



**Board of Directors**

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Keith Caldwell

**Staff**

**Representatives**

Patrick Lowe,  
Secretary  
Deputy Director,  
CDPD

Jeff Sharp,  
Watershed  
Coordinator  
Principal Planner,  
CDPD

Laura Anderson,  
Legal Counsel  
Attorney IV,  
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# AGENDA

## SPECIAL BOARD MEETING

Thursday, September 29, 2011, 4:00 p.m.

2nd Floor Conference Room, Hall of Justice Building,  
1125 Third Street, Napa CA

**1. CALL TO ORDER & ROLL CALL (Chair)**

**2. APPROVAL OF ACTION MINUTES**

Meeting of May 26, 2011 (Chair) (2 min)

**3. PUBLIC COMMENT**

In this time period, anyone may comment to the Board regarding any subject over which the Board has jurisdiction, or request consideration to place an item on a future Agenda. No comments will be allowed involving any subject matter that is scheduled for discussion as part of this Agenda. Individuals will be limited to a three-minute presentation. No action will be taken by the Board as a result of any item presented at this time. (Chair)

**4. UPDATES AND DISCUSSION:**

Informational reports and updates for discussion - presented by staff, members of the board and invited public (WICC Staff; Board, Others) (50 min.)

- a. Update on the Napa County Groundwater Resource Advisory Committee (GRAC) (WICC staff, Public Works) (10 min)
- b. Update on the S. F. Bay Regional Water Quality Control Board's waste discharge requirement (WDR) waiver programs for vineyard facilities and grazing operations in the Napa River watershed, Irrigated Lands Agricultural Waiver program in the Putah Creek basin, and other State and Regional Water Board policy/regulatory programs (Morgan Doran, University of California Cooperative Extension; Leigh Sharp, Napa Co. Resource Conservation Dist.; WICC Staff) (20 min)

(Cont.)

- c. Update on renewal of Napa County's Phase II Municipal Separate Storm Sewer System (MS4s Permit) requirements for stormwater management to control polluted discharges/runoff, and update on Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for the discharge of storm water associated with industrial activities (Industrial General Permit) (WICC staff, Public Works) *(10 min)*
- d. Update on Integrated Regional Water Management Planning (IRWMP) efforts in the Putah Creek/Berryessa (Westside Sacramento River) area and Napa River/Suisun Creek (S.F. Bay) area funding regions (WICC Staff, Flood Control Dist.) *(5 min)*
- e. Update on WICC presentation provided to the Board of Supervisors on June 28, 2011 (WICC Staff)
- f. Other reports and updates (WICC Staff, Board, Public)

**5. PRESENTATIONS AND DISCUSSION:**

- a. Presentation and discussion on "Marin County's Watershed Program: A watershed approach to flood protection and habitat restoration - An overview of the Watershed Program's purpose and goals" (Liz Lewis, Principal Planner and Chris Choo, Senior Planner, Marin County Dept. of Public Works) *(30 min)*
- b. Presentation and discussion of 2011 Napa River salmon and steelhead monitoring results (Jonathan Koehler, Napa County Resource Conservation Dist.) *(15 min)*
- c. Presentation on "Lobesia: Our Newest Catalyst for Conservation," an overview of how a local European Grapevine Moth control program led to other conservation actions (Rita Steiner, Natural Resource Conservation Service) *(15 min)*

**6. ANNOUNCEMENTS:**

Informational announcements from staff, members of the board and public (WICC Staff; Board, Others) *(10 min.)*

**7. FUTURE AGENDA ITEMS:**

Discussion of possible items for future agendas (Board; WICC Staff) *(5 min.)*

- a. Update on Rutherford Reach and Oakville to Oak Knoll river restoration projects.
- b. Report on Napa Creek flood project.
- c. Status report on Zinfandel Lane fish passage project.
- d. Others (WICC Staff, Board)

*(Cont.)*

8. **NEXT MEETING** (Chair)

Regular Scheduled Board Meetings:

October 27, 2011 – 4:00 PM (*No meeting*)

**November 17, 2011 – 4:00 PM** (*Save the date – Note: 3<sup>rd</sup> Thursday due to Thanksgiving Holiday*)

Location: Hall of Justice Building, 2<sup>nd</sup> floor Conference Room, 1125 Third Street, Napa

9. **ADJOURNMENT** (Chair)

**Note:** If requested, the agenda and documents in the agenda packet shall be made available in appropriate alternative formats to persons with a disability. Please contact Jeff Sharp at 707-259-5936, 1195 Third St., Suite 210, Napa CA 94559 to request alternative formats.





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**- MINUTES / ACTION SUMMARY -**

**REGULAR BOARD MEETING**

Thursday, May 26, 2011, 4:00 p.m.

2nd Floor Conference Room, Hall of Justice Building,  
1125 Third Street, Napa CA

**1. CALL TO ORDER & ROLL CALL (Chair)**

*Members present: Mark Luce, Peter White, Gary Kraus, Belia Bennett, Jim Lincoln, Marc Pandone, Mitchell Klug, Jason Lauritsen, Keith Caldwell*

*Members excused: Diane Dillon, James Krider, Richard Hall, Mike Basayne, Jeff Reichel, Rita Steiner, Jeffrey Redding, Chris Sauer*

*Members absent: Susan Boswell*

*Staff present: Patrick Lowe, Jeff Sharp, Sarah Minahen*

**2. APPROVAL OF ACTION MINUTES**

Meeting of March 24, 2011 (Chair)

*Approved as presented.*

**3. PUBLIC COMMENT**

In this time period, anyone may comment to the Board regarding any subject over which the Board has jurisdiction, or request consideration to place an item on a future Agenda. No comments will be allowed involving any subject matter that is scheduled for discussion as part of this Agenda. Individuals will be limited to a three-minute presentation. No action will be taken by the Board as a result of any item presented at this time. (Chair)

*None provided.*

#### 4. DISCUSSION AND POSSIBLE RECOMMENDATION:

Discussion and possible recommendation to the Board of Supervisors regarding the purpose and composition of a Napa County Groundwater Resource Advisory Committee (GRAC)

*Patrick Lowe reported. Mr. Lowe provided an overview of recent groundwater work conducted by the County and a groundwater workshop held with the Board of Supervisors (BOS) on 2/14/11. Mr. Lowe also outlined the process and draft schedule for creating the GRAC. The BOS is scheduled to consider a resolution creating the GRAC on June 28, 2011. The County's Executive Office will recruit for the committee through the end of July and the BOS could appoint committee members as early as mid September. It is anticipated that the first meeting of the GRAC would occur in late October. Mr. Lowe requested comments, suggestions and recommendations from the WICC Board on the GRACs creating resolution and by-laws.*

*Outcome: Mr. Lowe took comments from the Board and addressed questions regarding application process and appointment to the committee. The WICC Board liked the way the resolution was framed and stressed the need to keep the GRAC focused within the bounds and tasks outlined in the draft resolution and not crossover into additional regulations or ordinances (beyond pump test standards mentioned). The WICC also thought the GRACs timeframe (until 2014) is appropriate. The WICC recommended that information regarding the GRAC's work be periodically shared with the public and the WICC Board/WebCenter. It was recognized that appointment of GRAC members from each of the groundwater basins and sub-areas of the county could be difficult. The WICC Board recommended that GRAC membership priority be given to those areas, but other appointments outside of those areas may be necessary to adequately fulfill the GRAC's membership/stakeholder representation. Mr. Lowe noted that one representative may fulfill multiple appointment categories (BOS district, groundwater basin, sub-area, stakeholder group, ...).*

*WICC Board voted unanimously, recommending the BOS approve the draft resolution creating the GRAC, keep the narrow focus of the defined work tasks, prioritize the selection of GARC appointments to those individuals residing within DWR defined groundwater basins as much as possible, and that the GRAC provide regular updates to the public and WICC Board regarding its activities and actions.*

#### 5. DISCUSSION AND POSSIBLE DIRECTION:

Presentation and discussion on the Corona and Twin Peaks Mine Drainage Treatment Project and overview of legacy mining issues in and around Napa County - a proposed project to treat drainage waters from three mines in Napa County. (Bob Schneider, Senior Policy Director, Tuleyome; Stephen McCord, Senior Engineer, Larry Walker Associates.; Leif Bryant, Watershed Assistant, NCFWCWD)

*Bob Schneider, Stephen McCord and Leif Bryant presenting. Presenters reported on the status of various mining activities in the region and the impact the mining legacy has had on creeks and water quality. The presenters discussed possible means to stabilize these mining sites in ways that manage runoff (stormwater and groundwater) and prevent the contamination of nearby waterways. It was noted that if pollution from these areas could be addressed it would reduce the fiscal liabilities associated with these properties to levels where public agencies, special districts, or possibly even the County could assume ownership to promote various public benefits (open space, recreation, conservation, ...). A grant request in the amount of \$1.4 million was submitted to the California Dept. of Fish & Game to assist in cleanup*

*efforts and pilot project associated with the drainage treatment of the Corona and Twin Peaks mercury mines.*

*Outcome: Discussion of WICC letter of support and potential action item at next WICC meeting.*

## **6. REPORTS, UPDATES AND DISCUSSION:**

Informational reports and updates for discussion, presented by staff, members of the board and invited public (WICC Staff; Board, Others) (40 min.)

- a. Update on the San Francisco Bay Regional Water Quality Control Board's development of a vineyard facilities waste discharge requirement (WDR) waiver program for the Napa River watershed to assist vineyard owner compliance with the Napa River Sediment Total Maximum Daily Load (TMDL), and establishment of a Stakeholder Advisory Group (SAG) (WICC Staff) (10 min)

*Jeff Sharp reported. A sediment TMDL (pollution reduction plan) for the Napa River basin was approved by the State Water Board (10/5/10). Regional Water Quality Control Board (RWQCB) staff is currently developing a report of waste discharge waiver program for vineyard owners and managers as an optional means to comply with the TMDL. The waiver program(s) would assess and recognize certain management activities on vineyard properties in order to catalog and account for actions that address excessive sediment transport to waters of the state. RWQCB staff is organizing a stakeholder advisory group (SAG) to assist in the development of the waiver program. RWQCB staff will solicit additional community input on the waiver program as it develops. June 10, 2011 is the first scheduled SAG meeting. RWQCB staff anticipates holding around four SAG meetings before formally releasing (in late fall or winter 2011) a draft waiver program for public comment.*

- b. Report on Earth Day Celebration attendance and Napa River Clean-up held April 23<sup>rd</sup> (WICC Staff/Napa Co RCD)

*Jeff Sharp and Francis Knapczyk, RCD Education Coordinator, reported. The WICC participated in the event and displayed water and watershed related items and information. The event was well attended and many stopped by the WICC booth.*

- c. Report on Board of Supervisors' May 10<sup>th</sup> proclamation, designating May 2011 as Watershed Awareness Month in Napa County (WICC Staff; Chris Sauer, Vice Chair)

*Jeff Sharp reported. Chris Sauer received the proclamation on the behalf of the WICC Board.*

- d. Report on the Napa County 2011 Watershed Symposium, held May 19<sup>th</sup> (WICC Staff/Napa Co RCD)

*Francis Knapczyk, RCD Education Coordinator reported. About 140 people attended. The event was very well received and there was a better than expected turnout. Samples of event posters were presented. The next symposium will likely take place in May 2013.*

- e. Update on Integrated Regional Water Management Planning, report on completed Napa County Integrated Water Resource Management Planning Framework, and launch of online project database (WICC Staff, FCWCD) (10 min)

*Jeff Sharp reported. A Napa County (local) Integrated Water Management Planning Framework was presented to the Flood Board on 5/3/11. The framework will help guide local water and water resource planning/projects to better coordinate with, and participate in, larger regional IRWMP funding efforts (Bay Area & Sacramento River Area). The framework names the WICC Board as a stakeholder and an important part of local coordination efforts. An executive summary of the framework was presented to the Board. Recent IRWMP funding efforts have resulted in \$30 million dollars allocated to the SF Bay Area. In Napa County, that amounts to \$500,000 for recycled water line to Napa State Hospital, \$250,000 for Napa Valley rainwater harvesting project, and \$330,000 for Napa City/County water conservation program.*

- a. Report on recent grant agreements and contracts in support of project construction for the Zinfandel Lane Bridge Fish Passage Project and the Rutherford Reach Restoration Project (WICC Staff, Public Works)

*Jeff Sharp reported. Project agreements were signed by the Board of Supervisors on 5/17/11 and \$400,000 was accepted from the State Coastal Conservancy to help offset Measure A costs. Work is expected to start summer 2011.*

- b. Other reports and updates (WICC Staff, Board, Public)

*Jeff Sharp reported. The Rutherford Reach Restoration Project received ≈\$400,000 from the Environmental Protection Agency to offset project costs.*

## 7. ANNOUNCEMENTS:

Informational announcements presented by staff, members of the board and public (WICC Staff; Board, Others)

*Patrick Lowe reported. Fraser Shilling (UC Davis researcher) complemented the WICC and the Symposium on the level of positive community dialogue that is occurring Napa County*

## 8. FUTURE AGENDA ITEMS (Board; WICC Staff)

- a. Presentation on Marin County's watershed programs by Chris Choo, Marin County Dept. of Public Works (WICC Staff)
- b. Other items (WICC Staff, Board)

*None provided.*

9. **NEXT MEETINGS** (Chair)

Regular Scheduled Board Meetings:

June 23, 2011 – 4:00 PM (*Postponed*)

July 28, 2011 – 4:00 PM (*Save the date*)

Location:

Hall of Justice Building, 2<sup>nd</sup> floor Conference Room, 1125 Third Street, Napa

10. **ADJOURNMENT** (Chair)

*Motion to adjourn approved.*







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**County Executive Office**

1195 Third Street, Suite 310  
Napa, CA 94559  
[www.countyofnapa.org](http://www.countyofnapa.org)

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**Nancy Watt**  
County Executive Officer

**Contact:**

**Nadine Willoughby**, Administrative Support Technician

Committees & Commissions

(707) 253-4421

[nadine.willoughby@countyofnapa.org](mailto:nadine.willoughby@countyofnapa.org)

**FOR IMMEDIATE RELEASE**

**July 1, 2011**

**Applicants sought for Groundwater Resources Advisory Committee**

(Napa Calif--) The County Executive Officer announces openings on the newly created Napa County Groundwater Resources Advisory Committee (GRAC). The GRAC will assist County staff and technical consultants with recommendations regarding groundwater, including data collection, monitoring, well pump test protocols, management objectives, and community support.

The Napa County Groundwater Resources Advisory Committee (GRAC) will comprise fifteen (15) county residents appointed by the Board of Supervisors, representing diverse interests from a geographical perspective and interest-based perspective including, but not limited to, environmental, agricultural, development, and community interests. A familiarity with water resources is desired but not required. When possible, membership priority shall be given to those residing within State-designated groundwater basins, or surrounding watershed basins. Members will collectively address the following requirements (individual members may fulfill more than one requirement):

- One (1) member shall be a resident of each of Napa County's five Supervisorial Districts
- At least one (1) member from one of the following groundwater basins: Pope Valley, Clearlake Pleistocene Volcanic Area and Berryessa Valley
- At least one (1) member from each of the following sub-areas of the Napa-Sonoma Valley groundwater basin: Milliken-Sarco-Tulocay, Angwin, Carneros, Calistoga, St. Helena, Yountville and Napa

**-more-**

## 2-2-2-2

### Applicants sought for Napa County Groundwater Resources Advisory Commission

- At least five (5) members should work in agriculture and/or represent agricultural/wine industry interests
- At least five (5) members shall represent environmental organizations, property rights organizations, or other community-based organizations

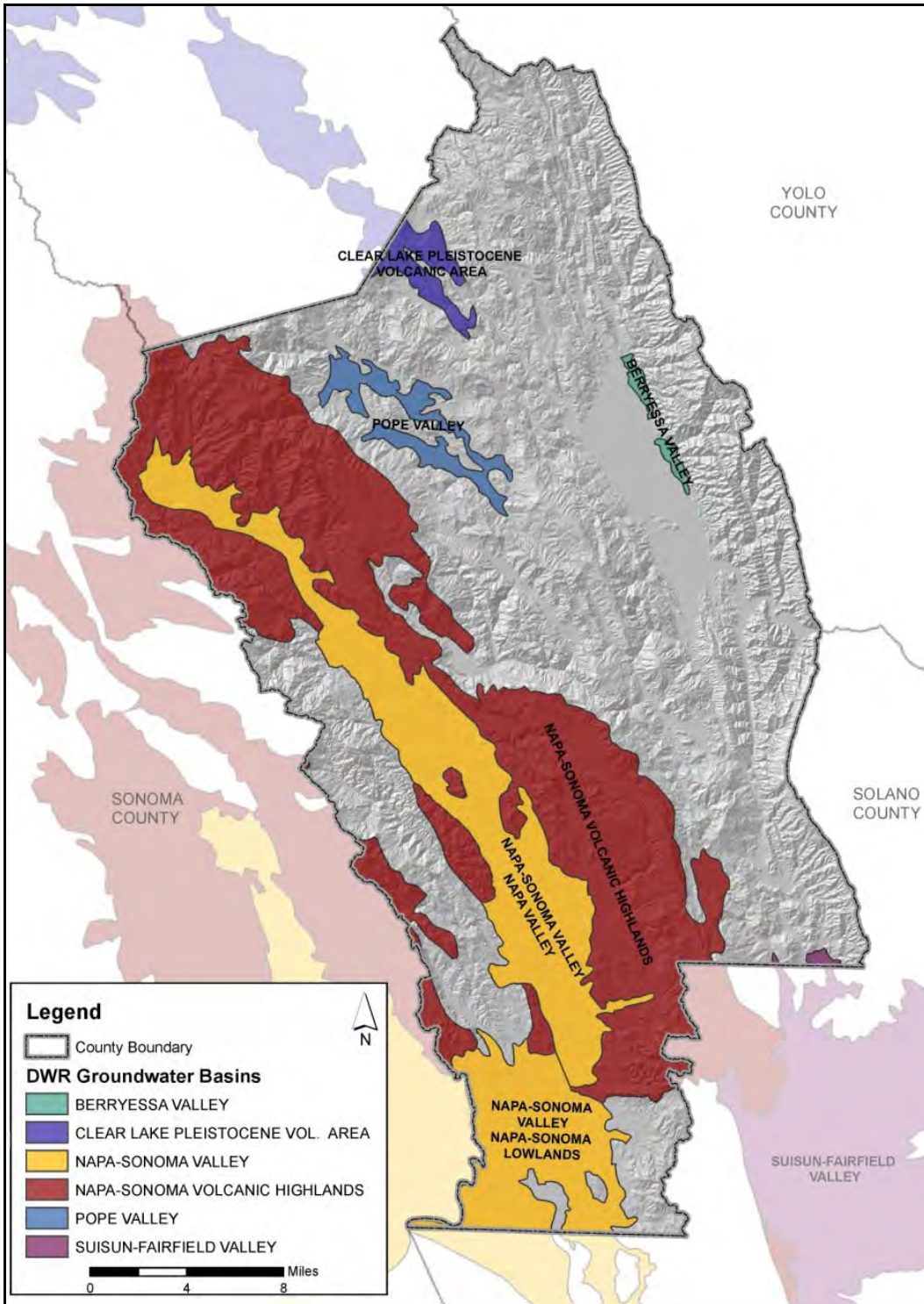
The Groundwater Resources Advisory Committee will assist the County in working collaboratively with property owners and other stakeholders to collectively address groundwater challenges and priorities, such as the identification of groundwater recharge areas, establishment and dissemination of standards for well pump testing, and the development of groundwater objectives that can be achieved through incentives and voluntary means. Once established, the GRAC will remain in existence until the end of 2014.

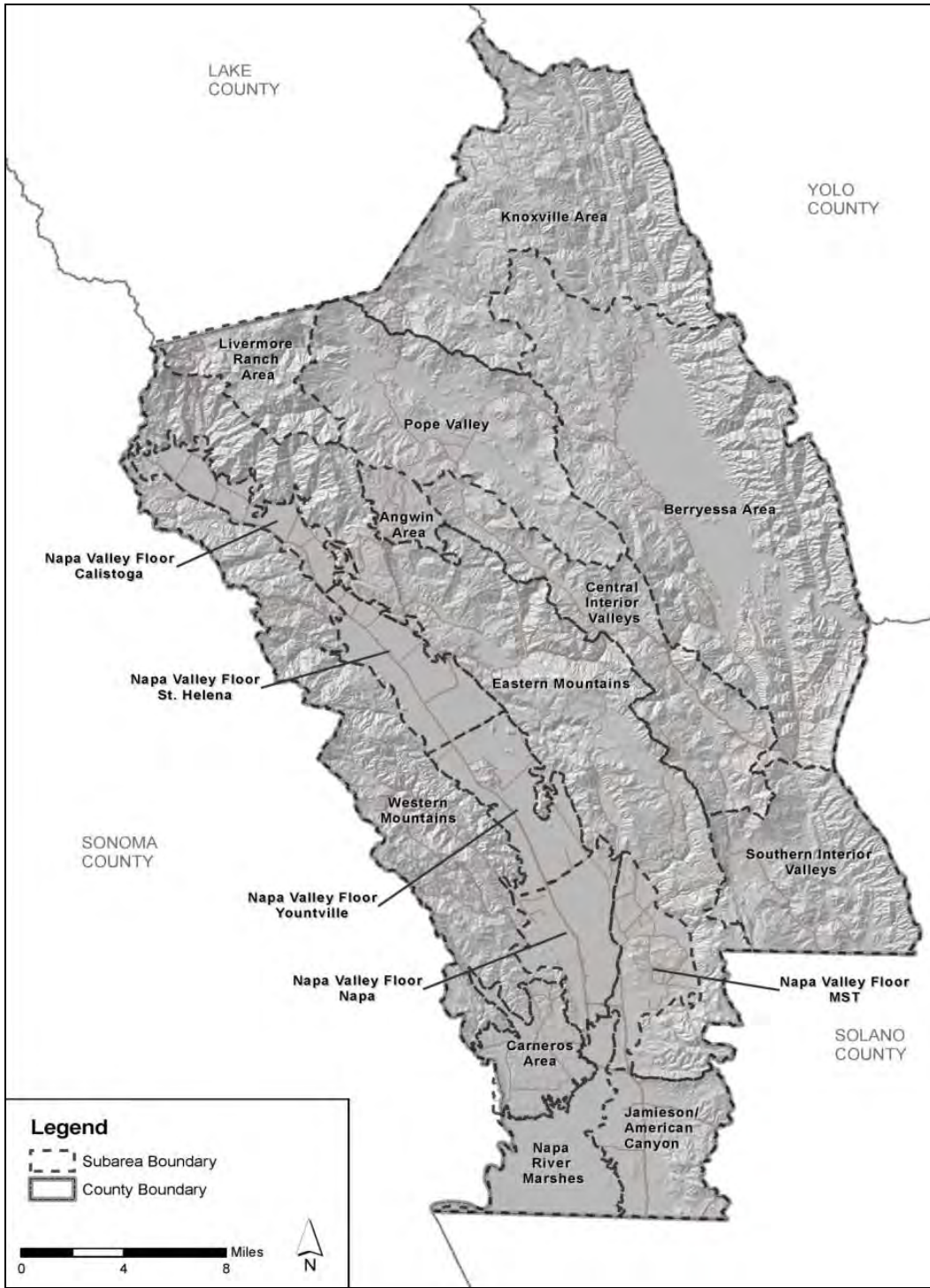
The term of office for appointed members will commence immediately upon appointment and will expire on Dec. 31, 2014. Regular meetings of the GRAC will be held on the fourth Thursday of every other month at 3:00 p.m.

Anyone interested in consideration for appointment must submit a completed application form and apply either through the above-listed coordinating agency/organization or directly to the County Executive Office, 1195 Third Street, Room 310, Napa, 94559, telephone (707) 253-4421 no later than **5:00 p.m. on July 29, 2011**. The application form is available on the Napa County website at [www.countyofnapa.org](http://www.countyofnapa.org). Go to the main County page and click on the Committees and Commissions link in the left-hand navigation under County Info. To submit an application directly online, click "application for appointment" and follow the application instructions.

*The Board of Supervisors and staff of Napa County are dedicated to preserving and sustaining Napa County for present and future generations as a community with generous open space, a thriving agricultural industry and a quality human and natural environment. Visit us on the Web at [www.countyofnapa.org](http://www.countyofnapa.org).*

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STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Rico Duazo)  
MEETING DATE: September 14, 2011

ITEM: 10

SUBJECT: **Conditional Waiver of Waste Discharges Requirements for Grazing Operations in the Napa River and Sonoma Creek Watersheds** – Adoption of Conditional Waiver

CHRONOLOGY: The Board has not considered this item before.

DISCUSSION: The Conditional Waiver of Waste Discharge Requirements for Grazing Operations in the Napa River and Sonoma Creek watersheds (waiver of WDRs) (Appendix A) would implement the Napa River Pathogen Total Maximum Daily Load (TMDL), the Napa River Sediment TMDL, the Sonoma Creek Pathogen TMDL, the Sonoma Creek Sediment TMDL, and complies with California's Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program (NPS Enforcement Policy). It is also intended to address the anticipated requirements of future nutrient TMDLs in the Napa River and Sonoma Creek watersheds, as it requires that landowners/operators of grazing operations in these watersheds implement multi-objective pollutant management practices. Appendices A, B, and C contain the revised tentative waiver of WDRs and its attachment forms. Appendices D, E, and F contain the staff report, responses to comments, and copies of comments received.

*Grazing in the TMDLs:* Grazing operations in the Napa River and Sonoma Creek watersheds are identified in their respective TMDLs as pollutant sources that need further control. The TMDLs' implementation plans specify required implementation measures including: evaluation of operating practices; development of comprehensive site-specific pathogen and sediment control measures; an implementation schedule for the installation of identified management measures; and submittal of annual progress reports documenting actions undertaken to reduce or eliminate animal waste and sediment runoff.

*Use of a conditional waiver of WDRs:* Use of a conditional waiver of WDRs, rather than general WDRs or individual WDRs, is the most efficient means of uniformly addressing grazing operations pursuant to the Napa River and Sonoma Creek TMDLs. Its use is allowed by the Water Code under circumstances present here. However, the Board retains its right to issue general WDRs or individual WDRs as appropriate in the future. The Staff Report (Appendix D) describes the basis for this waiver of WDRs and its conditions in more detail.

*Waiver of WDRs requirements:* To comply with the waiver of WDRs, grazing facilities' landowners/operators will need to submit to the Board a Notice of Intent (NOI) that the landowner/operator intends to comply with the requirements of the waiver of WDRs. The NOI is due on November 15, 2011. Landowners/operators will also need to complete a Ranch Water Quality Plan by November 15, 2012, comply with all conditions of the waiver of WDRs, and report on the implementation of grazing management measures in an annual compliance monitoring report.

*Public Outreach:* We have made a concerted effort to communicate with, and be available to, the grazing community. During development of the waiver of WDRs, we met with a technical advisory group that included grazing interest representatives, local agricultural agencies, and individual ranchers. We gave presentations on the elements of the waiver of WDRs at a North Bay Watershed Association Watershed Council meeting and at a Napa Watershed Information

Center & Conservancy's Board meeting. We held public meetings at the Schell-Vista Fire Station in January and July of this year to present the draft waiver of WDRs, and to receive informal feedback and comments.

*Comments Received:* The main issues raised in the written comments (Appendix F) related to concerns over the effects of overgrazing, and the need for criteria to evaluate the adequacy of the Ranch Water Quality Plans that are to be maintained at each facility. As noted in the Response to Comments (Appendix E), in response to the issue over the potential for overgrazing, we revised the language of the waiver of WDRs to include a requirement for measuring and reporting on residual dry matter as part of the Ranch Water Quality Plan and annual compliance monitoring report (Appendix E).

Judging the adequacy of Ranch Water Quality Plans will incorporate several feedback mechanisms. We will conduct field inspections to review Ranch Water Quality Plans and assess the management measures implemented at each site. We also plan to use geographic information system (GIS) tools to track program enrollment and compliance. On larger watershed scales, Board staff plans to evaluate the effectiveness of sediment and pathogen control measures (both structural and management related) as part of assessing progress made towards achieving TMDL targets in the Napa River and Sonoma Creek watersheds.

*Staff-initiated Changes:* We made changes to the draft waiver of WDRs that we identified as necessary to fix errors, clarify intent and to offer further explanation. We also added Condition 5, which requires the implementation of mitigation measures. The requirements of Condition 5 are not new requirements per se. They call out permits that are required for compliance projects that, in the unlikely but possible event, could result in significant environmental impacts. Such impacts would be mitigated to less than significant levels by the requirements specified in these permits.

Lastly, we deleted findings 11 (Third Party Program) and 12 (Compliance Schedule) and re-inserted them as conditions 6 and 2, respectively. This change was made to make Executive Officer approval of the third party role and adherence to the compliance schedule enforceable conditions in the waiver of WDRs.

RECOMMEN-  
DATION

Adopt the Conditional Waiver of WDRs.

APPENDICES:

- A. Revised Tentative Conditional Waiver of WDRs for Grazing Operations in the Napa River and Sonoma Creek watersheds
- B. Attachment A: Grazing Waiver Notice of Intent
- C. Attachment B: Checklist Form for Assessing Grazing for Assessing Grazing Operations in the Napa River and Sonoma Creek watersheds
- D. Staff Report
- E. Response to Comments
- F. Comments Received

# Draft Phase II Small MS4 General Permit Overview

Christine Sotelo & Eric Berntsen  
State Water Resources Control Board  
Division of Water Quality  
Storm Water Section

# Who does the Draft Phase II Small MS4 General Permit apply to?

- Traditional MS4s - municipalities, cities & counties
- Non-traditional MS4s - state or federal facilities, special districts (universities, prisons, military bases, schools)
- Renewal Permittees - any MS4 currently designated
- New Permittees - Both Traditional & Non-traditional MS4s



# Draft General Permit Timeline

- Existing permit - expired in 2008
- Spring 2008 - Began Stakeholder Process
- June 7, 2011 - Draft Released for Public Comment - 60 days
- August 8, 2011 - Comments Due
- August 17<sup>th</sup> - Board Member Workshop
- October - 2<sup>nd</sup> Draft Released - 30 day Public Comment
- November 2011 - Public Hearing
- January 2012 - Board Adoption Hearing

# Significant Changes Draft General Permit

1. Remove Requirement for a Storm Water Management Plan
2. Specific Management Measures
3. Designation Criteria & Waiver Certification
4. Specific Provisions for Traditional and Non-Traditional MS4s
5. Program Management and Industrial/Construction Inspection Program
6. Trash Reduction Program
7. SMARTS used for NOIs and Reports
8. Watershed-based approach to post-construction
9. Specific TMDL Implementation Requirements
10. Receiving Water Monitoring
11. Program Effectiveness Assessments



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Agenda Date: 6/28/2011  
Agenda Placement: 9F  
Set Time: 11:15 AM  
Estimated Report Time: 15 Minutes

## NAPA COUNTY BOARD OF SUPERVISORS Board Agenda Letter

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**TO:** Board of Supervisors  
**FROM:** Hillary Gitelman - Director  
Conservation, Development & Planning  
**REPORT BY:** Jeff Sharp, PRINCIPAL PLANNER - 259-5936  
**SUBJECT:** Watershed Information Center and Conservancy (WICC) Board Presentation

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### **RECOMMENDATION**

Director of Conservation, Development and Planning to present a brief summary of the services and activities of the Watershed Information Center and Conservancy (WICC) Board, followed by Board of Supervisors discussion and possible direction.

### **EXECUTIVE SUMMARY**

Staff of the Department of Conservation, Development and Planning will provide the Board with a brief presentation regarding the services and activities of the Watershed Information Center and Conservancy (WICC) Board of Napa County. The WICC Board serves as an advisory committee to the Board of Supervisors and as a conduit for citizen input regarding watershed resources. The WICC also supports data collection, analysis and monitoring efforts related to the health of the watershed. Staff's presentation will provide background on the WICC Board, highlight its recent accomplishments, and offer future near-term goals for the Board's discussion and possible direction.

### **PROCEDURAL REQUIREMENTS**

1. Staff presentation
2. Public comments
3. Board of Supervisors discussion and direction

### **FISCAL IMPACT**

Is there a Fiscal Impact?                      No

**ENVIRONMENTAL IMPACT**

There is no environmental impact for this item.

**BACKGROUND AND DISCUSSION**

Staff of the Department of Conservation, Development and Planning will provide the Board with a presentation on the services and activities of the Watershed Information Center and Conservancy (WICC) Board of Napa County. The presentation will provide a brief background on the WICC Board, highlight its recent accomplishments and will offer near-term goals for discussion and possible direction.

The Watershed Information Center and Conservancy (WICC) Board of Napa County was created in 2002 to support the community in its efforts to maintain and improve the health of Napa County's watershed lands. The WICC Board, comprised of 17 members, serves as an advisory committee to the Board of Supervisors. It contains representatives of the cities/town, the county, agricultural interests, and environmental interests.

The role of the WICC is to assist the Board of Supervisors in their decision-making process and serve as a conduit for citizen input by gathering, analyzing and recommending options related to watershed resources. In recent years, the WICC's budget (not including staff time) has been around \$80,000 per year, with the bulk of that budget allocated to fisheries monitoring work via an agreement with the Resource Conservation District. Additional resources have been spent on development and maintenance of a website with interactive capabilities (i.e as a forum for coordination between organizations with similar missions) and educational outreach efforts. Additional revenues, in the form of grant funding, has been allocated to multi-agency watershed monitoring and planning efforts. Staff support of the WICC has consisted of approximately one half-time position, and meetings are held every other month.

The WICC has a responsibility to publicly evaluate and discuss matters it has been requested to review and comment upon by the Board of Supervisors. The WICC has been charged (under Resolution 02-103 and subsequent Board directives) with making recommendations on matters relating to watershed restoration projects, resource protection activities, coordination of land acquisition, development of a long-term watershed resource management program, public outreach and education, monitoring coordination, inventory and assessment, and data management, as well as providing monitoring, analysis and recommendations on State Water Resources Control Board and Regional Water Quality Control Board(s) policy and regulatory developments.

In order to tackle these obligations in a focused manner, the WICC Board has established five fundamental goals by which to assess its own performance:

- Improve watershed management and health;
- Maintain an informative website;
- Establish partnerships and collaboration;
- Increase the community's knowledge and understanding of watershed resources; and
- Create an organizational structure and needed resources/funding for long-term WICC success.

The WICC Board has also established the following guiding principles/objectives for its work:

- Be part of the solution to watershed issues and concerns;
- Remain politically neutral;

- Collect and disseminate the best possible information to aid decision-making;
- Provide tools, information and education so that the community can discover and understand their watershed;
- Use collaborative means as an effective way to accomplish the mission of the WICC;
- Encourage organizations and individuals working in the county's watersheds to participate in the WICC;
- Support and promote the activities of other watershed restoration organizations and facilitate cooperation among them; and
- Seek and accept funding from various sources (private and public) to help address the WICC's financial needs to further its mission and goals.

Recent accomplishments supported by the WICC include:

- Coordination of Integrated Regional Water Mgmt. Planning (IRWMP) meetings and support for an awarded \$1.2M IRWM Planning Grant with four other counties for water resource planning in Putah Creek basin.
- Continued monitoring/analysis and recommendations on a wide range of State and Regional Water Board policy and regulatory developments.
- Hosting of presentations by Regional Water Board staff on vineyard and grazing TMDL waiver program development.
- Support for on the ground project grants awarded to fund on-going fisheries monitoring (\$12K-50K annually), support of a TMDL implementation/compliance and monitoring program grant (\$1.4M), continuation of the Rutherford Reach Restoration Project (\$2.4M), and removal of the Zinfandel Bridge Fish Passage Barrier Project (\$900K).
- Completion of a DWR Watershed Assessment Framework grant (\$240K) developing watershed monitoring indicators and draft report card for the Napa River.
- Recommendation that the Flood Board join the North Bay Watershed Association in support of northern Bay Area regional funding opportunities and coordination.
- Utilization of grant funding in support of watershed related programs/efforts to recover County costs associated with these programs; and
- Coordination and sponsorship of the 2011 Napa County Watershed Symposium held on May 19, 2011.

Future near-term goals for the WICC Board are as follows:

- Continue support for various watershed monitoring efforts including on the ground restoration projects,
- Provide on-going monitoring, analysis and recommendations on State Water Resources Control Board and Regional Water Quality Control Board(s) policy and regulatory developments for Napa County.
- Build and strengthen effective partnerships to foster communication, coordination and involvement among those working to improve the health of Napa County's watersheds.
- Seek federal, state and local funding in support of watershed research and planning, project implementation, and community educational programs that foster the mission of the WICC, and offset County costs in these areas.

## **SUPPORTING DOCUMENTS**

None

CEO Recommendation: Approve

Reviewed By: Molly Rattigan

# NAPA RIVER STEELHEAD AND SALMON SMOLT MONITORING PROGRAM



**ANNUAL REPORT – YEAR 3**

**AUGUST, 2011**



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## ABSTRACT

The Napa County Resource Conservation District (RCD) initiated a salmonid outmigrant monitoring program in 2009 using a rotary screw trap (RST). The purpose of this program is to describe salmonid life history details, generate salmonid population estimates, document the composition of the Napa River fish community, and track ecological responses to ongoing habitat restoration. The RST has been installed annually at the same location in the mainstem Napa River north of Trancas Avenue approximately 400 meters (0.25 miles) upstream of the extent of tidal influence. Approximately 67% (118 miles) of the total salmonid habitat in the Napa River watershed is located upstream of this point.

This report covers the third consecutive sampling season, which began on April 6, 2011 and extended through June 17, 2011. Installation of the trap was delayed by over one month due to high flows. Once installed, the trap was able to be operated continuously without significant interruption for 72 consecutive days.

A total of 24 fish species were captured (13 native, 11 exotic). The total non-larval catch was 9,042 fish, which was comprised of 8,898 natives and 144 exotics. Larval and juvenile (< 25mm in length) Sacramento sucker (*Catostomus occidentalis*) were also extremely abundant, and an estimated 25,000 were collected. As with previous years, native species dominated the total catch, accounting for 98.4% of all specimens. Three fish species were collected in 2011, which had not been previously captured in the RST: hardhead (*Mylopharodon conocephalus*) threadfin shad (*Dorosoma petenense*), and pumpkinseed (*Lepomis gibbosus*). All three species were already known to occur in the Napa River watershed.

A total of 177 steelhead (*Oncorhynchus mykiss*) were captured in 2011, including 166 smolts, 7 parr, and 4 large individuals (>300mm in length), which were likely resident trout. The median length of steelhead smolts was 188 mm compared to 198mm in 2010 and 178 mm in 2009.

A total of 7,265 Chinook salmon (*O. tshawytscha*) parr and smolts were captured, compared to 1,371 captured in 2010 and only a single Chinook caught in 2009.

Throughout the sampling period, a total of 95 steelhead smolts and 914 Chinook smolts were marked and released upstream of our trap to determine trap efficiency. A total of 13 steelhead smolts and 121 Chinook smolts were recaptured, yielding trap efficiencies of 13.7% for steelhead and 13.2% for Chinook. In total, fin clips were collected from 154 steelhead and 1,276 Chinook for genetic analysis.

## European Grapevine Moth, *Lobesia botrana*: Provisional Guidelines

(Updated 2/11)

### Grape pest management guidelines

*Lobesia botrana*, European grapevine moth was first reported in the United States from Napa County vineyards in October 2009. Native to Southern Italy, it was first described from Austria and is now found throughout Europe, North and West Africa, the Middle East, and eastern Russia. It was more recently introduced into Japan, and in 2008, it was first reported in Chile. It belongs to the family Tortricidae, sub-family Olethreutinae. Earlier species names included *Polychrosis botrana* and *Eudemis botrana*. In Europe, some of the common names are *eudemis* (France); *tignolleta della vite* (Italy); *bekreuzter traubenwickle* (Germany); *polilla del racimo* (Spain); and European grape berry moth and European vine moth (English-language literature).



Adult female European grapevine moth.

Grape (*Vitis vinifera*) and spurge laurel (*Daphne gnidium*) are preferred hosts, but it has also been reported on blackberry (*Rubus fruticosus*), gooseberry (*Ribes* sp.), black and red currant (*Ribes nigrum*), olive (*Olea europaea*), cherry (*Prunus avium*), prune (*Prunus domestica*), persimmon (*Diospyrus kakis*), kiwi (*Actinidia chinensis*), pomegranate (*Punica granatum*), carnation (*Dianthus* spp.), and a number of other wild hosts.



Feeding by larvae of European grapevine moth results in contamination of bunches with webbing, frass, and fungal infections.

Another species of grape berry moth, *Endopiza viteana*, is found east of the Rocky Mountains. This species is native to the eastern United States and causes damage very similar to that of *L. botrana*, but the two species should not be confused. They differ in many ways, including life cycle, host range, pheromone composition, and natural enemies (the Hymenoptera parasitoids in particular). In other regions of the world, including Europe, numerous species are commonly referred to as berry and vine moths, thus it is important to verify the scientific name *Lobesia botrana* when searching the literature for information on this pest.

### Damage

In May and June, first-generation larvae web and feed on the flower clusters. Second-generation larvae (July-August) feed on green berries. Young larvae penetrate the berry and hollow them out, leaving the skin and seeds. Third-generation larvae (August-September) cause the greatest damage by webbing and feeding inside berries and within bunches, which become contaminated with frass (excrement). Additionally, feeding damage to berries after veraison exposes them to infection by *Botrytis* and other secondary fungi such as *Aspergillus*, *Alternaria*, *Rhizopus*, *Cladosporium*, and *Penicillium*. Secondary pests such as raisin moth (*Cadra figulilella*), fruit flies, and ants may also be attracted to damaged berries.



Grapevine moth larvae hollow out berries, leaving behind the skin and seeds.

### Identification

The adult moth is approximately 0.24 to 0.3 inch (6-8 mm) long, with a wingspan of 0.4 to 0.5 inch (11-13 mm), with the female being slightly larger. Both males and females have similar mosaic-patterned wings. The first pair of wings (forewings) is tan-cream in color, mottled with gray-blue, brown, and black blotches. The second pair of wings is gray with a fringed border. The wings are held in a bell shape over the abdomen when at rest.

Unlike other common vineyard tortricids, which lay eggs in overlapping masses, eggs of *L. botrana* are laid singly. The eggs are elliptical and flat, approximately 0.025 to 0.03 inches (0.6-0.8 mm) in diameter. These lentil-shaped eggs are visible to the naked eye. Initially they are iridescent creamy white, turning yellow as the embryo develops and later black when the head of the developing larva is formed. The larva emerges from the edge of the egg and leaves the translucent, iridescent chorion (outer shell) attached.



The larvae are similar to other tortricids. There are 5 immature stages (instars) with sizes ranging from 0.04 inch (1 mm) at emergence to approximately 0.5 to 0.6 inch (12-15 mm) when fully grown. Upon emergence the larva is creamy white with a black head. As it develops the head and pro-thoracic shield (first segment behind the head) is tan to yellowish brown in color. The rear edge (closest to the body) of the pro-thoracic shield has a darker brown to black border. In early stages the body is tan to yellow-brown. In later larval stages, the cuticle is transparent, such that the body takes on the color of its gut contents (from dark green to shades of dark pink and maroon). White tubercles at the base of the body hairs are quite visible on mature larvae. The thoracic legs are dark brown to black. The anal comb, a toothed structure on the last abdominal segment, has 5 to 6 dark brown teeth.

Fifth instar larvae spin a grayish-white silken cocoon in which they pupate. The male pupa is approximately 0.16 to 0.28 inch (4-7 mm) long and the female is 0.2 to 0.35 inch (5-9 mm) long.

### Seasonal life cycles

European grapevine moth has two generations in northern Europe, three generations in southern Europe and it is reported to have a partial fourth generation in warmer regions of Spain, Greece, Jordan, and Egypt. The first-generation population tends to be the largest, although it is not the most damaging. Pupae overwinter in diapause (a resting state) inside silken cocoons found under the bark on the underside of cordons and arms, in soil cracks, or in hidden places on trellis posts. Adults of the first generation emerge when air temperatures exceed a threshold of 50°F (10°C) for a period of 10 to 12 days. Adult males emerge about a week before females. The first male flight may begin as early as bud break and continue for 4 to 5 weeks. Adults remain hidden during the day, emerging to fly at dusk if temperatures are above 53.6°F (12°C). Mating occurs in flight. The majority of females mate only once although they are capable of mating multiple times. Egg laying begins one or two days after mating. Eggs of the first generation are glued singly on flat surfaces on or near the flower cluster (e.g., on the bunch peduncle or on the flower calyptra). A female can lay as many as 35 eggs a day for about 6 days, with a mean of 80 to 140 eggs laid per female, depending on the generation. Adult lifespan is from 1 to 3 weeks depending on climatic conditions.

Egg hatch depends on temperature, and ranges from 3 to 5 days under optimal conditions in summer to 10 to 11 days in spring when conditions are less favorable. The first generation larvae web flower parts together and feed on individual flowers and pedicels; they may enter the peduncle and cause the bunch to dry up. Like other tortricid larvae, when disturbed they will wiggle and drop on a silken thread. Larval development is completed in 20 to 30 days depending on temperature. Pupation occurs inside a webbed cocoon that may be found on the flower cluster, under the bark on cordons, or in soil cracks. Adults emerge 6 to 14 days after pupation. The adult and egg stages are considered the most vulnerable to environmental factors.



The shell (chorion) of a European grapevine moth egg, from which the larva has emerged, on the surface of a grape berry.







Exit hole in a parasitized European grapevine moth egg.



Larvae of European grapevine moth have dark legs and a dark marking on the outside, rear edge of the prothoracic shield.



Earlier stages of European grapevine moth larvae are tan to yellow-brown (top). Later stages become dark colored (bottom).

Biological Cycle of <i>Lobesia botrana</i> (guidelines for Northern Italy)										
	Jan / Feb	March	April	May	June	July	August	Sept	Oct	Nov / Dec
Egg 										
Larva 										
Pupa 										
Adult 										

Zangheri S, Briolini G, Cravedi P, Duso C, Molinari F, Pasqualini E. 1992. Lepidopteren del fruttiferi e della vite. Copyright by Bayer S.p.A. Milan. May not be reproduced without permission from Bayer CropScience S.r.l., Milan, Italy.

This life cycle is for Northern Italy which is at approximately 42 to 44° North Latitude, while Napa is at 38°N.

The second- and third-flight female moths lay eggs individually on shaded berries. Shortly after the larva emerges it enters a berry and hollows it out as it feeds. A single bunch may be infested with several larvae. Webbing, frass, and fungal infection may result in extensive contamination of the bunch.

The lower and upper developmental thresholds are 50°F (10°C) and 86°F (30°C), respectively although some authors report that the lower threshold is as low as 7°C. Optimal development conditions are 79 to 84°F (26-29°C) and 40 to 70% humidity. Shorter day lengths and cooler temperatures initiate diapause. Although larvae may die when temperatures fall below 46.4°F (8°C), a diapausing pupa can withstand even the cold northern European winters. Some authors report that larvae die when the temperature exceeds 93°F (34°C).

The first generation is shorter than the summer generations. Using the 50°F (10°C) and 86°F (30°C) lower and upper developmental thresholds, eggs hatch in about 118 degree-days Fahrenheit (DDF) or 66 degree-days Celsius (DDC). Larvae feeding on flower clusters are reported to develop faster than those feeding on grape berries later in the season, and this influences generation time. Nondiapausing pupae require about 234 DDF (130 DDC) to develop. Adult females may lay eggs about 110 DDF (61 DDC) after emergence. Estimates of DD for a generation vary considerably in the literature, from 767 DDF (427 DDC) to 1039 DDF (577 DDC) in the first generation to 868 DDF (482 DDC) to 1039 DDF (577 DDC) in later generations. While it is clear that research needs to be done in California to clarify developmental time, our preliminary estimate would be about 833 DDF (463 DDC) for the first generation and 904 DDF (502 DDC) for the second generation.

#### Monitoring [Degree-days](#) [2011 Weekly DD info](#)

Sex pheromone attracts males and is used to monitor male flights. Before bud break, place red delta-style traps with *L. botrana* lures high in the canopy, preferably higher than 5 feet above the ground. Place at least one trap per 30 acres or per vineyard block if smaller. Change lures according to manufacturer's recommendations. Check traps weekly, recording the number of moths caught and removing trapped moths from the sticky trap bottom. Plot the weekly catches to determine initiation and peak of male flights in each generation. Continue monitoring with traps until the peak of the third flight.

Insecticide applications should be timed for larval emergence, thus monitoring egg laying and determining egg hatch are essential to management of this pest. For the first generation, egg laying should be monitored from the peak until the end of the flight. Search for eggs on the peduncle of 100 clusters, selecting one cluster per vine. Note the stage of the majority of the eggs found. Eggs are white when recently laid, turning yellow and later black when larvae are near emergence. A translucent egg chorion indicates the larva has emerged.



Larvae of European grapevine moth have prominent white spots at the base of the body hairs.



Pupa of European grapevine moth inside its silken cocoon.

After egg hatch, look for webbing of flower parts. Open up the webbing and look for feeding damage and larvae.

Begin monitoring for second- and third-generation eggs on berries one week after the first moths of the respective flight are caught in the traps. Continue monitoring for eggs weekly until one week after peak flight. Inspect 100 bunches, selecting one per vine. Continue monitoring bunches for feeding damage (holes or hollow berries), webbing, and presence of larvae.

### Management

In countries where *L. botrana* is established, control measures are targeted at the second generation. This is due in part to the prolonged emergence of the first generation and because of possible reinfestation from untreated neighboring vineyards. However, treatment of the first generation is recommended if populations are high or if treatments are conducted on an area-wide basis. Under California conditions, control of both first and second generations may be warranted, given that this is a newly introduced pest. Insecticides are less effective after bunch closure.

Several reduced-risk insecticides are registered for use in grapes to control tortricid larvae. These include insect growth regulators, spinosyns, and *Bacillus thuringiensis*.

Mating disruption has been studied in Europe for several years. It has proven most effective when grapevine moth populations are low and when applied to large areas of over 10 acres or areawide. Biocontrol Isomate-EGVM is registered for *L. botrana* pheromone mating disruption.

Numerous predators and parasitoids are reported in the European literature. Among the parasitoids are 4 species of tachinid flies and nearly 100 species of parasitic wasp in the ichneumonid, braconid, pteromalid and chalcidoid families. The parasites that are reported to cause the greatest impact are those attacking the overwintering pupa. In Spain these include the pteromalids *Dibrachys affinis* and *D. cavus*, which are reported to cause up to 70% pupal mortality, whereas in Italy the ichneumonids *Dicaelotus inflexus* and *Campoplex capitator* are the most important.

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