The Economic Impact of the Turfgrass Management Industry in Hawaii

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University of Hawaii
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Big Island
Maui
Lanai
Turfgrass in Hawaii is a valuable commodity.
Turfgrass is Valuable

- NJ (2001)
  - $3.2 billion dollars
  - >50,000 jobs
- MI (2002)
  - $1.9 billion dollars
  - >30,000 jobs
- NY (2003)
  - $10.1 billion dollars
What about Hawaii?

- We are different (size, climate, etc.)
- Hollyer and Cox (1987)
- All Landscape Services (not just turf)
  - Lower #s (~130 million)
- Need to update these #s to reflect changes in the past 20 years
2007 Hawaii Turfgrass Survey
Distributed Statewide

• 26 Questions, web-based

• All HGCSA & LICH members

• UH Turfgrass Website

• Featured in Hawaii Landscape Magazine
Who responded?

- Athletic field manager (3)
- Golf course superintendent (53)
- Grounds manager (7)
- Landscaper (7)
- Lawn care specialist (1)
- Sod grower (4)
Golf Course Data

114 HGCSA members
58 Head Superintendents

Designed for head superintendents

\[ \frac{53}{58} = 92\% \text{ response rate} \]
Survey Respondents by Island

- **Hawaii** (19): 44.4%
- **Kauai** (7): 26.4%
- **Lanai** (1): 9.7%
- **Maui** (13): 18.1%
- **Molokai** (0): 1.4%
- **Oahu** (32): 0.0%
How big are we?

- 9,537 acres of golf course turf

- 5,719 acres of golf course turf in 1987 (Hollyer & Cox)

- Almost 100% increase since 1987

N = 51
How many people do we employ?

<table>
<thead>
<tr>
<th>Classification</th>
<th># in 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>191</td>
</tr>
<tr>
<td>Office support</td>
<td>37</td>
</tr>
<tr>
<td>Labor</td>
<td>703</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>903</strong></td>
</tr>
<tr>
<td>Cox &amp; Hollyer (1987)</td>
<td><strong>605</strong></td>
</tr>
</tbody>
</table>

Average turnover rate (06-07) = 14%  \( N = 30 \)
Ethnicities of Golf Course Maintenance Employees in 2007

- American Indian: 3%
- Asian: 45%
- African American: 15%
- Hispanic or Latino: 7%
- Native Hawaiian: 7%
- Other Pacific Islander: 0%
- Race unknown: 0%

N = 30
Gender of Golf Course Maintenance Employees in 2007

- 6% Female
- 94% Male

N = 30
What are we growing?

<table>
<thead>
<tr>
<th>Turfgrass Species</th>
<th>Total Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bermudagrass (Common)</td>
<td>4168</td>
</tr>
<tr>
<td>Bermudagrass (Hybrid)</td>
<td>4268</td>
</tr>
<tr>
<td>Seashore paspalum</td>
<td>657</td>
</tr>
</tbody>
</table>

Over 44% of all new renovations were seashore paspalum in 2007

N = 51
How much are we spending?

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Dollars</th>
<th>Dollars/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance</td>
<td>$68.6 million</td>
<td>$7,198</td>
</tr>
<tr>
<td>MI</td>
<td>$83.0 million</td>
<td>$866</td>
</tr>
<tr>
<td>NJ</td>
<td>$111.3 million</td>
<td>$2,924</td>
</tr>
<tr>
<td>NY</td>
<td>$325.1 million</td>
<td>$3,203</td>
</tr>
</tbody>
</table>

**N = 37**
Fewer courses + Longer season = More traffic

More maintenance

Cost of doing business in HI
How much are we spending?

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Dollars</th>
<th>Dollars/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor</td>
<td>$39.9 million</td>
<td>$4,192</td>
</tr>
<tr>
<td>MI</td>
<td>$126.2 million</td>
<td>$1,317</td>
</tr>
<tr>
<td>NJ</td>
<td>$125.6 million</td>
<td>$3,297</td>
</tr>
<tr>
<td>NY</td>
<td>$325.1 million</td>
<td>$2,337</td>
</tr>
</tbody>
</table>

21 million TOTAL (Maintenance + Labor) in Hawaii in 1987

N = 35
What are we spending our money on?

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Dollars/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital imprvmt.</td>
<td>$1,207 ($784)</td>
</tr>
<tr>
<td>Irrigation equip./repair</td>
<td>$381 ($51)</td>
</tr>
<tr>
<td>Equipment (new)</td>
<td>$313 ($342)</td>
</tr>
</tbody>
</table>

NY data (2003)
<table>
<thead>
<tr>
<th>Expenditure</th>
<th>2007 Dollars/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herbicides</td>
<td>$79 ($31)</td>
</tr>
<tr>
<td>Fungicides</td>
<td>$47 ($167)</td>
</tr>
<tr>
<td>Insecticides</td>
<td>$26 ($36)</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>$208 ($111)</td>
</tr>
<tr>
<td>Topdressing sand</td>
<td>$83 ($40)</td>
</tr>
<tr>
<td>Irrigation water</td>
<td>$256 ($11)</td>
</tr>
</tbody>
</table>

NY data (2003)
5,307 irrigated acres
18,118,000 gallons per day
1,900 gallons per acre per day

N = 30
Maintenance Challenges

Out of 18 choices:

- Weed management
- Labor
- Equipment maintenance
Educational Needs

Out of 15 choices:

Weed management
Rootzone management
Equipment maintenance
Conclusion

• 69 million on maintenance
• 39 million on labor

• Fewer courses, longer playing season

• 900 jobs (reported)

• More responses would give a clearer picture
• Salaries ??
Acknowledgements