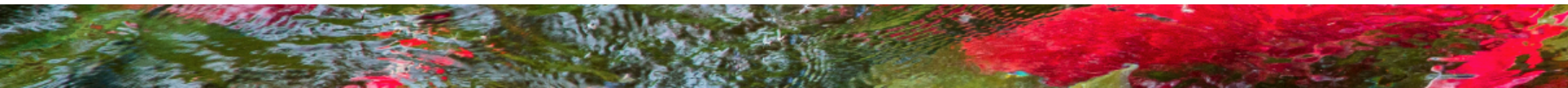
SASAP Outreach – upcoming events

2017

- Pacific Marine Expo
 - November 18-21, Seattle: table
- Tribal Governance Symposium
 - November 20-22, Fairbanks: presentation
- Alaska Young Fishermen's Summit
 - December 6-8, Anchorage: ?

2018

- Alaska Forum on the Environment
 - February 12-16: table
 - February 15: Salmon Sessions
- Alaska Marine Science Symposium
 - January 22-25: presentations
- Western Division American Fisheries Society
 - May 22-25: presentations
- Kenai Peninsula FHP Science Symposium
- Kodiak Area Marine Science Symposium





SASAP Engagement

*What are the key gaps/research needs in your area?
How can you help others access/use SASAP products?*

EMAIL Ian Dutton anytime – ian@nautilusii.com
ENGAGE with SASAP Working Group Members

VISIT website: alaskasalmonandpeople.org

