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February 4, 2014

MEMORANDUM

TO: Council Members

FROM: Nancy Leonard, Fish, Wildlife and Ecosystem Monitoring and Evaluation Manager

SUBJECT: Introduction to the new StreamNet Program Manager, Chris Wheaton.

Chris Wheaton is the new StreamNet Program Manager with the Pacific States Marine Fisheries Commission. He took on his new post in late 2013. Chris came to StreamNet from the Oregon Department of Fisheries and Wildlife (ODFW). He was the Northwest Regional Manager for ODFW from late 1993 until his retirement in December, 2013, with brief stints in the Director's office as Acting Deputy Director during various transition periods. Chris also was the principal negotiator for the state in the discussions that led to the Willamette Wildlife Habitat Settlement in 2010. Prior to his time as Northwest Regional Manager, Chris was the Big Game staff biologist in ODFW's Wildlife Division from 1990-1993, including development of the state's first mule deer management plan. Chris also has experience as a wildlife biologist working primarily with big game and habitat issues for both the Texas and Virginia state wildlife agencies. Chris has a B.S. in Wildlife Management from Humboldt State University and a M.S. in Wildlife Nutrition from Texas A&M – Kingsville.

Chris will be sharing information about his experience and will be providing a briefing on StreamNet and the Coordinated Assessment project.

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Steve Crow
Executive Director

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STREAMNET PROGRAM OVERVIEW

February 11, 2014

Presented to:

Northwest Power & Conservation Council

By:

Chris Wheaton (Pacific States Marine Fisheries Commission)

STREAMNET PROGRAM

- Funded through the Northwest Power and Conservation Council's Fish and Wildlife Program by the Bonneville Power Administration
- Consistent with the Councils R,M,&E and BPA Data Management Strategies. StreamNet is a regional Cooperative Information Management & Data Dissemination Project for fish
- StreamNet had its impetus in 1984 through the NPPC and was originally called the Pacific Northwest Rivers Study
- In present form and managed by PSMFC since 1995
- The project supports staff inside the management agencies to obtain, georeference and standardize data. A variety of data are provided in tabular format and as maps and GIS layers.
- Information is available through the online database query, interactive maps, the Data Store, or by custom request.

STREAMNET COOPERATORS (SUB-CONTRACTORS)

- Idaho Fish and Game
- Oregon Dept. of Fish and Wildlife
- Washington Dept. of Fish and Wildlife
- Montana Fish, Wildlife, & Parks
- Confederated Colville Tribes
- U.S. Fish & Wildlife Service

STREAMNET STEERING COMMITTEE

- NPCC
- CRITFC
- Idaho Fish and Game
- Oregon Dept. of Fish and Wildlife
- Washington Dept. of Fish and Wildlife
- Montana Fish, Wildlife, & Parks
- Confederated Colville Tribes
- Kalispel Tribe
- U.S. Fish & Wildlife Service
- U.S. Geological Survey/PNAMP
- BPA

STREAMNET DATA

- Information on population trends including;
  - Adult spawner counts and estimates
  - Redd Counts
  - Dam/weir counts
  - Fish passage barriers
  - Fish distribution
  - Facility locations
  - Protected areas
- Searchable database allows the user to search and download data
- Integrated query system that incorporates spreadsheet and GIS approaches to show map location and graph of data selected

StreamNet
FISH DATA FOR THE NORTHWEST

Your Criteria:

Pick a Data Category :

Data Category	Available Data		Years
Adult Return-Estimates of Spawning Population	3550	Trends	1901-2012
Adult Return-Redd Counts	4929	Trends	1901-2013
Adult Return-Spawner Counts	5603	Trends	1944-2012
Adult Return-Spawner/Recruit Estimates	30	Trends	1938-2006
Dam/Weir Counts (Adult or Juvenile)	578	Trends	1925-2012
Facilities-Dams	7774	Dams	n/a
Facilities-Hatcheries	536	Hatcheries	n/a
Fish Barriers	64,022	Barriers	n/a
Fish Distribution	26,317	Streams	n/a
Harvest-Freshwater/Estuary	2706	Trends	1894-2012
Harvest-Marine	579	Trends	1950-1996
Hatchery-Returns	1093	Trends	1906-2013
Maps-View Pre-built Maps	398	Maps	n/a
Photographs	1065	Photographs	n/a
Protected Areas	29,524	Records	n/a
Smolt Density Model Data	10,508	Records	n/a

StreamNet Integrated Query

Original Query | Help | Manage Groups | Reset Interface | Feedback | Logged in as: CWheaton@psmfc.org | Log out

Fish Counts | Hatchery Returns | Redd Counts | Harvest | Fish Distribution | Hatcheries | Dams | Barriers | Natural Spawner Abundance | Smolt/Adult Ratio | Recruits Per

Filter: [None] — Reset All Filters | Map Filter

Group | Download

My Group	Data Category	Count Type	Years	Location	River Miles	Run	Species	SubRun	Stage
✓	Spawner Counts	Peak live & dead fish	1950-2011	Sandy River, trib to Columbia River	from RM 12.91 to RM 22.91	Fall	Chinook salmon	Late...	Adults a
	Spawner Counts	Peak live & dead fish	1950-2005	Gordon Creek, trib to Sandy River	from RM 0 to RM 0.2	Winter	Chinook salmon	N/A	Adults a
	Spawner Counts	Peak live & dead fish	1951-2005	Wahkeena Creek, trib to Columbia River	from RM 0.61 to RM 1	Fall	Chinook salmon	N/A	Adults a
	Spawner Counts	Peak live & dead fish	1951-2005	Oneonta Creek, trib to Columbia River	from RM 0.24 to RM 0.4	Fall	Chinook salmon	N/A	Adults a
	Spawner Counts	Peak live & dead fish	1951-2005	Multnomah Creek, trib to Wahkeena Creek	from RM 0.43 to RM 0.78	Fall	Chinook salmon	N/A	Adults a
	Spawner Counts	Peak live & dead fish	1951-2005	Bridal Veil Creek, trib to Columbia River	from RM 0.62 to RM 0.91	Fall	Chinook salmon	N/A	Adults a
	Spawner Counts	Peak live & dead fish	1950-1974	Simpson Creek, trib to Yaquina River	from RM 0 to RM 3.23	N/A	Coho salmon	N/A	Jack or
	Spawner Counts	Peak live & dead fish	1950-1975	Grant Creek, trib to Big Elk Creek	from RM 0 to RM 5.45	N/A	Coho salmon	N/A	Jack or
	Spawner Counts	Peak live & dead fish	1950-1995	Simpson Creek, trib to Yaquina River	from RM 0 to RM 1.5	Fall	Chinook salmon	N/A	Jack or
	Spawner Counts	Peak live & dead fish	1950-1974	Feagles Creek, trib to Big Elk Creek	from RM 0 to RM 6	Fall	Chinook salmon	N/A	Jack or
	Spawner Counts	Peak live & dead fish	1950-1974	Buchanan Creek, trib to North Fork Nehalem...	from RM 0 to RM 3.25	Fall	Chinook salmon	N/A	Jack or
	Spawner Counts	Total live fish	1956-1962	Unnamed Stream [1231331421767] (previous...	from RM 0 to RM 1.25	N/A	Lamprey (unspecif...	N/A	Adult
	Spawner Counts	Peak live & dead fish	1950-2010	Clear Creek, trib to Nestucca River	from RM 0 to RM 5.87	Fall	Chinook salmon	N/A	Jack or
	Spawner Counts	Peak live & dead fish	1981-2010	Cedar Creek, trib to Wilson River	from RM 0 to RM 2.8	Fall	Chinook salmon	N/A	Jack or
	Spawner Counts	Peak live & dead fish	1981-2010	Cedar Creek, trib to Wilson River	from RM 0 to RM 2.8	Fall	Chinook salmon	N/A	Adult
	Spawner Counts	Total live and dead fish	1995-1995	Fairchild Creek, trib to North Yamhill River	from RM 0 to RM 0.5	N/A	Lamprey (unspecif...	N/A	Unknow
	Spawner Counts	Total live fish	1987-1997	Haskins Creek, trib to North Yamhill River	from RM 2.99 to RM 3.29	N/A	Coastal cutthroat t...	N/A	Adult
	Spawner Counts	Total live and dead fish	1966-1999	Agency Creek, trib to South Yamhill River	from RM 0 to RM 13.62	Winter	Steelhead	N/A	Adult
	Spawner Counts	Peak live fish	1961-1973	Williams River, trib to South Fork Coos River	from RM 0 to RM 21.55	Fall	Chinook salmon	N/A	Adults a

Page 1 of 395 — Displaying trends 1 - 25 of 9875 — Show 25 rows/page

Trend Details

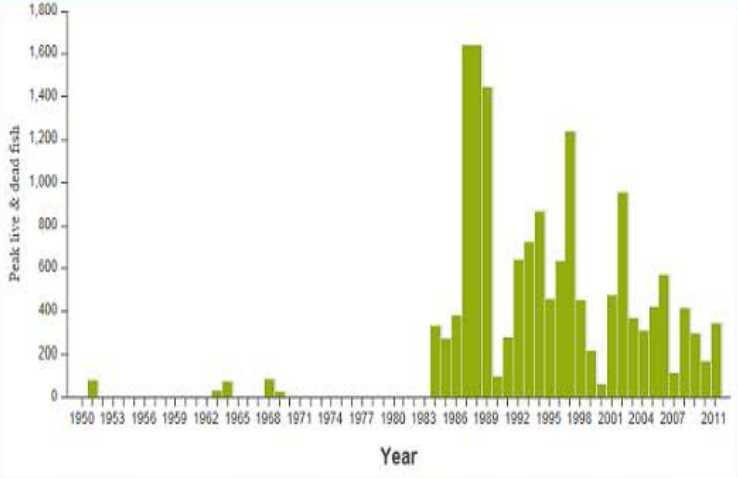
Trend Id	Begin Date	End Date	Sample Method	Calculate Method	Count	Count Date	Times Surveyed	Miles Surveyed	Count Per Mile	Agency	Updated	Count Com	Citation
S0050	2011/10/15	2011/11/30	Boat and grou...	Actual Physical Counts	311			10.0	0	ODFW	2012/10/09	Table 4.	Takata,
S0050	2010/10/15	2010/11/30	Boat and grou...	Actual Physical Counts	156			10.0	0	ODFW	2012/10/09	Table 4.	Takata,
S0050	2009/10/15	2009/11/30	Boat and grou...	Actual Physical Counts	268			10.0	0	ODFW	2012/10/09	Table 4.	Takata,
S0050	2008/10/15	2008/11/30	Boat and grou...	Actual Physical Counts	376		3	10.0	0	ODFW	2012/10/09	Table 4...	Takata,
S0050	2007/10/15	2007/11/30	Boat and grou...	Actual Physical Counts	102		2	10.0	0	ODFW	2012/10/09	Table 4...	Takata,
S0050	2006/10/15	2006/11/30	Boat and grou...	Actual Physical Counts	516		1	10.0	0	ODFW	2012/10/09	Table 4...	Takata,
S0050	2005/10/15	2005/11/30	Boat and grou...	Actual Physical Counts	385		3	10.0	0	ODFW	2012/10/09	Table 4...	Takata,
S0050	2004/10/15	2004/11/30	Boat and grou...	Actual Physical Counts	281			10.0	0	ODFW	2012/10/09	Table 4.	Takata,
S0050	2003/10/15	2003/11/30	Boat and grou...	Actual Physical Counts	332		4	10.0	0	ODFW	2012/10/09	Table 4.	Takata,
S0050	2002/10/15	2002/11/30	Boat and grou...	Actual Physical Counts	864			10.0	0	ODFW	2012/10/09	Table 4.	Fulop,
S0050	2001/10/15	2001/11/30	Boat and grou...	Actual Physical Counts	434			10.0	0	ODFW	2012/10/09	Table 4.	Fulop,
S0050	2000/10/15	2000/11/30	Ground	Actual Physical Counts	53			10.0	0	ODFW	2002/07/17		Fulop,
S0050	1999/10/15	1999/11/30	Ground	Actual Physical Counts	191			10.0	0	ODFW	2000/10/26		Fulop,

Map of Detail

Streams & labels (w/HUCs) — Base Map : Terrain Basemap

Fall Chinook salmon Trend 50050 on Sandy River, trib to Columbia River

Chart



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STREAMNET AND DATA IN CONTEXT

- A flood of data exists. There are literally thousands of work elements in existing BPA Projects, each work element may collect data on multiple metrics. Ideally, all data would be;
- Located in a secure data repository
- Searchable across agency boundaries
- Have agreed upon regional standards (DES)
- Data flow would be automated and provide access to decision-makers in a timely manner

StreamNet Role: Much of the “data” that decision-makers want is really analysis and interpretation of data to produce population assessments.

StreamNet historically has collected large volumes of data. However, it has not comprehensively collected all data, or population assessments, or even all data on key metrics. Working with partners and cooperators, StreamNet is working to improve data management in a way useful to decision-makers via projects such as Coordinated Assessments

COORDINATED ASSESSMENTS PROJECT

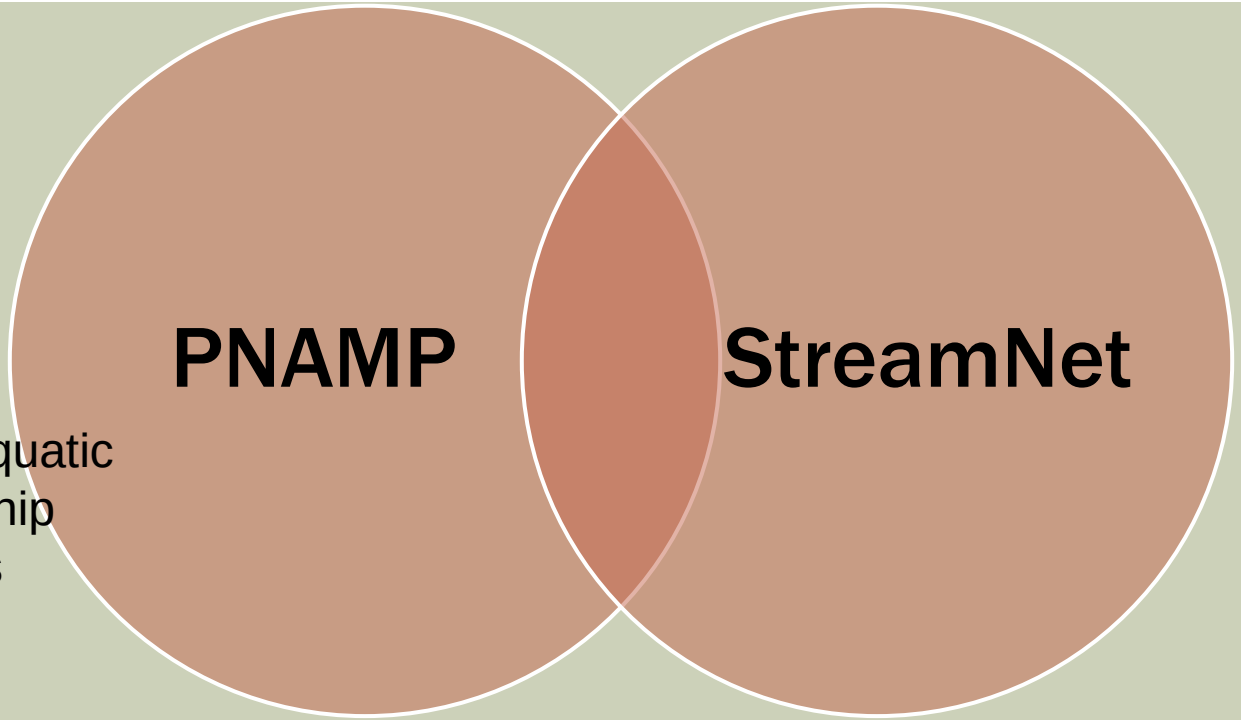
What it does

- Establishes regional standards for data on key fish indicators
- Facilitates sharing of data across organizational boundaries
- Automates data flow to increase efficiency and transparency

What it doesn't do

- Change the roles or processes of decision making
- Establish and report goals and objectives for populations
- "Assess" populations for decision-makers

COORDINATED ASSESSMENTS FACILITATION



Pacific Northwest Aquatic Monitoring Partnership

- Federal Agencies
- State Agencies
- Tribes

Basin-scale data users
Funding sources
Federal managers
State Biologists/Coordinators
Tribal Biologists/Data Technicians

Columbia River Basin

- State Agencies
- Tribes
- CRITFC

Data Technicians
Data exchange expertise

PRIMARY DATA CONSUMERS

- States and tribes
- NOAA Fisheries
- Bonneville Power Administration
- Northwest Power and Conservation Council

Examples:

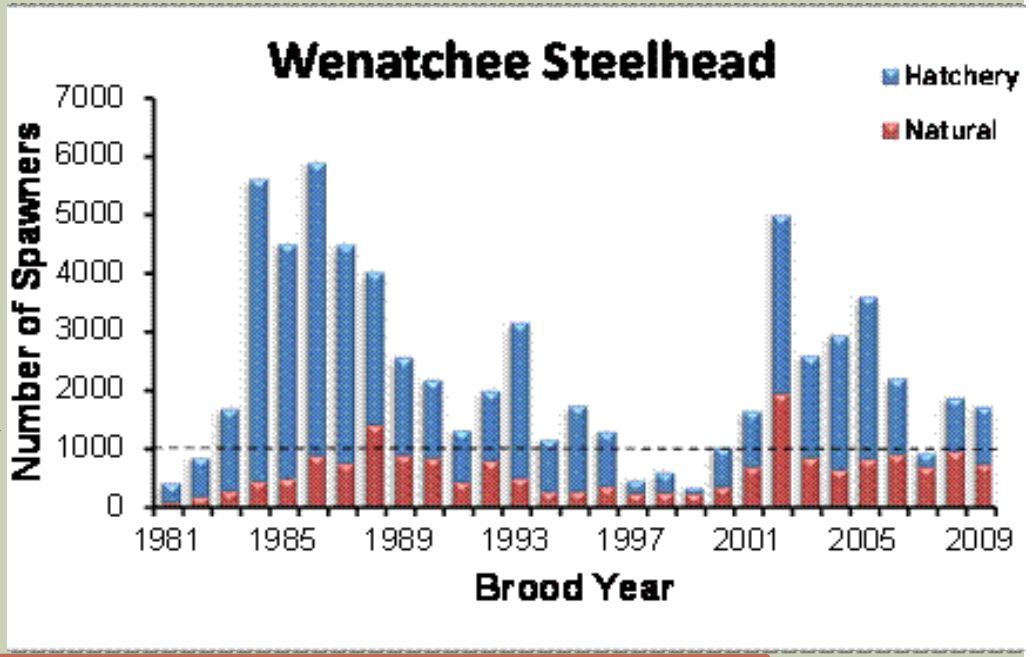
NOAA Salmonid Population Summary Database

NPCC HLIs and Dashboards

Timely information for adaptive management

FIRST STEP: VSP INDICATORS

- Natural Origin Spawner Abundance
- Smolt to Adult Ratio
- Adult to Adult Ratio
- Juvenile productivity



Current: Hatchery Effectiveness Indicators

Next: Habitat? Resident fish?

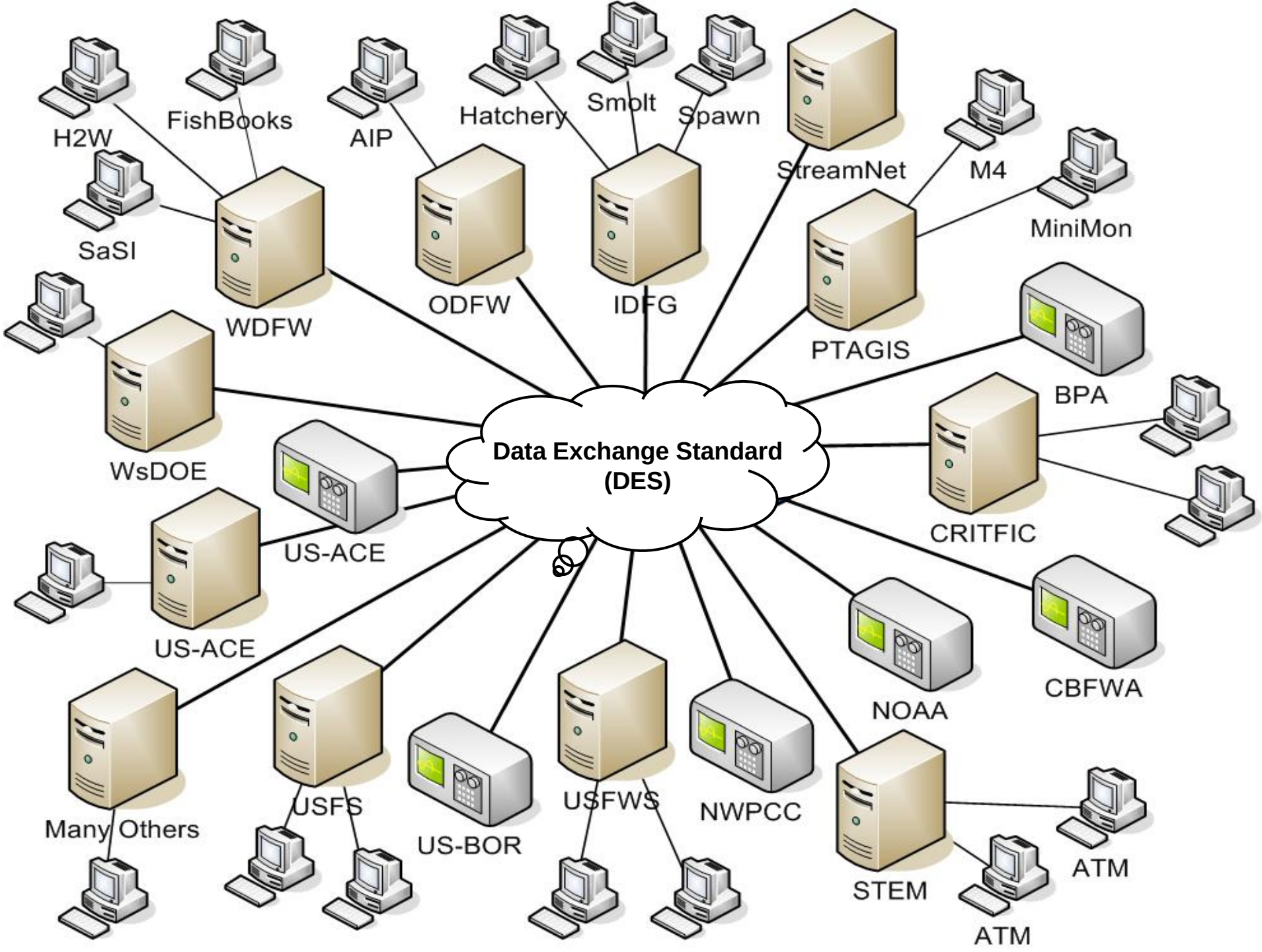
WHY THESE INDICATORS?

- Indicators chosen for this project are a primary source of information used by states, tribes, and NOAA Fisheries for evaluating fish populations. A primary goal of this project is to automate the flow of data to fish managers for these assessments
- Other key customers of these data include Bonneville Power Administration and the Northwest Power and Conservation Council

CA PROJECT APPROACH

Emulates the approach EPA used to build their water quality database;

- Stay small and focused
- Build a data exchange network
- Get buy-in from regional biologists and data technicians (bottom up)
- Provide incentive to agencies and tribes
- Build off success (move in phases)


Data Exchange Standard
(DES)
H2W
FishBooks
AIP
Hatchery
Smolt
Spawn
StreamNet
M4
MiniMon
SaSI
WDFW
ODFW
IDFG
PTAGIS
BPA
WsDOE
CRITFIC
US-ACE
US-ACE
NOAA
CBFWA
Many Others
USFS
US-BOR
USFWS
NWPCC
STEM
ATM
ATM

DATA EXCHANGE STANDARD (DES)

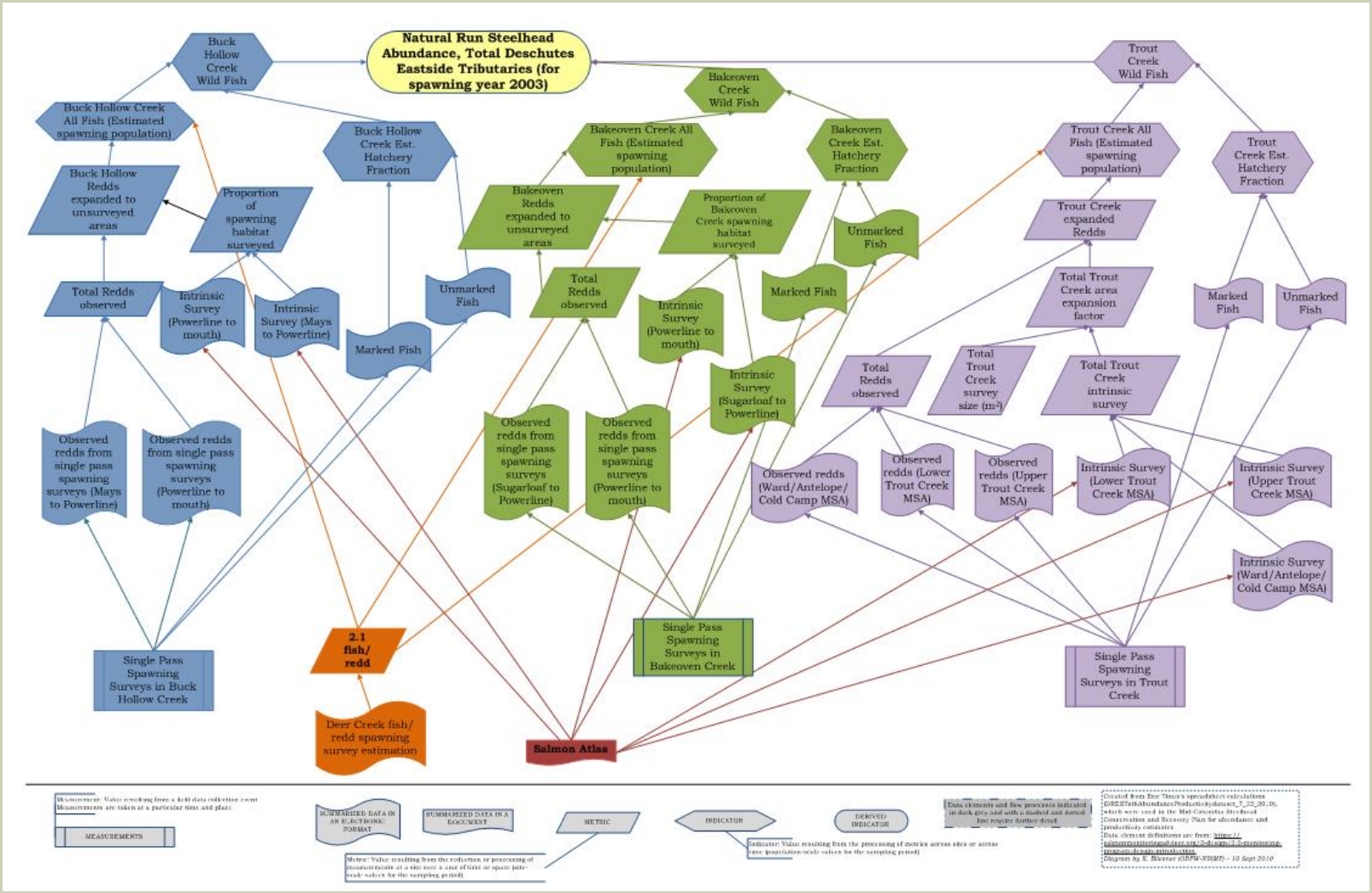
- Defines the content to be shared
- Does not contain data
- Is used as the basis to design data sharing systems and to send/receive data electronically

Works for automated data systems, enterprise databases, or emailing spreadsheets

ACCOMPLISHMENTS

- Adopted Data Exchange Standard for 4 indicators
- Established process to continue development and maintenance of DES
- Documentation of existing data and data analysis flows
- Support implementation of Data Sharing Strategies
- Initiating data flows through StreamNet
- Expanded partner funding (EPA grant $500k)

DATA ANALYSIS FLOW DIAGRAM



WHAT'S NEXT?

Phase VI Workplan (EPA Grant)
January 1, 2014 – March 31, 2015

- Develop CAX exchange network
- Develop additional indicators
- Support implementation of Data Sharing Strategies
- Initiate and manage actual data flow

MORE INFORMATION

- StreamNet
- StreamNet website: http://www.streamnet.org/
- Chris Wheaton, PSMFC/StreamNet

- Coordinated Assessments
- PNAMP website: see Projects, Coordinated Assessments
- Project page: http://www.pnamp.org/project/3129