





State Aquatic Nuisance Species (ANS) Program Report to the Colorado General Assembly per C.R.S. 33-10.5-103

Colorado Division of Wildlife and Colorado State Parks February 11, 2010

Background

Zebra and/or Quagga Mussels were identified in eight reservoirs in Colorado in 2008 as a result of a multi-year statewide sampling effort conducted by the Division of Wildlife (DOW) in partnership with State Parks (Parks), the U.S. Fish & Wildlife Service and the U.S. Bureau of Reclamation. Zebra mussels, and their close relatives quagga mussels, are highly invasive aquatic species that negatively impact plankton communities, fisheries, water based recreation, and water supply and distribution systems for municipal, industrial and agricultural supply.



The State Aquatic Nuisance Species (ANS) Act was passed by the General Assembly in May 2008. The Act defines ANS as exotic or nonnative aquatic wildlife or any plant species that have been determined to pose a significant threat to the aquatic resources or water infrastructure of the state. It makes it illegal to possess, import, export, ship, transport, release, plant, place, or cause an ANS to be released. The Act allocated funding to ANS programs in both the DOW and Parks. It provides authority to qualified peace officers to inspect, and if necessary, decontaminate or quarantine watercraft for ANS. It also provides authority for trained authorized agents to inspect and decontaminate watercraft for ANS.

Regulations required by the Act were passed by the Parks Board on February 20, 2009. The rules require mandatory watercraft inspection and if necessary decontamination of all boats coming in from out of state, leaving a known positive water in Colorado, and those entering a high risk water where inspections and decontaminations are required by the managing agency. The rules set the standard for watercraft inspection, decontamination, impoundment, sampling, monitoring, identification and reporting. Lastly, they created a new ANS species list (plants and animals) which focused on species that can be transported by watercraft.

The DOW internally reallocated resources to create a fulltime position to coordinate Invasive Species activities statewide beginning July 1, 2008. The Invasive Species Coordinator oversees implementation of the State Zebra and Quagga Mussel Management Plan (ZQM Plan). The backbone of the ZQM Plan includes containment and prevention through watercraft inspection and decontamination, sampling and monitoring, education/outreach, communications and information, and applied research. The DOW provides ANS support to all waters of the state, and to all inspection stations, regardless of jurisdiction. Services provided by the DOW include site-specific planning, training/certification, watercraft inspection and decontamination, law enforcement support, educational materials, workshops and

conferences, sampling/monitoring, ANS identification, cost-share opportunities and Motorboat Colorado Grants for decontamination units.

In February 2009, Parks hired a fulltime position to coordinate the Parks ANS program and train staff in inspection and decontamination procedures at 27 parks. As provided for in the ANS Act, Parks hired seven fulltime employees to implement the ZQM Plan with Parks, which includes a comprehensive education, inspection and decontamination program.

Program Goal

The goal of the program is to prevent new introductions and reduce the spread of existing ANS, specifically zebra and quagga mussels, in Colorado.

Current Status

Pueblo Reservoir, Granby Reservoir, Grand Lake, Shadow Mountain Reservoir, Willow Creek Reservoir, Tarryall Reservoir and Jumbo Reservoir are all considered positive for zebra and/or quagga mussels. In April 2009, Blue Mesa Reservoir was classified as 'suspect' for quagga mussels. This classification is used by multiple states in the west following inconclusive genetic analysis of juvenile mussel veligers. Veligers are the free-floating, microscopic larval life stage of zebra and quagga mussels.

For the third consecutive year, juvenile mussel veligers were detected in Pueblo Reservoir. This indicates that there is a reproducing population of adult mussel population in Pueblo Reservoir. There were no positive detections for zebra or quagga mussels at any other water in Colorado in 2009.

Rusty crayfish, a new invasive species to Colorado, was discovered in 2009 in a main-stem impoundment of the Yampa River and at two river locations between Stagecoach Reservoir and the town of Steamboat Springs. Management planning and monitoring is underway.

Although very few ANS are known to be in Colorado, other species present include noxious weeds, Eurasian watermilfoil and water hyacinth, and the New Zealand Mudsnail.

2009 Program Activities: Planning



State Zebra & Quagga Mussel Management Plan – The DOW completed this plan in December 2008. The ZQM Plan went through an extensive review process with our partners and the public. It outlines the mandatory inspection and decontamination program, sampling and monitoring, reporting,

equipment disinfection, education, information, research, state fish hatchery program's prevention protocols, and volunteerism. The implementation of the ZQM Plan began in March 2009 and is ongoing.

Lake/Reservoir Site-Specific Zebra and Quagga Mussel Management Plans – Site-specific mussel management plans were completed for 22 waters in 2009. The plans are very detailed, lake/reservoir-specific documents that mirror the ZQM Plan but provide increased detail for the mussel management of that specific reservoir. These plans are written as cooperative processes with stakeholders including owners, managers, water districts, water providers, energy companies, marinas, concessioners, etc. The goal is to implement watercraft inspection/decontamination, sampling and monitoring, and education in a standardized manner where all partners contribute to accomplish either the prevention of, or containment of, invasive mussels at that specific water body. This planning process has served as the catalyst for a variety of cost-share partnerships for local implementation of the ZQM Plan.

State ANS Watercraft Inspection and Education Handbook – The DOW and Parks completed this publication in partnership with many other entities in March 2009. This document defines the state standard protocols for inspections and decontamination, and includes talking points, FAQs, responsibilities, green seal system and standardized forms and protocols for inspection stations, as referenced in the state ANS regulations. The Handbook also serves as the training manual for the watercraft inspection and decontamination certification program.

State ANS Watercraft Inspection and Decontamination Handbook for Positive Waters* Begun in October 2009 and scheduled for completion in spring 2010.

State ANS Watercraft Decontamination Manual*

Begun in October 2009 and scheduled for completion in summer 2010.

*These documents contain the latest information based on knowledge gained in the first full year (2009) of watercraft inspection and decontamination implementation.

Sampling/Monitoring

The DOW has been sampling over 100 at-risk waters for aquatic invasive weeds animals over the last 5 years. It was through this sampling program that zebra/quagga mussels were detected in Colorado.

The state follows a three-tier sampling protocol and a three-phase identification process: 1) conducting plankton tows to find the veligers, 2) deploy and check substrates to find the juvenile "settlers" or attached adult mussels, and 3) conduct surveys along the shoreline and existing structures for settled juveniles or attached adult mussels. Identification of plankton tows includes a cross-polarized light microscopic visual analysis, followed by two-phase DNA analysis (polymerase chain reaction [PCR] and gene sequencing) to identify genus and species respectively.

In 2008, the DOW implemented a comprehensive early detection program for zebra and quagga mussels. Over 100 lakes and reservoirs were sampled for zebra and quagga mussels. Those waters were selected from a prioritization ranking resulting from a risk assessment, which was conducted specifically to determine the potential risk of introduction of zebra and quagga mussels. The risk assessment identified 19 very high risk waters, 17 high risk waters, 58 medium risk waters, and 64 low risk waters.

In 2009, the DOW continued the early detection program for zebra and quagga mussels, along with sampling for other priority ANS. The DOW crews sampled 168 waters (standing and flowing) statewide on multiple occasions. The DOW, in collaboration with the Bureau of Reclamation, held the State ANS Sampling and Monitoring Training School in April and August 2009. Sixty-four attendees from state, federal and local governments, private industry and non-governmental organizations were taught state sampling protocols in classroom, field and laboratory settings. These valuable partners helped to collect samples during 2009 at waters they own or manage. All analysis was conducted at the DOW's Aquatic Animal Health Lab at no cost to partners.

The DOW completed the State ANS Sampling and

Monitoring Manual in July 2009. This document describes

in great detail the standard protocols for the various baseline inventories and species-specific ANS sampling and monitoring protocols, in addition to identification and laboratory processes. The Manual incorporates recommendations detailed in both the Zebra/Quagga Mussel Early Detection and Rapid Response: Blue Ribbon Panel Recommendations for the DOW (February 2009) and the 100th Meridian Initiative's Interagency Dreissena Monitoring Plan for Western Waters (September 2009).

Currently, the DOW is designing a sampling and monitoring database, which will be contracted for development in 2010. This web-based system will allow us to track a sample from collection to final identification online. This enables us to closely track our sampling efforts and the results from microscopy, PCR testing and gene sequencing to make our early detection program more efficient. This database also enables us to better communicate with our partners and reservoir owners/managers regarding our efforts specific to their water bodies. Reclamation has partnered with the DOW to costshare the development and assist with the implementation.

Watercraft Inspection and Decontamination

Per the State ANS Regulations, trailered watercraft must submit to an inspection, and decontamination if needed, prior to entrance in Colorado's waters following boating out of state or boating on a water known to be positive for ANS. Boaters are also required to submit to an inspection prior to entering a water body where inspections are required by the managing agency. All persons performing inspections and/or decontaminations in Colorado must be certified by either the DOW or Parks.



for zebra/quagga mussel veligers during the ANS Sampling Training School.

The DOW, Parks and their partners conducted 93 watercraft inspection and decontamination certification courses throughout Colorado in 2009. The DOW also trained Wyoming Department of Game and Fish personnel. Together, the DOW and Parks trained and certified more than 1,000 individuals between March and October. Both the training program and the inspection programs focus on educating the boaters, in addition to inspecting the boats.

A total of 209 locations were authorized to perform

watercraft inspection and decontamination in 2009. Of those, eight locations were containment operations at positive or suspect waters. The focus of the containment programs is to inspect watercraft leaving the lakes/reservoirs to prevent boats from moving mussels or other ANS overland from positive waters into currently uninfested areas. Parks manages the containment program at Pueblo Reservoir. The DOW implemented containment procedures at the federally managed impoundments in Grand County (Granby Reservoir, Shadow Mountain, and Willow Creek) and Grand Lake, in addition to two State Wildlife Areas (Tarryall Reservoir and Jumbo Reservoir). The DOW and the National Park Service jointly implemented both prevention and containment protocols at Blue Mesa Reservoir. In addition to zebra/quagga mussel containment, Lathrop State Park implemented containment protocols in response to an infestation of Eurasian watermilfoil.

The other 201 authorized locations were implemented to prevent the introduction of mussels into currently uninfested waters, including boat ramps on lakes and reservoirs, and off-water locations such as at DOW offices and private industry locations. Prevention stations focus on inspecting watercraft prior to entering an uninfested water to prevent a new invasive species from being introduced. The prevention stations are operated by a variety of entities, including the DOW, Parks, Larimer County, several municipalities, marinas, concessioners, private clubs and marine dealers. The Colorado Marine Dealers Association has been an active



supporter of the inspection program and a majority of their members have been state certified.

<u>A total of 19 boats with attached adult zebra or quagga mussels were intercepted coming into Colorado's waters from out of state at watercraft inspection and decontamination stations statewide in 2009.</u> These boats were fully decontaminated to ensure all mussels were dead, and no mussels were attached to the vessel. The infested vessels were intercepted at Blue Mesa, Cherry Creek, Denver DOW Headquarters, Horsetooth, Navajo, Pueblo, Ridgeway and Williams Fork. These vessels were coming into Colorado from Arizona, Illinois, Louisiana, Minnesota, New York, and Ohio. The majority of the intercepted vessels were coming from the Great Lakes, the Mississippi River, or Arizona (Lake Pleasant or Lake Havasu).



The State of Colorado and all our partners collectively inspected over 400,000 boats and conducted over 3,300 decontaminations in 2009. Parks conducted 214,690 inspections (54%) and 511 decontaminations (15%) at 27 parks. The DOW performed 52,608 inspections (13%) and 1,025 decontaminations (30%) at 35 permanent and 101 temporary locations, while providing support to all waters of the state regardless of jurisdiction, and maintaining the private industry component of the program. Larimer County conducted 62,595 inspections (16%) and performed 635 decontaminations (19%) at Horsetooth and Carter. Inspector salaries and equipment for the Larimer County waters were funded with the DOW's ANS funds. The National Park Service and the DOW at Blue Mesa performed 27,582 inspections (7%) and 219 decontaminations (7%). Private industry (marinas, marine dealers and concessioners) performed 18,060 inspections (5%) and 420 decontaminations (12%). Municipalities collectively performed 20,569 inspections (5%) and 554 decontaminations (16%). Comparatively in 2008, Parks performed approximately 114,000 inspections and 79 decontaminations at 24 parks. The DOW performed approximately 5,000 inspections and 50 decontaminations at 6 locations in 2008. The National Park Service, Larimer County, and the majority of municipal and private industry locations did not perform inspections or decontaminations in 2008.

In order to guarantee quality assurance of the inspections operated by the various certified entities, the DOW implemented a Quality Assurance & Field Support Team in 2009. The team evaluated all watercraft inspection stations, certified by the DOW, to ensure that state protocol was being followed. The team also ensured all stations were adequately stocked with educational materials and proper signage, and to provide on the job training to inspectors and supervisors. The DOW designed a database to store and track

information associated with inspection stations statewide. The database includes information related to trainers, certification courses, certified individuals, identification



Quagga mussels on a boat from Minnesota that was intercepted prior to launching at Pueblo Reservoir.





cards, authorized location operating procedures, site supervisors, cooperative management agreements and key partner contacts. This database allows us to better communicate with the inspectors and decontaminators in the field, along with reservoir owners and managers, in a timely fashion. It enables us to provide alerts and to receive feedback from the field to better support our employees and partners. The second phase of the database project is to develop an electronic format for storing inspection data at the ramp which can be utilized by all authorized locations to better evaluate watercraft risk on site.

In 2009, Parks implemented a proof of prior inspection system at night; in early spring and late fall (boat seals and inspection receipts are dropped in a drop box at the boat ramp). The boat ramps are not staffed during those times, yet Parks verifies all boats are inspected prior to launch and fines those that launch without prior inspection. Parks with small hand-launch craft conduct education programs and spot inspections only. In 2010 there will be inspection programs at 29 parks.



Information and Outreach

Throughout 2008, the DOW, Parks and other partner agencies developed a comprehensive, multifaceted, public-education campaign to inform boaters and anglers about zebra and quagga mussels and how to prevent the further spread of these harmful species and other ANS in Colorado's waterways.

The cooperative effort utilized a variety of mediums, including billboards, boat ramp signage, ANS brochures and agency Web pages to convey this message.

Accomplishments include: distribution of thousands of "Zap the Zebra" brochures and ANS rack cards, installation of more than 400 "STOP ANS" signs at statewide boat ramps and water-access points, posting "Clean, Drain and Dry" billboards at 12 high-traffic locations across the state and the distribution of hundreds of "Don't Move a Mussel" DVDs to boating and angling groups.

In addition, the DOW and Parks launched an aggressive media relations campaign, using press releases and conducting Web-based, radio, print and television interviews.

Division aquatics staff and biologists also hosted numerous outreach seminars to boating and angling groups, marine dealers, HOAs, watershed groups, basin roundtables, ditch companies, municipal water



managers and providers. The DOW conducted over 72 ANS presentations at conferences, trainings and workshops statewide in the last year. Parks conducted 7 ANS presentations.

The 2009 campaign continued this objective, focusing largely on notifying resident and nonresident boaters about Colorado's revised boating regulations and mandatory watercraft inspections. To supplement this effort, the DOW developed a brochure: "Boaters Guide to ANS Inspections," detailing Colorado-specific boating guidelines and inspection requirements.

To reach a larger audience, the DOW proposed an "ANS-Alert" postcard be included in all municipal water bills. Aurora Water began this in 2009 and the DOW is engaging more water providers to participate. This outreach would target the entire population of Colorado, whereas past efforts were directed primarily at recreational users.

Professional Education

In May 2009, the DOW hosted the 5th Annual ANS Workshop in the Denver area, sponsored by the Colorado Weed Management Association and the Colorado Lakes and Reservoir Management Association (CLRMA). The workshop focused on both aquatic nuisance weeds and animals detailing identification, biology, impacts and control. Key topics included the new regulations and listed ANS species, survey and monitoring, statewide planning updates and Hazard Analysis and Critical Control Point Planning (HACCP). Over 100 individuals attended.

Youth Education

The DOW has partnered with the Colorado Foundation for Agriculture (CFA) for youth education. In August 2009, CFA published a comic about zebra and quagga mussels in the Denver Post Kids Section. The DOW and Parks are providing the comic to children waiting for an inspection of their family's watercraft on the boat ramps. The second product being published is a *Colorado Reader* specifically about ANS, sponsored by CLRMA. The Reader will be distributed to 5th grade science classrooms and at inspection stations statewide in 2010. The goal of these products is to educate children about the impacts of invasive species using geography, math and science educational points. It also reinforces the importance for children to help keep their family's boats and equipment cleaned, drained and dry to prevent the spread of ANS and protect Colorado's waters.

State Fish Hatchery Program

Proactive methods have been put in place statewide to protect hatcheries and state waters from an invasive species introduction. Those measures include Annual Fish Health Inspections, HACCP, Trainings and Workshops.

Preventative measures have been taken at Pueblo Reservoir State Fish Hatchery to monitor and detect a potential mussel infestation. The hatchery is regularly monitored and is tested every two weeks according to state protocols. To date, no mussels have been identified, but disinfection protocols are still being implemented.

Statewide preventative measures also include implementation of standardized disinfection protocols for wild spawn, fish transfers and egg transfers. Specialized trailer units have been constructed for all wild fish spawning operations to ensure no ANS are transported. Biologists are certified inspectors and decontaminators. They have decontamination units and clean boats and equipment in between each use.

Research

The DOW is currently funding or participating in several research projects for zebra and quagga mussel management. Current projects include the following:

- Boat Decontamination focused on interior compartments that hold water (bilge, ballast, etc). CSU. Underway, Scheduled for Completion in June 2010.
- Fish Hatchery Program protocols for disinfection for wild spawn, fish stocking and egg transfer. CSU. Underway, Scheduled for Completion in June 2011.
- Zebra/Quagga Mussel modeling / risk assessment based on recreational and downstream vector of dispersal utilizing the Colorado 2006-2008 boater surveys. This study will also analyze the habitat requirements to determine the suitability for mussel establishment. OSU. Underway, Scheduled for Completion in June 2010.
- Regional modeling based on recreational and downstream vector of dispersal utilizing 100th Meridian Initiative boater survey data from all western states. Western Regional Panel and University of California, Davis. Underway, Scheduled for Completion in October 2010.
- Economic Impact Analysis of Zebra and Quagga Mussels in Colorado. Colorado Water Conservation Board and CSU. Underway, Scheduled for Completion in 2011.

Other ANS of Concern

Rusty Crayfish – Discovered in 2009

The rusty crayfish is a new invasive species to Colorado that was discovered in 2009 in a main-stem impoundment of the Yampa River and at two river locations between Stagecoach Reservoir and Steamboat Springs. Extensive surveys were conducted following the initial finding and will continue in 2010. This is the first and only known rusty crayfish finding in Colorado, even though crayfish samples have been collected and identified statewide for several years.



A Rusty Crayfish Management Plan has been drafted to bring together all interested parties in a collaborative process to determine the best management practices for containment of rusty crayfish. At this time, we cannot say with certainty what their impact has been or will be on the upper Yampa River Basin.

Rusty crayfish are native to the Ohio River Basin and have expanded their native range to include several U.S. states and Ontario, Canada. They colonize lakes, rivers, and streams throughout North

America. They are more aggressive than native crayfish, better able to avoid fish predation, and can harm native fish populations by eating their eggs and young. They can displace native crayfish and hybridize with them. They graze on and eliminate aquatic plant populations that provide necessary habitat and food source for native fish and waterfowl.

New Zealand Mudsnail Monitoring

As of 2009, there are three known locations of New Zealand mudsnails in Colorado. They are Boulder Creek in the City of Boulder, Green River in Dinosaur National Monument and the South Platte River just below the Eleven Mile dam. The DOW has been actively monitoring the populations since their discovery in 2004, and will continue to do so. An angler education program was enacted in 2004 and continues to be highly visible. There were no new mudsnail locations identified in 2009.



New Zealand Mudsnail

Aquatic Weed Coordination

The DOW is a lead agency on aquatic weed mapping and education, in close partnership with the Colorado Department of Agriculture's Noxious Weed Program. There are a few distinct aquatic weed efforts led by the DOW, which is summarized below.

Eurasian watermilfoil (EWM)

Beginning in 2005, EWM management has been coordinated by the ANS partnership. A detailed Geographic Information System (GIS) database of EWM locations and control efforts was created and is updated annually by the DOW.

In 2009, the DOW Sampling Crews collected samples from known exotic and native milfoil sites throughout Colorado. Based on reports from the public and partners, and the sampling crew's work, three additional EWM sites were identified. All specimens were logged in at the CU

herbarium. Specimens were also DNA tested and the results were as follows:

- Confirmed 15 exotic Eurasian watermilfoil sites
- Confirmed 5 native Northern watermilfoil sites
- Identified 2 hybrid populations (Eurasian x Northern)

The DOW is supplying this data to CDA for the State EWM Management Plan. The EWM Plan will designate waters as eradication, suppression or containment, as part of the rule making process for the State Weed Law. This process is scheduled for conclusion in spring 2010.

Purple Loosestrife

Beginning in 1993, the DOW has been the lead coordinator on the Denver metro purple loosestrife management effort. The goal of the program is to make sure that purple loosestrife is controlled to protect



A Eurasian watermilfoil weed mat



Purple Loosestrife

waterfowl habitat and maintain in-stream flow. Approximately 29 cities and counties, private landowners and private entities are involved. The DOW and CDA share the responsibilities for the continuance of this program.

Program activities include annually monitoring the control efforts of each city or county, keeping detailed records of each purple loosestrife site, providing training on purple loosestrife identification and control methods, rapidly responding and documenting reports, publishing the Purple Loosestrife Newsletter, sending out informational e-mails, hosting strategy/organizational meetings, running the volunteer program, providing technical support and problem solving.

Regional Participation

The DOW is involved in several regional efforts to stop the spread of zebra and quagga mussels and other ANS. The DOW serves as:

- Chair of the national Association of Fish and Wildlife Agencies (AFWA) Invasive Species Committee
- A member of the Western Association of Fish and Wildlife Agencies Invasive Species Committee
- A member of the Executive Committee of the Western Regional Panel on ANS
- A member of the Steering Committee and Writing Team for the Quagga/Zebra Action Plan for Western Waters (written by Western Regional Panel and approved by Federal ANS Task Force in October 2009).
- A Core Team Member of the Champion States Invasive Species Initiative

Operating and Financial Statement

The DOW was authorized a total of \$3,917,244 that consisted of \$1,250,000 wildlife cash combined with \$2,667,244 of severance tax funding that became available on July 1, 2008 for Fiscal Year (FY) '08-09. Operating expenses, including equipment, comprise 62% of expenditures; temporary staffing expenses comprise 38% of expenditures. Internally reallocated permanent staff time is paid with wildlife cash.

For FY '09-10, the DOW was appropriated \$1,304,544. The funding is from Tier II of the Severance Tax and is made available to the DOW over three "installments" each fiscal year, provided sufficient funds are available (July 1 = 40% of appropriated funding; January 4 = 30% and April 1 = the remaining 30%).

As of January 1, 2010, \$1,183,960 had been spent in FY '09-10 and the total amount available for the 2010 boating season, assuming the Division receives its full appropriation, will be \$2,949,149 (including rollover funding from the initial year's appropriation). Based on the coverage implemented during the 2009 boating season and ongoing projects, the DOW is planning to expend an additional \$1,100,311 by June 30, 2010. Therefore, the estimated total program expenditure for FY '09-10 is approximately \$2,284,271. Budget projections indicate the current annual allocation to the DOW is not sufficient to maintain the 2009 level of ANS coverage beyond 2011.

Over the last year, the DOW leveraged current funding by forming partnerships with a variety of entities through the site-specific planning process. The following is a list of contributions totaling \$548,712 through cost-share agreements with the DOW and its partners.

- National Park Service: \$260,713 for inspection station staffing, operations and monitoring at Blue Mesa.
- Denver Water: \$240,000 for inspection station staffing at Antero, Williams Fork, Eleven Mile and Dillon Reservoirs.
- Larimer County: \$76,999 in-kind contribution in the form of supervision and management of the inspection stations at Carter and Horsetooth Reservoirs.
- Twin Lakes Canal Company (Aurora Water, Colorado Springs Utilities and Pueblo Board of Water Works): \$75,000 for inspection station staffing and \$15,000 for gates and equipment at Twin and Turquoise Reservoirs.
- U.S. Forest Service: \$22,000 for inspection station staffing at Twin, Turquoise and Green Mountain Reservoirs.
- U.S. Army Corp of Engineers: \$2,500 for monitoring at John Martin Reservoir.

Parks was allocated \$3,289,392 that became available on July 1, 2008 for the FY '08-09. Approximately \$1,788,000 was spent by June 30, 2009. Many equipment purchases and construction projects were planned and procurement processes were underway at that time. For the FY '09-10 fiscal year, Parks was allocated \$2,701,000, and will plan to spend about \$3.27 million by June 30, 2010 using carryover from the previous year. Of the \$3.27 million to be spent this year, \$2.2 million is allocated for operational costs and \$1.1 million is allocated for supplies, equipment and construction. As of January 1, 2010, \$1.1 million had already been spent.

Within Parks, several large equipment purchases and construction projects that were started over the summer are just coming to fruition, as well as decontamination water catchment facilities at the largest parks and filters at Lathrop to screen out Eurasian watermilfoil. Four of the 7 FTE who were hired last year in Parks will be completing their law enforcement academy training this winter and then be back in place at the parks for the start of the boating season.

For the 2010 boating season, the DOW and Parks will be hiring and training seasonal inspectors by March, so a large amount of funding will be spent quickly over the next few months. Additional signs, brochures, educational materials and other equipment is being delivered prior to Memorial Day when boating season will begin in full.

Both Parks and the DOW are planning to retain budget carryover between fiscal years because some projects span two fiscal years and because of the potential for zebra or quagga mussels to be detected in new waters during the middle of a boating season. The cost of operations at a major recreational water body following infestation could double in order to implement containment measures. The future risk of infestation could moderate if more monitoring is conducted and other agencies within Colorado and surrounding states put in place programs to prevent the spread of zebra and quagga mussels.