AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Tuesday, January 20, 2015

SUBJECT	DESCRIPTION	PRESENTER
Introduce	Welcome and Introduction of Committee Page Miles Madden	Chairman Rice
Presentation	PNWER - Invasive Species - Zebra and Quagga Mussels	Megan Levy, Program Manager, Matt Morrison, Executive Director PNWER
Presentation	Rules 101	Dennis Stevenson, State Administrative Rules Coordinator
Rules Assignment	Distribution of Rules for Review	Vice Chairman Bayer

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE: Tuesday, January 20, 2015

TIME: 8:00 A.M.

PLACE: Room WW53

MEMBERS PRESENT: Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking, and Burgoyne

ABSENT/ EXCUSED: None

NOTE: The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.

CONVENED: **Chairman Rice** called the meeting to order at 8:01 a.m.

INTRODUCTION: **Chairman Rice** introduced Miles Madden, Agricultural Affairs Committee Page.

PRESENTATION: **Pacific Northwest Economic Region (PNWER), Invasive Species - Zebra and Quagga Mussels.** **Megan Levy**, Program Manager, began the presentation by introducing Elsa Long, Canadian Legislator. **Megan Levy** explained that the zebra and quagga mussels pose a large threat to the economic well being of, water quality, hydroelectric facilities, and agricultural irrigation lines. Idaho has taken the lead for the region and accelerated its prevention efforts.

This regional defense is aimed at using resources in a cost-effective manner across the U.S./Canada border to prevent mussels from entering uninfested areas and to contain them at their source. PNWER is seeking Idaho's support to encourage federal legislators to release the $20 million Columbia River Basin funds, which have been appropriated for these dreissenid activities. The Water Resources Development Act (WRDA) funds were appropriated for the dreissenid activities in the Columbia River Basin, but have not been appropriated to the Basin. Appropriating these funds could provide capacity within the Columbia River Basin for Idaho to address a potential infestation of invasive mussels. Idaho's Snake River facilities are in the highest risk category for an invasive mussel introduction because of the contents and temperature of the water.

Ms. Levy suggested the following actions:

1. Containment at the source through inspection of watercraft that moves in and out of the state. The major water bodies that present a threat to Idaho and the Pacific Northwest are Lake Mead, Nevada and the Great Lakes.
2. Continue to make sure the public understands the issue and the adverse effects to Idaho's waterways in the areas of fishery, low cost hydropower, and agriculture.
3. Support of the reauthorization of the National Invasive Species Act adding the quagga mussels as injurious species under the Lacey Act (see attachment 1).

Chairman Rice stated that Representative Eric Anderson has worked extensively on the prevention of the mussels from entering Idaho. He explained that if Idaho had a mussel infestation it could affect the irrigation process because mussels attach themselves to water pumps and choke off the flow of irrigation water.

PASSED THE GAVEL: Chairman Rice passed the gavel to Vice Chairman Bayer.

PRESENTATION: **Vice Chairman Bayer** stated that this rules presentation is to educate the Committee on the rules process, it offers an appreciation for the implication and nuances that are involved in rules deliberation.

Dennis Stevenson, State Administrative Rules Coordinator, explained the role Legislators have in the process. The main issue in the rule rewrite of 1992 was transparency, standardization, format and the numbering schematic of the rules process. Part of the rules process is public involvement and the Coordinator's ability to engage the public in that process. In 1996 the pending rule was created, and the Legislature said that rules may not go into effect until they go through the legislative review process.

Mr. Stevenson covered the following points:

- Legislative Services Office (LSO) receives and reviews proposed rules from agencies.
- Upon commencement of the legislative session, the germane committees begin reviewing pending, pending fee, and temporary rules.
- Once the germane committee has completed review of the rules dockets that have been submitted to it, a rules report is prepared by the committee and sent to leadership.
- Based upon the report, LSO will prepare the appropriate concurrent resolution.
- All rules expire on July 1st unless approved and extended by statute (see attachment 2).

Senator Souza asked what a double underscore represents in the text of a rule. **Mr. Stevenson** explained that a double underscore suggests that amendments were made and that the section of language was not in the original proposed rule.

Senator Souza asked when the germane joint subcommittees meet in the process. **Mr. Stevenson** said joint subcommittees generally do not meet unless there is a hearing requested. Normally the subcommittee looks over the rules and if they decide to hold a hearing the chairman notifies the agency that a hearing will be held. Generally these meetings take place over the telephone.

Senator Burgoyne asked if Mr. Stevenson ever contemplated a simpler process for rule review. **Mr. Stevenson** responded that they have spoken with the Attorney General's office and LSO in exploration of a simpler method. If their agency pursued a different process, the joint germane committee would have to become more proactive at this proposed stage of rulemaking. By doing away with the pending rule process the coordinator could simply allow the agency to adopt a rule as final, and then the final rules would be presented to the Legislature. The rules could then be brought in their legislative form and be approved.

RULE ASSIGNMENT: **Vice Chairman Bayer** advised that the Committee members would find a spreadsheet in their packets with the rule dockets and rule assignments. Committee members were asked to review the rules that had been assigned to them.

PASSED THE GAVEL: Vice Chairman Bayer passed the gavel back to Chairman Rice.

ADJOURNED: There being no further business, **Chairman Rice** adjourned the meeting at 8:58 a.m.

Senator Rice Chair	Carol Deis Secretary

Regional Framework for Preventing an Introduction of Dreissenids to the Pacific Northwest

Pacific NorthWest Economic Region

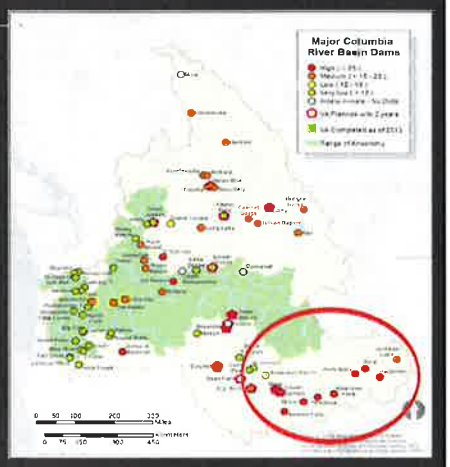
Regional Defense

Using resources in a cost-effective, interjurisdictional, coordinated response to prevent mussels from entering uninfested areas and to contain AIS at their source

Support appropriation of WRDA funds to Columbia River Basin dreissenid activities

Water Resources Development Act (signed June 2014)

- Section 5007
  - Authorizes the Secretary (of the Army) to establish a program to prevent and manage aquatic invasive species in the Columbia River Basin in Idaho, Montana, Oregon, and Washington. Directs the Secretary to establish watercraft inspection stations in the Basin at locations having the highest likelihood of preventing the spread of such species into reservoirs operated and maintained by the Secretary."
  - Authorizes the Secretary to conduct monitoring and contingency planning that includes conducting risk assessment of each major public and private water resources facility in the Basin, establishing an AIS monitoring program in the Basin, establishing a Basin watershed-wide plan for expedited response to an AIS infestation, and monitoring water quality at facilities owned or managed by the Secretary in the Basin.
- $20 million authorized



ISSUE: The funding has not be appropriated to the Basin.

ACTION:

C. Appropriating these funds could provide capacity within the Columbia River Basin for Idaho to address an infestation of invasive mussels. Idaho Snake River facilities are in the highest risk category for an invasive mussel introduction. Support appropriation of $20 million authorized for use in Columbia River Basin dreissenid efforts.

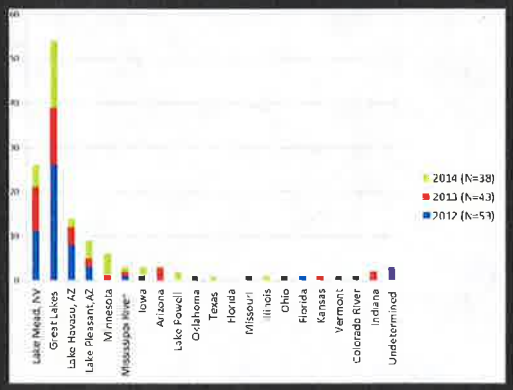
Support mandatory decontamination of fouled watercraft at federally managed waterbodies

Priority One is "Containment at the Source"

- Cost-effective

ISSUE: We need a federally binding decontamination policy for federal waters (excluding the Great Lakes, where source decontamination is unrealistic)

ACTION: Support efforts for the mandatory decontamination of any watercraft/conveyance leaving a federally managed water body.



Support reauthorization of the National Invasive Species Act

Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA) of 1990

- Identify and implement ways to prevent the unintentional introduction and spread of invasive species into waters of the U.S.
- Work toward minimizing economic and ecological impacts of established invasive species
- Establish a program to assist states in the management and removal of invasive species

- NANPCA was reauthorized and amended in 1996 and renamed the National Invasive Species Act (NISA)

ISSUE: Congressional appropriations have never met the amounts authorized in NISA (group of bipartisan legislators wrote the leaders of their respective Appropriations Committees in 2002); other aspects of the legislation need updating to address numerous invasive species issues that have emerged since 1996.

ACTION:

D. Support reauthorization of NISA to prevent the introduction and spread of invasive species and minimize the impacts of established invasive species.

Support adding quagga mussels as "Injurious species" under the Lacey Act

The Lacey Act

- Enacted in 1900
- Administered by the US Fish and Wildlife Service
- Prohibits the interstate transport of wildlife killed or taken in violation of state law
- Amended in 1981 and 2008 to extend protections to plans, increase penalties for violations
- Title 16 prohibits wildlife trafficking and the submission of false records
- Title 18 prohibits the importation and interstate transportation of listed injurious species
  - Zebra mussels are listed as injurious species, but quagga mussels are not

ISSUE: The Lacey Act needs to be reformed to include quagga mussels as injurious to make it illegal to transport across state lines quagga mussels

ACTION: Support reforming the Lacey Act to include quagga mussels as injurious

Communicate the economic and environmental effects of dreissenids

Idaho Invasive Species Act of 2008

- Provided policy direction, planning and authority to combat invasive species and prevent new introductions
- Idaho State Department of Agriculture establishes rules, creates the Idaho Invasive Species Fund (2010 sticker legislation provided the source of funding for this fund), and conducts watercraft inspections

Enacting this legislation was visionary – Idaho became a leader for other PNW states

ISSUE: Other states need to develop and fund Invasive Species Funds and elevate awareness and understanding of the economic and environmental effects of invasive species

ACTIONS:

A. Support/encourage other state legislators to develop similar legislation and funding mechanisms to advance individual state protections and create the capacity needed for states and regional entities to collaborate on regional defense and prevention.

B. Discuss the economic and environmental effects of invasive species on Idaho's agricultural, recreational and other industries with Congressional members.

2014 Idaho watercraft inspection/interception program data

Number of boats inspected: 49,380

Number of contaminated dreissenid boats inspected: 15

Origin of intercepted contaminated boats:

- Minnesota (2)
- Ohio (2)
- Michigan
- Iowa
- Lake Pleasant
- Lake Powell (2)
- Great Lakes
- Nevada (5)

- Destination of intercepted contaminated boats: Idaho (5), Washington (4), British Columbia (2), Alberta (1), Montana (3)

Case Studies "Hello Boat"

INCIDENT DETAILS:

Species Found:	Quagga Mussels
Alive/Dead:	Alive
Date Inspected:	May 19, 2009
Date Decon:	May 21, 2009
Boat From:	Lake Mead, NV
Destination:	Spokane, WA
Found by:	UT and WA

Citation: Gross misdemeanor

On May 15 , 2009 , an alert citizen driving home from work in Utah saw a boat with likely invasive quagga mussels attached heading north out of Salt Lake City and reported it to Utah authorities. A general alert was broadcast to Idaho, Montana, Washington and Oregon as the boat' s final destination was unknown. Based on a blog alert on an Idaho website, the boat was spotted at a residence in Spokane, WA on May 19 . WDFW Enforcement Officers were dispatched and the boat was seized for decontamination as it was heavily fouled with live quagga mussels. The owner was a dealer who had just repossessed the boat from its location in Lake Mead, NV. WDFW held a press conference on May 21 to highlight the regional cooperative effort to find this boat before it could launch. Idaho Rep. Anderson attended the action, which also coincided with the Idaho governor signing new AIS legislation targeting zebra and quagga mussels. The owner was cited for unlawful transportation of a prohibited invasive species.

Summary

I. Support appropriation of WRDA funds to Columbia River Basin dreissenid activities.

II. Support mandatory decontamination of fouled watercraft at federally managed waterbodies.

III. Support reauthorization of the National Invasive Species Act.

IV. Support adding quagga mussels as "Injurious species" under the Lacey Act.

V. Communicate the economic and environmental effects of dreissenids.

Resolution Draft language for the State of Idaho

TO THE HONORABLE BARACK OBAMA, PRESIDENT OF THE UNITED STATES, AND TO THE PRESIDENT OF THE SENATE AND THE SPEAKER OF THE HOUSE OF REPRESENTATIVES, AND TO THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES, IN CONGRESS ASSEMBLED, AND TO SECRETARY SALLY JEWELL, DEPARTMENT OF THE INTERIOR:

We, your Memorialists, the Senate and House of the Representatives of the state of Idaho, in legislative session assembled, respectfully represent and petition as follows:

WHERAS, Maintaining a healthy suite of economic, environmental and social ecosystem services in aquatic systems in integral to the quality of life in the State of Idaho.

WHEREAS, Healthy aquatic habitats provide clean drinking water, flood control, transportation, recreation, purification of human and industrial wastes, power generation, habitat for native plants and animals, production of fish and other foods, marketable goods, and cultural benefits.

WHEREAS, Aquatic invasive species, including Dreissenids (quagga mussels (*Dreissena rostriformis bugensis*) and zebra mussels (*Dreissena polymorpha*)), are invasive species that cause irreparable ecological damage to many waters in the United States.

WHEREAS, Dreissenids have not yet been detected in the Pacific Northwest. The estimated annual cost to address established populations of dreissenids in the Pacific Northwest Economic Region is almost $0.5 billion annually.

WHEREAS, The Water Resources Reform and Development Act was signed in June 2014. It authorizes $20 million for Columbia River Basin dreissenid efforts through the Secretary of the Army.

NOW, THEREFORE, Your Memorialists respectfully request that Congress expedite appropriation of these funds to significantly enhance monitoring and prevention efforts and to implement the intent of the Act.

BE IT RESOLVED, That copies of this Memorial be immediately transmitted to the President of the Senate and the Speaker of the House of Representatives and the Senate and House of Representatives of the United States and each member of Congress from the State of Idaho.

--- END ---

WESTERN GOVERNORS' ASSOCIATION POLICY RESOLUTION XXXX-XX

A. BACKGROUND

1. Maintaining a healthy suite of economic, environmental, and social ecosystem services in aquatic systems is integral to quality of life in the West.

2. Healthy aquatic habitats provide clean drinking water, flood control, transportation, recreation, purification of human and industrial wastes, power generation, habitat for native plants and animals, production of fish and other foods, marketable goods, and cultural benefits.

3. Aquatic invasive species, including Dreissenids (quagga mussels (*Dreissena rostriformis bugensis*) and zebra mussels (*Dreissena polymorpha*)), are invasive species that cause irreparable ecological damage to many waters in the United States.

4. The arrival of dreissenids to western U.S. waters extends their economic and ecological impacts in a region significantly challenged by water management issues.

5. Dreissenids clog water intake and delivery pipes, infest hydropower infrastructure, adhere to boats and pilings, foul recreational beaches, compete with native mussels, and disrupt food webs and the biological functioning of aquatic habitats. They pose a significant threat to anadromous fish restoration efforts in the West.

6. Dreissenids have not yet been detected in the Pacific Northwest. The estimated annual cost to address established populations of dreissenids in the Pacific Northwest Economic Region is almost $0.5 billion annually.

7. Preventing an introduction requires coordinated, comprehensive, and complementary efforts from federal, state, and local governments as well as tribal sovereign nations. Successful prevention efforts focus on early detection, control, and management, and rely on policy and management actions that target the primary pathways and vectors of distribution.

8. Over $10 million dollars is expended annually on watercraft inspection and decontamination programs in the western states and two western Canadian provinces, and although coordination and other activities have resulted in enhancements to prevention and early detection efforts, significant gaps remain in the ability of western states to address new introductions of aquatic invasive species, particularly dreissenids.

B. Governor's Policy Statement

1. Western Governors support continued interjurisdictional, coordinated, cost-effective, and efficient efforts to prevent the spread and new introductions of dreissenids and other aquatic invasive species in the West.

2. We believe containment at the source is the most cost-effective approach to prevent the spread of dreissenids from infested waters. We support efforts to provide capacity and resources to infested waters to implement decontamination programs. We call on federal agencies that manage water bodies with infestations of dreissenids to expedite mandatory decontamination of fouled watercraft to contain dreissenids at their source.

3. The Water Resources Reform and Development Act was signed in June 2014. It authorizes $20 million for Columbia River Basin dreissenid efforts through the Secretary of the Army. The Governors request that Congress expedite appropriation of these funds to significantly enhance monitoring and prevention efforts and to implement the intent of the Act.

4. The Governors request that Congress fully fund and implement state and interstate aquatic nuisance species management plans to provide the capacity and resources to address aquatic invasive species threats.

5. The Governors request that Congress reauthorize the National Invasive Species Act (NISA) to prevent the introduction and spread of invasive species and minimize the impacts of established invasive species. Further, the Governors request that Congress support appropriations authorized in NISA.

6. The Governors call on the US Fish and Wildlife Service to list quagga mussels as "injurious" under the Lacey Act to make it illegal to transport quagga mussels across state lines.

C. Governor's Management Directive

1. The Governors direct the WGA staff, where appropriate, to work with federal, tribal sovereign nation, state, regional and local entities, and the Executive Branch to achieve the objectives of this resolution, including funding, subject to the appropriation process, based on prioritization of needs.

2. Additionally, the Governors direct the WGA staff to keep the Governors informed, on a regular basis, of their progress in implementing the objectives of this resolution.

Attachment 2:

Legislative Rules Review

1. LSO receives and reviews ***proposed rules*** (I.C. section 67-5223(1)).

   (a) LSO is required to analyze proposed rules that are submitted for publication in the Administrative Bulletin. Each individual analysis is made available to the germane committee chair and vice chair and to the members of the germane joint subcommittee. A memorandum is provided with the analysis along with a copy of the proposed rule.

   (b) The memorandum addresses:
   (1) The changes the proposed rule seeks to make;
   (2) Whether these changes are substantive or housekeeping;
   (3) Any trends in agency rule writing (i.e., use of written interpretations);
   (4) Whether the agency has statutory authority to promulgate the rule.

   (c) The memo is a public record and is posted on line on the legislative web site under the link titled "*Rules Reviewed During Interim.*" An email notification is sent to the agency, the chair and vice chair of the germane committee and the members of the joint subcommittee directing them to the posted analysis. Anyone can access this analysis.

   (d) Upon notice of the intended agency action and after receipt of the proposed rule analysis for LSO, the germane joint subcommittee:
   (1) May request and hold a meeting with the agency after giving oral or written notice to LSO within 14 days of receipt of analysis. Meeting must be held within 42 days of receipt of analysis.
   (2) Issue an objection to the rule that is sent to the agency with a concise statement of the reasons for the objection.
   (3) Prepare a report for the germane committee on all rules transmitted to it outlining any objections to the proposed rules filed with the agency or stating that there were no objections to the rule.

   (e) ***Temporary rules*** are not reviewed by LSO, however, LSO receives a copy of the temporary rule at the time it is submitted for publication. (I.C. section 67-5226(5).

2. Upon commencement of the legislative session, the germane committees begin reviewing pending, pending fee, and temporary rules.

   (a) Section 67-5291, Idaho Code states…*the standing committees of the legislature* ***MAY*** *review temporary, pending and final rules which have been published in the bulletin or in the administrative code.* However, more recent changes to the APA have resulted in a more standardized, formal review process. Pending fee rules require affirmative approval by concurrent resolution to become final and effective. Similarly, a

temporary rule requires affirmative approval by concurrent resolution to remain in effect beyond the end of the session. If the pending fee rules or temporary are not reviewed, they die at the end of the session. Conversely, all non-fee pending rules would be final and effective at the end of the session.

(b) Committee chairs are free to implement procedures to expedite the rule review process, including the use of the consent calendar for non-controversial rules.

(c) Rule dockets may be approved or rejected (rejected in whole or in part).

(1) A pending rule goes into effect unless a concurrent resolution rejecting the pending rule (or any part) is adopted by both Houses. (I.C. section 67-5224(5)).
(2) A pending fee rule does not become final and effective until affirmatively approved by the legislature by concurrent resolution. (I.C. section 67-5224(5)(c)).
(3) A temporary rule (including a temporary fee rule) must be extended by concurrent resolution adopted by both Houses in order to remain in effect after the adjournment conclusion legislative session. (I.C. section 67-5226(3))
(4) A rulemaking done by proclamation is subject to review and approval. It is being reviewed as a final rule because it is already in effect but is subject to the same legislative action as a pending rule.

(d) Committees may review rules that have been previously adopted and codified as part of the Administrative Code. They need not be in the promulgation process to be subject to review. They are not, however, submitted for formal review. Only those rules undergoing change are submitted for review and approval. Review of final rules would require of the approval leadership to bring the rule before the committees.

3. Once the germane committee has completed review of the rules dockets that have been submitted to it, a rules report is prepared by the committee and sent to leadership.

(a) Rule review reports are due in writing to the Pro Tem and the Speaker. This is usually by the first week of February.

(b) Letter reports should detail:
(1) Whether the germane committee has rejected, in whole or in part, any rule docket;
(2) The type of rule rejected (pending, fee, or temporary);
(3) If a rule docket has been rejected in whole, the docket number of rejected docket; and
(4) If a rule docket has been rejected in part, the docket number and the IDAPA number of each rule subdivision that is being rejected.

4. Based upon the germane committee report, LSO will prepare the appropriate concurrent resolution.

(a) A separate concurrent resolution will be prepared for each pending rule docket which is rejected in whole or in part. The concurrent resolution for a rejected pending rule docket may be first introduced in either the Senate or the House.

(b) An omnibus concurrent resolution adopting all non-rejected pending fee rules and listing the individual rejected pending fee rules by IDAPA and docket number will be prepared. Traditionally, the omnibus concurrent resolution approving and rejecting pending fee rules is introduced in the Senate.

(c) An omnibus concurrent resolution adopting all non-rejected temporary rules and listing the individual rejected temporary rules by IDAPA and docket number will be prepared. Traditionally, the omnibus concurrent resolution approving and rejecting temporary rules is introduced in the Senate.

5. All rules expire on July 1st unless approved and extended by statute. (I.C. section 67-5292.)

LEGISLATIVE RULES REVIEW

Three Groups of Rules to Be Reviewed During the 2015 Legislative Session and the Actions Taken by the Legislature

Type of Rule	Status	Action That Can Be Taken
Group 1 - Pending Rules (Yellow) Pending rules adopted by agencies during calendar year 2014 and submitted for legislative review in 2015.	Not in Effect	Can be rejected in whole or in part. If the Legislature takes no action, rule goes into effect after the adjournment of the 2012 session. Must be rejected by concurrent resolution.
Group 2 – Pending Fee Rules (Green) Pending rules adopted during calendar year 2014 that impose a fee or a charge or that increase an existing fee or charge.	Not in Effect	Must be affirmatively approved by concurrent resolution. If the Legislature takes no action, rules never become final and effective. (Approved by an omnibus concurrent resolution approving all fee rules. Excepts out rejected rules.)
Group 3 – Temporary Rules (Salmon) Temporary (emergency) rules approved by the Governor that went into effect prior to session (most during calendar year 2014) without legislative review or public input. These can include fee increases also.	Temporarily in Effect	Expire upon the conclusion of the 2015 session unless the Legislature extends by concurrent resolution. (Approved by an omnibus concurrent resolution approving all temporary rules. Excepts out rejected rules.)

IDAPA 27 - BOARD OF PHARMACY

27.01.01 - RULES OF THE IDAHO STATE BOARD OF PHARMACY

DOCKET NO. 27-0101-1404

NOTICE OF RULEMAKING - ADOPTION OF PENDING RULE

EFFECTIVE DATE: This rule has been adopted by the agency and is now pending review by the 2015 Idaho State Legislature for final approval. The pending rule becomes final and effective at the conclusion of the legislative session, unless the rule is approved or rejected in part by concurrent resolution in accordance with Sections 67-5224 and 67-5291, Idaho Code. If the pending rule is approved or rejected in part by concurrent resolution, the rule becomes final and of full force and effect upon adoption of the concurrent resolution.

AUTHORITY: In compliance with Section 67-5224, Idaho Code, notice is hereby given that this agency has adopted a pending rule. The action is authorized pursuant to Section 54-1717, Idaho Code.

DESCRIPTIVE SUMMARY: The following is a concise explanatory statement of the reasons for adopting the pending rule and a statement of any change between the text of the proposed rule and the text of the pending rule with an explanation of the reasons for the change:

This pending rule is necessary to harmonize labeling requirements with 2014 statutory changes. Changes from proposed to pending language create an exception for veterinarians.

The text of the pending rule has been amended in accordance with Section 67-5227, Idaho Code. Only those sections that have changes that differ from the proposed text are printed in this bulletin. The complete text of the proposed rule was published in the October 1, 2014 Idaho Administrative Bulletin, **Vol. 14-10, pages 347 through 360**.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year: NA

ASSISTANCE ON TECHNICAL QUESTIONS: For assistance on technical questions concerning this pending rule, contact Mark Johnston, Executive Director, (208) 334-2356.

DATED this 28th Day of November, 2014.

Mark Johnston, R.Ph.
Executive Director
Board of Pharmacy
1199 W. Shoreline Ln., Ste. 303
P. O. Box 83720
Boise, ID 83720-0067
Tel: (208) 334-2356
Fax: (208) 334-3536

THE FOLLOWING NOTICE WAS PUBLISHED WITH THE PROPOSED RULE

AUTHORITY: In compliance with Section 67-5221(1), Idaho Code, notice is hereby given that this agency has initiated proposed rulemaking procedures. The action is authorized pursuant to Section 54-1717, Idaho Code.

PUBLIC HEARING SCHEDULE: A public hearing concerning this rulemaking will be held as follows:

Wednesday, October 22, 2014, 1:00 p.m.

Idaho Capitol Building
700 W. Jefferson St., Room WW53
Boise, Idaho 83702

The hearing site will be accessible to persons with disabilities. Requests for accommodation must be made not later than five (5) days prior to the hearing, to the agency address below.

DESCRIPTIVE SUMMARY: The following is a nontechnical explanation of the substance and purpose of the proposed rulemaking:

This docket of rules provides various forms of clarification, and harmony with 2014 statute changes. This docket also addresses the situation whereby a patient cannot use their dispensed drugs when being admitted to an institutional facility because the drugs are not unit dosed packaged. This docket of rules clarifies that a pharmacist foreign graduate is required to obtain 1,500 student pharmacist hours; clarifies that a technician-in-training may only renew two times; harmonizes the standard drug labeling rule with 2014 statutory changes; creates a new limited pharmacy repackaging rule; clarifies when a controlled substance inventory is to be taken; allows pharmacist immunizers to utilize all forms of injectible epinephrine; clarifies that statutory requirements of nonresident registered pharmacists also pertain to nonresident licensed pharmacists; clarifies pharmacy security requirements; combines various pharmacy authorized entry rules into one rule; and updates remote dispensing site security and training requirements, also requiring a continuous quality improvement program.

FEE SUMMARY: The following is a specific description of the fee or charge imposed or increased: None.

FISCAL IMPACT: The following is a specific description, if applicable, of any negative fiscal impact on the state general fund greater than ten thousand dollars ($10,000) during the fiscal year resulting from this rulemaking: NA

NEGOTIATED RULEMAKING: Pursuant to Section 67-5220(1), Idaho Code, negotiated rulemaking was conducted. The Notice of Intent to Promulgate Rules - Negotiated Rulemaking was published under Docket No. 27-0101-1401 in the July 2, 2014 Idaho Administrative Bulletin, **Vol. 14-7, page 125**, and in the August 6, 2014 Idaho Administrative Bulletin, **Vol. 14-8, page 84**.

INCORPORATION BY REFERENCE: Pursuant to Section 67-5229(2)(a), Idaho Code, the following is a brief synopsis of why the materials cited are being incorporated by reference into this rule: NA

ASSISTANCE ON TECHNICAL QUESTIONS, SUBMISSION OF WRITTEN COMMENTS: For assistance on technical questions concerning the proposed rule, contact Mark Johnston, Executive Director, (208) 334-2356.

Anyone may submit written comments regarding this proposed rulemaking. All written comments must be directed to the undersigned and must be delivered on or before October 22, 2014.

DATED this 29th Day of August, 2014.

LSO RULES ANALYSIS MEMO

THE FOLLOWING IS THE TEXT OF DOCKET NO. 27-0101-1404

031. PHARMACIST LICENSURE BY EXAMINATION: FOREIGN PHARMACY GRADUATES.

01. Licensure Submission Requirements. To be considered for licensure, a graduate of a school or college of pharmacy located outside of the United States must submit an application for licensure by examination, ~~*certification by the FPGEC, and*~~ certification of completion of a minimum of fifteen hundred (1500) experiential hours~~.~~, and: ~~*(4-4-13)*~~( )

a. Certification by the FPGEC; or ( )

b. Certification of graduation from a doctorate of pharmacy program from an accredited school or college of pharmacy within the United States. ( )

02. Affidavit. An Idaho State Board of Pharmacy Employer's Affidavit certifying the experiential hours of a foreign pharmacy graduate must be signed by a pharmacist licensed and practicing in the United States and submitted to the Board. The Board may also request verifiable business records to document the hours. (3-21-12)

(BREAK IN CONTINUITY OF SECTIONS)

041. TECHNICIAN-IN-TRAINING REGISTRATION.
A person who has not obtained or maintained technician certification may apply for registration as a technician-in-training if the person satisfies all other requirements for registration as a technician and obtains and maintains employment as a technician-in-training. (4-4-13)

01. Duties. Upon registration, a technician-in-training may perform any of the duties allowed by statute or rule to be delegated to a registered technician under the supervision of a pharmacist. (3-21-12)

02. Renewal. The registration of a technician-in-training must be renewed by June 30 annually, ~~*but is*~~ however a technician-in-training may only renew~~*able two (2) times*~~ a technician-in-training registration twice. ~~*(4-4-13)*~~( )

03. Registration Expiration. Upon the final expiration of a technician-in-training registration, a person must satisfy the technician certification and registration requirements of these rules to be lawfully employed as, or otherwise perform the duties of, a technician. (3-21-12)

04. Cancellation of Registration. Failure to maintain employment will result in the cancellation of the registration. (4-4-13)

(BREAK IN CONTINUITY OF SECTIONS)

140. STANDARD PRESCRIPTION DRUG LABELING.
Unless otherwise directed by these rules, a prescription drug must be dispensed in an appropriate container that bears the following information: (3-21-12)

01. Dispenser Information. The name, address, and telephone number of the dispenser (person or business). (3-21-12)

02. Serial Number. The serial number. (4-4-13)

03. Date. The date the prescription is filled. (3-21-12)

04. Prescriber. The name of the prescriber. (3-21-12)

05. ~~**Patient**~~ **Name**. ~~The name of the patient, and if the patient is an animal, the species;~~ ~~(3-21-12)~~( )

a. If a person, the name of the patient; ( )

b. If an animal, the name and species of the patient; or ( )

c. If a school for epinephrine auto-injectors pursuant to Section 33-520A, Idaho Code, the name of the school. ( )

06. **Drug Name and Strength**. Unless otherwise directed by the prescriber, the name and strength of the drug (the generic name and its manufacturer's name or the brand name). (3-21-12)

07. **Quantity**. The quantity of item dispensed. (3-21-12)

08. **Directions**. The directions for use. (3-21-12)

09. **Cautionary Information**. Cautionary information as required or deemed appropriate for proper use and patient safety. (3-21-12)

10. **Expiration**. An expiration date that is the lesser of: (3-21-12)

a. One (1) year from the date of dispensing; (3-21-12)

b. The manufacturer's original expiration date; (3-21-12)

c. The appropriate expiration date for a reconstituted suspension or beyond use date for a compounded product; or (3-21-12)

d. A shorter period if warranted. (3-21-12)

11. **Refills**. The number of refills remaining, if any, or the last date through which the prescription is refillable~~;~~. ~~and~~ ~~(3-21-12)~~( )

12. **Warning**. The warning: "Caution: State or federal law, or both, prohibits the transfer of this drug to any person other than the patient for whom it was prescribed~~.~~." *except when dispensing to an animal, when a warning sufficient to convey "for veterinary use only" may be utilized.* ~~(3-21-12)~~( )

13. ~~**Pharmacist**~~ **Identification**. The initials or other unique identifier of the dispensing pharmacist or dispensing prescriber. ~~(4-4-13)~~( )

(BREAK IN CONTINUITY OF SECTIONS)

146. REPACKAGING.
A pharmacy may repackage a drug previously dispensed to a patient, pursuant to the patient or the patient's agent's request, if: ( )

01. **Unit Dose**. The drugs are repackaged into unit dose packaging. ( )

02. **Pharmacist Verification**. The repackaging pharmacist verifies: ( )

a. The identity of the previously dispensed drugs as matching the label on the container that the drugs were initially dispensed within; and ( )

b. The validity and accuracy of the original prescription drug order. ( )

AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Thursday, January 22, 2015

SUBJECT	DESCRIPTION	PRESENTER
Docket No.	**Rules Review Department of Agriculture**	
02-0405-1401	Governing Manufacture Grade Milk	John Bilderback, Bureau Chief
02-0406-1401	Governing Licensed Dairy Plants	John Bilderback, Bureau Chief
02-0414-1401	Governing Dairy Waste	John Bilderback, Bureau Chief
02-0419-1401	Governing Domestic Cervidae	Dr. Leibsle, Deputy Administrator
02-0421-1401	Importation of Animals - Meningeal Worm Parasite	Dr. Leibsle, Deputy Administrator
02-0421–1402	Importation of Animals Related to TB & VS	Dr. Leibsle, Deputy Administrator
02-0424-1401	Tuberculosis	Dr. Leibsle, Deputy Administrator
02-0428-1401	Livestock Dealers, Buying Stations, and Livestock Trader Lots	Dr. Leibsle, Deputy Administrator
02-0429-1401	Trichomoniasis	Dr. Leibsle, Deputy Administrator

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Thursday, January 22, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking, and Burgoyne
ABSENT/ EXCUSED:	None
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Chairman Rice** called the meeting to order at 8:00 a.m.
PASSED THE GAVEL:	Chairman Rice passed the gavel to Vice Chairman Bayer.
DOCKET NO	**Rules Review Department of Agriculture**
02-0405-1401:	**Governing Manufacture Grade Milk, John Bilderback**, Bureau Chief, explained this rule covers sanitary milk quality standards for milk produced on a manufactured grade dairy farm and the end products such as butter, whey butter, cheese and ice cream. The 2014 Legislature passed S 1338 changing the legal authority. The rule had not been updated since 1994 so much of the content of the rule was outdated and needed to be changed. There are six changes in the rule:

- A change to be consistent with OAR requirements. Documents incorporated by reference are now formalized in a specified section, for example, Section 004., Incorporation by Reference.
- The Methods of Analysis section was removed because IDAPA 02-0409, Rules Governing Milk and Cream Procurement and Testing, now cover these requirements. This rule now classifies all methods of analysis.
- Section 400, Standards of Identity for Ice Cream Products, has been removed and referenced to the National Standards of Identity. Aligning with the national standards is important to ensure Idaho products are allowed to move freely in interstate commerce.
- Currently, the Idaho Code and rules do not specify quality standards for butter or whey butter. This rule establishes quality standards to ensure that butter and whey butter, made in Idaho, are of high quality. These standards are outlined in Sections 500 and 501.
- Update to technology methods of testing have been changed to coincide with the national standards of milk quality and component testing.
- Changes in terminology to ensure consistency.

In summary, these changes do not alter how the Idaho State Department of Agriculture (ISDA) regulates manufactured grade dairy farms in Idaho, the farms sanitary criteria or milk quality standards.

Senator Souza asked for clarification on manufactured grade producers. Is there a different standard for a large dairy producer versus a smaller producer who milks a few dairy cows? **Mr. Bilderback** answered there are three classifications of milk produced in Idaho: 1) grade A product; 2) manufactured grade products; and 3) raw milk (smaller farms). If the farm is not producing raw milk they would fall under the manufactured grade milk or grade A rules.

Chairman Rice asked Mr. Bilderback to clarify the definition of poor animal housing conditions under the Section on unsanitary conditions. **Mr. Bilderback** answered the dairy plant has an obligation to exclude milk if the animals or their udders are in standing water. The dairy plant would have an obligation to work with that producer to clean up the dairy farm.

Chairman Rice questioned the language on page 28, under 03. b. "shall" is being changed to a "may" in referring to when a producer ships milk testing positive for drug residue 3 times in a 12 month period. **Mr. Bilderback** explained depending on the findings of the residue investigation by ISDA this language change will allow the department the flexibility to use "may revoke their license instead of shall".

Senator Burgoyne wondered about the word "poor" on page 24. Is this solely a burden on the dairy plant or does it trigger wider ramifications with respect to ISDA? Would it entail an investigation plus action in poor milking procedures or animal housing conditions? **Mr. Bilderback** stated that the term poor is not defined, and it would be the responsibility of the dairy plant to reject the milk from a producer. For example: The plant's fieldman goes out to a milk producer and finds the facility in disarray they have an obligation to work with that producer on clean-up procedures. Bringing them back into compliance to ensure a milk supply that is wholesome for the residents of Idaho, as well as nationally and internationally.

Senator Bracket asked if the dairy industry supports the rule changes. **Bob Naerebout**, Executive Director of the Idaho Dairyman Association (Association), stated that the dairy industry was involved in the rulemaking process and is supportive of the changes. He also stated that the Association is very satisfied with the language for sanitary conditions. **Brent Almstead**, lobbyist for Milk Producers, stated that they participated in the negotiated rulemaking process, and the Milk Producers fully support the rule.

Mr. Almstead clarified the question of unsanitary conditions stating that dairies are inspected on a regular basis by ISDA. Fieldmen from the processing industry are in those dairies frequently. Any fieldmen who came onto a dairy that was unsanitary would help the dairy correct those conditions and bring the dairy back into compliance. These unsanitary conditions would be very rare. **Senator Patrick** stated the dairy industry is outcome based, and there is no way that contaminated milk would get into the food supply. If a dairy is operating in an unsanitary manner, that will put them out of business.

MOTION: **Senator Patrick** moved to approve **Docket No. 02-0405-1401**. **Senator Brackett** seconded the motion. The motion carried by **voice vote.**

Senator Burgoyne commented that he would vote in favor of the motion, but he is troubled by the language change of shall to may under, 03. b. on page 28.

DOCKET NO. 02-0406- 1401: **Governing Licensed Dairy Plants, John Bilderback**, Bureau Chief, said this rule governs the departments for the design, construction and operations of dairy plants which process milk for manufacturing purposes. Last year the 2014 Legislature passed S 1338, and as a result, the ISDA made the necessary change in the legal authority from Chapter 4 to Chapter 5 to align this rule with the statute change. The document incorporated by reference was also updated to the newest version, July 2011. There were three changes in the incorporated document and none affect how dairy plants are licensed or regulated in Idaho. This document outlines standards for the clean room environment in a dairy plant including: cleaning, sanitation, lighting, and ventilation and inspection requirements for the water supply.

MOTION: **Senator Souza** moved to approve **Docket No. 02-0406-1401**. **Senator Den Hartog** seconded the motion. The motion carried by **voice vote.**

DOCKET NO. 02-0414-1401: **Governing Dairy Waste, John Bilderback**, Bureau Chief, said the Dairy Waste Rule covers the requirements of the waste system construction and discharges from dairy farms. The 2014 Legislature passed S 1378, the Dairy Environmental Act (DEA). This rule incorporates the necessary changes to ensure it is consistent with the DEA. Specific items that were required in the update: 1) definitions; 2) compliance schedule for unauthorized discharges; 3) compliance schedules; and 4) penalties for violations.

Senator Den Hartog asked about Definition 15, National Pollutant Discharge Elimination System (NPDES). Are dairies required to have a NPDES permit? **Mr. Bilderback** explained the NPDES was a definition that was in the DEA and was added to this rule.

Senator Brackett stated on page 49, Definition 06, "where dairy waste is stored, collected or treated" stockpiled is not listed; is that an omission or covered elsewhere in the rule? **Mr. Bilderback** replied rules governing stockpiling of agricultural waste are defined in Rule 02-0431. **Senator Brackett** asked if in his opinion it would be appropriate to include stockpiling in this section of the rule. **Mr.Bilderback** responded during the negotiation process of S 1376, stockpiling was not an important definition in the DEA. **Chairman Rice** commented that it was his opinion that stockpiles would be included in the term stored, collected or treated.

Sara Arkle, Community Conservation Associate with the Idaho Conservation League (ICL), stated since 1973 the Association has been Idaho's voice for clean water, air and wilderness. ICL works to support those values through public education advocacy and policy development. The ICL does not support this rule because it did not go through the negotiated rulemaking process. The negotiated rulemaking process is an important procedure in the creation of rules for the State, and ICL was not included as a stakeholder in the negotiation of this rule. **Senator Patrick** asked **Ms. Arkle** if the ICL has any objections to the rule. **Ms. Arkle** responded that ICL objected to Definition 22, Unauthorized Discharge. The definition appears to be missing a sentence that designated the hauler is responsible for the waste during transit which was part of the wording in the previous rule definition of a discharge violation.

Senator Ward-Engelking advised that she would oppose the rule because of the contamination risk of the State's ground water and she voted against S 1378.

MOTION: **Senator Brackett** moved that **Docket No. 02-0414-1401** be held at the discretion of the chair. **Senator Ward-Engelking** seconded the motion. The motion carried by **voice vote.**

DOCKET NO. 02-0419-1401: **Governing Domestic Cervidae, Dr. Leibsle**, Deputy Administrator, stated this proposed fee rule will allow the Domestic Cervidae Program to be fiscally solvent. The rule implements an increased fee schedule and a reduction in facility inspection frequency which will increase program revenues and decrease program management expenses.

The rule change specifies:

1. Disease criteria for Chronic Wasting Disease (CWD) surveillance to no less than 10 percent. This change narrows that reduction in CWD surveillance to no less than 10 percent of harvested animals. Any animal that is intentionally removed for shooting purposes or meat production will be subject to CWD surveillance. Any domestic cervidae that dies for any other reason must still be sampled at the 100 percent level.
2. The criteria for facility inspection frequency was annually under the change it will be every five years.
3. The rule change specifies the annual assessment fee of $5 per head per year will now be $10 per head per year.

Senator Ward-Engelking asked if the Department of Idaho Fish and Game participated in the negotiated rulemaking process. **Dr. Leibsle** answered that the Department of Idaho Fish and Game was present at negotiated rulemaking and commented on the final language of the rule.

Senator Den Hartog questioned the income and expenses generated from the current and new fee schedule. **Dr. Leibsle** stated that the fiscal year (FY) 2014 ($5 per head per year) generated revenue was $23,500. The estimated total revenue for FY 2015 will be $65,000. Expenses in FY 2014 were $48,000, so the Cervidae Program ran out of money in May of 2014. **Senator Dan Hartog** asked if the program fee increase will generate a surplus. **Dr. Leibsle** answered under Section 090, Fees, it states that it is the intention of the ISDA to meet annual expenses and establish a reserve fund to account for any unforeseen expenses. The annual assessment fee may be reduced if program revenue accumulates to a balance of at least $100,000 in excess of the projected annual cost.

Senator Patrick asked how many domesticated cervidae have been found with CWD. **Dr. Leibsle** responded Idaho has never had a domestic or wild cervidae test positive for CWD.

Stan Boyd, representing the Elk Breeders Association, said the industry supports the rule. The industry knew that the program was not adequately funded. In the negotiated rulemaking process they found a way to raise revenues and lower regulations. ISDA has performed 100 percent testing on the herds for the last 20 years and found no positive testing for CWD. The rule reduces testing on cervidae taken for hunting or meat.

Senator Patrick asked if CWD had been found in the wild herds. **Dr. Leibsle** stated CWD has not been found in the wild herds of Idaho.

Senator Lee asked how did ISDA testing for CWD go from 100 percent to 10 precent. **Dr. Leibsle** answered the 10 percent was a product of the negotiation during the 2014 statutory amendment which was deemed the level of surveillance the Legislature chose and passed into law.

Forrest Goodrum, Ada County Fish and Game League, a local conservation group, spoke in opposition to the reduction to 10 percent testing, explaining that it will be inadequate protection for the herds. For example: There is an elk farmer who has two elk farms in Utah and an elk farm in Idaho. In October 2014 the farmer shipped a bull from his south Utah farm to the north Utah farm, and the bull was subsequently shot. In December 2014 the bull tested positive for CWD. This elk tested positive under Utah's 100 percent testing program. If the bull had been shot in Idaho, there would have been a 90 percent chance that the bull would have gone undetected for CWD under this testing reduction.

MOTION: **Senator Brackett** moved to approve **Docket No. 02-0419-1401**. **Senator Patrick** seconded the motion. The motion carried by **voice vote. Senator Ward-Engelking** requested that she be recorded as voting **nay.**

DOCKET NO. 02-0421-1401: **Importation of Animals - Meningeal Worm Parasite, Dr. Leibsle**, Deputy Administrator, said this proposed rule is the result of a petition from the Idaho Elk Breeders Association. The changes to the rule include: 1) The removal of an import restriction on domestic cervidae from regions endemic with P. tenuis. P. tenuis is a parasite known as meningeal worm and known to exist in domestic cervidae. The removal of the import restriction will allow domestic cervidae to be imported from regions endemic for meningeal worm, but not before they receive a deworming treatment prior to import, on the recommendation of a veterinarian. 2) Prohibit importation of domestic cervidae that are known to be infected with meningeal worm or exposed to an animal that has them. 3) A requirement of a health certificate that accompanies all domestic cervidae imports. The certificate verifies that none of the animals in the shipment have been exposed to or display symptoms of meningeal worm.

Senator Ward-Engelking asked if the meningeal worm can be detected in a live animal. **Dr. Leibsle** answered that the worm is very difficult to detect in live animals, and currently there is no test available to detect the worm's presence. **Senator Ward-Engelking** asked how do veterinarians know when to treat the infected animals. **Dr. Leibsle** clarified that the rule change requires that all elk being shipped into the State receive the deworming treatment.

Chairman Rice asked if there are other livestock known to have the meningeal worm, and how effective is the treatment. **Dr. Leibsle** answered that as pertains to this rule meningeal worm has been documented in several species of domestic cervidae stock. The worms are predominantly found and known to exist in white tailed deer even though they show no symptoms and shed the organism. Elk intermittently shed and show symptoms of infection of meningeal worm. There is a very high rate of fatality in moose associated with this worm. The recommended deworming treatments are prescribed for use in cattle. There is not a specific drug, and there is very little research available concerning deworming medications as they apply to cervidae.

Forrest Goodrum, Ada County Fish and Game League, spoke in opposition to the proposed rule change. This change is not a technical adjustment but a big game changer. The existing rule imposes a geographic quarantine against importation of a deadly livestock parasite. This quarantine method has worked in Idaho's wild and domestic livestock which have not been infected with the meningeal worm. He believes this proposed rule change will create a risk to wild and domestic livestock. This is the conclusion that can be drawn from the scientific information about the worm (see attachment 1). Meningeal worm in elk can cause debilitating neurological disease and death. Scientists believe the reason that elk reintroduction in the east has failed is due to meningeal worm. Control: Every effort should be made by government regulation and the game ranching industry to prevent the introduction of meningeal worm in western North America. There is no reason to believe that conditions in western North America are unsuitable for transmission if the worms

were to arrive by infested cervidae. A non-symptomatic infected elk shipped into Idaho could decimate the herds. The certificate of veterinarian inspection required in Section 600.04 specifies treatment by dewormer before import into Idaho. None of the deworming medications have been tested in controlled studies on cervidae. Section 600.05 requires the veterinarian to give a written statement that no cervids had displayed symptoms or exposure from a premises. There is no test available to detect the worms presence in cervidae.

Senator Souza asked Dr. Leibsle if there had been controlled testing of the deworming medication treatment. **Dr. Leibsle** answered that there have been controlled studies conducted on the medication as it pertains to specific species of cattle. **Senator Souza** asked if medication that is used in cattle could be effective in the elk population. **Dr. Leibsle** stated this is a complicated question that should be answered by the research laboratories that developed the dewormer.

John Caywood, Ada County Fish and Game League, spoke in opposition to the proposed rule change, saying this industry proposal will dismantle Idaho's animal health regulations for cervidae. This rule has a very narrow economic base which benefits shooter bull operators placing the cervidae herds at risk. This rule change reduces animal health protection and endangers Idaho's economy and resources (see attachment 2).

Stan Boyd, representing the Idaho Elk Breeders Association, explained the reason the industry proposed these rule changes were genetics. The breeders would like to bring stock in from other states to improve their herds. The elk that would be shipped into the State would be treated with the dewormer and have a certificate of veterinary inspection. The producers use the best medicine available to treat the cervidae. These breeders have an economic incentive to protect their herds from disease.

MOTION: **Senator Souza** moved that **Docket No. 02-0421-1401** be held at the discretion of the chair. **Senator Burgoyne** seconded the motion. The motion carried by **voice vote.**

ADJOURNED: There being no further business, **Vice Chairman Bayer** adjourned the meeting at 10:08 a.m.

Senator Rice
Chair

Carol Deis
Secretary

Attachment 1

From Parasitic Diseases of Wild Mammals, Second Edition

9

EXTRAPULMONARY LUNGWORMS OF CERVIDS

MURRAY W. LANKESTER

INTRODUCTION. Of mammalian lungworms, none has attracted as much attention as members of the genera *Parelaphostrongylus* and *Elaphostrongylus*. These genera comprise a small but important group of parasites found in ruminants, notably members of the Cervidae. This chapter reviews the six known species in these genera, with emphasis on recent literature.

PARELAPHOSTRONGYLUS TENUIS (DOUGHERTY 1945)

Classification: Nematoda: Metastrongyloidea: Protostrongylidae.

Synonyms: *Odocoileostrongylus tenuis* (Dougherty) Schulz, 1951; *Elaphostrongylus odocoilei* Anderson, 1956 (not Hobmaier and Hobmaier, 1934); *Neurofilaria cornellensis* Whitlock, 1952; *Elaphostrongylus tenuis* (Dougherty) Whitlock, 1959, Smith and Archibald, 1967.

Common Names: Cerebrospinal nematodiasis, parelaphostrongylosis, meningeal worm, brain worm, moose sickness, moose disease.

Parelaphostrongylus tenuis is common almost everywhere white-tailed deer (WTD) (*Odocoileus virginianus*) occur in eastern North America (Fig. 9.1). Little or no disease is apparent in white-tails, but when other native cervids, and some bovids and camelids, encounter the parasite, debilitating neurological signs may result. Since the discovery that *P. tenuis* was the causative agent of "moose sickness" (Anderson 1964a,b), considerable knowledge about this parasite has accumulated in the literature. Yet our understanding of its past and present impact on populations of wild moose (*Alces alces*) and other native cervids remains incomplete. In certain areas, parelaphostrongylosis causes financial loss to owners of llamas, sheep, and goats that share range with white-tailed deer, and it is an important concern in zoos and game farm settings. Fear of spreading this parasite to western North America has led to legislation restricting the translocation of white-tails and other hosts in which the parasite occasionally matures.

Previous reviews of *P. tenuis* include Anderson (1968, 1971a), Anderson and Prestwood (1981), Lankester (1987), Anderson (1992), Lankester and Samuel (1998) (also, see annotated bibliography on members of *Parelaphostrongylus* and *Elaphostrongylus* by Samuel 1991). The present account defers to Anderson (1971a) and Anderson and Prestwood (1981) for some earlier references, but attempts to cite most recent literature, particularly that on the biology and epizootiology of *P. tenuis* in white-tailed deer, the impact of this parasite on other species, and advancements in diagnostic methods. For information on the parasite's morphology and phylogeny, readers are referred to Anderson (1963a,b), Platt (1984), Carreno and Lankester (1993, 1994), and Carreno and Hoberg (1999).

Life History. Adult *P. tenuis* are long and thread-like. Males are up to 6.2 cm long x 0.2 mm wide and greenish-yellow to brown in color (Table 9.1, Fig. 9.2). Females are up to 9 cm x 0.25 mm and coloured darker brown to black by the contents of their intestine (Carreno and Lankester 1993). In white-tailed deer, adult worms are found most frequently in the veins and venous sinuses of the cranial meninges. These include the cavernous and intercavernous blood sinuses in the floor of the cranium, as well as the connecting sagittal and transverse venous sinuses in the overlying dura membrane (Anderson 1963a; Slomke et al. 1995). Worms also occur free in the cranial subdural space, where they are easily detected on the surface of the brain or on the inner surface of the dura (Gilbert 1973). Few worms are found adhering to or beneath the pia in white-tailed deer (Slomke et al. 1995). In abnormal hosts such as moose, worms may be associated with the cranial nerves, and their eggs and larvae have been found in the eyes (Anderson 1965a; Kurtz et al. 1966). Rarely, worms are swept from the blood sinuses to other locations in the body. This probably explains the recovery of the holotype specimen of *P. tenuis* from the lung of a white-tailed deer and its original assignment to *Pneumostrongylus* by Dougherty (1945).

Unembryonated eggs released by females into the venous blood are carried to the heart and then to the lungs, where they lodge in alveolar capillaries and complete their development to the first larval stage (L_1) (Table 9.2). Eggs laid by females extravascularly within the cranium develop and hatch, but whether these larvae can enter the circulation and reach the lungs is unknown. L_1's move into the alveolar air space and are propelled out of the lungs in the layer of mucous that moves upwards on the so-called ciliary escalator lining most of the respiratory tree. Upon

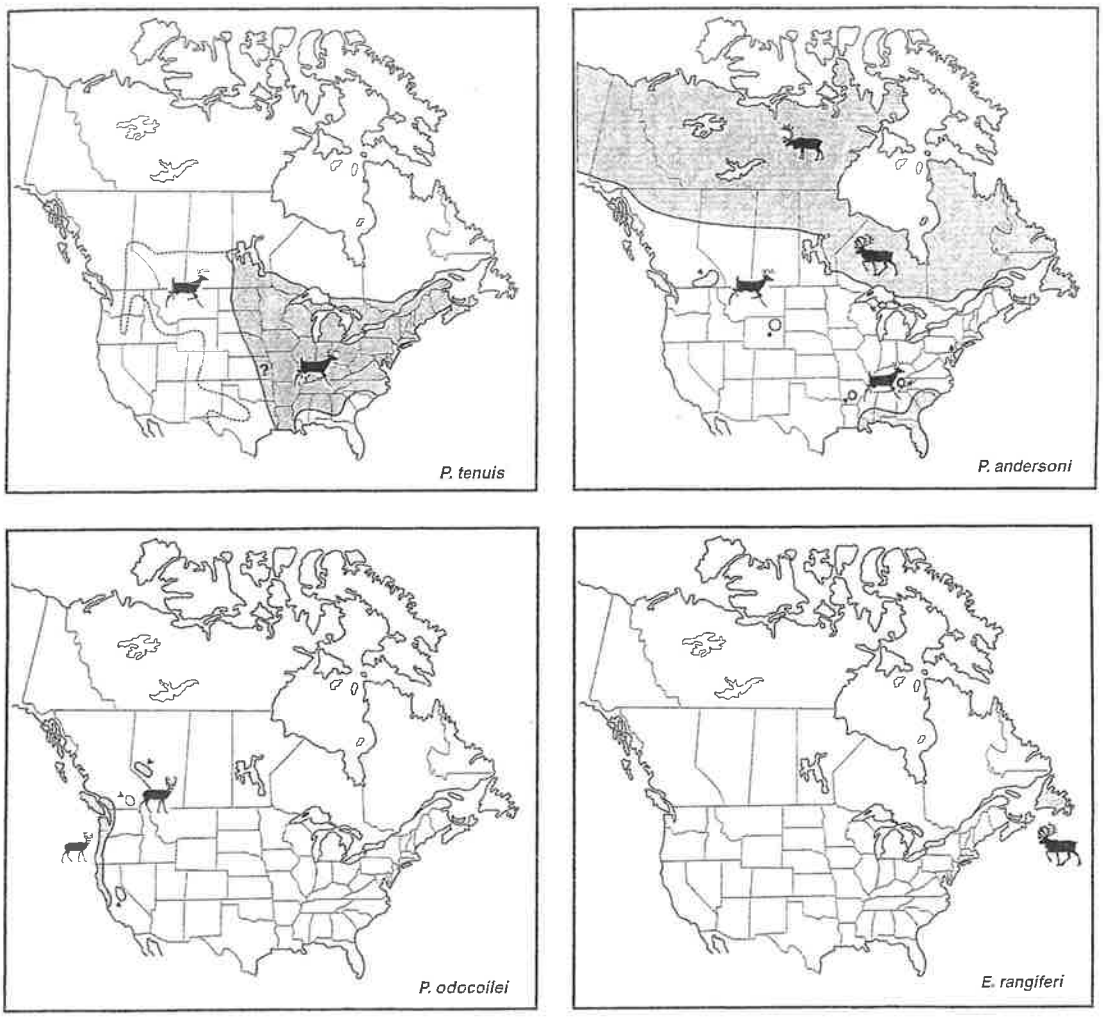


FIG. 9.1—Distribution of the four species of elaphostrongyline nematodes of cervids in North America. Shaded areas indicate the known distribution of the parasite in the cervid hosts illustrated (*P. tenuis* in white-tailed deer, *P. andersoni* with a disjunct distribution in white-tailed deer and more continuous distribution in woodland and barrenground caribou, *P. odocoilei* in mule deer [larger silhouette] and black-tailed deer [smaller silhouette], and *E. rangiferi* in woodland caribou). There are no published reports of *P. tenuis* in Kansas (?). The dotted line approximates the western limits of the distribution of white-tailed deer. Arrowheads accentuate the location of isolated reports.

reaching the pharynx, larvae are swallowed and pass unharmed through the digestive tract and out with the feces (Anderson 1963a).

Most L_1's are located on the surface of fecal pellets in a thin layer of mucous (Lankester and Anderson 1968; Forrester and Lankester 1997a). This contrasts, for example, with the location of larval *Protostrongylus* spp. of bighorn sheep (*Ovis canadensis*) that are most numerous toward the center of pellets (Forrester and Lankester 1997b). L_1's of *P. tenuis* readily leave pellets immersed in water and presumably are also removed by rain and melting snow. To develop further, they must penetrate, or be eaten by, a terrestrial snail or slug. A large variety of species are capable of serving as intermediate hosts (Anderson and Prestwood 1981) (Table 9.3). Terrestrial gastropods may become infected most frequently when they encounter larvae dispersed in the soil. This method of infection has been demonstrated to occur under laboratory conditions (Lankester and Anderson 1968) and might explain why most naturally infected gastropods contain few larvae. Natural infections have not been found in aquatic snails but *Lymnea* sp. has been infected experimentally (Anderson 1963a).

TABLE 9.1—Adult dimensions of elaphostrongyline nematodes in North American cervids (μm), unless otherwise indicated

	P. tenuis[a]		*P. andersoni*[b]		*P. odocoilei*[c]		*E. rangiferi*[d]	
	Mean	Range	Mean	Range	Mean	Range	Mean	Range
Males								
Length (mm)	55	(31–62)	20	(19–23)	23	(18–26)	35	(31–38)
Width	162	(92–200)	111	(87–140)	147	(138–156)	199	(175–220)
Espohagus length	640	(562–770)	726	(670–770)	653	(565–717)	681	(650–740)
Nerve ring[f]	—	(110–150)[e]	85	(80–100)	88	(68–94)	132	(100–170)
Excretory pore[f]	—	(100–140)[e]	103	(87–120)	75	(56–94)	153	(115–175)
Spicule length	223	(202–249)	104	(87–115)	149	(132–170)	220	(205–232)
Gubernaculum length	109	(89–137)	47	(42–52)	93	(73–112)	75	(63–85)
Females								
Length (mm)	79	(66–90)	31	(30–35)	44	(39–48)	47	(47)
Width	209	(120–250)	113	(95–130)	163	(141–179)	223	(220–240)
Espohagus length	694	(623–796)	747	(670–900)	627	(588–658)	698	(635–770)
Nerve ring[f]	104	(90–126)	90	(70–100)	92	(79–106)	131	(120–150)
Excretory pore[f]	139	(109–164)	—	(67–130)	78	(71–82)	145	(118–170)
Vulva[g]	181	(138–233)	122	(97–170)	178	(161–194)	300	(300)
Tail	53	(35–62)	53	(40–75)	48	(44–65)	68	(68)

[a]Measurements according to Carreno and Lankester (1993). Others available from Anderson (1956).
[b]Measurements according to Prestwood (1972). Others available from Pybus and Samuel (1981), Lankester and Hauta (1989), Carreno and Lankester (1993), Lankester and Fong (1998).
[c]Measurements according to Platt and Samuel (1978b). Others available from Hobmaier and Hobmaier (1934), Brunetti (1969).
[d]Measurements according to Lankester and Fong (1998). Others available from Lankester and Northcott (1979), Carreno and Lankester (1993).
[e]From Anderson (1956).
[f]Position measured from anterior end.
[g]Position measured from posterior end.

In the foot tissue of gastropods, L_1's molt to the L_2 and then to the L_3, or infective stage. The rate of development is temperature dependent. Almost 4 weeks were required to reach the infective stage at temperatures fluctuating between 18° C and 30° C (Anderson 1963a). It probably takes 2–3 times as long at lower field temperatures likely experienced by terrestrial gastropods, although this has never been investigated. Development is slowed or stopped in snails that estivate to avoid dessication, but resumes with the return of favorable conditions. L_3's can survive freezing temperatures over winter in gastropods and probably remain viable for the life of the intermediate host (Lankester and Anderson 1968).

White-tailed deer become infected when they accidentally ingest terrestrial gastropods along with vegetation. L_3's released by digestion from gastropod tissues penetrate through the gastrointestinal wall (particularly of the abomasum) and reach the peritoneal cavity (Anderson 1963a, 1965b,c). Their migration to the central nervous system is thought to be direct. Migrating dorsally in the abdominal cavity and following lateral spinal nerves, mostly in the lumbar region, larvae reach the vertebral canal in about 10 days (Anderson and Strelive 1967, 1969). Still in the third larval stage, they enter tissue of the spinal cord (dorsal horns of grey matter) and molt twice to the fourth and then to the fifth, or subadult stage. By 40 days after infection, most worms have left the spinal cord, apparently via dorsal nerve roots. They move anteriorly in the spinal subdural space to reach the cranium and enter the venous sinuses. The presence of developing worms in the neural parenchyma of the brain of white-tailed deer apparently is rare (Anderson 1968).

The prepatent period of *P. tenuis* in white-tailed deer varies from 82 to 137 days (Anderson and Prestwood 1981; Rickard et al. 1994). It apparently varies inversely with the infecting dose (Rickard et al. 1994), but white-tailed deer age at the time of infection may also be important (M.W. Lankester and A.A. Gajadhar, unpublished). Fawns born in early June become naturally infected and pass larvae as early as mid-October (Peterson and Lankester 1991), but most do not become patent until mid-December or January, a prepatent period estimated to be ~4.5 months (Slomke et al. 1995). The ensuing production of larvae by newly infected white-tailed deer has not been studied thoroughly. In one experimentally infected fawn, larval output increased rapidly following patency, peaked 1 month later, and then declined (Samuel et al. 1992).

Most white-tailed deer acquire a small number of worms within the first or second summer of their life, and intensity does not increase appreciably thereafter (Slomke et al. 1995). Up to 71% of fawns were infected within 5–6 months of birth, and 91% by the time they were 17–18 months old. Average intensities by host age were 2.7 (fawns), 3.0 (yearlings), 3.5 (2 to 6 years) and 4.1 (7 to 15 years). Similar observations were made by Anderson and Prestwood (1981), who first suggested that white-tailed deer acquire a protective immune response against repeated infection. The high proportion of unisexual *P. tenuis* infections in white-tailed

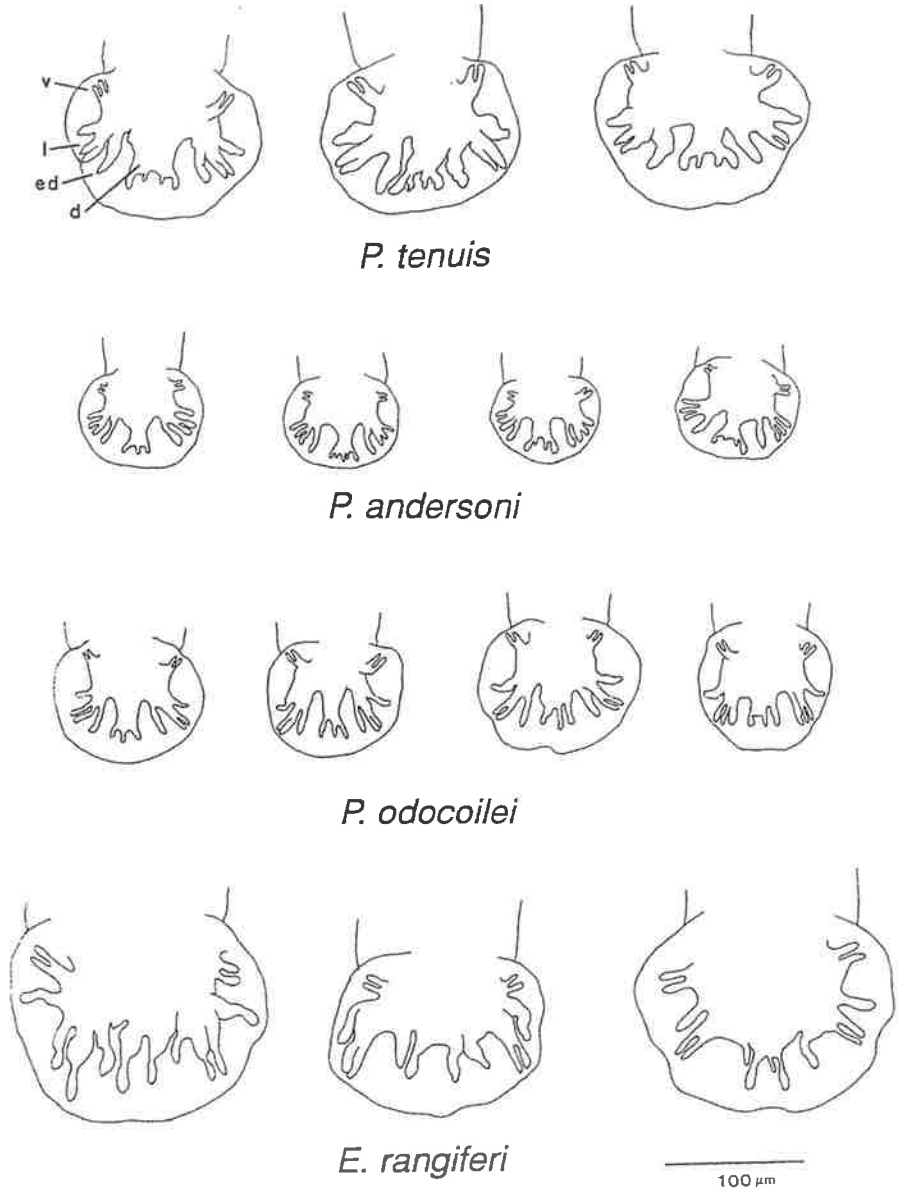


FIG. 9.2—Bursae of North American elaphostrongyline nematodes, ventral view: ***v***, ventral ray; ***l***, lateral ray; ***ed***, externaldorsal ray; ***d***, dorsal ray. *Parelaphostrongylus tenuis* from white-tailed deer; *P. andersoni* from white-tailed deer and barren ground caribou; *P. odocoilei* from black-tailed deer and mule deer; *Elaphostrongylus rangiferi* from caribou (bottom right specimen) and moose (After Carreno and Lankester 1993; used with permission of NRC Research Press.).

deer provides additional evidence of an acquired immunity. As many as one-third of infected white-tailed deer pass no larvae in their feces because adult worms of only one sex are present (Slomke et al. 1995). If repeated infections were possible, the proportion of these unisexual infections would decrease in older animals, but this was not observed. As well, since the mean number of worms acquired by fawns during their first summer and fall was unchanged during their second summer as yearlings, this protection must develop during winter. Variations in the length of the frost-free period when transmission to fawns is possible will, therefore, influence both the mean intensity and the proportion of patent infections. White-tailed deer in

TABLE 9.2—Larval dimensions of elaphostrongyline nematodes in North American cervids (μm)

Larva	*P. tenuis*[a]	*P.andersoni*[b]	*P. odocoilei*	*E. rangiferi*[c]
First Stage				
Length	348(310–380)	351(308–382)	378[d]	426(381–490)
Width	18(16–19)	17(17–18)	17	20(17–24)
Nerve ring	94(80–112)	94(66–109)	—	110(95–130)
Excretory pore	94(80–112)	94(66–109)	98	109(97–125)
Esophagus	165(132–181)	175(163–183)	166	191(163–230)
Genital prim.	224(210–246)	234(216–249)	—	267(245–325)
Tail	32(29–41)	32(27–36)	40	44(32–53)
Third Stage				
Length	971(900–1080)	1019(966–1200)	890(738–977)[e]	1004(937–1041)
Width	42(36–45)	36(33–50)	44(36–52)	46(42–49)
Nerve ring	114(100–125)	117(100–133)	141(135–154)	139(120–150)
Excretory pore	133(122–149)	117(100–133)	—	153(138–163)
Esophagus	352(300–400)	358(300–420)	323(282–399)	381(338–421)
Genital prim.	629(569–707)	681(600–800)	561(521–586)	615(574–648)
Tail	35(31–45)	35(33–45)	47(45–50)	52(40–70)

[a]Anderson (1963).
[b]Prestwood (1972).
[c]Lankester and Northcott (1979).
[d]Hobmaier and Hobmaier (1934).
[e]Ballantyne and Samuel (1984).

some southern areas reportedly have slightly greater numbers of worms than deer near the northern limit of their range (Anderson and Prestwood 1981).

Field evidence provided by Slomke et al. (1995) supports the hypothesis that *P. tenuis* is long-lived in white-tailed deer and that worms acquired by fawns may persist for life. This is consistent with observation by others on the related nematodes, *E. cervi* and *P. odocoilei* that are known to live at least 6 and 8.5 years, respectively (Watson 1984; W.M. Samuel, personal communication).

Epizootiology

DISTRIBUTION. Meningeal worm is common in white-tailed deer of the deciduous forest biome and deciduous-coniferous ecotone of eastern and central North America (Fig. 9.1). It is rare or absent in the coastal plains region of the southeastern United States and is not documented in western North America. New distribution records not listed by Anderson and Prestwood (1981) include Foreyt and Trainer (1980) (Wisconsin), Beaulieu-Goudreault (1981) and Claveau and Fillion (1984) (Quebec), Garrison et al. (1987) (Missouri), Platt (1989) (Indiana), Comer et al. (1991) (South Carolina), Jarvinen and Hedberg (1993) (Iowa), Wasel (1995) (North Dakota, Saskatchewan), Davidson et al. (1996) (Wassaw Island, Geogia), and Oates et al. (1999) (South Dakota and Nebraska).

In 1968, *P. tenuis* was recovered from one white-tailed deer in Collier Co., Florida, where it was probably introduced with white-tailed deer from Wisconsin (Prestwood and Smith 1969). However, it has not been found there since, despite large numbers of white-tailed deer having been examined (Comer et al. 1991). Its occurrence on Wassaw Island off the coast of Georgia was also attributed to an introduction of white-tailed deer from Pennsylvania, further adding credence to concerns that *P. tenuis* can be spread through the translocation of infected hosts (Davidson et al. 1996).

It is not known what limits the natural spread of the parasite westward. The drier central grasslands of North America are presumed to be a barrier by being less hospitable for gastropods, but it is more difficult to imagine why the more northerly aspen parklands did not provide a corridor (Anderson 1972). It is equally unclear why *P. tenuis* is rare or absent in white-tailed deer of the coastal plains portion of the Atlantic and Gulf coast states of Alabama, Georgia, Mississippi, South Carolina, and Florida. Prestwood and Smith (1969) suggested that this might be due to a scarcity of suitable species of gastropod intermediate hosts or to other factors associated with the predominantly sandy soil, pine forest habitat. However, Davidson et al. (1996) rejected this hypothesis on finding a high prevalence of *P. tenuis* in white-tailed deer occupying similar habitat on Wassaw Island, Georgia, where the worm appears to have persisted for almost 90 years. Since the related nematode, *P. andersoni,* is successfully transmitted among white-tailed deer in the coastal plains region (Forrester 1992), yet concurrent infections of *P. andersoni* and *P. tenuis* are rare (Prestwood et al. 1974), some form of host cross-immune response might prevent the geographical overlap of the two parasites (Lankester and Hauta 1989).

HOST RANGE. White-tailed deer is the normal definitive host in which *P. tenuis* becomes patent without causing disease. However, the parasite develops to varying degrees in a variety of abnormal hosts that have contracted infection on natural white-tailed deer range, in proximity to white-tailed deer in zoos or game

TABLE 9.3—Terrestrial gastropods found naturally infected with *Parelaphostrongylus tenuis*

Reference	Location	Deer Density/km² (% Infected)	Overall Prevalence of *P. tenuis* % (Number of Gastropods Examined)	Mean Number Larvae/Gastropod (Range)	Species of Gastropods Infected[a]
Beach (1992)	New Brunswick, Canada	1.2–3.6 (50%–60%)	0.2%–2.0% (1960)	NR[b] (1–28)	*Zonitoides arboreus* (0.5% of 635), *Deroceras laeve* (1.5% of 589), *Discus cronkhitei* (1.6% of 249), *Pallifera dorsalis* (0.8% of 118), *Triodopsis albolabris* (9.5% of 21), *Strobilops labyrinthica* (5.3% of 38)
Gleich et al. (1977)	Central Maine (USA)	1.6–3.1[c] (63%–80%)	0.1% (1700)	2.0 (2)	*P. dorsalis* (0.8% of 225)
Kearney and Gilbert (1978)	Near North Bay, Ontario, Canada	2.0–6.4[d]	0.05%–0.12% (16,450)	2.4	NR
Lankester (1967)	Algonquin Park, Ontario, Canada	< 4[e] (41%)	1.0% (1540)	NR	*T. albolabris* (18% of 39), *D. cronkhitei* (2% of 256), *Z. arboreus* (0.4% of 562), *Succinea ovalis* (1.5% of 66), *D. laeve* (0.3% of 385)
Lankester and Anderson (1968)	Navy Island near Niagara Falls, Ontario, Canada	94 (61%)	4.2% (9940)	2.9 (1–97[f])	*D. laeve* (8.2% of 2434), *Zonitoides nitidus* (4.3% of 4719), *Anguispera alternata* (2.5% of 121), *S. ovalis* (4% of 195), *Cochlicopa lubrica* (0.4% of 249), *Deroceras reticulatum* (0.3% of 1,097), *Arion circumscriptus* (0.1% of 1064)
Lankester and Peterson (1996)	Near Grand Marais, Minnesota (USA)	19 (for 5 months) 4 (for 7 months) (80%)	0.1% (12,095)	3.2 ± 2.5 (1–7)	*A. alternata* (1.2% of 81), *D.cronkhitei* (0.4% of 968), *S. ovalis* (0.3% of 393), *D. laeve* (0.2% of 1212), *D. reticulatum* (0.03% of 6949)
Maze and Johnstone (1986)	Northcentral Pennsylvania (Elk State Forest) (USA)	12–15 (54%)	9.0% (808)	3.0 (1-44)	*T. albolabris* (20% of 70), *Triodopsis tridentata* (12% of 17), *Ventridens intertextus* (20% of 118), *D. laeve* (1.6% of 61), *Z. arboreus* (12% of 41), *D. cronkhitei* (15% of 143), *Stenotrema fraturnum* (12% of 50)

(*continued*)

TABLE 9.3 ***(continued)***

Reference	Location	Deer Density/km^2 (% Infected)	Overall Prevalence of *P. tenuis* % (Number of Gastropods Examined)	Mean Number Larvae/Gastropod (Range)	Species of Gastropods Infected[a]
Parker (1966)	Nova Scotia, Canada	2.6[g] (63%)	2.6% (509)	NR	*D. cronkhitei, Z.arboreus, D. reticulatum, Striatura exigua, Phylomycus carolinianus*
Pitt and Jordan (1994)	Northeastern Minnesota (USA)	4–5 (57%)	0.8% (744)	NR	NR
Platt (1989)	Northwestern Indiana (USA)	40 (over winter) (38%)	1.9% (736)	2.5-3.8 (1–26[f])	*Cochlicopa* spp (5.5% of 163), *D. cronkhitei* (1.2% of 252), *D. laeve* (2.8% of 71)
Raskevtiz et al. (1991)	Eastern Oklahoma (USA)	17 (39%)	8.0% (959)	65 larvae in 8/15 species	*Discus patulus* (0.8% of 129), *Helicina orbicula* (3.1% of 293),*Mesopmphix cupreus* (10% of 10), *Mesodon inflectus* (24% of 33), *Triodopsis divesta* (30% of 83), *Strenotrema strenotrema* (4.3% of 70), *Polygyra dorenilliana* (10% of 113), *Polygyra jacksoni* (8.8% of 194)
Rowley et al. (1987)	National Zoological Park near Front Royal, Virginia (USA)	NR	2.2% (670)	2.5 ± 2.9 (1–10)	*D. laeve* (1.5% of 338), *T. tridentata* (33% of 9), *Z. arboreus* (4.3% of 69), *P. carolinianus* (9% of 31), *Vallonia collisella* (20% of 5)
Upshall et al. (1987)	Near Fredericton, New Brunswick, Canada	2.3[g] (78%)	2.5% (569)	6.0	*D. laeve* (5.3% of 225), *Z. arboreus* (0.4% of 229), *D. cronkhitei* (2.2% of 45)
Whitlaw et al. (1996)	Northcentral New Brunswick, Canada	12 (in winter) 2-3 (in summer) (67%)	0.4% (10,343)	1.5 (1–3)	*Arion* spp. (0.04% of 2377), *D. laeve* (0.5% of 438), *D. cronkhetei* (0.02% of 4671)

[a]Number gastropods infected/number examined (%).
[b]NR, not reported.
[c]Gilbert (1973).
[d]Kearney and Gilbert (1976).
[e]Wilton (1987).
[f]In three different studies individual *D. laeve* had high numbers of larvae (97, 26).
[g]Whitlaw and Lankester (1994b).

farms, and by experimental infection. These include moose, wapiti (*Cervus elaphus canadensis*), red deer (*C. e. elaphus*), woodland caribou (*Rangifer tarandus caribou*), reindeer (*R. t. tarandus*), mule-deer (*Odocoileus hemionus hemionus*), black-tailed deer (*O. h. columbianus*) and black-tails × white-tailed deer hybrids, fallow deer (*Dama dama*), and the non-cervids, bighorn sheep (*Ovis canadensis*), domestic sheep and goats, llamas, guanocos, alpacas, camels, pronghorns (*Antilocapra americana*), eland (*Taurotragus oryx*), sable antelope (*Hippotragus niger*), and possibly bongo antelope (*Tragelaphus eurycercus*), scimitar-horned oryx (*Oryx dammah*), blackbuck antelope (*Antilope cervicapra*), and domestic cattle (see Anderson 1992; Rickard et al. 1994; Oliver et al. 1996; Yamini et al. 1997). The parasite causes neurologic disease in most of these, and occasionally becomes patent, passing small numbers of larvae, as in moose and wapiti.

Guinea pigs have proven to be useful laboratory hosts for investigating the hematological response to infection and the parasite's tissue migration route; a few L_3's may reach the central nervous system, develop to the subadult stage, and produce paresis (Anderson and Strelive 1966b; Spratt and Anderson 1968; Bresele 1990). A single worm was found in the brainstem of a domestic rabbit (*Oryctolagus cuniculus*) given 100 L_3's, but none was recovered from cotton-tails (*Sylvilagus floridanus*) or a swamp rabbit (*S. aquaticus*), each given 25 L3's (Nettles and Prestwood 1979).

PREVALENCE AND INTENSITY IN WHITE-TAILED DEER AND GASTROPODS. The reported prevalence of meningeal worm in white-tails varies widely (1%–94%) (see review by Anderson and Prestwood 1981 and additional reports by Foreyt and Trainer 1980; Beaulieu-Goudreault 1981; Kocan et al. 1982; Rau 1984; Upshall et al. 1987; Thomas and Dodds 1988; Dew 1988; Comer et al. 1991; Foreyt and Crompton 1991; Garner and Porter 1991; Bogaczyk et al. 1993; Jarvinen and Hedberg 1993; Pitt and Jordan 1994; Slomke et al. 1995; Davidson et al. 1996; Peterson et al. 1996; Gogan et al. 1997). This wide variation in prevalence may, however, be due mostly to sampling error. Instead, most or all white-tailed deer in a population may eventually become infected as was suggested several years ago by Karns (1967) and Behrend and Witter (1968). This was recently confirmed by Slomke et al. (1995) for a low density white-tailed deer population in northern Minnesota. Ninety-one percent of yearlings and 96% of animals 7–15 years old were infected. Lower percent infection has been observed in habitats near the extreme limits of the parasite's distribution (Kocan et al. 1982; Comer et al. 1991; Whitlaw and Lankester 1994b; Wasel 1995).

Underestimates of prevalence may be due to a lack of care and skill required to find adult worms in venous sinuses, the inclusion of traumatized heads that cannot be reliably examined, or sampling at the wrong time of the year. Young, infected animals available from hunters in autumn may not yet have either adults in head or first-stage larvae in feces. Their inclusio calculations may grossly underestimate the ove population prevalence. Considerable discrepancy occurs between prevalence determined by exami heads and that from feces (Anderson and Prestw 1981; Thomas and Dodds 1988; Bogaczyk 1990; ner and Porter 1991). Much of this is due to unisex occult infections that are not identified by fecal ex nation (Slomke et al. 1995). In addition, preval may be underestimated by examining feces in fall early winter when larval output by older animals its lowest and may have fallen below levels detect using the Baermann technique (Peterson et al. 19 White-tailed deer heads and feces are best collecte examination from February to April, and only standardized for age and season should be compar

The prevalence of infection does not appear to with host sex (Garner and Porter 1991; Slomke 1995; Peterson et al. 1996), although some e authors suspected this to be the case (Gilbert 1 Thurston and Strout 1978). There is some evidence overall sample prevalence in white-tailed deer vary annually in relation to summer precipit (Gilbert 1973; Bogaczyk 1990; Peterson and Lank 1991; Bogaczyk et al. 1993), but workers have fail find a consistent relationship between prevalence white-tailed deer population density (Karns Behrend and Witter 1968; Gilbert 1973; Brown Thomas and Dodds 1988; Bogaczyk 1990; Garne Porter 1991; Peterson and Lankester 1991; Bog et al. 1993).

Only the white-tailed deer fawn cohort is usef investigating environmental factors that may alter of transmission of the parasite. Significant annual ation in the prevalence of first-stage larvae measu fawns in late winter correlated best with the numl days prior to snow accumulation the previou (Peterson et al. 1996). Extended periods for tran sion in the fall were thought to increase the numl animals becoming infected and to reduce the num unisexual infections.

The intensity of adult *P. tenuis* in white-tailed usually is quite low. Anderson and Prestwood (reviewed the accumulated literature and reported sities of 1–20 worms with mean intensity ranging 1.5 to 8.7 worms. Mean intensity changes littl deer density or with age after 1 year (Behrend Gilbert 1973; Slomke et al. 1995). In fact, a thr number of adult worms may be reached that exceeded appreciably as white-tail densities a probability of infection increase. Slomke et al. found the same mean intensity of adult wor white-tailed deer confined year-round in a fence at a density of 30/km^2 (3.5 ± 1.8 worms) as in t a summer density of about 2/km^2 (3.0 ± 2 w Occasionally, individual white-tailed deer acquir numbers of worms (Prestwood 1970).

Although the number of adult worms change with white-tail age and time of year, the number

detectable in feces varies considerably. Young, recently infected white-tailed deer pass more larvae than older animals, and animals of all ages pass the greatest numbers of larvae in spring (Anderson 1963a; Anderson and Prestwood 1981; Slomke et al. 1995; Peterson et al. 1996; Forrester and Lankester 1998). The number of larvae passed in feces cannot be correlated, however, with the total number of adult worms in the cranium (Bogaczyk 1990) or with the total number of female worms present (Slomke et al. 1995). Although expected intuitively, such a relationship may be masked by the combined effects of infection age, season, location of female worms, and possibly, individual host immune response. For example, naturally infected fawns approaching 1 year old passed 132 ± 133 larvae/g of fresh feces and had 2.0 ± 1.2 adult worms in the cranium (Slomke et al. 1995), while an experimentally infected fawn with 3 females and 1 male worm passed 4800 larvae/g at 200 days postinfection (M.W. Lankester, unpublished).

Mean intensity of larvae in white-tailed deer feces provides a useful measure of the productivity of the parasite suprapopulation in an area and may be the best estimator of disease risk to cohabiting susceptible animals (Whitlaw and Lankester 1994b). However, of the many factors known to affect larval numbers, the most important is probably the method used to extract them from feces (Welch et al. 1991). Forrester and Lankester (1997a) demonstrated that the traditional Baermann technique may recover as few as 13% of the *P. tenuis* larvae actually present and does not provide a repeatable result (see Diagnosis section of this chapter).

The prevalence of *P. tenuis* in gastropods is probably determined primarily by white-tailed deer density, as well as by microclimatic conditions that favor snails and slugs. A large number of studies conducted throughout the range of *P. tenuis,* report an overall prevalence of infection in gastropods ranging from 0.01% to 9.0% and reaching 33% in certain species (Table 9.1). Generally, prevalences of < 1% are reported near the northern limits of white-tail distribution, while values of 1.9%–2.6% found in the Canadian maritime provinces and eastern United States may reflect greater white-tailed deer densities as well as a slightly warmer climate with longer seasons for gastropod activity. Higher values of 4.2%–9.0% are unusual and are reported only where white-tailed deer may be at exceptionally high densities or restricted in their seasonal movements (Lankester and Peterson 1996).

High prevalence in *Triodopsis* spp. suggests that this snail is attracted to fresh fecal material, although no such attraction was found for the closely related *Mesodon* sp. (McCoy 1997). Whether white-tailed deer actually ingest snails as large as mature adult *Triodopsis* spp., *Anguispira alternata,* and *Mesodon* spp., either for extra protein or mistakenly as mast, remains to be investigated. Infective larvae are thought to survive as long as their gastropod host. Consequently, more seasonal and annual fluctuation in prevalence can be expected in shorter-lived species like *D. laeve* than in *Zonitoides* and *Discus* spp. that live 2–3 years (Lankester and Anderson 1968).

Most snails and slugs contain only a few infective larvae (means of 2–6) (Table 9.1). Since the mean number of adult worms in white-tailed deer (2.8 ± 1.8) (Slomke et al. 1995) can be similar to the mean number of larvae per infected gastropod in the same area (3.2 ± 2.5) (Lankester and Peterson 1996), many infections in white-tailed deer may be the result of ingesting a single infected snail or slug. Prestwood and Nettles (1977) hypothesized that white-tailed deer may similarly acquire *P. andersoni* as a result of a single exposure. In three separate reports (Table 9.1), individual *D. laeve* were found to contain unusually large numbers of larvae (26, 75, and 97). These individuals probably lingered on fresh feces. Possibly the ingestion of such a heavily infected slug accounts for the rare reports of massive infection in white-tailed deer and some of the more severe cases of parelaphostrongylosis in susceptible hosts.

Although a large variety of wild gastropods is found naturally infected with *P. tenuis,* important species in field transmission will be those most frequently infected and most abundant in areas used by susceptible age classes of white-tailed deer. In the northern parts of the white-tail range, these species include the snails *Zonitoides* spp. and *Discus cronkhitei* and the slugs *Deroceras* spp. (Lankester and Anderson 1968; Lankester and Peterson 1996; Whitlaw et al. 1996). In addition, marked seasonal changes in the abundance of terrestrial gastropods will affect the relative importance of different species (Lankester and Peterson 1996). Reasonable estimates of the numbers and kinds of terrestrial gastropods encountered by deer can be obtained by sampling during damp weather conditions using corrugated cardboard sheets (Hawkins et al. 1998).

It is important to recognize in future studies that wild gastropods frequently contain a variety of larval and adult nematodes, some of which are easily mistaken for those of *P. tenuis.* For example, Gleich et al. (1977) found nematodes in 19% of *Pallifera* spp. and in 7% of gastropods overall, but only 0.1% had larvae of *P. tenuis.* Similarly, Lankester and Peterson (1996) found larvae of other nematodes species in 4% of a sample of over 12,000 gastropods, while only 0.1% had developing *P. tenuis* larvae.

TRANSMISSION AND ENVIRONMENTAL LIMITATIONS. The ability of L_1's to survive adverse natural conditions and remain infective to gastropods has not been thoroughly studied. In the laboratory L_1's survive constant, subzero temperatures several months (Lankester and Anderson 1968), but repeated freezing and thawing greatly reduces survival (Shostak and Samuel 1984), as does repeated drying and wetting at room temperature. The latter authors cautioned that some survivors that regain motility may have lost their ability to infect gastropods.

Survival of larvae beneath snow in northeastern Minnesota was relatively low (16%), despite moderated

and stable subnivean temperatures (-0.2° C to -2.5° C compared to ambient air temperatures of 6.5° C to –24.0° C) (Forrester and Lankester 1998). Even those larvae produced during the "spring rise" in mid-March experienced high mortality (70%), since winter conditions at this northern location continued until late April. Nothing is known of the ability of L_1's to survive summer or winter conditions in the soil. This information, along with more knowledge of the life span of various gastropods, is needed to determine when an area, previously occupied by white-tails, would be free of risk to other susceptible host species.

Transmission may be more likely in particular areas within white-tailed deer range, but whether distinct foci of infection exist is uncertain. Such areas might have a higher than usual density of infected gastropods and be used by young, susceptible white-tailed deer. Small foci were reported by Lankester and Anderson (1968) and Maze and Johnstone (1986), but none could be clearly identified in a study by Platt (1989). Based solely on the availability of intermediate hosts, Kearney and Gilbert (1978) concluded that all forested habitats in central Ontario had approximately equal potential to serve as transmission sites, while open areas have a lower potential except during late summer and fall. The use of open fields and meadows where gastropods were less numerous was thought to explain the persistence of wapiti in an area with infected white-tailed (Raskevitz et al. 1991). Rather than the existence of particular foci of infection, Anderson and Prestwood (1981) suggested that the large volume of vegetation eaten daily by ungulates probably explains the high prevalence of infection in white-tailed deer, even in areas with few infected gastropods. Lankester and Peterson (1996) examined this hypothesis in an area where most fawns became infected within 6 months of birth, yet fewer than 0.1% of gastropods were infected. Fawns were estimated to consume at least one infected gastropod within 51 days, even when infected gastropods were assumed to be distributed randomly and ingested accidentally. White-tailed deer wintering yards were not thought to be especially important in transmission, despite higher densities of infected gastropods (Lankester and Peterson 1996). Deer arrive in yards after snowfall, and by early spring, when gastropods become available, many are immune to reinfection.

Clinical Signs and Pathology in White-tailed Deer. Signs of parelaphostrongylosis are rare in white-tailed deer. Circling and progressive loss of motor function were described in a wild doe with 30–40 adult worms in the cranium (Prestwood 1970), and in an animal raised on a game farm that had 10 worms in the subdural space and others deep in the cerebral cortex (Eckroade et al. 1970). Even large experimental doses of *P. tenuis* in white-tailed deer resulting in as many as 65 adult worms in the cranium produce only transitory lameness or limb weakness (Anderson 1968; Pybus et al. 1989; M.W. Lankester and A.A. Gajadhar, unpublished data). These experimental results are remarkable in indicating that white-tails generally show no ill effects of the spinal cord tissue damage associated with the presence of many more developing worms than are ever likely to be encountered in nature. They also raise the possibility that susceptible species such as moose and wapiti may be less affected by the physical trauma caused by a few worms in the spinal cord than by the meningoencephalitis and perineuritis resulting from infection.

In the spinal cord of experimentally infected white-tailed deer fawns, worms develop in the dorsal horns of grey matter (Anderson 1965b,c). They usually are found in cell-free tunnels surrounded by compressed neural tissue. Malacia is absent except for tiny areas occasionally seen in white matter. The central canal remains undamaged. In white matter, scattered, single myelin sheath degeneration as well as degeneration and disappearance of axis cylinders are common. Infiltrations of eosinophils, lymphocytes, and plasma cells are observed in and on the dura mater, the epineurium, ganglion capsules, and other tissues of the epidural space. Mature worms accumulate in the subdural space over the brain where they are found free or partially embedded in the dura (Anderson 1963a). Areas on the surface of the dura are covered by yellowish exudate unevenly colored by blood. The dura may be thickened and inflamed with patches of eggs and larvae surrounded by giant cells and fibrous tissue visible in sections. Eggs are disseminated to all regions of the lung and found in all stages of development, usually singly or in groups of two or three (Anderson 1963a). Larvae are numerous in alveoli. Heavily infected areas of the lung are considerably altered with congested vessels, collapsed alveoli, fibrosed alveolar walls, petechiae, and collateral vessel formation. Numerous agranulocytes and giant cells are invariably applied to the remains of hatched eggs and clumps of eosinophils and macrophages with hemosiderin-like material are common.

Epizootiology in Abnormal Cervid Hosts. The severity of infection in hosts other than white-tailed deer generally is thought to be due to the higher proportion of invading worms that reach the central nervous system, their longer developmental period in the spinal cord, their resulting larger size and coiling behaviour, and frequent invasion of the ependymal canal (Anderson 1968). Occasionally, naturally infected moose and wapiti pass larvae, but in most abnormal hosts either the worms die or the host dies before infections become patent. Pathogenesis and clinical signs are known from infections produced experimentally as well as those acquired naturally.

MOOSE. Nearly 500 cases of moose sickness have been reported in the literature since the syndrome was first described by Thomas and Cahn (1932). The disease has been reported only in the Canadian provinces of New Brunswick (n = 27), Nova Scotia

(137), Quebec (84), Ontario (50), and Manitoba (12) and the northern states of Maine (69), Minnesota (97), and Michigan (13) where moose share range with infected white-tails (Anderson 1965a,b; Aho and Hendrickson 1989; Whitlaw and Lankester 1994a,b, Dumont and Créte 1996; M.W. Lankester and W.J. Peterson, unpublished). The frequency of the disease seems reasonably well correlated with the density of cohabiting white-tailed deer (Karns 1967; Gilbert 1974; Dumont and Créte 1996).

Despite a relatively large number of opportunistic reports of sick moose, only a few studies provide estimates of *P. tenuis* prevalence in wild moose populations. Smith and Archibald (1967) found adult worms in the crania of 5% of 115 clinically normal moose examined over a 4-year period in Nova Scotia and New Brunswick, while 80% of 45 moose showing clinical signs had worms. Similarly, of 153 moose examined in Maine over a 4-year period by Gilbert (1974), *P. tenuis* could be recovered from the cranium of 25% of those killed by poachers, 10%–15% of those killed by vehicles and other miscellaneous causes, and in 80% of those showing signs of parelaphostrongylosis. Thomas and Dodds (1988) found worms in the head of 6.5% of moose shot by hunters and dying of other causes.

In Minnesota, larvae presumed to be those of *P. tenuis* were found in 0.6% of 361 moose fecal samples (Karns 1977), in 0.3% of feces from 617 hunter-killed moose (M.S. Lenarz, personal communication: cited in Gogan et al. 1997), and in 5% of 22 field-collected, moose fecal samples from Voyageurs National Park (Gogan et al. 1997). Higher prevalences reported by Clark and Bowyer (1986) in moose feces in Maine (up to 31%) and by Thomas and Dodds (1988) in Nova Scotia (13%) could not be confirmed in subsequent studies (Upshall et al. 1987; McCollough and Pollard 1993). Estimating the prevalence of *P. tenuis* by examining fecal samples for larvae has serious limitations. Dorsal-spined larvae cannot be identified with certainty, and those of both *P. tenuis* and *P. andersoni* may be passed by moose (Lankester and Fong 1998). As well, the proportion of infected moose that pass larvae can vary. Karns (1977) found larvae in feces of 29% of moose diagnosed as being sick. In a sample of 27 sick moose examined by M.K. Lankester and W.J. Peterson (unpublished) in Minnesota, 15% were passing larvae. How many clinically normal moose, if any, pass larvae is unknown. Lastly, the habit of sick moose remaining for extended periods in the same area makes it difficult to avoid overrepresenting them in fecal collections.

The intensity of adult *P. tenuis* in naturally infected moose usually is very low (mean of ~2; range 1–10) (Anderson 1965a; Smith and Archibald 1967; Gilbert 1974; Thomas and Dodds 1988; M.W. Lankester and W.J. Peterson, unpublished). Animals showing severe signs may have as few as one grossly visible worm. Others may have none. Adult worms were found in the heads of only one-third of sick moose examined by Lankester (1974) and a presumptive diagnosis of parelaphostrongylosis was made based on scattered inflammatory and degenerative lesions in the meninges and parenchyma of the brain and spinal cord.

Moose of all ages can be affected, but reports of younger animals have tended to predominate (Anderson and Prestwood 1981; M.W. Lankester and W.J. Peterson, unpublished data). In this regard, the overhanging muzzle that becomes accentuated in older moose may reduce their feeding low to the ground where there is a greater likelihood of ingesting gastropods. On the other hand, Dumont and Créte (1996) noted that cases in calves were lower, proportionately (3%), than would be expected from their percentage in the population (28%).

Wild moose may show any or all of the following signs: swaying and weakness in the hindquarters, wide base stance of the legs, standing with weight forward on the front legs, tilting or turning of the head and neck to one side (torticollis), knuckling, overextension of the rear fetlock joints and spreading of the toes, circling, fearlessness, depression, rapid eye movements (nystagmus), apparent blindness, ataxia, paresis, difficulty in rising, inability to stand, and weight loss. Peterson (1989) noted the presence of abnormal antlers and kidney stones in moose displaying signs of moose sickness. Worms in moose are frequently found within or beneath the pia-arachnoid (Smith et al. 1964; Lankester 1974). In this location, they may more easily reenter nerve tissue of the brain causing clinical signs. This may explain the slight preponderance of clinical cases in mid- to late winter, several months after gastropods were available (Anderson 1965a,b).

Histopathological lesions in experimentally infected moose killed within 60 days of infection included focal traumatic malacia caused by developing nematodes in dorsal horns of the spinal cord, gliosis and giant cell response, disruption of the ependyma, neuronal loss and single-fiber myelin degeneration, and perivascular infiltrations primarily of lyphocyctes, plasma cells, and eosinophils (Anderson 1964a,b). In wild moose with parelaphostrongylosis, the brain is more extensively involved than the spinal cord (Smith and Archibald 1967; Anderson 1965a; Kurtz et al. 1966). Lesions in the brain parenchyma include cuffing with round cells; disrupted areas or tracts with swollen axis cylinders; gitter cells; congestion; infiltrations of eosinophils, lymphocytes, and plasma cells; and calcified remains of worms. Eggs and larvae may be found associated with the eyes or the roots of cranial nerves, on the leptomeninges, and in brain tissue. Only small glial scars and scattered areas of malacia, degenerating axis cylinders, and microcavitation occur in the spinal cord.

Historically, many authors have associated marked declines in moose populations and reports of sick moose with incursions by white-tailed deer (see Anderson 1972; Lankester and Samuel 1998). However, the implicit hypothesis that *P. tenuis* was the major cause of the declines was never tested (Nudds 1990) until Whitlaw and Lankester (1994a) attempted a retrospective study using published historical data from six jurisdictions where moose sickness has been repeatedly

seen. An inverse relationship between moose and white-tailed deer numbers was evident, with moose declining when white-tailed deer exceeded 5/km^2. However, despite a coincidence of relatively high white-tailed deer densities, moose declines, and reports of sick moose in at least 5 of 13 population cycles examined, these factors were not consistently related. Although the test was probably weakened by the poor reliability of opportunistic reporting of sick animals, the hypothesis could not be supported by available historical data. They concluded that the precise role of *P. tenuis* in past declines of moose may never be known.

In present times, white-tailed deer densities are relatively low in most areas shared with moose because of hunting and winter snow depths (Whitlaw and Lankester 1994b). Throughout much of Ontario where moose and white-tailed deer coexist, white-tailed deer numbers seldom exceeded 6/km^2 throughout the 1980s, and populations of both cervids were either stable or increasing moderately with only sporadic reports of neurologic disease in moose (Whitlaw and Lankester 1994b). However, moose densities were greatest when white-tailed deer were < 4/km^2 and varied inversely with the mean numbers of first-stage larvae being passed by white-tailed deer. In Voyageurs National Park, Minnesota, where no hunting occurs, white-tailed deer reached densities of 8/km^2 during the 1980s, yet no cases of parelaphostrongylosis in sympatric moose were reported (Gogan et al. 1997). At white-tailed deer densities approaching 13/km^2 in southern Quebec, the annual mortality rate of sympatric moose due to meningeal worm was estimated to be < 1% (Dumont and Créte 1996). Although moose still persisted, the disease was considered a limiting factor, diminishing their demographic vigour. Similar low estimates of moose mortality were made by Lenarz and Kerr (1987) in Minnesota. In 1985, moose were reintroduced into Michigan. Despite *P. tenuis* initially causing 38% of the observed mortality, the moose population continued to grow in the presence of infected white-tailed deer at 5/km^2 (Aho and Hendrickson 1989). Introduced moose experienced high twinning rates, and no wolf or bear predation was suspected. No hunting or poaching occurred. This experiment has demonstrated that a moose population coexisting at moderate white-tailed deer densities can increase, despite some mortality due to meningeal worm, at least while other factors are exceptionally favourable.

A belief that *P. tenuis* was invariably lethal to moose, probably led earlier authors to reason that moose appearing to cohabit successfully with white-tailed deer must be isolated spatially or temporally from infection. Rather compelling evidence thought to support this view included areas where both cervids existed but were separated at different altitudes during winter in response to snow depths (Telfer 1967; Kelsall and Prescott 1971), the existence of refugia where moose were thought to experience lower rates of infection (Telfer 1967; Gilbert 1974), and areas with considerable habitat heterogeniety thought to reduce overlap between moose and white-tailed deer (Kearney and Gilbert 1976). Nudds (1990) and Gilbert (1992) debated the relative strengths of these data, while more recent moose workers have failed to find strong evidence for the existence of such isolating mechanisms (Whitlaw and Lankester 1994b; Dumont and Créte 1996; Gogan et al. 1997).

If moose are not separated spatially from white-tailed deer and if their feeding habits do not differ substantially, particularly when young, they likely ingest similar numbers of infected gastropods when cohabiting. The number of larvae consumed would be low (Lankester and Peterson 1996), but the effects of such low doses on moose have only recently been investigated (M.W. Lankester, unpublished data). Each of two 5-month-old calves infected with 3 L_3's developed some lameness and hindquarter weakness after 6 weeks, but signs were hardly noticeable at 3 months when a single adult worm was found subdurally in each animal. Two moose infected at 9.5 months with 5 and 10 L_3's, respectively, showed no lasting locomotory signs, and only a single worm was found in one moose after 8 months, despite each having been challenged with 15 L_3's, 199 days after the initial infection. Two other moose given 5 and 15 larvae, respectively, showed persistent lameness and hindquarter weakness and had zero and three worms in the cranium when killed after 3 months. Apparently the severity of parelaphostrongylosis in moose is dose and age dependant. In addition, infection with low numbers of larvae, approximating those found in naturally infected gastropods, is not immediately lethal. Results also suggest that some moose can overcome such infections and that an acquired immunity may protect surviving individuals. Unfortunately, this experiment had to be terminated before the ultimate fate of animals with live worms still in the cranium could be determined with more certainty (M.W. Lankester, unpublished).

In light of this study, it is not altogether clear why some wild moose develop terminal neurologic disease with only one or two worms apparent in the cranium. An additional worm in a vital area within the brain or cord could be responsible, but experiments indicate that the immediate effects of small numbers of worms developing in the spinal cord can sometimes be overcome. Of greater consequence may be the trauma and inflammation caused by persistent adult worms in the subdural space or by those that reenter and oviposit in tissues of the brain as reported by Anderson (1965a). The outcome of infection may also be determined by an individual's innate and acquired immune response to larvae ingested throughout its life.

Overall, the impact of meningeal worm on moose in an area may in large part be a function of dose and age at first exposure for individuals as well as prior experience of older animals with the parasite. The density and age composition of the cohabiting white-tailed deer population will, in turn, determine the numbers of *P. tenuis* larvae being produced, provided that conditions are suitable for terrestrial gastropods. Since the

frequency of the disease is independent of moose numbers, the parasite cannot regulate moose populations in the strict sense of this word, but it may be an important limiting factor (Whitlaw and Lankester 1994a; Dumont and Crete 1996). Whether the parasite plays a significant role in the observed inverse relationship between moose and white-tailed deer numbers is still unclear. Moose numbers are also affected by changes in habitat and weather, hunting, predation, and other parasites such as winter tick (*Dermacentor albipictus*) (Lankester and Samuel 1998). The extent to which moose are limited by *P. tenuis* can only be determined by measuring survival and reproductive rates of individuals in relation to their experience with the parasite under various conditions. Although relatively low rates of overt disease are observed in moose at moderate white-tailed deer densities, the possible importance of subclinical effects cannot be discounted. For example, an interesting modeling exercise by Ives and Murray (1997) demonstrated that sublethal effects of a parasite on snowshoe hare can have a destabilizing effect through increased vulnerability to predation, making population cycles more likely.

WAPITI/RED DEER. Meningeal worm can cause debilitating neurologic disease and death in free-ranging wapiti, and it has probably limited the success of past wapiti reintroductions into eastern North America (Anderson and Prestwood 1981; Raskevitz et al. 1991). Nonetheless, despite sporadic cases of parelaphostrongylosis, a few native populations and some introduced herds do persist on range with infected white-tails (Samuel et al. 1992). Infected wapiti or red deer have been reported in eastern Oklahoma (Carpenter et al. 1973; Raskevitz et al. 1991), Pennsylvania (Woolf et al. 1977; Olsen and Woolf 1978, 1979), northcentral Pennsylvania (Devlin and Drake 1989), Michigan and Virginia (Anderson and Prestwood 1981), and Manitoba (Pybus et al. 1989).

Prevalence and intensity of infection in wapiti in areas with sympatric infected white-tailed deer are not well documented. However, contact rates with the parasite can be fairly high while cases of overt disease are less frequent. Histological lesions suggestive of infection were seen in 34% of clinically normal wapiti sampled over a 5-year period in Pennsylvania, but only 11 cases of neurologic disease were recorded (Olsen and Woolf 1979). Infection was most frequent in 1.5 to 2.5-yr-old animals. Four sick wapiti with a history of circling, ataxia, adipsia, or vision impairment were seen within a year or two of being released in eastern Oklahoma (Carpenter et al. 1973). Most were yearlings, and each had 1–3 adult *P. tenuis* in tissues of the brain. The parasite is presumed to behave similarly in red deer.

Experimentally, the development of worms in wapiti is similar to that in white-tailed deer (Anderson et al. 1966). Worms and microcavitations were seen mostly in dorsal horns of grey matter along the entire length of the spinal cord; some worms entered the central canal. Although a few lesions were found in the medulla, choroid plexus, and cerebellum, their relative scarcity in the brain, compared to that in the spinal cord, is in accordance with results seen in experimentally infected moose (Anderson 1964b). As in moose, developing worms stayed an abnormally long time in the spinal cord, but tissue invasion and heavy infiltrations of lymphocytes, eosinophils, and plasma cells in the epineurium and connective tissue surrounding spinal nerve roots were more marked than in moose (Anderson et al. 1966).

Lesions seen in naturally infected wapiti with adult worms in the cranium consisted mostly of meningitis with focal, disseminated areas of lymphocytes, macrophages, eosinophils, and some giant cells (Carpenter et al. 1973). Adult nematodes were found only in the meninges and elicited little inflammatory response. Lesions in the brain and spinal cord included mild cuffing and gliosis with little reaction visible around clumps of nematode eggs and larvae in brain parenchyma. There was no evidence of nematode-induced trauma as seen in the cord of experimental animals by Anderson et al. (1966).

The severity and outcome of infection in wapiti is dose dependent (Samuel et al. 1992). All animals (2 or 7 months old) given 125 or more L_3's died, while only six of eight given 25 or 75 L_3's showed neurologic signs (two died). Several elk shed L_1's in their feces 78–165 days postinfection. Five given 15 larvae showed no clinical signs nor shed larvae, even though two animals had 2 and 3 adult worms in the cranium when killed up to 158 days postinfection. Clearly, some wapiti can resist or recover from doses of infective larvae (Anderson et al. 1966; Samuel et al. 1992) that are much greater than those likely to be encountered in nature. Nonetheless, mortality of wapiti is probably related to the number of infective larvae ingested, the age at infection, and possibly the specific damage caused by worms within the central nervous system. It has yet to be demonstrated whether a degree of acquired immunity will, in time, reduce observed herd mortality following an introduction.

Potentially, wapiti could introduce *P. tenuis* to areas where white-tailed deer are presently free of infection (Samuel et al. 1992). Although only a few larvae appear intermittently in the feces of experimentally infected elk (Anderson et al. 1966; Welch et al. 1991), both the worm and the host are long-lived, thereby increasing the potential for the parasite to become established. In nature, the presence of dorsal-spined larvae of *P. tenuis* have been presumed in wapiti feces in Minnesota (Karns 1966) and proven in samples from central and southwestern Manitoba (Pybus et al. 1989). There is, however, no evidence that *P. tenuis* can persist in wapiti populations without the continued presence of white-tailed deer.

CARIBOU/REINDEER. There are no reports of *P. tenuis* in free-ranging caribou but there is considerable evidence that caribou and reindeer are particularly suscep-

tible to meningeal worm. The parasite has been suspected of being a factor in the failure of several caribou introductions in areas with white-tailed deer, including the Cape Breton Highlands, Nova Scotia (Dauphiné 1975); Red Lake Refuge, Minnesota (Karns 1979); Liscombe Game Sanctuary, Nova Scotia (Benson and Dodds 1977); and Baxter State Park, Maine (McCollough and Connery 1990). After reviewing 33 reintroduction attempts in eastern North America, Bergerud and Mercer (1989) concluded that caribou cannot be reintroduced to ranges where white-tailed deer have a high frequency of meningeal worm infection. Presently, there are few places in eastern North America, with the exception of eastern Quebec, where infected white-tails even threaten to encroach on caribou habitat.

Even holding caribou or reindeer in enclosures in areas occupied by white-tailed deer has had dire consequences in Ontario (Anderson 1971b), central Wisconsin (Trainer 1973), Virginia (Nichols et al. 1986), and Maine (McCollough and Connery 1990). Anderson (1971b) provided a detailed account of the fate of a shipment of reindeer from Norway placed in an enclosure that had been recently constructed on white-tailed deer range. Neurologic disease was first seen 3 months after their release, and within 5 months, 8 of the 12 were showing signs. In Wisconsin, all of 14 woodland caribou (including 10 adults) released into a 2640 ha enclosure with 600 white-tails, died within 6 months. Trainer (1973). Typically, caribou that were otherwise in good condition showed lumbar weakness, posterior ataxia, circling, severe torticollis, and bulging eyes.

Anderson and Strelive (1968) experimentally infected each of two woodland caribou calves with 200 L3's of *P. tenuis*. Slight neurological signs began 5–7 days postinfection. One died shortly thereafter of a mycotic infection while the second showed progressively severe signs including severe ataxia with knuckling and posterior weakness and was euthanised 29 days postinfection. Developing worms were in dorsal horns of grey matter of the spinal cord and in the medulla oblongata and brain stem. Traumatic lesions and worms were unusually numerous in lateral and dorsal funiculi of white matter, compared to other experimentally infected cervids.

The feasibility of reintroducing caribou into parts of their former habitat now occupied by white-tails has been examined more recently by Gogan et al. (1990) and Pitt and Jordan (1994), but no such introductions have been attempted. This is probably contraindicated unless white-tailed deer can be kept at extremely low densities and caribou can be protected from most other causes of mortality.

MULE DEER/BLACK-TAILED DEER. There are no reports of parelaphostrongylosis in wild mule deer, despite their proximity to infected white-tailed deer in areas such as southwestern Manitoba. Nonetheless, their susceptibility, as well as that of black-tail χ white-tail hybrids, has been demonstrated experimentally (Anderson et al. 1966; Nettles et al. 1977a; Tyler et al. 1980). Mule deer given 75–200 larvae showed neurologic signs after 35 days that progressed rapidly to paralysis within 80 days postinfecton (Tyler et al. 1980). All died or had to be euthanised, except one adult that showed only slight signs before recovering. Tyler et al. (1980) suggested that mule deer show a weaker cellular response to *P. tenuis* than black-tailed deer as described by Nettles et al. (1977a). Anderson et al. (1966) noted that worms from an experimentally infected mule deer were fertilized, suggesting that *P. tenuis* might become patent in this host if individuals survived long enough. Nematode eggs were found in the cranial dura of a mule deer killed at 87 days postinfection by Tyler et al. (1980), but no larvae were found in lungs or feces.

Histological findings in an experimentally infected mule deer fawn were considered noteworthy since some worms were still in nerve tissue 62 days postinfection (Anderson et al. 1966). Traumatic lesions were intermediate in size and number between moose and wapiti, and white-tailed deer. Cellular infiltration of the neural parenchyma was slight or absent, but worms and tracks left by worms were relatively numerous in the brain. Lesions found in fawns were also most severe in the brain, while those in adult mule deer were more marked in the spinal cord (Tyler et al. 1980). These authors concluded that adult mule deer are more likely to succumb within 40 days to the initial effect of the parasite developing in the spinal cord, whereas fawns may survive this phase, only to have signs reappear later, possibly when large adult worms reenter brain tissues.

Black-tailed deer and their hybrids will not prosper on range with appreciable numbers of infected white-tailed deer (Nettles et al. 1977a). A herd brought to Tennessee grew in number and rarely had sick animals as long as they were held in an enclosure with relatively few white-tailed deer. When some were released into an area where white-tails were increasing, neurologic disease was more frequent, and numbers steadily declined. Black-tails found dead or unable to stand had up to three adult *P. tenuis* in the cranial and spinal subdural space, in the lateral ventricle, or associated with the optic nerve. Multiple foci of malacia, gliosis, and microhemorrhage were seen mostly in white matter of the brain and spinal cord. No eggs or larvae were detected in lungs or feces.

FALLOW DEER. Parelaphostrongylosis has been reported in fallow deer on a game ranch in Georgia (Kistner et al. 1977) and in the Land between the Lakes area bordering Kentucky and Tennessee (Nettles et al. 1977b). In one instance the rapid onset of hindquarter weakness and paresis was seen in adult deer following strenuous capture efforts. Up to four adult worms were found in the cranial and spinal subdural space of other animals found with advanced neurologic impairment but no eggs or larvae were observed in lungs or feces. The persistence of fallow deer in the Land between

Lakes area with white-tailed deer at 13/km^2 later led Davidson et al. (1985) to hypothesize that fallow deer may have a degree of innate resistance to *P. tenuis* and that lightly infected individuals may acquire protective immunity against reinfection. Evidence supporting this idea included mild degenerative and inflammatory central nervous system lesions (considered indicative of prior *P. tenuis* infection) in several adult animals that were otherwise normal and in good physical condition.

Histological lesions in fallow deer showing neurologic signs include thickening and chronic lymphocytic inflammation with mineralization of the dura and microcavitations, and lymphocytic and eosinophillic cuffing, within the cervical and lumber cord (Kistner et al. 1977). Scattered foci of malacia, gliosis, microhemorrhage, and mononuclear cuffing are evident in brains (Nettles et al. 1977b). Small round nodules (2–3 mm diameter) visible on the surface of the cord represent granulomatous accumulations of mononuclear cells and often surround cross sections of dead nematodes.

Pybus et al. (1992) infected six fallow deer fawns with 25 or 150 L_3's, and all died. The three fawns given the higher dose died of peritonitis 6–23 days postinfection. Those given lower doses showed progressive paralysis and had to be euthanized 54–67 days postinfection; a mean of ~20 adult worms was recovered from the nerve tissue and subdural space of the central nervous system. A strong lymphoid response and the presence of dead worms were considered evidence of some innate immunity. Small, fleshy lymphoid nodules were seen along the thoracic cord and epidurally around nerve roots, as were widespread, multifocal meningitis and myelitis of the central nervous system. Adult worms remained in the spinal grey matter and cerebral white matter well after 40 days when they leave the cord of white-tailed deer.

Sporadic mortality can be expected in fallow deer held on farms with infected white-tails. Survival of individuals will probably depend on the number of infective larvae ingested, possibly the age at first exposure, and the time elapsing between reinfection. Although fallow deer have never been known to pass *P. tenuis* larvae, the feces of few survivors of infection have been examined. Caution is urged in translocating fallow deer from enzootic areas (Pybus et al. 1992).

Diagnosis. Recovering adult worms from the central nervous system is presently the only way to confirm infection with *P. tenuis*. Dimensions, particularly of the male spicules and gubernaculum, will distinguish *P. tenuis* from close relatives (Carreno and Lankester 1993). Clinical neurological signs in susceptible species held near white-tails are suggestive of infection, as is the presence of nematode eggs (50 (m diameter) and larvae in washings of the cranium or in histological sections of central nervous system tissues.

Dorsal-spined larvae in cervid lungs or feces are not diagnostic of *P. tenuis* infection. The dimensions of the first-stage larvae of several closely related species are similar (Prestwood 1972; Pybus and Shave 1984; Lankester and Hauta 1989). The Baermann funnel technique is unreliable for detecting and quantifying larvae in feces, and a more sensitive method using fecal pellets held in screen envelopes and submerged in water-filled, straight-sided beakers has been described (Forrester and Lankester 1997a). Forrester and Lankester (1997a) also emphasized the importance of expressing numbers of larvae on a dry weight basis since the weight of "fresh" feces changes rapidly in air. Even this improved methods has limitations. A fecal test cannot be relied upon to identify those animals that pass larvae in very low numbers, or only intermittently (Welch et al. 1991). In addition, a fecal test is of no diagnostic value in a case of clinical illness due to unisexual infection. Apparatus used in fecal examinations is easily contaminated. Larvae from previous samples can remain viable on glassware, but a hot soapy wash and a vigorous alcohol rinse will effectively remove them (Whitlaw and Lankester 1995). In the absence of fecal samples, washes of the oral cavity can be used to detect white-tailed deer passing larvae (Slomke et al. 1995).

Larvae from feces can be used to infect gastropods and to produce L_3's. The distinctive C- or J-shape assumed by lungworm larvae when they are heat-relaxed helps to distinguish L_1's and L_3's from other nematode larvae that occur commonly in fecal material and in gastropods, respectively (Anderson 1963a). The dimensions of L_3's, however, also overlap with those of closely related species, and the size and position of a dorsal bump near the tip of the tail, considered to be diagnostic (Ballantyne and Samuel 1984), may be too variable in this and other species to be useful (Lankester and Hauta 1989). Many of the problems associated with the identification of larvae may be superseded by the application of molecular techniques.

Progress has been made using polymerase chain reaction (PCR) to identify elaphostrongyline larvae in feces (Gajadhar et al. 2000). Amplification of ITS-2 DNA of both L_1's and L_3's, as well as adult worms, allowed the separation of *Parelaphostrongylus* spp. from closely related genera. Available primers also distinguished all three species of the genus: *P. tenuis, P. odocoilei,* and *P. andersoni.*

Hematology and blood chemistry are of limited value in detecting infection. Eosinophilic pleocytosis of the cerebrospinal fluid was used in conjunction with clinical signs to make a presumptive antemortem diagnosis of meningeal worm infection in llamas in an endemic area (Lunn and Hinchcliff 1989). However, Rickard et al. (1994) concluded that cerbrospinal fluid and serum chemistry values were too variable to be of diagnostic value in llamas, as was concluded for goats and white-tailed deer (Dew et al. 1992).

The lack of a reliable conventional test for *P. tenuis* infection in cervids has stimulated considerable interest in the development of a blood test using immunological and molecular techniques. Dew et al. (1992), using antigen extracts from adult *P. tenuis* in an enzyme-linked immunosorbent assay (ELISA), demonstrated antibodies in both serum and cerebrospinal fluid of two

goats, but only in cerebrospinal fluid of two white-tail fawns, 4–8 weeks after infection. Using similar methods, Duffy et al. (1993) detected a serum antibody response in two experimentally infected white-tail fawns 75 days after they received 20 *P. tenuis* L_3's, and in nine naturally infected white-tailed deer.

Using sera obtained from rabbits immunized with *P. tenuis* soluble extracts, Neumann et al. (1994) identified two larval (L_3) and seven adult somatic antigens of *P. tenuis* that differed from those in *Dictyocaulus viviparus* and *Trichinella spiralis*. A continuation of this work led to detection of serum antibodies to *P. tenuis* antigens in wapiti (Bienek et al. 1998). When reactivity of sera was tested using an ELISA, larval and adult antigens were consistently recognized by serum from wapiti given 300 L_3's, but only larval antigens were recognized by those given 15. When these sera were further tested by immunoblot analysis, samples (collected from elk with adult worms in the central nervous system) consistently recognized the 25–27, 28–30, and 34–35 kDa antigens of infective larvae after 83 days. However, several *D. viviparus* molecules also were recognized by antibodies directed at *P. tenuis*.

Recent studies show continued progress toward a more sensitive and specific blood test for *P. tenuis* in white-tailed deer using excretory-secretory and somatic antigen preparations from L_3's and somatic antigens from adult worms (Ogunremi et al. 1999a,b). Larval preparations, particularly excretory-secretory antigens, were superior in that they detected infections earlier and more consistently, while somatic antigens prepared from adult worms failed to detect all *P. tenuis* infected animals. This work also revealed considerable cross-reactivity between unfractionated antigen preparations of *P. tenuis* and sera from other cervids infected with the related nematodes *P. andersoni* and *E. rangiferi*. Anti-*P. tenuis* L_3 antibodies were detected as early as 21 days after infection of white-tailed deer given as few as six infective larvae (and later found to have only three adult worms in the cranium). Immunoblotting demonstrated that a total of six *P. tenuis* antigens were recognized, but only one, a 37 kDa protein present in both larval and adult antigen preparations, reacted specifically with serum from infected white-tailed deer. This antigen may be indistinguishable from the 36 kDa protein identified by Neumann et al. (1994) and may be unique to *P. tenuis*. Its reliability in a routine serological test is being examined more closely (O. Ogunremi et al., unpublished).

A satisfactory blood test for *P. tenuis* in white-tailed deer and wapiti requires a high level of sensitivity, allowing early detection of lightly infected and prepatent animals, and a degree of specificity that will not produce false positives in animals infected with other parasites. With helminth infections these standards are difficult to meet and will require rigorous field validation. Yet, such a test will be of great value in veterinary practice and wildlife management.

Immunity. An acquired or concomitant immunity following low-dose infections in white-tailed deer (Slomke et al. 1995) and fallow deer (Davidson et al. 1985) is suggested by field studies but has not been confirmed experimentally. Protection against a challenge infection with *P. tenuis* may also occur in moose (M.W. Lankester, unpublished). The nature of this apparent protection is just beginning to be understood. Antibody titers against larval *P. tenuis* antigens continued to increase in some infected white-tailed deer throughout 147 days of experimentation but declined in others after 2 months (Ogunremi et al. 1999a). This decline might be expected as worms mature to the adult stage. However, if the 37 kDa antigen found in both L3's and adult *P. tenuis* are similar, either adult worms or repeated exposure to L_3's in nature may maintain or continually boost the antibody response in many animals (Ogunremi et al. 1999b).

Innate differences in the susceptibility of various cervids to *P. tenuis* apparently exist. In part this is reflected by the relative success of larvae in reaching the central nervous system. For example, at least when relatively high doses are given (> 150 L_3) about 1 of every 5 larvae given to moose reaches the spinal cord to begin development while only 1 in 20 do so in white-tailed deer (Anderson 1963a, 1964a, 1965c; M.W. Lankester, unpublished). Host species with the least innate defense against migrating larvae can be expected to succumb most frequently to low-level, natural infection when sharing range with infected white-tailed deer. Rickard et al. (1994) recognized that resistance to the parasite, whether innate or acquired, appears to be more effective when animals are exposed to few infective larvae. Although the minimum dose required to produce sustained neurologic disease is unknown for most susceptible hosts, available field and experimental data suggest that caribou, mule deer, and black-tailed deer are the most likely to exhibit signs of parelaphostrongylosis following exposure to low-level infection under field conditions. The next most susceptible hosts are moose, followed by fallow deer and wapiti and red deer. Similarly for domestic species, llamas are more susceptible than goats and goats more than sheep. A dearth of cases in domestic cattle suggests that they may be the least susceptible, yet exotic bovids housed near white-tails clearly are vulnerable.

Evidence of age immunity is equivocal. Although parelaphostrongylosis tends to be seen more frequently in young moose, older animals also become infected (Whitlaw and Lankester 1994a; Dumont and Créte 1996). When adult moose were introduced into Michigan, 38% of mortality seen over the first few years was due to *P. tenuis* (Aho and Hendrickson 1989). Thereafter, fewer sick animals were reported, and the herd continued to grow. Dispersal of animals and decreased surveillance could have accounted for fewer reports of disease, but some of the surviving animals may have acquired a degree of protection. Disease is reportedly seen most frequently in younger wapiti (Olsen and Woolf 1979).

A strong immune response by white-tailed deer might also explain in part why *P. tenuis* has not spread

westward. As prevalence and intensity drop in drier grassland habitat that is marginal for transmission, an increasing number of white-tailed deer may acquire only a single worm and become immune. A high proportion of single-sex infections producing no larvae would depress parasite productivity and contribute to the low prevalence often seen near the parasite's distributional limits (Kocan et al. 1982; Whitlaw and Lankester 1994b; Wasel 1995).

Control and Treatment. Rates of disease may be controlled in cohabiting wild cervids by reducing white-tailed deer numbers, through liberal hunting, for example. Risk of infection by captive stock can be reduced by the use of white-tailed deer–proof fencing and gravel or paved barriers treated with molluscicides. Zoos should choose neonatal white-tails when acquiring new stock. Otherwise, susceptible species should be separated from white-tailed deer by mollusc barriers. It is not known how much time must elapse before ground that has previously held infected white-tailed deer is safe. However, some *P. tenuis* larvae probably live in the soil at least 1 year, and some snail hosts live 2 or 3 years. Small enclosures with little or no ground vegetation can probably be freed of risk sooner by the replacement of soil or by tilling to promote drying.

Considerable effort has been made by owners and clinicians to save valuable exotic and domestic species, particularly llamas. Treatments have included various anthelminthics (levamisole, albendazole, diethylcarbamazine, subcutaneous ivermectin, oral fenbendazole, and intramuscular flunixine meglumine) as well as steroids and anti-inflammatory agents. None of these has been tested in controlled studies, but when used with good supportive care, they may contribute toward recovery, at least of lightly infected animals (Krogdahl et al. 1987; Lunn and Hinchcliff 1989; Rickard et al. 1994). Kocan (1985) demonstrated that ivermectin (at 0.1–0.4 mg/kg) will protect white-tailed deer and fallow deer if given 24 hours after experimental infection with *P. tenuis*. If not given until 10 days after infection, worms develop normally. By 10 days, migrating larvae have entered the spinal cord and appear to be protected by the so-called blood-brain barrier. Treatment has no effect on adult worms already in the central nervous system but depresses the number of larvae developing in the lungs and being passed in feces. Larvae reappear in feces, however, within a month of treatment (Kocan 1985). Ivermectin combined with banamine shows some promise in stopping the progression of signs in sick llama, although controlled studies have yet to be conducted (A. Kocan, personal communication).

Domestic Animal Health Concerns. Sheep have some innate resistance to infection. Reports of parelaphostrongylosis are infrequent, although some may go unrecognized or be misdiagnosed (Anderson 1965b). Sporadic cases of neurologic disease in sheep attributed to *P. tenuis* have been reported in New Hampshire, Connecticut, West Virginia, and Minnesota (Anderson and Prestwood 1981; Jortner et al. 1985; O'Brien et al. 1986). Morbidity in infected flocks has ranged from 2% (Alden et al. 1975) to 59% (Jortner et al. 1985). The worm does not mature in sheep, and spontaneous recovery from clinical signs has been observed (Alden et al. 1975). Progressive hind limb weakness leading to total paresis has been produced experimentally in lambs given ≥ 150 larvae (Anderson and Strelive 1966a). Cross sections of worms or their remains were seen in dorsal and ventral horns of grey matter with microcavitations, swollen axis cylinders, demyelination, giant cells, and gliosis in lateral and ventral funiculi of white matter. The amount of trauma to the central nervous system was surprisingly slight in view of the severity of signs, even in animals receiving 1000 L_3's. The authors suggested that worm secretions, excretions, or breakdown products of moribund and dead worms might account for some of the signs observed. In a study by Pybus et al. (1996), each of 12 domestic sheep lambs received 15–300 larvae; only 1 lamb (given 125 L_3's) showed mild transitory signs.

The response of bighorn sheep to *P. tenuis* is similar to that of domestic sheep (Pybus et al. 1996). Bighorns resist light infections but show neurologic signs or die if exposed to high numbers of larvae. In both domestic and bighorn sheep, most migrating larvae seem to be killed before reaching the central nervous system, thereby avoiding fatal damage to the host (Pybus et al. 1996).

Goats are somewhat more susceptible to meningeal worm infection than sheep. Neurologic disturbance caused by *P. tenuis* in naturally infected goats has been reported in New York, Texas, and Michigan (Anderson and Prestwood 1981; Kopcha et al. 1989). Infected animals usually were in good condition but frequently became separated from the flock (Guthery and Beasom 1979). They often stood in a "humped up" position and exhibited posterior weakness or ataxia that predisposed them to accidental death and coyote predation. Central nervous system lesions consisted of scattered malacic areas with adjacent clusters of gitter cells and blood vessels cuffed with lymphocytes and occasional eosinophils and plasma cells. One kid given only 50 larvae developed progressive hind limb weakness after about 40 days and died (Anderson and Strelive 1969, 1972). Goats given doses of 200 larvae or more, developed fatal necrotizing colitis and bacterial peritonitis within about a week. Worms can reach the adult stage in the central nervous system of this host. Similar results were reported by Dew et al. (1992).

Parelaphostrongylosis is either rare or largely overlooked in domestic cattle. A 3-month-old calf off pasture in Michigan was recumbent with a suspected thoracolumbar spinal cord lesion (Yamini et al. 1997). A coiled worm seen in histological sections of the lumbar region was associated with extensive vacuolation, necrosis, disintegration and swelling of axons in the funiculi, gitter cells in grey matter, and multifocal lymphoplasmacytic and eosinophilic, perivascular cuffing. In Virginia, a 7-month-old heifer presented with acute-

onset, rear-limb ataxia that progressed over 10 days to sternal recumbency (Duncan and Patton 1998). Sections of coiled nematodes resembling *P. tenuis* were present in nerve parenchyma of cervical and lumbar regions of the spinal cord. Perivascular, eosinophilic, and lymphoplasmacytic infiltrates were seen in the meninges and in white and gray matter, as were tracts and varying degrees of axonal degeneration at all levels of the cord. Grayish-white nodules (up to 7 mm diameter) visible grossly at the surface and within cervical, thoracic, and lumbar regions were characterised microscopically as nodular lymphoid hyperplasia.

Exotic Bovids and Camelids. Meningeal worm infection was confirmed in one, and suspected in a second, adult sable antelope in Virginia where white-tailed deer frequented the fence line of a zoological park (Nichols et al. 1986). Both animals showed a rapidly progressing hind limb ataxia. Hemorrhage and perivasculitis were seen in the dura over the brain and spinal cord as well as tracts, cuffing with lymphocytes, plasma cells, and eosinophils in nerve tissue; remains of a nematode were seen in the medulla of one animal. Oliver et al. (1996) reported a cluster of cases of neurologic disease in blackbuck antelope on two game farms in southwestern Louisiana that also held white-tailed deer. Clinical signs included a protracted course of weakness, staggering, trembling, torticollis, and eventual recumbency. Adult nematodes identified as *P. tenuis* and nematode larvae were found in the meninges and neural parenchyma of some animals; others were diagnosed on the basis of clinical signs and histological examination. Lesions in the meninges were remarkably slight, with perivascular cuffing and a few foci of granulocytic and lymphocytic infiltrates surrounding larvae. Foci of necrotic cells, glial cells, and areas of swollen axons were seen in the cerebral hemispheres. Sections of a worm were seen in the dorsal horn of gray matter of the spinal cord. Blackbuck antelope are a commonly raised exotic species in southwestern Louisiana and are often allowed to range freely with white-tailed deer on game farms (Oliver et al. 1996). Either infection is not widespread in white-tailed deer, or neurologic disease caused by *P. tenuis* may until recently have gone unnoticed.

Llamas and their relatives are susceptible to *P. tenuis* at doses that can be acquired on pastures frequented by white-tailed deer. Reports in New York (Brown et al. 1978), Ohio (Baumgartner et al. 1985), Minnesota (O'Brien et al. 1986), Virginia (Krogdahl et al. 1987), and Wisconsin (Lunn and Hinchcliff 1989) may underrepresent the frequency of cases in routine veterinary practice. The variety of camelids frequently held in zoological parks should be considered at risk unless isolated from infected white-tails.

The disease progresses rapidly and is often fatal. Signs include head tilting, arching of the neck, incoordination, difficulty rising, posterior paresis, and gradual loss of weight (Brown et al. 1978; O'Brien et al. 1986). Adult nematodes may be found associated with hemorrhage in the cranial meninges. Microscopi lesions in the brain and along much of the spinal cor include swollen and demyelinated axons, necroti tracts with debris, perivascular cuffing, and small cav tations in white matter surrounded by macrophages an glial cells (O'Brien et al. 1986). Experimentally, adu llamas given 5–7 infective larvae develop signs of neu rologic deficit with incoordination and hypermetr about 50 days after infection (Foreyt et al. 199 Rickard et al. 1994). Younger animals were affecte first. Two of six animals survived after showing onl slight neurologic signs; a dead nematode was found the central nervous system of one when the experime was terminated at 146 days postinfection (Rickard et a 1994). The presence of adult nematodes was associate with severe meningoencephalomyelitis and eosin philia of cerebralspinal fluids. Histological lesio were found primarily in the cervical spinal cord ar consisted of nonsymmetrical microcavitations of gre matter, and spongiosis of white matter accompanied b gliosis, infiltrates of lymphocyctes, and some plasn cells, histiocytes, and eosinophils. Llamas are consi ered to pose little risk of spreading meningeal worm nonendemic areas, since either they or the worms us ally die before infections are patent (Foreyt et al. 199 Rickard et al. 1994).

Management Implications. Every effort should b made by government regulation and game ranchi industry practice to prevent the introduction of *P. tenu* into western North America. The highly adaptab white-tailed deer presently flourishes in a variety habitats throughout the western United States a Canada and shares range with mule deer, black-tail deer, moose, wapiti, woodland caribou, and pron horns, all of which are susceptible to par laphostrongylosis. Currently, meningeal worm absent from western North America, but there is no re son to believe that conditions there are unsuitable f transmission if it were to arrive there with infect cervids. White-tails from enzootic areas represent t greatest threat of accidental introduction, but wapi and possibly other cervids, could be responsib (Samuel et al. 1992). To prevent such an occurren strict interstate/interprovincial and international mo toring of all ungulate translocations in conjunction w a reliable test are needed to exclude *P. tenuis*–infect animals (de With et al. 1998).

Ecosystyem restoration projects that involve t reintroduction of extirpated species are highly pub cized events and normally are not undertaken light Their failure can have high economic as well as poli cal costs. The complete failure of past attempts to int duce caribou, reindeer, and black-tailed deer i enzootic areas should clearly discourage any fut efforts, unless white-tails are virtually absent and guaranteed to remain so. A definitive assessment h yet to be made on the advisability of reintroduci moose into areas where *P. tenuis* occurs. The curr experiment in upper Michigan will provide valual

information if the interest and financial support needed to monitor white-tailed deer density and the growth of the moose herd can be sustained. The persistence of a few localized wapiti herds within white-tailed deer range has recently encouraged new introductions of several hundred wapiti from Alberta into Ontario and Kentucky. Introduced moose and wapiti will experience some initial mortality that may later diminish and involve mostly immunologically naive recruits to the population. Long-term monitoring of white-tail densities, intensity of *P. tenuis*, growth of the introduced population, and serological evidence of contact with the parasite will help determine the likelihood of success for future reintroductions.

The sizes of indigenous moose populations historically have varied inversely with white-tailed deer over the medium to long term, but the role of *P. tenuis* in these fluctuations still is not fully understood. The impact of the parasite may be relatively low in areas of eastern North America where range of moose and white-tailed deer overlap. Here, white-tailed deer numbers are periodically reduced by severe winters, and most populations are hunted. However, white-tail numbers are less restricted in parks and areas with extensive secondary forest succession following commercial harvesting or fire. Local conditions allowing increased white-tailed deer densities predictably will increase the number of sick moose. Possible subclinical effects of *P. tenuis* ultimately may prove to be important in understanding the long-term interaction between moose and infected white-tailed deer.

PARELAPHOSTRONGYLUS ANDERSONI PRESTWOOD, 1972

Classification: Nematoda: Metastrongyloidea: Protostrongylidae.

Common Name: muscleworm, parelaphostrongylosis.

Parelaphostrongylus andersoni is a widely distributed muscleworm of caribou (*Rangifer tarandus* var.) in North America and may also occur in reindeer in Eurasia (Fig. 9.1). Its occurrence in white-tailed deer, the host in which it was originally found (Prestwood 1972), probably is incompletely known. Infection runs a rapid course in young animals; first-stage larval production is high for several weeks and then subsides to low levels in older animals. Clinical disease has not been reported in naturally infected caribou or deer but a resulting interstitial pneumonia may compromise normal respiratory function. This parasite is also of interest because it shares cervid hosts with more pathogenic protostrongylids, namely *P. tenuis* and *E. rangiferi*, from which it must be distinguished.

Life History. Adult *P. andersoni* are delicate, thread-like nematodes (Table 9.1, Fig. 9.2) associated with blood vessels and connective tissue deep within loin (longissimus dorsi and psoas) and thigh muscles (Prestwood 1972; Pybus 1983; Pybus and Samuel 1984a; Lankester and Hauta 1989). A few may be seen on the surface of the lateral abdominal and intercostal muscles, but those located within larger muscles are only visible upon teasing muscle samples apart under a stereomicroscope. Adult worms are relatively short (females 23–36 mm long, males 17–23 mm) and only about 100 μm wide. Males and females are often paired. They may be loosely coiled or outstretched, with much of the body length oriented parallel to adjacent muscle fibers. Female worms are commonly seen lying partially within small veins where they deposit eggs. Eggs are carried as emboli to the lungs, where they lodge in alveolar capillaries and later hatch. First-stage larvae (L_1's) emerge into the alveolar spaces, move up the bronchial escalator, and are swallowed and passed in feces.

Larvae must penetrate the foot of a terrestrial gastropod in order to molt twice and develop to the L_3 or infective stage (Table 9.2). Natural infections have been found in the snail, *Mesodon* sp. (Anderson and Prestwood 1981), and the slug, *D. laeve* (Lankester and Fong 1998), but other species likely become infected as well. Experimentally, larvae developed to the infective stage within 3–4 weeks in *Mesodon* spp. and *Triodopsis* spp. held at 20° C–26° C (Prestwood 1972; Prestwood and Nettles 1977; Pybus and Samuel 1981). Snails probably remain infected for life, but intensity decreases with time (Anderson and Prestwood 1981). Cervids are infected upon accidentally ingesting gastropods with vegetation.

The migration and development of adult *P. andersoni* within cervid hosts is incompletely known. The best information comes from Pybus (1983) and Pybus and Samuel (1984a), who studied both *P. andersoni* and the related nematode *P. odocoilei* and concluded that both species behave similarly. An impressive 54% of infective larvae given to deer were recovered during necropsies. At 46 days postinfection, when animals were first examined, most worms were found in the backstrap muscles. They had already reached the fifth stage, but none was gravid. In animals examined at later intervals, some worms appeared to move away from this location and were found in a variety of skeletal muscles (hind legs, abdominal wall, thorax, and neck), in epidural fat within the lumbar and sacral regions of the spinal canal, and in an enlarged spinal lymph node in the cauda equina. Curiously, some adults were found in abdominal fat deposits immediately ventral to the sacral vertebrae and overlying the ventral curvature of the abomasum (Pybus and Samuel 1984a). Prestwood (1972) also mentioned finding a fragment of an adult worm in washings of the abomasum. These results suggest that migrating L_3's of *P. andersoni* and *P. odocoilei* do not have to reach a particular site or tissue in which to molt, as has been demonstrated for related neurotropic forms (namely *P. tenuis* and *Elaphostrongylus* spp.). Studies in guinea pigs and rabbits likewise suggest that L_3's migrate in the body cavity and penetrate tissues directly, but some

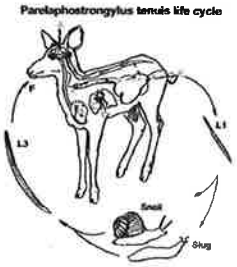
Attachment 2:

John Caywood's 1-22-15 testimony on IDAg's proposed importing of Meningeal worms

Mr. Chairman, Committee Members:

I am John Caywood, an Idaho resident for over 40 years, representing myself.

This year's Elk Industry proposal to further dismantle Idaho's animal health regulations would significantly reduce Administrative Rule protections of our economy, resources and family hunting traditions enjoyed by over 400,000 Idahoans.



Benefits sought by a few dozen shooter bull operators do not justify the significantly increased risk and probable harm to the Public Interest. To put this in perspective, this committee is considering loosening cervid protections while Oregon, Washington and Nevada flatly prohibit elk farming and Montana and Wyoming severely restrict it – all to protect their citizens' Public Interest and sovereign resources.

Key Points:

- The proposed rule's "test and treat" requirement is nonsensical as literature indicates meningeal parasites can neither be detected in live cervids nor effectively treated.[1]
- Scientists have not conclusively established whether other cervids are able to carry and pass on the meningeal worm.[2]
- Idaho's economy and resources shouldn't be at risk of a new exotic worm -- whether from farmed cervids or federally introduced wolves.
- There is insufficient reason to change Rules proven protective of our economy and resources.
- Elk ranchers have abundant cervid sources. They can import meningeal free cervids from 23 jurisdictions -- 17states and 6 provinces.
- "Do no harm." There is no urgent need to change Rules that protect rural economies and resources from this exotic parasite. The Genie should be left in the bottle.
- Reducing animal health protections endangers Idaho's economy and resources.

Meningial Worm Distribution in North America

[1] http://www.petmd.com/blogs/thedailyvet/aobrien/2013/aug/a-passion-for-parasites-meingeal-worm-30746
[2] https://www.courtlistener.com/opinion/666934/pacific-northwest-venison-producers-a-washington-c/

THE SCIENCE ON MENINGEAL WORMS

Disease significance: Mortalities in captive species; failed reintroduction of cervid species .... ; suppression of elk and moose populations; suspected cause of moose population declines in central and eastern North America.

Disease host: White Tailed Deer ... natural host ... rarely clinically affected ... 80% infected in endemic areas.

Aberrant hosts: ... Moose, caribou, mule deer, elk, llamas alpacas, pronghorn, sheep, goats, bison, rarely cattle and horses.

Diagnosis: In aberrant hosts, no ante-mortem diagnosis is available. Post-mortum recovery of adult worms or identification of larvae in neurological tissue is the **only** confirmatory test.

Meningeal worm in elk: Can cause debilitating neurological disease and death, and it has probably limited the sucess of past elk reintroductions into eastern North America. Potentially, elk could introduce meningeal worm to areas where white tailed deer are presently free of infection. **Meningeal worms can be spread through the translocation of infected hosts.**

Domestic animals: In certain areas, meningeal worms cause financial loss to owners of llamas, sheep and goats that share range with white tail deer and it is an important concern in game farm settings. Cases in sheep reported in New Hampshire. Connecticut,West Virginia and Minnesota with morbidity in flocks ranging from 2% to 59%. Cases in goats reported in New York, Texas and MIchigan.

Treatment: Includes various anthelminthics. None of these have been tested in controlled studies, but when used with good supportive care, they **may** contribute toward recovery, at least of **lightly infected animals.** Ivermectin will protedt if given within 24 hours after infection. By 10 days, larvae have entered the spinal cord and appear to be protected by the blood brain barrier. Treatment has no effect on adult worms already in the cental nervous system but depresses the number of larvae being passed in feces. **Larvae reappear in feces within a month of treatment.**

Control: Every effort should be made by government regulation and game ranching industry practice to prevent the introduction of meningeal worm into western North America. Ther is no reason to believe that conditions there are unsuitable for transmission if it were to arrive there with infected cervids. White tails represent the greatest threat of accidental introduction, but elk, and possibly other cervids could be responsible. **Fear of spreading this parasite to western North America has led to legislation restricting the translocation of white-tails and other hosts in which the parasite occasionally matures.**

Scientific authorities: The above materials are excerpts from " Extrapulmonary Lungworms Of Cervids, Parasitic Diseases Of Wild Mammals, Second Edition", and " Meningeal Worm, American Association of Zoo Veterinarians Infectious Disease Committee Manual, 2013" Copies of the source materials have been provided also.

MENINGEAL WORM (*Parelaphostrongylus tenuis*)

Animal Group(s) Affected	Transmission	Clinical Signs	Severity	Treatment	Prevention and Control	Zoonotic
Ungulates, notably cervids	Oral - Ingestion of infected intermediate host which includes numerous terrestrial mollusk species (i.e., snails and slugs)	Neurologic	Ranges from mild lameness to recumbency and death. Severity is typically worse in young animals and may vary between species.	High doses of anthelmintics combined with anti-inflammatories; supportive therapy	Prophylactic anthelmintic administered every 4-6 wks; exclusion of the natural host (white-tailed deer); elimination or control of mollusk population	No

Fact Sheet compiled by: Rae Gandolf and Julie Ter Beest

Sheet completed on: 1 January 2011; updated 9 October 2012

Fact Sheet Reviewed by: Murray Lankester, Priya Bapodra

Susceptible animal groups:
Natural host: The white-tailed deer (*Odocoileus virginianus*) serves as the natural host and is rarely clinically affected; they can shed numerous dorsal-spined larvae in their feces. Approximately 80% of white-tailed deer are infected in endemic regions.
Aberrant or dead-end hosts: Other cervid species (moose, caribou, mule deer, elk, Sika deer); camelids (camels, llamas, alpacas); pronghorn; some bovids (many antelope species, bighorn sheep, Angora goats, bison, rarely domestic cattle); and rarely equids (reported in domestic horses) may show severe clinical signs. Overall, these species rarely shed larvae in their feces.

Disease significance: Mortalities in captive species; failed reintroduction of cervid species such as caribou; suppression of elk and moose populations; suspected cause of moose population declines in central and eastern North America.

Causative organism: *Parelaphostrongylus tenuis,* an extrapulmonary lungworm nematode

Life cycle: The natural host (white-tailed deer) acquires the infection through accidental ingestion of mollusks infected with 3rd stage larvae. The larvae migrate from the gastrointestinal tract along spinal nerves and into the spinal cord where they develop to the last larval state. Adult worms then locate on the meninges and in the cranial venous sinuses where they lay eggs. The eggs pass into the venous circulation, develop into 1st stage larvae in lung capillaries, and then migrate into the lung tissue. These larvae are expectorated, swallowed, and passed in the feces. Mollusks acquire larval infection when crawling over feces and the parasite develops into the infective 3rd stage larvae within this intermediate host.
In the aberrant host, infection is acquired by the same route. However, migration of the larvae in the spinal cord tends to be non-directional and larvae often die before reaching the brain. The aimless migration and larval death result in more local tissue damage as compared to the natural host. Larvae infrequently develop into reproductive adults in the aberrant host.

Zoonotic potential: None reported

Distribution: Predominantly associated with deciduous and deciduous-coniferous forests of eastern and central North America, concurrent with white-tail deer populations. It is uncertain why deer of the southeast

MENINGEAL WORM (*Parelaphostrongylus tenuis*)

coastal plains region and of western North America are not infected.

Incubation period:
Natural host: pre-patent period 82-137 days, inversely proportional to infection dose.
Aberrant host: signs typically appear in 30-60 days, as short as 5 days reported in experimental infections.

Clinical signs: Neurologic signs are associated with intracranial or spinal cord inflammatory lesions caused by parasite migration. Signs may range from single limb lameness or rear limb weakness to head tilt, ataxia, circling, blindness, progressive loss of motor function and death. Ocular symptoms associated with migration of larvae into the uvea have been reported.

Post mortem, gross, or histologic findings Lesions in the aberrant host consist primarily of histologic changes in the brain and spinal cord. They may include meningitis and encephalitis; perivascular cuffing and infiltrations of eosinophils, lymphocytes, and plasma cells; calcified remains of worms; worm tracks; focal traumatic malacia caused by developing nematodes; gliosis; disruption of the ependyma; neuronal and myelin degeneration. Eggs and larvae may be found associated with the eyes or the roots of cranial nerves, on the leptomeninges, and in brain tissue.

Diagnosis:
Natural host: Modified Baermann technique for retrieving 1st stage larvae from feces. Larvae must then be differentiated from related species using PCR. However, there are limited species of dorsal-spined larvae and they are easy to retrieve, allowing for presumptive diagnosis. In addition to white-tailed deer, moose and elk may shed the larvae in low numbers.
Aberrant hosts: No ante-mortem diagnosis is available. Post-mortem recovery of adult worms or identification of larvae in neurologic tissue is the only confirmatory test. A nested PCR assay has been developed to confirm larval identification in the case of verminous migration in horses. A commercial serum ELISA detecting antibodies against 3rd stage larvae in cervid species was briefly available in Canada to aid in diagnosis of ante-mortem cases; results have been reported for moose and elk, but this test is not currently available.

Material required for laboratory analysis: Post mortem: spinal cord and brain
Antemortem: plasma or serum (aberrant hosts), feces (white-tailed deer, moose and elk)

Relevant diagnostic laboratories:
ELISA: Prairie Diagnostic Services, Regina, Saskatchewan, Canada

Treatment: High dose fenbendazole (20-50mg/kg orally once daily for 5 days) and or high dose ivermectin (0.3-0.4mg/kg SC daily for 3-5 days), or levamisole, in addition to supportive therapies including non-steroidal or steroidal anti-inflammatory drugs, vitamin E, and vitamin B complex. Early initiation of treatment is key to success.

Prevention and control:
Captive species: Administration of anthelmintics every 4 -6 weeks to target 3rd stage larvae before they migrate to neural tissue; minimize exposure of captive animals to mollusks by establishing gravel roads or other vegetation breaks to act as snail and slug barriers; use molluscicides with caution due to potential for environmental toxicity; allow non-susceptible species to initiate grazing on new or overgrown pastures; reduce white-tailed deer population and build fences to exclude them.
Free-ranging species: Control of white-tailed deer population to reduce exposure.

Suggested disinfectant for housing facilities: Molluscicides (copper sulfate, metaldehyde, sodium pentachlorophenate) may be used against the intermediate host with caution, as they are potential environmental toxins.

Notification: None

Measures required under the Animal Disease Surveillance Plan: None.

MENINGEAL WORM (*Parelaphostrongylus tenuis*)

Measures required for introducing animals to infected animal: As no direct transmission of the parasite occurs, and species susceptible to clinical disease do not typically pass larvae, infected animals do not pose a direct threat to un-infected animals. However, white-tailed deer should generally be considered as infected, and exposure of susceptible species to white-tailed deer should be avoided as possible.

Conditions for restoring disease-free status after an outbreak: This disease is endemic in white-tailed deer populations of eastern North America.

Experts who may be consulted:

Murray Lankester
Lakeland University
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955 Oliver Road
Thunder Bay, Ontario
Canada P7B 5E1
Phone: (807) 343-8460
Fax: (807) 346-7796
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Attn. Senate Ag. Affairs Committee

The Idaho Elk Breeders Association helped to draft the legislation last year, and was involved in the negotiated rule making process for the rules before you today. The legislation increased our annual inventory fees, and initiated fees on imports as well as exports to help the Idaho State Department of Ag. operate and maintain the domestic cervidae program. We also worked with ISDA to reduce our testing % (for cwd) to 10% on animals we intentionally cull, any animals that die of unknown causes will still have to be tested 100%

The changes to the import rules are to help lift restrictions on animals being imported from east of the 100th meridian. Montana already has removed this restriction. As elk are a dead end host (the minangeal cannot complete its life cycle), and deworming to eliminate the adult stages of the worm would be required prior to import. The risk is greatly minimized that any worms could be imported. The parasite already exists in moose populations in Idaho.

In conclusion, The IEBA supports both of the proposed rule changes before you today.

Sincerely,

William D. Miller

02.04.21 - Rules Governing The Importation Of Animals (Cervidae)

02.04.19 - Rules Governing Domestic Cervidae

AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Tuesday, January 27, 2015

SUBJECT	DESCRIPTION	PRESENTER
Docket No.		
29-0102-1401	Payment of Tax and Usage of Certification Marks and Trademarks	Patrick Kole, Executive Director
	Rules Review Department of Agriculture	
02-0105-1401	Governing Certificates of Free Sale	Laura Johnson, Bureau Chief
02-0602-1401	Pertaining to the Idaho Commercial Feed Law	Katie Mink, Section Manager
02-0605-1401	Diseases of Hops (Humulus lupulus)	Jared Stuart, Section Manager
02-0612-1401	Pertaining to the Idaho Fertilizer Law	Katie, Mink, Section Manager
02-0627-1402	Governing Bacterial Ring Rot Caused by (Clavibacter Michiganensis subsp. Sepedonicus) of Potato	Lloyd Knight, Administrator
02-0641-1401	Pertaining to Soil and Plant Amendment Act of 2001	Katie Mink, Section Manager
02-0801-1401	Sheep and Goat Rules of the Idaho Sheep and Goat Health Board	Stan Boyd, Executive Secretary

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
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MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Tuesday, January 27, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking, and Burgoyne
ABSENT/ EXCUSED:	None
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Chairman Rice** called the meeting to order at 8:00 a.m.
PASSED THE GAVEL:	Chairman Rice passed the gavel to Vice Chairman Bayer.

DOCKET NO. 29-0102-1401

Payment of Tax and Usage of Certification Marks and Trademarks, Patrick Kole, Vice President and Government Affairs, stated that the Idaho Potato Commission (IPC) has a terrible counterfeiting problem on the East Coast. Potatoes are being misrepresented as Idaho Potatoes when they are from Wisconsin or Maine, because Idaho has created equity value in the brand. On average Idaho potatoes bring in a premium of 25 cents to 50 cents for a 5 pound bag. However, that value does not always get back to the grower because there are middlemen in the chain. The Commission tries to capture that value and bring it back to the growers, shippers and processors.

Changes to the rule are in containers:
1) Several forms of the Grown in Idaho Certification mark and the original Grown in Idaho seal say Grown in Idaho but do not have potato in the language. This has produced a disconnect with consumers. This led to the certification marks that have the language "Idaho Potato".

2) No container may use a "check off" box format for state of origin.

3) No seal, trademark, certification mark, brand, or similar device used to promote potatoes not grown in Idaho can be placed on the container.

4) The size change of the certification marks that can appear on containers. The rules governing No. 2 potatoes were structured in the rules governing No. 1 potatoes. The size requirements for seals were smaller for U.S. No. 1 potatoes. The change in the rule now requires that the size of the certification marks be the same for No. 1 potatoes as a No. 2 potatoes.

Senator Souza said on page 86 it states that the IPC would hold a formal hearing to ensure that the industry had an opportunity for input in this rulemaking. Did this meeting take place? **Mr. Kole** answered the hearing was held, but no one showed up. The IPC had conducted informal meetings around the State soliciting industry input, so the rulemaking negotiation process had been met.

Senator Patrick wondered what it costs to protect the Idaho trademark. **Mr. Kole** stated the IPC spent 13 years and $10 million on 1 piece of litigation conducted in New York City. The IPC was in the 2nd Circuit Court of Appeals three times and petitioned for protection from the U.S. Supreme Court. The IPC lost part of the case. The 2nd Circuit and 9th Circuit Courts deemed certification marks are akin to patents as opposed to trademarks. As a result of that ruling, trademarks are not subject to a challenge based upon public interest. Certification marks are subject to a public interest challenge. The way the treaties are currently written in the trade negotiations taking place right now with Transpacific Partnership IPC is at a distinct disadvantage because they cannot protect their intellectual property rights.

MOTION: **Senator Patrick** moved to approve **Docket No. 29-0102-1401**. **Senator Ward-Engelking** seconded the motion. The motion carried by **voice vote.**

Rules Review Department of Agriculture

DOCKET NO. 02-0105-1401 **Governing Certificates of Free Sale**, Laura Johnson, Bureau Chief, said Idaho State Department of Agriculture (ISDA) issues certificates of free sale for processed food products so they can clear customs internationally. The ISDA issues approximately 3,000 of these certificates per year. Corporate payment does not operate on a 30 day time period. This proposed rule strikes the 30 day payment requirement to be more customer friendly.

Senator Patrick stated in the current language of the rule it speaks to payment due, it does not specify when it was past due. **Ms. Johnson** replied the rule required ISDA not to issue additional certificates until the customer's account was current. **Senator Burgoyne** asked how much money the certificates bring in annually. **Ms. Johnson** explained the fee is $15 per certificate, and they collect approximately $45,000 per year. **Senator Burgoyne** asked for clarification on the due date and whether there have been problems in collecting the fees. **Ms. Johnson** stated the customers have always paid their bills. **Senator Lee** asked could a customer not pay and then continually be issued certifications. **Ms. Johnson** replied that could be the case, but there are other statutes that would assist ISDA in collecting the fee. ISDA will not continue to issue certifications if a customer does not pay.

MOTION: **Senator Ward-Engelking** moved to approve **Docket No. 02-0105-1401**. **Senator Lee** seconded the motion. The motion carried by **voice vote.**

DOCKET NO. 02-0602-1401 **Pertaining to the Idaho Commercial Feed Law**, Katie Mink, Section Manager, said the rule is an update to the current incorporation by reference from the 2014 to the 2015 Association of Official American Feed Control Officials (AAFCO) publication. ISDA has incorporated into the commercial feed rule the terms and ingredient definitions and policies as published in the AAFCO Official Publication. Updating ISDA current incorporation by reference allows ISDA and industry members who register feed products with the State to ensure they are jointly using the current terms and ingredient definitions and policies as they are published. With this pending rule ISDA is updating their current incorporation by reference from the 2014 to the 2015 Official Publication of AAFCO.

Senator Patrick asked if negotiated rulemaking was held on this docket. **Ms. Mink** replied that it was not negotiated. Traditionally ISDA does not negotiate their incorporations by reference. **Senator Burgoyne** asked if ISDA is aware of anyone in the industry having any objections to the adoption of the AAFCO Official Publication. **Ms. Mink** responded that ISDA had not received any objections to the adoption.

MOTION: **Senator Brackett** moved to approve **Docket No. 02-0602-1401**. **Senator Burgoyne** seconded the motion. The motion carried by **voice vote.**

DOCKET NO. 02-0605-1401

Diseases of Hops (Humulus Lupulus), Jared Stuart, Section Manager, explained that early in 2014, ISDA received a request from the Idaho Hop Commission to amend the rules governing diseases of hops in Idaho. The rule changes the hops quarantine area to: allow free movement of hops material within the states of Idaho, Oregon, and Washington; add diseases of concern to the regulated pest area of the rule; create a uniformity of regulations with other hop producing states; add pests and diseases of quarantine; qne change the areas under quarantine. Clarification changes were made to the rule to make it more concise.

Vice Chairman Bayer stated have the logistic of shifting to the lab procedures been assessed and are provisions in place to meet the workload for the interest. **Mr. Stuart** responded that the negotiated rulemaking discussed having everything pass through the clean plant center in Prosser, Washington. Language was added to avoid scheduling issues should the lab become overwhelmed with inspections. Language is included in the rule "or appropriate lab approved by the Director".

Senator Burgoyne clarified that the hop industry has had an interstate relationship with Oregon and now it is being expanded to include Washington. **Mr. Stuart** explained most of their sourcing for hops material is done within the tri-state area of Washington, Idaho, and Oregon. The diseases of concern are similar with these states. **Senator Burgoyne** asked is there a provision somewhere for quarantining a particular state or area within the region. **Mr. Stuart** answered under the Plant Pest Act, ISDA has the ability to create a quarantine area. **Senator Patrick** questioned the $7.50 fee being raised to $60.00. **Mr. Stuart** stated this fee rule had not been updated since 1980. The $60 charge for a permit is the standard rate for any export certificate issued by ISDA, and this fee adjustment covers the costs of making the permits available for industry. **Chairman Rice** asked for clarification of Section 100, which deals with the quarantine area of Bonner and Kootenai Counties. **Mr. Stuart** stated the control area was originally Bonner and Kootenai Counties, the main producers of hops in the State. They were trying to eliminate the threat of powdery mildew within those counties. Other areas of the State started to produce hops and they had no safeguard against diseases of concern being imported.

MOTION: **Senator Patrick** moved to approve **Docket No. 02-0605-1401**. **Senator Souza** seconded the motion. The motion carried by **voice vote.**

DOCKET NO. 02-0612-1401

Pertaining to the Idaho Fertilizer Law, Katie Mink, Section Manager, stated this is an update to the current incorporation by reference from the 2014 to the 2015 Official Publication of the AAPFCO. This rule updates the current incorporation and ensures that ISDA and industry members who register fertilizer products in Idaho are jointly using the most current definitions, terms, and ingredients as they have been voted on by AAPFCO members.

MOTION: **Senator Souza** moved to approve **Docket No. 02-0612-1401**. **Senator Den Hartog** seconded the motion. The motion carried by **voice vote.**

DOCKET NO. 02-0627-1402

Governing Bacterial Ring Rot Caused by (Clavibacter Michiganensis Subsp. Sepedonicus) (Cms), Lloyd Knight, Administrator, stated ring rot is a bacterial infection in potatoes that can be devastating not only in the field but also in storage. In the investigation conducted under the old rule, ISDA had reports of ring rot in potatoes that were being shipped to processors after they had been in storage. ISDA investigated 19 of these cases, and they were not able to identify any definitive cause or source of that infection. ISDA has had 2 reports of ring rot under the new rule, and those were both during the seed certification process. The Crop Improvement Association led the investigations on the cases because it is part of their certification process.

- Reporting: The rule requires the reporting of ring rot if it is discovered prior to final seed potato certification by the Idaho Crop Improvement Association (ICIA).

If it is confirmed with a laboratory test and the positive tubers or plant parts are still in the possession of the original seed grower. The industry is concerned with identifying ring rot in seed while it is in the control of the original grower; so they know the infection did not come from any other source.

- Investigation: ISDA has the authority to investigate, access records, and pull samples.
- Infected Potatoes: May not be used for planting or seed.
- Testing: Any testing for ring rot will be congruent with the certification process. Any seed that is exported from Idaho has to meet the certification process.

MOTION: **Senator Lee** moved to approve **Docket No. 02-0627-1402**. **Senator Ward-Engelking** seconded the motion. The motion carried by **voice vote.**

DOCKET NO. 02-0641-1401 **Pertaining to Soil and Plant Amendment Act of 2001**, Katie Mink, Section Manager, explained this rule change is to incorporate by reference information and updates contained in the 2015 Official Publication of the AAPFCO as they pertain to the methodology and practice of conducting regulatory soil and plant amendment registration and label review.

MOTION: **Senator Souza** moved to approve **Docket No. 02-0641-1401**. **Senator Lee** seconded the motion. The motion carried by **voice vote.**

DOCKET NO. 02-0801-1401 **Sheep and Goat Rules of the Idaho Sheep and Goat Health Board**, Stan Boyd, Executive Secretary, stated that the State has an emerging dairy goat industry. The estimated number of goats in the State is 18,000 and 180,000 breeding sheep.

- The proposed rule reflects the changes mandated by legislation passed in 2014 that require an assessment on goats of 80 cents per head and a 10 cents per pound on wool.
- The rule also clarifies the age at which dairy goats need to be tested for brucellosis prior to entering Idaho. The goat must now be six months or older to receive this test.
- Section 700, Sheep Assessment, an increased assessment from 6 cents to 8 cents per pound of wool. The 2014 Legislature passed H 431 that created a Wolf Control Board, and the increased fee of 2 cents per pound of wool is assessed to support that Board.
- Section 701, Goat Assessments, an 80 cent per head assessment has been added to the rule. This assessment will be collected at the auctions. Around 6,000 goats go through 3 primary auctions in the State. The 80 cents assessment on the goats will support the regulatory animal health program.
- The rule updates the name Idaho Sheep Commission to the Idaho Sheep and Goat Health Board.

Senator Lee asked for clarification on the fee collection. While the intention is to have the fee collected at the auction it could be assessed neighbor to neighbor but this is not the intention of the rule for situations such as FFA goats. **Mr. Boyd** explained if there is a goat sold in the country, technically that person owes 80 cents. This rule is directed at the auction sales.

Senator Den Hartog asked Mr. Boyd to explain the increase of the assessment from the 6 cents to the 8 cents; is the increase of 2 cents going to the Wolf Fund? **Mr. Boyd** answered that it was just the 2 cents increase that would go to the Wolf Fund. Of the current 6 cents, 3 cents went to the regulatory animal health program and the remaining 3 cents went to the Board.

Senator Brackett said that there was an emergency clause in H 431 that provided for the assessment in the last half of fiscal year (FY) 2014. **Mr. Boyd** stated that was correct H 431 provided an assessment in the last part of FY 2014.

Senator Brackett asked how much money was collected for the wool assessment. **Mr. Boyd** said the estimate is $20,000 per year.

Vice Chairman Bayer stated under this rule change you are creating a liability for small operations. **Mr. Boyd** stated the assessment shall be levied and assessed to the producer at the time of the sale of the goat(s) and shall be deducted by the first purchaser from the price paid to the producer at time of such sale.

MOTION: **Senator Lee** moved to approve **Docket No. 02-0801-1401**. **Senator Bracket** seconded the motion. The motion carried by **voice vote.**

Senator Burgoyne requested that he be recorded as voting nay. He believes that this fee rule can be written in a way that stipulates which producers have to pay the assessed fee. **Senator Den Hartog** and **Vice Chairman Bayer** requested that they be recorded as voting nay.

ADJOURNED: There being no further business, **Vice Chairman Bayer** adjourned the meeting at 9:10 a.m.

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Senator Rice
Chair

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Carol Deis
Secretary

AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Thursday, January 29, 2015

SUBJECT	DESCRIPTION	PRESENTER
Minutes	Approve Minutes of January 20, 2015	Senators Ward-Engelking and Burgoyne
RS23389	To Honor Native Idahoan Gary Steven's Lifelong Achievements in Horse Racing	Jesse Taylor, Legislative Advisor
Presentation:	University of Idaho, College of Agriculture Economic Impacts	Garth Taylor, Regional Economist, Associate Professor
Docket No.		
46-0101-1401	Rules of the State of Idaho Board of Veterinary Medicine	Jodie Ellis, Executive Director
	Rules Review Department of Agriculture	
02-0214-1401	Weights and Measures - Incorporation by Reference	Stacie Ybarra, Program Specialist
02-0214-1402	Weights and Measures - Ethanol Labeling	Stacie Ybarra, Program Specialist
02-0214-1403	Weights and Measures - Licensing	Stacie Ybarra, Program Specialist
02-0633-1401	Organic Food Products	Johanna Phillips, Organic Program
02-0303-1401	Governing Pesticide and Chemigation Use and Application	Ben Miller, Bureau Chief

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

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MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE: Thursday, January 29, 2015

TIME: 8:00 A.M.

PLACE: Room WW53

MEMBERS PRESENT: Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking and Burgoyne

ABSENT/ EXCUSED: None

NOTE: The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.

CONVENED: **Chairman Rice** called the meeting to order at 8:02 a.m.

MINUTES APPROVAL: **Senator Ward-Engelking** moved to approve the Minutes of January 20, 2015. **Senator Burgoyne** seconded the motion. The motion carried by **voice vote.**

RS 23389 **To Honor Native Idahoan Gary Steven's Lifelong Achievements in Horse Racing, Jesse Taylor**, Legislative Advisor, stated this legislation is to recognize and honor a great Idahoan, legendary athlete, and Hall of Fame Jockey, Gary Stevens.

Senator Patrick advised that he had met Gary Stevens and believed that he should be honored for his skill and accomplishments as a jockey in the American Thoroughbred horse racing industry.

MOTION: **Senator Patrick** moved to print **RS 23389. Senator Ward-Engelking** seconded the motion. The motion carried by **voice vote.**

PRESENTATION: **University of Idaho, College of Agriculture Economic Impacts, Garth Taylor**, Regional Economist, Associate Professor, spoke to the amazing achievements in this year's agricultural economy. This is the fourth straight year of record breaking cash receipts, which were $9.7 billion. In real dollar terms from 1980 to 2014 this reflects a compounded growth rate of 1.9 percent. Idaho agriculture is livestock, which is its comparative advantage and has driven the growth. Livestock has given Idaho a different growth path and trajectory then U.S. Agriculture which attributes to Idaho's high ranking in the west.

He said cash receipts have increased 16 percent over 2013, a record fourth year of record highs. Where is the agricultural growth coming from? Idaho Agriculture is in livestock, cattle and calves. The Dairy Industry is up 146 percent in sales since 1980. The growth path has come from the number of cows which is up 124 percent, with 20,000 cows being added per year over the last 30 years. Milk production is up 59 percent since 1980 when the dairymen were producing 12,000 pounds of milk per cow to this year's record of 24,000 pounds of milk per cow. These figures reflect the return on innovation which has driven this agricultural growth to the farmer and the dairy industry. The return to the consumer of that research is the drop in milk prices which translates into consumers paying less than 10 percent of their income for food. Idaho agriculture is feeding the world at a cheaper price. Idaho government payments continue to decline because Idaho does not grow Title 1 crops.

Dr. Taylor said net farm income has shot to a record high of 46 percent, which is 54 percent above the 10 year average. This year's net farm income is higher than the gross was ten years ago. Idaho's net farm income continues to be extremely volatile with double digit changes almost every year.

Dr. Taylor stated the income volatility is increasing and brings real risks for many groups. For farmers it will mean more price and production risk, which means stricter borrowing requirements. For government it will translate into more volatile taxation. For the rural economies volatility does not translate into these communities because the purchases the farmers make are very stable because of the following:

1. The stable agriculture multiplier effect.
2. Acres continue to be purchased and remain in production.
3. Costs are tied to operating expenditures not commodity price.
4. The teeter-totter effects in agriculture. When the corn prices are up the feed lots income goes down and when hay prices go up livestock margins go down.

Dr. Taylor next addressed agriculture and the state economy. He showed an agricultural chart depicting the GDP which shows that farming and food manufacturing are steady jobs. The chart shows that during the 2008 recession there was no job loss in this field.

Idaho's ranking by net farm income places the State as the 2nd largest agricultural state in the 11 western states. Idaho's ranking by gross places it as the 3rd largest state. The agricultural business is 20 percent of the economy in this State. Farm income in the State was up 45 percent in 2014. While farm income in the nation was down 22 percent in 2014. Idaho is on a different growth path then the nation.

Dr. Taylor then spoke on revenue outlook: The ethanol boom is waning. The health of Idaho's agriculture will be driven by foreign exports. Debt to equity ratio is at a historic low. The farmers have clean balance sheets; they are not borrowing (see attachment 1).

Senator Brackett asked Dr. Taylor to help the Committee understand the food manufacturing GDP chart. **Dr. Taylor Dr. Taylor** explained the additions to the GDP which are important to look at are in production agriculture. The propelling force behind the GDP should be the Chobani addition to the State, but the change in the GDP is the result of production agriculture.

Chairman Rice asked Dr. Taylor to expand on efficiency such as crop yields at the farm level versus innovation at food manufacturing level. **Dr. Taylor** explained it is amazing how much product the food manufacturing companies turn out using a small amount of labor. Food manufacturing efficiency will continue.

PASSED THE GAVEL: Chairman Rice passed the gavel to Vice Chairman Bayer.

DOCKET NO: 46-0101-1401 **Rules of the State of Idaho Board of Veterinary, Jodie Ellis**, Executive Director, said negotiated rulemaking was conducted and the Board received no comments or suggestions during the open comment period; a public hearing was not scheduled. Under the current language applicants for certification as a certified veterinary technician (CVT) in Idaho are required to provide the Board of Veterinary Medicine with proof of graduation from a veterinary technology program:

1. Accreditation by the American Veterinary Medical Association (AVMA).
2. Equivalent to a program accredited by the AVMA.
3. From an institution approved by the Board.
4. In the case of a foreign student who graduated from a foreign program it must be accredited by AVMA.

In recent years the field of veterinary technology has expanded becoming more exacting and technical in nature. The Board recognizes that to fulfill its mandate of safeguarding the people and animals of Idaho along with establishing and enforcing professional standards in veterinary profession. The Board must require consistent reliable baseline standards for all its licensees. The Board concedes that it does not have the manpower, knowledge or means to thoroughly evaluate individual veterinary technology programs or foreign schools of veterinary medicine. The Board proposes that all CVT applicants in Idaho should graduate from programs that have been formerly accredited by the AVMA which does have the knowledge, means and manpower to proficiently evaluate these programs.

The changes to the rule will allow only the following three possibilities for documented education or training:

1. Proof of graduation from an AVMA accredited program of veterinary technology.
2. Proof of graduation from an accredited school of veterinary medicine.
3. Foreign graduates would provide proof of completion of the certification program by the AVMA Educational Commission for foreign veterinary graduates.

Senator Brackett questioned how many foreign veterinary graduates have come before the Board for accreditation. **Ms. Ellis** responded that since 2013 there had been two.

Chairman Rice asked for clarification of the definition of accredited school of veterinary medicine. **Ms. Ellis** stated California has a separate program which is not accredited by the AVMA. California's program has its own accreditation and their graduates are called registered technicians. Sometimes these registered technicians have come to the Board to apply for certification that is accredited by California, but are not held to national standards. **Chairman Rice** asked if these students would be allowed to be certified CVT's in the State. **Ms. Ellis** answered the Board prefers not to give certification to registered technicians from California because the Board does not know the baseline standards of their educational programs. **Chairman Rice** questioned if the California technicians are coming from an accredited school, even though the accreditation is the State of California, will they be accepted for certification. Under this rule change what will be the process for graduates coming from these unaccredited programs. Will they be allowed by the Board to demonstrate equivalent education so they could be certified to work in the State? **Ms. Ellis** explained Idaho is not the only state that is not accepting the accredited in California technicians. In the past, the Board has accepted the California applicants, but even California is moving away from their own accreditation. California is recognizing that in order for this profession to move forward and grow it needs to be governed by a national entity. This rule change will remove the means of redress because the Board cannot guarantee a baseline level of knowledge if the individual comes from a school that the Board has not evaluated; that is why the Board relies on AVMA. The Board would not license a veterinarian

from an unaccredited school. The Board believes that the CVTs should be held to these same standards since they are a professional in the animal health industry.

Chairman Rice asked if a CVT can practice independently or will they be under the supervision of a doctor of veterinarian medicine. **Ms. Ellis** responded that CVTs will practice under a licensed veterinarian in Idaho.

Senator Burgoyne further clarified that a student graduating from a California institution will not have the required accreditation to practice in Idaho. **Ms. Ellis** answered that is correct.

Senator Souza asked could the Board evaluate the California standards in order to certify these technicians. **Ms. Ellis** replied the Board of Veterinary Medicine has a staff of two people and does not have the qualifications to evaluate the technician program from the California schools.

Chairman Rice explained that these CVTs will be supervised by a doctor of veterinarian medicine. Barring these technicians from being certified in Idaho should only be considered if there is a widespread problem with their caliber of training. This could be rectified by administering an examine to show their proficiency. **Chairman Rice** believed the rule change is ill advised.

MOTION: **Senator Burgoyne** moved to reject **Docket No. 46-0101-1401**. **Chairman Rice** seconded the motion. The motion carried by **voice vote.**

DOCKET NO: 02-0214-1401 **Rules Review Department of Agriculture**
Weights and Measures - Incorporation by Reference, Stacie Ybarra, Program Specialist, stated the weights and measures program's primary purpose is to inspect and test commercial weighing and measuring devices. The Committee may be familiar with seeing inspection stickers on the gas pumps or on the scales used to buy or sell crops or livestock.

This is an annual housekeeping item to incorporate by reference the most current date specific edition of the Handbook 44. Maintaining a current handbook is important to weights and measures officials and the service industry that repair commercial weighing or measuring devices.

MOTION: **Senator Lee** moved to approve **Docket No. 02-0214-1401**. **Senator Den Hartog** seconded the motion. The motion carried by **voice vote.**

DOCKET NO: 02-0214-1402 **Weights and Measures - Ethanol Labeling, Stacie Ybarra**, Program Specialist, explained the purpose of the change in this rule is to simplify the labeling requirements of gasoline containing oxygenates. Currently Idaho's labeling requirements conflict with the EPA's CFR. Idaho's current rule requires a label for gasoline containing oxygenates greater than 1 percent. The federal CFR requires the labeling of ethanol blends at levels greater than 10 percent.

The amended rule narrows the labeling requirement to oxygenate levels between 10 percent. Anything greater than 10 percent would no longer be required to be labeled but is still required to be labeled under the federal CFR.

MOTION: **Senator Ward-Engelking** moved to approve **Docket No. 02-0214-1402**. **Senator Patrick** seconded the motion. The motion carried by **voice vote.**

DOCKET NO: 02-0214-1403

Weights and Measures - Licensing, Stacie Ybarra, Program Specialist, stated the Idaho State Department of Agriculture (ISDA) is proposing that the proration requirement be removed from this rule.
There are several reasons for this change:

1. To bring the device licensing program in-line with other license programs within the ISDA.
2. The procedures needed to prorate a device are more costly than normal licensing and adds cost to the overall program.
3. It is also more equitable to all competitors when everyone pays the same license fee.

This change will only affect businesses adding new devices during the license period. In 2013, only 13 businesses had devices that were prorated resulting in an approximate combined savings of $178. In 2012, 20 businesses had devices for a combined savings of $301.

Each proration roughly costs the program an additional $30 per proration. This cost is generated by the additional procedures needed to prorate a license fee. The device license fees range from $5- $100, the majority of the devices inspected each year have a $6 license fee; therefore additional cost to prorate a license fee can have a significant effect on the program.

MOTION: **Senator Lee** moved to approve **Docket No. 02-0214-1403**. **Senator Souza** seconded the motion. The motion carried by **voice vote.**

DOCKET NO: 02-0633-1401

Organic Food Products, Johanna Phillips, Organic Program, explained this rule will repeal the registration requirement for operations that have less than $5,000 in annual gross organic sales, other certifying agents operating in Idaho, as well as the associated $50 annual registration fee for those entities.

Operations that have less than $5,000 in gross organic sales are exempt from organic certification requirements under the federal regulation. Because they operate as a certifying agent of the United States Department of Agriculture (USDA), the agency is not allowed to have more restrictive requirements than USDA for organic operations.

Further repeal of this requirement will not affect an operation's ability to sell organic product if they fall under the federal $5,000 exemption, nor will it affect the ability for other certifying agents to certify operations in Idaho. With this change, operations that fall under the federal $5,000 exemption will no longer be required to register with Idaho State Department of Agriculture (ISDA) annually or pay a $50 annual fee, but may continue to sell organic product pursuant to he federal exemption in the USDA NOP regulation.

Senator Burgoyne asked if they reached out to the industry and consumer groups for their input on this rule change. **Ms. Phillips** answered the ISDA did not conduct negotiated rulemaking on this rule change because it is a condition of their continued accreditation.

A discussion ensued concerning lack of notification to the industry and consumer groups and whether to postpone the rules acceptance until that action occurred.

MOTION: **Senator Souza** moved to approve **Docket No. 02-0633-1401**. **Senator Lee** seconded the motion. The motion carried by **voice vote. Senator Burgoyne** voted nay.

DOCKET NO: 02-0303-1401

Governing Pesticide and Chemigation Use and Application, Ben Miller, Bureau Chief, advised in 1997 a statewide restriction was put into the rules for the use of low volatile liquid ester herbicides around homes and gardens. This rule prohibits the use of these products between the dates of May 1 and October 1 or when temperatures are above 80 degrees. The industry, which includes state licensed applicators and product representatives, has informed them that this date restriction is obsolete and should be eliminated. The temperature restriction is a more proper cut-off mechanism to reduce damage from the use of these specific weed control products. The current federally regulated ester product labels have adequate restrictions to protect against damage from volatilization, which is the movement of herbicide when it changes into a gaseous form and is usually related to higher temperatures. The industry also recommended that the agency remove the current listed specific names of these herbicides to now include all liquid ester herbicides since the current name list is also outdated. The proposed rule change was reviewed and recommended by the Pesticide Licensing Advisory Committee.

Negotiated rulemaking was held at the ISDA office on June 18, 2014 and no negative comments were received. In addition, all 7820 state licensed applicators were also sent a mailing informing them of the change. Again, no negative comments were received.

MOTION: **Senator Patrick** moved to approve **Docket No. 02-0303-1401**. **Senator Ward-Engelking** seconded the motion. The motion carried by **voice vote.**

ADJOURNED: There being no further business, **Vice Chairman Bayer** adjourned the meeting at 9:53 a.m.

Senator Rice
Chair

Carol Deis
Secretary

Attachment 1

Financial Condition of Idaho Agriculture 2014

Ben Eborn & Garth Taylor

House and Senate Agricultural Affairs Committee

January 2015

University of Idaho
College of Agricultural and Life Sciences

Overview

- Forecast for 2014
  - Farm gate cash receipts
  - Government payments
  - Net farm income
- Ag's contribution to Idaho's economy

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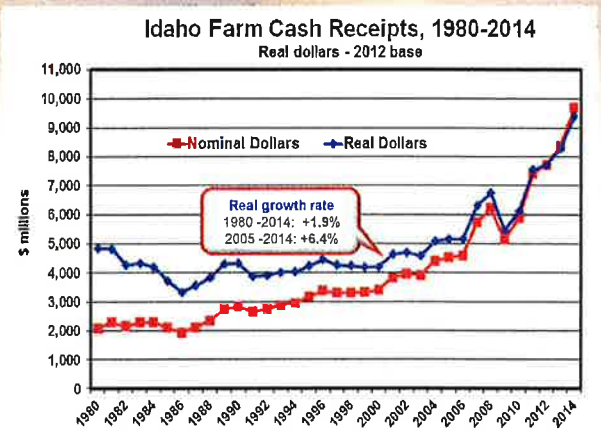
Cash receipts increase 16% over 2013… 4th year of record highs



$9.7 billion, 2014

$8.4 billion, 2013

Source: USDA, 2014 U of Idaho

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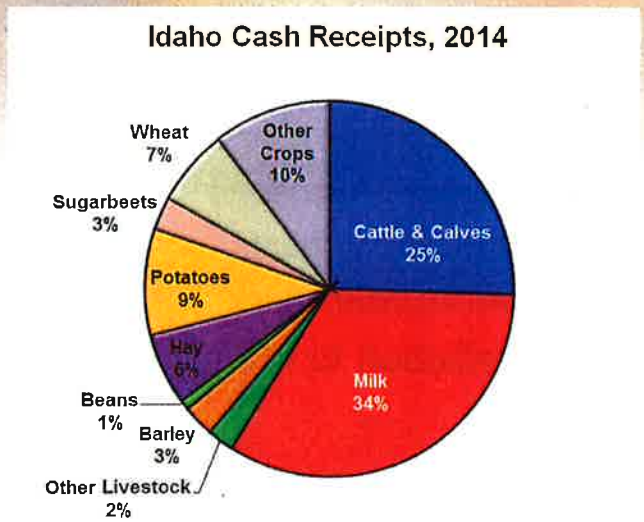
Idaho Ag is livestock



Source: University of Idaho

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Cash receipts ups & downs

Crops $3.8 billon, up 2%

Potatoes: ↓7%
Barley: ↓22%
Dry Beans: ↓15%
Wheat: ↓13%
Sugarbeets: ↑9%
Hay: ↑16%
Other Crops: ↑12%

Livestock $5.9 billion, up 27%

Cattle & Calves: ↑29%
Milk: ↑26%

Source: University of Idaho

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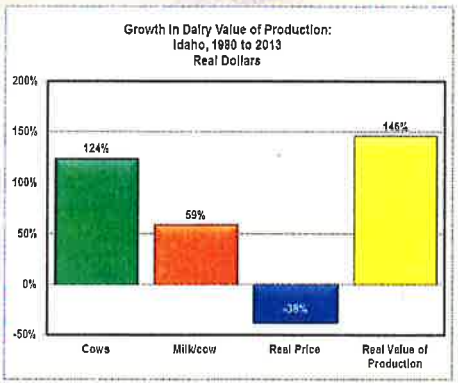
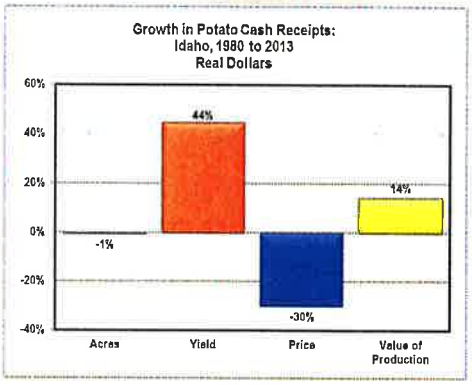
Innovation drives Ag growth

Dairy



Potatoes



Source: University of Idaho

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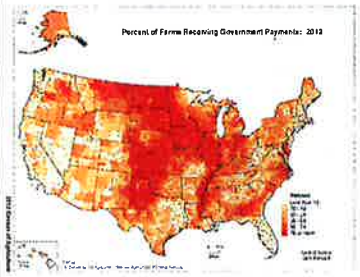
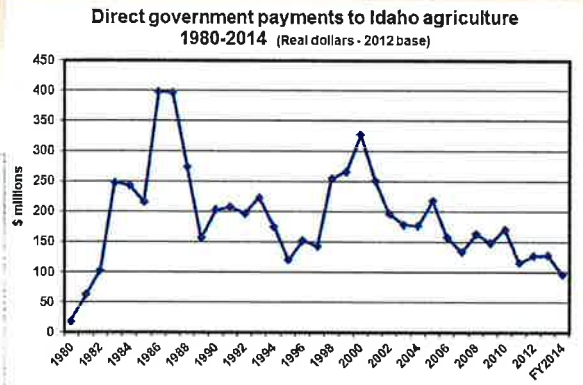
Idaho government payments continue to decline

- $99 million – down 23% from 2013
- 2.2% of Idaho farm income
- 50% production programs
- 45% conservation programs





Source: USDA-ERS, NASS & FSA, University of Idaho

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2014 net farm income up 46%

Net farm income $4.5 billion, up 46%

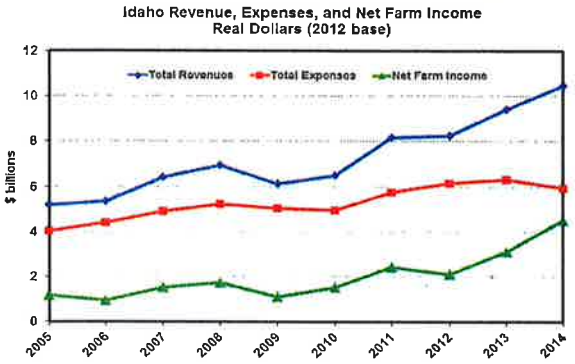
- 54% above the 10 year avg.
- higher than gross revenue 10 years ago

Revenues up 11%

- Livestock receipts (+27%)
- Crop receipts (+2%)
- Govt. payments (-23%)

Expenses down 6%

- Farm origin inputs (-4%)
- Manufactured inputs (-4%)
- Other inputs (-12%)



Source: USDA-ERS, 2014 University of Idaho

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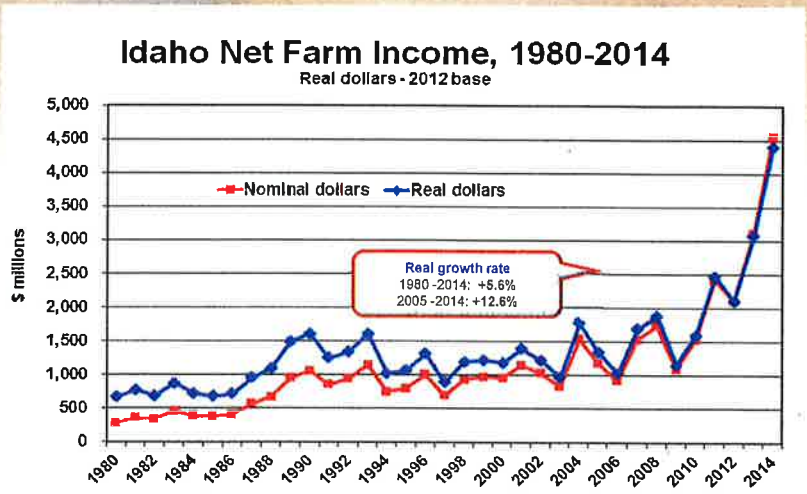
2014 net farm income shoots to record high



Source: USDA-ERS, 2014 U of Idaho

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Income volatility effects …

Farmers & Government

- **Farmers…**more price & production risk which means stricter borrowing requirements
- **Government…**volatile taxes

NOT rural communities

- Stable Ag multiplier effect
- Acres remain in production
- Costs are tied to operating expenditures NOT commodity price
- Teeter-totter effect
  - Hay prices up = dairy income down
  - Between regions … drought is good for farmers

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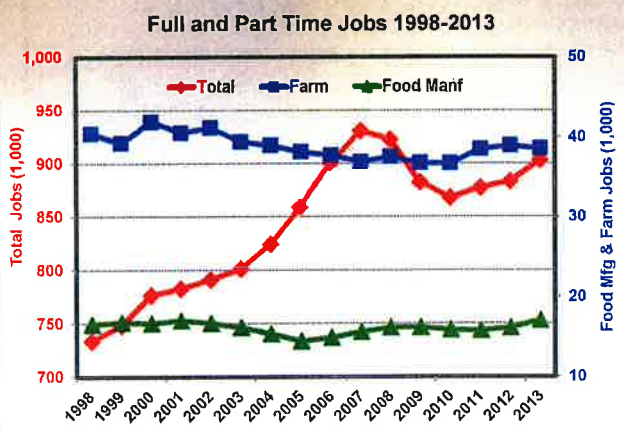
Farming and food manufacturing are steady jobs



- **Farm jobs**
  - 38,500 jobs 2013
  - 4.3% Idaho total
  - Declined 400 jobs
- **Food mfg. jobs**
  - 17,000 jobs 2013
  - 1.9% Idaho total
  - Increased 900 jobs

Source: US Dept. of Commerce, BEA

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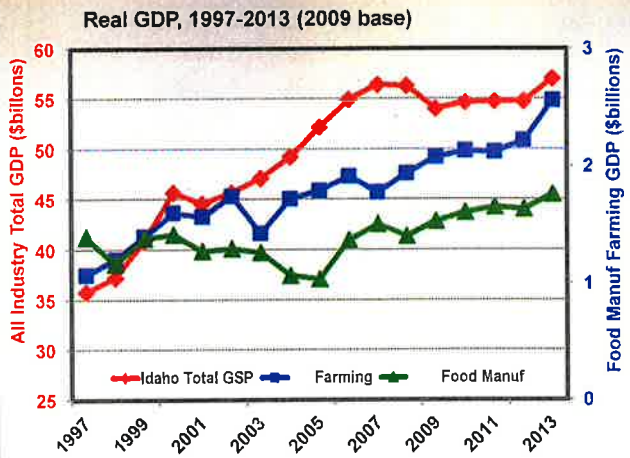
Farming GDP is growing faster than Idaho GDP



- **Idaho GDP**
  - $57 billion in 2013
  - 2.9% (1997-2013) growth rate
- **Farming GDP**
  - $2.6 billion
  - 4.5% of Idaho GDP
  - 5.5% (1997-2013) growth rate
  - 15% increase over 2012
- **Food mfg. GDP**
  - $1.8 billion
  - 1.5% (1997-2013) growth rate

Source: US Dept. of Commerce, BEA

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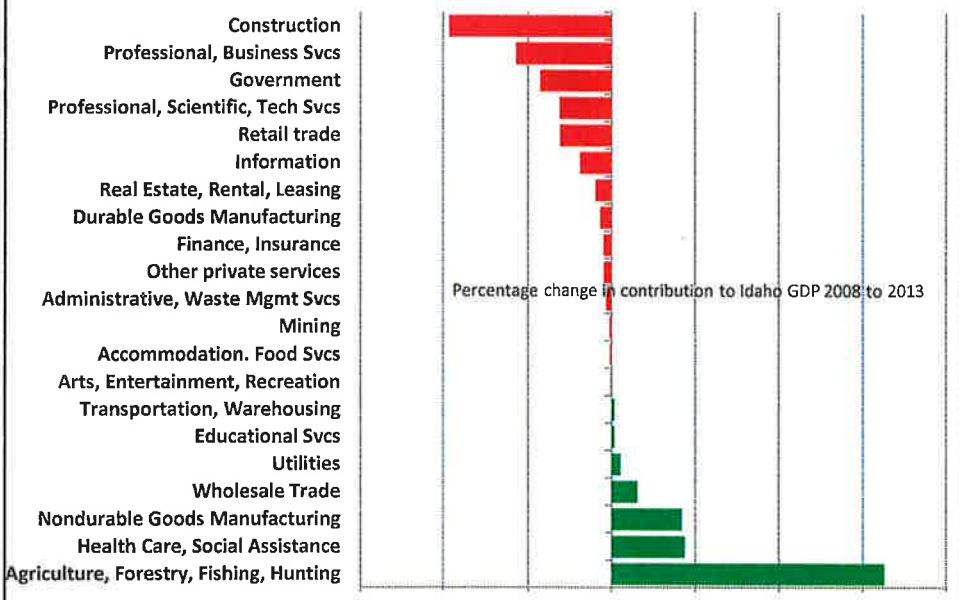
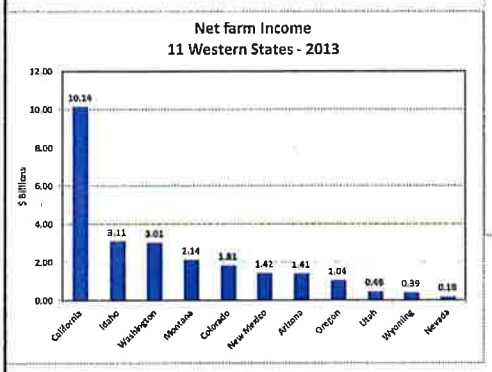
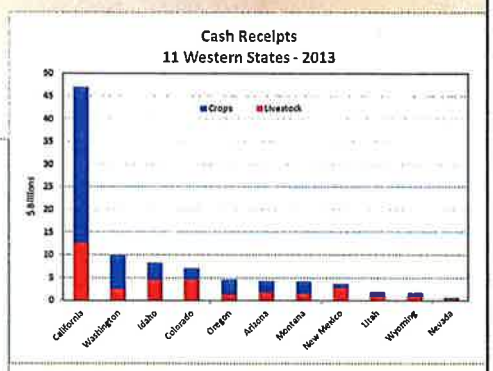
Agriculture is Idaho's fastest growing industry



U.S. Bureau of Economic Analysis

Idaho's Rank … 2nd in net and 3rd in gross





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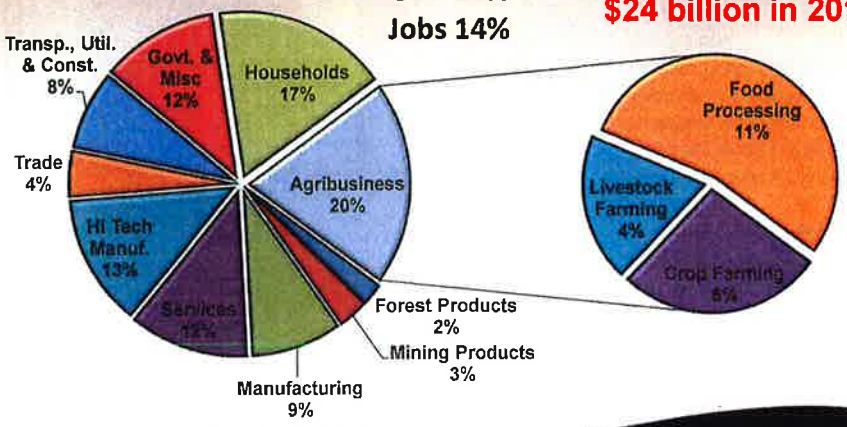
AgBiz is Idaho largest industry …

Sales 20%
GDP 14%
Jobs 14%

$24 billion in 2011



Source: Eborn and Taylor University of Idaho

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Idaho bucks the US trend…
2014 farm income Idaho +45% vs. U.S. -22%

Revenues

- Idaho vs. U.S. 2014
  - **Idaho:** livestock +27%
    crops +2%
  - **US:** crops -12%
    livestock +14%
- Ethanol boom is waning unless 15%
- Exports determines ag prices
  - Dollar at 11 year high
  - Weak foreign economies
  - High world food prices

Costs

- Oil below $50 a barrel
- Continued low interest rates but bumping higher

Continued or increasing volatility!

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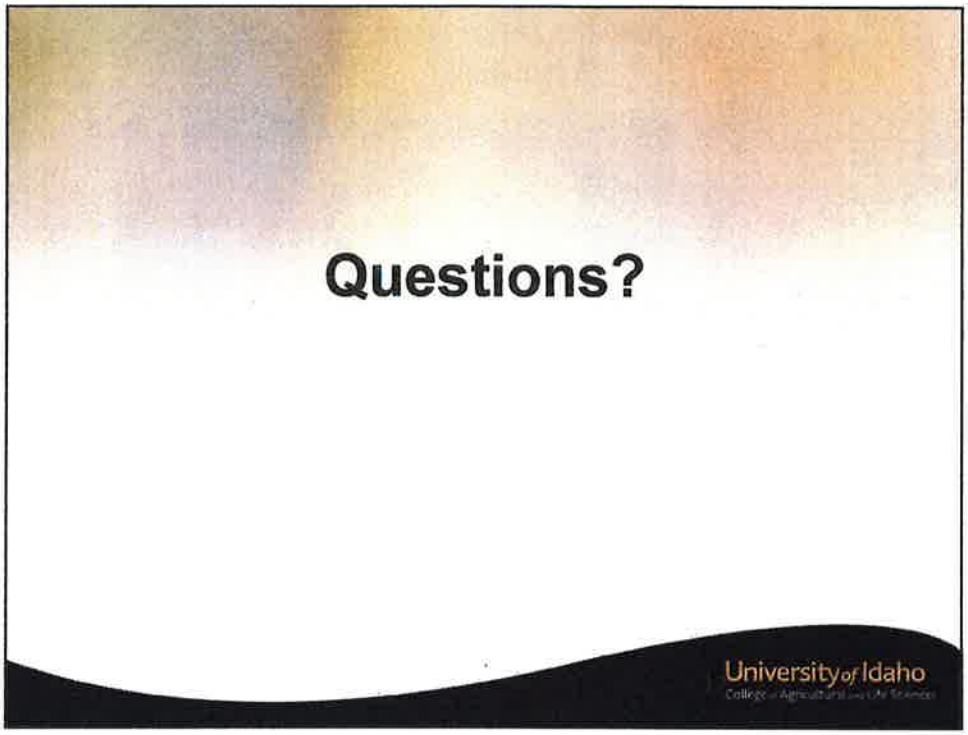


Idaho Cash Receipts from Farm Marketings ($ millions)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change ('13-'14)
LIVESTOCK											
Cattle and Calves	1,066	1,022	1,102	1,183	949	1,179	1,376	1,391	1,913	2,465	29%
Milk	1,418	1,283	2,050	2,101	1,431	1,899	2,433	2,422	2,573	3,250	26%
Other Livestock	110	116	129	126	119	118	175	199	198	225	14%
TOTAL LIVESTOCK	**2,594**	**2,421**	**3,282**	**3,410**	**2,499**	**3,196**	**3,984**	**4,012**	**4,684**	**5,940**	27%
CROPS											
Barley	157	129	144	232	224	200	217	290	341	266	-22%
Beans	46	36	40	55	57	60	80	95	99	84	-15%
Hay	335	387	403	609	346	337	569	526	520	605	16%
Potatoes	516	664	714	770	767	770	937	964	954	885	-7%
Sugarbeets	201	234	212	152	252	302	396	335	252	276	9%
Wheat	336	350	486	512	537	562	711	852	745	646	-13%
Other Crops	446	499	602	583	578	568	621	761	889	997	12%
TOTAL CROPS	**1,923**	**2,169**	**2,438**	**2,807**	**2,645**	**2,675**	**3,416**	**3,698**	**3,686**	**3,758**	2%
TOTAL CASH RECEIPTS	**4,517**	**4,590**	**5,720**	**6,217**	**5,144**	**5,871**	**7,400**	**7,710**	**8,370**	**9,698**	16%
Year-to-Year Change	3%	2%	25%	9%	-17%	14%	26%	4%	9%	16%	

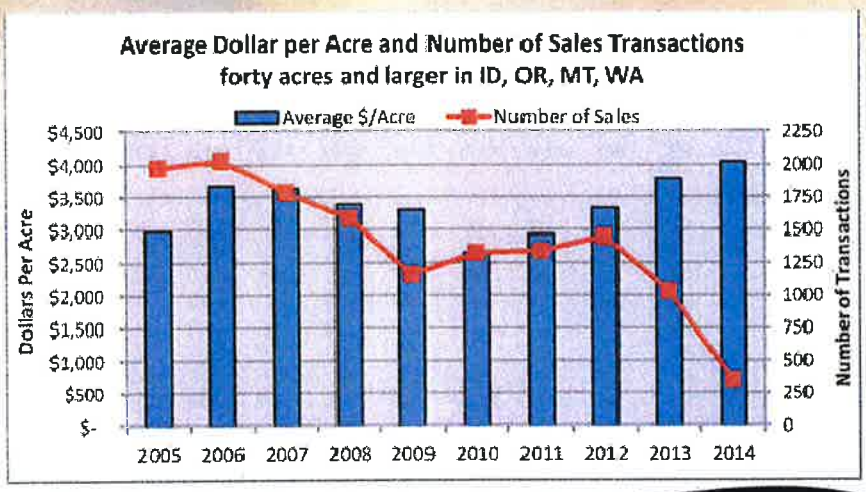
SOURCES:
2005-2013: Idaho Agricultural Statistics Service
2013-2014: Forecasted by G. Taylor, P. Patterson, and B. Eborn, University of Idaho

Idaho Net Farm Income
($ millions)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change ('13-'14)
REVENUES											
Crop Production	1,923	2,169	2,438	2,807	2,645	2,675	3,416	3,698	3,686	3,758	2%
Livestock Production	2,594	2,421	3,282	3,410	2,499	3,196	3,984	4,012	4,684	5,940	27%
Services & Forestry	521	548	560	534	685	503	613	412	572	600	5%
Government Payments	191	141	121	151	140	164	113	127	129	99	-23%
Home consumption	7	7	6	7	6	7	7	5	8	8	-5%
Value of inventory adjustment	(49)	56	21	38	145	(58)	44	5	335	68	-80%
TOTAL REVENUES	**5,186**	**5,341**	**6,427**	**6,946**	**6,121**	**6,487**	**8,177**	**8,258**	**9,414**	**10,473**	11%
EXPENSES											
Farm Origin Inputs	1,039	1,157	1,378	1,407	1,357	1,338	1,875	2,002	2,070	1,979	-4%
Manufactured Inputs	740	753	873	1,056	926	942	1,193	1,332	1,320	1,268	-4%
Other Inputs	890	1,056	1,096	1,122	1,152	1,021	1,041	1,125	1,091	960	-12%
Vehicle Regist./Licensing	10	9	11	11	12	11	13	12	13	13	-3%
Property Taxes	93	108	133	126	114	118	118	143	123	121	-2%
Capital Consumption	366	394	397	415	437	444	462	405	449	446.141	-1%
Payments to Stakeholders	876	927	1,008	1,071	1,031	1,083	1,056	1,133	1,239	1153.029	-7%
TOTAL EXPENSES	**4,015**	**4,406**	**4,897**	**5,208**	**5,029**	**4,956**	**5,758**	**6,153**	**6,306**	**5,940**	-6%
NET FARM INCOME	**1,172**	**936**	**1,530**	**1,738**	**1,091**	**1,530**	**2,418**	**2,105**	**3,109**	**4,533**	46%
Year-to-Year Change	-24%	-20%	64%	14%	-37%	40%	58%	-13%	48%	46%	

SOURCES:
2005-2013: Economic Research Service/USDA
2013 & 2014: Forecasted by G. Taylor, P. Patterson, and B. Eborn, University of Idaho

Northwest land prices up … sales down



Source: Northwest Farm Credit Services

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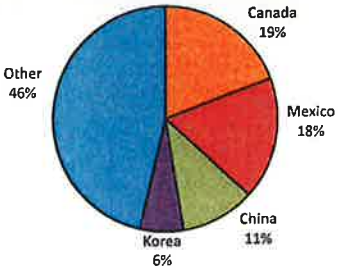
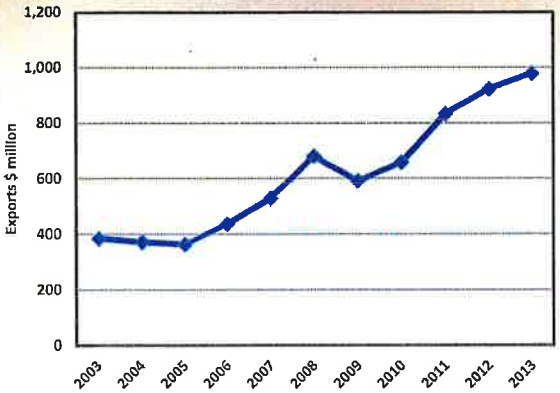
Idaho Ag 2014 foreign exports will top $1 billion

Canada, Mexico, and China top Idaho's export markets



Idaho Ag Exports, 2003 - 2013



Source: Laura Johnson Idaho Dept. of Ag

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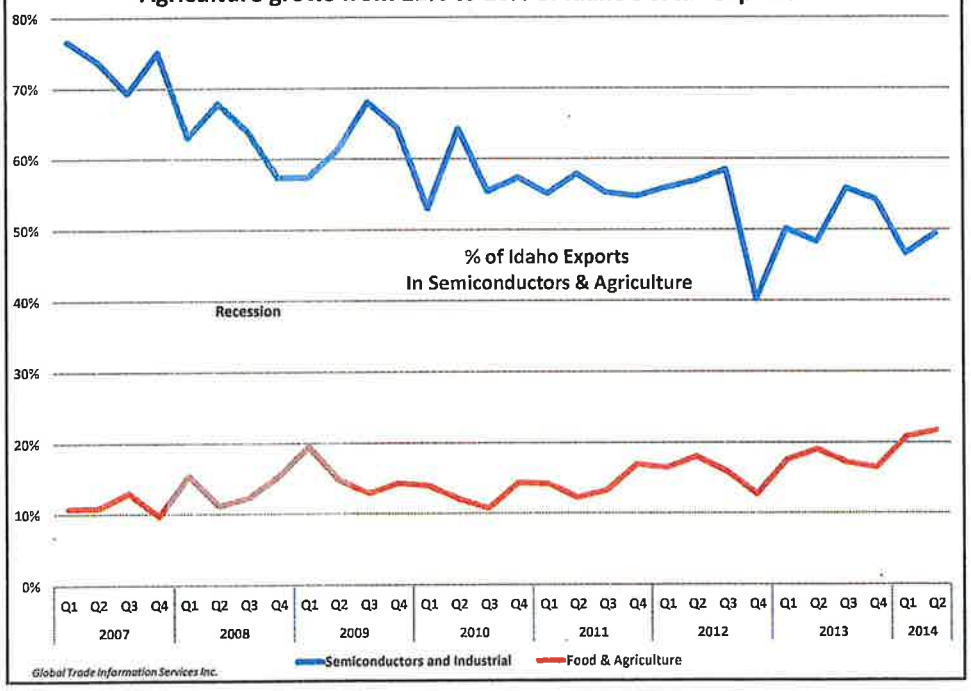
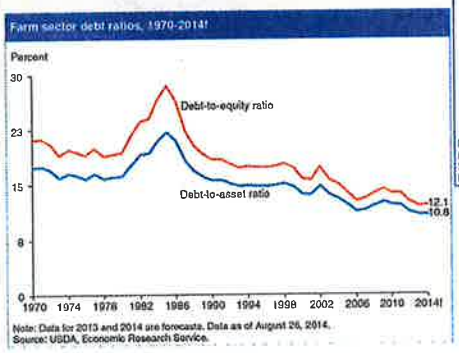
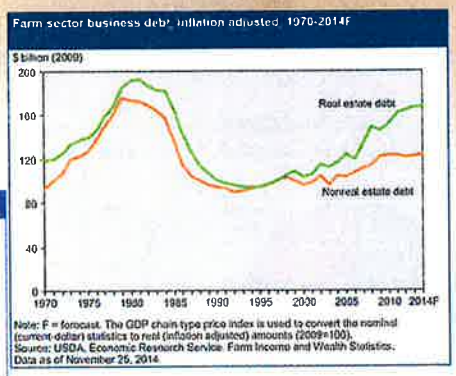
Agriculture grows from 11% to 20% of Idaho's total exports



Global Trade Information Services Inc.

Debt grows but balance sheets are clean





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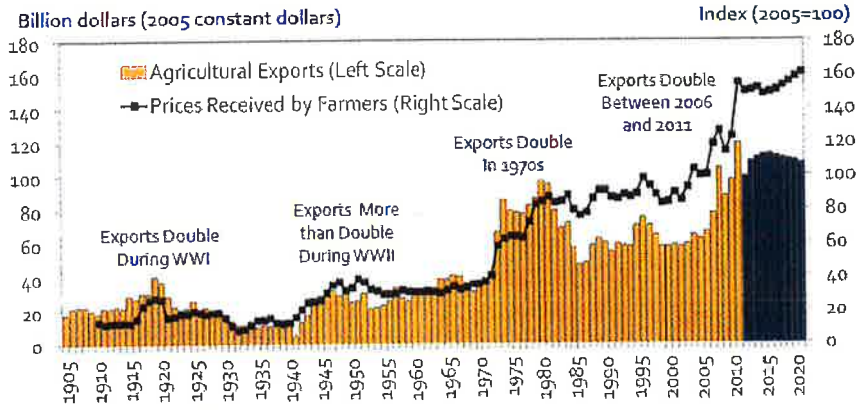
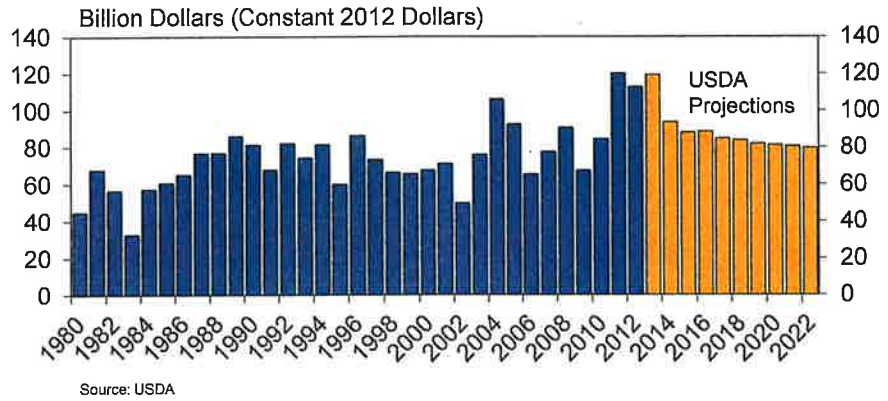
Elevated export trends similar to the 1950s could keep farm prices high.



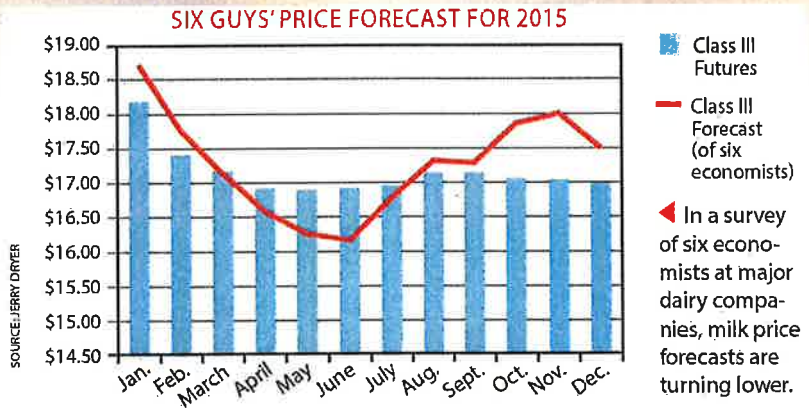
Calculations based on U.S. Census Bureau and U.S. Department of Agriculture data deflated with consumer price index from the Federal Reserve Bank of Minneapolis and USDA inflation expectations.

Federal Reserve Bank of Kansas City – Omaha Branch
Regional, Public, Community Affairs Division
www.kansascityfed.org/omaha

Farm incomes are projected to drop sharply in 2014.



Get ready for lower milk prices

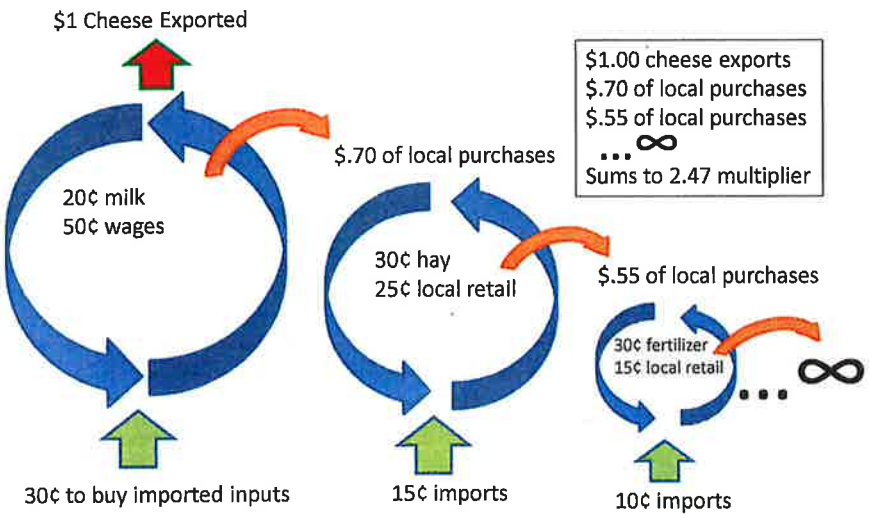


In a survey of six economists at major dairy companies, milk price forecasts are turning lower.

Jerry Dryer editor of Dairy & Food Market Analyst,

University of Idaho

Multipliers: Exports at Work



AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Tuesday, February 03, 2015

SUBJECT	DESCRIPTION	PRESENTER
Minutes	Approve Minutes of January 22, 2015	Senator Souza and Burgoyne
SCR 101	To Honor Native Idahoan Gary Steven's Lifelong Accomplishments in Horse Racing	Jesse Taylor, Legislative Advisor
PRESENTATION:	International Trade Office Managers Briefing	Laura Johnson, Bureau Chief, ISDA Armando Orellana, Idaho-Mexico Trade Office Xu Fang, Idaho-China Trade Office
Docket No.	**Rules Review Department of Agriculture**	
02-0421-1402	Importation of Animals Related to TB & VS	Dr. Leibsle, Deputy Administrator
02-0424-1401	Tuberculosis	Dr. Leibsle, Deputy Administrator
02-0414-1401	Governing Dairy Waste	John Bilderback, Bureau Chief
02-0429-1401	Trichomoniasis	Dr. Leibsle, Deputy Administrator

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Tuesday, February 03, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking and Burgoyne
ABSENT/ EXCUSED:	None
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Vice Chairman Bayer** called the meeting to order at 8:03 a.m.
MINUTES:	**Approve Minutes of January 22, 2015**.
MOTION:	**Senator Souza** moved to approve the minutes of January 22, 2015 as corrected. **Senator Burgoyne** seconded the motion. The motion carried by **voice vote.**
SCR 101	**To Honor Native Idahoan Gary Steven's Lifelong Accomplishments in Horse Racing, Jesse Taylor**, Legislative Advisor, stated this resolution is to honor a native Idahoan, Gary Stevens, who was born in Caldwell, Idaho. Mr. Stevens rode many of his early races for his father at Les Bois Park and won his first race at the age of 16. He is now a celebrated Hall of Fame jockey having won over 5,000 races. Many of these races are some of the most prestigious such as the Kentucky Derby, Preakness, and Belmont. Mr. Stevens is the first jockey to win the Breeder's Cup Classic after the age of 50. He was the winner of the prestigious George Woolf Award, which grades on character, determination, and dedication. During award ceremonies, Gary Stevens loves to talk about the State and his home track of Les Bois.
MOTION:	**Senator Ward-Engelking** moved to approve **SCR 101. Senator Patrick** seconded the motion. The motion carried by **voice vote.**
PASSED THE GAVEL:	Vice Chairman Bayer passed the gavel to Chairman Rice.
PRESENTATION	**International Trade Office Managers Briefing**, Laura Johnson, Bureau Chief, ISDA, Armando Orellana, Idaho-Mexico Trade Office and Xu Fang, Idaho-China Trade Office. **Ms. Johnson** introduced the two managers stating that they are one of Idaho's greatest resources for Idaho State Department of Agriculture (ISDA)'s export market development. One of the newest foreign initiatives has been the growing demand in the China market for equine products. ISDA produced an equine products brochure this year to address this growing market. The Economic Research Service released USDA export data which shows Idaho's exports at a record $2.6 billion for fiscal year FY) 2014 up from $2.2 billion; Idaho ranked 20th in the nation for exports.

Armando Orellana, Manager Idaho-Mexico Trade Office, presented highlights of Idaho's trade with Mexico which grew by 16.37 percent. Their office continues to collaborate with more than 100 Idaho companies to assist them with their product identification in Mexico and connections with import companies.

The city of Sinaloa is growing a bean crop from Idaho seed to test how the Idaho bean varieties perform in Mexico's climate and soil (see attachment 1).

Senator Souza asked about the main exports from Idaho to Mexico. **Mr. Oreliana** replied that the top exports to Mexico are barley, dairy products and potatoes.

Xu Fang, Manager Idaho-China Trade Office, explained that China's GDP growth rate in FY 2014 was 7.4 percent. Bilateral trading by China and the U. S. was $540 billion. China is the largest trade partner of the U.S. along with being the number one export market for U.S. agricultural products. China is Idaho's number two export destination. Idaho's exports grew at the rate of 18 percent in FY 2014. The Idaho potato is the number four food staple. Their office facilitated a tour of Idaho feed mills for a growing animal feed export business.

Senator Souza asked about Idaho's top exports to China. **Mr. Fang** answered the top exports are dairy products, alfalfa hay and wheat.

Senator Brackett asked for clarification of the export slide which showed 2007 as a spike and then a decline. **Mr. Fang** stated the decline was due to the economic downturn.

PASSED THE GAVEL:

Chairman Rice passed the gavel to Vice Chairman Bayer.

DOCKET NO. 02-0421-1402

Importation of Animals Related to TB & VS, **Dr. Leibsle**, Deputy Administrator, explained there are two components to this pending rule:

1. Modification of import restrictions regarding animals affected with vesicular stomatitis (VS). VS is a contagious virus of livestock that is transmitted by biting flies. Under the current rule once an animal has been diagnosed with VS no other animals are permitted to come into the State within a 10-mile radius until the case has been cleared. The current rule change practice is to quarantine the premises with the affected livestock; biosecurity will be handled on a premises only basis. The rule change will remove the 10-mile radius requirement and will restrict importation into Idaho of animals that are on the premises of a VS affected animal.
2. This rule change will allow for an additional breed of cattle to be granted a tuberculosis testing exemption. Currently the language in the rule states that steers, spayed heifers, and intact heifers of beef breeds that are less than 15 months of age, which are consigned for grazing and are consigned directly to a feedlot be approved for finish feeding. The rule change will add dairy breeds to that restriction, and that will allow these animals to be brought into approved feedlots. There are two approved feedlot programs, one for VS and one for Trichomoniasis. This allows animals of unknown test status to be kept within slaughter channels.

Senator Burgoyne asked what has been the results of other states removal of the 10-mile radius rule; has there been any change in the incidence of VS? **Dr. Leibsle** answered that there have been several outbreaks of VS this year including an outbreak in Colorado. Colorado has a similar restriction of import just the premises in question not a 10-mile radius. There have been outbreaks in Texas and New Mexico, and they also have similar restrictions. **Senator Burgoyne** questioned if those outbreaks are attributed to the change in the quarantine practice of those states. **Dr. Leibsle** replied these outbreaks are primarily linked to the seasonal hatches of black flies, as they are the host of the virus.

MOTION: **Chairman Rice** moved to approve **Docket No. 02-0421-1402. Senator Lee** seconded the motion. The motion carried by **voice vote.**

DOCKET NO. 02-0424-1401 **Tuberculosis, Dr. Leibsle**, Deputy Administrator, said this is the second component of the Tuberculosis (TB) rule, and it is a result of a petition by the Idaho Cattlemen's Association. This rule change creates an approved feedlot program for animals of unknown TB test status which come into the State and finish feed to slaughter. Once these animals enter into the feedlot program they must go to slaughter.

The program is administered similarly to the trichomoniasis approved feedlot programs. The respective feedlot has to apply to the ISDA for permission, the feedlot is inspected annually and the feedlot must keep records.

Senator Lee asked how many cattle come into the State that are of unknown TB status. **Dr. Leibsle** answered that at present there is no approved feedlot program for TB non-test status. **Dr. Leibsle** said that he would have to check the records for the amount of cattle that are coming into the State with non-test status. **Senator Lee** wondered if this would entice producers to not test. **Dr. Leibsle** explained that these relaxed import restrictions are being granted to those producers who are going to take the animals straight to slaughter and would be a significant cost saving measure to those producers.

Chairman Rice asked if this rule would also apply to an animal ownership transfer to a feedlot within the State. **Dr. Leibsle** replied that the animal would only be allowed to be transferred if it was going to another TB approved feedlot.

MOTION: **Senator Lee** moved to approve **Docket No. 02-0424-1401. Senator Den Hartog** seconded the motion. The motion carried by **voice vote.**

DOCKET NO. 02-0414-1401 **Governing Dairy Waste, John Bilderback**, Bureau Chief, explained that he presented this rule last week and he stood for questions. **Senator Brackett** stated that he had asked for this rule to be held until he could get further clarification. Information has been provided to answer his questions.

MOTION: **Senator Brackett** moved to approve **Docket No. 02-0414-1401. Senator Den Hartog** seconded the motion. The motion carried by **voice vote. Senators Burgoyne** and **Ward-Engelking** voted nay.

Senator Burgoyne asked Senator Brackett if he would disclose his reversal on this rule. **Senator Brackett** clarified that the concern was with stockpiling of animal waste. According to ISDA management stockpiling of animal waste was covered under a different rule and did not apply to this rule.

Senator Lee questioned why ISDA would remove a tool that allowed them to revoke a producers permit if there is unauthorized discharge. Under the current language it states that ISDA can suspend a producer's permit. Does suspension of a producers permit happen often? **Mr. Bilderback** replied ISDA has not suspended a permit based on an unauthorized discharge since 2008. **Senator Lee** questioned how many penalties have been assessed. **Mr. Bilderback** answered that there are three or four producers that are fined per year for unauthorized discharges.

Sara Arkle, Idaho Conservation League (ICL), spoke in opposition to the rule stating that ICL opposed S 1376 last year, and ICL opposes this rule. Negotiated rulemaking was not held on **Docket No. 02-0414-1401**. ICL believes that state agencies should provide continuity for public involvement in their rule changes.

Chairman Rice asked **Ms. Arkle** if there were any parts of the rule that do not mirror S 1376. **Ms. Arkle** replied ICL believes that S 1376 was preemptive and that there were opportunities in this rule change to protect Idaho's clean water. Section 060. Unauthorized Discharges is missing language. There is needed language to provide authority for ISDA to act in the event of non-compliance. ICL would like input on how this rule could protect the environment as it relates to soil test and nitrogen.

Senator Ward-Engelking clarified that there was public involvement and testimony on S 1376. This rule change is to reflect and be consistent with the statute change of S 1376. In this case negotiated rulemaking should have been conducted, and she will not be supporting this rule change.

DOCKET NO. 02-0429-1401

Trichomoniasis (Trich), **Dr. Leibsle**, Deputy Administrator, stated this rule is mirroring the changes that were made to conform to the 2014 statutory amendment. The State has required annual testing of eligible bulls for trichomoniasis, which is a contagious venereal disease. The cattle located north of the Salmon River have not been required to test annually. The removal of this language now requires all eligible bulls in the State to be tested annually trichomoniasis.

MOTION:

Senator Ward-Engelking moved to approve **Docket No. 02-0429-1401. Senator Brackett** seconded the motion. The motion carried by **voice vote.**

ADJOURNED:

There being no further business, **Vice Chairman Bayer** adjourned the meeting at 9:11 a.m.

Senator Rice
Chair

Carol Deis
Secretary

Attachment 1

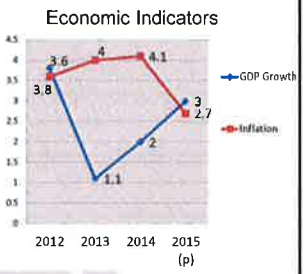
2/2/2015

State of Idaho
Mexico Trade Office

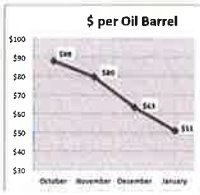
February 2015

COUNTRY OVERVIEW

- Growth in spite of worldwide financial challenges
- Healthy macro economic variables
- AA+ rating from international agencies



2015 CHALLENGES



TRADE OVERVIEW

- Latest figures show Idaho food and agriculture exports to Mexico up **16.37%** from previous year (thru Sept. 2014 vs 2013)
- More than 100 assistance events to Idaho companies
- Continuous support to ISDA and IDOC

FDI AND TOURISM

alpura

- Allegiant Finance considered FDI
- Invitation to Alpura to invest in Idaho
- Tourism and FDI presentation to the US Mexico Chamber of Commerce

OTHER COUNTRY INFO/EVENTS

- Major retailers and importers visiting Idaho
- Mexico Week at BSU
- Idaho bean seed test plots in central Mexico
- Agro Alimentaria in November, 2014

COUNTRY EVENTS & RESULTS

- Latin American Dairy Convention FEPALE in September
- Gianbia , High Desert Milk, Lactalis, and UDI introduced to dairy processors of the region

OTHER COUNTRY EVENTS & RESULTS

- Mountain States, sole supplier of major mustard processor
- Main grain importers in contact with Idaho exporters
- Assistance to Idaho Milk Products with Mexican federal authorities
- Support to Idaho universities and interns

UPCOMING EVENTS

- Governor's Trade Mission in May
- Bean seed test plot in Sinaloa
- Agro Sinaloa trade show in February
- Exposure of Idaho companies to major infrastructure and telecomm projects

Thank You!
¡Gracias!

AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Thursday, February 05, 2015

SUBJECT	DESCRIPTION	PRESENTER
Gubernatorial Appointment	**Celia Gould** of Buhl, Idaho was reappointed to the Director of the Department of Agriculture to serve a term commencing January 3, 2015 and expiring January 7, 2019.	
02-0428-1401	Livestock Dealers, Buying Stations and Livestock Trader Lots	Dr. Leibsle, Deputy Administrator

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE: Thursday, February 05, 2015

TIME: 8:00 A.M.

PLACE: Room WW53

MEMBERS PRESENT: Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking and Burgoyne

ABSENT/ EXCUSED: None

NOTE: The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.

CONVENED: **Vice Chairman Bayer** called the meeting to order at 8:02 a.m.

GUBERNATORIAL APPOINTMENT: **Celia Gould** of Buhl, Idaho was reappointed the Director of the Department of Agriculture (ISDA) to serve a term commencing January 3, 2015 and expiring January 7, 2019. **Ms. Gould** spoke to her reappointment stating she has had the pleasure of being the Director of ISDA for eight years. Agriculture continues to be the bedrock of Idaho's cultural and economic way of life. It is the core of Idaho's booming communities and the lifeblood of the smaller communities.

She owns and operates a ranch in Buhl. She graduated from Boise State University with a political science degree and a masters in public administration. She served 15 years in the Idaho Legislature from the Twin Falls district and chaired the Judiciary and Rules Committee.

Ms. Gould accepted the appointment of Director in 2007, and she came to the ISDA during a very difficult financial time. She believes her greatest accomplishment was leading the agency through the worst recession in recent memory while still maintaining services to Idaho's most important industry. In 2008 ISDA's budget was cut by 13 percent because of the zero based budgeting process that was followed in 2007, and this has paid dividends to the ISDA.

The management style for ISDA:

- A transparent and accountable regulatory environment.
- ISDA is charged with promoting and regulating agriculture.
- Regulatory compliance is reasonable and predictable for customers and consumers.
- Service minded leadership drives credible regulation, and as an agency sometimes their job is to get out of the way and let business do what they do best. Other times ISDA takes an active stance in safeguarding the rights of their customers.
- ISDA enhanced services in such areas as the Range Program.

Ms. Gould stated as a rancher being part of agriculture is a great honor and responsibility. She is honored to direct ISDA, whose mission benefits everyone in the State.

Senator Brackett asked if Ms. Gould were to be reappointed what would be some of her goals for the coming years. **Ms. Gould** answered that ISDA had progressed through some tough years with budget cuts. In these better financial times ISDA would like to proceed with projects such as:

- Promotion of the Rangeland Program to engage the public through educational programs and materials to improve the public's understanding of the management process for rangeland.
- The expansion of export services to facilitate services for that market.
- Organic processor development linked to organic programs.
- Available regulatory services as a safety net for consumers.
- Expanding the promotional components to connect ranchers and farmers with those demands.

Senator Patrick asked if ISDA considered private donations from outside sources for the Zebra and Quagga Mussels Invasive Species Program. Additional funds could go toward placing a larger barrier of protection around the State. **Ms. Gould** explained that ISDA had some federal partners assisting in the program. The problem does not lie in generating dollars but in education and prevention measures. ISDA has collected accurate data on traffic patterns and the time of use. **Senator Patrick** asked if at the contaminated lakes there isr a cooperative effort by boat control staff to require boatman to clean their vessels before they leave the area. **Ms. Gould** stated that ISDA has considered these measures and has worked hard to draw congressional efforts on the bodies of water such as Lake Mead and other lakes. Once a body of water is infested with these mussels the attitude becomes fatalistic. Our state water has already been infested, it is not their problem anymore it becomes another state's.

02-0428-1401 **Livestock Dealers, Buying Stations and Livestock Trader Lots**, Dr. Leibsle, Deputy Administrator, explained this proposed rule is a result of a petition by the Idaho Livestock Auction Association. Negotiated rulemaking was conducted, the industry did not attend that meeting and there were no written comments received. The proposed rule modifies the removal requirements of livestock from trader lots. The current rule requires that all brucellosis test eligible cattle that are removed from a trader lot should be accompanied by a certificate of veterinary inspection (CVI). The proposed rule would eliminate brucellosis test eligible and will be changed to all cattle that are removed from a livestock trader lot shall be accompanied by CVI. This is not modifying the requirements of cattle producers that are not trader lots.

Senator Burgoyne asked for an explanation of the process of this negotiated rulemaking in view of the letter from Bob Naerebout of Idaho Dairymen's Association (IDA). **Dr. Leibsle** clarified that the Administrative Procedure Act requires that the Idaho Cattlemen's Association be notified of all rule proposals, IDA, and post timeline on the ISDA wedsite. This is the outreach procedure ISDA has followed for any legislation involving cattle. ISDA relies on the industry organizations to get the word out to their members. **Senator Burgoyne** asked is it ISDA's policy to go beyond the minimum and notify other organizations that may be affected by the rule. **Dr. Leibsle** answered that ISDA informs who they can, and the industry organizations are the best resources for notification. **Senator Burgoyne** asked if there was outreach to the buying stations and trader lots. **Dr. Leibsle** replied specific letters or phone calls were not made to the trader lots. ISDA relies upon the industry organizations to inform their members. This has been ISDA's procedure on all of their negotiated rulemaking.

Senator Den Hartog asked how many buying stations or trader lots are in the State. **Dr. Leibsle** responded that there are six trader lots in the State.

Senator Brackett stated his primary concern is animal health and protection for the livestock industry. Under the current rule can cattle leave an approved livestock trading lot and go back to the pasture without a CVI? **Dr. Leibsle** answered that under the current rule cattle that fall outside of the brucellosis test eligible demographic may leave a trader lot without a CVI and go back to pasture. **Senator Brackett** asked if trichomoniasis would fall outside. **Dr. Leibsle** stated the definition of brucellosis test eligible is sexually mature cattle over 18 months of age, or pregnant or post-pregnant cattle of any age. There would be a demographic of bulls that would fall outside of this definition, and the trichomoniasis disease would not be covered by the CVI procedure and they would be released to pasture.

TESTIMONY: **Dan Schiffler**, Idaho Auction Association, spoke in opposition to this rule change asking for another negotiated rulemaking meeting to voice their concerns.

Joel Vanlith, Wendall Buying Station, spoke in opposition to this rule change. On average they move about 100,000 head through their trader lot. **Mr. Vanlith** stated that for the volume of cattle their business moves through their lot a year that would warrant a notification from ISDA of rule changes that would effect the business. He requested a tightened protocol of how the livestock trading businesses to allow an opportunity for their industry to address issues and participate in the negotiated rulemaking process to ensure herd safety.

Senator Burgoyne asked Mr. Vanlith to clarify his opposition to this rule change. **Mr. Vanlith** explained with an example: You have 12 white faced steers that you want to sell and you haul them to Mr. Schiffler's auction. If Mr. Vanlith buys the steers he can take them to his feedlot without a CVI. With the rule change if you take those steers to the trader lot, a veterinarian will have to be present at the trader lot and have a CVI issued. This rule change requires the trader lot to have the CVI inspections but not the sale yards.

Senator Burgoyne asked Mr. Schiffler to clarify his opposition to this rule change. **Mr. Schiffler** stated that ISDA should hold another negotiated rulemaking meeting so industry can present its input to fix the problem. **Senator Burgoyne** stated he did not understand what the problem is with the implementation of this rule change. **Mr. Schiffler** responded that in a future negotiated rulemaking session the industry needs to look at the rules that are in place for auctions, trader lots and buying stations and fix the issues of moving livestock, disease control and animal identification.

Director Gould stated because of the situations ISDA has had this year the Committee will not see another rule from ISDA. If the petitioner is not interested enough to come to the negotiated rulemaking process ISDA will not present another opportunity.

Senator Brackett explained the Legislature pass a trichomoniasis law and then ISDA promulgated rules to implement the law. Somewhere in the process the trader lots have fallen outside the coverage which will allow the potential for bulls to go back out to pasture without a CVI.

MOTION: **Senator Brackett** moved to reject **Docket No. 02-0428-1401. Senator Den Hartog** seconded the motion. The motion carried by **voice vote.**

ADJOURNED: There being no further business, **Vice Chairman Bayer** adjourned the meeting 8:56 a.m.

Senator Rice
Chair

Carol Deis
Secretary

AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Tuesday, February 10, 2015

SUBJECT	DESCRIPTION	PRESENTER
Minutes	Approve Minutes of January 27, 2015	Senators Lee and Den Hartog
Confirmation Vote	Vote on the confirmation of **Celia Gould** of Buhl, Idaho as the Director of the Department of Agriculture.	
Presentation:	Idaho Rangeland Resource Commission	Gretchen Hyde, Director

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Tuesday, February 10, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking and Burgoyne
ABSENT/ EXCUSED:	None
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Vice Chairman Bayer** called meeting to order at 8:01 a.m.
MINUTE APPROVAL:	**Senator Lee** moved to approve the Minutes of January 27, 2015. **Senator Den Hartog** seconded the motion. The motion carried by **voice vote.**
CONFIRMATION VOTE:	Vote on the gubernatorial appointment of Celia Gould of Buhl, Idaho as the Director of the Idaho State Department of Agriculture.
MOTION:	**Senator Brackett** moved to send the gubernatorial appointment of Celia Gould to the Idaho State Department of Agriculture to the floor with recommendation that she be confirmed by the Senate. **Senator Souza** seconded the motion. The motion carried by **voice vote.**

PRESENTATION: **Idaho Rangeland Resource Commission (IRRC)**, **Gretchen Hyde**, Executive Director, stated the IRRC has been active for 18 years and has conducted education and outreach with an assessment that is levied against Idaho ranchers and public and private lands. The IRCC consists of five members who are all ranchers. The Commission focuses on education, outreach, public relations and research.

Care and Share is an outreach program in collaboration with the Bureau of Land Management (BLM) and the Idaho State Forest Service (ISFS) that educates recreational users about livestock on public lands. The purpose of the program is to minimize the impact of negative interaction between livestock and recreational users which is becoming more common with the increased population of the State.

Ms. Hyde began the presentation by stating that the IRRC was established in 1997, and at that time they conducted a public opinion poll. In 2014 IRRC conducted another statewide survey to determine the public's knowledge and approval of public land uses. **Ms. Hyde** explained the aspects of this survey (see attachment 1).

Ms. Hyde stated that IRRC's biggest campaign has been through "Life on the Range" which is a public relations education outreach campaign. They have over 35 videos on the IRRC website. The Committee watched a video that had just been created called "John Peavy and the Flat Rock Ranch".

ADJOURNED: There being no further business, **Vice Chairman Bayer** adjourned the meeting at 8:43 a.m.

Senator Rice
Chair

Carol Deis
Secretary

Attachment 1

IDAHO RANGELAND RESOURCE COMMISSION

P.O. Box 126, Emmett ID 83617
Phone: (208)398-7002 website: idahorange.org

IRRC Board Members

Chris Black, Chairman
Bruneau, ID

Jackie Ingram
Clayton, ID

Todd Holbrook
Bancroft, ID

Royce Schwenkfelder
Cambridge, ID

Phil Soulen
Weiser, ID

Staff

Gretchen Hyde
Executive Director

January 15, 2015

To: Senator Jim Rice, Chairman
Senate Agricultural Affairs Committee
Representative Ken Andrus, Chairman
House Agricultural Affairs Committee
Senator Steve Bair, Chairman
Senate Resources & Environment Committee
Representative Dell Raybould, Chairman
House Resources and Conservation Committee
Legislative Audits, April Renfro
State Controller's Office, Carol Bearce
Legislative Services Office, Ray Houston
Division of Financial Management, Shelby Kerns

From: Gretchen Hyde, Executive Director

RE: Idaho Rangeland Resources Commission 2014 Report

Attached are the Idaho Rangeland Resources Commission 2015 Projected Profit & Loss Budget Overview and the 2014 Financial Statements as required by Section 58-1415 (4), Idaho Code.

The IRRC conducted a public opinion poll late last year. The results are enclosed. If you would like a presentation of the poll results, please contact me. The work of the IRRC has made a positive impact on the public opinion of grazing on public lands in Idaho. The IRRC also has very active and successful public relations and education programs. A copy of the information brochure will be included in this annual report for your review.

If you would like a presentation of these financial statements and the activities of the IRRC, please contact me at 398-7002 or email at ghyde@idrange.org.

Idaho Rangeland Resources Commission
Profit & Loss Budget vs. Actual
July 2013 through June 2014

	Jul '13 - Jun 14	Budget	$ Over Budget
Ordinary Income/Expense			
Income			
Assessments	186,084.05	191,000.00	-4,915.95
Grants Received	2,805.00	15,000.00	-12,195.00
Interest Income	211.56	600.00	-388.44
License Plate	30,920.00	27,000.00	3,920.00
Registration Fees-Symposium	740.97	0.00	740.97
Registration Fees-Workshops	2,297.25	0.00	2,297.25
Sale of IRRC material	6,810.60	0.00	6,810.60
Total Income	229,869.43	233,600.00	-3,730.57
Cost of Goods Sold			
Idaho Rangeland History Book	133.25	0.00	133.25
Range Plant Book	6,248.78	0.00	6,248.78
Requested Refunds	3,141.36	4,000.00	-858.64
Total COGS	9,523.39	4,000.00	5,523.39
Gross Profit	220,346.04	229,600.00	-9,253.96
Expense			
Administrative Expenses	118,683.68	119,998.00	-1,314.32
Educational Expenses	39,120.54	50,080.00	-10,959.46
Public Relations Expenses	85,619.44	81,000.00	4,619.44
Research/Industry Expenses	5,639.37	27,600.00	-21,960.63
Total Expense	249,063.03	278,678.00	-29,614.97
Net Ordinary Income	-28,716.99	-49,078.00	20,361.01
Net Income	**-28,716.99**	**-49,078.00**	**20,361.01**

Idaho Rangeland Resources Commission
Balance Sheet legislative
As of June 30, 2014

	Jun 30, 14
ASSETS	
Current Assets	
Checking/Savings	201,439.53
Accounts Receivable	14,299.98
Other Current Assets	6,420.75
Total Current Assets	222,160.26
Fixed Assets	1,674.78
TOTAL ASSETS	**223,835.04**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	3,776.56
Total Liabilities	3,776.56
Equity	220,058.47
TOTAL LIABILITIES & EQUITY	**223,835.04**

Idaho Rangeland Resources Commission
Profit & Loss Budget Overview
July 2014 through June 2015

	Jul '14 - Jun 15
Ordinary Income/Expense	
Income	
Assessments	191,000.00
Grants Received	18,000.00
Interest Income	200.00
License Plate	30,000.00
Registration Fees-Symposium	0.00
Registration Fees-Workshops	0.00
Sale of IRRC material	0.00
Total Income	239,200.00
Cost of Goods Sold	4,000.00
Gross Profit	235,200.00
Expense	
Administrative Expenses	119,427.00
Educational Expenses	59,750.00
Public Relations Expenses	72,500.00
Research/Industry Expenses	38,500.00
Total Expense	290,177.00
Net Ordinary Income	-54,977.00
Net Income	**-54,977.00**

Idaho Rangeland Resource Commission Statewide Survey

SSRU Technical Report 14-02-05

November 2014

Prepared For:

Idaho Rangeland Resource Commission
P. O. Box 126
Emmett, ID 83617

Prepared By:

Monica Reyna
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University of Idaho
College of Agricultural and Life Sciences

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Executive Summary

The Idaho Rangeland Resource Commission and the Idaho Preferred Label contracted with the Social Science Research Unit (SSRU) at the University of Idaho to conduct a statewide telephone survey of Idaho residents. A total of 585 households responded to the survey, including 230 contacts made on mobile phones. The responses were representative of Idaho's population in terms of geographic distribution, sex, income, and age. The results of this study will be used to tailor educational and marketing efforts regarding Idaho's rangeland.

Use of Rangelands by the Public

- The most common ways the survey respondents or a member of their household use rangelands is by camping (37 percent), hiking (34 percent), and fishing (30 percent).
- Ninety percent or more of respondents approved of hiking/camping, mountain biking, livestock grazing, and fishing/hunting on public lands, while energy development and transmission had the lowest rating for public lands, with 62 percent of respondents approving it as a use of public land.

Perceptions of Rangelands and Rangeland Health

- A majority of respondents (57 percent) state that Idaho's rangelands are either in "very good" or "good" condition.
- Most respondents (79 percent) state that cattle and sheep producers manage their rangelands in a responsible manner, and 84 percent of respondents felt that private rangelands provide a large portion of wildlife habitat.
- A third (33 percent) of respondents felt that wildfire was a "moderate" problem for Idaho's rangeland, with an additional 43 percent stating it is a "severe" or "significant" problem.
- Eighty-two percent of respondents "strongly" or "somewhat" agree that grazing should remain a part of the management of public lands.
- On a scale of one to seven where one is "not at all important" and seven is "very important", 68 percent of respondents rated the importance of farms and ranches to preserving wildlife at a five or higher.
- When asked which agencies or groups were reliable with respect to information about rangelands, scientists, ranchers, and the Bureau of Land Management were rated most reliable with 84 percent, 83 percent, and 80 percent of respondents, respectively, rating them as either "very" or "somewhat" reliable. Environmental groups had the lowest reliability ratings, with only 55 percent rating them as "very" or "somewhat" reliable.

Supporters of Livestock Grazing on Public Lands

- Multivariate models examining the relationship between respondent characteristics and opinions on livestock grazing on public lands found that generally, politically conservative Idahoans are more likely to agree that cattle and sheep producers manage rangelands in a responsible manner.
- Also those who engage in ATV/motorized vehicle use, and who have spent a larger proportion of their lifetime in Idaho are more likely to agree that rangelands should be kept as a part of the management of public lands.

Introduction

The Idaho Rangeland Resource Commission contracted with the Social Science Research Unit (SSRU) at the University of Idaho to conduct a statewide survey of Idaho residents. The survey and subsequent analysis examined Idaho residents about grazing, as well as how those perceptions might be evolving due to changes in Idaho's demographics and the emergence of the "New West". To accomplish this, 2014 results are compared to earlier iterations of the study.

Telephone interviews were conducted with 585 households. We sampled both traditional landline phones and mobile (cell) phones. Sampling cell phone numbers is increasingly important, as 52.6 percent of Idaho households now exclusively have mobile phone service without a traditional landline.[1] Research has shown that mobile phone-only households tend to be younger (18-29 years), are more likely to be male, and are more highly educated than landline households[2]. Thus, accounting for mobile phone-only households is important in representative survey research. The study was designed to provide results that are representative of the state of Idaho.

The survey instrument was written and designed with input from IRRC and SSRU staff. The survey was divided into two primary sections, one to address each of the study objectives. In addition, demographic questions were asked in order to assist with the analyses, as well as assess the level of sample representativeness. The final survey instrument for the survey is shown in Appendix A.

---

[1] Blumberg, S. J., and J. V. Luke. "Wireless Substitution: State-level Estimates from the National Health Interview Survey, Jan-Dec 2007." U. S. Department of Health and Human Services, Center for Disease Control and Prevention. *National Health Statistics Reports, #14.* March 11, 2009.

[2] Blumberg, S.J. and J.V. Luke. 2007. Coverage bias in traditional telephone surveys of low-income young adults. Public Opinion Quarterly. 71:734-749.

NEWS RELEASE - For Immediate Release

Contact: Steve Stuebner, sstuebner@cableone.net, 208-484-0295 or Gretchen Hyde, executive director, Idaho Rangeland Resource Commission, 208-866-2466; ghyde@idahorange.org

UI poll finds 90% of Idahoans support livestock grazing on public lands, the same level of support for mountain biking and guided recreation

BOISE -- (Jan. 20, 2015) -- A new statewide poll found that 90 percent of Idaho residents approve of livestock grazing as a legitimate use of public lands, the same percentage as guided recreation and mountain biking. Ninety-eight percent of the respondents approve of hiking and camping on public lands, and 65 percent approve of the use of motorized recreation such as ATVs and motorbikes.

The new survey conducted by the University of Idaho Social Science Research Unit for the Idaho Rangeland Resource Commission (IRRC) was based on 585 telephone surveys with Idaho residents. The poll was completed in December 2014. More than half of the survey participants have lived in Idaho for more than 30 years, and participants represent a diverse cross-section of political ideology, UI officials said.

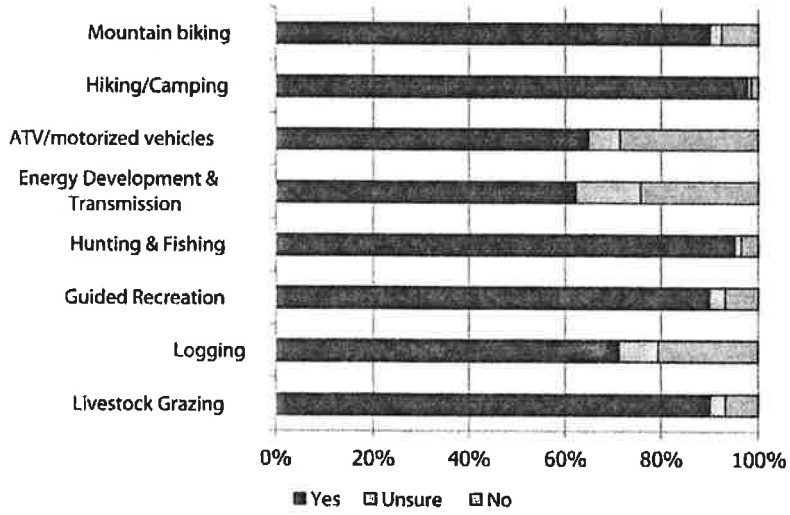


Figure 6. Approval of Specific Uses of Public Lands

Public support for livestock grazing was approximately 20 percent higher than it was for logging, which had a 71 percent approval rating. Using public lands for energy development and transmission lines received the lowest level of support at 62 percent. Public approval of livestock grazing on public lands went up 1 percent since 2010, and 10 points since 2001, according to previous polls conducted for IRRC by the University of Idaho.

"We're pleased to see public support for livestock grazing on public lands increasing," said Chris Black, IRRC board chairman and a Bruneau Rancher who has received a BLM national stewardship award for exemplary livestock management on public lands. "We think Idahoans are seeing improved range management when they're out recreating on rangelands and forests. And over the last five years, we've highlighted more than 30 stories of ranchers engaged in rangeland stewardship through the Commission's "Life on the Range" web site and video series.

"We feel it's important to show real people doing tangible things to improve public lands, the environment and threatened and endangered species, including candidate species such as sage grouse," Black continued. "That's what is expected in 21st Century public lands management."

IRRC officials said they commissioned the poll to understand the overall perception of Idaho residents about grazing, and how those perceptions might be evolving due to changes in Idaho's population demographics and the emergence of the "New West."

In a wildlife-related question, the poll found that 84 percent of the respondents recognize that private ranchlands provide important wildlife habitat. On a scale of 1-7, 68 percent of the respondents rated the value of private farms and ranches for wildlife as being a 5 or higher.

Seventy-nine percent believe that sheep and cattle ranchers manage rangelands in a responsible manner, and 82 percent believe that livestock grazing should continue to be part of public lands management.

In a series of questions rating the credibility or reliability of information provided to the public, ranchers and scientists rated 84 percent and 83 percent reliable, while BLM officials received a reliability rating of 80 percent and environmentalists received a rating of 55 percent.

The poll is statistically valid, sampling a broad cross-section of Idaho's rural and urban residents, an equal number of males and females, and mobile phone users as well as landline users, UI officials said.

If any members of the Idaho media would like a copy of the UI public opinion survey, please contact Steve Stuebner at 208-484-0295 or email Steve at sstuebner@cableone.net. If you would like to set up an interview with Gretchen Hyde about the poll, please contact Steve.

About the Idaho Rangeland Resource Commission: The Idaho Rangeland Resource Commission is an Idaho state agency that seeks to increase public understanding about the balanced management of public rangelands. The commission sponsors the award-winning web site, www.lifeontherange.org, and it provides information and educational materials to Idaho's school children. For more information, see www.idrange.org.

##########################

~ Selected measures ~
2014 IRRC statewide survey

Idaho Rangeland Resource Commission Board Meeting
9 January 2015, Boise, ID

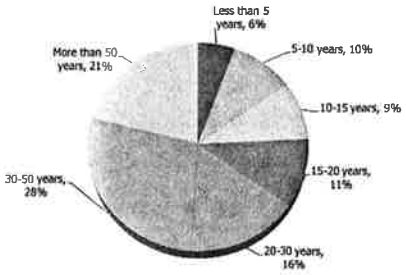
University of Idaho
College of Agricultural and Life Sciences

conducted by University of Idaho
Social Science Research Unit (SSRU)

General methodology

- Telephone survey (~15 mins)
- Sample
  - 1,400 landlines
  - 2,000 cell lines
- 15 Sept – 5 Nov, 2014
- 587 completed surveys
- 36.8 % cooperation rate
- In partnership with *Idaho Preferred (ISDA)*

Length of residence in Idaho



Educational attainment

Education	ACS[1]	This Study	95% Confidence Limits
Some high school	11.4%	3.0%	1.3% - 4.6%
High school graduate	28.0%	20.0%	15.9% - 24.0%
Some college	27.3%	23.1%	18.9% - 27.3%
Associates' degree	8.7%	12.1%	8.9% - 15.3%
Bachelor's degree	17.0%	29.4%	27.8% - 34.0%
Graduate or professional degree	7.8%	12.5%	9.1% - 15.8%

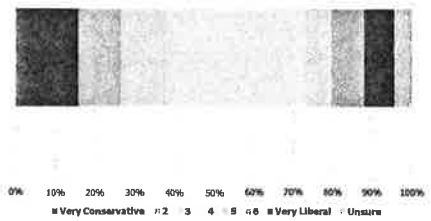
[1]US Census. American Community Survey. Five-year estimates, 2009-2013. Available at: www.census.gov

Household income levels

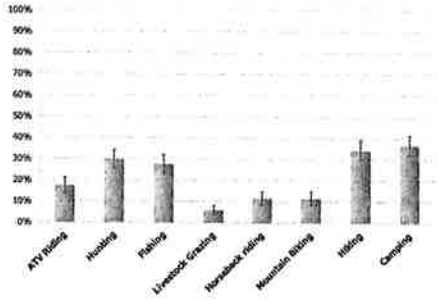
Annual Household Income	ACS[1]	This Study	95% Confidence Limits
Less than $10,000	6.7%	5.8%	3.3% - 8.3%
$10,000-$24,999	17.7%	13.8%	10.1% - 17.5%
$25,000-$34,999	12.6%	16.5%	12.8% - 20.3%
$35,000-$49,999	15.9%	18.2%	14.2% - 22.2%
$50,000-$74,999	20.7%	18.6%	14.8% - 22.5%
$75,000-$99,999	11.9%	15.4%	11.6% - 19.1%
More than $100,000	14.6%	11.7%	8.5% - 14.8%

[1]US Census. American Community Survey. Five-year estimates, 2009-2013. Available at: www.census.gov

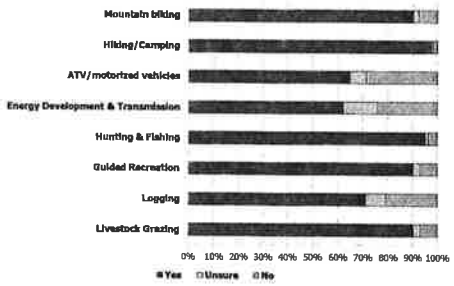
Political spectrum of respondents



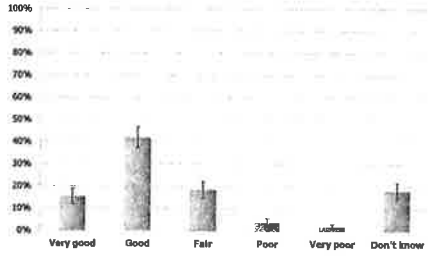
Respondents' uses of Idaho's rangelands



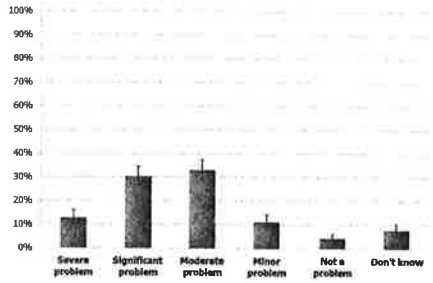
Approval of public lands uses



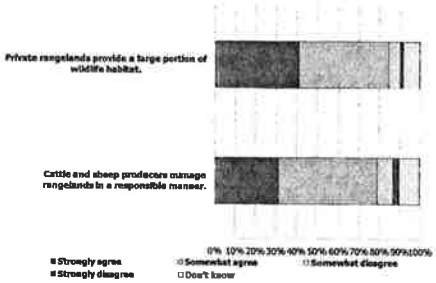
Perceived condition of Idaho's rangelands



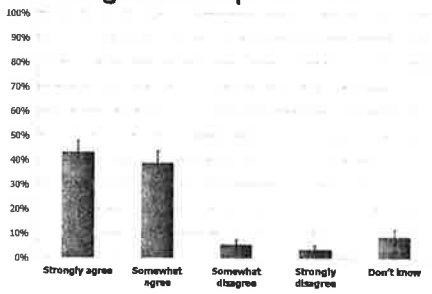
Perceptions of wildfire as a problem in Idaho's rangelands



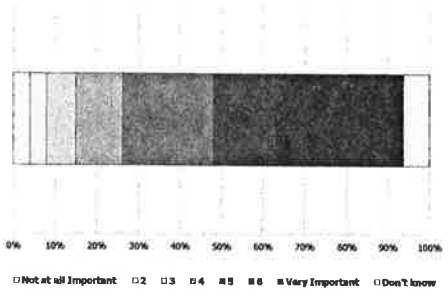
Perceptions of producers' rangelands management



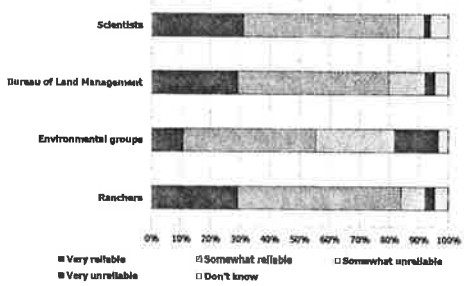
Livestock grazing should be a part of management of public lands



Spectrum of importance of ranches / farms to preserve wildlife habitat



Reliability of information sources



AMENDED AGENDA #1

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Thursday, February 12, 2015

SUBJECT	DESCRIPTION	PRESENTER
Minutes	Approve Minutes of January 29, 2015	Senators Brackett and Patrick
RS23484	Relating to Noxious Weeds	Senator Keough
RS23583	Relating to Idaho Honey Advertising Commission	Senator Lee
02-0421-1401	Importation of Animals - Meningeal Worm Parasite	Dr. Leibsle, Deputy Administrator
Presentation	USDA Farm Service Agency	Mark Samson, State Executive Director, Farm Service Agency of Idaho

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Thursday, February 12, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog and Ward-Engelking
ABSENT/ EXCUSED:	Senator Burgoyne
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Chairman Rice** called the meeting to order at 8:02 a.m.
MINUTE APPROVAL:	**Senator Patrick** moved to approve the Minutes of January 29, 2015. **Senator Brackett** seconded the motion. The motion carried by **voice vote.**
RS 23484	**Relating to Noxious Weeds: Senator Keough** said Idaho Code and the Idaho State Department of Agriculture allow research and call for an integrated weed management strategy on terrestrial weed species. This provides opportunities for biological control, but the law and rules are silent or prohibitive in terms of developing similar tools for aquatic weed species. This bill will allow for the collection, removal and movement of noxious weeds from infested areas to in-state facilities for the purpose of biological control research under a set of controlled provisions.
MOTION:	**Senator Patrick** moved to print **RS 23484**. **Senator Brackett** seconded the motion. The motion carried by **voice vote.**
RS 23583	**Relating to Idaho Honey Advertising Commission: Senator Lee** deferred the presentation to Jim Lowe, representing the Idaho Honey Industry Association. **Mr. Lowe** said this proposed legislation addresses a number of items including: 1. Changing the name from the Idaho Honey Advertising Commission (Commission) to the Idaho Honey Commission. 2. Revising the section governing the members of the Commission. 3. Clarifying a referendum to change per hive assessment levy by the Commission may only be voted on by those beekeepers subject to the assessment.
MOTION:	**Senator Souza** moved to print **RS 23583**. **Vice Chairman Bayer** seconded the motion. The motion carried by **voice vote.**
PASSED THE GAVEL:	Chairman Rice passed the gavel to Vice Chairman Bayer.

DOCKET NO: 02-0421-1401

Importation of Animals - Meningeal Worm Parasite: Dr. Leibsle, Deputy Administrator, stated this proposed rule is a petition from the Idaho Elk Breeders Association. Negotiated rulemaking was conducted, multiple individuals were present, and comments were received to the rulemaking record. In the current rule there is an import restriction on all domestic cervidae being imported from areas that are endemic for the meningeal worm or P. tenuis. The proposed rule change would lift the import restriction and allow imports on the condition that the cervidae are dewormed with a proper deworming product prior to import. It also requires elk be accompanied by a health certificate issued by a veterinarian that attests that no animals on the premises have been affected or exposed to animal in the shipment. The veterinarian must verify with a specific statement on the health certificate that no animals in the shipment have symptoms of P. tenuis or have been exposed to any other animals from a premises that has P. tenuis.

TESTIMONY:

The following spoke in support of the rule change: Dr. Zebarth, Mark Bair, Kim Kafka, Becky Mesaros, Rulin Jones, Roy Klingler, Shawn Schafer, Roy Klingler, Shawn Schafer

Dr. Zebarth, cervid veterinary practice, representing North American Deer Farmers and Elk Producers in Idaho, explained there were five factors for importing elk into Idaho:

1. Veterinary health certificate. It is imperative that the veterinarian knows the herd conditions of the elk farm in order to write health certificates. As part of the health certificate paperwork they will check maintenance of fencing, separation from free ranging stock and the elk that are on the farm, what diseases have occurred on the farm, whole herd testing for regulatory diseases of brucellosis, TB, and chronic wasting disease, pursuing causes of death unknown cause and an examination of the brain. They will also confirm that there are no symptoms consistent with P. tenuis, exposure or history.
2. Any reports of shedding and experimental trials on elk.
3. A lack of an intermediate host in arid western climates
4. The treatment of the elk with Ivermectin wormer.
5. Experiences of the State of Colorado. Thousands of elk have been imported into Colorado, and they have not found any cases of meningeal worm. Primarily because the slugs and snails that carry the worms do not maintain a viable population in the western arid climate.

- The economic benefits from elk ranching.
- Elk Associations and producer industry has not heard of meningeal worm, and it is not an issue in their industry.
- This rule will bring business to the State.
- Elk producer, Firth, Idaho, believes the meningeal worm is not an issue and people do not like their industry.
- Elk breeder and producer, this is about industry rights and the restrictive regulations that have been placed upon that industry.
- The elk producers are interested in their herd health along with the health of the elk herds on public land.

- Requested fairness of regulations for the elk producer industry. The industry of cattle ranching is worried about genetics and having a nice bull; the elk industry is interested in those same factors. The industry continues to have more regulations placed upon the elk farms and it is running more out of business. In the past there were 100 producers in Idaho now 20; due to the regulations. The producer's herd numbers have decreased drastically; if they don't have the option to go across the 100th meridian to import more elk onto their farms they might be run out of business.

- Executive Director of North American Deer Farmer Association said that in his travels across the country none of the producers have had a case of meningeal worm it is not present in the industry.

The following spoke in opposition to the rule change: Jim Jeffers, John Caywood, and Dr. Karen Bruhn-Balch,

Most of the states surrounding Idaho do not allow elk farming, carcass importation, or importation of any cervid or animals that can carry and cycle meningeal worm.

The proposed rule's "test and treat" requirement is nonsensical as the scientific literature indicates; meningeal parasites can neither be detected in live cervids nor effectively treated.

This rule change benefits elk farmers but risks Idaho's multi-million dollar big game tourism, family hunting traditions and the wild deer, elk and moose that belong to 1.4 million Idahoans.

Infected elk will be incubating meningeal worm disease well before any clinical signs are apparent up to four months. There could be no sign of the meningeal worm disease in an animal that was inspected for importation.

As a licensed veterinarian, the relaxation of the rules about importation of domestic cervids from meningeal worm endemic regions profoundly threatens Idaho cervid wildlife. Relaxation of the rules only benefits a small number of individuals who conduct bull elk shooter operations who want to import trophy-sized elk for wealthy sportsman to shoot in essentially a large camouflaged pen.

DISCUSSION: **Chairman Rice** asked Mr. Jeffers if he knew of specific outbreaks of meningeal worm in domesticated elk populations either east or west of the 100th meridian. **Mr. Jeffers** answered that he could not site studies, but it has been his understanding that there have been no outbreaks. **Senator Souza** asked for clarification on the reasons the surrounding states don't allow domestic elk farming with this meningeal worm issue. Is there a higher risk in farming elk for the disease? **Mr. Jeffers** replied the other states are concerned about chronic wasting disease (CWD) and meningeal worm, hence their restrictions on import, especially east of the 100th meridian. From a biological aspect the more you confine animals, along with the density relationship, the more opportunity there is to spread pathogens.

Senator Lee questioned if there are other animals that are imported from the same area that potentially could have the meningeal worm. **Karen Bruhn-Balch**, DVM, stated Idaho does not have meningeal worm and would be risking the wild elk herds.

Senator Den Hartog questioned what is the primary driving factor in the proposed rule change. **Mr. Jones** answered that years ago when he got into the elk industry it was thriving. He believes because of state regulations the domestic elk farms have really reduced in numbers. Idaho elk producers probably have the worst genetics of any state for quality of animals. The industry has just not been good at producing quality breeding stock because of the state restrictions. The other issue the industry is facing is the farms will be out of business if they cannot buy elk from east of the 100th Meridian. He can confidently say that Idaho's stock just is not the animal of those breeder's stock and the breeders in the State have gone out of business. The farm has been able to stay in business by buying stock from farms that have gone out of business. The domestic elk population has dramatically dropped in the State, there are not enough animals available to sustain the industry.

Senator Den Hartog asked as the industry has recognized that there are animals east of the 100th meridian that are valuable and would like to see breed into Idaho stock, are there any other restrictions that prevent the industry from importation other than the possible transfer of menigeal worm into the State. **Mr. Jones** replied he could only speculate on the answer to Senator Den Hartog's question. He believed the industry in the west was so substantial that there was a sufficient amount of animals and breeders. Due to the high regulations that have been placed on the farms, people have given up and have left the industry because it was not worth all the contention and fighting. The industry has had to look at other things. Montana, New Mexico and Colorado have been importing elk and have had no issues bringing the animals from the area east of the 100th Meridian.

Senator Lee asked if the artificial insemination (AI) process could be used for improving genetics in the herd. **Mr. Jones** said if you have captive animals, genetics is an option. For the industry it is difficult to handle a cow, there is not a high rate of success in elk, and it is cost prohibitive.

Senator Souza said Montana allows the importation of elk from east of the 100th Meridian. What are the restrictions for importation of elk from Montana into Idaho? **Mr. Schafer** replied the elk that originated from east of the 100th Meridian are not allowed to be shipped into Idaho. If he ships an elk from Minnesota into his herd in Montana that elk is not allowed to be imported into Idaho, but the other elk that surround the Minnesota elk that is in the exact same pen are allowed to be shipped into Idaho.

PRESENTATION **USDA Farm Service Agency:** Due to a lack of time this presentation was scheduled for another day.

ADJOURNED: There being no further business, **Chairman Rice** adjourned the meeting at 10:29 a.m.

Senator Rice Chair	Carol Deis Secretary

AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Tuesday, February 17, 2015

SUBJECT	DESCRIPTION	PRESENTER
Gubernatorial Appointment	David Radford	
Presentation	Idaho Soil and Water Conservation Commission	Teri Murrison, Administrator
Presentation	Idaho Association of Soil Conservation Districts	Benjamin Kelley,
02-0421-1401	Importation of Animals - Meningeal Worm Parasite	Dr. Leibsle, Deputy Administrator

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Tuesday, February 17, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking and Burgoyne
ABSENT/ EXCUSED:	None
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Vice Chairman Bayer** called the meeting to order at 8:02 a.m.
GUBERNATORIAL APPOINTMENT:	**David Radford** of Idaho Falls, Idaho, was appointed to the Idaho Soil & Water Conservation Commission (ISWCC) to serve a term commencing July 1, 2014, and expiring on July 1, 2019. **Mr. Radford** explained that he has served on this ISWCC for the past five years. His background is in agriculture, and he believes production agriculture is an important aspect of the success of Idaho. He grew up on a dairy farm in eastern Idaho. His grandfather was the first water master of the Great Feeder Canal, so he understands water and its importance to Idaho's agriculture industry. He has worked for three U.S. Senators in Idaho, served as the Sergeant at Arms of the Idaho Senate, and is now serving his fifth term as county commissioner. The partnership that local government has had historically in the ISWCC formula of funding is a match basis. The counties and cities represented a third of the formula when the soil districts were added, and ISWCC has a sturdy partnership with the 50 districts. One of the highlights of his commission position is participating in the incentive based programs for low interest loans to the farmers and ranchers. **Senator Brackett** asked what are some of his goals for his next term on the ISWCC. **Mr. Radford** replied that he would like to assist farmers or ranchers in applying for the existing loan dollars that are in the fund and put them to work in conservation projects. Everything that ISWCC can do to encourage great agricultural practices keeps the heavy hand of the EPA and DEQ out of the farmers' and ranchers' lives. **Senator Patrick** stated several years back he borrowed from this fund, and it was very helpful in changing his farm operation. **Mr. Radford** replied that his goal is to educate the ranchers and farmers on using the ISWCC loan dollars for operation improvements such as pivot irrigation, no-till drill and other pieces of equipment which are less intrusive on the land.
PASSED THE GAVEL:	Vice Chairman Bayer passed the gavel to Chairman Rice.

PRESENTATION: **Idaho Soil and Water Conservation Commission**, **Teri Murrison**, Administrator, began her presentation on their annual report. She started off with why ISWCC's work matters: The State was a leader in establishing Idaho's oldest conservation movement. During the Great Depression there were dust and erosion issues due to common land management practices at that time. March 9, 2015 marks the completion of ISWCC's 75th year as a state agency established to help farmers and ranchers reduce erosion. Idaho Code §22-27 provided the legislation for the formation of local conservation districts and established the ISWCC. These districts are Idaho's primary entities that assist in making voluntary conservation improvements on a broad scale. Legislation was passed that expanded ISWCC responsibilities to include planning and implementation of programs and projects that benefit soil, water, air, plants and animals including sage grouse, fish and other species. ISWCC's primary function is to improve the State's natural resources for future generations while maximizing their benefits. ISWCC focuses on cooperative and collaborative efforts with local individuals who know and work the land. ISWCC supplies technical expertise and more to empower locally led conservation districts. These districts undertake projects with willing landowners. They focus on three core functions:

1. Providing districts with technical and other support services.
2. Conservation programs offering non-regulatory science based incentive programs to develop voluntary conservation practices. ISWCC provided low interest loans to purchase equipment and install practices that provide conservation benefits. Loan rates range from 2.5 to 3.5 percent.
3. Administration of conservation tracking and supporting the technical and district programs.

Ms. Murrison focused the rest of her presentation on the technical assistance aspect of ISWCC functions and three of its partners' accomplishments. Chris Banks of ISWCC, Pauline Basset of the Caribou Soil Conservation District and Alan Johnson with the ISWCC. They partnered with other individuals on the Bear River and Whiskey Creek Project near Grace in southeast Idaho. Bear River is listed for not meeting the Clean Water Act standards for beneficial uses. It is considered by DEQ to be a high priority for applying best management practices to address agricultural pollutants. Whiskey Creek runs over the Niter Bench above the Bear River. Whiskey Creek was piped decades ago, and a dairy barn and concrete floored corral was built on top of it. For years, manure was pushed down the hill next to the creek, adding nutrients and sediment to the water. The dairy is defunct, but the corral still housed livestock.

Property owner Max Nichols knew it was a problem, and he wanted to reduce nutrient loading and restore the creek to a natural condition. Mr. Nichols enlisted the help of Ms. Basset, Mr. Banks and Mr. Johnson and pursued a grant from DEQ to reduce livestock impacts on 1 mile of the Bear River and 400 feet of Whiskey Creek. They dismantled the barn and corral, daylighted the creek and restored its sinuous course 400 feet down the bench to the Bear River below. Whiskey Creek's best management practices alone are expected to eliminate over 1,800 pounds of phosphorus and 296,343 of sediment from the creek. The Bear River BMP is expected to reduce over 68,000 pounds of phosphorus and 45,000 pounds of sediment. The total cost for the Bear River and Whiskey Creek Project was $358,000, of which $145,000 was provided as matched and $212,000 from a DEQ grant. This project and the partnership typifies the way they all work together to make Idaho a better place. ISWCC would like to do more projects like Whiskey Creek in the future.

Finally, ISWCC is updating the Idaho Agricultural Pollution Abatement Plan. This is Idaho's response to Section 208 of the Clean Water Act. This represents the agriculture action element of the State Water Quality Management Plan and is reviewed and updated every ten years. A final plan is due to be certified by the Governor by July 1, 2015.

Chairman Rice asked about new technologies such as the under the surface lines that use less water for crops. **Ms. Murrison** answered that the Canyon Soil Conservation District would assist farmers based on the needs of each property. In the Canyon County District the soils are highly erodible so drip irrigation and other more innovative methods are on NRCS' list of technical best management practices. Districts in the ISWCC work with NRCS to implement those best management practices. Their staff will assist the districts by helping with the proposal and the implementation. **Chairman Rice** asked if the loan programs are also available for converting into the new irrigation systems. **Ms. Murrison** answered affirmatively.

PRESENTATION: **Idaho Association of Soil Conservation Districts (IASCD)**, Benjamin Kelley, Executive Director, introduced Steve Becker. **Mr. Becker** began the presentation by stating that IASCD is the unified voice for conservation in Idaho. IASCD was organized by district leaders in 1944 and works to strengthen districts and further non-regulatory locally lead natural resource conservation in the State. IASCD's role at local, state and national levels is to keep Idaho farms and ranches active, healthy and sustainable.

He discussed conservation district work performed in the state:

- Whiskey Creek Project - the property owner was approached to see if he was willing to work in collaboration for creek clean-up and the restoration of channel flow. The farmer contributed his time and effort to help finish the project.
- Cover Crop Project - Twin Falls Soil and Conservation District and the University of Idaho Extension formed eight satellite sites for research. The sites ranged from 2 to 15 acres and were located across the Magic Valley to capture different soil types, elevations and climate management systems. Cover crops have proven they can fit into southern Idaho crop rotations. Through the research it is now apparent that there will be a single recommendation for what or where to plant the crop. Crops used for the research were radishes, four kinds of peas, turnips, red clover, tredakaley, and hairy vetch. Keeping a crop growing on a field for as many days as possible during the year is a key to improving soil health. The longer something is green the more microbial activity is going on underground.
- St. Joe River Project - Reduce sentiment and nutrient loads, improve water quality, improve fish habitat, restore riparian zones and improve flood plain functionality.

Senator Souza asked Mr. Becker to explain the heavy planting of trees along the St. Joe River bed. She noticed a project by the Army Corps of Engineers in the City of Coeur d'Alene where they were removing trees because it is a problem for flooding and erosion. **Mr. Becker** answered that it has to do with the funding agency and what they are trying to accomplish. The Army Corps of Engineers sometimes has its own ideas on how projects should be managed versus the local conservation district.

Senator Brackett asked Mr. Becker to speak to what IASCD is doing in urban conservation. **Mr. Becker** answered that Lindsey Creek in Lewiston is one of the most heavily polluted streams in the State. IASCD found that there was a serious run-off issue from a parking lot upstream, so they have diverted that water so it no longer pours into the creek.

Chairman Rice asked does IASCD have any weed invasive species projects underway. **Mr. Becker** responded that Clearwater River Weed Management area has several species in Nez Perce County that are a new noxious weed. The IASCD will go in and perform the weed control to keep them contained.

PASSED THE GAVEL: Chairman Rice passed the gavel to Vice Chairman Bayer.

DOCKET NO. 02-0421-1401 **Importation of Animals - Meningeal Worm Parasite**

TESTIMONY: **Spoke in support of the rule change:** Meagan Jones, Kathy Jones, Brian Wagner, Gail Ansley, Chase Jones and David Miller

Meagan Jones said the elk industry spends $28 testing the brain stem of every elk that is brought onto the farm, inspecting of the animals as they enter their facility and inspecting fences. Elk ranching is the most regulated form of livestock in the State. Their herd is inspected yearly. They know where each elk has come from before it enters the farm.

When the Jones family researched the meningeal worm there was not much information covering the elk, but there were several studies that related to llamas, alpaca and goats; there are no regulations on their importation into the State. The elk industry is the most regulated of the livestock industry and they are unable to import elk across the 100th meridian. They believe their industry is being forced into elimination by regulation. If they are not able to import, their farm will be forced out of business because there are not enough elk in the State to sustain their business. They believe their business carries little threat to the wildlife in Idaho.

Kathy Jones called neighboring states that had been importing elk for many years. Dr. Starckel, Montana; Dr. Wilson; New Mexico; and Dr. Spriker, Colorado have never had a case of meningeal worm in their captive cervids. Importing elk from east of the 100th meridian is not new territory; it has been done by these neighboring states for years.

Brian Wagner representing the North American Elk Breeders testified that the meningeal worm is not an issue with the breeders in their organization.

Gail Ansley, owner of a meat producing elk farm, stated their business will not survive if they cannot import they will be out of business.

Chase Jones said there are large elk populations in the meningeal worm area to the east of the 100th meridian, and those populations are thriving in such places as Kentucky and Pennsylvania.

David Miller explained the rule change lifts a ban on elk being imported from east of the 100th meridian, but it does not provide for the importation of the disease. The restriction is outdated. Everything east of the 100th meridian is not an endemic area, and deworming to eliminate the larvae stages of the worm under the proposed rule would be required prior to import. This rule also mandates that a veterinarian visually inspect each animal and verify that it does not originate from a premises that has been identified as having meningeal worm presence. With this rule change, ample preventative measures are in place which exceed those of some of the other animal import rules. This same protocol is not applied to any other species of livestock that carry the same level of risk. Domestic cervids carry no bigger risk then other livestock. As producers, they are asking for fair and corroborated livestock controls through regulatory agency, eliminating a restriction on interstate commerce that has inhibited their free enterprise.

Spoke in opposition to the rule change: Dr. Olin Balch, DVM, Carrie Fuchser, Steve Fuchser, Michael Gibson, Jim Nunley, Pat Ardmore, Larry Fry and Craig Michelson.

Dr. Olin Balch, DVM explained that P-tenuis is a worm that is armor-proofed; there are no drugs to treat these worms and the worm cannot be detected in the infected cervid. Elk from areas endemic with p-tenuis should not be translocated to areas currently free of the worm.

The ability to survive exposure to small numbers of meningeal worms, allows the potential for larvae to be present in the feces of these animals (or captive elk in the same area) and leads to a recommendation that elk not be translocated from eastern to western North America until a reliable diagnostic test or treatment for meningeal worm is available.

Meningeal worm has been implicated in the failure of several elk restoration attempts in Michigan, Kentucky and Southern Ontario. In an effort to restore the free-ranging population, nearly 1/4 of all the non-capture related mortalities were attributed to meningeal worm.

Steve Fuchser stated the heritage of hunting has always been strong in Idaho. Senators have been given the task to be stewards of the State and to protect its wildlife and the interests of all citizens.

Michael Gibson said right now the rule prohibits importation of cervids from east of 100th meridian. He is sure when the rule went into place there was much discussion, and it was decided that the importation from areas with meningeal worm placed too much risk on Idaho's wildlife. Now that the elk industry needs access to these animals that does not make the risk go away. The Idaho Wildlife Federation is asking that this rule be opposed.

Jim Nunley spoke to leaving the rule as it stands. He believed that the State should not take the risk of changing the rule to benefit a few elk ranchers. Allow the restriction in the rule to remain for no importation of elk from east of the 100th meridian. Do not rescind the rule which would allow the possibility of the meningeal worm being transported to Idaho and gaining a hold in the herds; it would have a long range effect on the wildlife of the State.

Pat Ardmore advised that there was elk ranching in many states in the west, and most of these states no longer allow the ranches. Those states were not willing to take the chance of having diseased animals come into their state. California, Oregon, Washington, Nevada and Wyoming have closed elk ranching because of the potential disease problems.

Testimony stating they spoke to Dr. Larkin, Kentucky Wildlife Disease Veterinarian, who said that meningeal worm has been implicated in the failure of several restoration attempts in the eastern United States. Of the 1,044 elk transported from the western states to eastern Kentucky, 1/4 of all non-captured related mortalities were attributed to the meningeal worm. The Elk Foundation would not take any of the elk that were transported to Kentucky back to the western states. They said there would be no guarantee that the western states would have healthy animals coming back to those states.

Larry Fry explained that elk hunting is a $300 million per year industry in Idaho, and the State sells about 80,000 elk tags per year. Many of the communities in the State rely heavily on wildlife hunting for their economy. This economy could be jeopardized by allowing meningeal worm to be brought into the State by an imported elk.

The Committee is tasked with making a decision on whether or not to pass this rule or deny it. There is no live test for this worm, and there is no certainty on whether a cervid has this worm in its system before it is imported to the State.

Craig Michelson stated this rule is playing with the fate of Idaho's wild elk. If this rule passes there could be catastrophic results to the wild elk herds.

DISCUSSION: **Senator Souza** asked for clarification on the reference to the central nervous system and the efficacy of the dewormer medication crossing over the blood brain barrier or into the central nervous system. **Dr. Balch** explained that the dewormer of choice, ivermectin, does not cross over the blood brain barrier in common therapeutic doses. A toxic dose would have to be administered to the elk.

Senator Lee said since the shedding of the p-tenuis larvae is through the feces of animals, wouldn't Idaho already have the meningeal worm because of the translocation of different types of animals into the State. **Dr. Balch** replied the other animals that have been translocated to the State such as llamas and goats are dead-end hosts. There is no medical evidence that they transmit viable larvae. They see only viable larvae in the moose and elk.

Senator Burgoyne asked what is the population of domestic elk in Idaho, and what is its impact on the economy of the State. **Ms. Jones** replied she could not answer the question.

Senator Brackett stated that if the Committee does not pass this rule elk farmers have stated that they will be forced out of business. Are there closer sources of elk within the surrounding states that could be imported? **Ms. Jones** answered the elk farmers in those states are decreasing, so there is not enough quantity available to sustain their business.

Senator Patrick asked can breeding elk be brought into Idaho from Montana without any restrictions. **Ms. Jones** replied in the affirmative.

Senator Ward-Engelking asked for clarification on the surrounding states where they have been able to import elk? Isn't it true that most of the surrounding states do not have domestic elk? **Ms. Jones** explained they do not import elk from the surrounding states to the west. When their farm imports elk it is from farms to the east such as Colorado, Montana, Canada and North Dakota.

Senator Den Hartog asked how much interaction is there between the domestic elk and the wild elk. **Mr. Gibson** answered that fences fail, and domestic elk can get out into the wild, the State should not take that risk.

Chairman Rice stated his concern is that a correlation of all these scientific reports from states across the U.S. is being drawn and calling it science. **Mr. Ardmore** answered that he had spoken to the big game biologist of the Idaho Fish and Game Department, researched the studies, and had spoken with Wisconsin's White-Tailed Deer Manager, and they believe the meningeal worm is the primary cause in the decline in elk herds. There have not been enough studies done on the meningeal worm to know that the elk ranchers would not bring this larvae into the State.

Senator Lee asked is it his opinion that there is meningeal worm in the white-tailed deer population in the State. **Mr. Fry** replied he does not know if the current population has meningeal worm, but they are the perfect host. Let's not invite this worm into the State.

MOTION: **Senator Ward-Engelking** moved to reject **Docket No. 02-0421-1401. Senator Burgoyne** seconded the motion.

Senator Ward-Engelking stated Idaho has in place a policy of take no risk. Just recently the Committee passed a rule to test for trichomoniasis in bulls in northern Idaho to ensure there was no risk from importing bulls from that area, even though the area has had very little trichomoniasis in the past. The testimony has been conflicting, and she is reluctant to allow a parasite to get a foothold in the wild herds in Idaho.

SUBSTITUTE MOTION: **Senator Patrick** moved that **Docket No. 02-0421-1401** be held at the discretion of the chair. **Senator Brackett** seconded the motion. The motion carried by **voice vote.**

ADJOURNED: There being no further business, **Vice Chairman Bayer** adjourned the meeting at 10:26 a.m.

Senator Rice
Chair

Carol Deis
Secretary

AMENDED AGENDA #1
SENATE AGRICULTURAL AFFAIRS COMMITTEE
8:00 A.M.
Room WW53
Thursday, February 19, 2015

SUBJECT	DESCRIPTION	PRESENTER
S 1073	Relating to Noxious Weeds	Senator Keough
Minutes	Approve Minutes of February 3, 2015	Senators Ward-Engelking and Burgoyne
Confirmation Vote	Vote on the confirmation of **David Radford** of Idaho Falls, Idaho appointment to the Idaho Soil & Water Conservation Commission	
Page Graduation	Farewell to Committee Page Miles Madden	Chairman Rice
Presentation	University of Agriculture - Research	John Foltz, Dean of Agriculture
Presentation	Wheat Commission	Blaine Jacobson, Executive Director

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
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MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Thursday, February 19, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking and Burgoyne
ABSENT/ EXCUSED:	None
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Vice Chairman Bayer** called the meeting to order at 8:03 a.m.

S 1073

Relating to Noxious Weeds, **Senator Keough**, stated that she had given handouts to the Committee entitled "Idaho's 10 Year Strategic Plan for Biological Control of Noxious and Invasive Weeds 2008-2018" (see attachment 1) and "The Idaho Invasive Species Strategic Plan" (see attachment 2). These are Idaho's aggressive efforts to combat and control noxious and invasive weeds. Biological control is a tool for terrestrial invasive species, and the bill before the Committee adds this control for aquatic noxious weeds. This legislation provides for the collection, removal and movement of noxious weeds from an infested area to a facility within the State of Idaho for purposes of biological control research, but only if the following conditions are satisfied:

1. The bill places the Director of the Idaho State Department of Agriculture (ISDA) as the manager over the collection process.
2. The intent of the legislation is to allow research to occur and movement of such species as the eurasian watermilfoil from a lake to a research facility at the University of Idaho to find a biocontrol mechanism.
3. In order to be successful in establishing this biocontrol the research facility must work with the invasive weed that is in the area.
4. The research must show that whatever biocontrol is developed eradicates the weed and does not disrupt the ecosystem in that process.

At this point in time, there are no funds requested from the State as part of this proposed legislation.

Senator Souza stated she is supportive of this legislation because this aquatic weed is prominent in lakes in her district. If the research has identified viable options for controlling the watermilfoil, would further legislation be needed to get permission to enact biological control in state waterways? **Senator Keough** explained if at some point there becomes a viable biocontrol mechanism then that would go back through ISDA and the current structure for approval to use the control mechanism.

Senator Patrick asked how did the eurasian watermilfoil arrive in so many different forms. **Senator Keough** answered that the concern is not so much for the eurasian watermilfoil but the surrounding rock snot (shorten terminology for the scientific word) that is in the water which may be different in Green Bay versus Hope Bay versus Sandpoint.

Jeremey Varley, Noxious Weed Superintendant of Salmon, Idaho, stated he had reviewed the legislation and had concerns with the procedural language. If a noxious weed is moved to a research facility and that facility is located where the weed does not exist, how will the local weed control personnel be informed of the movement? Accidents do occur in research. If the weed escapes would the local weed superintendant be informed? As the legislation stands there is no mechanism to inform the local professionals.

Senator Souza asked how does a plant escape. **Mr. Varley** explained the plant parts can move easily, especially in the case of eurasian watermilfoil. It does not spread by a seed; it spreads by fragmentation. If one of these small fragments gets out of the research facility and into a water body that does not have that weed, then the local weed superintendant is dealing with a problem that they cannot fix.

MOTION: **Senator Lee** moved to send **S 1073** to the floor with a **do pass** recommendation. **Senator Ward-Engelking** seconded the motion. The motion carried by **voice vote.**

MINUTES APPROVAL: **Senator Ward-Engelking** moved to approve the Minutes of February 3, 2015. **Senator Souza** seconded the motion. The motion carried by **voice vote.**

GUBERNATORIAL APPOINTMENT: **Appointment of David Radford of Idaho Falls, Idaho to the Idaho Soil and Water Conservation Commission for a term commencing July 2, 2014 and expiring July 1, 2019.**

MOTION: **Senator Brackett** moved to send the gubernatorial appointment of David Radford to the Idaho Soil and Water Conservation Commission to the floor with the recommendation that he be confirmed by the Senate. **Senator Ward-Engelking** seconded the motion. The motion carried by **voice vote.**

PASSED THE GAVEL: Vice Chairman Bayer passed the gavel to Chairman Rice.

PAGE GRADUATION: **Farewell to Committee Page Miles Madden, Chairman Rice** asked Miles Madden to tell the Committee about his experience as a page for the Committee and what his plans are for the future.

PRESENTATION: **University of Agriculture- Research (UOA)**, **Dean John Foltz,** Dean of Agriculture, University of Idaho, began his slide presentation stating the UOA is very proud to represent agriculture and provide the resources and research extension requests. (see attachment 3) Agriculture is a $9.7 billion industry in the State of Idaho. There are three missions at the UOA: teaching, research and extension. Today his presentation will focus on the research and extension missions. There are 11 research and extension facilities around the State. Important research happens at these facilities, as they support farms, plot work, scientists working out in the areas in the micro-climates or swell types that are faced in these diverse areas of the State. He explained how research and extension works: The scientists who work in the field or lab, take information from the stakeholders. Then extension individuals extend the research and provide it to the stakeholders to make it understandable by holding workshops for the utilization of what the research develops. Yields have increased because of the technology and scientific advances that UOA provided, and the value of production has continued to increase.

UOA has developed four new wheat varieties some which have herbicide resistance. At Kimberly, Idaho research is being conducted on water saving irrigation methods for major irrigated crops in southern Idaho. Over the next 25 years the State will face issues of how to become more productive with the watershed with more drought tolerant crops and utilizing water more effectively. The Parma extension is assisting fruit producers, such as grapes, peaches and apples, to make those crops more productive. Other faculty are working on improving sustainability and vitality of the rural communities and their importance in the State.

Dean Foltz expanded on specific projects that they are currently working on. The rains last fall caused sprouting problems in the cereal grain area, particularly malt barley. UOA was tasked with finding what could be done with the sprouted barley, could it still be shipped for the malt contract or could it be used as feed? The conclusion was sprouted barley is unfit as malt barley.

They have been working on developing new varieties of potatoes such as the Blazer Russet which is the regional accepted potato by McDonalds. The purple police which is a niche market for purple potato chips and fingerlings to increase consumption amongst consumers.

The key issue facing the potato industry in 2011 was the zebra chip, which was discovered in the potato crop. It is a bacteria that is transmitted by a potato psyllid, which effects the yield. The second issue was bacterial ring rot, which has been around since the 1920s. It tends to ebb and flow in the potato crop, so UOA has taken on research, prevention and control methods.

Wheat is Idaho's second largest crop; worth $800 million. They received a $20 million grant to collaborate with Washington, Oregon and Idaho in researching climate variability. Some research will cover management of new varieties of wheat, soil moisture, information that can go out to producers, and mentoring new professionals that will assist the farmers to serve agriculture in public and private sectors. This has been a very successful effort, and they will continue after the funding ceases. The new wheat seed varieties that UOA have developed are being marketed by a French company, Limagrain. Dairy waste is being composted to manage waste and improve soil health. This helps two industries: the wheat producers, because this manure is spread on those fields, and the dairy industry with waste management.

Dean Foltz discussed youth development and 4-H contributions across the State. UOA received grant dollars for a Youth Financial Literacy Program. Idaho was selected as one of five programs in the nation to pilot the new healthy eating program "Food Smart Idaho" to reduce obesity among youth. 4-H members are four times more likely to make contributions to their community; and two times more likely to go to college; two times more likely to make healthy choices and avoid risky behaviors.

UOA has created a grant office and hired a grant writer. The grant office was implemented to assist faculty productivity and to seek external funding sources. From May through December 2014 the grant office helped the faculty write over $15 million in grants that have been submitted and $17.2 million ready to be submitted.

Senator Den Hartog questioned how much of the submitted $15 million has been received by UOA. **Dean Foltz** replied he did not have that dollar amount but would supply that dollar amount to Senator Den Hartog. After this first year of submissions, they anticipate that $20 million will be received.

Senator Den Hartog asked what do they anticipate as a rate of return on the grant writing office's efforts in terms of dollars. **Dean Foltz** answered UOA investment in the grant office is $150,000, if they are successful at getting 10 percent of the $15 million submitted, that would be $1.5 to $2 million. It is their intention to keep a close accounting of the profitability of the grant office.

Senator Patrick asked Dean Foltz to elaborate further on the 4-H Youth Financial Literacy Program. **Dean Foltz** explained the attempt is to educate youth in all aspects of their life related to their finances. The subject matter they cover is: how do you finance a college education; what is a budget; what is a credit score; why is it important; and how do you balance a checkbook. These subjects are handled in workshops along with interactive game strategy for retention, how does writing a check differ from a debit card and the apps on their smartphones, these distance young people from having money in their wallet.

Senator Lee stated she was proud to see a section of UOA's presentation included the Parma Research Extension Center. Dr. Falahi is an incredible resource for their small rural community. Dr. Falahi does a great job in working with the local agricultural people, particularly the fruit growers and vineyards. A few years ago they had some concerns about the Center's survival during the recession. Are there any support issues that might hinder the continuation of the Center in the future? **Dean Foltz** stated that Parma is an example of the depth of the recession. Local stakeholders helped support that Center to get it through the lean time. The Center is on a much better financial footing today; but the private support from agribusiness really helped to keep the wolf away from the door at Parma and a few other extensions.

Senator Souza said one of the questions she is asked by some of her constituents is about some of the changes in the food crops especially the grains. Some of the wheat types are herbicide resistant. Does the UOA do follow-up research on the residual herbicide left in the crop when it is processed, and can it have detrimental affects in the future on the human body? **Dean Foltz** stated most of their research will be on the production side. The USDA and the FDA have very stringent requirements that UOA must go through to make sure there will be no residual effect. The attempt from a scientific standpoint is to advance the forefront of both food safety along with productivity, which involves both consumers and producers. They try to balance these aspects.

PRESENTATION: **Wheat Commission**, **Blaine Jacobson**, Executive Director, the presentation did not occur because the presenter was not present.

ADJOURNED: There being no further business, **Chairman Rice** adjourned the meeting at 9:15 a.m.

_____

Senator Rice
Chair

_____

Carol Deis
Secretary

Attachment 1:

Idaho's 10 Year Strategic Plan for Biological Control of Noxious and Invasive Weeds 2008-2018

Root boring beetle (*Oberea erythrocephala*) on Leafy Spurge (*Euphorbia esula*)

US DOI Bureau of Land Management – Idaho
Idaho State Department of Agriculture
Nez Perce Tribe Biocontrol Center
University of Idaho
US Forest Service Forest Health Protection

October 2008

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Thanks to US Forest Service Region 1 and 4 Forest Health Protection (FHP) units for sharing their weed biological control strategic plan which helped inform this document. Carl Jorgensen with FHP has been instrumental in the development of this strategic plan. Lynn Danly with BLM has provided helpful feedback and advice crucial to the creation of this document. Thank you to the Idaho Weed Coordinating Committee for drafting Idaho's Strategic Plan for Managing Noxious and Invasive Weeds, which provided a blueprint for this strategic plan. Thanks to Daniel Bertram, Paul Muirbrook, Nina Eckberg, and Alan Martinson, the County Weed Superintendents that provided direction and insight. Thank you to Paul Brusven with the Nez Perce Bio-control Center for your recommendations throughout this process.

MISSION STATEMENT

"To facilitate the meaningful incorporation of biological control into long term integrated weed management throughout the State of Idaho."

EXECUTIVE SUMMARY

Biological control, or the use of an introduced organism to control another introduced organism, is one component of an Integrated Weed Management strategy commonly employed to mitigate the impact of invasive species throughout the country. Idaho's 10 Year Strategic Plan for Biological Control of Noxious and Invasive Weeds provides a unifying vision for weed biological control efforts in the State of Idaho. This document was developed by the leading stakeholders in weed biological control implementation throughout the state. Prior to the development of this strategic plan, a directed approach to guide weed biological control as a management practice was not in existence. This document articulates a vision for achieving Idaho's biological control of noxious and invasive weeds program's mission by identifying 5 program goals.

Through the formation of Cooperative Weed Management Areas (CWMA), the creation of the Idaho Weed Coordinating Committee (IWCC), Idaho Weed Control Association (IWCA), and the Idaho Association of Weed Control Superintendents (IAWCS), Idaho has been a consistent leader nationally in the realm of weed management. This document continues Idaho's leadership in weed management by establishing a blueprint for the improvement of weed biological control efforts of land managers and the public stakeholders.

In Idaho's Strategic Plan for Managing Noxious and Invasive Weeds, drafted in 2005, weed biological control was recognized as a critical area for continuing education, gaining further expertise, and securing personnel to manage and evaluate weed biological control efforts throughout the state. Despite weed biological control's record of success, it remains a minor component of most weed management plans. This strategic plan outlines five goals to further the inclusion of weed biological control as a component of an Integrated Weed Management approach to control noxious and invasive weeds in Idaho: 1) Coordination, 2) Technology Development, 3) Education and Outreach, 4) Capacity Building, and 5) Evaluation and Assessment. Each of these goals is followed by clearly stated objectives and sample work activities which would help achieve the stated objectives. The goals and objectives are meant to provide a programmatic framework for weed biological control efforts in Idaho while facilitating interagency cooperation.

INTRODUCTION

Context and Need

The invasion of non-indigenous plant species throughout North America has been widely recognized as a serious threat to ecosystem integrity and the agricultural and natural resource bases. In the U.S. an estimated 700,000 hectares of wildlife habitat and natural ecosystems are invaded by more than 5,000 non-native plant species per year (Morse *et al.* 1995; Babbit 1998) with an annual loss of productivity estimated at $7.4 billion in the U.S. and $300 million in Idaho alone (ISDA 2005). Non-native invasive plants threaten the ecological integrity and biological diversity across Idaho's landscape by displacing native vegetation and forming monocultures, commonly referred to as "ecological deserts". One reason exotic invasive species can gain a competitive advantage in their new environment is because of the absence of their specialist natural enemies (Elton 1958). Biological control has the potential to be an effective tool in an integrated, long-term approach to managing noxious and invasive weeds in Idaho by bringing the weed's specialist natural enemies into the invaded ecosystem. Historically, weed biological control agents have been released by many land owners, county weed personnel, and state and federal land managers, but weed biological control activities are often not monitored or coordinated between land management entities and little data is available on biological control's weed control potential.

This strategic plan provides a unifying vision for weed biological control efforts in Idaho by identifying issues and concerns and developing procedural approaches to facilitate proper implementation of biological control in integrated weed management programs. In Idaho's 2005 Strategic Plan for Managing Noxious and Invasive Weeds, biological control was recognized as a critical area for continuing education, gaining further expertise, and securing personnel to manage weed biological control agents throughout the state (ISDA 2005). This document has been developed with the input of federal, state, and private land managers as well as biological control of noxious and invasive weed researchers and the four statewide Noxious Weed groups (Idaho Weed Control Association, Idaho Association of Weed Control Superintendents, Idaho Weed Coordinating Committee, and the Idaho Weed Awareness Committee).

Definition

Biological control, or biocontrol, was defined by DeBach (1964) as:

> "The actions of parasites, predators, and pathogens in maintaining another organism's density at a lower average than would occur in their absence." This definition contains three different techniques for applied biocontrol: (*a*) "conservation"—protection or maintenance of existing populations of biocontrol agents; (*b*) "augmentation"— regular action to

increase populations of biocontrol agents, either by periodic releases or by environmental manipulation; and (*c*) "classical biocontrol"—the importation and release of exotic biocontrol agents, with the expectation that the agents will become established and further releases will not be necessary"

Biological control is one component of an Integrated Weed Management (IWM) strategy to manage noxious and invasive weeds (Briese 1990; Baskin 2002). An IWM approach includes the use of multiple weed control methods such as cultural control, mechanical control, and chemical control. Classical biological control of weeds attempts to identify natural enemies with the most potential to reduce the competitive advantage of the target weed while posing the least environmental threat to the invaded ecosystem and introduce these biological control agents into the weeds' invaded range with the goal of reducing target weed populations to non-damaging levels. There are advantages and disadvantages to this weed control approach:

Advantages:

- Target specificity
- Continuous action
- Long – term cost effective
- Gradual in effect
- Generally environmentally benign
- Self dispersing, even into difficult terrain

Disadvantages:

- Protracted time until impact is likely or visible
- Uncertainty over ultimate scale of impact
- Uncertain "non-target" effects in the ecosystem
- Irreversible
- Not all exotic weeds are appropriate targets
- Will not work on every weed in every setting

The decision to use weed biological control should be made on a case-by-case basis. The potential impact, alternative control measures available, potential risks to the environment, and the consequences of doing nothing should be considered. The scientific information available for the potential agents should be reviewed prior to initiating a biological control program. Once the organism is released it is irreversible so this decision should be taken seriously. This is further complicated by the fact that social values change through time and that the scientific information available will also change as new data becomes available.

History of Weed Biological Control Efforts in Idaho

In contrast to other western states and Canadian provinces, biological weed control was not a significant component of noxious weed management efforts in Idaho until the mid 1990s. While the University of Idaho has had a moderate

sized weed biological control research program since the mid 1980s, biological weed control efforts were usually spearheaded only in partnership with federal agency personnel, focusing on successful efforts in neighboring states. As a result of Idaho's 1995 Strategic Plan for Managing Noxious and Invasive Weeds, the Idaho Weed Coordinating Committee (IWCC) was created, including a Biocontrol Task Force (BTF), which was composed of University of Idaho personnel, state and federal agency representatives and County Weed Superintendents that met regularly. The BTF was charged with the development of biological control priorities and guidelines for Idaho and providing recommendations to IWCC. Comprehensive recommendations were summarized and ranked according to a point system in a BTF report presented to IWCC in April 2001, but recommendations in the report were not implemented, and the BTF was not asked to provide any further information or charged with additional tasks.

In Idaho's renewed 2005 Strategic Plan for Managing Noxious and Invasive Weeds, biological control was again recognized as a critical area for continuing education and gaining further expertise (ISDA 2005). Biocontrol practitioners continued to meet in irregular intervals between 2003 and 2006. From 2006 to present, regular biannual meetings have occurred. The present version of the Strategic Plan for Biological Control of Noxious and Invasive Weeds in Idaho is in large part the result of an effort spearheaded by Idaho's Biological Weed Control state Coordinator, Joseph Milan (USDI Bureau of Land Management/Idaho State Department of Agriculture) with input from the BTF members. It represents the combined suggestions of the BTF members representing federal and state agencies, non-profit organizations as well as stakeholder and client needs.

GOALS AND OBJECTIVES

Idaho's Strategic Plan for Biological Control of Noxious and Invasive Weeds (2008-2018) identifies five program goals developed by Idaho Bureau of Land Management (BLM), Idaho State Department of Agriculture (ISDA), United States Forest Service (USFS), The Nez Perce Bio-control Center (NPBC), Cooperative Weed Management Areas (CWMA), county weed superintendents, and the University of Idaho (U of I). By working to reach these goals we hope to achieve our mission:

> "To facilitate the meaningful incorporation of biological control into long term integrated weed management throughout the State of Idaho."

Goal 1: Coordination – Improve coordination and collaboration between all involved stakeholders and the public in Idaho and adjacent states to facilitate development, implementation, and evaluation of weed biological control programs.

Goal 2: Technology Development – Develop weed biological control programs for appropriate new target plants, identify new weed biological control agents for target weeds for which existing weed biological control agents are not capable of obtaining desired control objectives, develop technologies for effective integration of multiple weed control strategies.

Goal 3: Education and Outreach – Intensify efforts to publicize existing and develop needed educational products and effectively use all media forms to disseminate information regarding all aspects of weed biological control programs to stakeholders and the public.

Goal 4: Capacity Building – Expand weed biological control capacity in Idaho to make weed biological control technology readily available to interested land managers.

Goal 5: Evaluation and Assessment – Evaluate the ability of weed biological control to help land managers meet weed management objectives by documenting weed biological control agent releases, monitoring past weed biological control release sites, monitoring vegetation across invaded landscapes to assess impacts, and assessing agent and program efficacy.

Objectives

For each goal a number of objectives were identified. The objectives address key issues and suggest work activities which will help achieve the goal. Focusing limited weed biological control resources on accomplishing identified objectives will enhance our understanding of weed biological control and its appropriate role in integrated weed management efforts.

Objectives and Suggested Actions for the 5 Strategic Goals for Biological Control of Noxious and Invasive Weeds in Idaho

GOAL 1: COORDINATION

Objective I.A. Facilitate communication between land managers and weed biological control specialists (Appendix A).

***Issue**: Weed biological control efforts are frequently duplicated or undermined by activities on adjacent lands because communication between land managers and within agencies and other entities is lacking.*

Suggested Actions:

- Create and maintain a comprehensive list of cooperators to include universities, Cooperative Weed Management Areas (CWMAs), Idaho Weed Coordinating Committee (IWCC), Idaho Weed Control Association

(IWCA), and Idaho Association of Weed Control Superintendents (IAWCS).
- Conduct biannual meetings to discuss issues of concern and program direction.

OBJECTIVE I.B. Communicate weed biological control successes and failures with other land managers, land management agencies, and states.

Issue: *Several neighboring states and land management agencies and entities have successful weed biological control programs. Communicating successes and failures between biological practitioners in adjacent states will allow for more rapid implementation of successful weed biological control programs.*

Suggested Actions:
- Establish and maintain points of contact for land management agencies and entities practicing weed biological control in neighboring states.
- Adopt successful components of weed biological control program(s) developed elsewhere and share practical field knowledge gained with others.
- Communicate failure as well as success with weed biological control communities.

OBJECTIVE I.C. Coordinate with existing agencies/entities to develop a centralized, standardized database structure for biological control releases and monitoring.

Issue: *Several land management agencies and landowners are collecting data, but basic, required elements are not being entered into a database that can be easily accessed by biological control practitioners.*

Suggested Actions:
- Develop a list of data elements essential for evaluating biological control of weed activities with other land managers/ interested parties.
- Solicit GIS specialist input so map products can be developed to help with strategic weed biological control implementation across ownership boundaries.
- Coordinate with other weed biological control practitioners as needed.

OBJECTIVE I.D. Identify weed biological control program priorities (target weeds and agents for those weeds).

Issue: *Different agencies and landowners often have different priorities for weed biological control programs.*

Suggested Actions:

- Identify weed biological control priorities for areas, agencies, and landowners.
- Have points of contact for priority areas and priority weeds.
- Act on those priorities according to available personnel, expertise, land use compatibility, and history.
- Use the priority list as a way to provide direction to foreign exploration programs and research projects.
- Share weed biological control priority lists (target weeds and weed biological control agents) among states, agencies, and land managers to identify common needs and opportunities to collaborate.

GOAL 2: TECHNOLOGY DEVELOPMENT

OBJECTIVE II.A. Develop a standard weed biological control agent and vegetation monitoring protocol.

Issue: *Monitoring of weed biological control agents and associated vegetative communities is commonly not conducted making it difficult to assess biological control efficacy.*

Suggested Actions:

- Develop a standard monitoring protocol specific to each weed biological control agent and target weed that can be completed within a reasonable amount of time as defined by land managers.
- Identify data elements that must be recorded by every person conducting monitoring.
- Develop analyses that allow for real time evaluation of biocontrol impact for aforementioned monitoring data.

OBJECTIVE II.B. Develop or adopt procedures to identify preferred weed biological control agent release site characteristics.

Issue: *Weed biological control agents are often released in areas that do not give the agent the best chance for establishment (wrong host, wrong weed biological control agent species, wrong environment, wrong time, etc.). Developing guidelines which identify site and land use characteristics best suited for weed biological control agent establishment will improve the likelihood of biological control efforts achieving their weed control potential.*

Suggested Actions:

- Develop a list of preferred habitat and land use practices for Idaho-specific weed biological control agents.
- Discuss ongoing weed biological control programs with practitioners to learn from their experiences.
- Consult with other specialists and identify exceptions to the general guidelines that may exist.

OBJECTIVE II.C. Work with the University of Idaho and other research institutions to identify needs for additional research in weed biological control in the state of Idaho.

Issue: *There is a continued need for technology development pertinent to the advancement of biological control and weed biological control's compatibility with other weed management techniques.*

Suggested Actions:

- Identify technology development needs.
- Relay weed biological control technology development needs to University of Idaho and other research institutions and coordinate potential research.

OBJECTIVE II.D. Develop tools for measuring the ecological success of weed biological control.

Issue: *Weed biological control monitoring should focus on the changes to the vegetative community, not only reduction of the target weed, to insure that an area is no longer susceptible to future weed infestations.*

Suggested Actions:

- Utilize the expertise of specialists (resource managers, range conservationists, wildlife biologists, ecologists, etc.) to assess the susceptibility of the vegetative community to weed infestation.
- Summarize ecological information in a format that is easy to understand and provides information needed to make management decisions.

OBJECTIVE II.E. Assist overseas collaborators with foreign exploration needs.

Issue: *Foreign colleagues require native seed material to evaluate the host specificity of potential biological control agents from the area the agent is intended to be released.*

Suggested Actions:

- Coordinate with foreign colleagues working with biological control to identify needs.
- Coordinate with area botanists to fulfill those needs.

OBJECTIVE II.F. Develop simplified, efficient monitoring protocols and data sheets.

Issue: *The time and expertise required to conduct existing weed biological control and vegetation monitoring protocols and fill out standard forms is often cited as the main reason monitoring is not done.*

Suggested Actions:

- Create a monitoring form that can be completed in a short amount of time by virtually any land manager.
- Distribute monitoring forms to county weed superintendents and other interested land managers.
- Create a monitoring data dictionary which can be easily incorporated into GPS units most frequently used by land managers to digitize data collection as an alternative to paper copies.

GOAL 3: EDUCATION AND OUTREACH

OBJECTIVE III.A. Increase public awareness of weed biological control.

Issue: *While the impacts resulting from weed invasions are gaining attention across the state, weed biological control as an IWM practice is not typically addressed.*

Suggested Actions:

- Get more people involved in weed biological control.
- Utilize the Idaho Weed Awareness Campaign (IWAC), University of Idaho Extension, and the Idaho Weed Control Association (IWCA) for outreach regarding weed biological control issues.
- Be actively engaged and available to schools and other educational opportunities.
- Involve teachers and students where feasible.
- Share success stories and lessons learned with the public, land managers, and legislators so that decisions regarding weed biological control as a restoration tool can be made with current information.

OBJECTIVE III.B. Sponsor workshops and scientific meetings.

Issue: *Workshops and scientific meetings are essential to obtain and transmit current knowledge regarding pertinent weed biological control agents, their availability, and their effectiveness for specific ecological habitats.*

Suggested Actions:

- Conduct monitoring-specific workshops (Northern Idaho, Eastern Idaho, and Western Idaho) on an annual basis to familiarize participants with the weed biological control monitoring protocol and agents available for release in Idaho.
- Attend and conduct weed biological control-specific workshops to obtain and transmit current weed biological control knowledge.
- Communicate with colleagues and cooperators about observations and new findings in the field of weed biological control.

- Standardize information presented in statewide workshops conducted by weed biological control specialists to insure it is current and accurate.

OBJECTIVE III.C. Identify and disseminate educational materials dealing with proper use and implementation of weed biological control.

Issue: *Educational weed biological control materials are requested by and need to be made available to weed control practitioners and the interested public.*

Suggested Actions:
- Maintain an open dialogue with weed control personnel and provide them with weed biological control information.
- Educate land managers and the public regarding the International Code of Best Practices for Classical Biological Control of Weeds (Appendix B).
- Identify existing and develop new weed biological control educational materials that may be of use to weed control practitioners.

GOAL 4: CAPACITY BUILDING

OBJECTIVE IV.A. Develop a network of weed biological control practitioners throughout the state.

Issue: *An expansion of the weed biological control program would require an increase in adequately trained personnel to assist in the continuing development and implementation of the weed biological control program.*

Suggested Actions:
- Identify potential weed biological control cooperators and notify them about weed biological control activities, workshops, and other educational opportunities.
- Develop a distribution network of engaged practitioners for weed biological control related information and a communication platform (e.g. website, listserve) to keep everyone informed of ongoing weed biological control activities in Idaho and adjacent states.

OBJECTIVE IV.B. Increase Geographical Information System (GIS) / Global Positioning System (GPS) integration with weed biological control activities.

Issue: *Spatial data management and analysis should be a major component in improving the science of weed biological control.*

Suggested Actions:
- Analyze weed biological control release data and annual monitoring data to assist in determining potential reasons for success or failure of agent establishment.

- Analyze target weed distribution data to determine potential sites for future weed biological control agent releases.
- Utilize GIS target weed location information and historic weed biological control agent release data to identify potential weed biological control agent insectaries, weed biological control success stories, ownership (potential cooperators), and to develop strategic weed biological control programs of work.

OBJECTIVE IV.C. Develop and maintain a list of effective, available, and recommended weed biological control agents and insectaries to facilitate approved and recommended agent collection and redistribution

***Issue**: Not all established weed biological control agent insectaries are being utilized because their existence is guarded or unknown. Many entities are purchasing weed biological control agents that are readily established throughout the state. Some land managers are purchasing and releasing weed biological control agents that are not currently permitted and/or recommended for release.*

Suggested Actions:

- Identify approved and desirable weed biological control agent insectaries and coordinate collections.
- Identify weed biological control user needs (federal, state, and private) and attempt to fill those needs by identifying local insectaries.
- Coordinate with private weed biological control agent providers to obtain agents not currently available from public insectaries within the state.
- Develop management plans for weed biological control agent insectaries.
- Identify unapproved or not recommended weed biological control agent releases/insectaries and caution against their inclusion in weed biological control programs, as per the International Code of Best Practices for Classical Biological Control of Weeds (Appendix B).

OBJECTIVE IV.D. Integrate weed biological control into all appropriate weed management programs across the state.

***Issue**: Many land managers are not utilizing weed biological control where there is a high likelihood of success.*

Suggested Actions:

- Utilize the Annual Operating Plans (AOP) and End of Year Reports (EYR) submitted to ISDA's CWMA costshare program to determine the extent of weed biological control use throughout the CWMAs in Idaho.
- In areas where weed biological control is not currently being utilized, but has a high probability of helping managers reach weed control objectives, approach managers to discuss incorporating biological control.

- Discuss weed management plans with land management entities and identify areas where weed biological control can be implemented into current programs.

OBJECTIVE IV.E. Provide baseline data for new weed biological control programs currently in the testing phase.

***Issue**: To accurately measure the impact of a weed biological control agent on its target weed and the invaded ecosystem, it is essential to collect vegetation data prior to the release of a new agent.*

Suggested Actions:

- Use a standard data collection format to gather baseline data for 3-5 field seasons prior to the release of a new biological control agent.
- Permanently mark monitoring sites when established for continued monitoring into the future once the new weed biological control agent has been released.

OBJECTIVE IV.F. Identify and manage current and historical weed biological control projects within the state (Appendix C).

***Issue**: Several weed biological control projects exist in Idaho, but are not known to potential cooperators.*

Suggested Actions:

- Draft a list of current and past weed biological control projects for area specialists.
- Establish points of contact for those projects.

GOAL 5: EVALUATION AND ASSESSMENT

OBJECTIVE V.A. Develop a comprehensive monitoring program to be used to evaluate weed biological control program impacts and assess vegetative response throughout the state.

***Issue**: There are several different weed biological control monitoring programs among the FS, BLM, University of Idaho, Nez Perce, NGO, and county personnel.*

Suggested Actions:

- Collaboratively develop a weed biological control and vegetation monitoring protocol that can be used to evaluate the effectiveness of weed biological control agents and changes to the vegetative community.
- Emphasize the importance of consistent monitoring in weed biological control programs.

- Monitor weed biological control releases on federal, state, and private lands.

OBJECTIVE V.B. Evaluate weed biological control agent performance.

***Issue**: Many weed biological control agents have been released, but their weed control performance has not been evaluated. Such evaluations will provide data that will enable land managers to concentrate limited resources on effective weed biological control agents.*

Suggested Actions:

- Create a weed biological control agent focus list pertinent to Idaho with established weed biological control agents that can be further developed and weed biological control agents which Idaho does not currently have, but may be capable of supporting.
- Create a list of weed biological control agents which are not currently approved or recommended for release/redistribution within Idaho.
- Monitor biological control agent populations within Idaho and maintain an open dialogue with collaborators in adjacent states regarding the status of the agents in their area as well as any concerns about agents requested, but not currently established, in Idaho.
- Continue to update the Pacific Northwest Weed Management Handbook regarding weed biological control agent distribution, attack rate, control efficacy, and availability.
- Create a weed biological control practitioner flow chart for the scenarios listed above regarding insect establishment: If one management practice or release site is unsuccessful after many years and several different methods, move in an alternate direction (different agents, augmentative releases, new site, conservation methods, etc.).

OBJECTIVE V.C. Evaluate weed biological control program effectiveness and areas for potential improvement.

***Issue**: In the absence of constant evaluation, the effectiveness of an established weed biological control program will not improve.*

Suggested Actions:

- Convene the Biocontrol Task Force (BTF) biannually to evaluate the weed biological control program.
- Identify areas that need to be improved.
- Maintain an open, objective dialogue with cooperators and practitioners to ensure that the weed biological control program continues to improve.

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APPENDIX A

List of Cooperators:

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Brusven, Paul – Nez Perce Biological Control Center, Program Coordinator
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Progar, Rob – Forest Research, Research Entomologist
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Voile, Matt – Idaho State Department of Agriculture, Noxious Weeds Department Bureau Chief

APPENDIX B
(Adapted from Balciunus 2000)

International Code of Best Practices for Classical Biological Control of Weeds:

1. Ensure target weed's potential impact justifies release of non-endemic agents
2. Obtain multi-agency approval for target
3. Select agents with potential to control target
4. Release safe and approved agents
5. Ensure only the intended agent is released
6. Use appropriate protocols for release and documentation
7. Monitor impact on target
8. Stop releases of ineffective agents, or when control is achieved
9. Monitor impacts on potential non-targets
10. Encourage assessment of changes in plant and animal communities
11. Monitor interaction among agents
12. Communicate results to public

Delegates and participants to the X International Symposium for Biological Control of Weeds, recognizing the need for professional standards in the subdiscipline of classical biological control of weeds, urge practitioners of the to voluntarily adopt the CODE OF BEST PRACTICES FOR CLASSICAL BIOLOGICAL CONTROL OF WEEDS, as published in the proceedings of the Symposium, and to adhere to the principals outlined in the Code.

APPENDIX C

Current status of biological weed control agents in Idaho (Coombs et. al 2007):

Weed	Agent	Distribution[1]	Attack Rate[2]	Control[3]	Availability[4]
Field Bindweed	*Aceria malherbae*	L	L	F	L
Scotch Broom	*Bruchidius villosus*	U	U	U	U
	Exapion fuscirostre	U	U	U	U
	Leucoptera spartifoliella	-	-	-	-
Diffuse Knapweed	*Bangasternus fausti*	L	U	U	L
	Cyphocleonus achates	L	M	F	L
	Larinus minutus	W	H	E	W
	Pterolonche inspersa	-	-	-	F
	Sphenoptera jugoslavica	H	H	G	M
	Urophora affinis	W	H	G	M
	Urophora quardifasciata	W	H	G	M
Meadow Knapweed	*Larinus minutus*	-	-	-	-
	Larinus obtusus	-	-	-	-
	Urophora quardifasciata	-	-	-	-
Russian Knapweed	*Subanguina picridis*	U	U	U	U
Spotted Knapweed	*Agapeta zoegana*	W	L	U	L
	Bangasternus fausti	L	U	U	L
	Chaetorellia acrolophi	L	L	U	L
	Cyphocleonus achates	L	M	G	M
	Larinus minutus	W	H	E	M
	Larinus obtusus	L	M	F	L
	Metzneria paucipunctella	W	H	G	M
	Sphenoptera jugoslavica	-	-	-	-
	Terellia virens	-	-	-	-
	Urophora affinis	W	H	G	M
	Urophora quadrifasciata	W	H	G	M
Purple Loosestrife	*Galerucella calmariensis*	W	H	E	M
	Galerucella pusilla	W	H	E	M
	Hylobius transversovittatus	L	L	F	L
	Nanophyes marmoratus	L	L	F	L
Tansy Ragwort	*Botanophila seneciella*	L	L	F	U
	Longitarsus jacobaeae	U	U	U	U
	Tyria jacobaeae	-	-	-	-
Mediterranean Sage	*Phrydiuchus tau*	W	H	G	M
Saltcedar	*Diorhabda elongata*	L	S	U	U
Rush Skeletonweed	*Aceria chondrillae*	W	H	G	M
	Bradyrrhoa gilveolella	U	U	U	U
	Cystiphora schmidti	W	H	G	M
	Puccinia chondrillina	W	H	G	M
Leafy Spurge	*Aphthona cyparissiae*	L	L	G	M
	Aphthona czwalinae	L	L	G	M

	Aphthona flava	L	L	G	M
	Aphthona lacertosa	W	M	G	M
	Aphthona nigriscutis	W	M	G	M
	Oberea erythrocephala	W	M	G	M
	Spurgia esulae	L	U	U	U
Yellow Starthistle	*Bangasternus orientalis*	W	H	G	M
	Chaetorellia australis	W	H	G	M
	Eustenopus villosus	W	H	G	M
	Larinus curtus	W	M	G	M
	Urophora sirunaseva	L	L	U	L
Canada Thistle	*Ceutorhynchus litura*	L	L	U	L
	Urophora cardui	L	M	G	M
Musk Thistle	*Trichosirocalus horridus*	L	M	G	L
Dalmatian Toadflax	*Brachypterolus pulicarius*	W	M	P	L
	Calophasia lunula	W	L	U	L
	Gymnetron linariae	U	U	U	U
	Mecinus janthinus	W	H	E	M
Yellow Toadflax	*Brachypterolus pulicarius*	L	M	P	L
	Calophasia lunula	L	M	F	L
	Gymnetron antirrhini	L	M	U	L

[1]Distribution within host range: W = widespread; L = limited sites; F = failed to establish; U = unknown status; - = not released

[2]Attack rate host: H = (> 70%); M = medium (>30%); L = light (>1 0%); S = slight (< 1%); U=unknown status; - = not released

[3]Control ability on seeds and/or plant density: E = excellent; G = good; F = fair; P = poor; U = undetermined; - = not released

[4]Availability for redistribution: M = mass collections; L = limited; U = unavailable; - = not released (Limited availability indicated agent populations are slow in building or are recently introduced. Work on these species should be coordinated through biological control specialists.)

Attachment 2:

The IDAHO INVASIVE SPECIES STRATEGIC PLAN

2012-2016

Acknowledgements

A special thanks to Amy Ferriter[1], Don Kemner[2], the Idaho Invasive Species Council[3], the Idaho Weed Coordinating Committee[4], and those who contributed to the development of the *Idaho Invasive Species Strategic Plan (2012-2016).*

[1]Idaho State Department of Agriculture.

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[4]USDA Farm Service Agency, National Park Service, USDA Natural Resources Conservation Service, Nez Perce Tribe, Idaho Association of Counties, Idaho Department of Lands, Idaho Governor's Office of Species Conservation, Idaho Transportation Department, University of Idaho, USDI Bureau of Land Management, Idaho Department of Parks and Recreation, Idaho Department of Fish and Game, Idaho Weed Control Association, Idaho State Department of Agriculture, USDA Forest Service, The Nature Conservancy of Idaho, and Idaho Association of Weed Control Superintendents.

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Executive Summary

Invasive species introduced into Idaho are affecting plant and animal communities on farms, ranches, parks, waters, forests, natural areas, and in backyards. Human activity such as trade, travel, and tourism have all increased substantially, escalating the speed and volume of species movement to unprecedented levels. That's why as Idahoans we must take care about the invasive species we allow to move into and around our state.

Invasive species, including weeds, are often unintended hitchhikers on conveyances, animals, and people. Still more nonnative species are deliberately introduced as pets, ornamental plants, crops, biofuels, food, for recreation, or other purposes. Most nonnative species brought into Idaho, including most of our sources of food and fiber, are not harmful; many are highly beneficial. However, a small percentage of introduced nonnative species do cause great harm to the environment and the economy of the state.

> ***Nonnative species, including their seeds, eggs, spores, larvae or other biological material capable of propagation, that cause economic or environmental harm and are capable of spreading in the state are collectively known as invasive species in Idaho.***

Invasive species cost the state millions in control and management each year. Science and common sense tell us it is cheaper and more effective to prevent invasive species invasions than to manage them once established. We must focus our limited resources on preventing invasions or treating to eradicate them early in the invasion cycle.

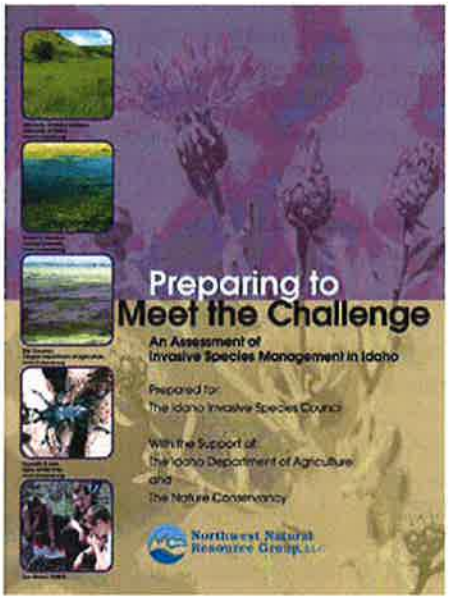
This strategic plan outlines a framework for how Idaho can continue at the forefront of state efforts to cost-effectively prevent and manage invasive species.

This strategy focuses upon three **Goals**:

1. ***Prevent*** the introduction of new invasive species to Idaho.
2. ***Limit*** the spread of existing invasive species populations in Idaho.
3. ***Abate*** ecological and economic impacts that result from invasive species populations in Idaho.

Invasive species include terrestrial and aquatic plants and animals.

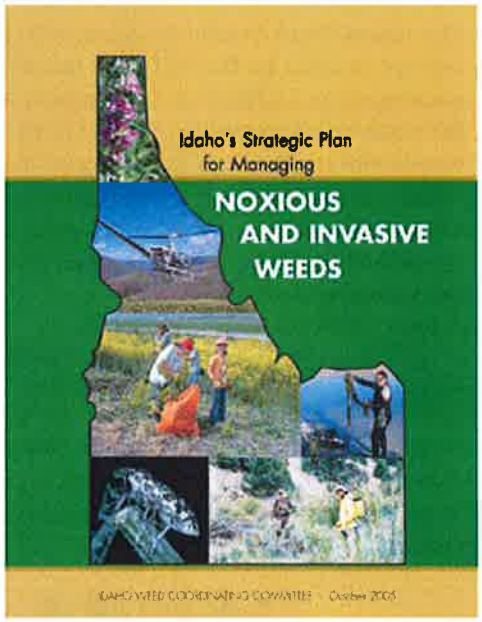
Introduction



Idaho's first ***Strategic Plan for Managing Noxious Weeds*** (1999) was published as a result of the Governor's Weed Summit held in 1998. This forward-thinking plan set into motion a wide variety of efforts to coordinate weed management in Idaho. This plan sparked the nationally-recognized Cooperative Weed Management Area (CWMA) concept and established the Idaho Weed Coordinating Committee (IWCC). The IWCC updated the ***Strategic Plan for Managing Noxious Weeds*** in 2005, and continues to strive to promote cooperation among participating agencies and entities.

In 2005, the newly-established Idaho Invasive Species Council (IISC) prepared ***Idaho's Action Plan for Invasive Species*** for then-Governor Kempthorne. In the past five years, the Council and partners have completed many of the tasks laid out in the Action Plan. Idaho now has a comprehensive Invasive Species Law, a dedicated Invasive Species Fund and a progressive statewide prevention program.

The 2005 weed and invasive species strategies have successfully guided the two programs for the last six years. Idaho has surpassed most of the benchmarks these plans established. In addition, Idaho's programs have become a model for many western states. This 2012 strategy aims to build off those successes and develop an "all taxa" blueprint for the next five years.



Two other related plans interconnect with this 2011 effort. Idaho's 2007 Aquatic Nuisance Species (ANS) Plan identified 21 gaps in state programs needed to effectively prevent and control aquatic nuisance species. Idaho's Strategic Plan for Biological Control of Noxious and Invasive Weeds (2008-2018) identifies five program goals developed by local, state, and federal partners.

The 2012-2016 Invasive Species Strategy (2012 Strategy) is not intended to replace the state ANS and Biological Control plans. They are referenced heavily in this document, and provided valuable technical guidance in the development of the 2012 Invasive Species Strategy. The major plan elements align well, and the plans should be considered complementary in nature.

Invasive species issues span geographic boundaries in Idaho; thus efforts to prevent and manage invasive species must be coordinated across taxa and jurisdictional boundaries. The 2012 Strategy is the first combined revision of the previous Noxious Weed and Invasive Species Plans. This document will guide efforts (including overall cross-taxa strategies and objectives) to prevent, control, and minimize invasive species and their impacts in Idaho over the next five years. The IWCC, IISC, state, federal and local agencies, nongovernmental organizations, private industry partners, industry stakeholders, and other experts have provided input in drafting this revision.

Background

Invasive species, including weeds, are often unintended hitchhikers on conveyances and people. Still more nonnative species are deliberately introduced as pets, ornamental plants, crops, biofuels, food, for recreation, or other purposes. The vast majority of nonnative species brought into Idaho, including most of our sources of food and fiber, are not harmful; many are highly beneficial. However, a small percentage of introduced nonnative species do cause great harm to the environment and the economy of the state.

> ***Nonnative species, including their seeds, eggs, spores, larvae or other biological material capable of propagation, that cause economic or environmental harm and are capable of spreading in the state are collectively known as* invasive species *in Idaho.***

The Idaho definition includes many types of species such as animals, plants, and microorganisms. It focuses upon invasive species which are harmful, rather than focusing on nonnative species, most of which are not harmful. It does not include crops, improved forage grasses, domestic livestock, or other beneficial nonnative organisms

Invasive species such as hydrilla and quagga mussels, may prey upon, crowd out, displace, or otherwise harm native species. Some invasive species also alter ecosystem processes, transport disease, interfere with crop production, or cause disease in animals; affecting both aquatic and terrestrial habitats. For these reasons, invasive species are of local, state, national, and global concern.

There are a number of regional and statewide organizations involved in the management of noxious weeds and invasive species across Idaho. Organizations such as the Idaho Weed Control Association (IWCA), the IWCC, the Idaho Association of Weed Control Superintendents (IAWCS), the IISC, the Columbia River Basin (CRB) Aquatic Nuisance Species team, the Western Weed Coordinating Committee (WWCC) and the Western Regional Panel (WRP) all work together to provide cohesive invasive species management. Other organizations focus their efforts on specific noxious weeds and invasive species in the state, such as the Hawkweed Action Committee, Leafy Spurge Task Force, and the Aquatic Nuisance Species Task Force.

The IWCA was formed in 1929 and promotes responsible weed management stewardship through education, communication, and public policy. The IWCA maintains an active membership and networks with appropriate organizations (state and federal agencies, county superintendents, universities, and industry) to develop professional relationships.

The IAWCS coordinates information sharing, education, and professional development among county weed control superintendents. IAWCS works closely with county government officials, state and federal agencies, and private landowners to control and eliminate noxious weeds at a local level.

The IWCC was created in 1999. Membership includes county, state, and federal agencies, IWCA, IAWCS, Nez Perce Tribe, University of Idaho, Idaho Association of Counties, and The Nature Conservancy of Idaho. The purpose of this group is to discuss and report to IWCA on issues, laws, and policies regarding noxious weeds in Idaho.

The Idaho Weed Awareness Campaign (IWAC) was created in 2001 by the IWCC. Its mission is public awareness and education to help people understand the economic and environmental impacts of noxious weeds and support integrated weed management. IWAC encourages the general public to develop and participate in invasive weed eradication and management programs, and to assist in preventing the spread of invasive weeds.

Idaho's first Strategic Plan for Managing Noxious Weeds (1999) was published as a result of the Governor's Weed Summit held in 1998. This forward-thinking plan set into motion a wide variety of efforts to coordinate weed management in Idaho. This plan sparked the nationally-recognized CWMA concept and established the IWCC

Cooperative Weed Management Areas

CWMAs form the basic local unit for cooperation in invasive weed management in the state of Idaho. CWMAs are organizations that integrate noxious weed management goals and resources across jurisdictional boundaries in order to benefit entire communities. CWMAs provide a framework that allows federal, state, and local agencies and other landowners to set common goals and priorities for the prevention and management of invasive weeds and pool resources for their accomplishment.

The primary concept behind creating a CWMA is to share resources ranging from simple hand tools to years of experience and knowledge gained by a variety of partners. Once these "resources" are combined, they create a unique synergy that allows the group to develop common goals and focus on how projects over a landscape comprised of multiple ownerships can be implemented utilizing the tools and resources available from all of the CWMA participants.

One of the most prominent benefits of a CWMA is the success that these groups have in removing communication barriers between the federal, state, county, city, and private sectors. Nearly 90% of the land area of the state falls within Idaho's 33 established CWMAs.

While every CWMA is structured differently to suit local needs, there are some basic components that each group shares. CWMAs are based on the development of a common agreement that defines:

- Land area covered by the CWMA
- Partners or membership
- Legal authorities of agencies and landowners for management of invasive weeds
- Steering committee and leadership
- A strategic plan with goals, objectives, and priorities
- Annual operating plans describing activities, responsibilities, and reporting

This agreement is usually formalized through a Memorandum of Understanding or similar agreement signed by the CWMA participants. Management of the organization is carried out by a chairperson and steering committee of key individuals who represent the CWMA partners. The steering committee ensures that all parties have a venue for input and that annual activities focus on priorities laid out in the strategic plan.

The CWMA provides a mechanism for the group to augment funding through cooperative agreements, grants, and other avenues. The financial management of a CWMA may be operated through a county with a revolving weed trust fund, through a Resource Conservation and Development Program, through a nonprofit corporation, or similar institutions.

CWMAs have been widely recognized nationally as a model for organizing effective weed management programs at the local level. They bring together all interested and concerned parties in a geographic area for the purpose of combining expertise, energy, and resources to deal with common problems.

Invasive Species Program

The Idaho Invasive Species Program was initiated in 2005 to improve the coordination of activities within the state. The Idaho Invasive Species Council was established by Executive Order (E.O. 2001-11). The Director of the Idaho State Department of Agriculture (ISDA) chairs the Council, per this Executive Order (continued as E.O. 2006-28). Membership includes a representative from the Office of the Governor and the directors (or their designee) of the Idaho Department of Environmental Quality, the Idaho Department of Parks and Recreation, the Idaho Department of Fish and Game, the Idaho Department of Lands, the Idaho Department of Water Resources, the Idaho Department of Commerce & Labor, the Idaho Department of Health and Welfare, and the Idaho Transportation Department. Representatives and members of federal

Photo by Nez Perce Tribe Bio-Control Center.

CWMAs are an effective way to organize at the local level.

entities, local government organizations, tribal governments, Idaho universities, and private and not-for-profit organizations with an interest in invasive species also participate.

The Invasive Species Program coordinates efforts throughout Idaho by working with state agencies, federal agencies, local governments, tribes, and nongovernmental organizations to address the state recommendation to "ensure that a comprehensive invasive species program in Idaho is not diluted by competing efforts among various agencies." In order to carry this out, a full-time "Invasive Species Coordinator" was budgeted within the ISDA.

In 2005, the newly-established IISC prepared Idaho's Action Plan for Invasive Species for then-Governor Kempthorne. In the past five years, many of the tasks laid out in the Action Plan have been completed. Idaho now has a comprehensive Invasive Species Law, a dedicated Invasive Species Fund and a progressive statewide prevention program.

The Idaho Invasive Species Law (Title 22 Chapter 19 Idaho Code) was enacted by the Legislature in 2008. The intent of this law is to address the increasing threat of invasive species in Idaho by providing policy direction, planning, and authority to combat invasive species and to prevent the introduction of new invasive species to the state. This law establishes the duties of the ISDA and its Director, authorizes the ISDA Director to promulgate rules, and gives authority to conduct inspections as necessary. It also establishes the Idaho Invasive Species Fund (IISF).

The Invasive Species Prevention Sticker Rules (IDAPA 26.01.34) were enacted by the Legislature in 2009. They require motorized and non-motorized boats to have an Invasive Species Sticker to launch and operate on Idaho's waters. The sticker program is administered by the Idaho Department of Parks and Recreation. Revenue generated by this program is deposited in the IISF. The IISF is administered by the ISDA. While the sticker program and the invasive species programs are linked through the IISF, the programs are independent in nature.

Through revenue generated by the Invasive Species Prevention Sticker Law, (and deposited in the IISF), ISDA developed a comprehensive statewide prevention program designed to educate the public about invasive species, monitor Idaho water bodies for possible introduction of those species, and inspect and decontaminate watercraft that travel to and through Idaho.

The Idaho Invasive Species Prevention Sticker revenue funds watercraft inspection stations statewide.

The 2012-2016 Strategy

This document is the first revision of the 2005 noxious weed and invasive species plans. The 2012 Strategy will direct efforts to prevent, control, and minimize invasive species and their impacts for the next five years. Agency staff, stakeholders, and other experts have provided input in drafting the 2012 revision, which replaces the 2005 Plans.

Federal, state, local, and tribal governments, as well as organizations in the private sector, have taken significant steps to meet the challenges posed by invasive species. These steps set the stage for the 2012 Strategy and provide direction and focus.

Awareness of the problems caused by invasive species has dramatically increased in the last five years as evidenced by increased activity at federal, state, and local levels. More than 30 states now have invasive species or invasive plants councils. Local governments and citizens groups of all types are active in weed and invasive species prevention and control. Despite the significant increase in activity and awareness, much remains to be done to prevent and mitigate the problems caused by invasive species.

The Structure of the 2012 Strategy

Houndstongue seeds on a vehicle

The 2012 "all taxa" Invasive Species Strategy is focused upon three strategic "Goals."

Goals:

- ***Prevent*** the introduction of new invasive species to Idaho.
- ***Limit*** the spread of introduced invasive species in Idaho.
- ***Abate*** ecological and economic impacts that result from invasive species populations in Idaho.

The Strategy is structured around **Objectives** that are used to accomplish the Goals.

Each **Objective** has respective **Action Items** to describe what agencies and organizations expect to do in order to accomplish that **Objective.**

I. Goal

IA. Objective

IAa. Action Items

Note: The 2012 Strategy is not a comprehensive list of all possible invasive species actions that need to be taken in Idaho. Rather, the 2012 Strategy outlines achievable objectives and concrete action items to complete in the next five years. The 2012 Strategy was developed in conjunction with a variety of organizations and stakeholders and aims to address information voids, coordination gaps, funding issues, and technical constraints.

Goal I.
Prevent the Introduction of New Invasive Species to Idaho.

Prevention is the state's first-line of defense. It is the most cost-effective approach because once a species becomes widespread; controlling it requires significant and sustained expenditures. Therefore, public investment in prevention tools, resources, and infrastructure is indispensable in protecting recreation, agriculture, and the environment.

Long-term success in prevention reduces the rate of introduction, the rate of establishment, and the damage from additional invasive species in Idaho. Measuring success requires accurate taxonomic identification, baseline data, and monitoring systems to measure long-term trends.

Objective I-A: Encourage Regional Cooperation and Coordination.

There are many important groups working on regional invasive species goals including the Western Weed Coordinating Committee, the Western Regional Panel on Aquatic Nuisance Species, the Pacific Northwest Economic Region and the Aquatic Nuisance Species Task Force and its Columbia River Basin Team. The Strategy's goal is to foster cooperation and coordination to protect Idaho's environment and minimize social and economic impacts caused by invasive species.

A number of groups coordinate efforts at the national level. For example, the National Plant Board, the Weeds Across Borders organization, The Federal Interagency Committee for the Management of Noxious and Exotic Weeds, the National Invasive Species Council, the Aquatic Plant Management Society, the Weed Science Society, and the North American Invasive Species network all work to foster effective, efficient, and harmonized programs; to act as an information clearinghouses; and to encourage coordination and collaboration with state, federal, and international agencies.

Because many harmful species hitchhike in packing materials and shipping containers, international coordination is also essential. The issue of invasive species is global in nature and efforts to manage our borders likely will depend on more effective global strategies to manage pathways.

Federal agencies such as the Department of Homeland Security's Customs and Border Protection and the Department of Agriculture's Animal Plant and Health Inspection Service contribute greatly, conducting inspections and risk assessment at border entries

Objective I-A Action Items:

- Build and sustain effective multi-jurisdictional partnerships and outreach programs for collaborative and coordinated management of invasive species in Idaho and surrounding jurisdictions.
- Support the use of coordination success models such as cooperative weed management areas and regional coordination entities.
- Work cooperatively with neighboring states and Canadian provinces to share information related to invasive species distributions and the invasive potential of species not yet in Idaho.
- Work cooperatively to prevent the expansion of invasive species from Idaho to neighboring states.
- Initiate reciprocity agreements for prevention programs with other western states, tribes, and Canadian provinces.
- Explore the possibility of establishing Regional Cooperative Invasive Species Management Areas (CISMAs) for the coordinated management of multiple taxa.

- Encourage regional committees and local governments to share issues and coordinate management across jurisdictional boundaries through meetings, trainings, and other forms of communication with bordering states, tribes, and Canadian provinces.
- Help secure stable, long-term funding, resources, and staffing for coordination of partnerships and outreach programs.
- Clearly define the roles and responsibilities of all relevant government and resource agencies, affiliated groups, and individuals.
- Increase public awareness of the impacts of invasive species and the importance of prevention, detection, and control.
- Promote the application of coordinated research to improve identification and control of key EDRR invasive species.
- Provide for well trained agency personnel that engage in invasive species detection and control activities.

Objective I-B: Determine Species that Should be Excluded from the State.

The state needs reliable information on emerging threats and new species arriving here. Without it, intervention is not likely to be timely or successful. Early detection of new infestations requires vigilance and regular monitoring of managed areas and surrounding ecosystems. A prompt and coordinated response to a new species can reduce environmental and economic impacts, reduce management costs, and result in less damage to the state's resources.

Training to properly identify species is key to prevention.

Government agencies charged with protecting Idaho's borders do an admirable job with available resources. However, the state remains vulnerable to new threats. New invaders continue to arrive in times of stagnating and fluctuating budgets. A cohesive, statewide strategy to identify new species and prevent their establishment will enhance the efforts of all groups and agencies working to maintain the biological health and richness of Idaho. Stopping an invasive species – either before it reaches the state, or shortly after it arrives – is far less expensive than trying to remove the invader once it becomes established.

In order to effectively prevent new invasive species from becoming established in Idaho, it is important to know which species have the potential to cause economic and environmental harm. Although lists of potential "bad" species become outdated as advances in science are made and unintentional introductions occur, this objective will provide guidance to resource managers as to which species should be targeted for prevention efforts.

Objective I-B Action Items:

- Evaluate and implement methods for preventing the introduction and spread of invasive species.
- Evaluate prohibited species lists of other western states.
- Utilize risk-assement tools to develop lists of species that are invasive elsewhere and should be monitored and/or prevented from being introduced to Idaho. These lists should be reviewed annually by taxonomic experts to assure they represent the most up-to-date information.
- Review statutory authorities related to prohibited species in Idaho.

Case Study 1

The Need for Prevention – A Zebra and Quagga Mussel Case Study

Zebra and quagga mussels are native to the Black and Caspian Seas. Both species of mussel can wreak havoc when introduced to a new environment by disrupting the natural food chain and crowding out native species. They are prolific and range in size from microscopic to the size of a fingernail, attaching themselves to hard and soft surfaces. They were introduced to North America's Great Lakes in ballast water from Russia in the late 1980s.

Soon after introduction, the invasive mussels spread throughout the Great Lakes region, resulting in hundreds of millions of dollars in damage to water delivery systems in the east.

They were first detected in the western United States in January 2007 in the Lake Mead National Recreation Area. They have since spread throughout the Colorado River system and are now found in several other western states.

Although the mussels are not established in Idaho's lakes and reservoirs, most waters of the state are vulnerable to future invasion. Calcium and temperature levels are suitable for them to establish in Idaho. As these mussels are transported primarily by watercraft, state resource managers have developed programs to ensure that the invasive mussels are not introduced to Idaho's waters via mussel-fouled boats that have been in mussel-infested waters of other states. Idaho's watercraft inspection station program focuses on boats from impacted states as they cross the state line.

In addition to devastating environmental impacts, zebra and quagga mussels pose an economic threat to Idaho. The mussels can colonize on hulls, engines, and steering components of boats, other recreational equipment, and can damage boat motors and restrict cooling. The invasive species also attach to aquatic plants and submerged sediment and surfaces such as piers, pilings, water intakes, and fish screens. The mussels frequently settle in massive colonies that can block water intake and threaten municipal water supply, agricultural irrigation, and power plant operations.

From 1993 to1999, congressional researchers estimated that an infestation of zebra mussel in the Great Lakes cost the power industry alone $3.1 billion with a total economic impact to industries, businesses, and communities of more than $5 billion. Given the well-documented impacts these species have had in the Great Lakes, many western states are on high alert to contain, control, and prevent their spread. The states of Nevada, California, Arizona, Colorado, and Utah each have detected these species in critical water supply systems, and are attempting to minimize impacts. Quagga mussel veligers (the immature stage of the mussels) have been found in a Utah waterbody that is 130 miles from the Idaho state line.

Zebra and quagga mussels have not been found in Idaho waters to date. In order to understand the potential impacts of these species to

Idaho, ISDA examined existing databases and published research to generate estimates on comparable occurrences in Idaho. The results reflect an estimated cost of direct and indirect impacts on infrastructure and facilities that use surface water. Most of the published data examined does not report annual costs; however, annual maintenance costs would be expected to increase for all of the categories examined. In some cases, economic impacts could not be estimated. For example, no comparable economic data exists for mussel impacts on irrigation systems; therefore they are excluded from the potential cost estimates. These estimates are considered conservative and for the most part are reported in 1997 dollars, not adjusted for inflation.

Hydropower

These estimates were based on a Bonneville Power Administration (BPA)-commissioned study that examined the estimated hydropower maintenance costs associated with zebra mussel by examining the Bonneville Dam First Powerhouse, costs associated with Asian clam control at Bonneville, and a survey of zebra mussel mitigation costs at other hydropower generation facilities in North America. The study estimated the costs for installing sodium hypochlorite systems and applying antifouling paint to 13 federal hydroelectric projects in the Columbia River Basin. The Idaho estimate was based on the BPA average cost per project ($1.8 million) for the 26 hydropower dams in Idaho (Phillips et al. 2005).

Other Dams

Other dams include water impoundment structures not associated with power generation. These structures will incur maintenance costs associated with mussel fouling of pipes and structures. Estimate based on figures from O'Neil (1997) for navigational lock structures ($1,700 per structure) applied to 86 structures in the state.

Drinking Water Intakes

The drinking water facilities included in this analysis are facilities that draw surface water for municipal or public drinking water use. Mussels foul intake piping and water processing infrastructure, increasing maintenance costs and degrading water flavor due to mussel waste and decomposition in water lines. Private single family home water intakes for drinking and irrigation are not included in this estimate. Estimates based on O'Neill (1997) figures from water treatment facilities ($42,000 per facility) applied to 100 facilities in Idaho.

Golf Courses

Golf courses are at risk for additional maintenance costs for irrigation systems. Fouling of pipes and pumps and clogged sprinklers are projected to increase operating expenses. Estimates based on O'Neill (1997) costs from golf courses ($150 per facility) applied to 114 Idaho courses.

Boating Facilities

Boating facilities include marinas, docks, and boat launches. Increased cost estimates are based on maintenance associated with dock and boat launch fouling. Estimates based on O'Neill (1997) figures from marinas ($750 per facility) applied to 380 Idaho facilities.

Fish Hatcheries and Aquaculture

Hatcheries and aquaculture facilities are vulnerable to zebra/quagga mussel fouling. Pipes, pumps, and raceway structures are all subject to increased operations and maintenance costs. Estimates based on O'Neill (1997) figures for hatcheries and aquaculture impacts ($5,800 per facility) applied to 163 facilities in Idaho.

Boater Costs

More than 90,000 motorized boats were registered in the state of Idaho in 2007. Potential increases in boater costs are based on estimates for anti-fouling paints and increased per-boat maintenance costs. Estimates based on Vilaplana et al. (1994) for increases in boater maintenance costs ($265 per boat).

Fishing Use

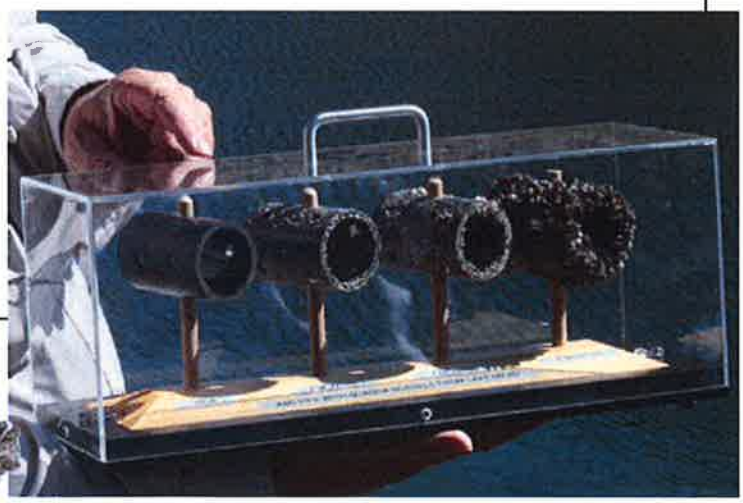
Recreational fishing is a $430 million industry in Idaho. Research on impacts of mussels on fisheries is limited but reductions of fish numbers are likely. Vilaplana et al. (1994) found a 4% decrease

in boater recreation because of mussel introduction. Estimate based on a 4% reduction of use applied to 2,917,972 Idaho fishing trips a year averaging $150 per trip (IDFG 2003).

Irrigation

56,175 points of diversion (POD) were identified in Idaho by the Idaho Department of Water Resources. Multiple points of use (POU) may be associated with each POD. Each **POD and POU** could be affected by the introduction of zebra or quagga mussels. These mussels can grow up to 0.5mm / day under ideal conditions and could impact water conveyances that are seasonally dry. Fouling from mussel establishment is cumulative and increased fouling and flow reduction would occur in ditches, pipes, pumps, fish screens, and diversion structures over time. Published research on mussel-related flow reduction in irrigation systems is minimal, but mussel establishment in pipes and pumps is well documented. The true impacts of zebra and quagga mussel introduction on irrigated agriculture in Idaho are uncertain, but there is a high likelihood that these mussels will increase maintenance costs for operations that rely on surface water for irrigation.

Facility	Number	Estimated Cost Per Unit	Estimated
State-Wide Cost			
Hydro Power	26	$1,817,000	$47,242,000
Other Dams	86	$1,730	$148,700
Drinking Water	100	$42,870	$4,287,000
Golf Courses	114	$150	$17,100
Boat Facilities	380	$750	$285,000
Hatcheries/ Aquaculture	194	$5,860	$1,136,800
Boat Maintenance	90,000	$265	$23,850,000.
Angler Days (4% reduction)	2,917,927	$150	$17,507,500
Irrigation POD	56,175		
TOTAL ESTIMATE			**$94,474,000**



Objective I-C: Understand Pathways for Species to Enter the State.

Pathways are the means by which species are transported from one location to another. Natural pathways such as wind, currents, and other forms of dispersal are morphological and behavioral characteristics that a species has developed and used.

Man-made pathways are those pathways which are enhanced or created by human activity. These are characteristically of two types. The first type is intentional, which is the result of a deliberate action to translocate an organism. Examples of intentional introductions include the intended movement of living seeds, whole plants, or pets. The second type of a man-made pathway allows organisms to be moved unintentionally. Examples of unintentional pathways are bilge water on watercraft, soil associated with the trade of nursery stock, movement of firewood, and the movement of people.

Objective I-C Action Items:

- Develop a pathways assessment for each of the following:
  - The travelling public
  - Anglers/fishing tournaments
  - Equipment (gold dredges, construction, etc.)
  - Recreationalists (ATVs, boats, campers)
  - Pet stores
  - The pet trade
  - Aquarium stores
  - Gardening centers
  - Biomass/green industry
  - Landscape architects/city planners
  - Teachers
  - Aquaculture/fish stocking
  - Commercial haulers
  - Marinas and moorage facilities
  - Internet commerce
  - Firefighting operations
  - Gear manufacturers
  - Translocating wildlife
- Conduct a gap analysis of pathways to identify those in need of greater protection. Utilize risk-assement tools to identify areas where invasive species may first establish.
- Determine if establishing "geograhic zones" in the state would facilitate prevention efforts.
- Work with partners to identify gaps in protection; close gaps in regulatory authority, funding, and other areas.
- Explore the potential to establish cross-taxa invasive species inspection stations at the Idaho state line or locations likely to be initial sites of establishment.

Potential pathways include the pet trade, moving firewood, water gardening, and unintentional movement of aquatic weeds on boats and trailers.

Case Study 2

Prevention Case Study - Operational Inspection Stations

Idaho's inspection stations are positioned on major highways at or near the Idaho state line during the summer boating season. Boats that have been in impacted states recently (within the last 30 days), watercraft coming from another state (especially commercially hauled boats), boats that show a lot of dirt, grime, or slime below the waterline or boats that have standing water on board are considered "High Risk" to the state of Idaho.

High risk invasive species inspections are thorough. They include a complete visual and tactile inspection of all portions of the boat, including compartments, bilge, trailer, and any equipment, gear, ropes, or anchors. If any biological material is found on the boat or equipment, the inspectors conduct a roadside "hotwash" of the watercraft. This is done to prevent the spread of other invasive species such as New Zealand mudsnail, Eurasian watermilfoil and hydrilla.

If the watercraft inspectors find zebra or quagga mussels on the watercraft during the course of the inspection, the boat is impounded. A more detailed decontamination and re-inspection is conducted on the watercraft before it is allowed to launch into Idaho's waters.

In 2011, ISDA operated 15 inspection stations. Many of these stations were run with the assistance of local governments and conservation districts. The data collected at the inspection stations during the previous (2009/2010) boating season allowed staff to prioritize routes into the state for the 2011 season. Some stations were moved or adjusted to maximize contact with out-of-state and high risk boats.

The State of Idaho has conducted more than 100,000 watercraft inspections since July 4th, 2009. A total of 35 fouled boats have been intercepted and decontaminated before they were allowed to launch into Idaho's waters.

Inspection stations are open throughout the boating season.

Objective I-D: Develop Targeted Education/ Outreach Messages and Tools.

Everyone living in Idaho has a stake in reducing the harmful effects of invading plants and animals. Ultimately, the success of Idaho's strategic plan to address this growing problem will hinge on the collaborative efforts of public agencies – and active participation by the public. Landowners, business owners, boaters, gardeners, consumers, travelers, and others must grasp the problem and support solutions to protect the state's valuable resources.

Objective I-D Action Items:

- Prioritize pathway audiences based on risk.
- Develop an outreach strategy for each pathway audience listed above.
- Develop partnerships that facilitate effective outreach programs within each audience (i.e., specialized messages for the pet trade, internet commerce, recreational boaters and campers).
- Review statutory authorities for measures that can be taken to address how each stakeholder group can effectively participate in preventing the spread of invasive species into the state.

Case Study 3

Noxious Weed-Free Forage and Straw Certification Program

The purpose of the ISDA Noxious Weed-Free Forage and Straw (NWFF&S) Certification Program is to limit the introduction and spread of noxious weeds through forage and straw onto United States Forest Service (USFS) and other Idaho lands. In addition, the weed-free certification program allows for the transportation and sale of certified Idaho forage and straw products into and through states and other boundaries where restrictions are placed on such commodities. An example of such restrictions include the U.S. Forest Service requirement (Weed-Free Hay Order) that forage used on USFS lands be certified as noxious weed free, and fire rehabilitation or roadside maintenance contracts require the use of noxious weed free straw or mulch. The following products meet the USFS Weed-Free Hay Order requirements: State Certified Noxious Weed-Free Hay, Cubes, and Straw. Pelletized feed meets the USFS requirements; it is not required to be certified, because the pelletizing process (heat) destroys seed viability. ISDA recommends pre-feeding your animals State Certified Noxious Weed-Free Forage (hay or cubes) or pellets 48 hours prior to entering USFS lands. It is also suggested before leaving home, to thoroughly brush and clean hooves to remove potential seeds from your animals.

To help growers meet these requirements, the ISDA has promulgated the NWFF&S Certification Rules http://adm.idaho.gov/adminrules/rules/idapa02/0631.pdf. Idaho's program is managed by ISDA and each county. For a field to be certified noxious weed free, it must be inspected by an ISDA certified inspector prior to, but no sooner than, ten days BEFORE harvest. There is a fee for the inspection.

Idaho's noxious weed-free hay certification program aims to limit the spread of weeds in forage and straw.

Objective I-E: Contingency Planning for "High Risk" Species.

The chance of eradicating a new population of a highly invasive species is small and depends directly on the ability to respond quickly and effectively as soon as possible. As an example, there is an urgent need to develop control technologies for species such as zebra and quagga mussels in Idaho's systems. Water managers in impacted western states (CA, NV, AZ, and TX) have been forced to scramble to develop control technologies within water delivery infrastructure systems. This work began shortly after the discovery of the mussels in the Lake Mead National Recreation Area in 2007. Unfortunately, control options for lakes, rivers, and naturally flowing river systems are poorly-developed. To date, there are no known control technologies available for use outside of closed (infrastructure-type) systems, and Idaho would not have many options for a rapid response.

Objective I-E Action Items:

- Use a risk assessment to evaluate potential pest species and determine threats to Idaho.
- Develop contingency plans for "High Risk" species and/or pathways.

Boat decontamination at Henrys Lake, Idaho.

Quagga mussels can be introduced to Idaho on the insides of boats from infested waters such as Lake Mead.

Goal II.

Limit the Spread of Introduced Invasive Species in Idaho.

Even the best prevention efforts cannot stop all invasive species from gaining a foothold in Idaho. Early detection and rapid response (EDRR) is a critical second defense against invasive species. EDRR increases the likelihood that localized populations will be found, contained, and eradicated before they become widely established. EDRR can slow expansion of invasive species infestations and avoid the need for costly long-term control efforts.

Rapid response activities may address totally new introductions into Idaho or range expansions of previously established species. Timeliness is the key to EDRR. It is critical to quickly mobilize resources to control an infestation before it becomes more widely established

Effective EDRR depends upon the timely ability to answer critical questions such as:

- What is the species of concern, and has it been authoritatively identified?
- Where is it located and where is it likely to spread?
- What harm may the species cause?
- What actions (if any) should be taken?
- Who has the needed authorities and resources?
- How will efforts be funded?

EDRR requires collaboration among state, federal, tribal, and local governments, nongovernment organizations, and the private sector. The ability to conduct EDRR has improved, and a great deal is being accomplished in CWMAs.

Photo by Art Talsma, The Nature Conservancy

Adams CWMA field day.

In order to conduct EDRR, incipient invasive species populations must first be found. Specimens have to be authoritatively identified, and the boundaries of the infestations determined. These essential early detection efforts require resources, planning, and coordination. Invasive species are often detected by chance, but they can also be detected by trained individuals monitoring specific areas. Spatial data and other ecological information are critical to planning and response actions. However, invasive species monitoring, mapping, and taxonomic resources and capabilities are still lacking for much of Idaho (and the United States).

EDRR also includes actions necessary to determine the appropriate response. The process identifies the invasive species interdiction options, timing, and overall strategy for response. Contingency planning that anticipates invasions and coordinates efforts across jurisdictions greatly expedites response efforts.

Many rapid response efforts are led by CWMAs working with private landowners in Idaho. However, invasions can rapidly overwhelm local resources. The ability to share resources across jurisdictional boundaries, form strategic partnerships, and have "ready" access to plans, funds, and technical resources are critical components of this strategic goal.

Case Study 4

Invasive Fish

In 2003, IDFG completed construction on Deer Creek Reservoir located in the Clearwater River drainage near the town of Headquarters, Idaho. The reservoir was built to provide a local put-and-take rainbow trout fishery. In 2006, routine sampling found golden shiner (*Notemigonus crysoleucas*), which is a common bait fish in eastern and mid-western United States. Live golden shiners are used as live bait to catch various bass species and catfish in states such as Mississippi and Tennessee.

Golden shiners had not been documented in Idaho previous to being found in Deer Creek Reservoir. Most likely, local anglers purchased live golden shiners from an internet website. The use of live bait is prohibited by law in Idaho. Golden shiners are a prolific species, if established in a water body, could out-compete the native redside shiner (*Richardsonius balteatus*), native dace species (*Rhinichthys spp*), and sport fish, for forage. The impact of golden shiners is unknown—however, a significant decline in native and desirable sport fish is a real fear.

Dworshak Reservoir is a major sport fishery, located downstream of Deer Creek Reservoir. In 2003, anglers spent an estimated $5.99 million on fishing trips to Dworshak Reservoir. In an attempt to keep golden shiners from moving down the drainage and becoming established in Dworshak Reservoir, a rotenone project was implemented on Deer Creek Reservoir in 2006 and all fish in the reservoir and tributary streams were killed. The reservoir was re-populated with rainbow trout in 2007 and annual sampling of the fish population was implemented to verify golden shiners had been eliminated from the system.

In 2010, golden shiners were once again found in Deer Creek Reservoir. The reservoir and tributaries were treated with rotenone to kill the fish population. In addition, the reservoir was completed drained for the entire winter. Only time will tell if this treatment was 100% effective.

To date, the cost to Idaho anglers has been in excess of $100,000 to control golden shiners in Deer Creek Reservoir.

Golden shiner - invasive species.

Goal 2

Objective II-A: Effective Monitoring and Surveillance.

Idaho has effective programs in place to monitor and respond to many invasive species. However, there are many others for which there is little understanding of the nature and extent of the infestations and the necessary tools to address them. Without such knowledge, it is difficult to fully define the scope of the problem and the state's capacity to respond.

There is a need to compile existing information and conduct a baseline assessment of spatial information for invasive species in Idaho. The baseline will provide an analysis of the worst invasive species in the state, the pathways and areas most affected, and resources most at risk.

Goal 2

Case Study 5

Hydrilla

Hydrilla (*Hydrilla verticillata*) is one of the most aggressive and environmentally disruptive aquatic plants in the world. Hydrilla forms dense monocultures that restrict water flow, degrade water quality, impede recreation, and out-compete native species. Introduced into North America in 1960, hydrilla now is found throughout the southern tier states in the U.S. Hydrilla has been referred to as the "perfect aquatic weed" for its ability to dominate aquatic systems. The identification of hydrilla in Idaho is of particular concern because of the potential to spread downstream into the Snake and Columbia River systems.

Hydrilla was identified in the Bruneau River near Bruneau, ID in December 2007. Surveys found an infestation that extended from Hot Creek seven miles downstream toward CJ Strike Reservoir. Dense beds of plants have been found throughout this area but primarily in areas with geothermal influence. Low densities of hydrilla plants have been found downstream of the identified geothermal area, but plants in this area were usually scattered single plants. Repeated surveys of waters downstream have found no hydrilla in CJ Strike reservoir or downstream in the Snake River. Due to the extremely aggressive and adaptable nature of this plant, ISDA is conducting an aggressive eradication program on this population.

The U.S. Geological Survey determined, through DNA analysis, that the Bruneau River hydrilla is the dioecious biotype. Dioecious hydrilla is typically found in southern tier states in the U.S., whereas the monoecious biotype has been found in colder climates, such as Washington, Maine, and Wisconsin. The lower temperature limit of the dioecious biotype is not well established in scientific literature, but its distribution appears to be limited in the U.S. by cold temperatures. The distribution of dense hydrilla in the Bruneau system appears to be limited to the geothermal waters that are found throughout the seven miles of the river system below Hot Creek. Hydrilla found outside of the warm water influenced area is believed to have been deposited as tubers that were moved downstream during high spring flows.

Crews work to remove hydrilla in the Bruneau River.

Objective II-A Action Items:

- Compile information on species locations and programs in place.
- Conduct a gap analysis of existing surveillance efforts. Use the results from the pathway gap analysis and the state risk assessments to focus surveillance efforts.
- Establish a reporting procedure for species new to the state.
- Establish rotating all-taxa monitoring protocols for Idaho's landscapes and waters.
- Work cooperatively with neighboring states to identify and contain emerging pest problems.
- Train agency staff to identify key species.
- Engage volunteer groups, organizations, and extension programs such as garden clubs, ATV users, anglers, hikers, boaters, and other users of natural areas to detect and recognize invasive species.
- Build a database of taxonomic experts and make it available online.
- Engage a network among landowners, public land managers, conservation organizations, botanists, scientists, the academic and research community, and weed organizations to report new invasive species populations.
- Encourage research opportunities to determine or forecast conditions that make systems vulnerable to introduction or establishment of invasive species; and establish risk assessment procedures to determine invasive potential of new species to the state.
- Engage the horticultural industry and the pet trade in preventing the spread of invasive species by discouraging the sale, promotion, or transportation of invasive species and monitor direct mail marketing and internet sales of invasive species.
- Provide annual training to all relevant county, state, and federal agency personnel in invasive species, transmission pathways, and prevention and decontamination techniques.

Monitoring

Systematic monitoring is an important component of the state's Early Detection and Rapid Response (EDRR) program. For example, in the event that zebra or quagga mussels are found in the state, early detection will be important to the potential for successful eradication. Idaho's water bodies have been prioritized based upon; calcium levels, number of launches, use by recreational boaters, and threats to endangered species. The aim of the prioritization exercise is not to provide a definitive list of which water bodies are likely to be invaded in any particular order; rather it is a tool to focus the use of limited resources. Ninety "Critical" and "Very High" risk water bodies have been identified for monitoring for zebra and quagga mussels. Idaho water bodies were sampled several times throughout the year in an effort to detect spawning events and/or veliger presence.

Objective II-B: Contingency Plan Implementation.

Managers need to respond quickly and efficiently to prevent the spread of a newly-introduced invasive species. Precious time can be lost during the process of determining authority or funding, obtaining permits, and coordinating responses. In addition, managers may not have access to the tools needed to respond with the utmost effectiveness and least amount of environmental disturbance and cost. There is a need to enhance communication channels to facilitate rapid responses when needed. One barrier to action is the lack of authority for species not on a regulation list. There are species in Idaho of limited distribution and state resources cannot be used.

Objective II-B Action Items:

- Increase and enhance communication to ensure coordinated approaches are supported and tools are accessible to address an emerging pest issue.
- Ensure the federal permitting processes are understood and processes are expedited to enable quick responses for all likely control actions.
- Clarify jurisdiction and authority between federal, county, and state agencies to support coordination across boundaries.

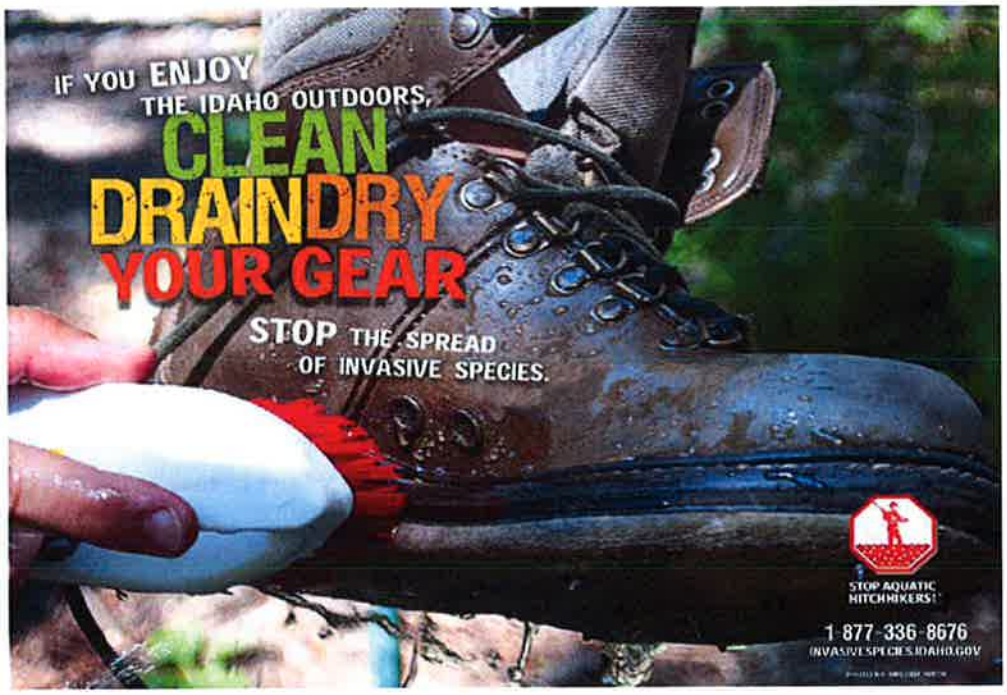
- Bring together federal, tribal, and environmental protection entities; industry stakeholders; and state and local coordinators to develop a process for coordination.
- Enhance capacity to respond to invasive species by improving agencies' access to emergency funding and building on existing efforts to develop an interagency early detection and rapid response network.

Objective II-C: Close Pathways for Additional Populations, or Spread of Incipient Populations into Non-impacted Parts of the State.

Once a new invasive species arrives in Idaho, it is important to understand the pathway by which it arrived. This is important to prevent additional inoculations and to prevent the species from spreading from the point of introduction to non-impacted parts of the state. This can be seen as the in-state version of prevention.

Objective II-C Action Items:

- Identify the pathway that supported the new infestation and that will allow for expansion to additional areas.
- Identify and implement the actions needed to eliminate or manage these pathways.
- Train "non-traditional" groups and agency personnel to identify key species and prevent their spread within Idaho.
- Collect data from invasive species possession and transport permitting process to better understand actions that can be taken to minimize the movement of high-risk materials within the state.
- The following are examples of actions that might be implemented for an aquatic species pathway associated with activities in, on, or around state waters:
  - Adopt environmentally safe disinfection procedures for all activities in, on, or around state waters, including state and federal agency field personnel activities.
  - Phase out the use of felt-soled waders in state waters, where practical.
  - Encourage the use of "boot washing" stations at all public access points.



Goal 2

Goal III.
Abate Ecological and Economic Impacts that Result from Invasive Species Populations in Idaho.

Eradication of an invasive species that is already widespread may not be feasible. Widespread invasive species are subject to control and management efforts that slow or prevent range expansion and lessen the environmental and economic impacts of invasive populations.

Invasive species can span geographic and jurisdictional boundaries. Their control and management requires communication and coordinated action across jurisdictions. Information on the distribution, abundance, rates of spread, and impacts is critical to containing invasive species.

Impacts of terrestrial invaders differ from those of aquatic species, and impacts also differ from taxon to taxon. Understanding the ecological, economic, and social impacts of invasive species is important in prioritizing control and management operations. A variety of control and management tools are needed to assess, remove, and contain invasive species populations and guide management decisions. These tools should be applied within coordinated and integrated invasive species management strategies.

Photo by Art Talsma, The Nature Conservancy

Aerial spraying for noxious weeds on Craig Mountain, Nez Perce County.

Objective III-A: Effective Management

Management of invasive species focuses on reducing their impacts as cost effectively as possible using an integrated pest management (IPM) approach. Management may involve eradication of the pest species, repeated reductions of pest numbers for periods of time, lasting reductions of pest numbers, or exclusion of the species from an area. Control methods for invasive plant species include chemical, biological, manual, cultural, and physical control. Conventional techniques for control of invasive animals include chemical and physical controls, fencing, and trapping.

Objective III-A Action Items:

- Prioritize weeds and invasive species on a local basis to focus control efforts on the most urgent threats.
- Encourage cross-jurisdictional area-wide invasive species management programs.
- Secure adequate permanent funding to manage existing pest populations.
- Use IPM techniques to control established invasive species populations, when possible.

- Support research on developing effective site-specific control technologies for invasive species.
- Establish local, state, federal, and tribal partnerships to effectively manage existing populations.
- Encourage regional and local programs to share issues, ideas, control efforts, and management plans across jurisdictional boundaries through meetings, trainings, and other communications with bordering states, tribes, and Canadian provinces.
- Support foreign and domestic research on biological control agents for established invasive species.

Photo by Nez Perce Tribe Bio-Control

Weed identification training are an important activity organized by CWMAs.

Case Study 6

Biocontrol for Dalmation Toadflax

In the mountains of south-central Idaho, biocontrol insects are quietly working to control noxious weeds. Tri-County CWMA uses insects to control dalmation toadflax (*Linaria dalmatica ssp. dalmatica*) in an area where the steep terrain limits treatment options. The toadflax stem-mining weevil (*Mecinus janthinus)* has been used in the United States for the past 15 years and since the late 90's in Idaho. Adult stem-mining weevils consume toadflax leaves and stems; weakening the plant and suppressing flowering and seed production. Weevil eggs are laid within the stems of the toadflax plants. As the eggs hatch, the larvae feed on the toadflax shoot, severing the water-conducting tissues, causing wilting and desiccation of the attacked stems. In 2010, Southern Idaho Bio-Control 'Bug Crews' released the toadflax stem-mining weevil into several remote locations. There are six 'Bug Crews' in southern Idaho working in Camas, Lincoln, Gooding, Blaine, Twin Falls, and Jerome counties. The 'Bug Crews' are made up of kids 12-18 years old who are responsible for the collection, release and monitoring of the insect and weed populations. 'Bug Crews' will collect annual baseline data on plant vigor and infestation size and examine insect establishment.

Dalmatian toadflax infestations can be found from the northern most location in Idaho throughout the southwestern and southeastern regions. The size and scope of the infestations necessitated that landowners and land managers utilize biological control to effectively combat this species. A comprehensive monitoring program was initiated in 2007 to determine the effectiveness of the weevils and the results thus far have been very encouraging.

Photo by Nez Perce Tribe Bio-Control

Dalmatian toadflax biological control agent (Mecinus janthinus) Toadflax stem weevil

Goal 3

Objective III-B: Rehabilitation

Healthy native or other desirable plant communities are a good defense against invading weed species. Therefore, restoration or rehabilitation of weed-infested areas can minimize the need for future weed control efforts. Restoring lands with native plants or other desirable plants, whether through natural regeneration or replanting, will help prevent invading plants from re-establishing themselves. Restoration also reduces long-term control costs. Land managers must continue control measures, plant native or other desirable species, and tend new plantings long enough to give them a competitive advantage.

Objective III-B Action Items:

- Build restoration funding into agency management plans and include long-term maintenance and monitoring activities, as appropriate.
- Compile information on restoration and rehabilitation efforts and build a history of successful restoration practices.
- Partner with scientific organizations and academia to support and strengthen policies that incorporate the best available science for using native species in restoration.
- Support educational and outreach materials that encourage the use of native or other desirable species in restoration.
- Support research on native species suitable for restoration including seed harvest and propagation techniques, weed seed removal, planting maintenance, plant species resistance to disease and insects, restoration and disturbance ecology, and behavior of intact and disturbed ecosystems.
- Restore or rehabilitate disturbed areas whenever possible to minimize the threat of weed invasions.
- Work to decrease the costs of restoration efforts.
- Engage the horticulture industry, conservation agencies, and academia to develop and expand the market for native species selection and availability.
- Encourage outreach programs to educate plant consumers and stimulate local awareness of the availability of native plant choices for residential and commercial landscapes, rights-of-way, erosion control, and for habitat improvement.

Photo by Cathy Ford, Idaho Transportation Department

Rehabilitation of weedy areas along interstate right-of-way.

Partnership Case Study 7

Hells Canyon

Hells Canyon is one of the most biologically significant landscapes in the West. Measuring 7,993 feet deep from mountain peaks to the Snake River and up to 10 miles wide, Hells Canyon forms the deepest river canyon in North America. There are over 1,000 native plant species in Hells Canyon and approximately 380 wildlife species, many of them endemic to this landscape.

The steep canyon slopes of Hells Canyon support some of the best remaining bunchgrass communities in the northwestern United States. However, this landscape is under threat of conversion to noxious weeds, such as yellow starthistle (*Centaurea solstitialis*) and invasive annual grasses. The ecological disturbance created by wildfires makes the threat of weed invasion even more urgent.

Traditionally, land managers spend most of their time fighting weeds with expensive herbicides and bio-controls on large noxious weed invasions. In Hells Canyon, weed managers designed an innovative cooperative leading edge approach to weed control and prevention. Ecologically Designed and Geographically Efficient (EDGE) strategies were designed to manage weed invasions in large rugged landscapes.

Digital Aerial Sketch Mapping (DASM) surveys and Strategic Weed Action Teams (SWAT) with ranchers and land managers effectively detect and eradicate weeds that are invading relatively weed free areas. This study has demonstrated the capacity to increase landowner participation and prevent weed invasions in large landscapes using these cost effective early detection and rapid response strategies.

Project partners include the Bureau of Land Management, The Nature Conservancy, Idaho Department of Fish and Game, Idaho State Department of Agriculture, Nez Perce Tribe, University of Idaho, and the USDA Forest Service.

Here partners use geographic information systems (GIS) to inventory, map, and track the effects of fire and weeds on lands in the 250,000-acre weed management area. GIS guides weed control efforts and land management planning activities such as prescribed fire and restoration efforts in grasslands and forest communities. This tool is helping partners take a proactive, landscape-scale approach to weed control and fire rehabilitation in the rugged canyons of Idaho, Oregon, and Washington.

Conservation in Practice Formula

- CWMA Coordinated Weed Management Areas with a strong multi-agency partnership working across state boundaries.
- DASM Digital Aerial Sketch Mapping as an effective remote sensing tool.
- SWAT Strategic Weed Action Teams working out in the field with landowners.

Summary

These joint activities are show promising results in long term weed control, effective communication of lessons learned in fire management, and overall improvements to the ecological integrity and wildlife diversity for the land.

Photo by Art Talsma, The Nature Conservancy

Yellow starthistle infestation in Hells Canyon, Nez Perce County

Objective III-C: Adequate Regulatory Tools

State and federal agencies administer and enforce a growing body of laws to address the problem of invasive species. These laws primarily allow for management of existing populations of invasive species or seek to prevent species introduction through known pathways. The laws also establish regulatory structures and grant programs. Several regulatory agencies in Idaho have species lists that fall under the invasive species umbrella. For example, the ISDA and IDFG each have lists of species for the purposes of management activities or for controlling and eradicating invasive species. Table 1 lists laws, statutes, agencies, and their key responsibilities, and affected industry sectors.

Objective III-C Action Items:

- Assess current invasive species laws and authorities. Recommend policies to address gaps and streamline existing statutes and regulations.
- Coordinate activities between state and federal agencies to provide appropriate enforcement of state and federal laws.
- Support and strengthen enforcement of state laws and quarantine lists.
- Strengthen current state regulations that safeguard against invasive species introductions and spread.
- Educate the public about the costs associated with invasive species and the effects on food prices, user fees, habitat quality, and demonstrate the savings associated with prevention.

Objective III-D: Adequate Funding

It takes years of diligent efforts to eliminate harmful non-native species. Additionally, invasive species management including detection, control, eradication, monitoring, and rehabilitation strategies is expensive. Control and eradication costs are rarely a one-time expense. Management costs alone sometimes exceed the total budgets of managing agencies. Hence, affected land can and does go untreated or inadequately restored. In some cases, the cost of managing infested public lands may be passed on to the public through higher fees and taxes.

Cogongrass is a federal noxious weed that is still widely used in landscaping.

Objective III-D Action Items:

- Assess cost-saving measures to make existing operations more strategic and efficient.
- Work to establish more funding sources of invasive species management.
- Identify additional funding sources available for invasive species management and position the state to take advantage of them.
- Encourage regional funding that targets specific invasive species or pathways.
- Encourage federal partners to provide cooperative funding to address the interstate movement of invasive species.
- Increase funding and protect existing funding sources to state agencies for the prevention and control of invasive species.
- Encourage federal partners to provide adequate funding to prevent and manage invasive species populations on Idaho's federally-managed lands and waters.

Case Study 8

Eurasian Watermilfoil

Eurasian watermilfoil (EWM) is one of the most problematic invasive aquatic plants in North America. EWM out-competes native vegetation and degrades aquatic habitats by reducing biodiversity. EWM forms dense canopies of growth in the water which can make boating and fishing impossible. Dense plant growth degrades water quality and fisheries and encourages mosquito growth. An aggressive treatment program began in 2006 to prevent further spread of EWM and to eradicate the plant from treated water bodies.

2011 was the sixth year of the Eurasian watermilfoil program and treatment and prevention efforts continue throughout Idaho. Over 12,000 acres of EWM has been treated in Idaho since 2006 using herbicides, diver-assisted suction dredging, and benthic barriers. Surveys have illustrated a significant reduction in EWM populations in treated water bodies and EWM no longer interferes with recreation in treated areas. Survey has also illustrated that native plant abundance and diversity has increased following EWM treatment providing improved habitat for invertebrates, fish, and waterfowl.

Surveys in 2010 found that eastern Idaho still has no EWM. This area represents one of the largest areas of the nation to not have EWM. Only three new populations of EWM have been identified in Idaho since 2007 including a new population identified in Bayview on the southern end of Lake Pend Oreille, in Black Lake in the Couer d'Alene River chain lake system, and in an isolated pond near Buhl. The Buhl population is 80 miles upstream of the nearest Snake River EWM population and has been aggressively treated to prevent it from being introduced into that portion of the Snake River.

The milfoil program also funds prevention projects throughout the state. To date, no EWM has been found in eastern Idaho. Five watercraft inspections stations were supported by milfoil funds in Bonner and Kootenai counties and three stations inspecting watercraft on Henrys Lake in 2010. Over 100 watercraft were found to be carrying EWM and other aquatic weeds. The watercraft were hot water washed to prevent the spread of invasive aquatic species.

Eurasian watermilfoil.

Goal 3

Case Study 9

Holding the Line - Protecting Yellowstone National Park and the Greater Yellowstone Ecosytem

The "Holding the Line" Project emerged out of a shared conviction that invasive plants, such as leafy spurge (*Euphorbia esula*), must be prevented from expanding their ranges in eastern Idaho and invading the unique ecosystems of Yellowstone National Park. The Project works across jurisdictional boundaries bringing together landowners, land managers, and those responsible for weed management in the Greater Yellowstone area. It began in 2009 in southeastern Idaho capitalizing on successes in treating leafy spurge populations with biological controls.

The Project is managed by High Country RC&D Area, Inc. and an interagency steering committee composed of federal, state, and local land managers; private citizens; and county weed authorities.

The Project follows an integrated pest management approach using appropriate biological, cultural, and herbicide practices with extensive releases of biocontrol insects to achieve Project objectives. In 2009 and 2010, the Project released nearly ten million insects treating approximately 9,000 acres of leafy spurge infested lands, inventoried over 20,000 acres for new infestations, and established numerous insectaries for raising and releasing biocontrol insects. The Holding the Line Project has been funded by the project participants and grants from the U.S. Forest Service State & Private Forestry – Ogden, UT, Caribou-Targhee National Forest, and the Greater Yellowstone Coordinating Committee.

Leafy spurge in the Greater Yellowstone area. It is considered a serious threat to Yellowstone National Park.

State and Federal Legal Authorities

Summary of Authorities in Invasive Species Management.

IDAHO'S REGULATORY AUTHORITIES			
Invasive Species Function	**Authorities**	**Agencies**	**Key Responsibilities**
Prevention	22-1900, Invasive Species Act; Idaho Rule 02.06.09, Rules Governing Invasive Species; 22-2012, 22-2016 Plant Pest Act; 22-2409, Noxious Weed Law; 36-104, 36-106, 36-1102; 13.01.10. Fish and Game Authorities; IDAPA 13.01.03, Public Use of Land Owned or Controlled by Idaho Department of Fish and Game; 25-214, Disease Inspection and Suppression; 25-3900, Deleterious Animals; 38-602, Forest Pests	ISDA, IDFG, IDL, in cooperation with ISDA	Prohibits or restricts import, cultivation, possession, introduction or movement of invasive species and plant pests, including noxious weeds; Controls interstate movement of invasive animals and those with communicable diseases; Control weed infested seeds; Regulate the movement of injurious animals; Prevent and control noxious aquatic weeds; Authorizes cooperation with federally imposed quarantines. IDL, through the Forest Pest Act and ISDA, through the Plant Pest Act, can survey for forest pests and have broad authorities for control and prevention. Prohibits the use or transport of any hay, straw or mulch that is not weed seed free certified, on land owned or controlled by Idaho Department of Fish and Game; Prohibits the possession of wild birds; Rules governing the importation and release of wildlife.
Early Detection and Rapid Response	22-1900, Invasive Species Act; Idaho Rule 02.06.09, Rules Governing Invasive Species;22-2009, Plant Pest Act; 22-2404, Noxious Weed Law	ISDA, Idaho counties, in cooperation with ISDA	The Noxious Weed Law and the Plant Pest Act contain specific references to the ability of any state agency to take emergency actions; Invasive Species Rules contain a Statewide EDRR AIIS List. If any of the species listed are found to occur in Idaho, they are to be reported to ISDA immediately. Rules allow for inspections to detect the presence of EDRR AIIS. All conveyances are subject to inspection. Requires the decontamination of any conveyance found or reasonably believed to contain EDRR AIIS.
Control, Management and Restoration	22-2016, Plant Pest Act; 22-2409, Noxious Weed Law; 25-218, 25-219, Animal Management; 25-3900, Deleterious Animals; 36-104, 36-903, and 36-1107; Fish and Game Authorities; 38-602, Forest Pests	ISDA, IDFG, IDL, in cooperation with ISDA	Prohibits or restricts import, cultivation, possession, introduction or movement of invasive species and plant pests, including noxious weeds; Controls interstate movement of invasive animals and those with communicable diseases; Control weed infested seeds; Regulate the movement of injurious animals; Prevent and control noxious aquatic weeds; Authorizes cooperation with federally imposed quarantines. IDL, through the Forest Pest Act and ISDA, through the Plant Pest Act, can survey for forest pests and have broad authorities for control and prevention. Adopt rules pertaining to the importation, exportation, release, sale, possession or transportation into, within or from the state of Idaho of any species of live, native or exotic wildlife or any eggs thereof. Control or removal of undesirable fish; Pertains to the removal of wild animals and birds damaging property.
Research and Monitoring	22-2018, Plant Pest Act; 38-602, Forest Pests	ISDA, IDL, in cooperation with ISDA	Under the Plant Pest Act, ISDA may fund research to prevent the introduction or spread of plant pests causing, or having the potential to cause, significant damage or harm in the state, and to investigate the feasibility of their control.
Information Management			
Public Outreach and Partnership Efforts			Dissemination of public information; Cooperate with federal, state, local and tribal governments
Interagency Efforts	Various statutory authorities	Invasive Species Council	

FEDERAL ROLES			
Invasive Species Function	**Authorities**	**Agencies**	**Key Responsibilities**
Prevention	Plant Protection Act; Animal quarantine laws; Lacey Act; Federal Seed Act; Nonindigenous Aquatic Nuisance Prevention and Control Act; National Invasive Species Act; Noxious Weed Control and Eradication Act; Wyden Amendment; Executive Order 13112	APHIS, USFWS, NOAA, USEPA, USDA, USCG, Depts. of Defense, State and Transportation (for aquatic noxious weeds)	Prohibit or restrict imports or movements of plant pests, including noxious weeds; Control interstate movement of invasive animals and those with communicable diseases; Control weed infested seeds; Regulate the movement of injurious animals; Prevent and control noxious aquatic weeds.
Early Detection and Rapid Response	Plant Protection Act; Animal quarantine laws; USEPA; Noxious Weed Control and Eradication Act; Wyden Amendment; Executive Order 13112	Various agencies have the emergency authority to deal with incipient invasions.	Seize, hold, quarantine and treat prohibited species imported into the United States or transported between states.
Control, Management and Restoration	Such acts and NFMA, FLPMA and those that guide the management of lands or waters under various agency jurisdiction; the NonIndigenous Aquatic Nuisance Prevention and Control Act; Clean Water Act; FIFRA; USEPA; Plant Protection Act; Emergency Watershed Program; Noxious Weed Control and Eradication Act; Wyden Amendment; Executive Order 13112	Forest Service, Depts. of Defense, Interior, and Transportation, NOAA, USEPA, BOR, ACOE, NRCS, ARS, APHIS, BLM; No single agency has overall responsibility	Control and manage invasive species and restore affected areas on federal lands and waters.
Research and Monitoring	Cooperative Agriculture Pest Survey; Nonindigenous Aquatic Nuisance Prevention and Control Act; Noxious Weed Control and Eradication Act; Wyden Amendment; Executive Order 13112; and various organic acts	USDA agencies, Interior agencies, NOAA, USEPA	Develop databases on various invasives, research invasive species and micro-organisms of concern to forests, agricultural lands, rangelands and wetlands. Research risks associated with invasive species.
Information Management	International Plant Protection Convention; NAFTA; Convention on International Trade in End. Species of Wild Fauna and Flora; Convention on Biological Diversity; N. American Agreement for Environmental Cooperation	USDA agencies, Office of the U.S. Trade Representative, World Trade Organization, Depts. of Interior, Transportation, State; International Maritime Organization, USEPA, U.S. AID	Develop strategies for international control of invasive species and share information; Capacity building in other countries; treaty and trade negotiations; ballast water management.
Public Outreach and Partnership Efforts	Various statutory attributes	USDA, Dept. of Interior, Dept. of Defense; NOAA	Dissemination of public information; Cooperate with state, local and tribal governments.
Interagency Efforts	Various statutory authorities	Aquatic Nuisance Species Task Force, National Invasive Species Council, Federal Interagency Committee on the Management of Noxious and Exotic Weeds, Committee on Environment and Natural Resources of the National Science and Technology Council	Problem specific cooperative efforts and the coordination of control and research efforts.
Prevention	Plant Protection Act; Animal quarantine laws; Lacey Act; Federal Seed Act; Nonindigenous Aquatic Nuisance Prevention and Control Act; National Invasive Species Act; Noxious Weed Control and Eradication Act; Wyden Amendment; Executive Order 13112	APHIS, USFWS, NOAA, USEPA, USDA, USCG, Depts. of Defense, State and Transportation (for aquatic noxious weeds)	Prohibit or restrict imports or movements of plant pests, including noxious weeds; Control interstate movement of invasive animals and those with communicable diseases; Control weed infested seeds; Regulate the movement of injurious animals; Prevent and control noxious aquatic weeds

The Plant Protection Act of 2000 (7 U.S.C. 7701 et seq) as amended by the Noxious Weed Control and Eradication Act of 2004 (P.L. 108-412). Among other provisions, the Plant Protection Act authorizes the Secretary of Agriculture to prohibit or restrict the importation, entry, exportation, or movement in interstate commerce of any plant, plant product, biological control organism, noxious weed, article, or means of conveyance, if the Secretary determines that the prohibition or restriction is necessary to prevent the introduction into the United States or the dissemination of a plant pest or noxious weed within the United States. The Act defines the term "Noxious Weed".

Wyden Amendment (P.L. 109-54, Section 434) authorizes the Forest Service to enter into cooperative agreements to benefit resources within watersheds on National Forest System lands. Agreements may be with willing federal, tribal, state, and local governments, private and nongovernment entities, and landowners to conduct activities on public or private lands. Under this authority, the Forest Service may enter into agreements to support or conduct invasive species management activities on aquatic and terrestrial areas owned by local and state governments, tribes, other federal agencies, and private individuals or organizations, to benefit and protect the National Forest System and other resources within a watershed at risk from invasive species.

Executive Order 13112 issued February 3, 1999 (E.O. 13112) directs federal agencies to: (1) identify actions that may affect status of an invasive species; (2)(a) prevent introduction of such species; (b) detect and control such species; (c) monitor population of such species; (d) provide for restoration of native species; (e) conduct research on invasive species and develop technologies to prevent introduction of such species; (f) promote public education of such species; and (3) not authorize, fund or carry out actions likely to cause the introduction or spread of invasive species in the United States or elsewhere unless the benefits of the action clearly outweigh the harm and the agencies take steps to minimize the harm.

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Idaho State Department of Agriculture, 2007. *Idaho's Aquatic Nuisance Species (ANS) Plan, A Report to the ANS Task Force.*

Office of the Governor, 2001. *Executive Order No. 2001-11 Establishing the Idaho Invasive Species Council.*

USDI Bureau of Land Management and the Idaho State Department of Agriculture, 2008. *Idaho's Ten Year Strategic Plan for Biological Control of Noxious and Invasive Weeds.*

List of Acronyms

ANS – Aquatic Nuisance Species

BPA – Bonneville Power Administration

CISMA – Cooperative Invasive Species Management Areas

CRB – Columbia River Basin

CWMA – Cooperative Weed Management Area

DASM – Digital Aerial Sketch Mapping

EDRR – Early Detection Rapid Response

EDGE – Ecological Designed and Geographically Efficient

EWM – Eurasian Watermilfoil

GIS – Geographic Information Systems

IAWCS – Idaho Association of Weed Control Superintendents

IISC – Idaho Invasive Species Council

IISF – Idaho Invasive Species Fund

IMP – Integrated Pest Management

IWAC – Idaho Weed Awareness Campaign

IWCA – Idaho Weed Control Association

IWCC – Idaho Weed Coordinating Committee

POD – Points of Diversion

POU – Points of Use

NWFFS – Noxious Weed Free Forage and Straw

SWAT – Strategic Weed Action Teams

USFS – United States Forest Service

WRP – Western Regional Panel

WWCC – Western Weed Coordinating Committee

AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Tuesday, February 24, 2015

SUBJECT	DESCRIPTION	PRESENTER
RS23664	Unanimous Consent to send a Concurrent Resolution stating findings of the Legislature and Rejecting the Rule of the Idaho State Department of Agriculture Relating to Rules Governing Livestock Dealers, Buying Stations, and Livestock Trader Lots be sent to State Affairs for print	Chairman Rice and Vice Chairman Bayer
RS23665	Unanimous Consent to send a Concurrent Resolution stating findings of the Legislature and Rejecting the Rule of the Board of Veterinary Medicine Relating to Rules of the State of Idaho Board of Veterinary Medicine be sent to State Affairs for print	Chairman Rice and Vice Chairman Bayer
S 1074	Relating to the Idaho Honey Commission	Jim Lowe, representing Idaho Honey Industry Association
Presentation	Idaho Potato Commission	Frank Muir, President/CEO
Presentation	USDA Farm Service Agency	Mark Samson, State Executive Director, Farm Service Agency of Idaho
Docket No. 02-0421-1401	**Committee Action:** Importation of Animals - Meningeal Worm Parasite	Dr. Leibsle, Deputy Administrator

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Tuesday, February 24, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking and Burgoyne
ABSENT/ EXCUSED:	None
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Chairman Rice** called the meeting to order at 8:05 a.m.
RS 23664	**Unanimous Consent to send a Concurrent Resolution Rejecting a Rule Governing Livestock Dealers to a privileged committee to print**
UNANIMOUS CONSENT REQUEST:	**Chairman Rice** asked for unanimous consent to send **RS 23664** to State Affairs to print. There were no objections.
RS 23665	**Unanimous Consent to send a Concurrent Resolution Rejecting a Rule Governing the Board of Veterinary Medicine to a privileged committee to print**
UNANIMOUS CONSENT REQUEST:	**Chairman Rice** asked for unanimous consent to send **RS 23665** to State Affairs to print. There were no objections.
S 1074	**Relating to the Idaho Honey Commission**, **Jim Lowe,** representing the Idaho Honey Industry Association, advised this legislation deals with the update and clarification of Idaho Code § 22-28, relating to the Idaho Honey Advertising Commission (IHAC). IHAC is a quasi-governmental agency operating within the Idaho State Department of Agriculture. The purpose of IHAC is the promotion, research and education of the Honey Industry. **S 1074** addresses three areas: 1) Change the name of the IHAC from the Idaho Honey Advertising Commission to the Idaho Honey Commission (IHC) to more accurately reflect the entirety of the purpose of the Commission; 2) In order to maintain consistency changing the fund name from IHC to the Idaho Honey Fund; and 3) This brings the naming of IHC in line with the convention of other commodity commissions. The major change in the bill is to revise the code governing members of IHC, Idaho Code § 22-28-04. Changes to Section 28-04 addresses the qualifications, removal, nomination, terms, function, operations and compensations for members of the IHC. They have removed the three districts because it can be difficult to find individuals that are qualified and willing to serve on the IHC. He addressed the levy and collection of taxes. Every commercial beekeeper in the State is required to register with IHC, and they are assessed a per hive fee of $.05. The smaller producers that qualify as hobby beekeepers, less than 50 hives, have the option to register with IHC for a flat fee of $10. **Senator Burgoyne** asked what is the purpose of IHC. **Mr. Lowe** answered Section 28-07 directs the duties of the IHC to set honey quality, identity, labeling standards, advertising, promotion, research and public education.

MOTION: **Senator Souza** moved that **S 1074** be sent to the floor with a **do pass** recommendation. **Senator Ward-Engelking** seconded the motion. The motion carried by **voice vote.**

PRESENTATION: **Idaho Potato Commission (IPC)**, **Frank Muir**, President/CEO, stated that the IPC represents over 600 farms which generate $4 billion in farm revenue for the State. IPC was formed 78 years ago when the growers realized they had something unique in the soil and climate for their potato crops. The farmers knew that they could not get enough funds voluntarily and approached the Legislature for a law to levy a tax on the growers which created the IPC.
The Idaho Potato Truck traveling around the US is the biggest tourism advertisement for Idaho. This year University of Idaho (UOI) requested that they be included in the promotion tour to help recruit students of the northwest to explore an education at UOI.

Mr. Muir focused his presentation on two pages from the financial report for year end August 31, 2014. Revenues collected were $14,814,712 on 12.5 cents per hundredweight (potato tax); 60 percent is collected from the growers, 40 percent is collected from the first handler; the revenue was up $552,498 due to a bumper crop of potatoes. This is an increase $630,000 in revenue over budget. IPC does not believe in taking excess revenue and building up a reserve fund but views those dollars as working dollars that need to be directed toward advertising and promotions to stimulate demand. IPC has to be very aggressive in putting forward the potato message, as a result, IPC voted to keep the potato truck on the road for a third year tour because of the unbelievable success of the campaign. IPC approved an increase of budget from the reserve, which is reflected in line item advertising and public relations for an overspend of $1.3 million to keep the truck out on the road along with two national potato meetings.

Mr. Muir mentioned there is a piece of legislation progressing through the House dealing with potato cyst nematode (PCN). The bill language requests that the farmers who are affected by the PCN receive a refund of their IPC tax. IPC is opposed to this legislation but not opposed to helping the growers. Nearly $80 million has been spent by federal, state and IPC funds over the pasted 8 years battling PCN.

Senator Souza questioned the personnel costs of $3 million; how much staff does IPC employee? **Mr. Muir** clarified that IPC employs 18 people, and that $3 million represents not only their salary but all of the office costs. IPC tries to keep their administration dollars to 20 percent or less.

Senator Souza asked does the State fund any of IPC directly with money from the General Fund. **Mr. Muir** explained IPC is completely funded, almost 100 percent, by the potato taxes paid by potato growers, shippers and processors.

Senator Patrick questioned the expenditure of $80 million on 3,000 acres of land that is infected with PCN; would it be more cost effective to purchase those acres and put them in pasture until the PCN is eradicated? **Mr. Muir** explained that the USDA has not offered to purchase those acres because you would have to put those acres into fallow for 30 years. The USDA approach has been to treat PCN because it was found in its early stages. USDA believes the treatment methods of using methyl bromide and other aggressive tactics along with research can eradicate PCN in these acres. They are at that stage with nine of these fields. All the phases of the methyl bromide treatments have been completed and the testing indicates that there are no active viable PCN in those fields. They are also researching a suicide hatch method for control of PCN.

PRESENTATION: **USDA Farm Service Agency**, Mark Samson, State Executive Director, Farm Service Agency of Idaho, the presenter was not present.

PASSED GAVEL: Chairman Rice passed the gavel to Vice Chairman Bayer.

DOCKET NO: 02-0421-1401 **Importation of Animals - Meningeal Worm Parasite**, **Vice Chairman Bayer** reminded the Committee that they have had three proceedings on this docket and ran out of time at each of those meetings.

Senator Den Hartog asked for clarification on a motion that was made at one of the previous meetings and how the House voted on this docket. **Vice Chairman Bayer** explained in the previous meeting the Committee's action was to hold the docket to the discretion of the Chair because of time constraints. The House vote did not reject the rule. To reject a rule the process is to draft a concurrent resolution rejecting that rule through the legislative process for the rule to fail.

Senator Patrick stated that the Committee is tasked with measuring the risks that could come with the importation of elk. It is difficult to know the science that would lead to a no risk decision.

Senator Ward-Engelking said she has read over the documents that have been presented in opposition to the rule change. Experts in the field state this is a bad idea. She has not been assured that an elk imported into the State would not be carrying the meningeal worm. Her course is to take no risks with the State's wildlife and leave the rule unchanged. She believes that not all of the stakeholders were at the table when the rule change was negotiated.

Senator Burgoyne advised that the Committee should reject this rule. He believes The language of 605 on page 56 of the rule is misdrafted: 605. Meningeal Worm - "importation of domestic cervidae known to be infected with p-tenuis is prohibited". This rule language that the Committee is being asked to approve encourages not knowing. It seems that the party that has the affirmative bears the burden of proof. This group of individuals wants a change in the rule, and the science is, at best, conflicting; this group should bare the burden of convincing the Committee that what they propose is going to be safe. He stated he was not convinced. The industry has some responsibility to develop the science and show the Committee that the treatment is effective. Before shifting the risk, it is reasonable that the industry be the party that bears the cost of the science and not put the cost on the wildlife industry. The benefit is narrow to a small group, and the potential risk is broad; if the risk would come to pass it would be devastating to the State's wild herds.

Senator Souza explained she comes from a science background, and the science that has been provided for this change in rule is very uncertain. The Committee has heard from four different veterinarians on various sides of the issue each reporting different tidbits of science but nothing firm enough to convince her that elk could be imported at no risk. The Committee has a responsibility to take all industries into consideration in this case. The population of farmed elk is in serious need of import options. It has been presented that some western states have successfully relaxed their regulation on importing elk and have no reported cases of meningeal worm. The other industry that has to be considered is the hunting and guiding industry, which is extremely valuable financially to many communities in the State. As a member of this Committee, she has a responsibility to protect the wildlife from the possibility of the meningeal worm risk.

Senator Lee stated based on science the Committee has shown that it supports the elk industry by reducing some regulations on the CWD testing. If there was a definitive way to test for meningeal worm, she could support the rule change. Because of conflicting scientific data she cannot support this rule change.

Senator Brackett asked for clarification of the parties that were present at the negotiated rulemaking meeting. **Steven Allen** stated that there is a transcript of that meeting and in the transcript the only industry present at the negotiated rulemaking was the shooter bull industry. There was one small notification within the journal, but he does not believe that this represents proper notification. **Senator Brackett** asked if Mr. Allen was present at the rulemaking negotiations. **Mr. Allen** stated he was not at the meeting. The journal notification was very innocuous, and it failed to notify all the industries who deal in elk. The Committee has had such a large turnout of individuals opposing the rule change because of inadequate representation. The industry was outraged that the rule change was happening so quickly and there was no time to properly prepare for the Committee hearing. There should be proper notification for all interested parties.

Chairman Rice advised that there are experts that are very sound in their profession and there are others that express opinions that are not based in the science. Some of the documentation that has been presented to the Committee is quite dated. There have been statements made that sheep do not pass on the meningeal worm, yet not one single scientific study has been presented on whether sheep pass this worm. Idaho imports sheep from east of the 100th meridian and they send them out into the wild in much larger numbers then what the elk farmers are requesting. In some of the documentation scientists have attributed the meningeal worm to a particular source without any study. Some of the documents given to the Committee by both sides indicate that the only animal species that is a problem is the whited-tail deer; this conclusion comes from the zoo veterinarians. There are areas east of the 100th meridian where the meningeal worm is not present and has not spread such as the Atlantic coast. Colorado has had the same rule for 15 years and has not had meningeal worm. Colorado has imported elk from east of the 100th meridian into herds. Under the rule as it stands the State can import elk from Colorado. **Chairman Rice** specifically asked for evidence of infestation of meningeal worm in any of the domestic herds east of the 100th meridian. Not one scientific study or newspaper article showed that domestic herds of elk east of the 100th meridian have had a problem with meningeal worm. The science does not support the huge risk claim. This means the risk is very low and the potential harm is much lower than has been represented.

Senator Patrick stated he does not believe importing elk will bring disease to the elk herds of the State.

Senator Den Hartog stated she is a supporter of business and reducing regulation in a meaningful way. She is not opposed to reducing regulation when the risk is understood along with the implications of the decision. There has been different expert testimony for both sides of this rule change. There has been no definitive science presented that shows pre-treating of the elk with the dewormer is effective to rid them of the meningeal worm. She understands the need of the industry and the frustration of not being able to import freely within the US. In the future she is not opposed to considering this rule change if the industry would consider importing elk from areas that are not endemic with this worm. There is no consistent way to know if the elk are carrying the worm in their system and no way of treating them so they are worm free. These are the reasons she cannot support the rule change.

MOTION: **Senator Ward-Engelking** moved to reject **Docket No. 02-0421-1401**. **Senator Burgoyne** seconded the motion.

ROLL CALL VOTE: **Vice Chairman Bayer** requested a roll call vote. **Senators Souza, Lee, Den Hartog, Ward-Engelking and Burgoyne** voted aye. **Senators Bayer, Brackett, Patrick and Rice** voted nay. The motion carried.

ADJOURNED: There being no further business, **Chairman Rice** adjourned the meeting at 9:17 a.m.

Senator Rice
Chair

Carol Deis
Secretary

AMENDED AGENDA #1

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Thursday, February 26, 2015

SUBJECT	DESCRIPTION	PRESENTER
RS23696	Unanimous Consent to send Legislation Relating to the Idaho Beef Council to Lease or Own Property to State Affairs for print	Senator Brackett
Presentation	USDA Farm Service Agency	Mark Samson, State Executive Director, Farm Service Agency of Idaho
Minutes	Approve Minutes February 5, 2015	Senators Souza and Lee
Minutes	Approve Minutes February 10, 2015	Senators Den Hartog and Vice Chairman Bayer

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Thursday, February 26, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking and Burgoyne
ABSENT/ EXCUSED:	None
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Chairman Rice** called the meeting to order at 8:01 a.m.
RS 23696	**Unanimous Consent to send Legislation Relating to the Idaho Beef Council to a privileged committee to print**
UNANIMOUS CONSENT REQUEST:	**Senator Brackett** asked for unanimous consent to send **RS 23696** to State Affairs to print. There were no objections.

PRESENTATION: **USDA Farm Service Agency**, Mark Samson, State Executive Director, Farm Service Agency of Idaho, began the presentation by stating the Farm Service Agency (FSA) is unique because it represents a five member committee who are appointed by the President from around the State. FSA helps initiate the Farm Bill to make rulings and run policy, and they are the first point of initiation for all the farm programs, disputes and appeals (see attachment 1).

What are the changes in the Farm Bill:

1. The most significant portion is that the direct, counter-cyclical and acre payments were eliminated. These were the direct subsidies to the producer based on the amount of base and the commodities that were grown.
2. Payment limitations have been reduced. The producers can only receive $125,000 for the potential payment under Agricultural Risk Coverage (ARC) or Price Loss Coverage (PLC), disaster or loan deficiency payments.
3. Improves the safety nets for veterans and beginning farmers and ranchers; 30 percent of active duty members come from rural America. Those veterans are returning to their rural areas, but there is very little help for them. This program helps them to buy farms, rent ground and get reestablished in agriculture.
4. Recognizes the potential of new and expanding markets for the agriculture industry.
5. There is an increased reliance on crop insurance. All producers must have crop insurance to be in the farm program.
6. Conservation compliance is tied to loan acceptance, farm programs and insurance.
7. There are increased loan opportunities for minorities such as women and Native Americans.

Mr. Samson then explained the Agriculture Act of 2014 in detail for commodities such as livestock, dairy, revenue protection, conservation and farm loan programs.

The county offices are tasked with implementing a very complex Farm Bill, and farmers are very upset with the way the program has been developed and implemented. The most controversial portion of the Agriculture Act is the ARC and PLC. These are no longer a revenue guarantee for the producers; instead this is a revenue protection. Enrolling in the PLC protects the producers against lower prices. Enrolling in the ARC guarantees producers against yield and disaster prices. Producers must come in and choose one of the programs; which is a one-time decision until 2018. The program choice is based on a price. The producers are dissatisfied with this section of the bill because they must predict pricing to 2018; there is no way that they can predict the outcome.

One of the strongest efforts under the new Farm Bill is the new farms loan program. The farm program section of the bill was written with the idea that Congress did not want many producers signing up for the programs nor did they want to pay out a lot of money. Congress decided to do loans to help farmers in transition and add $6 billion of loanable money. The USDA is the premier lender of choice for the beginning farmer and the underserved.

The blank spot in this slide for 2015 represents what the USDA cannot predict. The producers are looking at this as revenue protection or risk management it is no longer direct guarantee to the farmer. The Farm Bill is new to the producers and the FSA staff administering the legislation. The Farm Bill has become difficult to administer because, by statute, FSA can explain the programs but they can no longer make recommendations to the producers. The producers are now challenged to know their operations so they can make the right decision. The support of the Farm Bill is unknown because it is now based on marketing prices per year.

Senator Patrick asked what would be the maximum dollar amount for beginning farmer loans. **Mr. Samson** replied a micro loan would be $50,000. The direct or guaranteed loans would depend on the business plan; but the loan could not be more than $1 million. FSA is trying to get a handle on how they market the loans in Idaho. Beginning farmers are looking for opportunities to get into farming but they are having trouble breaking the land out of the old operations. FSA is analyzing where they are making loans and mapping where the Conservation Reserve Program ground will be coming back into production and those farmers who are leasing more ground. Then they can match up their efforts to proceed with loans to locations of the farms.

Senator Lee stated in her district it is difficult to find farm ground. The current farmers are looking for ground from farmers who are retiring. In her district there are not many opportunities for beginning farmers to find land and break into the industry. **Mr. Samson** answered that FSA does see some opportunities in that district. FSA looks at the amount of individuals that participate in the insurance program and that supplies information about farmers that lease ground from multiple owners. The owners are trying to maximize their rental from the ground. The leases are jumping up so the existing farmers can't afford the leases. FSA is trying to slot beginning farmers onto those leases.

Senator Souza asked about the loans for farm storage facilities. She noticed that a credit test is not a requirement. **Mr. Samson** advised that for the farm facility loans there is not a credit test. The producer has to come in with a down payment. They eliminated the credit test so that the smaller producer could build facilities to carry them through to expansion.

MINUTES APPROVAL: **Senator Souza** moved to approve the Minutes of February 5, 2015. **Senator Lee** seconded the motion. The motion carried by **voice vote**.

MINUTES APPROVAL: **Senator Den Hartog** moved to approve the Minutes of February 10, 2015. **Vice Chairman Bayer** seconded the motion. The motion carried by **voice vote.**

ADJOURNED: There being no further business, **Chairman Rice** adjourned the meeting at 8:48 a.m.

Senator Rice
Chair

Carol Deis
Secretary

Attachment 1:

IDAHO SENATE
AGRICULTURAL AFFAIRS COMMITTEE
Jim Rice, Chairman

USDA Idaho Farm Service Agency
February 12, 2015

USDA United States Department of Agriculture
Farm Service Agency

Farm Service Agency

Mark Samson
State Executive Director

Jeff Mitchell
Farm Program Chief

Dan Mattson
Acting Farm Loan Chief

Terry Pobst-Martin
Administrative Officer

USDA United States Department of Agriculture
Farm Service Agency

Idaho State Committee
Represent all Areas of the State

- Scott McLeod, Chairman — Nezperce
- Matt Gellings — Idaho Falls
- Amy Manning — Pocatello
- Sherry Crutcher — Duck Valley
- Bobbi Bodine — Grangeville

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Farm Service Agency

FSA County Office Committees (COC)
Unique to FSA

- USDA encourages *all* eligible farmers and ranchers to participate in the county committee election process
- COC's serve 3-year terms and elections are held in December
- COC's oversee delivery of federal programs locally

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Farm Service Agency

Administrative

FTE Ceiling is stable at 135

83 employees to implement the Farm Program Section

34 employees to implement the Farm Loan Section

Administrative costs: 3.2% of program allocations.

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Farm Service Agency

Still located in 29 counties.

Appropriations Committees Authorization to reduce any office to below one FTE is required.

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Farm Service Agency

Continued Strength of Idaho Agriculture

- 2014 Cash receipts up for fourth straight year
  - $9.7 Billion in 2014 (U of I)
  - $8.4 Billion in 2013 (U of I)
- 2014 farm revenue - $7.82 billion (U of I)
- 2014 farm net income $4.5 billion (U of I)
  - 46% Increase
- 2014 Program payments down 23% (U of I)

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Agriculture Act of 2014

Signed into law February 7, 2014

USDA United States Department of Agriculture
Farm Service Agency

Agriculture Act of 2014

The goal of this farm bill is to allow the men and women who feed millions around the world to invest confidently in the future.

- Provides additional support to communities
- Builds on the historic gains in rural America over the past 5 years
- Supports the continued global leadership of our farmers and ranchers

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Farm Service Agency

Changes in the 2014 Farm Bill

Direct, Counter-cyclical and ACRE payments are eliminated

Payment Limitations are Reduced ($125,000)
Adjusted Gross Income is Reduced ($900,000)

Improves "safety net" for Veteran and Beginning farmers and ranchers

Recognizes the potential of new and expanding markets for the agriculture industry

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Changes in the 2014 Farm Bill

Additional support for food hubs, farmers markets and on-farm businesses

Increased reliance on Crop Insurance

Reduced CRP Acres to 26 million

Tied Conservation Compliance to all programs

Increased Loan Opportunities

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Farm Service Agency

Agriculture Act of 2014

LIVESTOCK

NONINSURED CROP DISASTER ASSISTANCE

DAIRY

ARC/PLC REVENUE PROTECTION

CONSERVATION

FARM LOAN PROGRAM

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Farm Service Agency

Agriculture Act of 2014
LIVESTOCK

Livestock Indemnity Program (LIP)
Retro back to October 1, 2011

Livestock Forage Disaster Program (LFP)
Retro back to October 1, 2011

Emergency Livestock Assistance Program (ELAP)
Retro back to October 1, 2011

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Farm Service Agency

Agriculture Act of 2014
NONINSURED CROP DISASTER ASSISTANCE

Those crops not insured by RMA

Buy-up to 100% of Price
Yield Coverage 50/55/60/65%
Basic – 50% yield, 55% price

USDA United States Department of Agriculture
Farm Service Agency

Agriculture Act of 2014

NONINSURED CROP DISASTER ASSISTANCE

$250 admin fee per crop
(Max $750 per county or $1875 total per producer)
Buy-up premium based on producer yield, acres and level selected
Maximum premium is $6563

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Farm Service Agency

Agriculture Act of 2014

NONINSURED CROP DISASTER ASSISTANCE

Underserved, Beginning Farmer or Limited Resource Producer

Admin Fee Waived
Buy-up premium is reduced 50%
Payment Limitation and AGI apply

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Farm Service Agency

Agriculture Act of 2014

DAIRY
MARGIN PROTECTION PROGRAM

Risk Management Against Falling Margins
National All-Milk Price – National Average Feed Price
Catastrophic coverage at no cost
Annual Administrative Fee ($100)
Varying Margins: $4.00 to $8.00 (Buy-up Fees at $4.50)

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Farm Service Agency

Agriculture Act of 2014

DAIRY
MARGIN PROTECTION PROGRAM

Sign-up Completed December 19, 2014
361 of 550 Enrolled
60% of Total Milk Production Enrolled

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Farm Service Agency

Agriculture Act of 2014

Agricultural Risk Coverage (ARC)
Price Loss Coverage (PLC)

No longer Revenue "Guarantee"

Revenue "Protection"

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Farm Service Agency

Agriculture Act of 2014

ARC/PLC

One time opportunity:

Update yields based on 2008-12 yield history (owners)

Reallocate base to crops planted on the farm in 2009-2012 (owners)

Choose between ARC or PLC (producers)

A new crop insurance option (SCO) for PLC participants

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Agriculture Act of 2014

ARC/PLC

Owners choose to update yields and/or reallocate bases (one-time decision)
February 27, 2015

Producers decide to elect ARC or PLC (one-time decision)
March 31, 2015

Producers enroll on an annual basis in ARC or PLC (must enroll in the elected program – cannot change from year to year)
Mid-April 2015 – Summer 2015

Producers choose to purchase an individual crop insurance policy and SCO (if the crop is not enrolled in ARC)
Annually in Spring or Fall (depending on the crop)

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Agriculture Act of 2014

ARC/PLC

21 Covered Commodities		
Barley	Canola	Corn
Crambe	Flaxseed	Garbanzo, Large
Garbanzo, Small	Grain Sorghum	Lentils
Mustard Seed	Oats	Peanuts
Peas, Dry	Rapeseed	Rice, Long Grain
Rice, Medium Grain	Safflowers	Sesame Seed
Soybeans	Sunflower Seed	Wheat

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Agriculture Act of 2014

ARC/PLC PAYMENT LIMITATIONS

$125,000 per person payment limits for (ARC, PLC, LDPs and marketing loan gains) combined

$900,000 3 year average adjusted gross income (AGI) on commodity and conservation programs

Actively Engaged Provisions

Directs the USDA Secretary to conduct a rulemaking to define the term "significant contribution of active personal management" and determine if a limit on the number of individuals in an entity qualifying using "management" is necessary.

Potential changes will not apply to individuals or to entities that are made up solely of family members.

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Farm Service Agency

Agriculture Act of 2014

CONSERVATION

Conservation Reserve Program (CRP)

State Acres for Wildlife Enhancement (SAFE)

Conservation Reserve Enhancement Program (CREP)

Highly Erodible Land Initiative (HELI)

Payment Limit = $50,000; AGI < $900,000

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Agriculture Act of 2014

CRP

592,000 Total Acres (January, 2015)

29,683 Acres Expiring (September, 2015)

SAFE

105,580 Acres Enrolled

11,000 Additional Acres to Enroll

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Farm Service Agency

Agriculture Act of 2014

CREP

State and Federal Program to Restore water to Eastern Snake Plan Aquifer

21 Counties Eligible

17,000 Enrolled Acres

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FARM LOANS

Consistently Achieve Goals Set by National Office

No Backlogs of approved applications

Delinquencies on Direct Loans at 1.8%

Delinquencies on Guaranteed Loans at 0.79%

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FARM LOANS

Portfolio is turning over rapidly!

Borrowers in 2000 Portfolio:

20% Remain in 2015

Premier Lender of Choice for Beginning Farmers and Underserved

Ag Credit Deserts

Lender of First Opportunity!

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Farm Service Agency

FARM LOANS

Guaranteed

Direct

Micro

Farm Storage Facility

Lender of First Opportunity!

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Farm Service Agency

FARM LOANS

Guaranteed Loans

Partner with 31 Financial Institution

Producers can work directly with lenders of choice

Assist Partner Institutions to meet regulatory requirements

Processing time is 3.8 days

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FARM LOANS

Direct Loans

Assistance to Producers unable to obtain Guaranteed Loans

Farm Management Training is Required

Targeted at Beginning Farmers/Veterans

Processing time is 22.4 days

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Farm Service Agency

FARM LOANS

MICROLOANS

Limit Increased to $50,000

Streamlined Process

Annual Operating or Term Operating Expenses

Excellent for Start-up Operations

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Farm Service Agency

FARM LOANS

MICROLOANS

Fill A NEED

Marketing and Distribution

Seed, Fertilizer, Rent, Living Expenses

Purchase of Livestock and Equipment

Wells and Irrigation

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Farm Service Agency

Farm Storage Facility

Continues to expand

Funding to build or upgrade farm storage and handling facilities.

Includes potato and onion storage

Family-sized farm test not a requirement

Credit test not a requirement

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Farm Service Agency

Program ($ Mill)	2013	2014	2015 As of 2/5/15
Total Payments	**485.8**	**371.8**	
Total Farm Programs	**309.6**	**216.2**	
Livestock	0	3.7	
NAP	1.3	1.4	
Dairy	6.7	.06	
Commodities	301.6	211.4	
Total Conservation	**40.1**	**35.9**	
Total Farm Loans	**76.9**	**119.3**	**38.5**
Guaranteed	51.6	76.5	22.6
Direct	25.4	40.8	14.7
Micro	0	2.0	1.2

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Farm Service Agency

CONCLUSION

USDA/FSA delivered $372 million in federal program benefits to Idaho farmers and ranchers in FY 2014

Revenue Protection or Risk Management

$ Benefits in 2015?

2016 Administration Budget is Steady

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Farm Service Agency

Thank You!

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www.fsa.usda.gov/id

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USDA

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SERVICE AGENCY

2014 Farm Bill

FACT SHEET

March 2014

What's in the 2014 Farm Bill for Farm Service Agency Customers

The Agricultural Act of 2014 (the Act), also known as the 2014 Farm Bill, was signed by President Obama on Feb. 7, 2014. The Act repeals certain programs, continues some programs with modifications, and authorizes several new programs administered by the Farm Service Agency (FSA). Most of these programs are authorized and funded through 2018.

OVERVIEW

The Direct and Counter-Cyclical Program and the Average Crop Revenue Election program are repealed and two new programs are established: Price Loss Coverage (PLC) and Agricultural Risk Coverage (ARC). Upland cotton is the only covered commodity that is no longer eligible to participate in these programs, but rather, becomes eligible for the new Stacked Income Protection Plan (STAX) offered by the Risk Management Agency (RMA). Until STAX becomes available, upland cotton is eligible for transition payments made by FSA for 2014 and 2015 crops.

The Marketing Assistance Loan program and sugar loans continue mostly unchanged. The Milk Income Loss Contract Program continues through Sept. 1, 2014, unless it is replaced by the Dairy Margin Protection Program prior to that date.

The Conservation Reserve Program (CRP), USDA's largest conservation program, continues through 2018 with an annually decreasing enrolled acreage cap. The contract portion of the Grassland Reserve Program enrollment has been merged with CRP. The Biomass Crop Assistance Program is extended and funded at $25 million per year.

The Noninsured Crop Disaster Assistance Program has been expanded to include protection at higher coverage levels, similar to buy-up provisions offered under the federal crop insurance program. The Livestock Forage Disaster Program, the Livestock Indemnity Program, the Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish, and the Tree Assistance Program are continued, with modifications starting in October 2011, and succeeding years. The Supplemental Revenue Assistance Program (SURE), which covered losses through Sept. 30, 2011, is not reauthorized.

The credit title of the Act continues and improves the direct and guaranteed loan programs that provide thousands of America's farmers and ranchers the opportunity to obtain the credit they need to begin and continue their operations. The changes in the Act provide FSA greater flexibility in determining eligibility including expanded definitions of eligible entities, years of experience for farm ownership loans, and allowing youth loan applicants from urban areas to access loans. FSA's popular microloan and down payment loan programs, important to furthering the Administration's objective of assisting beginning farmers, have been improved by raising loan limits and emphasizing beginning and socially disadvantaged producers. The Act also provides greater enhancements for lenders to participate in the guaranteed conservation loan program and eliminates term limits for the guaranteed operating program, allowing farmers and ranchers the opportunity for continued credit in cases where financial setbacks may have prevented them from obtaining commercial credit.

ADJUSTED GROSS INCOME

Adjusted gross income (AGI) provisions have been simplified and modified. Producers whose average AGI exceeds $900,000 are not eligible to receive payments or benefits from most programs administered by FSA and the Natural Resources Conservation Service (NRCS). Previous AGI provisions distinguished between farm and non-farm AGI.

PAYMENT LIMITATIONS

The total amount of payments received, directly and indirectly, by a person or legal entity (except joint ventures or general partnerships) for Price Loss Coverage, Agricultural Risk Coverage, marketing loan gains, and loan deficiency payments (other than for peanuts), may not exceed $125,000 per crop year. A person or legal entity that receives payments for peanuts has a separate $125,000 payment limitation.

the county guarantee and the actual county crop revenue for the covered commodity. Payments may not exceed 10 percent of the benchmark county revenue (the ARC guarantee price times the ARC county guarantee yield).

Individual ARC: Payments are issued when the actual individual crop revenues, summed across all covered commodities on the farm, are less than ARC individual guarantees summed across those covered commodities on the farm. The farm for individual ARC purposes is the sum of the producer's interest in all ARC farms in the state. The farm's ARC individual guarantee equals 86 percent of the farm's individual benchmark guarantee, which is defined as the ARC guarantee price times the five-year average individual yield, excluding the years with the highest and lowest yields, and summing across all crops on the farm. The actual revenue is computed in a similar fashion, with both the guarantee and actual revenue computed using planted acreage on the farm. The individual ARC payment equals: 65 percent of the sum of the base acres of all covered commodities on the farm, times the difference between the individual guarantee revenue and the actual individual crop revenue across all covered commodities planted on the farm. Payments may not exceed 10 percent of the individual benchmark revenue.

Election Required: All of the producers on a farm must make a one-time, unanimous election of: (1) PLC/County ARC on a covered-commodity-by-covered-commodity basis; or (2) Individual ARC for all covered commodities on the farm. If the producers on the farm elect PLC/County ARC, the producers must also make a one-time election to select which base acres on the farm are enrolled in PLC and which base acres are enrolled in County ARC. Alternatively, if individual ARC is selected, then every covered commodity on the farm must participate in individual ARC. The election between ARC and PLC is made in 2014 and is in effect for the 2014 – 2018 crop years. If an election is not made in 2014, the farm may not participate in either PLC or ARC for the 2014 crop year and the producers on the farm are deemed to have elected PLC for subsequent crop years, but must still enroll their farm to receive coverage. If the sum of the base acres on a farm is 10 acres or less, the producer on that farm may not receive PLC or ARC payments, unless the producer is a socially disadvantaged farmer or rancher or is a limited resource farmer or rancher. Payments for PLC and ARC are issued after the end of the respective crop year, but not before Oct. 1.

In 2015, producers in PLC have an additional option. Producers enrolling in PLC, and who also participate in the federal crop insurance program, may, beginning with the 2015 crop, make the annual choice whether to purchase additional crop insurance coverage called the Supplemental Coverage Option (SCO). SCO provides the producer the option of covering a portion of his or her crop insurance deductible and is based on expected county yields or revenue. The cost of SCO is subsidized and indemnities are determined by the yield or revenue loss for the county or area.

Crops for which the producer has elected to receive ARC are not eligible for SCO benefits.

Producers who enroll their 2015 crop of winter wheat in SCO may elect to withdraw from SCO prior to their acreage reporting date without any penalty. This allows producers additional time to make an informed decision related to whether to enroll in the Agricultural Risk Coverage program (ARC) or the Price Loss Coverage (PLC) program. If they choose ARC, they will not be charged a crop insurance premium so long as they withdraw from SCO prior to their acreage reporting date.

COTTON TRANSITION PAYMENTS

For the 2014 crop year, transition payments are provided to cotton producers on farms that had cotton base acres in 2013. For the 2015 crop year, transition payments will only be offered in counties where STAX is unavailable.

MARKETING ASSISTANCE LOANS (MALS) AND SUGAR LOANS

The Act extends the authority for sugar loans for the 2014 – 2018 crop years and nonrecourse marketing assistance loans (MALs) and loan deficiency payment (LDPs) for the 2014 – 2018 crops of wheat, corn, grain sorghum, barley, oats, upland cotton, extra-long staple cotton, long grain rice, medium grain rice, soybeans, other oilseeds (including sunflower seed, rapeseed, canola, safflower, flaxseed, mustard seed, crambe and sesame seed), dry peas, lentils, small chickpeas, large chickpeas, graded and nongraded wool, mohair, honey, unshorn pelts and peanuts. Provisions are mostly unchanged from the 2008 Farm

the county guarantee and the actual county crop revenue for the covered commodity. Payments may not exceed 10 percent of the benchmark county revenue (the ARC guarantee price times the ARC county guarantee yield).

Individual ARC: Payments are issued when the actual individual crop revenues, summed across all covered commodities on the farm, are less than ARC individual guarantees summed across those covered commodities on the farm. The farm for individual ARC purposes is the sum of the producer's interest in all ARC farms in the state. The farm's ARC individual guarantee equals 86 percent of the farm's individual benchmark guarantee, which is defined as the ARC guarantee price times the five-year average individual yield, excluding the years with the highest and lowest yields, and summing across all crops on the farm. The actual revenue is computed in a similar fashion, with both the guarantee and actual revenue computed using planted acreage on the farm. The individual ARC payment equals: 65 percent of the sum of the base acres of all covered commodities on the farm, times the difference between the individual guarantee revenue and the actual individual crop revenue across all covered commodities planted on the farm. Payments may not exceed 10 percent of the individual benchmark revenue.

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The Act extends the authority for sugar loans for the 2014 – 2018 crop years and nonrecourse marketing assistance loans (MALs) and loan deficiency payment (LDPs) for the 2014 – 2018 crops of wheat, corn, grain sorghum, barley, oats, upland cotton, extra-long staple cotton, long grain rice, medium grain rice, soybeans, other oilseeds (including sunflower seed, rapeseed, canola, safflower, flaxseed, mustard seed, crambe and sesame seed), dry peas, lentils, small chickpeas, large chickpeas, graded and nongraded wool, mohair, honey, unshorn pelts and peanuts. Provisions are mostly unchanged from the 2008 Farm

Bill, except marketing loan gains and loan deficiency payments are subject to payment limitations.

DAIRY PROGRAMS

The Act extends the Milk Income Loss Contract Program (MILC) from Oct. 1, 2013, through the earlier of the date on which the Secretary certifies that the Dairy Margin Protection Program is operational or Sept. 1, 2014. Dairy producers who were enrolled in 2013 do not need to re-apply. MILC payments are issued when the Boston Class I milk price falls below $16.94 per hundredweight (cwt), as adjusted by a dairy feed ration formula.

The Dairy Margin Protection Program replaces MILC and will be effective not later than Sept. 1, 2014, through Dec. 31, 2018. The margin protection program offers dairy producers: (1) catastrophic coverage, at no cost to the producer, other than an annual $100 administrative fee; and (2) various levels of buy-up coverage. Catastrophic coverage provides payments to participating producers when the national dairy production margin is less than $4 per hundredweight (cwt). The national dairy production margin is the difference between the all-milk price and average feed costs. Producers may purchase buy-up coverage that provides payments when margins are between $4 and $8 per cwt. To participate in buy-up coverage, a producer must pay a premium that varies with the level of protection the producer elects.

In addition, the Act creates the Dairy Product Donation Program. This program is triggered in times of low operating margins for dairy producers, and requires USDA to purchase dairy products for donation to food banks and other feeding programs.

Dairy Indemnity Payment Program (DIPP)

The DIPP provides payments to dairy producers when a public regulatory agency directs them to remove their milk from the commercial market because it has been contaminated by pesticides and other residues.

CONSERVATION RESERVE PROGRAM (CRP)

The Act continues CRP with modifications. The acreage cap is gradually lowered to 24 million acres for fiscal years 2017 and 2018. The requirement to reduce rental payments under emergency haying and grazing is eliminated. Rental payment reductions of not less than 25 percent are required for managed haying and grazing.

Producers also are given the opportunity for an "early-out" from their CRP contracts, but only in fiscal year 2015. The rental payment portion of the Grassland Reserve Program enrollment has been incorporated into the CRP.

The Transition Incentive Program (TIP) continues to allow for the transition of CRP land to a beginning or socially disadvantaged farmer or rancher so land can be returned to sustainable grazing or crop production. TIP now includes eligibility for military veterans (i.e., veteran farmers).

BIOMASS CROP ASSISTANCE PROGRAM (BCAP)

BCAP provides incentives to farmers, ranchers and forest landowners to establish, cultivate and harvest eligible biomass for heat, power, bio-based products, research and advanced biofuels. Crop producers and bioenergy facilities can team together to submit proposals to USDA for selection as a BCAP project area. BCAP has been extended through 2018 and is funded at $25 million per fiscal year.

NONINSURED CROP DISASTER ASSISTANCE PROGRAM (NAP)

NAP has been expanded to include buy-up protection, similar to buy-up provisions offered under the federal crop insurance program. Producers may elect coverage for each individual crop between 50 and 65 percent, in 5 percent increments, at 100 percent of the average market price. Producers also pay a fixed premium equal to 5.25 percent of the liability. The waiver of service fees has been expanded from just limited resource farmers also to include beginning farmers and socially disadvantaged farmers. The premiums for buy-up coverage are reduced by 50 percent for those same farmers. Grazing land is not eligible for buy-up coverage. NAP is also made available to producers that suffered a loss to a 2012 annual fruit crop grown on a bush or tree in a county declared a disaster by the Secretary due to a freeze or frost.

a disaster by the Secretary due to a freeze or frost.

RTCP FOR GEOGRAPHICALLY DISADVANTAGED FARMERS AND RANCHERS

The Reimbursement Transportation Cost Payment Program (RTCP) is re-authorized to provide assistance to geographically disadvantaged farmers and ranchers for a portion of the transportation cost of certain agricultural commodities or inputs.

EMERGENCY LOANS

A Secretarial disaster designation or a Presidential declaration provides producers with emergency loans to help cover the recovery costs for physical and production losses. Farm bill revisions expand the type of entities eligible for loans.

FARM OPERATING LOANS AND MICROLOANS

Farm Operating Direct and Guaranteed Loan Programs provide low-interest financing for producers to purchase farm and ranch operating inputs. The FSA is authorized to implement the program through the Consolidated Farm and Rural Development Act, also known as the Con Act. The 2014 Farm Bill revisions expand the types of entities eligible, provide favorable interest rates for joint financing arrangements, increase loan limits for microloans, make youth loans available in urban areas, and eliminate term limits for guaranteed operating loans.

FARM OWNERSHIP LOANS

Farm Ownership Direct and Guaranteed Loan Programs provide low-interest financing for producers to purchase farms and ranches and other real estate related needs. The FSA is authorized to implement the program through the Consolidated Farm and Rural Development Act, often referred to as the Con Act. The 2014 Farm Bill revisions expand the types of entities eligible, provide favorable interest rates for joint financing arrangements, provide a larger percent guarantee on guaranteed conservation loans, increase the loan limits for the down payment program, and authorize a relending program to assist Native American producers purchase fractionated interests of land.

DISASTER PROGRAMS

The following four disaster programs authorized by the 2008 Farm Bill have been extended indefinitely (beyond the horizon of the Act). The programs are made retroactive to Oct. 1, 2011. Producers are no longer required to purchase crop insurance or NAP coverage to be eligible for these programs (the risk management purchase requirement) as mandated by the 2008 Farm Bill.

Livestock Forage Disaster Program (LFP): LFP provides compensation to eligible livestock producers that have suffered grazing losses due to drought or fire on land that is native or improved pastureland with permanent vegetative cover or that is planted specifically for grazing. LFP payments for drought are equal to 60 percent of the monthly feed cost for up to five months, depending upon the severity of the drought. LFP payments for fire on federally managed rangeland are equal to 50 percent of the monthly feed cost for the number of days the producer is prohibited from grazing the managed rangeland, not to exceed 180 calendar days.

Livestock Indemnity Program (LIP): LIP provides benefits to livestock producers for livestock deaths in excess of normal mortality caused by adverse weather or by attacks by animals reintroduced into the wild by the federal government. LIP payments are equal to 75 percent of the average fair market value of the livestock.

Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish (ELAP): ELAP provides emergency assistance to eligible producers of livestock, honeybees and farm-raised fish for losses due to disease (including cattle tick fever), adverse weather, or other conditions, such as blizzards and wildfires, not covered by LFP and LIP. Total payments are capped at $20 million in a fiscal year.

Tree Assistance Program (TAP): TAP provides financial assistance to qualifying orchardists and nursery tree growers to replant or rehabilitate eligible trees, bushes, and vines damaged by natural disasters.

FEEDSTOCK FLEXIBILITY PROGRAM (FFP)

FFP is continued through fiscal year 2018. Congress authorized the FFP in the 2008 Farm Bill, allowing for the purchase of sugar to be sold for the production of bioenergy in order to avoid forfeitures of sugar loan collateral under the Sugar Program.

NON-FARM BILL PROGRAMS

The following programs continue under laws other than the 2014 Farm Bill.

Emergency Conservation Program (ECP)
ECP is authorized by Title IV of the Agricultural Credit Act of 1978, Section 401 (P.L. 95-334) (16 U.S.C. 2201). ECP provides emergency cost-share assistance to farmers and ranchers to help rehabilitate farmland and ranchland damaged by natural disasters and to carry out water conservation measures during periods of severe drought. Cost-share assistance may be offered only for emergency conservation practices to restore land to a condition similar to that existing prior to the natural disaster.

Emergency Forest Restoration Program (EFRP)
EFRP is authorized by Title IV of the Agricultural Credit Act of 1978, Section 407 (16 U.S.C. 2206). EFRP was established to provide financial and technical assistance to owners of non-industrial private forest land damaged by natural disaster to carry out emergency measures to restore damaged forests and rehabilitate forest resources.

Farm Storage Facility Loan Program (FSFL)
FSFL provides low-interest financing for producers to build or upgrade farm storage and handling facilities.

Sugar Storage Facility Loan Program (SSFL)
SSFL provides low-interest financing for processors to build or upgrade farm storage and handling facilities for raw or refined sugar.

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AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Tuesday, March 03, 2015

SUBJECT	DESCRIPTION	PRESENTER
RS23711	Unanimous Consent to send a Concurrent Resolution stating findings of the Legislature and Rejecting the Rule of the Idaho State Department of Agriculture Relating to Rules Governing the Importation of Animals be sent to State Affairs for print	Senator Ward-Engelking
H 72	Relating to Veterinarians and Veterinary Technicians	Jodie Ellis, Executive Director, Board of Veterinary Medicine
Presentation	Idaho Barley Commission	Kelly Olson, Administrator

If you have written testimony, please provide a copy of it to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Tuesday, March 03, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking, and Burgoyne
ABSENT/ EXCUSED:	None
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Chairman Rice** called the meeting to order at 8:00 a.m.
RS 23711	**Unanimous Consent to Send a Concurrent Resolution Rejecting a Rule of the Idaho State Department of Agriculture to a privileged committee to print**
UNANIMOUS CONSENT REQUEST:	**Chairman Rice** asked for unanimous consent to send **RS 23711** to State Affairs to print. There were no objections.
H 72	**Relating to Veterinarians and Veterinary Technicians**, Jodie Ellis, Executive Director, Board of Veterinary Medicine (BVM), said in a recent review of the BVM's licensing procedures they discovered an inconsistency between the treatment of one of the group of veterinary health professionals, certified veterinary technicians (CVT). In the interest of fairness and to treat both groups similarly **H 72** proposes to grant CVTs the authority to place their certificates on inactive status and makes technical corrections for clarification. Idaho Code § 54-2112(5) states that any veterinarian licensed in Idaho who advises the BVM, in writing, that he wishes to remain licensed in the State but does not intend to actively practice veterinary medicine and therefore does not intend to meet the licensing requirements for an active license for the current licensing year, shall be transferred from active to inactive status and shall be required to pay inactive status fees as prescribed by the rules of the BVM. Any person may transfer from inactive to active status by making written application for reinstatement to active status, paying all required fees and by meeting other requirements for reinstatement as defined in the rules of the BVM. One of the requirements would be that they would have to show BVM that they had participated in an appropriate amount of continuing education in the year prior to reinstatement. The inactive status designation would cost a veterinarian $50 per year giving the veterinarian the advantage of not letting his license expire. If a veterinarian on inactive status tentatively retires, goes on mission, starts a family, suffers a long illness or needs time to care for a family member, his license will not expire. If the license is allowed to elapse or expire it is considered dead. A veterinarian with a lapsed license who wishes to return to active practice must start the licensing process all over again just as if they were fresh out of school and pay a fee of $507. When a veterinarian has been on inactive status and decides to return to practice they must make written application for reinstatement and pay a fee of $325. The BVM would like to offer CVTs this inactive status option. Since their income is substantially less then that of a veterinarian, the fee schedule would be $20 per year to remain on inactive status and a fee of $125 to return to active status.

Senator Burgoyne questioned language in reference to Subsection 5. The last sentence states "any person may transfer from inactive to active status by making written application". This language is also included in Subsection 6; is there a reason for the redundancy? **Ms. Ellis** replied that the language in Subsection 6 should be removed.

Senator Souza asked how long can the veterinarian and the CVT remain on inactive status. **Ms. Ellis** answered that usually an inactive status is used to reflect an event in their lives; the longest time a veterinarian has been inactive is three years. Sometimes veterinarians are not sure they want to retire, so they take an inactive status for a couple of years to make up their mind.

Senator Souza asked if there was a requirement for continued education throughout the inactive period. **Ms. Ellis** advised that the only requirement is that they present proof of continuing education for the year prior to their application. The reason that these professionals choose to be placed on an inactive status is that they wish to take a break, and BVM does not require them to pursue continuing education while they are on this break.

Senator Lee asked how many CVTs are registered with the BVM. **Ms. Ellis** said that they have about 400 licensed CVTs; half of them are active. The BVM has had 10 to 20 who have let their certification lapse. Some have let it lapse for reasons such as having a child, and they don't wish to renew.

Chairman Rice asked for clarification in Subsection 3 concerning the August 1 expiration date. **Ms. Ellis** said the reason they use August 1 is the licenses and certifications expire on June 30. The time period from July 1 to August 1 is a period of grace which allows their office time to contact the individual and make sure they do not wish to renew their license.

Chairman Rice asked how many CVTs have allowed their license to lapse and then been restored to active status. **Ms. Ellis** replied that in the last year, ten individuals have restored their licenses.

Senator Brackett questioned if the 30 day grace period was established in rule. **Ms. Ellis** answered in the affirmative.

MOTION: **Senator Brackett** moved to send **H 72** to the floor with a **do pass** recommendation. **Vice Chairman Bayer** seconded the motion. The motion passed by **voice vote.**

PRESENTATION: **Idaho Barley Commission (IBC)**, Kelly Olson, Administrator, directed the Committee's attention to the Annual Report and began the presentation by stating despite the headlines last summer, which were grim, declaring that the State had lost most of the barley crop, the producers remained on top of the industry in the country. Idaho remained the largest barley producer for the third year and barley is the third largest cash crop in the State. Even with the acre reduction of 18 percent the average yield was near record.

Until the excessive moisture arrived in August the producers were on pace to produce one of the best crops they had ever grown. The headlines last August proclaimed the wettest month that the region had seen across southern and eastern Idaho since 1953. Last August moisture was driven by an unpredicted very cool sea surface temperature, which affected the trade winds and the jet stream producing a series of very big storms off the Mexican Pacific. The storms met a high pressure system that was stalled over the Four Corners causing the storms to track straight north to southern Idaho. On August 4 and 5 the counties of Twin Falls and Jerome had the most moisture that they had seen in 100 years. This proved to be disastrous because 92 percent of the malt barley crop was in the path of the storms. The grain sprouted in the fields causing it to be unfit for the breweries. The industry managed to salvage a 40 to 85 percent acceptance rate for the breweries (see attachment 1).

The IBC initiated an aggressive feed barley marketing campaign directed at the dairy and cattle feeding organizations in eight western states and was very successful in selling the damaged barley to that market. The producers' crop insurance policies did not stand up to this disaster of quality and revenue loss.

The crop disaster has had a serious effect on the IBC's income. In June the projected budget was $727,000, and in October that budget was revised to $529,830 causing IBC to cut their expenses by $31,681.

In 2013, the IBC made the bold decision to invest in a $1 million Barley Research Endowment with the University of Idaho (UOI), which is being funded in installments. IBC wanted a scientist dedicated to barley agronomy, and they hired Dr. Christopher Rogers who is an extraordinary hire for the producers and has been on staff since July 2014 at the UOI Aberdeen Research and Extension Center.

The barley market is made up of:

1. Malt barley which is sold to breweries. IBC has seen a new market develop in the craft breweries, which are experiencing robust growth. This segment of the industry now represents 10 percent of the U.S. beer market, and it uses 25 percent of the malt barley. IBC organized the first ever barley field tour for the craft brewers. IBC was surprised at the overwhelming response; 31 craft brewers, from 8 states participated in the tour.
2. Food barley is the largest marketing opportunity for developing healthier diets. Barley is a preferred carbohydrate for type 2 diabetes because it is a low glycemic carbohydrate. This carbohydrate in the blood stream will break down glucose molecules very slowly, hence it is perfect for this market.

Over 80 percent of Idaho barley is irrigated, and IBC is concerned about the predicted water outlook for 2015. The State's mountain snow basins are well below a year ago. The snowpack was early and it is disappearing fast. Unless there is a cool down in March the State will start losing that snowpack much earlier by filling reservoirs and flood control water that will not be used for irrigation. The drought prediction maps show drought remaining very strong across the western states.

Senator Patrick questioned if IBC was aware that the trout farms in the Magic Valley are looking toward the high protein barley as a food source. **Ms. Olson** answered that IBC invested dollars a decade ago to research barley protein fractions for trout and salmon. The fish industry has looked for an alternative food as the fish meal market has fluctuated. IBC has helped fund feeding trials to make sure the fish get the appropriate gain along with the flesh of the fish remain the same. These trials have been very successful.

Senator Brackett stated that one of the obligations of the Committee is to pass legislation that is accurate and complete. Subsection 6 should be struck from **H 72**, the language already exists in Subsection 5. **Senator Burgoyne** said he would support a motion to rescind the original motion and would recommend that **H 72** be sent to the 14th Order.

Senator Souza advised she would encourage the sponsor to bring back rules addressing continuing education requirements and a time limit on inactive status.

MOTION: **Senator Brackett** moved to rescind **H 72** from a **do pass** recommendation. **Senator Patrick** seconded the motion. The motion passed by **voice vote.**

MOTION: **Senator Brackett** moved that **H 72** be referred to the 14th Order for amendment. **Senator Burgoyne** seconded the motion. The motion passed by **voice vote.**

ADJOURNED: There being no further business, **Chairman Rice** adjourned the meeting at 8:58 a.m.

Senator Rice
Chair

Carol Deis
Secretary

Attachment 1:

3/3/2015

Idaho Barley Commission Legislative Report

Kelly Olson, Administrator
March 2015

IDAHO BARLEY COMMISSION

Idaho Barley Crop Stays on Top

Harvested acreage	510,000 acres	-18%
Ave. Yield	94.0 bu/Ac	+1%
Production	47,940,000 bu	-17%

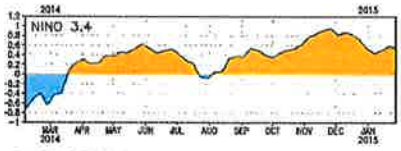
- 27% of U.S. total barley production.
- 2014 Idaho farm-gate receipts estimated at $266 million, down 22% from 2013 and 5th largest Idaho cash crop.
- 2015 malting barley contract prices are steady to 10% lower.

IDAHO BARLEY COMMISSION

2014 Harvest Quality Disaster

- **Wettest August across southern and eastern Idaho since 1953.** Monsoonal rains started August 4 and didn't finish for about 5 weeks.

Sea Surface Temperature Anomalies Nino 3.4 Region (C)



Source Climate Prediction Center

IDAHO BARLEY COMMISSION

2014 Harvest Quality Disaster

- Caused significant sprout damage and loss of malting quality. Estimated $60-70 million in barley crop losses.

IBC Crisis Action Plan

- IBC and UI jointly published **Producer Guidance on Handling Sprout Damaged Barley on August 19.**
- We distributed a Midwestern publication on **grain storage and handling recommendations.**
- We worked directly with affected counties **on disaster declarations.**
- We participated in a **state Crop Crisis Response Committee** convened by Idaho House Speaker Scott Bedke; compiled data on crop losses and insurance gaps
- **We are working on improvements to quality loss adjustments under barley crop insurance policies** with the USDA Risk Management Agency (RMA) policy office in Kansas City.
- We initiated an aggressive **Western US Feed Barley Marketing Outreach, targeting dairy & cattle feeders in 8 western states.** We worked directly with feeders in OR, C, CO and TX on providing contacts to source feed barley out of southern Idaho.
- We organized **5 producer workshops across southern and eastern Idaho (Dec. 1-5) to discuss sprout damage (barley and wheat) and why it matters to our customers.** More than 350 producers attended these Farm Bill, Crop Insurance & Sprout Damage Workshops.

IBC Budget Highlights

	FY 2013	FY 2014	FY 2015
Income	$451,420	$730,003*	$529,830**
Expenses	$474,286	$676,771	$681,202
Reserves	$457,650	$509,848	$358,476

***Idaho barley assessment increased from $.02/Cwt ($.0096/bu) to $.03/Cwt ($.014/bu) in July 2013.**
**** Original income projection $634,880.**

FY 2015 Expense Allocation	
Admin	12%
Research	53%
Market Development	11%
Grower Services	17%
Info/Education	7%

Barley Agronomy Endowment

- IBC made $1 million Endowment Investment with the University of Idaho to support a dedicated barley research scientist at Aberdeen Research & Extension Center (July 2013).
- Dr. Christopher Rogers, Ph.D. soil science, was hired in July 2014.

Stagnant domestic beer market

- **Domestic beer sales fell 0.5% in 2014** (through October), following 1.9% decrease in 2013.
- **Craft segment** – robust growth + 18%. **Represents about 10% of total volume but uses about 25% of malt.**

US Beer Industry
2,800 breweries
$246.5 billion revenues
2 million jobs

IBC Strategic Response:

Priority remains maintaining strategic partnerships with major brewers and maltsters who have contracted barley production in Idaho since late 1960s.

New focus on craft brewing segment:

- Forged new alliances with Idaho Brewers United
- Hosted first-ever Craft Brewers Barley Short Course & Field Tour in July 2014, with 31 participants from 8 states.

Food Barley: demand for healthier diets

- Dietary health risks are on the rise: heart disease, high cholesterol, obesity and diabetes.
  - Heart disease #1 killer of Americans.
  - 1 in 10 American adults have Type II diabetes – expected to rise to 1 in 3 by 2050.
  - Globally 380 million people suffer from diabetes – expected to rise to more than 600 million by 2050.
- Higher fiber diets are significant part of solution.
  - Dietary Reference Intakes recommends consumption 25 g for adult women and 38 g for adult men.
  - Usual intake of dietary fiber in the U.S. is only 15 g/day.

IBC Strategic Response:

- Funding development of heart-healthy / high fiber barley –
  - Barley has 18% fiber content
  - Barley health claim – lowers bad cholesterol
  - Barley is low glycemic carbohydrate
  - 2 varieties released since 2008.
- Working on research collaborations with private sector, including PNW Farmers Coop and McKay Seed/Highlands Specialty Grains.
- Sponsored technical seminars on formulating cereal products with barley (targeted Asian and Latin American customers).

Producer Education

We have conducted more than 60 events reaching more than 1,450 producers across the state: Grain Marketing & Hedging Workshops, Farm Bill & Crop Insurance Workshops, 2015 Agricultural Outlook Seminars and Succession Planning.

2014-15 Webinars:

- ***NEW Farm Bill Program Details - University of Idaho Extension***
  ARC/PLC Overview presented by UI Extension Educator Ben Eborn
  Estimation Tool Overview presented by UI Extension Educator Joel Packham
  Farm Bill Tool Overview presented by UI Extension Educator Ben Eborn

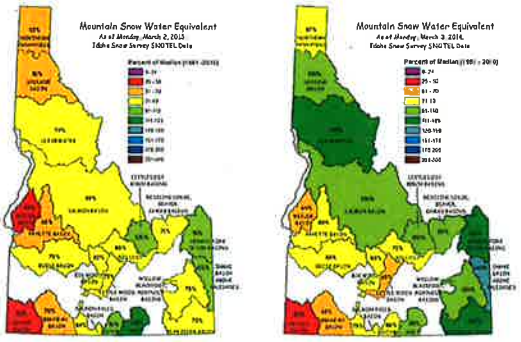
- **2015 U.S. Economic & Grain Market Outlook** presented Jan 2015 by Doug Robison, Senior Vice President for Northwest Farm Credit Western Idaho & Kelly Olson, Idaho Barley Commission at

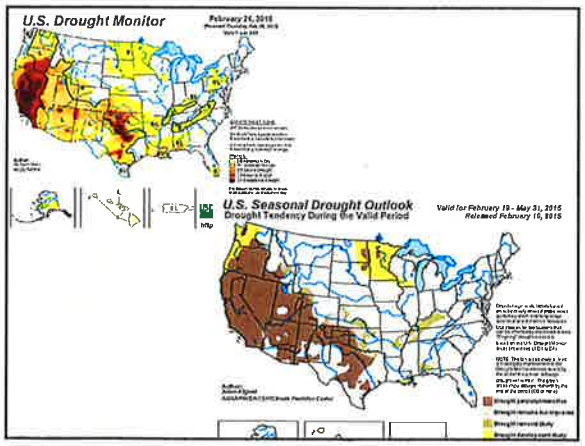
- **Understanding the Idaho Harvest 2014 Weather Events and Winter 2015 Weather Outlook** presented Nov 2014 y the Idaho Barley Commission and National Weather Service at

Coming Up:

- **Grain Best Management Practices**
- **Update on 2015 Weather Outlook**
- **Understanding Grain Market Basis**
- **2015 Grain Marketing Strategies**

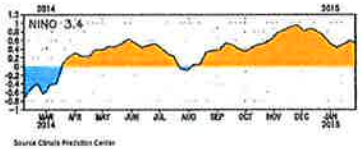
2015 Idaho Water Outlook?





Emergence of El Nino Weather Cycle?

Sea Surface Temperature Anomalies Nino 3.4 Region (C)



Source Climate Prediction Center

Other weather experts point to 18 year cycle:

- Warmer and drier than normal PNW in Feb. 15-March 14.
- Normal precip. in April-May.
- Cool and near to above normal precip. in June-Aug.

IDAHO BARLEY COMMISSION

FY 2015 Budget Report To the Idaho House and Senate Agriculture Committees

Submitted by
Kelly Olson, Administrator
Idaho Barley Commission
821 W. State Street, Boise, Id
January 2015

production and quality resulting from excessive moisture during the 2014 harvest. Major expense allocations include:

- Administration – 12%
- Research – 53%
- Market Development – 11%
- Grower Services – 17%
- Information/Education – 7%

II. Idaho Barley Production Trends - Idaho remained the largest barley producing region in the U.S. in 2014, despite our crop difficulties.

Harvested acreage	510,000 acres, down 18%
Ave. Yield	94.0 bu/A, up 1%
Production	47,940,000 bu, down 17%
Farm-gate value	$266 million, down 22% from 2013.

IV. IBC Strategic Initiatives -

- **Malt Barley**– Due to the double digit annual growth in the craft brewing segment of the US beer market, we are now targeting resources at educating craft brewers about the advantages of buying malt made from Idaho barley. In July 2014, we hosted our first ever **Craft Brewing Idaho Barley Tour** which attracted more than 30 participants from eight states for a two-day short course and field tour in eastern Idaho. More short courses and educational outreach are planned in the future.

- **Food Barley** – We continue to make significant progress in our multi-pronged effort to develop new varieties with higher levels of soluble fiber that has been proven to help lower cholesterol and reduce the risk of heart disease. Recent efforts have focused on technical education for cereal food manufacturers to demonstrate barley's versatility and value as a food ingredient and marketing trips to visit one-on-one with potential customers in Asia and northern Utah and California. Today, we have both domestic and Asian food companies contracting for specialty food barley production in Idaho.
- **Winter Barley** – Long-term climatic change predictions reinforce the need for competitive winter barleys, which has driven increased investments in winter malting and food barley breeding efforts, both at USDA ARS Aberdeen and Oregon State University. We facilitated the release of North American's first approved first winter malting barleys – Charles and Endeavor – and have many promising lines in our experimental trials which offer yield advantages of about 30% compared to most commonly grown spring varieties, while delivering desirable end-use traits for our customers. **Winter malting barleys achieved yields over 200 bushels per acre in 2014.**

IDAHO BARLEY COMMISSION
FY 14 RECEIPTS/EXPENDITURES
AND FY 15 APPROVED BUDGET

	FY 2014 ACTUAL RECEIPTS & EXPENSES	FY 2015 APPROVED BUDGET
ASSETS		
Cash and Cash Equivalents June 30, 2014	$411,528	
Barley Checkoff Receivable	98,951	
Total Assets	**$510,479**	
LIABILITIES		
Salaries and Benefits Payable	$ 100	
Long-term Liabilities due within one year: compensated absences	10,393	
Due within more than one year: compensated absences	3,651	
Total Liabilities	**$14,144**	
Total Net Position	**$496,335**	
RECEIPTS		
Barley Checkoff Receipts	728,617	528,390
Market report subscriptions	340	340
Interest Income	466	1,100
Misc. Income	474	
Total Revenues	**$729,557**	**$529,830**
EXPENSES BY BUDGET CATEGORY		
Research - U of I & Other	$335,273	$357,700
Market Development	87,547	73,918
Industry Partnership	115,116	115,755
Education & Information	45,097	50,427
Administrative/Policy Development	92,336	81,352
Capital Outlays	1,402	2,050
Total Expenses	**$676,771**	**$681,202**
Net Reserve Balance as of June 30, 2013	**$510,379**	

IDAHO BARLEY COMMISSION
FY 2015 APPROVED & FY 2016 PROJECTED BUDGETS

	FY 2015 APPROVED BUDGET	FY 2016 PROJECTED BUDGET
Research (U of I & Other)	$357,700	$360,000
Market Development	73,918	82,000
Industry Partnership	115,755	115,000
Education & Information	50,427	50,000
Administration	81,352	83,000
Capital Outlays	2,050	2,000
TOTAL BUDGET	**$681,202**	**$692,000**

PROJECTED INCOME - FY 2016 - $720,000

AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Thursday, March 05, 2015

SUBJECT	DESCRIPTION	PRESENTER
H 114	Relating to the Pure Seed Law	Representative Clark Kauffman
S 1113	Relating to the Idaho Beef Council	Senator Brackett
Minutes:	Approve Minutes of February 12, 2015.	Senators Patrick and Brackett
Minutes:	Approve Minutes of February 17, 2015.	Senators Ward-Engelking and Burgoyne

If you have written testimony, please provide a copy of it along with the name of the person or organization responsible to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Thursday, March 05, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Ward-Engelking and Burgoyne
ABSENT/ EXCUSED:	Senator Den Hartog
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Chairman Rice** called the meeting to order at 8:02 a.m.
H 114	**Relating to the Pure Seed Law**, **Representative Clark Kauffman**, stated this legislation amends the Pure Seed Act by adding the definition of three activities relating to agricultural seeds regulations under Section 22-413: 1) cultivating; 2) producing; and 3) processing: These are among the activities regulated by the Idaho State Department Of Agriculture (ISDA) rather than local units of government. The State's seed industry produces $5 million annually and grows 70 percent of the hybrid sweet corn seed produced in the world. It ranks among the leading suppliers of alfalfa, bean, Kentucky Bluegrass, carrot, onion, turnip and lettuce seed. **Senator Souza** asked for an explanation on the application of the changes. Would these requirements only apply to commercial operations? **Representative Kauffman** deferred to Doug Jones, Executive Director for Growers for Biotechnology. **Mr. Jones** stated the Pure Seed Bill is not designed to regulate home gardeners raising their own seed. Unless the type of seed they would raise could cross-pollinate and it was designated by the State to not be grown in a specific region. ISDA designates growing regions for certain crops such as seed potatoes and canola. This bill is designed to prohibit an individual county or city from designating crop growth. A gardener in Canyon County might be asked not to grow a specific crop because it may cross-pollinate with a seed crop of significant commercial value. If a producer acquires a contract to grow a crop such as onion seed, the seed company puts a pin in the map so no other producer would plant onion seed that could cross-pollinate within that designated radius. The bill's language prohibits counties and cities from setting their own seed rules. **Senator Souza** questioned how this bill will impact organic operations. **Mr. Jones** replied that there would be no impact whatsoever to those growers. The producer is growing a commercial variety and the organic gardener is growing an heirloom seed.
MOTION:	**Senator Patrick** moved to send **H 114** to the floor with a **do pass** recommendation. **Vice Chairman Bayer** seconded the motion. The motion carried by **voice vote. Senator Burgoyne**, asked to be recorded as voting nay.

S 1113	**Relating to the Idaho Beef Council**, **Senator Bracket**, explained **S 1113** amends Idaho Code §25-2906 by adding Subsection 11, lease, purchase or own personal property or lease real property deemed necessary in the administration of this chapter. The Beef Council (Council) is a state agency that operates with a single objective which is to increase consumer demand for beef. The Council is an eight member board which was created in 1967 to support Idaho's $1.4 billion beef cattle industry. The Council is funded by the check off program which is the $1.50 per head assessment on the sale of cattle in the State. When the original legislation was crafted Subsection 11 was missing. It was recently discovered that the Council had an omission of power that grants it the ability to lease, purchase or own personal property or lease real property. Many of the other commissions operating in the State have this or similar powers. **S 1113** simply updates the Idaho Code to allow the Council to efficiently and effectively operate as it was intended.
MOTION:	**Senator Burgoyne** moved to send **S 1113** to the floor with a **do pass** recommendation. **Senator Souza** seconded the motion. The motion carried by **voice vote.**
MINUTE APPROVAL:	**Senator Patrick** moved to approve the Minutes of February 12, 2015. **Senator Brackett** seconded the motion. The motion carried by **voice vote.**
MINUTE APPROVAL:	**Senator Ward-Engelking** moved to approve the Minutes of February 17, 2015. **Senator Burgoyne** seconded the motion. The motion carried by **voice vote.**
ADJOURNED:	There being no further business, **Chairman Rice** adjourned the meeting at 8:19 a.m.

Senator Rice
Chair

Carol Deis
Secretary

AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Tuesday, March 10, 2015

SUBJECT	DESCRIPTION	PRESENTER
H 73	Relating to Veterinarians Licensing and Application Fees are Nonrefundable	Jodie Ellis, Executive Director, Board of Veterinary Medicine
Presentation	Idaho Dairy Products Commission	Karianne Fallow, CEO and Tom Dorsey Chairman
Presentation	Idaho Dairymen's Association	Bob Naerebout, Executive Director
Minutes:	Approve Minutes of February 19, 2015	Senators Souza and Lee

If you have written testimony, please provide a copy of it along with the names of the person or organization responsible to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Tuesday, March 10, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking and Burgoyne
ABSENT/ EXCUSED:	None
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.

H 73 **Relating to Veterinarians Licensing and Application Fees are Nonrefundable**, **Jodie Ellis**, Executive Director, Idaho Board of Veterinary Medicine (IBVM), advised that in 2013, the Legislature approved a change to make application and certification fees nonrefundable to applicants for certification as veterinary technicians (CVT). However, current statute requires the return of licensing fees to applicants for veterinary licenses under certain circumstances. To eliminate this inconsistency between two similarly situated groups regulated by the IBVM, this legislation amends Idaho Code § 54-2107 to make both application and licensing fees for veterinary applicants nonrefundable, thereby treating the two groups the same.

Chairman Rice questioned the current statute which only makes the license portion, not the application portion, non-refundable. Why has IBVM not separated the license fee from the application fee? **Ms. Ellis** explained the initial applicants for licensure will pay a license and application fee. **Chairman Rice** asked if there was reason not to fix the rule so that it would match and create fairness. **Ms. Ellis** believed that IBVM started with the CVT licensing procedure with the idea the Doctor of Veterinary Medicine (DVM) would follow. **Chairman Rice** asked how much is a license. **Ms. Ellis** stated that a license is $175. **Chairman Rice** asked if the $25 is the cost of processing the application. **Ms. Ellis** answered the $25 does not completely cover the cost of processing the license. It takes their staff approximately six hours to process the license, and there are additional hours if it is a difficult application. **Chairman Rice** asked what is the average cost to process an application. **Ms. Ellis** answered that it takes her staff between 4 to 6 hours to process an application, using $15.00 per hour it costs $60 to process an application.

Senator Burgoyne observed that the Legislature has received information over the years that certain boards and the Bureau of Occupational Licenses (BOL) have overspent. Money has been used within the BOL from one board to another board to cover the deficits. What is the financial standing of IBVM? **Ms. Ellis** replied that the financial situation of the IBVM is very tight. Of all the medical boards they have the least amount of cushion. **Senator Burgoyne** clarified that the IBVM is not in deficit like some of the other boards. **Ms. Ellis** replied in the affirmative.

Vice Chairman Bayer asked could you break the application away from the licensing fees by only assessing a license fee on the completion of a successful application. **Ms. Ellis** responded that the main reason that have placed the two fees together is it is more efficient for their office; they are a staff of two. **Vice Chairman Bayer** asked how many cases would apply to the proposed legislation. **Ms. Ellis** advised that they had only denied three veterinarian applications since 2013.

Senator Burgoyne stated that it is important that application fees reflect the cost of the application process. There is a history of boards finding themselves in deficit because their fees do not encompass administrative costs.

Chairman Rice stated the current statute deals with the license fee separate from the application fee. It is important that application fees be set at an amount that reflects the administration cost. He does not believe it is appropriate to charge the license fee to an applicant who does not receive a license.

Vice Chairman Bayer asked how many applications and licenses the IBVM processes in a year. **Ms. Ellis** replied IBVM processes approximately 1200 renewals and 100 new applicants.

MOTION: **Senator Ward-Engelking** moved to send **H 73** to the floor with a **do pass** recommendation. **Senator Brackett** seconded the motion. The motion failed by **voice vote.**

PRESENTATION: **Idaho Dairy Products Commission (IDPC)**, **Karianne Fallow**, CEO and **Tom Dorsey** Chairman, **Ms. Fallow** referred to the presentation as the story about dairy promotion in Idaho and across the country. Idaho is the third largest milk producer in the U.S., and it is feeding the world. Almost 20 percent of the dairy products are exported and the remainder goes out of the State.

Tom Dorsey advised that 2014 production was a banner year for milk prices in the nation. Never had milk prices been this high; $26.00/100 weight. The production chart shows that the dairy industry in Idaho has matured. The 2009 bar on the chart shows a record low price for milk. **Senator Brackett** asked for clarification on the production chart. In 2014 production was up and price was up. In 2009 the reverse was true, prices were down along with production. **Mr. Dorsey** discussed the supply and demand economics of the world milk market. Consumption trends of consumers in milk volume sales remain depressed there was a small downturn in cheese volume along with yogurt.

Karianne Fallow spoke on IDPC's focus in three key areas:

1. Consumer confidence around building trust among consumer in the products and dairy farming. Advertisements connect the farmers with the consumers. By putting a face on the industry the issue of trust will build.
2. To address transparency and educate the public a number of farmers have volunteered to allow organizations to come on their farms to observe how their milk products are processed.
3. The health and wellness initiative revolves around positioning the Idaho's dairy industry through the Idaho Dairy Council. They work to be influencial in driving health and nutrition related initiatives in the State. One of these initiatives is Fuel Up to Play 60, which is directed at youth wellness. It encourages youth to take action to improve nutrition and physical activity in the school environment. Students consume 60 percent of their meals in the school environment. So there is a significant opportunity to effect change in schools. Milk is a protected commodity in the school environment.

Senator Burgoyne asked if these programs were based on any marketing research. Was that market research done at the state or national level? What has that market research shown about the image of the milk industry and consumer practices? **Ms. Fallow** replied that their ad campaign was driven to put the face back on dairy and getting away from fluid milk and cheese. They launched an image campaign, and they have done research on the campaign to see if it has changed perceptions. Based on early numbers, their ad campaign revealed that there are some areas that consumers want to know about such as environmental sustainability and animal care. **Senator Burgoyne** questioned if there was any

research done on where the industry stood before the ad campaign started on these issues or is there research coming to see how the ad campaign is changing consumer perceptions. **Ms. Fallow** replied based on nationals own work, they believe their investment is more effectively spent in driving consumption as opposed to buying advertising. The image campaign is focused on re-engaging the consumer with dairy farming. **Mr. Dorsey** stated that the industry has done extensive research on the nutritional content of milk. When the First Lady launched her campaign to increase nutrition and decrease the weight of children, the dairy research was complete and showed the nine essential nutrients in dairy; milk is the only ingredient that has been researched, proven, and tested.

Mr. Dorsey spoke on developing business by being a valued, relevant partner across the entire supply chain through innovation in processing, marketing and research, and through enhanced stakeholder communication. **Mr. Dorsey** expanded on the staffing that they have placed with their marketplace partners: McDonald's, Quaker, Domino's Pizza, Pizza Hut and Taco Bell. The return on these partnerships will be that for every $1 the dairy industry puts in, their partners will put in $10 and will do the advertising. Their staff is creating nutritious menu items with more dairy for the partners to sell in their businesses.
For example, Domino's Pizza was failing. In 2009 through the dairy industries partnership, they advised Domino's to put more cheese on their pizzas; the sales skyrocketed and have continued. These companies are now globally expanding and are exporting U.S. cheese to go on pizzas.

The Milk Advisory Board came to IDPC with their fluid milk dilemma. Fluid milk is 80 percent of the market and sales were declining 3-4 percent per year. They formed a committee and hired three people, which partnered with Coca Cola and Select Milk and created the Fairlife product. They filter the milk and take the lactose out of the milk and put an enzyme into the milk which gives it a natural sweetness; it is still 100 percent milk.

Ms. Fallow concluded the presentation with their vision: to contribute to the long-term economic success of the Idaho dairy industry.
Their mission statement: Increase demand and inspire trust in dairy products and dairy farming through innovation, leadership and collaboration. They focus their efforts on four core areas:

1. Domestic and global dairy access.
2. Sustainable lifestyle.
3. Future of dairy.
4. Stewardship of their partner investment.

PRESENTATION: **Idaho Dairymen's Association**, **Bob Naerebout**, Executive Director stated their industry has 514 dairies in operations with 560,000 cows. Treasure Valley has 18 percent of the dairies and 18 percent of the cows; eastern Idaho has 23 percent of the dairies with only 6 percent of the cows; and the Magic Valley has 60 percent of the dairies with 73 percent of the cows.

- Sustainability: Providing the consumers with the nutritious dairy products that they want, in a way that makes industry, people and the Earth economically, environmentally and socially better now and for future generations. That innovation is centered on some groups that they are working with to develop the sustainability of the dairy industry.
- The scope of where the dairy industry is going is the World Wildlife Federation. There agenda is how do they increase the sustainability of production in the U.S. and for the world. For Idaho 35 percent of the Farm Gate Cash Receipts come from the dairy industry.
- On the environmental side livestock contribution to greenhouse gas emissions were less then 2 percent. From 1944 to the present, 90 percent less land is needed, 65 percent less water, 76 percent less manure is generated and there was a 63 percent smaller carbon footprint.

Bob Naerebout introduced **Rick Naerebout** to present farm numbers at the producer level and what the dairies are looking at this year. **Rick Naerebout** said that 2014 was a great year, and the dairy industry averaged $22.34/100 weight for milk, record highs; expenses were $18/100 weight. This resulted in a good year for margins. The 2015 forecast is that the industry will break even. Right now the milk averages are running $16.29/100 weight with expenses of $17.00/100 weight. These numbers are a good indicator of how the year might shape up.

Some of the issues the industry is facing:

- Cost of operations: Feed costs remain the same as the last few years. Labor costs are expected to increase because of the scarcity of dairy labor. The dairies are struggling to maintain a regular workforce and are having higher turnover rates.
- Consumer expectations are creating additional costs.
- As the dairymen become part of the Farm Plan they must have written protocols for their animal husbandry programs.

Senator Burgoyne asked for an explanation on the skill set for workers in the dairy industry and why they do not expect the wages to remain flat. **Rick Naerebout** clarified that a typical workforce within the dairy industry will be foreign born. Their assessment is that border security is working. Typically, the dairy producers would see a number of applicants come to their facilities, and that is not happening. There are not the number of individuals looking for work as in the past. **Senator Burgoyne** asked if the industry was in competition with other agricultural sectors for the same workers. **Rick Naerebout** replied that the industry will be in competition with irrigation, construction, field work and other similar areas in agriculture that have similar skill sets and manual labor needs. **Bob Naerebout** stated the dairy industry has been working with the University of Idaho and College of Southern Idaho on labor development programs. Labor is so tight that the corrections department has met with the dairy industry to develop training within the prison system for future laborers. The dairy industry is now having to consider taking convicted felons and having them trained so they can work on their dairies.

ADJOURNED: There being no further business, **Chairman Rice** adjourned the meeting at 9:35 a.m.

Senator Rice
Chair

Carol Deis
Secretary

AGENDA

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Thursday, March 12, 2015

SUBJECT	DESCRIPTION	PRESENTER
HJM 6	Food Labeling, Genetic Engineering	Douglas Jones, Executive Director Growers for Biotechnology
HCR 14	Honoring the Idaho Farm Bureau Federation for its Seventy-Five Years	Representative Bell
H 148	Relating to the Idaho Cherry Commission Revising Definitions and to Make Technical Corrections	Candi Fitch, Executive Director
Presentation	Idaho Cherry Commission	Candi Fitch, Executive Director
Minutes	Approve Minutes of 2-19-15	Senators Souza & Lee
Minutes	Approve Minutes of 2-24-15	Senators Den Hartog & Bayer
Minutes	Approve Minutes of 2-26-15	Senators Brackett & Patrick
Minutes	Approve Minutes of 3-5-15	Senators Burgoyne & Ward Engelking

If you have written testimony, please provide a copy of it along with the name of the person or organization responsible to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE:	Thursday, March 12, 2015
TIME:	8:00 A.M.
PLACE:	Room WW53
MEMBERS PRESENT:	Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee, Den Hartog, Ward-Engelking and Burgoyne
ABSENT/ EXCUSED:	None
NOTE:	The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.
CONVENED:	**Chairman Rice** called the meeting to order at 8:01 a.m.
HJM 6	**Food Labeling, Genetic Engineering (GMO)**, **Douglas Jones**, Executive Director, Growers for Biotechnology, advised that this memorial requests the U. S. Congress pass legislation for a federal policy on GMO labeling to avert a state by state patchwork labeling system. **Mr. Jones** introduced **Representative Miller** who further clarified that the legislation requests the FDA in conjunction with the National Organic Program provide standards for voluntary labeling. The labeling issue has been unresolved since the late 1980s. Different states have certification agencies, but there is no consistent certification or labeling throughout the states. From a marketing perspective the lack of consistency in the GMO labeling causes many difficulties. Recently efforts have been developing in individual states to address the GMO labeling issue. There is a substantial consumer market that wants to know if genetically engineered products are in the foods they are purchasing. **Senator Patrick** asked what has been the response of the food processors concerning the cost and logistics for them to distribute food with different jurisdictions of labeling. **Mr. Jones** stated that the Food Producers of Idaho strongly support this memorial, which has been reviewed by their industry multiple times. The language in this memorial was also reviewed nationally by the American Farm Bureau, Grocery Manufacturers Association and Bio-technology Industry Organization. This legislation has been well-vetted, and the agencies support the uniformity of national labeling for GMOs. **Senator Patrick** stated that he had a conflict of interest pursuant to rules of the Senate 39(H) but intended to vote on **HJM 6**.
MOTION:	.**Senator Lee** moved to send **HJM 6** to the floor with a **do pass** recommendation. **Senator Patrick** seconded the motion. The motion carried by **voice vote**.
HCR 14	**Honoring the Idaho Farm Bureau Federation for its Seventy-Five Years**, **Representative Bell** stated it is an honor for her to support **HCR 14** in recognizing the Idaho Farm Bureau's contributions in the State of Idaho for the last 75 years. Farm Gate has been wonderful. The income is coming in, and it is the engine that pulls the State's economy. This legislation recognizes the Farm Bureau's partnership in supporting issues that are important to those individuals who steward the land and eat three meals a day.

Seventy-five years ago there were 13 farmers and ranchers gathered in Murtaugh, Idaho who saw a need for active representation to promote Idaho's agricultural industry. In the 1930s the country was in a depression; the farmers had no money and no way to sell their crops. These 13 farmers concluded that they would help themselves along with other farmers in the State to turn the state of agriculture around, and they formed the Idaho Farm Bureau Federation.

Senator Burgoyne asked for clarification on line 12 of the legislation "direct organization's grassroots policy development process to improve the financial well-being and quality of life for farmers, ranchers and all Idahoans". By supporting this type of language in the legislation is the Committee endorsing the legislative agenda of the Farm Bureau? **Representative Bell** answered that what the Committee is endorsing under **HCR 14** is the fact that this organization deserves to be honored for 75 years of growth and activity. **Senator Patrick** stated that the Farm Bureau is a grassroots organization and comes from small groups who have meetings across the State to assist in making policy. Discussion ensued between **Senators Souza**, **Burgoyne** and **Rice** concerning the policy language on line 12.

Senators Patrick and Brackett stated that they had a conflict of interest pursuant to rules of the Senate 39(H) but intended to vote on **HCR 14**.

MOTION: **Senator Patrick** moved to send **HCR 14** to the floor with a **do pass** recommendation. **Senator Brackett** seconded the motion. The motion carried by **voice vote**.

H 148 **Relating to the Idaho Cherry Commission (ICC) Revising Definitions and to Make Technical Corrections**, **Candi Fitch,** Executive Director, stated the cherry industry has gotten smaller in certain areas but has grown in other areas. With the projection shifting mostly to District 2, they propose to remove the reference to districts in the code for the ICC. The action will assure that the members can be chosen to give the best representation to the cherry industry. **Ms. Fitch** guided the Committee through additional technical changes which add more clarity to the legislation.

Senator Patrick asked how many cherry growers are in the State. **Ms. Fitch** answered approximately 50 growers. **Senator Souza** asked for an explanation on the meeting publication. The bill reads that meeting notification will be published in the county where the meetings are held. **Ms. Fitch** advised that by code, the ICC is required to publish notice of the meeting twice before the meeting is held in the month of March. In addition, ICC's staff sends out a notice of the upcoming meeting to all of the growers and handlers on the ICC list.

MOTION: **Senator Lee** moved to send **H 148** to the floor with a **do pass** recommendation. **Senator Souza** seconded the motion. The motion carried by **voice vote**.

PRESENTATION: **Idaho Cherry Commission**, **Candi Fitch**, Executive Director, began her presentation by giving an update on the 2014 apple and cherry season. The Idaho apple industry has enjoyed a number of good marketing years, and 2014 will be remembered as one of the most difficult years. The year began with ideal growing conditions, which resulted in record yields across Idaho and the Pacific Northwest. Washington and Idaho picked 20 percent more apples then the largest recorded crop. From the marketing side of the business, the Russian ban on produce resulted in countries like Poland being forced to buy into other markets like India resulting in depressed pricing.

Domestically, Idaho and the Pacific Northwest experienced truck shortages beginning in September resulting in lost sales and higher transportation costs. To make matters worse, slowdowns began the first of November on the ports along the West Coast. Containers had to be re-routed adding extra transportation costs, and sales were lost due to an unreliable logistical system. The returns that are now coming in are well below the cost of production.

The Northwest Cherry Growers reported they shipped a record crop of about 23.2 million boxes. Idaho shipped about 1,400 tons of cherries this season, which breaks down to about 140,000, 20 pound boxes during the 2014 cherry season. The market was good, as was the weather and volume, but there remains a labor shortage.

Research is vital to staying relevant in this global economy. The University of Idaho (UOI) Parma Research Station has been supported by grant funds to work on issues of maximizing production and fruit quality, optimizing mineral nutrients in Fuji apples, using rootstocks and orchard architecture in Idaho. The Idaho Apple Commission (IAC) is only allowed to apply for two Specialty Crop Grants per year. The IAC runs their grant applications through the (UOI) grant office.

The Parma Research Station was slated to close several years ago, but the fruit industry came together and worked with the UOI to form a collaboration to keep the fruit research active at the Parma Station. There is an MOU between the IAC, the Stone Fruit Committee of the Idaho Horticulture Society, the Table Grape Growers Association, and the UOI. There is a fund set-up at the UOI that requires the three groups to keep a balance of $30,000 in a fund to support the Parma Station. The money is used by the Pomology Department and the funds are replenished annually out of that account.

Ms. Fitch finished her presentation by walking the Committee through the IAC's and ICC's financial statements discussing their grant monies, expenses, trade associations and current season's projects (see attachment 1).

MINUTES APPROVAL: **Senator Souza** moved to approve the Minutes of February 19, 2015. **Senator Lee** seconded the motion. The motion carried by **voice vote**.

MINUTES APPROVAL: **Senator Den Hartog** moved to approve the Minutes of February 24, 2015. **Vice Chairman Bayer** seconded the motion. The motion carried by **voice vote**.

MINUTES APPROVAL: **Senator Brackett** moved to approve the Minutes of February 26, 2015. **Senator Patrick** seconded the motion. The motion carried by **voice vote**.

MINUTES APPROVAL: **Senator Burgoyne** moved to approve the Minutes of March 5, 2015. **Senator Den Hartog** seconded the motion. The motion carried by **voice vote**.

ADJOURNMENT: There being no further business, **Chairman Rice** adjourned the meeting at 9:21 a.m.

Senator Rice
Chair

Carol Deis
Secretary

Attachment: 1

IDAHO APPLE COMMISSION
IDAHO CHERRY COMMISSION
ANNUAL REPORT

SENATE AGRICULTURAL AFFAIRS COMMITTEE

MARCH 12, 2015

Parma Office Overview

Idaho-E. Oregon Onion Committee

Idaho-Oregon Fruit and Vegetable Association

Idaho Apple Commission

Idaho Cherry Commission

Idaho Apple Commission

2014-2015 Apple Commissioners

Bill Ford, Chairman
David Obermeyer, Vice-Chairman
Daniel Rowley, Secretary/Treasurer
Kelly Henggeler
Jim Carver

Apple Commission Memberships

US Apple Association
Northwest Horticultural Council
- Export Committee
- Science Advisory Committee

Northwest Fruit Exporters
Produce Marketing Association
United Fresh Produce Association
Idaho Preferred
Buy Idaho
Idaho Ag in the Classroom

University of Idaho- Specialty Crop Grant Funds ISDA

Maximizing Production and Fruit Quality and Optimizing Mineral Nutrients in 'Fuji' Apple, Using New Rootstocks and Orchard Architecture in Idaho
$104,388 Allocated; $35,492 In-Kind - Completed

In Search of Sustainable Rootstocks to Improve Yield Efficiency, Precocity, Mineral Nutrient Uptake, and Fruit Quality of Apples in Idaho
$106,491.00, Allocated; $84,207.00 Matching

The Impact of Tree Architecture and Girdling at Full Maturity in a Modern Super High Density Orchard on Yield Efficiency, Fruit Quality, Mineral Partitioning and Postharvest Physiology of Apples in Idaho
$131,124.00, Allocated; 38,462.00 Matching

Thank you Essie!!!

University Gala – October 16, 2014

President Satterlee, Foundation Chair Sen. Rich Allen, Jessica Ruis
Celebration Tribute for generous donors for their support.

Buy Idaho Capitol Show – February 19, 2014

Canyon County Fair – July 24-27, 2014

Expo Idaho - August 15-24, 2014

Twin Falls County Fair - August 27-Sept.1

Pomology Program Annual Field Day-

September 6, 2014

St Lukes's FitOne - September 20, 2014

Other Activities Enjoying Idaho Apples

Apples at the Capitol during the Legislative Session
Apples at the House Ag Committee, and Senate Ag Committee

FFA Farm Expo
Meridian High School
September 23-25, 2014

FFA Farm Safety Day, Parma R & E Center
Sponsored by Simplot - September 2014

Idaho Apple Commission
2014-2015 Financial Statement and 2015-2016 Proposed Budget

	2013-2014 Financial Statement	2014-2015 Financial Statement	Budget 2014-2015	Proposed Budget 2015-2016
Income:				
Balance:	$ 158,085.47	$ 147,770.13		
Crop Assessments	23,837.63	109.08	57,000.00	57,000.00
Interest Income	663.21	16.89	1,500.00	750.00
Assessments from Prior Years	-	8,905.20		
Specialty Crop Grant Money	86,501.78	30,948.62	45,000.00	45,000.00
Reserve Money				
Total Income	111,002.62	39,979.79	103,500.00	102,750.00
Administrative Office:				
Audit Fee	-	-	-	-
Insurance/Workman's Comp	150.00	-	175.00	175.00
Office Supplies/Equipment	691.56	-	-	-
Postage	968.50	73.57	400.00	400.00
Rent & % of Salaries	11,153.00	4,647.13	11,153.00	11,153.00
Telephone	-	-	-	-
Office Travel	250.58	198.71	300.00	300.00
Total Administrative	13,213.64	4,919.41	12,028.00	12,028.00
Promotion:				
Production/Printing	326.16	167.45	1,500.00	1,500.00
Media	-	-	-	-
Local Promotions	2,303.44	2,183.39	3,500.00	3,500.00
Trade Association	17,637.00	11,496.00	18,000.00	18,000.00
Trade Meetings	-	-	1,700.00	1,700.00
Promotion Programs	-	-	-	-
Promotion Misc.(Postage, Special, Fees)	-	-	150.00	150.00
Total Promotions and Export Deve.	20,266.60	13,846.84	24,850.00	24,850.00
Grant Money Expended				
2011 Grant	85,268.02	1,555.08	30,000.00	30,000.00
2013 Grant	1,233.76	29,393.54	15,000.00	15,000.00
Total Grant Money Expended	86,501.78	30,948.62	**45,000.00**	**45,000.00**
Research Projects:				
University of Idaho				
Current Season's Projects-Fallahi	609.30	6,070.61	20,000.00	20,000.00
E. Fallahi -09 Grant (11-12 Season)	-	-		
Previous Season's Projects				
Research Reserve				
Total Research Projects	609.30	6,070.61	20,000.00	20,000.00
Miscellaneous Expense:				
Miscellaneous	726.64	60.43	750.00	750.00
Commission Travel	-	-	-	-
Miscellaneous-Other	-	-		
Total Miscellaneous	726.64	60.43	750.00	750.00
Grand Total	$ 121,317.96	$ 55,845.91	102,628.00	102,628.00

Idaho Apple Commission
Balance Sheet
As of December 31, 2014

	Dec 31, 14	Dec 31, 13
ASSETS		
Current Assets		
Checking/Savings		
1050 · U S Bank - Checking	6,884.65	16,953.19
1060 · U S Bank - Savings	10,149.84	30,148.53
1065 · U.S. Bank CD @ 0.50%, 9/23/15	54,975.33	54,324.04
1070 · US Bank Money Market Account	32,039.34	32,020.54
Total Checking/Savings	104,049.16	133,446.30
Total Current Assets	104,049.16	133,446.30
TOTAL ASSETS	**104,049.16**	**133,446.30**
LIABILITIES & EQUITY		
Liabilities		
Current Liabilities		
Other Current Liabilities		
2402 · Specialty Crop Grant 2011	0.00	-935.80
2403 · Specialty Crop Grant 2013	-27,854.85	0.00
Total Other Current Liabilities	-27,854.85	-935.80
Total Current Liabilities	-27,854.85	-935.80
Total Liabilities	-27,854.85	-935.80
Equity		
3900 · Operating Reserve	147,770.13	158,085.47
Net Income	-15,866.12	-23,703.37
Total Equity	131,904.01	134,382.10
TOTAL LIABILITIES & EQUITY	**104,049.16**	**133,446.30**

Idaho Apple Commission

Profit & Loss Budget vs. Actual

July through December 2014

	Jul - Dec 14	Budget	$ Over Budget
Income			
4050 · 2014 Crop Assessments	109.08	57,000.00	-56,890.92
4060 · Interest Income	16.89	1,500.00	-1,483.11
4065 · Specialty Crop Grants	30,948.62	45,000.00	-14,051.38
4075 · Previous Year's Assessments	8,905.20		
Total Income	39,979.79	103,500.00	-63,520.21
Expense			
7100 · Administrative			
7120 · Property Ins/Workman Comp	0.00	175.00	-175.00
7140 · Postage	73.57	400.00	-326.43
7150 · Rent & % of Salaries	4,647.13	11,153.00	-6,505.87
7170 · Office Travel	198.71	300.00	-101.29
Total 7100 · Administrative	4,919.41	12,028.00	-7,108.59
7200 · Trade Involvements			
7220 · Trade Association Dues	11,496.00	18,000.00	-6,504.00
7549 · Trade Meetings	0.00	1,700.00	-1,700.00
Total 7200 · Trade Involvements	11,496.00	19,700.00	-8,204.00
7300 · Promotion			
7320 · Production and Printing	167.45	1,500.00	-1,332.55
7340 · Local Promotions	2,183.39	3,500.00	-1,316.61
7495 · Promotion Miscellaneous	0.00	150.00	-150.00
Total 7300 · Promotion	2,350.84	5,150.00	-2,799.16
7662 · Miscellaneous	60.43	750.00	-689.57
7665 · Grant Money Expended			
7667 · 2011 Grant	1,555.08	30,000.00	-28,444.92
7668 · 2013 Grant	29,393.54	15,000.00	14,393.54
Total 7665 · Grant Money Expended	30,948.62	45,000.00	-14,051.38
7669 · Research Projects			
7682 · Current Season Proj - Fallahi	6,070.61	20,000.00	-13,929.39
Total 7669 · Research Projects	6,070.61	20,000.00	-13,929.39
Total Expense	55,845.91	102,628.00	-46,782.09
Net Income	-15,866.12	872.00	-16,738.12

Idaho Cherry Commission

IDAHO CHERRIES

2014-2015 Cherry Commissioners

Larry Ball, Chairman

John Williamson, Vice-Chairman

David Shaw, Secretary-Treasurer

Jim Mertz

Richard Kincheloe

Cherry Commission Memberships

Idaho Preferred

Northwest Cherry Growers

Idaho Ag in the Classroom

Apple and Cherry Promotional Materials

Idaho Cherry Commission

2014-2015 Six Month Financial Statement
2015-2016 Estimated Budget

	2013-2014 Financial Statement	2014-2015 Six Month Financial Statement	Budgeted 2014-2015	Estimated Budget 2015-2016
Income:				
Balance:	$ 21,167.12	$ 13,406.82		
Crop Assessments	$ 15,982.52	$ 29,046.67	$ 20,000.00	$ 20,000.00
Interest Income	2.07	1.04	10.00	10.00
Other Income	-	-	-	-
Total Income	15,984.59	29,047.71	20,010.00	20,010.00
Administrative, Office, Miscellaneous Expenses:				
Insurance/workman's Comp	-	-	200.00	200.00
Rent & % of Salaries	3,847.00	3,847.00	3,847.00	3,847.00
Office Supplies and Equipment	-	-	-	-
Postage	64.74	51.84	100.00	100.00
Phone	-	-	-	-
Miscellaneous	1,185.40	185.43	400.00	400.00
Total Administrative	5,097.14	4,084.27	4,547.00	4,547.00
Commission Expenses:				
Travel	308.52	174.63	500.00	500.00
Annual California Inspection	-	-	500.00	500.00
Mexico Cherry Inspection	-	-	1,000.00	1,000.00
Promotional Programs	-	-	5,000.00	5,000.00
NWCG Promotional Assessment	15,000.00	-	15,000.00	15,000.00
Soft Fruit Research	2,563.23	-	1,000.00	1,000.00
Promotinal Items	776.00	114.62	1,500.00	1,500.00
Total Commission Expense	18,647.75	289.25	24,500.00	24,500.00
Grand Total	23,744.89	4,373.52	29,047.00	29,047.00

Idaho Cherry Commission
Balance Sheet
As of December 31, 2014

	Dec 31, 14
ASSETS	
Current Assets	
Checking/Savings	
1050 · US Bank - Checking	32,871.35
1060 · US Bank - Savings	5,209.66
Total Checking/Savings	38,081.01
Total Current Assets	38,081.01
TOTAL ASSETS	**38,081.01**
LIABILITIES & EQUITY	
Equity	
3900 · Operating Reserve	13,406.82
Net Income	24,674.19
Total Equity	38,081.01
TOTAL LIABILITIES & EQUITY	**38,081.01**

Idaho Cherry Commission
Profit & Loss Budget vs. Actual
July through December 2014

	Jul - Dec 14	Budget	$ Over Budget
Income			
4050 · 2014 Crop Assessments	29,046.67	20,000.00	9,046.67
4060 · Interest Income	1.04	10.00	-8.96
Total Income	29,047.71	20,010.00	9,037.71
Expense			
7100 · Workman's Comp and Insurance	0.00	200.00	-200.00
7200 · Rent &% Of Salaries	3,847.00	3,847.00	0.00
7240 · Annual California Inspection	0.00	500.00	-500.00
7250 · NWCG Promotion Assessments	0.00	15,000.00	-15,000.00
7260 · Mexico Cherry Inspectors	0.00	1,000.00	-1,000.00
7270 · Soft Fruit Research	0.00	1,000.00	-1,000.00
7280 · Promotional Items	114.62	1,500.00	-1,385.38
7290 · Promotional Programs	0.00	5,000.00	-5,000.00
7300 · Travel	0.00	500.00	-500.00
7301 · Office Travel	174.63		
7415 · Postage	51.84	100.00	-48.16
7425 · Miscellaneous	185.43	400.00	-214.57
Total Expense	4,373.52	29,047.00	-24,673.48
Net Income	**24,674.19**	**-9,037.00**	**33,711.19**

Idaho-E. Oregon Onion Committee

Idaho-E. Oregon Onion Committee

- Federal Marketing Order #958, established in 1957
- Grower and Handler Representation
- Six grower districts and four handler districts and a public member position
- Minimum size and grade standards exceed USDA standards
- One of the largest onion growing areas in the U.S.
- An average of 20,000 acres of 2013-2014 shipped 31,193 (40,000 lb) truckloads
- Promotion Committee, Export Committee, and Research Committee
- Members of Idaho Preferred and Ag in the Classroom
- www.usaonions.com USA Onions

State Ranking Onion Comparison All Types
2013 All Seasons

	State		Harvested acreage
1.	California	*	43,900
2.	Washington	**	22,000
3.	Idaho-E. Oregon		19,900
4.	Georgia		11,100
5.	Oregon (West)		10,000
6.	Texas	*D	9,700
7.	New York		6,500
8.	New Mexico		6,100
9.	Colorado		4,000
10.	Michigan		2,700

(Nevada did not Report to Avoid Disclosing Individual Operations)

	State		Cwt. Yield Per Acre
1.	Idaho-E. Oregon		770
2.	Oregon (West)		610
3.	Washington	**	515
4.	New Mexico		430
5.	California	*	430
6.	Wisconsin		450
7.	Colorado		425
8.	Texas	*D	360
9.	New York		310
10.	Michigan		300

(Nevada did not Report to Avoid Disclosing Individual Operations)

	State		Production (1,000 cwt.)
1.	California	*	18,242
2.	Idaho-E. Oregon		15,228
3.	Washington	**	12,500
4.	Oregon (West)		6,100
5.	Texas	*D	3,492
6.	Georgia		2,997
7.	New Mexico		2,623
8.	New York		2,015
9.	Colorado		1,770
10.	Wisconsin		810

(Nevada did not Report to Avoid Disclosing Individual Operations)

	State		Value per cwt. (Dollars)
1.	Georgia		$44.10
2.	Texas	*D	$23.80
3.	Washington	**	$20.45
4.	Colorado		$18.90
5.	Wisconsin		$16.40
6.	New York		$16.00
7.	Michigan		$15.90
8.	Oregon (West)		$12.60
9.	Idaho-E. Oregon		$11.35
10.	California	*	$9.57

(Nevada did not Report to Avoid Disclosing Individual Operations)

	State		Total Value (1,000 Dollars)
1.	Washington	**	165,600
2.	California	*	164,586
3.	Idaho-E. Oregon		148,624
4.	Georgia		132,168
5.	Texas	*D	83,110
6.	Oregon (West)		66,100
7.	New Mexico		40,919
8.	New York		31,600
9.	Colorado		28,539
10.	Wisconsin		12,480

(Nevada and Texas did not Report to Avoid Disclosing Individual Operations)

* Includes Spring or Summer storage and non storage
** Includes Summer storage and non storage
*** Includes Spring and Summer non storage
*D Includes Spring and Data Withheld to Avoid Disclosing Individual Operations

Idaho-Oregon Fruit and Vegetable Association

Idaho-Oregon Fruit and Vegetable Association

- Established in 1962
- Represents onion, apple, and cherry shippers
- Associate Members from across the U.S.
- Members of Ag in the Classroom, Food Producers, and the Idaho Business Coalition for Immigration Reform
- Annual Convention in McCall, Idaho

Web Site and Office Staff

Web Site www.idahoapples.com

Web Site www.idahocherries.com

Candi Fitch, Executive Director
- cbfitch@cableone.net

Ann Jacops, Assistant Director
- annjacops@cableone.net

Debbie Edgar, Operations Clerk
- dedgar@cableone.net

Susy Santos, Administrative Assistant
- usaonions@cableone.net

Thank you!!!

Questions and Answers

AMENDED AGENDA #2

SENATE AGRICULTURAL AFFAIRS COMMITTEE

8:00 A.M.
Room WW53
Tuesday, March 17, 2015

SUBJECT	DESCRIPTION	PRESENTER
Presentation	Idaho Wheat Commission	Blaine Jacobson, Executive Director
Presentation	Idaho Beef Council	Traci Bracco, Executive Director
Page Graduation	Farewell to Committee Page Tim Bush	Chairman Rice
Minutes	Approve Minutes of March 3, 2015	Senators Souza & Lee

If you have written testimony, please provide a copy of it along with the name of the person or organization responsible to the committee secretary to ensure accuracy of records.

COMMITTEE MEMBERS

Chairman Rice
Vice Chairman Bayer
Sen Brackett
Sen Patrick
Sen Souza
Sen Lee
Sen Den Hartog
Sen Ward-Engelking
Sen Burgoyne

COMMITTEE SECRETARY

Carol Deis
Room: WW31
Phone: 332-1330
email: sagri@senate.idaho.gov

MINUTES

SENATE AGRICULTURAL AFFAIRS COMMITTEE

DATE: Tuesday, March 17, 2015

TIME: 8:00 A.M.

PLACE: Room WW53

MEMBERS PRESENT: Chairman Rice, Vice Chairman Bayer, Senators Brackett, Patrick, Souza, Lee and Ward-Engelking

ABSENT/ EXCUSED: Senators Den Hartog and Burgoyne

NOTE: The sign-in sheet, testimonies and other related materials will be retained with the minutes in the committee's office until the end of the session and will then be located on file with the minutes in the Legislative Services Library.

CONVENED: **Chairman Rice** called the meeting to order at 8:01 a.m.

PRESENTATION: **Idaho Wheat Commission (IWC)**, **Blaine Jacobson**, Executive Director, began his presentation on the two weather conditions that impacted the 2015 Idaho wheat crop (see attachment 1). Idaho received extraordinary amounts of rain in southern and eastern Idaho in August. This was the most rain that southern Idaho had received since 1953. This moisture came just before the harvest of the wheat crop and substantially impacted its quality; estimated damage in lost revenue was $210 million to the wheat and barley crops. More than half of the crop from Mountain Home east was damaged, and the bulk of the crop went to feed instead of commercial milling. The second weather condition that has impacted the wheat harvest is the drought in California. California has always been a large market for Idaho wheat. California is the largest milling state, and the drought has created an even larger market in 2015.

Wheat is the second largest crop grown in Idaho, with cash receipts last year of $732 million; half of the wheat crop remains in the U.S. and half is exported. Idaho is the largest hard-white wheat grower in the U. S. Idaho has the most consistent crop of any wheat growing state in the U.S. because two-thirds of the crop is irrigated, and the rest of the crop comes from the Palouse, north of the Salmon River, which has the right amount of rain at the right time of the year.

Mr. Jacobson advised that IWC has identified five factors that will impact wheat markets in the next ten years:

1. Global economic growth and the rise of the middle class in developing countries. China's wheat consumption has doubled.
2. As the value of the dollar rises it will mean less wheat exportation.
3. Worldwide biofuels production, as corn prices rise so do the wheat prices.
4. More countries are shifting to trade agreements for market access. This is an import portion of Idaho's export market. Some other wheat exporting countries which affect sales are Ukraine, Kazakhstan, and Australia.
5. Biotech developments of wheat for the best new wheat technologies and implementing these for the benefit of Idaho wheat growers and industry. Biotech hunts will continue to grow including development of biotech traits in wheat. IWC expects that one of the foreign competitors will be the first to launch biotech wheat. IWC will be ready with their own trade when that happens to keep the growers competitive. Wheat has lost acreage because it does not have the biotech traits of corn and soybeans.

IWC's budget in 2015 was $3.2 million; half of this money went into research, market development and grower education. The reserve account is $3.7 million which they expect to pull down by $500,000 due to the short crop. The IWC recently committed $500,000 toward a new wheat geneticist position at the Moscow Wheat Breeding Station.

Chairman Rice stated that one third of Idaho's wheat is barged from Lewiston down the river to Portland. Will the wheat export be affected at the Portland docks by the dock strike slow down? **Mr. Jacobson** replied that about six months ago there was a strike at the Port of Portland and that did impact the wheat exports. In recent months the wheat exports have recovered because wheat is not shipped in containers but in bulk shipping.

PRESENTATION: **Idaho Beef Council (IBC)**, **Traci Bracco**, Executive Director, directed the Committee's attention to their annual report for fiscal year (FY)15 explaining that this has been a very lucrative year for the beef industry (see attachment 2). The industry has seen their cattle selling at record prices. Americans are consuming all the beef that is being produced in the U.S. The demand for beef is growing all over the world; despite one of the smallest cow herds the industry has had on record since the 1950s. The producers are seeing skyrocketing input costs on their ranches, consumers are seeing higher prices on beef and the industry continues to be under attack from activists on how cattle are raised and the nutritional value of the product.

Since 1967 the IBC has served as the marketing arm for Idaho's cattle ranching families. IBC's mission is to build consumer demand for beef and the opportunity for producer profitability. The check-off dollars that they collect are invested into a number of program areas geared to raise awareness, stimulate trial and consumption, protect and defend their image against attacks from outside groups, build the scientific foundation for beef, advocate the nutritional value with physicians and dieticians, and develop beef safety research.

IBC initiated a comprehensive study with Dr. Harry Kaiser on the beef check-off. Dr. Kaiser's conclusion was that every dollar invested in the beef check-off program between 2006 and 2013 returned $11.20 to the beef industry. The highlights of IBC's marketing program: 1) Wednesday radio ad at 4:30 commute: "what they are having for dinner"; 2) Television ad during the winter Olympics for the Idaho market; 3) Beef Its Whats For Dinner; 4) Beef is Worth the Price (consumers have remained steadfast in their willingness to pay more for beef and the demand is growing); 5) Using the internet such as Google, Facebook, YouTube to inspire new meal ideas and techniques.

Senator Souza asked what has caused the rapid increase in the price of beef in stores. **Ms. Bracco** explained that the price of beef has been increasing over the last couple of years. There are a number of factors that have driven the increase: 1) all input costs are up; and 2) the U.S. has the smallest cow herd since 1951 (supply and demand issue).

Senator Brackett asked if there is interest in raising the national check-off to $2.00 per head. **Ms. Bracco** answered there is interest for that increase. It will have to go out to referendum and get support. As of yesterday, seven organizations have signed the memorandum of understanding: beef industry, dairy industry, Farm Bureau, National Livestock Producers Association, LPA, and Cattle Women. Overall there is good support for the increase which is evidenced by the fact that 13 states have pursued the check-off increase on their own.

Chairman Rice asked if there is a percentage of the choice cuts being purchased and what is the quality of the animals that are being raised in Idaho. **Ms. Bracco** replied that the cattle that the ranchers are raising are leaner now then ever before because the consumers want a leaner product. Consumer preference is driving the stores to carry choice cuts of beef because they are willing to pay more for the product. It also speaks to the industry labeling the products better than in the past.

PAGE GRADUATION: **Farewell to Committee Page Tim Bush**.**Chairman Rice** asked Tim Bush to tell the Committee about his experience as a page for the Committee and what his plans are for the future.

MINUTE APPROVAL: **Senator Souza** moved to approve the Minutes of March 3, 2015. **Senator Lee** seconded the motion. The motion carried by **voice vote.**

ADJOURNED: There being no further business, **Chairman Rice** adjourned the meeting at 8:50 a.m.

Senator Rice
Chair

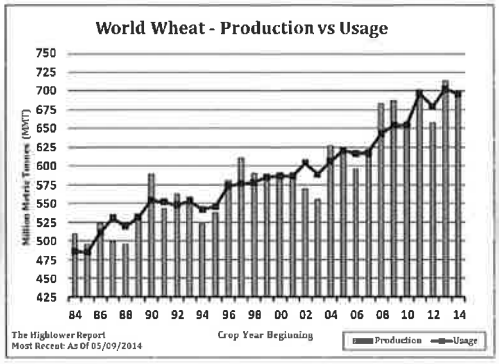
Carol Deis
Secretary

Attachment 1: 3/17/2015

Idaho Wheat Commission

2015 Presentation to Legislature

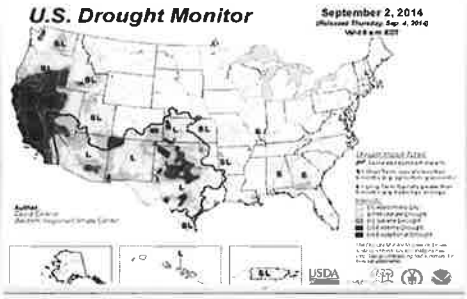
March 1, 2015



Two Weather Conditions Impacting Idaho Wheat in 2015

- Extraordinary amounts of rain during August
- Drought in California (largest wheat-milling state in country)

More Idaho Wheat to California



2015 Crop Disaster in Idaho

- Excessive moisture during harvest
- Estimated $210 MM damage to wheat & barley crops
- Yields above average, but profound quality losses
- Policies did not cover losses, despite having paid significant premiums

2015 Crop Disaster in Idaho

- IWC, IBC, IGPA jointly creating solutions
- Working with Congressional delegation to fund emergency assistance
- Working with RMA to fill gaps in coverage that can be filled
- Jan. 22 meetings in S. Idaho with top RMA officials; follow-up meeting in D.C. Jan. 30

Planned Actions on Crop Insurance

- Apply Falling Number (FN) discount schedules to HRW and HWW
- Hope to replace the current 60-day price discovery period for insurance claims with 90-120 day period
- Change how RMA defines "zero value" on damaged grain

Gluten-Free Diet Fad Beginning to Wane

- 1% of U.S. population allergic to gluten
- Another 6-7% sensitive to gluten
- Gluten contains fiber and important vitamins and minerals
- Most gluten-free products less healthy than products with gluten
- Gluten in wheat today same as 50 years ago
- Role of virtual wheat gluten

Dredging and Dams Important

- Approximately 1/3 of Idaho wheat goes to market via barge
- Need to educate public on economic importance of dams

World Wheat Supply and Demand

		12/13	13/14	14/15
			MMT	
SUPPLY:	Beginning Stocks	196	175	186
	Production	658	715	720
	Supply Total	854	890	906
TRADE:	Exports/Imports	137	166	155
DEMAND	Food & Seed	542	574	573
	Feed & Residual	137	130	140
	Use Total	679	704	713
	ENDING STOCKS:	175	186	193

About Idaho Wheat

- Second largest crop grown in Idaho,
- $732 million in cash receipts last year
- 50% domestic, 50% export

IWC FY 2015 Budget Allocation

Domestic Products Using Idaho Wheat

Importance of E. Idaho to Hard White Wheat

WHEATSELECT
WHITE SPRING WHOLE WHEAT

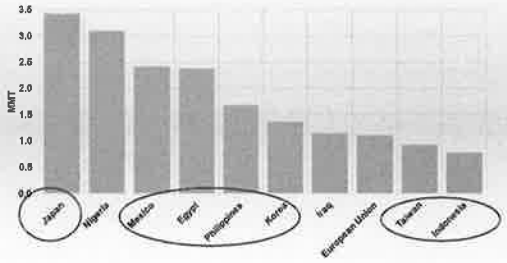
ULTRAGRAIN

GRAIN CRAFT

Idaho Wheat in Overseas Products

Top Ten Export Customers for U.S. Wheat

5-year average



Wheat-Buying Teams Visit Idaho

China

Mexico

Japan

Taiwan

IWC Research Programs

Objective: Identify the best new wheat technologies and implement for the benefit of Idaho wheat growers and industry.

- Aberdeen – spring wheats, hard white wheat, wheat quality lab
- Moscow – partnership with Limagrain
- Test plots in more than 60 locations throughout state
- Multiple cropping systems projects

Private Breeding Has Changed Wheat Industry

MONSANTO imagine
BASF
Limagrain Cereal Seeds
syngenta
Dow AgroSciences
Bayer CropScience

Grower Education& Information

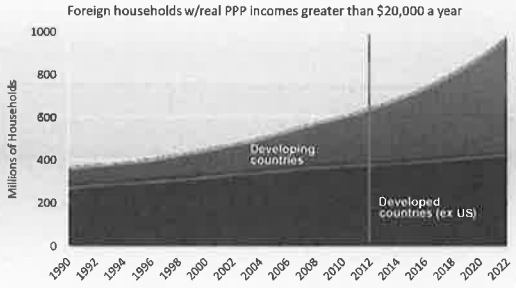
Objective: Protect grower interests at state and federal levels. Support profitable wheat production by providing most up-to-date information to growers possible.

- Funding for IGPA and NAWG
- PNW Export Tour, Domestic Marketing Tour
- Direct Seed and Wheat Quality Workshops
- Cereal Schools, idahowheat.org website

Five Factors Impacting Wheat Markets in the Next Ten Years

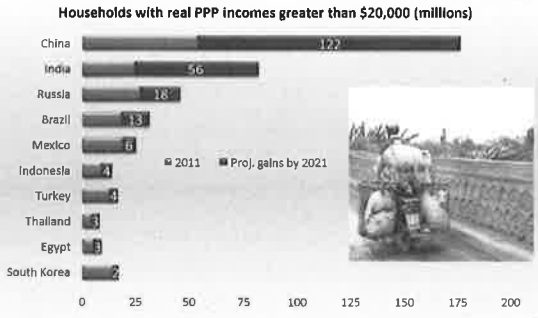
- Global economic growth and rise of "middle class" in developing countries
- Value of the U.S. dollar
- Worldwide biofuels production
- Role of trade agreements
- Biotech developments

"Middle Class" Outside the U.S. Expected to Double by 2022 – To Nearly 1 Billion Households



Developing Countries With Fastest Growing Middle Class

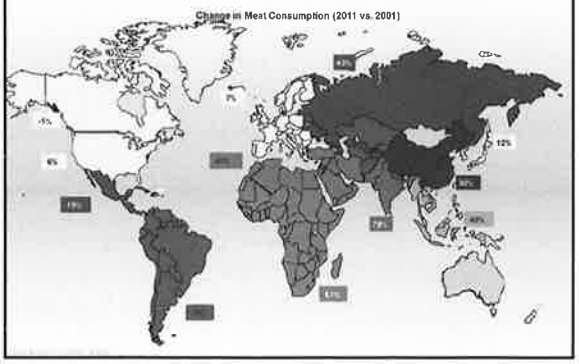
24% of households in these countries are middle class. By 2022 this will increase to 51%



Source: Global Insight's Global Consumer Markets data as analyzed by

Meat Consumption Growth Focused in Developing Nations

Meat increase in developing countries is 36% vs. 7% in developed



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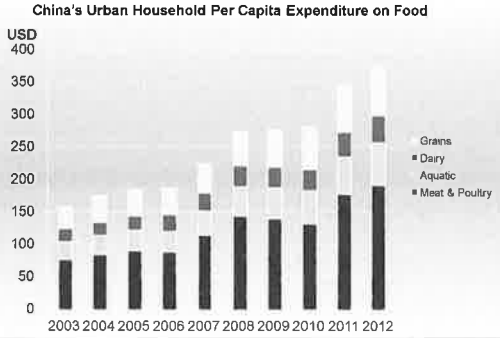

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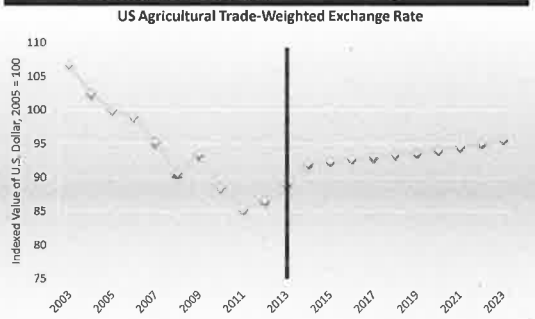

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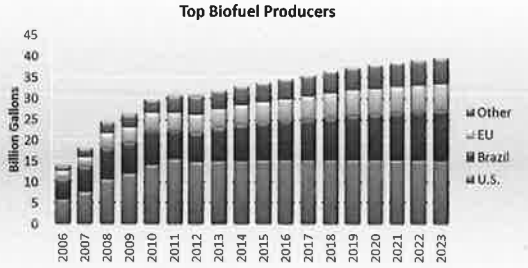

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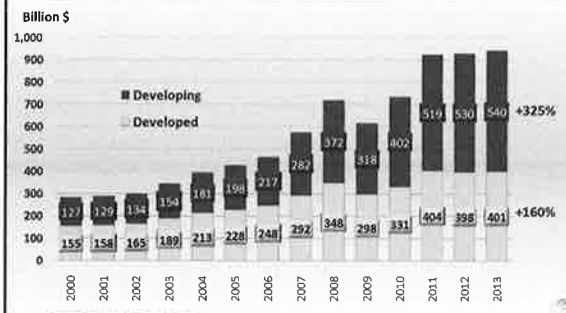

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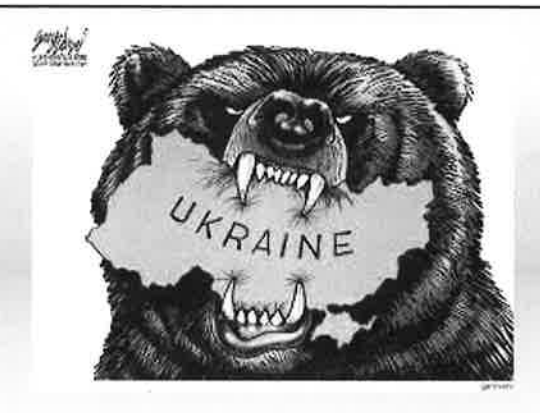

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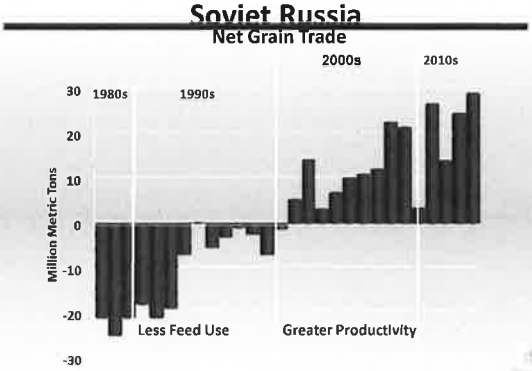

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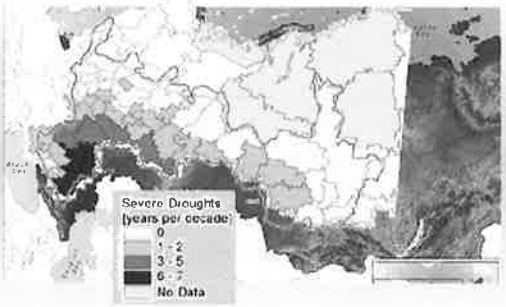

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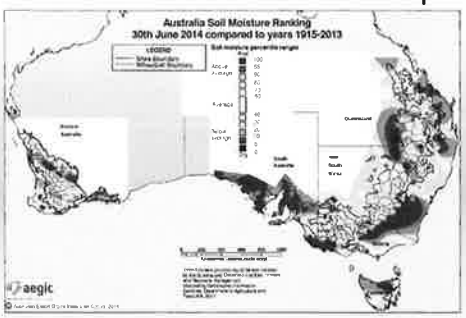

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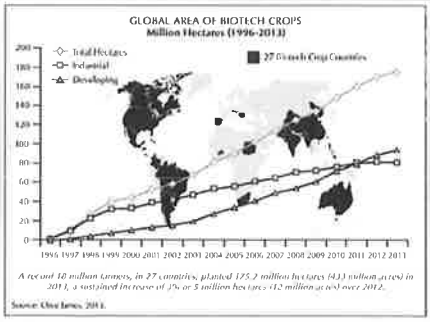

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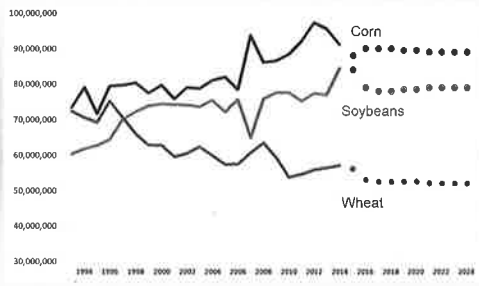

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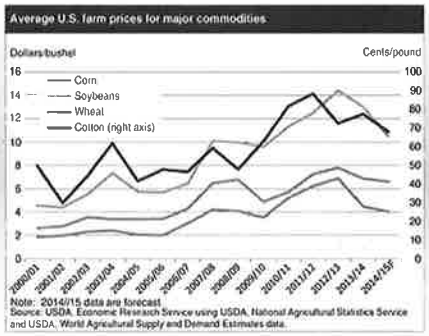

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- Hard White is the fastest-growing class (white whole wheat).

Consistent Idaho Wheat Harvest

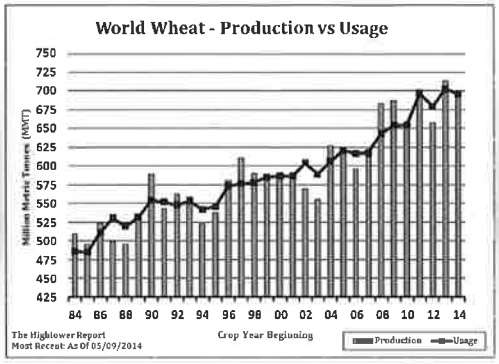
- Rich, loose volcanic soils
- Abundant supply of water
- Desert environment reduces pests and diseases
- Well-developed ag infrastructure

Attachment 1: 3/17/2015

Idaho Wheat Commission

2015 Presentation to Legislature

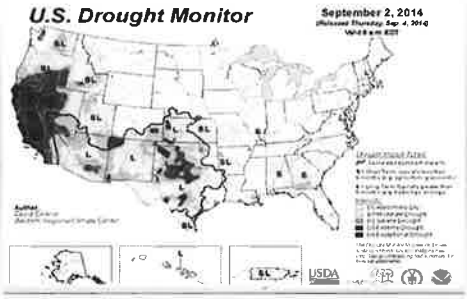
March 1, 2015



Two Weather Conditions Impacting Idaho Wheat in 2015

- Extraordinary amounts of rain during August
- Drought in California (largest wheat-milling state in country)

More Idaho Wheat to California



2015 Crop Disaster in Idaho

- Excessive moisture during harvest
- Estimated $210 MM damage to wheat & barley crops
- Yields above average, but profound quality losses
- Policies did not cover losses, despite having paid significant premiums

2015 Crop Disaster in Idaho

- IWC, IBC, IGPA jointly creating solutions
- Working with Congressional delegation to fund emergency assistance
- Working with RMA to fill gaps in coverage that can be filled
- Jan. 22 meetings in S. Idaho with top RMA officials; follow-up meeting in D.C. Jan. 30

Planned Actions on Crop Insurance

- Apply Falling Number (FN) discount schedules to HRW and HWW
- Hope to replace the current 60-day price discovery period for insurance claims with 90-120 day period
- Change how RMA defines "zero value" on damaged grain

Gluten-Free Diet Fad Beginning to Wane

- 1% of U.S. population allergic to gluten
- Another 6-7% sensitive to gluten
- Gluten contains fiber and important vitamins and minerals
- Most gluten-free products less healthy than products with gluten
- Gluten in wheat today same as 50 years ago
- Role of virtual wheat gluten

Dredging and Dams Important

- Approximately 1/3 of Idaho wheat goes to market via barge
- Need to educate public on economic importance of dams

World Wheat Supply and Demand

		12/13	13/14	14/15
			MMT	
SUPPLY:	Beginning Stocks	196	175	186
	Production	658	715	720
	Supply Total	854	890	906
TRADE:	Exports/Imports	137	166	155
DEMAND	Food & Seed	542	574	573
	Feed & Residual	137	130	140
	Use Total	679	704	713
	ENDING STOCKS:	175	186	193

About Idaho Wheat

- Second largest crop grown in Idaho,
- $732 million in cash receipts last year
- 50% domestic, 50% export

IWC FY 2015 Budget Allocation

Domestic Products Using Idaho Wheat

Importance of E. Idaho to Hard White Wheat

WHEATSELECT
WHITE SPRING WHOLE WHEAT

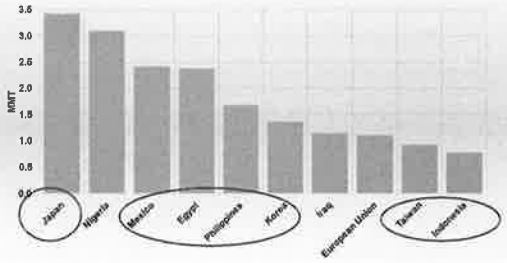
ULTRAGRAIN

GRAIN CRAFT

Idaho Wheat in Overseas Products

Top Ten Export Customers for U.S. Wheat

5-year average



Wheat-Buying Teams Visit Idaho

China

Mexico

Japan

Taiwan

IWC Research Programs

Objective: Identify the best new wheat technologies and implement for the benefit of Idaho wheat growers and industry.

- Aberdeen – spring wheats, hard white wheat, wheat quality lab
- Moscow – partnership with Limagrain
- Test plots in more than 60 locations throughout state
- Multiple cropping systems projects

Private Breeding Has Changed Wheat Industry

MONSANTO imagine
BASF
Limagrain Cereal Seeds
syngenta
Dow AgroSciences
Bayer CropScience

Grower Education& Information

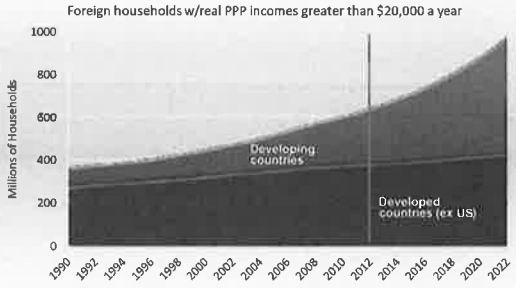
Objective: Protect grower interests at state and federal levels. Support profitable wheat production by providing most up-to-date information to growers possible.

- Funding for IGPA and NAWG
- PNW Export Tour, Domestic Marketing Tour
- Direct Seed and Wheat Quality Workshops
- Cereal Schools, idahowheat.org website

Five Factors Impacting Wheat Markets in the Next Ten Years

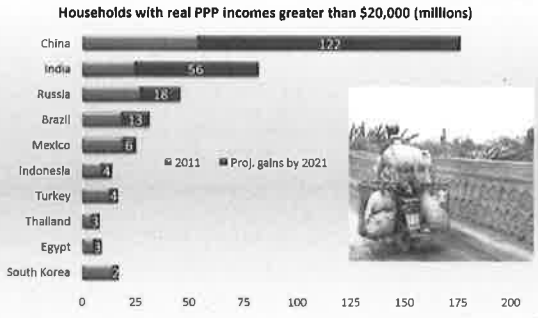
- Global economic growth and rise of "middle class" in developing countries
- Value of the U.S. dollar
- Worldwide biofuels production
- Role of trade agreements
- Biotech developments

"Middle Class" Outside the U.S. Expected to Double by 2022 – To Nearly 1 Billion Households



Developing Countries With Fastest Growing Middle Class

24% of households in these countries are middle class. By 2022 this will increase to 51%



Source: Global Insight's Global Consumer Markets data as analyzed by

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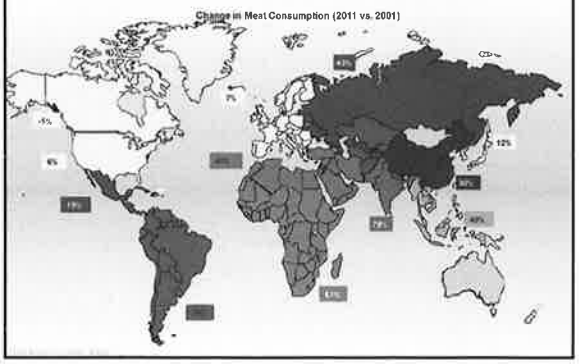

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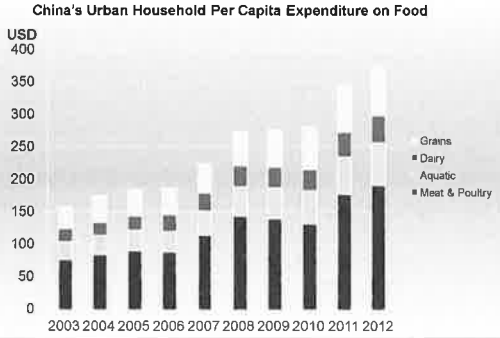

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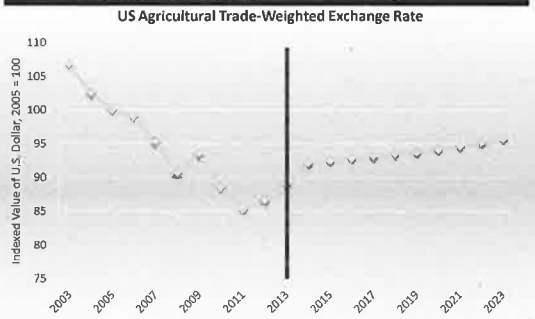

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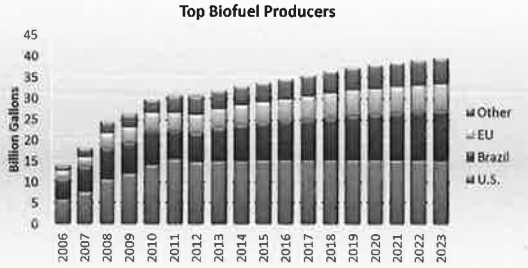

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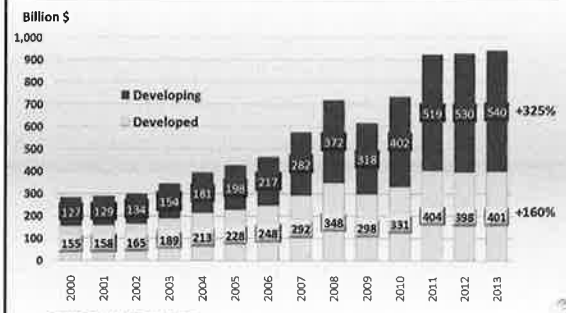

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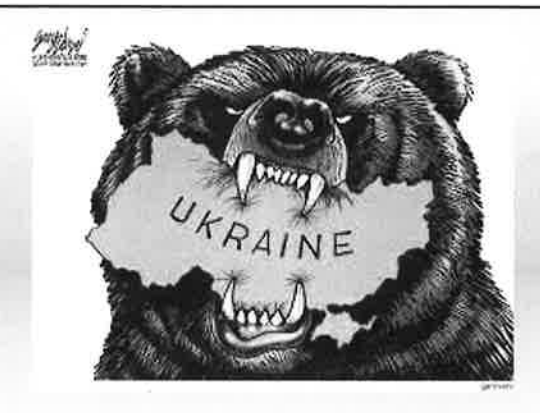

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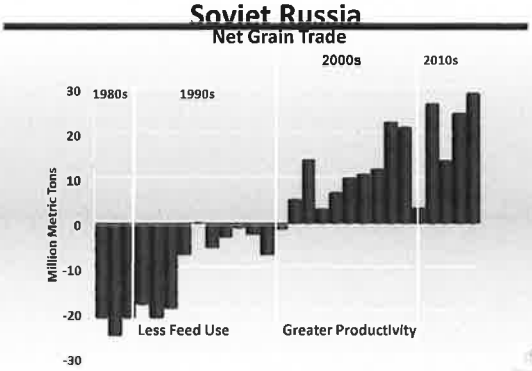

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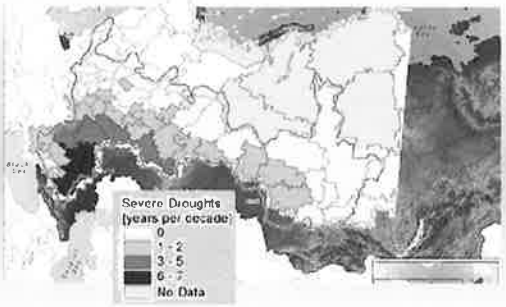

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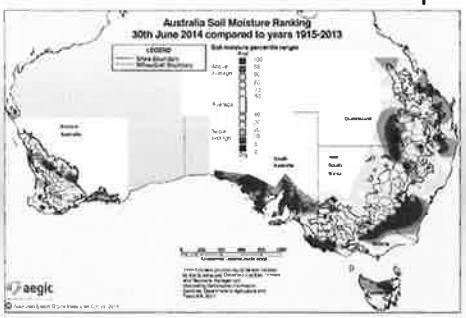

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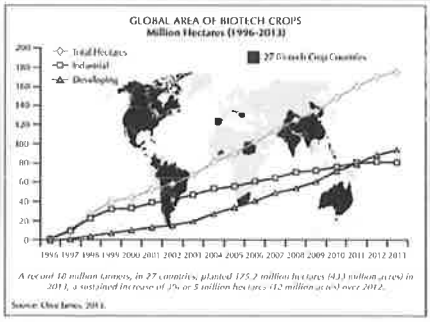

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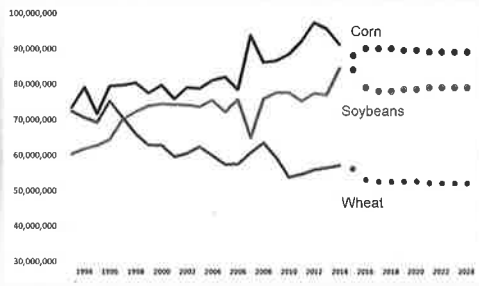

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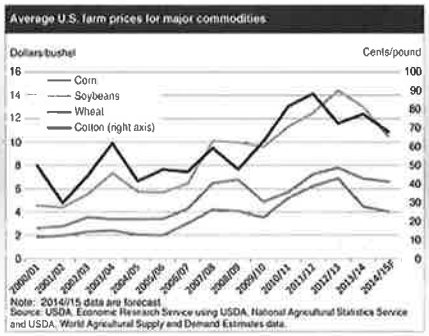

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Attachment 2:

3/16/2015

Idaho BEEF Council

Serving Idaho's Beef Producers Since 1967

Traci Bracco
Executive Director

Idaho Beef Council Mission...

Build consumer demand for beef through integrated state, national and international programs and increase the opportunity for **producer profitability**

All These Pieces Come Together To Drive Consumer Demand

The Return on Beef Checkoff Investment

Every dollar invested in checkoff programs funded by CBB between 2006 and 2013 returned **$11.20** to the beef industry!

About the Researcher

Dr. Harry Kaiser

- Gellert Family Professor of Applied Economics and Management at Cornell Univ.
- Author of more than 128 journal articles, five books, 17 book chapters and more than 150 research bulletins
- Has conducted more than **120 economic evaluation studies of checkoff programs** in the U.S., Canada and Europe

Objectives of Research

Address two questions regarding programs funded with CBB budget 2006-2013:

1. What would U.S. beef demand be in domestic and foreign markets had there not been any checkoff-funded programs?
2. Are the benefits of the checkoff marketing programs larger than their costs?

Most comprehensive ROI study ever completed for checkoff

- Evaluated *all* commercial beef disappearance, including retail, foodservice and international data, over 8 years, as opposed to previous studies of just domestic retail.
- Also analyzed individual categories of nine checkoff-funded marketing categories (including foreign marketing) separately, then brought categories together for overall return on investment.

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"The news for beef checkoff investors couldn't be better."

Dr. Harry Kaiser

11.3%

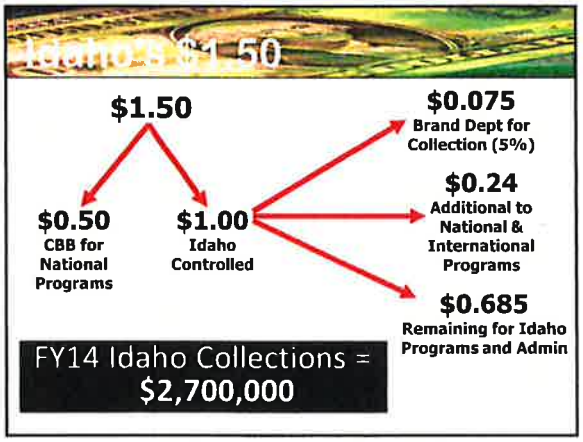
The reduction in domestic beef sales between 2006 and 2013, if not for checkoff programs

6.4%

The reduction in foreign demand for U.S. beef between 2006 and 2013, if not for the checkoff

What Does it Mean for Producers?

- Higher prices for cattle and beef
- Higher net revenue for their business than they would have had *without* the beef checkoff
- Increased opportunity for continued growth

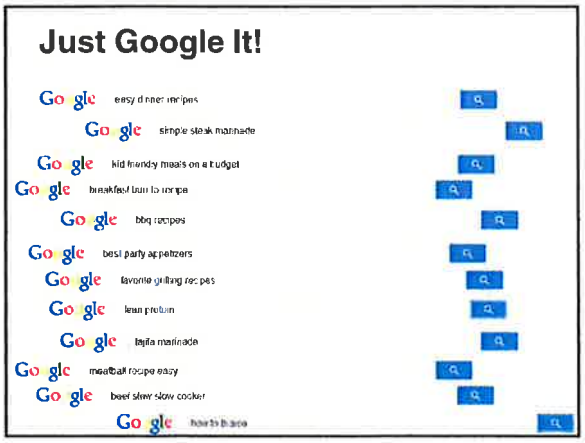


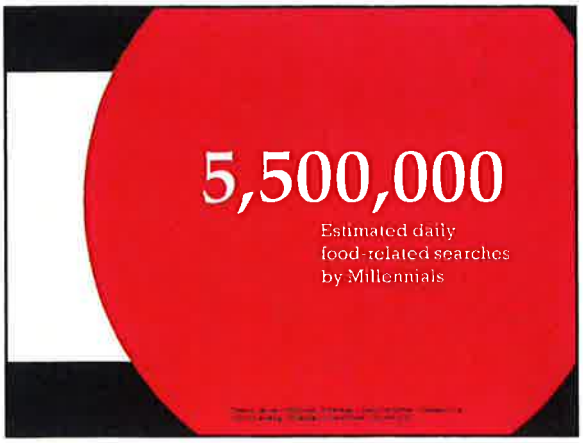
At 4:30 pm tonight:

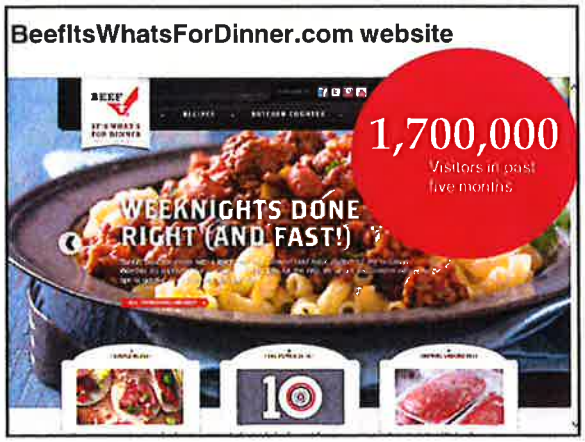
Only ½ of Americans will know what they're having for dinner.

Source: Beef Checkoff Google Survey, October 2013

Just Google It!




5,500,000
Estimated daily
food-related searches
by Millennials


BeefItsWhatsForDinner.com website
1,700,000
Visitors in past
five months
WEEKNIGHTS DONE
RIGHT (AND FAST!)

Videos
Inspire New Meal Ideas + Techniques
"I always thought that it was difficult to get a "perfect" steak. This video shows how simple it can be to cook steak, giving instructions while showing video of the process."
Aaron D., 24
5,000,000
Total video views

facebook
Tis the Season for Easy Entertaining with Beef!
BEEF
252%
Increase in followers

205,000
Idahoans reached through consumer events and promotions
BEEF
Rubs & Marinades

400%
Increase in roast sales vs. prior year
SAVE
$10.00 OFF
24 Hour Savings
WinCo Foods

Rising Prices

1 - Ribeye Steak
Price = $7.53

Beef is Worth the Price

- Demand for beef is growing
  - Beef demand in the 2nd quarter of 2014 was the **strongest in 10 years**
- 76% of consumers say beef is worth the price
- 75% of consumers eating same amount as last year and 14% eating more

Source: OK State Univ – Food Demand monthly survey

BEEF IT'S WHAT'S FOR DINNER | i ♥ Beef | BEEF | TEAM Idaho BEEF | BEEF COUNTS

Idaho BEEF Council

Proudly Representing Idaho's Cattle Ranching Families

2118 Airport Way - Boise
(208) 376-6004