

Day 1

SECTION 1: Introduction (Moderator Ray Carruthers)

- 8:15 a.m. Welcome and Announcements
- 8:30 a.m. **Jim Tate** – Good Science/Good Policy for Biological Control
- 9:15 a.m. Workshop Problem Statement/Definition
 - **Carla D'Antonio** – Invasive Plants and Their Impact: An Overview
 - **Ray Carruthers** – Benefits and Risks of Biological Control: an Overview
- 10 a.m. **BREAK**
- 10:30 a.m. **Barbara Barrett** – Science and Policy for Biological Control in New Zealand
- 11:00 a.m. **Al Cofrancesco** – Regulations and Compliance Issues for APHIS-TAG, FWS Section 7, and NEPA
- 11:30 a.m. **Panel on State and Local Issues on Decision-Making for Biological Control** (including harmonization of state weed lists, assessment of strengths and weaknesses of current system, opinions on overall versus site-specific EAs, gaps in current system, etc.). Panelists: **Mike Pitcairn** (CDFA), **Tracy Horner** (APHIS), **Linda Drees** (NPS), **Eric Coombs** (ODA), **Debra Eberts** (BR), **Eric Lane** (CDA), and **Julie Denslow** (USFS)

12:00 - 1:00 p.m. **LUNCH (on your own)**

SECTION 2: Tools for Evaluating the Risks of Potential Biological Control (Moderator John Herr)

- 1:00 p.m. **Andy Sheppard** – An Overview of Risk-Benefit Analysis in Biological Control
- 1:30 p.m. **Andy Sheppard** – Effective Tools for Evaluating the Risks of Potential Biological Control Agents to Nontarget Organisms
- 2:00 p.m. **Ernest Delfosse** – A Model for Analyzing Risk from Biological Control Agents

- 2:30 p.m. **Karen Jetter** – Economic Framework for Decision-Making in Biological Control
- 3:00 p.m. **Peter McEvoy/Dennis Isaacson** - Risks and Benefits of the Cinnabar Moth: A Case Study on Changing Scientific and Policy Perspectives on a Widely-Used Weed Biological Control Agent
- 3:30 **BREAKOUT: What is missing from these models? What are the data requirements? What works with them? How robust are they under different circumstances, etc.?**
- 5:00 p.m. **Report back**
- 5:30 p.m. **Adjourn for Evening Festivities**
- 6:00-8:00 p.m. **Evening Reception / Dinner**

Day 2

SECTION 3: Scientific Inputs into the Decision-Making Process (Moderator Linda Drees)

- 8:00 a.m. Announcements
- 8:10 a.m. **Raghavan Charudattan** – Ecological, Practical, and Political Inputs into Selection of Targets: What Makes a Good Biological Control Target?
- 8:30 a.m. **John Maron** – Selection of Appropriate Target Plants and Realistic Expectations for Biological Control Agent Impacts
- 8:50 a.m. **Jack DeLoach** – Traditional Selection of Natural Enemies in Classical Biological Control: How it Works, Including Strengths and Weaknesses
- 9:10 a.m. **David Briese** – Translating Host-Specificity Studies into the Real World: The Need to Harmonize the Yin and Yang of Current Procedures
- 9:30 a.m. **Bernd Blossey** – Improving Assessment and Prediction of Target Impacts: Design and Insights from Studies at Home and Abroad
- 9:50 a.m. **Robert Nowierski** – The Value of Retrospective Studies and Predictive Models in Improving Impact and Control by Biological Control Agents
- 10:10 a.m. **Julie Denslow** – Predicting Community and Ecosystem Response to Reduction of Target Weeds: A Retrospective Analysis
- 10:30 a.m. **John Hoffman** – Level of Target Control Needed to Produce a Benefit

- 11:00 a.m. **BREAKOUT** *Do we have adequate biological knowledge to accurately preselect natural enemies for effectiveness? Can we predict host specificity and thus safety from traditional methods of testing? What new methods would improve our ability to make such determination, etc.?*
 - 12:00 noon – **Report back**
- 12:30-1:30 p.m. **LUNCH (on your own)**

SECTION 3: Scientific Inputs into the Decision-Making Process, continued (Moderator Carla D'Antonio)

- 1:30 p.m. **Svata Louda** – Improving Assessment and Prediction of Nontarget Impacts: The Value of Retrospective Studies
- 1:50 p.m. **Peter McEvoy/Eric Coombs** – The Transition from Retrospective to Prospective Studies in Biological Control of Weeds
- 2:10 p.m. **Robert Pemberton** – Predictable Risk to Nontarget Plants in Weed Biological Control
- 2:30 p.m. **Alec McClay** – A Scoring System for Biological Control Agent Selection
- 2:50 p.m. **Mark Wright** – Using Probabilistic Risk Assessment in Decision-Making for Biological Control
- 3:10 p.m. **BREAKOUT** *Are there experiments we could do in advance to better predict nontarget impacts? What tools should be developed for being better able to detect nontarget effects in nature? If it's not predictable, should we not make releases or release anyway?*
 - 4:30 p.m. **Report back**
 - 5:00 p.m. **Adjourn**
- 5:00-7:00 p.m. **DINNER (on your own)**

SECTION 3: Scientific Inputs into the Decision-Making Process, continued (Moderator Julie Gould)

- 7:00 p.m. **John Hoffman** – Interaction of Agents: Insect with Insects
- 7:20 p.m. **Tony Caesar** – Interaction of Agents: Insects with Pathogens
- 7:40 p.m. **Jane Memmott** – Can We Predict Food Web Responses During Releases of Biological Control Agents?
- 8:00 p.m. **Dean Pearson and Ragan Callaway** – Assessing and Evaluating Indirect Community Effects Associated with Biological Control
- 8:20 p.m. **Tom Dudley/Robert Pattison** – Single Species Versus Multiple Species Management
- 8:40 p.m. Panelists to Question Speakers and Raise Major Issues for Discussion (**Peter Stiling, Dale Wood, Don Strong, Rosemary DeClerck-Floate, Roger Sheley, Jack DeLoach**)
- 9:30 p.m. **Adjourn**

Day 3

SECTION 4: Incorporating Biological Control into Management Programs (Moderator TBA)

- 8:00 a.m. **Announcements**
- 8:10 a.m. **Rod Lym** – Integrating Biological Control with Other Weed Management Technologies: How Can it Best be Done?
- 8:30 a.m. **Russel Messing** – Conflict Between Biological Control Agents: Can We Avoid Problems Before they Occur in Actual Management Systems?
- 8:50 a.m. **Roger Sheley** – Revegetation: Planning the End-Game Before We Start
- 9:10 a.m. **Joe Balciunas/Eric Coombs** – Codes of Best Practices: Current and Future
- 9:30 a.m. **Rita Beard** (invited) – Need and Methods for Pre- and Post-Release Monitoring
- 9:50 a.m. **Allan Bullard** – Monitoring Standards: Temporal and Spatial Scales

- 10:10 a.m. **Eric Coombs** – Statewide Monitoring: An Example for Every State to Follow
- 10:30 a.m. **BREAKOUT** (*Questions?*)
- 12:00 a.m. **Report back**

- 12:30 p.m. -1:30 p.m. **LUNCH (on your own)**

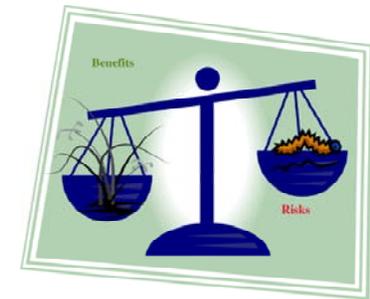
SECTION 5: Putting Science into the Regulatory Process (Moderator TBA)

- 1:30 p.m. **Speaker TBA** – Revisiting the Need for Regulatory Change
- 1:50 p.m. **Marc Miller and Greg Aplet** – The Regulatory Process: Is a Biological Control Law the Answer?
- 2:10 p.m. **Robert Flanders** – Changes in Plant Pest Act, the Current Regulatory Process, Response to New Ideas, and Possibilities for Adaptation
- 2:30 p.m. **Rick Sayers** – Section 7 Compliance: Are there Changes Ahead for Biological Control and What Does This Mean for Endangered Species?
- 2:50 p.m. **Tracy Horner** – Improving the Utility of the TAG Review for NEPA Assessments: A Collaborative Effort of Scientists and Regulators.
- 3:10 p.m. **John Randall/Tunyalee Martin** – Improving Information Flow and Decision-Making Process for Local or Regional Managers Using Biological Control Technologies
- 3:30 p.m. **Closing Discussion and the Need for Action Teams** (Moderator Ray Carruthers) - Potential groups: legal and regulatory reform, code of best practices, scientific inputs into the decision-making process, decision tools, funding, education, etc.
- 4:30 p.m. **Ernest Delfosse** – Pulling it All Together: An Overview of Group Results and Future Directions

5:00 p.m. **Adjourn**

Science and Decision-Making in Biological Control of Weeds

A Conference on the Benefits and Risks of Biological Control



January 27-29, 2004

Westin Hotel Tabor Center in
Downtown Denver, Colorado

A working conference supported by the U.S. Department of Agriculture and hosted by the Agricultural Research Service, Exotic and Invasive Weeds Research Unit in conjunction with USDA-CSREES-IFAFS and the Center for Invasive Plant Management