

DRAFT

Green Sturgeon Habitat Model

Adult Upstream Migration/Potential Spawning/Rearing Habitat: Green sturgeon migration and potential spawning habitat is defined as migration, potential spawning, and rearing habitat delineated by NMFS (2007). Upstream migration and potential spawning habitat includes the Sacramento River along the western edge of the planning area and the Feather River up to the Thermalito Afterbay Outlet.

Assumptions: Data from NMFS (2007) were used for this model because the agency is the federal agency responsible for managing green sturgeon and, as such, is considered to be the authority on the distribution of the species and its habitat. Data gaps in the NMFS (2007) database were augmented with information from the literature and personal communication with green sturgeon experts.

Green sturgeon migrate up the Sacramento River to Keswick Dam along the western border of the planning area. They are known to spawn between Hamilton City and Keswick Dam in the Sacramento River (J. Israel per comm.).

There are at least two confirmed observations that green sturgeon exist in the Feather River inside the planning area. In 1993, a UC Davis graduate student obtained descriptions of green sturgeon from anglers and saw pictures of green sturgeon in a local bait shop caught by anglers fishing in the Thermalito Afterbay Outlet (Beamesderfer et al. 2004). In 2006, A. Seesholtz (pers. comm.) observed 12 green sturgeon pulled out of the water by nearby salmon creel field crew. One of these fish was approximately 6.5 feet long and easily distinguishable as a green sturgeon.

Green sturgeon may spawn in the Feather River during high flow years (CDFG 2002), although no indication of spawning has been documented despite intensive sampling efforts (Niggemeyer and Duster 2003). Overall, it appears that green sturgeon use the Feather River almost exclusively in high flow years because of natural and man-made barriers, such as the bench at Shanghai Bend, that are harder to pass during drier years. Historical use of the Feather River (before construction of Oroville Dam) is unknown.

References

- Beamesderfer, R., M. Simpson, G. Kopp, J. Inman, A. Fuller, and D. Demko. 2004. Historical and current information on green sturgeon occurrence in the Sacramento and San Joaquin rivers and tributaries. S.P. Cramer & Associates, Inc. 44 pp.
- California Department of Fish and Game. 2002. California Department of Fish and Game comments to NMFS regarding green sturgeon listing. 79 pages plus appendices.

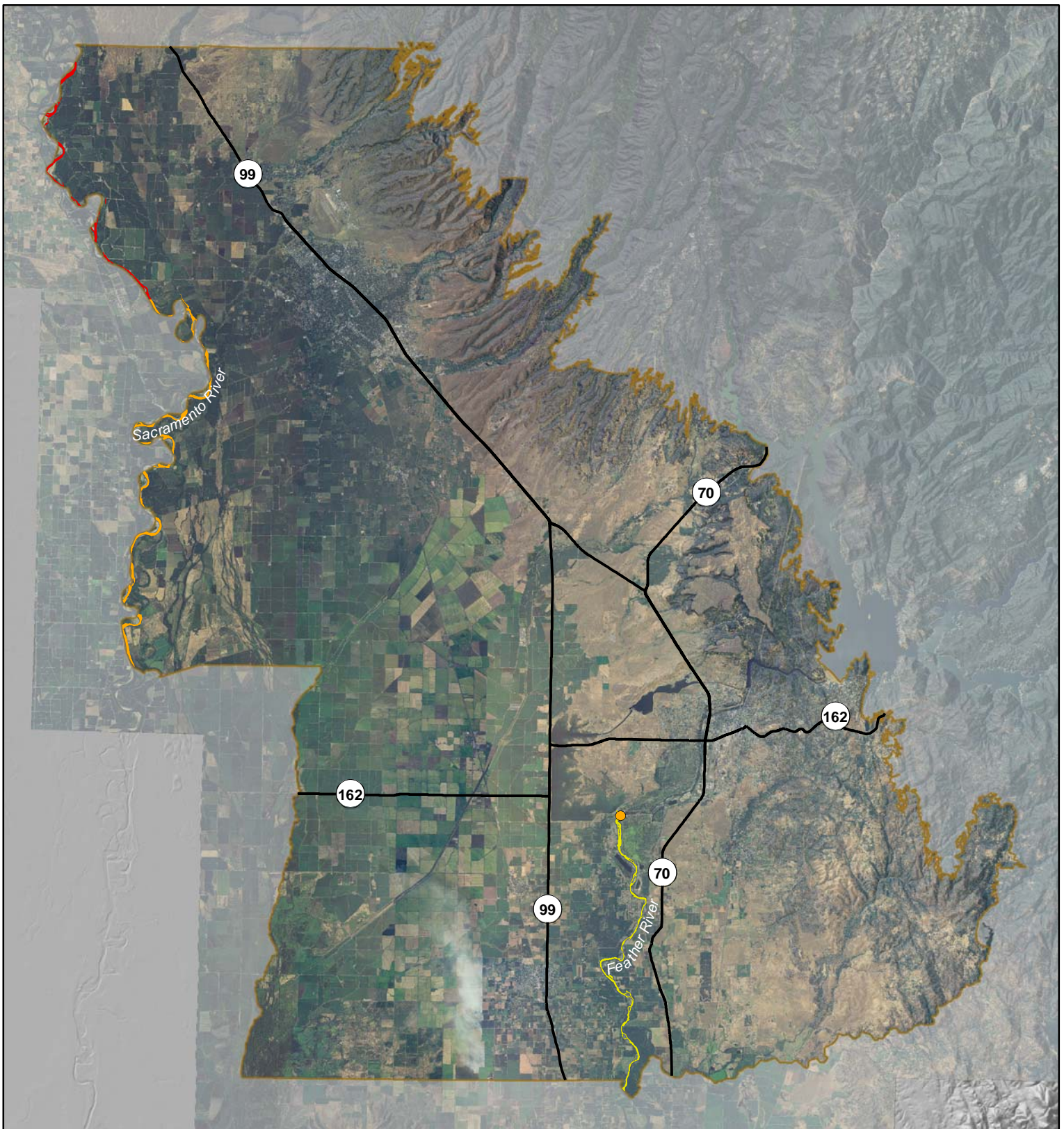
Israel, J. pers. comm. Post-doctoral researcher, UC Davis. Phone conversation with Rick Wilder on 07/24/2007 regarding stressors to green sturgeon populations in the Central Valley.

Moyle, P.B. 2004. Inland Fishes of California, Revised and Expanded. University of California Press, Berkeley.

NMFS (National Marine Fisheries Service). 2007. Available at:
<http://swr.nmfs.noaa.gov/salmon/layers/finalgis.htm>

Niggemyer, A. and T. Duster. 2003. Final assessment of potential sturgeon passage impediments SP-F3.2 Task 3A. Oroville Facilities Relicensing FERC Project No. 2100. Surface Water Resources, Inc., Sacramento, CA. 27 pp. Available at orovillereLICensing.water.ca.gov/pdf_docs/12-17-03_env_att_11.pdf.

Seesholtz, A. pers. comm. Environmental Scientist, DWR, Feather River project. Phone call with Rick Wilder on 09/20/07 regarding fish use of the Feather River.

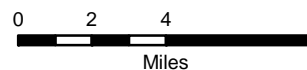


Legend

- Occurrence
- Adult upstream migration, spawning, and rearing habitat
- Adult upstream migration and rearing habitat
- Adult upstream migration, potential spawning and rearing habitat
- Planning Area Boundary

DRAFT
**Figure A.29: Green Sturgeon
 Habitat Model**

This map presents outcomes of a draft habitat model that is described in the Covered Species Accounts of the HCP/NCCP. The purpose of the model is to identify areas within the planning area where the species occurs or could occur based on known habitat requirements. Please note occurrence data recorded here is based on available data and not representative of all occurrences.



Sources: National Marine Fisheries Service, 2007.
 Seesholtz, DWR, personal communication, 2007.