



PROJECT MUSE®

Embracing Watershed Politics

Schlager, Edella , Blomquist, William

Published by University Press of Colorado

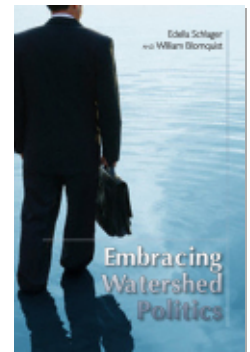
Schlager, Edella and William Blomquist.

Embracing Watershed Politics.

University Press of Colorado, 2008.

Project MUSE., <a href="

<https://muse.jhu.edu/>.



➔ For additional information about this book

<https://muse.jhu.edu/book/2688>

Access provided at 2 Apr 2020 11:00 GMT with no institutional affiliation



This work is licensed under a Creative Commons Attribution 4.0 International License.

- Accountability: in governance, 68–74; in Platte River Cooperative Agreement, 83–86
- Administrative Procedures Act, 177
- ADWR. *See* Arizona Department of Water Resources
- Agency costs, 94, 96, 121(n11); policy implementation, 100–102
- Agriculture, 79–80, 81, 104, 120(n6)
- Alhambra, 139
- Antero dam and reservoir, 76
- Area-Wide Water Quality Monitoring Program, 142
- Arizona, 70–71, 133, 179–80(n7)
- Arizona Department of Water Resources (ADWR), 133
- Arkansas River Basin, 158
- Arkansas River Compact, 157
- Army Corps of Engineers. *See* U.S. Army Corps of Engineers
- Azusa, 139, 146

- Bartholomew and Associates, Harland, 145
- Big Bend, 76, 186; endangered species recovery in, 77–78, 81; and Platte River Cooperative Agreement, 79, 85
- Big Blue River, 155
- Big Blue River Compact, 155
- Biophysical goals, 45–46, 47
- Birds, migratory, 76
- Bonneville Power Administration (BPA), 107, 110, 111, 112, 114, 115–16, 121(nn13, 15)
- Boulder Canyon Act, 35
- Boundaries, ix, 19–20, 79; decision making, 60, 61–63; interstate compacts, 157–58; Platte River Basin, 80–81; as social constructs, 57–58; watershed, 24–25, 188–89
- Bounded rationality, xi–xii, 91, 92–93, 96, 100, 103, 128, 189–90
- BPA. *See* Bonneville Power Administration
- British Columbia, Fraser Basin Council, 66
- Buenos Aires Wildlife Refuge, 70–71
- Bureaucracy, and decision making, 70–71
- California, xiii(n1), 10, 12, 42, 133; water systems in, 131–32, 135, 138–39. *See also* San Gabriel River watershed
- California Administrative Code, 142
- California Department of Fish and Game, 10, 146
- California Department of Health Services, 142, 143–44
- California Department of Water Resources (DWR), 132, 140–41
- Canada, 66, 106
- Carbon tetrachloride (CCl₄), 142, 143
- Catskill Mountains, 170
- Central Basin (San Gabriel watershed), 136, 140, 142–43, 144
- Central Basin Municipal Water District, 138, 141
- Central Basin Water Association, 139
- Cheeseman dam and reservoir, 76
- Civil service systems, 101
- Collaboration(s), collaboratives, 40, 41–42, 43–44, 64, 87–88(n2), 153, 159, 180(n10); grassroots ecosystem management, 72–73; nongovernmental, 73–74; partnerships, 193–94
- Collective action, 23, 66
- Colorado: interstate compacts with, 157, 158; and Platte River Basin, xiii(n1), 57, 74–76, 77, 78, 84, 88(n4), 163–64; water management in, 133–34
- Colorado River, 35; water importation from, 138, 149
- Colorado River Compact, 35
- Columbia Fish and Wildlife Authority, 117
- Columbia River Basin, xii, xiii(n1), 91, 179(n1), 184, 185, 188; human use of, 104–8; multiple users in, 191–92; Northwest Power Act and, 108–17; policy analysis in, 162–63; salmon recovery on, 117–19, 186
- Commissions: Delaware River, 168–70; river basin, 30–31
- Commitments, 103, 120(n4), 160; decision making, 98–99; interstate government, 163–64; under Northwest Power Act, 109–10, 112–13, 115; as transaction cost, 94–95, 96
- Communities, 179(n3); of interest and identification, 134–35, 178; decision making in, 60–61, 62
- Compacts: as constitutions, 154–55; development, of, 83, 171–72; interstate, 156–58, 160–61, 165–68, 179(n6)
- Complex adaptive systems, 103, 151–52, 196(n1); decision making about, 13–16; governance structures in, 21–22; multiple-scale management in, 16–17, 186; uncertainty in, 5–8; watersheds as, 2–4, 187–88
- Comprehensive integrated management, 91, 97, 100, 103
- Compton, 141
- Consensus, 41, 44–45, 47, 64–65, 66, 68, 82, 85
- Constitutions, 179–80(nn5, 7), 195; compacts as, 154–55; irrigation district governance, 155–56

- Cooperation, inter-governmental, 163–64.
See also Collaboration(s), collaboratives
- Coordination, inter-organizational, 132–34, 190
- Cost-benefit analyses, by Army Corps of Engineers, 99
- Cranes, on Platte River, 76, 81
- Dams, 76, 106, 146
- Decision making, vii, 1, 33, 49, 56, 87, 96, 112, 121(n9), 135; and accountability, 68–69; arrangements for, 63–64; boundary determination, 57–58; commitment and, 98–99; about complex adaptive systems, 13–16; and comprehensive integrated management, 100, 103; consensus, 40–42, 64–65; hierarchical, 67–68; among incommensurate alternatives, 97–98; and multiple accountability mechanisms, 70–71; participation in, 58–63; in Platte River Cooperative Agreement, 81–82, 85–86; in river basin development, 46–47; transaction costs of, 93–94; voting processes and, 65–66
- Delaware, 165, 170
- Delaware River Basin, xiii(n1), 153, 165, 166, 168, 169, 184, 185, 192; governance in, 171–72; water use in, 170–71, 181–82(nn12, 17), 187, 188, 189
- Delaware River Basin Compact and Commission, xii, 72, 90, 152–53, 169; creation of, 165–68; and federal government, 172–73, 176–77; operation of, 173–76, 181(n14); Syracuse University report, 171–72
- Democracy, multipurpose water projects and, 45–48
- Denver, Platte River Basin, 77
- Disturbance processes, 7
- Drought, 35; Chiricahua leopard frogs in, 70–71; Delaware River Basin, 173–74
- Drought protection, 124, 126–27
- DWR. *See* Arizona Department of Water Resources; California Department of Water Resources
- Easton, 170
- East Valleys Organization, 144
- Economies, 131; political, xi–xii; sustainable, 125, 127
- Ecosystems, 9, 20, 107; as complex adaptive systems, 2–8; health of, 36, 49–50; management of, 26(n1), 36
- Elections, accountability in, 69–70
- Electric power, 98; Columbia River Basin, 105–6
- Elevenmile Canyon dam and reservoir, 76
- Endangered Species Act (ESA), 74; recovery of, 76–78, 80, 81, 84, 85; salmon and, 117, 118
- Environmental conditions, 6, 176
- Environmental Era, 28
- Environmental Protection Agency (EPA), 34–35, 41, 118–19, 120(n7), 143–44
- Environmental regulations/policies, 14, 40, 49
- Environmental values, in water management, 33–34
- EPA. *See* Environmental Protection Agency
- ESA. *See* Endangered Species Act
- Española valley, 67–68
- Everglades, restoration of, 133
- Federal agencies, 33, 190; consensus and cooperation among, 44–45; and Delaware River Basin, 171–72, 176–77; and governance structures, 193–94; and Northwest Power Planning Council, 114, 115–17; and river basin development, 37–38; and river basin commissions, 39–40, 53(n9)
- Federal Energy Regulatory Commission (FERC), 77, 79, 81, 107, 114
- Federal government, 53(n9), 181–82(nn13, 16, 17); Delaware River Basin Compact, 172–73; watershed management, 30–31; water development, 29, 32–33
- Federal Interagency River Basin Committee, 38, 48
- Federalism, xii, 152–54, 178, 179(nn2, 5), 185–86; policy analysis, 162–64
- Federal Power Commission, 33, 38

- FERC. *See* Federal Energy Regulatory Commission
- First use rights, 94–95
- Fish, 76, 186; Columbia River Basin, 106, 108; habitat protection, 10, 12, 22–23; recovery plans, 109–10, 111, 112, 113–15, 116–18, 163, 188, 189
- Fish and wildlife agencies, 91; and Northwest Power Planning Council, 109–10, 114–17
- Fish and Wildlife Coordination Act (1976), 107, 108
- Fish Propagation Panel, 114
- Flood control, 129–30, 150(n1), 170
- Flood Control Act, 99
- Flood hazard reduction, 124–25, 126
- Flood response, 124–25
- Foothill Municipal Water District, 138
- Fragmentation, 196(n2); institutional, 190–91; natural resource management, 191–92
- Fraser Basin Council, 66
- Friends of the San Gabriel River, 146
- Frogs, Chiricahua leopard, 70–71
- Funding, under Northwest Power Act, 110, 112, 113, 114, 116, 121(n15)
- FWS. *See* U.S. Fish and Wildlife Service
- Governance, x–xi, 91, 179(n3), 194–95; accountability in, 68–74; Delaware River Basin, 171–72, 177; determining boundaries, 57–58; federal style of, 153–54, 156–61, 178, 179(n5), 180(n11), 185–86, 193–94; irrigation districts, 155–56; Platte River Cooperative Agreement, 85–86; politics of, 55–56; structures of, 21–22. *See also* Type I governance structures; Type II governance structures
- Grand Island, 76
- Grassroots Ecosystem Management (GREM), 64; accountability in, 72–73
- Great Depression, 32, 45
- GREM. *See* Grassroots Ecosystem Management
- Groundwater, 129–30; contamination of, 142–45, 186–87; in Delaware River system, 174–75; interstate compacts, 157, 158–59; in Platte River system, 79–80, 81; in San Gabriel River watershed, 136, 139–41, 148–49, 188, 192–93
- Guernsey dam and reservoir, 76
- Habitat protection, 8, 10, 126, 186; Platte River Basin, 57, 76–77
- Hart, Gary, 72
- Human communities, and ecosystems, 20
- Human impacts, 6, 9–10
- Hydroelectric power: Columbia River, 105–7, 110, 112, 114, 115–16; Platte River, 76, 77–78, 79
- Idaho, Columbia River Basin, 108
- INCODEL. *See* Interstate Commission on the Delaware River Basin
- Incommensurate alternatives, 97–98, 111, 120(n7), 121(n8)
- Industry, Columbia River Basin, 104
- Inland Waterways Commission, 52(n6)
- Institutions, 2, 20, 135, 183–84; accountability, 68–74; complex systems of, 25–26; fragmentation of, 190–91; governance, 21–22; Santa Ana River Basin, 22–23
- Instream flows, 126
- Integration, inter-organizational, 132–33
- Interests: agricultural, 79–80, 81; in decision making, 58–63
- Interstate Commission on the Delaware River Basin (INCODEL), 168–70
- Irrigation: districts, 63, 155–56; Platte River system, 76, 77, 88(n4)
- Kansas, interstate compacts, 155, 157, 158, 179(n6)
- Kansas River, 155
- King and Kern Rivers development, 33
- Kingsley Dam, 76, 77–78
- Landscape, 1; institutional, 190–91
- Leichter, Maxine, 144–45
- Little Blue River, 155

- Long Beach, 141, 146
- Los Angeles and San Gabriel Rivers Watershed Council, 146
- Los Angeles County: San Gabriel River watershed, 135–36, 141, 144; urbanization, 136–39
- Los Angeles County Department of Public Works, 141, 146, 147
- Los Angeles County Flood Control District, 143
- Los Angeles River Basin, 145, 150
- McConaughy, Lake, 76, 77
- Main San Gabriel Basin, 136, 138, 140, 141, 149, 188; water quality issues, 142, 143–44; watermaster authorities, 144–45
- Main San Gabriel Basin Water Quality Authority, 145
- Metropolitan Water District (MWD) of Southern California, 131–32, 138, 149
- Mining, Columbia River Basin, 104
- Missouri River Basin, 33
- Monongahela River, 36
- Montana, 108
- Monterey Park, 139
- Multiple accountability mechanisms, 70–71
- Multiple goals, of watershed management, 124–27
- Municipalities, 104, 128; San Gabriel River watershed, 136–39, 141, 146
- MWD. *See* Metropolitan Water District of Southern California
- National Marine Fisheries Service (NMFS), 108, 117, 118
- National Park Service, 33
- National Planning Board, 30, 37
- National Resources Board, viii, 37, 38
- National Resources Committee, 37, 48
- National Resources Planning Board, 38
- National Water Commission, 29
- National Watershed Forum, 24
- Natural resource management, viii, 28, 60, 80; changing agendas of, 186–87; fragmentation of, 191–92; multiple-scale organizations, 16–17. *See also* Resource management, integrated
- Natural systems, 151–52
- Nebraska: agriculture in, 79–80, 81; interstate compacts with, 155, 157, 158–59, 179(n6); Platte River Basin in, xiii, 57, 74, 76, 77–78, 84, 88(n4), 163–64
- Nebraska Department of Natural Resources, 80, 164
- Nebraska Game and Parks Commission, 77
- New Deal Era, 28, 29, 32
- New England River Basin Commission, 36
- New Jersey, 166–68, 169, 170, 176
- New York, 165, 166, 168, 169, 170, 176
- New York City, 165, 166, 167–68, 169, 170, 181(n12)
- NMFS. *See* National Marine Fisheries Service
- North Platte, 76
- North Platte Decree, 157
- North Platte River, 74–75, 81
- Northwest Power Act, 108; Congressional role, 111–13
- Northwest Power Planning Council, xii, 91, 104, 121(n13); federal agencies and, 115–17; plan developed by, 113–15; policy analysis in, 162–63; role of, 108–10, 118–19
- Ohio River Commission, 36
- Olmsted Brothers, 145
- Orange County Water District, 10
- Oregon, Columbia River Basin, 108, 191–92
- Oregon State University, salmon recovery, 118
- Organizations, 2, 50; accountability in, 68, 69; coordination among, 132–34; hydrologically based, 23–24; multiple-scale management, 16–17, 190–91; overlapping, 160–61; polycentric structures of, 17–18, 134–35; voluntary, 159–60
- Pacific Northwest Coordination Agreement (1964), 107

- Pacific Northwest Electric Power Planning and Conservation Act (1980), 108, 110–11
- Partnerships, viii–ix, 23–24, 40; collaborative, 42–44, 54(nn14, 15, 16), 193–94; as experiments in democracy, 47–48; municipal, 138–39; watershed, 50–51
- Pathfinder dam and reservoir, 76
- PCE. *See* Tetrachloroethylene
- Pennsylvania: Delaware River, 165, 166, 167–68, 169, 170; groundwater issues, 174–75
- Philadelphia, water supply, 165, 169
- Planning, 53(nn9, 10), 189; Columbia River Basin, 109–10; integrated, viii, 48–49, 50; by Northwest Power Planning Council, 113–15, 118; in Rio Grande Basin, 67–68; in river basin development, 30–31, 35–36, 37–38, 53(n12)
- Platte River Basin, xiii(n1), 56–57, 74–75, 164, 179(n1), 184, 185, 188; habitat protection in, 76–77; overlapping boundaries in, 80–81; water use in, 77–80, 187, 189
- Platte River Cooperative Agreement, xiii(n1), 57, 78, 79, 88(n5); accountability in, 83–86; decision-making processes in, 81–82
- Plovers, piping, 76
- Policy analysis, federalism in, 162–64
- Polycymaking, 25, 52(n2), 52–53(n6), 56, 64, 65, 88(n3), 133, 134; agency costs, 100–102; diverse preferences and, 102–3
- Pomona Valley Municipal Water District, 138
- Predator-prey relationships, 10
- Provision-production, 129–31; groundwater systems, 139–41
- Public participation, Northwest Power Act program, 112
- Raymond Basin, 136, 140, 141, 150(n3)
- Raymond Basin Management Board, 141
- Recreation: Los Angeles and San Gabriel Basins, 145–46; water-based, 125–26, 127
- Regional Water Quality Control Board: water quality issues, 142, 143, 144
- Reiner, Ira, 144
- Republican River Compact, 157, 158–59, 180(nn8, 9)
- Reservoirs, 76, 106, 181(n15)
- Resource management, integrated, 8–10, 31–32, 33, 66–67
- Rio Grande, watershed planning in, 67–68
- Rio Hondo, 136, 150
- Rio Hondo Channel, 147
- River basin commissions, 30–31, 32–33, 35–36, 48, 49, 54(n18), 72, 89; development decisions, 46–47; role and function of, 39–40, 53(nn9, 10, 11)
- River basin development, 32–34, 35, 37–38, 48, 53(n12); decisions in, 46–47; goals and democracy in, 45–46
- River basins, 25; management of, 16, 30–31, 89–90, 119(n1). *See also by name*
- River restoration, 9, 126
- Salmon fisheries: in Columbia River Basin, 106, 107–8, 110–12, 113–15, 116–17; recovery of, 91, 117–19
- Salmon 2100, 118–19
- San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, 147
- San Gabriel River, 136, 141, 150, 192; restoration of, 145–47
- San Gabriel River Master Plan Committee, 146–47
- San Gabriel River watershed, xii, xiii(n1), 127–28, 131, 135, 184, 185; groundwater contamination in, 142–45, 186–87; groundwater use, 139–41, 188, 192–93; management of, 147–50; municipal partnership in, 136–39
- San Gabriel Valley Municipal Water District, 139, 145
- Santa Ana River watershed, xiii(n1), 11(fig.), 12, 136, 138, 184, 185; habitat protection in, 10, 186; institutional structures on, 22–23
- Santa Ana River Watershed Group, 23
- Santa Ana Watershed Project Authority, 10, 23
- Santa Fe Dam Recreation area, 146

- Scale matching, 18–19
- Science, 70, 88(n5), 120(n2); in policy making, 13–14; and salmon recovery, 110–11; uncertainty in, 5–8, 15
- Seawater barrier, San Gabriel watershed, 131
- Seminole dam and reservoir, 76
- Senate Select Committee on National Water Resources, viii, 39
- Sierra Club, 144–45, 176
- Sierra Madre, 139
- Snake River Basin: hydroelectric power, 105–6; salmon on, 116, 117, 118
- Socioeconomic goals, 45, 46, 47
- South Platte River, 76
- South Platte River Basin, 158
- South Platte River Compact, 74
- South Platte Cooperative Agreement, 161
- Special districts, 128
- Stakeholders, 41, 58–59
- State agencies, 79
- States, 83, 84, 91, 179–80(nn7, 8); Columbia River Basin, 106, 191–92; compacts, 156–58; Delaware River Basin Compact, 172–73; irrigation districts, 155–56; water allocation in, 80–81. *See also various states*
- State Water Project (California), 131–32, 138–39
- Stream teams, 24
- Sturgeon, pallid, 76
- Suckers, Santa Ana, 10, 12, 22
- Superfund site, San Gabriel Basin as, 143–44
- Sustainable economies, 125, 127
- Syracuse University, Delaware River development, 170–71
- TCE. *See* Trichloroethylene
- Tennessee Valley Authority (TVA), 29, 52(n2), 98
- Terns, least, 76
- Tetrachloroethylene (PCE), 142, 143
- Three Valleys Municipal Water District, 138, 145
- Timber industry, Columbia River Basin, 104
- Title II river basin commissions, 30–31, 89
- Tocks Island, 170, 175–76
- Torres, Art, 144
- Torres, Esteban, 144
- Transaction costs, 91, 103, 121(n11); agency and commitment and, 94–95; decision making and, 93–94; interactions of, 95–96
- Treaties: with Canada, 105–6; tribal, 108
- Treaty Related to the Cooperative Development of the Water Resources of the Columbia River Basin, 105–6
- Trenton, 165
- Tribes, 91, 163; salmon and trout fisheries, 106, 117, 118; treaty fishing rights, 108, 112
- Trichloroethylene (TCE), in San Gabriel Basin groundwater, 142, 143
- Trout, steelhead, 106
- TVA. *See* Tennessee Valley Authority
- Two Forks reservoir, 77, 88(n4)
- Type I governance structures, 21, 22, 23, 36, 39, 160, 193
- Type II governance structures, 21, 22, 23, 36, 39, 160, 193
- Udall, Stewart, 172
- Umatilla Basin, 116
- Unanimity rules, 64–65, 158
- Uncertainty, in complex adaptive systems, 5–8, 13–16
- Unified river basin management, 30
- U.S. Army Corps of Engineer, 32, 33, 38, 52–53(nn6, 9, 12), 54(n18), 99; Columbia River Basin, 105, 107; Delaware River Basin, 170, 172, 174, 175–76
- U.S. Bureau of the Budget, 38
- U.S. Bureau of Reclamation, 32, 33, 35, 38, 53(n9); Columbia River Basin, 105, 106, 107; Platte River Basin, 74, 78, 82
- U.S. Congress, 83, 99; and Delaware River projects, 175–76; interstate compacts and, 160–61; and Northwest Power Act, 109–10, 111–13, 121(n15)
- U.S. Department of the Interior, and Platte River Basin, 78, 88(n5)
- U.S. Fish and Wildlife Service (FWS), 10, 12, 76–77, 82, 84, 108

- U.S. Forest Service, 33
- U.S. National Marine Fisheries Service, 108
- U.S. Supreme Court, 74; Delaware River water allocation, 166, 168, 169–70, 173; interstate compacts, 83, 156–57, 158, 159
- Upper San Gabriel Valley Municipal Water District (USGVMWD), 138, 140, 142, 143, 144, 145
- Upper San Gabriel Valley Water Association, 139, 140, 141
- USGVMWD. *See* Upper San Gabriel Valley Municipal Water District
- Valley County Water District, 142
- Veto points, 160–61
- Voting processes, decision making through, 65–66, 68
- Washington, 42, 108
- Wastewater treatment, 125
- Water accounting, 84–85
- Water allocation, 155, 156–57; Delaware River, 169–70; over-, 158–59, 164
- Water budget, Northwest Power Act plan, 113, 117, 118, 121(n14)
- Water conservation and reuse, 125
- Water development projects, multipurpose, 31–33
- Water districts, 63, 79; Southern California, 131–32, 138–39
- Water management, xi, 34, 45, 155
- Watermasters, San Gabriel River watershed, 140–41, 142, 143, 144–45
- Water production, 129, 130–31
- Water projects, 53(n10), 129; Delaware River, 170, 175–76, 181–82(n17); Endangered Species Act and, 77–78; multipurpose, 45–46; in Platte River system, 79, 86, 88(n4)
- Water provision, 129, 130–31
- Water quality, 12, 125; in Delaware River Basin, 172, 173, 174; monitoring, 22–23, 155; in San Gabriel River watershed, 142–45
- Water Resources Act (1965), 29, 30–31, 36, 39
- Water Resources Council, 30, 39, 40, 46, 54(n18), 121(n10)
- Water resources management, 19, 28
- Watershed Collaborative Era, 28–29; management in, 36–37
- Watershed groups, 41–42
- Watershed management, integrated, 8–10, 31–32, 33, 66–67
- Watershed movement, 27–28, 33–34, 41, 47–48, 49
- Water storage, 126–27
- Water supply reliability, 124
- Water use, 25, 60, 125–26, 128, 150(n2), 187, 189; Colorado, 133–34; Columbia River Basin, 104–8; Delaware River, 165, 170–71, 181(n12); Platte River, 57, 76–78, 79, 84, 86; San Gabriel River watershed, 139–41
- Water use rights, 95, 120(n6)
- Wells, Platte River system, 79
- West Basin (San Gabriel watershed), 136, 140, 142–43
- West Basin Municipal Water District, 138
- West Basin Water Association, 139
- Whittier Narrows, 136, 140, 141, 143, 144, 146
- Whittier Narrows Recreation Area, 146
- Whooping Crane Trust, 81
- Wildlife, in Columbia River Basin, 104, 108, 111
- Willamette River, 192
- Wyoming, 157; Platte River Basin, xiii(n1), 57, 74, 76, 78, 81, 84, 88(n4), 163–64