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# QUAGGA AND ZEBRA MUSSEL ERADICATION AND CONTROL TACTICS

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## 6. PERMITTING & REGULATORY PROCESSES

Revised June 2013

*This series of information sheets is provided for educational purposes only. It is intended to provide a general overview of what is required for implementing tactics to eradicate and control aquatic invasive species (AIS). Although prevention is the best approach, it also is important to be prepared to respond quickly to new infestations and to reduce risks posed by existing infestations. No work should be conducted without first consulting the California Department of Fish and Wildlife (formerly California Department of Fish and Game) and the Regional Water Quality Control Board or, if in another state, the lead local resource management and water quality agencies for the AIS you are interested in managing. Consult the California Department of Pesticide Regulation or corresponding agency in another state before applying chemical tactics.*

### OVERVIEW

The objective of this information sheet is to provide a brief overview of regulatory organizations and permitting processes that water agencies may need to address when planning an eradication or control program for invasive freshwater mussels and other aquatic pests. Required permits and approvals depend on a variety of factors including, but not limited to, location of water body, jurisdiction, lake uses, other animal species present, size of the proposed project, and type of eradication or control tactic to be implemented. The most benign tactic, manual and mechanical removal, generally requires fewer permits and approvals resulting in a shorter implementation timeline. Less benign tactics, such as changing the environment by using tarps or applying chemicals, requires additional permits and may require special exemptions. To assist with the planning process, we provide examples of permits that were required for the successful eradication and control programs discussed in each information sheet. They can serve as guidelines for what may be required for each tactic. Additional and/or different permits may be required by the State of California (or other states, municipalities, districts, etc.) depending on the situation.

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### Prior to Discovering a New Mussel Infestation and/or Implementing Tactics

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The following steps can be taken to reduce the time required to implement eradication and control tactics.

- 1. Communicate with Agencies that have Jurisdiction over the Water Body.** Create a list of all agencies that have jurisdiction over eradication and control actions to be conducted in the water body. Each organization will likely require a written approval for any eradication or control effort. Have staff contact each agency *now* to identify what type of approval or permit they will require to implement such activities.
- 2. Assess Lake Characteristics and Uses.** Conduct a basic assessment of key characteristics and uses of the water body. These parameters include 1) identifying existing threatened and endangered species, 2) determining historic sites or landmarks, 3) identifying patterns of water level fluctuation due to draw-downs and seasonal rainfall patterns, and 4) listing all lake uses and associated seasons of use. This information is critical for determining which permitting processes may be required.

- 3. Explore Development of Regional Permits.** Meet with other lake managers in the region to discuss applying for permits as a group. In California, check with the [Association of California Water Agencies \(ACWA\)](#) to see whether they are aware of any similar regional permits or ongoing associated efforts.

## MANUAL AND MECHANICAL REMOVAL

Manual and mechanical removal requires the fewest permits, thereby serving as a primary rapid response tactic.

### Entry Approval for Divers

Divers need to be cleared by the proper authorities to enter the water body. This may require private, city, county and/or state approval.

### Scientific Collecting Permit

If mussels and/or rocks and plants with attached mussels are removed from the water body, a scientific collecting permit is required. Applications are on the [California Department of Fish and Wildlife's](#) website. Currently, there is a small processing fee (~\$100 in 2012) and a processing time of six months to one year.

### Permits Required

#### Lake George, NY: Zebra Mussel Eradication<sup>1,2</sup>

- **Collection permit** for zebra mussels from the New York State Department of Environmental Conservation
- **Volunteer release forms**

## OXYGEN DEPRIVATION (TARPING)

The number and types of permits/approvals required for using tarps in a lake/reservoir ranges from simple access approval to completing a complex Environmental Impact Review (EIR) and initiating the California Environmental Quality Act (CEQA) process. Key factors that will affect the type of permits needed include, but are not limited to:

- Location of the tarps (if wrapping docks/pylons, fewer permits will be needed)
- Size of the area to be tarped (if the area is large and will require closures, more permits may be needed)
- Use of chemicals or biocides (if applied under tarps, more permits will be required, see Chemical Application section)

To assist with planning and timing a project, some of the permits and approvals that MAY be required when applying tarps follow in alphabetical order.

## [California Environmental Quality Act \(CEQA\)](#)

The California Environmental Quality Act (CEQA) “requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.” CEQA applies to *projects* that require *discretionary approval* by a government agency. A “discretionary approval” entails the use of judgment on the part of the approver.<sup>3</sup> A “project” is a proposal (or any part of a proposal) that may result in physical changes to the environment or a reasonably foreseeable indirect change.<sup>4</sup> In summary, **if the proposed project requires government approval, and will have some impact on the environment, then CEQA documentation is required.** It is important to note that high filing fees are associated with this process (~\$1,000–\$3,000 in 2012). The following websites provide more details about various aspects of CEQA.

- [Information about CEQA fees](#)
- [CEQA facts](#)
- [CEQA process flow chart](#)
- County-approved CEQA consultants:
  - [San Diego County](#)
  - [Riverside County](#)

The [National Environmental Policy Act \(NEPA\)](#) is often referred to in conjunction with CEQA. They are similar laws with the common purpose of “examining and weighing the potential environmental consequences of proposed government actions before such actions are undertaken.”<sup>5</sup> NEPA is required if the action is being undertaken by a *federal* agency and CEQA is required if the action is being taken by *California* state or public agencies.

## [Lakebed Alteration Agreement with California Department of Fish & Wildlife \(CDFW\)](#)

CDFW requires notification by any person, business, state or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

## [401 Water Quality Certification](#)

This permit is required from the Regional Water Quality Control Board for projects involving discharges of dredged or fill material to waters of the United States, including wetlands and other water bodies. Such discharges may result from navigational dredging, flood control channelization, levee construction, channel clearing, filling wetlands for development, or other activities. These projects involve the removal or placement of soil, sediment, and other materials in or near water bodies. Fees associated with this certification start at \$1,000 (in 2012).

### Permits/Approvals Required

#### Lake Tahoe, CA: Asian Clam Benthic Mat (Tarping) Pilot Control Project<sup>6</sup>

- **CEQA** – Notice of Exemption from the Secretary of Resources at the California Natural Resources Agency.

- **California State Lands Commission** – Approval and formal acknowledgment that California Department of Parks and Recreation (the project lead agency) is operating under their existing lease with the state for use of the lake bottom.
- **Clean Water Act Section 404 General Permit** – Issued by US Army Corps of Engineers (USACE) before beginning any non-exempt activity involving the placement of dredged or fill material in waters of the United States.
- **Clean Water Act Section 401 Water Quality Certification** – Issued by the California State Water Resources Control Board usually in conjunction with the USACE Clean Water Act Section 404 permit.
- **Lakebed Alteration Agreement** – Provided by California Department of Fish and Wildlife.

## CHEMICAL APPLICATION

The addition of chemicals, either by system-wide infusion or used with tarps, requires additional permits, possibly resulting in a longer and more expensive project. Their use generally triggers the CEQA regulatory process (see CEQA section). Emergency exemptions may be filed on a case-by-case basis and should not be relied upon. Answering the following questions will help to determine which permits and approvals might be needed to implement the application of chemicals. More detailed information about each permit/approval is listed below.

### Is the chemical pesticide you intend to use registered for use in California with the Department of Pesticide Regulation?

To determine if the product is registered visit [Department of Pesticide Regulation](#)

- **If yes**, a National Pollutant Discharge Elimination System (NPDES) permit for Residual Pesticide Discharges to the Waters of the United States is required.
  - If you are using Dixichlor and Dixichlor Max (active ingredient sodium hypochlorite) then you can apply for the Aquatic Animal Invasive Species General Permit, a statewide general NPDES permit for the use of this pesticide. These chemicals are typically only used in facilities or closed systems.
  - If using another registered chemical pesticide, then you need to get a NPDES permit from your Regional Water Quality Control Board (RWQCB). Some RWQCBs have a general permit for small discharges and it may be possible to utilize that permit for small chemical applications.
- **If no** (the chemical pesticide to be used is **not** registered, such as potassium chloride),
  - The product must first go through the [DPR registration process](#)
  - A NPDES permit from Regional Water Quality Control Board also will be required.
  - **OR** obtain a emergency exemption.

### [Aquatic Animal Invasive Species General Permit](#)

Agencies planning on applying the pesticide Dixichlor or Dixichlor Max (active ingredient sodium hypochlorite) to control aquatic animal invasive species may apply for coverage under the Statewide General NPDES Permit for Residual Pesticide Discharges to Waters of the United States from Aquatic Animal Invasive Species Control Applications, General Permit No. CAG 990006.

## [NPDES \(National Pollutant Discharge Elimination System\)](#)

This permit program controls water pollution by regulating “point sources” that discharge pollutants into waters of the United States. If water that has been treated with chemicals is released into the surrounding environment, the water body could be considered a “point source” of pollution and NPDES will need to be considered. See CEQA section for links to county-approved CEQA consultants.

## [Emergency Regulations: Office of Administrative Law \(OAL\)](#)

An emergency regulation is one that is necessary for the immediate preservation of public peace, health and safety. It may become effective before any public notice and hearing. Emergency regulations remain in effect for a 180-day period.

## [Federal Insecticide, Fungicide, and Rodenticide Act \(FIFRA\) – Section 18 Exemption](#)

Under Section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), at the discretion of the administrator, a federal or state agency may be exempted from any provision of FIFRA if the administrator determines that emergency conditions exist which support the exemption. Such an exemption has been granted for programs involving invasive freshwater mussels and other species.

### **Permits/Approvals Required**

#### **Millbrook Quarry, VA: Zebra Mussel Eradication Project<sup>7,8</sup>**

- **Entry Approval** – The Virginia General Assembly passed legislation listing zebra mussels as a Nonindigenous Aquatic Nuisance Species, authorizing the Virginia Department of Game and Inland Fisheries (VDGIF) to respond to such invasive species, and establishing civil penalties for violating the act or obstructing VDGIF from responding to such incidents.
- **Compliance with State and Federal Environmental Review Requirements** – The most significant environmental requirements included compliance with the federal National Environmental Policy Act (NEPA), Endangered Species Act, Coastal Zone Management Act, and Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and corresponding state laws.
- **FIFRA Emergency Exemption** – Potassium chloride was not registered for pesticide use, therefore the VDGIF had to secure an Emergency Quarantine Exemption under Section 18 of FIFRA.
- **Additional Considerations** – VDGIF had to ensure compliance with state and local regulations regarding pollutant discharge, submerged lands and wetlands protection, water quality, hazardous and solid waste management, sediment and erosion control, emergency preparedness, potable water quality protection, and undergo public review of all environmental documentation.

### **Permits/Approvals Required**

#### **Carlsbad, CA: *Caulerpa taxifolia* Eradication Project<sup>9</sup>**

- **CEQA, Notice of Exemption** – Issued by the Secretary of Resources at the California Natural Resources Agency.
- **Consistency Determination** – Issued by the California Coastal Commission stating that the eradication activities were consistent with the coastal management plan. This was needed because the targeted lagoons are located within the coastal zone.

- **Research Authorization and Special Local Need Registration** – Issued by the California Department of Pesticide Regulation for the use of chlorine in the area.
- **Clean Water Act Section 404 General Permit** – Issued by U.S. Army Corps of Engineers (USACE) before beginning any nonexempt activity involving the placement of dredged or fill material in waters of the United States.
- **Nationwide Permit Number 25** – Under the authority of the Clean Water Act Section 404, a nationwide permit authorizes a category of activities throughout the nation and is valid only if the conditions applicable to the permit are met. They are valid for 5-year periods.<sup>10</sup>
- **Regional General Permit No. 64** – Similar to the Nationwide Permit, but this is assigned on a regional level.

## CITED WEBLINKS

Aquatic Animal Invasive Species Permit -

[http://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/water\\_quality/2011/wqo2011\\_0003.pdf](http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2011/wqo2011_0003.pdf)

Association of California Water Agencies (ACWA) - <http://www.acwa.com/>

California Department of Fish and Wildlife - <http://www.dfg.ca.gov/licensing/pdffiles/fg1379.pdf>

CEQA Facts - <http://www.ceres.ca.gov/ceqa/more/faq.html>

Department of Pesticide Regulation - <http://www.cdpr.ca.gov/>

DPR Registration Process - <http://www.cdpr.ca.gov/docs/registration/regprocess.htm>

Emergency Regulations: Office of Administrative Law - <http://www.oal.ca.gov/>

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) - Section 18 Exemption - Flow chart of the CEQA process -

[http://ceres.ca.gov/ceqa/guidelines/pdf/appen\\_a.pdf](http://ceres.ca.gov/ceqa/guidelines/pdf/appen_a.pdf)

Information about CEQA Fees - [http://www.dfg.ca.gov/habcon/ceqa/ceqa\\_changes.html](http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html)

Lakebed Alteration Agreement - <http://www.dfg.ca.gov/habcon/1600/>

National Environmental Policy Act (NEPA) - <http://ceq.hss.doe.gov/>

National Pollutant Discharge Elimination System (NPDES) - <http://cfpub.epa.gov/npdes/>

Riverside County - <http://www.rctlma.org/epd/documents/BioConsultantsList.pdf>

San Diego County - [http://www.sdcounty.ca.gov/dplu/CEQA\\_Consultant\\_Resources.html](http://www.sdcounty.ca.gov/dplu/CEQA_Consultant_Resources.html)

401 Water Quality Certification - [http://www.waterboards.ca.gov/rwqcb3/water\\_issues/programs/401wqcert/index.shtml](http://www.waterboards.ca.gov/rwqcb3/water_issues/programs/401wqcert/index.shtml)

<http://cfpub.epa.gov/oppref/section18/search.cfm>

<sup>1</sup> Wimbush, J., M. Frischer, J. Zarzynski and S. Nierzwicki-Bauer. 2009. Eradication of colonizing populations of zebra mussels (*Dreissena polymorpha*) by early detection and SCUBA removal: Lake George, NY. *Aquatic Conservation: Marine and Freshwater Ecosystems*. Vol. 19: 703-713.

<sup>2</sup> Nierzwicki-Bauer, S.A., J. Wimbush, M.E. Frischer, and J.W. Zarzynski. 2012. Eradication of colonizing populations of zebra mussels (*Dreissena polymorpha*) by early detection and SCUBA removal: Lake George, NY. [Quagga and Zebra Mussel Eradication and Control Workshop](#). Presenter Abstracts.

<sup>3</sup> [http://www.dera.saccounty.net/FAQs/tabid/88/Default.aspx#when\\_does\\_ceqa\\_apply](http://www.dera.saccounty.net/FAQs/tabid/88/Default.aspx#when_does_ceqa_apply)

<sup>4</sup> <http://ceres.ca.gov/ceqa/more/faq.html>

<sup>5</sup> CEQA, NEPA and Base Closure - [http://ceres.ca.gov/ceqa/more/tas/ceqa\\_nepa/section2.html](http://ceres.ca.gov/ceqa/more/tas/ceqa_nepa/section2.html)

- <sup>6</sup> Wittmann, M.E., S. Candra, J.E. Reuter, G.S. Schladow, B.C. Allen and J. Webb. 2012. The control of an invasive bivalve, *Corbicula fluminea*, using gas impermeable benthic barriers in a large natural lake. *Environmental Management* 49 (6): 1163-1173.
- <sup>7</sup> Final Environmental Assessment Millbrook Quarry Zebra Mussel and Quagga Mussel Eradication. Dec. 2005. Prepared by VDGIF, Wildlife Diversity Division.
- <sup>8</sup> Fernald, R.T. and B.T. Watson. 2012. Eradication of zebra mussels from Millbrook Quarry, Virginia: Rapid response in the real world. [Quagga and Zebra Mussel Eradication and Control Workshop](#). Presenter Abstracts.
- <sup>9</sup> [http://www.globalrestorationnetwork.org/uploads/files/CaseStudyAttachments/71\\_c.-taxifolia-eradication.pdf](http://www.globalrestorationnetwork.org/uploads/files/CaseStudyAttachments/71_c.-taxifolia-eradication.pdf)
- <sup>10</sup> The U.S. Army Corps of Engineers' Nationwide Permits Program: Issues and Regulatory Developments. <http://www.fas.org/sgp/crs/natsec/97-223.pdf>

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