# Update on Phosphorus Compliance

Board of Public Utilities Meeting

June 15, 2023

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# Phosphorus Regulatory Requirements

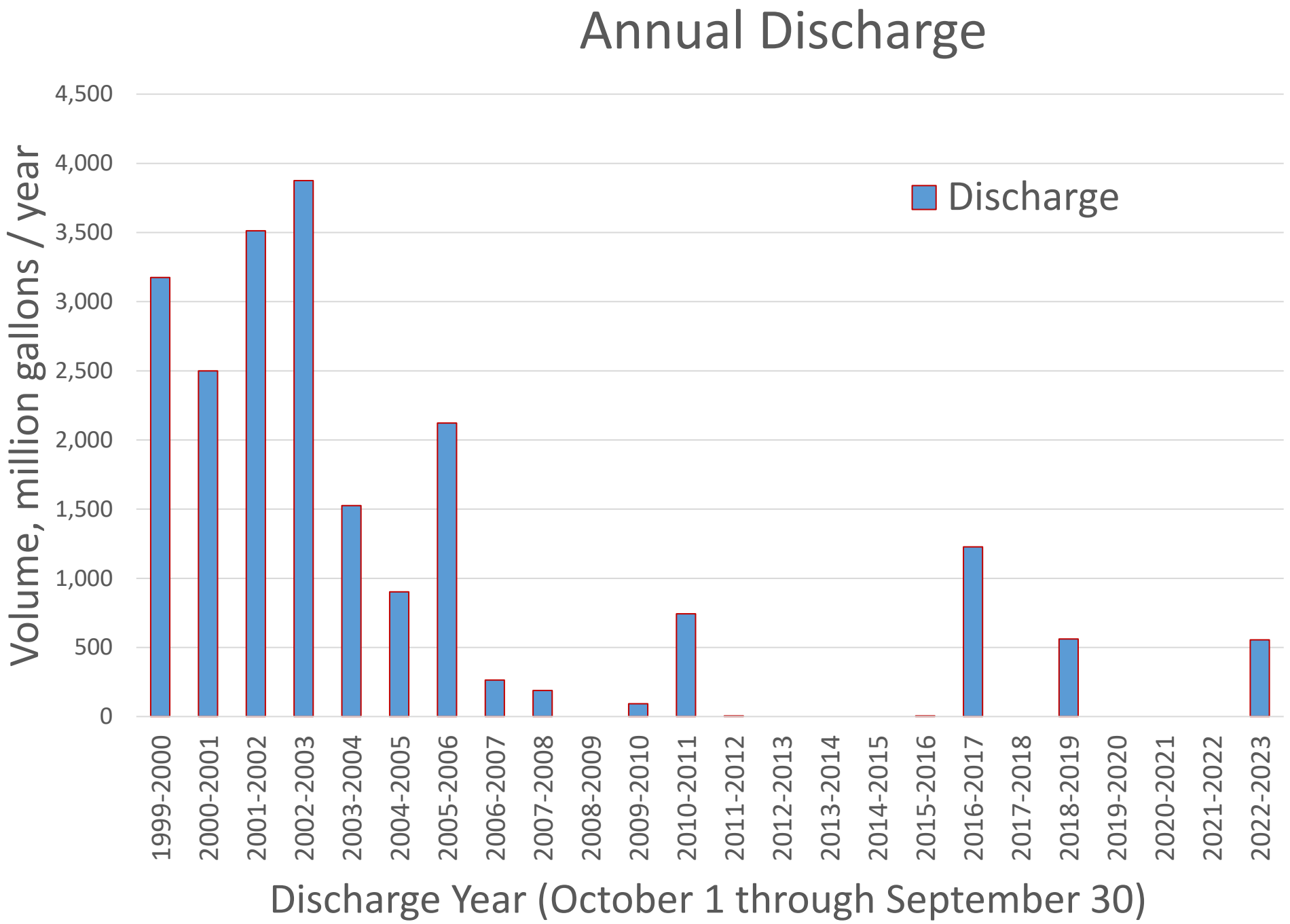
- 2006 Permit: Nitrogen & Phosphorus Zero Net Loading
- 2008 Regional Water Board (RWB) Approves Nutrient Offset Program (NOP)
- 2009-present: City implements NOP Projects
- 2013 Permit: Zero Net Loading for Phosphorus only
- 2018 RWB Adopts Water Quality Trading Framework (WQTF) – Includes Windsor Treatment Plant

# WQTF in NPDES Permit

- Reduced trading ratios for multi-benefit projects clarified and created new class of projects Permanently Protected Environmental Enhancement Projects (PPEEPs)
- Sets mitigation ratios varying from 2.5:1 down to 1.5:1 for projects that are PPEEPS with direct measurement of phosphorus reductions
- Maximum allowable credit banking went from project life to in perpetuity for PPEEPs

# Phosphorus Compliance Strategy

1. Maximize reuse/minimize discharges
2. Decrease phosphorus in recycled water
3. Offset discharges via nutrient offset projects
    - Seek PPEEPs or longer lived credits


Annual Discharge
Volume, million gallons / year
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Discharge
1999-2000
2000-2001
2001-2002
2002-2003
2003-2004
2004-2005
2005-2006
2006-2007
2007-2008
2008-2009
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
Discharge Year (October 1 through September 30)

# Discharge Statistics 2006-Present

| Statistic | Discharge Volume (Million Gallons) | Phosphorus Discharge (Pounds) |
|---|---|---|
| Average | 214 | 3,279 |
| Maximum | 1,228 | 15,438 |
| Minimum | 0 | 0 |
| Mode | 5 | 114 |
| Total | 3,644 | 117,627 |

# Credit Analysis

- Started with 15,630 credits at start of this discharge season (1 credit = 1 lb. discharged phosphorus)
- Earned 841 credits
- Discharged 10,277 pounds of phosphorus
- Selling 850 credits to Windsor
- Remaining credits this year 5,344 credits

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# 3 Projects Providing Annual Credits

| Project | Credits per year | Cost per credit | Credit Life |
|---|---|---|---|
| Beretta Dairy | 412 | $67 | 3 years |
| Pepperwood Preserve | 337 | $47 | In perpetuity |
| Laguna 1 and 2 Restoration | 90 | $50 | In perpetuity |

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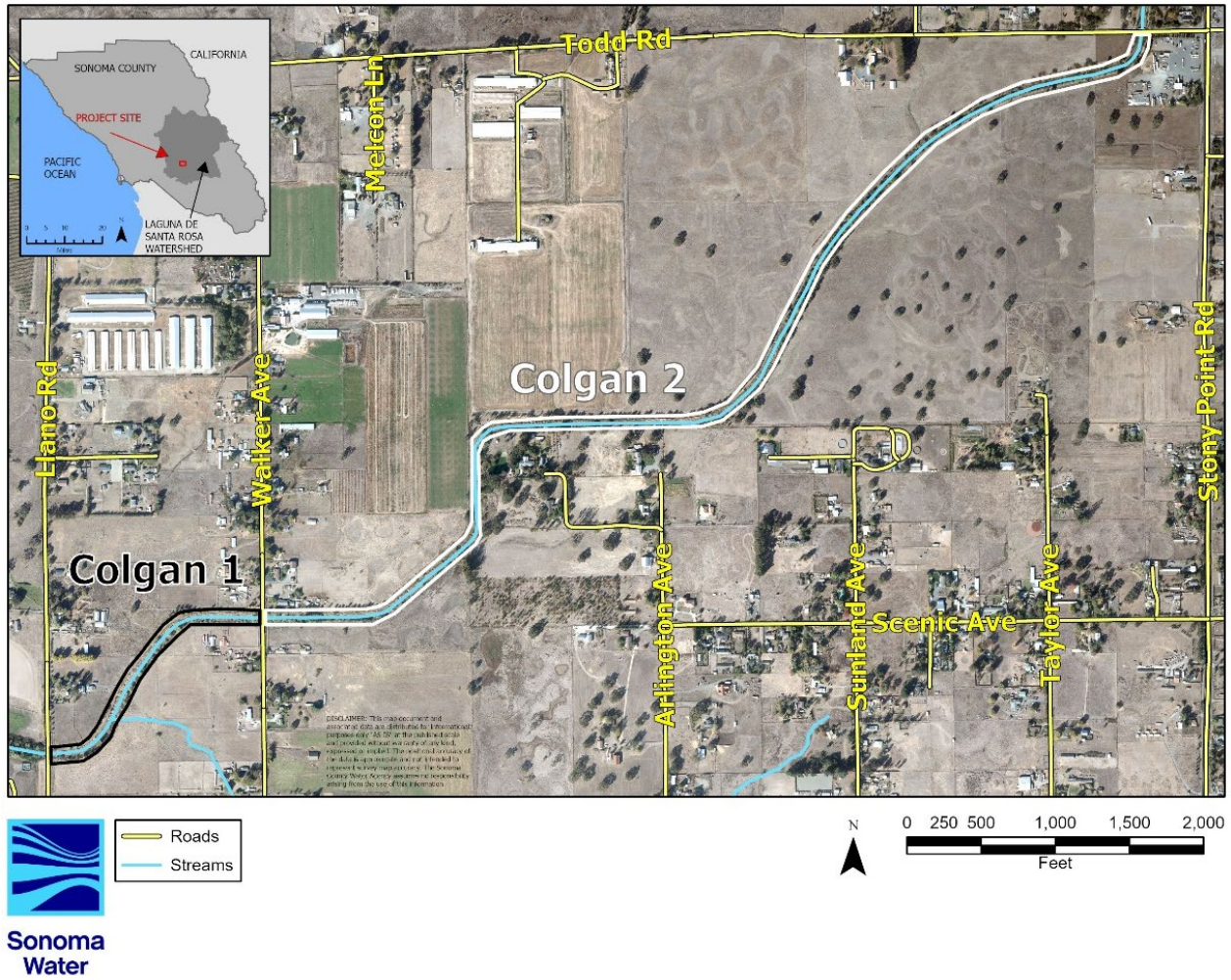
# Colgan Creek Restoration

- PPEEP
- Improves channel capacity
- Remove 7,500 cubic yards sediment
- Amount of phosphorus 12,150 pounds
- Trading ratio 1.5 lbs. P controlled / 1 pound of credit
- Total of 8,100 credits
- Project Cost $441,000 ($55/credit)

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# Future Projects

- Additional sediment removal in creeks
  - Laguna de Santa Rosa Llano to Todd Road (1-2 years)
  - Roseland Creek (1-2 years)
- Larger restoration of former Ballard Lake (5 years or more)

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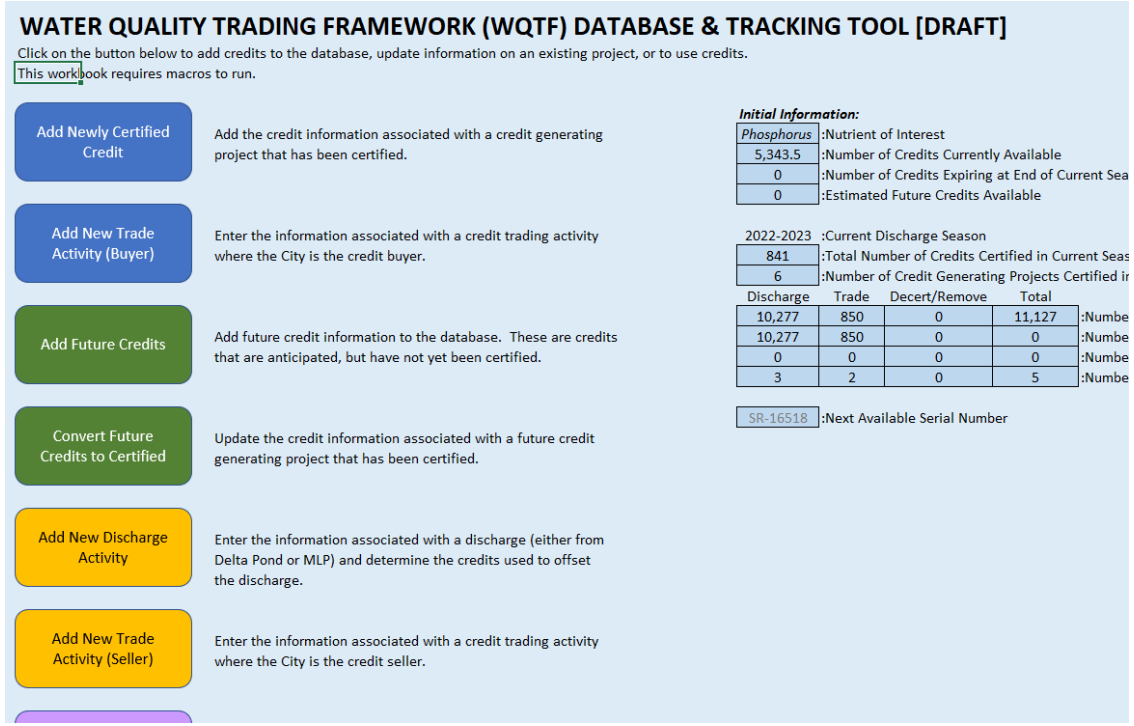
# Credit Tracking Database

- Tracks credit generating projects
- Assigns serial numbers for each credit
- Creates reports for invoices and credit tracking
- Helps determine when certain credits will be expiring and uses those credits first



**WATER QUALITY TRADING FRAMEWORK (WQTF) DATABASE & TRACKING TOOL [DRAFT]**

Click on the button below to add credits to the database, update information on an existing project, or to use credits.
This workbook requires macros to run.

| | |
|---|---|
| Add Newly Certified Credit | Add the credit information associated with a credit generating project that has been certified. |
| Add New Trade Activity (Buyer) | Enter the information associated with a credit trading activity where the City is the credit buyer. |
| Add Future Credits | Add future credit information to the database. These are credits that are anticipated, but have not yet been certified. |
| Convert Future Credits to Certified | Update the credit information associated with a future credit generating project that has been certified. |
| Add New Discharge Activity | Enter the information associated with a discharge (either from Delta Pond or MLP) and determine the credits used to offset the discharge. |
| Add New Trade Activity (Seller) | Enter the information associated with a credit trading activity where the City is the credit seller. |

***Initial Information:***

| | |
|---|---|
| *Phosphorus* | :Nutrient of Interest |
| 5,343.5 | :Number of Credits Currently Available |
| 0 | :Number of Credits Expiring at End of Current Sea |
| 0 | :Estimated Future Credits Available |

2022-2023 :Current Discharge Season

| | |
|---|---|
| 841 | :Total Number of Credits Certified in Current Seas |
| 6 | :Number of Credit Generating Projects Certified ir |

| Discharge | Trade | Decert/Remove | Total | |
|---|---|---|---|---|
| 10,277 | 850 | 0 | 11,127 | :Numbe |
| 10,277 | 850 | 0 | 0 | :Numbe |
| 0 | 0 | 0 | 0 | :Numbe |
| 3 | 2 | 0 | 5 | :Numbe |

SR-16518 :Next Available Serial Number

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# Questions