

LandWatch detects and helps avoid land activities that may pose risks within defined areas. LandWatch is a versatile web-based application to monitor and manage land activities in and around customer-defined areas-of-concern. LandWatch continuously monitors selected land activity occurring at or near monitoring zones. LandWatch alerts pro-actively to enable our customers to control at-risk events before the damage occurs. For over ten years, large corporations and government agencies have used LandWatch to monitor and manage portfolios of properties.

Target If it can be mapped, LandWatch can monitor it. The targeting process identifies the areas of concern and tailors the monitoring sources to match the risks at a site. LandWatch can be deployed for small single properties, large multi-property sites, pipeline or rail corridors, regional groundwater plumes, meandering marshes, and other areas of concern or sites. For defined sites, a tailored monitoring approach can be deployed for each site or even within many zones within a single site.

Monitor Monitoring covers land activity monitoring, field inspection monitoring, and remote device monitoring. Land activity monitoring involves the automatic collection, filtering, and review of numerous land activities via a combination of automated and manual data collection. With a growing library of over 300 land activity data sources, LandWatch monitors excavation via a national network of Call-Before-You-Dig systems, land development, ownership changes, water wells, building permits, new day care, a new tenancy, zoning, among others.

LandWatch can also help manage property inspections and other on-site “affirmative obligations” with scheduling tools and mobile applications for collecting site inspection data. Finally, LandWatch can monitor remote sensors, such as vapor intrusion mitigations sensors, to detect system anomalies or malfunctions. Our LandWatch operators continuously review monitoring data and when pre-designated criteria are exceeded, then send alerts via e-mail or text.

Alert and Manage The alert and manage process involves flexible tools that notify and alert when monitoring data detects risks, business processes to help address the risks, and a powerful web application that stores monitoring data and alerts, and provides evaluations and reports of past activities. The alerting tools can send customized private alerts only to clients or their consultants, and/or send an e-mail or text notifications and advisories to 3rd parties.

Often LandWatch users elect to send e-mail advisories to new owners or excavators, notifying them of residual contamination or sensitive habitat. When monitoring triggers an alert, LandWatch tools both continue to monitor and help support the resolution of the alert. Finally, a secure web portal allows managing a single land activity alert, or observing and evaluating current and past activities across a global portfolio of sites.

There are multiple use scenarios described on the next page. Each scenario shows how LandWatch adapts to meet distinct challenges. Terradex maintains data sheets on various data sources that are available upon request.

1 TARGET

- Institutional Control
- Engineered Control
- Groundwater Plume
- Pipeline Easements
- Property Boundary
- Sensitive Habitat
- Inspection Area

2 MONITOR

- Real Estate Activity
- Land Development
- Excavation Activity
- Sensitive Land Use
- Water Wells
- Environmental Releases
- Vapor Extraction System
- Monitoring
- Affirmative Obligations
- Inspections
- Aerial Change Detection
- NDPES Discharge Permitting

3 ALERT & MANAGE

- Alert Specified Parties to Exception
- Fax an Advisory Form to Applicant
- Dispatch a Repair Technician
- Notify Local Government
- Intervene to Control Event
- Log Completion of Inspection

If You Can Map It, LandWatch Can Monitor It. Target LandWatch by mapping one or more zones, and zones can often overlap. The monitoring choices are broad, and one or more land activity, remote monitoring or reminders can be set. Then select Alert and Manage business processes

that support controlling risk. The first scenario applies remote monitoring, the second follows a long corridor associated with a rail easement, and a third protects habitat. The scenarios reveal how a customized monitoring program is formed for a site or portfolio of sites.

Maintaining Residential Vapor Barrier Operations

Target. Terradex VaporTrac units are retrofitted to operating vapor extraction barrier at four residences. VaporTrac monitors vacuum and power.

Monitor. Signal from devices sent by cellular network or wi-fi to Terradex continuously.

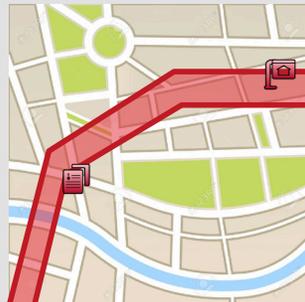
Alert and Manage. An advisory is sent after loss of vacuum or power outage. Terradex dispatches repair technician. Compliance is maintained


Managing Land Use Along a Railroad Corridor

Target. A buffered boundary traces the alignment of a railroad.

Monitor. Property transactions and new development flag future soil disturbance along railroad alignment.

Alert and Manage. A zoning change is detected indicating future land use and allows an opportunity to manage of future liability.


Protecting a Wetland Habitat

Target. A wetland habitat zone is traced and buffered to manage future discharge loading.

Monitor. NPDES discharge permits, land development and excavation are monitored. A mobile inspection application compliments detection of new permits.

Alert and Manage. The customer intervenes in new permitting activity to protect wetland habit.



Using Terradex. LandWatch is a subscription service with low monthly fees that depend on the size of the area and the type of monitoring. LandWatch also requires a one-time setup fee. Quantity discounts are negotiated. Terradex holds numerous patents to protect the LandWatch application service. The service coverage is available across the United States, Canada and selected international locations.