

Reuse Guidance Development – A Consultant's Perspective

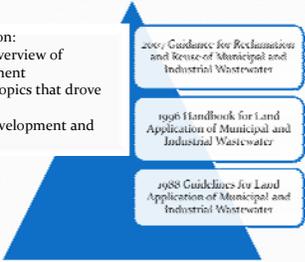
Michael Murray, Ph.D.
Idaho Water Reuse Conference
May 19, 2010



Evolution of Guidance (Handbook)

Today's presentation:

- Provide historic overview of guideline development
- Discuss the hot topics that drove the updates
- Discuss future development and needs



2007 *Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater*

1996 *Handbook for Land Application of Municipal and Industrial Wastewater*

1988 *Guidelines for Land Application of Municipal and Industrial Wastewater*

1988 (22 years ago)

- CDs outsell vinyl for the first time ever.
- Soviets leave Afghanistan
- Bobby McFerrin tells everyone "Don't w happy"
- Idaho Division of Environmental Quality (part of Department of Health and Welfare) publishes 1988 Guidelines for Land Application of Municipal and Industrial Wastewater
- Idaho publishes IDAPA 16 Title 01 Chapter 17 – Wastewater-Land Application Permit Rules (April 1988)



1988 Rule and Guidelines

- Rule set the stage for permit requirements and processing, vague on actual management requirements
- 1988 Guidelines were pretty general, "these guidelines should only be used as a reference"
- COD 50 lbs/acre/day
- Nitrogen 150% of crop uptake

Land-Applied Wastewater Technical Advisory Committee - 1988

<ul style="list-style-type: none"> • Shelby Brownfield – IDHW-DEQ • Jess Eblen – Ore-Ida Foods • Frank Haas – American Potato Company • Gordon Hopson – IDHW-DEQ • Rick Jarvis – IDHW-DEQ • Mike McMasters – IDWH-DEQ 	<ul style="list-style-type: none"> • Jim Oates – Simplot • Dr. Jay Smith – USDA • Roger Tinkey – IDHW-DEQ • Jay Ulrich – City of Pocatello • Kirby Vickers – JUB • Dr. A.T. Wallace – U of I
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The committee was established to provide input on system requirements in protecting groundwater resources in a manner that can make this method cost effective in many cases.

1988 Guidelines

- First round of permits (five years)
- Need for more specificity for 2nd generation of permits
- Desire more consistency state-wide while still allowing site specific flexibility
- Issues:
 - Groundwater quality
 - Buffers (public and private wells)
 - Odors
 - Non-growing season

1993

- Bill Clinton elected 42nd President
- Intel's "Pentium processor" unveiled
- Nobel Peace Prize was awarded to Nelson Mandela
- WLAP Technical Work Group formed in September 1993.



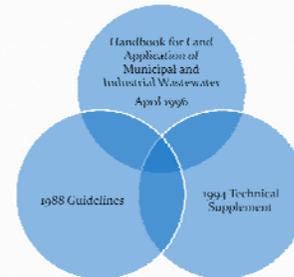
1993 Expansion of Guidelines

- Focused on four main issues:
 - Growing season and non-growing season application rates
 - Capture zone analysis and wellhead protection to determine minimal setback distances to public and private wells
 - Buffer zones to protect the public
 - Grazing on land application sites

Wastewater-Land Application Technical Work Group 1993 to 1996

- | | |
|--------------------------|--------------------------|
| • Joe Baldwin – DEQ | • Nancy Bowser - DEQ |
| • Cathy Chertudi – Boise | • Joan Cloonan – Simplot |
| • Michael Cook – DEQ | • Jack Harrison – HyQual |
| • Rick Huddleston – DEQ | • Steel Maloney – CES |
| • Michael Murray – HDR | • Richard Rogers – DEQ |
| • Kirby Vickers – JUB | • Bruce Wicherski - DEQ |

Wastewater-Land Application Technical Work Group 1993 to 1996



Top Three Issues of Concern as Determined by the WLAP Technical Work Group on 3/12/96 were:

- TDS
- Phosphorus
- Rapid Infiltration Systems and Ground Water Recharge
- Others:
 - Buffer zones
 - Lagoons
 - Winter storage vs. exceeding non-growing season HLR
 - Toxics and pathogens

2004: Creation of Web-Based Guidance

- In 2004 IDEQ formed an Advisory Working Group
 - Much more public based forum with draft guidance published on the internet with comment periods
 - The Advisory Working Group met periodically to review existing and future reuse guidance, providing suggested updates, additions, deletions, or corrections
 - Over 50 persons participated in the Working Group, made up of DEQ, consultants, university, food processors, and federal facilities.

2007 Working Group Guidance Development

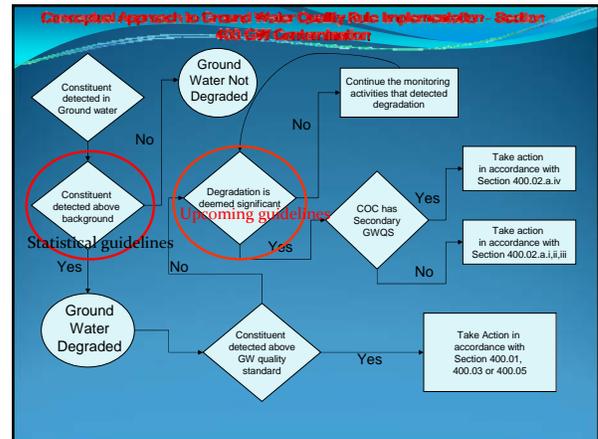
- TASC0
- BAF
- CES
- HyQual
- DEQ
- Forsgren
- Givens Pursley
- Glanbia Foods
- HDR
- IACI
- INL
- Idaho Supreme
- JUB
- Nonpariel Foods
- Simplot
- U of I

2007 Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater

- Re-organize the 1996 handbook, and created a web-base draft, called it Guidance for Land Application of Municipal and Industrial Wastewater
- 2005 changed to Guidance for Reclamation and Reuse of Municipal and Industrial Wastewater (Reuse Guidance)
- One stop shopping approach
- April 2006 IDAPA Title 01, Chapter 17, Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater

Since 2007

- Guidance Revision Committee (IDEQ lead, committee and public provided opportunities to comment):
 - Microbial Risk Assessments
 - QAPPs – subcommittee
 - POOs – outline
 - Forest Land Application Guidance
 - Errata
 - Templates
 - Irrigation Distribution Systems (Chp. 5)
 - Wastewater Reuse/Land Treatment System Modeling
- Groundwater Statistical Guidelines

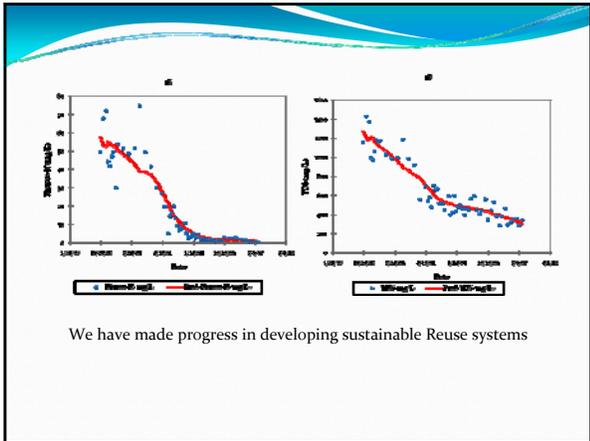


Guidance Revision Committee Meetings

- Town hall meeting April 2008
- Generally meeting twice per year
- **Spring 2010 (May 20, 1:30 to 3:30)**
 - **Revision items for Reuse Guidance**
 - **New items**

Consultants Perspective

- Good working relationship between IDEQ and stakeholders in the reuse program.
- Committee system has been very effective:
 - IDEQ takes lead in writing guidance, but looks for input.
 - Guidance Committee reviews, makes comments and suggestions, and provides perspective. IDEQ has been good at listening.
 - Provides perspective to permittees; provides perspective to IDEQ



We have made progress in developing sustainable Reuse systems