

PRIVACY ISSUES SURROUNDING THE TRACKING AND SHARING OF BOAT MOVEMENT INFORMATION AS PART OF INVASIVE SPECIES PREVENTION PROGRAMS

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In 2007, quagga mussels were discovered in Lake Mead. Since then, quagga and zebra mussels have been detected at several other lakes and rivers in the southwestern United States. Because of the serious ecological and economic problems that the mussels create, all Western states have developed inspection and decontamination stations to help stop the spread of these invasive species to new bodies of water. The locations of these inspection stations vary and not every boat will pass through an inspection station; therefore, states need more information about the movement of boats, particularly boats leaving high-risk areas. An electronic tracking and information-sharing database is one way that states could gain the needed information regarding the movement of boats. However, legal and practical challenges hinder the ability to utilize such a system. The Fourth Amendment and the Privacy Act of 1974 both create legal obstacles to the electronic tracking of boats and sharing of that information. Further concerns exist about funding and the possibility that the government may use a boater's location for purposes other than preventing the spread of mussels. However, there are other ways to achieve the state's goals. For instance, a banding program in which a color-coded band is placed on a boat when it is decontaminated would allow inspectors to know where a boat is coming from and whether it is at high risk for being infested, while at the same time reducing privacy concerns.

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INTRODUCTION

In January 2007, quagga mussels (*Dreissena bugensis*) were discovered in the western United States in Lake Mead.¹ Since that time, they have spread to many neighboring lakes and rivers.² Quagga mussels and their close cousins, zebra mussels (*D. polymorpha*) (referred to collectively as dreissenid mussels), can have serious ecological and economic impacts when introduced into new ecosystems, including threatening many native species by altering the food chain in infested water bodies.³

Dreissenid mussels spread easily. During the larval stage, the mussels, known as veligers, float freely in the water column—the area of a body of water below the surface of the water and above the bottom sediments. Currents then spread them downstream to

1. Lake Mead is a reservoir located in the southwestern United States. It spans part of southeastern Nevada and into northwestern Arizona, and it was created when the Hoover Dam was built across the Colorado River in the early 1900s. *History and Culture*, LAKE MEAD NAT'L RECREATION AREA, NAT'L PARK SERV., <http://www.nps.gov/lake/historyculture/index.htm> (last updated Dec. 17, 2012). See also *Lake Mead*, BUREAU OF RECLAMATION, <http://www.usbr.gov/lc/hooverdam/faqs/lakefaqs.html> (last updated June 2012); *Plan Your Visit, Park Map-Overview*, LAKE MEAD NAT'L RECREATION AREA, NAT'L PARK SERV., http://www.nps.gov/lake/planyourvisit/upload/map_LAME_colorbrochure_overview.pdf (last visited Jan. 13, 2013) (map).

2. W. REG'L PANEL ON AQUATIC NUISANCE SPECIES, QUAGGA-ZEBRA MUSSEL ACTION PLAN FOR WESTERN U.S. WATERS E-1 (2010), available at http://www.anstaskforce.gov/QZAP/QZAP_FINAL_Feb2010.pdf.

3. *Id.*

connected bodies of water.⁴ Because of their microscopic size, larval stage mussels can easily enter bilge pumps and boat engines through water-intake systems.⁵ Once a veliger moves out of the water column, it can attach to any available hard surface, including underwater pipes, docks, and boat hulls.⁶ In the right conditions, mussels can survive for weeks outside of the water.⁷ As a result, trailered watercraft can potentially transport live mussels long distances overland to waters that the mussels could not reach through natural dispersal.⁸ Watercraft that have been in infested waters therefore pose a serious risk of spreading these harmful invasive species to non-infested bodies of water.

One effective risk-reduction strategy for trailered watercraft is to thoroughly dry them. Federal and state aquatic invasive species outreach campaigns encourage boaters to “Clean, Drain, and Dry.”⁹ To follow that advice, boaters must conduct a visual inspection of the boat and remove any plants or animals that are visible.¹⁰ All water is then drained from the watercraft, including ballast tanks and engines, in case any larvae made their way in.¹¹ Lastly, the boater allows the watercraft to completely dry before entering another body of water.¹² The Bureau of Reclamation recommends boaters dry their watercraft for at least five days in full sun.¹³

Although Western states, with the assistance of the U.S. Fish and Wildlife Service and other federal agencies, have conducted extensive outreach programs to encourage

4. David K. Britton, *Western Quagga Mussels: Background Information*, 100TH MERIDIAN INITIATIVE 5 (Mar. 25, 2007), <http://www.100thmeridian.org/Documents/TalkingPointsRegardingWesternQuaggaMussels.pdf>.

5. *Species at a Glance: Zebra and Quagga Mussels*, OR. SEA GRANT 5 (2008), http://seagrant.oregonstate.edu/sites/default/files/invasive-species/toolkit/zebra-quagga-_mussels.pdf.

6. *Id.* at 5-6.

7. See ROBERT F. MCMAHON ET AL., U.S. ARMY CORPS OF ENG'RS, CONTRACT REP. NO. EL-93-1, USE OF EMERSION AS A ZEBRA MUSSEL CONTROL METHOD 18-22 (1993), *available at* <http://el.erdc.usace.army.mil/elpubs/pdf/crel93-1.pdf>.

8. *Id.* The mussels reproduce at an incredibly rapid rate; females can produce up to one million eggs per year. Robert F. McMahon, Quagga/Zebra Mussel Life History, Presentation at Legal and Regulatory Efforts to Minimize Expansion of Invasive Mussels Through Watercraft Movements, Slide 35 (Aug. 22, 2012), *available at* http://seagrant.oregonstate.edu/sites/default/files/invasive-species/mussel-workshop-2012/ag_ais_workshop_quagga_zebra_life_history_mcmahon_082212.pdf.

9. See, e.g., *Clean, Drain and Dry*, COLO. PARKS & WILDLIFE, <http://wildlife.state.co.us/WildlifeSpecies/Profiles/InvasiveSpecies/Pages/WatercraftCleaning.aspx> (last updated Nov. 6, 2012).

10. *Don't Move a Mussel! Clean, Drain and Dry*, BUREAU OF RECLAMATION, http://www.usbr.gov/gp/multimedia/publications/zebra_mussel_brochure.pdf (last visited Jan. 13, 2013).

11. *Id.*

12. *Id.*

13. *Id.*

boaters to clean, drain, and dry their watercraft,¹⁴ compliance rates and effectiveness vary. As a result, there remains significant risk that trailered watercraft are transporting invasive mussels. To address that risk, Western states have authorized the establishment of mandatory inspection stations.¹⁵ Trained personnel visually inspect all watercraft passing through an inspection station and decontaminate the watercraft on site through a hot-water (140°F) spray of the exterior and a hot-water flush of the water systems. These inspection stations not only reduce the risk that dreissenid mussels will be introduced into non-infested water, but also provide an incentive for boaters to voluntarily and properly decontaminate their watercraft while creating an additional outreach opportunity for the state.

Despite the fact that inspections are mandatory in most Western states, it is not difficult for a boater to pass through the inspection net because the locations of the inspection stations vary by state. Some are located along major highways near state border crossings, while others are placed at the launch sites on popular recreational bodies of water. The locations of inspection stations are generally announced at the beginning of the boating season, and boaters wishing to avoid the hassle of an inspection can simply choose a different route. Inspection stations are not staffed twenty-four hours a day and can be avoided by traveling after business hours. Thus, many boats that have been used in infested waters likely go uninspected by state officials.

With limited resources for these inspection stations, Western states need more information about watercraft movements—especially from high-risk bodies of water that are heavily infested with dreissenid mussels—to ensure that more boats are properly decontaminated. If federal and state agencies could track and share information regarding watercraft movements from Lake Mead and other Western waters, they would know when high-risk boats were leaving high-risk areas and where they were going. Ideally, such information would be available on an electronic database that would be easily accessible to aquatic invasive species (AIS) managers and inspection personnel. Although such a tracking system is technologically feasible, there are significant practical and legal challenges. The

14. See, e.g., *Don't Move a Mussel*, NEV. FISH & WILDLIFE OFFICE, http://www.fws.gov/nevada/nv_species/invasive_species/mussels.htm (last visited Jan. 13, 2013); *Invasive Mussels*, UTAH DIV. OF WILDLIFE RES., <http://wildlife.utah.gov/dwr/threats.html> (last visited Jan. 13, 2013); *Invasive Species Program: Quagga and Zebra Mussels*, CAL. DEP'T OF FISH & GAME, <http://www.dfg.ca.gov/invasives/quaggamussel/> (last visited Jan. 13, 2013); *Quagga Mussels*, ARIZ. GAME & FISH DEP'T, http://www.azgfd.gov/h_f/zebra_mussels.shtml (last visited Jan. 13, 2013); *Zebra and Quagga Mussels*, IDAHO STATE DEP'T OF AGRIC., http://www.agri.state.id.us/Categories/Environment/InvasiveSpeciesCouncil/Quagga_Zebra_Mussels.php (last visited Jan. 13, 2013).

15. See Press Release, Idaho State Dep't of Agric., All Idaho Invasive Species Inspection Stations Now Open (June 29, 2011), <http://www.agri.idaho.gov/Categories/NewsEvents/Documents/PressReleases/2011/InvasiveSpeciesStationsOpen110629.pdf>. See also Press Release, Idaho State Dep't of Agric., Early Season Watercraft Inspection Station Intercepts Two Mussel-Fouled Boats (Feb. 24, 2012), <http://www.agri.state.id.us/Categories/NewsEvents/Documents/PressReleases/2012/MusselFouledWatercraftIntercepted120224.pdf>.

Fourth Amendment and federal statutes such as the Privacy Act of 1974 limit the personal information that government agencies can collect and share. Fortunately, there are other ways agencies can share information to help track boat inspections and movements. Banding programs, where color-coded bands are placed on watercraft upon decontamination, can help states quickly determine where a watercraft came from and whether it poses a high risk of mussel infestation.

Section I of this Article discusses several systems currently used in the West to track and share boat movement, including Idaho's Invasive Species Passport and California's Quagga Inspection Database. Section II discusses how an information-sharing system could be developed to electronically track the movement of watercraft from high-risk water bodies and the legal and practical challenges associated with its implementation. Section III examines an alternative to an electronic tracking system—namely a region-wide banding program—that might prove more feasible.

I. WESTERN STATES' EFFORTS TO TRACK BOAT MOVEMENTS

To effectively address the trailered boat vector, agencies need to share information about the movement of high-risk watercraft and equipment.¹⁶ States need to know when high-risk watercraft are headed their direction so they can, if necessary, conduct inspections and order decontamination to ensure complete removal of any mussels before the boats enter state waters. A variety of notification and tracking systems are currently used in the region, such as the WEST 911 alert system, through which agencies can use a spreadsheet to manually track information about the movement of boats based on information entered by AIS managers.¹⁷ As detailed below, several management agencies have developed additional tracking systems in association with their inspection programs.

A. Idaho's Invasive Species Passport

In 2011, the Idaho State Department of Agriculture began issuing voluntary Invasive Species Passports to Idaho and Pacific Northwest boaters.¹⁸ Boaters entering Idaho

16. BILL ZOOK & STEPHEN PHILLIPS, UNIFORM MINIMUM PROTOCOLS AND STANDARDS FOR WATERCRAFT INTERCEPTION PROGRAMS FOR DREISSENID MUSSELS IN THE WESTERN UNITED STATES (UMPS II) 11 (2012). High-risk watercraft/equipment includes “any vessel or piece of equipment that operates on or in the water than has been used in any water body known or suspected of having zebra or quagga mussels in the past 30 days or any watercraft or equipment that is not clean, and to the extent practical, drained and dried.” *Id.*

17. Memorandum from Jim Ruff, Raquel Crosier & Amy Ferriter to Members of the Fish & Wildlife Comm. of the Nw. Power & Conservation Council (June 28, 2012), *available at* <http://www.nwcouncil.org/news/2012/07/f7.pdf>.

18. 2011 Program Summary – Idaho Invasive Species Program, IDAHO STATE DEP'T OF AGRIC. 8, <http://www.agri.idaho.gov/Categories/Environment/InvasiveSpeciesCouncil/documents/Idaho%20Invasive%20Species%20Report%202011%20Ferriter.pdf> (last visited Jan. 15, 2013) [hereinafter 2011 Program Summary]; Telephone Interview with Amy Ferriter, Invasive Species Program Manager, Idaho State Dep't of Agric. (Nov. 6, 2012).

are required to stop and have their watercraft inspected at inspection stations, which are generally located near state borders.¹⁹ The passport program enables boaters who repeatedly come through Idaho watercraft inspection stations to receive an expedited “fast pass.”²⁰

At the beginning of the season, recreational boaters who regularly travel to the same water bodies and want to participate in the program are individually issued a numbered “passport.”²¹ Each time the boater subsequently passes through an Idaho inspection station, the passport is shown to the inspector.²² If the boater has not left the Pacific Northwest in the previous thirty days, the boater receives an expedited inspection because there is minimal risk that the watercraft is transporting invasive mussels.²³ The inspector stamps the passport with the name of the station and the date of the inspection, and logs the inspection information into a database via a handheld electronic device.²⁴

In addition to reducing inspection times through risk screening, the passport program, and its associated electronic database, helps the state gather valuable information regarding boat traffic and inspections. Using their handheld devices, inspectors can see the results of previous inspections, and the database helps the state track repeat boaters.²⁵ The accuracy of the information collected through the passport program, however, is dependent on boaters being honest about where they have been. Those who routinely pass through inspection stations may learn how to answer questions in ways that avoid lengthy inspections. For instance, boaters wishing to avoid delays may claim they have not left the Pacific Northwest, even if they have.

Although it is generally viewed in the region as an effective program, it remains voluntary. The boaters who choose to participate do so because there are benefits associated with an expedited inspection, primarily shorter wait times at inspection stations.²⁶ According to Amy Ferriter, Aquatic Invasive Species Coordinator for the Idaho State Department of Agriculture, mandating participation in the passport program would likely prove controversial.²⁷ If the program became mandatory, the Idaho State Department of Agriculture would have the ability to track all boaters’ movements. As discussed in more detail below, boaters may be legitimately concerned that the information collected for preventing the spread of invasive species may later be used by the government or private parties for other purposes, such as criminal prosecution or divorce proceedings.

19. *Road-Side Inspection Stations*, IDAHO STATE DEPT OF AGRIC., http://www.agri.idaho.gov/Categories/Environment/InvasiveSpeciesCouncil/Inspection_Stations_ALL.php (last visited Jan. 13, 2013).

20. *2011 Program Summary*, *supra* note 18, at 8.

21. *Id.*

22. *Id.*

23. *Id.*

24. *Id.*

25. *Id.*

26. Telephone Interview with Amy Ferriter, *supra* note 18.

27. *Id.*

B. California's Live-Time Database

In California, certain state agencies have the authority to stop boats, inspect them for mussels, and quarantine them for as long as needed to show there are no living mussels on any particular boat.²⁸ At California Department of Food and Agriculture (CDFA) border inspection stations, boats entering the state are inspected for the presence of dreissenid mussels and quarantined if needed.²⁹ If a boat is quarantined at a border inspection station, the CDFA will notify the California Department of Fish and Game (CDFG).³⁰ If California was the quarantined boat's destination, the boat may not be launched in state waters until it is shown no living mussels exist onboard.³¹ If the quarantined boat was travelling through California, the CDFG will notify the destination state that an infested boat is on its way.³² Although the CDFG keeps a record of the notifications received by the CDFA, it does not have an intrastate tracking system.³³

California law also requires reservoir owners and operators develop and implement mussel prevention programs.³⁴ The Bay Area Regional Consortium is a collaborative partnership of public agencies in five Bay Area counties: Santa Clara, Alameda, Contra Costa, Monterey, and San Benito. The Consortium developed the Zebra and Quagga Mussel Coordinated Prevention Plan to provide best-practice guidelines, including vessel inspection and reservoir monitoring guidelines, to help prevent the introduction of mussels into uninfested waterways under the ownership or control of the Consortium's member agencies.³⁵ As part of its vessel inspection program, the Consortium utilizes a tracking system developed by Quagga Inspection Services,³⁶ which allows for real-time online

28. CAL. FISH & GAME CODE § 2301 (West 2012). This section authorizes the California Department of Fish and Game to stop, inspect, and quarantine boats. It further allows other state agencies to implement this section; the California Department of Food and Agriculture and California Department of Parks and Recreation have both been granted the power to stop, inspect, and quarantine boats under this section. Telephone Interview with Jennifer LaBay, Staff Env'tl. Scientist, Cal. Dep't Fish & Game (Dec. 20, 2012).

29. Telephone Interview with Jennifer LaBay, *supra* note 28.

30. *Id.*

31. *Id.*

32. *Id.*

33. *Id.*

34. CAL. FISH & GAME CODE § 2302 (West 2012). "Reservoir" means any reservoir which contains or will contain the water impounded by a dam." CAL. WATER CODE § 6004.5 (West 2012).

35. See SANTA CLARA CNTY. PARKS & RECREATION DEP'T, BAY AREA CONSORTIUM ZEBRA AND QUAGGA MUSSEL COORDINATED PREVENTION PLAN (2009), available at <http://sccgov.iqm2.com/Citizens/FileOpen.aspx?Type=4&ID=16898> [hereinafter COORDINATED PREVENTION PLAN].

36. *Quagga Inspection Services – Invasive Quagga Control*, QUAGGA INSPECTION SERVS., <http://quaggainspections.com/> (last visited Jan. 13, 2013).

tracking and sharing of inspection data.³⁷ Information regarding whether a boat passes or fails an inspection is available to inspectors at all the other registered lakes in the region.³⁸

Upon leaving Consortium-member waters, boaters' watercraft are inspected and banded.³⁹ As long as the band has not been tampered with, the boater may enter a participating water body without another full inspection.⁴⁰ This system is beneficial to both Consortium inspectors and boaters, as inspectors are able to focus their efforts on inspecting higher-risk boats and boaters can expedite future launches.

C. Lake Mead Notification System

Lake Mead was ground zero for the Western quagga mussel invasion. The mussels have thrived in their new habitat, with the population increasing tenfold since they were first discovered in 2007.⁴¹ Lake Mead is also extremely popular with recreational boaters, with over 8 million visiting annually.⁴² In the summer months, the average number of boaters on the lake at one time can be more than 3000 and may increase to 5000 boaters on holiday weekends.⁴³ Watercraft that have been moored in Lake Mead for long periods of time are likely to be heavily encrusted with quagga mussels and therefore pose a serious risk of introduction if trailered to another body of water.⁴⁴ As a result, Western states are particularly concerned about boats leaving Lake Mead and traveling to their states. In response, the National Park Service (NPS), the federal agency responsible for the management of the Lake Mead National Recreational Area (NRA), has implemented a notification system to share information about certain high-risk boats.⁴⁵

The NPS encourages boaters and fishermen to voluntarily clean and decontaminate boats and equipment before leaving Lake Mead NRA.⁴⁶ In addition, boaters who rent a slip at Lake Mead are required by a clause in the slip rental agreement to notify the marina manager three days prior to their departure and decontaminate the vessel before trailering it

37. COORDINATED PREVENTION PLAN, *supra* note 35, at 13.

38. *Id.*

39. *Id.* at 13-16.

40. *Id.* at 16.

41. LAKE MEAD INTERAGENCY CORE TEAM, LAKE MEAD NATIONAL RECREATION AREA – DRAFT QUAGGA MUSSEL INITIAL RESPONSE PLAN – EXECUTIVE SUMMARY ii (2007), available at <http://www.usbr.gov/mussels/activities/basin/lc/docs/NPSDraftResponsePlan.pdf>.

42. *Id.*

43. *Id.*

44. *Id.*

45. Letter from William K. Dickinson, Superintendent, Nat'l Park Serv., to James Ruff, Manager, Nw. Power & Conservation Council (May 18, 2011) (on file with author); Telephone Interview with Bryan Moore, Project Biologist, Nat'l Park Serv. (Oct. 21, 2012).

46. *Quagga Mussels – Lake Mead National Recreation Area*, NAT'L PARK SERV., <http://www.nps.gov/lake/naturescience/zebramussel.htm> (last updated Feb. 15, 2013).

outside the Lake Mead NRA.⁴⁷ The notification must include: (1) the date and time that the vessel will be removed; (2) the name and contact information for the hauler; and (3) the vessel's next destination.⁴⁸

To facilitate the sharing of this information with other management agencies, the NPS has entered into a cooperative relationship with the Arizona Game and Fish Department (AGFD) and the Nevada Department of Wildlife (NDOW).⁴⁹ These two states are home to Lakes Mead and Mohave. Although the lakes are under federal management, boats slipped in either state are subject to that state's laws regarding quagga and zebra mussel decontamination.⁵⁰ NPS marina concessionaires complete the appropriate state forms as hot-water sprays and flushes of watercraft are performed, then forward these forms to the AGFD or the NDOW.⁵¹ The department then sends this information to the appropriate state agency in the boater's destination state, warning it that the boat has left Lake Mead.⁵²

Unfortunately, many boaters do not follow the agreement as planned. Boaters often leave without providing notice to the concessionaire and being inspected and decontaminated.⁵³ Low boater compliance could be due in part to the cost of watercraft decontamination. Depending upon the marina, decontamination can cost \$85 to \$120 per hour.⁵⁴ Another possible reason is that boaters are removing their watercraft for dry storage at home or at a commercial location. The notification requirement is difficult to enforce. The requirement has not been adopted by the NPS as a formal agency regulation or policy. It relies on a boater's self-compliance, and stations are unlikely to be staffed twenty-four hours a day. Additionally, even when boaters do comply with the notice requirements, communication between the NDOW and the AGFD to other state agencies can be slow,

47. COTTONWOOD COVE MARINA, SLIP/BUOY RENTER QUAGGA MUSSELS ACKNOWLEDGEMENT (on file with author). *See also* LAKE MEAD NAT'L RECREATION AREA, NAT'L PARK SERV., QUAGGA MUSSELS FREQUENTLY ASKED QUESTIONS 2 (2008), *available at* <http://www.nps.gov/lame/naturescience/upload/Frequently%20Asked%20Questions%20Public%20Version%20May%2021%2008.doc>.

48. COTTONWOOD COVE MARINA, *supra* note 47.

49. *See* Letter from William K. Dickinson to James Ruff, *supra* note 45; Telephone Interview with Bryan Moore, *supra* note 45.

50. Letter from William K. Dickinson to James Ruff, *supra* note 45.

51. *Id.*

52. *Id.*

53. Telephone Interview with Bryan Moore, *supra* note 45. Because there are over 4000 slips at Lake Mead, it is difficult, if not impossible, to track every single boat. Also, because invasive species laws are state laws, if an NPS agent is informed and pulls over a boater who does not follow the agreement and is breaking the law by transporting live mussels, the agent cannot issue a ticket. If a ticket were issued, concessionaires would need to inform Nevada or Arizona state officers who would have to track down the boater. Therefore, it makes it very hard to enforce the agreements.

54. E-mail from Ashlie Watters, Quagga Mussel Program Coordinator, Nat'l Park Serv., to author (Jan. 16, 2013, 4:17 PM) (on file with author).

and often the boat has already arrived in the destination state by the time the destination state agency receives the information.⁵⁵

II. CHALLENGES ASSOCIATED WITH WATERCRAFT TRACKING

It is not hard to imagine how today's technology could be used by Western states to implement a regional watercraft-tracking system. Radio-frequency identification (RFID) tags or global positioning system (GPS) devices could be installed on all watercraft so that the movements of the watercraft could be tracked and recorded. Data regarding a watercraft's movements could automatically be entered into a national electronic database. State agency personnel would be able to quickly access the electronic database through handheld devices. When a boat passed through an inspection station, state inspectors could access information about where the boat came from through these handheld devices. Such information would help inspectors with risk assessments and decontamination and quarantine decisions. The system could also be designed to automatically send alerts when watercraft leave infested waters. In this way, federal and state agencies could share boat movement information between and among each other in a fast and efficient way. Agency personnel could easily track a boat's previous movements, quickly discover when a boat has been in infested water, and target high-risk boats for inspection and decontamination. Legal, practical, and public concerns regarding the governmental collection and use of personal information, however, make it unlikely that this type of comprehensive tracking system would be implemented in the West.

A. *The Privacy Act of 1974*

Information sharing regarding the movement of watercraft from Lake Mead has been hindered in part by the Privacy Act of 1974, which provides "certain safeguards for an individual against an invasion of personal privacy."⁵⁶ As discussed above, the NPS shares notification forms submitted by Lake Mead boaters with Arizona and Nevada agencies that in turn share that information with other states in the region. The NPS has refrained from sharing the notification forms directly with other states because of the Act's restrictions on the disclosure of identifiable personal information that has been collected by federal agencies.⁵⁷

The Privacy Act provides that "[n]o agency shall disclose any record which is contained in a system of records by any means of communication to any person, or to another agency, except pursuant to a written request by, or with the prior written consent of,

55. Telephone Interview with Amy Ferriter, *supra* note 18.

56. Privacy Act of 1974, Pub. L. No. 93-579, 88 Stat. 1896 (1974) (codified as amended at 5 U.S.C. § 552a (2012)).

57. 5 U.S.C. § 552a(i)(1).

the individual to whom the record pertains.”⁵⁸ The NPS collects and maintains records containing personal information, such as boat registration numbers and names, for boaters that keep their boats in the slips at Lake Mead.⁵⁹ Because these marina records “include as little as one descriptive item about an individual,” they would be deemed federal “records” for the purposes of the Privacy Act.⁶⁰ The NPS, therefore, cannot disclose those records to another agency without the written consent of the boater.

There are a few exceptions to the disclosure prohibition, however. For example, the law enforcement exception allows federal agencies to share the information

to another agency or to an instrumentality of any governmental jurisdiction within or under the control of the United States for a civil or criminal law enforcement activity if the activity is authorized by law, and if the head of the agency or instrumentality has made a written request to the agency which maintains the record specifying the particular portion desired and the law enforcement activity for which the record is sought.⁶¹

The law-enforcement exception provides a means for the NPS to share boat information with states for the purposes of civil or criminal law enforcement.⁶² For instance, if a boater leaves Lake Mead without notifying the marina and decontaminating the watercraft, the NPS alerts state law enforcement agencies, as the boater is likely in violation of states’ laws prohibiting the transport of quagga mussels.⁶³ But when boaters properly notify the marina and submit a watercraft to decontamination, state officials are not notified because the boater has complied with state law.⁶⁴

58. *Id.* § 552a(b).

The term ‘individual’ means a citizen of the United States or an alien lawfully admitted for permanent residence; the term ‘maintain’ includes maintain, collect, use, or disseminate; the term ‘record’ means any item, collection, or grouping of information about an individual that is maintained by an agency, including, but not limited to, his education, financial transactions, medical history, and criminal or employment history and that contains his name, or the identifying number, symbol, or other identifying particular assigned to the individual, such as a finger or voice print or a photograph; the term ‘system of records’ means a group of any records under the control of any agency from which information is retrieved by the name of the individual or by some identifying number, symbol, or other identifying particular assigned to the individual.

Id. § 552a(a)(2) to (4).

59. *See* LAS VEGAS BOAT HARBOR, SPACE RENTAL AGREEMENT (on file with author).

60. *Williams v. Dep’t of Veterans Affairs*, 104 F.3d 670, 674 (4th Cir. 1997).

61. 5 U.S.C. § 552a(b)(7).

62. *See* ARIZ. REV. STAT. ANN. §§ 17-255 to 17-255.04 (2012); IDAHO CODE ANN. §§ 22-1901 to 22-1917 (2012).

63. *See* Letter from William K. Dickinson to James Ruff, *supra* note 45.

64. *Id.*

Federal agencies may not disclose personal information in anticipation of possible law enforcement action in the future. The Privacy Act is designed in part to prevent “illegal, unwise, overbroad, investigation and record surveillance of law-abiding citizens”⁶⁵ Providing information about all boats leaving Lake Mead, not just those in violation of the law, could be construed as an overbroad surveillance of law-abiding citizens.

B. Fourth Amendment Concerns

Tracking the movements of boats also raises privacy concerns under the Fourth Amendment to the U.S. Constitution. The Fourth Amendment provides “[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures.”⁶⁶ That is, the Fourth Amendment guarantees U.S. citizens a reasonable expectation of privacy and the right to be free from governmental trespass or physical invasion into a protected area.⁶⁷

The U.S. Supreme Court has addressed the rights afforded by the Fourth Amendment as they apply to vehicles in multiple opinions. In *Katz v. United States*, the Court stated, “the Fourth Amendment protects people, not places,”⁶⁸ and it is “people [who] have a reasonable expectation of privacy.”⁶⁹ Although vehicles have long been considered an “effect” for purposes of the Fourth Amendment,⁷⁰ individuals generally have a lowered expectation of privacy in their vehicles because contents are often easily seen and vehicles are rarely used as residences.⁷¹ In *United States v. Knotts*, the Court stated, for instance, “[a] person travelling in an automobile on public thoroughfares has no reasonable expectation of privacy in his movements from one place to another.”⁷²

Governmental trespass or physical invasion of a vehicle without a valid warrant or consent is an unconstitutional search under the Fourth Amendment.⁷³ In *United States v. Jones*, government agents installed a GPS tracking device on the defendant’s vehicle without a valid search warrant, tracking the vehicle’s movement for twenty-eight days.⁷⁴ The U.S. Supreme Court held that placing the GPS on the defendant’s vehicle and using it to track the vehicle’s movement was a search within the meaning of the Fourth Amendment because “[t]he

65. S. REP. NO. 1183, at 1 (1974), *reprinted in* 1974 U.S.C.C.A.N. 6916, 6916.

66. U.S. CONST. amend. IV.

67. *See* *Katz v. United States*, 389 U.S. 347 (1967); *United States v. Jones*, 132 S. Ct. 945 (2012).

68. *Katz*, 389 U.S. at 351.

69. *Id.* at 360. When a person knowingly exposes something to the public, even in a private place, that thing is not protected by the Fourth Amendment; however, if a person, even in a public place, wants to keep information private, it may be protected by the Fourth Amendment if he or she has an expectation of privacy that is reasonable. *Id.* at 351.

70. *Jones*, 132 S. Ct. at 949.

71. *United States v. Knotts*, 460 U.S. 276, 281 (1983).

72. *Id.*

73. *Jones*, 132 S. Ct. at 949.

74. *Id.* at 948.

Government physically occupied private property for the purpose of obtaining information.⁷⁵ Because the law enforcement agents did not conduct the search pursuant to a valid warrant or with the consent of the defendant, the placement of the tracking device was unconstitutional.⁷⁶

Western states would be similarly limited in their ability to place tracking devices on watercraft for the purpose of tracking a boat's movements. Boat owners would have to agree to the placement of tracking devices on their watercraft. Although *Jones* places limits on the ability of agencies to implement comprehensive tracking systems, it is only applicable if there is an actual physical invasion into a protected area without a valid warrant or consent. The Court's reasoning does not limit the government's ability to track boats in other ways that do not physically invade a protected area or in which there is no reasonable expectation of privacy, such as tracking watercraft movement on public streets through "visual surveillance" or using the boat's registration number.⁷⁷

C. Other Concerns

Aside from the legal concerns with tracking boat movements, a comprehensive tracking system would likely face serious challenges from the public for practical reasons. Although the tracking system would be used by state agencies to improve their mussel prevention efforts, there are often unintended and unanticipated consequences of government data collection on people's whereabouts. For example, in the northeastern United States, people can use the E-ZPass system to quickly pass through toll stations on toll roads.⁷⁸ The E-ZPass is a prepaid electronic device mounted inside the windshield of a car, and tolls are automatically charged to the driver's account upon passing through a toll station.⁷⁹ E-ZPass was designed solely to reduce costs and delays associated with the collection of tolls; however, E-ZPass records have been used frequently as evidence in various legal cases. For example, in *State v. McGuire* and *State v. Calleia*, E-ZPass records were used as evidence of the defendants' and victims' locations in murder cases.⁸⁰ E-ZPass

75. *Id.* at 949.

76. *Id.* at 954 (Sotomayor, J., concurring).

77. *Knotts*, 460 U.S. at 282. *See also* *New York v. Class*, 475 U.S. 106, 114 (1986) ("[I]t is unreasonable to have an expectation of privacy in an object required by law to be located in a place ordinarily in plain view from the exterior of the automobile.").

78. *See, e.g., General Information FAQ*, E-ZPASS N.Y. SERV. CTR., <https://www.e-zpassny.com/en/faq/general.shtml> (last visited Jan. 13, 2013).

79. *Id.*

80. *State v. McGuire*, 16 A.3d 411, 426-27 (N.J. Super. Ct. App. Div. 2011); *State v. Calleia*, No. A-6218-07T4, 2011 WL 9197, at *7 (N.J. Super. Ct. App. Div. 2010).

records have also been used in civil cases, for instance, as evidence of the primary residence of a person disputing the non-renewal of a lease.⁸¹

If an electronic tracking database was in place to track boat movements for the purpose of improving mussel prevention and inspection programs, this data could easily end up being used for other purposes. If law enforcement agencies and attorneys could gain access to these records, data regarding a boater's movement could be used as evidence in criminal investigations and prosecutions. Such information could also be used by employers in termination proceedings, by spouses in divorce cases, or by parents in child custody disputes to prove that someone was somewhere other than where they claimed to be.

Additionally, given the number of recreational watercraft used in the West, an electronic tracking system is simply cost prohibitive. It would take a significant amount of money to purchase GPS tracking devices to place on each boat that enters the water. State dreissenid mussel prevention, inspection, and decontamination programs are already quite expensive. The Western Regional Panel estimates that it would cost \$20 million per year to implement mandatory watercraft inspection and decontamination programs at infested Western water bodies.⁸² It is further "estimated that \$31 million dollars would be required annually to fund the implementation of state plans that include state, local, and regional watercraft and equipment inspection programs on non-infested waterways in the nineteen Western states."⁸³ Education, outreach, risk assessment, and control programs add additional costs.⁸⁴ The implementation of a GPS tracking program would add to an already expensive effort, both in time and manpower. Lakes in isolated areas might not have access to computers or to the Internet to enable the use of the electronic database, anyway.⁸⁵

III. ALTERNATIVES TO WATERCRAFT TRACKING

Since the implementation of a real-time regional tracking system is not feasible for privacy, constitutional, and practical reasons, states have been exploring less-intrusive systems to ensure that boats traveling from infested waters are properly inspected and decontaminated. A system is needed that provides information about where a boat has been without physically tracking and recording a boat's location in real-time. One possible alternative is a region-wide banding program. Each state could be assigned a different-colored band; when a boat leaves a body of water in that state, a band would be placed on the boat that would signal its state of departure and that it has been decontaminated. The presence of the band would quickly inform subsequent inspectors

81. See *77 Div. Ave., LLC v. Toro*, 899 N.Y.S.2d 63 (N.Y. Civ. Ct. 2009) (E-ZPass records offered to prove the appellee's primary residence as reason for non-renewal of a lease); *Vecchio v. Kelly*, 943 N.Y.S.2d 444, 545 (N.Y. App. Div. 2012) (E-ZPass records offered to prove that appellant left work early).

82. W. REG'L PANEL ON AQUATIC NUISANCE SPECIES, *supra* note 2, at 8.

83. ZOOK & PHILLIPS, *supra* note 16, at 7.

84. *Id.*

85. Telephone Interview with Jennifer LaBay, *supra* note 28.

about whether the boat has been in a state with infested water. This knowledge would help inspectors with their risk assessments and potentially speed up the inspection process. A banding program would raise considerably fewer privacy concerns, as the state agencies would not have any information about where a boat is at any particular time. It would, however, help state agencies gather information about where boats have been and gauge the effectiveness of inspection programs.

Obviously, such a multi-state program would require significant cooperation between all of the states. A coordinated banding program would be challenging for Western states to implement primarily for reasons of trust. Some critics argue that it is too easy to tamper with the bands, enabling boaters to cheat the system and avoid the hassle of inspections.⁸⁶ If state agencies do not trust the security of the banding system, they will likely continue to inspect all boats, even those with a band.⁸⁷ Further, if a boat is coming from a heavily infested area, such as Lake Mead, there is concern that state inspectors will nevertheless conduct a full inspection just to be cautious.⁸⁸ Some states may even reject the band system altogether and continue to conduct a full inspection on all boats.⁸⁹

Idaho, for example, utilized a banding system before it began its current Invasive Species Passport Program. Previously, inspectors would place a clip on a watercraft after it was decontaminated.⁹⁰ Because the boat could not launch without breaking the clip, many clips were found on the ramp or around the lake and it was not always clear that the bands had been properly removed.⁹¹

Unless all states agree to fully participate in the banding program by granting reciprocity to other inspection programs, the purpose of the banding program would be defeated. Although states would have more concrete knowledge about which state watercraft are coming from, fears regarding inadequate inspection and decontamination protocols could reduce many of the benefits a banding system would provide. Boaters would remain frustrated with the need to stop for multiple inspections and decontamination. State agencies would continue to inspect all boats, even those with bands indicating that they had been decontaminated.

Another option might be to expand Idaho's Invasive Species Passport Program beyond the Pacific Northwest. Boaters visiting Western waters could be issued a passport with a unique number. A regional passport program, like the Idaho program, could grant repeat boaters a fast pass. If a boater regularly passes through the same inspection station

86. Telephone Interview with Stephen Phillips, Senior Program Manager, Pac. States Marine Fisheries Comm'n (Oct. 12, 2012).

87. *Id.*

88. Telephone Interview with Bryan Moore, *supra* note 45.

89. *Id.* Recently, a boat that had a band on it, showing it was decontaminated, went into three bodies of water with mussels on it. Since that time, certain states have declined to accept any bands on boats from other than their own state.

90. Telephone Interview with Amy Ferriter, *supra* note 18.

91. *Id.*

and utilizes the same bodies of water, it would be easier for inspectors to assess risk. If the watercraft has not been used in high-risk waters, an expedited inspection may be proper. Any time the boater passes through an inspection station, the number would be entered into a system and inspectors would be able to determine the other inspection stations the boater previously passed through. Although not all boaters would chose to participate, a passport program would help inspectors focus resources on higher-risk boats.

Both a region-wide banding program and passport program would face funding and practical challenges similar to an electronic tracking system. States would still need a way to share information, which takes time and money. Resources would have to be spent to purchase bands, passport books, and other materials necessary to track the inspections. But such programs are likely more legally feasible than electronic tracking systems because they do not raise the same Fourth Amendment concerns.

CONCLUSION

Since the initial discovery of quagga mussels in Lake Mead in 2007, both quagga and zebra mussels have been found in other lakes in the western United States. Because of the devastating consequences of dreissenid mussel invasions and the lack of effective control measures, it is imperative that their spread to unaffected water bodies be stopped. To minimize the risk of further spread, state and federal agencies in the West are working to develop programs that allow them to know when a boat is leaving an infested body of water and where it is travelling next. Despite the privacy concerns, tracking systems can be designed to achieve state goals; Idaho's and California's are only two examples of ways that states have developed and utilized such systems.

It is unlikely that a regional tracking system would be designed and implemented out of whole cloth. Rather, successful programs will be built upon and expanded by trusted partners. For example, Washington and Oregon are considering adopting Idaho's passport program, which would be the first step towards a multi-state tracking program.⁹² As Western states and federal agencies in the region continue to work together to address the dreissenid mussel threat by standardizing watercraft inspection and decontamination protocols, the foundation will be laid for more comprehensive tracking systems, such as a banding program utilizing an electronic information-sharing database.

92. Telephone Interview with Lisa DeBruyckere, Coordinator, Or. Invasive Species Council (Jan. 28, 2013).