

Feather River

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July 2020

Future Data Improvements

None planned.

Instream Spawning and Rearing Habitat

Data Source: California Department of Water Resources 2004 (https://s3-us-west-2.amazonaws.com/cvpiahabitat-r-package/cvpia-sit-model-inputs/Feather_FERC_IFIM_Phase_2.pdf) (pgs 35-36) and Thomas R. Payne & Associates 2002 (https://s3-us-west-2.amazonaws.com/cvpiahabitat-r-package/cvpia-sit-model-inputs/Payne2002_FeatherRiverIFIM+7-22-02.pdf) (pgs 35-37)

Instream spawning and rearing habitat for Fall Run Chinook Salmon and Steelhead in the Feather River are based on data from the California Department of Water Resources (DWR) and from Thomas R. Payne & Associates' instream flow evaluations for the relicensing of the Oroville facilities. These evaluations determined relationships between flow and both suitable spawning and rearing habitat for 23.25 miles of the Feather River. This segment of the Feather River is between the Fish Barrier Dam and Honcut Creek. The DWR Federal Energy Regulatory Commission (FERC) instream spawning and rearing habitat data were provided by Mark Gard (mailto:Mark.Gard@Wildlife.ca.gov) from the California Department of Fish and Wildlife in a spreadsheet (<https://cvpiahabitat-r-package.s3-us-west-2.amazonaws.com/IFIMWUA.xlsx>). The Fall Run Chinook Salmon and Steelhead spawning habitat data from Mark Gard were cross-referenced with the original FERC data and amended. The data now include the original data from the FERC reports, which was added by digitizing the flow area curves in the FERC evaluation reports (pages 35-36) (https://s3-us-west-2.amazonaws.com/cvpiahabitat-r-package/cvpia-sit-model-inputs/Feather_FERC_IFIM_Phase_2.pdf) using <https://automeris.io/WebPlotDigitizer/> (<https://automeris.io/WebPlotDigitizer/>). The FERC instream flow evaluation produced flow area curves for the "upper" and "lower" reaches. These values were combined into a single area and weighted by study reach length for each flow value.

Spawning and Rearing Data

The instream spawning and rearing habitat data described above for Fall Run Chinook Salmon (FR) and Steelhead (ST) are combined for use in the Decision Support Model (DSM) in the following format.

Header Descriptions: flow_cfs = flow in cubic feet per second, FR_spawn_wua = Fall Run Chinook Spawning WUA, FR_fry_wua = Fall Run Chinook Fry WUA, FR_juv_wua = Fall Run Chinook Juvenile WUA, ST_spawn_wua = Steelhead Spawning WUA, watershed = section of stream modeled for CVPIA SDM

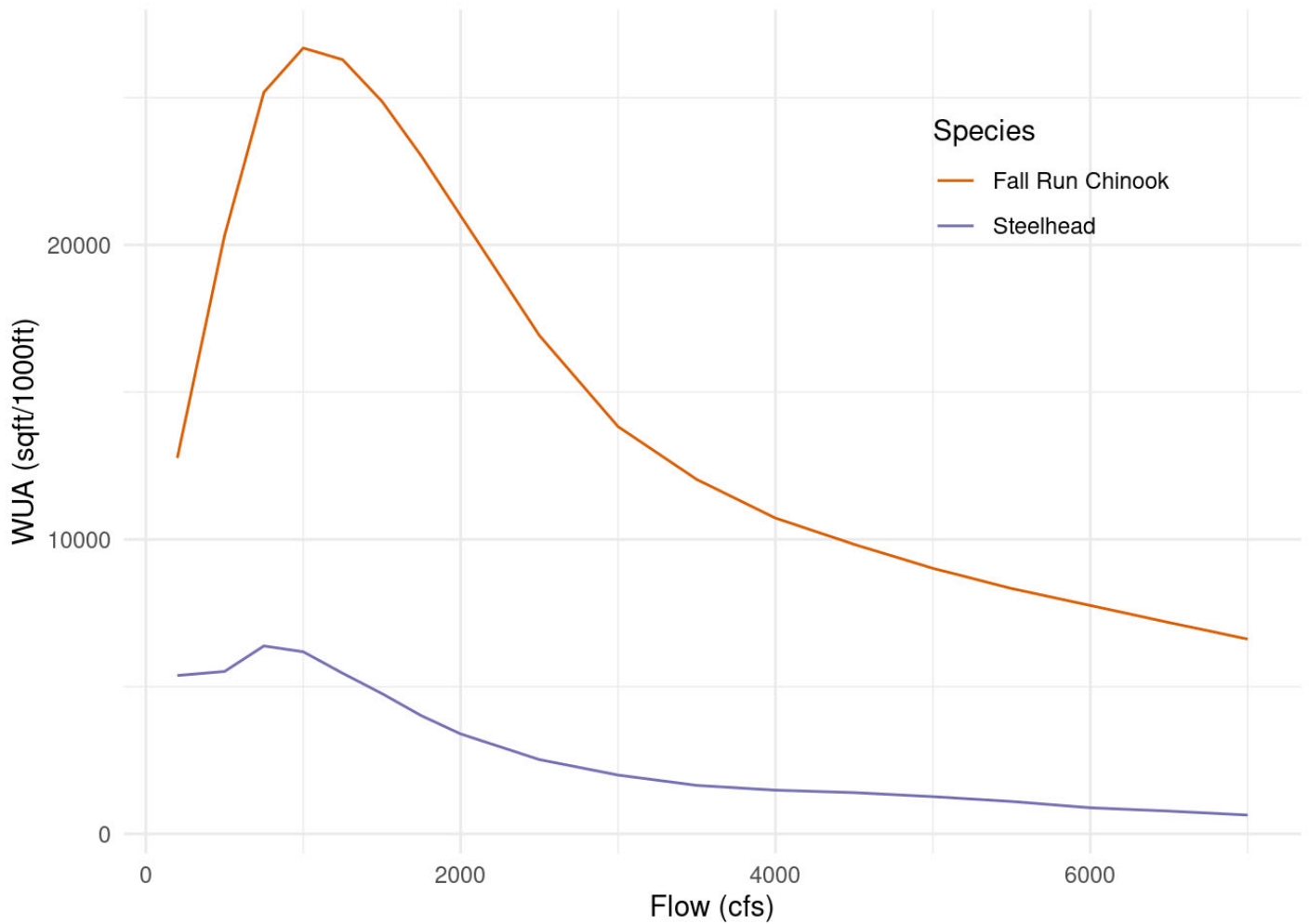
flow_cfs	FR_spawn_wua	FR_fry_wua	FR_juv_wua	ST_spawn_wua	watershed
200	12764.96	17000	59000	5379.075	Feather River
500	20315.87	17500	62000	5515.532	Feather River

flow_cfs	FR_spawn_wua	FR_fry_wua	FR_juv_wua	ST_spawn_wua	watershed
750	25183.55	NA	NA	6382.568	Feather River
1000	26684.48	24000	65000	6184.595	Feather River
1250	26289.96	NA	NA	5456.065	Feather River

... with 13 more rows

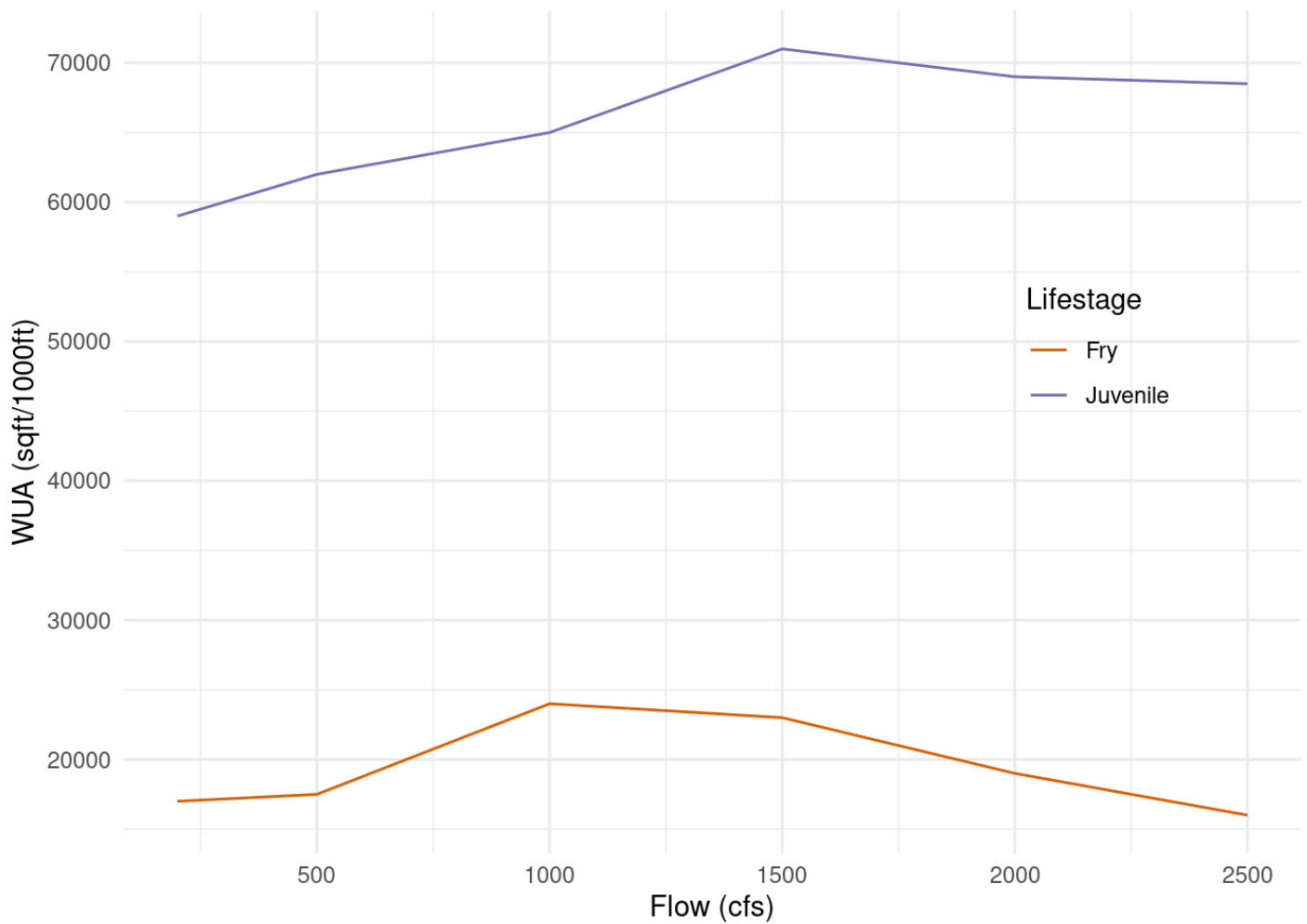
Spawning WUA

The following plot shows the weighted usable spawning area (WUA) in square feet per thousand feet for Fall Run Chinook Salmon and Steelhead. These area per length rates are multiplied by the total spawning reach length mapped by the Science Integration Team (SIT) to estimate available habitat.



Rearing WUA

The following plot shows the rearing WUA in square feet per thousand feet for Fall Run Chinook Salmon fry and juvenile. These rates are multiplied by the total rearing reach length mapped by the SIT to estimate available habitat.



Floodplain Rearing Habitat

Data Source: Central Valley Floodplain Evaluation and Delineation (CVFED) HEC-RAS hydraulic model (https://s3-us-west-2.amazonaws.com/cvpiahabitat-r-package/cvpia-sit-model-inputs/CombinedTM_IQAR_Final-FULL-REPORT_20140206.pdf)

The entire mapped rearing extent of 65 miles was modeled using Central Valley Floodplain Evaluation and Delineation (CVFED) HEC-RAS hydraulic model. An active channel area of 2363.2 acres, estimated through remote sensing analysis, was subtracted from total inundated area to obtain inundated floodplain area.

Floodplain Data

The areas represent total inundated area in acres.

Header Descriptions: flow_cfs = flow in cubic feet per second, FR_floodplain_acres = Fall Run Chinook floodplain acres, SR_floodplain_acres = Spring Run Chinook floodplain acres, ST_floodplain_acres = Steelhead floodplain acres, watershed = section of stream modeled for CVPIA SDM

flow_cfs	FR_floodplain_acres	SR_floodplain_acres	ST_floodplain_acres	watershed
1100	0.00	0.00	0.00	Feather River
2600	471.56	471.56	471.56	Feather River

flow_cfs	FR_floodplain_acres	SR_floodplain_acres	ST_floodplain_acres	watershed
4056	974.40	974.40	974.40	Feather River
4100	989.60	989.60	989.60	Feather River
5600	1174.16	1174.16	1174.16	Feather River

... with 35 more rows

Floodplain Plot

