

LIST OF ALL PUBLICATIONS AND PRESENTATIONS RESULTING OR PREPARED DURING GRANT 1039

List of all manuscripts resulting or prepared during Grant 1039.

*At the end are pdfs of some publications.

Publications that use data collected during the grant

*Blaser, S., Parker, A.E., Wilkerson, F.P. 2011. Diuron and imazapyr herbicides impact estuarine phytoplankton carbon assimilation: evidence from an experimental study. *IEP Newsletter* 24 (3): 3-11.

Blaser, S.B. 2011 Effect of diuron and imazapyr herbicides on phytoplankton in the San Francisco Estuary in an experimental study. MSc thesis, SFSU.

*Parker, A.E., Hogue, V.E., Wilkerson, F.P. and Dugdale, R.C. 2012. The effect of inorganic speciation on primary production in the San Francisco Estuary. *Estuarine, Coastal and Shelf Science*. 104: 91-101.

*Kress, E. Parker, A.E., Wilkerson, F.P., Dugdale, R.C. 2012. Assessing phytoplankton communities in the Sacramento and San Joaquin Rivers using microscopic and indirect analytical approaches. *IEP Newsletter* 25 (3).

Kress, E. Phytoplankton abundance and community structure in the Sacramento and San Joaquin Rivers. 2012. MSc thesis, SFSU.

Dugdale, R.C., Wilkerson, F.P., Hogue, V.E., Parker, A.E. Suisun Bay phytoplankton productivity modeled as a simple flow through system. Ready to be submitted July 2012, *Environmental Modeling and Assessment*.

Wilkerson, F.P., Dugdale, R.C., Parker, A.E., Hogue, V.E., March, ms being finished, to be submitted Oct 2012. A. Characterization of phytoplankton responses to changing nutrient regimes in San Francisco Bay. *Marine Ecology Progress Series*.

Blaser, S., Parker, A.E., Wilkerson, F.P. ms being finished, to be submitted Sept 2012. The effect of diuron and imazapyr herbicides on phytoplankton carbon and nitrogen assimilation and community composition. *Aquatic Toxicology*.

Kress, E. Parker, A.E., Wilkerson, F.P., Dugdale, R.C ms being finished, to be submitted Sept 2012. ms being finished, Phytoplankton abundance and community structure in the Sacramento and San Joaquin Rivers. *Estuaries and Coasts*.

Publications prepared while personnel were partially supported by the grant

Parker, A.E., Al M. Marchi, Jan Davidson-Drexel, Richard C. Dugdale, Frances P. Wilkerson. 2010. Effect of ammonium and wastewater effluent on riverine phytoplankton in the Sacramento River, CA. Technical Report for the California State Water Resources Board

Brooks, M.J., Fleishman, E., Brown, L.R., Lehman, P.W., Werner, I., Scholz, N., Mitchelmore, C., Lovvorn, J.R., Johnson, M.L., Schlenk, D., van Drunick, S., Drever, J.I., Stoms, D.M., Parker, A.E., Dugdale, R.C., 2011. Life histories, salinity zones, and sublethal contributions of contaminants to pelagic fish declines illustrated with a case study of San Francisco Estuary, California, USA. *Estuaries and Coasts*. 35: 603-621. doi 10.1007/s12237-011-9459-6

*Parker, A.E., Dugdale, R.C. and Wilkerson, F.P. 2012. Elevated ammonium concentrations from wastewater discharge depress primary productivity in the Sacramento River and the Northern San Francisco Estuary. *Marine Pollution Bull.* 64: 574-586. doi:10.1016/j.marpolbul.2011.12016.

Kimmerer, W.J., Parker, A.E., Lidström, U.E. and Carpenter, E.C. 2012. Short-term and interannual variability in primary production in the low-salinity zone of the San Francisco Estuary. *Estuaries and Coasts* (2012) 35:913–929, DOI 10.1007/s12237-012-9482-2

Alexander E. Parker, A.E., Kimmerer, W.J. Lidström, U.U. 2012. Reevaluating the generality of an empirical model for light-limited primary production in the San Francisco Estuary *Estuaries and Coasts* (2012) 35:930–942, DOI 10.1007/s12237-012-9507-x

Presentations that used data collected during the grant

2007

Dugdale, R.C. F. Wilkerson, .A. Parker, V. Hogue, A. Marchi, A. Kleckner, J. Fuller, K. Lew First the “Bad Suisun” and now the “Dead Delta” ? The collapse of primary production in the Delta .RTC Seminar Series, December 2007

Dugdale, R.C., Sharp, J.H., Wilkerson, F., Parker, A.E. DIN is an inadequate descriptor for evaluating nitrogen based effects on estuarine ecosystems. Estuarine Research Federation Meeting Providence, RI. November 2007

Dugdale, R. C., Wilkerson, F., Parker, A. E., Hogue, V., Marchi, A., Kleckner, A., Fuller, J. The declining ecosystem health of the northern San Francisco Bay-Delta may be linked to poor phytoplankton productivity. Biennial State of the Estuary Conference, Oakland, CA 2007

Wilkerson, F., Hogue V, Parker AE, Dugdale RC, Marchi A, Kleckner A, Fuller J. Anomalously low phytoplankton productivity in northern San Francisco Estuary. Estuarine Research Federation Meeting Providence, RI. November 2007

Parker, A. E., Dugdale, R.C., Wilkerson, F. Bad Suisun: Exploring the role of anthropogenic NH₄ in determining primary production in the northern San Francisco Estuary. Contaminants Workgroup meeting, June 15, 2007 UC Davis

Dugdale, R., Wilkerson, F., Parker, AE, Marchi, A., Hogue, V., Lew, K. Do Low phytoplankton growth rates signal the “bad” habitat conditions in Suisun Bay driving the pelagic organism decline., Interagency Ecological Program Science Meeting, PacificGrove, CA. 2007

2008

Dugdale, R.C., Parker, A.E., Mueller-Solger, A., Wilkerson, F., Marchi, A., Hogue V.E. Origins of high nutrients and low productivity conditions in Suisun Bay, and the Sacramento and San Joaquin Rivers. Interagency Ecological Program Science Meeting, Pacific Grove, CA. 2008

Wilkerson, F; Parker, A; Hogue, V; Marchi, A; Dugdale, R, 2008 (March) Influence of the San Francisco outflow on the productivity of the Gulf of the Farallones, AGU Ocean Sciences Meeting, Orlando For special session: Structure and Function of River Plumes in Coastal Margins

Dugdale, RC. October 2008. Effects of ammonium on phytoplankton growth and consequences for the POD. 2008. CALFED Science Conference, Sacramento

Dugdale, R.C. November 2008 Nitrate, ammonium and phytoplankton blooms in San Francisco Estuary, San Francisco Bay regional Water Quality Board, Oakland, CA.

Dugdale, R.C. November 2008 Phytoplankton Blooms, nitrate, and ammonium, from upwelling to estuary, USGS, Menlo Park, CA.

Parker, A.E., Lidstrom, U., Hogue, V.E., Wilkerson, F., Dugdale, R.C. 2008 Food limitation and the pelagic organism decline: quantifying carbon supply from heterotrophic bacteria to the food web of Suisun Marsh and the northern San Francisco estuary Interagency Ecological Program Science Meeting, Pacific Grove, CA.

Dugdale, R. A. Parker, A. Mueller-Solger, F. Wilkerson, A.Marchi, V. Hogue. March 2008. Origins of high nutrients and low productivity conditions in Suisun Bay, and the Sacramento and San Joaquin Rivers. IEP, Asilomar, CA.

Wilkerson, F.P., R. Dugdale, A.Parker, A.Marchi, V.Hogue. 2008. Influence of the San Francisco Outflow on the productivity of the Gulf of the Farallones. Ocean Sciences, Orlando FL.

R Dugdale participated in NCEAS Workshop Potential role of contaminants in declines of pelagic organisms in the upper SFE, CA (Jan 2008, Santa Barbara)

2009

Parker, A.E. , Dugdale, R.C. Wilkerson., F.P., Marchi, A. 2009. Primary production in the northern San Francisco Estuary: recent insights from carbon and nitrogen productivity studies. American Association for the Advancement of Science Western Region Meeting, San Francisco, CA

Parker, A.E. 2009. Effect of wastewater treatment plant effluent on algal productivity in the Sacramento River: transect results. Interagency Ecological Program Ammonium Summit, Rancho Cordova, CA

Parker, A.E. 2009. Transport and fate of ammonium supply from a major urban wastewater treatment facility in the Sacramento River, CA. 9th Biennial State of the Estuary Conference, Oakland, CA

Parker, A. E. Dugdale, R. C., Foe, C., Wilkerson, F. P., Marchi, A., Davidson-Drexel, J., Blaser, S., Fuller, J. 2009. Transport and fate of ammonium supply from a major urban wastewater treatment facility in the Sacramento River, CA. Coastal and Estuarine Research Federation Conference, Portland, OR

Marchi, A., Parker, A.E., Dugdale, R.C., Wilkerson, F.P. 2009. Long-term trends in nutrient and chlorophyll-a concentrations in the San Francisco Estuary, CA: interannual perturbations in freshwater flow. Coastal and Estuarine Research Federation Conference, Portland, OR

Dugdale, R., Wilkerson, F., Parker, A.E., Marchi, A. Fuller, J. 2009. Suppression and modulation of primary productivity by anthropogenicNH₄ inputs in the San Francisco Bay and delta. California Estuarine Research Society Annual Meeting, Bodega, CA.

Dugdale, R.C., Parker, A.E., Marchi, A., Wilkerson, F.P. 2009. Anthropogenic ammonium inputs have contributed to reduced primary production in San Francisco Bay. ASLO Aquatic Sciences Meeting, Nice, France

Parker, A.E. 2009. The relative importance of external organic carbon and in situ primary production for the foodweb of the San Francisco Estuary, USA. ASLO Aquatic Sciences Meeting, Nice, France

2010

Blaser, S.,Wilkerson, F., Parker, A. E. 2010. Effect of Diuron and Imazapyr Herbicides on Phytoplankton in the San Francisco Estuary. 6TH biennial Delta Science Conference, Sacramento, CA

Kendall, C., Silva, S., Young, M., Guerin, M., Parker, A.E., Foe, C. 2010. seasonal and spatial variation in water chemistry and isotopes in the Sacramento River, Delta, and eastern San Francisco Bay. 6TH Biennial Delta Science Conference, Sacramento, CA

Kendall, C., Silva, S., Young, M., Kraus, T., Guerin, M., Parker, A.E., Foe, C. 2010. Causes of seasonal and spatial variation in water chemistry in the Sacramento River, Delta, and Eastern San Francisco Bay and their effects on chlorophyll levels. 6TH Biennial Delta Science Conference, Sacramento, CA.

Kendall, C., Guerin, M., Kraus, T., Young, M., Silva, S., Parker, A.E., Foe, C. 2010. Causes of temporal and spatial variations in nitrification rates in the Sacramento River and Delta. 6TH Biennial Delta Science Conference, Sacramento, CA

Kress, E., Parker, A.E., Wilkerson, F., Mueller-Solger, A. 2010. Nutrient loading effects on phytoplankton community structure and biomass in the Sacramento and San Joaquin Rivers. 6TH Biennial Delta Science Conference, Sacramento, CA

Marchi, A., Dugdale, R., Taberski, K., Parker, A.E., Buck, C., Wilkerson, F. 2010. Spring 2010 phytoplankton blooms in northern San Francisco Estuary: influences of climate and nutrients. 6TH Biennial Delta Science Conference, Sacramento, CA

Parker, A.E., Dugdale, R.C., Wilkerson, F., Marchi, A. 2010. Biogeochemical processing of anthropogenic ammonium in the Sacramento River and the northern San Francisco Estuary: consequences for the pelagic organism decline species. 6TH Biennial Delta Science Conference, Sacramento, CA

Silva, S., Kendall, C., Young, M., Parker, A.E. 2010. Isotopic trends of nutrient cycling and assimilation downstream of the Sacramento Regional Wastewater Treatment Plant. 6TH Biennial Delta Science Conference, Sacramento, CA

Wilkerson, F., Parker, A.E., Dugdale, R., Marchi, A. 2010. Different response types of phytoplankton to changing nutrient regimes in Suisun Bay: bottom-up effects of ammonium and nitrate. 6TH Biennial Delta Science Conference, Sacramento, CA

Dugdale, R C, Fuller, J R, Marchi, A, Parker, A, Wilkerson, F. 2010. Silicate not nitrate determines the drawdown of CO₂ in coastal upwelling ecosystem. *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl., Abstract BO25G-22

Wilkerson, F, Dugdale, R C, Parker, A, Marchi, A. 2010. Anthropogenic nitrogen loading in the urban ocean: water quality impacts on pelagic food webs and primary productivity. *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl., Abstract T34C-05

2011

Blaser, S., Wilkerson, F.P., Parker, A.E. 2011. Diuron Herbicide Impacts Estuarine Phytoplankton: Evidence from an experimental study. 10th Biennial State of the Estuary Conference, Oakland, CA

Kress, E., Parker, A.E., Wilkerson, F. P., Dugdale, R.C., Mueller-Solger, A. 2011. Assessing phytoplankton communities in two urbanized rivers with contrasting inorganic nitrogen

speciation. Coastal and Estuarine Research Federation Biennial Conference, Daytona Beach, FL.

Wilkerson, F.P., Parker, A.E., Dugdale, R.C., Marchi, A., Blaser, S., Taberski, K. 2011. Balance between different contributions to the DIN pool in determining phytoplankton blooms in San Francisco Estuary. Coastal and Estuarine Research Federation Biennial Conference, Daytona Beach, FL.

Parker, A.E. 2011. Increased reliance on microbial loop processes in the low salinity zone of the San Francisco Estuary. Coastal and Estuarine Research Federation Biennial Conference, Daytona

Blaser, S., Wilkerson, F.P., Parker, A.E. 2011. Effect of Diuron and Imazapyr herbicides on phytoplankton in the San Francisco Estuary in an experimental study. Coastal and Estuarine Research Federation Biennial Conference, Daytona Beach, FL

Parker, A.E., Dugdale, R.C., Wilkerson, F.P., Kress, E., Marchi, A. 2011. Contrasting nutrient environments in the Sacramento and San Joaquin Rivers: implications for the phytoplankton community. IEP Workshop at the 45th Annual Conference of the California-Nevada Chapter of the American Fisheries Society, Folsom, CA.

Dugdale, R.C., Wilkerson, F.P., Parker, A.E., Marchi, A., Blaser, S., Taberski, K. 2011. Diatom blooms observed in Suisun Bay during spring 2010; how did ambient nutrients play a role? IEP Workshop at the 45th Annual Conference of the California-Nevada Chapter of the American Fisheries Society, Folsom, CA.

Wilkerson, F.P. Dugdale, R.C., Parker, A.E., Marchi, A., Blaser, S. 2011. Anthropogenic nutrient enrichment in San Francisco Estuary/Delta: water quality impacts on pelagic food webs and productivity. ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico.

Parker, A.E., Mueller-Solger, A., Kress, E., Wilkerson, F. 2011. Phytoplankton Community Characterization Using Flow Cytometry and Submersible Spectrofluorometry in the Eutrophic Northern San Francisco Estuary Delta, CA. ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico.

Blaser, S., Wilkerson, F., Parker, A. E. 2010. Effect of Diuron and Imazapyr Herbicides on Phytoplankton in the San Francisco Estuary. 6TH Biennial Delta Science Conference, Sacramento, CA

Kendall, C., Silva, S., Young, M., Guerin, M., Parker, A.E., Foe, C. 2010. Seasonal and Spatial Variation in Water Chemistry and Isotopes in the Sacramento River, Delta, and Eastern San Francisco Bay. 6TH biennial Delta Science Conference, Sacramento, CA

Blaser, S. Effect of diuron and imazapyr herbicides on phytoplankton in the San Francisco Estuary in an experimental study. Master Defence, SFSU.

2012

Blaser, S. Wilkerson, F.P., Parker, A.E., Dugdale, R.C. 2012. Effect of Diuron and Imazapyr herbicides on phytoplankton in the San Francisco Estuary in an experimental study. Delta Science Conference, Sacramento, CA

Dugdale, R.C., Wilkerson, F.P., Parker, A. E. 2012. New and regenerated productivity: an oceanographic concept applied to the San Francisco Bay Delta to understand phytoplankton response to improved irradiance and nitrate versus ammonium supply. Delta Science Conference, Sacramento, CA

Wilkerson F.P. Parker, A.E., Dugdale, R.C., Pimenta, A, Blaser, S., Kress, E., Buck, C. 2012. The rise in fall of northern estuary phytoplankton during the FLaSH study. Delta Science Conference, Sacramento, CA

Blaser, S., Wilkerson, F.P., Parker, A.E. 2012. An experimental study of Diuron and Imazapyr herbicide effects on phytoplankton assemblages in the San Francisco Estuary. Interagency Ecological Program Conference, Folsom, CA

Wilkerson, F.P., Parker, A.E., Dugdale, R.C. 2012. Nutrient and phytoplankton distributions during the Fall Low Salinity Habitat (FLaSH) Study in Suisun Bay. Interagency Ecological Program Conference, Folsom, CA

Dugdale, R.C., Parker, A.E. 2012. The effect of ambient light on phytoplankton nutrient uptake in San Francisco Estuary. Interagency Ecological Program Conference, Folsom, CA

Kress, E., Parker, A.E., Wilkerson, F.P., Dugdale, R.C. 2012. Assessing phytoplankton communities in the Sacramento and San Joaquin Rivers using microscopic and indirect analytical approaches. Interagency Ecological Program Conference, Folsom, CA

Wilkerson, F., Dugdale, R., Parker, A., Marchi, A., Blaser, S., Taberski, K. 2012. Altered San Francisco Estuary: how waste water treatment practices negatively influence the pelagic food web AGU/TOS/ASLO Ocean Science Meeting, Salt Lake city, UT.

Dugdale, R., Parker, A. E. 2012. Anthropogenic ammonium ecosystem effects: from river to estuary to coastal ocean. AGU/TOS/ASLO Ocean Science Meeting, Salt Lake city, UT.

Kress, E. Phytoplankton abundance and community structure in the Sacramento and San Joaquin Rivers. 2012. Masters Defence, SFSU.