

Department of
Conservation and
Development

Water Agency

30 Muir Road
Martinez, CA 94553

Phone: 925-674-7824

Contra Costa County

John Kopchik
Director



June 22, 2015

Margaret Wong
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670

**Re: Comments on Waste Discharge Requirements for Surface Water Discharges from
Grassland Bypass Project**

Dear Ms. Wong,

Contra Costa County appreciates the opportunity to review the proposed Waste Discharge Requirements (WDR) for San Luis Delta-Mendota Water Authority and U.S. Department of Interior, Bureau of Reclamation – Surface Water Discharges from Grassland Bypass Project (GBP) – Fresno and Merced Counties (released on May 8, 2015). The County acknowledges the hard work by the Regional Board staff in preparing this latest draft WDR.

Contra Costa County is bounded on its western, northern and eastern sides by the San Francisco Bay and the Sacramento-San Joaquin Delta, and these natural features are the basis for not only the County's identity and quality of life but also our economic vitality. The availability of good quality water in the Delta is essential for safe municipal drinking water for the residents of Contra Costa County as well as agriculture, recreation, and industry in this region.

Contra Costa County, along with Contra Costa Water District and several environmental organizations, have a long history of participation in development of the three successive Use Agreements for the Grassland Bypass Project. We have contributed significant resources and time, and worked closely with Reclamation and the Grassland Area farmers in establishing selenium load limits in the Use Agreements that decreased each year after the first two years of operation. We also added salt load limits to the Second Use Agreement to ensure drinking water quality in the Delta would be protected. In 2008, we reluctantly agreed to a 10-year extension of the December 2009 deadline for ceasing all agricultural drainage discharges from the Bypass. This extension was intended to allow development of drainage water reuse areas and advanced treatment facilities to be completed.

The intent of those working on the three Use Agreements was that the GBP would almost immediately clean up the water quality in Salt Slough and the San Joaquin River upstream of Mud Slough, and then, once agricultural discharges from the Bypass ceased, clean up the water

quality in Mud Slough (north), and the San Joaquin River downstream. The cleanup of Salt Slough has been a remarkable success. It is our expectation that after December 31, 2019, the selenium concentrations in Mud Slough and downstream will meet a 2 µg/L aquatic species water quality goal, and Mud Slough would be able to be de-listed for selenium on the 303(d) list.

The protection of the aquatic species and water quality in the San Joaquin River, and the Delta, afforded by selenium and salt load limits and mitigation measures in the Third Use Agreement for the Grassland Bypass Project must be respected. We are very concerned that the proposed WDR language appears to allow the discharge of agricultural drainage water to Mud Slough beyond the December 31, 2019 deadline. Table 2 in the proposed WDR would allow higher annual discharges of selenium after 2019 than had been allowed in 2018 and 2019 under the current Use Agreement. This has the potential to undo all the improvements in Mud Slough and San Joaquin River water quality that have been achieved through the GBP.

Our primary concerns are:

- (1) The proposed WDR allows continued discharge of agricultural drainage from the GBP after December 31, 2019 (Prohibition 3, page 12; Discharge Limit 2, page 12), even though the current Use Agreement requires cessation of all discharges after 2019.
- (2) The August 2009 Environmental Impact Statement and Environmental Impact Report (EIR/EIS) on which the Regional Board relies, only analyzed environmental impacts through December 2019. The applicable Report of Waste Discharge contains no details regarding proposed operations after 2019 and merely cites a draft version of the August 2009 EIR/EIS.
- (3) The WDR selenium load limit table (Table 2) for discharges after 2019 is estimated to ensure compliance with a 5 µg/L selenium concentration objective in Mud Slough (4-day average), whereas the selenium objective for Salt Slough is 2 µg/L as a monthly average. The Regional Board delayed implementation of the 2 and 5 µg/L objectives several times to allow farmers to develop in-Valley drainage solutions and sufficiently reduce their selenium loads. Because agricultural drainage discharges from the GBP are required to cease after 2019, the Basin Plan should now be amended to require a 2 µg/L selenium objective for Mud Slough.
- (4) The proposed GBP WDR should be established to expire after December 31, 2019. Before adopting a WDR for discharges beyond 2019: (a) a new Use Agreement must be negotiated and adopted; (b) a new EIR/EIS must be completed and certified; (c) a new Biological Opinion should be issued; and, (d) the Basin Plan must be amended.

Contra Costa County's more detailed comments regarding the proposed WDR are as follows:

Environmental Coverage does not apply beyond December 2019

The proposed WDR cites, and appears to rely upon, the August 2009 EIR/EIS for continued use of the Grassland Bypass that only analyzed and disclosed the environmental impacts of operation of the GBP through December 31, 2019, and requires cessation of all discharges from the San Luis Drain after that date. This EIR/EIS cannot be used as CEQA coverage for a WDR for agricultural drainage discharges to the San Joaquin River after December 2019.

Report of Waste Discharge is insufficient

The development of the proposed WDR was triggered by receipt of the December 2008 Report of Waste Discharge (ROWD) by the Regional Board. However this ROWD reports no significant details on past operations of the Grassland Bypass Project or how the GBP will be operated in the future. Instead, the ROWD only cites an earlier draft version of the August 2009 EIR/EIS. The Regional Board should request a detailed report on past and proposed future operations of the GBP and the selenium and salinity load and concentration data before making any decisions regarding the proposed WDR.

Absolute Annual Selenium Load Prohibition is too large

Prohibition 4 on page 12 of the proposed WDR states that the discharge of selenium from agricultural subsurface drainage systems in the Grassland Watershed to the San Joaquin River is prohibited in amounts exceeding 8,000 lbs/year. This annual limit is obtained from the Basin Plan and came into effect beginning 10 January 1997. This 8,000 lb limit was initially developed at the time of the first Use Agreement to cap the selenium loads at slightly below the historical loads prior to use of the Bypass. Since that time, the Grassland Area farmers have done a remarkable job in reducing their selenium load discharges such that the annual load in 2000 was 4,603 lbs and has decreased steadily ever since.

Prior to adapting a WDR that extends beyond December 2019:

- The annual maximum load figure in the WDR should be significantly reduced to reflect the excellent progress made by the dischargers; and,
- The Basin Plan should also be revised to reflect a much smaller annual selenium load limit.

Selenium Monthly Load Allocations after December 2019 are too high

Table 2 in the proposed WDR assigns monthly selenium load allocations (in pounds of selenium) for the Grassland Drainage Area after December 31, 2019.

- (1) The monthly selenium load limits in Table 2 (reproduced below) are identical to the monthly selenium loads in the Third Use Agreement (dated December 17, 2009,

Agreement No. 1 0-WC-20-3975) in most months. However, the limits for December and January of critical, dry and below normal years are higher than in the Third Use Agreement, as are February-May of above normal years. The WDR should explain why those monthly loads limits are different from those in the Use Agreement.

However, as discussed above, the load limits in Table 2 are apparently designed to achieve compliance with a 5 µg/L selenium concentration objective in Mud Slough (north). Because the eventual selenium objective for both Mud and Salt Sloughs should be 2 µg/L (as a monthly average) to be fully protective of aquatic and terrestrial species, any such Table should be based on a 2 µg/L objective.

- (2) The Receiving Water Limitations in the proposed WDR (C.1.a on Page 13) requires that *“the discharge from the San Luis Drain shall not cause or contribute to a surface water exceedance of applicable water quality objectives or a trend of degradation that may threaten applicable beneficial uses, or cause or contribute to a condition of pollution or nuisance in Mud Slough (north) or the San Joaquin River.”*

Consistent with the requirements for Salt Slough, the applicable water quality objective after December 31, 2019 should be 2 µg/L (as a monthly average).

Table 2. Selenium Monthly Load Allocations for the Grassland Drainage Area (pounds of selenium)

Month	Discharge Limits which apply no later than 31 December 2019			
	Critical	Dry/Below Normal	Above Normal	Wet
October	55	233	260	328
November	55	233	260	328
December	152	319	398	211
January	151	319	398	211
February	93	185	472	488
March	92	184	472	488
April	101	193	490	506
May	105	197	497	512
June	69	130	212	354
July	70	131	214	356
August	75	137	225	366
September	57	235	264	332
Annual Load	1,075	2,496	4,162	4,480

- (3) Our third concern with Table 2 is that the agreement for use of the U.S. Bureau of Reclamation's Grassland Bypass requires that all agricultural drainage discharges cease after December 31, 2019, so the monthly load limits in the Table 2 should be zero.

The County understands that Reclamation is considering allowing the Bypass to be used after 2019 solely for the purpose of conveying storm flows during extremely high storm runoff events. It is premature to establish WDR requirements for GBP discharges after 2019, before development of any new Use Agreement, and the corresponding environmental documentation and biological opinions.

Salinity Load Limits are needed

A major concern of the Delta stakeholders in past negotiations of the GBP Use Agreements was that actions to reduce selenium loads from the Grassland Area will not necessarily reduce salt loads at the same rate. As discussed in more detail in the attachment to this letter (Attachment A), a closer inspection of the GBP monitoring data suggests that this is indeed the case, i.e., the variation in specific conductance (EC) as a function of selenium concentration has changed significantly since the early years of operation of the Bypass (Figures A-1 and A-2). Selenium concentrations have reduced over time but some EC values are now much higher than during the first three years of operation of the Grassland Bypass project. Both the selenium and salt loads have decreased significantly since 1996 (Figure A-3), but selenium loads have decreased faster than the salt loads in recent years (Figure A-4).

To fully protect municipal and industrial beneficial uses in the Delta, the proposed GBP WDR should include salinity load limits based on those in the December 2009 GBP Use Agreement. Consideration should also be given to preventing the large increases in EC that have occurred in recent years.

An analysis of boron concentrations as a function of selenium concentrations (Figure A-5 in Attachment A) shows a similar trend to that of EC. In recent years boron concentrations have increased despite the decrease in selenium concentration.

The previous WDR (dated September 2001, No. 5-01-234) stated the discharge from the Project is high in salt (#26 on page 8). The previous WDR further stated that the (second) Use Agreement annual and monthly salt load values apply only until the Regional Board adopts TMDL load limits as part of the TMDL process. After Board approval, TMDL salt load limits were to be considered for inclusion in revised WDRs for the Project.

The new proposed WDR (#34, Page 9) states that the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative has the goal of developing sustainable solutions to the increasing salt and nitrate concentrations that threaten the achievement of water quality objectives in Central Valley surface water. The proposed WDR further states that the Regional Board intends to coordinate all such actions (to reduce salt and nitrate concentrations) with the CV-SALTS initiative.

Unfortunately, the CV-SALTS process has taken longer than intended. Until such time as new salinity loads and EC objectives are available for Mud Slough, the salt load limits in the December 2009 GBP Use Agreement should be part of the proposed WDR.

Note: This will also require either reinstatement of Station A at the start of the Bypass to measure EC and salt load (in the Monitoring Plan), or use of Station B (at the discharge point from the Bypass) to measure EC and salt load.

A new Biological Opinion is needed for discharges after December 2019

The proposed WDR on page 11 (General Finding 41) states that “ *this Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544).*”

A new ESA consultation and a new biological opinion should be completed before the Regional Board issues WDR for any operations of the GBP beyond December 31, 2019.

Requirements of Control Program for Salt and Boron Discharges are not sufficient

The proposed WDR discusses Total Maximum Daily Load (TMDL) Requirements (Item E, page 16) under Required Reports and Notices. The proposed WDR specifies that to meet the requirements of the Control Program for Salt and Boron Discharges into the Lower San Joaquin River, the Discharger must, by the applicable compliance date, either participate in a Central Valley Water Board approved real-time management program, or submit a surface water quality management plan that includes certain required elements and is designed to meet the Base Salt Load Allocations identified in Table IV-4.4 of the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins.

As discussed earlier under “Salinity Load Limits,” the Discharger is already required to meet salt load limits through December 31, 2019, as a condition of the current Use Agreement, and use of the Bypass after 2019 for the discharge of agricultural drainage is not permitted. The new WDR should require that the Use Agreement salt loads, or the applicable Base Salt Load Allocations, whichever is smaller, be met.

The County again acknowledges the remarkable efforts by the Grassland Area farmers in achieving significant reductions in their selenium discharges. The County, however, requests that the new WDR only apply through December 31, 2019. A further WDR could be prepared to address discharges beginning in January 2020 that prohibits all agricultural discharges from the Grassland Bypass, but may allow intermittent storm flow discharges provided a new Use Agreement, EIR/EIS and biological opinions are first developed and the necessary Basin Plan amendments to make the Mud Slough selenium objectives consistent with those for Salt Slough are completed.

If you have any questions regarding Contra Costa County's comments, please contact me at (925) 674-7824.

Sincerely,



Ryan Hernandez
Manager
Contra Costa County Water Agency

Attachment: A: Comparing improvements in selenium load and salt load from 1996-2015

Cc: Contra Costa County Board of Supervisors
John Kopchik, Director, Department of Conservation and Development

Comparing improvements in selenium load and salt load from 1996-2015

During the first three years of operation of the Grassland Bypass Project, the variation in daily specific conductance (EC) measured at Station B at the downstream end of the Bypass were relatively well correlated with the corresponding variation in daily selenium concentration (Figure A-1)¹. When selenium concentrations were high, EC was low and when selenium concentrations were low, EC was low. These earlier data suggest that actions taken to reduce selenium load were also producing a similar reduction in salt load. The selenium and salt loads used to determine compliance with the Use Agreement are calculated by multiplying selenium concentration and EC², respectively, by the flow rate in the channel and the appropriate conversion factors.

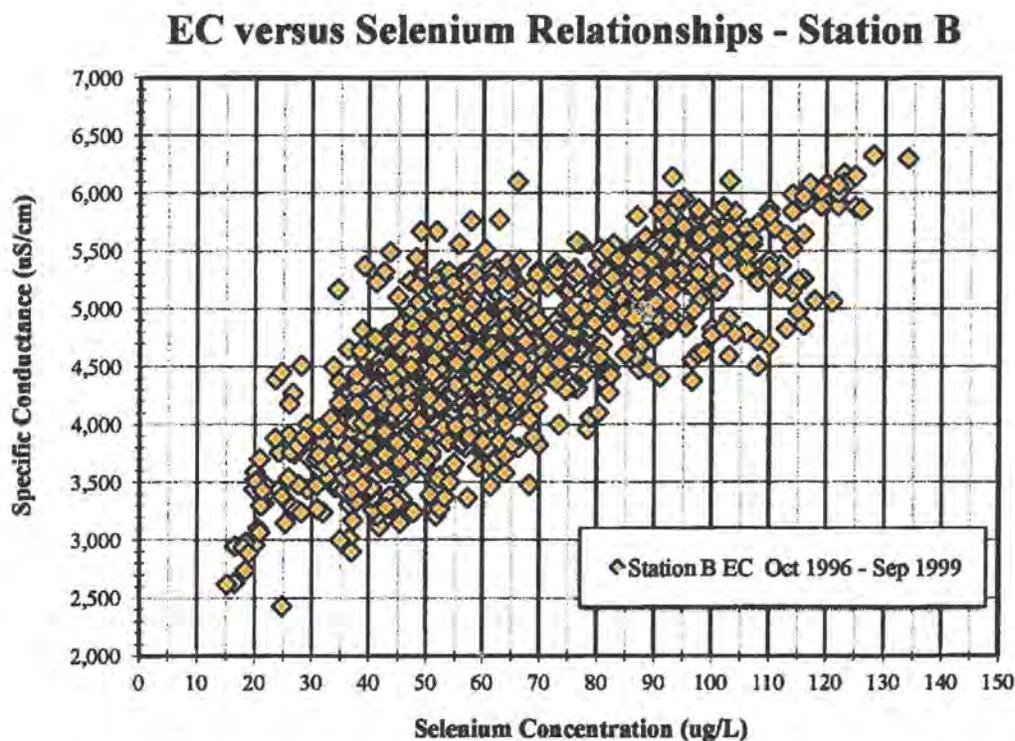


Figure A-1: Variation of daily specific conductance (EC) as a function of selenium concentration for the first three years of operation of the Grassland Bypass Project (Water Years 1997-1999)

¹ Data obtained from the San Francisco Estuary Institute Grassland Bypass Project database and Reclamation.

² The official salt load is determined using EC measurements at Station A at the upstream end of the Bypass.

However, more recently the relationship between EC and selenium concentration has changed. The selenium concentrations have continued to reduce, but the maximum EC values have increased (Figure A-2). During October 1996 – September 1999, the highest EC was 6,330 $\mu\text{S}/\text{cm}$. During the period January 2013 – March 2015, EC values as high as 15,991 $\mu\text{S}/\text{cm}$ have been recorded at the upstream end of the Bypass (where the salt load is officially measured).

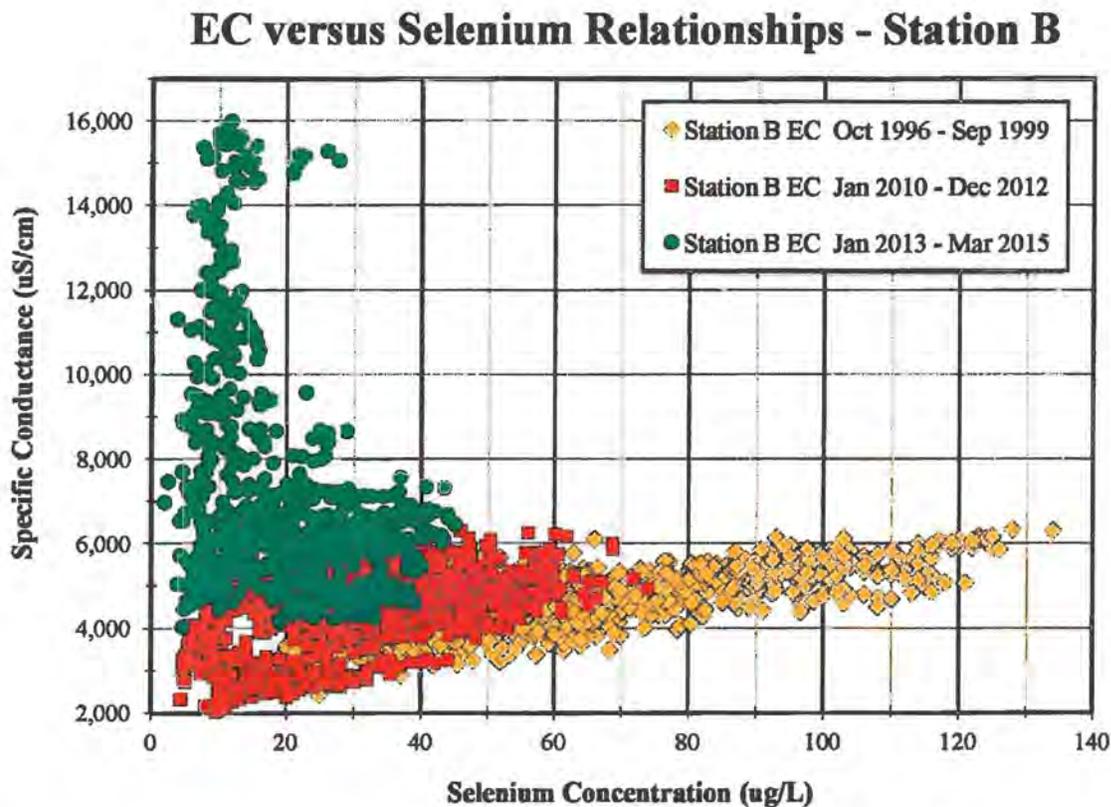


Figure A-2: Variation of daily specific conductance (EC) as a function of selenium concentration for three periods (October 1996 - September 1999, January 2010 – December 2010, and January 2013 – March 2015) showing a distinct change in the EC to selenium relationship. Selenium concentrations have decreased but the maximum EC values have increased.

There has been a reduction in both monthly selenium and salt load over the period of use of the Grassland Bypass (Figure A-3). Selenium loads have been very low in recent years but the salt loads have not decreased as much.

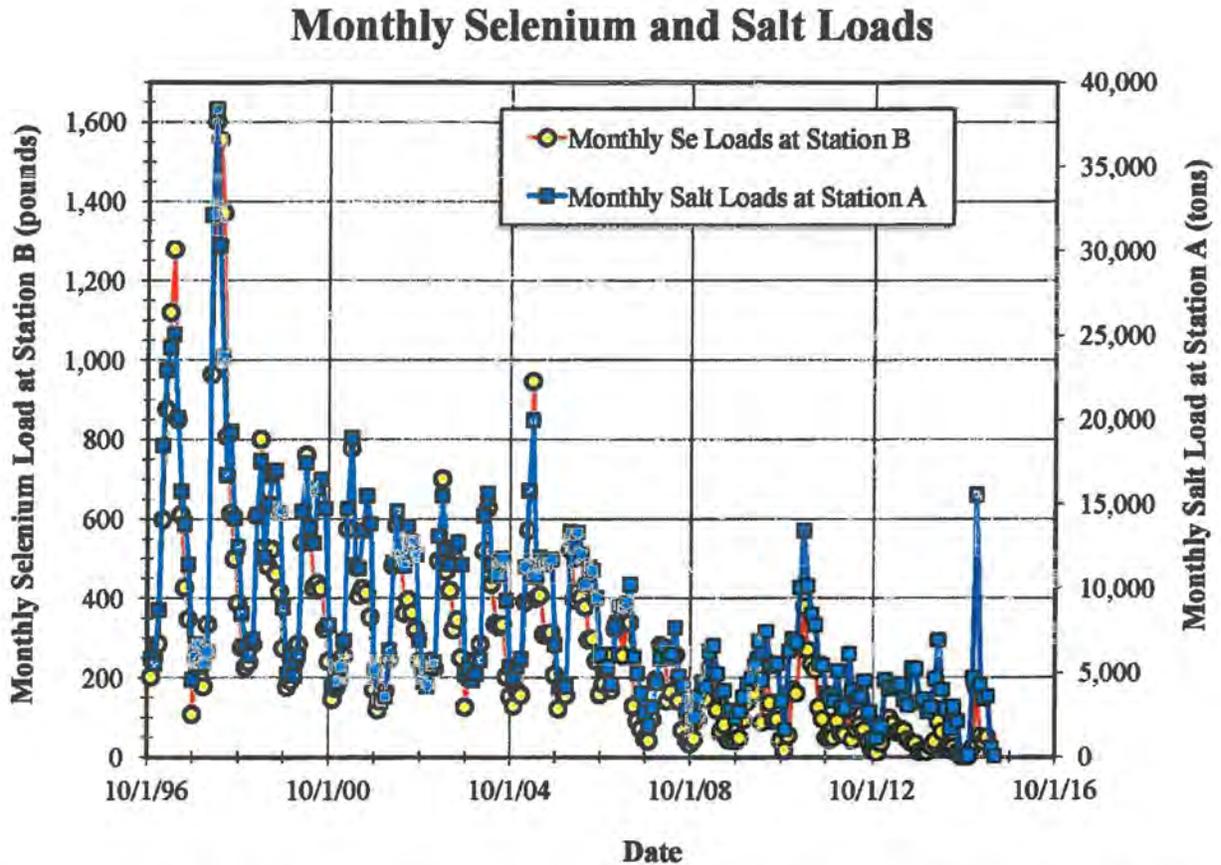


Figure A-3: Variation of monthly selenium and salt loads with time from October 1996 through March 2015. Selenium loads have decreased dramatically as a result of the Grassland Bypass Project. The salt loads have also decreased but the decrease has not been as fast in recent years.

The selenium load to salt load ratio remained relatively steady for the first eight to ten years of operation (Figure A-4). However, more recently the selenium load has decreased faster than the salt load.

These data suggest it is important that the Regional Board apply separate limits on selenium load and salt load in the proposed Grassland Bypass Project WDR. Actions taken to reduce the selenium load will not always reduce the salt load in the same way leading to potential impacts to municipal and industrial beneficial uses in the Delta.

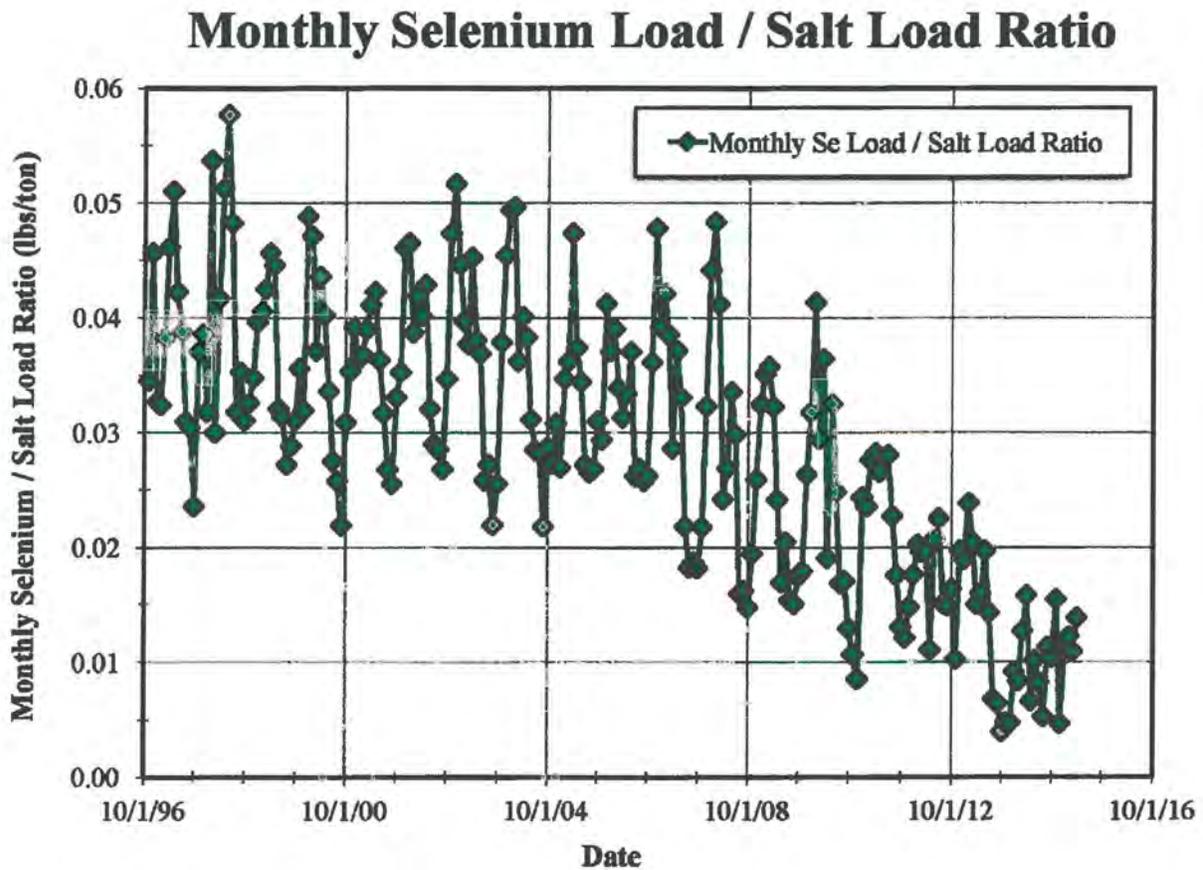


Figure A-4: Variation in the ratio of monthly selenium load to salt load with time from October 1996 through March 2015 (in pounds per ton). The general rate of reduction in salt and selenium loads was similar for the first eight to ten years of operation of the Grassland Bypass Project but the selenium load has reduced much faster since then.

The variation in boron concentration as a function of selenium concentration also remained relatively correlated for the early years of operation of the Bypass but this relationship has since changed (Figure A-5). As was the case with salinity (EC) in Figure A-2, the maximum boron concentrations appear to have increased in recent years despite decreases in selenium concentration. This also suggests that controlling selenium load discharges will not necessarily produce a proportional reduction in boron load.

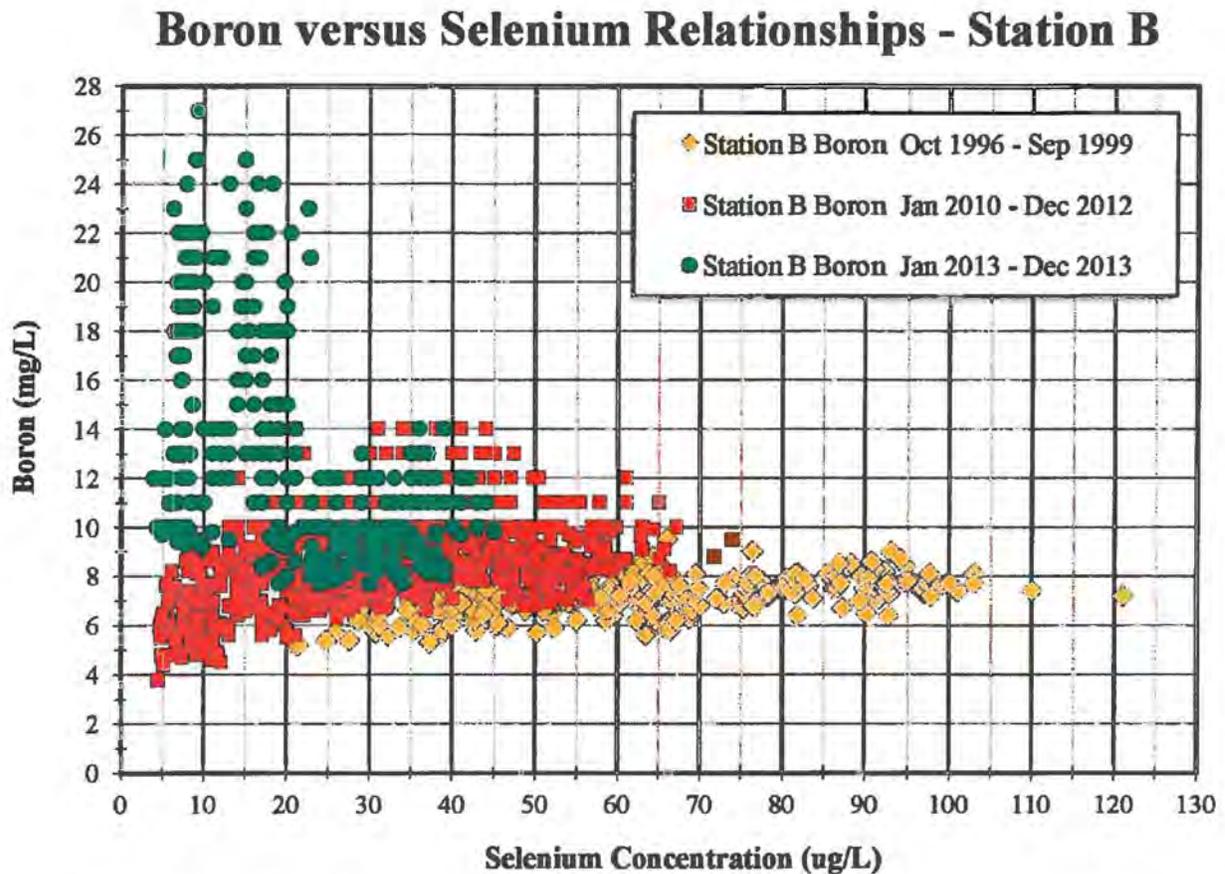


Figure A-5: Variation of daily boron concentration as a function of selenium concentration for the three periods (October 1996 - September 1999, January 2010 – December 2010, and January 2013 – March 2015) showing a distinct change in the boron to selenium relationship. Selenium concentrations have decreased but the maximum boron concentrations have increased.