



**ISSAQUAH
HIGHLANDS**

LIVING  GREEN™



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Defining Roles in Water Management



- Importance of pre-design involvement;
 - THINK LONG TERM;
 - Specification development;
 - Design review
- Soil preparation;
- On-going construction inspections;
- Plant selection;
- System commissioning;
- Maintenance;
- Management;
- Technological evolution

Pre-design Involvement



- **THINK LONG TERM** – the system should last about 30 years and won't be easily or cheaply replaced, installation costs are a *miniscule* fraction of lifetime operating costs;
- Specification development – Quality trumps price, maintainability trumps ease of installation, conservation begins before design;
- Design review by qualified owner, staff, and/or independent irrigation expert – someone who really knows irrigation.



Soil Preparation



- Plants are only as successful as their roots – here again lifecycle costs are reduced with a slightly larger up-front investment (soil specifications are codified but inadequately enforced);
- Available soil water determined by soil type and depth;
- Nearly impossible to upgrade once plantings are in



Plant Selection



- **THINK LONG TERM – AGAIN - ALWAYS**
- Natives are adapted to our climate and local pests – the IPM approach says look here first (natives are more reliable and less effort in the long run, too);
- Will the proposed plants work in their site? Not just this year, but in ten? Twenty? Longer?
- Is there a plan to thin the overcrowded later?



System Commissioning



- Review operation and performance of entire system prior to acceptance from contractor;
- Ensure mainline is tight and master valve works;
- Ensure good coverage – ideally with an audit (again codes may help but enforcement is weak);
- Collect as-builts, manuals, keys, etc. Punchlist for all deficiencies with plan and deadline to fix.



Maintenance



- Proper maintenance ensures system functions to design (and specification) during its lifetime;
- Maintenance is fully-funded and prioritized throughout system lifetime;
- Ensure repair parts meet original design and spec;
- Maintenance is proactive – look for trouble

Maintenance and Management



- Maintenance can only ensure system reaches end of its design life in good operating condition – not a “life extender”;
- Management ensures the system is used efficiently and effectively, taking care of the crop but not recharging the aquifer, leaching nutrients, or encouraging disease, vandalism, or negative perception of our industry.

Irrigation Management



- Schedule matches site water needs;
- Management is necessary to ensure system is used and scheduled according to site water needs:
 - ✦ there is no “set it and forget it”,
 - ✦ overwatering is easiest thing to do,
 - ✦ most systems probably set to use twice the water they need,
 - ✦ the cost of water is usually an owner problem

Technological Evolution



- Science and high-tech have found our industry;
- Keep in touch with developments via sales reps, journals, conferences, Internet, water purveyors;
- Keep curious – no one knows it all: “Even if you’re on the right track you’ll get run over if you just sit there.”

– Will Rogers

External Threats to Irrigation



- Climate change is here – how long will landscape irrigation water last?
- As development rolls on the lawn is lost and so are suburban yards;
- Consider the drought in the Southwest



2009 8 17





2008 10 20

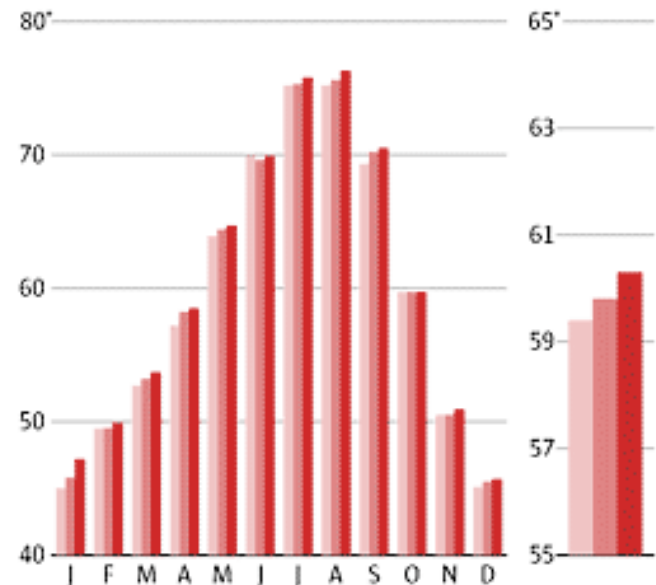
Seattle getting warmer, wetter

Higher temperatures and increased rainfall in the Seattle area will be reflected in new “normal” weather statistics that take effect Aug. 1. “Normal” conditions are based on measurements taken over a 30-year-period. Once a decade, that 30-year period is shifted forward 10 years to reflect more recent conditions.

1961-1990 1971-2000 1981-2010

WARMER

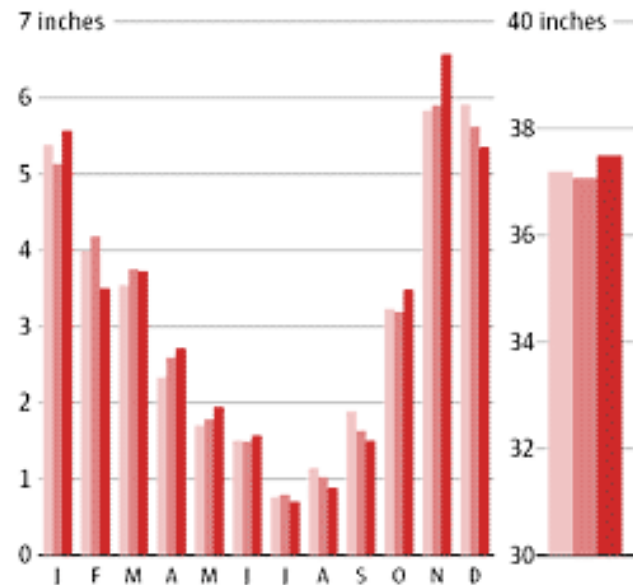
Mean high temperatures by month, at Seattle-Tacoma International Airport



Source: National Climatic Data Center

WETTER

Average precipitation, in inches, at Sea-Tac.



A. RAYMOND/THE SEATTLE TIMES





How to Meet Them - What We Can Do



- Get Certified – Raise the Status of our Profession;
- Demand Better – demand Better design, Better installation, Better maintenance;
- Lobby or campaign for Owner’s interest;
- Work with your water purveyor – rebates, technical support, ideas, connections;
- Sustainability should be our watchword:
“All the water that will ever be *is*, right now.”

look for



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JULY —
SMART
IRRIGATION
MONTH —







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