



# LOWER SNAKE RIVER COMPENSATION PLAN



# FISH FOR THE FUTURE

MATT HOW GRAPHIC - USFWS



CLEARWATER RIVER, JAMIE ROBERTSON

WHAT'S BEEN HAPPENING IN LSRCP

DEC/JAN 2021

# Lower Snake River Compensation Plan

FISH FOR THE FUTURE



## COORDINATOR'S CORNER

Ready or not, welcome to 2022! As reflected over 2021, it's hard not to feel disappointed staring at an Agency email banning all non-life threatening travel. I'm a forever optimist, but damn.....COVID is still here?

I included a picture by Ryan Hagerty, National Conservation Training Center, of conjoined Atlantic Salmon fry. This was a side shot to Ryan's start at capturing images for the 3rd edition of the Fish Hatchery Management textbook. That project is still in its infancy, but will be led by Jesse Trushenski through the American Fisheries Society. More to come soon there!

I've made the decision to move the May 17-19 LSRCP Annual Meeting to 100% virtual format based on our Agency positioning. Hopefully that means we'll be 100% open for business by then and I went too conservative. If that's what it takes to turn the corner, I'll take it.

I'm proud of all of you in the LSRCP program. You've kept our program succeeding again in 2021 despite no shortages of challenges. We got some good news over the holiday. NOAA has put out the annual Ocean indicator "stoplight" chart. 2021 had the second-best ocean conditions in **24 years!**

I'll take some luck anytime we can get it. Now, I know it isn't quite time to start doing backflips, but the ocean is a piece of good news we could all use. Keep doing what you are doing and pushing the envelope towards better things. Fingers crossed this ocean will take us places that we haven't seen in way too many years.

Here's to more *Fish for the Future* in 2022! - Nate

.....  
The Sea  
cures all  
ailments  
of  
salman...

-Plato et al.  
.....

## WHO YOU LOOKING AT???



RYAN HAGERTY, USFWS

# OCEAN INDICATORS



## NOAA Update on Ocean Indicators

2021 was a very productive year off Oregon and Washington, characterized by an early spring transition, strong upwelling, cold salty, low oxygen water, and high chlorophyll concentrations on the shelf. These conditions resulted in higher than average biomass of cold water northern copepods, and lower than average biomass of warm water southern copepods.

NOAA ocean ecosystem indicators ranked second best in the 24-year time series (2008 ranked first). The indicators on the spotlight chart of ocean conditions are mostly green, signaling productive ocean conditions for juvenile salmon and other marine species

<https://media.fisheries.noaa.gov/2021-12/Ocean%20Condition%20Indicators%20Trend%20Ono%20numbers%20DEC2021.png>

**Table 3. Ocean Ecosystem Indicators of Pacific Salmon Marine Survival in the Northern California Current developed by NOAA. Colors correspond to the rank score of each indicator to reflect the impact on marine survival of juvenile salmon (green = good; yellow = fair; red = poor).**

Ecosystem Indicators	Year																							
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
FOO	11	7	9	15	3	13	14	14	14	11	5	1	18	4	3	9	12	14	12	10	13	17	10	5
FOO (Skin Dec-March)																								
FOO (Dum May-Sept)	12	5	7	8	13	13	18	20	14	16	2	11	8	4	1	9	21	24	23	11	15	21	10	3
OH	13	1	1	8	10	17	16	13	9	13	3	12	20	5	7	9	11	21	24	14	5	11	18	4
OH (true gage annual)																								
STNDEC (Surv)	19	7	9	5	4	13	14	14	2	16	1	12	1	8	10	16	21	21	23	15	17	21	11	4
STNDEC (C May-Sept)																								
Upper DOMT	13	13	10	12	7	17	18	15	14	9	1	11	20	5	4	9	3	14	22	11	16	13	2	5
Upper DOMT (C Non-Mar)																								
Upper DOMT (C May-Sept)	16	11	13	8	1	3	14	20	9	10	2	6	17	8	7	18	22	18	14	12	16	19	11	5
Deep temperature	13	7	8	5	1	11	13	17	12	5	2	8	15	10	4	16	20	11	14	10	10	13	14	3
Deep salinity	11	4	12	5	6	19	20	13	8	2	3	17	11	13	16	14	14	18	13	9	7	11	22	1
Deep salinity (May-Sept)																								
Copepod biomass anom. (C, spec. 1, May-Sept)	13	3	1	9	8	17	16	20	14	12	10	11	20	5	7	1	11	13	14	18	15	14	6	4
W. Copepod biomass anom. (C, spec. 2, May-Sept)	12	17	13	14	8	19	18	23	14	15	9	12	11	5	5	1	8	20	24	11	10	4	2	1
S. Copepod biomass anom. (C, spec. 3, May-Sept)	14	1	9	6	1	14	18	24	13	12	1	8	14	11	9	7	13	11	12	20	14	17	10	4
Chlorophyll transition (C, spec. 4, May-Sept)	21	13	8	3	11	17	14	20	16	4	1	2	19	5	12	6	6	13	18	20	15	17	8	10
Chlorophyll transition (C, spec. 5, May-Sept)																								
Mean of ranks	20.1	7.0	8.5	8.1	6.8	15.2	18.2	19.4	12.1	10.7	3.2	9.6	13.9	8.1	6.6	9.3	14.2	20.4	19.8	18.3	13.4	17.3	13.2	6.0
Rank of the mean rank	13	5	8	7	4	17	15	11	11	11	1	10	25	8	3	9	18	24	22	20	14	11	19	1
Ecosystem indicators not included in the mean of ranks or statistical analysis																								
Phytoplankton biomass (C, spec. 6, May-Sept)	6	8	13	20	5	15	18	24	15	1	7	3	20	13	11	11	21	12	6	16	13	15	9	2
Phytoplankton biomass (C, spec. 7, May-Sept)	13	4	14	9	4	13	16	24	7	10	1	10	20	4	12	1	14	8	19	11	16	13	11	2
Phytoplankton biomass (C, spec. 8, May-Sept)																								
Upwelling anomaly (C, spec. 9, May-Sept)	12	4	20	8	12	17	15	24	12	2	9	10	24	18	14	27	1	1	21	7	5	15	2	
Length of upwelling season (C, spec. 10, May-Sept)	6	3	20	14	1	14	12	16	5	3	8	3	21	18	17	21	13	1	16	7	10	20	10	
Copepod community index (C, spec. 11, May-Sept)	13	2	6	9	4	14	16	22	13	11	1	8	25	10	7	5	11	21	25	20	14	17	12	3



# POLICY UPDATES

LOWER GRANITE SPILL

## Executive Order 14042

On September 9, 2021, President Biden signed Executive Order 14042 to ensure adequate COVID-19 safety protocols for federal contractors:

In January, a Federal Judge ordered a pause on implementation of EO 14042 for Federal civilian employees. This is in addition to the pause on implementation for Federal Contractors.

<https://www.govexec.com/workforce/2022/01/federal-court-orders-nationwide-pause-bidens-federal-employee-vaccine-mandate/361010/>

Stay safe out there and we'll keep you up to date as this progresses.

## Executive Order 14026

President Biden signed Executive Order 14026 to increase the minimum wage for federal contractors to \$15.00 per hour by January 30, 2022. Similarly to the Executive Order 14042, some initial discussions with the LSRCP program focused on how Cooperative Agreements and Grants were related to "Federal Contractor status.

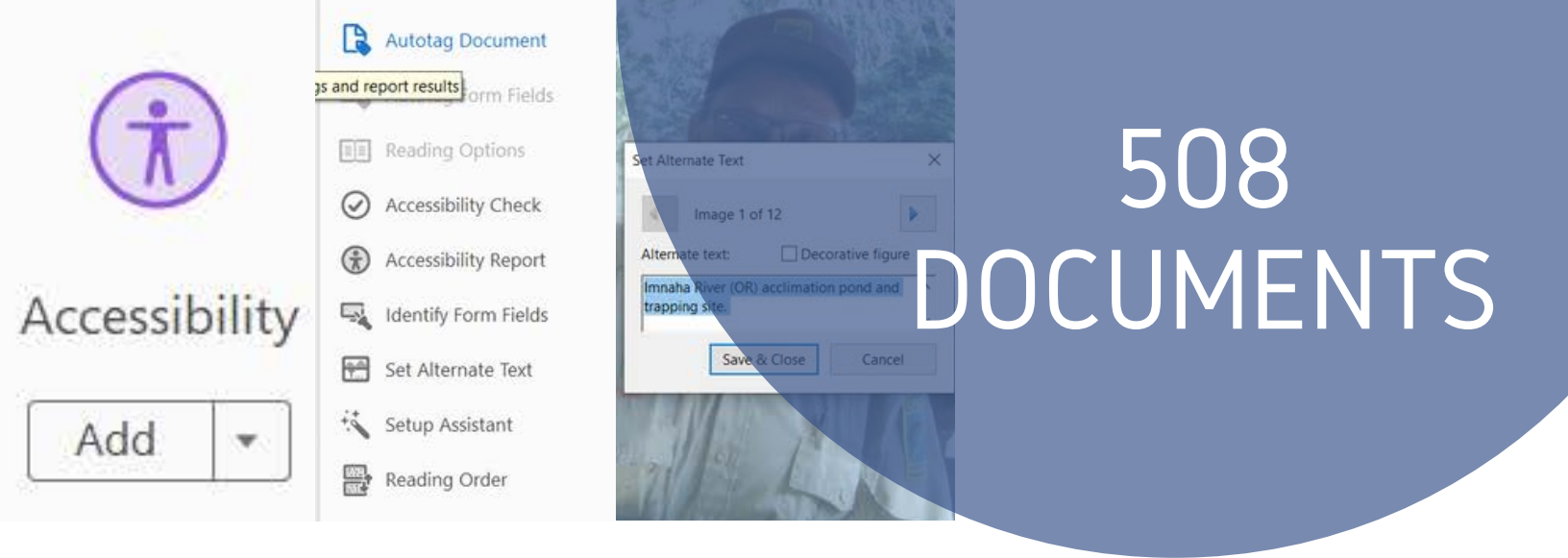
More recently, the administration has directed Agencies to increase the minimum wage to \$15.00 per hour for Federal Civilian Employees:

<https://www.opm.gov/news/releases/2022/01/release-opm-announces-dollar15-minimum-wage-for-us-federal-civilian-employees/>

On the Federal side, our Joint Administrative Operations (JAO) team is working on rolling this out for all Department of Interior Agencies.



LOWER GRANITE ADULT LADDER



## 508 Compliant Documents

The US Fish and Wildlife Service is updating all of its websites to become more user friendly and provide 508 Compliance. Section 508 requires federal entities to provide websites that are safe and accessible to persons with disabilities. Generally, this means that a screen reader can easily decipher all web pages and posted documents.

The LSRCP website currently hosts about 1200 annual reports, Annual Operating Plans, etc., on its platform. We are working on the transition plan for these documents. In the meantime, all new reports submitted to LSRCP for website publishing must be made 508 compliance. We are asking that all of you complete this before sending to LSRCP.

While this sounds daunting, the actual process is quite simple in Adobe Professional. We expect most documents will take less than 15 minutes each to convert. In Adobe Professional click on:

### Tools << Accessibility << Autotag Document

Once that process is complete, you're almost finished. Adobe will flag any error and may ask you to "tag" figures if it couldn't find the headings. Simply add a tag (narrative) by:

### Tools << Accessibility << Set Alternate Text

This process will allow a screen reader device to seamlessly work through the text, tables, and figures in a document. And, when you go to full autoreading on all your devices, you'll be happy we're headed this way.

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CLEARWATER FISH HATCHERY, JANUARY 2022

# SHADE STRUCTURES

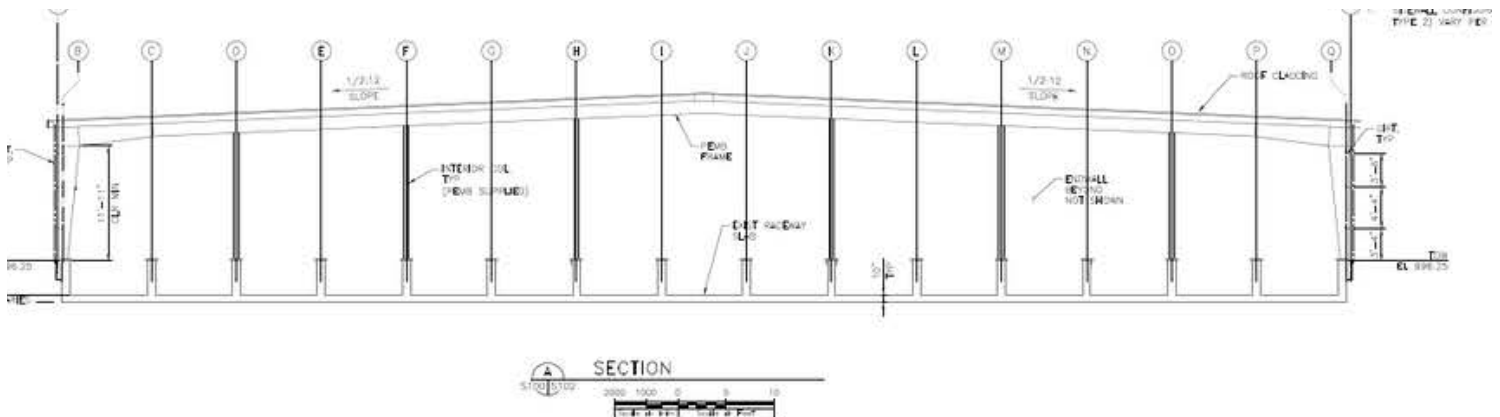
## LSRCP Shade Structures

LSRCP has been working with Dworshak NFH on a pilot bird netting replacement project to install shade structures. Across the Northwest, many facilities have incorporated shade structures for Pacific salmonid rearing. LSRCP analysis suggested several benefits to these projects:

- Shading benefits to smolt growth (<https://www.sciencedirect.com/science/article/abs/pii/S0044848687902262>)
- Less algae growth and potential for baffle use
- Predation exclusion and strength to handle snow-loads (Clearwater structure failure in Jan 2022)
- Inclusion of Solar Panels to offset additional facility power needs

Dworshak was chosen as a pilot project because they are early rearing spring Chinook over the peak summer months (May - August), they have employed shade cloth on existing bird netting structures, and they have a large early rearing potential for parr transfer to grow out.

The Dworshak staff and engineering teams are coming to a close on the 100% design phase of this project. During design, staff overcame many obstacles including landing the structure on the existing raceway walls, examining in-house labor for demolition, and critically examining solar and lighting systems for this location. Ultimately, with current inflation pressures on steel buildings, this project has exceeded initial cost estimates of \$2.0M to almost \$3.8M. Unfortunately, in the short term, this pilot project is unreachable with current LSRCP budgets. However, we've learned a lot about these structures and will be actively pursuing resources to work towards covering all LSRCP facilities.



# NEW ODFW TANKER



BATTERY PACK FOR AERATORS

## ODFW Fish Tanker

After over two years of planning, engineering, and contracting, ODFW staff completed the final ZOOM walk-through of their new fish hauling tanker. The tanker will be a welcome replacement for the previous tanker. Let's hope they can get another 40 years out of this one. Total acquisition cost was about \$250K.

ODFW and LSRCPC staff are looking new "tank wrap" design ideas for the new trailer that incorporate the Fish for the Future vision. There are certainly more and more examples out there and we're hoping to see a mobile billboard of our work heading down the road soon.

Hats off to everyone that was involved with this project. The program now has updated design plans for really nice trailer concept that forgoes the generators for deep-cycle lithium batteries. Certainly a noise and weight saving strategy there!



ODFW 5000 GALLON TANKER



WYOMING GAME AND FISH DEPARTMENT TRUCK WRAP



SAGE HALLENBECK, HAGERMAN PRAS

# SAGE HALLENBECK IDFG

## **Sage Hallenbeck, Assistant Manager Hagerman National Fish Hatchery**

Sage grew up in a small town in Upstate NY and graduated with her B.S. in Environmental Science & Biology from SUNY Brockport in 2015. Her aquaculture experience from her undergraduate work led her to Idaho fish hatcheries. Sage has worked for IDFG since May of 2016. She started as a trap tender at Clearwater Fish Hatchery and worked her way to Assistant Manager before lateraling to Hagerman National Fish Hatchery in May of 2021. Hagerman National's PRAS system has been one of Sage's main focuses since her arrival. She has been actively involved in the studies to determine if HNFH can release steelhead that will perform as well in PRAS as they do in linear raceways. Sage's favorite part of the Fish for the Future mission is being involved in hatchery programs that are seeking to make long term improvements to help Salmon and steelhead populations thrive in their historic ranges.

**"DO NOT GO WHERE THE  
PATH MAY LEAD, GO  
INSTEAD WHERE THERE IS  
NO PATH AND LEAVE A  
TRAIL." -  
RALPH WALDO EMERSON**



SOUTH FORK CLEARWATER STEELHEAD





# IAN TATTAM ODFW

## Ian Tattam, ODFW Fish Research Acting Program Director

Ian Tattam is an Oregon native who didn't catch his first steelhead until age 10 (not for lack of trying before age 10 though), received a BS in Environmental Science from Portland State (Thesis topic: Hood River Winter Steelhead) and an MS in Fisheries Science from Oregon State (Thesis topic: South Fork John Day Summer Steelhead). Ian has worked on John Day steelhead and salmon research for the past 19 years; 7 with Oregon State University and 12 with ODFW.

Welcome aboard to the LSRCP program and Fish for the Future, Ian! As Jim Ruzycki glides into retirement we know expectations will be high in your acting role. Best of luck and we're all here to help!

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**"IT'S GOING TO BE A BIG  
CHALLENGE FILLING JIM'S  
WADING BOOTS FOR SURE..."**

**-IAN TATTAM**

